TABLE OF CONTENTS OF SPECIAL PROVISIONS

Note: This Table of Contents has been prepared for the convenience of those using this contract with the sole express purpose of locating quickly the information contained herein; and no claims shall arise due to omissions, additions, deletions, etc., as this Table of Contents shall not be considered part of the contract.

Table of Contents

CONTRACT TIME AND LIQUIDATED DAMAGES 3
NOTICE TO CONTRACTOR – SECTION 4.06 AND M.04 5
SPECIFICATION CHANGES, REV. DATE 12/18/2025 5
NOTICE TO CONTRACTOR – SECTION 1.06 UPDATED BABA 6
REQUIREMENTS 6
NOTICE TO CONTRACTOR - PRE-BID QUESTIONS AND ANSWERS 7
NOTICE TO CONTRACTOR - CDMS SUBMITTALS 8
NOTICE TO CONTRACTOR - FEDERAL WAGE DETERMINATIONS 9
NOTICE TO CONTRACTOR – UTILITY GENERATED SCHEDULES 10
NOTICE TO CONTRACTOR - UTILITY SPECIFICATIONS 20
NOTICE TO CONTRACTOR - UTILITY COORDINATION & 21
RELOCATION 21
NOTICE TO CONTRACTOR – UTILITY COMPANIES 22
NOTICE TO CONTRACTOR – PROTECTION OF EXISTING UTILITIES 23
NOTICE TO CONTRACTOR – GLOBAL POSITIONING SYSTEM (GPS) 25
COORDINATES FOR SIGNS 25
NOTICE TO CONTRACTOR – MANDATED USE OF AASHTOWARE 26
PROJECT CONSTRUCTION MANAGEMENT SOFTWARE (CONSTRUCTION) 26
NOTICE TO CONTRACTOR – RHODE ISLAND DEPARTMENT OF 27
TRANSPORTATION TEMPORARY TRAFFIC CONTROL PERMIT 27
APPROVAL REQUIREMENTS 27
NOTICE TO CONTRACTOR - MANAGEMENT AND REUSE OF EXCAVATED 28
MATERIAL 28
SECTION 1.02 – PROPOSAL REQUIREMENTS AND CONDITIONS 29
SECTION 1.03 - AWARD AND EXECUTION OF CONTRACT 30
SECTION 1.05 - CONTROL OF THE WORK 32
SECTION 1.06 - CONTROL OF MATERIALS 34
SECTION 1.07 - LEGAL RELATIONS AND RESPONSIBILITIES 39
SECTION 1.08 - PROSECUTION AND PROGRESS 42
SECTION 1.09—MEASUREMENT AND PAYMENT 44
SECTION 1.20-1.09—MEASUREMENT AND PAYMENT FOR 46
FACILITIES CONSTRUCTION 46
SECTION 2.02 - EXCAVATION, FORMATION OF 48
EMBANKMENT, AND REUSE OF EXCAVATED MATERIAL 48
SECTION 2.03—STRUCTURE EXCAVATION 56
SECTION 4.06 - BITUMINOUS CONCRETE 57
SECTION 6.02 - REINFORCING STEEL 75
SECTION 12.00 – GENERAL CLAUSES FOR HIGHWAY SIGNING 77
SECTION M.04 - BITUMINOUS CONCRETE MATERIALS 79
SECTION M.06 - METALS 94
ITEM #0202216A – EXCAVATION AND REUSE OF EXISTING 96
CHANNEL BOTTOM MATERIAL 96
ITEM #0202217A – SUPPLEMENTAL STREAMBED CHANNEL 99
MATERIAL 99
ITEM # 0202315A - DISPOSAL OF CONTROLLED MATERIALS 102
ITEM #0202449A – REMOVE TEMPORARY FILL AREA 109
ITEM #0204151A - HANDLING WATER 110
ITEM #0210821A—WATER POLLUTION CONTROL 112
ITEM #0406312A – GUTTER LINE SEALING FOR BRIDGES 114
ITEM #0406314A – 80 MIL PAVEMENT MARKING GROOVE 5” WIDE 117
ITEM #0406315A – 80 MIL PAVEMENT MARKING GROOVE 7” WIDE 117
ITEM #0406999A - ASPHALT ADJUSTMENT COST 119

ITEM #0514719A - PRECAST SUBSTRUCTURE ELEMENT....122
ITEM #0601139A - 12’ X 8’ PRECAST CONCRETE BOX CULVERT....124
ITEM #0601183A - PRECAST CONCRETE CUT-OFF WALL....124
ITEM #0603768A – STRUCTURAL STEEL....129
ITEM #0707009A - MEMBRANE WATERPROOFING (COLD LIQUID....131
ELASTOMERIC)....131
ITEM #0819002A - PENETRATING SEALER PROTECTIVE COMPOUND....140
ITEM #0917010A - REPAIR GUIDERAIL....143
ITEM #0950040A - CONSERVATION SEEDING FOR SLOPES....145
ITEM #0952001A – SELECTIVE CLEARING AND THINNING....148
ITEM #0952051A - CONTROL AND REMOVAL OF INVASIVE VEGETATION....150
ITEM #0969062A - CONSTRUCTION FIELD OFFICE, MEDIUM....155
ITEM #0971001A — MAINTENANCE AND PROTECTION OF TRAFFIC....163
ITEM #0971201A- TAXI SERVICE....166
ITEM #0974001A –REMOVAL OF EXISTING MASONRY....168
ITEM #1020030A - TEMPORARY ILLUMINATION UNIT....169
ITEM #1118101A – TEMPORARY SIGNALIZATION....172
ITEM #1208937A – SIGN FACE - SHEET ALUMINUM (TYPE XI....174
RETROREFLECTIVE SHEETING)....174
ITEM # 1210111A—4” (YELLOW) TYPE I EPOXY RESIN PAVEMENT....176
MARKINGS....176
ITEM # 1210113A—6” (WHITE) TYPE I EPOXY RESIN PAVEMENT....176
MARKINGS....176
ITEM #1303210A – DRY HYDRANT ASSEMBLY....181
ITEM #1507000A - PROTECTION AND SUPPORT OF....183
EXISTING UTILITIES....183
PERMITS AND/OR REQUIRED PROVISIONS:....185

JULY 8, 2026
FEDERAL AID PROJECT NO. 0101(114)
STATE PROJECT NO. 0068-0217

REPLACEMENT OF BRIDGE NO. 02599
ROUTE 101 OVER ALVIA CHASE RESERVOIR

Town of Killingly

The State of Connecticut, Department of Transportation, Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 819, dated 2024, as revised by the Supplemental Specifications dated July, 2025 (otherwise referred to collectively as "ConnDOT Form 819") is hereby made part of this contract, as modified by the Special Provisions contained herein. The current edition of the State of Connecticut Department of Transportation's "Construction Contract Bidding and Award Manual" ("Manual"), is hereby made part of this contract. If the provisions of this Manual conflict with provisions of other Department documents (not including statutes or regulations), the provisions of the Manual will govern. The Special Provisions relate in particular to the Replacement of Bridge No. 02599 Route 101 Over Alvia Chase Reservoir in the Town of Killingly.

CONTRACT TIME AND LIQUIDATED DAMAGES

Two hundred Forty-four (244) calendar days will be allowed for completion of the work on this Contract and the liquidated damages charge to apply will be Dollars ($ 900.00) per calendar day.

Milestone Liquidated Damages

If the Contractor fails to complete the listed activities of Article 1.03.09, as accepted by the Engineer, by the **Milestone Completion Date** specified in Article 1.08.03, the Contractor will be assessed a per day liquidated damage charge of Twenty Thousand Dollars ($20,000.00) until the listed activities of Article 1.03.09 are complete and accepted by the Engineer. The assessment of Milestone Liquidated Damages is separate and independent from any Liquidated Damages that may be assessed by the Contractor for failure to complete the project by the allotted calendar days for the contract as described above.

NOTICE TO CONTRACTOR – SECTION 4.06 AND M.04 SPECIFICATION CHANGES, REV. DATE 12/18/2025

The Contractor is hereby notified that this Contract includes Special Provisions for Sections 4.06 and M.04. The following list of revisions is not all inclusive but highlights the significant updates.

M.04:

- M.04.01 Binder supplier split sample submission, save split, send upon request.
- M.04.01-1&2 Clarification that aggregate source(s) be qualified annually.
- M.04.01-4 a, d, e CTR, Certificate of Analysis (COA) submitted to Asphalt producer and Department, Anti-strip, Warm mix products listed on QPL, (link to QPL included in M.04.), WMA additive added at plant requires same testing and CTR as binder supplier.
- M.04.01-5b Daily tack coat delivery comes with Bill of Lading for Inspector to obtain.
- M.04.01-6 RAP - Producer submit monthly Materials Certification.
- M.04.02-1 Curb mix design - Table M.04.02-1 updated.
- M.04.02-2 Superpave mix design - 25% RAP S1.0 mixes.
- M.04.03-1 QCP requirement updates.
- M.04.03-2a, 2b Except curb mix, all sampling performed on Site by Contractor, S1.0 mix sample size 20,000 g, mix not meeting requirements evaluated under 1.06.04.
- M.04.03-2c Superpave Production – Table M.04.03-2 deleted, mix sample frequency is 1 per 500 ton, Table M.04.03-4 updated Pb $\pm$ 0.3.

4.06:

- 4.06.03-3 Added hopper insert when MTV is used.
- 4.06.03-4 Test Section language update.
- 4.06.03-6 Tack coat update, always use, minor update to thermometer language.
- 4.06.03-7 Butt joint use polymer joint seal material, previously was rubber material.
- 4.06.03 -8 QCP update. Valid for two years.
- 4.06.03-9 Temperature Seasonal - three temperature ranges based on lift thickness.
- 4.06.03-10 Three days to cut cores.
- 4.06.03-11 Add determining Gmm when mix testing does not exist.
- 4.06.03-12 Updates to Density Dispute Resolution - Use Gsb results to determine how dispute results are used, location of dispute core, reduced days to cut dispute cores from 7 days to 5.
- 4.06.04-2b Density limit change to meet FHWA “Gold Standard.” Maximum bonuses increase from 2.5% to 3.0% (1.5% each Mat/Joint).

NOTICE TO CONTRACTOR – SECTION 1.06 UPDATED BABA REQUIREMENTS

The Contractor is hereby notified that a Special Provision for Section 1.06 Control of Materials is included in this Contract due to updated Buy America, Build America Act (BABA) requirements.

A new "Buy America Preference Source of Supply Self-Certification Form" will need to be submitted with qualifying materials documenting that all iron or steel products, manufactured products, and construction materials used in the Project have been produced in the United States. This means all manufacturing processes including application of coating for iron or steel products occurred in the United States, the manufactured product was manufactured in the United States, and all manufacturing processes for the construction material occurred in the United States. The classification of the material shall be determined upon arrival at the job Site.

Any Materials Certificate (MC) shall also include certification from the source of supply stating compliance to Buy America requirements for the applicable iron or steel products, manufactured products and construction materials. A completed "Buy America Preference Source of Supply Self-Certification Form" shall be attached to the MC.

NOTICE TO CONTRACTOR - PRE-BID QUESTIONS AND ANSWERS

Questions pertaining to DOT advertised construction projects must be presented through the CTDOT Pre-Bid Q and A Website. The Department cannot guarantee that all questions will be answered prior to the bid date. **PLEASE NOTE - at 9:00 am Monday (i.e. typical Wednesday Bid Opening) the project(s) being bid will be closed for questions, at which time questions can no longer be submitted through the Q and A Website.**

Answers may be provided by the Department up to 12:00 noon, the day before the bid. At this time, the Q and A for those projects will be considered final, unless otherwise stated and/or the bid is postponed to a future date and time to allow for further questions and answers to be posted.

If a question needs to be asked the day before the bid date, please contact the Contracts Unit staff and email your question to dotcontracts@ct.gov immediately.

Contractors must identify their company name, contact person, contact email address and phone number when asking a question. The email address and phone number will not be made public.

The questions and answers (if any) located on the Q and A Website are hereby made part of the bid/contract solicitation documents (located on the State Contracting Portal), and resulting contract for the subject project(s). It is the bidder's responsibility to monitor, review, and become familiar with the questions and answers, as with all bid requirements and contract documents, prior to bidding. By signing the bid proposal and resulting contract, the bidder acknowledges receipt of, and agrees to the incorporation of the final list of Q and A, into the contract document.

Contractors will not be permitted to file a future claim based on lack of receipt, or knowledge of the questions and answers associated with a project. All bidding requirements and project information, including but not limited to contract plans, specifications, addenda, Q and A, Notice to Contractors, etc., are made public on the State Contracting Portal and/or the CTDOT website.

NOTICE TO CONTRACTOR - CDMS SUBMITTALS

Upon execution of the Contract, the Contractor acknowledges and agrees that contractual submittals for this Project shall be submitted and handled through the Department's Construction Document Management System (CDMS). The CDMS that the Department is currently using is COMPASS.

Contractor submittals including Shop Drawings, Working Drawings, Product Data, RFIs, and RFCs shall be generated and delivered by the Contractor in accordance with the Department's Contractor's User Manual. The administering District office will inform the Contractor of other deliverables required to be similarly submitted.

Access credentials will be provided free of charge to the Contractor.

The Department shall not be held responsible for delays, lack of processing or responses to submittals that do not follow the specified guidelines in the Contractor's User Manual.

NOTICE TO CONTRACTOR - FEDERAL WAGE DETERMINATIONS (Davis Bacon Act)

The following Federal Wage Determinations are applicable to this Federal- Aid contract and are hereby incorporated by reference. During the bid advertisement period, it is the bidder's responsibility to obtain the latest Federal wage rates from the US Department of Labor website, as may be revised 10 days prior to bid opening. Any revisions posted 10 days prior to the bid opening shall be the wage determinations assigned to this contract.

Check Applicable WD# (DOT Use Only)	WD#	Construction Type	Counties
X	CT1	Highway	Fairfield, Litchfield, Middlesex, New Haven, Tolland, Windham
	CT2	Highway	New London
	CT3	Highway	Hartford
	CT5	Heavy Dredging (Hopper Dredging)	Fairfield, Middlesex, New Haven, New London
	CT6	Heavy Dredging	Statewide
	CT13	Heavy	Fairfield
	CT14	Heavy	Hartford
	CT15	Heavy	Middlesex, Tolland
	CT16	Heavy	New Haven
	CT17	Heavy	New London
	CT26	Heavy	Litchfield, Windham
	CT18	Building	Litchfield
	CT19	Building	Windham
	CT20	Building	Fairfield
	CT21	Building	Hartford
	CT22	Building	Middlesex
	CT23	Building	New Haven
	CT24	Building	New London
	CT25	Building	Tolland
	CT4	Residential	Litchfield, Windham
	CT7	Residential	Fairfield
	CT8	Residential	Hartford
	CT9	Residential	Middlesex
	CT10	Residential	New Haven
	CT11	Residential	New London
	CT12	Residential	Tolland

The Federal wage rates (Davis-Bacon Act) applicable to this Contract shall be the Federal wage rates that are current on the US Department of Labor website (SAM.gov | Wage Determinations) as may be revised 10 days prior to bid opening. The Department will no longer physically include revised Federal wage rates in the bid documents or as part of addenda documents. These applicable Federal wage rates will be incorporated in the final contract document executed by both parties.

If a conflict exists between the Federal and State wage rates, the higher rate shall govern.

To obtain the latest Federal wage rates, go to the US Department of Labor website (link above). Under Davis-Bacon Act, choose "Selecting DBA WDs" and follow the instruction to search the latest wage rates for the State, County and Construction Type.

NOTICE TO CONTRACTOR – UTILITY GENERATED SCHEDULES

The attached project specific utility work schedules were provided to the Connecticut Department of Transportation (Department) by the utility companies regarding their identified work on this project.

The utility scheduling information is provided to assist the Contractor in scheduling its activities. However, the Department does not ensure its accuracy and Section 1.05.06 of the Standard Specifications still is in force.

The utility scheduling information shall be incorporated into the Contractor's pre-award schedule in accordance with the Department's Bidding and Award Manual and Section 1.05.08 of the Contract.

After award, the Contractor shall conduct a utility coordination meeting or meetings to obtain contemporaneous scheduling information from the utilities prior to submitting its baseline schedule to the Department in accordance with Section 1.05.08 of the Contract.

The Contractor shall incorporate the contemporaneous utility scheduling information into its baseline schedule submittal. The baseline schedule shall include Contractor predecessor and successor activities to the utility work in such detail as acceptable to the Engineer.

UTILITY WORK SCHEDULE Rev 08 02 2016	
CTDOT Project Number: 68-217	Town: KILLINGLY
Project Description: Replacement of Bridge #02599 RT 101 over Alvia Chase Reservoir	
CTDOT Utilities Engineer: Jennifer Usher	
Phone: (860) 594-3269	Email: JUsher@blcompanies.com
Utility Company: Eversource Energy	
Prepared By: Rick Arremony	Date Prepared: 12/8/2025
Phone: 860-249-2200	Email: ichard.arremony@eversource.com

Scope of Work

The following is a description of all utility work planned to be completed in conjunction with the CTDOT project. The narrative describes all work to be carried out by the utility or its contractor, including temporary and permanent work required by the project as well as any additional utility infrastructure work the utility intends on performing within the project limits during the construction of the project.

Stage 1: Eversource to trim trees at 100% reimbursement between pole 602 & pole 4622 to allow relocation of OH facilities. State's Contractor to clear trees between pole 4622 to pole 3046. Eversource & Frontier to stake pole & anchor locations. Perform CBUD. Frontier to install poles and anchors. Eversource to frame poles T1, T2, T3, 3045, 3045-S, and FTR NEW #1. Eversource to shift existing conductors to new pole locations. Stage 2: Eversource & Frontier to stake pole & anchor locations. Frontier to install poles and anchors. Eversource to frame poles 602, 3043, 4622, 3044, 3044-S, FTR New#2, FTR New2-S, and 3045. Eversource to install new conductors between pole 602 to 3045 on poles installed on Stage 2. Eversource to remove existing conductors between 602 to 3045 off poles T1, T2, and T3 installed on Stage 1.

Special Considerations and Constraints

The following describes the limiting factors that must be planned for in the scheduling and performance of the utility work. For example, restrictions on cut-overs, outages, limitations on customer service interruptions (e.g. nights, weekends, holidays), seasonal and environmental shutdown periods, long lead material procurements, etc..

1.Prior to any temporary/permanent relocation work, the State and/or assigned constractor to secure all required ROW and Tree Trimming in order to proceed.

2. Eversource will schedule its construction as it's workload permits, the State and/or assigned contractor will schedule other utilities attached to the pole line (Frontier, CATV, etc... and all State or Municipal owned cables and fixtures). This UWS has been completed using only Preliminary Design Plans. No mark out of edge of road, or construction limits provided and may be subject to change.

UTILITY WORK SCHEDULE Rev 3/2015

CTDOT Project Number: 68-217

Utility Company: Eversource Energy

Prepared By: Rick Arremony Total Working Days: 6

Schedule

The following schedule identifies each major activity of utility work in sequential order to be performed by the utility or its contractor. The location of each activity of work is identified by the baseline stationing on the CTDOT plans. All activities identify the predecessor activity which must be completed before a utility work activity may progress. The duration provided is the number of working days required to complete the utility work activity based on historical information and production rates.

Location (Station to Station)	Description of Utility Work Activity	Predecessor Activity	Duration (working days)
		State written notification to proceed 8 weeks notice required	
00+50-06+00	Frontier & Eversource to stake pole & anchor locations	notice to proceed from State	1
01+00-06+00		State's contractor to complete tree trimming	0
00+00-01+00		Eversource Tree contractor complete tree trimming	2
00+50-06+00	Eversource to frame poles, install guying, install/shift/remove overhead conductors	Frontier set poles and anchors	3

UTILITY WORK SCHEDULE Rev 3/2015

CTDOT Project Number: 68-217

Utility Company: Eversource Energy

Prepared By: Rick Arremony Total Working Days: 4

Schedule

The following schedule identifies each major activity of utility work in sequential order to be performed by the utility or its contractor. The location of each activity of work is identified by the baseline stationing on the CTDOT plans. All activities identify the predecessor activity which must be completed before a utility work activity may progress. The duration provided is the number of working days required to complete the utility work activity based on historical information and production rates.

Location (Station to Station)	Description of Utility Work Activity	Predecessor Activity	Duration (working days)
		State written permit to proceed 8 weeks noticed required	
00+50-06+00	Frontier & Eversource to stake pole & anchor locations	notice to proceed from State	1
20+00-26+00	Eversource to frame poles, install guying, install/shift/remove overhead conductors	Frontier set poles and anchors	3

UTILITY WORK SCHEDULE Rev 3/2015

CTDOT Project Number:	068-217	Town:	KILLINGLY
Project Description:	ROUTE 101 - HARTFORD PIKE		
CTDOT Utilities Engineer:	Taylor Vitale		
Phone:	(860) 249.2200	Email:	tVitale@blcompanies.com

Utility Company:	FRONTIER COMMUNICATIONS		
Prepared By:	JOHN PLIKUS	Date Prepared:	7/17/2025
Phone:	860.455.6030	Email:	john.m.plikus@ftr.com

Scope of Work

The following is a description of all utility work planned to be completed in conjunction with the CTDOT project. The narrative describes all work to be carried out by the utility or its contractor, including temporary and permanent work required by the project as well as any additional utility infrastructure work the utility intends on performing within the project limits during the construction of the project.

TEMPORARY RELOCATION
Loc.1 P3043 to Loc.7 P3146, Cut out and Remove 1055ft of BHAH-25.
Loc.2 P4622(New Loc) Sta.0+40,32'S Place 1-45ft/Class2 Pole.
Loc.3 P3044(New Loc) Sta.2+10,40'N Place 1-50ft/Class2 Pole.
Loc.5 TEMP POLE(New Loc) Sta.4+30,40'S Place 1-50ft/Class2 Pole.
Loc.6 P3045 Sta.5+90,20'S Place 1-45ft/Class2 Pole.
Loc.2 P4622(Old Loc) Sta.0+40,25'S Remove 1-45ft/Class 3 Pole.
Loc.4 P3044(Old Loc) Sta.2+35,25'S Remove 1-45ft/Class 2 Pole.
Loc.6 P3045(Old Loc) Sta.5+90,20'S Remove 1-45ft/Class 3 Pole, 1-ANC & 1-10M DWN Guy. Loc.9 P3044S(Old Loc) Sta.2+38,25'n Remove 1-35ft/Class 3 Pole, 1-ANC & 1-10M DWN Guy. PERMANENT RELOCATION
Loc.2 P4622(Prem Loc) Sta.0+40,22'S Place 1-45ft/Class2 Pole.
Loc.4 P3044(Prem Loc) Sta.2+35,22'S Place 1-45ft/Class2 Pole.
Loc.6 P3045(Perm Loc) Sta.5+38,25'S Place 1-45ft/Class 2 Pole.
Loc.8 P3045S(Perm Loc) Sta.5+38,25'N Place 1-35ft/Class 2 Pole, 1-ANC & 1-10M DWN Guy.
Loc.8 P3044S Sta.2+35,22'S Place 1-35ft/Class 2 Pole 1-ANC & 1-10M DWN Guy .
Loc.2 P4622(Temp Loc) Sta.0+40,32'S Remove 1-45ft/Class2 Pole.
Loc.3 P3044(Temp Loc) Sta.2+10,40'N Remove 1-50ft/Class2 Pole.
Loc.5 TEMP POLE(Temp Loc) Sta.4+30,40'S Remove 1-50ft/Class2 Pole.
Loc.8 P3045S Sta.5+90,20'S Remove 1-45ft/Class2 Pole.

Special Considerations and Constraints

The following describes the limiting factors that must be planned for in the scheduling and performance of the utility work. For example, restrictions on cut-overs, outages, limitations on customer service interruptions (e.g. nights, weekends, holidays), seasonal and environmental shutdown periods, long lead material procurements, etc..

1.Prior to any temporary/permanent relocation work CT. Dept. of Transportation to secure Temporary ROW as submitted for guying of temporary relocated poles in order to proceed.
2. Frontier Communications will schedule its construction as it's workload permits, the DOT will schedule other utilities attached to the pole line (Power Co., CATV, etc... and all State or Municipal owned cables and fixtures). This UWS has been completed using only Semi-Final Design Plans. No mark out of edge of road, or construction limits provided and may be subject to change, and is valid six months from the day it was submitted.

UTILITY WORK SCHEDULE Rev 3/2015

CTDOT Project Number:	068-217		
Utility Company:	FRONTIER COMMUNICATIONS		
Prepared By:	JOHN PLIKUS	Total Working Days:	9.5

Schedule

The following schedule identifies each major activity of utility work in sequential order to be performed by the utility or its contractor. The location of each activity of work is identified by the baseline stationing on the CTDOT plans. All activities identify the predecessor activity which must be completed before a utility work activity may progress. The duration provided is the number of working days required to complete the utility work activity based on historical information and production rates.

Location (Station to Station)	Description of Utility Work Activity	Predecessor Activity	Duration (Working Days)
	TEMPORARY RELOCATION		
Sta.0+40 - 5+90	P3043 to Loc.7 P3146, Cut out and Remove 1055ft of BHAH-25.	EOR Markout	1.5
Sta.0+40 - 5+90	Place 2-45ft Class 2 & 2-50ft Class 2 Poles and Required Guying.	EOR Markout	2
Sta.0+40 - 5+90	Remove 3 Mainline Poles & Stub Pole.	All Other Utilities work complete.	1
Sta.0+40 - 5+90	Shift Aerial Fiber Cable	All Other Utilities work complete.	1
	PERMANENT RELOCATION		
Sta.0+40 - 5+90	Place 2-45ft Class 2 & 2-35ft Class 2 Poles and Required Guying.	Bridge Construction Completion	2
Sta.0+40 - 5+90	Shift Aerial Fiber Cable	All Other Utilities work complete.	1
Sta.0+40 - 5+90	Remove 3 Temporary Mainline Poles & One Stub Pole.	All Other Utilities work complete.	1

UTILITY WORK SCHEDULE Rev 08 02 2016

CTDOT Project Number:	0068-0217	Town:	Killingly
Project Description:	Relocate cable for bridge repair and replacement		
CTDOT Utilities Engineer:	Taylor Vitale		
Phone:	860-249-2200	Email:	tVitale@blcompanies.com

Utility Company:	Breezeline		
Prepared By:	Jonathan Ramsdell	Date Prepared:	12/10/2025
Phone:	1-603-507-9896	Email:	jramsdell@breezeline.com

Scope of Work

The following is a description of all utility work planned to be completed in conjunction with the CTDOT project. The narrative describes all work to be carried out by the utility or its contractor, including temporary and permanent work required by the project as well as any additional utility infrastructure work the utility intends on performing within the project limits during the construction of the project.

Install plant to new temporary poles and tie in to existing system. After bridge reconstruction remove plant off temporary lines and install new strand and facilities on permanent line. Includes traffic control.

Special Considerations and Constraints

The following describes the limiting factors that must be planned for in the scheduling and performance of the utility work. For example, restrictions on cut-overs, outages, limitations on customer service interruptions (e.g. nights, weekends, holidays), seasonal and environmental shutdown periods, long lead material procurements, etc..

UTILITY WORK SCHEDULE Rev 3/2015

CTDOT Project Number:	0068-0217		
Utility Company:	Breezeline		
Prepared By:	Jonathan Ramsdell	Total Working Days:	3

Schedule

The following schedule identifies each major activity of utility work in sequential order to be performed by the utility or its contractor. The location of each activity of work is identified by the baseline stationing on the CTDOT plans. All activities identify the predecessor activity which must be completed before a utility work activity may progress. The duration provided is the number of working days required to complete the utility work activity based on historical information and production rates.

Location (Station to Station)	Description of Utility Work Activity	Predecessor Activity	Duration (working days)
Pole 3043-3045	Remove existing plant. Rehang new strand and coaxial cable. Includes hanging to new temporary	Poles need to be set by pole owner and power needs to be transferred.	1
Pole 3043-3045	Remove temporary plant. Add new permanent strand and facilities to pole line.	All bridge work needs to be completed. Power needs to be transferred.	2

UTILITY WORK SCHEDULE Rev 3/2015

CTDOT Project Number:	0068-0217	Town:	KILLINGLY
Project Description:	REPLACEME BRIDGE NO. 02599 RT 101 OVER ALVIA CHASE RESERVIOR		
CTDOT Utilities Engineer:			
Phone:		Email:	
Utility Company:	Level 3 Communications, LLC		
Prepared By:	IAN GERMAN	Date Prepared:	
Phone:	203-816-7291	Email:	Ian.German@Grecowolf.com

Scope of Work

The following is a description of all utility work planned to be completed in conjunction with the CTDOT project. The narrative describes all work to be carried out by the utility or its contractor, including temporary and permanent work required by the project as well as any additional utility infrastructure work the utility intends on performing within the project limits during the construction of the project.

PHASE I- RELOCATION
1. REMOVE FLOWFILL AND EXPOSE LUMEN UNDERGROUND DUCTS TO APROX 25' FROM COFFER DAM ON EACH SIDE OF BRIDGE.
2. CUT SLOTS IN EXISTING 3x SURFACE MOUNTED 6" FIBERGLASS CONDUITS CROSSING BRIDGE TO REMOVE LUMEN FIBER OPTIC CABLES. (APROX 40')
432ct UNICORN CABLE
180ct LEVEL 3 CABLE
148ct WILTEL CABLE
3. RELOCATE ALL LUMEN CABLES TO TEMPORARY ATTACHMENT TO COFFER DAM OR TEMP SUPPORTS OUTSIDE OF COFFERDAM (TO BE INSTALLED BY BRIDGE CONSTRUCTION CONTRACTOR). (APROX 100' OF SLACK MOVEMENT)
WRAP ALL EXPOSED FIBER OPTIC CABLES IN ORANGE SPLIT DUCT AND WARNING TAPE FLAGS TO INCREASE VISIBILITY OF EXPOSED FIBER OPTIC CABLES NEAR WORK ZONE
SLACK FOR CABLE RELOCATION HAS BEEN GATHERED IN ADJACENT MANHOLES

PHASE II - RESTORATION
1. ATTACH REPLACEMENT BRIDGE CROSSING DUCTS TO NEW WING WALLS AND SUPPORTS. TIE EMPTY UNDERGROUND HDPE CONDUITS INTO NEW BRIDGE CROSSING DUCTS. (APROX 40')
2. MOVE TEMPORARLIY RELOCATED FIBER OPTIC CABLE FROM COFFER DAM SUPPORTS BACK TO BRIDGE CROSSING IN OSBURN SPLIT STEEL CONDUIT.
3. ENCASE ALL UNDERGROUND HDPE CONDUITS IN FLOWFILL AND BACKFILL TRENCH

Special Considerations and Constraints

The following describes the limiting factors that must be planned for in the scheduling and performance of the utility work. For example, restrictions on cut-overs, outages, limitations on customer service interruptions (e.g. nights, weekends, holidays), seasonal and environmental shutdown periods, long lead material procurements, etc..

UTILITY WORK SCHEDULE Rev 3/2015

CTDOT Project Number:	0068-0217		
Utility Company:	Level 3 Communications, LLC		
Prepared By:	IAN GERMAN	Total Working Days:	4

Schedule

The following schedule identifies each major activity of utility work in sequential order to be performed by the utility or its contractor. The location of each activity of work is identified by the baseline stationing on the CTDOT plans. All activities identify the predecessor activity which must be completed before a utility work activity may progress. The duration provided is the number of working days required to complete the utility work activity based on historical information and production rates.

Location (Station to Station)	Description of Utility Work Activity	Predecessor Activity	Duration (Working Days)
STA 2 - STA 4	TEMPORARILY RELOCATE LEVEL 3 180ct, UNICORN 432ct, AND WILTEL 148ct FIBER OPTIC	COFFER DAM AND/OR TEMP SUPPORTS MUST BE IN PLACE	2
STA 2 - STA 4	RESTORE LUMEN NETWORK BRIDGE ATTACHMENT	BRIDGE MUST BE COMPLETE	2

NOTICE TO CONTRACTOR - UTILITY SPECIFICATIONS

The contractor is hereby notified that all utility specifications contained elsewhere herein shall be made a part of this contract, and that the contractor shall be bound to comply with all requirements of such specifications. The requirements and conditions set forth in the subject specifications shall be binding on the contractor just as any other specification would be.

NOTICE TO CONTRACTOR - UTILITY COORDINATION & RELOCATION

The proposed temporary and/or permanent locations of the aerial and underground utility facilities are shown on the plans. The Contractor is required to coordinate the exact location and timing of all utility relocations with the individual utility owners, and to phase construction operations as required to accommodate all (temporary and/or permanent) utility relocations. In addition to field meetings and correspondence, this coordination may include staking of locations, excavation and temporary grading, tree trimming, providing access to existing and future utility locations, and/or other physical work as required to allow for utility relocation work. The Contractor shall engage in the necessary coordination of utility relocations and associated work at no additional cost to the State.

The Contractor's schedule of operations and construction phasing plans shall show the anticipated utility relocations in the sequence of construction. Project specific utility work schedule information has been provided by the respective utility companies and is included in "Notice to Contractor – Utility Generated Schedule".

The Contractor shall give notice to utility companies a minimum of 30 days prior to required work or services to the utility company. A list of utility companies and representatives is included in Special Provisions Section 1.07.

The Contractor must coordinate with each utility owner and develop their own schedule of utility relocation work and time required to complete this work based upon their own operational plan and equipment.

NOTICE TO CONTRACTOR – UTILITY COMPANIES

It is understood that any references in the contract documents to Northeast Utilities, CL&P and/or Yankee Gas are meant to refer to Eversource.

It is understood that any references in the contract documents to AT&T is meant to refer to Frontier Communications.

NOTICE TO CONTRACTOR – PROTECTION OF EXISTING UTILITIES

Existing utilities shall be maintained during construction. The Contractor shall verify the location of underground and overhead utilities. Construction work within the vicinity of utilities shall be performed in accordance with current safety regulations.

Representatives of the various utility companies shall be allowed access to the work, by the Contractor.

The Contractor shall be liable for all damages or claims received or sustained by any persons, corporations or property in consequence of damage to the existing utilities, their appurtenances, or other facilities caused directly or indirectly by the operations of the Contractor.

In order to notify utility companies the number 1-800-922-4455 (Call Before You Dig), in accordance with Sections 16-345 through 16-359 of the Public Utilities Regulatory Authority (PURA) state statutes, must be called at least two (2) full working days prior to the start of excavation. This notification will enable the utility companies to mark out their facilities in the field.

Contractors are cautioned that it is their responsibility to verify locations, conditions, and field dimensions of all existing features, as actual conditions may differ from the information shown on the plans or contained elsewhere in the specifications.

The Contractor shall notify the Engineer prior to the start of work and shall be responsible for all coordination with the Department. The Contractor shall allow the Engineer complete access to the work.

Any damage to any existing private and public utility, as a result of the Contractors operations, shall be repaired to the utility and Engineer's satisfaction at no cost to the State, the Town or the Utilities, including all materials, labor, etc., required to complete the repairs.

During the excavation for the proposed improvements, the cover over the existing underground Utilities will be reduced. Therefore, the Contractor shall have the location of the underground Utilities marked out prior to and following the excavation. The Contractor's attention is directed to the requirements of Article 1.07.13-Contractor's Responsibility for Adjacent Property, Facilities and Services.

Prior to opening an excavation, effort shall be made to determine whether underground installations, i.e., sewer, fuel, electric line, etc., will be encountered and, if so, where such underground installations are located. When the excavation approaches the estimated location of such installation, the exact location shall be determined by careful probing or hand digging, and when it is uncovered, proper supports shall be provided for the existing installation. Utility companies shall be contacted and advised of proposed work prior to the start of actual excavation.

The Contractor shall perform all work in such a manner that will protect each Utility Company's facilities from damage. This may include excavation by hand methods as well as modified compaction methods when working close to underground Utilities. The Contractor is responsible for coordinating their work with each utility sufficiently in advance of the work so that the utility can schedule their work crews.

NOTICE TO CONTRACTOR – GLOBAL POSITIONING SYSTEM (GPS) COORDINATES FOR SIGNS

The Contractor shall obtain and provide to the Engineer sign installation data, including Global Positioning System (GPS) latitude and longitude coordinates, for all new State owned and maintained signs. The Engineer shall forward the sign data to the Division of Traffic Engineering for upload into the Highway Sign Inventory and Maintenance Management Program (SIMS). Sign data submissions or questions relating to SIMS or GPS shall be sent to DOT-SignInventory@ct.gov. Refer to the special provision for Section 12.00 General Clauses For Highway Signing.

NOTICE TO CONTRACTOR – MANDATED USE OF AASHTOWARE PROJECT CONSTRUCTION MANAGEMENT SOFTWARE (CONSTRUCTION)

The Contractor shall use ***AASHTOWare Project***® software as outlined in the specifications noted below. This will require that the Contractor and all subcontractor(s) designate and dedicate staff within 10 days after the execution of the Contract or approval to sublet as appropriate. It will also require the Contractor and all subcontractors to provide internet access, computing devices suitable for this work, training, and other related work as outlined in the specifications noted below.

All costs for these requirements shall be included in the general cost of the work.

The following special provisions are pertinent to, and detail the requirements for, this work:

SECTION 1.05 - CONTROL OF THE WORK

Article 1.05.12 – Payrolls
This Article outlines the requirements for submission of payrolls.

Article 1.05.25 –Use of AASHTOWare Project® Software
This Article outlines the overall requirements for the use of the AASHTOWare Project® Software.

SECTION 1.08 – PROSECUTION AND PROGRESS

Article 1.08.01—Transfer of Work or Contract
This Article outlines the requirements for subcontractor payment and payment verifications.

NOTICE TO CONTRACTOR – RHODE ISLAND DEPARTMENT OF TRANSPORTATION TEMPORARY TRAFFIC CONTROL PERMIT APPROVAL REQUIREMENTS

A Temporary Traffic Control Permit has been approved by the Rhode Island Department of Transportation, and the following must be completed in accordance with the permit approval:

1. A RIDOT Lane Closure Report must be filled out completely a minimum of 72 hours before commencement of work. This report is web-based and can be found at the following link: https://ridot.wufoo.com/forms/ridot-lane-closure-report/.
2. Prior to starting work, please coordinate project schedule with RIDOT Project Manager Christopher Voccio (Christopher.Voccio@dot.ri.gov) regarding his nearby RIDOT project titled, "General Structures Repair – Killy Brook Bridge, to mitigate any possible conflicts with the detour.

A copy of the approval letter and approved Temporary Traffic Control plans must be on the job site at all times. The contractor is hereby notified that a copy of the Temporary Traffic Control Permit Approval is included in the Permits and/or Required Provisions section, and that the contractor shall be bound to comply with all requirements of said permit.

DATE: 5/27/2026

NOTICE TO CONTRACTOR –—MANAGEMENT AND REUSE OF EXCAVATED MATERIAL

An estimated **475 cubic yards** of excavated soil has been designated as surplus for this Project.
The Contractor shall follow this guidance for the management of all excavated soil generated during construction.

Environmental site investigations were **not** conducted within the proposed construction limits for **Project No. 0068-0217**. While no specific pre-characterization sampling has been performed, it is anticipated that excavated soils may contain low concentrations of various constituents above laboratory reporting limits, consistent with typical incidental releases associated with public roadway corridors. This material is defined by CTDOT as a "**Controlled Material**." Controlled Material is soil generated from a CTDOT Project which, due to known or potential contamination, must have its destination controlled by the Department, but may be reused for similar purposes on CTDOT projects or within CTDOT right-of-way.

Accordingly, all excavated soils generated from **Project No. 0068-0217** shall be reused within the Project limits to the greatest extent practicable, placed within the CTDOT right-of way as directed by the Engineer or deposited at the designated **Reuse Stockpile Area** shown in the Plans. As much as possible, excavated soil suitable for immediate reuse shall be managed at the point of origin for use as backfill. When direct reuse at the point of origin is not feasible, the soil **- excluding existing pavement structure (asphalt and subbase), rock, ledge, boulders and concrete shall be** transported to the Reuse Stockpile Area in accordance with the special provision for Section 2.02, 2.03 in this Contract and Disposal of Controlled Material, and as directed by the Engineer.

SECTION 1.02 – PROPOSAL REQUIREMENTS AND CONDITIONS

1.02.01—Contract Bidding and Award:

After the first sentence of the third paragraph, add the Following:

In accordance with the provisions of the Construction Contract Bidding and Award Manual, bidders must be prequalified for **(Group No. 8A Box Culverts)**, to be eligible to bid on this project. Bidders that are not prequalified for this work classification will not be approved to bid on this project.

SECTION 1.03 - AWARD AND EXECUTION OF CONTRACT

Work under this section shall conform to the requirements of Section 1.03 supplemented and amended as follows:

Article 1.03.07 – **Insurance: Coverage shall be on a primary basis.**

And Replace Subsection 15 with the following:

15. Additional Insured: The following entities must be named as additional insured parties for the Commercial General Liability and Automobile Liability insurance policies required by this Article and the Special Provisions to the Contract, and any Umbrella Liability Insurance, as applicable, obtained in accordance with this Article. Each policy shall waive right of recovery (waiver of subrogation) against the following entities.

A. The Chestnut Hill Reservoir Company
c/o Wright Investors/Service Holdings
PO Box 742
Mount Kisco, NY 10549

Article 1.03.09 – Contractor Readiness Plan – Add the following:

For all projects that have a scheduled road closure or a critical phase in which Contract work must be completed during a specific timeframe that concludes on a Milestone Completion Date, the Contractor must develop and submit a Readiness Plan. Some elements of the work may require extra manpower, equipment and work shifts in order to complete the required activities detailed below on or before the specified Milestone Completion Date found in Article 1.08.03.

The Contractor shall develop and submit a Readiness Plan a minimum of thirty (30) days prior to the scheduled start of any detour or roadway closure, for the Department's review and comment. A minimum of ten (10) days prior to the scheduled detour or roadway closure date, the Contractor shall provide a confirmation report to the Engineer detailing how the Contractor has addressed all the Department's comments and pending items. Five (5) days prior to the scheduled start of the detour or closure, the Contractor shall meet with the Department to review any outstanding Readiness items and coordinate final details for the implementation of the road closure or detour.

The information in the Readiness Plan shall contain at least the following:

a. Scheduled delivery dates for materials that are required to be on site prior to closure of the road

b. A daily bar chart schedule in accordance with the requirements of 1.05.08 which details,

at minimum, the activities listed below that must be completed by the Milestone Completion Date. The activities are:

- The closure of Route 101 and implementation of the detour. **The closure timeframe begins.**
- Close Roadway and Implement Detour
- Install Remaining Temporary Cofferdam and Dewatering
- Remove Top of Existing Structure
- Remove Existing Streambed Material within Existing Structure
- Remove Remaining Portions of Structure
- Excavation to Bottom of No. 6 Crushed Stone
- Place Cut-off Walls and Box Culvert
- Place Existing Channel Bottom Material in Box Culvert
- Erect Wingwalls Footings
- Erect Wingwalls Stems
- Backfill Behind Wingwalls and Culvert
- Place Rip-Rap in Front of Wingwall
- Install Cast-in-Place Parapet
- Top Dress with Natural Streambed Material up to OHW Elevation
- Grade in Front of Culvert at Upstream and Downstream Sides
- Remove Cofferdam Sheeting
- Cut off Cofferdam Sheeting in Watercourse 2 Feet Below Bottom of Channel
- Remove Temporary Bypass Pipe
- Complete Roadway Approach except 2" final lift of HMA and Install Temporary Barrier
- The reopening of Route 101 to one 12-foot-wide lane of traffic in each direction and 4-foot-wide shoulders, exclusive of temporary alternating one-way traffic operations during the hours permitted by this Contract, that may be necessary to complete the project. **The closure timeframe ends.**

c. Detail of Required Resources
   i. Staffing and shift times
   ii. Equipment (include contingency plan for equipment failure)

d. Maintenance and Protection of Traffic coordination

SECTION 1.05 - CONTROL OF THE WORK

Add the following to the beginning of the first paragraph of Article 1.05.12:

1.05.12—Payrolls: The Contractor and all subcontractors shall use ***AASHTOWare Project®*** software in accordance with Article 1.05.25, with a Department-provided template, or by other means previously accepted by the Department, to electronically upload all Project payrolls, as directed herein.

Add the following to the end of Article 1.05.12:

These requirements shall be included in all subcontracts for this Project.

All costs for these requirements shall be included in the general cost of the work.

Add the following new Article 1.05.25:

1.05.25—Use of *AASHTOWare Project*® Software: The Contractor and all subcontractor(s) shall use the ***AASHTOWare Project®*** software for electronic submittal of all payrolls as outlined in the Department's AASHTOWare Contractor's User Manual, found at the Department's AASHTOWare Training webpage, and as stated in the specifications.

The Contractor and all subcontractor(s) shall use the ***AASHTOWare Project®*** software for monthly verification of project payments at all tiers, as outlined in the Department's AASHTOWare Contractor's User Manual, found at the Department's AASHTOWare Training webpage, and as stated in the specifications. The Department will inform the Contractor of other deliverables to be similarly submitted, as required.

Within 10 days of execution of the Contract, the Contractor shall submit the name(s) of the ***AASHTOWare Software Project Liaison*** and required staff that will be using the Department's software for this work. Similarly, within 10 days after the Contractor (or a subcontractor) enters into a subcontractor agreement to sublet any work, they shall submit the name(s) of their ***AASHTOWare Software Project Liaison*** and required staff that will be using the Department's software for this work. The Contractor and subcontractors shall immediately notify the Department of any change in Project staff authorized to access the AASHTOWare system or of a need to revise the Project Liaison.

Training materials, such as videos and written guides are available on the Department website for Contractor use. The Contractor and all subcontractors shall be responsible to train their staff.

This ***AASHTOWare Project®*** software will require that the Contractor and all subcontractor(s) provide their staff with access to the internet, using devices suitable for this work, at their own expense, throughout the duration of the Project. The Department has obtained licensing that allows the Contractor and subcontractors to access (from the internet) and use of the ***AASHTOWare Project®*** software. The Department will provide the Contractor and subcontractors with usernames and passwords to access the ***AASHTOWare Project®*** software, at no cost.

The Department shall not be held responsible for delays, lack of processing, or responses to submittals that do not follow the specified guidelines in the Department's AASHTOWare Contractor's User Manual, found at the Department's AASHTOWare Training webpage.

These requirements shall be included in all subcontracts for this Project.

All costs for these requirements shall be included in the general cost of the work.

SECTION 1.06 - CONTROL OF MATERIALS

Replace Section 1.06 *in its entirety with the following:*

SECTION 1.06
CONTROL OF MATERIALS

1.06.01—Source of Supply and Material Quality
1.06.02—Samples and Test
1.06.03—Storage
1.06.04—Defective Materials
1.06.05—Shipping Material
1.06.06—Vacant
1.06.07—Certified Test Reports and Materials Certificates
1.06.08—Warranties, Guarantees and Instruction Sheets

1.06.01—Source of Supply and Material Quality:

1. Source of Supply: A source of supply is defined as the original manufacturer of material(s) used within a project. A source of supply may fabricate material(s) such as precast concrete structures or hot mix asphalt from components originally manufactured by others. A broker, distributor, or subcontractor using the material(s) must not be identified as a source of supply.

The Contractor must notify the Engineer of the proposed source of supply for each of the materials listed on the Anticipated Source of Material (CON-083) Form within 30 days after bid opening. Should it become necessary for the Contractor to obtain material from sources other than those indicated in the submitted Anticipated Source of Material (CON-083) Form, the Contractor shall notify the Engineer and resubmit this document to the Department no later than seven (7) days prior to use of the material. The Engineer reserves the right to request additional information regarding such sources.

If, at any time, the Department discovers that materials from a source of supply do not consistently conform to the Contract specifications, the Engineer will notify the Contractor of its non-conformance and that source of supply shall no longer be used for said application.

a. Buy America Act (BAA): The BAA requires that all permanently incorporated steel and iron used in the construction of the Project must have been produced and fabricated in the United States. It is the intent of this specification to require that all manufacturing processes for all steel and iron materials and products to be used for the Project, from initial melting stage through the application of coating of steel and iron, occur within the United States, with the following exceptions:

1. The Contractor may request, in accordance with 635.410(b)(4) of Title 23 CFR, approval to include a minimal amount of foreign steel in the Project construction. This amount is defined as 0.1% of the total Contract cost or $2,500.00, whichever is greater. The cost of the foreign steel or iron is defined as its Contract value when delivered to the Project site.
2. Additionally, the FHWA has granted a nationwide waiver of the requirements of 23 CFR 635.410, Buy America Act requirements, for the production of pig iron

and processed, pelletized, and reduced iron ore. Items not specifically included in the waiver remain subject to the Buy America Act requirements. The Contractor may request the Engineer to seek from the FHWA a further waiver of said requirements, but it shall be at the sole discretion of the Engineer whether to seek such a waiver.

3. A 2021 amendment to BAA, BABA (as defined below) clarifies that (A) the term ‘‘construction materials’’ shall not include cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives and (B) shall not include cement and cementitious materials and aggregates such as stone, sand, or gravel, or aggregate binding agents or additives as inputs of the construction material.

b. Build America, Buy America (BABA) Act: BABA does not supersede the BAA iron and steel requirement, however it expands the requirements to include manufactured products and construction materials. Such products and materials permanently incorporated into projects “must be produced in the United States.” BABA requires the following:

1. All construction materials are manufactured in the United States. This means that all manufacturing processes for the construction material occurred in the United States.
2. All manufactured products used in the Project are produced in the United States. This means the manufactured product was manufactured in the United States, and, for projects obligated on or after October 1, 2026, the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55% of the total cost of all its components of the manufactured product. Manufactured products are considered to be in their final form upon arrival at the job Site.
3. Construction materials include those listed on the Anticipated Source of Material (CON-083) Form.

2. Material Quality: Only materials conforming to the Contract and accepted by the Engineer shall be permanently incorporated into the Project.

Prior to installation, material that is damaged or otherwise changed in a way that it no longer meets Contract specifications shall not be incorporated into the Project.

When one manufacturer's product is specified in the Contract, it shall be understood that this represents the standard required. Unless otherwise stated, a comparable product of another manufacturer may be proposed by the Contractor unless the plans or special provisions indicate that no equal will be allowed. The Contractor shall submit a complete description of the proposed product, together with shop drawings, catalog cuts, product data or other descriptive literature for review in accordance with 1.05.02. Should a product be designated as an equal, this will not relieve the Contractor from any material testing requirements or a related Certified Test Report and/or Materials Certificate that may be required.

1.06.02—Samples and Test: The Contractor shall furnish all required samples without charge and provide secure facilities for their storage. The Contractor shall provide means for, and shall assist in the verification of, all scales, measures, and other devices that it operates or uses in connection with the Project. The Contractor shall provide calibration documentation when requested.

The minimum number and size of material samples per Contract item that are required

by the Department are listed in the "Minimum Schedule for Acceptance Testing" contained in the Department's Materials Testing Manual. The acceptance methods used to determine compliance with the Contract are also listed. Should the Contract documents specify additional acceptance methods than those listed in the "Minimum Schedule for Acceptance Testing," the Contractor shall adhere to those additional requirements. Where applicable, physical testing will be performed in accordance with the test standards which are in effect at the time of bidding, unless otherwise indicated in the Contract. Any item or material not listed in the "Minimum Schedule for Acceptance Testing," or Contract shall be sampled and tested and/or certified, as directed by the Engineer.

Certification may be used as the basis for approval of such materials as the Contract documents specify or as the Engineer may require. With regard to such materials, the Contractor shall furnish the Engineer a Certified Test Report (CTR) and/or Materials Certificate (MC), in accordance with 1.06.07 for each type of material, as may be required in the "Minimum Schedule for Acceptance Testing." The Contractor shall bear any costs involved in furnishing the CTR and MC.

If the Contractor has purchased materials for use on a previous Department project and if they meet the requirements of this Contract, then those materials, with the approval of the Engineer, may be used for the Project, provided that the Contractor, acting as the "supplier," submits a related MC meeting the requirements of 1.06.07. This MC shall further identify the project for which the material was originally purchased and shall be accompanied by a copy of the original MC. Materials that require quality assurance inspection for acceptance such as structural steel and precast components will be subject to re-inspection.

Materials will be rejected by the Engineer whenever, in their judgment, they fail to meet Contract requirements. The Engineer may accept material or the combination of materials and thereby waive noncomplying test results, provided that the following conditions are met:

1. The Engineer finds results of prior and subsequent series of tests of the material or materials from the same source or sources to be satisfactory.
2. The incidence and degree of nonconformance with the Contract requirements are, in the Engineer's judgment, within reasonable limits.
3. The Contractor, in the Engineer's judgment, had diligently exercised material controls consistent with good practices.
4. No adverse effect on the value or serviceability of the completed work could result from said degree of nonconformance.

The Engineer may, in their discretion, waive testing of minor quantities of a particular material if said material was obtained from sources that have furnished supplies of the material that have consistently met Department testing standards.

1.06.03—Storage: The Contractor shall store all materials for the Project in a way that will prevent damage, deterioration, and loss, including theft and vandalism. The Engineer will have easy and prompt access to them for inspection purposes. Materials shall be kept on wooden platforms or on other hard, clean surfaces and not on the ground. When so directed by the Engineer, the Contractor shall store materials in a weatherproof building.

The Contractor shall not store materials in any way that would lead to a violation of these specifications including but not limited to 1.10. Stored materials, even if they have

been approved by the Engineer prior to their storage, must be inspected by the Engineer and meet all pertinent Contract requirements immediately prior to use of those materials for the Project.

The Contractor shall

1. store products in accordance with the manufacturer's recommendations;
2. store products at the Site in a manner that will facilitate inspection and measurement or counting of units;
3. store heavy materials away from Project structures so as not to endanger the supporting construction;
4. if the products are subject to damage by the elements, store them off the ground, under cover in a weatherproof enclosure, with ventilation adequate to prevent condensation; and
5. maintain temperature and humidity within any range recommended by the manufacturer.

Off-site staging and storage of materials and equipment may be required due to restrictive Project limits and other operational constraints. Arrangement for off-site staging and storage of materials and equipment shall be the responsibility of the Contractor. Payment for off-site staging and storage of material and equipment shall be in accordance with 1.09.06.

1.06.04—Defective Materials: Unless otherwise permitted by the Engineer, all materials not meeting Contract requirements shall be considered defective, shall be rejected, and shall be removed immediately from the Project site.

If deemed necessary, the Engineer may require retesting of materials previously tested, accepted and incorporated into the Project. If materials do not meet the Contract requirements after retesting, the Engineer will decide whether to allow materials to be left in place (with an equitable reduction of payment) or be removed and replaced. No rejected material, the defects of which have been subsequently corrected, shall be used until approval has been given by the Engineer. Should the Contractor fail to comply with these requirements, the Engineer has the authority to order the removal and replacement of defective material and deduct the cost of such removal and replacement from any future payments to the Contractor.

When a material is fabricated, or treated with another material, or when any combination of materials is assembled to form a product, any, or all of which are covered by the Contract specifications, the failure of any components of the product to meet the requirements of the specifications may be sufficient cause for the rejection of the whole combination or product.

1.06.05—Shipping Material: Any conveyance used for transporting materials must be clean when used, be in proper working condition, have a strong and substantial body that will prevent the loss of materials during transportation, and be approved by the Engineer.

1.06.06—Vacant

1.06.07—Certified Test Reports and Materials Certificates: The Contractor shall furnish the Engineer with any Certified Test Report and Materials Certificate required by the Contract and the "Minimum Schedule for Acceptance Testing" contained in the Department's Materials Testing Manual.

The Contractor shall forward the Certified Test Report and Materials Certificate to the Engineer, and, in addition, shall deliver a copy of same to the Department's inspector at

the Site. Materials for which such documentation is required may be conditionally incorporated into the Project prior to the Engineer's acceptance of a Certified Test Report and a Materials Certificate; however, payment for such incorporated material may not be made prior to acceptance by the Department of a Certified Test Report and Materials Certificate indicating that the material meets the Contract requirements.

1. A Certified Test Report (CTR) is a document containing a list of the dimensional, chemical, metallurgical, electrical and physical results obtained from a physical test of the materials involved and shall demonstrate that the materials meet the requirements of the Contract. The CTR shall be signed by a duly authorized and responsible agent of the original manufacturer of the material(s), and the signature must include the date the CTR was signed.

The CTR shall also include the following information:

- **a.** Description of material(s)
- **b.** Date of manufacture of the material(s)
- **c.** Date of test(s)
- **d.** Name of organization to which the material has been consigned
- **e.** Quantity of material represented
- **f.** Means of identifying the consignment, such as label, marking, lot number, etc.
- **g.** Date and method of shipment
- **h.** Name of organization performing the test(s)

2. A Materials Certificate (MC) is a document certifying that the materials, components, and equipment furnished meet all requirements of the Contract, including the location where such material, components and equipment were produced. The MC shall be signed by a duly authorized and responsible agent of the organization assembling or fabricating the materials and the signature must include the date the MC was signed. When a CTR is also required, the means of identifying the consignment, such as label, marking, lot numbers, etc. in the MC and CTR shall be equivalent.

The MC shall also include the following information:

- **a.** Project for which the material has been consigned
- **b.** Name of Contractor to which material is supplied
- **c.** Item number and description of material
- **d.** Quantity of material represented by the MC
- **e.** Means of identifying the consignment, such as label, marking, lot numbers, etc.
- **f.** Identification of all sources of supply of material components
- **g.** Means of verifying Buy America requirements for steel and/or steel components
- **h.** Certification from the source of supply stating compliance to Buy America requirements of the applicable construction materials and manufactured products. Attach completed form "Buy America Preference Source of Supply Self-Certification Form."
- **i.** Date and method of shipment

1.06.08—Warranties, Guarantees and Instruction Sheets: Manufacturers' warranties and guaranties furnished for materials used for the Project, as well as instruction sheets and parts lists supplied with Project materials, shall be delivered to the Engineer prior to acceptance of the Project. Each warranty or guaranty so furnished shall indicate its commencement and expiration dates.

SECTION 1.07 - LEGAL RELATIONS AND RESPONSIBILITIES

Article 1.07.11 Opening of Section of project to Traffic or Occupancy:

Add the following sentence to the last paragraph:

"In cases in which guiderail is damaged by the traveling public, repair or replacement will be reimbursable as contained elsewhere herein."

Article 1.07.13 - Contractor's Responsibility for Adjacent Property, Facilities and Services is supplemented as follows:

The following company and representative shall be contacted by the Contractor to coordinate the protection of their utilities on this project 30 days prior to the start of any work on this project involving their utilities:

Mr. Mark Bonjuklian
Manager – Distribution Projects & Programs
The Connecticut Light and Power Company
dba Eversource Energy-Electric Distribution
9 Tindall Avenue
Norwalk, CT 06851
Phone: 203-845-3456

Mr. Rick Arremony
Project Engineer
The Connecticut Light and Power Company
dba Eversource Energy-Electric Distribution
Phone: 860-249-2200

Ms. Lynne DeLucia
Manager – Engineering & Construction
The Southern New England Telephone
Company dba Frontier
Communications of Connecticut
1441 North Colony Road
Meriden, CT 06450-4101
Phone: 203-238-5000

Mr. John Plikus
Project Engineer
The Southern New England Telephone
Company dba Frontier
Communications of Connecticut
Phone: 860-455-6030

Mr. Richard DeCava
Supervisor of Construction
Atlantic Broadband (CT), LLC dba
Breezeline
221 Norwich Road
Plainfield, CT 06374
Phone: 860-377-8770

Mr. Jonathon Ramsdell
Project Engineer
Atlantic Broadband (CT), LLC dba
Breezeline
Phone: 603-507-9896

Mr. David Vega
Project Manager, OSP Relocations
Level 3 Communications LLC, aka

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SECTION 1.08 - PROSECUTION AND PROGRESS

Add the following to the beginning of the first paragraph of Article 1.08.01:

1.08.01—Transfer of Work or Contract: The Contractor and all subcontractors shall use the *AASHTOWare Project*® software in accordance with Article 1.05.25, for monthly verification of project payments at all tiers, in accordance with the Department's AASHTOWare Contractor's User Manual, found at the Department's AASHTOWare Training webpage, and as stated in the specifications.

Add the following to the end of Article 1.08.01:

All costs for the requirements of this Article shall be included in the general cost of the work.

Article 1.08.04 - Limitation of Operations - Add the following:

In order to provide for traffic operations as outlined in the Special Provision "Maintenance and Protection of Traffic", the Contractor will not be permitted to perform any work which will interfere with the described traffic operations on all project roadways as follows:

Route 101 (Hartford Pike)

i. Monday through Friday between 6 a.m. and 9 a.m. and between 3 p.m. and 6 p.m.

Additional Restrictions:

A. During the allowable periods, as defined in the "Suggested Sequence for Construction of Bridge 02599" section, the Contractor will be permitted to maintain and protect at least an alternating one-way traffic operation controlled by Temporary Signalization as shown on the Maintenance and Protection of Traffic staging plans. The alternating one-way traffic operations will be permitted during four separate construction stages, two prior to the Route 101 closure and detour, and two following the closure and detour.
B. During the allowable periods, as defined in the "Suggested Sequence for Construction of Bridge 02599" section, the Contractor will be permitting to close Route 101 (Hartford Pike) and detour traffic as shown on the Detour Plan. The dates and times for the closure shall be approved by the Engineer. The Contractor shall be allowed to detour traffic for a period not to exceed 14 consecutive days.
C. The Contractor shall notify the following parties at least 14 days in advance of implementing the detour and/or alternating one-way traffic operations along Route 101 (Hartford Pike):
    a. Killingly Highway Department
    79 Putnam Pike

Killingly, CT 06241
Phone: 860-779-5385

b. Killingly Police
55 Westcott Road
Killingly, CT 06239
Phone: 860-779-5390

c. East Killingly Fire Department
1395 Hartford Pike
East Killingly, CT 06243
Phone: 06243

d. Foster Public Works Department
181 Howard Hill Road
Foster, RI 02825
Phone: 401-392-9204

e. CTDOT Division of Traffic Engineering
2800 Berling Turnpike
Newington, CT 06131
Phone: 860-594-2711

f. Rhode Island Department of Transportation
648 Putnam Pike
Glocester, RI 02814
401-222-2450

D. The Contractor will be allowed to halt traffic for a period not to exceed 10 minutes to actively perform necessary work as outlined in "Suggested Sequence for Construction of Bridge 02599" under Section 1.08.09 or as approved by the Engineer, between 9:00 AM and 3:00 PM.

All Other Roadways

Monday through Friday between 6:00 AM and 9:00 AM & between 3:00 PM and 6:00 PM. Saturday and Sunday between 10:00 AM and 6:00 PM.

Additional Lane Closure Restrictions

It is anticipated that work on adjacent projects will be ongoing simultaneously with this project. The Contractor shall be aware of those projects and anticipate coordination will be required to maintain proper traffic flow at all times on all project roadways, in a manner consistent with these specifications and acceptable to the Engineer.

The Contractor will not be allowed to perform any work that will interfere with traffic operations on a roadway when traffic operations are being restricted on that same roadway, unless there is at least one mile clear area length where the entire roadway is open to traffic or the closure have been coordinated and are acceptable to the Engineer. The one mile clear area length shall be measured from the end of the first work area to the beginning of the signing pattern for the next work area.

SECTION 1.09—MEASUREMENT AND PAYMENT

Article 1.09.06—Partial Payments

Subarticle B. Payment for Stored Materials *is amended as follows:*

B. Payment for Stored Materials: Non-perishable materials that are required for Project construction and that the Contractor has produced or purchased specifically for incorporation into the Project, but which have not yet been so incorporated, may be included in a payment estimate if

(i) the materials meet all applicable Contract specifications,

(ii) the materials have been delivered to the Project site or to another location approved by the Engineer, and

(iii) the Contractor has submitted to the Engineer, as evidence of the Contractor's purchase of the materials, copies of notarized receipted bills and a notarized Certificate of Title, lien waiver, and right of entry to the materials, in the form approved by the Department, duly executed by the Contractor, the Vendor and any other parties deemed necessary by the Engineer to satisfy proof of unencumbered ownership.

The Engineer will decide at what fair and appropriate fraction of the applicable Contract price such materials may be included in a payment estimate.

Offsite storage may be approved by the Engineer, provided that the materials proposed for payment are stored in a secure area, segregated from other materials, clearly labeled as being owned by the Department for use on the identified Project, otherwise handled in compliance with Article 1.06.03 and stored in accordance with the manufacturer’s recommendations. All such materials must be readily available for inventory and inspection by the Engineer. Storage outside of the State of Connecticut may be considered only when a representative of the Department is able to verify that the above requirements have been satisfied.

For items requiring extended fabrication, manufacturing or assembly time, the Contractor may propose to the Engineer a schedule of values for completely fabricated portions of the related material. If the Engineer accepts such a schedule of values, it shall become the Basis of Payment for the stored materials, so long as all other pertinent Contract requirements have been satisfied.

Generic materials having a use on many projects will be considered for payment prior to their incorporation into the Project only if stored in unopened packaging or in large lots stored at the project site.

Stock and raw materials will not be considered for such advance payment without the Engineer’s prior written consent thereto.

In no case shall material payments exceed the Contract unit price or lump sum price less the actual value of the remaining work under the item, including but not limited to delivery and

installation of the materials. If the proposed material costs do exceed such a price, the Engineer reserves the right to reduce any related payment accordingly. In such an instance the Contractor shall provide documentation of ownership and written acceptance of the amount to be paid in a form acceptable to the Engineer prior to any payments being made by the Engineer. Such reductions in payment shall in no way affect the Department's ownership interest in the stored materials or release the Contractor from any other requirements of the Contract.

SECTION 1.20-1.09—MEASUREMENT AND PAYMENT FOR FACILITIES CONSTRUCTION

Article 1.20-1.09.06—Facilities Construction - Partial Payments

Subarticle B. Payment for Stored Materials *is amended as follows:*

B. Payment for Stored Materials: Non-perishable materials that are required for Project construction and that the Contractor has produced or purchased specifically for incorporation into the Project, but which have not yet been so incorporated, may be included in a payment estimate if

(i) the materials meet all applicable Contract specifications,

(ii) the materials have been delivered to the Project site or to another location approved by the Engineer, and

(iii) the Contractor has submitted to the Engineer, as evidence of the Contractor's purchase of the materials, copies of notarized receipted bills and a notarized Certificate of Title, lien waiver, and right of entry to the materials, in the form approved by the Department, duly executed by the Contractor, the Vendor and any other parties deemed necessary by the Engineer to satisfy proof of unencumbered ownership.

The Engineer will decide at what fair and appropriate fraction of the applicable Contract price such materials may be included in a payment estimate.

Offsite storage may be approved by the Engineer, provided that the materials proposed for payment are stored in a secure area, segregated from other materials, clearly labeled as being owned by the Department for use on the identified Project, otherwise handled in compliance with Article 1.20-1.06.03 and stored in accordance with the manufacturer's recommendations. All such materials must be readily available for inventory and inspection by the Engineer. Storage outside of the State of Connecticut may be considered only when a representative of the Department is able to verify that the above requirements have been satisfied.

For items requiring extended fabrication, manufacturing or assembly time, the Contractor may propose to the Engineer a schedule of values for completely fabricated portions of the related material. If the Engineer accepts such a schedule of values, it shall become the Basis of Payment for the stored materials, so long as all other pertinent Contract requirements have been satisfied.

Generic materials having a use on many projects will be considered for payment prior to their incorporation into the Project only if stored in unopened packaging or in large lots stored at the project site.

Stock and raw materials will not be considered for such advance payment without the Engineer's prior written consent thereto.

In no case shall material payments exceed the Contract unit price or lump sum price less the actual value of the remaining work under the item, including but not limited to delivery and installation of the materials. If the proposed material costs do exceed such a price, the Engineer reserves the right to reduce any related payment accordingly. In such an instance the Contractor shall provide documentation of ownership and written acceptance of the amount to be paid in a form acceptable to the Engineer prior to any payments being made by the Engineer. Such reductions in payment shall in no way affect the Department's ownership interest in the stored materials or release the Contractor from any other requirements of the Contract.

SECTION 2.02 - EXCAVATION, FORMATION OF EMBANKMENT, AND REUSE OF EXCAVATED MATERIAL

Replace Section 2.02 in its entirety with the following:

SECTION 2.02
EXCAVATION, FORMATION OF
EMBANKMENT, AND REUSE OF EXCAVATED MATERIAL

2.02.01—Description: Excavation shall consist of the removal of all material taken from within the limits of the work contracted for, the removal of which is necessary for the construction of the roadway, subgrade, shoulders, slopes, entrances, retaining walls, gutters, channels, swales, concrete sidewalks, driveways and other miscellaneous construction to the dimensions and limits shown on the Plans or as ordered by the Engineer and shall include the necessary excavation for pervious structure backfill outside of structure excavation limits. It shall also include the formation of embankments, the management and reuse of excavated soil, removal of retaining walls; and in the absence of such items in the Contract, the clearing and grubbing and the shaping and cleaning of slopes and of shoulders.

Classification: Excavation shall be classified for the purpose of payment as "Earth," "Rock," "Channel Excavation—Earth," or "Channel Excavation—Rock," in accordance with the following definitions. The classifications applying to any project shall be as indicated in the Contract.

- **Earth Excavation** shall include all materials removed as indicated or directed except water, "Rock," "Channel Excavation—Earth," and "Channel Excavation—Rock."
- **Rock Excavation** shall include rock in definite ledge formation and boulders, or the portion of boulders, 1 cubic yard or more, in volume.
- **Channel Excavation-Earth** shall include all materials other than water or "Channel Excavation—Rock" removed from the existing new or temporary water courses as indicated on the Plans or as directed.
- **Channel Excavation-Rock** shall include rock in definite ledge formation and boulders of 1 cubic yard or more in volume removed from existing, new or temporary water courses, as indicated on the Plans or as directed

2.02.03—Construction Methods:

Submittals: Not less than 15 days prior to beginning work, the Contractor shall submit a plan, in the form acceptable to the Engineer, for grading operations detailing the location of embankment material sources and points of deposit for the entire Project. Overhaul will not be allowed without approval by the Engineer.

This plan shall also include delineation of points where surplus material shall be reused within the Project limits. Management of material may be staged or backfilled at a Reuse Stockpile Area (RSA) as designated on the Plans or at an alternative site approved by the Engineer. All work shall be done in accordance with the accepted submittal.

Excavation: Excavation shall be made in conformity with the requirements of the Plans and as ordered by the Engineer. All excavated material, unless determined to be unsuitable by the Engineer, shall be reused within the limits of the Project or where indicated on the Plans, or locations as directed by the Engineer.

The Contractor shall be responsible for the staging and management of excavated material to maximize reuse. Excavated material shall be loaded, transported, placed and compacted at locations within the Project limits in accordance with the requirements in the Contract or as directed by the Engineer, such that:

a. material is deemed to be suitable for use as fill.
b. material is not placed below the water table; unless directed by the Engineer; and
c. material is not placed in an area subject to erosion.

Any surplus or unsuitable material not required, nor permitted to be used for such purposes, shall be managed in accordance with the Contract or as directed by the Engineer.

The Contractor shall, when necessary, in excavation areas, provide and maintain ditches which are adequate to prevent free water from becoming incorporated in material to be used to form embankments, such ditching to be at the sole expense of the Contractor. Where buildings have been removed to clear the way for construction or where old foundations, concrete or masonry walls exist, they shall be removed to 2

feet below the directed or finished grade; and all cellar and other holes shall be filled with suitable material. A Reuse Stockpile Area (RSA) for staging and management of excavated material may be provided in the Plans.

1 Earth Excavation:

a. **Sod and other organic matter which** is considered to be unsuitable shall be relocated as directed by the Engineer within the limits and dimensions of the Plans or at the Stockpile Area

b. **Frozen material,** which would otherwise be considered suitable for formation of embankments, shall be placed on embankment slopes or relocated as directed by the Engineer. The Engineer may direct the removal of any portion of an accepted layer which has become frozen after placement and compaction. This frozen material shall be placed on embankment slopes or relocated as directed by the Engineer. The removal and placement of frozen material shall be at the sole expense of the Contractor.

c. **Topsoil** shall be excavated within pavement and shoulder limits at grade points and to an elevation 3 feet below finish grade and elsewhere as directed. The reuse of topsoil on the Project shall be placed where the surface of the underlying material is dry, its distance above the free water surface at the time of filling is more than 3 feet, and its distance below finish pavement grade is more than 5 feet. If permitted by the Engineer, the excavated topsoil may be reused for constructing embankments.

2. Excavation of Rock: When rock is encountered, it shall be excavated to the slope lines and depths indicated on the Plans.

The Contractor shall presplit the rock along the proposed rock slopes to the lines and inclinations shown on the Plans except as otherwise provided in the specifications. Presplitting will be required where the backslope is designed at an inclination 1 (vertical) on 1 (horizontal) or steeper or where the cut in rock is 10 feet or more, measured on the inclination of the proposed slope from the bottom of excavation to the natural surface of sound rock. The maximum vertical height of slope face which can be presplit at the same time shall be 50 feet.

The presplitting holes shall follow the required rock slope lines and inclinations. Hole drilling shall commence only when solid rock is encountered and exposed to the satisfaction of the Engineer. Unless otherwise permitted by the Engineer, presplitting holes shall have a spacing of 3 feet, center-to-center, and a diameter not greater than 3 inches. The holes shall be extended from the top of solid rock surface to the toe of finished rock slope, unless lesser depths are specified on the Plans. The proper angle of drilling shall be maintained at all times so all presplit holes lie essentially in the same plane and are parallel to each other. No holes shall deviate more than 6 inches at any place in the plane of the specified slope line nor in its vertical alignment. If any cut is presplit by vertical stages (lifts), the presplit holes may be offset, for each stage, a distance not more than 24 inches inside the previously presplit face. Presplit holes shall be lightly loaded with a continuous column charge manufactured especially for presplitting. All space in each hole not occupied by the explosive charge shall be filled with clean stone chips less than 3/8 inch in size or approved equal. Charges near the top of hole shall be reduced sufficiently to eliminate overbreak and heaving. The top charge shall not be less than 3 feet below the top of the drill hole. The methods of detonation shall be such that a uniform plane of rupture of the rock occurs from top to bottom and between presplit holes. If necessary, the Contractor shall adjust the methods as outlined above so as to result in a uniform plane of rupture in the rock.

Unless otherwise approved by the Engineer, presplit holes shall be drilled at least 50 feet ahead of, and shall be detonated prior to the drilling and blasting, the general pattern holes within the section of any lift of rock to be excavated. The presplitting shall be performed so as to produce a uniform plane of rupture in the rock such that the resulting rock face will not be affected by subsequent blasting and excavation operations.

In the general pattern, blasting following presplitting operations, no portion of any blast hole shall be drilled closer than 4 feet to the presplit face. No portion of any blast hole larger than 3 inches diameter shall be permitted closer than 12 feet to the presplit face. The spacing of blast holes, distribution and type of explosives, methods of detonation, and the blasting techniques shall be adjusted by the Contractor according to the characteristics and structure of the rock encountered so as not to fracture the rock beyond the presplit face.

Prior to any blasting, the Department will call a blasting conference at which the Contractor shall be represented to determine the methods to be used and the required protection to ensure the utmost safety during blasting operations. The Contractor shall be responsible for all damage due either directly or

indirectly to such operation.

The Contractor shall schedule their operations so that all rock excavation within a distance of 100 feet of bridges or other large structures, or any portion thereof, is completed to the required slope lines and depths before any structure work is started.

All loose and unstable material, even if located beyond the payment lines, and all breakage and slices shall be removed as directed and as the excavation for each vertical stage (lift) progresses. It shall be, at all times, the responsibility of the Contractor to perform all phases of this work to produce the required rock slope faces to the satisfaction of the Engineer.

Where indicated on the Plans or as ordered by the Engineer, rock shall be excavated without the use of explosives. Excavation methods by the use of drilling, splitting, wedging or other approved methods not involving the use of explosives shall be utilized. The method selected by the Contractor shall allow excavation to the slope line(s) and depth(s) as shown on the Plans and shall not affect in any way the material or structures outside the excavation line or grade.

3. Formation of Embankment:

a. **General:** Excavated material and reclaimed waste obtained within the limits of the Project shall be reused in the formation of embankments, except as provided elsewhere herein or as ordered by the Engineer.

Overhaul will not be allowed without approval of the Engineer; but excavated material shall be transported where directed. or staged and managed at the Reuse Stockpile Area when designated in the Plans.

When embankments are to be constructed on slopes 3:1 (3 horizontal to 1 vertical) or steeper, the slope of the existing ground on which the embankment is to be placed shall be plowed deeply or cut into steps before the filling is begun.

Embankments shall be constructed of earth, rock, reclaimed waste or a mixture thereof containing no more than 2% by weight of asphalt cement. The embankment shall be constructed by depositing successive layers of fill for the full width of the embankment, unless a partial width is permitted by the Contract or by the Engineer.

If glass or clinker, or both, are included in reclaimed waste, their individual particles shall be no larger than 1 inch. Glass or clinker, or both, shall be thoroughly mixed with other embankment materials such that their content anywhere in the embankment shall not exceed 25% by weight, with the exception that material placed within 5 feet from the face of the slope shall be free of glass and clinker.

No embankment layer shall be deposited on surfaces of snow or ice, nor shall it be placed on frozen or unstable surfaces except under the conditions permitted elsewhere herein. If the Contractor is permitted to continue work, he shall remove, at no cost to the State, any frozen embankment material unless otherwise directed by the Engineer.

The depth of each layer, before compaction, shall not exceed 12 inches except as permitted hereinafter by these specifications, or with the permission of the Engineer.

The embankment shall be crowned or pitched to provide drainage at the close of each day's operations.

Where filling in 12-inch layers is impracticable, as in the case of filling in water or over slopes too steep for the operation of equipment, the embankment may be constructed in a single layer to the minimum elevation at which equipment can be operated, as determined by the Engineer; and above this elevation, the embankment shall be constructed as specified herein.

Embankments to an elevation 3 feet above the free water surface at the time of filling, shall be constructed of rock or free-draining material, or a mixture of both. Free-draining material shall conform to the requirements of M.02.07.

b. **Fill on Top of Existing Pavement**: In fills where the top of the proposed pavement will be less than 4 feet above an existing flexible pavement, and the existing pavement is not required to be removed, it shall be scarified as directed by the Engineer.

In fills where the top of the proposed pavement will be less than 3 feet above an existing concrete pavement, including all bituminous resurfacing thereon, the concrete pavement shall be removed.

In fills where the top of the proposed pavement will be between 3 and 4 feet above an existing concrete pavement, the concrete pavement shall be broken in such a manner that complete fractures are obtained. Intact fragments, undamaged after breaking, shall not be larger than 2 square feet (sf).

When present, pavement not in cut or fill is removed as called for on the Plans or directed, the area shall be backfilled with a suitable earth material which shall be free from admixture of subsoil, refuse, stumps, roots, rocks, brush, weeds and other material which will prevent the formation of a suitable seed bed.

c. **Concrete and Bituminous Pavement Cutting:** Wherever portions of existing concrete pavement are to be removed, such removals shall be made to neat lines. The areas in which such concrete surfaces are to be removed will be delineated by the Engineer before such work is done. Where no break or joint exists in the concrete pavement at the line of delineation, a kerf, at least 2 inches, but no more than 3 inches deep, shall be made in the concrete with an approved concrete cutting saw. The concrete shall then be removed from within the delineated area exercising extreme care to avoid "breakbacks" beyond the kerf, break or joint. Concrete pavement remaining in place shall have vertical edges, and that portion below the kerf shall be reasonably smooth.

Wherever portions of existing bituminous concrete pavement are to be removed, they shall be removed to neat lines as shown on the Plans or as directed by the Engineer. Where the delineated limits of the areas in which such bituminous surfaces are to be removed are adjacent to existing bituminous concrete pavement that is to remain in place, the line of delineation shall be cut by a method approved by the Engineer.

d. **Rock Fragments and Reclaimed Waste:** When the embankment material consists predominantly of rock fragments and/or fragments of reclaimed waste of such size that material cannot be placed in horizontal layers of the thickness specified above without crushing or further breaking down the pieces resulting from the excavation methods, such material may be placed in the embankments in horizontal layers not exceeding 3 feet thick. Large stones or fragments of reclaimed waste shall not be placed in nests but shall be distributed over the area; and the interstices shall be filled with spalls, finer fragments or earth to form a solid, compact mass.

The entire area of each layer shall be leveled off by suitable grading equipment and shall be compacted as hereinafter specified.

In portions of embankments where piles are to be driven, the Contractor shall not place any material which might interfere with pile driving operations. The correction of any condition which interferes with the pile driving operations in embankments constructed under the Contract shall be made by the Contractor at no cost to the State.

Rock fill or reclaimed waste containing fragments with their greatest dimension over 12 inches shall not be placed above an elevation which is 2 feet below the top of the embankment.

Particle with their greatest dimension over 5 inches shall not be placed within 12 inches of the elevation of the top of the prepared subbase unless otherwise specifically authorized.

4 Compaction: The entire area of each layer of the embankment and the subgrade in the excavated areas shall be uniformly compacted to at least the required minimum density by use of compaction equipment consisting of rollers, compactors or a combination thereof. Earth-moving and other equipment not specifically manufactured for compaction purposes will not be considered as compaction equipment.

The dry density after compaction shall not be less than 95% of the maximum dry density for that soil when determined by the Contractor in accordance with AASHTO T 180 and measured in-place with ASTM D6938 or other methods approved by the Engineer.

The Contractor shall perform in-place density testing at a sufficient frequency to ensure that the specified results are continuously met. The Contractor shall submit complete field density testing and inspection records to the Engineer within 48 hours (excluding weekends and holidays) of the test in a manner acceptable to the Engineer.

5. Stability: If after full compliance with the requirements of these specifications with regard to excavation, placement and compaction density requirements, a stable embankment or subgrade has not been obtained, the Contractor shall proceed to perform such corrective work as is necessary to produce a stable embankment or subgrade. This work may include but not necessarily be limited to control of moisture to within limits suitable for obtaining the required stability; blending with rock or granular material from any Project excavation or borrow, or free draining material or any combination thereof; removal and replacement with acceptably compacted material or a combination of these methods approved by the Engineer. Any of the foregoing methods may be supplemented by suspending embankment operations and allowing the material to dry.

When embankments are constructed of material from Project excavation and the Engineer determines

that the material properly compacted is not sufficiently stabilized, the cost of corrective measures directed by the Engineer shall be paid for at applicable Contract unit prices, or in the absence thereof, as extra work.

If the corrective work on embankments constructed of Project excavation is necessary, and requires departure from the plan for grading operations to obtain material at locations other than shown on the aforementioned plan which result in increased net costs to the Contractor, such increased costs will be paid as extra work, except that no payment will be made for overhaul for any corrective material for the first 1/2 mile of increased hauling distance.

When embankments are constructed of borrow, they shall be stable. In this case however, the methods and material used to obtain such stability shall be determined by the Contractor and performed at its expense.

6. Fences: The Contractor shall erect either the permanent or temporary fence, to the satisfaction of the Engineer, at all points where the land is used for pasturing and where the existing fences are affected by the grading operations. Permanent or temporary fences shall be erected prior to the removal or destruction of any part of the existing fence, and any temporary fence erected shall be removed when no longer required. There will be no direct payment for any temporary fence erected, but the cost thereof shall be considered as included in the cost of the grading operations; permanent fences will be paid for at the Contract unit price for this item.

7. Placement or Reuse of Unsuitable or Surplus Material: When the Engineer has not directed otherwise, the Contractor has the option to place or reuse unsuitable or surplus excavated material by any of the following methods:

a. By removing such material from within the limits of the highway and placing such material at point or points as the Contractor shall determine provided this does not create any detrimental effects to the Project and the Engineer does not object to the area selected for placement.
b. By placing or backfilling such material within the limits of the highway in accordance with the details and requirements shown on the Plans.
c. By placing or managing such material at an approved stockpile area designated in the Plans or directed by the Engineer; or
d. By removing such material from the site and becoming the property of the Contractor with the approval of the Engineer.

8**. Reuse Stockpile Area requirements:**

a. A plan sheet of the finished grades for the proposed site shall be submitted for review by the Engineer.
b. Any impacts to trees within the requested area must be indicated on the plan sheet. Backfilling of trees or tree root systems will not be permitted.
c. Soil Stockpiles left in place shall be re-graded and have finished slopes no greater than 6:1 (6 horizontal to 1 vertical) or as directed by the Engineer
d. Soil Stockpiles left in place shall be free of woody debris and large rocks.
e. Finished areas shall be clear of invasive species and be reestablished with a wildflower seed mix or conservation seed mix as provided elsewhere in the Contract or as directed by the Engineer.
f. All existing drainage ways must be re-established at the toe of slope and fully functioning before Project Acceptance.
g. If a stockpile area has been designated to be used or approved for use by the Engineer that is known to be a Conservation Area, existing topsoil must be stripped and stored for the duration of the Project to be placed in kind at the selected Conservation Area.
h. If reuse of existing topsoil is not feasible, a minimum of 4 inches of approved topsoil shall be imported, placed, and graded at the Conservation Area.
i. Used areas must be scarified before the placement of topsoil.
j. The site shall be left free of any construction materials and BMPS when vacating the area.

9. Slopes: Earth slopes with a degree of slope from 2:1 to 5:1 shall be tracked unless the Engineer directs that they shall not be tracked. Tracking shall consist of traversing the slopes with cleated tracks so that the cleat indentations are horizontal. Where topsoil is to be placed on slopes, the tracking shall be done prior to the installation of the topsoil.

Tracking is not to be construed to be used for slope compaction. Its sole purpose is to provide indentations in the slope to help reduce soil erosion. Other methods of achieving the desired results may be used, with the permission of the Engineer.

10. Concrete sidewalks or driveway ramps: Wherever portions of concrete sidewalks or driveway ramps are to be removed, such removals shall be made to neat lines. Partial removals shall generally be at existing joints except when a location other than a joint is set as the limit by the Engineer due to construction staging limits. At removal limits where a joint is not present, the Contractor shall saw cut the concrete full depth to create a neat line.

2.02.04—Method of Measurement: Payment lines for Earth Excavation shall coincide with the slope and subgrade lines or the top of the payment lines for Ditch Excavation, whichever applies, as shown on the Plans or as ordered. The amount of excavation will be determined as described below by the average end area method, or by a method approved by the Engineer.

Payment lines for Unsuitable Material Excavation shall be the area designated by the Plans, special provisions or the Engineer as unsuitable material below the subgrade in cut sections, below the original ground line in fill sections and beyond the normal payment lines for ditch and channel excavation.

Unsuitable material within the slope and subgrade lines or the top of the normal payment lines for ditch and channel excavation shall be measured as Earth Excavation, Ditch Excavation or Channel Excavation.

Any stockpiling, drying or re-excavation necessary to use such material on the Project shall not be measured for payment, but shall be included in the payment for Unsuitable Material Excavation.

Also measured for payment shall be the volume of earth moved in cutting or plowing of steps on steep slopes, as described in 2.02.03, and the removal of existing flexible pavement where shown on the Plans or ordered by the Engineer.

The cost of trucking, management, stockpiling and final placement of material will not be measured for payment but shall be included in the lump sum cost of Management and Reuse of Excavated Soil, unless conditions differ from those that existed, or could have been foreseen or anticipated when the Contract was bid.

Payment lines for Channel Excavation-Earth shall coincide with the side slopes and bottom of channel as shown on the Plans or as directed.

Payment lines for Channel Excavation-Rock shall coincide with the depth shown on the Plans or to the depth ordered. Payment lines for slopes will be extended to a limit of 12 inches outside of and parallel to the slope lines shown on the Plans, or as ordered, to include rock actually removed within this limit. In case of natural faults or fissures which make the removal of additional rock necessary for reasons of safety, or which produce slides clearly not attributable to the Contractor's method of operation, the slope payment lines will be fixed to coincide with the natural faults or fissures of the rock.

Payment lines for Rock Excavation, where presplitting bedrock is required by these specifications, will extend to the slope and depth line shown on the Plans or as directed, to include only the rock actually removed within this limit.

Payment lines for Rock Excavation, where presplitting bedrock is not required by these specifications, shall coincide with the depth shown on the Plans or to the depth directed; and payment lines for the slopes will be extended to a limit of 1 foot outside of and parallel to the slope lines shown on the Plans, or as directed, to include rock actually removed within this limit. Where removal of rock is necessary for reasons of safety or due to conditions clearly not attributable to the Contractor's method of operation, the payment lines will be fixed to coincide with limits ordered by the Engineer.

Presplitting of bedrock performed in accordance with these specifications will not be measured for payment.

Where removal of rock is necessary for reasons of safety or due to conditions clearly not attributable to the Contractor's methods of operation, the payment lines for Rock Excavation where presplitting is required will be fixed to coincide with limits ordered by the Engineer. Payment lines for Rock Excavation (No Explosives), where mechanical means of removal are required by these specifications, will extend to the slope and depth line(s) shown on the Plans or as directed, to include only the rock actually removed within these limits.

Concrete and masonry foundation walls, or portions thereof, to be removed will be measured for payment by the volume in cubic yards, in place, before removal.

Existing concrete pavement and concrete base over 5 s.y., including any bituminous surfacing material immediately thereon, shall be measured in place before removal. Existing bituminous concrete curbing, when removed concurrently with existing pavement, will be included in the square yard measurement.

When existing bituminous concrete curbing is to be removed separately, it will be measured by the number of linear feet in place prior to removal.

Existing concrete and cement masonry structures over 1 c.y., shall be measured in place before removal.

Existing concrete sidewalks or driveway ramps shall be measured in place before removal by the number of square yards of concrete sidewalk or ramp to be removed. Existing concrete curbing, when contiguous with the roadway, sidewalk or ramp being removed, will be included in the square yard measurement.

When existing concrete curbing is to be removed separately, it will be measured by the number of linear feet in place prior to removal.

When existing granite curbing is to be removed, it will be measured by the number of linear feet in place prior to removal. Any salvage of existing granite curbing shall be as directed in the Contract.

When rock is encountered, and its removal is to be paid for as Rock Excavation or Channel Excavation-Rock, the Contractor shall strip or expose the rock to such an extent that in the Engineer's judgment the necessary measurements can be taken. The Contractor shall notify the Engineer at least 2 days prior to disturbing any of the rock to allow ample time to obtain the necessary measurements. If the Contractor shall fail to give such notice, or remove any rock prior to the taking of the measurements, the Engineer shall presume that measurements taken at the time the Engineer first sees the material in question will give a true quantity of excavation.

The amount of excavation will be determined by the average end area method, or by a method approved by the Engineer.

The work of scarifying existing pavement will not be measured for payment, but the cost shall be considered as included in the general cost of the Contract.

The work to Cut Concrete Pavement will be measured for payment by the number of linear feet of saw cut made with an approved concrete saw to the lines delineated on the Plans or as directed by the Engineer, including cutting through any surfacing material thereon.

The work to Cut Bituminous Concrete Pavement will be measured for payment by the number of linear feet of cut made by an approved method to the lines delineated on the Plans or as directed by the Engineer. Cuts made necessary by the Contractor's operation, such as patching, bituminous concrete samples, continuance of previous runs, faulty work or faulty materials will not be measured for payment. Bituminous parking areas are considered as bituminous concrete pavement.

