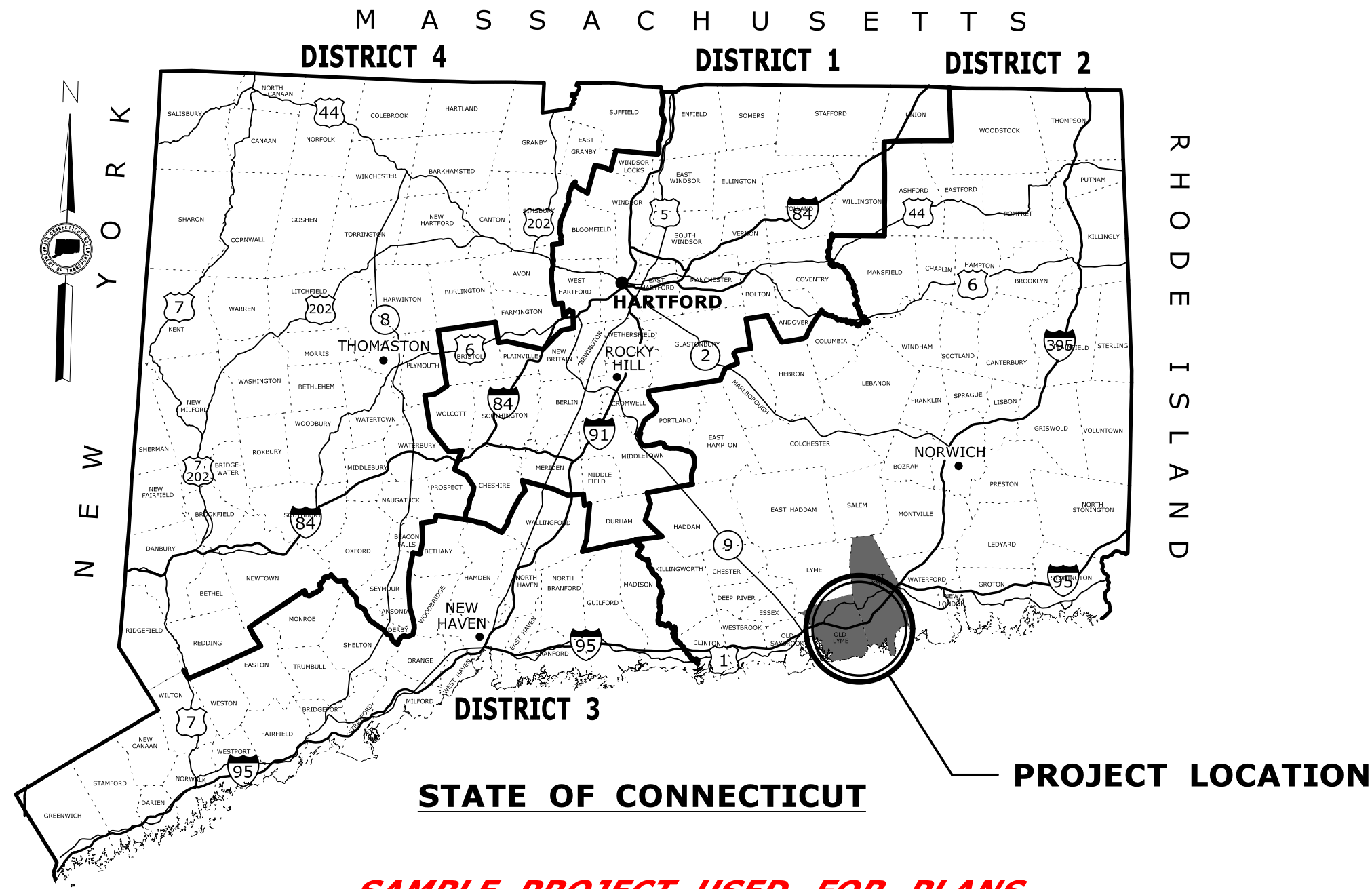


ENVIRONMENTAL PERMIT PLANS STATE PROJECT NO. XXXX-XXXX REPLACEMENT OF BRIDGE NO. XXXXX ROUTE X OVER A RIVER IN A TOWN

Guide for the Development of the Permit Plan Set



SAMPLE PROJECT USED FOR PLANS

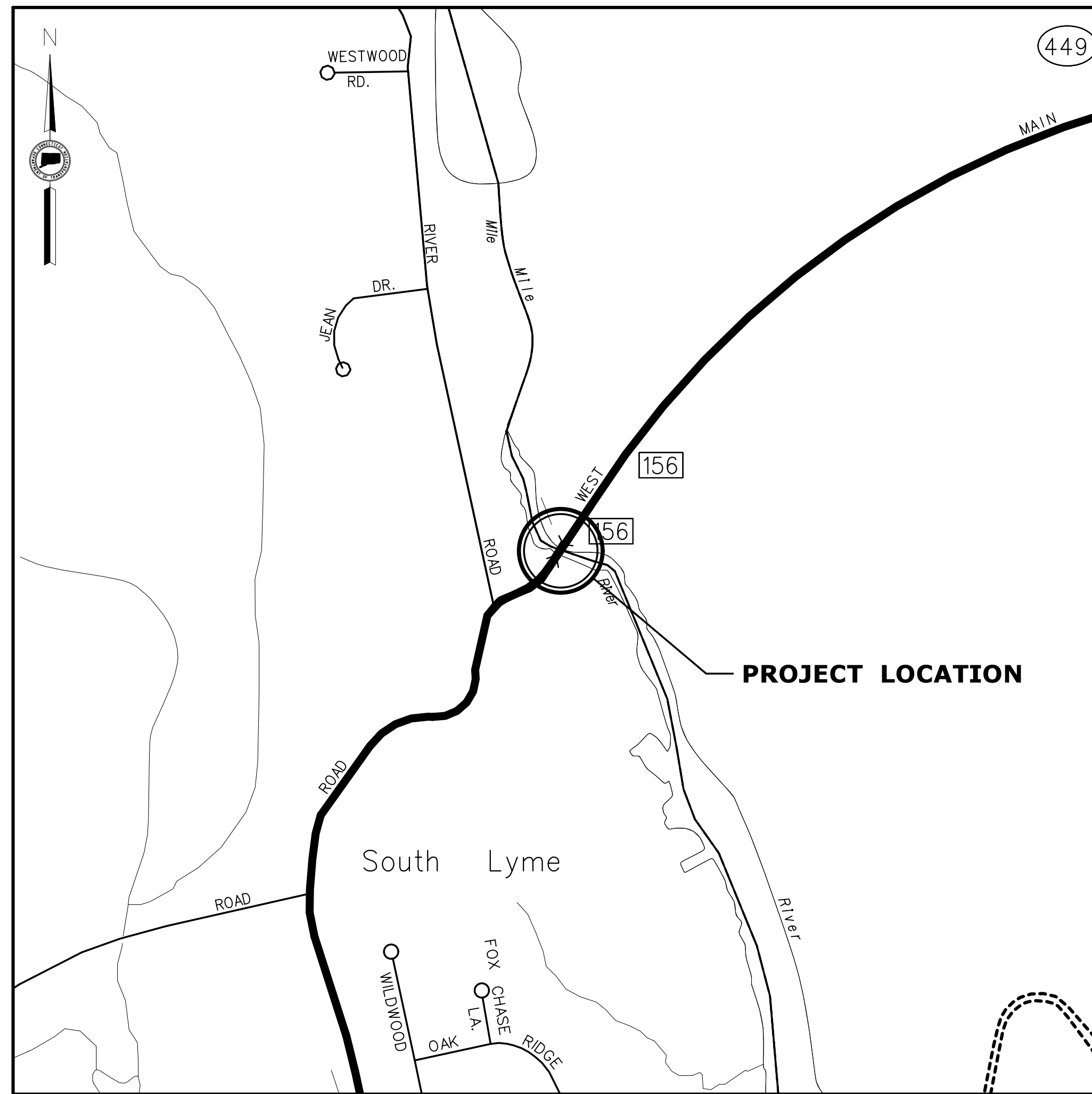
The following sample project involves replacing 4-60" CMPs with a three-sided arch. The project is planned to be constructed in 4 stages. Cofferdams and water-handling-cofferdams will be used. The following permits are anticipated for this project:
 DEEP Land & Water Resources Division Flood Management Certification (LWRD-FMC)
 DEEP Structures, Dredging & Fill Tidal Wetlands w/Section 401 WQC (LWRD-SD&F/TW)
 US Army Corps of Engineers Pre-Construction Notification (USACE-PCN)

It is important to note that permanent impacts to vegetated tidal wetlands will likely trigger the need for mitigation. For projects requiring mitigation, coordination with OEP early in the project design is important to allow enough time to work through the mitigation process and develop mitigation plans. If mitigation is required, mitigation plans will be a part of the final permit plan set.

The sample project falls within a mapped FEMA area an elevation provided on the FEMA map. This elevation is used in determining the floodplain impact area. An 8 1/2" x 11" FEMA map is provided within the permit application. A floodway is also present in the project area.

Impact areas include ALL areas to be impacted due to the project construction and activities related to the project, both temporary and permanent. Engineering judgement should be used to determine the amount of area the contractor needs to perform the work, while trying to minimize the disturbance to the tidal resources. The designer should also evaluate any utility work and access roads that may be needed as part of the project and include any of those associated impacts.