The work, materials, tools, equipment and labor incidental to the management of unsuitable excavated material or breaking concrete pavement will not be measured for payment.

The transportation and management of material to and from a Reuse Stockpile Area, when shown on the Plans, shall be included in the lump sum cost for Management and Reuse of Excavated Material, which cost shall include trucking, labor, materials, tools, and equipment and any additional incidental costs associated with this work.

Furnishing additional topsoil and seeding for the restoration of a Reuse Stockpile Area or Conservation Area shall be paid for under the applicable Contract items.

2.02.05—Basis of Payment: Roadway excavation will be paid for at the Contract unit price per cubic yard for "Earth Excavation," "Rock Excavation," "Rock Excavation (No Explosives)," "Channel Excavation-Earth," or "Channel Excavation-Rock" as the case may be, in accordance with the classification given herein and subject to the method of measurement described above. The price shall include all equipment, tools, compaction testing and labor incidental to the completion of the excavation, the formation and compaction of embankments, and the management of surplus or unsuitable material in accordance with the provisions of the Contract.

The removal of concrete pavement or concrete base will be paid for at the Contract unit price per square yard for "Removal of Concrete Pavement," including any bituminous surfacing material immediately thereon.

The removal of concrete sidewalk or concrete driveway ramp will be paid for at the Contract unit price per square yard for “Removal of Concrete Sidewalk” which price shall also include cutting concrete at neat lines and all disposal costs.

The removal of concrete or cement masonry structures over 1 c.y., other than retaining walls or bridge structures, will be paid for at the Contract unit price per cubic yard for "Rock Excavation" or "Unclassified Excavation," as the case may be.

The removal of drainage structures outside of the limits of Roadway Excavation, Structure Excavation and proposed drainage installations will be paid as specified under Article 5.86.05.

Concrete and masonry foundation walls or portions thereof ordered removed will be paid for at the Contract unit price per cubic yard for "Rock Excavation" or "Unclassified Excavation," as the case may be.

The removal of retaining walls and bridge substructures will be paid as specified under Article 9.74.05.

The removal of crib walls, bin walls, stone wall fences or farm wall fences will be paid for as “Earth Excavation.”

The removal of all pavement or pavement bases other than concrete will be paid for at the Contract unit price per cubic yard for "Earth Excavation."

The work of cutting concrete pavement will be paid for at the Contract unit price per linear foot for "Cut Concrete Pavement" including any bituminous surfacing material immediately thereon, which price shall include all materials, equipment, tools and labor incidental thereto.

The work of cutting bituminous concrete pavement will be paid for at the Contract unit price per linear foot for "Cut Bituminous Concrete Pavement" which price shall include all materials, equipment, tools and labor incidental thereto.

Unsuitable material excavation outside of the limits of earth, unclassified, ditch and channel excavation will be paid for at the Contract unit price per cubic yard for "Unsuitable Material Excavation," which price shall include all equipment, tools, labor and material incidental thereto.

When no item for "Channel Excavation-Rock" appears in the proposal, and rock conforming to the description given under "Channel Excavation-Rock" in Article 2.02.01 is encountered in the channel excavation, the rock so encountered and removed will be classified and treated as "Channel Excavation-Rock," and its removal will be paid for at 300% of the Contract unit price per cubic yard for "Channel Excavation-Earth."

All costs incidental to breaking concrete pavement shall be considered as being included in the general cost of the Contract.

Existing curbing, when removed separately from pavement, sidewalk or driveway ramp will be paid at the Contract unit price per linear foot for “Removal of Bituminous Concrete Curbing,” “Removal of Concrete Curbing” or “Removal of Granite Curbing.”

All costs associated with a Reuse Stockpile Area will be paid for at the Contract lump sum price for “Management and Reuse of Excavated Material,” which shall include trucking, labor, materials, tools, and equipment and any additional incidental costs associated with this work.

Any topsoil and seeding for the restoration of a Reuse Stockpile Area or Conservation Area will be paid under the applicable Contract items.

Pay Item	Pay Unit
Rock Excavation (No Explosives)	c.y.
Earth Excavation	c.y.
Rock Excavation	c.y.
Unclassified Excavation	c.y.
Channel Excavation-Earth	c.y.
Channel Excavation-Rock	c.y.
Cut Concrete Pavement	l.f.
Cut Bituminous Concrete Pavement	l.f.
Removal of Concrete Pavement	s.y.
Removal of Concrete Sidewalk	s.y.
Unsuitable Material Excavation	c.y.
Removal of (Type) Curbing	l.f.
Management and Reuse of Excavated Material	l.s.

SECTION 2.03—STRUCTURE EXCAVATION

Add the following at the end of **Article 2.03.04—Method of Measurement:**

"**3.** The transportation and management of material to and from a Reuse Stockpile Area (RSA), when shown on the Plans, shall be included in the lump sum cost for "Management and Reuse of Excavated Material," which cost shall include trucking, labor, materials, tools, and equipment and any additional incidental costs associated with this work."

Amend **Article 2.03.05—Basis of Payment** *as follows:*

"**(b) "Structure Excavation—Earth (excluding Cofferdam and Dewatering)" or "Structure Excavation—Rock (excluding Cofferdam and Dewatering),"** whichever applies in whole or in part, which price shall include all materials, tools, equipment and labor necessary to complete the excavations in accordance with the requirements of the plans or as ordered by the Engineer. It shall also include the preparation of foundations as described under 2.03.03 including compaction testing, the necessary filling, except as otherwise provided in the Contract, and the removal of all surplus or unsuitable material resulting from the excavations. Any suitable surplus material shall be placed in the embankments, if so ordered by the Engineer, or placed at the RSA when included in the Plans under Item 0202327 "Management and Reuse of Excavated Material."

SECTION 4.06 - BITUMINOUS CONCRETE

Replace the entire Section with the following:

SECTION 4.06
BITUMINOUS CONCRETE

4.06.01—Description
4.06.02—Materials
4.06.03—Construction Methods
1. **Material Documentation**
2. **Transportation of Mixture**
3. **Paving Equipment**
4. **Test Section**
5. **Transitions for Roadway Surface**
6. **Spreading and Finishing of Mixture**
7. **Longitudinal Joint Construction Methods**
8. **Contractor Quality Control (QC) Requirements**
9. **Temperature and Seasonal Requirements**
10. **Field Density**
11. **Acceptance Sampling and Testing**
12. **Density Dispute Resolution Process**
13. **Corrective Work Procedure**
14. **Protection of the Work**
15. **Cut Bituminous Concrete Pavement**

4.06.04—Method of Measurement
4.06.05—Basis of Payment

4.06.01—Description: Work under this Section shall include the production, delivery, placement and compaction of a uniform textured, non-segregated, smooth asphalt pavement to the grade and cross section shown on the plans.

The following terms as used in this specification are defined as:

Asphalt Mixture (formerly bituminous concrete): A composite material consisting of prescribed amounts of asphalt binder and aggregates. Asphalt binder may also contain additives engineered to modify specific properties and/or behavior of the composite material. References to asphalt mixture apply to all of its forms, such as those identified as hot-mix asphalt (HMA) or polymer-modified asphalt (PMA).

Asphalt Mixture Plant (Plant): A structure where aggregates and asphalt binder are combined in a controlled fashion into a asphalt mixture suitable for forming pavements and other paved surfaces.

Course: A continuous layer (a lift or multiple lifts) of the same asphalt mixture placed as part of the pavement structure.

Density Lot: The total tonnage of all asphalt mix placed in a single lift which are:

1. PWL density lots = When the project total estimated quantity per mixture is larger than 3,500 tons
2. Simple Average density lots = When the project total estimated quantity per mixture is 3,500 tons or less

Disintegration: Erosion or fragmentation of the pavement surface which can be described as polishing, weathering-oxidizing, scaling, spalling, raveling, or formation of potholes.

Dispute Resolution: A procedure used to resolve conflicts between the Engineer's and the Contractor's results that may affect payment.

Cool Weather Paving: Any asphalt paving that occurs when temperature is expected to be less than 50°F.

Hot Mix Asphalt (HMA): An asphalt mixture typically produced at 325°F.

Job Mix Formula (JMF): A recommended aggregate gradation and asphalt binder content to achieve the required mixture properties.

Leveling Course: A thin lift of HMA placed at an average consistent thickness, usually about an inch, as indicated on the plans to correct minor variations in the contour of the existing pavement surface.
Lift: An application of an asphalt mixture placed and compacted to a specified thickness in a single paver pass.
Percent Within Limits (PWL): The percentage of the lot falling between the Upper Specification Limit (USL) and the Lower Specification Limit (LSL).
Polymer Modified Asphalt (PMA): An asphalt mixture containing a polymer-modified asphalt binder and using a qualified warm mix technology.
Production Lot: The total tonnage of mixture from a single source that may receive an adjustment.
Production Sub Lot: Portion of the production lot typically represented by a single sample.
Quality Assurance (QA): All those planned and systematic actions necessary to provide CTDOT the confidence that a Contractor will perform the work as specified in the Contract.
Quality Control (QC): The sum total of activities performed by the vendor (Producer, Manufacturer, and Contractor) to ensure that a product meets contract specification requirements.
Superpave: A mix design used in mixtures designated as "S*" where "S" indicates Superpave and * indicates the sieve related to the nominal maximum aggregate size of the mix.
Segregation: A non-uniform distribution of a mixture in terms of gradation, temperature, or volumetric properties.
Warm Mix Asphalt (WMA) Technology: A qualified additive or technology that may be used to produce a mixture at reduced temperatures and/or increase workability of the mixture.
Wedge Course: A lift or multiple lifts of HMA placed at a varying thickness as indicated on the plans to increase or decrease the cross slope of the existing pavement surface.

4.06.02—Materials: All materials shall meet the requirements of M.04.

1. Materials Supply: The mixture must be from one source of supply and originate from one Plant unless authorized by the Engineer.

2. Recycled Materials: Reclaimed Asphalt Pavement (RAP), Crushed Recycled Container Glass (CRCG), Recycled Asphalt Shingles (RAS), or crumb rubber (CR) from recycled tires may be incorporated into the mixture in accordance with Project Specifications.

3. Tack Coat: Tack coat used for all applications shall be Non-Tracking Asphalt Tack Coat, meeting the requirements of M.04.01-5. Use of alternate tack coats conforming to Material for Tack Coat requirements may be requested by the Contractor. The request shall be submitted in writing to the Engineer for review prior to use.

4.06.03—Construction Methods:

1. Material Documentation: All vendors producing asphalt mix must have Plants with automated vehicle-weighing scales, storage scales, and material feeds capable of producing a delivery ticket containing the information below.

a. State of Connecticut printed on ticket.
b. Name of Producer, identification of Plant, and specific storage silo if used.
c. Date and time.
d. Mixture Designation, mix type and level. Curb mixtures for machine-placed curbing must state "curb mix only."
e. If WMA Technology is used, "-W" must be listed following the mixture designation.
f. Net weight of mixture loaded into the vehicle. (When RAP and/or RAS is used, the moisture content shall be excluded from mixture net weight.)
g. Gross weight (equal to the net weight plus the tare weight or the loaded scale weight).
h. Tare weight of vehicle (daily scale weight of the empty vehicle).
i. Project number, purchase order number, name of Contractor (if Contractor other than Producer).
j. Vehicle number - unique means of identification of vehicle.
k. For Batch Plants: individual aggregate, recycled materials, and virgin asphalt max/target/min weights when silos are not used.
l. For every mixture designation: the running daily and project total delivered and sequential load number.

The net weight of mixture loaded into the vehicle must be equal to the cumulative measured weights of its

components.

The Contractor must notify the Engineer immediately if, during production, there is a malfunction of the weight recording system in the automated Plant. Manually written tickets containing all required information will be allowed for no more than 1 hour.

The State reserves the right to have an Inspector present to monitor batching and/or weighing operations.

2. Transportation of Mixture: The mixture shall be transported in vehicles that are clean of all foreign material, excessive coating or cleaning agents, and that have no gaps through which material might spill. Any material spilled during the loading or transportation process shall be quantified by re-weighing the vehicle. The Contractor shall load vehicles uniformly so that segregation is minimized. Loaded vehicles shall be tightly covered with waterproof covers acceptable to the Engineer. Mesh covers are prohibited. The cover must minimize air infiltration. Vehicles found not to be in conformance shall not be loaded. Vehicles with loads of mix being delivered to State projects must not exceed the statutory or permitted load limits referred to as gross vehicle weight (GVW). The Contractor shall furnish a list and allowable weights of all vehicles transporting mixture. The State reserves the right to check the gross and tare weight of any vehicle. If the gross or tare weight varies from that shown on the delivery ticket by more than 0.4%, the Engineer will recalculate the net weight. The Contractor shall correct the discrepancy to the satisfaction of the Engineer.

If a vehicle delivers mixture to the Project and the delivery ticket indicates that the vehicle is overweight, the load may not be rejected but a "Measured Weight Adjustment" will be taken in accordance with 4.06.04.

Vehicle body coating and cleaning agents must not have a deleterious effect on the mixture. The use of solvents or fuel oil, in any concentration, is prohibited for the coating of vehicle bodies.

For each delivery, the Engineer shall be provided a clear, legible copy of the delivery ticket.

3. Paving Equipment: The Contractor shall have the necessary paving and compaction equipment at the Project Site to perform the work. All equipment shall be in good working order and any equipment that is worn, defective, or inadequate for performance of the work shall be repaired or replaced by the Contractor to the satisfaction of the Engineer. During the paving operation, the use of solvents or fuel oil, in any concentration, is strictly prohibited as a release agent or cleaner on any paving equipment (i.e., rollers, pavers, transfer devices, etc.).

Refueling or cleaning of equipment is prohibited in any location on the Project where fuel or solvents might come in contact with paved areas or areas to be paved. Solvents used in cleaning mechanical equipment or hand tools shall be stored clear of areas paved or to be paved. Before any such equipment and tools are cleaned, they shall be moved off of areas paved or to be paved.

Pavers: Each paver shall have a receiving hopper with capacity to provide for a spreading operation and a distribution system that places the mix uniformly, without segregation. The paver shall be equipped with and use a vibratory screed system with heaters or burners. The screed system shall be capable of producing a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture. Pavers with extendible screed units as part of the system shall have auger extensions and tunnel extenders as necessary. Automatic screed controls for grade and slope shall be used at all times unless otherwise authorized by the Engineer. The controls shall automatically adjust the screed to compensate for irregularities in the preceding course or existing base. The controls shall maintain the proper transverse slope and be readily adjustable, and shall operate from a fixed or moving reference such as a grade wire or floating beam (minimum length 20 feet).

Rollers: All rollers shall be self-propelled and designed for compaction of asphalt mixtures. Roller types shall include steel wheeled, pneumatic, or a combination thereof. Rollers that operate in a dynamic mode shall have drums that use a vibratory or oscillatory system or combination. Vibratory rollers shall be equipped with indicators for amplitude, frequency, and speed settings/readouts to measure the impacts per foot during the compaction process. Oscillatory rollers shall be equipped with frequency indicators. Rollers can operate in the dynamic mode using the oscillatory system on concrete structures such as bridges and catch basins if at the lowest frequency setting.

Pneumatic tire rollers shall be equipped with wide-tread compaction tires capable of exerting an average contact pressure from 60 to 90 psi uniformly over the surface. The Contractor shall furnish documentation to the Engineer regarding tire size, pressure and loading to confirm that the proper contact pressure is being developed and that the loading and contact pressure are uniform for all wheels.

Tack Distributor Vehicle: The Contractor shall provide a distributor vehicle capable of heating, circulating, and spraying the tack coat at the required application temperature range per the tack manufacturer's recommendations. The spray bar shall maintain a constant height above the pavement and distribute the material in an overlapping spray pattern out of the nozzles to ensure uniform coverage on the surface. The distributor vehicle shall include a tachometer, pressure gauges, and an accurate volume measuring device or a calibrated tank. Volume measuring devices shall meet all applicable state or federal sale requirements.

Lighting for Operations: As needed for paving operations, the Contractor shall provide sufficient artificial lighting to enable the Engineer to thoroughly inspect every phase of the work. The type and number of lights to be used on each piece of equipment shall be documented by the Contractor in the Project Specific Quality Control Plan. A minimum of 10 foot candle (fc) (or approximately 108 lumens) within a twenty-five-foot radius from millers, pavers, and transfer vehicles shall be provided by the lighting at all times. A minimum of 1 fc (or approximately 11 lumens) within a sixty foot radius from rollers shall be provided at all times. Lighting shall be oriented to minimize glare to passing traffic.

Material Transfer Vehicle (MTV): A MTV shall be used when placing asphalt mixture surface course (a lift or multiple lifts) as indicated in the Contract except as noted on the plans or as directed by the Engineer. In addition, continuous paving lengths of less than 500 feet may not require the use of a MTV as determined by the Engineer.

The MTV must be a vehicle specifically designed for the purpose of delivering the mixture from the delivery vehicle to the paver. The MTV must continuously remix the asphalt mixture throughout the placement process. When the MTV is in use the paver must have a hopper insert to prevent mix from segregating due to drop height.

The use of a MTV will be subject to the requirements stated in 1.07.05 Load Restrictions. The Engineer may limit the use of the vehicle if it is determined that the use of the MTV may damage highway components, utilities, or bridges. The Contractor shall submit to the Engineer at time of pre-construction the following information:

1. The make and model of the MTV.
2. The individual axle weights and axle spacing for each piece of paving equipment (haul vehicle, MTV and paver).
3. A Working Drawing showing the axle spacing in combination with all pieces of equipment that will comprise the paving echelon.

4. Test Section: The Engineer may require the Contractor to place a test section whenever the requirements of this specification or M.04 are not met. The sampling and testing frequency for the mixture and density shall be in accordance with this specification and M.04.

The Contractor shall submit the anticipated quantity of mixture to be placed and the location of the test section for review and approval by the Engineer. The same equipment used in the construction of a passing test section shall be used throughout production.

If a test section fails to meet specifications, the Contractor shall stop production, make necessary adjustments to the job mix formula, Plant operations, or procedures for placement and compaction. The Contractor shall construct test sections, as allowed by the Engineer, until all the required specifications are met. All test sections shall also be subject to removal as set forth in 1.06.04.

5. Transitions for Roadway Surface: Transitions shall be formed at any point on the roadway where the pavement surface deviates, vertically, from the uniform longitudinal profile as specified on the plans. Whether formed by milling or by using an asphalt mixture, all transition lengths shall meet the criteria below unless otherwise specified.

Permanent Transitions: Defined as any gradual change in pavement elevation that remains as a permanent part of the work. A transition shall be constructed no closer than 75 feet from either side of a bridge expansion joint or parapet. All permanent transitions, leading and trailing ends shall meet the following length requirements:

Posted Speed Limit	Permanent Transition Length Required
> 35 mph	30 feet per inch of elevation change
35 mph or less	15 feet per inch of elevation change

In areas where it is impractical to use the above-described permanent transition lengths, the use of a shorter permanent transition length may be permitted when approved by the Engineer.

Temporary Transitions: Defined as a transition that does not remain a permanent part of the work.

All temporary transitions shall meet the following length requirements:

Posted Speed Limit	Temporary Transition Length Required
> 50 mph	Leading Transition: 15 feet per inch of vertical change (thickness) Trailing Transition: 6 feet per inch of vertical change (thickness)
40, 45 or 50 mph	Leading and Trailing: 4 feet per inch of vertical change (thickness)
35 mph or less	Leading and Trailing: 3 feet per inch of vertical change (thickness)

Note: Any temporary transition to be in place over the winter shutdown period or during extended periods of inactivity (more than 30 calendar days) shall meet the greater than 50 mph requirements shown above.

6. Spreading and Finishing of Mixture: Prior to the placement of the mixture, the underlying subbase and other courses shall be brought to the plan grade and cross section within the allowable tolerance. Subbase material shall be free of standing water prior to placement of the mixture.

Before placing mix on an existing pavement surface, a uniform coating of tack coat shall be applied to the underlying pavement surface and on the exposed surface of a wedge joint. Such pavement surfaces shall be clean and dry. Mechanical sweeping or other means acceptable to the Engineer shall be used to clean pavement surfaces.

Tack Coat Application: The placement of Tack Coat shall not commence or continue when forecasted or unforeseen precipitation or other conditions cause the tack to runoff or prevent conformance to this specification. The Contractor shall protect appurtenances from tracking or splattering of tack coat material. All tack coat material shall be applied by pressurized spray that results in a uniform application rate over the entire surface being paved.

All tack coat material, as defined in M.04, shall be applied at an application rate of 0.04 to 0.06 gal./s.y. for a non-milled surface, and an application rate of 0.06 to 0.08 gal./s.y. for a milled surface.

The Engineer must approve the equipment and the method of measurement prior to use. The tack coat material shall be heated to 160°F ± 10°F and shall not be further diluted.

Tack coat shall be allowed sufficient time to break (cure) prior to any paving equipment or haul vehicles driving on it.

Placement: The mixture shall be placed and compacted to provide a smooth, dense surface with a uniform texture and no segregation at the specified thickness and dimensions indicated in the plans and specifications.

The placement of asphalt mixtures shall not commence or continue when forecasted or unforeseen precipitation may prevent conformance to this specification. The Engineer will not accept or pay for mixture that is placed in conditions that are not in conformance with these specifications.

In advance of paving, traffic control requirements shall be set up, maintained throughout placement, and shall not be removed until all associated work is completed, including quality control, sampling for density testing, and inspection activities.

The Contractor shall supply three infrared thermometers, acceptable to the Engineer, for mix delivery temperature verification by the Inspector and quality control personnel. At the beginning of each shift, the Engineer shall verify that the thermometers:

- have a minimum accuracy value of ±1% of reading or ± 2°F, whichever is greater.
- are in agreement within 5°F when measuring ambient, base, and mix temperature.

The Contractor shall include the thermometer verification process in the QCP, as well as the replacement or repair timeframe of a thermometer not meeting the above criteria or not functioning.

The placement temperature range shall be listed in the Quality Control Placement Plan and shall meet the requirements of Table M.04.03-4. Any material that falls outside the specified temperature range as measured by two of the three thermometers may be rejected.

The Contractor shall inspect the newly placed pavement for defects in mixture or placement before rolling is started. Any deviation from standard crown or section shall be immediately remedied by placing additional mixture or removing surplus mixture. Such defects shall be corrected to the satisfaction of the Engineer.

Where it is impractical due to physical limitations to operate the paving equipment, the Engineer may permit the use of other methods or equipment. Where hand spreading is permitted, the mixture shall be placed by means of suitable shovels and other tools, and in a uniformly loose layer at a thickness that will result in a completed pavement meeting the designed grade and elevation.

Placement Tolerances: Each lift of mix placed at a specified thickness shall meet the following requirements for thickness and area. Any pavement exceeding these limits shall be subject to an adjustment or removal. Lift tolerances will not relieve the Contractor from meeting the final designed grade. Lifts of specified non-uniform thickness, i.e. wedge course, shall not be subject to thickness and area adjustments.

1. Thickness: Where the average thickness of the lift exceeds that shown on the plans beyond the tolerances shown in Table 4.06-3, the Engineer will calculate the thickness adjustment in accordance with 4.06.04.

TABLE 4.06-3: Thickness Tolerances

Mixture Designation	Lift Tolerance
S1	+/- 3/8 inch
S0.25, S0.375, S0.5	+/- 1/4 inch

Where the thickness of the lift of mixture is less than that shown on the plans beyond the tolerances shown in Table 4.06-3, the Contractor, with the approval of the Engineer, shall take corrective action in accordance with this Section.

2. Area: Where the width of the lift exceeds that shown on the plans by more than the specified thickness, the Engineer will calculate the area adjustment in 4.06.04.
3. Delivered Weight of Mixture: When the delivery ticket shows that the truck exceeds the allowable gross weight for the vehicle type, the Engineer will calculate the weight adjustment in accordance with 4.06.04.

Transverse Joints: All transverse joints shall be formed by saw-cutting to expose the full thickness of the lift. Tack coat shall be applied to the sawn face immediately prior to additional mixture being placed.

Compaction: The Contractor shall compact the mixture to meet the density requirements as stated in 4.06.04 for any lift placed with a thickness of 1 1/2 inches or greater, and eliminate all roller marks without displacement, shoving, cracking, or aggregate breakage. This shall include wedge courses when the wedge thickness is 1 1/2 inches or greater within a single paver pass.

When placing a lift with a specified thickness less than 1 1/2 inches the Contractor shall provide a minimum rolling pattern as determined by the development of a compaction curve. This shall include wedge courses when the wedge or any portion of the wedge thickness is less than 1 1/2 inches within a single paver pass. The procedure to be used shall be documented in the Contractor's QCP for placement and demonstrated on the first day of placement.

The use of the vibratory system on concrete structures is prohibited. When approved by the Engineer, the Contractor may operate a roller using an oscillatory system at the lowest frequency setting.

If the Engineer determines that the use of compaction equipment in the dynamic mode may damage highway components, utilities or adjacent property, the Contractor shall provide alternate compaction equipment.

Rollers operating in the dynamic mode shall be shut off when changing directions.

These allowances will not relieve the Contractor from meeting pavement compaction requirements.

Surface Requirements:

Each lift of the surface course shall not vary more than 1/4 inch from a Contractor-supplied 10 foot straightedge. For all other lifts of asphalt mixture, the tolerance shall be 3/8 inch. Such tolerance will apply to all paved areas.

Any surface that exceeds these tolerances shall be corrected by the Contractor at its own expense.

7. Longitudinal Joint Construction Methods: The Contractor shall use Method I - Notched Wedge Joint (see Figure 4.06-1) when constructing longitudinal joints where lift thicknesses are 1 1/2 inches to 3 inches. S1 mixtures shall be excluded from using Method I.

Method II - Butt Joint (see Figure 4.06-2) shall be used for lifts less than 1 1/2 inches or greater than 3 inches. Each longitudinal joint shall maintain a consistent offset from the centerline of the roadway along its entire length. The difference in elevation between the two faces of any completed longitudinal joint shall not exceed 1/4 inch at any location.

Method I - Notched Wedge Joint:

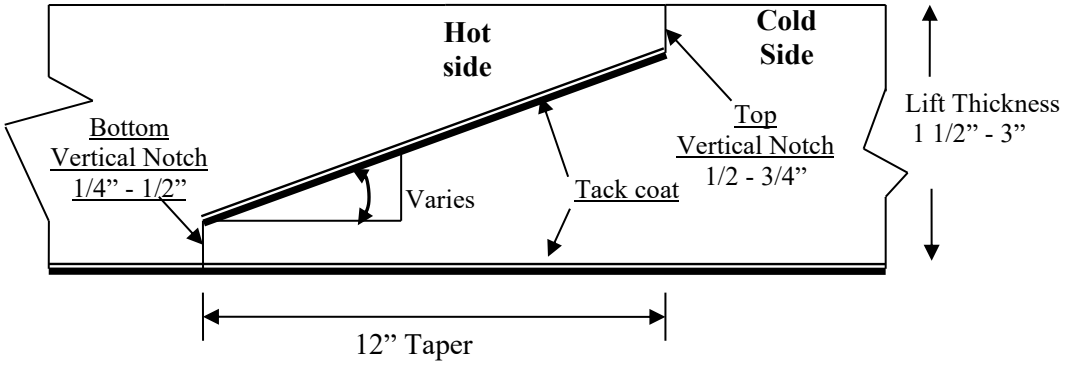
A notched wedge joint shall be constructed as shown in Figure 4.06-1 using a device that is attached to the paver screed and is capable of independently adjusting the top and bottom vertical notches. The device shall have an integrated vibratory system. The top vertical notch must be located at the centerline or lane line or as directed by the Engineer in the final lift. The requirement for paving full width "curb to curb" as described in Method II may be waived if addressed in the QC plan and approved by the Engineer.

The taper portion of the wedge joint shall be evenly compacted using equipment other than the paver or notch wedge joint device. The compaction device shall be the same width as the taper and not reduce the angle of the wedge or ravel the top notch of the joint during compaction.

When placed on paved surfaces, the area below the sloped section of the joint shall be treated with tack coat. The top surface of the sloped section of the joint shall be treated with tack coat prior to placing the completing pass.

The taper portion of the wedge joint shall not be exposed to traffic for more than 5 calendar days.

Figure 4.06-1: Method I, Notched Wedge Joint
(Not to Scale)



Any exposed wedge joint must be located to allow for the free draining of water from the road surface.

The Engineer reserves the right to define the paving limits when using a wedge joint that will be exposed to traffic.

If Method I cannot be used on those lifts which are 1 1/2 inches to 3 inches, Method III may be substituted according to the requirements below for "Method III - Butt Joint with Hot Poured Rubberized Asphalt Treatment."

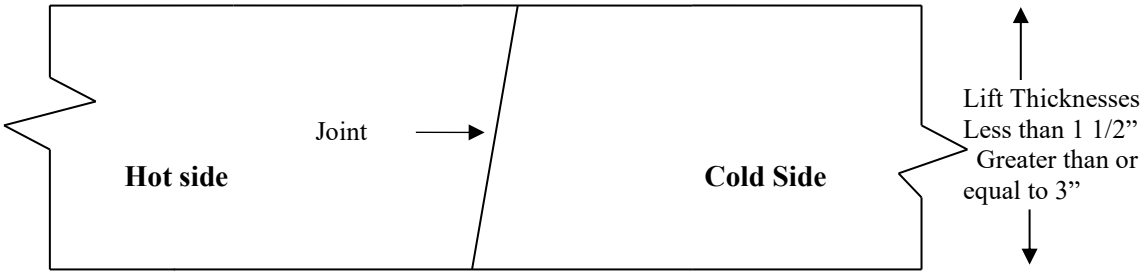
Method II - Butt Joint:

When adjoining passes are placed, the Contractor shall use the end gate to create a near vertical edge (refer to Figure 4.06-2). The completing pass (hot side) shall have sufficient mixture so that the compacted thickness is not less than the previous pass (cold side). During placement of multiple lifts, the longitudinal joint shall be constructed in such a manner that it is located at least 6 inches from the joint in the lift immediately below. The joint in the final lift shall be at the centerline or at lane lines or as directed by the Engineer. The end gate on the paver shall be set so there is an overlap onto the cold side of the joint.

When using this method, the Contractor must complete full width "curb to curb" paving when the vertical

edge exposed to traffic would be greater than one inch, unless otherwise allowed by the Engineer.

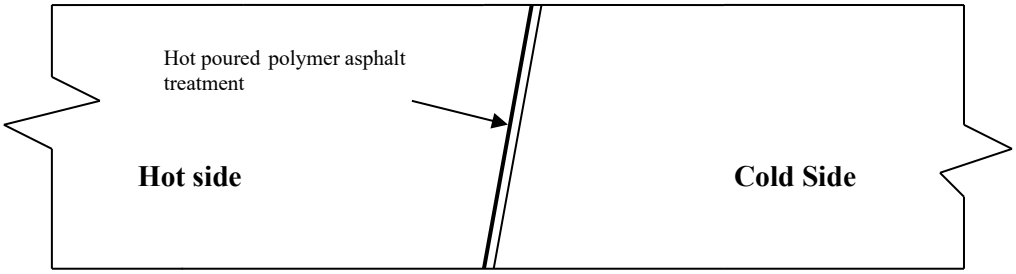
Figure 4.06-2: Method II, Butt Joint
(Not to Scale)



Method III - Butt Joint with Hot Poured Rubberized Asphalt Treatment:

If Method I cannot be used due to physical constraints in certain limited locations, the Contractor may submit a request in writing for approval by the Engineer to use Method III as a substitution in those locations. There shall be no additional measurement or payment made when Method III is substituted for Method I. When required by the Contract or approved by the Engineer, Method III (see Figure 4.06-3) shall be used.

Figure 4.06-3: Method III, Butt Joint with Hot Poured Rubberized Asphalt Treatment
(Not to Scale)



All of the requirements of Method II must be met with Method III. In addition, the longitudinal vertical edge must be treated with a joint seal material meeting the requirements of ASTM D6690, Type 2 with polymer. The joint sealant shall be placed on the face of the "cold side" of the butt joint as shown above prior to placing the "hot side" of the butt joint. The joint seal material shall be applied in accordance with the manufacturer's recommendation so as to provide a uniform coverage and avoid excess bleeding onto the newly placed pavement.

8. Contractor Quality Control (QC) Requirements: The Contractor shall be responsible for maintaining adequate quality control procedures throughout the production and placement operations. Therefore, the Contractor must ensure that the materials, mixture, and work provided by Subcontractors, Suppliers, and Producers also meet Contract specification requirements.

This effort must be documented in Quality Control Plans (QCP) and must address the actions, inspection, or sampling and testing necessary to keep the production and placement operations in control, to determine when an operation has gone out of control, and to respond to correct the situation in a timely fashion.

There are two QCP submittals required for the production and placement of asphalt mixture, one for Plant Production and the other for Mix Placement. The QCP requirements for Plant Production can be found in Section M.04.03-1.

The QCP for production shall be specific to the production facility.

There are 2 required components to the QCP for Placement: a General QCP that is applicable to all projects, and a Project Summary Pre-Pave Form that supplements the standard QCP and details Project-specific information. The General QCP shall include a cool weather paving section that addresses project operations expected to occur when ambient temperature or pavement temperature is less than 50°F. This shall include a list of potential adjustments to be considered and made when paving below 50°F.

The General QCP for Placement shall be valid for two (2) years following acceptance by the Department. The Contractor shall submit updated equipment lists and personnel, if necessary, to the Department in January of year two (2) which will be appended to the accepted General QCP for HMA Placement.

The Project Summary Pre-Pave Form shall be submitted at least 7 days prior to the scheduling of any pre-pave meeting or pavement event.

Production or placement shall not occur until all QCP components have been accepted by the Engineer.

Each QCP shall include the name and qualifications of a Quality Control Manager (QCM). The QCM shall be responsible for the administration of the QCP, and any modifications that may become necessary.

The QCM shall have the ability to direct all Contractor personnel on the Project during paving operations.

The QCPs shall also include the name and qualifications of any outside testing laboratory performing any QC functions on behalf of the Contractor. The QC Technician performing in-place density testing shall be NETTCP certified as a paving inspector.

Acceptance of any QCP does not relieve the Contractor of its responsibility to comply with the Project specifications. The Contractor may propose modifications to their QCP as work progresses and must document the changes in writing prior to resuming operations. These modifications include changes in quality control procedures, equipment, or personnel.

QCP for Production: Refer to M.04.03-1.

QCP for Placement: The General QCP for HMA Placement and Project Summary Pre-Pave Form shall include the information listed on the Pavement Advisory Team website.

The Contractor shall perform all quality control sampling and testing, provide inspection, and exercise management control to ensure that all mixture placement meets the requirements as outlined in its QCP during all phases of the work. The Contractor shall document these activities for each day of placement.

The Contractor shall submit complete field density testing and inspection records to the Engineer within 48 hours in a format acceptable to the Engineer.

The Contractor may obtain one mat core and one joint core per day for process control, provided this process is detailed in the QCP. The results of these process control cores shall not be used to dispute the Department's determinations from the acceptance cores. The Contractor shall submit the location of each process control core to the Engineer for acceptance prior to taking the core. The core holes shall be filled to the same requirements described in 4.06.03-10.

9. Temperature and Seasonal Requirements: The following requirements shall apply to all asphalt concrete pavements (including temporary pavements) unless otherwise authorized or directed by the Engineer:

1. Mixtures shall not be placed on subbase material that is frozen.
2. Mixture or tack coat placement is limited to the following temperature ranges:
    a. Mixtures placed at lift thickness of 2 1/2 inches or more shall not be placed when the air or pavement surface temperature is 35°F or less.
    b. Mixtures placed at lift thicknesses between 1 1/2 and 2 1/2 inches shall not be placed when the air or pavement surface temperature is 40°F or less.
    c. Mixtures placed at lift thickness of less than 1 1/2 inches shall not be placed when the air or pavement surface temperature is 45°F or less.
    d. Should paving operations be scheduled during temperatures of 50°F or less, all asphalt mixes delivered shall meet the minimum delivered mix temperatures shown in Table M.04.03-4. When paving below 50°F the Contractor shall follow the cool weather paving procedures outlined in their accepted General QCP for HMA Placement and also as reflected in their accepted Project Summary Pre-pave Form.

10. Field Density:

1. The Contractor shall obtain cores in accordance with AASHTO R 67 for the determination of mat and longitudinal joint density of asphalt pavements. The Contractor's representative obtaining samples must be a certified NETTCP HMA Paving Inspector, NETTCP HMA Plant Technician, or must have successfully completed the HMA Field Sampling Course administered by The Connecticut Advanced Pavement Laboratory (CAP Lab). Within three (3) calendar days of placement, mat and joint cores shall be extracted on each lift with a specified thickness of 1 1/2 inches or more. Joint cores shall not be extracted on HMA S1 lifts.

    The Contractor shall extract cores from random locations determined by the Engineer in

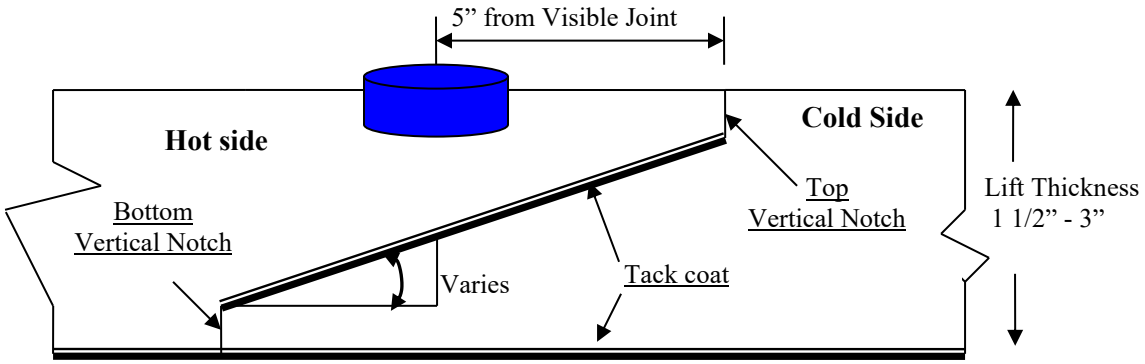
accordance with ASTM D3665. Six (6) inch diameter cores shall be extracted for all mixes. The number and location of the cores is specified in 4.06.03-10-2 Density Lots. The Contractor shall coordinate with the Engineer to witness the extraction, labeling of cores, and filling of the core holes. The size, shape, and weight of the cores shall not be modified, altered, or manipulated by the Contractor or its representative in any way after extraction from the pavement.

After the lift has been compacted and cooled, the Contractor shall cut cores to a depth equal to or greater than the lift thickness and shall remove them without damaging the lift(s) to be tested. The Contractor and Inspector witnessing the extraction shall check each core for damage or obvious defects while being obtained. Any core determined to be damaged or defective at the time of extraction will be replaced immediately with a new core from a location within 2 feet measured in a longitudinal direction. The size, shape, and weight of the cores shall not be modified, altered, or manipulated by the Contractor or its representative in any way after extraction from the pavement.

A mat core shall not be located any closer than 1 foot from the edge of a paver pass. If a random number locates a core less than 1 foot from any edge, the location will be adjusted by the Engineer so that the outer edge of the core is 1 foot from the edge of the paver pass.

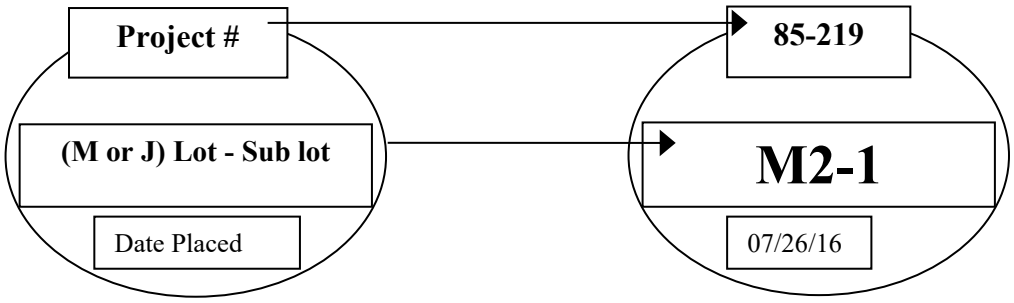
Method I, Notched Wedge Joint cores shall be taken so that the center of the core is 5 inches from the visible joint on the hot mat side (Figure 4.06-4). When Method II or Method III Butt Joint is used, cores shall be taken from the hot side so the edge of the core is within 1 inch of the longitudinal joint.

Figure 4.06-4: Notched Wedge Joint Cores (Not to Scale)



The cores shall be labeled by the Contractor with the Project number, date placed, lot number, and sub-lot number. The core’s label shall include “M” for a mat core and “J” for a joint core. For example, a mat core from the first lot and the first sub-lot shall be labeled with “M1-1.” A mat core from the second lot and first sub-lot shall be labeled “M2-1” (see Figure 4.06-5). The Engineer will fill out a MAT-109 form to accompany the cores. The Contractor shall deliver the cores and MAT-109 to the Department’s Central Lab. The Contractor shall use a container approved by the Engineer. The container shall have a lid capable of being locked shut and tamper proof. The Contractor shall use foam, bubble wrap, or another suitable material to prevent the cores from being damaged during handling and transportation. Once the cores and MAT-109 are in the container the Engineer will secure the lid using security seals at the removable hinge(s) and at the lid opening(s). The security seals’ identification number must be documented on the MAT-109. All sealed containers shall be delivered to the Department’s Central Lab within two working days from time of extraction. Central Lab personnel will break the security seal and take possession of the cores.

Figure 4.06-5: Labeling of Cores



Each core hole shall be filled within 4 hours upon core extraction. Prior to being filled, the hole shall be prepared by removing any free water and applying tack coat using a brush or other means to uniformly cover the cut surface. The core hole shall be filled using an asphalt mixture at a minimum temperature of 240°F containing the same or smaller nominal maximum aggregate size as the paved surface and compacted with a hand compactor or other mechanical means to the maximum compaction possible. The asphalt mixture shall be compacted to 1/8 inch above the finished pavement.

2. Density Lots

a. *Simple Average*:

A standard simple average density lot evaluated using the Simple Average method is the quantity of material placed in a single lift within a defined area excluding any bridge decks less than 3,500 tons. For total individual mix quantities estimated on the Project below 2,000 tons, the lot will include all the material between the curb lines. For total individual mix quantities estimated on the Project between 2,000 and 3,500 tons, the lift will be evaluated as two lots each consisting of half of the total tonnage of material placed between the curb lines.

The number of cores per lot shall be determined in accordance with Table 4.06-4. For combo lots, if a randomly located mat or joint core location is on a bridge deck, the core is to be obtained on the bridge deck in addition to the core(s) required on the bridge deck.

A combo simple average density lot is the quantity of material placed within a defined area including bridge decks that are less than or equal to 500 feet long.

A bridge simple average density lot is the quantity of material placed on a bridge deck longer than 500 feet.

Bridge density lots will always be analyzed as using the simple average lot methodology. The number of cores per lot shall be determined in accordance with Table 4.06-5. Multiple bridge decks can be combined into one lot if the paving and underlying conditions are comparable. If multiple bridge decks are combined into a single bridge lot, at least one mat and joint core shall be obtained on each bridge.

The longitudinal locations of mat cores within a standard, combo, or bridge lot containing multiple paving passes will be determined using the combined length of the paving passes within the lot.

TABLE 4.06-4: Number of Cores per Lot (Simple Average)

Lot Type	No. of Mat Cores		No. of Joint Cores	
Standard Lot < 500 Tons	3		3	
Standard Lot ≥ 500 Tons	4		4	
Combo Lot < 500 Tons	2 plus	1 per bridge (≤ 300')	2 plus	1 per bridge (≤ 300)
Combo Lot ≥ 500 Tons[1]	4 plus	2 per bridge (301' – 500')	4 plus	2 per bridge (301' – 500')

TABLE 4.06-5: Number of Cores per Bridge Density Lot (Simple Average)

Length of Bridge(s) (Feet)	Minimum No. of Mat Cores	Minimum No. of Joint Cores
< 500	2	2
501 – 1,500	3	3
1,501 – 2,500	4	4
2,501 and greater	5	5

b. *PWL Density Lots*:

When total individual mix quantity estimated on the Project is 3,500 tons or more, the lot shall be evaluated by PWL method.

A PWL mat density lot is 3,500 tons of material placed within 30 calendar days excluding any bridges. One randomly located mat core will be obtained per every 500 tons sublot. Should the final sublot be less than 500 tons, a randomly located mat core is still required.

A PWL joint density lot consists of seven sublots defined by the linear feet of longitudinal joint excluding any joints on bridge decks. One randomly located joint core shall be obtained per every 1,500 lineal feet when a lot includes one longitudinal joint. One randomly located joint core shall be obtained per every 2,000 linear feet of joint when a lot includes two or more longitudinal joints.

A partial PWL mat or joint lot is a lot with four to six samples due to completion of the course, or spanning past 30 calendar days.

11. Acceptance Sampling and Testing: Sampling shall be performed in accordance with ASTM D3665 or a statistically-based procedure of stratified random sampling approved by the Engineer.

Plant Material Acceptance: The Contractor shall provide the required sampling and testing during all phases of the work in accordance with M.04. The Department will verify the Contractor's acceptance test results. Should any test results exceed the specified tolerances in the Department's current QA Program for Materials, the Contractor's test results for a subject lot or sub lot may be replaced with the Department's results for the purpose of calculating adjustments. The verification procedure is included in the Department's current QA Program for Materials.

Density Acceptance: The Engineer will perform all acceptance testing in accordance with AASHTO T 331. Test specimens will be prepared from the cores by the Engineer. The density of each specimen will be determined using the daily production's average maximum theoretical specific gravity (Gmm) established during the testing of the parent material at the Plant. When there was no testing of the parent material or any Gmm exceeds the specified tolerances in the Department's current QA Program for Materials, the Engineer will determine the maximum theoretical density value to be used for density calculations in accordance with the Department's Quality Assurance Manual for Materials.

12. Density Dispute Resolution Process: The Contractor and Engineer will work in partnership to avoid potential conflicts and to resolve any differences that may arise during quality control or acceptance testing for density. Both parties will review their sampling and testing procedures and results and share their findings. If the Contractor disputes the Engineer's test results, the Contractor must submit in writing a request to initiate the Dispute Resolution Process within five calendar days of the notification of the test results. No request for dispute resolution will be allowed unless the Contractor provides quality control results from samples taken prior to and after finish rolling, and within the timeframe described in 4.06.03-8 supporting its position. No request for dispute resolution will be allowed for a density lot in which any core was not taken in accordance with 4.06.03-10. Should the dispute not be resolved through evaluation of existing testing data or procedures, the Engineer may authorize the Contractor to re-core the disputed lot. The core samples must be extracted no later than 5 calendar days from the date of the Engineer's authorization. All such core samples shall be extracted and the core hole filled using the procedure outlined in 4.06.03-10. The location of each core in the lot shall be located three (3) feet from the original acceptance core located along a line parallel to the base line that results in the same type (mat, joint, or structure) of core.

The bulk specific gravity (Gsb) result of each dispute core will be compared to the original core to determine how the dispute results will be used. If the Gsb results are outside of AASHTO T 331 multilaboratory precision range of two results, the dispute result will be averaged with the original result to calculate the adjustment. When the two Gsb results are equal to or less than the acceptable range of two

results, the dispute result will not be used in the adjustment calculation.

1. Simple Average Lots: The Contractor may only dispute any simple average lot that is adjusted at or below 95% payment.
2. PWL Lots: The Contractor may dispute any PWL lot when the PWL falls below 50% calculated in accordance with 4.06.04-2b.

13. Corrective Work Procedure:

If pavement placed by the Contractor does not meet the specifications, and the Engineer requires its replacement or correction, the Contractor shall:

(a) Propose a corrective procedure to the Engineer for review and approval prior to any corrective work commencing. The proposal shall include:
- Limits of pavement to be replaced or corrected, indicating stationing or other landmarks that are readily distinguishable.
- Proposed work schedule.
- Construction method and sequence of operations.
- Methods of maintenance and protection of traffic.
- Material sources.
- Names and telephone numbers of supervising personnel.

(b) Any corrective courses placed as the final wearing surface shall match the specified lift thickness after completion.

14. Protection of the Work: The Contractor shall protect all sections of the newly finished pavement from damage that may occur as a result of the Contractor's operations for the duration of the Project.

15. Cut Bituminous Concrete Pavement: Work under this item shall consist of making a straight-line cut in the asphalt pavement to the lines delineated on the plans or as directed by the Engineer. The cut shall provide a straight, clean, vertical face with no cracking, tearing or breakage along the cut edge.

4.06.04—Method of Measurement:

1. HMA S* or PMA S*: The mixture will be measured for payment as the amount of material in tons placed as determined by the net weight on the delivered tickets and adjusted by area, thickness and weight as follows:

Quantity Adjustments**:** Adjustments may be applied to the placed quantities that will be measured for payment using the following formulas:

Yield Factor for Adjustment Calculation = 0.0575 tons/SY/inch

Actual Area (SY) = [(Measured Length (ft)) × (Avg. of width measurements (ft))]÷9 s.f./SY

Actual Thickness (t) = Total tons delivered / [Actual Area (SY) × 0.0575 tons/SY/inch]

(a) Area: If the average width exceeds the allowable tolerance, an adjustment will be made using the following formula. The tolerance for width is equal to the specified thickness (inch) of the lift being placed.

Quantity Adjusted for Area (T_A) = $[(L \times W_{adj})/9] \times (t) \times 0.0575$ Tons/SY/inch = (-) tons

Where: L = Length (ft)

(t) = Actual thickness (inches)

W_{adj} = (Designed width (ft) + tolerance /12) - Measured Width)

(b) Thickness: If the actual average thickness is less than the allowable tolerance, the Contractor shall submit a repair procedure to the Engineer for approval. If the actual thickness exceeds the allowable tolerance, an adjustment will be made using the following formula:

Quantity Adjusted for Thickness (T_T) = $A \times t_{adj} \times 0.0575$ = (-) tons

Where: A = Area = {[L × (Design width + tolerance (lift thickness)/12)] / 9}

t_{adj} = Adjusted thickness = [(Dt + tolerance) - Actual thickness]

Dt = Designed thickness (inches)

(c) Weight: If the quantity representing the mixture delivered to the Project is in excess of the allowable gross vehicle weight (GVW) for each vehicle, an adjustment will be made using the following formula:

Quantity Adjusted for Weight (T_W) = GVW – DGW= (-) tons

Where: DGW = Delivered gross weight as shown on the delivery ticket or measured on a certified scale

2. Bituminous Concrete Adjustment Cost:

(a) Production Lot Adjustment: An adjustment may be applied to each production lot as follows:

i. Non-PWL Production Lot in accordance with article M.04.03-2c:

The adjustment values in Tables 4.06-6 and 4.06-7 will be calculated for each sub lot based on the Air Void (AV) and Asphalt Binder Content (PB) test results for that sub lot. The total adjustment for each day's production (lot) will be computed as follows:

Tons Adjusted for Superpave Design (T_{SD}) = $[(AdjAV_t + AdjPB_t) / 100] \times$ Tons

Where: $AdjAV_t$: Percent adjustment for air voids

$AdjPB_t$: Percent adjustment for asphalt binder

Tons: Weight of material (tons) in the lot adjusted by 4.06.04-1

Percent Adjustment for Air Voids = $AdjAV_t = [AdjAV_1 + AdjAV_2 + AdjAV_i + \ldots + AdjAV_n)] /n$

Where: $AdjAV_t$ = Total percent air void adjustment value for the lot

$AdjAV_i$ = Adjustment value from Table 4.06-6 resulting from each sub lot or the average of the adjustment values resulting from multiple tests within a sub lot, as approved by the Engineer.

n = number of sub lots based on Table M.04.03-2

TABLE 4.06-6: Adjustment Values for Air Voids

Adjustment Value ($AdjAV_i$) (%)	S0.25, S0.375, S0.5, S1 Air Voids (AV)
+2.5	3.8 - 4.2
+3.125*(AV-3)	3.0 - 3.7
-3.125*(AV-5)	4.3 – 5.0
20*(AV-3)	2.3 – 2.9
-20*(AV-5)	5.1 – 5.7
-20.0	≤ 2.2 or ≥ 5.8

Percent Adjustment for Asphalt Binder = $AdjPB_t = [(AdjPB_1 + AdjPB_2 + AdjPB_i + \ldots + AdjPB_n)] /n$

Where: $AdjPB_t$= Total percent liquid binder adjustment value for the lot

$AdjPB_i$ = Adjustment value from Table 4.06-7 resulting from each sub lot

n = number of binder tests in a production lot

TABLE 4.06-7: Adjustment Values for Binder Content

Adjustment Value ($AdjAV_i$) (%)	S0.25, S0.375, S0.5, S1 Pb
0.0	JMF Pb ± 0.3
- 10.0	≤ JMF Pb - 0.4 or ≥ JMF Pb + 0.4

ii. PWL Production Lot (3,500 tons or more):

For each lot, the adjustment values will be calculated using PWL methodology based on AV, VMA, and PB test results. The results will be considered as being normally distributed and all applicable equations in AASHTO R 9 and AASHTO R 42 Appendix X4 will apply.

Only one test result will be considered for each sub lot. The specification limits are listed in M.04.

For AV, PB, and voids in mineral aggregate (VMA), the individual material quantity characteristic adjustment (Adj) will be calculated as follows:

For PWL between 40 and 90%: $Adj(AV_t \text{ or } PB_t \text{ or } VMA_t) = (55 + 0.5\ PWL) - 100$

For PWL at and above 90%: $Adj(AV_t \text{ or } PB_t \text{ or } VMA_t) = (77.5 + 0.25\ PWL) - 100$

Where: $AdjAV_t$ = Total percent AV adjustment value for the lot

$AdjPB_t$= Total percent PB adjustment value for the lot

$AdjVMA_t$= Total percent VMA adjustment value for the lot

A lot with PWL less than 40% in any of the 3 individual material quality characteristics shall be removed and replaced at the Contractor's expense..

The total adjustment for each production lot will be computed using the following formula:

Tons Adjusted for Superpave Design (T_{SD}) = $[(0.5AdjAV_t + 0.25AdjPB_t + 0.25\ AdjVMA_t) / 100] \times$ Tons

Where : Tons = Weight of material (tons) in the lot adjusted by 4.06.04-1

iii. Partial Lots:

Lots with less than 4 sub lots will be combined with the prior lot. If there is no prior lot with equivalent material or if the last test result of the prior lot is over 30 calendar days old, the adjustment will be calculated as indicated in 4.06.04-2(a)i.

Lots with 4 or more sub lots will be calculated as indicated in 4.06.04-2(a)ii.

Production Lot Adjustment: T_{SD} × Unit Price = Est. (Pi)

Where: Unit Price = Contract unit price per ton per type of mixture

Est. (Pi) = Pay Unit in dollars representing incentive or disincentive per lot

(b) Density Lot Adjustment: An adjustment may be applied to each density lot as follows:

i. Simple Average Density Lot (less than 3,500 tons) and Bridge Lots:

The final lot quantity shall be the difference between the total payable tons for the Project and the sum of the previous lots. If either the Mat or Joint adjustment value is "remove and replace," the density lot shall be removed and replaced (curb to curb).

No positive adjustment will be applied to a density lot in which any core was not taken within the required 3 calendar days of placement.

Tons Adjusted for Density (T_D) = [{(PA_M × 0.50) + (PA_J × 0.50)} / 100] × Tons

Where: T_D = Total tons adjusted for density for each lot

PA_M = Mat density percent adjustment from Table 4.06-8

PA_J = Joint density percent adjustment from Table 4.06-9

Tons: Weight of material (tons) in the lot adjusted by 4.06.04-1

TABLE 4.06-8: Adjustment Values for Pavement Mat density

Average Core Result Percent Mat Density	**Percent Adjustment (Bridge and Non-Bridge) [(1)(2)]**
98.6 - 100	-1.667*(ACRPD-98.5)
97.1 – 98.5	-2.0*(ACRPD-98.5)
95.0-97.0	+3.0
93.6 – 94.9	+2.0*(ACRPD-93.5)
93.0 – 93.5	0
92.0-92.9	-0.5*(93.0-ACRPD)
90.0 – 91.9	-5*(92-ACRPD)
88.0 – 89.9	-10*(91-ACRPD)
87.9 or less	Remove and replace (curb to curb)

(1) ACRPD = Average Core Result Percent Density.

(2) All Percent Adjustments to be rounded to the second decimal place; for example round 1.667 to 1.67

TABLE 4.06-9: Adjustment Values for Pavement Joint Density

Average Core Result Percent Joint Density	**Percent Adjustment (Bridge and Non-Bridge) [(1)(2)]**
98.6 - 100	-1.667*(ACRPD-98.5)
97.1 – 98.5	-2.0*(ACRPD-98.5)
94.5 – 97.0	+3.0
92.6 – 94.4	+1.5*(ACRPD-92.5)
92.0– 92.5	0
91.0 – 91.9	-0.5(92.0-ACRPD)
89.0 – 90.9	-7.5*(91-ACRPD)
88.0 – 88.9	-15*(90-ACRPD)

87.9 or less	Remove and Replace (curb to curb)

(1) ACRPD = Average Core Result Percent Density

(2) All Percent Adjustments to be rounded to the second decimal place; for example round 1.667 to 1.67

Additionally, any simple average sublot with a density result below 88% is subject to remove and replace.

ii. PWL Density Lot (3,500 tons or more):

For each lot, the adjustment values will be calculated using PWL methodology based on mat and joint density test results. Only one result will be included for each sublot. The results will be considered as being normally distributed and all applicable equations in AASHTO R 9 and AASHTO R 42 Appendix X4 will apply.

The specification limits for the PWL determination are as follows:

Mat Density: 92.0 – 98%

Joint Density: 90.5 – 98%

For mat and joint density, the individual percent adjustment (PA) will be calculated as follows:

For PWL between 50 and 90%: PA ($_M$ or $_J$) = 0.25 * PWL – 22.50

For PWL at and above 90%: PA ($_M$ or $_J$) = 0.15 * PWL – 13.5

Where: PA_M = Total percent mat density adjustment value for the PWL mat density lot

PA_J= Total percent joint density adjustment value for the PWL joint density lot

No positive adjustment will be applied to a density lot in which any core was not taken within the required 3 calendar days of placement.

A lot with PWL less than 50%, the lot shall, after final evaluation and dispute resolution if approved, be removed and replaced at the Contractor's expense. The total adjustment for each PWL mat density lot will be computed as follows:

Tons Adjusted for Mat Density (T_{MD}) = (PA_M / 100) × Tons

Where: Tons= Weight of material (tons) in the lot adjusted by 4.06.04-1.

The total adjustment for each PWL joint density lot will be computed as follows:

Tons Adjusted for Joint Density (T_{JD}) = (PA_J / 100) × J_Tons

(Tons Adjusted for Joint Density will be calculated at the end of each project or project phase.)

Where: $\text{J_Tons} = \text{Tons in project or phase adjusted by 4.06.4} - 1 \times \frac{\text{Lot joint length}}{\text{Joint length in project or phase}}$

All bridge density lot adjustments will be evaluated in accordance with 4.06.04-2(b)i.

Additionally, any bridge deck sublot with a density result below 88% is subject to remove and replace.

iii. Partial Lots:

Lots with less than 4 sub lots will be combined with the prior lot. If there is no prior lot with equivalent material and placement conditions or if the last test result of the prior lot is over 30 calendar days old, the mat and joint individual adjustments will be calculated in accordance to Tables 4.06-8 and 4.06-9. T_{MD} and T_{JD} will be calculated as indicated in 4.06.04-2(b)i.

Lots with 4 or more sub lots will be calculated as indicated in 4.06.04-2(b)ii.

Density Lot Adjustment (Simple Average Lots): T_D × Unit Price = Est. (Di)

Density Lot Adjustment (PWL Lots): (T_{MD} or T_{JD}) × Unit Price = Est. (DMi or DJi)

Where: Unit Price = Contract unit price per ton per type of mixture

Est. (Di)= Pay Unit in dollars representing incentive or disincentive per simple average density lot

Est. (DMi)= Pay Unit in dollars representing incentive or disincentive per PWL mat lot

Est. (DJi)= Pay Unit in dollars representing incentive or disincentive per PWL joint lot

Additionally, any PWL sublot with a density result below 88% is subject to remove and replace.

3. Transitions for Roadway Surface: The installation of permanent transitions will be measured under the appropriate item used in the formation of the transition.

The quantity of material used for the installation of temporary transitions will be measured for payment under the appropriate item used in the formation of the transition. The installation and removal of a bond breaker and the removal and disposal of any temporary transition formed by milling or with asphalt pavement is not measured for payment.

4. Cut Bituminous Concrete Pavement: The quantity of asphalt pavement cut will be measured in accordance with 2.02.04.

5. Non-Tracking Asphalt Tack Coat and **Material for Tack Coat:** The quantity of tack coat will be

measured for payment by the number of gallons furnished and applied on the Project and approved by the Engineer. No tack coat material shall be included that is placed in excess of the tolerance described in 4.06.03.

a. Container Method – Material furnished in a container will be measured to the nearest 1/2 gallon. The volume will be determined by either measuring the volume in the original container by a method approved by the Engineer or using a separate graduated container capable of measuring the volume to the nearest 1/2 gallon. The container in which the material is furnished must include the description of material, including lot number or batch number and manufacturer or product source.
b. Vehicle Method
    i. Measured by Weight: The number of gallons furnished will be determined by weighing the material on calibrated scales furnished by the Contractor. To convert weight to gallons, one of the following formulas will be used:
        1. Tack Coat (gallons at 60°F) = Measured Weight (pounds) / Weight per gallon at 60°F
        2. Tack Coat (gallons at 60°F) = 0.996 × Measured Weight (pounds) / Weight per gallon at 77°F
    ii. Measured by automated metering system on the delivery vehicle:
        Tack Coat (gallons at 60°F) = 0.976 × Measured Volume (gallons)

6. Material Transfer Vehicle (MTV): The furnishing and use of a MTV will be measured separately for payment based on the actual number of surface course tons delivered to a paver using the MTV.

4.06.05—Basis of Payment:

1. HMA S* or PMA S*: The furnishing and placing of Asphalt mix will be paid for at the Contract unit price per ton for " HMA S*" or " PMA S*."

All costs associated with providing illumination of the work area are included in the general cost of the work.

All costs associated with cleaning the surface to be paved, including mechanical sweeping, are included in the general cost of the work. All costs associated with constructing longitudinal joints are included in the general cost of the work

All costs associated with obtaining cores for acceptance testing and dispute resolution are included in the general cost of the work.

2. Bituminous Concrete Adjustment Costs: This adjustment will be calculated using the formulas shown below if all of the measured adjustments in 4.06.04-2 are not equal to zero. A positive or negative adjustment will be applied to monies due the Contractor.

Production Lot: Σ Est (Pi) = Est. (P)
Density Lot (Simple Average Lots): Σ Est (Di) = Est. (D)
Density Lot (PWL): Σ Est (DMi) + Σ (DJi) = Est. (D)
Bituminous Concrete Adjustment Cost= Est. (P) + Est. (D)
Where: Est. ( )= Pay Unit in dollars representing incentive or disincentive in each production or density lot calculated in 4.06.04-2

The Bituminous Concrete Adjustment Cost item, if included in the bid proposal or estimate, is not to be altered in any manner by the Bidder. If the Bidder should alter the amount shown, the altered figure will be disregarded and the original estimated cost will be used for the Contract.

3. Transitions for Roadway Surface: The installation of permanent transitions will be paid under the appropriate item used in the formation of the transition. The quantity of material used for the installation of temporary transitions will be paid under the appropriate pay item used in the formation of the transition. The installation and removal of a bond breaker, and the removal and disposal of any temporary transition formed by milling or with asphalt pavement is included in the general cost of the work.

4. The cutting of asphalt pavement will be paid in accordance with 2.02.05.

5. Non-tracking asphalt tack coat will be paid for at the Contract unit price per gallon for "Non-Tracking Asphalt Tack Coat."

6. Material for tack coat will be paid for at the Contract unit price per gallon for "Material for Tack Coat."

7. The Material Transfer Vehicle (MTV) will be paid at the Contract unit price per ton for "Material Transfer Vehicle."

Pay Item	Pay Unit
HMA S*	ton
PMA S*	ton
Bituminous Concrete Adjustment Cost	est.
Non-Tracking Asphalt Tack Coat	gal.
Material for Tack Coat	gal.
Material Transfer Vehicle	ton

SECTION 6.02 - REINFORCING STEEL

Revise Subarticle 6.02.03-2(a) Cutting and Bending *as follows:*

Bar reinforcement shall be cut and bent to the shapes shown on the plans. Fabrication tolerances shall be in accordance with the requirements of ACI SPEC-117. All bars shall be bent cold, unless otherwise shown on the plans.

Field cutting of epoxy coated bars shall only be performed using hydraulic-powered cutters or friction cutting tools to minimize coating damage and field touch-up. Field cut bars shall be repaired to the satisfaction of the Engineer. Flame cutting of epoxy coated or galvanized bars will not be permitted.

Field bending of bars partially embedded in concrete must be shown on the plans or permitted by the Engineer.

Revise Subarticle 6.02.03-2(b) Hooks and Bend Dimensions *as follows:*

The dimensions of hooks and the diameters of bends measured on the inside of the bar shall be as shown on the plans. When the dimensions of hooks or the diameter of bends are not shown, they shall be in accordance with the ACI CODE-318 as amended by ASTM A767 for hot-dip galvanized rebars.

Revise Subarticle 6.02.03-4(e) Repair of Coated Reinforcing Steel – Galvanized Reinforcing Steel *as follows:*

Replace the last paragraph with the following:

Field coating of damaged areas or cut ends shall be performed in accordance with the zinc-rich paint manufacturer recommendations. The zinc-rich paint shall meet the requirements of M.06.05 and shall be brush-applied in one or more coats to a minimum thickness of 2 mils.

Revise Subarticle 6.02.04-2 Bar Reinforcement *as follows:*

2. Bar Reinforcement: Uncoated, epoxy coated, hot-dip galvanized, continuously galvanized and weldable bar reinforcement will be classified as "Deformed Steel Bars," "Deformed Steel Bars - Epoxy Coated," "Deformed Steel Bars - HDG," "Deformed Steel Bars – CGR" and "Deformed Steel Bars – Weldable," respectively.

Revise Subarticle 6.02.05-1 Bar Reinforcement *as follows:*

1. **Bar Reinforcement:** This work will be paid for at the Contract unit price per pound for "Deformed Steel Bars," "Deformed Steel Bars - Epoxy Coated," "Deformed Steel Bars - HDG" or "Deformed Steel Bars – CGR" and "Deformed Steel Bars - Weldable" complete in place and accepted, including Shop Drawings, furnishing, fabricating, repair of coating, bending and placing reinforcing steel, welding splices and all materials, equipment, tools, labor and work incidental thereto.

In the Pay Item – Pay Unit *table replace* “Deformed Steel Bars – Galvanized” *with* “Deformed Steel Bars – HDG” *and add* “Deformed Steel Bars – CGR.”

SECTION 12.00 – GENERAL CLAUSES FOR HIGHWAY SIGNING

Description:

Work under this item shall conform to the requirements of Section 12.00 supplemented as follows:

12.00.07 – Global Positioning System (GPS) coordinates for signs:

The Contractor shall obtain and provide to the Engineer sign installation data, including Global Positioning System (GPS) latitude and longitude coordinates, for all new permanent State owned and maintained signs (temporary and construction signs are not to be included) installed in the project. The Engineer shall forward the sign data to the Division of Traffic Engineering for upload into the Highway Sign Inventory and Maintenance Management Program (SIMS). Sign data submissions or questions relating to SIMS or GPS shall be sent to DOT-SignInventory@ct.gov.

The horizontal datum is to be set to the State Plane Coordinate System, North American Datum of 1983 (NAD83) in feet. The minimum tolerance must be within 10 feet. The format of the GPS information shall be provided in a Microsoft Office compatible spreadsheet (Excel) file with data for each sign. The record for each sign installed is to be compatible with the anticipated CTDOT Sign Inventory and Management System (CTSIMS). The following format shall be used. However, the data fields noted by "#" are not required for the project submission. These entries will be completed as part of the Traffic Engineering CTSIMS data upload.

The cost of this work shall be included in the cost of the respective sign face – sheet aluminum and sign face – extruded aluminum items. The receipt of this electronic database must be received and accepted by the Engineer prior to final payment for items involving permanent highway signing. The electronic database information shall detail information regarding the sign actually installed by the project.

	Field Number	Type	size	Description
	1	text	20	Record Number (starting at 1…)
	2	text	20	Sign Catalog Number
#	3	text	10	Size Height
#	4	text	10	Size Width
	5	text	25	Legend
#	6	text	10	Background Color
#	7	text	10	Copy Color
	8	Link	25	Material (see acceptable categories)
	9	text	30	Comments if any
#	10	text	20	MUTCD Type
	11	text	15	Town

	12	text	5	Route
	13	text	5	Route direction
#	14	text	10	Highway Log Mileage
	15	text	15	Latitude
	16	text	15	Longitude
	17	text	25	Mounting Type
	18	text	25	Reflective Sheeting Type
	19	date	25	Date Installed
	20	text	10	Number of Posts
	21	text	255	Sheeting Manufacturer name and address
	22	text	15	State Project Number (or)
	23	text	15	Encroachment Permit number.
	24	Graphic	*	Sign Picture Graphic.

* Graphics provided shall be representative of the sign supplied and be in color. Graphic formats shall be either JPG or TIFF and provided with a recommended pixel density of 800 x 600. The graphic shall be inserted in the supplied media in field 24 for each sign.

SECTION M.04 - BITUMINOUS CONCRETE MATERIALS

Replace the entire Section with the following:

SECTION M.04
BITUMINOUS CONCRETE MATERIALS

M.04.01—Asphalt Materials and Facilities
M.04.02—Mix Design and Job Mix Formula (JMF)
M.04.03—Production Requirements

M.04.01— Asphalt Materials and Facilities: Each source of asphalt binder, emulsion, aggregate, and production facility used to manufacture asphalt mixture, and laboratory testing the mixture must be qualified on an annual basis by the Engineer.

The basis of qualification for asphalt binder sources is participation in AASHTO Product Evaluation and Audit Solutions (formerly NTPEP), Asphalt Binder Suppliers (ABS) program and review of the sources' Quality System Manual and on-site audit report from AASHTO Product Evaluation and Audit Solutions by the Department. The supplier shall save a split sample of binder supplied to Department projects which shall be provided to the Department upon request.

The basis of qualification for emulsion sources is the submittal of a "Quality Control Plan for Emulsified Asphalt" (Tack Coat) formatted in accordance with AASHTO R 77 to the Engineer for review. The supplier shall save a split sample of binder supplied to Department projects which shall be provided to the Department upon request.

The basis of source qualification for aggregates is indicated in M.01

The basis of qualification for production facilities is indicated in M.04.01-10.

The basis of testing laboratory qualification for mixture testing is all testing equipment, supplies, and safety equipment shall be capable of performing all the applicable tests in their entirety that are referenced in AASHTO R 35 and AASHTO M 323 and requirements indicated in M.04.01-11

AASHTO/ASTM Standards noted with an (M) have been modified and are detailed in Table M.04.03-5.

Aggregates from multiple sources of supply must not be blended or stored in the same stockpile.

1. Coarse Aggregate: All coarse aggregate shall meet the requirements listed in M.01 and be qualified annually.

2. Fine Aggregate: All fine aggregate shall meet the requirements in M.01 and be qualified annually.

3. Mineral Filler: Mineral filler shall meet the requirements of AASHTO M 17.

4. Performance Graded (PG) Asphalt Binder:

(a) General:

i. PG asphalt binder shall be uniformly mixed and blended and be free of contaminants such as fuel oils and other solvents. Binder shall be properly heated and stored to prevent damage or separation.

ii. The binder shall meet the requirements of AASHTO M 332 and shall be graded or verified in accordance with AASHTO R 29. The binder supplier shall submit a Certified Test Report and bill of lading representing each delivery in accordance with AASHTO R 26(M) to the asphalt producer and the Department. The Certified Test Report must also indicate the binder specific gravity at 77°F; rotational viscosity at 275°F and 329°F; and the mixing and compaction viscosity-temperature chart for each shipment.

iii. The asphalt mix producer shall submit the name(s) of personnel responsible for receipt, inspection, and record keeping of PG binder. Asphalt mix producer personnel shall document specific storage tank(s) where binder will be transferred and stored until used and provide binder samples from the storage tank to the Engineer upon request. The person(s) shall assure that each shipment is accompanied by a statement certifying that the transport vehicle was inspected before loading, was found acceptable for the material shipped and that the binder is free of contamination from any residual material, along with 2 copies of the bill of lading.

iv. The blending or combining of PG binders in one storage tank at the Plant from different suppliers, grades, or additive percentages is prohibited.

v. PG binders stored at the asphalt mix plant shall be at temperatures not to exceed the manufacturer's recommendation and each tank shall have a calibrated thermometer to monitor storage temperature.

(b) Standard Performance Grade (PG) Binder:

i. Standard PG binder shall be defined as "Neat." Neat PG binders shall be free from modification with: fillers, extenders, reinforcing agents, adhesion promoters, thermoplastic polymers, acid modification and other additives such as re-refined motor oil, and shall indicate such information on each bill of lading and Certified Test Report.

ii. The standard asphalt binder shall be PG 64S-22.

(c) Modified Performance Grade (PG) Binder: The modified asphalt binder shall be Performance Grade PG 64E-22 asphalt modified solely with a Styrene-Butadiene-Styrene (SBS) polymer. The polymer modifier shall be added at either the refinery or terminal and delivered to the asphalt production facility as homogenous blend. The stability of the modified binder shall be verified in accordance with ASTM D7173 using the Dynamic Shear Rheometer (DSR). The DSR $G^*/\sin(\delta)$ results from the top and bottom sections of the ASTM D7173 test shall not differ by more than 10%. The results of ASTM D7173 shall be included on the Certified Test Report. The binder shall meet the requirements of AASHTO M 332 (including Appendix X1) and AASHTO R 29.

(d) Anti-strip and Warm Mix Additive:

i. The additive to be used must be prequalified and listed on the Department's Qualified Products List (QPL). The QPL can be found on the Department's website. Policy on New Product Evaluation at Connecticut DOT

ii. The additive shall be blended with the asphalt binder in accordance with the manufacturer's recommendations.

iii. The blended binder shall meet the requirements of AASHTO M 332 and shall be graded or verified in accordance with AASHTO R 29 for the specified binder grade. The Binder Supplier or Mix Producer shall submit a Certified Test Report showing the results of the testing demonstrating the binder grade. In addition, it must include the grade of the virgin binder, the brand name of the additive, the manufacturer's suggested rate for the additive, and the Technology manufacturer's recommended mixing and compaction temperature range for the dose rate.

(e) Foaming Technology: Foaming shall be blended with the mix during production in accordance with the manufacturer's recommendations and at the water injection rate on the mix design. Qualification of the foaming equipment is based on the mixture meeting all requirements of M.04.

5. Emulsified Asphalts:

(a) General:

i. The emulsified asphalt shall meet the requirements of AASHTO M 140(M), AASHTO M 208, or as applicable herein.

ii. The emulsified asphalts shall be free of contaminants such as fuel oils and other solvents.

iii. The blending at mixing Plants of emulsified asphalts from different suppliers is prohibited.

iv. Materials used for tack coat shall not be diluted.

v. The emulsion supplier shall submit a Certificate of Analysis (COA) in accordance with AASHTO R 77 to the Department's Central Laboratory for every lot or batch used on Department projects. This is to be submitted upon testing being complete.

(b) Basis of Approval:

i. Each shipment of emulsified asphalt delivered to the Project site shall be accompanied with the corresponding Bill of Lading in accordance with AASHTO R 77 listing residue by evaporation, penetration of residue, and weight per gallon at 77°F or 60°F, lot number, and grade.

ii. Non-Tracking Asphalt Tack Coat

– Emulsion for Non-Tracking Asphalt Tack Coat shall meet the requirements of Table M.04.01-1 below.

Table M.04.01-1: Asphalt Emulsion for Non-Tracking Tack Coat

Property	Specification	Test Procedure
Viscosity, SFS, 77°F	20-100	AASHTO T 72
Sieve, %	0.3 maximum	AASHTO T 59
Asphalt Residue, %	50 minimum	AASHTO T 59
Oil Distillate, %	1.0 maximum	AASHTO T 59
Residue Penetration, at 77°F	10-40	AASHTO T 49
Original Dynamic Shear (G*/sin δ), kPa at 70°C (Base Asphalt)	1.0 minimum	AASHTO T 315
Ash, %	1.0 maximum	AASHTO T 111

iii. Material for Tack Coat

- Anionic emulsified asphalts shall meet the requirements of AASHTO M 140. Materials used for anionic tack coat shall meet grade RS-1 or RS-1h. When ambient temperatures are 80°F and rising, grade SS-1 or SS-1h may be substituted if permitted by the Engineer.
- Cationic emulsified asphalt shall meet the requirements of AASHTO M 208. Materials used for cationic tack coat shall meet grade CRS-1. The settlement and demulsibility test will not be performed unless deemed necessary by the Engineer. When ambient temperatures are 80°F and rising, grade CSS-1 or CSS-1h may be substituted if permitted by the Engineer.

6. Reclaimed Asphalt Pavement (RAP):

(a) General: RAP is a material obtained from the cold milling or removal and processing of asphalt mixture. RAP material shall be crushed to 100% passing the 1/2 inch sieve and free from contaminants such as joint compound, wood, plastic, and metals.

(b) Basis of Approval: The RAP material will be accepted on the basis of one of the following criteria:

i. When the source of all RAP material is from pavements previously constructed on Department projects, the asphalt producer shall provide a monthly Materials Certificate listing the detailed locations and lengths of those pavements and that the RAP is only from those locations listed.

ii. When the RAP material source or quality is not known, the Contractor shall request approval from the Engineer at least 30 calendar days prior to the start of the paving operation. The request shall include a Materials Certificate and applicable test results stating that the RAP consists of aggregates that meet the specification requirements of M.04.01-1 through M.04.01-3 and that the binder in the RAP is substantially free of solvents, tars and other contaminants. The Contractor is prohibited from using unapproved material on Department projects and shall take necessary action to prevent contamination of approved RAP stockpiles. Stockpiles of unapproved material shall remain separate from all other RAP materials at all times. The request for approval shall include the following:

1. A 50-lb. sample of the RAP to be incorporated into the recycled mixture.
2. A 25-lb. sample of the extracted aggregate from the RAP.

7. Crushed Recycled Container Glass (CRCG):

(a) Requirements: The Contractor may propose to use clean and environmentally-acceptable CRCG in an amount not greater than 5% by weight of total aggregate.

(b) Basis of Approval: The Contractor shall submit to the Engineer a request to use CRCG. The request shall state that the CRCG contains no more than 1% by weight of contaminants such as paper, plastic, and metal and meets the following gradation:

CRCG Grading Requirements	
Sieve Size	Percent Passing
3/8 inch	100
No. 4	35-100
No. 200	0.0-10.0

The Contractor shall submit a Materials Certificate to the Engineer stating that the CRCG complies with all the applicable requirements in this Section.

8. Joint Seal Material: Joint seal material must meet the requirements of ASTM D6690 - Type 2. The Contractor shall submit a Materials Certificate in accordance with 1.06.07 or 1.20-1.06.07 certifying that the joint seal material meets the requirements of this Section.

9. Recycled Asphalt Shingles (RAS): RAS shall consist of processed asphalt roofing shingles from post-consumer asphalt shingles or from manufactured shingle waste. The RAS under consideration for use in asphalt mixtures must be certified as being asbestos-free and shall be entirely free of whole, intact nails. The RAS shall meet the requirements of AASHTO MP 23.

RAS shall be tested to determine the asphalt content and the gradation at a frequency acceptable to the Engineer. RAS stockpiles shall be maintained to prevent contamination.

The Contractor shall submit a Materials Certificate to the Engineer stating that the RAS complies with all the applicable requirements.

10. Plant Requirements:

(a) General: The Plant producing asphalt mixtures shall comply with AASHTO M 156.

(b) Storage Silos: The Contractor may use silos for short-term storage with the approval of the Engineer. A storage silo must have heated cones and an unheated silo cylinder if it does not contain a separate internal heating system. When multiple silos are filled, the Contractor shall discharge 1 silo at a time. Simultaneous discharge of multiple silos for the same Project is not permitted.

Type of silo cylinder	Maximum storage time for all classes (hr)	
	64S-22 Mixes	64E-22 Mixes
Open Surge	4	Mfg Recommendations*
Unheated - Non-insulated	8	Mfg Recommendations*
Unheated - Insulated	18	Mfg Recommendations*
Heated - No inert gas	24	Mfg Recommendations*

*Not to exceed HMA limits

(c) Documentation System: The mixing Plant documentation system shall include equipment for accurately proportioning the components of the mixture by weight and in the proper order, controlling the cycle sequence, and timing the mixing operations. The plant documentation system shall monitor the batching sequence of each component of the mixture and produce an electronic record of these operations as specified herein. All electronic records shall be available to the Engineer upon request.

If recycled materials are used, the electronic record shall include their dry weight, percentage, and daily moisture content.

If an additive or warm mix foaming technology is added at the Plant, the Plant electronic record shall include the actual dosage rate.

For drum Plants, the electronic record shall be produced at 5 minute intervals and maintained by the vendor for a period of 3 years after the completion of the Project.

For batch Plants, the electronic record shall be produced for each batch and maintained by the vendor for a period of 3 years after the completion of the Project. In addition, an asterisk (*) shall be automatically printed next to any individual batch weight(s) exceeding the following tolerances:

Each Aggregate Component	±1.5% of individual or cumulative target weight for each bin
Mineral Filler	±0.5% of the total batch
PG Binder Material	±0.1% of the total batch
Zero Return (Aggregate)	±0.5% of the total batch
Zero Return (PG Binder Material)	±0.1% of the total batch

The entire batching and mixing interlock cut-off circuits shall interrupt and stop the automatic batching

operations when an error exceeding the acceptable tolerance occurs in proportioning.

The scales shall not be manually adjusted during the printing process. In addition, the system shall be interlocked to allow printing only when the scale has come to a complete rest. A unique printed character (m) shall automatically be printed on the truck and batch plant printout when the automatic batching sequence is interrupted or switched to auto-manual or full manual during proportioning.

(d) Aggregates: Aggregate stockpiles shall be managed to prevent segregation and cross contamination. For drum Plants only, the percent moisture content, at a minimum prior to production and halfway through production, shall be determined.

(e) Mixture: The plant dry and wet mix times shall provide a uniform mixture with a minimum particle coating of 95% as determined by AASHTO T 195(M).

Asphalt mixtures shall contain no more than 0.5% moisture when tested in accordance with AASHTO T 329.

(f) RAP: RAP moisture and binder content shall be updated in the plant settings prior to production.

(g) Asphalt Binder: A binder log shall be maintained by the asphalt producer and submitted to the Department's Central Lab on a monthly basis. The log shall include the grade and tank loaded for each shipment. Asphalt binder plant setting shall not be set below the minimum binder content specified in Table M.04.02-5.

(h) Warm mix additive: For mechanically foamed WMA, the water injection rate shall be monitored during production, not to exceed 2.0% by total weight of binder, and must be documented on the electronic record.

11. Testing Laboratory: The laboratory performing acceptance testing on box samples shall be provided with functioning equipment and adequate supplies to test asphalt mixtures in accordance with Table M.04.03. The laboratory shall have a minimum of 300 s.f., have a potable water source and drainage in accordance with the CT Department of Public Health. The laboratory shall have a PC with internet connection capable of submitting electronic test results to the Engineer.

The laboratory shall be equipped with a heating system capable of maintaining a minimum temperature of 65°F. It shall be clear and free of all materials and equipment not associated with the laboratory. Sufficient light and ventilation must be provided. During summer months adequate cooling or ventilation must be provided so the indoor air temperature shall not exceed the ambient outdoor temperature.

The laboratory shall maintain a list of equipment used in the acceptance testing processes including, but not limited to, balances, scales, manometer/vacuum gauge, thermometers, and gyratory compactor, clearly showing calibration and/or inspection dates, in accordance with AASHTO R 18.

M.04.02—Mix design and Job Mix Formula (JMF)

1. Curb Mix:

(a) Requirements: The Contractor shall use asphalt mixture that meets the requirements of Table M.04.02-1. RAP may be used in 5% increments by weight up to 30%.

(b) Basis of Approval: Annually, an approved JMF based on a mix design for curb mix must be on file with the Engineer prior to use.

The Contractor shall test the mixture for compliance with the submitted JMF and Table M.04.02-1. The maximum theoretical density (Gmm) will be determined by AASHTO T 209. If the mixture does not meet the requirements, the JMF shall be adjusted within the ranges shown in Table M.04.02-1 until an acceptable mixture is produced.

An accepted JMF from the previous operating season may be acceptable to the Engineer provided that there are no changes in the sources of supply for the coarse aggregate, fine aggregate, recycled material (if applicable) and the Plant operation had been consistently producing acceptable mixture.

Any change in component source of supply or consensus properties must be approved by the Engineer. A revised JMF shall be submitted prior to use.

TABLE M.04.02-1: Control Points for Curb Mix Mixtures

Mix		Curb Mix	Production Tolerances from JMF Target
Grade of PG Binder content %		**PG 64S-22 6.50 - 9.00**	**0.30**
Sieve Size:	No. 200	3.0 - 8.0 (b)	2.0
	No. 50	10 - 30	4
	No. 30	20 - 40	5
	No. 8	40 - 70	6
	No. 4	65 - 87	7
	1/4 inch		
	3/8 inch	95 - 100	8
	1/2 inch	100	8
	3/4 inch		8
	1 inch		
	2 inch		
Additionally, the fraction of material retained between any 2 consecutive sieves shall not be less than 4%.			
Mixture Temperature		265-325°F	
Mixture Properties		**Air Voids (VA) %**	0 – 4.0 (a)

Notes: (a) Compaction Parameter 50 gyrations (N_{des})
(b) The percent passing the No. 200 sieve shall not exceed the percentage of PG asphalt binder.

2. Superpave Mix Design Method – S0.25, S0.375, S0.5, and S1:

(a) Requirements: All designated mixes shall be designed using the Superpave mix design method in accordance with AASHTO R 35. A JMF based on the mix design shall meet the requirements of Tables M.04.02-2 to M.04.02-5. Each JMF and component samples must be submitted no less than 14 days prior to production and must be approved by the Engineer prior to use. All JMFs expire at the end of the calendar year.

All aggregate properties listed in tables M.01.02-1 through M.01.03-2, Table M.04.02-3, and specific gravities including absorption shall be tested at an AASHTO re:source accredited laboratory by a NETTCP Soil and Aggregate Laboratory Technician Certified technician(s) annually and submitted to the Engineer.

All asphalt mixes shall be tested for stripping susceptibility by performing the TSR test procedure in accordance with AASHTO T 283(M) at a minimum every 36 months. A JMF revision requires a new mix design TSR test. The compacted specimens may be fabricated at the Plant and then tested at an AASHTO re:source accredited laboratory by NETTCP HMA Plant Certified Technicians and submitted to the Engineer. The test report shall include Job Mix Formula blend percentages and anti-strip dosage, if applicable. The design TSR test can be performed on either laboratory or plant produced mixture. A minimum of 45,000 grams of laboratory or plant blended mixture and the corresponding complete Form MAT-412s shall be submitted to the Department's Central Laboratory for design TSR testing verification. The mixture submitted shall be representative of the corresponding mix design as determined by the Engineer.

1. Superpave Mixtures with RAP: RAP may be used with the following conditions:
   - RAP amounts up to 15% may be used with no binder grade modification.
   - RAP amounts over 15% and up to 20% may be used provided a new JMF is approved by the Engineer. The JMF submittal shall include the grade of virgin binder added. The JMF shall be accompanied by a blending chart and supporting test results in accordance with AASHTO M 323 Appendix X1, or by testing that shows the combined binder (recovered binder from

the RAP, virgin binder at the mix design proportions, warm mix asphalt additive and any other modifier if used) meets the requirements of the specified binder grade. RAP amounts over 20% and up to 25% may be used in S1 or P1 mixes only provided a new JMF is accepted by the Engineer. The virgin binder grade shall be a PG 58S-28 or PG 64E-28 based on final PG grade of mix specified. In accordance with M.04.01-4, the virgin binder grade selected shall be "neat" or modified with SBS only. The JMF submittal shall include the true grade of the virgin binder and extracted rap binder. The JMF shall be accompanied by a blending chart and supporting test results in accordance with AASHTO M 323 Appendix X1, or by testing that shows the combined binder (recovered binder from the RAP, virgin binder at the mix design proportions, warm mix asphalt additive and any other modifier if used) meets the requirements of the specified binder grade.

- A representative sample of RAP shall be tested for binder content in accordance with AASHTO T 164 and in accordance with AASHTO T 308. A split sample shall be submitted to the Engineer.
- RAP material shall not be used with any other recycling option.

2. Superpave Mixtures with RAS: RAS may be used solely in HMA S1 mixtures with the following conditions:
   - RAS amounts up to 3% may be used.
   - RAS total binder replacement up to 15% may be used with no binder grade modification.
   - RAS total binder replacement up to 20% may be used provided a new JMF is approved by the Engineer. The JMF submittal shall include the grade of virgin binder added. The JMF shall be accompanied by a blending chart and supporting test results in accordance with AASHTO M 323 Appendix X1, or by testing that shows the combined binder (recovered binder from the RAP, virgin binder at the mix design proportions, warm mix asphalt additive and any other modifier if used) meets the requirements of the specified binder grade.
   - Superpave Mixtures with RAS shall meet AASHTO PP 78 design considerations.

iii. Superpave Mixtures with CRCG: CRCG may be used solely in HMA S1 mixtures. One percent (1%) of hydrated lime, or other accepted non-stripping agent, shall be added to all mixtures containing CRCG. CRCG material shall not be used with any other recycling option.

(b) Basis of JMF Approval: The following information must be included in the JMF submittal:

i. Gradation, consensus properties, durability tests (Abrasion and Soundness), and specific gravities of the aggregate, RAP or RAS.
ii. Average asphalt content of the RAP or RAS by AASHTO T 164.
iii. RAP or RAS and percentage to be used.
iv. Warm mix technology and additive rate.
v. TSR test report and anti-strip manufacturer and dosage rate if applicable.
vi. Mixing and compaction temperature ranges for the mix with/without warm-mix technology.
vii. JMF ignition oven correction factor by AASHTO T 308.

With each JMF submittal, the following samples shall be submitted to the Central Lab:

- 4 - one (1) quart cans of PG binder with anti-strip and/or warm mix additive as applicable, with corresponding Safety Data Sheet (SDS) and PG binder lot Certified Test Report
- 1 - 50 lbs. bag of RAP
- 2 - 50 lbs. bags of Plant-blended virgin aggregate

A JMF may not be approved if any of the properties of the aggregate components or mix do not meet the verification tolerances as described in the Department's current QA Program for Materials, Acceptance and Assurance Testing Policies and Procedures.

Any material based on a JMF, once approved, shall only be acceptable for use when it is produced by the designated Plant, it utilizes the same components, and the production of material continues to meet all criteria as specified in Tables M.04.02-2, M.04.02-3 M.04.02-4 and M.04.02-5. A new JMF must be submitted to the Engineer for approval whenever a new component source is proposed.

Only 1 mix with 1 JMF will be approved for production at a time. Switching between approved JMF mixes with different component percentages or sources of supply is prohibited.

TABLE M.04.02-2: Superpave Asphalt Mixture Design Target Values

	S0.25		S0.375		S0.5		S1	
Sieve	Control Points		Control Points		Control Points		Control Points	
inches	Min (%)	Max (%)	Min (%)	Max (%)	Min (%)	Max (%)	Min (%)	Max (%)
2.0	-	-	-	-	-	-	-	-
1.5	-	-	-	-	-	-	100	-
1.0	-	-	-	-	-	-	90	100
3/4	-	-	-	-	100	-	-	90
1/2	100	-	100	-	90	100	-	-
3/8	97	100	90	100	-	90	-	-
No. 4	72	90	-	72	-	-	-	-
No. 8	32	67	32	67	28	58	19	45
No. 16	-	-	-	-	-	-	-	-
No. 30	-	-	-	-	-	-	-	-
No. 50	-	-	-	-	-	-	-	-
No. 100	-	-	-	-	-	-	-	-
No. 200	2.0	10.0	2.0	10.0	2.0	10.0	1.0	7.0
VMA (%)	16.5 -0.5, +1.0		16.0 -0.5, +1.0		15.0 -0.5, +1.0		13.0 -0.5, +1.0	
VA (%)	4.0 ±0.5		4.0 ±0.5		4.0 ±0.5		4.0 ±0.5	
Dust / effective binder	0.6 - 1.2		0.6 - 1.2		0.6 - 1.2		0.6 - 1.2	
TSR	≥ 80%		≥ 80%		≥ 80%		≥ 80%	
T-283 Stripping	2 or less							

(c) Mix Status: Each facility will have each type of asphalt mixture rated based on the results of the previous year of production. Mix status will be developed for each facility prior to the beginning of the paving season.

The rating criteria are based on compliance with Air Voids and Voids in Mineral Aggregate (VMA) as indicated in Table M.04.03-4 and are calculated as follows:

Criteria : Percentage of acceptance test results with compliant air voids, VMA, VFA, Density to Nini and dust to Pbe.

Mix status is defined as:

"A" – Approved: Assigned to each mixture type from a production facility with a current rating of 70% or greater, or to each mixture type completing a successful PPT.

"U" – Not Approved: Status assigned to a type of mixture that does not have an approved JMF. Asphalt mixtures with a "U" status cannot be used on Department projects.

"PPT" – Pre-Production Trial: Temporarily assigned to each mixture type from a production facility when:

1. no compliant acceptance production test results have been submitted to the Department from the previous year;
2. there is a source change in one or more aggregate components;
3. there is a component percentage change of more than 5% by weight;
4. there is a change in RAP percentage;
5. the mixture has a rating of less than 70% from the previous season;
6. it is a new JMF not previously submitted; or

7. mixture being evaluated under "U" status.

Asphalt mixtures rated with a "PPT" status cannot be used on Department projects until modifications are made at the facility. Sufficient testing by NETTCP certified personnel must confirm that specification requirements in Tables M.04.02-2 through M.04.02-4 are met and the binder content (Pb) meets the requirements in Table M.04.03-2 before material can be used. One of the following methods must be used to verify the test results:

Option A: Schedule a day when a Department Inspector can be at the facility to witness testing

Option B: When the Contractor or their representative performs testing without being witnessed by an Inspector, the Contractor shall submit the test results and a split sample including 2 gyratory molds, 5,000 grams of boxed mixture, and 5,000 grams of cooled loose mixture for verification testing and acceptance

Department Witness or verification of compliant test results will change the mix's status to "A"

The differences between the Department's test results and the Contractor's must be within the "C" tolerances included in the Department's QA Program for Materials and meet all requirements in Table M.04.02-2, Table M.04.02-4 and Table M.04.02-5 in order to be verified.

TABLE M.04.02-3: Superpave Consensus Properties Requirements for Combined Aggregate

Traffic Level	Design ESALs (80kN) Millions	Coarse Aggregate Angularity[1] ASTM D5821, Minimum %	Fine Aggregate Angularity AASHTO T 304, Method A Minimum %	Flat and Elongated Particles[2] ASTM D4791, Maximum %	Sand Equivalent AASHTO T 176, Minimum %
1	< 0.3	55/- -	40	10	40
2	0.3 to < 3.0	75/- -	40	10	40
3	≥ 3.0	95/90	45	10	45

Notes:
(1) 95/90 denotes that a minimum of 95% of the coarse aggregate, by mass, shall have one fractured face and that a minimum of 90% shall have two fractured faces.
(2) Criteria presented as maximum Percent by mass of flat and elongated particles of materials retained on the No. 4 sieve, determined at 5:1 ratio.

TABLE M.04.02-4: Superpave Traffic Levels and Design Volumetric Properties

Traffic Level	Design ESALs	Number of Gyrations by Superpave Gyratory Compactor			Percent Density of Gmm from HMA/ WMA Specimen			Voids Filled with Asphalt (VFA) Based on Nominal Mix Size - Inch			
	(million)	N_{ini}	N_{des}	N_{max}	N_{ini}	N_{des}	N_{max}	0.25	0.375	0.5	1
1	<0.3	6	50	75	≤91.5	96.0	≤98.0	63-78	73-76	71-75	67-71
2	0.3 to <3.0	7	75	115	≤90.5	96.0	≤98.0				
*3	≥3.0	7	75	115	≤90.5	96.0	≤98.0				

***Note 1-** All Traffic Level 3 mixes shall include polymer modified asphalt.

TABLE M.04.02-5:
Superpave Minimum Binder Content by Mix Type and Level

Mix Type	Level	Binder Content Minimum
S0.25	1	5.80
S0.25	2	5.70
S0.25	3	5.70
S0.375	1	5.70
S0.375	2	5.60
S0.375	3	5.60
S0.5	1	5.10
S0.5	2	5.00
S0.5	3	5.00
S1	1	4.60
S1	2	4.50
S1	3	4.50

M.04.03—Production Requirements:

1. Standard Quality Control Plan (QCP) for Production: The QCP for production shall describe the organization and procedures, which the Contractor shall use to administer quality control. The QCP shall include the procedures used to control the production process, to determine when immediate changes to the processes are needed, and to implement the required changes. The QCP must detail the inspection, sampling and testing protocols to be used, and the frequency for each.

Control Chart(s) shall be developed and maintained for critical aspect(s) of the production process as determined by the Contractor. The control chart(s) shall identify the material property, applicable upper and lower control limits, and be updated with current test data. As a minimum, the following quality characteristics shall be included in the control charts:

- percent passing No. 4 sieve
- percent passing No. 200 sieve
- binder content
- air voids
- Gmm
- Gse
- VMA

The control chart(s) shall be used as part of the quality control system to document variability of the production process. The control chart(s) shall be submitted to the Engineer the first day of each month.

The QCP shall document the Contractors Reclaimed Asphalt Pavement (RAP) management practices, including stockpile management, and sampling and testing frequencies. At a minimum, RAP moisture, binder content and gradation shall be tested daily when asphalt mixture is being produced for the Department. The Contractor shall maintain control charts for RAP binder content.

The QCP shall also include the name and qualifications of a Quality Control Manager. The Quality Control Manager shall be responsible for the administration of the QCP, including compliance with the plan and any plan modifications.

The Contractor shall submit complete production testing records to the Engineer within 24 hours in a manner acceptable to the Engineer including all testing records, RAP binder and moisture content, and testing equipment print outs, such is gyratory compactors and ignition oven print outs. These records must be maintained for a minimum of three years after project completion.

The QCP shall also include the name and qualifications of any outside testing laboratory performing any

QC functions on behalf of the Contractor. The QCP must also include a list of sampling and testing methods and frequencies used during production, and the names of all Quality Control personnel and their duties.

Approval of the QCP does not imply any warranty by the Engineer that adherence to the plan will result in production of asphalt mix that complies with these specifications. The Contractor shall submit any changes to the QCP as work progresses.

2. Acceptance Requirements:

(a) General:

All mixtures except for curb mix shall be sampled at the Project site by the Contractor as directed by the Engineer. A Contractor representative shall obtain a field sample of the material placed at the Project site in accordance with AASHTO R 97 or an alternate procedure acceptable to the Engineer. The Contractor's representative obtaining mix samples must be a certified NETTCP HMA Paving Inspector, NETTCP HMA Plant Technician, or has successfully completed the HMA Field Sampling Course administered by the Connecticut Advanced Pavement Laboratory. The bulk sample shall be quartered by the Contractor in accordance with AASHTO R 47 using a Type A Mechanical Splitter and placed into four new cardboard containers acceptable to the Engineer. The cardboard container shall be sealed with security tape provided by the Department and labelled to include the Project number, date of paving, mix type, lot and sublot numbers and daily tonnage. The minimum weight of each quartered sample shall be 14,000 grams with the exception of 1.0 mixes which require minimum sample size of 20,000 grams. If needed, more than four boxes can be used for 1.0 mixes. The Contractor shall transport one of the containers to the Department's Central Laboratory in Rocky Hill, retain one of the sealed containers for potential use in dispute resolution and test the remaining sample for acceptance in accordance with past practice within 2 days of sampling.

The Contractor shall submit all acceptance tests results to the Engineer within 24 hours or prior to the next day's production. All acceptance test specimens and supporting documentation must be retained by the Contractor and may be disposed of with the approval of the Engineer. All quality control specimens shall be clearly labeled and separated from the acceptance specimens.

Contractor QC personnel must be present at the facility prior to, during, and until completion of production, and be certified as a NETTCP HMA Plant Technician and be in good standing. Production of material for use on State projects must be suspended by the Contractor if such personnel are not present. Technicians found by the Engineer to be non-compliant with NETTCP policies and procedures or Department policies may be removed by the Engineer from participating in the acceptance testing process for Department projects until their actions can be reviewed.

Verification and dispute resolution testing will be performed by the Engineer in accordance with the Department's QA Program for Materials.

If the Contractor disputes the Engineer's test results, the Contractor must submit in writing a request to initiate the dispute resolution process within 24 hours of receiving the adjustment and must include supporting documentation or test results to justify the request. If the dispute resolution is granted by the Engineer, all sublots for the disputed lot(s) shall be transported by the Contractor to the Department's Central Laboratory for testing.

(b) Curb Mix Acceptance Sampling and Testing Procedures: Curb Mixes may be sampled and tested by Central Laboratory personnel at any time. When these mix designs are specified, the following acceptance procedures and AASHTO test methods shall be used:

TABLE M.04.03-1: Curb Mix Acceptance Test Procedures

Protocol	Reference	Description
1	**AASHTO T 30(M)**	Mechanical Analysis of Extracted Aggregate
2	**AASHTO R 97**	Sampling Asphalt Mixtures
3	**AASHTO R 47**	Reducing samples of Asphalt Mixtures to Testing Size
4	**AASHTO T 308**	Asphalt Binder Content of Asphalt Mixtures by Ignition Oven Method (Method A)
5	**AASHTO T 209(M)[(2)]**	Theoretical Maximum Specific Gravity and Density of Asphalt Mixtures (average of 2 tests)
6	**AASHTO T 312[(2)]**	[(1)] Density of Asphalt Mixture Specimens by Means of Superpave Gyratory Compactor (1 set Compacted to N_{des})
7	**AASHTO T 166**	Bulk Specific Gravity of Compacted Asphalt Mixtures Using Saturated Surface Dry Specimens
8	**AASHTO T 329**	Moisture Content of Asphalt Mixtures by Oven Method
9	**AASHTO R 35**	Air voids (average 2 specimens)

Notes: [(1)] One (1) set equals 2 each of 6 inch molds. Molds to be compacted to 50 gyrations.

i. Determination of "U" Status:

1. Curb Mix is considered on "U" status when test results indicate that any single value for bitumen content, Va, or gradation are not within the tolerances shown in Table M.04.02-1 for that mixture. If the mix is on "U" status the Contractor must take action to correct the deficiency. A passing PPT and supporting documentation must be submitted and approved by the Engineer prior to the next day of production.
2. Material not meeting the requirements of Table M.04.02-1 will be evaluated under Article 1.06.04.

ii. JMF Revisions

1. Any modification to the JMF shall not exceed 50% of the JMF tolerances indicated in Table M.04.02-1 for any given component of the mixture without approval of the Engineer. When such an adjustment is made to the bitumen, the corresponding production percentage of bitumen shall be revised accordingly.

(c) Superpave Mix Acceptance:

i. Sampling and Testing Procedures

Production Lot: All mixture will begin as a PWL Production Lot. A PWL Lot will be defined as each 3,500 tons of mixture produced within 30 calendar days.

If a Lot is closed before reaching four (4) acceptance tests it will be processed as Non-PWL.

Lots will be closed due to:

- completion of the course;
- a Job Mix Formula revision due to changes in:
  - cold feed percentages over 5%,
  - target combined gradation over 5%,
  - target binder over 0.15%,
  - any component specific gravity; or
- a lot spanning 30 calendar days.

Production Sub Lot:

- 500 tons or portions thereof for last sub-lot. Last sub-lot may be less than 500 tons. For Project quantities under 75 tons no sample will be required. For quantities produced over 500 ton, the final acceptance test shall always be performed with material from the last sub lot regardless of the predetermined random location.

Partial Production Lots (For PWL only): A Lot with four (4) or more acceptance tests, but less than 3,500 tons.

The acceptance sample(s) location(s) shall be selected using stratified - random sampling in accordance with ASTM D3665.

The payment adjustment will be calculated as described in 4.06.

The following test procedures shall be used for acceptance:

TABLE M.04.03-3: Superpave Acceptance Testing Procedures

Protocol	Procedure	Description
1	AASHTO R 97	Sampling of Asphalt Mixtures
2	AASHTO R 47	Reducing Samples of Asphalt Mixtures to Testing Size
3	AASHTO T 308	Asphalt Binder Content of Asphalt Mixtures by Ignition Oven Method (Method A)
4	AASHTO T 30(M)	Mechanical Analysis of Extracted Aggregate
5	AASHTO T 312	(1) Density of Asphalt Mixture Specimens by Means of Superpave Gyratory Compactor (Compacted to N_{des})
6	AASHTO T 166	(2)Bulk Specific Gravity of Compacted Asphalt Mixtures Using Saturated Surface Dry Specimens
7	AASHTO R 35	(2)Air voids, VMA
8	AASHTO T 209(M)	Theoretical Maximum Specific Gravity and Density of Asphalt Mixtures (average of 2 tests)
9	AASHTO T 329	Moisture content of Asphalt Mixtures

Notes: (1) One (1) set equals 2 each of 6 inch molds. Molds to be compacted to Nmax for PPTs and to Ndes for production testing. The first sub lot of the year shall be compacted to N_{max}.

(2) Average value of 1 set of 6 inch molds.

If the average ignition oven corrected binder content differs by 0.3% or more from the average of the Plant ticket binder content in 5 consecutive tests regardless of the production date (moving average), the Contractor shall immediately investigate, determine an assignable cause, and correct the issue. When 2 consecutive moving average differences are 0.3% or more and no assignable cause has been established, the Engineer may require a new ignition oven aggregate correction factor to be performed or to adjust the current factor by the average of the differences between the corrected binder content and production Plant ticket for the last 5 acceptance results.

Asphalt mixtures may be randomly sampled and tested by the Central Lab personnel at any time to verify compliance with the TSR requirements in Table M.04.02-2. If the material fails to meet specification requirements, The Central Laboratory will issue a notification to the Project, including test data, stating that the material does not meet Contract specification requirements.

If the Contractor receives a Non-Conformance Notice from the Engineer, the Contractor shall submit a corrective action plan within 24 hours to address the deficiency. The corrective action plan must be accepted by the Engineer prior to continued paving operations.

Supporting documentation demonstrating that the corrective action was implemented and resolved the issue, including test results, shall be submitted to the Engineer within 7 business days to allow completion of TSR testing on plant or lab produced mixture.

All deficient mixture will be evaluated in accordance with Article 1.06.04. The mix will be assigned a "U" (Unapproved) status if additional tests performed by the Department demonstrate that the mixture does not meet Contract specification requirements.

Determination of "U" Status: Superpave mixes shall be considered on *"U" status* when any control point sieve, binder content, VA, VMA, VFA, N_{ini}, dust to effective binder ratio, and Gmm value is outside of the limits specified in Table M.04.03-4 on four (4) consecutive tests in any combinations, or the target binder content at the Plant is below the minimum binder content stated in Table M.04.02-5. In addition the average of 10 consecutive acceptance results for VFA, Density to N_{ini} or dust to effective binder ratio does not meet the criteria in tables M.04.02-2 and M.04.02-4. Note that further testing of samples or portions of samples not initially tested for this purpose cannot be used to change the status.

1. Any time the asphalt mixture is designated as "U" status:

A. The Contractor shall notify the Engineer.
B. The Contractor must take immediate actions to correct the deficiency, minimize material shipped to the Project, and obtain an additional Process Control (PC) test after any corrective action to verify production is in conformance with the specifications. A PC test will not be used for acceptance and is solely for the use of the Contractor in its quality control process.

As a result of a U status, upon the submittal of an acceptable revised JMF, the mix status will be changed to PPT until the mix is corrected and a passing PPT is successfully completed.

2. JMF revisions:

JMF revisions are only permitted prior to or after a production shift. A JMF revision is effective from the time it was submitted and is not retroactive to the previous test(s).

JMF revisions shall be justified by a documented trend of test results.

Revisions to aggregate or RAP specific gravities are only permitted when testing is performed at an AASHTO re:source certified laboratory by NETTCP certified technicians.

A JMF revision is required when the Plant target RAP or bin percentage deviates by more than 5% or the Plant target binder content deviates by more than 0.15% from the active JMF.

TABLE M.04.03-4: Superpave Mixture Production Requirements

	S0.25		**S0.375**		**S0.5**		**S1**		Tolerances
Sieve	Control Points		Control Points		Control Points		Control Points		From JMF Targets[2]
inches	Min (%)	Max (%)	Min (%)	Max (%)	Min (%)	Max (%)	Min (%)	Max (%)	+/- Tolerance
1.5	-	-	-	-	-	-	100	-	
1.0	-	-	-	-	-	-	90	100	
3/4	-	-	-	-	100	-	-	90	
1/2	100	-	100	-	90	100	-	-	
3/8	97	100	90	100	-	90	-	-	
No. 4	72	90	-	72	-	-	-	-	
No. 8	32	67	32	67	28	58	19	45	
No. 16	-	-	-	-	-	-	-	-	
No. 200	2.0	10.0	2.0	10.0	2.0	10.0	1.0	7.0	
Pb	JMF value		JMF value		JMF value		JMF value		0.30
VFA	JMF value		JMF value		JMF value		JMF value		5
VMA (%)	16.5		16.0		15.0		13.0		1.0[3]
VA (%)	4.0		4.0		4.0		4.0		1.0[4]
Gse	JMF value		JMF value		JMF value		JMF value		0.030
Gmm	JMF value		JMF value		JMF value		JMF value		0.030
Mix Temp. – HMA[5]	265-325°F [1]		265-325°F [1]		265-325°F [1]		265-325°F [1]		
Mix Temp. – PMA[5]	285-335°F [1]		285-335°F [1]		285-335°F [1]		285-335°F [1]		

Prod. TSR	N/A	N/A	≥80%	N/A	
T 283 Stripping	N/A	N/A	2 or less	N/A	

Notes: (1) 300°F minimum when temperature is below 50°F.
(2) JMF tolerances shall be defined as the limits for production compliance.
(3) 1.30 for all PWL lots except S/P 0.25 mixes. 1.10 for S/P 0.25 Non-PWL lots. 1.40 for S/P 0.25 PWL lots
(4) 1.2 for PWL lots
(5) Also applies to placement

Table M.04.03-5:
Modifications to Standard AASHTO and ASTM Test Specifications and Procedures

AASHTO Standard Method of Test	
Reference	**Modification**
T 30	Section 7.2 through 7.4 Samples are not routinely washed for production testing *Wash gradation required for mix design and PPT
T 209	Section 7.2 The average of 2 bowls is used proportionally in order to satisfy minimum mass requirements. 8.3 Omit Pycnometer method.
T 283	When foaming technology is used, the material used for the fabrication of the specimens shall be cooled to room temperature, and then reheated to the manufacturer's recommended compaction temperature prior to fabrication of the specimens.
AASHTO Standard Recommended Practices	
Reference	**Modification**
R 26	All laboratory technician(s) responsible for testing PG binders shall be certified or Interim Qualified by NETTCP as a PG Asphalt Binder Lab Technician. All laboratories testing binders for the Department are required to be accredited by AASHTO re:source. Sources interested in being approved to supply PG binders to the Department by use of an "in-line blending system" must record properties of blended material and additives used. Each source of supply of PG binder must indicate that the binders contain no additives used to modify or enhance their performance properties. Binders that are manufactured using additives, modifiers, extenders, etc., shall disclose the type of additive, percentage and any handling specifications or limitations required. All AASHTO M 320 references shall be replaced with AASHTO M 332. Once a month, 1 split sample and test results for each asphalt binder grade and each lot shall be submitted by the PG binder supplier to the Department's Central Lab. Material remaining in a certified lot shall be re-certified no later than 30 days after initial certification. Each April and September, the PG binder supplier shall submit test results for 2 BBR tests at 2 different temperatures in accordance with AASHTO R 29.

SECTION M.06 - METALS

Replace M.06.01-1 Bar Reinforcement *in its entirety with the following:*

1. **Bar Reinforcement:** Bar reinforcement shall be deformed and conform to the following: Uncoated bar reinforcement shall meet the requirements of ASTM A615, Grade 60. Epoxy coated bar reinforcement shall meet the requirements of ASTM A615, Grade 60 and shall be epoxy coated to the requirements of ASTM A775. All field repairs of the epoxy coating shall meet the requirements of ASTM D3963.
   Hot-dip galvanized bar reinforcement (HDG) shall meet the requirements of ASTM A615, Grade 60 and be galvanized, after fabrication, to the requirements of ASTM A767, Class 1, including supplemental requirements.
   Dowels and tie bars for masonry facing and for granite curbing shall be galvanized, after fabrication, in accordance with ASTM A767, Class 1.
   Continuously galvanized reinforcement (CGR) shall meet the requirements of ASTM A615, Grade 60 and be galvanized to the requirements of ASTM A1094, including supplemental requirements.
   Weldable bar reinforcement shall meet the requirements of ASTM A706.

Add the following:

M.06.05 – Repair of Damaged Galvanized Coatings: Zinc-rich paint for repair of zinc coatings on galvanized steel and for corrosion protection on uncoated bar reinforcement shall meet the following requirements:

- ASTM A780, Annex A2 with zinc dust concentration above 92% in the dried film;
- Zinc dust pigment shall conform to ASTM D520, Type III;
- The VOC content shall meet the current DEEP Air Compliance regulations for the coating category "zinc-rich primer;" (https://eregulations.ct.gov/eRegsPortal/Browse/RCSA/Title_22aSubtitle_22a-174Section_22a-174-41a/)
- Corrosion Performance Criteria: Must pass a minimum of 2000 hours of salt spray testing for a minimum of 2 mils of zinc in the dry film, without failure, in accordance with ASTM B117.
- **The use of aerosol galvanizing products is strictly prohibited. This applies to both shop and field touch ups or repairs.**

The products listed below meet the above requirements. If selecting one of these products, the Contractor shall submit a Materials Certificate in accordance with 1.06.07 or 1.20-1.06.07. Other products will be considered for the Engineer's acceptance by submitting a Materials Certificate and a Certified Test Report in accordance with

1.06.07 or 1.20-1.06.07, showing that the coating meets the specific requirements listed above.

Crown Low VOC Cold Galvanize Coating 93% Zinc Rich
7007VG
Aervoe Industries, Inc.
P.O. Box 485
Gardnerville, NV 89410
1-800-227-0196 or 1-775-783-3100
www.aervoe.com

ZRC Cold Galvanizing Repair Compound
ZRC 221
ZRC Worldwide
145 Enterprise Drive Marshfield, MA 02050-2132
1-800-831-3275 or 1-781-319-0404
www.zrcworldwide.com

ITEM #0202216A – EXCAVATION AND REUSE OF EXISTING CHANNEL BOTTOM MATERIAL

Description: This work shall consist of excavating existing channel bottom material, herein referred to as natural streambed material, in areas where the channel bottom is to be disturbed and regraded to create a work area for a bridge, culvert, articulated concrete block placement, cofferdam installation, as shown on the plans or as directed by the Engineer. This item shall also include the stockpiling and protecting of the excavated material on-Site, subsequent placement, top dressing, or backfilling of the excavated stockpiled material within the watercourse, as shown on the plans or as directed by the Engineer.

Materials: The material for this item shall consist of the existing naturally-formed rocks, cobbles, gravel, soils and clean natural sediments from within the channel.

Any material excavated from shale, ledge (bedrock) formations broken from larger boulders, or material with sharp acute edges will not be accepted. Broken concrete will not be accepted.

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

Construction Methods:

1. Stockpiling of Material. The Contractor shall submit for the Engineer's approval a proposed location for stockpiling material. The proposed location shall be upland where disruption to the stream channel or impact to wetland areas caused by moving the natural streambed material to and from the stockpile are minimized. The Contractor shall prepare the area approved by the Engineer, suitable in size and location for stockpiling the natural streambed material.

The stockpile shall be located where it can remain undisturbed for the duration of the stream channel reconstruction or as shown on the plans and shall be protected using sedimentation control measures. The stockpile area shall be free of debris and cleaned adequately to prevent mixing with underlying soil or other materials, including the use of a separation barrier such as: Geotextile – (Separation Class 1), polyethylene sheeting, or similar. The stockpile area shall be adequately covered to protect the excavated natural streambed material from erosion by rain, wind, or other forces.

2. Excavation of Natural Streambed Material. The Contractor shall notify the Engineer 10 days in advance of excavation and placement of natural streambed material activities. The Engineer will identify the limits of the exposed natural streambed material during excavation under this item. The Engineer will identify the bottom limit of excavation, an amount up to but not exceeding 24 inches in depth, unless approved by the Engineer or their authorized delegate, based upon visual inspection of the natural streambed material. After the limits of excavation have been determined, the Contractor shall excavate the natural streambed material, separate from any other roadway, structure, channel or unsuitable material excavation on Site. After the natural streambed material has been excavated, it shall be placed in the pre-approved stockpile area.

3. Backfilling and Placement with Natural Streambed Material. The stockpiled natural streambed material shall be placed as fill material as specified at the designated location(s) to the required thickness and elevation as shown on the plans or as directed by the Engineer or their authorized delegate. Placement methods likely to cause segregation of the various sizes of stone will not be permitted. Placement techniques shall prevent integration with non-natural streambed material and shall keep the natural streambed material relatively homogenous. The natural streambed material shall be placed in a manner that replicates the original condition of the channel prior to excavation and to the elevation as shown on the plans.

4. Top Dressing with Natural Streambed Material. The stockpiled natural streambed material shall be used as top dressing over riprap or other material as specified at the designated location(s) to the required thickness and elevation as shown on the plans or as directed by the Engineer or their authorized delegate. Placement techniques shall prevent integration with the non-natural streambed material and shall keep the natural streambed material relatively homogenous. The natural streambed material shall be placed in a manner that replicates the original condition of the channel prior to excavation and to the elevation as shown on the plans.

5. Site Maintenance. When backfilling, placing, or top dressing, the Contractor shall perform all containment, diversion, or other separation of the channel flow to minimize sediment transport downstream.

The disposal of any surplus and/or unsuitable material shall be in accordance with Article 1.09.04.

If the Engineer determines that there is an insufficient quantity of natural streambed material within the Project limits, the Contractor shall procure Supplemental Streambed Channel Material as specified under Item #0202217A.

If it is required for the Project to have washing-in of supplemental streambed material, the Contractor shall procure Washing-in Supplemental Streambed Material as specified under Item #0202218A.

The pre-approved stockpile areas shall be restored to the satisfaction of the Engineer. Work to restore/regrade stockpile areas will be paid for under the respective pay item(s).

Method of Measurement: This work will be measured for payment by the number of cubic yards of natural streambed material excavated, stockpiled, maintained, installed, and accepted.

The Engineer will delineate the horizontal pay limit prior to the start of excavation. The vertical pay limit will be measured from the top of the existing channel bottom to the bottom of excavation required specifically for the stockpiling of channel bottom material.

Any material excavated beyond the approved horizontal pay limits or deeper than the depth of natural streambed material identified and approved by the Engineer will not be measured for payment under this item. Should such additional excavation be required to complete the Contract work, it will be measured for payment separately under the applicable pay item(s).

Basis of Payment: Payment for this work will be made at the Contract unit price per cubic yard for "Excavation and Reuse of Existing Channel Bottom Material." The price shall include all materials, equipment, geotextile, tools, and labor incidental to the preparation of the stockpile area, excavation of natural streambed material, hauling of the material to the stockpile, and separation of any rock ledge or concrete debris, storing, and protecting (including sedimentation controls and covering) excavated material.

Payment for clearing and grubbing of the approved stockpile area will be included in the item "Clearing and Grubbing."

Payment for the removal and proper disposal of all surplus and/or unsuitable material will be in accordance with Article 1.09.04 – Extra and Cost-Plus Work.

Riprap or other specified material as shown on the plan will be paid for under the respective items.

Payment for supplemental streambed channel material will be included in the Item #0202217A "Supplemental Streambed Channel Material." If no item appears in the proposal, payment for the work will be in accordance with Article 1.09.04 – Extra and Cost-Plus Work.

Payment for washing in supplemental streambed channel material will be included in the Item #0202218A "Washing-in Supplemental Streambed Material." If no item appears in the proposal, payment for the work will be in accordance with Article 1.09.04 – Extra and Cost-Plus Work.

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

Pay Item	Pay Unit
Excavation and Reuse of Existing Channel Bottom Material	c.y.

ITEM #0202217A – SUPPLEMENTAL STREAMBED CHANNEL MATERIAL

Description: This work shall consist of procuring, transporting, and placing supplemental streambed channel material, herein referred to as supplemental streambed material, meeting the visual inspection requirements herein, along stream bank/channel improvement locations as shown on the plans or denoted on the Project's permit applications. This item shall also include any necessary temporary protection and stockpiling of the supplemental streambed material on–Site, subsequent placement, top dressing, or backfilling of the supplemental streambed material within the watercourse, as shown on the plans or as directed by the Engineer.

Materials: When a sufficient quantity of material is not available from the existing streambed channel for placement, top dressing, or backfilling within the permitted footprint of the stream bank/channel improvement locations, the Contractor shall furnish supplemental streambed material from an off-Site source. Supplemental streambed material must be visually inspected and accepted by the Engineer or their authorized delegate prior to being delivered to the Site. The Contractor shall notify the Engineer at least 10 working days in advance of the need for inspection of proposed off-Site material.

The supplemental streambed material for this item shall be consistent with the existing naturally-formed cobbles and rocks, gravel, and clean natural sediments found within the existing channel. Rock excavated from shale, ledge (bedrock) formations broken from larger boulders, broken concrete or angular material, or material with sharp acute edges will not be accepted.

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

Construction Methods:

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

The stockpile area shall be free of debris and cleaned adequately to prevent mixing with underlying soil or other materials, including the use of Geotextile – (Separation Class 1), or similar, if required. The stockpile area shall be adequately covered to protect the supplemental streambed channel material from erosion by rain or other forces. After supplemental streambed material and existing natural streambed material have been placed in the stockpile areas, no other excavated or off-Site material shall be placed in the stockpiles.

2. Backfilling and Placement with Supplemental Streambed Material. The stockpiled supplemental streambed material shall be placed as fill material as specified at the designated location(s) to the required thickness and elevation as shown on the plans or as directed by the

Engineer or their authorized delegate. Placing this material by methods likely to cause segregation of the various sizes of stone will not be permitted. Placement techniques shall prevent integration with non-natural streambed material and shall keep the streambed material relatively homogenous. The streambed material shall be placed in a manner that replicates the original condition of the channel prior to excavation and to the elevation as shown on the plans.

3. Top Dressing with Supplemental Streambed Material. The stockpiled supplemental streambed material shall be used as top dressing over riprap or other material as specified at the designated location(s) to the required thickness and elevation as shown on the plans or as directed by the Engineer or their authorized delegate. Placement techniques shall prevent integration with the non-natural streambed material and shall keep the streambed material relatively homogenous. The streambed material shall be placed in a manner that replicates the original condition of the channel prior to excavation and to the elevation as shown on the plans.

4. Site Maintenance. When placing, backfilling, or top dressing streambed material, the Contractor shall perform all containment, diversion, or other separation of the channel flow to minimize sediment transport downstream.

If it is required for the Project to have washing-in of supplemental streambed material, the Contractor shall procure Washing-in Supplemental Streambed Material as specified under Item #0202218A.

The pre-approved stockpile areas shall be restored to the satisfaction of the Engineer. Work to restore/regrade stockpile areas will be paid for under the respective pay item(s).

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

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

Basis of Payment: Payment for "Supplemental Streambed Material" shall include all materials, equipment, geotextile, tools, and labor incidental to the preparation of the stockpile area, hauling of the material to the stockpile, placement of supplemental streambed material, and separation of any rock ledge or concrete debris, storing, and protecting (including sedimentation controls and covering) excavated material.

Payment will be as specified under Article 1.09.04 – Extra and Cost-Plus Work.

Payment for clearing and grubbing of the approved stockpile area will be included in the item "Clearing and Grubbing."

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

Payment for washing in supplemental streambed material will be included in the Item #0202218A “Washing-in Supplemental Streambed Material.” If no item appears in the proposal, the work will be in accordance with Article 1.09.04 – Extra and Cost-Plus Work.

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

Pay Item	Pay Unit
Supplemental Streambed Channel Material	est.

ITEM # 0202315A - DISPOSAL OF CONTROLLED MATERIALS

Description:

Work under this item is intended to provide specific procedural requirements to be followed by the Contractor for management, loading, transportation and final off-site disposal/ recycling/treatment of excess controlled material that has been generated from excavations within the project and brought to the Reuse Stockpile Area (RSA) designated in the Plans. The controlled materials, after proper characterization by the Engineer, shall be taken from the RSA, loaded, transported to and treated/recycled/disposed of at a permitted treatment/recycle/disposal facility listed herein.

The Contractor must use one or more of the following Department-approved treatment/recycle/ disposal facilities for the disposal of non-hazardous controlled materials:

Allied Waste Niagara Fall Landfill, LLC 5600 Niagara Falls Blvd. Niagara, NY 14304 (716) 285-3344; Ralph Larimore	Bondi Island (Covanta) M Street Agawam, MA 01001 (508) 291-4408; Steven Melloni, P.E.
Clean Earth – Hatfield PA (Formerly ESMI of New York) 304 Towpath Lane Fort Edward, NY 12828 (518) 747-5500; Peter Hansen	Clean Earth of Carteret 24 Middlesex Avenue Carteret, NJ 07008 (732) 541-8909; Tejas Shah
Clean Earth of Connecticut (formerly Phoenix Soil LLC) 58 North Washington Street Plainville, CT 06062 (860) 803-1000; Todd Mahler	Clean Earth of New Jersey, Inc. (CENJ) 105/115 Jacobus Avenue Kearny, NJ 07105 (973) 344-4004; Jim Gustavson
Clean Earth of Philadelphia 3201 S. 61 Street Philadelphia, PA 19153 (215) 724-5520; Jim Siravo	Clean Earth of Southeast Pennsylvania, Inc. 7 Steel Road Morrisville, PA 19067 (215) 428-1700; Jim Siravo
Colonie Landfill (Waste Connections, Inc.) 4 Arrowhead Lane Cohoes, NY 12047 (518) 783-2827: Eric Morales	Coplay Aggregates Regulated Fill Site (Materials Solution Services-Brokerage Firm) 5101 Beekmantown Road Whitehall, PA 18052 (610) 440-2301; Brian Hilliard

Cumberland County Landfill (Managed by Interstate Waste Services) 620 Newville Road Newburg, PA 17240 (717) 423-9953; Mike McIntyre	ESMI – Clean Earth 67 International Drive Loudon, NH 03307 (603) 783-0228; Marc Aubrey
Greentree Landfill 635 Toby Road Kersey, PA 15846 (814) 265-1744; Anthony LaBenne	Hazelton Creek Properties, LLC* 280 South Church Street Hazelton, PA 18201 (870) 501-5050; Ronak Patel
Manchester Landfill 311 Olcott Street Manchester, CT 06040 (860) 647-5278; Ray Carr	Ondrick Materials & Recycling, LLC 58 Industrial Road Chicopee, MA 01020 (413) 592-2566; David S. Costanzo
Ontario County Landfill (Managed by Casella Waste) 1879 Routes 5 & 20 Stanley, NY 14561 (603) 235-3597; Scott Sampson	Plainville Landfill Grainger Lane Plainville, CT 06062 (860) 410-3070; John Sullivan
Red Technologies Soil 232 Airline Avenue Portland, CT 06980 (860) 342-1022; Christopher Windangle	Republic Services Conestoga Landfill* 420 Quarry Road Morgantown, PA 19543 (610) 286-6844; James Kuhn
Soil Safe, Inc. 378 Route 130 Logan Township, Bridgeport, NJ 08085 (410) 872-3990; Billy Booth	Soil Safe, Inc. 378 Route 130 Logan Township, Bridgeport, NJ 08085 (410) 872-3990; Billy Booth
Stablex, Canada, Inc. (US Ecology Company) 760 Industrial BLVD Blainville, Quebec J7C 3V4 (800) 404-4408; Eric Congdon	Tunnel Hill Reclamation 2500 Township Road, 205 Route 2 New Lexington, OH 43764 (740) 342-1180; Josh Rennicker
Turnkey Landfill (Waste Management of New Hampshire) 176 Rochester Neck Road, PO Box 7065 Rochester, NH 03839 (800) 963-4776; Ellen Bellio	Waste Management – Middleborough Sanitary Landfill 207 Plympton Street Middleborough, MA 02346 (508) 823-6570; Dave Pope

Waste Management – RCI Fitchburg Landfill 101 Fitchburg Road Westminster, MA 01473 (978) 874-0037; Frank Sepiol	Winchendon Landfill (W.L French Excavating Corp) 580 River Street Winchendon, MA 01475 (978) 600-2125; Jarrett Everton

* - Please note that if this facility is to be used, each bin letter will require an additional 10 day (or more) waiting period in addition to the 15 day lab period designated in the Specifications to allow for Pennsylvania Department of Environmental Protection (PADEP) review.

The above list contains treatment/recycle/disposal facilities which can accept the waste stream generated by the project in quantities that may be limited by their permits and their operations restrictions. It is the responsibility of the contractor to verify that a facility will be available and capable of handling the volume as well as the chemical and physical characteristics of material generated by the project.

Materials: The required materials shall conform to the requirements of the Contract.

Storage Bin Signage shall be 2 feet by 2 feet on white background, black letters with Project Number and Contractor Name. Signage shall be affixed to the Concrete Bin Blocks.

Plastic Sheet: Polyethylene plastic sheeting for underlayment shall be at least 30 mil thick. Polyethylene plastic sheeting for covering excavated material shall be a thickness of 10 mil. Both shall be at least 10 feet wide.

Sand Bags: Sandbags used to secure polyethylene covers shall be at least 30 pounds

Hay Bales shall be made of hay with 40 lb. minimum weight and 120 lb. maximum weight held together by twine or wire.

Construction Methods:

A. RSA Management

The Contractor will be assigned a bin storage unit or a stockpile area at the RSA located at exit 43 off I-395 at Attawaugan Crossing Road in Killingly. The Contractor shall provide all necessary materials, equipment, tools and labor for anticipated activities within the RSA. Such activities include, but are not limited to handling, covering and maintaining the material at the designated storage unit or stockpile area, management of sampled material, and transportation to the selected disposal facility. The Contractor shall manage all materials in the RSA in such a way as to minimize tracking of potential contaminated materials across the site and off site and minimize dust generation.

Following the removal of all stockpiled controlled materials, residuals shall be removed from surrounding surfaces of the RSA as directed by the Engineer. This operation shall be accomplished using dry methods such as shovels, brooms, mechanical sweepers or a

combination thereof. Residuals shall be collected, controlled and disposed of as Controlled Materials.

B. Material Disposal

The Engineer will sample the RSA materials at a frequency established by the selected treatment/recycling/disposal facilities. The Contractor shall designate to the Engineer which facility(ies) it intends to use, as well as the facility acceptance criteria and sampling frequency, prior to samples being taken. The Contractor is hereby notified that the laboratory turnaround time is expected to be fifteen (15) working days. Turnaround time is the period beginning when the Contractor notifies the Engineer which facility it intends to use and that the RSA material is ready for sampling and ending with the Contractor's receipt of the laboratory analytical results. Any change of intended treatment/recycling/disposal facility may prompt the need to resample and will therefore restart the time required for laboratory turnaround. The laboratory will furnish such results to the Engineer. Upon receipt, the Engineer will make available to the Contractor the results of the final waste characterization determinations. **No delay claim will be considered based upon the Contractor's failure to accommodate the laboratory turnaround time as identified above.**

It is solely the Contractor's responsibility to coordinate the disposal of Controlled Materials with its selected treatment/recycling/disposal facility(ies). The Contractor shall obtain and complete **all paperwork** necessary to arrange for material disposal (e.g., disposal facility waste profile sheets, Qualified Environmental Professional (QEP) certifications/letters, checklists, manifests/shipping papers/bills of lading, and/or any other supporting documentation, etc.). The Contractor shall retain the services of a QEP (i.e., CT Licensed Environmental Professional (LEP), MA Licensed Site Professional (LSP), Certified Hazardous Materials Manager (CHMM), etc.), as necessary, to facilitate the completion of such documents as required by the Contractor's selected disposal facility. Prior to submission to the receiving facility, the Contractor shall provide all disposal documents to the Engineer for review and Generator signature(s), as applicable.

Upon receipt of the final approval from the facility, the Contractor shall arrange for the loading, transport and treatment/recycling/disposal of the materials in accordance with all applicable Federal and State regulations. **No claim will be considered based on the failure of the Contractor's selected disposal facility(ies) to meet the Contractor's production rate or for the Contractor's failure to select sufficient facilities to meet its production rate.**

Any material processing (including but not limited to the removal of woody debris, scrap metal, pressure-treated and untreated wood timber, large stone, concrete, polyethylene sheeting or similar material) required by the Contractor's selected facility will be completed by the Contractor prior to the material leaving the site. It is solely the Contractor's responsibility to meet any such requirements of its facility. Any materials removed shall be disposed of or recycled in a manner acceptable to the Engineer at no additional cost.

All manifests or bills of lading utilized to accompany the transportation of the material shall be prepared by the Contractor and signed by an authorized Department representative, as Generator, for each truckload of material that leaves the site. The Contractor shall forward the appropriate original copies of all manifests or bills of lading to the Engineer the same day the material leaves the Project.

A load-specific certificate of treatment/recycling/disposal, signed by the authorized agent representing the disposal facility, shall be obtained by the Contractor and promptly delivered to the Engineer for each load.

C. Material Transportation

In addition to all pertinent Federal, State and local laws or regulatory agency polices, the Contractor shall adhere to the following precautions during the transport of controlled materials off-site:

1. Transported controlled materials are to be covered sufficiently prior to leaving the site to prevent the loss of material during transport. Controlled materials must remain covered until the arrival at the selected treatment/recycling/disposal facility.

2. All vehicles departing from the site are to be properly logged to show the vehicle identification, driver's name, time of departure, destination, approximate volume, and contents of materials carried.

3. No materials shall leave the site unless a treatment/recycling/disposal facility is willing to accept all the material being transported and has agreed to accept the type and quantity of waste.

D. Equipment Decontamination

All equipment shall be provided to the work site free of gross contamination. The Engineer may prohibit from the site any equipment that in their opinion has not been thoroughly decontaminated prior to arrival. Any decontamination of the Contractor's equipment prior to arrival at the site shall be at the expense of the Contractor. The Contractor is prohibited from decontaminating equipment on the Project site that has not been thoroughly decontaminated prior to arrival.

The Contractor shall furnish labor, materials, tools and equipment for decontamination of all equipment and supplies that are used to handle Controlled Materials. Decontamination shall be conducted at an area designated by the Engineer and shall be required prior to equipment and supplies leaving the Project and between stages of the work.

The Contractor shall use dry decontamination procedures. Residuals from dry decontamination activities shall be collected and managed as Controlled Materials. If the results from dry methods

are unsatisfactory to the Engineer, the Contractor shall modify decontamination procedures as required.

The Contractor shall be responsible for the collection and treatment/recycling/disposal of any liquid wastes that may be generated by its decontamination activities in accordance with applicable regulations.

Method of Measurement:

The work of "Disposal of Controlled Materials" will be measured for payment as the actual net weight in tons of material delivered to the treatment/recycling/disposal facility from the RSA. Such determinations shall be made by measuring each hauling vehicle on the certified permanent scales at the treatment/recycling/disposal facility. Total weight will be the summation of weight bills issued by the facility specific to this Project. Excess excavations made by the Contractor beyond the payment limits specified in Specification Sections 2.02, 2.03, 2.06, 2.86, or the Contract Special Provisions (as appropriate) will not be measured for payment and the Contractor assumes responsibility for all costs associated with the appropriate handling, management and disposal of this material.

The disposal of excavated materials, originally anticipated to be controlled materials, but determined by characterization sampling not to contain concentrations of regulated chemicals (non-polluted or "clean" materials) will not be measured for payment under this item but will be considered as surplus excavated materials and will be paid in accordance with Article 1.04.05.

Equipment decontamination, the collection of residuals, and the collection and disposal of liquids generated during equipment decontamination activities will not be measured separately for payment.

Any material processing required by the Contractor-selected disposal facility, including the proper disposal of all removed materials other than creosote treated wood, will not be measured for payment.

Basis of Payment:

This work will be paid for at the Contract unit price, which shall include all the intermediate handling steps, stockpiling the Controlled Materials at the RSA, securing and maintaining the individual stockpiles or storage bins at the RSA throughout the duration of the project; and all tools, equipment, materials and labor incidental to this work. This item shall also include preparation of **all related waste profile and shipping paperwork**, the loading and transportation of Controlled Materials from the stockpiles to the treatment/recycling/disposal facility; the fees paid to the facility for treatment/recycling/disposal; the preparation of all related paperwork; and all equipment, materials, tools, and labor incidental to this work.

This unit price will be applicable to all of the listed disposal facilities and will not change for the duration of the Project. Nothing herein shall prevent changes as outlined in Article 1.04.02.

This price shall also include equipment decontamination; the collection of residuals generated during decontamination and placement of such material in the stockpiles or storage bins; and the collection and disposal of liquids generated during equipment decontamination activities.

Pay Item	Pay Unit
Disposal of Controlled Materials	Ton

ITEM #0202449A – REMOVE TEMPORARY FILL AREA

Work under this item shall conform to the requirements of Section 2.02 amended as follows:

2.02.01 - Description: *Add the following paragraph*:

Temporary Fill shall include all materials placed for the temporary utility pole pad and the temporary crane pad, as indicated on the plans.

2.02.04 – Method of Measurement: *Add the following paragraph*:

Payment lines for Remove Temporary Fill Area shall be those shown on the plans or as directed by the Engineer. The actual volume of material removed between the payment lines shall be calculated by the Engineer.

2.02.05 – Basis of Payment: *Add the following paragraph*:

This work will be paid for at the contract unit price, per cubic yard, for "Remove Temporary Fill Area" which price shall also include the removal and proper disposal of all materials and the dewatering of the excavation.

Pay Item	Pay Unit
Remove Temporary Fill Area	c.y.

ITEM #0204151A - HANDLING WATER

Description: Work under this item shall consist of designing, furnishing, installing, maintaining, and removing of a temporary water handling system. This may include water-handling-cofferdams, bypass pipes, bypass pumps/hoses, temporary energy dissipation, sump pumps, drainage channels, water handling for ancillary drainage, and dewatering.

A temporary water handling system redirects water beyond, through, or around the limits of construction to allow work to be done in the dry.

Materials: The materials required for this work shall be as shown on the plans, on the accepted Contractor's Working Drawing submittal, or as ordered by the Engineer.

Construction Methods: The Contractor shall prepare and submit written procedures for handling water. Working Drawings, in accordance with Article 1.05.02, shall also be prepared and submitted.

The Contractor shall consider stream conditions, water elevations, expected weather, and risks associated with the Site to determine the type of temporary water handling system required to redirect water away from work being performed. The system shall be designed to comply with the Temporary Hydraulic Table in the Contract plans and be compatible with the stage of construction and Maintenance and Protection of Traffic scheme, as indicated in the Contract, and shall conform to Section 1.10.

The Contractor shall be responsible to maintain and repair the water handling system throughout the duration of the Contract. If the system becomes damaged, displaced, or not functioning properly due to construction activities, stream conditions or storm events, the Contractor shall be responsible to remediate the system back to working order per plan or as required at the direction of the Engineer.

Unless otherwise directed by the Engineer, all temporary water handling system components shall be removed in an acceptable manner when no longer required.

Bypass Pumping:

The bypass pipe and pump system shall be designed by the Contractor to comply with the Temporary Hydraulic Table in the Contract plans.

When incorporating a bypass pump/hose system, the Contractor shall provide a means to maintain continuous flow to the downstream channel to protect resources, unless otherwise noted in the Contract plans or as accepted by the Engineer. The Contractor shall provide for both maintaining continuous flow and accommodating temporary design flows using appropriate pump size for each case, valving, metering, or adjusting the flow during construction.

A pump screen shall be provided on the intake with maximum 0.5 inch diameter openings.

Method of Measurement: The work under this item, being paid on a lump sum basis, will not be measured for payment.

Basis of Payment: This work will be paid for at the Contract lump sum price for "Handling Water" completed and accepted, which price shall include designing (including submittals and

Working Drawings), furnishing, installing, maintaining, and removing of all temporary water handling system components as are necessary for completion of the work. This price shall include all materials, equipment, tools, labor and work incidental thereto.

A schedule of values for payment shall be submitted to the Engineer for review and comment.

Pay Item	Pay Unit
Handling Water	l.s.

ITEM #0210821A—WATER POLLUTION CONTROL

Description: This work shall consist of measures to control water pollution and soil erosion which become necessary for the completion of the work, but for which no item is provided in the Contract. Such measures include:

- temporary check dams, water bars, berms, dikes, dams
- temporary sediment traps
- pump settling basins
- silt fence
- inlet protection
- hay bales
- erosion control matting
- fiber rolls, coir rolls, wattles
- gravel, stone, riprap
- mulch
- permanent or temporary seeding
- slope drains, ditches, channels, temporary drainage measures
- dust control
- topsoil
- other erosion control materials, devices, or methods

If a situation arises that requires immediate deployment of water pollution control measures, the Engineer will direct the Contractor to use this item to prosecute the work.

If the Contractor proposes changes in construction methods or staging which would affect the as designed pollution controls, plans for revised pollution controls shall be submitted for the Engineer's approval prior to start of work.

Materials: The materials shall meet the pertinent articles of the Standard Specifications. The Contractor shall submit Product Data for the materials.

Construction Methods: The Engineer has the authority to control the surface area of earth material exposed by construction operations and to direct the Contractor to immediately provide permanent or temporary pollution control measures to protect watercourses, wetlands, or other natural resources. Every effort shall be made by the Contractor to prevent erosion on the Site and prevent runoff onto abutting property.

All disturbed areas shall be permanently or temporarily stabilized by mulching, seeding or other methods as the work progresses to comply with the intent of this specification.

All damaged slopes shall be repaired as soon as possible. The Engineer will limit the surface area of earth material exposed if the Contractor fails to sufficiently protect the slopes.

The Contractor shall always have on hand the necessary materials and equipment to provide for slope stabilization and corrective measures to damaged slopes.

Temporary channels, ditches, water bars and outfalls shall be protected prior to directing water into them.

The erosion control features installed by the Contractor shall be maintained by the Contractor, and such installations shall be removed if ordered by the Engineer. Maintenance of erosion control measures by the Contractor shall include the clean out of accumulated sediment.

Method of Measurement: The work and materials required for Water Pollution Control measures will be measured for payment as provided for under 1.09.04 - Extra and Cost-Plus Work.

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

Basis of Payment: Work will be paid for as provided under 1.09.04 - Extra and Cost-Plus Work.

Control measures that are made necessary by the Contractor's failure to install and maintain controls as a part of the work as scheduled or ordered by the Engineer shall be performed by the Contractor at its own expense.

Control work at off-Site areas selected by the Contractor shall be the responsibility of the Contractor.

Pay Item	Pay Unit
Water Pollution Control	est

ITEM #0406312A – GUTTER LINE SEALING FOR BRIDGES

Description: This work shall consist of applying hot-applied asphalt crack sealant along the gutter line of bridges after paving to seal the joint between the bituminous concrete overlay and parapet, curb, or barrier at the locations and to the limits shown on the Plans.

Materials:

1. Crack Seal: The crack seal material shall be composed of a hot-applied asphalt meeting ASTM D6690 Type II requirements.

   Prior to the start of work, the Contractor shall submit a Materials Certification (MC) in accordance with Article 1.06.07 certifying the joint seal material meets these requirements. The Contractor must submit to the Engineer all Safety Data Sheets (SDS) from the material manufacturer prior to the commencement of work.

2. Blotting Agent – Detackifier: This material shall be a fine-graded granular material with 100% aggregate passing the 3/16-inch sieve and no more than 5% passing the #200 sieve when tested in accordance with AASHTO T 27 and T 11.

   The material shall be as recommended by the supplier of the crack sealant and shall be used as recommended by the supplier, except that no paper, cotton, or other organic materials will be allowed. Product Data shall be submitted to the Engineer for review in accordance with Article 1.05.02.

Construction Methods: The sealing operation shall proceed in accordance with the requirements of the "Maintenance and Protection of Traffic" and "Prosecution and Progress" specifications.

1. Equipment: The equipment used by the Contractor shall include the following:

   a. Melter Applicator: This shall consist of a boiler kettle equipped with pressure pump, hose, and applicator wand; the boiler kettle may be a combination melter and pressurized applicator of a double-boiler type with space between the inner and outer shells filled with heat transfer oil. Heat transfer oil shall have a flash point of not less than 600°F. The kettle shall include a temperature control indicator. The kettle shall be capable of maintaining the crack seal material at the manufacturer's specified application temperature range. The kettle shall include an insulated applicator hose and application wand. The hose shall be equipped with a shutoff control. The kettle shall include a mechanical full sweep agitator to provide continuous blending. Thermometers shall monitor the material temperature and the heating oil temperature. Thermostatic controls shall allow the operator to regulate material temperature up to at least 425°F.

   b. Application Wand and Squeegee Applicator: The material shall be applied with a wand followed by a squeegee applicator. The squeegee applicator shall be of

commercial/industrial quality and be designed with a configuration to properly strike off the sealant placed along the gutter line of the bridge, adjacent bituminous concrete overlay and parapet, curb, or barrier to the dimensions specified. It shall be of a size adequate to strike off, flush with the surrounding areas, all crack seal material placed. This tool shall be either attached to the applicator wand or be a separate long handled tool.

c. Hot Air Lance: This shall be designed for cleaning and drying the pavement edge along the curb parapet or barrier. Minimum compressed air capacity shall be 100 psi. The oil-free compressed air emitted from the tip of the lance shall be oil free and capable of achieving a temperature of at least 1500°F.

2. Weather Requirements: The pavement shall be dry without frost, snow, ice, or standing water on the roadway surface and within the areas to be sealed. The ambient temperature must be at least 40ºF and rising during application.

3. Material Mixing Procedure: The prepackaged material shall be added to the melter applicator in the presence of the Engineer. It shall then be mixed and heated to the recommended application temperature. The crack sealant shall never exceed 400°F. The treatment material shall be maintained at the manufacturer's specified/recommended application temperature range during application. The sealing operation shall be suspended if the temperature of the crack sealant falls outside the specified temperature range and shall remain suspended until the crack sealant is brought within the specified range.

4. Delineation of Areas to be Sealed: Prior to the sealing operation, the Contractor shall locate and mark out the start and end limits of the work. The sealing shall span the entire length of the structure and be done along each side of the bridge such that both gutter lines are completely sealed, as shown on the Plans. Sealing shall be performed after the surface lift of the bituminous concrete overlay is placed, at a time determined by the Engineer, not to exceed 4 weeks after final paving is completed. The sealing operation shall not damage or otherwise negatively impact the performance of any portion of the overlay, membrane waterproofing, bridge deck, joint, or other structural element.

Sealing Preparation: Areas to be sealed shall be treated with a hot air lance prior to application of the crack seal material. A minimum of two (2) passes shall be made. Within 10 minutes of the second hot air lance treatment the sealant shall be applied. The use of the hot air lance is not intended to heat the areas to be sealed. It is to be used to blow away all debris and remove any latent moisture from the areas to be sealed until the area is completely dry as determined by the Engineer. "Moisture" does not include standing water. The hot air lance is not to be used to boil off or blow standing water. If standing water is present, the sealing operation shall be postponed until such time that the standing water evaporates naturally. The Contractor may use compressed, oil-free air (not heated) to blow standing water to help accelerate the natural evaporation process. If standing water remains after using compressed air, the area shall be allowed to dry naturally until remaining standing water evaporates. The hot air lance shall be used after visible water has evaporated. If an area is already completely dry as determined by the Engineer, the hot air lance shall be operated at its lowest temperature possible.

The parapet, curb, or barrier face shall be masked off above the sealant line to ensure straight, clean, and neat lines are provided along the vertical surface and that crack seal material is placed within the dimensions specified below.

5. Sealing Operation: Once prepared, all specified areas shall be sealed along their entire length with the crack seal applicator. Crack seal shall be placed 2 inches up onto the parapet, curb, or barrier face and 4 to 6 inches onto the adjacent bituminous concrete overlay. There shall be no build-up of sealant material above or adjacent to the sealed areas beyond these limits. Sealed areas are to be flattened with the squeegee applicator immediately following application of the crack sealant, striking excess material flat and even with the adjacent surface(s). If the initial application of crack sealant fails to fill the area flush or shrinks upon cooling with a depression of 1/8 inch or greater, additional applications of sealant shall be placed where necessary. Care shall be taken during the sealing operation to ensure that overfilling and spilling of material is avoided.

6. Protection of Sealed Areas: Traffic shall not be permitted on the sealed area of pavement along the gutter line until the crack sealant is set, so that the material does not deform or track and be pulled out by tires. If work under this item is not followed by placement of an overlay of any kind, a detackifier or blotting agent shall be used. If the work under this item is being performed prior to placing a surface treatment (e.g., chip seal), a detackifier or blotting agent will not be allowed.

7. Removal and Disposal of Material: All debris generated from the operations described above shall be removed by the Contractor. Treatment material remaining in the Contractor's kettle at the end of the work shift shall be properly discarded. Treatment material shall not be re-heated for use in subsequent crack sealing applications unless permitted by the Engineer. All debris and surplus treatment material shall be properly disposed of in accordance with Article 1.10.03 and State of Connecticut regulations.

8. Acceptance of Work: When work is complete, an inspection shall be scheduled. The Engineer will note all deficiencies including areas exhibiting adhesion failure, cohesion failure, tracking of sealant material, locations of missing, incompletely or incorrectly constructed sealant, or other factors that show the work is not acceptable. Work identified by the Engineer as not acceptable shall be repaired at the Contractor's expense. The Contractor shall notify the Engineer upon completion of any corrective work performed.

Method of Measurement: This work will be measured by the total number of linear feet sealed, verified and accepted by the Engineer.

Basis of Payment: This work will be paid for at the Contract unit price per linear foot for "Gutter Line Sealing for Bridges" complete and accepted in place. The price shall include all submittals, materials, equipment, tools, and labor incidental thereto. No payment will be made to the Contractor prior to submittal of required documents.

Pay Item	Pay Unit
Gutter Line Sealing for Bridges	l.f.

ITEM #0406314A – 80 MIL PAVEMENT MARKING GROOVE 5" WIDE
ITEM #0406315A – 80 MIL PAVEMENT MARKING GROOVE 7" WIDE

Description:
Work under this item shall consist of grooving the pavement surface in continuous or intermittent intervals for the placement of recessed pavement markings. Unless otherwise noted, the groove shall be 1 inch wider than the anticipated pavement marking. The groove for double-yellow centerline markings shall consist of two grooves, each 5 inches wide.

Groove Width: 5 inches wide for 4-inch markings
7 inches wide for 6-inch markings

Groove Depth: 0.080 inches ± 0.010 inches

The groove shall not be installed continuously for intermittent (Dotted Lines and Broken Lane Lines) pavement markings, but only where markings are to be applied.

The groove shall not be installed on metal bridge decks, on bridge joints, at drainage structures, at loop detector sawcut locations, or in other areas identified by the Engineer.

Construction Methods:
Equipment:
The grooving equipment shall be equipped with a free-floating, depth-controlled head which provides a consistent groove depth over irregular pavement surfaces. The grooving head shall only be equipped with diamond saw blades. Any ridges in the bottom of the groove shall have a maximum height of 0.015 inches. The grooving equipment shall be capable of installing a groove 6 inches away from any vertical or horizontal obstruction.

Installation: The pavement marking groove shall be installed in accordance with the current CTDOT pavement marking standard drawings.

The Contractor shall establish control points for measuring offsets and pre-marks along the entire distance of pavement being grooved. Prior to installation of the groove, the Contractor shall verify that the equipment is capable of installing the correct width and spacing of the groove. The control points, pre-marks, and equipment will be reviewed by the Engineer prior to commencement of the work.

The groove will be considered defective if any edge of the groove varies more than 0.25 inch in a 10-foot length, or if the alignment of the groove visibly deviates from the normal alignment of the road.

Final Cleaning: The Contractor shall immediately collect all debris and dust resulting from the grooving operation by vacuuming the pavement groove and adjacent pavement surface. Collected debris and any waste material shall be properly disposed of by the Contractor.

The work area shall be returned to a debris-free state prior to re-opening to traffic.

Repair of Unacceptable Groove:
The Contractor shall repair any defective groove(s) to the satisfaction of the Engineer. All work in conjunction with this repair shall be performed at no additional cost to the State.

Pavement Marking Requirements:
The Contractor is required to install permanent pavement markings in the grooves before the lane or roadway is opened to live traffic. If the permanent pavement markings cannot be installed before the lane or roadway is opened to live traffic, the Contractor will need to obtain approval from the Engineer to open the lane or roadway. Liquidated Damages based on Limitation of Operations restrictions will be enforced. If approved by the Engineer, the Contractor will be allowed to open the lane or roadway to live traffic and the Contractor will be required to install temporary hot-applied waterborne pavement markings without glass beads, at their own expense, within 24 hours of opening the lane or roadway. Temporary hot-applied waterborne pavement markings shall be applied at a 5 mil thickness. Within 5 calendar days after the installation of the groove, permanent pavement markings shall be applied in the groove over the temporary hot-applied waterborne pavement markings.

Groove Depth Gauge:
The Contractor shall supply the Engineer with two accurate, easily readable gauges with which to verify groove depth for the duration of the Project. The gauges shall be delivered at least one week prior to the anticipated beginning of grooving operations. Gauges shall be accompanied by the manufacturer's instructions for their use. The gauges will be returned to the Contractor at the conclusion of the Project.

Method of Measurement:
This work will be measured for payment by the number of linear feet of grooves installed in the pavement as ordered and accepted by the Engineer.

Basis of Payment:
This work will be paid for at the Contract unit price per linear foot of "Pavement Marking Groove" installed in the pavement and accepted. This price shall include cleaning of the pavement, all materials, equipment, tools, depth gauges, and labor incidental thereto, and disposal of any waste material resulting from the grooving operation.

Pay Item	Pay Unit
80 Mil Pavement Marking Groove 5" Wide	l.f.
80 Mil Pavement Marking Groove 7" Wide	l.f.

ITEM #0406999A - ASPHALT ADJUSTMENT COST

Description: The Asphalt Adjustment Cost will be based on the variance in price for the performance-graded binder component of the following:

I. Hot Mix Asphalt (HMA) and Polymer Modified Asphalt (PMA),
II. Ultra-Thin Bonded HMA (UTB-HMA) and Ultra-Thin Bonded PMA (UTB-PMA),
III. Thin Friction Wearing Course (TFWC),
IV. Binder Rich Intermediate Courses (BRIC) and Stone Matrix Asphalt (SMA),
V. Balanced Mix Design (BMD), and
VI. Asphalt Rubber Chip Seal (ARCS) treatments completed and accepted during the Contract

The Asphalt Price is available on the Department of Transportation website at:
http://www.ct.gov/dot/asphaltadjustment

Construction Methods:

An asphalt adjustment will be applied only if all the following conditions are met per mixture:

I. For HMA, PMA, TFWC, BRIC, SMA, and BMD mixtures:
   a. The HMA, PMA, TFWC, BRIC, SMA, or BMD mixture for which the adjustment would be applied is listed as a Contract item with a pay unit of tons.
   b. ***The total quantity for all HMA, PMA, TFWC, BRIC, SMA, and BMD mixtures in the Contract or individual purchase order (Department of Administrative Service contract awards) exceeds 1000 tons or the Project duration is greater than 6 months.***
   c. The difference between the posted *Asphalt Base Price* and *Asphalt Period Price* varies by more than $5.00 per ton.

II. For UTB-HMA and UTB-PMA mixtures:
   a. The UTB-HMA or UTB-PMA mixture for which the adjustment would be applied is listed as a Contract item.
   b. ***The total quantity for the UTB-HMA or UTB-PMA mixture in the Contract exceeds:***
      i. 800 tons if the UTB-HMA or UTB-PMA item has a pay unit of tons,
      ii. 30,000 square yards if the UTB-HMA or UTB-PMA item has a pay unit of square yards, or
      iii. the Project duration is greater than 6 months.
      Note: The quantity of UTB-HMA or UTB-PMA measured in tons shall be determined from the material documentation requirements set forth in the UTB-HMA or UTB-PMA item specification.
   c. The difference between the posted *Asphalt Base Price* and *Asphalt Period Price* varies by more than $5.00 per ton.
   d. No Asphalt Adjustment Cost will be applied to the liquid emulsion that is specified as part of the UTB-HMA or UTB-PMA mixture system.

III. For Asphalt Rubber Chip Seal (ARCS) treatments:
   a. The ARCS treatment for which the adjustment would be applied is listed as a Contract item.

b. ***The total quantity for the ARCS treatment in the Contract exceeds 30,000 square yards or the Project duration is greater than 6 months.***

Note: The quantity of asphalt binder measured in tons used for the Asphalt Rubber Chip Seal treatment shall be determined from the material documentation requirements set forth in the ARCS item specification. The Asphalt Adjustment Cost will also be applied to the asphalt binder used to pre-coat the cover aggregate as part of the ARCS and will be considered as a portion of the total tons of binder for the treatment. The additional quantity of binder measured in tons will be determined based on a percentage of the cover aggregate weight per the requirements set forth in the ARCS item specification.

c. The difference between the posted *Asphalt Base Price* and *Asphalt Period Price* varies by more than $5.00 per ton.

Regardless of the binder used in all mixtures or treatments, the Asphalt Adjustment Cost will be based on PG 64-22.

The Connecticut Department of Transportation (CTDOT) will post on its website, the average per ton selling price (asphalt price) of the performance-graded binder. The average is based on the high and low selling price published in the most recent available issue of the **Asphalt Weekly Monitor®** furnished by Poten & Partners, Inc. under the "East Coast Market – New England, New Haven, Connecticut area," F.O.B. manufacturer's terminal.

The selling price furnished from the Asphalt Weekly Monitor ® is based on United States dollars per standard ton (US$/ST).

Method of Measurement:

A. **Formula A: HMA x [PG%/100] x [(*Period Price - Base Price*)] = $ ____**

Where:

- **HMA:**
  1. For HMA, PMA, UTB-HMA, UTB-PMA, TFWC, BRIC, SMA, and BMD mixtures with pay units of tons:
     The quantity in tons of accepted HMA, PMA, UTB-HMA, UTB-PMA, TFWC, BRIC, SMA, or BMD mixture measured and accepted for payment.
  2. For UTB-HMA and UTB-PMA mixtures with pay units of square yards:
     The quantity of UTB-HMA and UTB-PMA mixture delivered, placed, and accepted for payment, calculated in tons as reported according to the Material Documentation provision of the UTB-HMA and UTB-PMA specification.
- ***Asphalt Base Price***: The asphalt price posted on the CTDOT website 28 days before the actual bid opening posted.
- ***Asphalt Period Price***: The asphalt price posted on the CTDOT website during the period the HMA, PMA, UTB-HMA, UTB-PMA, TFWC, BRIC, SMA, or BMD mixture was placed.
- **PG%** (Performance-Graded Binder percentage):
  1. For HMA or PMA mixes:
     - PG% = 4.5 for HMA S1 and PMA S1

- PG% = 5.0 for HMA S0.5 and PMA S0.5
- PG% = 6.0 for HMA S0.375, PMA S0.375, HMA S0.25 and PMA S0.25

2. For UTB-HMA, UTB-PMA, TFWC, BRIC, SMA, and BMD mixes:
   - PG% = Design % PGB (Performance Graded Binder) in the approved job mix formula, expressed as a percentage to the tenth place (e.g. 5.1%)

B. For Asphalt Rubber Chip Seal:

Formula B: Total Tons x [(*Period Price - Base Price*)] = $ ____

Where:

- ***Total tons:*** The tons of asphalt binder for each lot of asphalt rubber produced, as reported according to the Testing and Certification article of the specification for Asphalt Rubber Chip Seal, and the tonnage of binder used to coat the cover aggregate calculated as follows: 0.6% x tons of cover aggregate.
- ***Asphalt Base Price***: The asphalt price posted on the CTDOT website 28 days before the actual bid opening posted.
- ***Asphalt Period Price***: The asphalt price posted on the CTDOT website during the period the Asphalt Rubber Chip Seal mixture was placed.

The Asphalt Adjustment Cost shall not be considered as a changed condition in the Contract as result of this provision since all bidders are notified before submission of bids.

Basis of Payment: The "Asphalt Adjustment Cost" will be calculated using the applicable formula(s) indicated above. A payment will be made for an increase in costs. A deduction from monies due the Contractor will be made for a decrease in costs.

The sum of money shown on the Estimate and in the itemized proposal as "Estimated Cost" for this item will be considered the bid price although the adjustment will be made as described above. The estimated cost figure is not to be altered in any manner by the bidder. If the bidder should alter the amount shown, the altered figure will be disregarded and the original cost figure will be used to determine the amount of the bid for the Contract.

Pay Item	Pay Unit
Asphalt Adjustment Cost	est.

ITEM #0514719A - PRECAST SUBSTRUCTURE ELEMENT

Work under this item shall conform to Section 5.14 Prefabricated Concrete Structural Components, as amended herein

5.14.01- Description *Add the following:*

Work under this item shall include all hardware, inserts, dowels for connections, grout splice couplers, leveling pads, non-shrink grout, reinforcing steel and joint material for the wingwalls and wingwall footings, as shown on the plans.

5.14.02-Materials: *Add the following after the first sentence:*

1. The concrete mix design for all precast elements shall be class PRC05062 and shall be submitted to the Engineer.

2. The reinforcement shall be hot-dip galvanized and shall conform to the requirements of Article M.06.01.

3. Non-shrink grout shall conform to Article M.03.05.

4. All keys, bolts, lifting devices, attachments and miscellaneous hardware cast in to the precast component shall be hot-dip galvanized and shall conform to the requirements of Article M.06.02.

5. Backer Rod: All backer rods shall satisfy the requirements of ASTM D5249, Type 1.

6. The dowel bar grouted splice coupler system shall be hot-dip galvanized and shall conform to the requirements of Article M.06.02.

7. Leveling Methods: Precast elements shall be placed on leveling devices that are adjustable and can support the anticipated loads of the precast element. Leveling devices shall be shown on the working drawings.

8. Peel and Stick Membrane: Peel and stick membrane shall be submitted to the Engineer for approval.

5.14.04 - Method of Measurement: *This article shall be replaced in its entirety with the following:*

Precast Substructure Element: Precast Substructure Elements will be measured for payment by the number of cubic yards installed at the location indicated on the plans.

5.14.05 – Basis of Payment: *This article shall be replaced in its entirety with the following:*

Precast Substructure Element: This work will be paid for at the Contract unit price per cubic yard for "Precast Substructure Element" complete, in place, including all materials, equipment and tools and labor incidental thereto.

Pay Item	Pay Unit
Precast Substructure Element	c.y.

ITEM #0601139A - 12' X 8' PRECAST CONCRETE BOX CULVERT
ITEM #0601183A - PRECAST CONCRETE CUT-OFF WALL

Description: Work under this item consists of furnishing and installing a precast concrete box culvert(s) and precast concrete cutoff wall(s), including return walls, as shown on the plans and as ordered by the Engineer. This item also includes all hardware, inserts, dowels for connections, PVC pipe sleeves, reinforcing steel and joint materials as shown on the plans.

Materials:

- The concrete mix design shall meet the requirements of M.03.02, Class PRC05062, and shall be submitted to the Engineer.
- All reinforcing steel, including dowel bar mechanical connectors, shall be galvanized and shall meet the requirements of M.06.01.
- All PVC pipes shall meet the requirements of M.08.01-20 PVC and shall be schedule 40.
- All threaded concrete inserts, lifting fixtures, and miscellaneous hardware cast into precast concrete components shall be galvanized in accordance with ASTM A153 or ASTM B695 Grade 50. All portions of the lifting and seating devices shall be recessed from the finished concrete surface.
- Non-shrink grout shall meet the requirements of M.03.05 and be suitable for submerged applications.
- Gaskets shall meet the requirements of ASTM D1056, C1677 or C990.
- Geotextiles shall be the "Geotextile (Separation - Class 1)" type and shall be selected from the Department's Qualified Product List.

Construction Methods:

1. **Submittals:** All submittals shall include a title sheet with the following:
    - Project number, town and crossing.
    - Bridge number, when shown on the plans.
    - Design code, as applicable.
    - Contact information for fabricator – contact information shall include name and address of the fabricator and the name of contact person with phone number and email address.

    (a) Shop Drawings - Precast Concrete Components: Prior to fabrication, the Contractor shall submit an individually packaged set of shop drawings for the precast concrete components for each precast box culvert location to the Engineer for review, in accordance with the plans and 1.05.02. Each shop drawing package shall include details necessary for fabrication of each unique component, handling and installation of the precast concrete components, supporting documents for all materials incorporated into the precast concrete components and for other materials provided by the fabricator.

    (b) Working Drawings - Lifting and Seating Devices : Prior to fabrication, the Contractor shall submit working drawings and supporting computations for the embedded lifting and seating devices required for the handling and installation of the precast concrete components at each box culvert location to the Engineer for review in accordance with 1.05.02. Prior to applying load to the embedded devices, the concrete shall attain the

minimum concrete compressive strength associated with the safe working load of the device.

(c) Working Drawings - Installation of Precast Concrete Components: Prior to installation of the precast concrete components, the Contractor shall submit working drawings and supporting computations for the lifting and placement of the precast concrete components, to the Engineer for review in accordance with 1.05.02. Cranes shall be operated in accordance with the Connecticut Department of Public Safety regulations. The Contractor shall be responsible for verifying the weight of each lift. The working drawing submittal shall include, but not be limited to the following:

- Plan of the work area showing all structures, roads, railroad tracks, Federal and State regulated areas as depicted on the plans, overhead and subsurface utilities, property lines, or any other information relative to erection. No picks shall be allowed over vehicular, pedestrian, railway or vessel traffic.
- A detailed narrative describing the lifting and installation sequence.
- Manufacture's data sheet for the crane(s) including the load/capacity chart. The capacity of the crane shall be adequate for the total lift/pick load including rigging, spreaders and other materials. In the area of railroads and navigable waterways, the capacity shall be as required by the regulatory authorities.
- Manufacturer's data sheets and product data sheets for all rigging (slings, spreader bars, blocks, etc.), lifting devices, and other connecting equipment and hardware listing the number, type, size, arrangement and capacity of each.
- Location of each crane for each pick.
- Crane support measures, including any support beneath the outriggers such as bearing pads, crane mats, planking or special decking, or other means to transfer the crane's total weight (including the lifted load) into the earth or structure beneath it.
- Delivery location of each component.
- Boom length and the lift and setting radius for each pick (or maximum lift radius).
- Pick point location(s) on each component.
- Lifting weight of each component including rigging (clamps, spreader beams, etc.)

(d) Product Data – Field Installed Materials: Prior to installation of the precast concrete components, the Contractor shall submit product data for field installed materials, such as non-shrink grout, geotextile, etc., not addressed in other submissions to the Engineer for review in accordance with 1.05.02.

2. Fabrication and Manufacture: The fabrication and manufacture of the precast concrete components shall meet the requirements of M.08.02-4 as supplemented by the following:

(a) Reinforcing Steel: Reinforcing steel shall be fabricated and installed in accordance with Subarticles 6.02.03-2 through 6.02.03-5. The welding of reinforcement is not permitted.

(b) Test Cylinders: During the casting of the components, the Contractor shall cast a minimum of four 4 inch × 6 inch test cylinders in accordance with AASHTO T23 during each production run. Cylinders shall be cured under the requirements of ASTM C31 and shall be used to confirm that the concrete meets the requirements of M.03.02.

(c) Placing Concrete: Concrete shall not be deposited in the forms until the Contractor has inspected the reinforcing steel, including all other embedded components, and has documented such inspection.

Concrete shall not be deposited into the forms when the ambient temperature is below 40°F or above 100°F, unless adequate heating or cooling procedures have been previously approved by the Engineer. The concrete temperature shall be 60°F to 90°F at the time of placement.

Truck-mixed or transit-mixed concrete will not be allowed.

Production during the winter season, from November 15 to March 15 inclusive, will be permitted only on beds located in a completely enclosed structure of suitable size and dimension that provides a controlled atmosphere for the protection of the casting operation and the product.

Outside concreting operations will not be permitted during rainfall unless the operation is completely under cover.

The concrete shall be vibrated internally, or externally, or both, as needed to provide adequate flow and consolidation of the concrete. The vibration shall be provided in such a manner as to avoid displacement of reinforcing steel, forms, or other components. There shall be no interruption in the placement of concrete. Concrete shall be placed and vibrated sufficiently to produce a surface free from imperfections such as honeycombing, segregation, cracking, or checking.

Any deficiencies noted in the components may be cause for rejection.

(d) Finishing: All fins, runs, or mortar shall be removed from the concrete surfaces which will remain exposed. Form marks on exposed surfaces shall be smoothed by grinding. All exposed, outside concrete surfaces shall be given a grout clean-down finish in accordance with 6.01.03-10.

(e) Handling and Storage: Any precast concrete components damaged during storage, transportation or handling shall be repaired or replaced by the Contractor, at its own expense, as directed by the Engineer.

(f) Repairs: The Contractor shall submit to the Engineer, for review, any proposed methods or materials to be used in the repair of precast concrete components or defective surfaces. Precast concrete components with defective area greater than 10% as determined by the Engineer will be rejected.

3. Fabrication Tolerances: Tolerances of forming precast concrete box sections shall be as follows:

(a) Internal Dimensions: The internal dimensions shall be within 1% of the design dimensions or within 1 1/2 inches, whichever is less.

(b) Roof, Floor and Wall Thickness: The roof, floor and wall thickness shall be within 1/4 inch of the thicknesses shown in the design.

(c) Laying Length of Opposite Surfaces: Variations in laying lengths of two opposite surfaces of the box section shall be less than 1/8 inch/foot of internal span up to 3/4 inch maximum.

(d) Length of Section: The length of a section shall not vary from the designed length by more than 1/2 inch in any box section.

4. Pre-assembly of Box Sections: Box sections shall conform to all dimensions within tolerances specified herein. Adjacent sections shall be assembled without a gasket at the manufacturing plant to ensure that all tolerances are met prior to shipping. All sections that will be joined with mechanical connectors shall be pre-assembled, complete with fasteners, to confirm alignment. The Department shall be given at least 2 working days' notice to inspect and evaluate the sections prior to shipping.

5. Installation: The installation of the precast concrete box sections and components shall be in accordance with the plans and the following:

(a) The installation of the precast concrete box sections shall proceed as required by the sequence of construction, stage construction plans, and the special provisions entitled "Prosecution and Progress" and "Maintenance and Protection of Traffic."

(b) Prior to installing the inlet and outlet end box culvert sections, a bed of non-shrink grout shall be placed on the cut-off walls. The end box culvert sections shall be connected to the cut-off wall using galvanized dowels installed in cast or drilled holes and bonded with non-shrink grout.

(c) All box culvert lap joints shall be sealed with rubber gaskets and must provide a silt-tight fit. A positive means, through the use of seating devices, shall be used for pulling each section against the adjacent section to assure a silt-tight joint. The gasket shall be uniformly compressed to a minimum of 1/2 of its uncompressed width. The joint opening between adjacent seated sections on all interior surfaces of the culvert shall be uniform and match the width shown on the plans. The interior surfaces on either side of the lap joints of the adjacent seated sections shall form a smooth and continuous plane, free from irregularities.

(d) After its installation, any box section, as determined by the Engineer, not acceptable in vertical or horizontal alignment for any reason, including but not limited to settlement, displacement, excess camber or misfit, shall be removed by the Contractor and correctly installed, as directed by the Engineer and at the Contractor's expense.

(e) The lap joints on the exterior of the roof and the interior of the floor and the lap joints on the interior and exterior of the walls (full height on each side) shall be filled with non-shrink grout after seating the sections. The exposed portions of the lap joints within the haunches or fillets on the interior of the culvert sections shall also be filled with non-shrink grout. The non-shrink grout shall be finished smooth and flush with the adjacent concrete surface.

All portions of the lifting and seating devices that extend to or beyond the finished concrete surface shall be removed. All fixtures or holes cast into the sections for lifting or seating shall be completely filled with non-shrink grout and finished smooth and flush with the adjacent concrete surface.

The surface preparation, mixing, placing, curing, and finishing of the non-shrink grout shall follow the written instructions provided by the manufacturer of the grout. The Contractor shall furnish the Engineer with copies of the instructions.

Prior to the passage of flowing water over the with non-shrink grout, the non-shrink grout shall attain a minimum compressive strength of 3,000 psi.

(f) Geotextile shall be placed on the exterior surface of the roof and walls of the culvert over the lap joints between the culvert sections. The geotextile shall extend 12 inches to each side of the joint and shall be attached to the culvert with silicone caulk.

6. **Erection Tolerances:** The Contractor shall be responsible for ensuring the overall length of the box culvert meets the layout requirements on the plans within all acceptable tolerances as specified in the contract.

Method of Measurement: The work for the precast concrete box culvert will not be measured for payment but will be paid for by the linear foot of precast concrete box culvert as dimensioned on the plans along each box culvert cell, completed and accepted.

The work for the precast concrete cut-off wall, including return walls, will not be measured for payment but will be paid for by the linear foot of precast concrete cut-off wall dimensioned on the plans along the centerline of monolithic component, completed and accepted.

Basis of Payment: The work for the precast concrete box culvert will be paid for at the Contract unit price per linear foot for "12'x8' Precast Concrete Box Culvert," completed in place and accepted, which price shall include all equipment, materials, tools and labor incidental to the manufacture, shipping, repair and installation of the precast concrete box culvert of the specified size(s) at the locations shown on the plans.

The work for the precast concrete cut-off wall will be paid for at the Contract unit price each for "Precast Concrete Cut-Off Wall", completed in place and accepted, which price shall include all equipment, materials, tools and labor incidental to the manufacture, shipping, repair and installation of the precast concrete components at the locations shown on the plans.

Pay Item	Pay Unit
12'X 8' Precast Concrete Box Culvert	l.f.
Precast Concrete Cut-off Wall	l.f.

ITEM #0603768A – STRUCTURAL STEEL

Work under this item shall conform to Section 6.03 Structural Steel, as amended herein

6.03.01- Description *Add the following:*

Work under this item shall consist of fabricating, furnishing, transporting, storing, handling and installing structural steel onto the proposed culvert as indicated on the plans. The type and size of steel shall be as designated on the plans, as directed by the Engineer and in accordance with these specifications.

Work under this item also includes furnishing and installing all high strength bolting hardware (bolts, nuts, washers) as required for the utility support.

Work under this item also includes furnishing and installing all utility roller support hardware (U-bolts, bolts, nuts, washers) as required for the utility support.

6.03.02-Materials: *Add the following after the first sentence:*

1. Structural steel for utility supports shall conform to the requirements of AASHTO M270 (ASTM A709), Grade 50. All new structural steel shall be hot dip galvanized in accordance with ASTM A123 or ASTM A153, as applicable. Repairs to damaged areas of the hot-dip galvanized coatings shall conform to the requirements of ASTM A780

2. Utility roller supports, U-bolts and threaded rods shall conform to ASTM A449. The nuts shall conform to ASTM A563, Grade DH. The washers shall conform to ASTM F436. The bolts, nuts and washers shall be galvanized in accordance with ASTM A153 or ASTM B695, Grade 50

6.14.04 - Method of Measurement: *This article shall be replaced in its entirety with the following:*

The weight of the structural steel to be measured for payment under this item shall be computed on the basis of the net finished dimensions of the steel members based on field measurements of the new steel by the Engineer, deducting for copes and cuts. Holes required for bolting materials will not be deducted from the weight calculations.

The weight of permanent bolting materials and temporary erection bolts, shop and field paint, boxes, crates, and other containers used for shipping, and materials used for supporting members during transportation and erection, shall not be measured for payment.

The weight of plate washers, and roller supports shall be measured for payment

The weight of bolts and hardware designated for removal shall not be measured for payment.

The weight of bolting hardware (bolts, nuts, washers) shall not be measured for payment.

5.14.05 – Basis of Payment: *This article shall be replaced in its entirety with the following:*

Precast Substructure Element: The structural steel, incorporated in the completed and accepted structure, will be paid for at the contract unit price per pound for "Structural Steel."

Pay Item	Pay Unit
Structural Steel	lb.

ITEM #0707009A - MEMBRANE WATERPROOFING (COLD LIQUID ELASTOMERIC)

Description: Work under this item consists of furnishing and installing a seamless elastomeric waterproofing membrane system applied to a concrete or steel surface as shown on the plans, and as directed by the Engineer. Work shall also include conditioning of the surface to be coated, and all submittals and quality-control testing noted herein.

The completed membrane system shall be comprised of a primer coat, reinforcing material as specified or directed, membrane coating (minimum total thickness of 80 mil and maximum total thickness not to exceed 120 mil), an additional 40 mil membrane layer with aggregate broadcast into the material while still wet, and an application of tack coat.

Materials: The Contractor shall select a waterproofing membrane system from the Department's Qualified Products List (QPL) for Spray-Applied Membrane Waterproofing System. All materials incorporated in the work shall meet the Manufacturer's specification for the chosen system. A Manufacturer is the original source of supply as defined in Article 1.06.01 of CTDOT's Standard Specifications. The Engineer will reject any system that is not on the QPL.

Reinforcing material (to bridge gaps, joints and cracks) shall be as recommended by the manufacturer.

Aggregate: The aggregate shall be a nonfriable, durable #8 aggregate stone with no more than one-half percent (0.5%) passing the #200 sieve by weight.

Concrete Deck Repair Material: Depressions greater than ½ inch that are required to be filled before application of the membrane shall be repaired with a neat repair mortar as approved by the Engineer. If the repair includes engagement of reinforcing steel, the repair shall be performed under separate, appropriate Contract items.

Construction Methods:

1. Submittals:
   Prior to submission, the Contractor shall ensure that the Manufacturer and Supplier are fully informed regarding any site constraints or specific structural materials on which the membrane system is to be installed on.
   At least 30 days prior to installation of the membrane system, the Contractor shall submit to the Engineer the following:
   (a) A Site-specific Installation Plan that includes, but is not limited to, the manufacturer's recommended equipment, materials and procedure for:
      1) Authorization by Manufacturer of applicator
      2) Safety precautions, SDS documents
      3) On site storage of material
      4) preparation of the deck surface and recommended surface moisture content at time of priming, including the manufacturer's recommendation for primer based on substrate material or environmental conditions

5) Pre-treatment or preparation procedure at cracks and gaps, treatment at curbs, vertical surfaces or discontinuities
6) Overspray protections (masking and shielding)
7) Method and equipment for taking/calculating onsite temperatures and dewpoint temperatures as well as listing of acceptable temperature and dewpoint ranges for application of primer and/or membrane
8) Method and equipment for application of the primer and membrane
9) Treatment of already primed areas when delays occur; include allowable time frame for covering already placed primer or treatment if the primed surface is compromised
10) Treatment at overlap areas
11) Method for placement of the aggregated coat
12) All Quality Control (QC Plan) tests and procedures to be performed prior to and during the membrane system's installation
13) Recommended repair methods for system non-compliant issues identified during application

(b) Materials Certificate for the primer, membrane and aggregate in accordance with the requirements of Article 1.06.07.
(c) Concrete Mix Design: At least two weeks before installation, the Contractor shall submit the concrete mix design to the Engineer for acceptance. For RSCP material, NTPEP lab test data shall be submitted that demonstrates that the concrete mix matches the mix that was tested by NTPEP and meets the pre-qualification criteria in the QPL. This test data shall be submitted with a Materials Certificate and a Certified Test Report in accordance with Article 1.06.07.

Automated mechanical applicators will be considered for approval for use, provided there is a trial installation area to demonstrate that the required thickness can be consistently achieved. The Installation Plan shall identify and differentiate between areas using automated applicators and areas where hand application will be used, such as on vertical surfaces and at areas prior to installation of reinforcing material.

2. A technical representative, in the employ of the manufacturer, shall be present on-Site immediately prior to and during application of the membrane. The technical representative shall not be an employee of the installation contractor but is on Site solely to perform QC. The technical representative shall review environmental conditions for proper application, inspect and approve the surface prior to priming, provide guidance on the handling, mixing and addition of components, observe application of the primer and membrane. The technical representative is required to notify the Engineer immediately when conditions are not within acceptable parameters and any further installation will be analyzed by the Engineer under Article 1.06.04. The technical representative shall be qualified and shall perform all required QC testing and remain on the Project site until the membrane has fully cured.

   All QC testing, including verbal direction or observations at the time of installation, shall be recorded and submitted to the Engineer for inclusion in the Project records. The QC testing

data shall be received by the Department's Project personnel prior to any paving over the finished membrane, or within 24 hours following completion of any staged portion of the work.

3. Applicator Approval: The Contractor's membrane Applicator shall be fully trained and authorized by the membrane manufacturer and shall have successfully completed at least six spray membrane projects in the past two years. The Contractor shall furnish references from those projects, including names of contact persons and the names, addresses and phone numbers of persons who supervised the projects. This information shall be submitted to the Engineer prior to the submittal of the Installation Plan. The Engineer shall have sole authority to determine the adequacy and compliance of the submitted information. Inadequate proof of ability to perform the work will be grounds to reject proposed applicators.

4. Job Conditions:
   (a) Environmental Requirements: Air and substrate temperatures shall be between 40°F and 104°F and the substrate shall be above the dew point. Outside of this range, the Manufacturer shall be consulted.

   The Applicator shall be provided with adequate disposal facilities for nonhazardous waste generated during installation of the membrane system. The applicator shall follow safety instructions regarding respirators and safety equipment.

   Extra care shall be taken to prevent the introduction of moisture onto the area to be membraned including, but not limited to, locating water rest break areas/devices away from the works, prevent vehicles from accessing the prepared areas that may have AC units that drip water. If there is any potential for moisture to impact application, operations shall cease until conditions warrant proper adherence to specification requirements.

   (b) Safety Requirements: All open flames and spark producing equipment shall be removed from the work area prior to commencement of application.

   Personnel not involved in membrane application or inspection duties shall be kept out of the work area.

5. Delivery, Storage and Handling:
   (a) Packaging and Shipping: All components of the membrane system shall be delivered to the Site in the Manufacturer's packaging, clearly identified with the product type, lot and batch number, manufactured date and expiry or "Best-used-by Date."

   (b) Storage and Protection: The Applicator shall be provided with a storage area for all components. The area shall be cool, dry and out of direct sunlight and shall be in accordance with the Manufacturer's recommendations and relevant health and safety regulations.

Copies of Safety Data Sheets (SDS) for all components shall be kept on Site for review by the Engineer or other personnel.

(c) Shelf Life - Membrane Components: Packaging of all membrane components shall include a shelf-life date sealed by the Manufacturer. No membrane components whose original shelf life has expired shall be used.

6. Pre-application Meeting: A minimum one week prior to beginning any membrane waterproofing work, an on-site Pre-application meeting shall be scheduled to review all requirements of the approved Installation Plan. This meeting shall include representatives from the membrane system's Manufacturer and from the Installer as well as the Prime Contractor.

7. Surface Preparation:
   (a) Protection: The Contractor shall be responsible for the protection of equipment, adjacent areas, and affected pedestrians/traffic from over spray or other contamination. Permanent highway features adjacent to the work such as, but not limited to, curbs, parapets, sidewalks and bridge joints shall be masked prior to application of the materials.

   (b) Surface Preparation: Surfaces shall be free of oil, grease, curing compounds, loose particles, moss, algae, growth, laitance, friable matter, dirt, bituminous products, previous waterproofing materials or any material that will affect the proper bonding/adhesion of the membrane to the surface receiving the membrane application. If required, degreasing shall be done by detergent washing in accordance with ASTM D4258.

   Sharp peaks and discontinuities within the areas to be coated shall be ground smooth. Any peak greater than ¼ inch above the surface profile of the prepared substrate shall be ground to the surrounding elevation and voids and holes greater than ½" in the surface patched with appropriate material. The surface shall be abrasively cleaned, in accordance with ASTM D4259, to provide a sound substrate free from laitance and shall achieve a Concrete Surface Profile (CSP) as defined by the International Concrete Repair Institute (ICRI) of between 4 and 6. The QC representative shall have on their person and available for use by Department Engineers, a full CSP Chip Set to confirm concrete surface meets above profile requirement. Areas not falling within the noted range shall be re-addressed as needed.

   Steel components to receive membrane waterproofing shall be blast cleaned in accordance with the Society of Steel Protective Coatings' SSPC-SP6, Commercial Blast Cleaning, and shall be coated with the membrane waterproofing system within the same work shift.

8. Inspection and Testing: Prior to priming of the surface, the Engineer, the Applicator and Manufacturer's technical representative shall inspect and approve the prepared substrate.

(a) Random tests for deck moisture content shall be conducted on the substrate by the Contractor at the Site using a "Sovereign Portable Electronic Moisture Master Meter," "Tramex CMEXpertII Concrete Moisture Meter" or approved equal. The minimum frequency shall be one test per 1000 s.f. but not less than three tests per shift for each contiguous section worked on during that shift. Additional tests may be required if atmospheric conditions change and retesting of the substrate moisture content is warranted.

The membrane system shall not be installed on substrate with a moisture content greater than 6%, or at a moisture content above the amount recommended by the written submittal installation documentation from the system's Manufacturer.

(b) The ambient air temperature and dew point temperature readings shall be taken immediately prior to starting any primer or membrane application and continuously throughout the installation process. No primer or membrane application shall be allowed if the difference between the two is 5° deg or less, or is not within the recommended air and dew point temperature ranges noted in the submitted Installation Plan from the system's Manufacturer.

(c) Random tests for adequate tensile bond strength shall be conducted by the Contractor on the substrate using an adhesion tester in accordance with the requirements of ASTM D7234 for concrete substrate or ASTM D4541 for steel substrate. The minimum frequency shall be one test per 5,000 s.f. but not less than three adhesion tests per shift for each contiguous section worked on during that shift. The locations of the pull tests shall be at least a distance from each other equal to or greater than 1/3 of the width or length (whichever is greater) of the area being worked in that section. The location of the pull tests shall be located in accordance with ASTM D3665 or a statistically based procedure of stratified random sampling approved by the Engineer.

Adequate surface preparation will be indicated by tensile bond strengths of the substrate greater than or equal to 150 psi or failure in a concrete surface and greater than or equal to 300 psi for steel surfaces.

If the tensile bond strength is lower than the minimum specified, the Engineer may request additional substrate preparation.

(d) Grouted joints, materials that the membrane cannot bond to, and cracks or discontinuities that cannot be bridged over by the membrane material shall be covered by a reinforcing material recommended by the membrane system's Manufacturer prior to application of membrane layers as approved or directed by the Engineer.

9. Application:
   (a) The System shall be applied in the following distinct steps as follows:
      1) Substrate preparation,

2) Priming,
3) Reinforcing material application over grouted joints, cracks, etc., embedded in wet membrane bonding layer,
4) Membrane application,
5) Membrane with aggregate.

(b) Immediately prior to the application of any components of the System, the surface shall be adequately dry (see Section 8(a) of this specification) and any remaining dust or loose particles shall be removed using clean, dry, oil-free compressed air or industrial vacuum.

(c) Where the area to be treated is bound by a vertical surface (e.g. curb or wall), the membrane system shall be continued up the vertical, if shown on the plans or directed by the Engineer.

(d) The handling, mixing and addition of components shall be performed in a safe manner to achieve the desired results, in accordance with the Manufacturer's recommendations or as approved or directed by the Engineer. All components shall be used from its original packaging (barrels) or be discarded – no mixing of like materials from different batches shall be allowed.

(e) A neat finish with well-defined boundaries and straight edges shall be provided by the Applicator.

(f) Primer: The primer shall consist of one coat with an overall coverage rate of 125 to 175 s.f./gal unless otherwise recommended in the Manufacturer's written instructions.

All components shall be measured and mixed in accordance with the Manufacturer's recommendations.

The primer shall be spray applied using a single component spray system approved for use by the Manufacturer. If required by Site conditions and allowed by the manufacturer brush, squeegee or roller application will be allowed.

The primer shall be allowed to cure tack-free for a minimum of 30 minutes or as required by the Manufacturer's instructions, whichever time is greater, prior to application of the first lift of waterproofing membrane.

Porous concrete (brick) may require a second coat of primer should the first coat be absorbed.

Bond Strength: Random tests for adequate adhesion capacity shall be conducted on the primed substrate in accordance with the requirements of ASTM D7234 for concrete or ASTM D4541 for steel substrate. The minimum frequency shall be one test per 5,000 s.f. but not less than three adhesion tests per shift for each contiguous section worked on during that shift. The locations of the pull tests shall be at least a distance from each

other equal to or greater than 1/3 of the width or length (whichever is greater) of the area being worked in that section. The location of the pull tests shall be located in accordance with ASTM D3665 or a statistically based procedure of stratified random sampling approved by the Engineer.

Adequate adhesion will be indicated by tensile bond strengths of primer to the substrate greater than or equal to 150 psi or failure in a concrete surface and greater than or equal to 300 psi for steel surfaces.

Any primer not adequately applied shall be removed and new primer applied at the Contractor's expense, as directed by Engineer.

Delays to the membrane installation following installation of the primer may necessitate remedial measures. Re-application of the primer or any work required due to, but not limited to, precipitation, ambient or dew point temperatures falling out of allowable zone, materials dropped on the surface, shall be accomplished as outlined in the Installation Plan.

(g) Membrane and Reinforcing Material: Application of the membrane on the primed surface shall not commence until the primer is cured and adequate adhesion capacity achieved as described in Section 9(f) of this specification.

The waterproofing membrane shall consist of two equal 40 mil coats for a total dry film thickness of a minimum 80 mils but not to exceed 120 mils. successive coats shall be of a contrasting color to aid in Quality Assurance and inspection.

Hand sprayer application of a single layer at 80 mils may be allowed after demonstration on a test section of not less than 100 sq. feet, of the applicator's ability to meet specified tolerances has been reviewed and found acceptable to the Engineer.

Use of an automated mechanical applicator to achieve the required thicknesses in either one or two equal layers, may be allowed after demonstration on a test section of not less than 100 sq. feet, of the applicator's ability to meet specified tolerances has been reviewed and found acceptable to the Engineer.

Reinforcing material, if required, shall be applied as described in the Installation Plan.

The substrate shall be coated in a methodical manner.

Thickness checks: For each layer, checks for wet film thickness using a gauge pin or standard comb-type thickness gauge shall be carried out once every 100 s.f. Where rapid set time of the membrane does not allow for wet film thickness checks, ultrasonic testing (steel surfaces only), calibrated point-penetrating (destructive) testing, in-situ sampling (cutout of small sections for measuring thicknesses), or other methods approved by the Engineer shall be employed for determination of dry film thickness.

The measured thickness of each and every individual test of the membrane shall be greater than or equal to the required thickness.

Bond Strength: Random tests for adequate adhesion shall be conducted on the membrane in accordance with the requirements of ASTM D7234 for concrete substrate or ASTM D4541 for steel substrate. The minimum test frequency shall be one test per 5,000 s.f. but no less than three adhesion tests per bridge. Adequate adhesion will be indicated by tensile bond strengths of the membrane to the substrate of greater than or equal to 150 psi or failure in a concrete surface, and greater than or equal to 300 psi for steel surfaces.

Repair the membrane system following destructive testing and correct any deficiencies in the membrane system or substrate noted during QC testing in accordance with the Manufacturer's recommendations to the satisfaction of the Engineer at no additional cost to the State.

(h) Repairs: For areas left untreated or where the membrane hasn't bonded or becomes damaged, a patch repair shall be carried out to restore the integrity of the system. The damaged areas shall be cut back to sound materials, abraded and wiped with solvent (e.g. acetone or other manufacturer-recommended material) up to a width of at least six inches on the periphery, removing any contaminants unless otherwise recommended by the Manufacturer. The substrate shall be primed as necessary and tested for adhesion before the membrane layer(s) are applied. A continuous layer shall be obtained over the substrate with a six-inch overlap onto any adjacent existing membrane. The repaired area shall be tested for adhesion, with a minimum of one test per repair area.

(i) Overlapped areas: Where the membrane is to be joined to existing cured material, the overlapped area shall be cut back to sound material if necessary, abraded and wiped with solvent (e.g. acetone or other manufacturer-recommended material) or cleaned in accordance with the Installation Plan, up to a width of at least six inches prior to application of the overlapping membrane material. A continuous layer shall be obtained over the substrate with a six-inch overlap onto existing membrane. The overlapped section shall be tested for adhesion, with a minimum of one test per 200 lineal feet.

(j) Aggregated Finish:
1) Apply an additional 40 mil thick layer of the membrane material immediately followed by an aggregate coating, before the membrane cures, at a rate to fully cover the coated area to a point where no membrane material is visible. The membrane and aggregate shall be fully integrated after the aggregate has been applied and the membrane cured.
2) Using motorized mechanical sweepers followed by a vacuum or motorized blower apparatus, remove all loose and excess aggregate and fines from the surface, to the satisfaction of the Engineer, and dispose of properly prior to application of tack coat and overlay.

3) Traffic shall not be allowed to travel on the completed membrane system without prior approval of Engineer upon consultation with Manufacturers technical representative.
4) Localized areas not fully coated following removal of loose aggregate, defined as being at least 90% covered with well-adhered aggregate within any one square foot area, shall be touched-up with additional membrane and aggregate as needed. These areas shall then be swept and/or vacuumed or blown again prior to application of tack coat and overlay.
5) Tack coat: a Tack Coat Emulsion shall be applied to the aggregated finish prior to covering with a bituminous concrete mat. Material shall be applied in two coats of 0.06 - 0.08 gal/s.y. allowing it to break in between coats. This work shall be done as part of the paving operation and paid under separate, applicable Contract items.

10. Final Review: The Engineer and the Applicator shall jointly review the area(s) over which the completed system has been installed. Any irregularities or other criteria that do not meet the requirements of the Engineer shall be addressed at this time.

Method of Measurement: This item will be measured by the number of square yards of waterproofed surface completed and accepted.

Basis of Payment: This item will be paid for at the Contract unit price per square yard of "Membrane Waterproofing (Cold Liquid Elastomeric)," complete and accepted in place, which price shall include submittals, Pre-Work Meeting, all surface preparation, furnishing, storing and applying the system, technical representative and Quality Control testing, and any necessary repairs and remediation work as well as all materials, equipment, tools, labor incidental to this work.

The asphalt emulsion (tack coat) will be paid separately.

Pay Item	Pay Unit
Membrane Waterproofing (Cold Liquid Elastomeric)	s.y.

ITEM #0819002A - PENETRATING SEALER PROTECTIVE COMPOUND

Description: Work under this item shall consist of cleaning concrete surfaces of dirt, dust, and debris, and furnishing and applying a clear, penetrating sealer to concrete surfaces where shown on the plans, to provide a barrier against the intrusion of moisture and chlorides. This work also includes furnishing, installing, and removing platforms, scaffolding, ladders, and other means of access as well as shields, as required, to protect adjacent areas and traffic from overspray.

Materials: The penetrating sealer shall conform to Article M.03.09. A Materials Certificate shall be submitted for the penetrating sealer in accordance with Article 1.06.07. A product not listed on the Qualified Products List (QPL) may be considered for approval. A Certified Test Report shall be submitted in accordance with Article 1.06.07 indicating that the product being considered conforms to the Test Requirements listed on the QPL.

Construction Methods:

Submittals: The Contractor shall submit to the Engineer Safety Data Sheets (SDS), Technical Data Sheets and product literature for the approved sealer. The literature shall include written instructions how to apply the sealer to vertical and horizontal surfaces, and where required, overhead surfaces. Application rate and number of applications of sealer shall be addressed.

The Contractor shall submit to the Engineer, in accordance with Article 1.05.02, written procedures for cleaning the concrete surfaces prior to sealer application The submittal shall include proposed equipment and materials and shall address how adjacent traffic and other areas shall be protected from dust, debris and overspray during the cleaning and application processes. Where the sealer is to be applied to parapets before pavement is placed, the submittal shall address protection of the deck and curb to which membrane waterproofing will be applied. Should the membrane already be present, the submittal shall address shielding of the membrane. It shall also indicate how vegetation and regulated areas shall be protected from overspray. The submittal shall address the conditions under which work may proceed, including wind speed, temperature and precipitation. It shall also include procedures to be followed to protect the work should unfavorable weather conditions occur before the product has been absorbed.

The Contractor shall inspect the surfaces to be sealed to identify surface cleaning needs before submitting the procedures. The Contractor shall identify concrete surfaces that:

- Need repair
- Require special attention or cleaning procedures
- Have been previously treated with coatings or curing compounds that would hinder penetration of the sealer into the concrete
- Will be new or newly repaired

Written procedures shall include observations listed above. Application of penetrating sealer to new concrete shall be addressed in the application procedures. Forms for surfaces of new concrete to receive penetrating sealer shall not be treated using form release oil, which can inhibit or prevent penetration of the sealer into the concrete.

Surface Preparation: Concrete surfaces to which penetrating sealer will be applied shall be clean and free of grease, oil, and other surface contaminants, including biological growth. Dry surfaces may be cleaned by sweeping with brushes or brooms, and blowing clean with oil-free, compressed air. The Contractor shall take care not to damage the concrete surface finish during cleaning operations. Care shall be taken so that cleaning methods do not damage joint sealant or other components of the structure that are to remain.

Application: Application of the sealer may begin only after the Engineer evaluates the concrete surfaces and determines that conditions for installation comply with the accepted written application procedures.

The sealer shall be applied in accordance with the accepted application procedures at the rate specified by the manufacturer. The Contractor shall monitor and record the number of square feet of concrete surface sealed and the number of gallons of sealer applied over that surface area to verify that the required application rate is being met. A minimum of three applications of sealer shall be assumed to be needed. After the first application of the sealer, curing time shall be recorded and submitted to the Engineer. Additional applications of sealer shall be applied as specified in the application instructions, provided adequate time between applications and appropriate curing of the sealer have occurred. For each application, the Contractor shall record the area and number of gallons of sealer applied as well as the curing time for that application. The Contractor may be directed to apply sealer in up to three separate applications if concrete surfaces readily absorb the previous application.

If the Contractor is directed to apply more than three applications of sealer, the additional applications will be compensated as extra work. Should salts, oil or other visually undesirable materials be evacuated from the concrete by the penetrating sealer and remain on the surface after sufficient rain events have occurred, the Engineer may order surface cleaning of the concrete as extra work.

The Engineer shall be provided access to inspect the concrete surface during application and after the sealer has had adequate time to cure.

Method of Measurement: This work will be measured for payment by the actual number of square yards of concrete, sealed and accepted, within the designated limits. The area will be measured once, regardless of the number of applications required.

Basis of Payment: This work will be paid for at the Contract unit price per square yard for "Penetrating Sealer Protective Compound," complete, which price shall include all equipment tools, labor and materials, incidental thereto, including the preparation of the concrete surfaces and proper disposal of debris.

The following are not included in the cost of this item and will be considered Extra Work:

- Special cleaning procedures ordered by the Engineer to properly prepare the concrete surface for application of the penetrating sealer (such as removal of tightly adherent biological growth, graffiti, or other difficult-to-remove surface contaminants)

- Additional applications of sealer as noted in the Construction Methods
- Cleaning of evacuated material from sealed surfaces as ordered by the Engineer.

Pay Item	Pay Unit
Penetrating Sealer Protective Compound	s.y.

ITEM #0917010A - REPAIR GUIDERAIL

Description: Work under this item shall consist of the repair of newly installed guiderail. It shall be repaired in the locations originally installed and fabricated in conformity with the lines, designations, dimensions, and details shown on the plans or as ordered by the Engineer.

Materials: The material for guiderail shall meet the requirements as specified within the original applicable contract items.

When repairing guiderail, the Contractor shall reuse any undamaged existing guiderail elements, timber rail, wire rope, appropriate posts, delineators, lap bolts, and other hardware within the project limits as approved by the Engineer to repair the guiderail. The Contractor shall use new materials when any components of the existing railing are damaged or missing and cannot be obtained from other guiderail systems being removed or converted within the Project limits.

Construction Methods: The repair of guiderail shall be in accordance with contraction methods as specified within the original applicable contract items.

Guiderail, including end anchors, which has been installed in final condition and accepted by the Engineer, shall be eligible for reimbursement for repairs subject to the conditions described below. If multiple runs are to be installed in a single stage as indicated in the contract documents, determination for reimbursement shall be made when all runs within the stage are complete and accepted as previously described. On projects without designated stages, guiderail installations must be complete and serving the intended function as determined by the Engineer.

When newly installed guiderail is damaged by public traffic, the following conditions must be satisfied prior to reimbursement for payment;

1. The damage must have been caused solely by the traveling public.

2. The contractor shall provide satisfactory evidence that such damage was caused by public traffic. Such as accident reports obtained from the Connecticut Department of Public Safety, police agencies or insurance companies; statements by reliable, unbiased eyewitnesses; or identification of the vehicle involved in the accident.

3. The contractor shall attempt to collect the costs from the person or persons responsible for the damage and provide documentation of those efforts to the satisfaction of the Engineer.

4. If such evidence cannot be obtained, the Engineer may determine that the damage was not caused by the Contractor and reimbursement for payment is warranted.

This repair provision does not relieve the Contractor of the requirements of Section 1.07, any other contractual requirements for maintenance and protection of traffic and final acceptance and relief of responsibility for the project.

The contractor shall remain responsible for the safety and integrity of the guiderail system for the duration of the project. In the event the guiderail is damaged, the Contractor shall provide sufficient cones, drums and other traffic control devices to provide safe passage by the public. When ordered by the Engineer, the Contractor shall furnish replacement parts and immediately repair the guiderail, but in no case more than 24 hours after notification from the Engineer. In non-emergency situations, the guiderail shall be repaired within 72 hours. The repaired guiderail or anchorages, when completed, shall conform to these specifications for a new system. The Contractor shall be responsible for the removal and the proper disposal of all damaged material and debris.

Method of Measurement: Guiderail damaged solely by the traveling public will be measured for payment. Damage caused by the Contractor's equipment or operations will not be measured for payment.

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

Basis of Payment: Repair of guiderail will be paid for in accordance with Article 1.09.04 as required to restore the rail to its full working condition in conformance with these specifications for a new system. There will be no payment for maintenance and protection of traffic for work associated with this item unless, in the opinion of the Engineer, the sole purpose of the maintenance and protection of traffic is for repair of the guiderail.

Pay Item	Pay Unit
Repair Guiderail	est. (est.)

ITEM #0950040A - CONSERVATION SEEDING FOR SLOPES

Description: The work included in this item shall consist of providing an accepted uniform stand of established conservation seed mixture by furnishing and placing seed and cover crop as shown on the plans, permits, or as directed by the Engineer within the wetland mitigation Sites(s) or other areas when required.

Materials: All conservation seed mixture sources shall be obtained within the New England States, New York, Pennsylvania, New Jersey, Delaware, Virginia or Maryland to preserve and enhance the diversity of native conservation grass and plant species.

Four qualified conservation seed mixtures are detailed below:

1. **New England Conservation/Wildlife Mix**, New England Wetland Plants, Inc. 820 West Street Amherst, MA 01002, or equal. Rate shall be 25 lbs. PLS per acre (1 lb. PLS per 1,750 sq. ft.)

2. **Mesic to Dry Native Pollinator Mix,** Ernst Conservation Seeds, Inc. 8884 Mercer Pike, Meadville, PA 16335, or equal. Rate shall be 20 lbs. PLS per acre (1 lb. PLS per 2,178 sq. ft.)

3. **Vermont Conservation and Wildlife**, Vermont Wetland Plant Supply, LLC, P.O. Box 153, Orwell, VT 05760, or equal. Rate shall be 20 lbs. PLS per acre (1 lb. PLS per 2,178 sq. ft.)

4. **Upland Partial Shade to Full Sun Mixture**, Chesapeake Valley Seed, 8869 Greenwood Place, Suite C, Savage, MD 20763, or equal. Rate shall be 25 lbs. PLS per acre (1 lb. PLS per 1,750 sq. ft.)

The Contractor must apply 30 lbs. of cover crop per acre in conjunction with the qualified conservation seed mixture selected. The 30 lbs. of cover crop shall consist of grain oats when seeding between March 15 to June 30 or grain rye when seeding between August 15 to October 31.

Fertilizer, if required, shall meet the requirements of Article M.13.03.
Mulch shall meet the requirements of Article M.13.05.
Erosion control matting shall be bio-degradable and meet the requirements of Article M.13.09.

The Contractor shall submit the selected qualified conservation seed mixture or equal including cover crop seed mixture information to the Engineer for review and acceptance in advance of purchase and prior to application.

The Materials Certificate for all seed mixtures shall have a statement that certifies that the seed mixture does not include any invasive species pursuant to Connecticut General Statutes Sec. 22a-381d or any State Threatened or State Endangered species pursuant to Connecticut General

Statutes Sec. 26-303. The seed tags from the bags are to be removed by the Engineer upon delivery and attached to the Materials Certificate. Seeding shall not occur if these requirements are not met.

All approved seed mixtures shall be obtained in sufficient quantities to meet the pure live seed (PLS) application rates as determined by the seed analysis of the mixture.

Construction Methods: Construction methods shall be those established as agronomically acceptable and feasible and shall be accepted by the Engineer. The methods described in Article 9.50.03 shall be amended as follows:

Preparation of Seedbed Areas:

a. Level Areas, Median Areas, Interchanges and Lawns: These areas shall be made friable and receptive for seeding by discing or by other accepted methods to the satisfaction of the Engineer. The final prepared surface which has been seeded shall meet the lines and grades for such surface areas as shown on the plans, permits or as directed by the Engineer. In no event, will seeding be permitted on hard or crusted soil surface.

b. Slope and Embankment Areas: These areas shall be made friable and receptive to seeding by accepted methods which will not disrupt the line and grade of the slope surface. In no event, will seeding be permitted on hard or crusted soil surface.

All areas to be seeded shall be reasonably free from weeds taller than 3 inches. Level Areas, Median Areas, Interchanges and Lawns: Seeding shall not be permitted until substantial weed growth is removed and accepted by the Engineer. Slope and Embankment Areas: Removal of weed growth shall be those methods which do not rut or scar the slope surface or cause excessive damage of the slope line or grade as accepted by the Engineer.

Conservation seeding for slopes for wetland mitigation Site(s): Seeding shall occur during the fall season immediately following construction of the wetland mitigation Site(s). Seeding for wetland mitigation Site(s) must occur from August 15 to October 31.

For non-wetland mitigation Site(s), seeding shall occur during the dates specified in Article 9.50.03-2.

If seed is purchased in bulk rather than by PLS, the rate of application must be adjusted to meet the required PLS seeding rate. This seeding rate shall be increased by the appropriate percentage as determined by the following formula based off the information provided on the seed tags at delivery.

(Germination Percentage X Purity Percentage)/ 100 = Percentage PLS

The Engineer will verify that the seed is applied at a rate that will allow for 100 percent PLS.

Mowing will not be allowed within areas that are seeded with conservation seed mix, unless authorized by the Engineer.

Method of Measurement: This work will be measured for payment by the number of square yards of surface area of accepted established conservation grasses as specified.

Basis of Payment: This work will be paid for at the Contract unit price per square yard for "Conservation Seeding for Slopes," which price shall include all materials, maintenance, equipment, tools, labor, and work incidental thereto. Partial payment of up to 50% may be made for work completed, but not accepted. Full payment shall not be made until the area has been accepted by the Engineer.

Pay Item	Pay Unit
Conservation Seeding for Slopes	s.y.

ITEM #0952001A – SELECTIVE CLEARING AND THINNING

Section 9.52 is amended as follows:

Article 9.52.03 – Construction Methods is supplemented as follows:

Traffic Signal Equipment:

Prior to scheduling support structure installation and at least 14 days in advance of clearing operations, stake out the limits of vegetation and tree clearing to facilitate installation of traffic signal equipment as described below.

Visibly mark or flag trees scheduled to be removed.

The Engineer will review the identified trees and verify the limits of clearing and thinning prior to the Contractor proceeding with the cutting operation.

For the following intersections, cut, trim, and/or remove trees/tree limbs/vegetation as indicated below and to account for future vegetation growth when applicable. This work shall be completed prior to turning on the new signal equipment.

Int. No.	Location	Additional Information
Temporary Signal	Killingly – Route 101 (Hartford Pike) at Alvia Chase Reservoir	Trim tree branches/vegetation to provide 350 feet of sight distance to all Signal Faces on Route 101 (Hartford Pike), measured from the stop bar. Trim tree branches to provide line of sight to detection zones. And all other temporary signalization locations.

Extruded and Sheet Aluminum Signs:

Prior to scheduling sign installation and at least 14 days in advance of clearing operations, stake out the limits of vegetation and tree clearing to provide visibility to signs as described below.

Visibly mark or flag trees proposed to be removed. Contact the Engineer if an adjustment to sign location can prevent tree removal.

The Engineer will review the identified trees and verify the limits of clearing and thinning prior to the Contractor proceeding with the cutting operation.

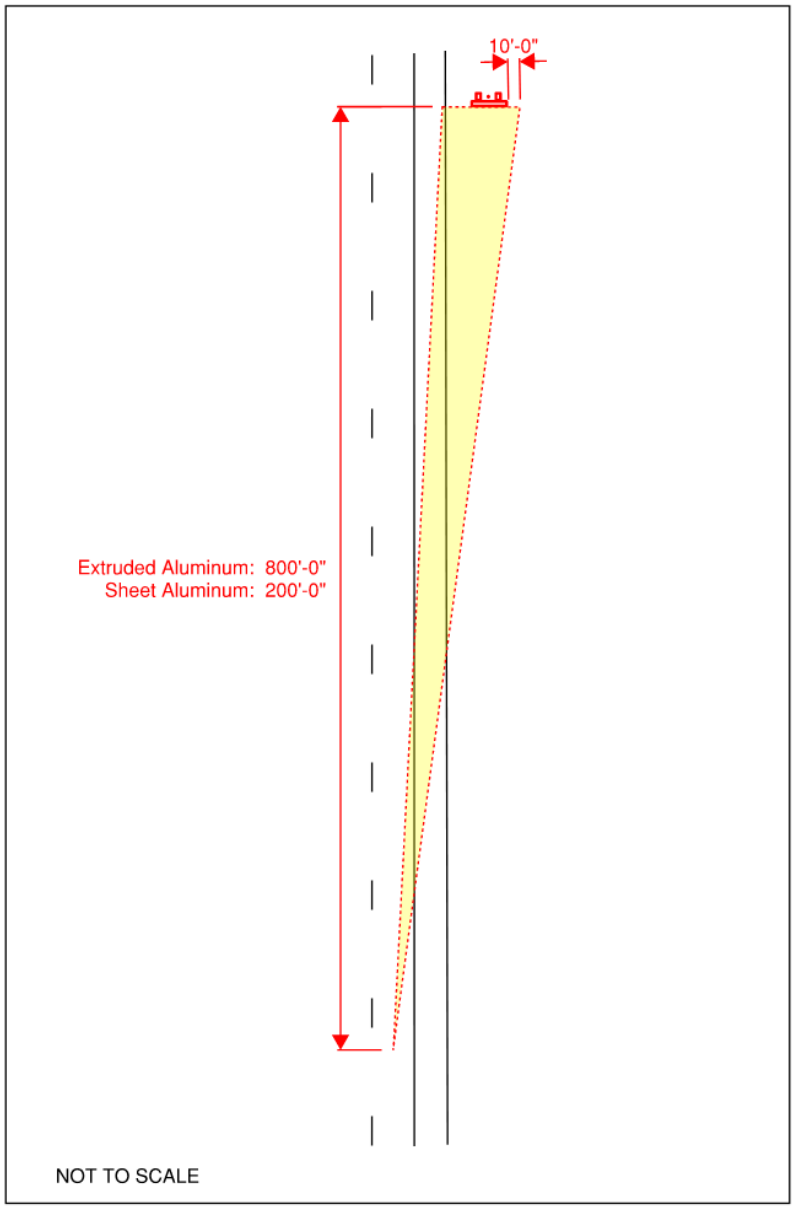
At all extruded aluminum sign and sign support locations, cut, trim and/or remove vegetation/tree limbs needed for installation and to provide visibility to the sign(s) and to account for future

vegetation growth. The entire sign plus a 10’ buffer shall be visible for 800-ft measured from the center of the right-travel lane approaching the sign, as viewed from a 3.5-ft height above the roadway.

At all sheet aluminum sign locations, cut, trim and/or remove vegetation/tree limbs needed for installation and to provide visibility to the sign(s) and to account for future vegetation growth. The entire sign plus a 10’ buffer shall be visible for 200-ft measured from the center of the right-travel lane approaching the sign, as viewed from a 3.5-ft height above the roadway.

This work shall be completed prior to installing the sign panel onto the vertical supports.

Clearing and Thinning for Extruded Aluminum Signs & Sheet Aluminum Signs



ITEM #0952051A - CONTROL AND REMOVAL OF INVASIVE VEGETATION

Description: This work shall include the development and implementation of an Invasive Vegetation Removal Plan (IVRP) to outline the identification and treatment methods for the control of invasive vegetation, including trees if present, as directed by the Engineer or their authorized delegate. This work will also include the removal and off-Site disposal of invasive vegetation from within the Project limits in accordance with the accepted IVRP.

The list of invasive vegetation to be controlled, removed, and disposed off-Site under this item can be found on the following websites:

- Connecticut Invasive Plant Working Group (CIPWG) Invasive Plants Council (http://cipwg.uconn.edu/invasive_plant_list/)
- US Army Corps of Engineers (ACOE) New England District Compensatory Mitigation Guidance Appendix K (http://www.nae.usace.army.mil/portals/74/docs/regulatory/Mitigation/2016_New_England_Compensatory_Mitigation_Guidance.pdf)

Materials: The herbicide shall be formulated as applicable for target-species foliar treatment or a flush cut/stump treatment. All herbicide applications shall be in accordance with Product label rates and in conjunction with Sections 22a-46 to 22a-66z of the Connecticut General Statutes (CGS).

Flagging tape, if used, shall be fluorescent, 'All-Weather' type, resistant to UV and water damage.

Stakes shall be survey-grade, as specified under Article 9.80.02.

Construction Methods: The Contractor shall be responsible to identify invasive vegetation at all times of the year and to prepare a plan for its control, removal, and off-Site disposal without assistance.

1. IVRP: Prior to any ground disturbance within the Project limits, the Contractor shall submit a proposed IVRP to the Engineer or their authorized delegate for review and comment. The Contractor shall address any comments to the satisfaction of the Engineer and resubmit their revised IVRP for review and acceptance.

The IVRP shall include the following information:

1) Proposed dates for the initial walk through of the invasive vegetated areas to be controlled and removed for off-Site disposal.
2) Schedule identifying specific dates when herbicide treatment or mechanical excavation or removal of invasive species is to occur for the life of the Contract, including the 1-year warranty period that begins at Substantial Completion. The treatment schedule shall coincide with the Contractor's schedule.
3) Plan sheets identifying the species of invasive vegetation and trees within the Project limits showing the total square yards proposed to be controlled and removed for off-Site disposal. For each species of invasive vegetation present on-Site, the following shall be described:
   a. Types and concentrations of any herbicides to be used to control the identified species

for the life of the Contract, including any adjuvants, SDS sheets, types of tools, equipment, or machinery to be used.

b. Mechanical excavation and removal methods including the type of machinery to be used.

4) Provide proof of DEEP Pesticide Application Business registration pursuant to CGS Section 22a-66b, and certifications for each supervisor and operational commercial applicator on-Site or as required under CGS Sections 22a-54 to 22a-58. All Contractors physically applying pesticides on Department construction Projects to treat invasive vegetation in the State highway right-of-way must ensure that the "6 Rights-of-Way Pest Control" certification is held by at least one Commercial Supervisory Pesticide Applicator employed at the Pesticide Application Business. If the applicator does not have a commercial supervisory certificate, then the applicator must have a junior operator certificate in "6 Rights-of-Way Pest Control" and operate under the written or in-person directions of the supervisor who is certified in "6 Rights-of-Way Pest Control." More information on DEEP certifications and permits for applying pesticides is available at the Pesticide Management Program page website. The Department reserves the right to require additional DEEP certifications based on Project Site specific requirements.
5) A description of safety equipment required.
6) Procedures for handling chemical spills.
7) Proposed disposal methods:
   a. Procedures for off-Site removal of invasive vegetation including trees.
   b. Provide address of disposal location, current permits / letters from the town authorizing such activity and a Site map (showing regulated areas).
   c. Invasive vegetation shall not be buried on-Site.

If changes are required to the accepted IVRP during the life of the Contract (including registration/certification changes for the personnel applying pesticides or new invasive species not previously identified in the original IVRP submission) or additional invasive vegetation control and/or removal are ordered by the Engineer, these changes shall be documented by the Contractor and resubmitted to the Engineer or their authorized delegate for review and acceptance. Only those changes recommended by the appropriately licensed supervisor/ applicator will be considered. At no time shall the Contractor direct or advise workforces on the pesticide treatment. All direction must be generated from the licensed Pesticide Application Business and approved by the Engineer.

The IVRP or any amended version must be accepted by the Engineer or their authorized delegate prior to beginning of any mechanical excavation or herbicide treatment in the areas which require invasive species control, removal and off-Site disposal as identified Contractor's marked up plan sheets. The accepted methods must be capable of total control and removal of all identified invasive species in the identified areas throughout the life of the Contract and the 1-year warranty period.

2. Special Handling of Invasive Species Vegetation: The Contractor will be allowed to mechanically excavate invasive vegetation and underlying soils using the accepted methods in the IVRP. The accepted methods must be capable of the removal of all soil to a depth where invasive plant material and root system is no longer evident, to the satisfaction of the Engineer or their authorized delegate. Suitable material shall be provided and placed to final grade as shown on the plans or as directed by the Engineer.

All excavated invasive vegetation and underlying soils shall be considered an unsuitable material and must be removed separately from clearing and grubbing operations and disposed of off-Site at an approved location as described in the Contractor's IVRP.

Whether the Contractor's method of removal is by flush cutting/stump treatment or spraying of herbicides, invasive species, including trees identified as invasive in the above websites or IVRP, must be removed separately from clearing and grubbing operations and disposed of at an approved location as described in the Contractor's IVRP.

The Contractor will not be allowed to strip/cut topsoil from any location and reuse this material within the Project limits identified within the IVRP as an area requiring treatment. The stripped/cut material is considered unsuitable material and is to be taken off-Site to an approved disposal facility as described in the Contractor's IVRP.

Wood chips from invasive species are not allowed to be stockpiled or reused on-Site. Wood chipping on-Site may be allowed to remain on-Site if temporarily stored in a properly contained enclosure and removed off-Site at the end of the treatment cycle, to the satisfaction of the Engineer or their authorized delegate.

No equipment or vehicles other than those required to complete the work as described in the Contractor's IVRP will be permitted in the areas designated for invasive vegetation removal. Any equipment used to process invasive vegetation, such as chippers and transport vehicles, must be cleaned prior to further use.

3. Site Maintenance: Broadcast or uncontrolled spray application will not be permitted, and care must be taken to avoid contacting non-target native species. If any non-target native species to remain within the Project limits are inadvertently treated with herbicide and perish, they shall be replaced with in-kind species at the Contractor's expense.

Vines shall be cut from the ground to the tree canopy. Twining vines within a tree canopy shall be removed to the greatest extent possible without damaging the existing tree to remain. Should branches be damaged, the Contractor shall prune damaged limbs at their expense. All corrective pruning shall meet the requirements of the National Arborists Association Pruning Standards. Note: Use of aerial equipment is encouraged; use of a pole saw to cut vines leaving unsightly debris hanging from the trees will not be allowed.

Flush cutting/stump treatment of brush and trees shall not be more than 2 inches above the ground line.

Any invasive species control and removal work performed throughout the duration of the Contract that causes damage or soil disturbance shall be repaired at the Contractor's expense within 7 days. Disturbed areas shall be vegetatively stabilized with the appropriate seed mix and protected with hay mulch, cellulous fiber mulch, or erosion control matting.

Limits for control and removal of invasive vegetation shall be maintained for the life of the Contract. Should stakes or flagging be damaged during the course of construction, the Contractor shall re-establish limits. Use of reference staking is permissible.

4. Field Meetings: The Contractor's IVRP must receive acceptance from the Engineer, or their authorized delegate and have the Site surveyed, staked, and flagged prior to any field meeting.

The Contractor shall provide at least 10 working days' notice to the Engineer for any scheduled field meeting(s) as described in the IVRP. During the meeting, the Contractor's IVRP shall be reviewed to verify the identified invasive species and to review the square yardage on the marked-up plan sheet(s). At this time, the Engineer or their authorized delegate may identify additional invasive species or designate additional areas for removal that are not included within the Contractor's submitted IVRP.

Additional field meetings may be warranted at any time, as directed by the Engineer or their authorized delegate, to ensure the Contractor is compliant with the IVRP or amended versions.

5. Treatment: The treatment schedule as identified in the IVRP may be modified based on changes to the Contractor's construction schedule or based on existing field conditions. The Contractor shall provide at least 10 working days' notice to the Engineer or their authorized delegate prior to proceeding with each treatment.

Treatment of invasive species will not be permitted without notifying the Engineer or their authorized delegate prior to activity and such personnel shall be on-Site to observe the work, unless specifically authorized otherwise. Treatment shall not be permitted outside of normal working hours, unless specifically authorized.

Prior to any herbicide treatment on-Site, the Contractor shall provide proof of DEEP Pesticide registration/certification, as specified above in **1. IVRP**. The Contractor shall not perform, nor allow subcontractors to perform, any treatment work at any time unless proof of current registration/certification for the actual supervisor and operator conducting or overseeing the herbicide application is available to the Engineer, upon request.

At a minimum, the Contractor shall treat all areas within the optimal growing season between April 15 and October 15. Additional spot treatment measures may be warranted within the same optimal growing season in any year throughout the life of the Contract if full control and removal of the invasive species is not achieved within the Project limits as outlined in the IVRP or as identified by the Engineer or their authorized delegate. When herbicide is used, a minimum of 10 working days is required prior to clearing and grubbing, planting, and seeding operations, so the herbicide application can take effect.

Mechanical excavation and disposal may occur at any time of the year as specified above in **2. Special Handling of Invasive Species Vegetation**.

If rain or windy conditions are anticipated on the day of the scheduled treatment, the Contractor will not be allowed to proceed, unless authorized by the Engineer or their authorized delegate.

Method of Measurement: The work to remove invasive vegetation, as defined above, will be measured for payment by the number of square yards of invasive vegetation surveyed, treated, and removed as required, including any required re-treatment of any regrowth or new growth. This work shall also include the removal of invasive trees, if present. No additional payment will be made for subsequent treatments.

All areas for removal shall be surveyed, flagged, and measured prior to treatment. After a review of the surveyed limits during the field meeting(s), the Engineer may designate additional areas for removal not indicated on the plans which will be measured for payment by the number of square yards treated.

Basis of Payment: The work for the removal of invasive vegetation and trees will be paid for at the Contract unit price per square yard for "Control and Removal of Invasive Vegetation." Payment shall include all labor, surveys, materials, tools, and equipment necessary for limits of the invasive area(s); development and required revisions of the IVRP; maintenance of the limits throughout the Project; species identification; proof of DEEP pesticide registration/certification; and cutting, excavation and replacement of in-kind material, treating, re-treating, removal, and off-Site disposal of designated invasive plant and tree material. Off-Site disposal of residue shall include the loading, transport, dumping, and fees associated with legal off-Site disposal.

- Upon Engineer's acceptance of the required IVRP, the Contractor will receive payment equal to 10% of the estimated Contract Item value.
- Upon completed initial herbicide or mechanical removal treatment methods as described in the IVRP, the Contractor will receive payment equal to 20% of all areas receiving treatment.
- The Contractor will receive incremental payments for each additional treatment throughout the duration of the Project of all areas receiving treatment. The total of incremental payments will not exceed 40% of the Contract item value.
- Upon successful completion of the 1-year warranty period covering all treated areas on the Project, the Contractor will receive final payment.
- Any fines levied against the Department due to the Contractor's or Subcontractor's failure to comply with the specifications or applicable regulations will be deducted from the monies due the Contractor.

All other vegetation to be removed which is not designated as invasive vegetation or invasive tree shall be removed in accordance with the Item "Clearing and Grubbing" or other Contract items. Vegetative stabilization of disturbed areas will be paid for under the respective Contract items.

Pay Item	Pay Unit
Control and Removal of Invasive Vegetation	s.y.

ITEM #0969062A - CONSTRUCTION FIELD OFFICE, MEDIUM

Description: Under the item included in the bid documents, adequate weatherproof office quarters with related furnishings, materials, equipment, and other services, shall be provided by the Contractor for the duration of the work, and if necessary, for a close-out period determined by the Engineer. The office, furnishings, materials, equipment, and services are for the exclusive use of CTDOT forces and others who may be engaged to augment CTDOT forces with relation to the Contract. The office quarters shall be located convenient to the work site and installed in accordance with Article 1.08.02. This office shall be separated from any office occupied by the Contractor. Ownership and liability of the office quarters shall remain with the Contractor.

Furnishings/Materials/Supplies/Equipment: All furnishings, materials, equipment, and supplies shall be in like new condition for the purpose intended and require approval of the Engineer.

Office Requirements: The Contractor shall furnish the office quarters and equipment as described below:

Description \ Office Size	Small	Med.	Large	Extra Large
Minimum Sq. Ft. of floor space with a minimum ceiling height of 7 ft.	400	720	1400	2800
Minimum number of exterior entrances.	2	2	2	2
Minimum number of parking spaces.	7	7	10	15

Office Layout: The office shall have a minimum square footage as indicated in the table above and shall be partitioned as shown on the building floor plan as provided by the Engineer.

Unless otherwise approved by the Engineer, office space shall be partitioned into segregated work areas for each user as follows:

A. Each work area (or cubicle) shall be a minimum of 8 feet × 8 feet, with full height walls or tall cubicle partitions (minimum 6 feet high), placed to provide a minimum of 6 feet walking space around and between each user work area (for social distancing).
B. Only one user (workstation/desk) per work area.
C. Desks, tables, and other work surfaces shall be arranged so that adjacent users do not face each other.

Tie-downs and Skirting: Modular offices shall be tied-down and fully skirted to ground level.

Lavatory Facilities: For field offices sizes Small and Medium the Contractor shall furnish a toilet facility at a location convenient to the field office for use by CTDOT personnel and such assistants as they may engage; and for field offices sizes Large and Extra Large the Contractor shall furnish two (2) separate lavatories with toilet (men and women), in separately enclosed rooms that are properly ventilated and comply with applicable sanitary codes. Each lavatory shall have hot and cold running water and flush-type toilets. For all facilities the Contractor shall supply lavatory and sanitary supplies as required.

Windows and Entrances: The windows shall be of a type that will open and close conveniently, shall be sufficient in number and size to provide adequate light and ventilation, and shall be fitted with locking devices, blinds, and screens. The entrances shall be secure, screened, and fitted with a lock for which four keys shall be furnished. All keys to the construction field office shall be furnished to the CTDOT and will be kept in their possession while State personnel are using the office. Any access to the entrance ways shall meet applicable building codes, with appropriate handrails. Stairways shall be ADA/ABA compliant and have non-skid tread surfaces. An ADA/ABA compliant ramp with non-skid surface shall be provided with the Extra-Large field office.

Lighting: The Contractor shall equip the office interior with electric lighting that provides a minimum illumination level of 100 foot-candles at desk level height, and electric outlets for each desk and drafting table. The Contractor shall also provide exterior lighting that provides a minimum illumination level of 2 foot-candles throughout the parking area and for a minimum distance of 10 ft. on each side of the field office.

Parking Facility: The Contractor shall provide a parking area, adjacent to the field office, of sufficient size to accommodate the number of vehicles indicated in the table above. If a paved parking area is not readily available, the Contractor shall construct a parking area and driveway consisting of a minimum of 6 inches of processed aggregate base graded to drain. The base material will be extended to the office entrance.

Field Office Security: Physical Barrier Devices - This shall consist of physical means to prevent entry, such as: 1) All windows shall be barred, or security screens installed; 2) All field office doors shall be equipped with dead bolt locks and regular day operated door locks; and 3) Other devices as directed by the Engineer to suit existing conditions.

Electric Service: The field office shall be equipped with an electric service panel, wiring, outlets, etc., to serve the electrical requirements of the field office, including lighting, general outlets, computer outlets, electronics, etc., and meet the following minimum specifications:

A. 120/240 volt, 1 phase, 3 wire
B. Ampacity necessary to serve all equipment. Service shall be a minimum 100 amp dedicated to the construction field office.
C. The electrical panel shall include a main circuit breaker and branch circuit breakers of the size and quantity required.
D. Additional 120-volt, single phase, 20-amp, isolated ground dedicated power circuit with dual NEMA 5-20 receptacles will be installed at each desk and personal computer table (workstation) location.
E. Additional 120-volt, single phase, 20-amp, isolated ground dedicated power circuit with dual NEMA 5-20 receptacles will be installed, for use by the Telephone Company.
F. Additional 120-volt circuits and duplex outlets as required meeting National Electric Code requirements.
G. One exterior (outside) wall mounted GFI receptacle, duplex, isolated ground, 120-volt, straight blade.
H. After work is complete and prior to energizing, the State's CTDOT electrical inspector, must be contacted at 860-594-2240. (Do Not Call Local Town Officials)

I. Prior to field office removal, the CTDOT Office of Information Systems (CTDOT OIS) must be notified to deactivate the communications equipment.

Heating, Ventilation and Air Conditioning (HVAC): The field office shall be equipped with sufficient and properly operating, heating, air conditioning, and ventilation equipment to maintain a temperature range of 68º-80º Fahrenheit within the field office. The Contractor shall increase ventilation rates and increase the percentage of outdoor air that circulates into the system where possible.

Telephone Service: The Contractor shall provide telephone service with unlimited nation-wide calling plan. For a Small, Medium, and Large field office this shall consist of the installation of one (1) telephone line for phone/voice service. For an Extra-Large field office this shall consist of three (3) telephone lines for phone/voice service. The Contractor shall pay all charges.

The Contractor shall provide the field office telephone number(s) to the CTDOT Project Engineer within 10 calendar days after the signing of the Contract as required by Article 1.08.02.

Data Communications Facility Wiring: As soon as the field office is in place, the Contractor shall propose a central wiring location, to designated CTDOT District personnel for the review and approval of CTDOT OIS. The central wiring location shall be large enough to house the Contractor supplied modem, Contractor supplied patch panel (if applicable), and CTDOT OIS supplied LAN switch and router. The Contractor shall supply the number of Category 6A 568B patch panels necessary to support the anticipated number of networked devices. The central wiring location shall also house the data circuit with appropriate power requirements and Category 6A cable run to the location of the installed data circuit. Power shall be provided at the central wiring location to power the hardware installed.

The Contractor shall install CAT 6A cables from the central wiring location to each workstation, Smart Board/TV location, Multifunction Laser Printer/Copier/Scanner and any other networked devices. The CAT 6A cables shall terminate in a (Category 6A 568B) wall or surface mount data jack at each networked device. Each run / jack shall be clearly labeled with an identifying Jack Number. The CAT 6A cables shall be terminated at the central wiring location with a service loop and RJ45 connectors. The Contractor shall also supply CAT6A cables of adequate length to reach from the wall or surface mount jack to the device being networked.

The number of networked devices anticipated shall be at least equal to the number of personal computer tables, Multi-Function Laser Printer/Copier/Scanner, Contractor supplied devices, and smartboards listed below.

Additional Equipment, Facilities and Services: The Contractor shall provide at the field office at least the following to the satisfaction of the Engineer:

Furnishing Description	Office Size			
	Small	Med.	Large	Extra Large
	Quantity			
Office desk (2.5 ft. x 5 ft.) with drawers, locks, and matching desk chair that have pneumatic seat height adjustment and dual wheel casters on the base.	1	3	5	8
Standard secretarial type desk and matching desk chair that has pneumatic seat height adjustment and dual wheel casters on the base.	-	-	-	1
Personal computer tables (4 ft. x 2.5 ft.).	2	3	5	8
Drafting type tables (3 ft. x 6 ft.) and supported by wall brackets and legs; and matching drafter's stool that have pneumatic seat height adjustment, seat back and dual wheel casters on the base.	1	1	1	2
Conference table, 3 ft. x 12 ft.	-	-	-	1
Table – 3 ft. x 6 ft.	-	-	-	1
Office Chairs.	2	4	8	20
Mail slot bin – legal size.	-	-	1	1
Non-fire-resistant cabinet.	-	-	2	4
Fire resistant cabinet (legal size/4 drawer), locking.	1	1	2	3
Storage racks to hold 3 ft. x 5 ft. display charts.	-	-	1	2
Vertical plan racks for 2 sets of 2 ft. x 3 ft. plans for each rack.	1	1	2	2
Double door supply cabinet with 4 shelves and a lock – 6 ft. x 4 ft.	-	-	1	2
Case of cardboard banker boxes (Min 10 boxes/case)	1	1	2	3
Open bookcase – 3 shelves – 3 ft. long.	-	-	2	2
White Dry-Erase Board, 36" x 48" min. with markers and eraser.	1	1	1	1
Interior partitions – 6 ft. x 6 ft., soundproof type, portable and freestanding.	-	-	6	6
Coat rack with 20 coat capacity.	-	-	-	1
Wastebaskets - 30 gal., including plastic waste bags.	1	1	1	2
Wastebaskets - 5 gal., including plastic waste bags.	1	3	6	10
Electric wall clock.	-	-	-	2
Electronic Level	1	1	1	2

Furnishing Description (continued)	Office Size			
	Small	Med.	Large	Extra Large
	Quantity			
Telephone.	1	2	3	-
Full size stapler 20 (sheet capacity, with staples)	1	2	5	8
Desktop tape dispensers (with Tape)	1	2	5	8
8 Outlet Power Strip with Surge Protection	3	4	6	9
Rain Gauge	1	1	1	1
Business telephone system for three lines with ten handsets, intercom capability, and one speaker phone for conference table.	-	-	-	1
Mini refrigerator - 3.2 c.f. min.	1	1	1	1
Hot and cold-water dispensing unit. Disposable cups and bottled water shall be supplied by the Contractor for the duration of the project.	1	1	1	1
Microwave, 1.2 c.f., 1000W min.	1	1	1	1
Fire extinguishers - provide and install type and *number to meet applicable State and local codes for size of office indicated, including a fire extinguisher suitable for use on a computer terminal fire.	*	*	*	*
Electric pencil sharpeners.	1	2	2	2
Multi-Function Laser Printer/Copier/Scanner combination unit, network capable, as specified below under Field Office Technology	1	1	1	1
Field Office Internet Service and Hardware as specified below under Field Office Technology	1	1	1	1
Digital Camera as specified below under Field Office Technology	1	1	3	3
Teleconferencing Equipment as specified below under Field Office Technology	-	1	-	-
Infrared Thermometer, including annual third-party certified calibration, case, and cleaning wipes.	1	1	1	2
Concrete Curing Box as specified below under Concrete Testing Equipment.	1	1	1	1
Concrete Air Meter and accessories as specified below under Concrete Testing Equipment as specified below. Contractor shall provide third party calibration on a quarterly basis.	1	1	1	1
Concrete Slump Cone and accessories as specified below under Concrete Testing Equipment.	1	1	1	1
First Aid Kit	1	1	1	1
T-handle concrete cylinder mold splitter as specified below under Concrete Testing Equipment	1	1	1	1
Smart Phones as specified under Computer Related Hardware and Software.	-	-	-	-

The furnishings and equipment required herein shall remain the property of the Contractor. Any supplies required to maintain or operate the above listed equipment or furnishings shall be provided by the Contractor for the duration of the project.

Field Office Technology:
The Contractor shall supply the internet service connection, Contractor supplied modem, associated hardware, Digital Camera(s), Smart Phones, Multifunction Laser Printer/Copier/Scanner, Conference Room Teleconferencing Equipment, associated hardware and software meeting the requirements of this specification, as well as the latest minimum specifications posted, as of the Project advertising date, at CTDOTs Construction Field Office Technology web site.

Within 10 calendar days after the signing of the Contract, but before ordering/purchasing the required Digital Camera(s), Smart Phones, Multifunction Laser Printer/Copier/Scanner, Teleconferencing Equipment, as well as associated hardware, the Contractor must submit a copy of their proposed order(s) with catalog cuts and specifications to the Administering CTDOT District for review and approval. The modem, digital cameras, smart phones, and Teleconferencing Equipment will be reviewed by CTDOT District personnel for approval. The Multifunction Laser Printer/Copier/Scanner will be reviewed by the CTDOT OIS. The Contractor shall not purchase the hardware, software, or services until the Administering CTDOT District informs them that the proposed equipment, software, and services are approved. The Contractor will be solely responsible for the costs of any hardware, software, or services purchased without approval.

The Contractor and/or their internet service provider shall be responsible for the installation, setup of the internet service connection and the configuration of the modem with a static IP address. Installation shall be coordinated with CTDOT District and Project personnel. Specifically, the Contractor shall supply the District with a Static IP Address, Subnet Mask Address and Gateway Address immediately upon establishment of internet service connection to assist with OIS equipment installation.

After the approval of the hardware and software, the Contractor shall contact the designated representatives of the CTDOT administering District, a minimum of 2 working days in advance of the proposed delivery or installation of the modem / Internet Service Connection, Digital Camera(s), Smart Phones, Multifunction Laser Printer/Copier/Scanner, Teleconferencing Equipment, as well as associated hardware, software, supplies, and support documentation. The hardware and cabling shall be installed in the field office to and at locations acceptable to the Engineer. Adequate electric service shall be supplied at all hardware and workstation locations to support the Department staff and hardware specified.

The Contractor shall provide all supplies, paper, maintenance, service, and repairs (including labor and parts) for the printer(s), copiers, field office Wi-Fi / internet service, and other equipment and facilities required by this specification for the duration of the Contract. All repairs of contractor supplied equipment and internet service must be performed with-in 48 hours. If the repairs require more than 48 hours, then an equal or better replacement must be provided.

Once the Contract has been completed, the Contractor supplied hardware and software will remain the property of the Contractor.

First Aid Kit: The Contractor shall supply a first aid kit adequate for the number of personnel expected based on the size of the field office specified and shall keep the first aid kit stocked for the duration that the field office is in service.

Rain Gauge: The Contractor shall supply, install and maintain a rain gauge for the duration of the Project, meeting these minimum requirements. The rain gauge shall be installed on the top of a post such that the opening of the rain gauge is above the top of the post an adequate distance to avoid splashing of rainwater from the top of the post into the rain gauge. The location of the rain gauge and post shall be approved by the Engineer. The rain gauge shall be made of a durable material and have graduations of 0.1 inches or less with a minimum total column height of 5 inches. If the rain gauge is damaged the Contractor shall replace it prior to the next forecasted storm event at no additional cost.

Electronic Level: The Contractor shall supply and maintain in working order, for the duration of the Contract, the number of electronic levels, identified in the Additional Equipment, Facilities and Services table of this specification. The electronic level(s) shall meet the following requirements:

A. 48-inch length, box beam type
B. IP65 water and dust proof
C. 0.1-degree accuracy
D. Backlit display
E. Carrying case included
F. New or like new condition

Concrete Testing Equipment: If the Contract includes items that require compressive strength cylinders for concrete, in accordance with the Schedule of Minimum Testing Requirements for Sampling Materials for Test, the Contractor shall provide the following equipment.

A. Concrete Cylinder Curing Box – meeting the requirements of Section 6.12 of the Standard Specifications.
B. Air Meter – The air meter provided shall be in good working order and meet the requirements of AASHTO T 152.
C. Slump Cone Mold – Slump cone, base plate, and tamping rod shall be provided in like-new condition and meet the requirements of AASHTO T 119, Standard Test Method for Slump of Hydraulic-Cement Concrete.
D. T-handle concrete cylinder mold splitter.

All testing equipment will remain the property of the Contractor at the completion of the Project.

Insurance Policy: The Contractor shall provide a separate insurance policy, with no deductible, in the minimum amount of five thousand dollars ($5,000) to insure all State-owned data equipment and supplies used in the office against all losses. The Contractor shall be named insured on that policy, and the CTDOT shall be an additional named insured on the policy. Insured losses shall include, but not be limited to, theft, fire, and physical damage. The CTDOT will be responsible for all

maintenance costs of CTDOT owned computer hardware. In the event of loss, the Contractor shall provide replacement equipment in accordance with current CTDOT equipment specifications, within seven days of notice of the loss. If the Contractor is unable to provide the required replacement equipment within seven days, CTDOT may provide replacement equipment and deduct the cost of the equipment from monies due or which may become due the Contractor under the Contract or under any other contract. The Contractor's financial liability under this paragraph shall be limited to the amount of the insurance coverage required by this paragraph. If the cost of equipment replacement required by this paragraph should exceed the required amount of the insurance coverage, CTDOT will reimburse the Contractor for replacement costs exceeding the amount of the required coverage.

Maintenance: During field office occupancy by CTDOT, the Contractor shall maintain all facilities and furnishings provided under the above requirements, and shall maintain and keep the office quarters clean through the use of professional cleaning including vacuuming carpet, washing and waxing floors, cleaning restrooms, removal of trash, general cleaning, etc.

Exterior areas shall be mowed and clean of debris. A trash receptacle (dumpster) with weekly pickup (trash removal) shall be provided. Snow removal, sanding and salting of all parking, walkway, and entrance way areas shall be accomplished during a storm if on a workday during work hours, immediately after a storm and prior to the start of a workday. If snow removal, salting and sanding are not completed by the specified time, the State will provide the service and all costs incurred will be deducted from the next payment estimate.

Method of Measurement: The furnishing and maintenance of the Construction Field Office will be measured for payment by the number of calendar months that the office is in place and in operation, rounded up to the nearest month.

There will not be any price adjustment due to any change in the minimum computer related hardware and software requirements.

Basis of Payment: The furnishing and maintenance of the Construction Field Office will be paid for at the Contract unit price per month for "Construction Field Office, Medium" which price shall include all material, equipment, labor, service contracts, licenses, software, repair or replacement of hardware and software, related supplies, utility services, parking area, external illumination, trash removal, snow and ice removal, and work incidental thereto, as well as any other costs to provide requirements specified herein.

Pay Item	Pay Unit
Construction Field Office, Medium	Month

ITEM #0971001A — MAINTENANCE AND PROTECTION OF TRAFFIC

Article 9.71.01 – Description *is supplemented by the following:*

The contractor shall maintain and protect traffic as described by the following and as limited in special provisions for Section 1.08 – Prosecution and Progress:

Route 101 (Hartford Pike)

The Contractor shall maintain and protect a minimum of 1 lane of traffic in each direction with each lane on a paved travel path not less than 11 feet in width, with the following exceptions:

A. During the allowable periods, as defined in the "Suggested Sequence for Construction of Bridge 02599" under Section 1.08, the Contractor will be permitted to maintain and protect at least an alternating one-way traffic operation on a paved travel path not less than 11 feet in width and no more than 600 feet in length, unless specified elsewhere in the Contract. The alternating one-way traffic operations will be controlled by Temporary Signalization as shown on the Maintenance and Protection of Traffic and Temporary Signal staging plans.
B. During the allowable periods, as defined in the "Suggested Sequence for Construction of Bridge 02599" under Section 1.08, the Contractor will be permitting to close Route 101 (Hartford Pike) and detour traffic as shown on the Detour Plan.
C. The Contractor shall notify the Town of Killingly Connecticut, the Town of Foster in Rhode Island, CTDOT Division of Traffic Engineering, Rhode Island Department of Transportation, and the Town emergency services at least 14 days in advance of implementing the detour and/or the alternating one-way traffic operation along Route 101 (Hartford Pike).
D. The Contractor will be allowed to halt traffic for a period not to exceed 10 minutes to actively perform necessary work as approved by the Engineer, between 9:00 AM and 3:00 PM.
E. The Contractor will be permitted to maintain and protect at least an alternating one-way traffic operation controlled by flagger as directed or approved by the Engineer.

All Other Roadways

The Contractor shall maintain and protect a minimum of 1 lane of traffic in each direction with each lane on a paved travel path not less than 11 feet in width. During the allowable periods while the Contractor is actively working, the Contractor will be allowed to maintain and protect at least an alternating one-way traffic operation on a paved travel path not less than 11 feet in width and no more than 600 feet in length, unless specified somewhere in the contract. There shall be no more than one alternating one-way traffic operation within the Project limits without prior approval of the Engineer.

Commercial and Residential Driveways

The Contractor shall maintain access to and egress for all commercial and residential driveways throughout the Project limits. The Contractor will be permitted to temporarily close affected driveways while actively working with coordination and permission from the owner or proprietor.

Article 9.71.03 – Construction Methods is supplemented as follows:

General
The Contractor is required to delineate any raised structures within the travel lanes, so that the structures are visible day and night, unless there are specific Contract plans and provisions to temporarily lower these structures prior to the completion of work.

The Contractor shall schedule operations so that pavement removal and roadway resurfacing shall be completed full width across a roadway or bridge section by the end of a work shift, or as directed by the Engineer.

When the installation of all intermediate courses of bituminous concrete pavement is complete for the entire roadway, the Contractor shall then install the final course of bituminous concrete pavement.

When the Contractor is excavating adjacent to the roadway, the Contractor shall provide a 3-foot shoulder between the work area and travel lanes, with traffic drums spaced every 50 feet. At the end of the work shift if the vertical drop-off exceeds 3 inches, the Contractor shall provide a temporary bituminous concrete traversable slope of 4:1 or flatter that is acceptable to the Engineer.

The Contractor, during the course of any active overhead construction, shall close the lanes directly below the work area for the length of time overhead work is being undertaken.

When an existing sign is to be relocated or replaced, the work shall be completed during the same work shift.

The field installation of a signing pattern shall constitute an interference with existing traffic operations and shall not be allowed, except during the allowable periods as defined in Section 1.08.

Final Pavement Markings
Refer to Pavement Marking Groove special provisions for pavement marking requirements.

Permanent epoxy resin pavement markings shall be installed in accordance with Section 12.10 and the applicable Traffic Engineering Standard Drawings.

If Temporary Plastic Pavement Marking Tape is installed, then the Contractor shall remove and dispose of these markings during the same work shift that the permanent epoxy resin pavement markings are to be installed. The cost of furnishing, installing and removing the Temporary Plastic Pavement Marking Tape shall be at the Contractor's expense.

Article 9.71.05 – Basis of Payment *is supplemented by the following:*

The temporary relocation of signs and supports, and the furnishing, installation and removal of any temporary supports shall be paid for under the item "Maintenance and Protection of Traffic". Temporary overhead sign supports and foundations shall be paid for under the appropriate item(s). The cost of furnishing, installing, and removing the material for the 4H:1V traversable slope shall be paid for under the item "Maintenance and Protection of Traffic".

ITEM #0971201A- TAXI SERVICE

Description:
Work under this item consists of providing ADA-compliant taxi service for the transportation of pedestrians and cyclists who need to cross Route 101 (Hartford Pike) when the contractor is actively working on Stage 3, during the closure of Route 101 (Hartford Pike).

Taxi service shall transport pedestrians or cyclists across Route 101 as noted below:

Route 101 (Hartford Pike)

East Killingly Fire Department located at 1395 Hartford Pike, East Killingly, CT, west of the construction zone and Stateline Campresort & Cabins located at 1639 Hartford Pike, East Killingly, CT, east of the construction zone.

Materials:
The taxi service shall be licensed and insured in Connecticut, and each taxi shall have GPS tracking. The taxi service vehicle shall be capable of transporting a minimum of two passengers with bicycles in one trip. The vehicle shall be clearly marked with the name of the company, taxi number, license number and phone number. The taxi shall be equipped with GPS tracking, dispatch radio and cellular telephone equipment.

Temporary signs shall be placed at the designated stops provided above. The signs shall indicate "Pedestrian/Bicycle Taxi Stop" and shall conform to Section 12.20. The signs shall clearly note the roadway is temporarily closed and that transportation services to cross the road are available free of charge for transportation between the designated pick-up / drop-off locations. The sign shall include a phone number for pedestrians and cyclist requesting taxi service to call (XXX)-XXX-XXXX. The contractor dispatch office shall be available during the hours listed and shall provide taxi services at the locations designated within twenty (20) minutes of notification.

No less than 2 weeks prior to the closure of Route 101, the Contractor shall provide the Engineer the name of the Taxi Service. A form letter will be provided to the Contractor from the Engineer on Department of Transportation Letterhead prior to the closure of the road. The letter will be addressed to the "Pedestrian", describing the purpose and details of the service. The letter will provide the name, address and phone number of the taxi service and the pick-up and drop off locations and that the service is being provided free of charge during construction. Each operator will have on hand sufficient copies of the letter which will be provide to each pedestrian receiving service. Additional copies of the letter shall be available at each of the pick-up and drop-off locations.

Construction Method:

The Taxi service shall operate seven (7) days a week from 6 a.m. to 10:00 p.m. whenever the bridge is closed. One week prior to the closure, a message shall be placed on the changeable message signs notifying users of the impending closure to pedestrians and bicyclists.

The Contractor shall provide a sign at each of the locations specified above with instructions to call for taxi service for all pedestrians or cyclist wishing to cross at all times the roadways is closed.

All calls for pedestrians transportation shall be documented and provided to the Department upon request. Taxis service will be provided from between the locations stated above and include one-way travel per trip.

Upon arrival at the pick-up location, the taxi service driver shall provide the pedestrian with a copy of the form letter described above and request the pedestrian's name and address for future reference. During the period when the taxi service is required, the Contractor will maintain a service log on a form acceptable to the Engineer. At the end of each period of taxi service, a copy of the log will be submitted to the Engineer to substantiate payments. The taxi service log will indicate the number of rides provided, time and disposition at the end of each day.

Method of Measurement:
This item will be measured for payment by the actual number of one-way trips shuttle services provided.

Basis of Payment:
This work will be paid for at the contract unit price per Each for "Taxi Service" provided, which price shall include cost of furnishing all labor, materials, signs, equipment, coordination, vehicles necessary for transportation service between the designated pick-up and drop-off locations and incidentals, as well as insurance costs for providing taxi services as detailed herein.

Additional billing of users of the taxi service will not be allowed.

Pay Item	Pay Unit
Taxi Service	Ea.

ITEM #0974001A –REMOVAL OF EXISTING MASONRY

Work under this item shall conform to the requirements of Section 9.74 supplemented and amended as follows:

9.74.01 - Description: Replace the first paragraph with the following:

This work shall include the removal and disposal of the existing substructure below the bottom of existing superstructure required to construct the proposed structure. Removal shall extend to the limits indicated on the plans.

Pay Item Pay	Unit
Removal of Existing Masonry	c.y.

ITEM #1020030A - TEMPORARY ILLUMINATION UNIT

Description:
Under this item the Contractor shall furnish and install a fiberglass light pole, bracket, luminaire, and associated hardware, to be used for temporary lighting during construction, as indicated on the plans or as directed by the Engineer. At the end of the project the temporary illumination unit shall become the property of the Contractor.

Materials:
The pole shaft shall be fiberglass reinforced composite (FRC). The pole shaft shall be constructed by the filament winding process from thermosetting polyester resin and contain a minimum of 65 percent of "E" type fiberglass by weight. The filament windings shall be continuously applied with uniform tension and shall be placed on the pole helically at low angles to provide axial strength. Additional windings shall be placed on the pole in a circular manner to provide compressive strength. The pole is to be round, tapered, hollow, and reinforced in the support arm and hardware attachment areas. The pole is to be non-conductive and chemically inert. The pole shall meet the current AASHTO LTS-2 Street Lighting Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, and shall be approved by FHWA for use on Federal Aid projects. A 2 ½" x 5" handhole shall be provided at the base of the pole shaft at approximately 18" above the finished grade line. The pole exterior surface is to be grey with a natural (textured) finish.

The surface of the pole will be uniform for the entire length of the pole. The laminate shall contain colored pigment, the color of the final coating, and be of uniform color throughout the entire wall thickness of the pole. A coating shall be applied to the pole to maintain surface integrity against the damaging effects of sunlight and extremes in weather. The coating is to be highly weather resistant pigmented polyurethane. The coating thickness shall have minimum dry film thickness of 1-1/2 mils.

The surface shall be tested for a minimum of 5000 hours of accelerated testing in accordance with ASTM G154 (UV-A lamp 340 NM wave length, 130° F, cycle lamp 4 hours on 4 hours off) with the following results: Fiber exposure: none, Crazing: none, Checking: none, Chalking: none, Color: may dull slightly.

Anchorage mounted poles:
The pole shaft shall be equipped with an anchor base of heavy duty A356-T6 aluminum which shall be permanently bonded to the outside of the fiberglass shaft. The anchor base pole shall be installed on a concrete foundation, parapet anchorage, temporary bracket, or other fixed anchorage as called for on the plans. The anchor base pole shall be nonbreakaway, but shall be attached to the anchorage using breakaway couplings as indicated on the plans or as directed by the Engineer. The pole shall provide a 35' luminaire mounting height when measured from the top of the pole anchorage. The luminaire bracket arm shall be 6' in length (single member) of an upsweep design fabricated from tubular aluminum. The luminaire end shall have a 2-3/8" outside diameter.

Direct buried poles:
The pole shall be suitable for direct burial and shall conform to the breakaway requirements of the current AASHTO Standard Specification for Structural Supports for Highway Signs, Luminaires and Traffic Signals. For direct buried break-away poles the butt end shall be enlarged so as to provide resistance to rotation and pull out. The pole shall provide a 35’ luminaire mounting height when measured from the roadway surface. The luminaire bracket arm shall be 12' in length (single member) of an upsweep design fabricated from tubular aluminum. The luminaire end shall have a 2-3/8" outside diameter.

Each pole is to be permanently marked in characters 3/16” minimum high on a brass or stainless steel plate with the manufacturer's identification symbol, month and year of manufacture. Each pole shall be individually packaged for protection during shipping and storage. The pole shall be warranted to be free of defects in materials and workmanship for a period of three years from the date of purchase.

The top of the pole is to be pre-drilled for two 5/8" thru bolts on 9-1/2" centers starting 4” below the top of the pole. A 1-1/2" wire exit hole shall be centered 1/2 the distance between the two holes.

A cast aluminum removable cap shall be securely mounted to the top of the pole. The cap shall be corrosion resistant and must remain in place when subjected to the maximum wind loading for which the pole is designed.

The luminaire shall conform to the pertinent requirements of Article M.15.05, and shall be high pressure sodium. The luminaire wattage shall be 250 watt or as called for on the plans. The socket shall be adjustable to provide I.E.S. light distribution type M-S-II (sag glass type). The ballast shall be under guarantee of the manufacturer for a period of one year commencing when the unit is installed and accepted.

Construction Method:
The fiberglass pole shall be securely bolted to the anchor bolts of the fixed anchorage or installed in an augured hole where indicated on the plans. The bracket and luminaire assembly shall be installed perpendicular to the center line of the roadway. When necessary, the temporary light pole and luminaire shall be relocated to maintain different illumination circuits as dictated by the construction stages.

Upon completion of the project the temporary illumination unit shall be removed and shall remain the property of the Contractor.

Upon removal of the pole, the resulting excavation shall be properly backfilled to match the surrounding area.

Method of Measurement:
This work will be measures for payment by the number of temporary illumination units installed and accepted.

Basis of Payment:
This work will be paid for at the contract unit price each for "TEMPORARY ILLUMINATION UNIT" complete in place, which price shall include all materials, fiberglass poles, anchor base bracket, luminaire, lamps, ballast, hardware, breakaway couplings, breakaway base section, connections, hauling, and all equipment, tools, labor and all work incidental thereto including removal, hauling, relocation, and disposal. The unit cost for this item is a one-time only cost. The cost of removing and relocating the temporary illumination unit to maintain different illumination circuits shall be included in the unit cost.

ITEM #1118101A – TEMPORARY SIGNALIZATION

Description:
This item shall consist of furnishing, installing, maintaining, relocating and removing temporary traffic signal equipment and all necessary hardware as ordered and in conformance with the plans and applicable specifications.

Materials:
All materials used for Temporary Signalization shall conform to the plans and pertinent articles of the Standard Specifications, the Supplemental Specifications, and the Special Provisions contained in this contract, or as approved by the Engineer. The materials can be new or used. Used material must not be damaged and its operation must be reliable. The Contractor must replace damaged or faulty material immediately. A Materials Certificate will be required.

Construction Methods:
The Contractor shall review the Maintenance and Protection of Traffic sheets, contained in the contract plans, and, if any changes are necessary, the Contractor shall submit a revised plan to the Engineer for approval. In no case will the Contractor be allowed to revise an installation without prior knowledge and approval by the Engineer. The Engineer will send it to the Division of Traffic Engineering and/or the Design Engineer for review as applicable.

The Temporary Signalization shall begin when the Contractor has installed the temporary traffic signal equipment and has implemented the alternating one-way traffic layout. The Temporary Signalization shall not be activated until all preceding work outlined in the "Suggested Sequence for Construction of Bridge 02599" under Section 1.08 has been fully completed. The replacement of Bridge 02599 will be completed in approximately five major stages under the Maintenance and Protection of Traffic. This includes one phase involving a full road closure of Route 101 with a designated detour route, and four phases for a one-lane alternating temporary traffic signal – two phases implemented prior to the detour and two phases following the detour. A maximum of 10 consecutive weeks over one construction phase is permitted for alternating one-way traffic operations.

The Contractor shall provide and maintain a temporary traffic signal capable of providing the approved phasing as shown on the plans or as directed by the Engineer. The Contractor shall relocate temporary signal equipment, including signal heads, vehicle detectors, etc., as many times as deemed necessary during construction to maintain and protect traffic where shown on the plans or as directed by the Engineer. The Contractor shall make modifications to the signal controller as necessary to maintain temporary signalization during each phase/stage of construction and shall make adjustments to the timing of the controller as necessary based on field conditions and as directed by the Engineer.

Vehicle detectors shall be included and paid for temporary signalization. The work for this item includes furnishings, installation, relocating, realigning, and maintaining the necessary detection systems as to provide vehicle detection during each phase of construction. If the Temporary

Detection (TD) method is not specified elsewhere in the Contract, (loops, SPVD, microwave, VIDS, or other) it may be the Contractor's choice. The method chosen for TD must be indicated on the Temporary Signal Plan submission.

All equipment shall be relocated and/or removed in such a manner as to cause no hazard to pedestrians, bicyclists, traffic, or property. When the Contractor is performing signal work, the Contractor shall maintain traffic as specified in the Special Provisions "Prosecution and Progress" and "Maintenance and Protection of Traffic."

The Contractor shall be responsible for providing power to the temporary traffic signal via solar panels or by obtaining a secondary service. The Contractor shall be responsible for the cost of electricity to operate the temporary signal, and the intersection shall have a metered service.

The Contractor shall be responsible for maintenance of the temporary traffic signal during Temporary Signalization. The Contractor shall provide to the Engineer and the local Police Department a list of telephone numbers of personnel who will be responsible for the maintenance of the temporary traffic signal on a 24-hour basis. The Contractor shall respond to traffic signal malfunctions by having a representative at the site within three hours and the temporary traffic signal back in operation within 24 hours.

Temporary signal equipment supplied by the Contractor will remain the Contractor's property at the completion of the project unless otherwise noted.

Temporary Signalization shall terminate when construction is complete and the temporary signal equipment is removed from the project as approved by the Engineer.

Method of Measurement:

Temporary Signalization shall be measured for payment as follows:

Fifty percent (50%) shall be paid when Temporary Signalization is operational as shown on the plan and to the satisfaction of the Engineer.

Fifty percent (50%) shall be paid when Temporary Signalization terminates.

Basis of Payment:

This work shall be paid at the contract Lump Sum price for "Temporary Signalization."

This item shall consist of furnishing, installing, maintaining, relocating and removing temporary traffic signal equipment and all necessary hardware, materials, labor and work incidental thereto. This item shall also include supplying the electricity to operate the temporary traffic signal. All Contractor supplied items that will remain the Contractor's property shall be included in the contract Lump Sum price for "Temporary Signalization."

Pay Item	Pay Unit
Temporary Signalization	L.S.

ITEM #1208937A – SIGN FACE - SHEET ALUMINUM (TYPE XI RETROREFLECTIVE SHEETING)

Section 12.08 is supplemented and amended as follows:

12.08.01—Description:

Add the following:

All signs shall use Type XI retroreflective sheeting with the exception of side-mounted signs with white background which shall be Type IX.

This item shall also include field testing of metal sign base posts as directed by the Engineer.

Signs shall conform to the sign details located at https://portal.ct.gov/DOT/Traffic-Engineering/Catalog-of-Signs with legend for variable signs as shown in the plans.

12.08.03—Construction Methods:

Delete the last sentence and add the following:

Metal sign base posts shall be whole and uncut. Sign base post embedment and reveal lengths shall be as shown on the plans. The Contractor shall drive the metal sign base posts by hand tools, by mechanical means or by auguring holes. If an obstruction is encountered while driving or placing the metal sign base post, the Contractor shall notify the Engineer who will determine whether the obstruction shall be removed, the sign base post or posts relocated, or the base post installation in ledge detail shall apply. Backfill shall be thoroughly tamped after the posts have been set level and plumb.

Field Testing of Metal Sign Posts: When the sign installations are complete, the Contractor shall notify the Engineer the Project is ready for field testing. Based on the number of posts in the Project, the Engineer will select random sign base posts which shall be removed by the Contractor for inspection and measurement by the Engineer. After such inspection is completed at each base post location, the Contractor shall restore or replace such portions of the work to the condition required by the Contract. Refer to the table in 12.08.05 for the number of posts to be field tested.

12.08.04—Method of Measurement:

Add the following:

The work required to expose and measure sign base post length and embedment depth using field testing methods, and restoration of such work, will not be measured for payment and shall be included in the general cost of the work.

12.08.05—Basis of Payment:

Replace the entire Article with the following:

This work will be paid for at the Contract unit price per square foot for "Sign Face - Sheet Aluminum" of the type specified complete in place, adjusted by multiplying by the applicable Pay Factor listed in the table below. The price for this work shall include the completed sign, metal sign post(s), span-mounted sign brackets and mast arm-mounted

brackets, mounting hardware, including reinforcing plates, field testing, restoration and replacement of defective base post(s), and all materials, equipment, and work incidental thereto.

Pay Factor Scale: Work shall be considered defective whenever the base post length or base post embedment depth is less than the specified length by more than 2 inches. If the number of defects results in rejection, the Contractor shall remove and replace all metal sign base posts on the Project, at no cost to the Department.

Number of Posts to be Tested and Pay Factors (Based on Number of Defects)

Number of Posts in Project =>	**51-100**	**101-250**	**251-1000**	**>1000**
Sample Size=>	**5 Posts**	**10 Posts**	**40 Posts**	**60 Posts**
0 Defects	1.0	1.0	1.025	1.025
1 Defect	0.9	0.95	0.975	0.983
2 Defects	Rejection	0.9	0.95	0.967
3 Defects	Rejection	Rejection	0.925	0.95
4 Defects	Rejection	Rejection	0.9	0.933
5 Defects	Rejection	Rejection	Rejection	0.917
6 Defects	Rejection	Rejection	Rejection	0.9
7 or more Defects	Rejection	Rejection	Rejection	Rejection

Note: Projects with 50 or fewer posts will not include field testing

ITEM # 1210111A–4" (YELLOW) TYPE I EPOXY RESIN PAVEMENT MARKINGS
ITEM # 1210113A–6" (WHITE) TYPE I EPOXY RESIN PAVEMENT MARKINGS

Section 12.10 *is supplemented and amended as follows:*

Article 12.10.01—Description:

Replace the entire Article with the following:

This item shall consist of furnishing and installing retroreflective Yellow and White Type I Epoxy Resin Pavement Markings of the width and color specified at the locations indicated on the plans, in conformance with the plans, this specification, and as directed by the Engineer.

Type I Epoxy Resin Pavement Markings include center lines, lane lines, and shoulder lines.

Type I Epoxy Resin Pavement Markings shall be installed in a pavement marking groove. Pavement marking grooves are specified elsewhere in the Contract.

Article 12.10.02—Materials:

Replace the entire Article with the following:

Type I Epoxy Resin Pavement Markings shall meet the requirements of **Article M.07.22 – Epoxy Resin Pavement Markings** amended as follows:

Delete the last sentence and add the following:

(j) Type I Epoxy Resin Pavement Markings shall consist of one of the following mixes of retroreflective beads, or approved equal:

- Potter's VISIMAX glass bead and a clear glass bead that meets the requirements of AASHTO M 247, Type 4.
- Potter's VISIULTRA glass bead and a clear glass bead that meets the requirements of AASHTO M 247, Type 1.
- 3M's tinted microcrystalline ceramic bead with minimum indexes of refraction of 1.89 (dry) and 2.4 (wet) when tested using the ASTM E1967 method and a clear glass bead that meets the requirements of AASHTO M 247, Type 4. Yellow tinted beads shall be installed on yellow pavement markings and white tinted beads shall be installed on white pavement markings.

Article 12.10.03—Construction Methods:

In Subarticle **1. Equipment**, *delete paragraph 1 and add the following:*

Equipment furnished shall include an applicator truck of adequate size and power, together with:

(a) remote application equipment designed to apply an epoxy resin material in a continuous pattern, and

(b) portable retroreflective bead applicators, one for each size bead, designed to provide uniform and complete coverage of the epoxy binder by a controlled free-fall method. Pressurized retroreflective bead application shall not be used.

In Subarticle **2. Procedures**, *delete paragraphs 3, 7, and 8 and add the following:*

All surfaces that are power washed shall be allowed to dry sufficiently prior to the application of the epoxy markings. The areas to be marked shall be broom cleaned immediately prior to the application of the epoxy markings. Retroreflective beads shall be applied immediately after application of the epoxy resin marking to provide an immediate no-track system.

The epoxy for Type I Epoxy Resin Pavement Markings shall be uniformly applied to the surface to be marked to ensure a wet film thickness, without retroreflective beads, of 20 mils ± 1 mil.

For Potter's VISIMAX glass bead Type I Epoxy Resin Pavement Markings, a first drop consisting of Potter's VISIMAX glass beads shall be applied at the rate of 8 lb./gal. of epoxy pavement marking material, immediately followed by a second drop consisting of glass beads meeting the requirements of AASHTO M 247, Type 4 at the rate of 8 lb./gal. of epoxy pavement marking material. Traffic cones or other acceptable methods shall be used to protect the Type I Epoxy Resin Pavement Markings until cured.

For Potter's VISIULTRA glass bead Type I Epoxy Resin Pavement Markings, a first drop consisting of Potter's VISIULTRA glass beads shall be applied at the rate of 10 lb./gal. of epoxy pavement marking material, immediately followed by a second drop consisting of glass beads meeting the requirements of AASHTO M 247, Type 1 at the rate of 5 lb./gal. of epoxy pavement marking material. Traffic cones or other acceptable methods shall be used to protect the Type I Epoxy Resin Pavement Markings until cured.

For 3M's tinted microcrystalline ceramic bead Type I Epoxy Resin Pavement Markings, a first drop consisting of tinted microcrystalline ceramic beads shall be applied at the rate of 5 lbs./gal. of epoxy pavement marking material, immediately followed by a second drop consisting of glass beads meeting the requirements of AASHTO M 247, Type 4 at the rate of 10 lbs./gal. of epoxy pavement marking material. Traffic cones or other acceptable methods shall be used to protect the Type I Epoxy Resin Pavement Markings until cured.

Replace Subarticle **3. Initial Performance** *with the following:*

The retroreflectivity of the markings applied shall be measured by the Contractor using the procedure and equipment detailed below for the Initial Test Period, Review Period, and Observation Period.

Test Lots: The following test lots will be randomly selected by the Engineer to represent the line markings applied:

Table 12.10.03-3.1: Line Test Lots

Length of line	Number of Lots	Length of Test Lot
< 1000 feet	1	Length of Line
< 1.0 mile	1	1000 feet
≥ 1.0 mile	1 per 1.0 mile	1000 feet

Measurement Equipment and Procedure: Retroreflectometer equipment shall be calibrated using the instructions from the instrument manufacturer within 24 hours prior to use.

Skip line measurement shall be obtained for every other stripe, taking no more than 2 readings per stripe with readings no closer than 20 inches from either end of the marking.

Solid line test lots shall be divided into 10 sub-lots of 100 foot length and measurements obtained at 1 randomly select location within each sub-lot.

The Contractor shall perform retroreflectivity readings on the Type I Epoxy Resin Pavement Markings between 30 and 37 days after installation per the measurement and sampling procedures contained in ASTM D7585 (*Standard Practice for Evaluating Retroreflective Pavement Markings Using Portable Hand-Operated Instruments*). Portable Retroreflectometer and Mobile Retroreflectometer testing is allowed using the following methods.

- ASTM E1710 *(Standard Test Method for Measurement of Retroreflective Pavement Marking Materials with CEN-Prescribed Geometry Using a Portable Retroreflectometer)*;
- ASTM E2177 *(Standard Test Method for Measuring the Coefficient of Retroreflected Luminance (R_L) of Pavement Markings in a Standard Condition of Wetness).*

Additional Contents of Certified Test Report (CTR): The CTR shall also list:

- Project, Route number, and Route direction.
- Geographical location of the test site(s), including distance from the nearest reference point.
- Manufacturer and model of retroreflectometer used.
- Most recent calibration date for equipment used.
- Time of Day the readings are taken.

Recordings shall be certified by the Contractor, reviewed by the Engineer, and provided to the CTDOT Division of Traffic Engineering.

A CTR, in accordance with 1.06.07 or 1.20-1.06.07, shall be submitted to the Engineer no later than 10 days after the measurements are taken.

The Materials Certificates (MC) shall also list:

- Liquid binder application rate.
- Retroreflective bead type(s) and drop rate.

Recordings shall be certified by the Contractor, reviewed by the Engineer, and provided to the CTDOT Division of Traffic Engineering.

The MC, in accordance with 1.06.07 or 1.20-1.06.07, shall be submitted to the Engineer no later than 10 days after the measurements are taken.

Initial Test Period: The minimum initial retroreflectivity readings shall meet or exceed the following minimum values using an observation angle of 1.05 degrees and an entrance angle of 88.8 degrees:

	*Type I White Markings	*Type I Yellow Markings
ASTM E1710 (Dry)	350 mcd/lux/m^2	225 mcd/lux/m^2
ASTM E2177 (Wet Recovery)	300 mcd/lux/m^2	200 mcd/lux/m^2

Review Period: A 90-day Review Period shall be implemented for Type I Epoxy Resin Pavement Markings. The Contractor shall be responsible for any defects in materials and workmanship of the Type I Epoxy Resin Pavement Markings for a period of 90 days from the date the Type I Epoxy Resin Pavement Markings are installed and subjected to live traffic conditions.

At the end of the Review Period, the Engineer will inspect the Type I Epoxy Resin Pavement Markings for durability, color, and retroreflectivity, and inform the Contractor of all rejected pavement markings that require replacement. The Type I Epoxy Resin Pavement Markings will be rejected for any of the following conditions:

- Insufficient thickness or line width, uneven cross-section.
- Poor adhesion or delamination.
- Insufficient groove depth.

The Contractor shall be responsible for replacing all rejected Type I Epoxy Resin Pavement Markings at no cost to the State. All rejected Type I Epoxy Resin Pavement Markings shall be replaced within 14 days of notification to the Contractor of the failed Review Period test. All Type I Epoxy Resin Pavement Markings installed as the result of a failed Review Period test shall meet all testing requirements of the initial performance testing procedures, and shall be subject to an additional Review Period.

Article 12.10.04—Method of Measurement:

Replace the entire Article with the following:

Type I Epoxy Resin Pavement Markings will be measured for payment by the actual number of linear feet of Type I Epoxy Resin Pavement Markings installed on the pavement and accepted by the Engineer.

The cost of all measuring and testing of the retroreflectivity of the Type I Epoxy Resin Pavement Markings by the Contractor will be considered incidental to the cost of the item.

Article 12.10.05—Basis of Payment:

Replace the entire Article with the following:

This work will be paid for at the Contract unit price per linear foot for "Type I Epoxy Resin Pavement Markings" of the width and color specified, installed on the pavement and accepted. These prices shall be for all the work required by this Section and all materials, equipment, tools and labor incidental thereto. Payment will not be made for pavement markings affected by Contractor error and ordered removed.

Pay Item	Pay Unit
4" Yellow Type I Epoxy Resin Pavement Markings	l.f.
6" Yellow Type I Epoxy Resin Pavement Markings	l.f.

ITEM #1303210A – DRY HYDRANT ASSEMBLY

Description: This item will consist of surveying, removing, storing, and re-installing the dry hydrant at the approximate existing location and in accordance with these specifications.

Materials:

Replacement parts, if required, for dry hydrant connection components (pickets, rails, and posts) shall match the material of the dry hydrant and shall be hot-dip galvanized to meet the requirements of ASTM A 123.

Any required replacement bolts, nuts, and other hardware shall be hot-dip galvanized in accordance with ASTM A 153 and match the size and type used in the existing dry hydrant.

Touch-up galvanized coating shall conform to the requirements of ASTM A 780 using material conforming to Federal Specification TT-P-641, Type I. The use of aerosol spray cans shall not be permitted.

Touch-up Painting: All replacement hot-dip galvanized dry hydrant components and the surface areas of all existing components which have been damaged during removal, storage, or reinstallation shall receive one of the following coating systems:

KEELER AND LONG	
Primer Coat	Kolor-Poxy #3200
Finish Coat	Kolorane Y-Acrythane Series Enamel
CARBOLINE	
Primer Coat	Carboline 888 Primer
Finish Coat	Carbothane 134HB Enamel
VALSPAR	
Primer Coat	Val Chem 13-F-62 Primer
Finish Coat	V40 Series Urethane Enamel

Coating on replacement connection components shall be shop applied. Touch-up coating on existing dry hydrant components shall be field applied.

Color of all work shall match existing.

Construction Methods:

Prior to submittal of the precast culvert fabrication drawings, the contractor shall survey the location of the dry hydrant connection hardware on the existing structure for use on the precast culvert. Connection hardware and locations shall be shown and included in the fabrication drawings for the precast culvert.

The existing dry hydrant, including hardware, shall be carefully removed so as not to bend, crush, scratch, or otherwise damage any of its components. Damaged items that in the opinion of the Engineer are not suitable for reuse shall be replaced by the Contractor at no cost to the Owner.

All dry hydrant components, including hardware, shall be stored in a secure location to prevent vandalism and theft. The Contractor is responsible for the security of the stored items, and any items damaged or stolen while in storage shall be replaced by the Contractor at no cost to the Owner.

The hydrant shall be reinstalled in a manner such that the finished product matches the existing dry hydrant.

Installation:

The horizontal suction pipe shall be placed level unless otherwise directed by the engineer.

The riser pipe shall rise at an angle of ninety (90) degrees from the horizontal suction pipe. The riser pipe shall be securely fastened to the precast culvert.

The dry hydrant assembly shall be inspected and tested by the local fire department. The Contractor shall be responsible for making any modifications or repairs as required by the fire department based on inspection and testing results.

Method of Measurement:

This work, being paid for on a lump sum basis, will not be measured for payment.

Basis of Payment:

This work will be paid for at the contract lump sum price for the "Dry Hydrant Assembly", complete in place, which price shall include all materials, equipment, tools, excavation, backfill, disposal of surplus material, testing, and labor incidental thereto.

Pay Item	Pay Unit
Dry Hydrant Assembly	L.S.

ITEM #1507000A - PROTECTION AND SUPPORT OF EXISTING UTILITIES

Description: Work under this item shall consist of the design, construction, maintenance and removal of temporary protection and temporary support for existing utilities.

The protection and support of the existing underground facilities adjacent to the south side of Route 101 at Bridge Nos. 02599 which will be necessary during the bridge replacement work as shown on the plans, as directed by the Engineer and in accordance with these specifications.

Contractors are cautioned that it is their responsibility to verify locations, conditions and field dimensions of all existing features, as actual conditions may differ from information indicated on the plans or contained in these specifications.

Materials:

The materials for this work shall be of satisfactory quality for the purpose intended and shall be approved by the Engineer. The material shall be intended for use in structures, trench or excavations and shall be sound and capable of safely carrying the specified loads.

Construction Methods:

The Contractor is herein made aware that construction will require the installation of shoring or other lateral support work and will require construction beneath or adjacent to active conduits and duct banks.

The Contractor is advised that no service interruption resulting from his operations will be allowed, except as otherwise provided for in Section 1.05 – Control of the Work or Section 1.08 - Prosecution and Progress. A Department representative shall be present at the installation of the temporary supports. Further attention shall be paid to “Section 1.07 – Legal Relations and Responsibilities,”.

The Contractor shall notify the Engineer prior to the start of his work and shall be responsible for all coordination with the Department. The Contractor shall allow the Engineer complete access to the work.

The Contractor shall prepare working drawings and computations showing his proposed method of support and protection for the utility to be supported and protected. Preparation of working drawings and computations shall conform to the requirements of Article 1.05.02. The support shall safely carry all utility dead loads and any imposed loadings under all possible construction conditions. Said supports and protections shall be constructed in a manner that will not interfere with the partial existing structure or its reconstruction.

When the temporary supports are no longer required, they shall be removed from the site by the Contractor.

Method of Measurement: This work shall be paid on lump sum basis and will not be measured for payment.

Basis of Payment: The work will be paid for at the contract lump sum price for "Protection and Support of Existing Utilities," which price shall include designing and detailing the temporary supports and furnishing and installing temporary supports, periodic inspection and removing temporary supports, and all materials, equipment, tools and labor incidental thereto.

Pay Item	Pay Unit
Protection and Support of Existing Utilities	l.s.

PERMITS AND/OR REQUIRED PROVISIONS:

The following Permits and/or Required Provisions follow this page are hereby made part of this Contract.

- **PERMITS AND/OR PERMIT APPLICATIONS**

CTDEEP Flood Management General Certification (Bridge No. 02599)	Approved on March 2, 2026
CTDEEP Inland Wetland General Permit (Bridge No. 02599)	Approved on June 11, 2026
USACE Self-Verification (Bridge No. 02599)	Approved on May 18, 2026

- **Construction Contracts - Required Contract Provisions (FHWA/State Funded Contracts)**

Connecticut Department of Energy and Environmental Protection License*

Flood Management Certification Approval

Licensee(s):	Connecticut Department of Transportation
Licensee Address(s):	
License Number(s):	202508378-FM
Municipality:	Killingly
Project Description:	Replacement of Bridge No. 02599, carrying State Route 101 over Alvia Chase Reservoir in Killingly
Project Address/Location:	Route 101 over Alvia Chase Reservoir Killingly, CT 06241
Waters:	Alvia Chase Reservoir
Authorizing CT Statute(s) and/or Federal Law:	CGS Section 25-68b to h
Applicable Regulations of CT State Agencies:	25-68h-1 to 3
Agency Contact:	Land & Water Resources Division, Bureau of Water Protection & Land Reuse, 860-424-3019
License Expiration:	Five (5) years from the date of issuance of this license.
Project Site Plan Set:	9 sheets of Plans Titled *"Environmental Permit Plans State Project No. 0068-0217 Replacement of Bridge No. 02599 Route 101 Over Alvia Chase Reservoir,"* Prepared by McFarland Johnson, Dated September 22, 2025
License Enclosures:	LWRD General Conditions; Site Plan Set; NDDB Determination No. 202504829

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

Authorized Activities:

The Licensee is hereby authorized to conduct the following work as described in application # 202508378 and as depicted on any site plan sheets / sets cited herein:

1. Site preparation and temporary relocation of utilities conducted under alternating one-way traffic per site plan sheets / sets cited herein:
    a. Clear and grub site and install sedimentation and erosion controls;
    b. Install crane pad and temporary support of excavation for temporary utility poles;
    c. Install in-water portions of cofferdams;
2. Replacement of Bridge No. 02599 with a 12-foot-wide by 8-foot-high precast concrete box culvert conducted under full road closure per site plan sheets / sets cited herein:
    a. Install temporary bypass pipe and remaining temporary cofferdam and dewatering systems;
    b. Remove existing superstructure, streambed material with existing structure and substructure in its entirety;
    c. Conduct excavation for the new box culvert to the appropriate elevation on the site plans cited herein;
    d. Install new box culvert including cut-off walls and wing walls;
    e. Place existing channel bottom material in box culvert;
    f. Backfill behind wingwalls and culvert
    g. Install riprap in front of wingwalls, top dressed with natural streambed material up to OHW elevation;
    h. Conduct grading at the upstream and downstream sides of the new culvert;
3. Restoration of site and permanent placement of utilities conducted under alternating one-way traffic per site plan sheets / sets cited herein:
    a. Remove temporary water handling and earth retaining structures including cofferdam sheet piling and bypass piping, with all in-water cofferdams cut to 2 feet below the bottom of the stream channel
    b. Remove crane pad and temporary support of excavation;
    c. Restore the existing grade with natural streambed material;
    d. Final seeding and planting;
    e. Remove sedimentation control system upon final stabilization;

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

This license is subject to the following Terms and Conditions:

1. **License Enclosure(s) and Conditions.** The Licensee shall comply with all applicable terms and conditions as may be stipulated within the License Enclosure(s) listed above.
2. **Time of Year Restriction.** The licensee shall ensure the following time of year restrictions are followed.
    a. All unconfined in-stream work shall be restricted to the period of June 1st to September 30th, inclusive.
    b. No trimming, cutting, or removal of trees with a 3" DBH or greater from April 15th to October 31st.
    c. An odonate management plan has been developed to outline proposed protection measures for state-listed species of concern with emergence and flight periods primarily between May 15th and August 31st.
3. **Endangered and Threatened Species Requirements.** Per NDDB Determination No. 202504829 attached hereto, the licensee shall adhere to the limitations and conditions included therein, in order to reduce impacts on the Pine Barrens Bluet, Scarlet Bluet, Little Bluet, and Attenuated Bluet.

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

March 2, 2026

Date

Brian P. Thompson
Division Director
Land & Water Resources Division

LWRD General Conditions

1. **Land Record Filing (for *Structures Dredging & Fill*, *Tidal Wetlands*, *Certificate of Permission*, and *Long Island Sound General Permit* Licenses only).** The Licensee shall file the Land Record Filing on the land records of the municipality in which the subject property is located not later than thirty (30) days after license issuance pursuant to Connecticut General Statutes (CGS) Section 22a-363g. A copy of the Notice with a stamp or other such proof of filing with the municipality shall be submitted to DEEP.LWRDRegulatory@ct.gov no later than sixty (60) days after license issuance. If a Land Record Filing form is not enclosed and the work site is not associated with an upland property, no filing is required.

2. **Contractor Notification.** The Licensee shall give a copy of the license and its attachments to the contractor(s) who will be carrying out the authorized activities prior to the start of construction and shall receive a written receipt for such copy, signed and dated by such contractor(s). The Licensee's contractor(s) shall conduct all operations at the site in full compliance with the license and, to the extent provided by law, may be held liable for any violation of the terms and conditions of the license. At the work site, the contractor(s) shall, whenever work is being performed, have on site and make available for inspection a copy of the license and the authorized plans.

3. **Work Commencement[1].** Not later than two (2) weeks prior to the commencement of any work authorized herein, the Licensee shall submit to DEEP.LWRDRegulatory@ct.gov, on the Work Commencement Form attached hereto, the name(s) and address(es) of all contractor(s) employed to conduct such work and the expected date for commencement and completion of such work, if any.
    - For water diversion activities authorized pursuant to 22a-377(c)-1 of the Regulations of Connecticut State Agencies, the Licensee shall also notify the Commissioner in writing two weeks prior to initiating the authorized diversion.
    - For emergency activities authorized pursuant Connecticut General Statutes Section 22a-6k, the Licensee shall notify the Commissioner, in writing, of activity commencement at least one (1) day prior to construction and of activity completion no later than five (5) days after conclusion.

4. **For Coastal Licenses Only - License Notice.** The Licensee shall post the first page of the License in a conspicuous place at the work area while the work authorized therein is undertaken.

5. **Unauthorized Activities.** Except as specifically authorized, no equipment or material, including but not limited to, fill, construction materials, excavated material or debris, shall be

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

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

6. **Management of Materials.** Any materials removed from the site shall be managed in accordance with all federal, state, and local requirements, including Chapter 446K Water Pollution Control, Chapter 445 Hazardous Waste, and Chapter 446d Solid Waste of the Connecticut General Statutes.

7. **Unconfined Instream Work.** Unless otherwise noted in a condition of the license, the following conditions apply to projects in non-coastal waters:

   - Unconfined instream work is limited to the period June 1 through September 30.
   - Confinement of a work area by cofferdam techniques using sand bag placement, sheet pile installation (vibratory method only), portadam, or similar confinement devices is allowed any time of the year. The removal of such confinement devices is allowed any time of the year.
   - Once a work area has been confined, in-water work within the confined area is allowed any time of the year.
   - The confinement technique used shall completely isolate and protect the confined area from all flowing water. The use of silt boom/curtain or similar technique as a means for confinement is prohibited.

8. **For State Actions Only - Material or Equipment Storage in the Floodplain.** Unless approved by a Flood Management Exemption, the storage of any materials at the site which are buoyant, hazardous, flammable, explosive, soluble, expansive, radioactive, or which could in the event of a flood be injurious to human, animal or plant life, below the elevation of the five-hundred (500) year flood is prohibited. Any other material or equipment stored at the site below said elevation by the Licensee or the Licensee's contractor must be firmly anchored, restrained or enclosed to prevent flotation. The quantity of fuel stored below such elevation for equipment used at the site shall not exceed the quantity of fuel that is expected to be used by such equipment in one day. In accordance with the licensee's Flood Contingency Plan, the Licensee shall remove equipment and materials from the floodplain during periods when flood warnings have been issued or are anticipated by a responsible federal, state or local agency. It shall be the Licensee's responsibility to obtain such warnings when flooding is anticipated.

9. **Temporary Hydraulic Facilities for Water Handling.** If not reviewed and approved as a part of the license application, temporary hydraulic facilities shall be designed by a qualified professional and in accordance with the *Connecticut Guidelines for Soil Erosion and Sediment Control*, the *2004 Connecticut Stormwater Quality Manual*, or the *Department of Transportation's ConnDOT Drainage Manual,* as applicable. Temporary hydraulic facilities may include channels, culverts or bridges which are required for haul roads, channel relocations, culvert installations, bridge construction, temporary roads, or detours.

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

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

12. **In-Water Work Vessel Staging and Storage. (for Structures Dredging & Fill, Tidal *Wetlands*, *Certificate of Permission*, and *Long Island Sound General Permit* Licenses only).** For any barge, vessel, skiff or floating work platform ("work vessels") utilized in the execution of the work authorized herein, the Licensee shall ensure that such work vessels:
    - do not rest on, or come in contact with, the substrate at any time, unless specifically authorized in the license.
    - are not stored over intertidal flats, submerged aquatic vegetation or tidal wetland vegetation or in a location that interferes with navigation. In the event any work vessel is grounded, no dragging or prop dredging shall occur to free it.

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

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

15. **Change of Use. (Applies only if a use is specified within the License "*Project Description*")**
    a. The work specified in the license is authorized solely for the purpose set forth in the license. No change in purpose or use of the authorized work or facilities as set forth in the license may occur without the prior written approval of the Commissioner. The Licensee shall, prior to undertaking or allowing any change in use or purpose from that which is authorized by this license, request permission from the Commissioner for such change. Said request shall be in writing and shall describe the proposed change and the reason for the change.

    b. A change in the form of ownership of any structure authorized herein from a rental/lease commercial marina to a wholly-owned common interest community or dockominium may constitute a change in purpose as specified in paragraph (a) above.

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

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

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

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

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

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

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

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

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

    DEEP.LWRDRegulatory@ct.gov or

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

23. **Date of Document Submission.** The date of submission to the Commissioner of any document required by the license shall be the date such document is received by the Commissioner. The date of any notice by the Commissioner under the license, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three (3) days after it is mailed by the Commissioner, whichever is earlier. Except as otherwise specified in the license, the word "day" as used in the license means calendar day. Any document or action which is required by the license to be submitted or performed by a date which falls on a Saturday, Sunday or a Connecticut or federal holiday shall be submitted or performed on or before the next day which is not a Saturday, Sunday, or a Connecticut or federal holiday.

24. **Certification of Documents.** Any document, including but not limited to any notice, which is required to be submitted to the Commissioner under the license shall be signed by the Licensee and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows: "I have personally examined and am familiar with the information submitted in this document and all attachments and certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief, and I understand that any false statement made in this document or its attachments may be punishable as a criminal offense."

25. **Accuracy of Documentation.** In evaluating the application for the license, the Commissioner has relied on information and data provided by the Licensee and on the Licensee's representations concerning site conditions, design specifications and the proposed work, including but not limited to representations concerning the commercial, public or private nature of the work or structures, the water-dependency of said work or structures, its availability for access by the general public, and the ownership of regulated structures or filled areas. If such information proves to be false, deceptive, incomplete or inaccurate, the license may be modified, suspended or revoked, and any unauthorized activities may be subject to enforcement action.

26. **Limits of Liability.** In granting the license, the Commissioner has relied on all representations of the Licensee, including information and data provided in support of the Licensee's application. Neither the Licensee's representations nor the issuance of the license shall constitute an assurance by the Commissioner as to the structural integrity, the engineering feasibility or the efficacy of such design.

27. **Reporting of Violations.** In the event that the Licensee becomes aware that they did not or may not comply, or did not or may not comply on time, with any provision of this license or of any document incorporated into the license, the Licensee shall immediately notify the

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

a. the provision(s) of the license that has been violated;

b. the date and time the violation(s) was first observed and by whom;

c. the cause of the violation(s), if known;

d. if the violation(s) has ceased, the duration of the violation(s) and the exact date(s) and times(s) it was corrected;

e. if the violation(s) has not ceased, the anticipated date when it will be corrected;

f. steps taken and steps planned to prevent a reoccurrence of the violation(s) and the date(s) such steps were implemented or will be implemented; and

g. the signatures of the Licensee and of the individual(s) responsible for actually preparing such report.

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

28. **Revocation/Suspension/Modification.** The license may be revoked, suspended, or modified in accordance with applicable law.

29. **Other Required Approvals.** License issuance does not relieve the Licensee of their obligations to obtain any other approvals required by applicable federal, state and local law.

30. **Rights.** The license is subject to and does not derogate any present or future property rights or powers of the State of Connecticut, and conveys no property rights in real estate or material nor any exclusive privileges, and is further subject to any and all public and private rights and to any federal, state or local laws or regulations pertinent to the property or activity affected hereby.

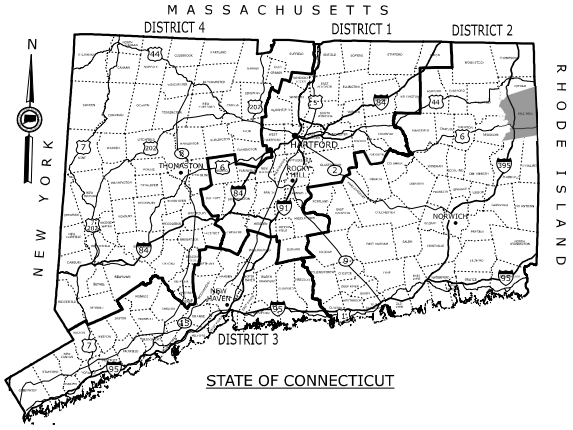
31. **Condition Conflicts.** In the case where a project specific special condition listed on the license differs from, or conflicts with, one of the general conditions listed herein, the project specific special condition language shall prevail. It is the licensee's responsibility to contact the agency contact person listed on the license for clarification if needed prior to conducting any further regulated activities.

ENVIRONMENTAL PERMIT PLANS
STATE PROJECT NO. 0068-0217

REPLACEMENT OF BRIDGE NO. 02599
ROUTE 101 OVER
ALVIA CHASE RESERVOIR

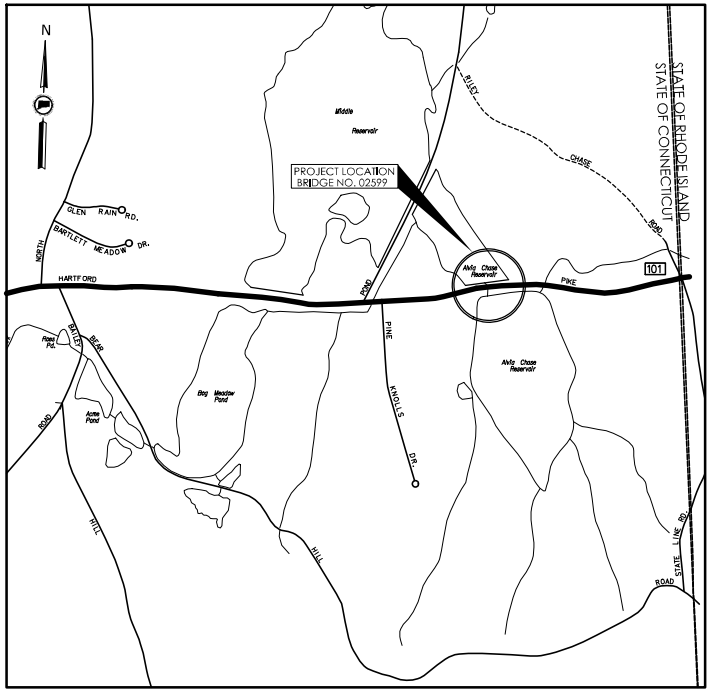
Town of

KILLINGLY



STATE OF CONNECTICUT

Digitally signed by Matthew Goclowski
Date: 2025.11.03 07:21:16 -05'00'



LOCATION PLAN
NOT TO SCALE

GENERAL NOTES

1. THESE PLANS ARE NOT FOR CONSTRUCTION AND ARE INTENDED ONLY FOR ENVIRONMENTAL PERMITTING PURPOSES. THESE PLANS HOLD AUTHORITY FOR ALL ACTIVITIES CONCERNING THE REGULATED AREA. FOR DETAILED PLANIMETRIC INFORMATION AND PAYMENT REFER TO THE APPLICABLE CONTRACT DOCUMENTS.
2. THE DEPARTMENT OF TRANSPORTATION WILL ONLY SUBMIT REVISIONS TO DEEP AND USACE FOR CHANGES TO THE DESIGN THAT WILL AFFECT REGULATED AREAS.
3. FOR A DESCRIPTION OF THE WATERCOURSES, WETLAND AND WETLAND SOILS SEE RELEVANT SECTIONS OF THE PERMIT APPLICATION.
4. 400 FOOT GRID BASED ON CONNECTICUT COORDINATE SYSTEM N.A.D. 1983, VERTICAL DATUM NAVD OF 1988.
5. ALL CONSTRUCTION ACTIVITIES WILL BE CONDUCTED IN ACCORDANCE WITH THE DEPARTMENT'S STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, FACILITIES, AND INCIDENTAL CONSTRUCTION, FORM 819, SECTION 1.10 AND WILL ALSO FOLLOW REQUIRED BEST MANAGEMENT PRACTICES (BMPS) AND SEDIMENT AND EROSION CONTROL MEASURES IN ACCORDANCE WITH THE EROSION & SEDIMENTATION CONTROL GUIDELINES AND THE STORMWATER QUALITY MANUAL.

LIST OF DRAWINGS

DRAWING NO.	DRAWING TITLE
PMT-01	TITLE SHEET
PMT-02	GENERAL PLAN
PMT-03	ENVIRONMENTAL IMPACTS PLAN - WETLANDS
PMT-04	ENVIRONMENTAL IMPACTS PLAN - FLOODPLAINS
PMT-05	PROPOSED CULVERT ELEVATIONS
PMT-06	PROPOSED CULVERT SECTION
PMT-07	WATER HANDLING PLAN
PMT-08	PERMIT PLANTING PLAN
PMT-09	ODONATE HABITAT AREA

DESIGNED BY: McFARLAND JOHNSON

McFARLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

REV. | DATE | REVISION DESCRIPTION

ENVIRONMENTAL PERMIT PLANS
DATED: 9/22/2025

DESIGNER/DRAFTER: CHECKED BY:

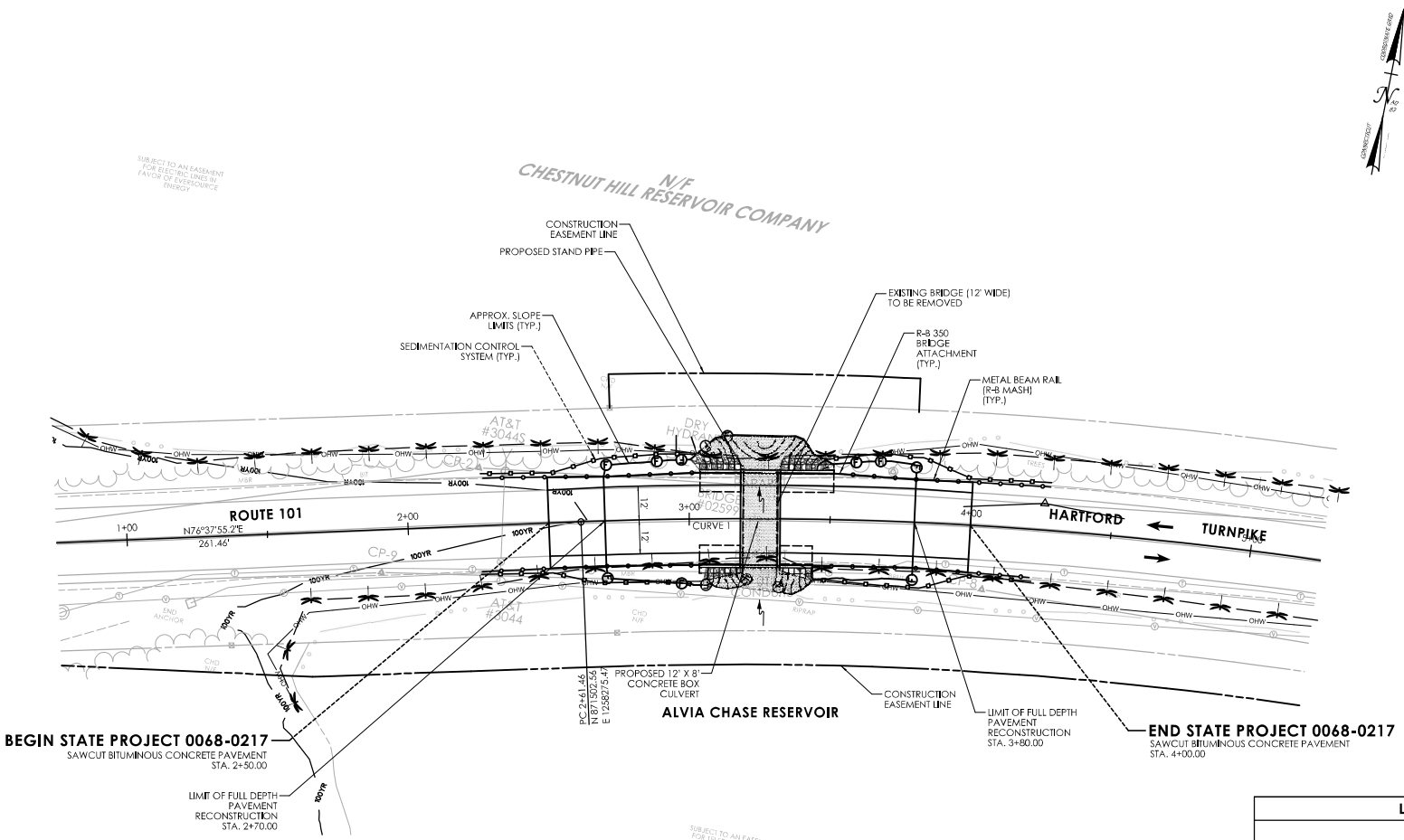
SIGNATURE/ BLOCK:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER: 0068-0217
PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 02599 ROUTE 101 OVER ALVIA CHASE RESERVOIR
TOWN(S): KILLINGLY
DRAWING TITLE: TITLE SHEET

DRAWING NO.: PMT-01
SHEET NO.:

LASTED SAVED BY: MDorea FILE NAME: M:\DOE\Worksets\CTDOT\0068-0217\Highways\Contract_Plans\Permit Plans\HW_CP_0068_0217_EPP01.dgn
PLOTTED DATE: 9/22/2025





LEGEND

- OHW — ORDINARY HIGH WATER (OHW)
- EDGE OF WATER
- SEDIMENTATION CONTROL SYSTEM (SCS)
- 100YR — EXISTING 100-YEAR FLOOD (CALCULATED)
- ODONATE HABITAT
- 18" INTERMEDIATE RIPRAP SLOPE PROTECTION
- NATURAL CHANNEL BOTTOM MATERIAL

NO.	REVISION DESCRIPTION	DATE

ENVIRONMENTAL PERMIT PLANS
DATED: 9/22/2025

DESIGNER/DRAFTER: MDorea CHECKED BY:

HORIZONTAL SCALE 1" = 20'

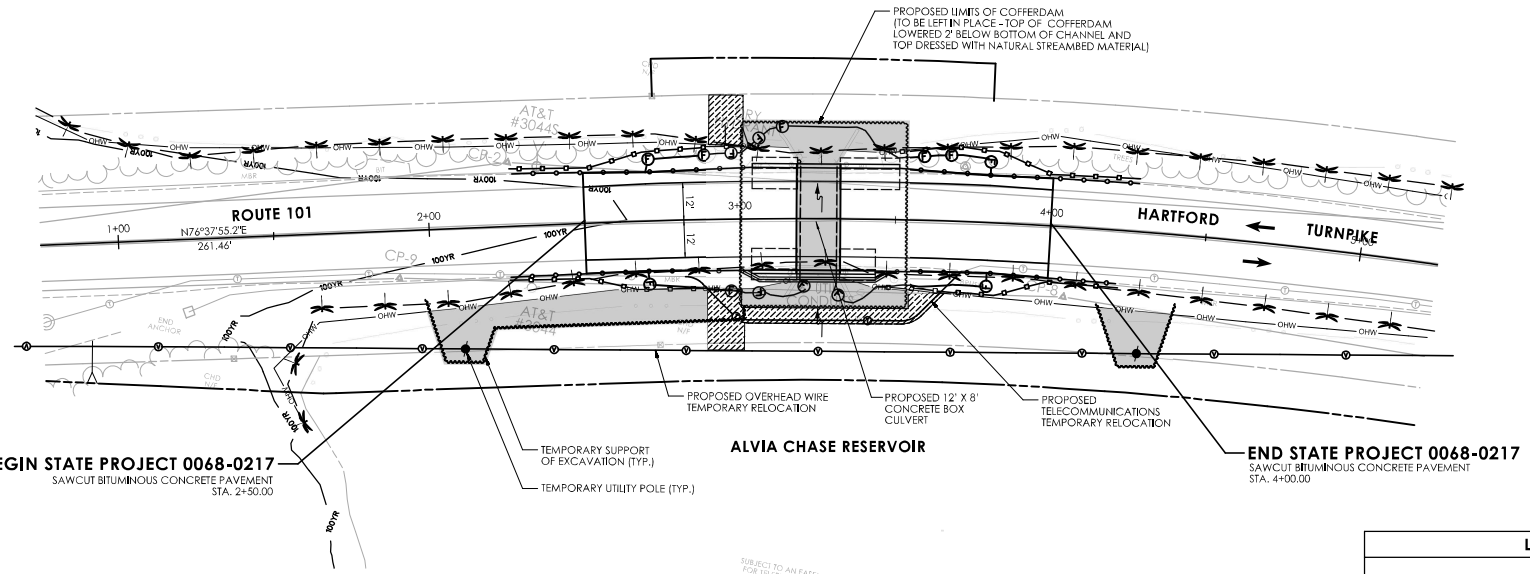
SIGNATURE/ BLOCK:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER: 0068-0217
PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 02599 ROUTE 101 OVER ALVIA CHASE RESERVOIR
TOWN(S): KILLINGLY
DRAWING TITLE: GENERAL PLAN

DRAWING NO. PMT-02
SHEET NO.

LASTED SAVED BY: MDorea FILE NAME: M:\DOE\Worksets\CTDOT\0068-0217\Highways\Contract_Plans\Permit Plans\HW_CP_0068_0217_EPP02.dgn
PLOTTED DATE: 9/22/2025





WETLAND/WATERCOURSE IMPACT TABLE

	WETLAND IMPACT		WATERCOURSE IMPACT		TOTALS	
	S.F.	AC.	S.F.	AC.	S.F.	AC.
PERMANENT IMPACTS	0	0.0000	2900	0.0666	2900	0.0666
TEMPORARY IMPACTS	0	0.0000	740	0.0170	740	0.0170
TOTAL IMPACTS	0	0.0000	3640	0.0836	3640	0.0836

NOTE:

1. THE CONTRACTOR SHALL NOT WORK WITHIN THE LIMITS OF THE WETLANDS AND WATERCOURSE WITH THE EXCEPTION OF THOSE AREAS DELINEATED AS TEMPORARY OR PERMANENT IMPACTS TO THE WETLANDS AND WATERCOURSE. ALL DISTURBED AREAS SHALL BE RESTORED.
2. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY MATERIAL ONCE CONSTRUCTION HAS BEEN COMPLETED AND RESTORE THE GRADES TO MATCH EXISTING. EXCAVATION AND REUSE OF EXISTING CHANNEL BOTTOM MATERIAL AND SUPPLEMENTAL STREAMBED CHANNEL MATERIAL SHALL BE USED TO FILL ANY DEPRESSIONS.

LEGEND

- OHW — ORDINARY HIGH WATER (OHW)
- EDGE OF WATER
- SEDIMENTATION CONTROL SYSTEM (SCS)
- 100YR — EXISTING 100-YEAR FLOOD (CALCULATED)
- ODONATE HABITAT
- PERMANENT WATER COURSE / WETLANDS IMPACTS
- TEMPORARY WATER COURSE / WETLAND IMPACTS

REVISIONS: DESCRIPTION | DATE | BY

ENVIRONMENTAL PERMIT PLANS
DATED: 9/22/2025

DESIGNER/DRAFTER: CHECKED BY:

HORIZONTAL SCALE 1" = 20'

SIGNATURE/ BLOCK:

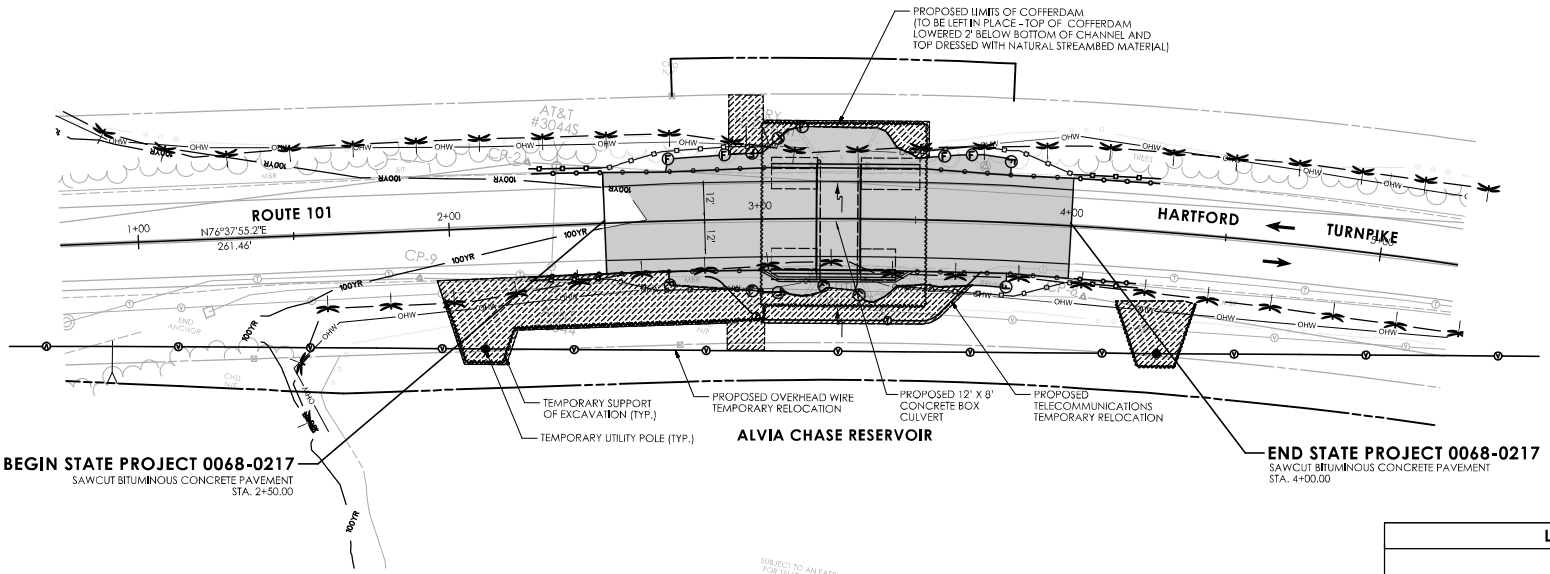
MARYLAND JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER: 0068-0217
PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 02599 ROUTE 101 OVER ALVIA CHASE RESERVOIR
TOWN(S): KILLINGLY
DRAWING TITLE: ENVIRONMENTAL IMPACT PLAN - WETLANDS

DRAWING NO. PMT-03
SHEET NO.

LASTED SAVED BY: MDorea FILE NAME: M:\DOE\Worksets\CTDOT\0068-0217\Highways\Contract_Plans\Permit Plans\HW_CP_0068_0217_EPP03.dgn
PLOTTED DATE: 9/22/2025



100-YEAR FLOODPLAIN IMPACTS TABLE	
VOLUME IMPACTS	
EXCAVATION IN FEMA FLOODPLAIN (CY)	FILL IN FEMA FLOODPLAIN (CY)
1000	1150

LEGEND

- OHW — ORDINARY HIGH WATER (OHW)
- EDGE OF WATER
- SEDIMENTATION CONTROL SYSTEM (SCS)
- 100YR — EXISTING 100-YEAR FLOOD (CALCULATED)
- ODONATE HABITAT
- PERMANENT FLOODPLAIN IMPACTS
- TEMPORARY FLOODPLAIN IMPACTS

REVISION DESCRIPTION | DATE | BY

ENVIRONMENTAL PERMIT PLANS
DATED: 9/22/2025

DESIGNER/DRAFTER: CHECKED BY:

HORIZONTAL SCALE 1" = 20'

SIGNATURE/ BLOCK:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

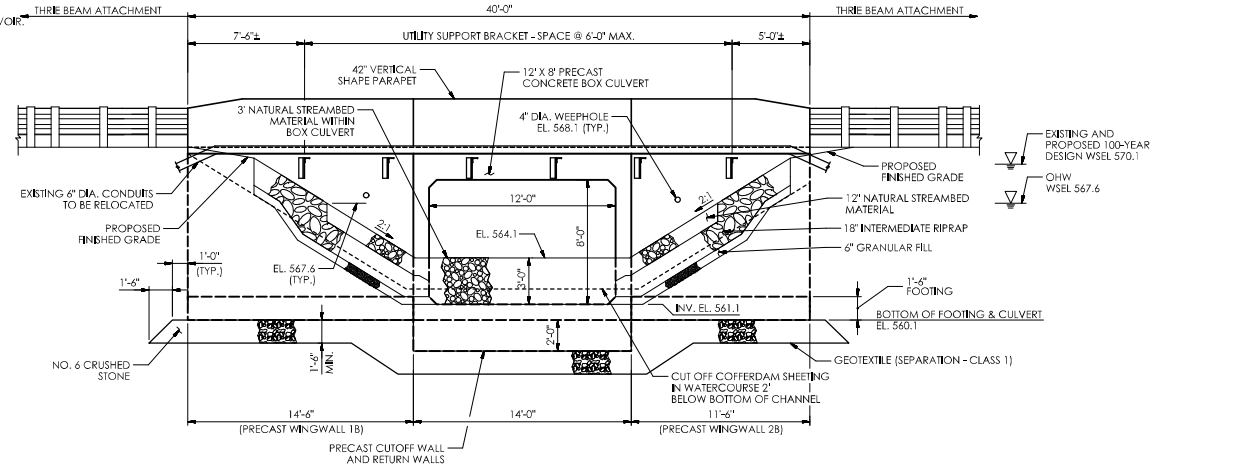
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PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 02599 ROUTE 101 OVER ALVIA CHASE RESERVOIR
TOWN(S): KILLINGLY
DRAWING TITLE: ENVIRONMENTAL IMPACT PLAN - FLOOD PLAIN

DRAWING NO. PMT-04
SHEET NO.

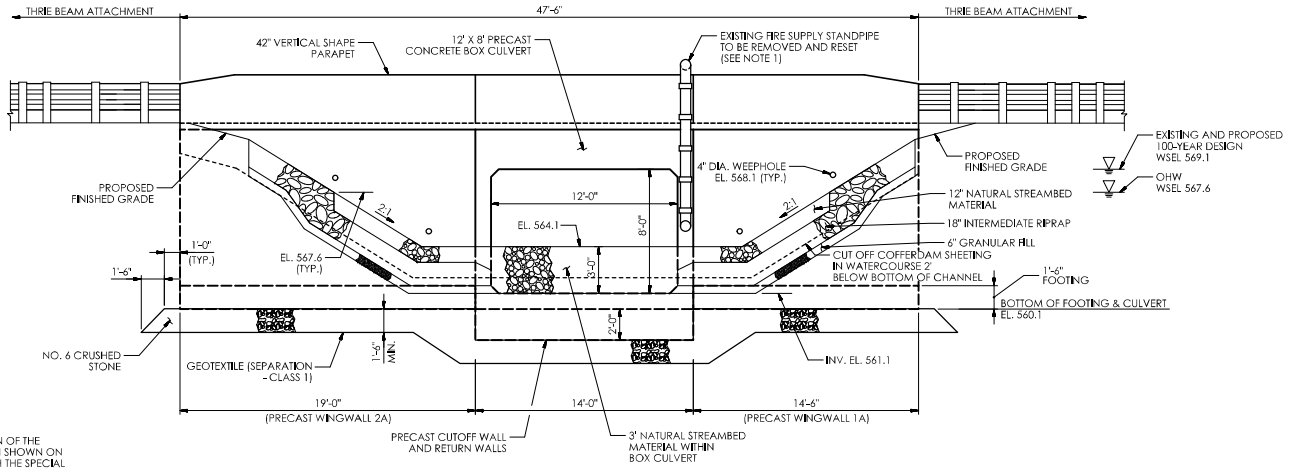
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PLOTTED DATE: 9/22/2025

NOTES:

1. BANKFULL WIDTH NOT APPLICABLE DUE TO STRUCTURE LOCATION WITHIN A RESERVOIR.
2. OPENNESS RATIO = 1.7 FT (OPEN AREA = 60 SQ. FT / STRUCTURE LENGTH = 35 FT)



UPSTREAM ELEVATION
SCALE: ¼" = 1'-0"



DOWNSTREAM ELEVATION
SCALE: ¼" = 1'-0"

HYDRAULIC DATA	
DRAINAGE AREA	1.35 SQ. MILES
DESIGN FREQUENCY	100 YEAR
DESIGN DISCHARGE	365 CFS
AVERAGE DAILY FLOW ELEVATION	567.3 FT
100-YEAR UPSTREAM DESIGN WATER SURFACE ELEVATION	570.1 FT
100-YEAR DOWNSTREAM DESIGN WATER SURFACE ELEVATION	569.1 FT

NATIVE STREAMBED MATERIAL NOTES:

1. NATIVE STREAMBED MATERIAL EXCAVATED DURING THE INSTALLATION OF THE STRUCTURE SHALL BE STOCKPILED AND THEN REPLACED TO THE DEPTH SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH THE SPECIAL PROVISION "EXCAVATION AND REUSE OF EXISTING CHANNEL BOTTOM MATERIAL."
2. ADDITIONAL STREAMBED MATERIAL, IF REQUIRED, SHALL BE IN ACCORDANCE WITH THE SPECIAL PROVISION "SUPPLEMENTAL STREAMBED CHANNEL MATERIAL."
3. THE STOCKPILE SHALL BE LOCATED OUTSIDE THE WETLAND LIMITS AND PROTECTED WITH A SEDIMENTATION CONTROL SYSTEM.

NO.	DATE	REVISION DESCRIPTION

ENVIRONMENTAL PERMIT PLANS
DATED: 9/22/2025

DESIGNER/DRAFTER: BAP/SLM CHECKED BY: DMK

HORIZONTAL SCALE 1" = 4'

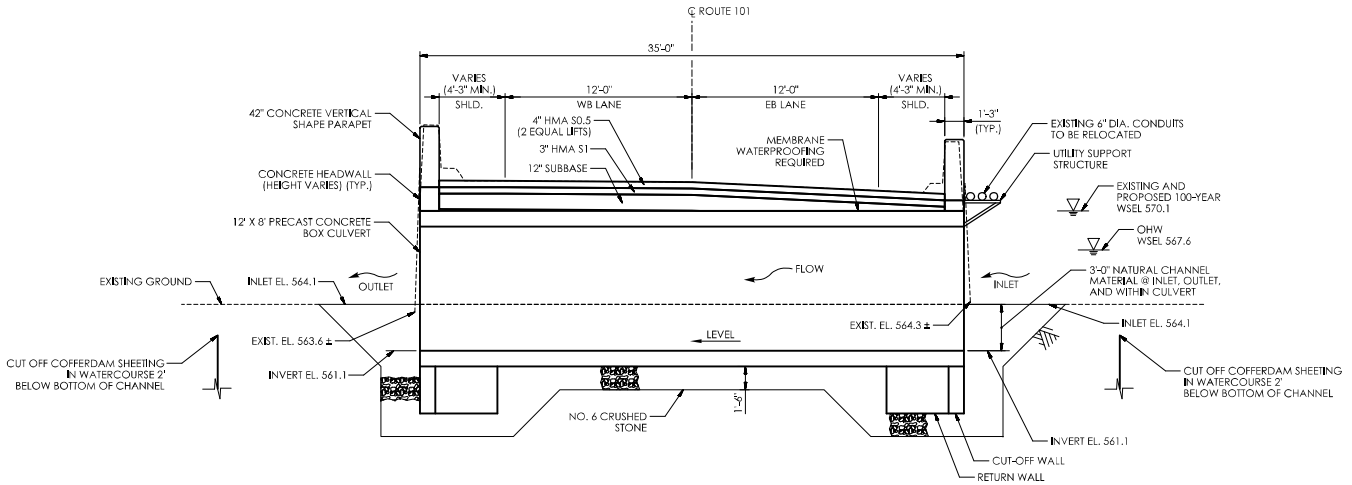
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STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER: 0068-0217
PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 02599 ROUTE 101 OVER ALVIA CHASE RESERVOIR
TOWN(S): KILLINGLY
DRAWING TITLE: PROPOSED CULVERT ELEVATIONS

DRAWING NO. PMT-05
SHEET NO.

LASTED SAVED BY: MDarea FILE NAME: M:\DDP\Worksets\CTDOT\0068-0217\Highways\Contract_Plans\Permit Plans\HW_CP_0068_0217_PP05.dgn
PLOTTED DATE: 9/22/2025



TYPICAL SECTION (STA 3+25)

SCALE: ¼" = 1'-0"

REV.	DATE	REVISION DESCRIPTION

ENVIRONMENTAL PERMIT PLANS
DATED: 9/22/2025

DESIGNER/DRAFTER: EAP/SLM CHECKED BY: DMK

HORIZONTAL SCALE 1" = 4'

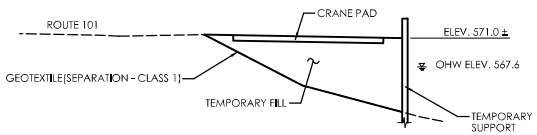
SIGNATURE/ BLOCK:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

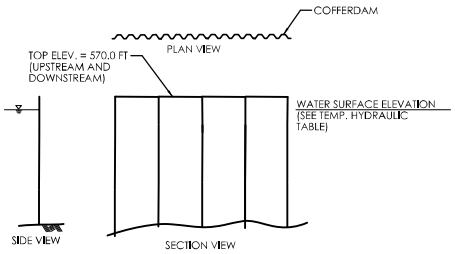
PROJECT NUMBER: 0068-0217
PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 02599 ROUTE 101 OVER ALVIA CHASE RESERVOIR
TOWN(S): KILLINGLY
DRAWING TITLE: PROPOSED CULVERT SECTION

DRAWING NO. PMT-06
SHEET NO.

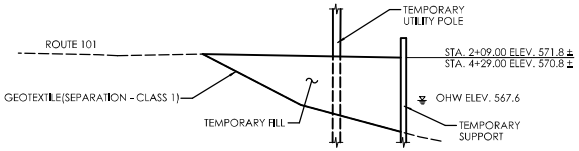
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PLOTTED DATE: 9/22/2025



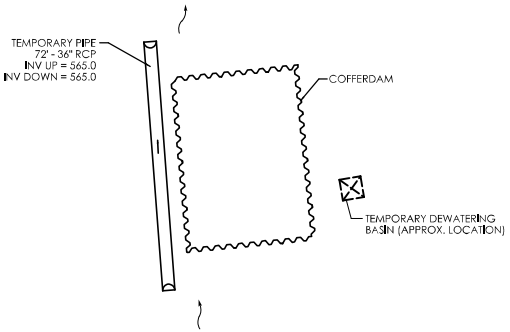
TEMPORARY CRANE PAD
(NOT TO SCALE)



COFFERDAM SHEET PILING
(NOT TO SCALE)



TEMPORARY UTILITY POLE PAD
(NOT TO SCALE)



TEMPORARY PIPE AROUND WORK AREA WITH ENCLOSED COFFERDAM
(NOT TO SCALE)

TEMPORARY HYDRAULIC SUMMARY DATA	
AVERAGE DAILY FLOW (ADF)	2.5 CFS
AVERAGE SPRING FLOW (ASF)	4.9 CFS
2-YEAR FREQUENCY DISCHARGE	40 CFS
TEMPORARY WATER SURFACE ELEVATION DOWNSTREAM	567.9 FT
TEMPORARY WATER SURFACE ELEVATION UPSTREAM	569.5 FT

LEGEND

- OHW — LIMITS OF ORDINARY HIGH WATER
- EDGE OF WATER
- TEMPORARY COFFERDAM
- 100YR — EXISTING 100-YEAR FLOOD (CALCULATED)
- ODONATE HABITAT

UNCONFINED IN-STREAM WORK:

1. ANY UNCONFINED IN-STREAM WORK WITHIN THE WATERCOURSE SHALL BE RESTRICTED TO THE PERIOD FROM JUNE 1 TO SEPTEMBER 30, INCLUSIVE.
2. THE DEPARTMENT WILL REVIEW AND MAY APPROVE THE METHODS OF UNCONFINED IN-WATER WORK WITH CONSIDERATION OF THE FOLLOWING:
   * PROPOSED SCHEDULE FOR WORK OPERATIONS
   * ALL UNCONFINED IN-WATER WORK SHALL BE MINOR IN NATURE
   * DISTURBANCE SHALL BE LIMITED TO AREAS THAT HAVE BEEN APPROVED FOR TEMPORARY AND PERMANENT IMPACT.
   * BEST MANAGEMENT PRACTICE SHALL BE UTILIZED WHEREVER POSSIBLE TO MINIMIZE TURBIDITY/SEDIMENT TRANSPORT DOWNSTREAM.
   * DISTURBED AREAS AND THE DURATION OF DISTURBANCE SHALL BE MINIMIZED TO THE EXTENT POSSIBLE.
   * IN-STREAM WORK SHALL BE DONE DURING PERIODS OF LOW FLOW.

PROTECTED SPECIES TIME-OF-YEAR:

1. NO TRIMMING, CUTTING, OR REMOVAL OF TREES WITH A 3" DBH OR GREATER FROM APRIL 15 TO OCTOBER 31.
2. AN ODONATE MANAGEMENT PLAN HAS BEEN DEVELOPED TO OUTLINE PROPOSED PROTECTION MEASURES FOR STATE-LISTED SPECIES OF CONCERN WITH EMERGENCE AND FLIGHT PERIODS PRIMARILY BETWEEN MAY 15TH AND AUGUST 31ST.
3. THE CONTRACTOR SHALL COMPLY WITH REQUIRED BMPS OUTLINED IN THE NDDB DETERMINATION LETTER 202504829 FOR THE PROTECTION OF PINE BARRENS BLUET (*ENALLAGMA RECURVATUM*), SCARLET BLUET (*ENALLAGMA PICTUM*), LITTLE BLUET (*ENALLAGMA MINUSCULUM*), AND ATTENUATED BLUET (*ENALLAGMA DAECKII*) WITHIN THE PROJECT LIMITS.

WATER HANDLING NOTES:

1. THE CONTRACTOR SHALL DESIGN THE TEMPORARY COFFERDAMS AND SUBMIT MEANS AND METHODS OF HANDLING WATER TO THE ENGINEER FOR APPROVAL.
2. ALL WATER PUMPED FROM WITHIN THE TEMPORARY COFFERDAMS SHALL BE HANDLED THROUGH LOW-FLOW PUMP(S). PUMP(S) SHALL BE SIZED BY THE CONTRACTOR TO HANDLE THE EXPECTED FLOWS AND BE DISCHARGED TO A STABLE LOCATION. THE CONTRACTOR SHALL SUBMIT THE MEANS AND METHODS OF HANDLING STORM DRAINAGE TO THE ENGINEER FOR APPROVAL.
3. TOP OF TEMPORARY COFFERDAM SHALL BE MINIMUM EL. (570.0 FT).
4. THE CONTRACTOR SHALL MAINTAIN WATER THROUGH THE TEMPORARY WATER HANDLING SYSTEM AS REQUIRED DURING CONSTRUCTION OF THE NEW STRUCTURE.
5. THE CONTRACTOR IS REQUIRED TO HAVE A PRIMARY AND SECONDARY PUMP ON-SITE AT ALL TIMES DURING CONSTRUCTION.
6. A DEWATERING BASIN SHALL BE ESTABLISHED OUTSIDE OF THE WETLAND LIMITS.
7. TEMPORARY WATER HANDLING SYSTEM SHALL CONSIST OF AN APPROVED SYSTEM THAT THE CONTRACTOR ELECTS TO USE, WHICH WILL SAFELY CONVEY WATER FLOWS THROUGH THE CONSTRUCTION AREA, SHALL BE ABLE TO SUPPORT CONSTRUCTION ACTIVITY, AND SHALL CONFORM TO PERMITS.
8. WATER HANDLING SYSTEM SHALL NOT EXCEED IMPACT AREAS SHOWN ON THE WETLAND AND FLOODPLAIN IMPACT SHEETS OF THE PERMIT PLANS.

SUGGESTED CONSTRUCTION SEQUENCE:

1. INSTALL CONSTRUCTION SIGNS
2. MOBILIZATION
3. CLEAR AND GRUB SITE
4. INSTALL EROSION AND SEDIMENTATION CONTROLS
5. ESTABLISH FIELD OFFICE
6. MATERIAL APPROVAL
7. INSTALL TEMPORARY SIGNAL EQUIPMENT
8. IMPLEMENT ALTERNATING ONE-WAY TRAFFIC ON SOUTH SIDE OF ROADWAY (STAGING PHASE 1)
9. INSTALL CRANE PAD AND TEMPORARY SUPPORT OF EXCAVATION FOR TEMPORARY UTILITY POLES
10. INSTALL IN-WATER PORTIONS OF COFFERDAMS
11. RELOCATE UNDERGROUND TELECOMMUNICATION LINES
12. RELOCATE AERIAL UTILITY LINES
13. SHIFT ALTERNATING ONE-WAY TRAFFIC TO NORTH SIDE OF ROADWAY (STAGING PHASE 2)
14. REPEAT STEPS 10-13
15. COVER TEMPORARY SIGNAL EQUIPMENT [WW1]
16. CLOSE ROADWAY AND IMPLEMENT DETOUR (STAGING PHASE 3)
17. INSTALL TEMPORARY BYPASS PIPE
18. INSTALL REMAINING TEMPORARY COFFERDAM AND DEWATERING
19. REMOVE TOP OF EXISTING STRUCTURE
20. REMOVE EXISTING STREAMBED MATERIAL WITHIN EXISTING STRUCTURE
21. REMOVE REMAINING PORTIONS OF STRUCTURE
22. EXCAVATION TO BOTTOM OF NO. 6 CRUSHED STONE
23. PLACE CUT-OFF WALLS AND BOX CULVERT
24. PLACE EXISTING CHANNEL BOTTOM MATERIAL IN BOX CULVERT
25. ERECT WINGWALLS FOOTINGS
26. ERECT WINGWALLS STEMS
27. BACKFILL BEHIND WINGWALLS AND CULVERT
28. PLACE RIP-RAP IN FRONT OF WINGWALL
29. TOP DRESS WITH NATURAL STREAMBED MATERIAL UP TO OHW ELEVATION
30. GRADE IN FRONT OF CULVERT AT UPSTREAM AND DOWNSTREAM SIDES
31. REMOVE COFFERDAM SHEETING IN ROADWAY AND SHOULDERS
32. CUT OFF COFFERDAM SHEETING IN WATERCOURSE 2 FEET BELOW BOTTOM OF CHANNEL
33. REMOVE TEMPORARY BYPASS PIPE
34. PLACE UNDERGROUND TELECOMMUNICATIONS LINES
35. PLACE UTILITY POLES IN FINAL LOCATIONS
36. COMPLETE ROADWAY APPROACH AND INSTALL GUIDERAIL
37. UNCOVER TEMPORARY SIGNAL
38. IMPLEMENT ALTERNATING ONE-WAY TRAFFIC ON NORTH SIDE OF THE ROADWAY (STAGING PHASE 4)
39. REMOVE CRANE PAD AND TEMPORARY SUPPORT OF EXCAVATION
40. RESTORE TO EXISTING GRADE WITH NATURAL STREAMBED MATERIAL
41. PAVE FINAL WEARING COURSE
42. INSTALL PAVEMENT MARKINGS
43. SHIFT ALTERNATING ONE-WAY TRAFFIC TO SOUTH SIDE OF ROADWAY (STAGING PHASE 5)
44. REPEAT STEPS 39-43
45. REMOVE TEMPORARY ROADWAY BARRIER
46. REMOVE ALTERNATING ONE-WAY TRAFFIC AND TEMPORARY SIGNAL
47. FINAL SEEDING AND PLANTING
48. REMOVE SEDIMENTATION CONTROL SYSTEM UPON FINAL STABILIZATION
49. CLEAN UP

REV.	DATE	REVISION DESCRIPTION

ENVIRONMENTAL PERMIT PLANS
DATED: 9/22/2025

DESIGNER/DRAFTER: EAP/SLM CHECKED BY: DMK

HORIZONTAL SCALE 1" = 10'

SIGNATURE/ BLOCK:

MAYNARD JOHNSON
53 REGIONAL DRIVE
CONCORD, NH 03301

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER: 0068-0217
PROJECT DESCRIPTION: REPLACEMENT OF BRIDGE NO. 02599 ROUTE 101 OVER ALVIA CHASE RESERVOIR
TOWN(S): KILLINGLY
DRAWING TITLE: WATER HANDLING PLAN

DRAWING NO. PMT-07
SHEET NO.

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PLOTTED DATE: 9/22/2025

NOTES

1. THE PLANTINGS ON THIS SHEET ARE FOR ENVIRONMENTAL PERMITTING. ANY SUBSTITUTIONS TO THE PERMIT PLANTINGS SHALL BE COORDINATED WITH THE DEPARTMENT'S OFFICE OF ENVIRONMENTAL PLANNING (OEP).

2. PROPOSED PLANTINGS TO BE FIELD LOCATED BY CTDOT OEP OR THEIR DESIGNATED REPRESENTATIVE.

3. WOOD CHIP MULCH SHALL NOT BE PLACED IN THE WETLAND AREA.

4. DISTURBED AREAS BELOW THE WETLAND LIMIT SHALL BE SEEDED WITH WETLAND GRASS ESTABLISHMENT. DISTURBED AREAS ABOVE THE WETLAND LIMIT SHALL BE SEEDED WITH CONSERVATION SEEDING FOR SLOPES, OR OTHER SEED MIX AS SPECIFIED. ALL DISTURBED AREAS SHALL BE RESTORED.

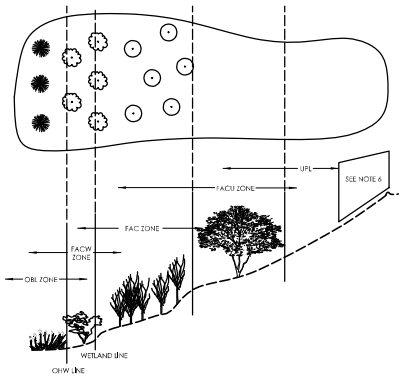
5. ALL PLANT MATERIAL SHALL BE NURSERY GRADE STRAIGHT SPECIES, CONFORMING TO SECTION 3 OF THE AMERICAN STANDARDS FOR NURSERY STOCK. NO VARIETIES OR CULTIVARS WILL BE ACCEPTED. CTDOT OEP SHALL REVIEW AND APPROVE PROPOSED PLANTINGS.

6. NO PLANTINGS TO BE PLACED IN MOW AREA.

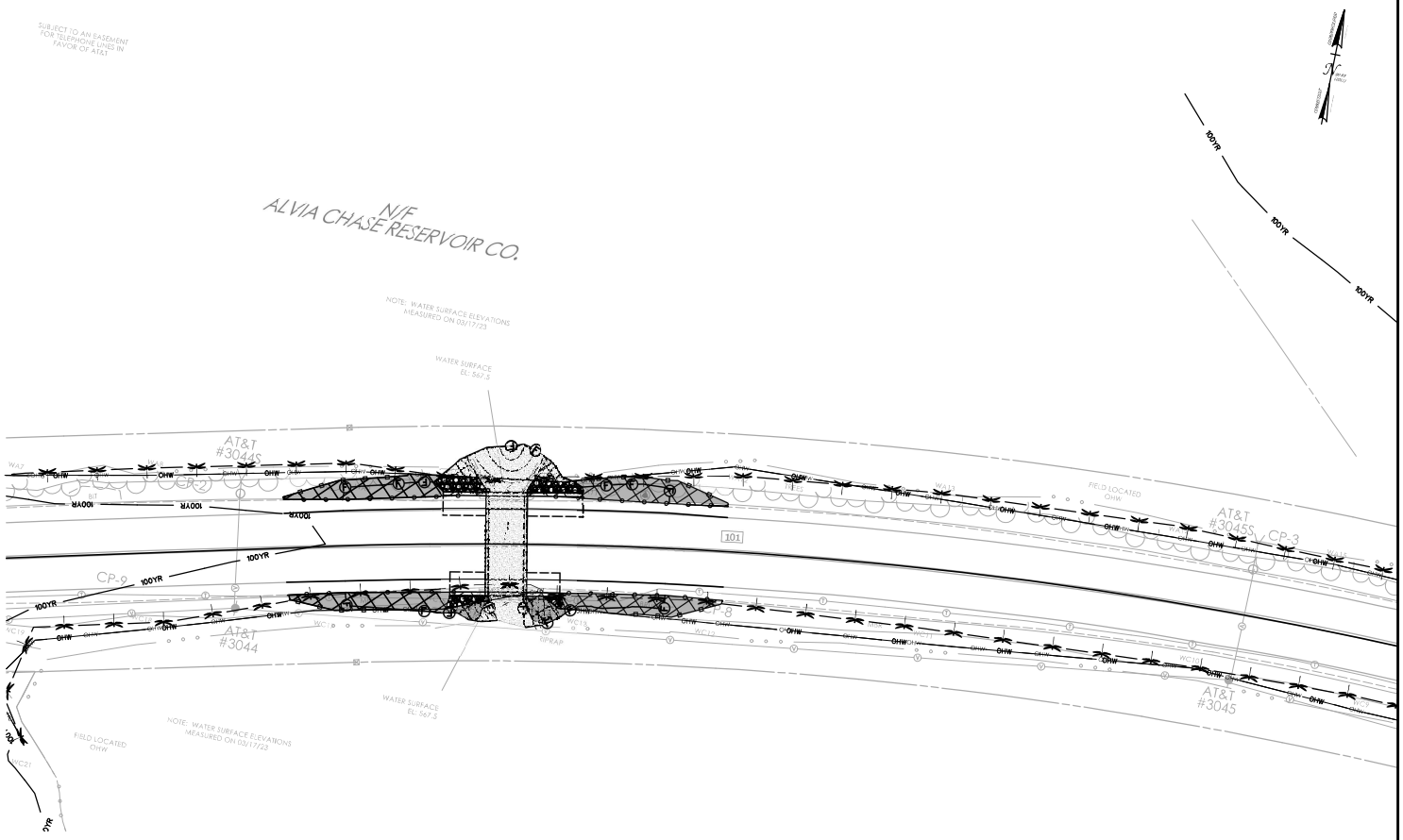
7. AREA TO BE TREATED FOR INVASIVES AND PROPERLY PREPARED FOR FINAL PLANTING, SEEDING, AND RESTORATION.

LEGEND

- CONTROL AND REMOVAL OF INVASIVE VEGETATION (SEE NOTE 7)
- AREA TO BE RESTORED WITH PLANTINGS
  - TOTAL PLANTS = 75
  - TOTAL PLANTING AREA = 1,340 S.F.
- 18" INTERMEDIATE RIPRAP PROTECTION
- NATURAL CHANNEL BOTTOM MATERIAL
- OHW — LIMIT OF ORDINARY HIGH WATER
- SEDIMENTATION CONTROL SYSTEM (SCS)
- STATE/FEDERAL WETLANDS
- ODONATE HABITAT LIMIT
- 100YR — EXISTING 100-YEAR FLOOD (CALCULATED)



SCHEMATIC PLANTING



PERMIT PLANT LIST

BOTANICAL NAME	COMMON NAME	SIZE	QTY.	SPACING	WETLAND INDICATOR
Thelypteris palustris	MARSH FERN	1 GAL. CONTAINER	10	FIELD LOCATED	OBL
Echinacea purpurea	BRIGHT STAR CONEFLOWER	1 QT. CONTAINER	10	FIELD LOCATED	FACW
Iris versicolor	BLUE FLAG IRIS	#1 CONTAINER	10	FIELD LOCATED	OBL
Typha angustifolia	NARROWLEAF CATTAIL	RHIZOMES OR ROOTS	10	FIELD LOCATED	OBL
Juncus effusus	COMMON RUSH	#1 CONTAINER	10	FIELD LOCATED	OBL
Asclepicas incarnata	SWAMP MILKWEED	2" PLUG, GROUP OF 3	15	FIELD LOCATED	OBL
Clethra alnifolia	SWEET PEPPERBUSH	3'-4' HT. B.R.	10	FIELD LOCATED	FAC
		TOTAL	75		

NO.	DATE	REVISION DESCRIPTION

SIGNATURE BLOCK:
ENVIRONMENTAL PERMIT PLANS
DATED: 9/22/2025
DESIGNER/DRAFTER: CMB CHECKED BY: DMC

0 20' 40'
HORIZONTAL SCALE 1" = 20'

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02599 ROUTE 101 OVER ALVIA CHASE RESERVOIR

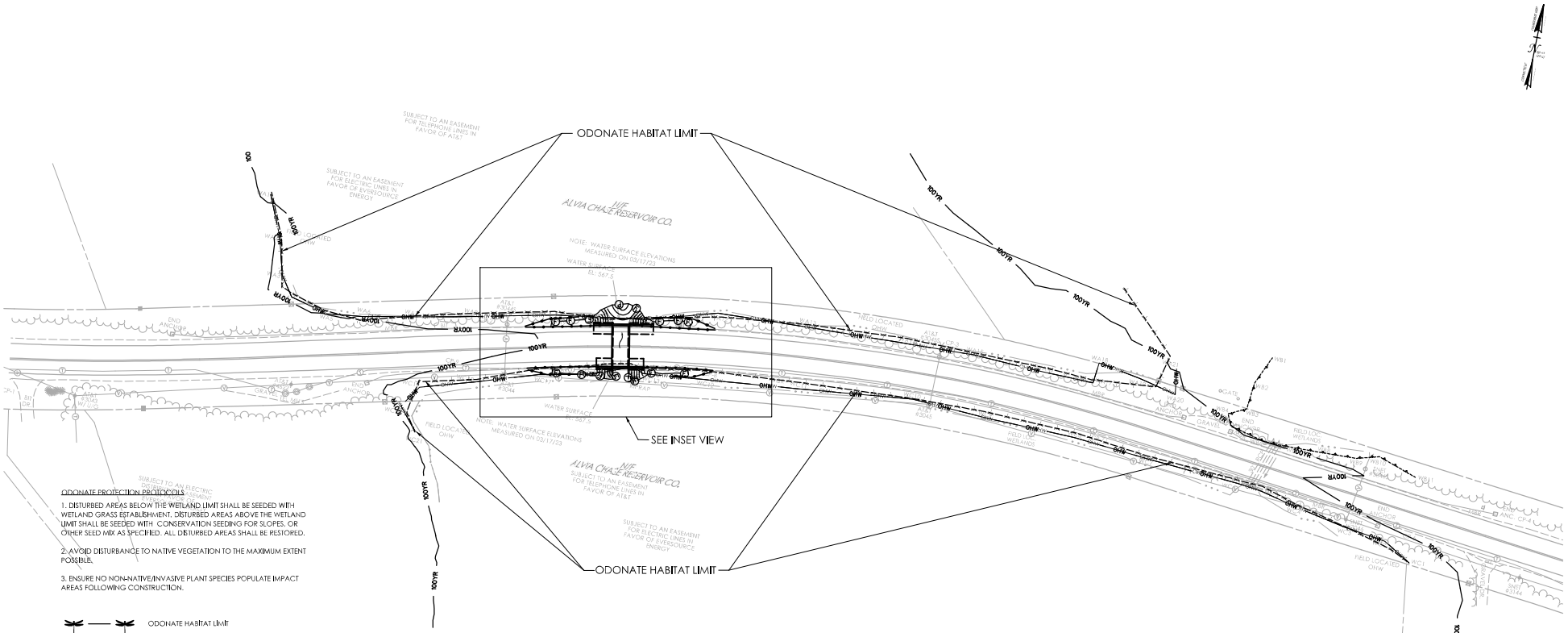
TOWN(S):
KILLINGLY

DRAWING TITLE:
PERMIT PLANTING PLAN

PROJECT NO.:
0068-0217

DRAWING NO.:
PMT-08
SHEET NO.:

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PLOTTED DATE: 9/30/2025



ODONATE PROTECTION PROTOCOLS

1. DISTURBED AREAS BELOW THE WETLAND LIMIT SHALL BE SEEDED WITH WETLAND GRASS ESTABLISHMENT. DISTURBED AREAS ABOVE THE WETLAND LIMIT SHALL BE SEEDED WITH CONSERVATION SEEDING FOR SLOPES, OR OTHER SEED MIX AS SPECIFIED. ALL DISTURBED AREAS SHALL BE RESTORED.

2. AVOID DISTURBANCE TO NATIVE VEGETATION TO THE MAXIMUM EXTENT POSSIBLE.

3. ENSURE NO NON-NATIVE/INVASIVE PLANT SPECIES POPULATE IMPACT AREAS FOLLOWING CONSTRUCTION.

ODONATE HABITAT LIMIT

OHW — LIMIT OF ORDINARY HIGH WATER

SEDIMENTATION CONTROL SYSTEM (SCS)

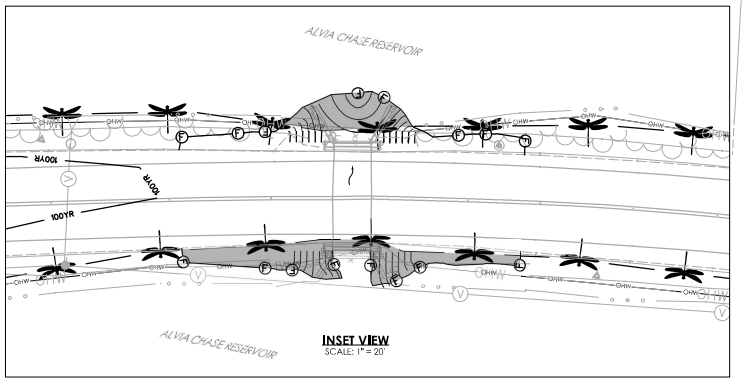
STATE/FEDERAL WETLANDS

100YR — EXISTING 100-YEAR FLOOD (CALCULATED)

ODONATE HABITAT IMPACT AREA

ODONATE IMPACT TABLE

	S.F.	AC.
PERMANENT IMPACTS	1,030	0.024
TEMPORARY IMPACTS	135	0.003
TOTAL IMPACTS	1,065	0.024



INSET VIEW
SCALE: 1" = 20'

REV.:	DATE:	REVISION DESCRIPTION:

SIGNATURE BLOCK:
ENVIRONMENTAL PERMIT PLANS
DATED: 9/22/2025

DESIGNER/DRAFTER: CMB CHECKED BY: DMC

0 40 80
HORIZONTAL SCALE
1" = 40'

PROJECT TITLE:
REPLACEMENT OF BRIDGE NO. 02599 ROUTE 101 OVER ALVIA CHASE RESERVOIR

TOWN(S):
KILLINGLY

DRAWING TITLE:
ODONATE HABITAT AREA

PROJECT NO.:
0068-0217

DRAWING NO.:
PMT-09

SHEET NO.:

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PLOTTED DATE: 9/30/2025

Connecticut Department of Energy & Environmental Protection

portal.ct.gov/DEEP

6/18/2025

Marilyn Gould
TRANSPORTATION
2800 Berlin Tpke
Newington, CT 06111
marilyn.gould@ct.gov

Subject: CTDOT 0068 0217
Filing #: 129194
NDDB - New Determination Number: 202504829

Expiration Date: 6/18/2027

Location: Bridge No. 02599 over Chestnut Hill, Rte 101 (Hartford Pike), Killingly, CT

I have reviewed Natural Diversity Database (NDDB) maps and files regarding this project. According to our records, there are State-listed species (RCSA Sec. 26-306) documented within the impact area of the proposed project.

Status	***Common Name***	***Scientific Name***	***General Ecology***
T	Pine barrens bluet	*Enallagma recurvatum*	The Pine barrens bluet is associated with sandy shallow shores, with large amounts of vegetation, especially Military rush (Juncus militarus). They nymphs are aquatic and live amound the aquatic vegetation and debris. The adults inhabit surrounding upland vegetation. Threats include habitat loss, artificial drawdown by ground water pumping, non-point source water pollution. Additionally high-impact recreational use, including motor boats that create wakes, can destroy habitat. The emergence and flight period for this species is primarily between May 15- June 30.
SC	Scarlet	*Enallagma*	The Scarlet Bluet damselfly is associated with wetland habitats. Damselflies lay their eggs inside of plant stems . If a large amount of plant material is to be removed from this project area, it may affect

	bluet	*pictum*	the Scarlet Bluet. The emergence and flight period for this species is primarily between July 6- August 10.
SC	Little bluet	*Enallagma minusculum*	The Little Bluet damselfly is associated with wetland habitats. If a large amount of plant material is to be removed from this project area, it may affect the Little Bluet. The emergence and flight period for this species is primarily between June 10- Aug 16.
SC	Attenuated bluet	*Enallagma daeckii*	The Attenuated bluet prefers highly vegetated lakes and ponds, but can be found in other types of wetlands. This species larvae is aquatic and present all year in ponds. Threats to this species include alterations to hydrology and water quality, herbicide/pesticide application, trampling or removal of pond shore vegetation and invasive species. The emergence and flight period for this species is primarily between July 1 - August 31.

I concur with your Odonate Management Plan (attached).

Your submission information indicates that your project requires a state permit, license, registration, or authorization, or utilizes state funding or involves state agency action. This NDDB - New determination may be utilized to fulfill the Endangered and Threatened Species requirements for state-issued permit applications, licenses, registration submissions, and authorizations.

Please be aware of the following limitations and conditions:

Natural Diversity Database information includes all information regarding listed species available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, land owners, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as enhance existing data. Such new information is incorporated into the Database and accessed through the ezFile portal as it becomes available. New information may result in additional review, and new or modified restrictions or conditions may be necessary to remain in compliance with certain state permits.

- During your work listed species may be encountered on site. A report must be submitted by the observer to the Natural Diversity Database promptly and additional review and restrictions or conditions may be necessary to remain in compliance with certain state permits. Please fill out the appropriate survey form and follow the instructions for submittal.
- Your project involves the state permit application process or other state involvement, including state funding or state agency actions; please note that consultations with your permit analyst or the agency may result in additional requirements. In this situation, additional evaluation of the proposal by the

DEEP Wildlife Division may be necessary and additional information, including but not limited to species-specific site surveys, may be required. Any additional review may result in specific restrictions or conditions relating to listed species that may be found at or in the vicinity of the site.

- If your project involves preparing an Environmental Impact Assessment, this NDDB consultation and determination should not be substituted for biological field surveys assessing on-site habitat and species presence.
- The NDDB - New determination for the CTDOT 0068 0217 as described in the submitted information and summarized at the end of this document is valid until 6/18/2027. This determination applies only to the project as described in the submission and summarized at the end of this letter. Please re-submit an updated Request for Review if the project's scope of work and/or timeframe changes, including if work has not begun by 6/18/2027.

If you have further questions, please contact me at the following:

Shannon Kearney
CT DEEP Bureau of Natural Resources
Wildlife Division
Natural Diversity Database
79 Elm Street
Hartford, CT 06106-5127
(860) 424-3170
Shannon.Kearney@ct.gov

Please reference the Determination Number 202504829 when you e-mail or write. Thank you for consulting the Natural Diversity Data Base.

Shannon Kearney
Wildlife Division- Natural Diversity Data Base
79 Elm Street
Hartford, CT 06106-5127
(860) 424-3170
Shannon.Kearney@ct.gov

Application Details:

Project involves federal funds or federal permit:	Yes
Project involves state funds, state agency action, or relates to CEPA request:	Yes
Project requires state permit, license, registration, or authorization:	Yes
DEEP enforcement action related to project:	
Project Type:	Bridge and Culvert Work
Project Sub-type:	Modifications/Repairs: In water and Upland
Project Name:	CTDOT 0068 0217
Project Description:	The site work area surrounding Bridge No. 02599 consists of the Alvia Chase Reservoir, which exists as a connected open water area on both sides of Bridge No. 0

Architecture
Engineering
Environmental
Land Surveying
Companies

An Employee-Owned Company

ODONATE MANAGEMENT PLAN

Connecticut Department of Transportation
Project Number 0068-0217
CT DOT Bridge No. 02599
NDDB Preliminary No. 202206405
State Route 101 Over Alvia Chase Reservoir
Killingly, Connecticut

Prepared For:

Connecticut Department of Transportation
2800 Berlin Turnpike
Newington, CT 06111

June 26, 2025

Prepared By:

BL Companies
355 Research Parkway
Meriden, CT 06450-7100

BL Project No. 2200960.2599

Prepared By:

Sagan M. Simko, CPSS, PWS
Senior Project Scientist II

Prepared and Reviewed By:

Wesley G. Wolf
Senior Project Manager

TABLE OF CONTENTS

Page

I. **INTRODUCTION & PURPOSE**.....1

II. **EXISTING SITE INFORMATION** 1

III. **SPECIES INFORMATION** 1

IV. **PROPOSED SITE CHANGES**.....3

V. **MAINTENANCE PLAN**.....3

APPENDICES

A Existing Conditions Map

B Proposed Site Changes Plans

C Photographic Documentation

D Professional Qualifications

I. INTRODUCTION & PURPOSE

The goal of this Odonate Management Plan is to describe the existing conditions at the proposed work site and to outline the proposed protection measures to sustain the existing habitat for the population of odonates in the area of the Connecticut Department of Transportation (CT DOT) Bridge No. 02599. This Odondate Management Plan has been developed in response to a letter from the Connecticut Department of Energy and Environmental Protection (CT DEEP) dated June 14, 2022, that lists one (1) Threatened species of odonata, the Pine barrens bluet (*Enallagma recurvatum*), and three (3) odonate Species of Concern, the Scarlet bluet (*Enallagma pictum*), the Little bluet (*Enallagma minusculum*), and the Attenuated bluet (*Enallagma daeckii*) that require presence surveys to identify needed protections for these species. The proposed site work includes the replacement of CT DOT Bridge No. 02599 (bridge) over Alvia Chase Reservoir (State Route 101, Hartford Pike). The bridge is located approximately 4 miles east of the intersection of Route 101 and Interstate 395 and 0.4 miles west of the Rhode Island border and was originally constructed in 1935. The proposed bridge replacement involves replacing the existing reinforced concrete slab structure with a 12-foot wide by 8-foot-high precast concrete box culvert, buried 3 feet below surface. As a result of the proposed bridge replacement, temporary and permanent impacts to the surrounding wetland/ reservoir area will occur and wetland protection measures are proposed for use during construction. It is anticipated that accelerated bridge construction techniques will be utilized to perform construction over a two-week detour period.

II. EXISTING SITE INFORMATION

The site work area surrounding Bridge No. 02599 consists of the Alvia Chase Reservoir, which exists as a connected open water area on both sides of Bridge No. 02599. The open water reservoir area supports a fringe wetland consisting of shrubby and herbaceous hydrophytic species of plants and surrounding upland forested habitat (see **Appendix A – Existing Conditions Map**). Common plant species located in and around the reservoir area include: Northern spicebush (*Lindera benzoin*), Coastal sweetpepperbush (*Clethra alnifolia*), Speckled alder (*Alnus incana*), Buttonbush (*Cephalanthus occidentalis*), Grey birch (*Betula populifolia*), Yellow flag iris (*Iris pseudacorus*), Fringed sedge (*Carex crinita*), Broadleaf arrowhead (*Sagittaria latifolia*), Rice cutgrass (*Leersia oryzoides*), Royal fern (*Osmunda regalis*), Broadleaf cattail (*Typha latifolia*), Joe-Pye-Weed (*Eutrochium purpureum*), Pond lily (*Nymphaeaceae*), Sweetgum (*Nyssa sylvatica*), Eastern hemlock (*Tsuga canadensis*), and Eastern white oak (*Quercus alba*).

Odonate species observed at the site include: Blue dasher (*Pachydiplax longipennis*), Common green darner (*Anax junius*), and Black saddlebags (*Tramea lacerate*) See **Appendix C – Photographic Documentation**. None of these species were identified as Threatened or Species of Concern by the CTDEEP.

III. SPECIES INFORMATION

The proposed site work is in an area of habitat suspected to be capable of supporting one (1) Threatened species of odonate, the Pine barrens bluet (*Enallagma recurvatum*), and three (3) odonate Species of Concern, the Scarlet bluet (*Enallagma pictum*), the Little bluet (*Enallagma minusculum*), and the Attenuated bluet (*Enallagma daeckii*). These species and their preferred habitats are described below.

Pine Barren Bluet (*Enallagma recurvatum*) –

Over most of the range of the Pine barren bluet, it is restricted to sandy coastal plain ponds with fringe shoreline vegetation. Important plant species include Bayonet Rush (*Juncus militarus*).



Scarlet Bluet (*Enallagma pictum*) –

This species occurs in a wide variety of lakes and ponds, always with floating vegetation such as *Nuphar*, *Nymphaea*, and *Brasenia*. Some sites also have extensive boggy margins. Most occupied ponds in its southern range are sand-bottomed, and many are classified as coastal plain ponds.



Little Bluet (*Enallagma minusculum*) –

This species occurs in coastal plain ponds and other sandy ponds with fringing emergent vegetation. A key habitat component in all cases appears to be sparse graminoid vegetation in the littoral zone. Important vegetation is especially Pipewort (*Eriocaulon*), and shrub cover (e.g., *Vaccinium*).



Attenuated Bluet (*Enallagma daeckii*) –

This species occurs in a variety of well-vegetated habitats, including lakes, ponds, swamps, and the backwater of slow-moving streams and rivers. This species appears to spend a considerable amount of time perching in dense shaded shoreline vegetation.



IV. PROPOSED SITE CHANGES

Bridge No. 02599 supports Route 101 (Hartford Pike) over Alvia Chase Reservoir in the town of Killingly, Connecticut. The bridge is located approximately 4 miles east of the intersection of Route 101 and Interstate 395 and 0.4 miles west of the Rhode Island border.

The existing structure, originally constructed in 1935, consists of a single-span reinforced concrete slab supported by reinforced concrete abutments and wingwalls. The slab is approximately 15 feet long with a 12-foot clear span and a 35-foot out-to-out width with no skew. The slab has a bituminous concrete wearing surface and the barriers on either side consist of concrete rail bases with baluster type concrete bridge rail and thrie-beam metal beam rail. The Average Daily Traffic is 5,300 vehicles per day, per the CT DOT 2022 Traffic Logs.

The purpose of this project is to address the structural deficiencies of the bridge. The proposed replacement involves replacing the existing reinforced concrete slab structure with a 12-foot wide by 8-foot high precast concrete box culvert. The concrete box culvert will be buried 3 feet. New in-line reinforced concrete wingwalls founded on spread footings will be constructed at the inlet and the outlet of the culvert. The proposed precast concrete box culvert will be supported by cutoff and return walls at either end of the structure. The structure will be topped with waterproofing membrane and a bituminous concrete wearing surface. Additionally, 42-inch Federal Highway Administration (FHWA) Manual for Assessing Safety Hardware (MASH) compliant vertical shaped concrete parapets will be constructed on either side of the bridge and the existing guiderail will be replaced to meet FHWA MASH requirements. It is anticipated that accelerated bridge construction techniques will be utilized to perform construction over a two-week detour period. See **Appendix B – Proposed Site Changes Plan** for additional information.

V. MAINTENANCE PLAN

The goal of the Odonate Management Plan is to sustain the current population of odonate at the site and to maintain the wetland functions and values currently existing within this habitat area. This Odonate Management Plan is not intended to list final decisions for implementation at the site but is intended to help inform best management practices to sustain and protect the existing habitat.

During construction, avoidance and minimization measures will be in place in the form of a fully enclosed cofferdam system around the proposed box culvert and structure walls. Beyond the cofferdam, disturbance will be minimized and only affect areas necessary to provide the required minimum 4-foot roadway shoulders through the project area. Once bridge replacement construction activities are completed, habitat management activities to ensure long-term success of the area will occur. Only native vegetation will be planted within the disturbed areas, and vegetation will be monitored for the duration of the contract to ensure that suitable habitat and preferred vegetation for ovipositing exists at the site and is recovering. Only minimal vegetation disturbance is anticipated during the bridge replacement construction. It is expected that nearby native hydrophytic species will voluntarily move into any areas of disturbed vegetation. Invasive species, particularly Reed canary grass (*Phalaris arundinacea*) and Autumn olive (*Elaeagnus umbellata*), will be controlled manually through either hand pulling and/or cutting with weed trimmers for sparse occurrences, or by utilizing herbicide application methods approved for aquatic/wetland environments for denser invasive stands. Herbicide use would be conducted by a licensed applicator. However, invasive species are not anticipated to be a significant concern at this site following construction.

Plant species located in and around the bridge work area include Grey birch (*Betula populifolia*), Buttonbush (*Cephalanthus occidentalis*), Steeplebush (*Spiraea tomentosa*), Joe-Pye-Weed (*Eutrochium purpureum*), Swamp milkweed (*Asclepias incarnata*), common rush (*Juncus effusus*), Queen Anne's Lace (*Daucus carota*), Pepperweed (*Lepidium latifolium*), Wrinkleleaf goldenrod (*Solidago rugosa*), Pickerelweed (*Pontederia cordata*), and Pond lily (*Nymphaeaceae*). All areas of disturbed vegetation will be revegetated with the following native species: Marsh fern (*Thelypteris palustris*), bright star coneflower (*Echinacea purpurea*), blue flag iris (*Iris versicolor*), narrowleaf cattail (*Typha angustifolia*), common rush (*Juncus effusus*), and swamp milkweed (*Asclepias incarnata*). All plants used for revegetation will have a one-year warranty for survival and will be replaced in kind if not successfully established within the first year. As previously mentioned, it is expected that nearby native species will voluntarily move into any areas of disturbed vegetation.

Saul, Amanda M

From: Bator, John
Sent: Thursday, June 11, 2026 1:42 PM
To: Barakat, Rabih M
Cc: Saul, Amanda M; Monroe, Sarah; Sigmund, William
Subject: GPCST Application for State Project No. 0068-0217, Route 101 over Alvia Chase Reservoir, Killingly

Good Afternoon Rabih,

Please see this notification that your request for authorization associated with CT DEEP application 202608227 has been reviewed and determined eligible under the State of Connecticut General Permit for Water Resource Construction Activities, Activity 10, on this date, June 11, 2026. Please note that the GPCST activities must be completed within a 5 year period from the authorization date (end date June 11, 2031). Please save this correspondence for your records.

Thank you,
John

John Bator
Environmental Analyst
Land and Water Resources Division
Bureau of Water Protection & Land Reuse
Connecticut Department of Energy & Environmental Protection
79 Elm Street, Hartford, CT 06106-5127
P: 860.424.3562 | E: john.bator@ct.gov



Connecticut
Department of Energy &
Environmental Protection

Conserving, improving, and protecting our natural resources and environment;
Ensuring a clean, affordable, reliable, and sustainable energy supply.

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General Permit for
Water Resource Construction Activities

Issuance Date: June 4, 2024
Expiration Date: June 4, 2034

Bureau of Water Protection and Land Reuse
Land and Water Resources Division

General Permit for Water Resource Construction Activities

Table of Contents

Section 1. Authority.....3

Section 2. Definitions.....3

Section 3. Authorization Under This General Permit.....6
(a) Eligible Activities.....6
(b) Requirements for Authorization.....8
(c) Geographic Area.....8
(d) Effective Date and Expiration Date of This General Permit.....9
(e) Effective Date of Authorization.....9
(f) Transition to and from an Individual Permit.....9
(g) Activities not Authorized by This General Permit.....10

Section 4. Request for Authorization.....10
(a) Who Must File a Request for Authorization.....10
(b) Scope of Request for Authorization.....10
(c) Contents of Request for Authorization.....11
(d) Where to File a Request for Authorization.....13
(e) Copy to Municipality.....13
(f) Additional Information.....13
(g) Action by Commissioner.....13

Section 5. Conditions of This General Permit.....14
(a) Operating Conditions.....14
(b) Reporting and Record Keeping Requirements.....14
(c) Recording and Reporting Violations.....15
(d) Modification of Authorized Activity.....15
(e) Completion of Authorized Activity.....15

Section 6. General Conditions.....16
(a) Reliance on Registration.....16
(b) Duty to Correct and Report Violations.....16
(c) Duty to Provide Information.....16
(d) Certification of Documents.....16
(e) Date of Filing.....17
(f) False Statements.....17
(g) Correction of Inaccuracies.....17
(h) Transfer of Authorization.....17
(i) Other Applicable Law.....18
(j) Other Rights.....18

Section 7. Commissioner's Powers.....18
(a) Abatement of Violations.....18

(b) General Permit Revocation, Suspension, or Modification 18
(c) Filing of an Individual Permit Application.....18

General Permit for Water Resource Construction Activities

Section 1. Authority

This general permit is issued under the authority of sections 22a-6, 22a-45a and 22a-378a of the General Statutes. For the purposes of this general permit, authorization under 22a-45a is limited to any proposed regulated activity conducted by any department, agency or instrumentality of the state, except any local or regional board of education.

Section 2. Definitions

As used in this general permit the following definitions shall apply:

"Authorized activity" means a regulated activity, including erection, placement, or maintenance of a structure or other facility, conducted or maintained under the authority of section 3 of this general permit.

"Beach Maintenance Plan" means a written plan for maintaining beach facilities. Such plan shall: describe the location of any such facilities; provide detailed maintenance activities to be carried out and typical design specifications and plans for such activities; estimate the quantities of material to be placed or removed in connection with such maintenance activities; describe procedures for disposal of excess material and solid waste generated in connection with such maintenance activities; and, provide the best management practices to be implemented while conducting such maintenance activities, including measures to ensure fish passage and minimize damage to habitat for fish, wildlife, or stream invertebrates.

"Best management practice" means a practice, procedure, activity, structure or facility designed to prevent or minimize pollution or other environmental damage or to maintain or enhance existing environmental quality. Best management practices include, but are not limited to: placement of erosion and sedimentation controls; restrictions on land use or development; construction setbacks from wetlands and watercourses; proper disposal of waste materials; procedures for equipment maintenance that prevent fuel spillage; construction methods to prevent flooding or disturbance of wetlands and watercourses; construction methods to maintain continuous stream flow; and, the confinement of in-stream work to protect fish and wildlife resources.

"Boat Launch Maintenance Plan" means a written plan for maintaining boat launch facilities. Such plan shall: describe the location of any such facilities; provide detailed maintenance activities to be carried out and typical design specifications and plans for such activities; estimate the quantities of material to be placed or removed in connection with such maintenance activities; describe procedures for disposal of excess material and solid waste generated in connection with such maintenance activities; and, provide the best management practices to be implemented while conducting such maintenance activities, including measures to ensure fish passage and minimize damage to habitat for fish, wildlife, or stream invertebrates.

"CFR" means Code of Federal Regulations.

"Commissioner" means the commissioner as defined by section 22a-2 of the General Statutes.

"*Compensatory mitigation"* means action taken which provides a gain of aquatic resource area and/or improvement of resource functions/values, to compensate for adverse impacts to aquatic resource(s) after avoidance and minimization have been achieved to the greatest extent practicable. Compensatory mitigation actions may include restoration, creation, or enhancement of an aquatic resource, and, in some circumstances, preservation may also be allowed to serve as compensation.

"Consumptive use" means any withdrawal or removal of water from the waters of the State, including but not limited to any withdrawal or removal from public or private water supply for industrial use, irrigation, hydropower generation, flood management, water quality management, recreation, landscaping ponds and decorative water fountains, or any other purpose or use.

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

"Diversion" means diversion as defined in section 22a-367 of the General Statutes.

"Divert" means divert as defined in section 22a-367 of the General Statutes.

"Documented Legal Right" means a written instrument which is recorded on the municipal land records and formalizes an easement, right of way, reserved right, agreement, obligation, or other legally enforceable act.

"Drainage Maintenance Plan" means a written plan for maintaining drainage facilities, and may include, without limitation, provision for channels, basins, bridges, culverts or pipes. Such plan shall: describe the location of any such facilities; provide detailed maintenance activities to be carried out and typical design specifications and plans for such activities; estimate the quantities of material to be placed or removed in connection with such maintenance activities; describe procedures for disposal of excess material and solid waste generated in connection with such maintenance activities; and, provide the best management practices to be implemented while conducting such maintenance activities, including measures to ensure fish passage and minimize damage to habitat for fish, wildlife, or stream invertebrates. Where the subject activity involves the construction, erection or maintenance of a structure or other facility, other than a highway or bridge, owned or operated by the State of Connecticut, such plan incorporates the applicable requirements for drainage basin stormwater management plans in section 25-68h-3 of the Regulations of Connecticut State Agencies.

"Excess material" means material such as soil, sand, gravel, stone, or debris, produced by the construction of an authorized activity which material is not utilized in such construction.

"FEMA" means the Federal Emergency Management Agency.

"Floodplain" means floodplain as defined in section 25-68b of the General Statutes.

"Floodway" means the regulatory floodway as defined in 44 CFR Section 59.1 for a particular watercourse and delineated on a map titled *Floodway & Flood Boundary Map* or *Flood Insurance Rate Map* issued by the FEMA for the municipality wherein such watercourse is located.

"Groundwater" means that portion of waters, as the term waters is defined in section 22a-367 of the General Statutes, located at or below the ground surface.

"Hydrologic and hydraulic design report" means a report consisting of engineering studies, design computations and other documentation as appropriate to fully and clearly describe the design of the proposed activity and the hydrologic and hydraulic effects thereof.

"Individual permit" means a permit issued by the commissioner to a named permittee pursuant to section 22a-39 or 22a-368 of the General Statutes.

"Infrastructure" means physical structures such as roads, bridges, multi-use trails, utilities, railways, and appurtenant structures necessary for the economy and governmental agencies to function.

"LWRD" means Land and Water Resources Division.

"Material" means material as defined in section 22a-38 of the General Statutes.

"Non-consumptive use" means any diversion of waters of the State due to channelizing, damming, collecting, piping, culverting, filling, relocating or dredging such waters or the detaining of stormwater for the purpose of stormwater management.

"Permittee" means any person or municipality whose request for authorization has been approved by the commissioner.

"Person" means person as defined in section 22a-2 of the General Statutes.

"Pollution" means pollution as defined in section 22a-423 of the General Statutes.

"Regulated activity" means any activity regulated by the commissioner under sections 22a-39 or 22a-368 of the General Statutes.

"Requester" means the person who submits to the commissioner a request for authorization.

"Request for authorization" means a request for authorization submitted under Section 4 of this general permit.

"Solid waste" means solid waste as defined in section 22a-207 of the General Statutes.

"*State Property Use Plan*" means a written plan approved by the commissioner for the

allowance of minor activities conducted on state property. Such plan may be amended from time to time provided such amendments are approved by the commissioner and shall include a process for validating that an entity conducting the activity has a *Documented Legal Right* to conduct such activity on State property. Such plan shall also identify State properties and the types of activities, including, but not limited to: placement of shoreline stabilization measures; installation of seasonal recreational structures; replacement or installation of drainage pipes or culverts for road crossings; replacement or installation of utility infrastructure; and identification of best management practices to be implemented while conducting such activities, including measures to ensure fish passage and minimize damage to habitat for fish, wildlife, or stream invertebrates.

"Structure" means any man-made object erected or placed above, on, or in the ground or under water.

"Surface water" means that portion of waters, as defined in section 22a-367 of the General Statutes, located above the ground surface.

"Trail Maintenance Plan" means a written plan for maintaining recreational trails. Such plan shall: describe the location of any such facilities; provide detailed maintenance activities to be carried out and typical design specifications and plans for such activities; estimate the quantities of material to be placed or removed in connection with such maintenance activities; describe procedures for disposal of excess material and solid waste generated in connection with such maintenance activities; and, provide best management practices to be implemented while conducting such maintenance activities, including measures to ensure fish passage and minimize damage to habitat for fish, wildlife, or stream invertebrates.

"Watercourses" means watercourses as defined in section 22a-38 of the General Statutes.

"Waters" means waters as defined in section 22a-367 of the General Statutes.

"Wetlands" means wetlands as defined in section 22a-38 of the General Statutes.

Section 3. Authorization Under This General Permit

(a) Eligible Activities

(1) Drainage Maintenance

Excavate accumulated sediment or remove brush; clean or reshape a sediment basin; install and repair the end wall of a culvert or bridge; repair erosion damage at pipe or culvert inlet or outlet; repair drainage pipe or culvert; replace or extend a drainage pipe or culvert with a maximum diameter of 42 inches and which is no more than ten feet (10) from the inlet and outlet sides of the culvert and receives drainage from a watershed of one (1) square mile or less. Such activities shall be performed pursuant to a Drainage Maintenance Plan that has been approved, in writing, by the commissioner under Section 4 of this general permit provided that any such activity does not involve placement of more than fifty (50) cubic yards of fill; impact more than four hundred

(400) sq. ft of wetlands or watercourses; and is not greater than seventy five (75) feet in length from the inlet and outlet sides of a drainage pipe, culvert or bridge.

(2) Trail Maintenance

Repair or replace existing nature access structures; repair or replace footings, foundations, piers, structural piles, posts or supports for a boardwalk; grade and place fill for the installation of landscape timbers and / or stone walls; place or remove fill for the maintenance of an existing path or trail. Such activities shall be performed pursuant to a Trail Maintenance Plan that has been approved, in writing, by the commissioner under Section 4 of this general permit.

(3) Boat Launch Maintenance

Repair or replace, in-kind, existing boat launch ramps; remove accumulated sediment; remove/replace/repair docks, pilings, bulkheads and associated structures; install fencing and signage; repair culvert potholes; repair ADA walkways and associated ramps; install/relocate concrete wheel stops; fill end of ramp scour holes with stone; and place riprap on side slopes to address erosion. Such activities shall be performed pursuant to a Boat Launch Maintenance Plan that has been approved, in writing, by the commissioner under Section 4 of this general permit.

(4) Beach Maintenance for Inland Beaches

Re-grade existing beaches; replace sand on existing beaches to fill sink holes or eroded areas. Such activities shall be performed pursuant to a Beach Maintenance Plan that has been approved, in writing, by the commissioner under Section 4 of this general permit. This general permit is not intended to authorize the expansion of any beach area beyond existing limits.

(5) Minor Activities Conducted on State Property

Activities such as, but not limited to; shoreline stabilization measures (grading, placement of fill, installation, or maintenance of landscape timbers and/or stone walls); installation or maintenance of structures (docks or swim floats); replacement or installation of drainage pipes or culverts for road crossings; and replacement or installation of utility conduits. Such activities shall be performed pursuant to a State Property Use Plan approved, in writing, by the commissioner under Section 4 of this general permit provided any such activities shall not involve placement of more than twenty-five (25) cubic yards of fill or impact more than 0.15 acres of wetlands or watercourses.

(6) Trail Construction

Construction of a new boardwalk or trail; expansion or extension of an existing boardwalk, trail or nature access structure including the installation of footings,

foundations, piers, structural piles, posts or supports; grading and placement of fill for the installation of landscape timbers and / or stone walls associated with a trail. Such activities shall not involve placement of more than fifty (50) cubic yards of fill or impact more than a total of 0.15 acres of wetlands and watercourses.

(7) State Facility Upgrades for Resilience

Reconstruction of an existing state facility for resilience from flooding and extreme weather events. Activities may include, but are not limited to the following: construction of a dry egress pathway for emergency access to an existing facility; installation of geotextiles or vegetative buffer strips for slope stabilization; elevation of an existing site for the purposes of providing dry floodproofing; raising of an existing structure above the base flood elevation; improvements to existing stormwater management systems; installation of a generator for the purposes of providing emergency backup power and upgrading of facilities in general (including but not limited to sidewalks or parking lots). Such improvements shall have no more than 0.20 acres of permanent and temporary impacts to wetlands & watercourses.

(8) Infrastructure Installation & Repairs

Placement of fill for roadway widening; repair or replacement of a bridge; and placement, repair, or replacement of cables, conduits or pipelines with multiple stream or wetland impact locations. Such improvements shall have no more than 0.20 acres of permanent impacts to wetlands and watercourses and no more than 0.20 acres of temporary impacts to wetlands and watercourses.

Placement of fill for roadway widening; repair or replacement of a bridge; and placement, repair, or replacement of cables, conduits or pipelines with a single wetland or watercourse impact location. Such improvements shall have no more than 0.15 acres of permanent impacts to wetlands and watercourses and no more than 0.15 acres of temporary impacts to wetlands and watercourses.

(9) Conservation Activities

Placement of fill for the enhancement of wetland areas and alteration of existing hydraulic structures associated with conservation of fish and wildlife habitats. Such improvements shall have no more than 0.20 acres of permanent impacts to wetlands and watercourses and no more than 0.20 acres of temporary impacts to wetlands and watercourses.

(10) Infrastructure Projects with Interagency Coordination

Any activity for which an authorization has been granted under a Department of Army (US Army Corps of Engineers) General Permit, Self-Verification, provided: 1) the commissioner has granted a section 401 water quality certification for such Department of the Army General Permit, 2) the activity is consistent with the section 401 water quality certification granted by the commissioner for such Department of the Army General Permit, and 3) the conditions of Section 3(b) of this general permit have been satisfied. *The issuance of a provisional permit or authorization by the Army Corps of*

Engineers for an activity does not satisfy the requirements for authorization under this general permit.

(b) Requirements for Authorization

This general permit authorizes a regulated activity listed in Section 3(a) of this general permit, provided:

(1) For those activities identified under Section 3(a) (10) of this general permit, a completed LWRD License Application Transmittal Form, designated fee has been filed with the commissioner and the commissioner notifies the requestor in writing of the receipt of a completed request and acknowledges such activity is eligible for authorization under this general permit.

(2) For those activities identified under Section 3(a) (1) through (9), inclusive, of this general permit, a completed LWRD License Application Transmittal Form and designated fee has been filed with the commissioner **and** the commissioner subsequently issues a written approval to the requestor.

(3) Flood Management Certification by State Agency

If such activity is maintained or proposed by a Connecticut state agency, such agency has complied with and obtained approval from the commissioner in accordance with sections 25-68b through 25-68h, inclusive, of the General Statutes, and sections 25-68h-1 through 25-68h-3, inclusive, of the Regulations of Connecticut State Agencies.

(4) Floodplain Management

Such activity does not and will not cause or contribute to flooding or flood hazards, permanently obstruct a floodway, or interfere with federal, state or local flood management efforts, and does and will comply with 44 CFR Parts 59 through 79, inclusive.

(5) Coastal Permits

If such activity is located, wholly or in part, waterward of the coastal jurisdiction line in tidal, coastal, or navigable waters of the State or in tidal wetlands, that said activity has been authorized pursuant to sections 22a-359 through 22a-363f, inclusive, or 22a-28 through 22a-35, inclusive of the General Statutes.

(6) Endangered and Threatened Species and Species of Special Concern

Such activity does not threaten the continued existence of any species listed pursuant to section 26-306 of the General Statutes and will not result in the destruction or adverse modification of habitat designated as essential to such species.

(7) Aquifer Protection

Such activity, if located within an aquifer protection area as mapped under section 22a-354b of the General Statutes, complies with sections 22a-354i-1 through 22-354i-10, inclusive, of the Regulations of Connecticut State Agencies.

(8) Conservation and Preservation Restrictions

If such activities are located on or may affect property subject to a conservation or preservation restriction, pursuant to section 47-42d of the General Statutes, proof of written notice to the holder of such restriction of the proposed activity's registration pursuant to this general permit or a letter from the holder of such restriction verifying that the proposed activity is in compliance with the terms of the restriction shall be provided to the commissioner prior to the start of the regulated activity.

(9) Wetland and Watercourse Mitigation

In constructing or maintaining the activities authorized herein, in the event that irreversible or irretrievable loss of wetland or watercourse resources occurs, the commissioner may require compensatory mitigation to be performed pursuant to section 22a-41 of the General Statutes. If mitigation is required to be performed as compensation for loss, the mitigation work shall be consistent with the terms and conditions of an approved mitigation plan, as authorized by the commissioner.

(c) Geographic Area

This general permit shall apply throughout the State of Connecticut.

(d) Effective Date and Expiration Date of This General Permit

This general permit shall be effective on the date it is issued and shall expire on that date ten (10) years thereafter.

(e) Effective Date of Authorization

(1) For those activities eligible for authorization under Section 3(a) (10) of this general permit, an activity is authorized on the date the commissioner notifies the registrant in writing of the receipt of a completed registration, which includes the applicable fee and acknowledges such activity is eligible for authorization under this general permit.

(2) For those activities eligible for authorization under Section 3(a)(1)through (9), inclusive, of this general permit, where an approval from the commissioner is required, the effective date of authorization of such activity shall be the date the commissioner issues a written approval of such request for authorization for such activity.

(f) Transition to and from an Individual Permit

No person shall operate or conduct an activity authorized by both an individual permit and this general permit. The requirements for transitioning authorization are as follows:

(1) *Transition from an Individual Permit to Authorization under this General Permit*. If an activity meets the requirements for authorization under this general permit and such operation or activity is presently authorized by an individual permit, the entity to whom any such individual permit has been issued ("the Permittee") may surrender the right to operate or conduct any activity under such individual permit. The Permittee shall acknowledge its intention to surrender its permit in writing on a form prescribed by the commissioner. However, any such surrender shall not take effect, and such Permittee's individual permit shall continue to apply, until the date that the commissioner issues an authorization for such operation or activity under this general permit.

(2) *Transition from Authorization under this General Permit to an Individual Permit*. If the commissioner approves a request for authorization under this general permit and subsequently issues an individual permit for the same activity, then on the date any such individual permit is issued by the commissioner, the authorization issued under this general permit shall automatically expire.

(g) Activities Not Authorized by This General Permit

A regulated activity may not lawfully be conducted or maintained unless it is authorized under this general permit or authorized by an individual permit.

(1) The diversion of water for consumptive use is not authorized by this general permit.

(2) Any activity for which the commissioner has denied eligibility for federal Clean Water Act section 401 Water Quality Certification or under Department of the Army Regional General Permits for the State of Connecticut is not authorized by this general permit.

Section 4. Request for Authorization

(a) Who Must File a Request for Authorization

Any person or municipality seeking to undertake a regulated activity under the authority of this general permit, shall file with the commissioner: 1) a request for authorization which meets the requirements of Section 4 of this general permit; and 2) the applicable fee.

Note: Activities that received authorization under the ***General Permit for Water Resources Construction Activities***, issued April 2, 2014 shall cease if a

registration form is not submitted within one hundred twenty (120) days of the effective date of this general permit. Such activities shall be performed in accordance with the requirements of the ***General Permit for Water Resources Construction Activities***, issued April 2, 2014, until their cessation or until registration with this general permit has been completed.

(b) Scope of Request for Authorization

A requester shall file a request for authorization for each site where an activity or activities are proposed. Where activities are proposed to be conducted at more than one site, a separate request for authorization shall be filed for each site.

(c) Contents of Request for Authorization

(1) Fees

(A) The filing fee of $ 5,000 shall be submitted upon each request for authorization for activities pursuant to Sections 3(a)(1) through (8), inclusive, of this general permit except: 1) the request for authorization fee for a municipality for such activities shall be discounted 50% or 2) the request for authorization fee shall be discounted 50% if the filing is done electronically.

(B) The filing fee of $ 2,500 shall be submitted with each request for authorization for activities pursuant to Sections 3(a) (9) and (10) of this general permit except: 1) the request for authorization fee for a municipality for such activities shall be discounted 50% or 2) the request for authorization fee shall be discounted 50% if the filing is done electronically.

(C) In accordance with 22a-6f of the General Statutes, no fee shall be required from any agency, board, commission, council, or department of the state, provided that the agency, board, commission, council or department of the state has compensated the Department in an amount equal to such fee pursuant to a written agreement.

(D) The filing of any request for authorization shall not be deemed complete and no activity shall be authorized by this general permit unless the filing fee has been paid in full.

(E) The filing fee shall be paid by check or money order payable to the Department of Energy and Environmental Protection. Filing fees paid by state agencies may be paid by means of a service transfer or invoice.

(F) All requests for authorization fees are non-refundable.

(2) Information Requirements and Request for Authorization

A request for authorization shall be filed on forms prescribed and provided by the commissioner and shall include but not be limited to the following:

(A) Legal name, address, email address and telephone number of the requester. If the requester is an entity transacting business in Connecticut and is required to register with the Connecticut Secretary of the State, provide the exact name as registered with the Connecticut Secretary of the State.

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

(C) Legal name, address, email address and telephone number of the requester's attorney or other representative, if applicable.

(D) Legal name, address, email address and telephone number of any consultant(s) or engineer(s) retained by the requester to prepare the request for authorization or to design or construct the subject activity.

(E) Location address of the site with respect to which the request for authorization is submitted.

(F) Location Map - A depiction, on an 8.5” x 11” copy of the relevant portion of the most recent version of the United States Geologic Survey topographic map (Scale 1:24,000), of the exact location of the property at which such activity will be conducted.

(G) A description of the present and intended use(s) of the property at which such activity will be conducted and the reason for conducting such activity.

(H) A description of all natural and manmade features, including wetlands, watercourses, fish and wildlife habitat, floodplains, and structures and appurtenances thereto, potentially affected by the subject activity.

(I) A plan of the site ("site plan") showing its boundaries, the location of the subject activity and section views, as appropriate, of the property at which such activity will be conducted, depicting the location and design of such activity, existing and proposed topography, the legal boundaries of such property, the location of wetland soil types, the location of tidal wetlands, watercourses, vernal pools, and coastal resources on and immediately adjacent to such property, the sequence of construction or other actions associated with the proposed activities, including placement and removal of any temporary fill or structures, the location of all erosion and sedimentation control measures, the location on such property where any excess materials resulting from construction at such property may be placed, a north arrow and distance scale, and a title block indicating the name of the requester, the name of the individual who prepared the plan,

and the date(s) such plan was prepared or revised. If such property is located in a floodplain, the plan shall also depict the location of any floodway, the elevation of the base flood. The plan may incorporate existing natural resource maps and shall be of sufficient scale and detail to adequately depict the existing and proposed conditions of such property.

(J) The signature of the requester and of the individual or individuals responsible for preparing the request for authorization, each of whom shall certify in writing as follows:

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I certify that this request for authorization is on complete and accurate forms as prescribed by the commissioner without alteration of their text. I certify that a complete copy of this request for authorization, including all documents attached thereto, was sent by regular or certified mail or was hand delivered to the municipal wetlands agency, zoning commission, planning commission or combined planning and zoning commission, and conservation commission of each municipality which is or may be affected by the subject activity. I understand that a false statement made in the submitted information may be punishable as a criminal offense, in accordance with section 22a-6 of the General Statutes, pursuant to section 53a-157b of the General Statutes, and in accordance with any other applicable statute."

(d) Where to File a Request for Authorization

1. Submit a hardcopy of a completed LWRD License Application Transmittal Form and filing fee, to:

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

   Applications will not be processed without the fee. The fee shall be non-refundable and shall be paid by check or money order to the Connecticut Department of Energy & Environmental Protection. State Agencies should submit the applicable registration/application package without the application fee and check the box in Part I to indicate the fee will be paid by Inter-Agency Transfer of Funds.

2. Upon receipt of the Transmittal Form and fee, the Central Permit Processing Unit

(CPPU) will e-mail a confirmation receipt letter to the requestor containing the Department assigned application number.

3. Upon receipt of the email from CPPU, the requestor is to electronically submit the full application package with the remaining required forms in accordance with the following steps:

    a. Send an empty/blank email to DEEP.LWRDRegulatorySubmittals@ct.gov

    b. An automated email response will contain instructions for uploading the Transmittal Form and applicable Program Forms, management plans, or additional supporting documents of your application to the LWRD File Transfer Protocol (FTP) website.

    c. Follow directions contained in the email for uploading the application sections.

If you are not capable of submitting the application electronically or if you have other questions or concerns regarding application submittals, please contact LWRD staff at 860-424-3019.

(e) Copy to Municipality

A copy of such LWRD License Application Transmittal Form shall be filed before the date that the activity is proposed to be initiated with the inland wetlands agency, zoning commission, planning commission or combined planning and zoning commission, and conservation commission of each municipality which is or may be affected by the subject activity.

(f) Additional Information

The commissioner may require a requester to submit additional information, which the commissioner reasonably deems necessary to evaluate the consistency of the subject activity with the requirements for authorization under this general permit.

(g) Action by Commissioner

(1) The commissioner may reject without prejudice a request for authorization if it is determined that it does not satisfy the requirements of Section 4(c) of this general permit, or more than thirty (30) days have elapsed since the commissioner requested that the requester submit additional information or the required fee and the requester has not submitted such information or fee. Any request for authorization refiled after such a rejection shall be accompanied by the fee specified in Section 4(c)(1) of this general permit.

(2) The commissioner may disapprove a request for authorization if it is found that the subject activity is inconsistent with the requirements for authorization under Section 3 of this general permit, or for any other reason provided by law.

(3) Disapproval of a request for authorization under this subsection shall constitute notice to the requester that the subject activity may not lawfully be conducted or maintained without the issuance of an individual permit.

(4) The commissioner may approve a request for authorization with reasonable conditions. If the commissioner approves a request for authorization with conditions, the requester shall be bound by such conditions as if they are a part of this general permit.

(5) Rejection, disapproval, or approval of a request for authorization shall be in writing.

Section 5. Conditions of This General Permit

(a) Operating Conditions

(1) A requester shall ensure that each action with respect to the authorization under this general permit is, as applicable, constructed and maintained in accordance with the *Connecticut Guidelines for Soil Erosion and Sediment Control*, published by the Connecticut Council on Soil and Water Conservation pursuant to section 22a-328 of the General Statutes and in accordance with the Connecticut Stormwater Quality Manual.

(2) A requester shall assure that all excavated or dredged material shall be staged and managed in accordance with all applicable laws including, but not limited to, the provisions of the most recently issued General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer).

(b) Reporting and Record Keeping Requirements

(1) Contractor Notification

If the authorized activity will be constructed by a person(s) under contract to the requester, the requester shall (A) give a copy of this general permit and of requester's approval of authorization hereunder to such contractor(s) prior to the start of construction, and (B) for one year after completion of the authorized activity, retain a written receipt for such copy, signed and dated by such contractor(s).

(2) Record Keeping and Reporting of Maintenance Activities

With respect to maintenance plans as described in Section 3(a) (1), (2), (3), (4) and (5) of this general permit and authorized hereunder, the requester shall maintain a record of each action undertaken pursuant to such plan. Such record shall include the date(s) each such action was undertaken, a brief description thereof, the quantities of any material placed or removed in connection therewith, and the location of such activity. The requester shall submit a copy of such record

to the commissioner on January 30th of the year after the date the commissioner approved the request for authorization and shall continue every January 30th thereafter to submit to the commissioner a copy of such record, as it applies, to the preceding twelve months.

(c) Recording and Reporting Violations

Within 48 hours after the requester learns of a violation of this general permit, the requester shall report the same in writing to the commissioner. Such report shall be sent to the following e-mail address: DEEP.LWRDRegulatory@ct.gov

And include the following information:

(1) the provision(s) of this general permit that has been violated;

(2) the date and time the violation(s) was first discovered and by whom;

(3) the cause of the violation(s), if known;

(4) if the violation(s) has ceased, the duration of the violation(s) including exact date(s) and time(s) it was corrected;

(5) if the violation(s) has not ceased, the anticipated date when it will be corrected;

(6) steps taken and steps planned to prevent a reoccurrence of the violation(s) and the date(s) such steps were implemented or will be implemented;

(7) the signature of the requester and of the individual(s) responsible for preparing such report, each of whom shall certify as follows:

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

(d) Modification of Authorized Activity

In conducting and maintaining the activity authorized by this general permit, the requester shall not make any alteration, except a de minimis alteration which does not change the footprint, character and nature of the regulated impacts.

(e) Completion of Authorized Activity

If the requester does not complete the authorized activity within five years after the date of the applicable authorization, said authorization shall be null and void.

Section 6. General Conditions

(a) Reliance on Request for Authorization

When evaluating a request for authorization, the commissioner relies on information provided by the requester. If such information proves to be false or incomplete, the authorization issued under this general permit may be suspended or revoked in accordance with law, and the commissioner may take any other legal action provided by law.

(b) Duty to Correct and Report Violations

Upon learning of a violation of a condition of this general permit, a requester shall immediately take all reasonable action to determine the cause of such violation, correct such violation and mitigate its results, prevent further such violation, and report in writing in accordance with Section 5(c) of this general permit.

(c) Duty to Provide Information

If the commissioner requests any information pertinent to the authorized activity or to determine compliance with this general permit or with the requester's approval of request for authorization, the request shall provide such information in writing within thirty (30) days of such request. Such information shall be certified in accordance with Section 6(d) of this general permit.

(d) Certification of Documents

Any document, including but not limited to any notice, which is submitted to the commissioner under this general permit shall be signed by, as applicable, the requester in accordance with section 22a-430-3(b)(2) of the Regulations of Connecticut State Agencies, and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows:

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

(e) Date of Filing

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

(f) False Statements

Any false statement in any information submitted pursuant to this general permit or the request for authorization may be punishable as a criminal offense, in accordance with section 22a-6 of the General Statutes, section 53a-157b of the General Statutes, and any other applicable statute.

(g) Correction of Inaccuracies

Within fifteen (15) days after the date a requester becomes aware of a change in any information in any material submitted pursuant to this general permit or becomes aware that any such information is inaccurate or misleading or that any relevant information has been omitted, such requester shall correct the inaccurate or misleading information or supply the omitted information in writing to the commissioner. Such information shall be certified in accordance with Section 6(d) of this general permit. The provisions of this subsection shall apply both while a request for authorization is pending and after the commissioner has approved such request.

(h) Transfer of Authorization

Authorization under this general permit is transferable only in accordance with the provisions of section 22a-6o of the General Statutes.

(i) Other Applicable Law

Nothing in this general permit shall relieve the requester of the obligation to comply with any other applicable federal, state, and local law, including but not limited to the obligation to obtain any other authorizations required by such law.

(j) Other Rights

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

Section 7. Commissioner's Powers

(a) Abatement of Violations

The commissioner may take any action provided by law to abate a violation of this general permit, including the commencement of proceedings to collect penalties for such violation. The commissioner may, by summary proceedings or otherwise and for any reason provided by law, including violation of this general permit, revoke a requester's authorization hereunder in accordance with sections 22a-3a-2 through 22a-3a-6, inclusive, of the Regulations of Connecticut State Agencies. Nothing herein shall be construed to affect any remedy available to the commissioner by law.

(b) General Permit Revocation, Suspension, or Modification

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

(c) Filing of an Individual Permit Application

If the commissioner notifies a requester in writing that such requester must obtain an individual permit to continue lawfully conducting the activity authorized by this general permit, the requester may continue conducting such activity only if the requester files an application for an individual permit within sixty (60) days of receiving the commissioner's notice. While such an application is pending before the commissioner, the permittee shall comply with the terms and conditions of this general permit. Nothing herein shall affect the commissioner's power to revoke a requester's authorization under this general permit at any time.

Issued Date: June 4, 2024

Emma Cimino

Emma Cimino
Deputy Commissioner

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

REPLY TO
ATTENTION OF

May 18, 2026

Regulatory Division
File Number: NAE-2024-00971

Rabih Barakat
Connecticut Department of Transportation
2800 Berlin Turnpike
P.O. Box 317546
Newington, Connecticut 06111
Rabih.Barakat@ct.gov

Dear Mr. Barakat:

PROPOSED WORK/LOCATION: Project No. 0068-0217 will replace Bridge No. 02599 in Killingly, Connecticut (41.849002, -71.801774). The project will discharge permanent fill material into 1,520 square feet below the ordinary high water mark (OHWM) of the Alvia Chase Reservoir due to the installation of a new 12-foot wide by 8-foot high precast concrete box culvert and associated substructure elements. Temporary impacts to 2,120 square feet below the OHWM will occur primarily from water-handling cofferdams and a bypass system to conduct work in the dry, construction equipment access, and erosion and sedimentation controls.

We have reviewed your proposal to perform work within U.S. Army Corps of Engineers jurisdiction. We have assigned this file number **NAE-2024-00971.** Please refer to this number in any future correspondence with us regarding this project.

Since your project may have only minimal individual and cumulative impacts on wetlands and other waters of the United States, it is authorized by the U.S. Army Corps of Engineers under the Connecticut General Permits (GPs). This authorization does not obviate the need to obtain other federal, state, or local approvals. You are responsible for ensuring that the work meets the terms and conditions of the CT GPs. We have recorded this project as permittee self-verification of the CT GPs in our database.

Please contact Mr. Matthew Hackett of my staff at (978) 318-8321 or by email at matthew.r.hackett@usace.army.mil if you have any questions.

Sincerely,

Daniel B. Breen

Daniel B. Breen
Chief, Transportation and Utilities Section
Regulatory Division

Enclosure

cc:

Christine Xenelis, CTDOT; christine.xenelis@ct.gov
Amanda Saul, CTDOT; amanda.saul@ct.gov
Nathan Margason, US EPA; margason.nathan@epa.gov
William Sigmund, CT DEEP; William.Sigmund@ct.gov
Farrah Ashe, CT DEEP; farrah.ashe@ct.gov

Applicant: General Public, State of Connecticut **Effective Date: December 15, 2021**
Expiration Date: December 15, 2026

DEPARTMENT OF THE ARMY
REGIONAL GENERAL PERMITS FOR THE
STATE OF CONNECTICUT

The New England District of the U.S. Army Corps of Engineers (USACE) hereby issues twenty-three (23) regional general permits (GPs), listed in Appendix A, for activities subject to USACE jurisdiction in waters of the United States (U.S.), including navigable waters within the State of Connecticut, adjacent ocean waters to the seaward limit of the outer continental shelf, and tribal lands[1]. These GPs are issued in accordance with USACE regulations at 33 CFR 320 - 332 [see 33 CFR 325.5(c)(1)] and authorize activity-specific categories of work that are similar in nature and cause no more than minimal individual and cumulative adverse environmental impacts while providing protection to the aquatic environment and the public interest.

This document contains the following sections and appendices: Page

Section 1 – Review Categories and Application Procedures for Non-Tidal Waters 3
Section 2 – Review Categories and Application Procedures for Tidal Waters 7
Section 3 – Content of Preconstruction Notification 12
Appendix A – General Permits for The State of Connecticut and Tribal Lands 17
Appendix B – General Conditions 48
Appendix C – Standard Aquaculture Terms and Conditions for General Permit 16 59
Appendix D – Contacts 62
Appendix E – Self-Verification Notification Form 64
Appendix F – Definitions 66
Appendix G – Stream Crossing Best Management Practices (BMPs) 72
Appendix H – Diadromous Fish in Connecticut 75

GENERAL CRITERIA

For activities to qualify for these GPs, they must meet the terms, eligibility criteria and stipulations listed in Appendix A – General Permits, the general conditions (GCs) in Appendix B, and any special conditions included in verification letters that are deemed necessary to protect aquatic resources.

Under these GPs, projects may qualify for the following:

- Self-Verification (inland): A Self-Verification Notification Form (SVNF) and supporting materials are required
- Self-Verification (coastal): An SVNF is not required, except for GP 12. USACE relies on Connecticut Department of Energy and Environmental Protection (CT DEEP) and applicant/agent submittals.
- Pre-Construction Notification (PCN):
  - Inland: Application to, and written approval from, USACE is required.
  - Coastal: Notification to USACE provided by CT DEEP or by applicants as necessary. Written approval from USACE is required.

[1] Tribal reservation lands are considered a sovereign nation and are therefore acknowledged separately from the State of Connecticut.

If an activity is not eligible for Self-Verification (SV), a PCN is required to allow USACE an opportunity to thoroughly review a proposed GP activity to ensure that the proposed activity qualifies for GP authorization. If the proposed activity does not qualify for GP authorization, USACE will inform the applicant and advise them on the process for seeking an Individual Permit. The thresholds for activities eligible for SV and PCN are stated in Appendix A. A number of terms and conditions can be found throughout the GPs and Appendices, including the General Conditions in Appendix B, which apply to all projects. These GPs do not affect the USACE Individual Permit review process or activities exempt from USACE regulation. The USACE does not intend to exclude projects from utilizing the SV process where Section 7 ESA, MSA (EFH), or Section 106 NHPA consultation is required and completed by another lead Federal agency; provided the scope of those actions sufficiently encompass the USACE Regulatory action.

Tammy R. Turley

Tammy R. Turley
Chief, Regulatory Division

December 15, 2021
Date

SECTION 1

REVIEW CATEGORIES AND APPLICATION PROCEDURES FOR ACTIVITIES WITHIN NON-TIDAL WATERS AND WETLANDS WITHIN THE STATE OF CONNECTICUT AND TRIBAL LANDS

I. JURISDICTION AND ACTIVITIES COVERED:

Authorizations are required for activities that will involve the discharge of dredged or fill material and certain discharges associated with excavation into waters of the U.S., including wetlands. These activities are regulated by USACE under Section 404 of the Clean Water Act (CWA), see 33 CFR 323 (see GC 2).

II. REVIEW PROCESS

1. State and Local Approvals - Water Quality Certification (WQC)

Section 401(a)(1) of the Clean Water Act (33 USC Sec.1341) requires that applicants proposing to discharge dredged or fill material into waters of the U.S. obtain a WQC or waiver from the certifying state water pollution control agency, which is CT DEEP or the U.S. Environmental Protection Agency (EPA) on Indian reservation lands. The CT DEEP has granted WQC for all activities authorized under these CT GPs provided those activities meet the criteria as contained in these General Permits.

A written determination of concurrence of eligibility for Section 401 WQC prior to the start of construction from the CT DEEP Commissioner is required for all PCN activities. Applicants seeking a written concurrence of eligibility for PCN activities must apply to the CT DEEP on such form as the Commissioner may prescribe and with such information as the Commissioner deems necessary to fulfill the purposes of Section 401 of the Federal CWA. Upon completion of the review and evaluation of such application, the Commissioner will issue either a written concurrence of eligibility determination of Section 401 Certification upon such terms, limitations or conditions as the Commissioner deems necessary, or a written determination that an individual (regular) Section 401 WQC is required for the proposed activity.

The EPA granted WQC for activities located on lands within the boundaries of an Indian Reservation.

2. Self-Verification Review Category

a. Notification: An application to the USACE is not required. However, submittal of a SVNF and required accompanying materials to USACE and CT DEEP in accordance with Section 2(c) below, at least two weeks prior to commencement of work authorized by these GPs, is required.

b. Eligibility Criteria: Activities in Connecticut and tribal lands that meet the following criteria are eligible under SV of this GP if they:

- Are subject to USACE jurisdiction (see Appendix B, GC 2);
- Meet the SV criteria in Appendix A - General Permits;
- Meet the requirements of the applicable GCs in Appendix B;
- Meet all other applicable terms and conditions of these GPs; and
- Result in no more than minimal impacts to the aquatic environment.

Project proponents seeking authorization under these GPs by qualifying for SV must comply with all GCs and other relevant federal laws such as the National Historic Preservation Act (NHPA), the Endangered Species Act (ESA) and the Wild and Scenic Rivers Act. Consequently, applicant consultation with USACE and outside experts such as the Connecticut State Historic Preservation Office (SHPO), which is the Connecticut Department of Economic and Community Development in Connecticut, Connecticut Native American Indian tribes (see Appendix D) and the National Park Service, is required for SV eligible activities when there is a likelihood of the presence of resources of concern and the proposed work has the potential to affect these resources. Federal agencies should follow their own procedures for complying with the above requirements and shall provide USACE with the appropriate documentation to demonstrate compliance with those requirements for both SV and PCN review.

c. How to Obtain Self-Verification Verification: Prospective permittees must:

(1) Confirm that the activity meets all the applicable SV eligibility criteria, terms and conditions stated in 2(b) above;

(2) Notify the CT SHPO and the State of Connecticut federally recognized Indian tribes and/or Tribal Historic Preservation Officers (THPOs) listed in Appendix D and GC 11 for submission requirements;

(3) Obtain an Official Species List of federally threatened and endangered species that may occur in the activity's action area (see GC 12); and

(4) Submit the SVNF and its required accompanying materials (see Appendix E) to USACE and CT DEEP at least two-weeks prior to start of project construction. Digital submittals by email (preferred), CD/DVD or USB flash drive are strongly encouraged. Please communicate with USACE staff if you are unable to provide a digital copy as allowances will be made. See https://www.nae.usace.army.mil/Missions/Regulatory/Submitting-Electronic-Correspondence for information about our electronic submittal process.

Email: cenae-r-ct@usace.army.mil

Mail: Regulatory Division - Branch B, U.S. Army Corps of Engineers, New England District, 696 Virginia Road, Concord, MA 01742-2751

Email: DEEP.LWRDRegulatory@ct.gov

Mail: State of Connecticut, Department of Energy & Environmental Protection, 79 Elm Street, Hartford, CT 06106-5127

(5) If the activity is eligible for SV, you will receive a written verification from USACE. If it is determined that the work is not eligible for SV, you will be notified within 14-days of receipt of the SVNF.

3. PCN Review Category

a. Notification: For activities that are not eligible for SV or when it is stated that a PCN is required, an application to, and written verification from, USACE is required. No work requiring a PCN may proceed until written verification from USACE has been received.

b. Eligibility Criteria: Activities in Connecticut and tribal lands that meet the following criteria may be eligible for authorization under these GPs:

- Are subject to USACE jurisdiction (see Appendix B, GC 2);
- Meet the criteria of PCN in Appendix A – General Permits;
- Meet the requirements of the applicable GCs in Appendix B;
- Meet all other applicable terms and conditions of these GPs;
- Result in no more than minimal impacts to the aquatic environment, as determined by USACE in conjunction with the interagency review team which consists of Federal and State resource agencies. In some instances, 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; and
- Receive written concurrence of eligibility with the 2021 GP WQC from CT DEEP before start of work.

c. Applying for authorization through the PCN process: Applicants must submit a PCN to USACE. See Section 3 for a full list of PCN requirements. Digital submittals by email (preferred), CD/DVD or USB flash drive are strongly encouraged. Please communicate with USACE staff if you are unable to provide a digital copy as allowances will be made. See https://www.nae.usace.army.mil/Missions/Regulatory/Submitting-Electronic-Correspondence for information about our electronic submittal process. USACE staff will notify you if a paper copy or large-scale drawings are required for the evaluation.

Email: cenae-r-ct@usace.army.mil
Mail: Regulatory Division - Branch B, U.S. Army Corps of Engineers, New England District, 696 Virginia Road, Concord, MA 01742-2751

Email: DEEP.LWRDRegulatory@ct.gov
Mail: State of Connecticut, Department of Energy & Environmental Protection, 79 Elm Street, Hartford, CT 06106-5127

In addition to submitting a PCN to USACE, applicants must concurrently submit an LWRD Transmittal Form and Application Form L to CT DEEP, which can be found at: Land and Water Resource Division LWRD Applications (ct.gov) or https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Connecticut-General-Permit. Follow the application submission instructions on these forms.

Email: DEEP.LWRDRegulatory@ct.gov
Mail: State of Connecticut, Department of Energy & Environmental Protection, 79 Elm Street, Hartford, CT 06106-5127

4. Emergency Procedures: Written authorization under these emergency procedures is required. Contact USACE immediately in the event of an emergency to obtain information on the verification process and coordination requirements. USACE regulation at 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." Emergency work is subject to the same terms and conditions of these GPs as non-emergency work, and similarly, must qualify for authorization under these GPs; otherwise, an Individual Permit shall be required. Upon notification, USACE will determine if a project qualifies for emergency procedures under the GPs and whether work may proceed prior to submittal of an application. Where an application is required, USACE staff will work with all applicable agencies to expedite verification according to established procedures in emergency situations.

5. Individual Permit Procedures: Work that is **NOT** eligible for authorization under the GPs as defined in Appendix A – General Permits and applicable GCs, or that does not meet the applicable terms and conditions of the GPs, will require review under USACE Individual Permit procedures (see 33 CFR 325.1). Applicants shall submit the appropriate application materials to USACE. General information and the application form can be obtained at http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/ObtainaPermit.aspx.

Water Quality Certification for Individual Permits: Section 401(a)(1) of the CWA (33 USC 1341) requires that applicants proposing to discharge dredged or fill material into waters of the U.S. obtain a WQC or waiver from the certifying state water pollution control agency, which is CT DEEP in Connecticut or the EPA on Indian reservation lands. If the proposed work includes a discharge of fill or dredged material in waters of the U.S. and will require an Individual WQC from the CT DEEP, an applicant must submit a certification pre-filing meeting request to that agency at least 30-days prior to submitting the 401 WQC certification request. The CT DEEP is not obligated to respond to the pre-filing meeting request or to grant the meeting, but the agency may choose to grant one where early joint interagency and applicant coordination has the opportunity to promote efficiency in the Section 401 decision making process. A 401 WQC certification request must be submitted simultaneously to the certifying pollution control agency (CT DEEP or EPA) and USACE. Information pertaining to the Federal regulation is available at https://www.epa.gov/CWA-401 and state-specific information can be found at the CTDEEP website http://www.ct.gov/deep/cwp/view.asp?a=2709&q=324168&depNav_GID=1643. These links are also available at https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Connecticut-General-Permit.

SECTION 2

REVIEW CATEGORIES & APPLICATION PROCEDURES FOR ACTIVITIES WITHIN TIDAL, COASTAL AND NAVIGABLE WATERS AND WETLANDS WITHIN THE STATE OF CONNECTICUT

I. JURISDICTION AND ACTIVITIES COVERED

1. CT DEEP

a. Jurisdiction: In the tidal, coastal, *or* navigable waters of Connecticut waterward of the coastal jurisdiction line (CJL), CT DEEP regulates dredging; the erection of structures; the placement of fill; and work incidental thereto pursuant to Connecticut General Statutes (CGS) Section 22a-359. Activities within tidal wetlands are regulated pursuant to CGS Section 22a-32. Your activity may be regulated by both CGS Sections 221-359 and 22a-32.

One of the following regulatory limits will apply to the activity:

- CJL: For activities not within tidal wetlands, the CJL is the upland limit of state regulatory jurisdiction, CGS Section 22a-359(c).
- Mean High Water Mark (MHW): For projects located upstream of a tide gate, dam, or weir, use MHW. The use of MHW would not apply to areas where a culvert, pipe, or narrow channel is causing a restriction as the purpose and function of such devices are not to modify the flow of tidal water (their purpose is to convey water).
- Tidal Wetland Boundary: Use the tidal wetland boundary if tidal wetland vegetation is located landward of CJL or MHW. The upland limit of tidal wetlands is one foot above local extreme high water, CGS Section 22a-29(2). Local extreme high water is defined in Section 22a-30-2(h) of the Tidal Wetlands Regulations as the elevation of the one-year frequency tidal flood at a particular location as shown on the most recently adopted U.S. Army Corps of Engineers tidal flood profile (https://www.nae.usace.army.mil/Portals/74/docs/regulatory/Forms/TidalFloodProfiles.pdf).

b. Authorizations:

Water Quality Certification (WQC): Section 401(a)(1) of the Clean Water Act (33 USC Sec. 1341) 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 (CZM) Consistency: 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, Land and Water Resources Division that the activity complies with the state's CZM program for activities affecting a state's Coastal Area.

Projects involving dredging/excavation and associated disposal within the Byram River must

also coordinate with NY Department of State (NYDOS) directly to obtain a certification or waiver that the activity complies with NYDOS' CZM program. Also, all projects with disposal within any of the Long Island Sound disposal sites require NY DOS CZM consistency. See https://dos.ny.gov/coastal-consistency-review for additional information.

2. USACE

a. Jurisdiction:

- 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, the Connecticut River has been determined to be a navigable water of the United States. (Regulated by USACE 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 USACE under Section 404 of the CWA
- The transportation of dredged material for the purpose of disposal in the ocean. The USACE regulates these activities under Section 103 of the Marine Protection, Research and Sanctuaries Act. See 33 CFR 324.
- Use or alteration of a Civil Works project by another party is subject to approval by USACE under Section 408 of the Rivers and Harbors Act of 1899 after determining that the alteration proposed will not be injurious to the public interest and will not impact the usefulness of the Civil Works project.

b. Authorizations:

1. Self-Verification (SV): Applicants should submit a copy of their state permit application package directly to USACE and not submit Appendix E of the CT GPs to USACE unless specifically required (see GP 12). CT DEEP, Land and Water Resources Division, will forward copies of their approvals to USACE. If USACE determines that a project meets SV, USACE will forward verification of eligibility to the applicant.

SV 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 **Appendix B -General Conditions** of the GPs

Note: Activities subject to Corps jurisdiction that are NOT regulated by the CT DEEP 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 (NHPA), the Endangered Species Act (ESA) and the Wild and Scenic Rivers Act (WSRA).

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.

2. Regional General Permit Pre-Construction Notification (PCN) (notification/application and written authorization required)

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

PCN 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 meets the criteria in **Appendix A - General Permit Activities**
- meet the **Appendix B - General Conditions** of the GPs

3. PCN process for each of the following CT DEEP approvals:

a. CT DEEP, Land and Water Resources Division regulated activities

Structures and Dredging Permit Applications: Applicants/agents shall submit to the Corps, a copy of the LWRD License Application Pre-Submission Consultation Form – U. S. Army Corps of Engineers along with project plans. The Corps will then coordinate this information with the interagency review team (see **4. Review Procedures** on the next page) and then return the form to applicants/agents for their submission to DEEP. This form can be found at:
https://portal.ct.gov/-/media/DEEP/Permits_and_Licenses/Land_Use_Permits/LWRD/consultUSACEpdf.pdf

Certificates of Permission (COPs), General Permits (GPs) and Modifications:
Applicants/agents shall submit to the Corps copies of application packages and approvals. 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.

For a full list of PCN requirements, see Section 3.

NOTE: For projects which involve dredging and open water disposal - Applicants/agents must submit requests for sampling plans to CT DEEP 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
https://dos.ny.gov/system/files/documents/2020/09/fcaf_fillable.pdf.
The information needed to develop a sampling and analysis plan can be found at:

https://www.nae.usace.army.mil/Portals/74/docs/regulatory/Forms/NAE_SAP_Checklist.pdf?ver=YjOLbfZYTyHnt3Vc9QJpyg%3d%3d

Please see our website at https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Connecticut-General-Permit/ for more information.

Please also note for dredging projects, CT DEEP requires a completed Pre-Submission Consultation form, LWRD Application Pre-Submission Consultation Form, found at: https://portal.ct.gov/-/media/DEEP/Permits_and_Licenses/Land_Use_Permits/LWRD/consultdredgingpdf.pdf to be submitted with any license application to DEEP. For further guidance on the CT DEEP consultation process please refer to the following document, "Reference for Coastal/Tidal Dredging" found at: https://portal.ct.gov/-/media/DEEP/Permits_and_Licenses/Land_Use_Permits/LWRD/referencedredgingpdf.pdf

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 . The DA/BA will forward a copy of the aquaculture application package to the Corps, CT DEEP's Boating Division, Marine Fisheries Division, 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 with input from CT DEEP Boating and Marine Fisheries Divisions. Screening will also initiate review of the application by CT DEEP for Coastal Zone Management consistency concurrence. CT DEEP 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 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 authorizations are granted.

Emergency Procedures: "Written approval to proceed" under these emergency procedures is required. Contact the Corps immediately in the event of an emergency to obtain information

on the verification process and coordination requirements. Corps regulation at 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." Emergency work is subject to the same terms and conditions of these GPs as non-emergency work, and similarly, must qualify for authorization under these GPs; otherwise, an Individual Permit shall be required. Upon notification the Corps will determine if a project qualifies for emergency procedures under the GPs and whether work may proceed prior to submittal of an application. Where an application is required, Corps staff will work with all applicable agencies to expedite verification according to established procedures in emergency situations.

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 all the appropriate application materials, including the Corps ENG 4345 application form. General information and application can be obtained at our website at **http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/ObtainaPermit.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.

Water Quality Certification for Individual Permits: Section 401(a)(1) of the Clean Water Act (33 USC Sec. 1341) requires that applicants proposing to discharge dredged or fill material into waters of the U.S. obtain a WQC or waiver from the certifying state water pollution control agency, which is the (CT DEEP) or the EPA on Indian reservation lands. If the proposed work includes a discharge of fill or dredged material in waters of the U.S. and will require an Individual WQC from CT DEEP, an applicant must submit a certification pre-filing meeting request to that agency at least 30-days prior to submitting the 401 WQC certification request. CT DEEP is not obligated to respond to the pre-filing meeting request or to grant the meeting, but the agency may choose to grant one where early joint interagency and applicant coordination can promote efficiency in the Section 401 decision making process. A 401 WQC certification request must be submitted simultaneously to the 401 certifying pollution control agency (CT DEEP) and the Corps. Information pertaining to the federal regulation is available at https://www.epa.gov/CWA-401 and state-specific information can be found at the CTDEEP web site at http://www.ct.gov/deep/cwp/view.asp?a=2709&q=324168&depNav_GID=1643.

SECTION 3

CONTENT OF PRECONSTRUCTION NOTIFICATION

I. INFORMATION REQUIRED FOR ALL PROJECTS

- □ The USACE application form (ENG Form 4345) is required for all inland activities. The form can be obtained electronically at www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Obtain-a-Permit. The CT DEEP LWRD Structures, Dredging & Fill or Certificate of Permission applications can be substituted for the USACE application form for activities in coastal waters provided it includes all the information required below. Submit a copy of the CT DEEP application directly to USACE.
- □ All anticipated direct, indirect, and secondary impacts, both permanent and temporary, to waters of the U.S. (in wetlands, and waterward of OHW in inland waters and the HTL in coastal waters) in square feet, acres, or linear feet (for stream and bank impacts), and cubic yards or other appropriate units of measure. The USACE New England District's Compensatory Mitigation Standard Operating Procedures document is a resource for assessing secondary impacts (https://www.nae.usace.army.mil/Missions/Regulatory/Mitigation).
- □ For any activity that will alter or temporarily or permanently occupy or use a USACE Federally authorized Civil Works project, the PCN must include a statement confirming that the project proponent has submitted a written request for Sec. 408 permission from USACE. See GC 8(c) and (d).
- □ Information on historic properties (see GC 11), including a copy of the CT SHPO form found at: https://portal.ct.gov/-/media/DECD/Historic-Preservation/01_Programs_Services/Environmental-Review/ProjectNotificationForm_2021.pdf
- □ Information on Federal threatened or endangered species present at the site including a copy of the USFWS IPAC Official Species List, the NOAA Section 7 Species List (see GC 12) and the email address of the person who generated the list.
- □ If applicable, a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions (see GC 17).
- □ Photographs of wetland and/or waterway to be impacted. Photos at low tide are preferred for work in coastal waters.
- □ Provide any historic information available that you may have for the project area, e.g., existing USACE permit/file numbers, the names under which the permits were obtained if the permit/file numbers are unknown, construction dates and proof of prior existence (aerials, photos, town hall records, affidavits, state, or local permits, etc.) to verify "grandfathering."
- □ If the project is in the Federal Emergency Management Agency designated floodplain or floodway, state whether the project will adversely affect the hydraulic characteristics of these features or existing floodplain storage capacity (see GC 5).

Information required for dredge activities shall also include:

- □ Sampling plan requests – submit completed Dredged Material Evaluation checklist found at Dredged Material Evaluation Checklist, Sampling and Analysis Plan Requirements from Applicant (army.mil)
- □ Whether the work is new, improvement or maintenance dredging and the method of handling/transporting the dredged material.
- □ Grain-size of material to be dredged (e.g., silty sand). Provide any existing sediment grain size and bulksediment chemistry data from the proposed project, previous dredging at the site, or from nearby projects.
- □ Information on any recent spills of oil and/or other hazardous materials and/or nearby outfalls.

Document the information source, e.g., EPA database, the harbormaster or fire chief.

□ Total footprint of the dredged area when characterizing impact to resources.

□ Provide an alternatives analysis to open-water disposal.

II. Plans for all projects shall include:

□ Drawings, sketches, or plans that are legible, reproducible (color is encouraged, but features must be distinguishable in black and white), drawn to scale, and no larger than 11"x17". Numeric and graphic/bar scales must agree, and plan details must be measurable using a standard engineer's scale on printed plans. Reduced plans are not acceptable. Show the north arrow and wetland and waterway area impacts. Provide a color locus map and, if necessary, a plan overview of the entire property with a key index to the individual impact sheets.

□ Datum in plan and elevation views.
- The horizontal datum shall be in the NAD 83 Connecticut State Plane Coordinate System (Long Island Sound) in U.S. survey feet.
- The vertical data in coastal projects shall be referenced to either MLLW or the North American Vertical Datum of 1988 (NAVD 88). Both the distance and depth units shall be U.S. survey feet. See https://www.nae.usace.army.mil/Portals/74/docs/regulatory/Forms/VerticalDatumLetter.pdf

□ Existing and proposed conditions, and plan views and cross sections for all work.

□ Limits and area (SF) of temporary and permanent fill to be placed in any wetlands or waterway, including construction access and work areas, cofferdams, bedding, and backfill. Show delineation of all wetlands including salt marsh; other special aquatic sites (vegetated shallows, mudflats, riffles and pools, coral reefs, and sanctuaries and refuges); other waters, such as lakes, ponds, vernal pools, and perennial, intermittent, and ephemeral streams; on the project site. Use Federal delineation methods and include USACE wetland delineation data sheets (see GC 2) for all wetlands. Vegetated shallow survey guidance is located at https://www.nae.usace.army.mil/Missions/Regulatory/Jurisdiction-and-Wetlands/. Maps of vegetated shallows in Connecticut can be obtained online from CT ECO at https://cteco.uconn.edu/viewer/index.html?viewer=advanced

□ Copies of NRCS Topographic Map (identify the quad name and year) or NOAA Navigation chart (identify chart number) if in coastal waters marked to show the project location and/or site boundaries.

□ Ebb and flood in tidal waters and direction of flow in non-tidal waters.

□ Indicate the relationship of the proposed work site to waters of the U.S., i.e., adjacent wetlands, tidal influence or hydraulic connectivity through culverts, or other conveyances, etc.

□ Total plan of development, including the proposed use of dependent upland and wetland areas.

□ Names or numbers of all roads in the site's vicinity.

□ Name and addresses of adjoining property owners on the plan view.

□ For typical pipeline cross-sections, the details of the bedding and backfill to be used in wetlands and waters. Show proposed trench dams and detail for inland projects.

□ Adjacent Federal navigation project (FNP) (anchorage or channel) and/or state/local navigation projects, distance to them, the authorized depths of the FNP, and state plane coordinates of the seaward end(s) of structures near an FNP.

□ The 100, 500-year and regulatory floodway boundaries as shown on the community's current FEMA National Flood Insurance Program maps, if applicable.

□ Include plans for any temporary water handling systems.

□ Include appropriate plans for any phase construction sequencing.

□ A statement regarding how the project proponent has determined the absence or presence of vegetated shallows, mudflats, or riffles and pools, e.g., personal visual observation, divers, online maps,conversations with local officials, etc. Note: a submerged aquatic vegetation survey may be

required.

- □ Presence or absence of shellfish beds near the site and how such was determined, e.g., personal visual observation, divers, online maps,conversations with local officials, etc. Note: a shellfish survey may be required.

1. <u>Plans for projects involving structures shall also include</u>:

- □ The MLLW, MHW and HTL elevations in tidal waters, and OHW in non-tidal navigable waters.
- □ Water depths around the project in all views.
- □ Dimensions of the existing and proposed structures. Show the location and dimensions of existing bulkheads and/or shoreline stabilization on adjacent properties and, if applicable, how the proposedwork will tie into existing structures.
- □ For piers and other structures, the minimal height of structures frame above the marsh.
- □ For floats, the methods of securing them (piles, bottom anchors) and for keeping them off substrate (skids, stops) at low water.
- □ Any existing structures and moorings in waters adjacent to the proposed activity, their dimensions, and the distance to the limits and coordinates of any proposed mooring field, reconfiguration zone or aquaculture activity. Provide the coordinates for all corners based on the Connecticut State Plane Coordinate System. Specify the maximum number of slips and/or moorings within proposed reconfiguration zones. If no structures exist or are proposed, state this on the project plans.
- □ The dimensions of the structure or work and extent of encroachment waterward of MHW and from afixed point on the shoreline or upland.
- □ Shoreline of adjacent properties and property boundary offset for structures.
- □ In narrow waterbodies, the distance to opposite shoreline, waterway width, and structures across fromproposed work.
- □ For reconfiguration zones, the coordinates of the corners and specify the maximum number of slips and/or moorings within the zone.
- □ A description of the type of vessels that would use the facility, and any plans for sewage pump-out facilities, fueling facilities and contingency plans for oil spills.

2. <u>Plans for projects involving fill shall also include</u>:

- □ All locations of discharges of dredged or fill material waterward of the HTL or OHW.
- □ Describe historic permanent fill previously authorized by USACE, if known, and the date of authorization.
- □ The MLLW, MHW and HTL elevations in tidal waters, and OHW elevation in lakes and non-tidal streams.
- □ Structures, if any, proposed to be erected on the fill.
- □ Limits of wetlands (label: wetland boundary) and waterways (labels: OHW or HTL) on all views.
- □ Limits of temporary and permanent fill to be used in any wetland or waterway, including construction access and work areas, cofferdams, bedding, and backfill.
- □ Provide a description of the federal wetlands and aquatic habitats at the site and provide a map of their locations within the project area. Provide an assessment of the impacts expected from the project on the wetlands and aquatic resource functions. For wetlands include the Corps of Engineers Wetland Determination Data Form – Northcentral and Northeast Region consistent with the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region and include the federal wetland boundary keyed to paired transect plots on the project's existing condition plan(s). See

https://www.nae.usace.army.mil/Missions/Regulatory/Jurisdiction-and-Wetlands/Wetland-Delineation-Manual for more information.

- □ Description (length, width, flow character, water quality and streambed condition) of any streams at the project site
- □ Area (SF) of each fill that is waterward of the OHW in non-tidal waters, waterward of the HTL in tidal waters, and in wetlands. State if the fill is permanent or temporary.
- □ Disposal site of the excess excavated material. If necessary, submit an additional sheet showing the location of the proposed disposal site. Provide quantity of excess excavated material.
- □ Existing and proposed ground or waterway contours or spot elevations on all views.
- □ A statement describing how impacts to waters of the U.S. are to be avoided and minimized. For the remaining impacts, include a statement describing how aquatic resource function is being replaced through compensatory mitigation or explain why compensatory mitigation should not be required for the proposed impacts. Mitigation areas clearly identifying each area and showing the boundaries and SF of each area.
- □ Summary of any proposed mitigation (see https://www.nae.usace.army.mil/Missions/Regulatory/Mitigation/ for the USACE 2020 Compensatory Mitigation Standard Operating Procedures).
- □ Total plan of development, including the proposed use of dependent upland and wetland areas.
- □ The CT DEEP Inland Water Resource Impact Table, Attachment 16 at https://portal.ct.gov/-/media/DEEP/Permits_and_Licenses/Land_Use_Permits/LWRD/waterresourceimpactpdf.pdf, if required by CT DEEP.

Completed CT SHPO Project Notification Form with verification of transmittal to the CT SHPO. The form is available on the CT SHPO website under Historic Preservation – Environmental Review or at https://portal.ct.gov/-/media/DECD/Historic-Preservation/01_Programs_Services/Environmental-Review/ProjectNotificationForm_2021.pdf

3. <u>Plans for activities involving dredging shall also include</u>:

- □ The area (SF) and volume (CY) of material to be dredged waterward of MHW for each dredge location.
- □ Dredge boundaries, including side slopes.
- □ Bathymetry for existing, proposed, and historical (include dates and USACE permits) dredge depths
- □ The likely final angle of repose of the side cuts based on the physical characterization of the material to be dredged and based upon the high/ medium/low, wave or current energy of the location.
- □ Whether the dredging is new, maintenance, improvement, or a combination.
- □ A description of the area to be dredged, i.e., open water, existing channel, wetlands, uplands, etc.
- □ Location of the disposal site (include location sheet).
- □ The methods and areas used to retain or prevent dredged material from running back into the wetlandor waterway. Provide the capacity of the storage area and points of runback, including the overflow route, into the aquatic system.
- □ For beach nourishment, identify the disposal footprint, existing and proposed nourishment profiles (multiple profiles are appropriate if the site is more than 150 feet long or non-contiguous), total fill area (SF) and volume (CY), fill area and volume waterward of the HTL, and delineation of dunes, banks, existing beach vegetation, and contours. Also identify the substrate type (fine sand, sand, cobble, boulder) and/or grain-size of existing material.
- □ Show the finished top elevation of the disposal site.
- □ For open-water disposal, explain why inland or beneficial reuse sites are not practicable.
- □ Identification and description of any potential impacts to Essential Fish Habitat and threatened orendangered species.

Note: For projects proposing open water, nearshore disposal, or beach nourishment, contact USACE as early as possible for sampling and testing protocols. Sediment testing, including physical (e.g., grain-size analysis), chemical and biological testing may be required. Sampling and testing of sediments without such contact should not occur and if done, will be at the applicant's risk. The information needed to develop a sampling and analysis plan can be found at: https://www.nae.usace.army.mil/Missions/Regulatory/Dredged-Material-Program/.

II. Information that may also be required:

- □ Purpose and need for the proposed activity.
- □ Alternatives analysis.
- □ Schedule of construction activity.
- □ Location and dimensions of adjacent structures.
- □ Prospective permittees may be required to describe and identify potential adverse effects of the project on Essential Fish Habitat (refer to the NOAA Fisheries' EFH Mapper found at www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper).
- □ Identification of potential discharges of pollutants to waters, including potential impacts to impaired waters, in the project area.
- □ Whether work will occur behind a temporary cofferdam or whether silt curtains will be deployed during project construction.
- □ Number and type (drill barge, work boat, tugboat, etc.) of temporary work vessels to be used.
- □ Number of permanent recreational vessels associated with a coastal structure.
- □ Number, size (diameter) and type (timber, steel, cement, combination, other) of pilings associated with a project in tidal waters and installation method (vibratory hammer, impact hammer, combination) for such pilings.
- □ Description of how the project will maintain aquatic organism passage during and after construction.
- □ An Invasive Species Control Plan (see GC 27). For sample control plans, see www.nae.usace.army.mil/missions/regulatory/invasive-species.
- □ Wetlands functions and values assessment (see Highway Methodology Workbook Supplement)

APPENDIX A - GENERAL PERMITS FOR THE STATE OF CONNECTICUT & TRIBAL LANDS

All Self-Verification and Pre-Construction Notification activities must comply with all applicable terms, general conditions, and any additional eligibility requirements below.

"INLAND" as written in this appendix refers to non-tidal and non-navigable waters and wetlands, which are defined as waters that are regulated under Section 404 of the CWA, including rivers, streams, lakes, ponds, and wetlands. These resource areas exclude Section 10 Navigable Waters of the U.S, which are defined in Appendix F. The jurisdictional boundaries are the ordinary high water mark (OHW) in the absence of adjacent wetlands; beyond OHW to the limit of adjacent wetlands when adjacent wetlands are present; and the wetland limit when only wetlands are present.

"COASTAL" as written in this appendix refers to tidal, coastal & navigable waters of the U.S. These waters, subject to Section 10 of the Rivers and Harbors Act of 1899, are those waters subject to the ebb and flow of the tide in addition to the non-tidal portions of the Connecticut River from Long Island Sound to the Massachusetts state border. The jurisdictional limits are the mean high water mark (MHW) in tidal waters and OHW in non-tidal portions of the federally-designated navigable rivers. For the purposes of these GPs, fill placed in the area between MHW and the high tide line (HTL), in the bordering and contiguous wetlands to tidal waters, are also reviewed in the "coastal" sections below. Work in these waters that includes a discharge of dredged or fill material is regulated under Section 404 of the CWA seaward of HTL.

GP Activity #	Category of Activity
GP 1	Aids to navigation & temporary recreational structures *(Coastal only)*
GP 2	Repair or maintenance of existing currently serviceable, authorized, or grandfathered structures & fills and removal of structures *(Coastal and Inland)*
GP 3	Moorings *(Coastal only)*
GP 4	Pile-supported structures & floats, including boat lifts/hoists & other miscellaneous structures & work *(Coastal only)*
GP 5	Boat ramps and marine railways *(Coastal and Inland)*
GP 6	Utilities including lines, outfall and intake structures and appurtenant features *(Coastal and Inland)*
GP 7	Dredging, transport & disposal of dredged material, beach nourishment & rock removal and rock relocation *(Coastal only)*
GP 8	Discharges of dredged or fill material incidental to the construction of bridges *(Coastal only)*
GP 9	New shoreline and bank stabilization projects and Living Shorelines *(Coastal and Inland)*
GP 10	Aquatic habitat restoration, establishment, and enhancement activities *(Coastal and Inland)*
GP 11	Fish and wildlife harvesting activities *(Coastal and Inland)*
GP 12	Oil spill and hazardous material response operations *(Coastal and Inland)*
GP 13	Cleanup of hazardous and toxic waste and removal of contaminated soil *(Coastal and Inland)*
GP 14	Scientific measurement and monitoring devices *(Coastal and Inland)*
GP 15	Survey and exploratory survey activities *(Coastal and Inland)*
GP 16	Aquaculture & Mariculture Activities (*Coastal only*)
GP 17	New and expansion of recreational, residential, institutional, and commercial developments *(Inland only)*
GP 18	Wetland crossings for linear transportation projects *(Inland only)*
GP 19	Stream river and brook crossings (not including wetland crossings) *(Coastal and Inland)*
GP 20	Energy generation and renewable energy facilities and hydropower projects *(Coastal and Inland)*
GP 21	Temporary fill not associated with a regulated General Permit activity *(Inland only)*
GP 22	Modification and Improvement of Existing Minor drainage features and Mosquito Control *(Coastal only)*
GP 23	Agricultural Activities *(Inland only)*

GP 1. AIDS TO NAVIGATION & TEMPORARY RECREATIONAL STRUCTURES (Section 10; navigable waters of the U.S.)

The placement of aids to navigation and regulatory markers that 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) and/or requirements of the CT DEEP Boating Division (see Connecticut General Statutes Section 15-121 and the corresponding Regulations of Connecticut State Agencies). The installation of temporary buoys, markers, floats, or similar structures solely for recreational use or short-term events such as water-skiing competitions, fireworks display or seasonal swim floats.

	SELF-VERIFICATION (SV)	PRE-CONSTRUCTION NOTIFICATION (PCN)
GP 1(A) INLAND	**Not Applicable** These activities in inland waters (as defined in Appendix A, Page 1) do not require USACE authorization.	**Not Applicable** These activities in inland waters (as defined in Appendix A, Page 1) do not require USACE authorization.
GP 1(B) COASTAL A Self-Verification Notification Form (SVNF) is not required.	Not eligible for SV: • Aids to Navigation/temporary structures in submerged aquatic vegetation (SAV). • Aids to Navigation/temporary structures in USACE Federal navigation projects (FNPs). FNPs are comprised of Federal channels, anchorages and turning basins. Please click on the link below for more information: http://www.nae.usace.army.mil/Missions/Navigation/Connecticut-Projects/ on the limits of these Federal projects. • Temporary structures in place longer than one season and/or not removed within 30 days after use is discontinued. Eligible for SV: • Aids to navigation and regulatory markers (both permanent and temporary) approved by the U.S. Coast Guard (USCG) and/or State of Connecticut Boating Division that are not located within FNPs. • Temporary buoys, markers, floats, etc. for recreational use during specific seasonal or short-term events, provided they are not located within USACE FNPs, are in place no longer than the defined seasonal timeframe and are removed within 30 days after use is discontinued.	Eligible for PCN (includes work not eligible for SV): • Aids to Navigation/temporary structures in SAV. • Aids to Navigation/temporary structures in FNPs. FNPs are comprised of Federal channels, anchorages and turning basins. • Temporary structures in place longer than one season and/or not removed within 30 days after use is discontinued.

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 technique 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 and accumulated sediment/debris. Stream, river, brook, or other watercourse crossings are not eligible under GP 2 (see GP 19). Maintenance dredging, beach nourishment or beach restoration are not eligible under GP 2 (see GP 7).

	SELF-VERIFICATION (SV)	PRE-CONSTRUCTION NOTIFICATION (PCN)
GP 2(A) INLAND An SVNF is required. Construction mats of any area necessary to conduct activities do not count towards the impact thresholds and should be removed as soon as work is completed.	Not eligible for SV: • Permanent fill >1,000 SF. • Temporary fill >5,000 SF. • Additional riprap beyond the existing, previously authorized footprint. • Unconfined fill in waterways identified as habitat for Atlantic sturgeon and shortnose sturgeon including designated critical habitat, foraging, and overwintering areas. (See GC 12 for a hyperlink to the NOAA ESA maps). • Fill in riffle and pool complexes and non-tidal vegetated shallows with *Vallisneria americana* (also known as water celery, American eelgrass or tapegrass), or a vernal pool depression that is located within waters of the U.S. • Unconfined work in streams with diadromous fish occurring between April 1 and June 30. (see Appendix H) Eligible for SV: • Permanent fill ≤1,000 SF. • Temporary fill ≤5,000 SF. • Replacement of existing riprap is permitted if it does not extend beyond the previously authorized footprint or that which is required to key in the toe. • Drawdown of impoundment for dam/levee repair provided it does not exceed 18 months and one growing season (April through September). • Stream channel modification is limited ONLY to the minimum necessary to complete repair, rehabilitation, or replacement of the serviceable structure or fill. • 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. • Temporary fill must consist of materials that minimize impacts to water quality and be placed in a manner, that will not be eroded by expected high flows. Upon completion of work all temporary fill must be removed in their entirety and the affected area(s) returned to pre-construction elevation, condition, and re-vegetated as appropriate.	Not eligible for PCN (Individual Permit required): • Permanent fill> 5,000 SF. • New permanent discharges of fill for modification of existing culverts in streams that will adversely affect the hydraulic characteristics of a waterway or a FEMA designated floodplain. • New riprap fill that exceeds the minimum necessary to protect the existing fill/structure. Eligible for PCN (includes work not eligible for SV): • Permanent fill ≤ 5,000 SF. • Temporary fill ≤ 10,000 SF (except for construction mats). • Additional riprap beyond the existing, previously authorized footprint • 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. • 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 U.S. Note: Any bank stabilization measures not directly associated with the existing structure requires a separate authorization under GP 9.

GP 2(B) COASTAL Repair or Maintenance of Existing Currently Serviceable, Authorized or Grandfathered Structures & Fills, Removal of Structures An SVNF is not required. Note: Construction mats of any area necessary to conduct activities do not count towards the impact thresholds and should be removed as soon as work is completed.	Not eligible for SV: • New fill (temporary or permanent) • Impacts (structures or work) in special aquatic sites (SAS)* – also refer to 40 CFR 230.3 and Subpart E and definitions herein. • Unconfined fill in waterways identified as habitat for Atlantic sturgeon and shortnose sturgeon including designated critical habitat, foraging, and overwintering areas. This includes, but is not limited to, the Housatonic River, Naugatuck River, Quinnipiac River, Connecticut River, Salmon River, Thames River and Yantic River (See GC 12 for a hyperlink to the NOAA ESA maps). Eligible for SV: • Bulkhead replacement via installation of new bulkhead within 18" of existing bulkhead & associated backfill. • Work to previously authorized and currently serviceable tide gates with a USACE-approved operation and maintenance plan and structural repair (no fill) for tide gates that will not change the hydraulic regime (e.g., modify existing flow, periodicity, or circulation of waters), solely convey stormwater and/or that convey authorized National Pollution Discharge Elimination System discharges. • Repair, rehabilitation, or replacement of any previously authorized or grandfathered, currently serviceable structures. * SAS includes mud flats, saltmarsh, vegetated shallows (submerged aquatic vegetation), sanctuaries and refuges, coral reefs, and riffle and pool complexes.	Not eligible for PCN (Individual Permit required): • New fill (temporary or permanent) > 5,000 SF in waters and wetlands • Impacts (structures or work) >1,000 SF in tidal SAS (other than vegetated shallows), and shellfish beds. • Impacts (structures or work) and fill >100 SF in tidal vegetated shallows (e.g., eelgrass & widgeon/turtlegrass). Eligible for PCN (includes work not eligible for SV): • Fill and impacts (structures or work) ≤ 5,000 SF in waters and wetlands • Removal of accumulated sediments and debris in the vicinity of existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.) • Removal of bridge structures subject to USCG jurisdiction are covered under GP 8, provided the USCG issues a bridge permit. • Any bank stabilization measures not directly associated with the structure requires a separate authorization under GP 9. • 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 U.S. Note: Grandfather dates include work performed and structures installed before 1968 and fill placed before 1975 for USACE purposes only.

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.

	SELF-VERIFICATION (SV)	PRE-CONSTRUCTION NOTIFICATION (PCN)
GP 3(A) INLAND	**Not Applicable** These activities in inland waters (as defined in Appendix A, Page 1) do not require USACE authorization.	**Not Applicable** These activities in inland waters (as defined in Appendix A, Page 1) do not require USACE authorization.
GP 3(B) COASTAL An SVNF is not required.	Not eligible for SV: • New moorings located in FNPs, including anchorages • New moorings located in tidal SAV • New moorings within 1000 SF of SAS (except tidal SAV) • New moorings located in shellfish beds. Eligible for SV: • Private, non-commercial, non-rental, single-boat moorings as well as temporary moorings needed to facilitate construction or dredging. • Minor relocation of previously authorized moorings provided no impact to SAS or shellfish beds. • Must receive local harbormaster or municipal commission authorization. • Replacement of existing moorings within SAS (e.g., eelgrass) with low impact mooring technology that prevents mooring chains from resting or dragging on the bottom substrate at all tides, helical anchors, or equivalent SAS protection systems.	Not eligible for PCN (Individual Permit required): • Moorings in Federal Navigation Channels Eligible for PCN (includes work not eligible for SV): • New moorings, including expansion of existing mooring fields, that are associated with an existing or proposed boating facility*. • Private moorings without harbormaster or local approval. • 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. • New individual moorings in SAS, including eelgrass. Locating moorings in SAS 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, helical anchors, or equivalent SAS protection systems, where practicable. USACE may require an eelgrass survey to document presence or absence of SAS to determine the appropriate type and amount of compensatory mitigation for impact to SAS. • Temporary and permanent impacts to >1000 SF of SAS (except tidal SAV) or intertidal habitats. • Temporary and permanent impacts to: (1) >100 SF of tidal SAV; or (2) ≤100 SF of tidal SAV if compensatory mitigation isn't required. *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.

GP 4. PILE-SUPPORTED STRUCTURES & FLOATS, INCLUDING BOAT LIFTS/HOISTS & OTHER MISCELLANEOUS STRUCTURES & WORK (Section 10 and 404; navigable waters of the U.S.) New, expansions, reconfigurations, or modifications of structures for navigation access including floats, stairs/pads, and boat/float lifts as well as other miscellaneous structures.		
	SELF-VERIFICATION (SV)	**PRE-CONSTRUCTION NOTIFICATION (PCN)**
GP 4(A) INLAND	**Not Applicable** These activities in inland waters (as defined in Appendix A, Page 2 do not require USACE authorization, unless there is a discharge of dredged or fill material.	**Not Applicable** These activities in inland waters (as defined in Appendix A, Page 1) do not require USACE authorization, unless there is a discharge of dredged or fill material.
GP 4(B) COASTAL An SVNF is not required.	Not eligible for SV: • New structures or floats associated with a boating facility.* • Structures located over, or within 25-feet of SAV. • Structures or floats located within the buffer zone (3x the authorized depth of the FNP) of the horizontal limits of FNPs. • Pile-supported structures within Shellfish Concentration Areas as designated by CT DEEP, Coastal Area Management Program by CGS Sec. 22a-90. • Hammered steel piles. • Wooden piles > 12 inches in diameter. • Structures or floats that extend across >25% of the waterway width at mean low water (MLW). Eligible for SV: • Private residential piers/floating docks/miscellaneous structures with a length limit not to exceed 40 feet beyond MHW and to a depth of -4 feet MLW and limited to 4 feet 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 5' off the surface of any underlying wetland. • Wooden piles for a single and complete project ≤ 25 piles. • Floats and lifts must be supported at least 18 inches above the intertidal and shallow sub-tidal substrate during all tidal cycles. • Private boat lifts. • Letter of no objection from riparian property owner is required for new structures within 25 feet of riparian property line extensions. • Reconfiguration of existing authorized structures, both private or commercial, provided those structures do not extend beyond the existing footprint** of the facility or extend further waterward of MHW, or encroach into SAS or shellfish beds. • Access stairs. • Temporary structures not in FNPs such as scaffolding to facilitate activities covered by another GP	Not eligible for PCN (Individual Permit required): • Permanent structures in a Federal Navigation Channel or in the buffer zone • New structures associated with an existing boating facility that are located beyond the existing footprint of the facility. Eligible for PCN (includes work not eligible for SV): • Wave attenuation structures and timber groins. • New structures within an existing boating facility, provided those structures do not extend beyond the existing footprint of the facility. • Structures that are located within 25 feet of riparian property line extensions unless the properties are owned by the same owner. If not, USACE may require a letter of no objection from the abutter(s). • Structures or work in or affecting coastal waters (as defined on Appendix A, Page 1) that are not defined under any other GP activity. * 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. ** Footprint is defined as the limit of structures, such as docks, pilings, piers, or platforms, at an established marina or docking facility.

GP 5. BOAT RAMPS & MARINE RAILWAYS (Sections 10 & 404; tidal and non-tidal waters of the U.S.)
Activities required for the construction of boat ramps & marine railways, including associated excavation & discharges of fill. Dredging in coastal waters of the U.S. is not eligible under GP 5 (see GP 7).

	SELF-VERIFICATION (SV)	PRE-CONSTRUCTION NOTIFICATION (PCN)
GP 5(A) INLAND An SVNF is required.	Not eligible for SV: • Unconfined fill or excavation discharges in waterways identified as habitat for Atlantic sturgeon and shortnose sturgeon, including designated critical habitat, foraging, and overwintering areas. (See GC 12 for a hyperlink to the NOAA ESA) • Fill or excavation discharges in vegetated shallows with *Vallisneria americana* (also known as water celery, American eelgrass or tapegrass). • Boat ramps located within 25 feet of riparian property line extensions unless the properties are owned by the same owner or a letter of no objection from the abutter is provided. Eligible for SV: • Ramp construction with ≤5,000 SF of temporary & permanent impact • Ramps constructed in inland waters that support anadromous fish (see Appendix H) provided construction occurs during low (at or below the normal water elevation) or no-flow condition and/or behind a cofferdam between July 1 and March 31. The cofferdam shall be constructed of non-erodible materials (steel sheets, aqua barriers, or geotextile liner; earthen cofferdams are not permissible).	Not eligible for PCN (Individual Permit required): • Permanent and temporary fill >1/2 acre. Eligible for PCN (includes work not eligible for SV): • Permanent and temporary fill ≤1/2 acre • Boat ramps located within 25 feet of an abutting riparian property line with a letter of no objection from the abutter(s).
GP 5(B) COASTAL Note: If boat ramps are located within 25 feet of a riparian property line and the property is not held by the same owner, USACE may require a letter of no objection from the abutter(s) or require an appropriate buffer if one is needed.	These activities are not eligible for SV	Not eligible for PCN (Individual Permit required): • Permanent and temporary impacts >1/2 acre of waters and wetlands. • Permanent and temporary impacts >1000 SF in tidal SAS, other than vegetated shallows. • Impacts >100 SF in SAV. Eligible for PCN: • Boat ramps and marine railways in coastal waters and/or impacting tidal wetlands. • Boat ramps are located within 25 feet of riparian property line extensions unless the properties are owned by the same owner. • Permanent and temporary impacts ≤1/2 acre of waters and wetlands. • Permanent and temporary impacts ≤1000 SF in tidal SAS, other than vegetated shallows. • Impacts ≤100 SF in tidal vegetated shallows.

GP 6. UTILITIES INCLUDING LINES, OUTFALL AND INTAKE STRUCTURES AND APPURTENANT FEATURES (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 waters of the U.S.*; 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 1/2 acre of waters of the U.S. Impacts resulting from mechanized pushing, dragging, temporary side-casting of excavated material or other similar activities that redeposit excavated soil material shall be figured into the area limit determination. Access roads used solely for the construction of the utility project (i.e., not used for maintenance) must be removed upon completion of the work. Utility line activities that are not regulated by USACE, but involve temporary fill within USACE jurisdiction, should be evaluated under GP 21.

	SELF-VERIFICATION (SV)	PRE-CONSTRUCTION NOTIFICATION (PCN
GP 6(A) INLAND An SVNF is required.	Not eligible for SV: • Outfalls. • New riprap beyond the existing previously authorized footprint. • Fill in riffle and pool complexes and non-tidal vegetated shallows with *Vallisneria americana* (also known as water celery, American eelgrass or tapegrass) or a vernal pool depression that is located within waters of the U.S. • Fill in waterways identified as habitat for Atlantic sturgeon and shortnose sturgeon including designated critical habitat, foraging, and over-wintering areas. (See GC 12 for a hyperlink to the NOAA ESA maps) • Unconfined work or silt producing activities in streams with diadromous fish between April 1 and June 30. (See Appendix H) Eligible for SV: • Cumulative permanent and temporary impacts of ≤5,000 SF of fill for each single and complete project (see GC 5) provided none of the individual single and complete linear project impact areas for the entire project exceed the threshold for the SV (≤5,000 SF). • Dry streambed installation of utility lines or mains with bypass diversion that conveys a seasonal minimum flow downstream. See also GC 21 for instream flow maintenance and aquatic connectivity requirements. • No permanent change to preconstruction contour or loss of streambed. • Backfill of the trench over the pipe and to the ground surface shall occur with native materials, to the extent practicable for industry standard and may not facilitate wetland or waterway drainage below, or on the ground surface. Trench plugs shall be installed to prevent drainage of waters and wetlands. • Activities may not intentionally or unintentionally impound waters, including wetlands. • Intake structures such as dry hydrants, if located within a stream, intake must be equipped with an appropriately sized mesh screen to prevent entrainment and the intake velocity must not exceed 0.5 foot-per-second to prevent impingement of aquatic organisms.	Not eligible for PCN (Individual Permit required): • Permanent and temporary fill >1/2 acre. Eligible for PCN (includes work not eligible for SV): • Permanent and temporary fill ≤1/2 acre. • Utility activities including excavation and trench backfill with impact to riffle and pools or vegetated shallows. • New outfalls and/or intakes. • New riprap armoring for utility-related structures and scour protection. • Temporary utility access roads for construction (see GPs 18 and 19 for permanent maintenance access roads) • Streambed installation of utility lines or mains via open-cut trench excavation in flowing waters or dam and pump diversion. • Temporary fills necessary to conduct the utility work is allowed, provided the utility line activity is within USACE jurisdiction and the cumulative impact of both permanent and temporary fill for each single and complete project (see **GC 6**) wetland and/or waterway crossing does not exceed the 1/2 acre "single and complete" project threshold for PCN. • Material resulting from trench excavation may be temporarily side cast into waters of the U.S. for no more than three months, provided the material is properly stabilized and not placed in such a manner that it is dispersed by currents or other forces or alters flow and circulation patterns. • Temporary fill, including fill for construction access roads, must be removed upon completion of work and the area shall be completely restored to pre-construction elevation and condition, and re-vegetated with native species as appropriate.

GP 6A. INLAND (continued) Note: Construction mats of any area necessary to conduct activities do not count towards the impact thresholds and should be removed as soon as work is completed.	• Construction occurs during low (at or below the normal water elevation) or no-flow condition between July 1 and March 31 in streams with diadromous fish (see Appendix H) or work conducted behind a cofferdam at any time. The cofferdam shall be constructed of non-erodible materials (steel sheets, aqua barriers, sandbag, or geotextile liner; earthen cofferdams are not permissible). • Material resulting from trench excavation may be temporarily side cast into waters of the U.S. for no more than 30-days, provided the material is properly stabilized and is not placed in such a manner that it is dispersed by currents or other forces or alters flow and circulation patterns. • Temporary fill, including fill for construction access roads, must be removed upon completion of work and the area shall be completely restored to pre-construction elevation and condition, and re-vegetated with native species as appropriate. • Pad/foundations are the minimum size necessary and are configured as a separate footing for each tower leg (rather than a larger single pad). • Impacts in waters or wetlands resulting from mechanized pushing or dragging, and temporary side cast of excavated material from trenches shall be figured into the <5,000 SF "single and complete" project category threshold.	• Pad/foundations are the minimum size necessary and is configured as a separate footing for each tower leg (rather than a larger single pad). • Impacts in waters or wetlands resulting from mechanized pushing or dragging, and temporary side cast of excavated material from trenches shall be figured into the 1/2 acre "single and complete" project category threshold.
GP 6(B) COASTAL Utilities including lines, outfall and intake structures and appurtenant features.	These activities are not eligible for SV.	<u>Not eligible for PCN (Individual Permit required):</u> • Permanent and temporary fill >1/2 acre of waters and wetlands. • Permanent and temporary fill >1000 SF in tidal SAS other than vegetated shallows. • >100 SF in tidal SAV. • New tide gates that are not affiliated with a permitted stormwater discharge or authorized National Pollutant Discharge Elimination system. • Work that includes blasting. <u>Eligible for PCN</u>: • Permanent and temporary fill ≤1/2 acre of waters and wetlands. • Permanent and temporary fill ≤1000 SF in tidal SAS other than vegetated shallows. • ≤100 SF in tidal vegetated shallows. • Overhead utility lines constructed over Section 10 waters and submarine utility lines that are routed in or under such waters. • Stormwater outfalls. • New intake structures. • Trench excavation, bedding and backfill. • Staging of equipment in wetlands during construction.

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 USACE finds the dredged material to be suitable for such disposal; (b) Beach nourishment not associated with dredging; (c) Beach grading or raking and (d) Rock removal and relocation for navigation.

	SELF-VERIFICATION (SV)	PRE-CONSTRUCTION NOTIFICATION (PCN)
GP 7(A) INLAND	**Not Applicable** These activities in inland waters (as defined in Appendix A, Page 1) do not require USACE authorization.	**Not Applicable** These activities in inland waters (as defined in Appendix A, Page 1) do not require USACE authorization.
GP 7(B) COASTAL An SVNF is not required.	Not eligible for SV: • Maintenance dredging with >100 SF of impacts to tidal SAV or with >1000 SF of impacts to tidal SAS (except tidal SAV), intertidal habitats, natural rocky habitats, or shellfish areas. • Work in waterways identified as habitat for Atlantic sturgeon and shortnose sturgeon including designated critical habitat, foraging, and overwintering areas. This includes, but is not limited to, the Housatonic River, Naugatuck River, Quinnipiac River, Connecticut River, Salmon River, Thames River and Yantic River (See GC 12 for a hyperlink to the NOAA ESA maps and waterway descriptions). • Beach nourishment and beach grading. Eligible for SV: • Maintenance dredging (any yardage amount) with contained upland disposal provided work occurs between October 1 and January 31 of the calendar year. • Dredge area is >100 feet away from tidal SAV • Dredge impacts are <1000 SF of tidal SAS (except tidal SAV), intertidal habitats, natural rocky habitats, or shellfish areas. • Proper siltation controls are used and maintained to prevent inadvertent runback into adjacent waterway or wetland. • Rock/boulder relocation with ≤200 SF of impact to subtidal bottom and no impact to SAV or shellfish beds. • Beach grooming or raking between November 1 and January 31. *Improvement is dredging to deeper depths in areas previously dredged after being authorized by USACE.	Not eligible for PCN (Individual Permit required): • New dredging (not previously authorized) with >1000 SF of impacts to intertidal areas or tidal SAS • Maintenance dredging and/or disposal with >1/2 acre of impacts to tidal SAS other than vegetated shallows (saltmarsh, mud flats). • New dredging for the primary purpose of mining or borrowing sand for beach nourishment. • Rock removal and relocation for navigation with impacts >1/2 acre. Eligible for PCN (includes work not eligible for SV): • New dredging (not previously authorized) with ≤1000 SF of impacts to intertidal areas or tidal SAS • Work with ≤100 SF of impact to SAV. • Maintenance dredging and/or disposal with ≤1/2 acre of impacts to tidal SAS other than vegetated shallows (saltmarsh, mud flats). • New and improvement* dredging. • Dredged material disposal including open water disposal, confined aquatic disposal cells (CAD cells), near-shore disposal or beach nourishment. • Beach nourishment and beach grading. • Beach grooming or raking not eligible for SV. • Rock removal mechanically or by blasting (see below for additional criteria) • For work that includes blasting, a blasting plan must be submitted and approved by USACE, CT DEEP and National Marine Fisheries Service (NMFS). **Maintenance dredging includes areas and depths previously dredged after being authorized by USACE.

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.

	SELF-VERIFICATION (SV)	PRE-CONSTRUCTION NOTIFICATION (PCN)
GP 8(A) INLAND	GP 8 is not applicable to bridges over inland waters or wetlands that are not tidally influenced or regulated as navigable under Section 10 (see definitions on Appendix A, Page 1 and at 33 CFR Part 329; Definition for Navigable Waters of the U.S. For projects that are not subject to USCG regulations see eligibility criteria for GPs 2, 18 or 19.	GP 8 is not applicable to bridges over inland waters or wetlands that are not tidally influenced or regulated as navigable under Section 10 (see definitions on Appendix A Page 1 and at 33 CFR 329; Definition for Navigable Waters of the U.S. For projects that are not subject to USCG regulations see eligibility criteria for GPs 2, 18 or 19.
GP 8(B) COASTAL An SVNF is not required.	Not eligible for SV: • Construction of causeways and approach fills. • Fill in SAS or shellfish beds. • Discharges of dredged or fill material in waterways identified as habitat for Atlantic sturgeon and shortnose sturgeon, including designated critical habitat, foraging, and overwintering areas. This includes, but is not limited to, the freshwater tidal segments of the Housatonic River, Naugatuck River, Quinnipiac River, Connecticut River, Salmon River, Thames River and Yantic River (See GC 12 for a hyperlink to the NOAA ESA maps and waterway descriptions). Eligible for SV: • Permanent or temporary discharges of dredged or fill material incidental to the construction and/or modification of bridges. • Pier foundations. • Cofferdam and water handling facilities. • Bridges authorized by the USCG under Section 9 of the Rivers and Harbors Act of 1899 or other applicable laws including 2002 transfer of authorities to Secretary of Homeland Security under 6 U.S.C. 552(d).	Not eligible for PCN (Individual Permit required): • Permanent and temporary fill >1 acre of waterways. Eligible for PCN (includes work not eligible for SV): • Permanent and temporary fill ≤1 acre of waterways. • Permanent and temporary fill ≤1000 SF in tidal SAS, other than SAV. • Permanent and temporary fill ≤100 SF in SAV.

GP 9. NEW SHORELINE & BANK STABILIZATION PROJECTS AND LIVING SHORELINES (Sections 10 & 404; tidal and non-tidal waters of the U.S.)

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, specifically for the purpose of shoreline protection. Also includes vegetative planting, soil bioengineering or alternative techniques that rely on a substantial biological component (e.g., fringe wetland, shellfish reef) or include discharges associated with planned shoreline retreat to maintain, restore, or enhance the natural continuity of the land-water interface and natural ecological processes. See **GP 2** for replacement of existing bank stabilization structures/fills.

	SELF-VERIFICATION (SV)	**PRE-CONSTRUCTION NOTIFICATION (PCN)**
GP 9(A) INLAND An SVNF is required.	Not eligible for SV: • Stream, river, or brook bank stabilization projects >60 linear feet (LF) (total for more than one stream bank), not including living shorelines. • Living shorelines >100 LF (total length including both stream banks). • Vertical stone structures or embankments angled steeper than 1V: 1H. • New bulkheads & retaining walls. • Fill beyond the toe of slope within the streambed other than necessary to secure the toe of slope (see definition). • The use of grouted riprap, poured/unformed concrete/asphalt, or asphalt pieces. • Fill in waterways identified as habitat for Atlantic sturgeon and shortnose sturgeon including designated critical habitat, foraging, and overwintering areas. (See GC 12 for a hyperlink to the NOAA ESA maps) Eligible for SV: • Stream, river, or brook bank stabilization projects ≤60 LF (total for more than one stream bank). • Living shorelines ≤100 LF (total for more than one stream bank). • Work conducted "in-the-dry" (i.e., work that occurs when the stream is waterward of the activity and work occurs behind an installed cofferdam). • Unconfined instream work for installation & removal of cofferdams in waters that support diadromous fish (see Appendix H), occurs between July 30 and September 30. Work occurring behind a cofferdam may occur at any time (See Appendix H). • Soft biodegradable (see definition) stabilization measures such as bioengineered fiber roll revetments or equivalent, shall be used wherever practicable. • Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. • After construction, temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.	Not eligible for PCN (Individual Permit required): • Bank stabilization >300 LF (total length including both stream banks). • Living shorelines >500 LF (total length including both stream banks). • Stream channelization or relocation activities. • The use of grouped riprap, poured/unformed concrete, poured asphalt or asphalt pieces. Eligible for PCN (includes work not eligible for SV): • Bank stabilization ≤300 LF (total length including both stream banks). • Living shorelines ≤500 LF (total length including both stream banks). • Utilize rock only in lower portion or toe of the riprap and woody structures/features, biodegradable fabric, etc. in the upper portions • Incorporate soil in the upper portions of the project with appropriate woody (usually willow) plantings as near average water elevations as possible and herbaceous plantings elsewhere • Provide a temporary or permanent buffer strip (streamside area where protection promotes growth and sustenance of woody vegetation) along the project length to provide for vegetation stability where grazing or recreational use may impact plant growth. Preferably, plantings should be on slopes of 3:1 or flatter and irrigated, if possible. NOTES: The elevation at which the mean annual flow occurs is the division between "upper" and "lower." As built drawings are required for bank stabilization under PCN.

GP 9(B) COASTAL New shoreline & bank stabilization projects An SVNF is not required.	Not eligible for SV: • Shoreline bank stabilization and living shoreline projects >100 LF. • >1 cubic yard of fill per linear foot placed between HTL and MLW. • Discharges of fill material within SAS, including mud flats, tidal wetlands, SAV and/or shellfish beds. • Vertical stone structures or embankments angled steeper than 1V: 1H. • New bulkheads. • Work in waterways identified as habitat for Atlantic sturgeon and shortnose sturgeon including designated critical habitat, foraging, and overwintering areas. This includes, but is not limited to, the Housatonic River, Naugatuck River, Quinnipiac River, Connecticut River, Salmon River, Thames River and Yantic River (See GC #12 for a hyperlink to the NOAA ESA maps and waterway descriptions) • Unconfined in-water work from May 1 through September 30 Eligible for SV: • Shoreline, bank stabilization and living shoreline projects ≤100 LF. • <1 cubic yard of fill per linear foot placed between the HTL and MLW. • Living shoreline sill material (see definition) such as coir logs, coir mats, native oyster shell, native wood debris, native rounded rock and cobble (cannot include angular riprap) and other structural materials must be adequately anchored, of sufficient weight, or installed in a manner that prevents relocation in most wave action or water flow conditions, except for extremely severe storms, and must be properly maintained. • Sand fill placed landward of the living shoreline sill shall consist of coarse sand or native cobble consistent with the existing site and may not raise the elevation of the shoreline above the elevation of adjacent tidal wetland. • As built drawings are required for coastal shoreline, bank stabilization and living shorelines under this category.	Not eligible for PCN (Individual Permit required: • Shoreline & bank stabilization projects >300 LF. • Living shorelines >1,500 LF in length. • New breakwaters, groins, and jetties. • Discharge of fill material >1,000 sf within SAS, including mud flats, tidal wetlands, or shellfish beds and >100 sf in vegetated shallows/SAV. Eligible for PCN (includes work not eligible for SV): • Living shorelines ≤1500 LF • Shoreline & bank stabilization projects ≤300 LF. NOTES: As built drawings are required for bank stabilization under PCN.

GP 10. AQUATIC HABITAT RESTORATION, ESTABLISHMENT & ENHANCEMENT ACTIVITIES (Sections 10 & 404; tidal & non-tidal waters of the U.S.)
Activities in waters of the U.S. associated with the restoration, enhancement & establishment of wetlands & riparian areas, including invasive, non-native or nuisance species control; restoration & enhancement of non-tidal streams & waters including removal of artificial features & stream obstructions (dams, culverts, berms, weirs, walls); vegetative enhancement; installation of fish ladders, rock ramps & in-stream natural habitat features; relocation or conversion of non-tidal waters & associated wetlands for reestablishment of natural stream morphology & reconnection of the floodplain; removal of agricultural drainage tile & filling of drainage ditches; restoration & enhancement of native shellfish, finfish & wildlife habitat where it currently exists or once existed & rehabilitation or enhancement of tidal streams, tidal wetlands & tidal open waters provided that state & federal agencies concur that the activities will result in net increase to aquatic resource functions & services; modification to existing tide gates that are not eligible under GP 2 if they will change the hydraulic regime where state & federal agencies concur that such changes will be ecologically beneficial; activities for enhancement of existing wildlife impoundments where state & federal agencies concur that management practices will not adversely affect existing ecological diversity or work will have a net increase in overall aquatic resource functions & services. Baseline survey & hydraulic analysis may be required to demonstrate eligibility.

	SELF-VERIFICATION (SV)	PRE-CONSTRUCTION NOTIFICATION (PCN)
GP 10(A) INLAND An SVNF is required. Note: Construction mats of any area necessary to conduct activities do not count towards the impact thresholds and should be removed as soon as work is completed.	Not eligible for SV: • Permanent & temporary fill >1/2 acre of waters and/or wetlands. • Fill in waterways identified as habitat for Atlantic sturgeon and shortnose sturgeon including designated critical habitat, foraging, and overwintering areas. (See GC 12 for a hyperlink to the NOAA ESA maps). • New drainage ditch discharges or deepening (including side-casting of excavated material in wetland) to eliminate mosquito breeding habitat (see GP 22). • Stream channelization or channel reconstruction and alignment. • Aquatic habitat conversion. • Fill in a vernal pool depression that is located within waters of the U.S. Eligible for SV: • ≤5,000 SF of permanent & temporary fill and/or excavation discharges. • Placement of boulders clusters, woody debris clumps, log vanes or deflectors in waters for fish habitat restoration. • Temporary fill and excavation instream discharges associated with mechanical removal of small relict dams (≤ 4-ft high and 15-ft. long) • Fill and excavation discharges are authorized provided the activity is supported in writing by a state or non-USACE Fed. environmental resource management agency • Relict small-dam removals may not result in hydraulic modification or loss (upland conversion) of wetland habitat upstream of the structure and no permanent fill/discharges other than in situ gravel, cobble, or stone for stream bed restoration. • Work must occur "in-the-dry" (behind cofferdams). See Appendix H for time of year restrictions for work in waterways (including installation of cofferdams) for streams with diadromous fish. Unconfined instream work, including installation and removal of cofferdams in streams that do not possess diadromous fish is limited only from July 1 through September 30. • Removal of non-native invasive, exotic or nuisance vegetation.	Not eligible for PCN (Individual Permit required): • Conversion of wetland to open water. • New wildlife, waterfowl impoundments or fish ponds. • Stream channelization. Eligible for PCN (includes work not eligible for SV): • Pond or lake restoration or enhancement for water quality or ecological habitat renovation. • Dam removals not eligible for SV. • Stream channel reconstruction, relocation, realignment, and stream bed modification • Installation of fish ladders • Management of existing wildlife or waterfowl impoundments.

GP 10(B) COASTAL Aquatic habitat restoration, establishment & enhancement activities. An SVNF is not required.	Not eligible for SV: • Permanent fill in, or conversion of, tidal wetland. • Work in waterways identified as habitat for Atlantic sturgeon and shortnose sturgeon including designated critical habitat, foraging, and overwintering areas. This includes, but is not limited to, the Housatonic River, Naugatuck River, Quinnipiac River, Connecticut River, Salmon River, Thames River and Yantic River (See GC 12 for a hyperlink to the NOAA ESA maps). • New or improvement dredging (deepening) discharges (including side-casting of excavated material from ditching) to eliminate mosquito breeding habitat. (see GP 23). • Thin layer deposition for saltmarsh restoration. • Seed shellfish, spatted shell or cultch placed in submerged aquatic vegetation and may not result in degradation of habitat for other aquatic resources. Eligible for SV: • SAS planting and transplanting ≤ 100 SF. • Placement of seed shellfish, spatted shell, or cultch in tidal waters for the restoration or enhancement of existing, publicly managed, recreational shellfish beds (native seed stock only). • Removal of non-native invasive, exotic or nuisance vegetation.	Not eligible for PCN (Individual Permit required): • Conversion of wetland to open water, except for new salt pannes. • New wildlife, waterfowl impoundments or fish ponds. • New tide gate installation. • Artificial reefs. • Permanent and temporary impacts >1/2 acre in tidal waters. • Permanent and temporary impacts >1000 SF in tidal SAS, other than vegetated shallows. • Permanent and temporary impacts >100 SF of tidal SAV Eligible for PCN (includes work not eligible for SV): • Integrated Marsh Management in tidal waters and wetlands for combined wetland enhancement, mosquito control and reduction which may include draining of ponded dieback areas through excavation of runnels with handheld tools or low-impact ground equipment; blocking or unclogging of historic mosquito ditches or tidal creeks to restore tidal flushing and natural salinity levels; excavation of new salt pannes to increase shorebird and waterfowl foraging habitat and larvivorous fish habitat. • Pro-active saltmarsh restoration with thin layer discharge completed by the State of Connecticut Wetland Habitat and Mosquito Management program provided there is no net loss of wetland area. These thin layer discharge activities are excluded from the ½ acre threshold limit of permanent and temporary direct and indirect disturbance if the work is completed by the State of Connecticut Wetland Habitat and Mosquito Management program and the state and federal agencies concur that the work will not adversely affect existing ecological diversity or will have a net increase in overall aquatic resource functions and services. • Permanent and temporary impacts ≤1/2 SF in tidal waters unless project meets above bullet. • Permanent and temporary impacts ≤100 SF of tidal SAV • Permanent and temporary impacts ≤1000 SF in tidal SAS, other than vegetated shallows.

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

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

	SELF-VERIFICATION (SV)	PRE-CONSTRUCTION NOTIFICATION (PCN)
GP 11(A) INLAND An SVNF is required.	GP 11 is not applicable to inland waters or wetlands that are not tidally influenced or navigable under Section 10 (see definitions on Appendix A Page 1 and 33 CFR Part 329; Definition for Navigable Waters of the U.S.	GP 11 is not applicable to inland waters or wetlands that are not tidally influenced or navigable under Section 10 (see definitions on Appendix A Page 1 and 33 CFR Part 329; Definition for Navigable Waters of the U.S.
GP 11(B) COASTAL An SVNF is not required.	Not eligible for SV: • New fish nets or traps in the Connecticut and Housatonic Rivers • Permanent impacts to SAS, including intertidal mud flats, salt marshes and SAV. • Placement in FNPs or interference with navigation. FNPs are comprised of Federal Channels, anchorages and turning basins. More information on the limits of these FNPs can be found at: http://www.nae.usace.army.mil/Missions/Navigation/Connecticut-Projects/ • Fish harvesting activities in SAS. Eligible for SV: • 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 and dredging, small fish aggregating and attraction devices such as open water fish concentrators (sea kites, etc.). • All gear, except for permanent mooring tackle shall be removed when not in use and stored at an upland location above MHW and outside of wetland, including saltmarsh.	Not eligible for PCN (Individual Permit required): • Artificial Reefs, impoundment(s) or semi-impoundment(s) of water • >1/2 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts. • Temporary and/or permanent fill or excavation in SAV >100 SF. • Permanent fill or excavation in other SAS >1000 SF. Eligible for PCN (includes work not eligible for SV): • ≤1/2 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts. • Temporary and/or permanent fill or excavation in SAV ≤100 SF • Permanent fill or excavation in other SAS ≤1000 SF • Devices (structures) proposed to be used or located in tidal SAS, including salt marsh, mud flats and SAV.

GP 12. OIL SPILL & HAZARDOUS MATERIAL RESPONSE OPERATIONS (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 & hazardous substances that are subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300) including containment, cleanup & 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. SAS must be restored in place to pre-impact elevations. **Notes:** (1) For activities listed under a. or b. above that require SV, permittees have up to two weeks following commencement of these activities to submit the SV; & (2) For activities in waters identified as habitat for Atlantic sturgeon & shortnose sturgeon & coastal waters of Long Island Sound, the permittee must contact USACE at (978) 318-8338 & cenae-r-ct@usace.army.mil as soon as possible after the work under GP 12(a)-(c) begins so USACE can address effects of the activities under the Federal Endangered Species Act.

	SELF-VERIFICATION (SV)	PRE-CONSTRUCTION NOTIFICATION (PCN)
GP 12(A) INLAND An SVNF is required.	Eligible for SV: • Temporary waterway and wetland fill and associated secondary impacts, conducted in accordance with a. or b. above (no acreage limit) provided SAS are restored in place to pre-impact elevation • Temporary fill for spill response training exercises provided no impacts to SAS, vernal pool depressions located within waters of the U.S. or not located in waterways identified as habitat for Atlantic sturgeon and shortnose sturgeon including designated critical habitat, foraging, and overwintering areas. (See GC #12 for a hyperlink to the NOAA ESA.)	Not eligible for PCN (Individual Permit required): • >1 acre of permanent waterway and/or wetland fill and associated secondary impacts. • Establishment of new sites for disposal of hazardous/toxic waste. Eligible for PCN (includes work not eligible for SV): • ≤1 acre of permanent waterway and/or wetland fill & secondary impacts to include impacts for spill response training exercises. • The activity is planned/scheduled, not an emergency response & will cause turbidity or sediment resuspension or deposition waters or wetlands.
GP 12(B) COASTAL An SVNF may be required.	Not eligible for SV: • Training activities with impacts to tidal SAS, including SAV, natural rocky habitats and/or shellfish beds. • Clean up activities are planned, scheduled, or not conducted during the initial emergency response. • Training activities in waterways identified as habitat for Atlantic sturgeon and shortnose sturgeon including designated critical habitat, foraging, and overwintering areas. This includes, but is not limited to, the Housatonic River, Naugatuck River, Quinnipiac River, Connecticut River, Salmon River, Thames River and Yantic River (See GC #12 for a hyperlink to the NOAA ESA maps). Eligible for SV without SV notification: • Booms placed in navigable waters of the U.S. for oil and hazardous substance containment, absorption, and prevention, provided they are removed upon completion of the cleanup. Eligible for SV with SV notification: • Temporary fill or impacts for spill response training exercises with ≤1000 SF of impact to tidal waters and temporary structures with no impacts to SAS and in place for ≤30 days.	Not eligible for PCN (Individual Permit required): • Activities that will have more than minimal individual or cumulative adverse environmental effects. See GC 4. Eligible for PCN (includes work not eligible for SV): • The activity is planned or scheduled, not an emergency response, and will not cause turbidity or sediment resuspension or deposition in waters or wetlands. • 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 affect 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. 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 CWA or Section 10 of the Rivers and Harbors Act.

	SELF-VERIFICATION (SV)	PRE-CONSTRUCTION NOTIFICATION (PCN)
GP 13(A) INLAND An SVNF is required.	Not eligible for SV: • Stream channelization, relocation, or loss of streambed including impoundments. • Establishment of new disposal sites or expanding existing sites used for the disposal of hazardous or toxic waste. • Permanent discharges in, or conversion of, SAS or a vernal pool depression that is located within waters of the U.S. • Fill in waters identified as habitat for Atlantic sturgeon and shortnose sturgeon including designated critical habitat, foraging, and overwintering areas. See GC 12 for a hyperlink to the NOAA ESA maps). Eligible for SV: • ≤5,000 square feet (SF) of permanent or temporary waterway and/or wetland fill and, associated secondary impacts. • SAS must be restored in place and at pre-impact elevation, to the maximum extent practicable. Note: Permittees have up to two weeks following commencement of these activities to submit the SVNF.	Not eligible for PCN (Individual Permit required): • >1/2 acre of permanent or temporary waterway and/or wetland fill and associated secondary impacts. • Establishment of new disposal sites or expansion of existing sites for the disposal of hazardous or toxic waste. Eligible for PCN (includes work not eligible for SV): • ≤1/2 acre of permanent or temporary waterway and/or wetland fill and associated secondary impacts, and temporary fills. • SAS must be restored in place and at pre-impact elevation, to the maximum extent practicable.
GP 13(B) COASTAL An SVNF is not required.	Not eligible for SV: • Fill in waters or wetlands. • All cleanup activities except for the use of booms Eligible for SV: • Booms placed in waters for containment, absorption, and prevention, provided they are removed upon completion of the cleanup.	Not eligible for PCN (Individual Permit required): • Activities that will have more than minimal individual or cumulative adverse environmental effects. See GC 4. Eligible for PCN (includes work not eligible for SV): • Permanent and temporary impacts to include waterway or wetland fill and associated secondary impacts,

GP 14. SCIENTIFIC MEASUREMENT AND MONITORING 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. Upon completion of the use of the installed device it, and any other structures of fills associated with the device (e.g., foundations, anchors, buoys, lines, etc.), must be removed and the site restored to preconstruction elevation and condition, to the greatest extent practicable.

	SELF-VERIFICATION (SV)	PRE-CONSTRUCTION NOTIFICATION (PCN)
GP 14(A) INLAND An SVNF is required.	Not eligible for SV: • Permanent and temporary impacts >1,000 SF • Fill in inland waterways identified as habitat for Atlantic sturgeon and shortnose sturgeon including designated critical habitat, foraging, and overwintering areas. (See GC 12 for a hyperlink to the NOAA ESA maps). • Fill in a vernal pool depression that is located within waters of the U.S. • Biological sampling devices. • Weirs and flumes. Eligible for SV: • Permanent and temporary impacts are ≤1,000 SF • Devices do not restrict or concentrate movement of aquatic organisms. Upon completion of use, the device and any associated fill material shall be removed in their entirety.	Not eligible for PCN (Individual Permit required): • Permanent and temporary impacts >5,000 SF Eligible for PCN (includes work not eligible for SV): • Permanent and temporary impacts ≤5,000 SF
GP 14(B) COASTAL An SVNF is not required.	Not eligible for SV: • Permanent impacts to tidal SAV or natural rocky habitats. • Fill in waters and wetlands. • Fill in waterways identified as habitat for Atlantic sturgeon and shortnose sturgeon including designated critical habitat, foraging, and overwintering areas. This includes, but is not limited to, the Housatonic River, Naugatuck River, Quinnipiac River, Connecticut River, Salmon River, Thames River and Yantic River (See GC #12 for a hyperlink to the NOAA ESA maps) • Interference with navigation or encroachment into an FNP. Eligible for SV: • Non-fill temporary or permanent impacts ≤1,000 SF of tidal SAS (except SAV). • Devices in tidal waters that do not restrict or concentrate movement of aquatic organisms and will not adversely affect the course, condition, or capacity of a waterway.	Not eligible for PCN (Individual Permit required): • Permanent and temporary impacts >5,000 SF. Eligible for PCN (includes work not eligible for SV): • Permanent and temporary impacts ≤5,000 SF.

GP 15. SURVEY AND EXPLORATORY SURVEY ACTIVITIES (Sections 10 and 404; tidal and non-tidal waters of the U.S.)

Survey activities such as soil borings, core sampling, seismic exploratory operations, plugging of seismic shot holes and other exploratory type bore holes, exploratory trenching (mechanical land clearing of the upper soil profile to expose bedrock or substrate for the purpose of mapping or sampling the exposed material) and historic resources surveys.

	SELF-VERIFICATION (SV)	PRE-CONSTRUCTION NOTIFICATION (PCN)
GP 15(A) INLAND An SVNF may be required. Note: Construction mats of any area necessary to conduct activities do not count towards the impact thresholds and should be removed as soon as work is completed.	Not eligible for SV: • Permanent fill >5,000 SF • Drilling and discharge of excavated material from test wells for oil and gas exploration. • Exploratory trenching in waterways. • Blasting. • Fill in waterways identified as habitat for Atlantic sturgeon and shortnose sturgeon including designated critical habitat, foraging, and overwintering areas. (See GC 12 for a hyperlink to the NOAA ESA maps). • Fill in a vernal pool depression that is located within waters of the U.S. Eligible for SV with SV notification: • Temporary impacts ≤5,000 SF in non-tidal waters and wetlands. • Exploratory trenching in wetland ≤1,000 SF provided that the excavated organic topsoil is set aside from dug subsoil for restoration purposes. The trench must be restored to its preconstruction elevation upon completion of the work and shall not facilitate wetland or waterway drainage on, or below, the ground surface. Backfill of the trench shall occur with native subsoil from the trench and the stockpiled organic topsoil will be restored to the wetland surface. • Discharges for drill entry and exit pits and drilling mud recovery. Eligible for SV without SV notification: • Wetland delineation, soil surveys, sampling plots, historic resource surveys.	Not eligible for PCN (Individual Permit required): • Permanent structures or drilling and discharge of excavated material from test wells for oil and gas exploration. • Permanent and temporary fill >1/2 acre. Eligible for PCN (includes work not eligible for SV): • Permanent and temporary fill ≤1/2 acre. • Seismic surveying. • Exploratory trenching
GP 15(B) COASTAL An SVNF is not required.	Not eligible for SV: • Permanent or temporary fill or permanent structures • Drilling & discharge of excavated material from test wells for oil & gas exploration and seismic exploration. • Exploratory trenching and silt producing activities. • Temporary structures or work in SAS (including SAV). • Temporary structures or work with >100 SF impact to natural rocky habitats or >1,000 to intertidal areas. • Blasting. • Interference with navigation. • Biological sampling devices.	Not eligible for PCN (Individual Permit required): • Permanent and temporary impacts >1/2 acres; >1,000 SF in SAS, other than SAV; or >100 SF in SAV Eligible for PCN (includes work not eligible for SV): • Permanent and temporary impacts ≤1/2 acres; ≤1000 SF in SAS, other than SAV; or ≤100 SF in SAV.

GP 15(B) COASTAL (continued) Survey and Exploratory Survey Activities	• Work in waterways identified as habitat for Atlantic sturgeon and shortnose sturgeon including designated critical habitat, foraging, and overwintering areas. This includes, but is not limited to, the Housatonic River, Naugatuck River, Quinnipiac River, Connecticut River, Salmon River, Thames River and Yantic River (See GC #12 for a hyperlink to the NOAA ESA maps) <u>Eligible for SV</u>: • Temporary structures ≤1,000 SF removed when survey is concluded. • Sampling plots, resource surveys, soil borings, and core sampling.	

GP 16. AQUACULTURE AND MARICULTURE ACTIVITIES (Section 10; navigable waters of the U.S.)

The installation of buoys, floats, racks, rafts, trays, predator nets, lines, tubes, posts, 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, spat-collection structures, small-scale shellfish hatchery seawater intake/discharge structures, and discharges of dredged or fill material associated with cultivation such as the placement of shellfish seed, cultch, or spatted-shell on bottom or "brushing of the flats." Depth of cultch or spatted-shell must comply with the Special Conditions in Section 5, Part (h), items (1) through (7) of the CT DEEP "General Permit for Coastal Maintenance (DEEP-OLISP-GP2015-02)", which is also located at https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Connecticut-General-Permit, 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 USCG Aids to Navigation.

NOTE: All facilities must be installed and operated in compliance with Appendix C – Standard Aquaculture Terms and Conditions.

	SELF-VERIFICATION (SV)	PRE-CONSTRUCTION NOTIFICATION (PCN)
GP 16(A) INLAND	**Not Applicable** These activities in inland waters (as defined in Appendix A, Page 2) do not require USACE authorization.	**Not Applicable** These activities in inland waters (as defined in Appendix A, Page 2 do not require USACE authorization.
GP 16(B) COASTAL An SVNF is not required.	Not eligible for SV: • New aquaculture activities within 100 feet of SAV. • Permanent impacts to natural rocky habitat >100 SF. • Structures in or within three times the authorized depth of an FNP. • Depth of cultch or spatted-shell does not comply with the Special Conditions in Section 5, Part (h), items (1) through (7) of CT DEEP, General Permit for Coastal Maintenance (DEEP-OLISP-GP2015-02), will result in visible degradation of habitat for other aquatic resources and/or will impact natural shellfish beds. • Culture of non-indigenous species or aquatic nuisance species.** • Kelp/seaweed or finfish aquaculture. • Attendant features such as docks, piers, or boat ramps (see GP 4 or GP 5). • Structures in established danger zones or restricted areas designated in 33 CFR part 334. • Aquaculture activities that will result in conversion of habitat type (soft bottom to hard, or vice versa). • Intertidal aquaculture (gear between MHW and mean lower low water).	Not eligible for PCN (Individual Permit required): • New or expansion of existing impoundment(s) or semi-impoundment(s) of water for the culture of holding of motile aquatic organisms. • Structures and work for finfish culture. • Aquaculture activities that may obstruct navigation or has the potential for greater than minimal impact on navigation or other existing public uses. • Structures for the culture of non-indigenous species that are not present in the waterbody. • Aquaculture activities with ≥2,500 SF SAV. Eligible for PCN (includes work not eligible for SV)*: • Activities with in-water ropes, lines and chains including, but not limited to, vertical drop lines, horizontal longlines or suspended gear for the rearing of shellfish or seaweed. • Cages, racks, trays, predator netting or other structures on the ocean bottom or floating on the water surface to contain, cultivate or depurate shellfish or other indigenous aquatic organisms. • Activities that involve a change from authorized gear for bottom culture to floating or suspended gear. • Structures for the culture of non-indigenous species that have been nativized or have been previously cultured in the waterbody. • Temporary, seasonal structures for aquaculture including, but not limited to, cages, trays, racks, or floating bags with impact to <2,500 SF tidal submerged aquatic vegetation or SAV habitat.***

GP 16(B) (continued) Aquaculture and Mariculture Activities	Eligible for SV: • Placement of seed shellfish, spatted-shell, or cultch for commercial shellfish aquaculture on leased grounds when performed in compliance with the conditions in Section 5h of the CT DEEP General Permit for Coastal Maintenance (DEEP-OLISP-GP-2015-02). • Temporary (<6 months) structures including cages, bags, upwellers or other aquatic organism containment devices for research, educational or experimental aquaculture in water depths ≤ 10 feet mean lower low water (MLLW) providing the gear area is ≤1,000 SF and the project is under the direct supervision of the CT Dept. of Agriculture, Bureau of Aquaculture. • Suspended cages or bags located wholly below and within the footprint of an existing authorized fixed or floating structure in water depths ≤ 10-feet MLLW 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 MLLW. • Land-based shellfish hatchery or nursery intake and/or outlet provided diameter is ≤ 3 inches and properly screened to prevent entrainment or impingement of aquatic organisms. • Shellfish upweller floats ≤ 160 sf in area with a vertical clearance of at least 2 feet between the bottom of the gear and the sea floor at MLLW. **The Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 defined: (a) nonindigenous species as "any species or other viable biological material that enters an ecosystem beyond its historic range, including any such organism transferred from one country into another"; and (b) aquatic nuisance species as "a nonindigenous species that threatens the diversity or abundance of native species or the ecological stability of infested waters, or commercial, agricultural, aquacultural, or recreational activities dependent upon such waters."	*See "A Guide for Marine Aquaculture Permitting in Connecticut" for application materials at https://shellfish.uconn.edu/commercial/. *** A survey of SAV boundaries at the project site may be required. Survey guidance is provided at: https://www.nae.usace.army.mil/Missions/Regulatory/Jurisdiction-and-Wetlands.

GP 17. NEW AND EXPANSION OF RECREATIONAL, RESIDENTIAL, INSTITUTIONAL AND COMMERCIAL DEVELOPMENTS (Section 404 – Inland, Non-Tidal Waters of the U.S.)

Discharges of dredged or fill material for the construction or expansion of residences and residential subdivisions; commercial and institutional buildings or subdivisions; recreational facilities such as playing fields, bikeways, trails, etc.; and attendant features including but not limited to roads, parking lots, garages, yards, and utilities. This GP authorizes attendant features if they are necessary for the use of the project purpose. Fill area includes all temporary and permanent fill, and regulated discharges associated with excavation. See GPs 18 & 19 for crossings in inland waters and/or wetlands.

	SELF-VERIFICATION (SV)	PRE-CONSTRUCTION NOTIFICATION (PCN)
GP 17(A) INLAND An SVNF is required. Note: Construction mats of any area necessary to conduct activities do not count towards the impact thresholds and should be removed as soon as work is completed.	Not eligible for SV: • Permanent and temporary impacts >5,000 SF • Impacts in SAS, other wetlands. • Fill in waterways identified as habitat for Atlantic sturgeon and shortnose sturgeon including designated critical habitat, foraging, and overwintering areas. (See GC 12 for a hyperlink to the NOAA ESA maps) • Fill in a vernal pool depression that is located within waters of the U.S. Eligible for SV: • Permanent and temporary impacts ≤5,000 SF	Not eligible for PCN (Individual Permit required): • Permanent and temporary impacts >1 acre • 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. • New road and driveway crossings. Eligible for PCN (includes work not eligible for SV): • Permanent and temporary impacts ≤1 acre • Impacts in non-tidal SAS.
GP 17(B) COASTAL	These activities are not eligible for SV.	These activities are not eligible for PCN (Individual Permit required).

GP 18. WETLAND CROSSINGS FOR LINEAR TRANSPORTATION PROJECTS (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

	SELF-VERIFICATION (SV)	PRE-CONSTRUCTION NOTIFICATION (PCN)
GP 18(A) INLAND An SVNF is required. Note: Construction mats of any area necessary to conduct activities do not count towards the impact thresholds and should be removed as soon as work is completed.	Not eligible for SV: • Permanent and temporary impacts >5,000 SF • Work in SAS other than wetlands. • Slip lining or culvert relining that changes invert elevation. • Work that results in flooding (impoundment) or impedes wetland drainage from the upgradient side of the wetland crossing • Fill in a vernal pool depression that is located within waters of the U.S. Eligible for SV: • Permanent and temporary impacts ≤5,000 SF • Permanent wetland crossings shall be constructed in such a manner as to preserve hydraulic and ecological connectivity, at its present level, between the wetlands on either side of the road or fill feature.	Not eligible for PCN (Individual Permit required): • Permanent and temporary impacts >1 acre Eligible for PCN (includes work not eligible for SV): • Permanent and temporary impacts ≤1 acre • Work in SAS. • Slip lining or culvert relining that changes invert elevation; or • Or if screened and determined eligible by interagency CT DEEP and USACE agreement.
GP 18(B) COASTAL	These activities are not eligible for SV.	These activities not eligible for PCN (Individual Permit required).

GP 19. STREAM, RIVER, AND 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, bikeways, trails, airport runways, and taxiways) and attendant features, if work is performed in accordance with Connecticut General Permit Stream Crossing Best Management Practices to the extent practicable (see Appendix G). See GP 18 for wetland crossings. Note: Flood frequency requirements below are derived from Connecticut DOT Drainage Manual and CT Flood Management Act - Section 25-68b-d of the Connecticut General Statutes & 25-68h-1 thru h-3 of the Regulations of Connecticut State Agencies.

	SELF-VERIFICATION (SV)	PRE-CONSTRUCTION NOTIFICATION (PCN)
GP 19(A) INLAND An SVNF is required. Note: Construction mats of any area necessary to conduct activities do not count towards the impact thresholds and should be removed as soon as work is completed.	Not eligible for SV: • Permanent & temporary impacts >5,000 SF. • Stream relocations; dams, dikes; culvert crossings at new locations within perennial streams. • Slip lining or culvert relining that changes invert elevation. • Open trench excavation in flowing waters. • Riprap beyond the minimum necessary to protect the structure • Fill in waterways identified as habitat for Atlantic sturgeon and shortnose sturgeon including designated critical habitat, foraging, and overwintering areas. (See GC 12 for a hyperlink to the NOAA ESA maps). See Appendix H for time of year restrictions. • Fill in a vernal pool depression that is located within waters of the U.S. Eligible for SV: • Permanent and temporary impacts ≤5,000 SF for crossings provided: • All drainage culverts and bridges shall be designed to pass the appropriate flood frequency to the extent practicable. • Drainage Area less than 1 square mile shall pass the 50-year flood frequency. • Drainage Area greater than 1 square mile but less than 10 square miles shall pass the 100-year flood frequency with 1 foot of freeboard. Freeboard is the vertical difference from the design water surface to the low point of the overlying road. • Drainage Area greater than 10 square miles but less than 1,000 square miles shall pass the 100-year with 2 feet of freeboard.	Not eligible for PCN (Individual Permit required): • Permanent and temporary impacts >1 acre. • Wetland crossings (see GP 18). Eligible for PCN (includes work not eligible for SV): • Permanent and temporary impacts ≤1 acre. • Or if screened and determined eligible by interagency CT DEEP and USACE agreement.

GP 19(A) INLAND (continued)	• Bridges and culverts along stocked watercourses and watercourses which support fish shall be designed to allow passage of fish as recommended by the Department of Environmental Protection Fisheries and Wildlife Divisions. • The location of new bridges and culverts shall minimize the relocation of watercourses. • Where applicable, rigid structural floors at bridges and culverts should be depressed below the normal streambed, to allow an alluvial streambed to form over them, and shall anticipate if the streambed is degrading. • The use of solid parapet walls at bridges and culverts located in the sag part of vertical curves is discouraged. • Debris barriers shall be used upstream of structures prone to blockage by debris. • The use of a single culvert or bridge opening is required to the extent practicable over the use of multiple small openings. • Unconfined, in-stream work, not including installation and removal of cofferdams, is limited to the low-flow period, July 1 through September 30 unless the agencies require a different resource-driven time of year restriction. Work occurring behind a cofferdam may occur at any time (See Appendix H). • Or if screened and determined eligible by interagency CT DEEP and USACE agreement.	
GP 19(B) COASTAL Stream, River and Brook Crossings (not including Wetland Crossings	These activities are not eligible for SV.	<u>Not eligible for PCN (Individual Permit required):</u> • Permanent impacts that are >1/2 acre in tidal waters. • Permanent impacts that are >1000 SF in tidal SAS other than vegetated shallows. • Permanent impacts that are >100 SF in tidal vegetated shallows. • Temporary impacts >1 acre in tidal waters. <u>Eligible for PCN</u>: • Permanent impacts that are ≤1/2 acre in tidal waters of the U.S. • Permanent impacts that are ≤1000 SF in tidal SAS other than vegetated shallows. • Permanent impacts that are ≤100 SF in tidal vegetated shallows • Temporary impacts ≤1 acre in tidal waters

GP 20. ENERGY GENERATION AND RENEWABLE ENERGY AND HYDROPOWER PROJECTS (Sections 10 and 404; tidal and non-tidal waters of the U.S.)

Structures and work and discharges of dredged or fill material into waters of the U.S. for the construction, expansion, modification, or removal of: (a) land-based renewable energy production facilities (e.g., solar and wind) and their 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.

	SELF-VERIFICATION (SV)	PRE-CONSTRUCTION NOTIFICATION (PCN)
GP 20(A) INLAND	This activity is not eligible for SV.	Not eligible for PCN (Individual Permit required): • Projects with >1 acre of permanent and/or temporary impact in waters and wetlands. Eligible for PCN (includes work not eligible for SV): • Projects with ≤1 acre of permanent and/or temporary impact in waters and wetlands Note: Construction mats of any area necessary to conduct activities do not count towards the impact thresholds and should be removed as soon as work is completed. Mechanical clearing of areas within USACE jurisdiction without grubbing or other soil disturbance >1 acre as a secondary impact may still be eligible for PCN at the discretion of USACE.
GP 20(B) COASTAL	This activity is not eligible for SV.	Not eligible for PCN (Individual Permit required): • Projects with >1 acre of permanent and/or temporary impacts waters and wetlands. Eligible for PCN: • Projects with ≤1 acre of permanent and/or temporary impacts in waters and wetlands. • Temporary and/or permanent fill or excavation in ≤1,000 SF of SAV • Permanent fill or excavation in ≤5,000 SF in SAS (except for SAV)

GP 21. TEMPORARY FILL NOT ASSOCIATED WITH A REGULATED GENERAL PERMIT ACITVITIES (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.		
	SELF-VERIFICATION (SV)	**PRE-CONSTRUCTION NOTIFICATION (PCN)**
GP 21(A) INLAND An SVNF is required. Note: Construction mats of any area necessary to conduct activities do not count towards the impact thresholds and should be removed as soon as work is completed.	Not eligible for SV: • Temporary impacts >5,000 SF not associated with construction mats. • Temporary fill in a vernal pool depression that is located within waters of the U.S. Eligible for SV: • Construction mats of any area necessary to conduct activities. • Construction mats must be removed as soon as work is completed (See GC 17 Temporary Fill)	Not eligible for PCN (Individual Permit required): • Temporary impacts >1 acre. Eligible for PCN (includes work not eligible for SV): • Temporary impacts ≤ 1 acre.
GP 21(B) COASTAL	These activities are not eligible for SV.	Eligible for PCN (includes work not eligible for SV): • Temporary impacts ≤ 1 acre.

GP 22. MODIFICATION AND IMPROVEMENT OF EXISTING MINOR DRAINAGE FEATURES AND MOSQUITO CONTROL (SECTION 10 & 404)

Discharges to modify the cross-sectional configuration of currently serviceable drainage ditches constructed in waters of the U.S., for the purpose of improving water quality by regrading the drainage ditch with gentler slopes, which can reduce erosion, increase growth of vegetation, and increase uptake of nutrients and other substances by vegetation. Also authorized are mosquito reduction activities that do not meet GP 10 (integrated marsh management). See GP 2 for repair, rehabilitation, or replacement of authorized fills or repairs with no change in overall configuration of modification in use.

	SELF-VERIFICATION (SV)	PRE-CONSTRUCTION NOTIFICATION (PCN)
GP 22(A) INLAND	These activities are not eligible for SV.	These activities are not eligible for PCN (Individual Permit required)
GP 22(B) COASTAL An SVNF is not required.	Not eligible for SV: • Construction of new ditches or relocation of existing drainage ditches. • New fill (temporary or permanent) discharges including side-casting or stockpiling in wetlands. • Impacts (structures or work) in SAS refer to 40 CFR 230.3 and Subpart E and definitions herein. • Activities where the reshaping of the drainage ditch will increase drainage capacity beyond the original as-built capacity or expand the area drained by the drainage ditch as originally constructed (i.e., the capacity of the drainage ditch must be the same as originally constructed and it cannot drain additional wetlands or waters). • Impacts to SAV. • Impacts to natural rocky habitat >100 SF. • Impacts to intertidal or shellfish areas >1,000 SF. Eligible for SV: • Impacts to SAS within areas ≤1,000 SF. • The location of the centerline of the reshaped drainage ditch shall be approximately the same as the location of the centerline of the original drainage ditch.	Not eligible for PCN (Individual Permit required): • >1 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts. • Temporary and/or permanent fill or excavation in SAV >1,000 SF. • Permanent fill or excavation in other SAS >5,000 SF. Eligible for PCN (includes work not eligible for SV): • ≤1 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts. • Temporary and/or permanent fill or excavation in SAV ≤1,000 SF. • Permanent fill or excavation in other SAS ≤5,000 SF.

GP 23. AGRICULTURAL ACTIVITIES (Section 404; non-tidal and non-navigable waters of the U.S.)

Regulated discharges of dredged or fill material in waters of the U.S. for agricultural activities, including the construction of building pads for farm buildings. Authorized activities include: (a) installation, placement, or construction of drainage tiles, ditches, or levees; mechanized land clearing; land leveling; the relocation of existing serviceable drainage ditches; and similar activities; (b) construction of farm ponds, excluding perennial streams, provided the farm pond is used solely for agricultural purposes; and (c) discharges of dredged or fill material to relocate existing serviceable drainage ditches constructed in non-tidal streams.

	SELF-VERIFICATION (SV)	PRE-CONSTRUCTION NOTIFICATION (PCN)
GP 23(A) INLAND	These activities are not eligible for SV.	Not eligible for PCN (Individual Permit Required): • Construction of aquaculture ponds. • >0.50 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts. Eligible for PCN: • ≤0.50 acre temporary or permanent impacts, fill, excavation, and/or secondary impacts
GP 23(B) COASTAL	These activities are not eligible for SV.	These activities are not eligible for PCN (Individual Permit required).

APPENDIX B - GENERAL CONDITIONS

1. Other Permits. Authorizations provided by these GPs do not obviate the need for project proponents to obtain other Federal, State, or local permits, approvals, or authorizations required by law. Applicants are responsible for applying and obtaining all such permits, approvals or authorizations. Work that is not regulated by the State, but subject to USACE jurisdiction, may be still be eligible for these GPs.

2. Federal Jurisdiction

a. Applicability of these GPs shall be evaluated with reference to federal jurisdictional boundaries (e.g., mean high water mark (MWH), high tide line (HTL), ordinary high water mark (OHW), and wetland boundary). Activities shall be evaluated with reference to "waters of the U.S." under the Clean Water Act (33 CFR 328) and "navigable waters of the U.S." under Section 10 of the Rivers and Harbors Act of 1899 (33 CFR 329). Prospective permittees are responsible for ensuring that the boundaries satisfy the federal criteria defined at 33 CFR 328 – 329. These sections prescribe the policy, practice, and procedures to be used in determining the extent of USACE jurisdiction.

b. Permittees shall identify the following aquatic resources on project plans: wetlands and other special aquatic sites (SAS) including vegetated shallows (also known as submerged aquatic vegetation (SAV)), riffle and pool complexes, sanctuaries and refuges, coral reefs, and mudflats; and other waters such as lakes and ponds; and perennial and intermittent streams on the project site. Wetlands shall be delineated in accordance with the Corps of Engineers Wetlands Delineation Manual and its applicable regional supplement.

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

a. Activities shall be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the 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[1] for unavoidable impacts to waters of the U.S., including direct, secondary and temporal[2], 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.

Note: The USACE Connecticut In-Lieu Fee Program allows USACE permittees, as compensation for their project impacts to aquatic resources of the U.S. in Connecticut to make monetary payment *in-lieu* of permittee-responsible mitigation. Information is provided at https://www.nae.usace.army.mil/Missions/Regulatory/Mitigation/In-Lieu-Fee Programs/CT/. This only applies to USACE required mitigation and additional CT DEEP mitigation may be required.

4. Discretionary Authority. Notwithstanding compliance with the terms and conditions of this permit, USACE 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 USACE 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 cumulative adverse environmental effects that are more than minimal, or if there is a special resource or concern

[1] Compensatory mitigation sites proposed to offset losses of aquatic resource function must comply with the applicable provisions of 33 CFR 332. See also the New England District Compensatory Mitigation Standard Operating Procedures at http://www.nae.usace.army.mil/Missions/Regulatory/Mitigation.aspx

[2] 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).

associated with a particular project. Whenever USACE notifies an applicant that an Individual Permit may be required, authorization under these GPs is voided and no work may be conducted in waters of the U.S. until a USACE Individual Permit is obtained or until USACE notifies the applicant that further review has demonstrated that the work may be reviewed under these GPs.

5. Fills Within 100-Year Floodplains. The activity shall comply with applicable Federal Emergency Management Agency (FEMA)-approved State of Connecticut or local floodplain management requirements. Permittees should contact FEMA and/or the State of Connecticut regarding floodplain management requirements.

6. 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 USACE 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.

7. 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 U.S. authorized by the GPs does not exceed the acreage limit of the GPs with the highest specified acreage limit. For example, if a road crossing over waters is constructed under GP 19, with an associated utility line crossing authorized by GP 6, if the maximum acreage loss of waters of the U.S. for the total project is ≥1 acre it shall be evaluated as an IP.

8. USACE Property and Federal Projects

a. USACE projects and property can be found at: www.nae.usace.army.mil/Missions/Civil-Works

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

c. 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 USACE pursuant to Section 14 of the Rivers and Harbors Act of 1899 (33 USC 408) (Section 408)

d. A PCN is required for all work in, over, under, or within a distance of three times the authorized depth of a USACE Federal Navigation Project (FNP) and may also require permission under Section 408.

e. Any structure or work that extends closer than a distance of three times the project's authorized depth to the horizontal limits of any FNP shall be subject to removal at the owner's expense prior to any future USACE dredging or the performance of periodic hydrographic surveys.

f. Where a Section 408 permission is required, written verification for the PCN will not be issued prior to the decision on the Section 408 permission request.

9. 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 and require either a PCN or Individual Permit.

10. Wild and Scenic Rivers

a. The following activities in designated rivers of the National Wild and Scenic River (WSR) System, or in a river designated by Congress as a "study river" for possible inclusion in the system, require a PCN or IP unless the National Park Service (NPS) has determined in writing to the proponent that the proposed work will not adversely affect the WSR designation or study status:

(1) Activities that occur in WSR segments, in and 0.25 mile up or downstream of WSR segments, or in tributaries within 0.25 miles of WSR segments;

(2) Activities that occur in wetlands within 0.25 mile of WSR segments; or

(3) Activities that have the potential to alter free-flowing characteristics in WSR segments. The District Engineer will coordinate the application with the NPS or its designee with direct management responsibility for that river.

b. 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).

c. As of 2021, designated 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); the Lower Farmington River from Canton to Windsor (study river – including its tributary Salmon Brook) and the Wood & Pawcatuck Rivers. Additional information can be found at: http://www.rivers.gov/connecticut.php.

11. Historic Properties

a. No undertaking shall cause effects (defined at 33 CFR 325 Appendix C and 36 CFR 800) to properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places[3], including previously unknown historic properties within the permit area, unless USACE 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:

(1) Previously identified historic properties; and

(2) Areas with potential for the presence of historic or cultural resources, which may require identification and evaluation by qualified historic preservation and/or archaeological consultants or tribal entities in consultation with USACE and the SHPO and/or THPO(s).

b. For activities eligible for SV, proponents must document that the activity will not cause effects as stated in 11(a). To comply with this condition, both SV and PCN prospective permittees shall notify the CT SHPO and THPOs for projects in close proximity to tribal lands or with potential impacts to tribal lands and request their identification of historic properties and cultural resources. The notification shall consist of the project location, plans, and brief narrative and state that a federal permit is required. Documentation of the notification to the SHPO/THPO shall be included with the SV or PCN submittal and dated. If no response is received within 30-days from the SHPO/THPO notification, the Corps may proceed to a permit decision on an SV or PCN. A PCN or IP is required if any activity may have an adverse effect on a historic property or cultural resource.

[3] Many 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 USACE and the SHPO and/or THPO(s).

c. Proponents must submit a PCN to USACE as soon as possible if the authorized activity may cause effects as stated in 11(a) to ensure that USACE is aware of any potential effects of the permitted activity on any historic property or cultural resource so that the consultation requirements of Section 106 of NHPA can be satisfied.

d. All PCN (inland projects) submittals shall:

1) show notification to the SHPO and applicable THPO(s) for their identification of historic properties or cultural resources (https://portal.ct.gov/-/media/DECD/Historic-Preservation/01_Programs_Services/Environmental-Review/ProjectNotificationForm_2021.pdf). If no response is received within 30-days from the SHPO/THPO notification, the Corps may proceed to a permit decision on an SV or PCN.

2) state which historic properties or cultural resources may be affected by the proposed work or include a vicinity map indicating the location of them, and

3) include any available documentation from the SHPO or THPO(s) indicating that there are, or are not, historic properties or cultural resources 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.

f. Federal agencies should follow their own procedures for complying with the requirements of Section 106 of the NHPA. Along with the application, Federal permittees shall provide USACE with the appropriate documentation to demonstrate compliance with those requirements.

g. Federal and non-federal applicants should coordinate with USACE before conducting any onsite archeological work (reconnaissance, surveys, recovery, etc.) requested by the SHPO or the THPOs, as USACE will determine the permit area for the consideration of historic properties based on 33 CFR 325 Appendix C. This is to ensure that work done is in accordance with USACE requirements.

12. Federal Threatened and Endangered Species

a. No activity is authorized by these GPs which:

(1) Is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat or proposed critical habitat of such species.

(2) "May affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(3) Is "likely to adversely affect" a listed species or critical habitat unless Section 7 consultation has been completed by USACE or another lead action agency in coordination with USACE.

(4) Violates the ESA.

b. All prospective permittees shall attach to their SVNF or PCN an Official Species List obtained from the U.S. Fish and Wildlife Service's Information for Planning and Consultation (IPaC) found at: *https://ecos.fws.gov/ipac* and provide the email address of the person who generated the list.

c. For proposed activities in waters with tidal influence, prospective permittees shall also refer to the National Oceanic and Atmospheric Administration (NOAA) Fisheries' Section 7 Mapper for federally-listed species found at: *https://noaa.maps.arcgis.com/apps/webappviewer/index.html.*

Several tidal freshwater waterways in Connecticut have been identified as foraging and overwintering areas, or designated as critical habitat, for the endangered Atlantic sturgeon and shortnose sturgeon. The extent of these waterways is highlighted below. The list of waters below does not include higher salinity coastal tidal creeks and brackish waterways which also possess habitat for these species, so it is strongly recommended that applicants refer to the NOAA Section 7 mapper (link above) for all work in waterways that may have tidal influence:

- Mainstem Housatonic River from Long Island Sound (LIS) to the upstream limit of the Derby Dam in Shelton, CT (Atlantic sturgeon critical habitat; migrating and foraging habitat for Atlantic sturgeon and shortnose sturgeon).
  - Naugatuck River confluence with the Housatonic River up to the Naugatuck River Reservoir dam in Ansonia, CT.
- Quinnipiac River from LIS to the bridge/intersection of Quinnipiac Street and River Road, Wallingford, CT (migrating and foraging habitat for Atlantic sturgeon and shortnose sturgeon).
- Mainstem Connecticut River from LIS to the Massachusetts Border (Atlantic sturgeon critical habitat; spawning, migrating, and foraging for Atlantic sturgeon; overwintering, migrating, and foraging for shortnose sturgeon).
  - Salmon River confluence at Connecticut River to the dam at Powerhouse Road, Leesville, CT
  - Farmington River confluence with the Connecticut River to Tunxis Road, Tariffville, CT
  - Pattaconk Brook confluence with the Connecticut River to North Quarter Park, Chester, CT
  - Confluence of Hamburg Cove with the Connecticut River to Eightmile River at Joshuatown Road/Old Hamburg Road, Hamburg, CT.
  - Lord Creek confluence with the Connecticut River to Coults Hole and Mack Creek to Lord Hill Lane, Lyme, CT.
  - North Cove confluence with Connecticut River and Falls River confluence in North Cove to River Road, Essex, CT.
  - Mattabassett River confluence at the Connecticut River to Rt. 3, northeast of Newfield Street in Middletown, CT.
  - Coginchaug River confluence with the Mattabassett River to Johnson Street north of the Providence & Worcester Railroad.
  - Selden Creek, Lyme, CT.
- Mainstem of the Thames River to Norwich, Connecticut (migrating and foraging habitat for Atlantic sturgeon and shortnose sturgeon).
  - Shetucket River confluence with Thames River up to Greenville Dam, Greenville, CT
  - Yantic River confluence with the Thames River to Yantic Falls, Norwich, CT.
  - Horton Cove confluence with the Thames River to Stony Brook and Mohegan Brook, Montville, CT.
  - Poquetanuck Cove confluence with the Thames River to Poquetanuck Brook at Shingle Road, Poquetanuck, CT.

d. A PCN is required if a threatened or endangered species, a species proposed for listing as threatened or endangered, or designated or proposed critical habitat (all hereinafter referred to as "listed species or habitat"), as identified under the ESA, may be affected by the proposed work, unless consultation is completed by another lead Federal agency, in which case, an application can be SV. An activity may remain eligible for SV if the only listed species affected is the northern long-eared bat (*Myotis septrionalis*), and only after Section 7 consultation has been completed by USACE under the 4(d) Rule Streamlined Consultation.

e. Federal agencies shall follow their own procedures for complying with the requirements of the ESA while ensuring that USACE and any other federal action agencies are included in the consultation process.

f. Non-federal representatives designated by USACE to conduct informal consultation or prepare a biological assessment shall follow the requirements in the designation document(s) and the ESA. Non-federal representatives shall also provide USACE with the appropriate documentation to demonstrate compliance with those requirements. The USACE 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.

g. The requirements to comply with Section 7 of the ESA may be satisfied by a programmatic agreement (PA) or programmatic consultation (PC) with USACE, the New England District, or another federal agency. New England District PAs and PCs are found at: https://www.nae.usace.army. mil/Missions/Regulatory/State-General-Permits/Connecticut-General-Permit.

13. Pile Installation and Removal and Related Time of Year Restrictions

a. Derelict, degraded, or abandoned piles and sheet piles in the project area shall be removed in their entirety as practicable and properly disposed of in an upland location and not in wetlands or other waters of the U.S. In areas of fine-grained substrates, piles/sheets shall be removed by direct, vibratory, or clamshell pull method to minimize potential turbidity and sedimentation impacts. If removal is not practicable, said piles/sheets shall be cut off or driven to a depth of, at least, one foot below substrate.

b. Work involving pile installation and/or removal should occur "In-the-dry" or adhere to the applicable waterbody's time-of-year restrictions in Appendix H.

14. 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 or otherwise, 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 USACE FNP 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 USACE 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 USACE, 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. A PCN is required for all work in, over or under an FNP or its buffer zone unless otherwise indicated in Appendix A. as the work may also require a Section 408 permit.

15. Federal Liability. In issuing these permits, 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; and/or (e) damage claims associated with any future modification, suspension, or revocation of these permits.

16. 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 construction 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 USACE authorization. Similarly, the permittee may request written authorization from USACE 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 BMPs:

- 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.
- Construction mats shall be thoroughly cleaned before re-use to minimize spread of invasive species.

17. Temporary Fill

a. Temporary fill, including but not limited to 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 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.

18. 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 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.

19. Coastal Bank Stabilization. Projects involving construction or reconstruction/maintenance of bank stabilization structures within USACE 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 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. For more information, go to the USACE Coastal Engineering Manual (supersedes the Shore Protection Manual) located at https://www.nae.usace.army.mil/Missions/Regulatory/Useful-Documents-Forms-and-Publications/. Select "Products/ Services," "Publications." Part 5, Chapter 7-8, a (2) c.

20. 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 OHW or HTL, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the U.S. during periods of low-flow or no-flow, or during low tides.

21. 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:

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

(2) 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).

d. Refer to Appendix G for Stream Crossing BMPs.

22. 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 six months of the effective date of such revision or modification, or within a longer period 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).

23. 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.

24. 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 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.

25. 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.

26. Vernal Pools.

a. A PCN is required if a discharge of dredged or fill material is proposed within a vernal pool depression located within waters of the U.S.

b. GC 26(a) above does not apply to projects that are within a municipality that meets the provisions of a USACE-approved vernal pool Special Area Management Plan (SAMP) and are otherwise eligible for SV, and the applicant meets the requirements to utilize the vernal pool SAMP.

27. 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 USACE, all applications for PCN inland projects proposing fill in USACE jurisdiction shall include an Invasive Species Control Plan. Additional information can be found at www.nae.usace.army.mil/missions/regulatory/invasive-species and https://cipwg.uconn.edu/

28. 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 all contracts and sub-contracts for work that affects areas of USACE 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 GCs and the authorization letter (including its drawings, plans, appendices, and other attachments) and 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 USACE jurisdiction.

29. Inspections. The permittee shall allow USACE to make periodic inspections at any time deemed necessary to ensure that the work is being or has been performed in accordance with the terms and conditions of this permit. To facilitate these inspections, the permittee shall complete and return to USACE the Work-Start Notification Form and the Compliance Certification Form when either is provided with a verification letter. The USACE may also require post-construction engineering drawings for completed work or post-dredging survey

drawings for any dredging work.

30. 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 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 USACE 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).

31. Property Rights. Per 33 CFR 320.4(g)(6), 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.

32. Transfer of GP Verifications. If the permittee sells the property associated with a GP verification, the permittee may transfer the GP verification to the new owner by submitting a letter to this office to validate the transfer. A copy of the GP verification must be attached to the letter, and the letter must contain the following statement and signature:

When the structures or work authorized by this general permit are still in existence at the time the property is transferred, the terms and conditions of this general permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this general permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____(Transferee)
_____(Date)

33. Modification, Suspension, and Revocation. These GPs and any individual authorization 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.

34. Special Conditions. The USACE 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.

35. False or Incomplete Information. If USACE decides 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.

36. 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 USACE.

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

38. Previously Authorized Activities

a. Completed projects that received prior authorization from USACE (via SV or PCN), shall remain authorized in accordance with the original terms and conditions of those authorizations, including their terms, general conditions, and any special conditions provided in a written verification.

b. Activities authorized pursuant to 33 CFR Part 330.3 ("Activities occurring before certain dates") are not affected by these GPs.

39. Duration of Authorization

a. 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 USACE satisfaction that the project had commenced or was under contract by the expiration date of these GPs. If work is not completed within the one-year extended timeframe, the permittee must contact USACE. The USACE may issue a new authorization provided the project meets the terms and conditions of the CT GPs in effect at the time.

b. 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 require an Individual Permit in accordance with 33 CFR 325.2(e)(2), or the authorization is modified, suspended, or revoked in accordance with 33 CFR 325.7. Activities completed under the SV or PCN authorizations of these GPs will continue to be authorized after its expiration date.

Aquaculture activities authorized under GP 16 in Appendix A are subject to the applicable conditions and requirements of the Connecticut GPs in addition to the following Standard Aquaculture Terms and Conditions:

1. The permittee shall ensure that a copy of the project authorization (including its drawings, plans, appendices, and other attachments) is present on the vessel that attends the work site (and the project office), and that all appropriate personnel performing work at the site are fully aware of its terms and conditions.

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 the CT DEEP boating regulation does not apply, the applicant shall contact the U.S. Coast Guard (USCG), First District; Sector Long Island Sound, 120 Woodward Avenue, New Haven, CT 06512 (203-468-4401) or SECLISSPWMarineEvent@uscg.mil to coordinate the proper buoy markers per 33 CFR 64. 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 Department of Army and for authorizations from the CT DA/BA.

4. If the authorized gear is inadvertently shifted to a location outside of the bounds of the approved perimeter (as a result of adverse environmental conditions, breakage, or other unforeseen event), the permittee must submit the enclosed Aquaculture Gear Recovery Form to the Dept. of Agriculture, Bureau of Aquaculture within 48 hours of discovery (phone: 203-874-0696; facsimile: 203-783-9976; email: lori.scianna@ct.gov) and submit a courtesy copy to USACE (phone: 978-318-8338 facsimile: 978-318-8303 or via email: cenae-r- ct@usace.army.mil). This condition is to facilitate notification of marine safety police and regulatory agencies so that the public can be alerted to the presence of free-floating gear and to prompt mitigating action before the lost gear becomes a threat to either navigation, marine animals or the environment, either individually or cumulatively.

5. 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.

6. 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.

7. To prevent introduction of aquatic nuisance species, no material that has been taken from a different waterbody may be reused in the current project area, unless it has been treated in accordance with the applicable

regional/Connecticut aquatic nuisance species management plan (see https://www.fws.gov/anstaskforce/State%20Plans/CT_ANS_Plan.pdf).

8. 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 http://www.nae.usace.army.mil/Missions/Navigation/Connecticut-Projects/.

9. 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.

10. The placement of cultch shall comply with all 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 shell fishing 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.

11. The permittee shall be responsible to remove all gear and associated equipment within the leased or designated shellfish area if the operator surrenders or loses the right to its use.

12. The subject aquaculture activity shall not discernibly interfere with natural sedimentation and erosion processes.

13. 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."

14. Aquaculture projects authorized herein shall not interfere with public shore access at or below MHW or interfere with the access to any riparian or littoral property.

15. The following may be required as special conditions of an authorization to protect Federally-listed species:

a. In season, the gear site shall be visited by an attendant surface vessel at least once a week, site conditions permitting. During the off season the vertical mooring lines will be visited bi-weekly. Any noticeable difference in surface buoy or line tension such as any gaps in the horizontal line or movement of vertical lines will prompt an investigation into the tension of that line. If a problem is identified, it will be corrected that day. This condition has been included to ensure that if an entanglement or other issue related to the stability of the system arises, that it will be expeditiously addressed by the permittee.

b. Seasonal gear including cages, lines and buoys shall be removed during the offseason or when not in use. The gear shall be stored in upland areas to minimize the effects of habitat exclusion, loss, or alteration.

c. Any in-water lines, ropes, or chains must be made of materials and installed in a manner to minimize or avoid the risk of entanglement by using thick, heavy, and taut lines that do not loop or entangle.

d. For lines that are suspended in the water column, the permittee shall maintain all project equipment, including vertical mooring lines, to ensure that constant tension is kept on the line at all tides. This requirement for counterweight on the vertical lines is intended to minimize the likelihood that the lines will entangle as they will hang straight down and will be less likely to wrap around appendages of endangered marine sea turtles/mammals.

e. On-bard staff will maintain a vigilant watch for protected resources (sea turtles, whales, sturgeon, or marine mammals). during all transit vessel speeds shall be kept to a minimum and operate below a speed limit of 10 knots, where feasible.

f. Each sighting of a federally listed threatened or endangered sea turtle or fish shall be recorded and the following information shall be provided:

(1) Date, time, coordinates of vessel
(2) Visibility, weather, sea state
(3) Vector of sighting (distance, bearing)
(4) Duration of sighting
(5) Species and number of animals
(6) Observed behaviors (feeding, diving, breaching, etc.)
(7) Description of interaction with aquaculture facility

g. If any listed species of sea turtle is observed to be entangled or otherwise interacting with the facility's structure, the permittee (or onboard staff) shall immediately contact NOAA Stranding Hotline at (866) 755-NOAA (6622) and email incidental.take@noaa.gov. The permittee should also contact the NOAA Fisheries Protected Resources Division, Gloucester, MA at (978) 281-9328. This condition is included to ensure that the proper authorities will be consulted in case of gear interaction with protected resources.

APPENDIX D - CONTACTS

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)
cenae-r-ct@usace.army.mil (email preferred)

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

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

Federal Endangered Species &
Essential Fish Habitat
National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 01930
(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

2. STATE OF CONNECTICUT

Department of Energy & Environmental Protection
https://portal.ct.gov/DEEP/Permits-and-Licenses/Permits-and-Licenses

Land and Water Resource Division (LWRD)
79 Elm Street
Hartford, Connecticut 06106-5127
(860) 424-3034
https://portal.ct.gov/DEEP/Permits-and-Licenses/Land-and-Water-Resource-Division-LWRD-Applications

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
(860) 396-6887
(860) 396-6914 (fax)

Mohegan Tribe of Indians of Connecticut
James Quinn, Tribal Historic Preservation Officer
13 Crow Hill Rd.
Uncasville, CT 06382
(860) 862-6393
(860) 862-6395 (fax)

Archaeological Information
State Historic Preservation Office
Department of Economic and Community Development
Mary Dunne, State Historic Preservation Officer
45 Columbus Boulevard, Suite 5
Hartford, Connecticut 06103
(860) 256-2800 (main)
(860) 256-2764 (direct)

Office of State Archaeology
Sarah Sportman, CT State Archaeologist
354 Mansfield Road, Unit 1176
Storrs, Connecticut 06269
860-486-5248

4. ORGANIZATIONAL WEBSITES

U. S. Army Corps of Engineers – New England District	www.nae.usace.army.mil/missions/regulatory.aspx
U. S. Army Corps of Engineers Headquarters	www.usace.army.mil (click "Regulatory Permits")
U.S. Environmental Protection Agency	www.epa.gov/owow/wetlands/
National Marine Fisheries Service	www.nmfs.noaa.gov
U.S. Fish and Wildlife Service	www.fws.gov
National Park Service	www.nps.gov/rivers/index.html/
Federal Emergency Management Agency	www.fema.gov
Connecticut Dept. of Energy & Environmental Protection	http://www.ct.gov/deep/site/default.asp
U.S. EPA, Region 1 – Urban Runoff: Low Impact Development	https://www.epa.gov/nps/urban-runoff-low-impact-development
U.S. Environmental Protection Agency – Green Infrastructure website	www.epa.gov/greeninfrastructure

US Army Corps of Engineers ®
New England District

Appendix E: Self-Verification Notification Form

This form is required for all inland projects in Connecticut, but it is not required if work is done within boundaries of Mashantucket Pequot or Mohegan Tribal Lands. At least two weeks before work commences, complete all fields (write "none" if applicable) below, send this form, Official Species List (see GC 12), documentation of THPO and SHPO notifications if applicable, site location map, project plans (not required for projects involving the installation of construction mats only) and any State or local approval(s) to:

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

and

CT DEEP
79 Elm Street
Hartford, CT 06106-5127
DEEP.LWRDRegulatory@ct.gov

State Permit Number: _____ Date of State Permit: _____

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

Agent: _____
Address, City, State & Zip: _____
Phone(s) and Email: _____

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

Project Name: _____
Project Location (provide detailed description & locus map):
Address, City, State & Zip: _____
Lat. ° N, Long ° (Decimal Degrees): _____
Waterway Name: _____

Proposed Work Dates: Start: _____ Finish: _____

Work will be done under the following GPs (circle all that apply):

2	5	6	9	10	11	12	13	14	15	17	18	19	21

Area of Wetland Impacts (SF): Permanent: _____ Temporary: _____

Area of Waterway Impacts (SF): Permanent: _____ Temporary: _____

TOTAL Project Impact (SF): Permanent: _____ Temporary: _____

Describe the specific work that will be undertaken in waters and wetlands: _____

_____

_____

_____

_____

Have the THPOs and the CT SHPO been notified of the proposed work per the procedures in GC 11? If so, attach any responses received to this form.
Yes _____ date contacted _____No _____

Are there Federally listed endangered/threatened species, other than the northern long-eared bat, present? (see GC 12) Yes _____ No_____

Confirm no SAVs are present or will be impacted: Yes _____ No_____
Applicable to GPs:

2	5	6	9	10	11	12	13	14	15	17	18	19	21

Confirm no unconfined work with impact to diadromous fish (see App. H): Yes _____ No_____
Applicable to GPs:

2	5	6	9	10	19

Confirm work complies with Stream Crossing BMPs (see App. G): Yes _____No_____

Applicable to GPs:

2	6	17	19

If GP 19 and work does not comply with Appendix G, identify date of Interagency Meeting where waiver was granted: Date of Meeting: _____
Identify interagency participants: CT DEEP:_____ USACE:_____

Will your project include any secondary effects? (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:

_____

_____

_____

_____

Your signature below, as permittee, indicates that you accept and agree to comply with the terms, eligibility criteria, and general conditions for Self-Verification under the Connecticut GPs.

Permittee Signature: _____ Date**:** _____

APPENDIX F - DEFINITIONS

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

Biodegradable: A material that decomposes into elements found in nature within a reasonably short period of time and will not leave a residue of plastic or a petroleum derivative in the environment after degradation. In contrast, degradable plastics break down into plastic fragments that remain in the environment after degradation. Examples of biodegradable materials include jute, sisal, cotton, straw, burlap, coconut husk fiber (coir) or excelsior. In contrast, degradable plastics break down into plastic fragments that remain in the environment after degradation. Photodegradable, UV degradable or Oxo-(bio)degradable plastics are not considered biodegradable under this GP.

Boating facilities: These provide, rent, or sell mooring space, such as marinas, boat/yacht clubs, boat yards, dockominiums, town facilities, dockominiums, 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.

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.

Confined Aquatic Disposal (CAD): The process of disposing dredged material, sometimes determined to be unsuitable for unconfined disposal in an aquatic environment in a manner to sequester it from the overlying water column. When this disposal takes place into a natural or constructed depression on the seafloor, it is referred to as a CAD cell.

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. This definition does not include "corduroy roads".

Corduroy roads: Roads made from cut trees and/or saplings with the crowns and branches removed, and the trunks lined up next to one another. Corduroy roads are typically installed as permanent structures.

Cumulative effects: The changes in an aquatic ecosystem that are attributable to the collective effect of several individual 1) discharges of dredged or fill material, or 2) structures. Although the impact of a particular discharge may constitute a minor change, the cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems. See 40 CFR 230.11(g).

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/dredged from waters of the United States.

Dredging:

- **Improvement Dredging:** For the purposes of these GPs, this is dredging deeper than previously authorized by the Corps or dredged.
- **Maintenance Dredging:** For the purposes of these GPs, this is dredging from an area previously authorized by the Corps or dredged. The Corps may require proof of authorization and dredging. Maintenance dredging typically refers to the routine removal of accumulated sediment to maintain the design depths of serviceable navigation channels, harbors, marinas, boat launches and port facilities. Maintenance dredging is conducted for navigational purposes and does not include any expansion of

the previously dredged area. The Corps may review a maintenance dredging activity as new dredging if sufficient time has elapsed to allow for the colonization of SAS, shellfish, etc.

- **New Dredging:** For the purposes of these GPs, this is dredging of an area that has never been authorized by the Corps and dredged, including expansion of previously dredged areas. New dredging may also include those activities that do not meet the definition of maintenance dredging, as determine by the Corps.

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.

Footprint (boating facility): The limit of structures, such as docks, pilings, piers, or platforms, at an established marina or docking facility.

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/

High Tide Line: The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along the shore objects, a continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

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).

In the dry: Work that is done under dry conditions, e.g., work behind cofferdams or when the stream or tide is waterward of the work.

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: Living shorelines stabilize banks and shores in coastal waters along shores with small fetch and gentle slopes that are subject to low-to mid-energy waves. A living shoreline has a footprint that is made up mostly of native material. It incorporates vegetation or other living, natural "soft" elements alone or in combination with some type of harder shoreline structure (e.g., oyster or mussel reefs or rock sills) to dissipate wave energy and to collect naturally deposited sediment for added protection and stability.
Maintenance:
a. The 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 – "Activities occurring before certain dates," 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, or current construction codes or safety standards that are necessary to make repair, rehabilitation, or replacement are authorized.
- Currently serviceable means useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.
- No seaward expansion for bulkheads or any other fill activity is considered SV maintenance.
- Only structures or fills that were previously authorized and comply with the terms and condition of the original authorization can be maintained as a non-regulated activity under 33 CFR 323.4(a)(2), or in accordance with the SV or PCN thresholds in Section V.

b. The state's maintenance provisions may differ from the Corps and may require reporting and written authorization from the state.
c. Contact the Corps to determine whether stream crossing replacements require a PCN.
d. Exempted Maintenance. In accordance with 33 CFR 323.4(a)(2), any discharge of dredged or fill material that may result from any of the following activities is not prohibited by or otherwise subject to regulation under Section 404 of the CWA: "Maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, bridge abutments or approaches, and transportation structures. 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 U.S. 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/harvesting: 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 U.S.
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.
Submerged aquatic vegetation: Submerged aquatic vegetation (SAV) such as eelgrass is known to play a critical ecosystem role. The U.S. Environmental Protection Agency (EPA) has designated SAV (referred to as vegetated shallows in the Section 404(b)(1) Guidelines), including eelgrass, as "special aquatic sites" under the 404(b)(1) Guidelines due to its important role in the marine ecosystem for nesting, spawning, nursery cover and forage areas for fish and wildlife. Furthermore, the MAFMC has designated SAV, including eelgrass as a Habitat Area of Particular Concern (HAPC) for summer flounder EFH and the NEFMC has designated SAV as part of the nearshore juvenile Atlantic cod HAPC. Seagrasses provide important ecological services including fish and shellfish habitat, and shorebird feeding habitats, nutrient and carbon cycling, sediment stabilization, and biodiversity (Thayer et al 1984, Fonseca and Cahalan 1992, Fonseca et al., 1998, Kenworthy et al 1998, Orth et al., 2006). In many

locations along the east coast, eelgrass coverage has declined by fifty percent or more since the 1970's (Thayer et al. 1975, Short et al. 1993, Short and Burdick 1996). Loss of eelgrass is attributed to reduced water quality and clarity resulting from elevated inputs of nutrients or other pollutants such as suspended solids and disturbances such as dredging (Kemp et al. 1983, Short et al. 1993, Short and Burdick 1996, Orth et al. 2006). Eelgrass may also be adversely affected through shading and burial or smothering resulting from turbidity and subsequent sedimentation (Deegan and Buchsbaum 2005, Duarte et al. 2005, Johnson et al. 2008). In Massachusetts, surveys from 1995 to 2007 have shown statewide declines in seagrass cover in 90% of the embayments where it was studied (Costello and Kentworthy, 2010). In New Hampshire, eelgrass distribution throughout the entire Great Bay Estuary has declined precipitously since 1996, with a loss of 76% in the Great Bay and extirpation of nearly all beds in the Piscataqua River during that time (Short 2013). Given the widespread decline in eelgrass beds in New England, any additional loss to this habitat will likely significantly affect the resources that depend on these meadows. Successful compensatory mitigation for impacts to SAV can be costly and difficult to implement, making this habitat especially vulnerable to permanent loss.

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 and restored to preconstruction contours and elevations upon completion of construction.

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 (*Rupiamaritima*) in marine systems (doesn't include salt marsh) as well as several freshwater species in rivers and lakes. Note: These areas are also commonly referred to as submerged aquatic vegetation (SAV).

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 U.S. are defined in 33 CFR 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 CWA. Waters of the U.S. include jurisdictional wetlands.

CT DEEP WQC Definitions:

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:

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 CT DEEP under Connecticut Water Quality Standards.**

Threatened, Endangered or Special Concern Species; Significant Natural Communities/Critical Habitats: Species listed by CT DEEP 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 .

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 low conveyance in a manner that would impact upstream, downstream, or adjacent property.

APPENDIX G – STREAM CROSSING BEST MANAGEMENT PRACTICES (BMPs)

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" [1]. 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 [2] streams or size culverts or pipe arches such that they are wider than bankfull width (BFW). Single span structures are required to the extent practicable 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 ≥1.2 times BFW where practicable. In many cases bankfull width is not necessarily interchangeable with the elevation of ordinary high water. [3]
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. ≥ 1-2 feet for box culverts and pipe arches[4], or
    b. ≥ 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 (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.

[1] www.nae.usace.army.mil/missions/regulatory.aspx >> "Stream and River Continuity."

[2] 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, where necessary, does not prevent a structure from being considered as a span.

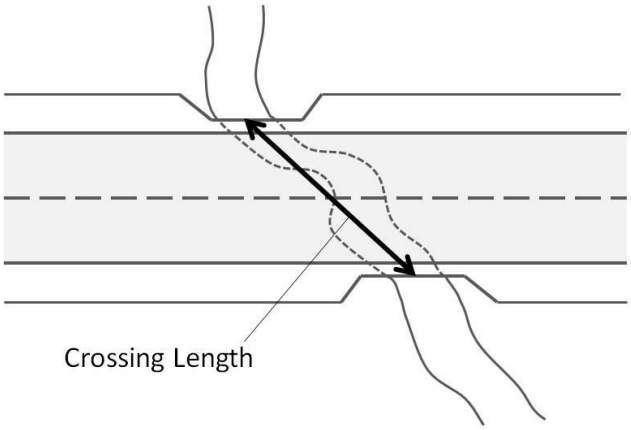
[3] BFW corresponds with "bankfull stage" and this should be field delineated in accordance with the U.S. Forest Service also found at https://www.nae.usace.army.mil/Missions/Regulatory/Stream-and-River-Continuity/

[4] 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.

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.[5]

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

[5] 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 >> Stream and River Continuity.

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 >> State General Permits >> Connecticut General Permit Documents.

APPENDIX H

DIADROMOUS FISH IN CONNECTICUT

2021 Connecticut General Permit

DIADROMOUS FISH IN CONNECTICUT

Diadromous fish are a type of fish that move between salt and fresh water, usually for feeding or reproduction. Anadromous fish are a subset of diadromous fish that spend most of their lives in the coastal waterway as adults, but then migrate to fresh water to breed. Thus, young anadromous fish begin their life in freshwater, swim to the sea to feed and mature, then return to the rivers of their birth to reproduce. Diadromous fish are some of the more ecologically and economically important fish species in the region.

ANADROMOUS FISH IN CONNECTICUT:

Blueback herring (*Alosa aestivalis*)
Alewife (*Alosa pseudoharengus*)
American shad (*Alosa sapidissima*)
Gizzard shad (*Dorosoma cepedianum*)
Striped bass (*Morone saxatilis*)
Sea lamprey (*Petromyzone marinus*)

HOW TO DETERMINE IF ANY OF THE ANADROMOUS FISH ABOVE ARE AT MY PROJECT SITE

To see if any of the fish species above may be in the waterway affiliated with your project go to the Fisheries Division, Migratory-Fish-Runs-of-Connecticut webpage at https://portal.ct.gov/DEEP/Fishing/Fisheries-Management/Migratory-Fish-Runs-of-Connecticut.

ENDANGERED STURGEON IN CONNECTICUT:

Shortnose sturgeon (*Acipenser brevirostrum*)
Atlantic sturgeon (*Acipenser oxyrhynchus oxyrinchus*)

The shortnose sturgeon and shortnose sturgeon populations that are present in Connecticut are both listed under the Endangered Species Act. Critical habitat for Atlantic sturgeon was designated in the Connecticut River and the Housatonic River in 2012. Species presence and designated critical habitat can be viewed by going to *https://noaa.maps.arcgis.com/apps/webappviewer/index.html*. See General Condition 11 of these CT GPs for more information and conditional requirements.

CATADROMOUS FISH IN CONNECTICUT

American eel (*Anguilla rostrata*)

Catadromous fish spend most of their adult life in fresh water, then migrate to salt water where they return to the Sargasso Sea to reproduce. The only catadromous fish in Connecticut is the American eel, which are found in all waterbodies in Connecticut except for the following locations:

- East Branch Farmington River and tributaries upstream of the Saville Dam in Barkhamsted.
- West Branch Farmington River and tributaries upstream of the Goodwin Dam in Hartland.
- Shepaug River and tributaries upstream of the Shepaug Reservoir Dam in Warren.

CONDITIONS AND TIME OF YEAR RESTRICTIONS (TOYRs) TO PROTECT ANADROMOUS FISH

These GPs use conservation recommendations to minimize adverse impact to anadromous fish in Connecticut waterways. **The following conditions are required for work under Self-Verification**:

- Unconfined, in-stream work, not including installation and removal of cofferdams, is limited to the low-flow period, July 1 – September 30 unless the agencies require a different resource-driven time of year restriction.
- In-water work is prohibited from April 1 to June 30 unless it occurs behind a cofferdam (see above).
- In non-tidal streams, controls shall only be installed and removed during the approved window for work (July 1 – March 31) and must not encroach >25% of the stream width measured from OHW during the prohibited work window.

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

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Tammy Turley, Regulatory Division
U.S. Army Corps of Engineers New England District
696 Virginia Road
Concord, MA 01742-2751

RE: **SECTION 401 WATER QUALITY CERTIFICATION**
Department of the Army
General Permits for the State of Connecticut 2021
CT DEEP License No.: WQC-202108351 (Non-Tidal),
WQC-202108352 (Tidal) & FCC-202108353

NON-TIDAL WATERS, WETLANDS AND WATERCOURSES

Pursuant to Section 401 of the Federal Clean Water Act (33 USC 1341), and except for those activities specifically waived or denied herein, Water Quality Certification is hereby **granted with conditions** for activities that comport with the water quality standards contained within section 22a-426-1 et seq. of the Regulations of Connecticut State Agencies and with terms, limitations and conditions specified in this Certification for the Department of the Army, Regional General Permits for the State of Connecticut ("RGPs"), dated July 16th and revised July 19th, 2021 for activities, including but not limited to, the construction or operation of facilities, which may result in any discharge into the waters of the State. Such terms, limitations and conditions of this permit are outlined in the **General Terms and Conditions** contained herein.

This certification does not apply in cases where the Commissioner has deemed an activity to have greater than minimal direct, indirect, secondary or cumulative impacts to state waters.

Pursuant to Section 401 of the Federal Clean Water Act (33 USC 1341), Water Quality Certification is hereby **waived** in entirety for GP 10., GP 11., GP 12., GP 13., GP 14. and GP 15.

Further, the following limited activities that are potentially authorized by this RGP are **not eligible** for Section 401 Water Quality Certification under this general permit certification and will instead require an individual 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 [(1)], Threatened, Endangered, or Special Concern Species [(2)], Significant Natural Communities/Critical Habitats [(2)] identified by the Connecticut Natural Diversity Database.

Activities within a FEMA established floodplain that would adversely affect the hydraulic characteristics of the floodplain [(3)].

TIDAL, COASTAL AND NAVIGABLE WATERS

With respect to tidal, coastal and navigable waters, Section 401 Water Quality Certification is granted conditionally for Self-Verification (SV) and Pre-Construction Notification (PCN) eligible activities. The conditional granting of Section 401 Water Quality Certification for SV and PCN eligible activities is subject to the applicant obtaining the appropriate Structures, Dredging and Fill authorization, Tidal Wetland authorization, or Coastal Consistency Concurrence, and the Commissioner finding that the activity is reasonably likely to have no more than minimal impact on water quality individually or cumulatively. Substantive evaluations of consistency of individual activities, listed under the GP in Section 2, paragraph II. with state water quality standards and coastal management policies will be conducted at the time of application.

Pursuant to Section 307(c)(1) of the Coastal Zone Management Act the proposed regional general permits were reviewed and determined to be consistent with the enforceable policies of Connecticut's federally approved Coastal Management Program as contained in Sections 22a-90 through 22a-112 of the Connecticut General Statutes

GENERAL TERMS AND CONDITIONS

Section 401 Water Quality Certification **granted with the following conditions** for **NON-TIDAL WATERS, WETLANDS and WATERCOURSES**, and **TIDAL, COASTAL and NAVIGABLE WATERS:**

1. **Activities in Non-tidal Waters**. A written determination of concurrence of eligibility for Section 401 Water Quality Certification prior to the start of construction from the Commissioner is required for all Pre-Construction Notification (PCN) for non-tidal activities. Applicants seeking a written concurrence of eligibility for PCN activities must submit an application to the Connecticut Department of Energy and Environmental Protection (CT DEEP) on

such form as the Commissioner may prescribe and with such information as the Commissioner deems necessary to fulfill the purposes of Section 401 of the Federal Clean Water Act and to determine compliance with the conditions of this Water Quality Certification. Upon completion of the review and evaluation of such application, the Commissioner will issue either a written concurrence of eligibility determination of Section 401 Certification upon such terms, limitations or conditions as the Commissioner deems necessary, or a written determination that an individual Section 401 Water Quality Certification is required for the proposed activity or activities. CT DEEP shall give the applicant a written concurrence of eligibility or a notification that the applicant must obtain an individual 401 Water Quality Certification within 120 days of receiving a complete request for a concurrence of eligibility.

2. **Best Management Practices.** In constructing or maintaining the activities authorized herein, the permittee shall employ best management practices in accordance with Section 22a-426-1 of the Regulations for Connecticut State Agencies, consistent with the terms and conditions of this certificate, to control storm water discharges and erosion and sedimentation and to prevent pollution. Such practices to be implemented by the permittee at the site include, but are not necessarily limited to:

    a. Prohibiting dumping of any quantity of oil, chemicals or other deleterious material on the ground;

    b. Immediately informing the Commissioner's Oil and Chemical Spill Response Division at (860) 424-3338 (24 hour phone line) of any adverse impact or hazard to the environment, including any discharges, spillage, or loss of oil or petroleum or chemical liquids or solids, which occurs or is likely to occur as the direct or indirect result of the activities authorized herein;

    c. Separating staging areas at the site from the regulated areas by silt fences or straw/hay bales at all times;

    d. Prohibiting storage of any fuel and refueling of equipment within twenty-five (25) feet from any wetland or watercourse;

    e. Preventing pollution of wetlands and watercourses in accordance with the document "Connecticut Guidelines for Soil Erosion and

Sediment Control" as revised. Said controls shall be inspected by the permittee for deficiencies at least once per week and immediately after each rainfall and at least daily during prolonged rainfall. The permittee shall correct any such deficiencies within 48 hours of said deficiencies being found;

f. Stabilizing disturbed soils in a timely fashion to minimize erosion. If a grading operation at the site will be suspended for a period of thirty (30) or more consecutive days, the permittee shall, within the first seven (7) days of that suspension period, accomplish seeding and mulching or take such other appropriate measures to stabilize the soil involved in such grading operation. Within seven (7) days after establishing final grade in any grading operation at the site the permittee shall seed and mulch the soil involved in such grading operation or take such other appropriate measures to stabilize such soil until seeding and mulching can be accomplished.

g. Prohibiting the storage of any materials at the site which are buoyant, hazardous, flammable, explosive, soluble, expansive, radioactive, or which could in the event of a flood be injurious to human, animal or plant life, below the elevation of the five hundred (500) year flood. Any other material or equipment stored at the site below said elevation by the permittee or the permittee's contractor must be firmly anchored, restrained or enclosed to prevent flotation. The quantity of fuel stored below such elevation for equipment used at the site shall not exceed the quantity of fuel that is expected to be used by such equipment in one day.

h. Immediately informing the Commissioner's Land & Water Resources Division at (860) 424-3019 and the U.S. Army Corps of Engineers' Permit Compliance Section at (617) 647-8674, of the occurrence of pollution or other environmental damage resulting from construction or maintenance of the authorized activity or any construction associated therewith in violation of this certificate. The permittee shall, no later than 48 hours after the permittee learns of a violation of this certificate, report same in writing to the Commissioner. Such report shall contain the following information:

(i) the provision(s) of this certificate that has/have been violated;
(ii) the date and time the violation(s) was first observed and by whom;

(iii) the cause of the violation(s), if known
(iv) if the violation(s) has ceased, the duration of the violation(s) and the exact date(s) and times(s) it was corrected;
(v) if the violation(s) has not ceased, the anticipated date when it will be corrected;
(vi) steps taken and steps planned to prevent a reoccurrence of the violation(s) and the date(s) such steps were implemented or will be implemented;
(vii) the signatures of the permittee and of the individual(s) responsible for actually preparing such report, each of whom shall certify said report in accordance with condition 7 of this certificate.

For information and technical assistance, contact the Land & Water Resources Division at (860) 424-3019.

3. **Inspection of the Facility or Activity, Adaptive Best Management Practices & Compliance with Conditions**. The concurrence of eligibility letters for Pre-Construction Notifications will be considered the initial inspection of the facility or activity for the purpose of determining whether the discharge from the certified project may violate this certification. The concurrence of eligibility letters may also address the remedial actions necessary in order to be considered to be compliance with this certification.

   In the event that Best Management Practices employed to maintain compliance with the conditions of this Water Quality Certificate, as described in paragraph 2 above, have been found to be insufficient to protect existing and designated uses of waters such as propagation of fish, shellfish and wildlife, recreation, public water supply, and agriculture, industrial use and navigation, and the water quality necessary for their protection, such permittee shall employ additional or alternative adaptive best management practices to protect water quality.

   All work and all activities authorized herein conducted by the permittee at the site shall be consistent with the terms and conditions of this certificate. Upon initiation of the activities authorized herein, the permittee thereby accepts and agrees to comply with the terms and conditions of this Water Quality Certificate.

4. **Rights.** This certificate is subject to and does not derogate any present or future property rights or other rights or powers of the State of Connecticut, and conveys no property rights in real estate or material nor any exclusive privileges, and is further

subject to any and all public and private rights and to any federal, state, or local laws or regulations pertinent to the property or activity affected hereby. This certification does not comprise the permits or approvals as may be required by Chapters 440, 446i, 446j and 446k of the Connecticut General Statutes.

5. **Expiration of Certificate.** The Section 401 Water Quality Certifications contained herein shall be valid until such time as the Department of the Army Regional General Permits for the State of Connecticut expires or is modified, suspended, revoked or reissued.

6. **Transfer of Certificate.** This authorization is not transferable without the written consent of the Commissioner.

7. **Reliance on Application.** In evaluating the permittee's application, the Commissioner has relied on information provided by the permittee. If such information subsequently proves to be false, deceptive, and incomplete or in accurate, this certificate may be modified, suspended or revoked.

8. **Installation and Removal of Confining Structures.** Confinement of a work area by cofferdam techniques using sand bag placement, sheet pile installation (vibratory method only), portadam, or similar confinement devices is allowed any time of the year unless specifically prohibited by a permit condition. The removal of such confinement devices is allowed any time of the year unless specifically prohibited by a permit condition. Once a work area has been confined, in-water work within the confined area is allowed any time of the year. The confinement technique used shall completely isolate and protect the confined area from all flowing water. The use of silt boom/curtain or similar technique as a means for confinement is prohibited.

9. **Certification of Documents.** Any document, including but not limited to any notice, which is required to be submitted to the Commissioner under this certificate shall be signed by the permittee, a responsible corporate officer of the permittee, a general partner of the permittee , or a duly authorized representative of the permittee and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows:

> "I have personally examined and am familiar with the information submitted in this document and all attachments and certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief , and I

understand that any false statement made in this document or its attachments may be punishable as a criminal offense in accordance with Section 22a-6 under Section 53a-157 of the Connecticut General Statutes."

10. **Submission of Documents.** The date of submission to the Commissioner of any document required by this certificate shall be the date such document is received by the Commissioner. Except as otherwise specified in this certificate, the word "day" as used in this certificate means the calendar day. Any document or action which falls on a Saturday, Sunday, or legal holiday shall be submitted or performed by the next business day thereafter.

    Any document or notice required to be submitted to the Commissioner under this certificate shall, unless otherwise specified in writing by the Commissioner, be directed to:

    Director, Land & Water Resources Division
    Bureau of Water Protection and Land Reuse
    Department of Energy & Environmental Protection
    79 Elm Street
    Hartford, Connecticut 06106-5127

Issued by the Commissioner of Energy & Environmental Protection on November 1, 2021

Betsey C. Wingfield
Deputy Commissioner

CC: Diane M. Ray, US ACE NED
Kevin Kotelly, US ACE NED
Nathaniel Margason, US EPA Region 1
Jacqueline LeClair, US EPA Region 1

DEFINITIONS

(l) **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 the RGP:

Bog: a peat accumulating wetland dominated by sphagnum moss. Typical plant species include sphagnum moss, leatherleaf, black spruce, pitcher plant and s u n d e w .

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 supporting 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.

(2) **Threatened, Endangered or Special Concern Species; Significant Natural Communities/Critical Habitats:** Species listed by CT DEEP 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 .

(3) **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.

Construction Contracts - Required Contract Provisions
(FHWA and State Funded Contracts)

Index

1. Federal Highway Administration (FHWA) Form 1273 (Revised October 2023)

2. Title VI of the Civil Rights Act of 1964 / Nondiscrimination Requirements

3. Requirements of Title 49, CFR, Part 26, Participation by DBEs

4. Contract Wage Rates

5. Americans with Disabilities Act of 1990, as Amended

6. Connecticut Statutory Labor Requirements

    a. Construction, Alteration or Repair of Public Works Projects; Wage Rates
    b. Debarment List - Limitation on Awarding Contracts
    c. Construction Safety and Health Course
    d. Awarding of Contracts to Occupational Safety and Health Law Violators Prohibited
    e. Residents Preference in Work on Other Public Facilities (Not Applicable to Federal Aid Contracts)

7. Tax Liability - Contractor's Exempt Purchase Certificate (CERT – 141)

8. Executive Orders (State of CT)

9. Non-Discrimination Requirement and Certification
(pursuant to section 4a-60 and 4a- 60a of the Connecticut General Statutes, as revised)

10. Whistleblower Provision

11. Connecticut Freedom of Information Act

    a. Disclosure of Records
    b. Confidential Information

12. Service of Process

13. Substitution of Securities for Retainages on State Contracts and Subcontracts

14. Health Insurance Portability and Accountability Act of 1996 (HIPAA)

15. Forum and Choice of Law

16. Summary of State Ethics Laws
17. Audit and Inspection of Plants, Places of Business and Records
18. Campaign Contribution Restriction
19. Tangible Personal Property
20. Bid Rigging and/or Fraud – Notice to Contractor
21. Consulting Agreement Representation
22. Federal Cargo Preference Act Requirements (46 CFR 381.7(a)-(b))
23. Sovereign Immunity
24. Large State Contract Representation for Contractor
25. Large State Contract Representation for Official or Employee of State Agency
26. Iran Energy Investment Certification
27. Access to Contract and State Data
28. Affirmative Action Policy Statement
29. Compliance with Consumer Data Privacy and Online Monitoring

Index of Exhibits

EXHIBIT A - FHWA Form 1273 (Begins on page 17)
EXHIBIT B - Title VI Contractor Assurances (page 31)
EXHIBIT C - Health Insurance Portability and Accountability Act of 1996 (HIPAA) (page 33)
EXHIBIT D - Affirmative Action Policy Statement (page 41)
EXHIBIT E - State Wage Rates & Other Related Information (Attached at the end)
EXHIBIT F - Federal Wage Rates (Attached at the end)

1. Federal Highway Administration (FHWA) Form 1273

The Contractor shall comply with the Federal Highway Administration (FHWA), Form 1273 attached at Exhibit A, as revised, which is hereby made part of this contract. The Contractor shall also require its subcontractors to comply with the FHWA – Form 1273 and include the FHWA – Form 1273 as an attachment to all subcontracts and purchase orders.

2. Title VI of the Civil Rights Act of 1964 / Nondiscrimination Requirements

The Contractor shall comply with Title VI of the Civil Rights Act of 1964 as amended (42 U.S.C. 2000 et seq.), all requirements imposed by the regulations of the United States Department of Transportation (49 CFR Part 21) issued in implementation thereof, and the Title VI Contractor Assurances attached hereto at Exhibit B, all of which are hereby made a part of this Contract.

3. Requirements of Title 49, Code of Federal Regulations (CFR), Part 26, Participation by DBEs, as may be revised.

Pursuant to 49 CFR 26.13, the following paragraph is part of this Contract and shall be included in each subcontract the Contractor enters into with a subcontractor:

"The Contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26, Participation by DBEs, in the award and administration of U.S. DOT-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this contract or such other remedy as ConnDOT (recipient) deems appropriate, which may include, but is not limited to: (1) Withholding monthly progress payments, (2) Assessing sanctions, (3) Liquidated damages; and/or, (4) Disqualifying the contractor from future bidding as non-responsible."

4. Contract Wage Rates

The Contractor shall comply with:

The Federal and State wage rate requirements indicated in Exhibits F and G hereof, as revised, are hereby made part of this Contract. The Federal wage rates (Davis-Bacon Act) applicable to this Contract shall be the Federal wage rates that are current on the US Department of Labor website (http://www.wdol.gov/dba.aspx) as may be revised 10 days prior to bid opening. These applicable Federal wage rates will be physically incorporated in the final contract document executed by both parties. The Department will no longer physically include revised Federal wage rates in the bid documents or as part of addenda documents, prior to the bid opening date. During the bid advertisement period, bidders are responsible for obtaining the appropriate Federal wage rates from the US Department of Labor website.

To obtain the latest Federal wage rates go to the US Department of Labor website (link above). Under Davis-Bacon Act, choose "Selecting DBA WDs" and follow the instruction to search the latest wage rates for the State, County and Construction Type. Refer to the Notice to Contractor (NTC) - Federal Wage Determinations (Davis Bacon Act).

If a conflict exists between the Federal and State wage rates, the higher rate shall govern.

Prevailing Wages for Work on State Highways; Annual Adjustments. With respect to contracts for work on state highways and bridges on state highways, the Contractor shall comply with the provisions of Section 31-54 and 31-55a of the Connecticut General Statutes, as revised.

As required by Section 1.05.12 (Payrolls) of the State of Connecticut, Department of Transportation's Standard Specification for Roads, Bridges and Incidental Construction (FORM 819), as may be revised, every Contractor or subcontractor performing project work on a Federal aid project is required to post the relevant prevailing wage rates as determined by the United States Secretary of Labor. The wage rate determinations shall be posted in prominent and easily accessible places at the work site.

5. Americans with Disabilities Act of 1990, as Amended

This provision applies to those Contractors who are or will be responsible for compliance with the terms of the Americans with Disabilities Act of 1990, as amended (42 U.S.C. 12101 et seq.), (Act), during the term of the Contract. The Contractor represents that it is familiar with the terms of this Act and that it is in compliance with the Act. Failure of the Contractor to satisfy this standard as the same applies to performance under this Contract, either now or during the term of the Contract as it may be amended, will render the Contract voidable at the option of the State upon notice to the contractor. The Contractor warrants that it will hold the State harmless and indemnify the State from any liability which may be imposed upon the State as a result of any failure of the Contractor to be in compliance with this Act, as the same applies to performance under this Contract.

6. Connecticut Statutory Labor Requirements

(a) Construction, Alteration or Repair of Public Works Projects; Wage Rates. The Contractor shall comply with Section 31-53 of the Connecticut General Statutes, as revised. The wages paid on an hourly basis to any person performing the work of any mechanic, laborer or worker on the work herein contracted to be done and the amount of payment or contribution paid or payable on behalf of each such person to any employee welfare fund, as defined in subsection (i) of section 31-53 of the Connecticut General Statutes, shall be at a rate equal to the rate customary or prevailing for the same work in the same trade or occupation in the town in which such public works project is being constructed. Any contractor who is not obligated by agreement to make payment or contribution on behalf of such persons to any such employee welfare fund shall pay to each mechanic, laborer or worker as part of such person's wages the amount of payment or contribution for such person's classification on each pay day.

(b) Debarment List. Limitation on Awarding Contracts. The Contractor shall comply with Section 3l-53a of the Connecticut General Statutes, as revised.

(c) Construction Safety and Health Course. The Contractor shall comply with section 31-53b of the Connecticut General Statutes, as revised. The contractor shall furnish proof to the Labor Commissioner with the weekly certified payroll form for the first week each employee begins work on such project that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53 of the Connecticut General Statutes, as revised, on such public works project, pursuant to such contract, has completed a course of at least ten hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 48 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268.

Any employee required to complete a construction safety and health course as required that has not completed the course, shall have a maximum of fourteen (14) days to complete the course. If the employee has not been brought into compliance, they shall be removed from the project until such time as they have completed the required training.

Any costs associated with this notice shall be included in the general cost of the contract. In addition, there shall be no time granted to the contractor for compliance with this notice. The contractor's compliance with this notice and any associated regulations shall not be grounds for claims as outlined in Section 1.11 – "Claims".

(d) Awarding of Contracts to Occupational Safety and Health Law Violators Prohibited. The Contract is subject to Section 31-57b of the Connecticut General Statutes, as revised.

(e) Residents Preference in Work on Other Public Facilities. NOT APPLICABLE TO FEDERAL AID CONTRACTS. Pursuant to Section 31-52a of the Connecticut General Statutes, as revised, in the employment of mechanics, laborers or workmen to perform the work specified herein, preference shall be given to residents of the state who are, and continuously for at least six months prior to the date hereof have been, residents of this state, and if no such person is available, then to residents of other states.

7. Tax Liability - Contractor's Exempt Purchase Certificate (CERT – 141)

The Contractor shall comply with Chapter 219 of the Connecticut General Statutes pertaining to tangible personal property or services rendered that is/are subject to sales tax. The Contractor is responsible for determining its tax liability. If the Contractor purchases materials or supplies pursuant to the Connecticut Department of Revenue Services' "Contractor's Exempt Purchase Certificate (CERT-141)," as may be revised, the Contractor acknowledges and agrees that title to such materials and supplies installed or placed in the project will vest in the State simultaneously with passage of title from the retailers or vendors thereof, and the Contractor will have no property rights in the materials and supplies purchased.

Forms and instructions are available anytime by:

Internet: Visit the DRS website at www.ct.gov/DRS to download and print Connecticut tax forms; or **Telephone**: Call 1-800-382-9463 (Connecticut calls outside the Greater Hartford calling area only) and select Option 2 or call 860-297-4753 (from anywhere).

8. Executive Orders and Other Enactments

(a) All references in this Contract to any Federal, State, or local law, statute, public or special act, executive order, ordinance, regulation or code (collectively, "Enactments") shall mean Enactments that apply to the Contract at any time during its term, or that may be made applicable to the Contract during its term. This Contract shall always be read and interpreted in accordance with the latest applicable wording and requirements of the Enactments. Unless otherwise provided by Enactments, the Contractor is not relieved of its obligation to perform under this Contract if it chooses to contest the applicability of the Enactments or the Client Agency's authority to require compliance with the Enactments.

(b) This Contract is subject to the provisions of Executive Order No. Three of Governor Thomas J. Meskill, promulgated June 16, 1971, concerning labor employment practices, Executive Order No. Seventeen of Governor Thomas J. Meskill, promulgated February 15, 1973, concerning the listing of employment openings and Executive Order No. Sixteen of Governor John G. Rowland promulgated August 4, 1999, concerning violence in the workplace, all of which are incorporated into and are made a part of this Contract as if they had been fully set forth in it.

(c) This Contract may be subject to (1) Executive Order No. 14 of Governor M. Jodi Rell, promulgated April 17, 2006, concerning procurement of cleaning products and services; and (2) Executive Order No. 61 of Governor Dannel P. Malloy promulgated December 13, 2017, concerning the Policy for the Management of State Information Technology Projects, as issued by the Office of Policy and Management, Policy ID IT-SDLC-17-
04. If any of the Executive Orders referenced in this subsection is applicable, it is deemed to be incorporated into and made a part of this Contract as if fully set forth in it.

9. Non-Discrimination Requirement and Certification (pursuant to section 4a-60 and 4a-60a o f the Connecticut General Statutes, as revised): References to "minority business enterprises" in this Section are not applicable to Federal-aid projects/contracts. Federal-aid projects/contracts are instead subject to the Federal Disadvantaged Business Enterprise Program.

(a) For purposes of this Section, the following terms are defined as follows:

i. "Commission" means the Commission on Human Rights and Opportunities;

ii. "Contract" and "contract" include any extension or modification of the Contract or contract;

iii. "Contractor" and "contractor" include any successors or assigns of the Contractor or contractor;

iv. "Gender identity or expression" means a person's gender-related identity, appearance or behavior, whether or not that gender-related identity, appearance or behavior is different from that traditionally associated with the person's physiology or assigned sex at birth, which gender-related identity can be shown by providing evidence including, but not limited to, medical history, care or treatment of the gender-related identity, consistent and uniform assertion of the gender-related identity or any other evidence that the gender-related identity is sincerely held, part of a person's core identity or not being asserted for an improper purpose;

v. "good faith" means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations;

vi. "good faith efforts" includes, but is not limited to, those reasonable initial efforts necessary to comply with statutory or regulatory requirements and additional or substituted efforts when it is determined that such initial efforts will not be sufficient to comply with such requirements;

vii. "marital status" means being single, married as recognized by the state of Connecticut, widowed, separated or divorced;

viii. "mental disability" means one or more mental disorders, as defined in the most recent edition of the American Psychiatric Association's "Diagnostic and Statistical Manual of Mental Disorders", or a record of or regarding a person as having one or more such disorders;

ix. "minority business enterprise" means any small contractor (1) fifty-one per cent or more of the capital stock, if any, or assets of which are owned by a person or persons who (a) exercise operational authority over the daily affairs of the enterprise, (b) have the power to direct the management and policies and receive the beneficial interest of the enterprise, (c) possess managerial and technical competence and experience directly related to the principal business activities of the enterprise, and (d) are members of a minority, as defined in C.G.S. § 32-9n, or are individuals with a disability, or (2) which is a nonprofit corporation in which fifty-one per cent or more of the persons who exercise operational authority over the enterprise, (a) possess managerial and technical competence and experience directly related to the principal business activities of the enterprise, (b) have the power to direct the management and policies of the enterprise, and (c) are member of a minority, as defined in C.G.S. § 32-9n, or are individuals with a disability; and

x. "public works contract" means any agreement (A) for construction, rehabilitation, conversion, extension, demolition or repair of changes or improvements in real property, and (B) that is financed in whole or in part by the state, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees where such funding equals one hundred fifty thousand dollars or more.

For purposes of this Section, the terms “Contract” and “contract” do not include a contract where each contractor is (1) a political subdivision of the state, including, but not limited to, a municipality, unless the contract is a public works contract, (2) any other state, including but not limited to any federally recognized Indian tribal governments, as defined in C.G.S. § 1-267, (3) the federal government, (4) a foreign government, or (5) an agency of a subdivision, state or government described in the immediately preceding enumerated items (1), (2), (3),or (4).

(b) (1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, sexual orientation, gender identity or expression, status as a veteran, status as a victim of domestic violence, status as a victim of sexual assault or status as a victim of trafficking in persons, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the State of Connecticut; and the Contractor further agrees to take affirmative action to ensure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, sexual orientation, status as a veteran, status as a victim of domestic violence, status as a victim of sexual assault or status as a victim of trafficking in persons,

intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by the Contractor that such disability prevents performance of the work involved;

(2) the Contractor agrees, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, to state that it is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the Commission;

(3) the Contractor agrees to provide each labor union or representative of workers with which the Contractor has a collective bargaining Agreement or other contract or understanding and each vendor with which the Contractor has a contract or understanding, a notice to be provided by the Commission, advising the labor union or workers' representative of the Contractor's commitments under this Section and to post copies of the notice in conspicuous places available to employees and applicants for employment;

(4) the Contractor agrees to comply with each provision of this Section and Connecticut General Statutes §§ 46a-68e and 46a-68f and with each regulation or relevant order issued by said Commission pursuant to Connecticut General Statutes §§ 46a-56, 46a-68e, 46a-68f and 46a-86; and

(5) the Contractor agrees to provide the Commission with such information requested by the Commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor as relate to the provisions of this Section and Connecticut General Statutes § 46a-56. If the contract is a public works contract, the Contractor agrees and warrants that he or she will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works projects.

(c) Determination of the Contractor's good faith efforts shall include, but shall not be limited to, the following factors: The Contractor's employment and subcontracting policies, patterns and practices; the timing and value of bids; affirmative advertising, recruitment and training; technical assistance activities and such other reasonable activities or efforts as the Commission may prescribe that are designed to ensure the participation of minority business enterprises in public works projects.

(d) The Contractor shall develop and maintain adequate documentation, in a manner prescribed by the Commission, of its good faith efforts.

(e) The Contractor shall include the provisions of subsection (b) of this Section in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State, and in every subcontract entered into in order to fulfill any obligation of a public works contract, and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the Commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions, including sanctions for noncompliance in accordance with Connecticut General Statutes § 46a-56; provided, if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission, the Contractor may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.

(f) The Contractor agrees to comply with the regulations referred to in this Section as they exist on the date of this Contract and as they may be adopted or amended from time to time during the term of this Contract and any amendments thereto.

(g) Pursuant to subsection (c) of section 4a-60 of the Connecticut General Statutes, the Contractor, for itself and its authorized signatory of this Contract, affirms that it understands the obligations of this Section and that it will maintain a policy for the duration of the Contract to assure that the Contract will be performed in compliance with the nondiscrimination requirements of such section. The Contractor and its authorized signatory of this Contract demonstrate their understanding of this obligation by (A) having provided an affirmative response in the required online bid or response to a proposal question which asks if the contractor understands its obligations under such sections, (B) signing this Contract, or (C) initialing this nondiscrimination affirmation in the following box: ☐

10. Whistleblower Provision

The following clause is applicable if the Contract has a value of Five Million Dollars ($5,000,000) or more.

Whistleblowing. This Contract may be subject to the provisions of Section 4-61dd of the Connecticut General Statutes. In accordance with this statute, if an officer, employee or appointing authority of the Contractor takes or threatens to take any personnel action against any employee of the Contractor in retaliation for such employee's disclosure of information to any employee of the contracting state or quasi-public agency or the Auditors of Public Accounts or the Attorney General under the provisions of subsection (a) of such statute, the Contractor shall be liable for a civil penalty of not more than five thousand dollars for each offense, up to a maximum of twenty per cent of the value of this Contract. Each violation shall be a separate and distinct offense and in the case of a continuing violation, each calendar day's continuance of the violation shall be deemed to be a separate and distinct offense. The State may request that the Attorney General bring a civil action in the Superior Court for the Judicial District of Hartford to seek imposition and recovery of such civil penalty. In accordance with subsection (f) of such statute, each large state contractor, as defined in the statute, shall post a notice of the provisions of the statute relating to large state contractors in a conspicuous place which is readily available for viewing by the employees of the Contractor.

11. Connecticut Freedom of Information Act

(a) Disclosure of Records. This Contract may be subject to the provisions of section 1-218 of the Connecticut General Statutes. In accordance with this statute, each contract in excess of two million five hundred thousand dollars between a public agency and a person for the performance of a governmental function shall (a) provide that the public agency is entitled to receive a copy of records and files related to the performance of the governmental function, and (b) indicate that such records and files are subject to FOIA and may be disclosed by the public agency pursuant to FOIA. No request to inspect or copy such records or files shall be valid unless the request is made to the public agency in accordance with FOIA. Any complaint by a person who is denied the right to inspect or copy such records or files shall be brought to the Freedom of Information Commission in accordance with the provisions of sections 1-205 and 1-206 of the Connecticut General Statutes.

(b) Confidential Information. The State will afford due regard to the Contractor's request for the protection of proprietary or confidential information which the State receives from the Contractor. However, all materials associated with the Contract are subject to the terms of the FOIA and all corresponding rules, regulations and

interpretations. In making such a request, the Contractor may not merely state generally that the materials are proprietary or confidential in nature and not, therefore, subject to release to third parties. Those particular sentences, paragraphs, pages or sections that the Contractor believes are exempt from disclosure under the FOIA must be specifically identified as such. Convincing explanation and rationale sufficient to justify each exemption consistent with the FOIA must accompany the request. The rationale and explanation must be stated in terms of the prospective harm to the competitive position of the Contractor that would result if the identified material were to be released and the reasons why the materials are legally exempt from release pursuant to the FOIA. To the extent that any other provision or part of the Contract conflicts or is in any way inconsistent with this section, this section controls and shall apply, and the conflicting provision or part shall not be given effect. If the Contractor indicates that certain documentation is submitted in confidence, by specifically and clearly marking the documentation as "CONFIDENTIAL," DOT will first review the Contractor's claim for consistency with the FOIA (that is, review that the documentation is actually a trade secret or commercial or financial information and not required by statute), and if determined to be consistent, will endeavor to keep such information confidential to the extent permitted by law. See, *e.g.*, Conn. Gen. Stat. §1- 210(b)(5) (A-B). The State, however, has no obligation to initiate, prosecute or defend any legal proceeding or to seek a protective order or other similar relief to prevent disclosure of any information that is sought pursuant to a FOIA request. Should the State withhold such documentation from a Freedom of Information requester and a complaint be brought to the Freedom of Information Commission, the Contractor shall have the burden of cooperating with DOT in defense of that action and in terms of establishing the availability of any FOIA exemption in any proceeding where it is an issue. In no event shall the State have any liability for the disclosure of any documents or information in its possession which the State believes are required to be disclosed pursuant to the FOIA or other law.

12. Service of Process

The Contractor, if not a resident of the State of Connecticut, or, in the case of a partnership, the partners, if not residents, hereby appoints the Secretary of State of the State of Connecticut, and his successors in office, as agent for service of process for any action arising out of or as a result of this Contract; such appointment to be in effect throughout the life of this Contract and six (6) years thereafter.

13. Substitution of Securities for Retainages on State Contracts and Subcontracts

This Contract is subject to the provisions of Section 3-ll2a of the General Statutes of the State of Connecticut, as revised.

14. Health Insurance Portability and Accountability Act of 1996 (HIPAA)

The Contractor shall comply, if applicable, with the Health Insurance Portability and Accountability Act of 1996 and, pursuant thereto, the provisions attached at Exhibit D, and hereby made part of this Contract.

15. Forum and Choice of Law

The parties deem the Contract to have been made in the City of Hartford, State of Connecticut. Both parties agree that it is fair and reasonable for the validity and construction of the Contract to be, and it shall be, governed by the laws and court decisions of the State of Connecticut, without giving effect to its principles of conflicts of laws. To the extent that any immunities provided by Federal law or the laws of the State of Connecticut do not bar an action against the State, and to the extent that these courts are courts of competent jurisdiction, for the purpose of venue, the complaint shall be made returnable to the Judicial District of Hartford only or shall be brought in the United States District Court for the District of Connecticut only, and shall not be transferred to any other court, provided, however, that nothing here constitutes a waiver or compromise of the sovereign immunity of the State of Connecticut. The Contractor waives any objection which it may now have or will have to the laying of venue of any Claims in any forum and further irrevocably submits to such jurisdiction in any suit, action or proceeding.

16. Summary of State Ethics Laws

Pursuant to the requirements of section 1-101qq of the Connecticut General Statutes (a) the State has provided to the Contractor the summary of State ethics laws developed by the Office of State Ethics pursuant to section 1-81b of the Connecticut General Statutes, which summary is incorporated by reference into and made a part of this Contract as if the summary had been fully set forth in this Contract; (b) the Contractor represents that the chief executive officer or authorized signatory of the Contract and all key employees of such officer or signatory have read and understood the summary and agree to comply with the provisions of state ethics law; (c) prior to entering into a contract with any subcontractors or consultants, the Contractor shall provide the summary to all subcontractors and consultants and each such contract entered into with a subcontractor or consultant on or after July 1, 2021, shall include a representation that each subcontractor or consultant and the key employees of such subcontractor or consultant have read and understood the summary and agree to comply with the provisions of state ethics law; (d) failure to include such representations in such contracts with subcontractors or consultants shall be cause for termination of the Contract; and (e) each contract with such contractor, subcontractor or consultant shall incorporate such summary by reference as a part of the contract terms.

17. Audit and Inspection of Plants, Places of Business and Records

(a) The State and its agents, including, but not limited to, the Connecticut Auditors of Public Accounts, Attorney General and State's Attorney and their respective agents, may, at reasonable hours, inspect and examine all of the parts of the Contractor's and Contractor Parties' plants and places of business which, in any way, are related to, or involved in, the performance of this Contract. For the purposes of this Section, "Contractor Parties" means the Contractor's members, directors, officers, shareholders, partners, managers, principal officers, representatives, agents, servants, consultants, employees or any one of them or any other person or entity with whom the Contractor is in privity of oral or written contract and the Contractor intends for such other person or entity to Perform under the Contract in any capacity.

(b) The Contractor shall maintain and shall require each of the Contractor Parties to maintain, accurate and complete Records. The Contractor shall make all of its and the Contractor Parties' Records available at all reasonable hours for audit and inspection by the State and its agents.

(c) The State shall make all requests for any audit or inspection in writing and shall provide the Contractor with at least twenty-four (24) hours' notice prior to the requested audit and inspection date. If the State suspects fraud or other abuse, or in the event of an emergency, the State is not obligated to provide any prior notice.

(d) The Contractor shall keep and preserve or cause to be kept and preserved all of its and Contractor Parties' Records until three (3) years after the latter of (i) final payment under this Agreement, or (ii) the expiration or earlier termination of this Agreement, as the same may be modified for any reason. The State may request an audit or inspection at any time during this period. If any Claim or audit is started before the expiration of this period, the Contractor shall retain or cause to be retained all Records until all Claims or audit findings have been resolved.

(e) The Contractor shall cooperate fully with the State and its agents in connection with an audit or inspection. Following any audit or inspection, the State may conduct, and the Contractor shall cooperate with an exit conference.

(f) The Contractor shall incorporate this entire Section verbatim into any contract or other agreement that it enters into with any Contractor Party.

18. Campaign Contribution Restriction

Campaign Contribution Restriction. For all State contracts, defined in section 9-612 of the Connecticut General Statutes as having a value of $50,000 or more, or a combination or series of such agreements or contracts having a value of $100,000 or more in a calendar year, the authorized signatory to this Agreement represents that they have received the State Elections Enforcement Commission's notice advising state contractors of state campaign contribution and solicitation prohibitions, and will inform its principals of the contents of the notice.

19. Tangible Personal Property

(a) The Contractor on its behalf and on behalf of its Affiliates, as defined below, shall comply with the provisions of Conn. Gen. Stat. §12-411b, as follows:

(1) For the term of the Contract, the Contractor and its Affiliates shall collect and remit to the State of Connecticut, Department of Revenue Services, any Connecticut use tax due under the provisions of Chapter 219 of the Connecticut General Statutes for items of tangible personal property sold by the Contractor or by any of its Affiliates in the same manner as if the Contractor and such Affiliates were engaged in the business of selling tangible personal property for use in Connecticut and had sufficient nexus under the provisions of Chapter 219 to be required to collect Connecticut use tax;

(2) A customer's payment of a use tax to the Contractor or its Affiliates relieves the customer of liability for the use tax;

(3) The Contractor and its Affiliates shall remit all use taxes they collect from customers on or before the due date specified in the Contract, which may not be later than the last day of the month next succeeding the end of a calendar quarter or other tax collection period during which the tax was collected;

(4) The Contractor and its Affiliates are not liable for use tax billed by them but not paid to them by a customer; and

(5) Any Contractor or Affiliate who fails to remit use taxes collected on behalf of its customers by the due date specified in the Contract shall be subject to the interest and penalties provided for persons required to collect sales tax under chapter 219 of the general statutes.

(b) For purposes of this section of the Contract, the word "Affiliate" means any person, as defined in section 12-1 of the general statutes, that controls, is controlled by, or is under common control with another person. A person controls another person if the person owns, directly or indirectly, more than ten per cent of the voting securities of the other person. The word "voting security" means a security that confers upon the holder the right to vote for the election of members of the board of directors or similar governing body of the business, or

that is convertible into, or entitles the holder to receive, upon its exercise, a security that confers such a right to vote. "Voting security" includes a general partnership interest.

(c) The Contractor represents and warrants that each of its Affiliates has vested in the Contractor plenary authority to so bind the Affiliates in any agreement with the State of Connecticut. The Contractor on its own behalf and on behalf of its Affiliates shall also provide, no later than 30 days after receiving a request by the State's contracting authority, such information as the State may require to ensure, in the State's sole determination, compliance with the provisions of Chapter 219 of the Connecticut General Statutes, including, but not limited to, §12-411b.

20. Bid Rigging and/or Fraud – Notice to Contractor

The Connecticut Department of Transportation is cooperating with the U.S. Department of Transportation and the Justice Department in their investigation into highway construction contract bid rigging and/or fraud.

A toll-free "HOT LINE" telephone number 800-424-9071 has been established to receive information from contractors, subcontractors, manufacturers, suppliers or anyone with knowledge of bid rigging and/or fraud, either past or current. The "HOT LINE" telephone number will be available during normal working hours (8:00 am – 5:00 pm EST). Information will be treated confidentially, and anonymity respected.

21. Consulting Agreement Representation

Pursuant to section 4a-81 of the Connecticut General Statutes, the person signing this Contract on behalf of the Contractor represents, to their best knowledge and belief and subject to the penalty of false statement as provided in section 53a-157b of the Connecticut General Statutes, that the Contractor has not entered into any consulting agreements in connection with this Contract, except for the agreements listed below or in an attachment to this Contract. "Consulting agreement" means any written or oral agreement to retain the services, for a fee, of a consultant for the purposes of

(A) providing counsel to a contractor, vendor, consultant or other entity seeking to conduct, or conducting, business with the State, (B) contacting, whether in writing or orally, any executive, judicial, or administrative office of the State, including any department, institution, bureau, board, commission, authority, official or employee for the purpose of solicitation, dispute resolution, introduction, requests for information, or (C) any other similar activity related to such contracts. "Consulting agreement" does not include any agreements entered into with a consultant who is registered under the provisions of chapter 10 of the Connecticut General Statutes as of the date such contract is executed in accordance with the provisions of section 4a-81 of the Connecticut General Statutes.

Consultant's Name and Title _____ Name of Firm (if applicable) _____

Start Date _____ End Date _____ Cost _____

The basic terms of the consulting agreement are: _____

Description of Services Provided: _____

Is the consultant a former State employee or former public official? ☐ YES ☐ NO If YES: _____

Name of Former State Agency Termination Date of Employment

22. Cargo Preference Act Requirements (46 CFR 381.7(a)-(b)) – Use of United States Flag Vessels

The Contractor agrees to comply with the following:

(a) ***Agreement Clauses***.

(1) Pursuant to Pub. L. 664 (43 U.S.C. 1241(b)) at least 50 percent of any equipment, materials or commodities procured, contracted for or otherwise obtained with funds granted, guaranteed, loaned, or advanced by the U.S. Government under this agreement, and which may be transported by ocean vessel, shall be transported on privately owned United States-flag commercial vessels, if available.

(2) Within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (a)(1) of this section shall be furnished to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of- lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(b) ***Contractor and Subcontractor Clauses.*** The contractor agrees—

(1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

(2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean

bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

23. Sovereign Immunity

The parties acknowledge and agree that nothing in the Solicitation or the Contract shall be construed as a modification, compromise or waiver by the State of any rights or defenses of any immunities provided by Federal law or the laws of the State of Connecticut to the State or any of its officers and employees, which they may have had, now have or will have with respect to all matters arising out of the Contract. To the extent that this section conflicts with any other section, this section shall govern.

24. Large State Contract Representation for Contractor

Pursuant to section 4-252 of the Connecticut General Statutes and Acting Governor Susan Bysiewicz Executive Order No. 21-2, promulgated July 1, 2021, the Contractor, for itself and on behalf of all of its principals or key personnel who submitted a bid or proposal, represents:

(1) That no gifts were made by (A) the Contractor, (B) any principals and key personnel of the Contractor, who participate substantially in preparing bids, proposals or negotiating State contracts, or (C) any agent of the Contractor or principals and key personnel, who participates substantially in preparing bids, proposals or negotiating State contracts, to (i) any public official or State employee of the State agency or quasi- public agency soliciting bids or proposals for State contracts, who participates substantially in the preparation of bid solicitations or requests for proposals for State contracts or the negotiation or award of State contracts, or (ii) any public official or State employee of any other State agency, who has supervisory or appointing authority over such State agency or quasi-public agency;

(2) That no such principals and key personnel of the Contractor, or agent of the Contractor or of such principals and key personnel, knows of any action by the Contractor to circumvent such prohibition on gifts by providing for any other principals and key personnel, official, employee or agent of the Contractor to provide a gift to any such public official or State employee; and

(3) That the Contractor is submitting bids or proposals without fraud or collusion with any person.

25. Large State Contract Representation for Official or Employee of State Agency

Pursuant to section 4-252 of the Connecticut General Statutes and Acting Governor Susan Bysiewicz Executive Order No. 21-2, promulgated July 1, 2021, the State agency official or employee represents that the selection of the person, firm or corporation was not the result of collusion, the giving of a gift or the promise of a gift, compensation, fraud or inappropriate influence from any person.

26. Iran Investment Energy Certification

(a) Pursuant to section 4-252a of the Connecticut General Statutes, the Contractor certifies that it has not made a direct investment of twenty million dollars or more in the energy sector of Iran on or after October 1, 2013, as described in Section 202 of the Comprehensive Iran Sanctions, Accountability and Divestment Act of 2010, and has not increased or renewed such investment on or after said date.

(b) If the Contractor makes a good faith effort to determine whether it has made an investment described in subsection (a) of this section, then the Contractor shall not be deemed to be in breach of the Contract or in violation of this section.

A "good faith effort" for purposes of this subsection includes a determination that the Contractor is not on the list of persons who engage in certain investment activities in Iran created by the Department of General Services of the State of California pursuant to Division 2, Chapter 2.7 of the California Public Contract Code. Nothing in this subsection shall be construed to impair the ability of the State agency or quasi-public agency to pursue a breach of contract action for any violation of the provisions of the Contract.

27. Access to Contract and State Data

The Contractor shall provide to the Client Agency access to any data, as defined in Conn. Gen Stat. Sec. 4e-1, concerning the Contract and the Client Agency that are in the possession or control of the Contractor upon demand and shall provide the data to the Client Agency in a format prescribed by the Client Agency and the State Auditors of Public Accounts at no additional cost.

28. Affirmative Action Policy Statement

The Contractor shall comply with the Affirmative Action Policy Statement, as applicable, attached at Exhibit E and hereby made part of this Contract.

29. Compliance with Consumer Data Privacy and Online Monitoring

Pursuant to section 4e-72a of the Connecticut General Statutes, Contractor shall at all times comply with all applicable provisions of sections 42-515 to 42-525, inclusive, of the Connecticut General Statutes, as the same may be revised or modified.

EXHIBIT A

FHWA-1273 – Revised June 25, 2026

CONTRACT PROVISIONS FOR
FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Davis-Bacon and Related Act Provisions
IV. Contract Work Hours and Safety Standards Act Provisions
V. Subletting or Assigning the Contract
VI. Safety: Accident Prevention
VII. False Statements Concerning Highway Projects
VIII. Implementation of Clean Air Act and Federal Water Pollution Control Act
IX. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
X. Certification Regarding Use of Contract Funds for Lobbying
XI. Use of United States-Flag Vessels

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only).

I. GENERAL

1. Historically, contracting agencies using Federal-aid highway funds were required to ensure Form FHWA-1273 was physically incorporated into all contracts and subcontracts. Effective June 10, 2026, this requirement was eliminated [91 FR 25492]. Future use of Form FHWA-1273 is now optional on the part of the contracting agency using Federal-aid highway funds. FHWA continues to make Form FHWA-1273 available as a convenience to contracting agencies. Contracting agencies must continue to ensure compliance with the provisions cited in Form FHWA-1273 in accordance with the provisions regardless of the use of Form FHWA-1273. Accordingly, the contracting agency retains the authority to determine whether the contractor must use Form FHWA-1273 to physically incorporate required contract provisions in each subcontract and in lower tier contracts. Where permitted by the contracting agency, the contractor may choose other ways to include required contract provisions in each subcontract, besides incorporating Form FHWA-1273. Contract provisions in Form FHWA-1273 are not required to be physically included in subcontracts for design services on Federal-aid design-build contracts, or in purchase orders, rental agreements and other agreements for supplies or services.

The applicable provisions of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor or design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents.

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION

The contractor and all subcontractors must comply with the following policies: 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27, including any amendments thereto.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27, including any amendments thereto.

The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract.

1. Assurances Required:

a. The requirements of 49 CFR Part 26, including any amendments thereto, and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26, including any amendments thereto, in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

(1) Withholding monthly progress payments;
(2) Assessing sanctions;
(3) Liquidated damages; and/or
(4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E, including any amendments thereto, are incorporated by reference. 49 CFR Part 21.

III. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided,* That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH–1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is used in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the

classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to *DBAconformance@dol.gov*. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(4) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to *DBAconformance@dol.gov*, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. *Fringe benefits not expressed as an hourly rate.* Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided,* That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in § 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph 2.a. of this section or Section IV, paragraph 3.a., or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

3. Records and certified payrolls (29 CFR 5.5)

a. *Basic record requirements* (1) *Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) *Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number

of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) *Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(4) *Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. *Certified payroll requirements* (1) *Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) *Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (*e.g.,* the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH–347 or in any other format desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division website at *https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347/.pdf* or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) *Statement of Compliance.* Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3; and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) *Use of Optional Form WH–347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices* (1) *Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with 29 CFR part 30, including any amendments thereto.

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section III. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs (1) through (11) of this section, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the

contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, 18 U.S.C. 1001.

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or 29 CFR part 1 or 3; or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or 29 CFR part 1 or 3.

IV. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

* $33 as of January 15, 2025 (See 90 FR 1859) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section III paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

V. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” in paragraph 1. of this section refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;
(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph 1. of this section is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however,

contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VI. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

VIII. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of $150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

IX. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

* * * * *

3. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

* * * * *

X. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

XI. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS (40 U.S.C. sections 14501(d) and 14701 and the Appalachian Regional Commission Code as authorized under 40 U.S.C. section 14302)
This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 40 U.S.C. 14501 allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

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EXHIBIT B
TITLE VI CONTRACTOR ASSURANCES
APPENDIX A

During the performance of this contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations**: The contactor (hereinafter includes consultants) will comply with the Regulations relative to Nondiscrimination in Federally assisted programs of the United States Department of Transportation Federal Highway Administration and Federal Transit Administration, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. **Nondiscrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, national origin, sex, age, disability, income or Limited English Proficiency in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

3. **Solicitations for Subcontracts, Including Procurements of Materials** and Equipment: In all solicitations, either by bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and Acts and the Regulations relative to Non- discrimination on the grounds of race, color, or national origin.

4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the Federal Highway Administration or Federal Transit Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor will so certify to the Recipient or the Federal Highway Administration or the Federal Transit Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Non-compliance:** In the event of the contractor's non-compliance with the non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the Federal Highway Administration or the Federal Transit Administration may determine to be appropriate, including, but not limited to:

   a. withholding contract payments to the contractor under the contract until the contractor complies; and/or
   b. cancelling, terminating, or suspending a contract, in whole or in part.

6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the Federal Highway Administration or the Federal Transit Administration may direct as a means of enforcing such provisions including sanctions for non-compliance. Provided, that if the contractor becomes involved in, or is threatened with, litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

APPENDIX B

TITLE VI CONTRACTOR ASSURANCES

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following nondiscrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. § 2000d et seq.), (prohibits discrimination on the basis of race, color, national origin), as implemented by 49 C.F.R. § 21.1 et seq. and 49 C.F.R. part 303;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973 (23 U.S.C. § 324 et seq.) (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794 et seq.) (prohibits discrimination on the basis of disability); and 49 C.F.R. part 27;
- The Age Discrimination Act of 1975, as amended (42 U.S.C. § 6101 et seq.) (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982 (Pub. L. 97-248 (1982)), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (102 Stat. 28) *(" ... which restore[d] the broad scope of coverage and to clarify the application of Title IX of the Education Amendments of 1972, section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, and Title VI of the Civil Rights Act of 1964.");*
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 --12189), as implemented by Department of Justice regulations at 28 C.F.R. parts 35 and 36, and Department of Transportation regulations at 49 C.F.R. parts 37 and 38;

- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. § 1681 et seq).

EXHIBIT C

Health Insurance Portability and Accountability Act of 1996 ("HIPAA").

(a) If the Contactor is a Business Associate under the requirements of the Health Insurance Portability and Accountability Act of 1996 ("HIPAA"), the Contractor must comply with all terms and conditions of this Section of the Contract. If the Contractor is not a Business Associate under HIPAA, this Section of the Contract does not apply to the Contractor for this Contract.

(b) The Contractor is required to safeguard the use, publication and disclosure of information on all applicants for, and all clients who receive, services under the Contract in accordance with all applicable federal and state law regarding confidentiality, which includes but is not limited to HIPAA, more specifically with the Privacy and Security Rules at 45 C.F.R. Part 160 and Part 164, subparts A, C, and E; and

(c) The State of Connecticut Agency named on page 1 of this Contract (hereinafter the "Department") is a "covered entity" as that term is defined in 45 C.F.R. § 160.103; and

(d) The Contractor, on behalf of the Department, performs functions that involve the use or disclosure of "individually identifiable health information," as that term is defined in 45
C.F.R. § 160.103; and

(e) The Contractor is a "business associate" of the Department, as that term is defined in 45 C.F.R. § 160.103; and

(f) The Contractor and the Department agree to the following in order to secure compliance with the HIPAA, the requirements of Subtitle D of the Health Information Technology for Economic and Clinical Health Act (hereinafter the HITECH Act), (Pub. L. 111-5, sections 13400 to 13423), and more specifically with the Privacy and Security Rules at 45 C.F.R. Part 160 and Part 164, subparts A, C, and E.

(g) Definitions

(1) "Breach shall have the same meaning as the term is defined in section 13400 of the HITECH Act (42 U.S.C. §17921(1))

(2) "Business Associate" shall mean the Contractor.

(3) "Covered Entity" shall mean the Department of the State of Connecticut named on page 1 of this Contract.

(4) "Designated Record Set" shall have the same meaning as the term "designated record set" in 45 C.F.R. § 164.501.

(5) "Electronic Health Record" shall have the same meaning as the term is defined in section 13400 of the HITECH Act (42 U.S.C. §17921(5))

(6) "Individual" shall have the same meaning as the term "individual"' in 45 C.F.R. § 160.103 and shall include a person who qualifies as a personal representative as defined in 45 C.F.R. § 164.502(g).

(7) "Privacy Rule" shall mean the Standards for Privacy of Individually Identifiable Health Information at 45 C.F.R. part 160 and parts 164, subparts A and E.

(8) "Protected Health Information" or "PHI" shall have the same meaning as the term "protected health information" in 45 C.F.R. § 160.103, limited to information created or received by the Business Associate from or on behalf of the Covered Entity.

(9) "Required by Law"' shall have the same meaning as the term "required by law" in 45 C.F.R. § 164.103.

(10) "Secretary" shall mean the Secretary of the Department of Health and Human Services or his designee.

(11) "More stringent" shall have the same meaning as the term "more stringent" in 45 C.F.R. § 160.202.

(12) "This Section of the Contract" refers to the HIPAA Provisions stated herein, in their entirety.

(13) "Security Incident" shall have the same meaning as the term "security incident" in 45 C.F.R.§ 164.304.

(14) "Security Rule" shall mean the Security Standards for the Protection of Electronic Protected Health Information at 45 C.F.R. part 160 and parts 164, subpart A and C.

(15) "Unsecured protected health information" shall have the same meaning as the term as defined in section 13402(h)(1)(A) of HITECH. Act. (42 U.S.C. §17932(h)(1)(A)).

(h) Obligations and Activities of Business Associates.

(1) Business Associate agrees not to use or disclose PHI other than as permitted or required by this Section of the Contract or as Required by Law.

(2) Business Associate agrees to use appropriate safeguards to prevent use or disclosure of PHI other than as provided for in this Section of the Contract.

(3) Business Associate agrees to use administrative, physical and technical safeguards that reasonably and appropriately protect the confidentiality, integrity, and availability of electronic protected health information that it creates, receives, maintains, or transmits on behalf of the Covered Entity.

(4) Business Associate agrees to mitigate, to the extent practicable, any harmful effect that is known to the Business Associate of a use or disclosure of PHI by Business Associate in violation of this Section of the Contract.

(5) Business Associate agrees to report to Covered Entity any use or disclosure of PHI not provided for by this Section of the Contract or any security incident of which it becomes aware.

(6) Business Associate agrees to ensure that any agent, including a subcontractor, to whom it provides PHI received from, or created or received by Business Associate, on behalf of the Covered Entity, agrees to the same restrictions and conditions that apply through this Section of the Contract to Business Associate with respect to such information.

(7) Business Associate agrees to provide access, at the request of the Covered Entity, and in the time and manner agreed to by the parties, to PHI in a Designated Record Set, to Covered Entity or, as directed by Covered Entity, to an Individual in order to meet the requirements under 45 C.F.R. § 164.524.

(8) Business Associate agrees to make any amendments to PHI in a Designated Record Set that the Covered Entity directs or agrees to pursuant to 45 C.F.R. § 164.526 at the request of the Covered Entity, and in the time and manner agreed to by the parties.

(9) Business Associate agrees to make internal practices, books, and records, including policies and procedures and PHI, relating to the use and disclosure of PHI received from, or created or received by, Business Associate on behalf of Covered Entity, available to Covered Entity or to the Secretary in a time and manner agreed to by the parties or designated by the Secretary, for purposes of the Secretary determining Covered Entity's compliance with the Privacy Rule.

(10) Business Associate agrees to document such disclosures of PHI and information related to such disclosures as would be required for Covered Entity to respond to a request by an Individual for an accounting of disclosures of PHI in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder.

(11) Business Associate agrees to provide to Covered Entity, in a time and manner agreed to by the parties, information collected in accordance with clause h. (10) of this Section of the Contract, to permit Covered Entity to respond to a request by an Individual for an accounting of disclosures of PHI in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated

thereunder. Business Associate agrees at the Covered Entity's direction to provide an accounting of disclosures of PHI directly to an individual in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder.

(12)Business Associate agrees to comply with any state or federal law that is more stringent than the Privacy Rule.

(13) Business Associate agrees to comply with the requirements of the HITECH Act relating to privacy and security that are applicable to the Covered Entity and with the requirements of 45 C.F.R. sections 164.504(e), 164.308, 164.310, 164.312, and 164.316.

(14) In the event that an individual requests that the Business Associate (a) restrict disclosures of PHI; (b) provide an accounting of disclosures of the individual's PHI; or (c) provide a copy of the individual's PHI in an electronic health record, the Business Associate agrees to notify the covered entity, in writing, within two business days of the request.

(15) Business Associate agrees that it shall not, directly or indirectly, receive any remuneration in exchange for PHI of an individual without (1) the written approval of the covered entity, unless receipt of remuneration in exchange for PHI is expressly authorized by this Contract and (2) the valid authorization of the individual, except for the purposes provided under section 13405(d)(2) of the HITECH Act,(42 U.S.C. § 17935(d)(2)) and in any accompanying regulations

(16) Obligations in the Event of a Breach

A. The Business Associate agrees that, following the discovery of a breach of unsecured protected health information, it shall notify the Covered Entity of such breach in accordance with the requirements of section 13402 of HITECH (42 U.S.C. 17932(b) and the provisions of this Section of the Contract.
B. Such notification shall be provided by the Business Associate to the Covered Entity without unreasonable delay, and in no case later than 30 days after the breach is discovered by the Business Associate, except as otherwise instructed in writing by a law enforcement official pursuant to section 13402 (g) of HITECH (42 U.S.C. 17932(g)). A breach is considered discovered as of the first day on which it is, or reasonably should have been, known to the Business Associate. The notification shall include the identification and last known address, phone number and email address of each individual (or the next of kin of the individual if the individual is deceased) whose unsecured protected health information has been or is reasonably believed by the Business Associate to have been, accessed, acquired, or disclosed during such breach.
C. The Business Associate agrees to include in the notification to the Covered Entity at least the following information:

1. A brief description of what happened, including the date of the breach and the date of the discovery of the breach, if known.

2. A description of the types of unsecured protected health information that were involved in the breach (such as full name, Social Security number, date of birth, home address, account number, or disability code).

3. The steps the Business Associate recommends that individuals take to protect themselves from potential harm resulting from the breach.

4. A detailed description of what the Business Associate is doing to investigate the breach, to mitigate losses, and to protect against any further breaches.

5. Whether a law enforcement official has advised either verbally or in writing the Business Associate that he or she has determined that notification or notice to individuals or the posting required under section 13402 of the HITECH Act would impede a criminal investigation or cause damage to national security and; if so, include contact information for said official.

D. Business Associate agrees to provide appropriate staffing and have established procedures to ensure that individuals informed by the Covered Entity of a breach by the Business Associate have the opportunity to ask questions and contact the Business Associate for additional information regarding the breach. Such procedures shall include a toll-free telephone number, an e-mail address, a posting on its Web site and a postal address. Business Associate agrees to include in the notification of a breach by the Business Associate to the Covered Entity, a written description of the procedures that have been established to meet these requirements. Costs of such contact procedures will be borne by the Contractor.

E. Business Associate agrees that, in the event of a breach, it has the burden to demonstrate that it has complied with all notification's requirements set forth above, including evidence demonstrating the necessity of a delay in notification to the Covered Entity.

(i) Permitted Uses and Disclosure by Business Associate.

(1) General Use and Disclosure Provisions Except as otherwise limited in this Section of the Contract, Business Associate may use or disclose PHI to perform functions, activities, or services for, or on behalf of, Covered Entity as specified in this Contract, provided that such use or disclosure would not violate the Privacy Rule if done by

Covered Entity or the minimum necessary policies and procedures of the Covered Entity.

(2) Specific Use and Disclosure Provisions

(A) Except as otherwise limited in this Section of the Contract, Business Associate may use PHI for the proper management and administration of Business Associate or to carry out the legal responsibilities of Business Associate.

(B) Except as otherwise limited in this Section of the Contract, Business Associate may disclose PHI for the proper management and administration of Business Associate, provided that disclosures are Required by Law, or Business Associate obtains reasonable assurances from the person to whom the information is disclosed that it will remain confidential and used or further disclosed only as Required by Law or for the purpose for which it was disclosed to the person, and the person notifies Business Associate of any instances of which it is aware in which the confidentiality of the information has been breached.

(C) Except as otherwise limited in this Section of the Contract, Business Associate may use PHI to provide Data Aggregation services to Covered Entity as permitted by 45 C.F.R. § 164.504(e)(2)(i)(B).

(j) Obligations of Covered Entity.

(1) Covered Entity shall notify Business Associate of any limitations in its notice of privacy practices of Covered Entity, in accordance with 45 C.F.R. § 164.520, or to the extent that such limitation may affect Business Associate's use or disclosure of PHI.

(2) Covered Entity shall notify Business Associate of any changes in, or revocation of, permission by Individual to use or disclose PHI, to the extent that such changes may affect Business Associate's use or disclosure of PHI.

(3) Covered Entity shall notify Business Associate of any restriction to the use or disclosure of PHI that Covered Entity has agreed to in accordance with 45 C.F.R. § 164.522, to the extent that such restriction may affect Business Associate's use or disclosure of PHI.

(k) Permissible Requests by Covered Entity. Covered Entity shall not request Business Associate to use or disclose PHI in any manner that would not be permissible under the Privacy Rule if done by the Covered Entity, except that Business Associate may use and disclose PHI for data aggregation, and management and administrative activities of Business Associate, as permitted under this Section of the Contract.

(l) Term and Termination.

(1) Term. The Term of this Section of the Contract shall be effective as of the date the Contract is effective and shall terminate when the information collected in accordance with clause h. (10) of this Section of the Contract is provided to the Covered Entity and all of the PHI provided by Covered Entity to Business Associate, or created or received by Business Associate on behalf of Covered Entity, is destroyed or returned to Covered Entity, or, if it is infeasible to return or destroy PHI, protections are extended to such information, in accordance with the termination provisions in this Section.

(2) Termination for Cause Upon Covered Entity's knowledge of a material breach by Business Associate, Covered Entity shall either:

(A) Provide an opportunity for Business Associate to cure the breach or end the violation and terminate the Contract if Business Associate does not cure the breach or end the violation within the time specified by the Covered Entity; or

(B) Immediately terminate the Contract if Business Associate has breached a material term of this Section of the Contract and cure is not possible; or

(C) If neither termination nor cure is feasible, Covered Entity shall report the violation to the Secretary.

(3) Effect of Termination

(A) Except as provided in (l)(2) of this Section of the Contract, upon termination of this Contract, for any reason, Business Associate shall return or destroy all PHI received from Covered Entity or created or received by Business Associate on behalf of Covered Entity. Business Associate shall also provide the information collected in accordance with clause h. (10) of this Section of the Contract to the Covered Entity within ten business days of the notice of termination. This provision shall apply to PHI that is in the possession of subcontractors or agents of Business Associate. Business Associate shall retain no copies of the PHI.

(B) In the event that Business Associate determines that returning or destroying the PHI is infeasible, Business Associate shall provide to Covered Entity notification of the conditions that make return or destruction infeasible. Upon documentation by Business Associate that return or destruction of PHI is infeasible, Business Associate shall extend the protections of this Section of the Contract to such PHI and limit further uses and disclosures of PHI to those purposes that make return or destruction infeasible, for as long as Business Associate maintains such PHI. Infeasibility of the return or destruction of PHI includes, but is not limited to, requirements under state or federal law that the Business Associate maintains or preserves the PHI or copies thereof.

(m) Miscellaneous Provisions.

(1) Regulatory References. A reference in this Section of the Contract to a section in the Privacy Rule means the section as in effect or as amended.

(2) Amendment. The Parties agree to take such action as in necessary to amend this Section of the Contract from time to time as is necessary for Covered Entity to comply with requirements of the Privacy Rule and the Health Insurance Portability and Accountability Act of 1996, Pub. L. No. 104-191.

(3) Survival. The respective rights and obligations of Business Associate shall survive the termination of this Contract.

(4) Effect on Contract. Except as specifically required to implement the purposes of this Section of the Contract, all other terms of the Contract shall remain in force and effect.

(5) Construction. This Section of the Contract shall be construed as broadly as necessary to implement and comply with the Privacy Standard. Any ambiguity in this Section of the Contract shall be resolved in favor of a meaning that complies, and is consistent with, the Privacy Standard.

(6) Disclaimer. Covered Entity makes no warranty or representation that compliance with this Section of the Contract will be adequate or satisfactory for Business Associate's own purposes. Covered Entity shall not be liable to Business Associate for any claim, civil or criminal penalty, loss or damage related to or arising from the unauthorized use or disclosure of PHI by Business Associate or any of its officers, directors, employees, contractors or agents, or any third party to whom Business Associate has disclosed PHI contrary to the provisions of this Contract or applicable law. Business Associate is solely responsible for all decisions made, and actions taken, by Business Associate regarding the safeguarding, use and disclosure of PHI within its possession, custody or control.

(7) Indemnification. The Business Associate shall indemnify and hold the Covered Entity harmless from and against any and all claims, liabilities, judgments, fines, assessments, penalties, awards and any statutory damages that may be imposed or assessed pursuant to HIPAA, as amended or the HITECH Act, including, without limitation, attorney's fees, expert witness fees, costs of investigation, litigation or dispute resolution, and costs awarded thereunder, relating to or arising out of any violation by the Business Associate and its agents, including subcontractors, of any obligation of Business Associate and its agents, including subcontractors, under this section of the contract, under HIPAA, the HITECH Act, the Privacy Rule and the Security Rule.

EXHIBIT D
AFFIRMATIVE ACTION POLICY STATEMENT (October 2023)

It is the policy of this firm to assure that applicants are employed, and that employees are treated during employment, without regard to an individual's race, color, religion, creed, sex, gender identity or expression, marital status, national origin, age, ancestry, status as a veteran, intellectual disability, mental disability, learning disability or physical disability, including but not limited to blindness, unless such disability prevents performance of the work involved and to promote the full realization of equal employment opportunity through positive and continuous affirmative efforts. Such action shall include employment, promotion, demotion or transfer, recruitment or recruitment advertising, layoff or terminations, rates of pay or other forms of compensation, selection for training/apprenticeship, pre-apprenticeship opportunities, and on-the-job training opportunities.

This firm will implement, monitor, enforce and achieve full compliance with this Affirmative Action Policy Statement in conjunction with the applicable Federal and State laws, regulations, executive orders, and contract provisions, including but not limited to those listed below:

Dissemination of Policy:
All members of the firm who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, this firm's Equal Employment Opportunity (EEO) policy and contractual responsibilities to provide EEO in each grade and classification of employment. These actions shall include:

1. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the firm's EEO policy and its implementation will be reviewed and explained. These meetings will be conducted by the EEO officer.
2. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.
3. All personnel who are engaged in direct recruitment for the firm will be instructed by the EEO Officer of the contractor's procedures for locating and hiring minority group employees.
4. Notices and posters setting forth the firm's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
5. The firm's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.
6. Sexual Harassment Prevention Resources including training and remedies must be available to all employees. See Connecticut General Assembly Public Acts 19–16 and 19–93.

Recruitment:
When advertising for employees, the firm will include in all advertisements the notation; "An Affirmative Action/Equal Opportunity Employer." All such advertisements will be placed in

publications having a large circulation among minority groups in the area where the workforce would normally be derived.

1. The firm will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority and female applicants. To meet this requirement, the firm will identify referral sources and establish procedures for recruitment to obtain the referral of minority and female applicants.
2. In the event the firm has a valid bargaining agreement providing for exclusive hiring referrals, he/she is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The United States Department of Labor has held that where implementation of such agreements has had the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)
3. The firm will encourage his/her present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.

Personnel Actions:

Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to an individual's race, color, religion, creed, sex, gender identity or expression, marital status, national origin, age, ancestry, status as a veteran, intellectual disability, mental disability, learning disability or physical disability, including but not limited to blindness, unless such disability prevents performance of the work involved. The following procedures shall be followed:

1. The firm will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of personnel.
2. The firm will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take correction action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
3. The firm shall periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
4. The firm will promptly investigate all complaints of alleged discrimination made to the firm and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective actions shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.

Training and Promotion:

The firm will assist in locating, qualifying, and increasing the skills of minorities and women. The firm will utilize the following tools to identify training and promotional opportunities in the firm:

1. The firm will advise employees and applicants for employment of available training programs and the entrance requirements.
2. The firm will periodically review the training and promotion of minority group and female employees and will encourage eligible employees to apply for such training and promotion.

Unions:

If the firm relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the firm either directly or through a contractor's association acting as agent will include the procedures set forth below:

1. The firm will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.
2. The firm will use best efforts to incorporate an EEO clause into each union agreement to the extent that such union will be contractually bound to refer applicants without regard to their to an individual's race, color, religion, creed, sex, gender identity or expression, marital status, national origin, age, ancestry, status as a veteran, intellectual disability, mental disability, learning disability or physical disability, including but not limited to blindness, unless such disability prevents performance of the work involved.
3. The firm is to obtain information as to the referral practices and policies of the labor union except that to the extent that such information is within the exclusive possession of the labor union and such labor union refuses to furnish the information to the contractor, the contractor shall notify the Connecticut Department of Transportation (CTDOT) of the efforts made to obtain the information.
4. In the event the union is unable to provide the firm with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies. (The United States Department of Labor has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations under Executive Order 11246 as amended, and in compliance with 23 CFR Part 230, the firm will notify CTDOT.

Selection of Subcontractors:

The firm will not discriminate on the grounds race, color, religion, sex, sexual orientation, gender identity or expression, marital status, national origin, ancestry, age, intellectual disability, learning disability, physical disability, including, but not limited to, blindness, or status as a veteran in the selection and retention of subcontractors, including procurement of materials and leases of equipment.

1. The firm shall use his/her best efforts to ensure subcontractor/subconsultant compliance with Federal and State Equal Opportunity (EO) and EEO requirements.

Records and Reports:

The Contractor shall keep records as necessary to document compliance with EO/EEO requirements. Such reports shall be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of CTDOT and/or the United States Department of Transportation. The following records should be maintained:

6. The number of minority and non-minority group members and women employed in each work classification;
7. The progress and efforts being made in cooperation with unions, when applicable to increase the employment opportunities for minorities and women;
8. The documentation showing progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and
9. Complaints of Discrimination.

In implementing this policy and ensuring that affirmative action is being provided, each time a hiring opportunity occurs this firm will contact and request referrals from minority and female organizations, referral sources, and media sources. All advertising will emphasize that the firm is "An Affirmative Action/Equal Opportunity Employer."

In order to substantiate this firm's efforts and affirmative actions to provide equal opportunity, the firm will maintain and submit, as requested, documentation such as referral request correspondence, copies of advertisements utilized and follow-up documentation to substantiate that efforts were made in good faith. This firm will maintain the necessary internal audit procedures and record keeping systems to report the firm's affirmative action efforts.

It is understood by Owner/CEO/President of the firm and the firm's Equal Employment Opportunity Officer and supervisory and managerial personnel that failure to effectively implement, monitor and enforce this firm's affirmative action program and/or failure to adequately document and submit as required, the affirmative actions taken and efforts made to recruit and hire minority and female applicants in accordance with our affirmative action program in each instance of hire, will result in this firm being required to recommit itself to a modified and more stringent affirmative action program as a condition of approval. It is recognized that this policy is a contractual requirement and is a prerequisite for performing services for the contracting agency. This policy in addition to CTDOT's EO/EEO contract provisions and requirements, shall constitute the CTDOT Affirmative Program requirements.

The ultimate responsibility for the full implementation of this firm's Affirmative Action Program rests with the Chief Executive Officer of this firm.

EXHIBIT E

(Federal wage rate package will be inserted at the end after State wages for the final executed contract only. Refer to NTC – Federal Wage Determinations)

EXHIBIT F
State Wages and Other Related Information

Please refer to the Department of Labor website for the latest updates, annual adjusted wage rate increases, certified payroll forms and applicable statutes.
http://www.ctdol.state.ct.us/wgwkstnd/prevailwage.htm

Prevailing Wage Law Poster Language

THIS IS A PUBLIC WORKS PROJECT Covered by the PREVAILING WAGE LAW CT General Statutes Section 31-53 If

you have QUESTIONS regarding your wages CALL (860) 263-6790

Section 31-55 of the CT State Statutes requires every contractor or subcontractor performing work for the state to post in a prominent place the prevailing wages as determined by the Labor Commissioner.

Informational Bulletin

THE 10-HOUR OSHA CONSTRUCTION SAFETY AND HEALTH COURSE (applicable to public building contracts entered into on or after July 1, 2007, where the total cost of all work to be performed is at least $100,000)

(1) This requirement was created by Public Act No. 06-175, which is codified in Section 31-53b of the Connecticut General Statutes (pertaining to the prevailing wage statutes);

(2) The course is required for public building construction contracts (projects funded in whole or in part by the state or any political subdivision of the state) entered into on or after July 1, 2007;

(3) It is required of private employees (not state or municipal employees) and apprentices who perform manual labor for a general contractor or subcontractor on a public building project where the total cost of all work to be performed is at least $100,000;

(4) The ten-hour construction course pertains to the ten-hour Outreach Course conducted in accordance with federal OSHA Training Institute standards, and, for telecommunications workers, a ten-hour training course conducted in accordance with federal OSHA standard, 29 CFR 1910.268;

(5) The internet website for the federal OSHA Training Institute is http://www.osha.gov/fso/ote/training/edcenters/fact_sheet.html;

(6) The statutory language leaves it to the contractor and its employees to determine who pays for the cost of the ten-hour Outreach Course;

(7) Within 30 days of receiving a contract award, a general contractor must furnish proof to the Labor Commissioner that all employees and apprentices performing manual labor on the project will have completed such a course;

(8) Proof of completion may be demonstrated through either: (a) the presentation of a bona fide student course completion card issued by the federal OSHA Training Institute; or (2) the presentation of documentation provided to an employee by a trainer certified by the Institute pending the actual issuance of the completion card;

(9) Any card with an issuance date more than 5 years prior to the commencement date of the construction project shall not constitute proof of compliance;

(10) Each employer shall affix a copy of the construction safety course completion card to the certified payroll submitted to the contracting agency in accordance with Conn. Gen. Stat. § 31-53(f) on which such employee's name first appears;

(11) Any employee found to be in non-compliance shall be subject to removal from the worksite if such employee does not provide satisfactory proof of course completion to the Labor Commissioner by the fifteenth day after the date the employee is determined to be in non-compliance;

(12) Any such employee who is determined to be in noncompliance may continue to work on a public building construction project for a maximum of fourteen consecutive calendar days while bringing his or her status into compliance;

(13) The Labor Commissioner may make complaint to the prosecuting authorities regarding any employer or agent of the employer, or officer or agent of the corporation who files a false certified payroll with respect to the status of an employee who is performing manual labor on a public building construction project;

(14) The statute provides the minimum standards required for the completion of a safety course by manual laborers on public construction contracts; any contractor can exceed these minimum requirements; and

(15) Regulations clarifying the statute are currently in the regulatory process and shall be posted on the CTDOL website as soon as they are adopted in final form.

(16) Any questions regarding this statute may be directed to the Wage and Workplace Standards Division of the Connecticut Labor Department via the internet website of http://www.ctdol.state.ct.us/wgwkstnd/wgemenu.htm; or by telephone at (860)263-6790.

THE ABOVE INFORMATION IS PROVIDED EXCLUSIVELY AS AN EDUCATIONAL RESOURCE AND IS NOT INTENDED AS A SUBSTITUTE FOR LEGAL INTERPRETATIONS WHICH MAY ULTMATELY ARISE CONCERNIG THE CONSTRUCTION OF THE STATUTE OR THE REGULATIONS.

November 29, 2006

Notice

To All Mason Contractors and Interested Parties Regarding Construction Pursuant to Section 31-53 of the Connecticut General Statutes (Prevailing Wage)

The Connecticut Labor Department Wage and Workplace Standards Division is empowered to enforce the prevailing wage rates on projects covered by the above referenced statute.
Over the past few years, the Division has withheld enforcement of the rate in effect for workers who operate a forklift on a prevailing wage rate project due to a potential jurisdictional dispute. The rate listed in the schedules and in our Occupational Bulletin (see enclosed) has been as follows:

Forklift Operator:

- **Laborers (Group 4) Mason Tenders** - operates forklift solely to assist a mason to a maximum height of nine feet only.

- **Power Equipment Operator (Group 9)** - operates forklift to assist any trade and to assist a mason to a height over nine feet.

The U.S. Labor Department conducted a survey of rates in Connecticut, but it has not been published and the rate in effect remains as outlined in the above Occupational Bulletin.

Since this is a classification matter and not one of jurisdiction, effective January 1, 2007, the Connecticut Labor Department will enforce the rate on each schedule in accordance with our statutory authority.

Your cooperation in filing appropriate and accurate certified payrolls is appreciated.

CONNECTICUT DEPARTMENT OF LABOR
WAGE AND WORKPLACE STANDARDS DIVISION

CONTRACTORS WAGE CERTIFICATION FORM
Construction Manager at Risk/General Contractor/Prime Contractor

I,_____ of _____
Officer, Owner, Authorized Rep. Company Name

do hereby certify that the _____
Company Name

_____
Street

_____
City

and all of its subcontractors will pay all workers on the

_____
Project Name and Number

_____
Street and City

the wages as listed in the schedule of prevailing rates required for such project (a copy of which is attached hereto).

_____
Signed

Subscribed and sworn to before me this_____day of_____,_____.

_____
Notary Public

Return to: Connecticut Department of Labor Wage & Workplace Standards Division 200 Folly Brook Blvd., Wethersfield, CT 06109

Rate Schedule Issued (Date):_____

Information Bulletin
Occupational Classifications

The Connecticut Department of Labor has the responsibility to properly determine "job classification" on prevailing wage projects covered under C.G.S. Section 31-53(d).

Note: This information is intended to provide a sample of some occupational classifications for guidance purposes only. It is not an all-inclusive list of each occupation's duties. This list is being provided only to highlight some areas where a contractor may be unclear regarding the proper classification. If unsure, the employer should seek guidelines for CTDOL.

Below are additional clarifications of specific job duties performed for certain classifications:

ASBESTOS WORKERS

Applies all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems.

ASBESTOS INSULATOR

Handle, install apply, fabricate, distribute, prepare, alter, repair, dismantle, heat and frost insulation, including penetration and fire stopping work on all penetration fire stop systems.

BOILERMAKERS

Erects hydro plants, incomplete vessels, steel stacks, storage tanks for water, fuel, etc. Builds incomplete boilers, repairs heat exchanges and steam generators.

BRICKLAYERS, CEMENT MASONS, CEMENT FINISHERS, MARBLE MASONS, PLASTERERS, STONE MASONS, PLASTERERS, STONE MASONS, TERRAZZO WORKERS, TILE SETTERS

Lays building materials such as brick, structural tile and concrete cinder, glass, gypsum, terra cotta block. Cuts, tools and sets marble, sets stone, finishes concrete, applies decorative steel, aluminum and plastic tile, applies cements, sand, pigment and marble chips to floors, stairways, etc.

CARPENTERS, MILLWRIGHTS, PILEDRIVERMEN, LATHERS, RESILEINT FLOOR LAYERS, DOCK BUILDERS, DIKERS, DIVER TENDERS

Constructs, erects, installs and repairs structures and fixtures of wood, plywood and wallboard. Installs, assembles, dismantles, moves industrial machinery. Drives piling into ground to provide foundations for structures such as buildings and bridges, retaining walls for earth embankments, such as cofferdams. Fastens wooden, metal or rockboard lath to walls, ceilings and partitions of buildings, acoustical tile layer, concrete form builder. Applies firestopping materials on fire resistive joint systems only. Installation of curtain/window walls only where attached to wood or metal studs. Installation of insulated material of all types whether blown, nailed or attached in

other ways to walls, ceilings and floors of buildings. Assembly and installation of modular furniture/furniture systems. Free-standing furniture is not covered. This includes free standing: student chairs, study top desks, book box desks, computer furniture, dictionary stand, atlas stand, wood shelving, two-position information access station, file cabinets, storage cabinets, tables, etc.

LABORER, CLEANING

• The clean up of any construction debris and the general (heavy/light) cleaning, including sweeping, wash down, mopping, wiping of the construction facility and its furniture, washing, polishing, and dusting.

DELIVERY PERSONNEL

• If delivery of supplies/building materials is to one common point and stockpiled there, prevailing wages are not required. If the delivery personnel are involved in the distribution of the material to multiple locations within the construction site then they would have to be paid prevailing wages for the type of work performed: laborer, equipment operator, electrician, ironworker, plumber, etc.

• An example of this would be where delivery of drywall is made to a building and the delivery personnel distribute the drywall from one "stockpile" location to further sub-locations on each floor. Distribution of material around a construction site is the job of a laborer or tradesman, and not a delivery personnel.

ELECTRICIANS

Install, erect, maintenance, alteration or repair of any wire, cable, conduit, etc., which generates, transforms, transmits or uses electrical energy for light, heat, power or other purposes, including the Installation or maintenance of telecommunication, LAN wiring or computer equipment, and low voltage wiring. *License required per Connecticut General Statutes: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9.

ELEVATOR CONSTRUCTORS

Install, erect, maintenance and repair of all types of elevators, escalators, dumb waiters and moving walks. ***License required by Connecticut General Statutes: R-1, 2, 5, 6.**

FORKLIFT OPERATOR

Laborers Group 4) Mason Tenders - operates forklift solely to assist a mason to a maximum height of nine (9) feet only.

Power Equipment Operator Group 9 - operates forklift to assist any trade, and to assist a mason to a height over nine (9) feet.

GLAZIERS

Glazing wood and metal sash, doors, partitions, and 2 story aluminum storefronts. Installs glass windows, skylights, store fronts and display cases or surfaces such as building fronts, interior

walls, ceilings and table tops and metal store fronts. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers, which require equal composite workforce.

IRONWORKERS

Erection, installation and placement of structural steel, precast concrete, miscellaneous iron, ornamental iron, metal curtain wall, rigging and reinforcing steel. Handling, sorting, and installation of reinforcing steel (rebar). Metal bridge rail (traffic), metal bridge handrail, and decorative security fence installation. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers which require equal composite workforce.

INSULATOR

• Installing fire stopping systems/materials for "Penetration Firestop Systems": transit to cables, electrical conduits, insulated pipes, sprinkler pipe penetrations, ductwork behind radiation, electrical cable trays, fire rated pipe penetrations, natural polypropylene, HVAC ducts, plumbing bare metal, telephone and communication wires, and boiler room ceilings.

LABORERS

Acetylene burners, asphalt rakers, chain saw operators, concrete and power buggy operator, concrete saw operator, fence and guard rail erector (except metal bridge rail (traffic), decorative security fence (non-metal).

installation.), hand operated concrete vibrator operator, mason tenders, pipelayers (installation of storm drainage or sewage lines on the street only), pneumatic drill operator, pneumatic gas and electric drill operator, powermen and wagon drill operator, air track operator, block paver, curb setters, blasters, concrete spreaders.

PAINTERS

Maintenance, preparation, cleaning, blasting (water and sand, etc.), painting or application of any protective coatings of every description on all bridges and appurtenances of highways, roadways, and railroads. Painting, decorating, hardwood finishing, paper hanging, sign writing, scenic artwork and drywall hhg for any and all types of building and residential work.

LEAD PAINT REMOVAL

• Painter’s Rate 1. Removal of lead paint from bridges. 2. Removal of lead paint as preparation of any surface to be repainted. 3. Where removal is on a Demolition project prior to reconstruction. • Laborer’s Rate 1. Removal of lead paint from any surface NOT to be repainted. 2. Where removal is on a TOTAL Demolition project only.

PLUMBERS AND PIPEFITTERS

Installation, repair, replacement, alteration or maintenance of all plumbing, heating, cooling and piping. ***License required per Connecticut General Statutes: P-1,2,6,7,8,9 J1,2,3,4 SP-1,2 S-**

1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4.

POWER EQUIPMENT OPERATORS

Operates several types of power construction equipment such as compressors, pumps, hoists, derricks, cranes, shovels, tractors, scrapers or motor graders, etc. Repairs and maintains equipment. ***License required, crane operators only, per Connecticut General Statutes.**

ROOFERS

Covers roofs with composition shingles or sheets, wood shingles, slate or asphalt and gravel to waterproof roofs, including preparation of surface. (Demolition or removal of any type of roofing and or clean-up of any and all areas where a roof is to be re-laid.)

SHEETMETAL WORKERS

Fabricate, assembles, installs and repairs sheet metal products and equipment in such areas as ventilation, air-conditioning, warm air heating, restaurant equipment, architectural sheet metal work, Sheetmetal roofing, and aluminum gutters. Fabrication, handling, assembling, erecting, altering, repairing, etc. of coated metal material panels and composite metal material panels when used on building exteriors and interiors as soffits, facia, louvers, partitions, canopies, cornice, column covers, awnings, beam covers, cladding, sunshades, lighting troughs, spires, ornamental roofing, metal ceilings, mansards, copings, ornamental and ventilation hoods, vertical and horizontal siding panels, trim, etc. The sheet metal classification also applies to the vast variety of coated metal material panels and composite metal material panels that have evolved over the years as an alternative to conventional ferrous and non-ferrous metals like steel, iron, tin, copper, brass, bronze, aluminum, etc. Fabrication, handling, assembling, erecting, altering, repairing, etc. of architectural metal roof, standing seam roof, composite metal roof, metal and composite bathroom/toilet partitions, aluminum gutters, metal and composite lockers and shelving, kitchen equipment, and walk-in coolers. To include testing and air –balancing ancillary to installation and construction.

SPRINKLER FITTERS

Installation, alteration, maintenance and repair of fire protection sprinkler systems. ***License required per Connecticut General Statutes: F-1, 2, 3, 4.**

TILE MARBLE AND TERRAZZO FINISHERS

Assists and tends the tile setter, marble mason and terrazzo worker in the performance of their duties.

TRUCK DRIVERS

~How to pay truck drivers delivering asphalt is under REVISION~

Truck Drivers are required to be paid prevailing wage for time spent "working" directly on the site. These drivers remain covered by the prevailing wage for any time spent transporting between the

actual construction location and facilities (such as fabrication, plants, mobile factories, batch plant, borrow pits, job headquarters, tool yards, etc.) dedicated exclusively, or nearly so, to performance of the contract or project, which are so located in proximity to the actual construction location that it is reasonable to include them. ***License required, drivers only, per Connecticut General Statutes**.

For example:

• Material men and deliverymen are not covered under prevailing wage as long as they are not directly involved in the construction process. If, they unload the material, they would then be covered by prevailing wage for the classification they are performing work in: laborer, equipment operator, etc.
• Hauling material off site is not covered provided they are not dumping it at a location outlined above.
• Driving a truck on site and moving equipment or materials on site would be considered covered work, as this is part of the construction process.

 Any questions regarding the proper classification should be directed to:

Public Contract Compliance Unit
Wage and Workplace Standards Division
Connecticut Department of Labor
200 Folly Brook Blvd, Wethersfield, CT 06109
(860) 263-6543.

Connecticut Department of Labor
Wage and Workplace Standards Division
FOOTNOTES

 Please Note: If the "Benefits" listed on the schedule for the following occupations includes a letter(s) (+ a or + a+b for instance), refer to the information below.

Benefits to be paid at the appropriate prevailing wage rate for the listed occupation.

If the "Benefits" section for the occupation lists only a dollar amount, disregard the information below.

Bricklayers, Cement Masons, Cement Finishers, Concrete Finishers, Stone Masons
(Building Construction) and (Residential- Hartford, Middlesex, New Haven, New London and Tolland Counties)

a. Paid Holiday: Employees shall receive 4 hours for Christmas Eve holiday provided the employee works the regularly scheduled day before and after the holiday. Employers may schedule work on Christmas Eve and employees shall receive pay for actual hours worked in addition to holiday pay.

Elevator Constructors: Mechanics

a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day, plus the Friday after Thanksgiving.

b. Vacation: Employer contributes 8% of basic hourly rate for 5 years or more of service or 6% of basic hourly rate for 6 months to 5 years of service as vacation pay credit.

Glaziers

a. Paid Holidays: Labor Day and Christmas Day.

Power Equipment Operators
(Heavy and Highway Construction & Building Construction)

a. Paid Holidays: New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday. Holidays falling on Saturday may be observed on Saturday, or if the employer so elects, on the preceding Friday.

Ironworkers

a. Paid Holiday: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

Laborers (Tunnel Construction)

a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

Roofers

a. Paid Holidays: July 4th, Labor Day, and Christmas Day provided the employee is employed 15 days prior to the holiday.

Sprinkler Fitters

a. Paid Holidays: Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day, provided the employee has been in the employment of a contractor 20 working days prior to any such paid holiday.

Truck Drivers
(Heavy and Highway Construction & Building Construction)

a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas day, and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

Rev. 7/1/19

SEE BELOW FOR STATE WAGE RATES

EXHIBIT E

INSERT FEDERAL WAGES HERE
EXHIBIT F

Minimum Rates and Classifications for
Heavy/Highway Construction

ID#: 26-8653

Connecticut Department of Labor
Wage and Workplace Standards Division

By virtue of the authority vested in the Labor Commissioner under provisions of Section 31-53 of the General Statutes of Connecticut, as amended, the following are declared to be the prevailing rates and welfare payments and will apply only where the contract is advertised for bid within 20 days of the date on which the rates are established. Any contractor or subcontractor not obligated by agreement to pay to the welfare and pension fund shall pay this amount to each employee as part of his/her hourly wages.

Project Number:
Project Town: Killingly
State#: 0068-0217
FAP#: 0101(114)
Project: Replacement of Bridge No. 02599 Route 101 Over Alvia Chase Reservoir

CLASSIFICATION	Hourly Rate	Benefits
1) Boilermaker	50.21	30.01
1a) Bricklayer, Cement Masons, Cement Finishers, Plasterers, Stone Masons	46.09	36.29
2) Carpenters, Piledrivermen	44.48	29.74
2a) Diver Tenders	44.48	29.74
2b) Divers Effluent	67.52	29.74
3) Divers	52.94	29.74
03a) Millwrights	45.14	30.24
03b) Carpenter-Welder	44.98	29.74
03c) Carpenter: Working with creosote lumber or acid	45.48	29.74

As of: August 4, 2026

4) Painters: (Bridge Construction) Brush, Roller, Blasting (Sand, Water, etc.), Spray	61.85	27.65
4a) Painters: Brush and Roller	41.17	27.65
4b) Painters: Spray	44.17	27.65
4bc) Painters: Spray Helper	42.17	27.65
4c) Painters: Steel Only	43.17	27.65
4d) Painters: Blast	46.17	27.65
4de) Painter: Blast Helper	42.17	27.65
4e) Painters: Tanks, Tower and Swingstage etc.	43.17	27.65
4f) Elevated Tanks (60 feet and above)	50.17	27.65
5) Electrician (Trade License required: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	50.25	37.47+3% of gross wage
6) Ironworkers: Ornamental, Reinforcing, Structural, and Precast Concrete Erection	45.25	46.62 + a
7) Plumbers (Trade License required: (P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2) and Pipefitters (Including HVAC Work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4 G-1, G-2, G-8, G-9)	52.08	36.80
----LABORERS---- -		
8) Group 1: General Laborers and concrete specialist	37.0	30.47

As of: August 4, 2026

8) Group 1a: Acetylene Burners (Hours worked with a torch)	38.0	30.47
9) Group 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators, powdermen	37.25	30.47
10) Group 3: Pipelayers	37.5	30.47
11) Group 4: Jackhammer/Pavement breaker (handheld); mason tenders (cement/concrete), catch basin builders, asphalt rakers, air track operators, block paver, curb setter and forklift operators	37.5	30.47
12) Group 5: Toxic waste removal (non-mechanical systems)	39.0	30.47
13) Group 6: Blasters	38.75	30.47
Group 7: Asbestos/lead removal, non-mechanical systems (does not include leaded joint pipe)	40.0	30.47
Group 8: Traffic control signalmen	22.2	30.47
Group 9: Hydraulic Drills	37.75	30.47
Group 10: Toxic Waste Removers A or B With PPE	40.0	30.47
----LABORERS (TUNNEL CONSTRUCTION, FREE AIR). Shield Drive and Liner Plate Tunnels in Free Air.----		
13a) Miners, Motormen, Mucking Machine Operators, Nozzle Men, Grout Men, Shaft & Tunnel Steel & Rodmen, Shield & Erector, Arm Operator, Cable Tenders	39.23	30.47 + a
13b) Brakemen, Trackmen, Miners' Helpers and all other men	38.26	30.47 + a

As of: August 4, 2026

----CLEANING, CONCRETE AND CAULKING TUNNEL----		
14) Concrete Workers, Form Movers, and Strippers	38.26	30.47 + a
15) Form Erectors	38.59	30.47 + a
----ROCK SHAFT LINING, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:----		
16) Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers, Miners Helpers	38.26	30.47 + a
17) Laborers Topside, Cage Tenders, Bellman	38.15	30.47 + a
18) Miners	39.23	30.47 + a
----TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR: ----		
18a) Blaster	45.72	30.47 + a
19) Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders	45.52	30.47 + a
20) Change House Attendants, Powder Watchmen, Top on Iron Bolts	43.54	30.47 + a
21) Mucking Machine Operator, Grout Boss, Track Boss	46.31	30.47 + a
----TRUCK DRIVERS----(*see note below)		
Block Truck	39.98	33.00 + a

2 Axle	38.66	33.00 + a
Helpers	36.16	33.00 + a
Three Axle Trucks; Two Axle Mixer	38.77	33.00 + a
Three Axle Mixer	38.83	33.00 + a
Four Axle	38.89	33.00 + a
Four Axle Mixer	40.69	33.00 + a
5 Axle	38.89	33.00 + a
5 Axle Mixer	40.69	33.00 + a
Heavy Duty Trailer (40 tons and over)	41.16	33.00 + a
Heavy Duty Trailer (up to 40 tons)	39.89	33.00 + a
Snorkle Truck	39.04	33.00 + a
Swivel Dump and Tack Truck	38.89	33.00 + a
Euclids and Semi Trailer	38.94	33.00 + a

----POWER EQUIPMENT OPERATORS----

Group 1: Crane Handling or Erecting Structural Steel or Stone, Hoisting Engineer (2 drums or over), Caisson Drilled Shaft over 14". (Trade License Required)	60.66	30.95 + a
Group 1a: Front End Loader (7 cubic yards or over); Work Boat 26 ft. and over.	55.6	30.95 + a
Group 2: Cranes (100 ton rate capacity and over). (Trade License Required)	60.24	30.95 + a
Group 2a: Cranes (under 100 ton rated capacity), Magni Type-360 Rotating Forklift.	59.2	30.95 + a
Group 2b: Excavator over 2 cubic yards; Pile Driver ($3.00 premium when operator controls hammer), HF-1 Forklift, Drills with self contained power units, Micropile up to 14 inches helical pile.	55.17	30.95 + a
Group 3: Excavator; Gradall; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber Tire Excavator (Drott-1085 or similar);Grader Operator; Bulldozer Fine Grade (slopes, shaping, laser or GPS, etc.). (Trade License Required)	54.13	30.95 + a
Group 4: Trenching Machines; Lighter Derrick; CMI Machine or Similar; Koehring Loader (Skooper), Goldhofer.	53.61	30.95 + a
Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt Spreader; Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24" mandrel)	52.78	30.95 + a
Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller, Geothermal Drill.	52.78	30.95 + a
Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	52.35	30.95 + a
Group 7: Asphalt Roller; Concrete Saws and Cutters (ride on types); Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24" and under Mandrel)	51.89	30.95 + a

As of: August 4, 2026

Group 8: Mechanic, Grease Truck Operator, Hydroblaster, Barrier Mover, Power Stone Spreader; Welder; Work Boat under 26 ft.; Transfer Machine, Rigger Foreman.	51.34	30.95 + a
Group 9: Front End Loader (under 3 cubic yards), Skid Steer Loader regardless of attachments (Bobcat or Similar); Fork Lift, Power Chipper; Landscape Equipment (including hydroseeder), Vacuum Excavation Truck and Hydrovac Excavation Truck (27 HG pressure or greater).	50.74	30.95 + a
Group 10: Vibratory Hammer, Ice Machine, Diesel and Air Hammer, etc.	47.91	30.95 + a
Group 11: Conveyor, Earth Roller; Power Pavement Breaker (whiphammer), Robot Demolition Equipment.	47.91	30.95 + a
Group 12: Wellpoint Operator.	47.82	30.95 + a
Group 13: Compressor Battery Operator.	47.04	30.95 + a
Group 14: Elevator Operator; Tow Motor Operator (Solid Tire No Rough Terrain).	45.45	30.95 + a
Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	44.89	30.95 + a
Group 16: Maintenance Engineer and Articulating End Dump.	43.99	30.95 + a
Group 17: Portable Asphalt Plant Operator; Portable Crusher Plant Operator; Portable Concrete Plant Operator., Portable Grout Plant Operator, Portable Water Filtration Plant Operator.	49.95	30.95 + a
Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (minimum for any job requiring CDL license), Rigger, Signalman.	46.6	30.95 + a
Surveyor: Chief of Party	50.21	30.95 + a

As of: August 4, 2026

Surveyor: Assistant Chief of Party	46.3	30.95 + a
Surveyor: Instrument Man	44.55	30.95 + a
Surveyor: Rodman or Chairman	38.34	30.95 + a

**NOTE: SEE BELOW

----LINE CONSTRUCTION----(Railroad Construction and Maintenance)----

20) Lineman, Cable Splicer, Technician	59.91	34.00
21) Heavy Equipment Operator	53.92	31.88
22) Equipment Operator, Tractor Trailer Driver, Material Men	50.92	30.84
23) Driver Groundmen	44.93	28.47
23a) Groundman Experienced	32.95	13.99

----OUTSIDE LINE CONSTRUCTION----

24) Driver Groundmen	43.78	28.42
25) Groundmen	32.1	13.95
26) Heavy Equipment Operators	52.53	31.83

As of: August 4, 2026

27) Linemen, Cable Splicers, Dynamite Men	58.37	33.94
28) Material Men, Tractor Trailer Drivers, Equipment Operators	49.61	30.79
29) Technician	56.12	32.85
----COMMUNICATION----		
Sales & Service Technician: To include but not limited to: Installation, Repair, Splicing and Maintenance	52.07	20.62
----DREDGING----		
Class A1: Mechanical Dredge Operator	48.48	17.32+a+b
Class B1: Maintenance Engineer	41.93	16.87+a+b
Class C1: Mate/Welder	38.38	16.62+a+b
Class D: Deckhand	30.86	16.09+a+b

Welders: Rate for craft to which welding is incidental.
Surveyors: Hazardous material removal: $3.00 per hour premium.
*Note: Hazardous waste removal work receives additional $1.25 per hour for truck drivers.
**Note: Hazardous waste premium $3.00 per hour over classified rate.
Truck Drivers: Trainers Premium: $3.00 over wage rate.
Truck Drivers: Night Premium - Mixer Drivers: $2.00 over wage rate.

Crane with 150 ft. boom (including jib) - $1.50 extra
Crane with 200 ft. boom (including jib) - $2.50 extra
Crane with 250 ft. boom (including jib) - $5.00 extra
Crane with 300 ft. boom (including jib) - $7.00 extra
Crane with 400 ft. boom (including jib) - $10.00 extra

As of: August 4, 2026

All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".

Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyperson instructing and supervising the work of each apprentice in a specific trade.

~~Connecticut General Statute Section 31-55a: Annual Adjustments to wage rates by contractors doing state work ~~

The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.
Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.
It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.
The annual adjustments will be posted on the Department of Labor's Web page: www.ct.gov/dol. For those without internet access, please contact the division listed below.
The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.
All subsequent annual adjustments will be posted on our Web Site for contractor access.
Contracting Agencies are under no obligation pursuant to State labor law to pay any increase due to the annual adjustment provision.

Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage

All Person who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.

All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)

Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

~~Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

As of: August 4, 2026