NOTE: This sample project has been altered from the actual project to produce this sample set of plans. This sample project is a smaller tidal area crossing. Work on larger bridges over navigable waterways require additional information and have additional permitting requirements. The Designer should consult with OEP to ensure necessary items are included in the permit plans. Tidal projects often have greater variation in site specifics than inland projects and closer coordination with OEP is recommended.



LOCATION PLAN

SCALE: 1" = 500'

LIST OF DRAWINGS	
DRAWING TITLE	DRAWING NO.
TITLE SHEET	PMT-01
EXISTING CONDITION PLAN	PMT-02
GENERAL SITE PLAN	PMT-03
WETLAND/WATERCOURSE IMPACT PLAN	PMT-04
100-YEAR FLOOD IMPACT PLAN	PMT-05
ELEVATION AND SECTION PLAN	PMT-06
STAGING AND WATER HANDLING PLAN	PMT-07
PERMIT PLANTING PLAN	PMT-08

Title Sheet:

1. Location plan at an appropriate scale that shows project location and nearby cross streets (example: 1"=500', 1"=1000'). For longer linear projects, depict beginning and end of project (project limits)
2. State of Connecticut map with Town shaded and call-out project location
3. General index for "LIST OF DRAWINGS" as appropriate for the project's permit plan set. If a mitigation plan is needed, those plan sheets shall be added to the end of the permit plan set.
4. GENERAL NOTES 1-5 (Additional notes may be added as appropriate for the project. Revise Note 4 as appropriate for the project. Update Note 5 as needed for any revisions to specs and manuals.
5. Include a signature block for Consultant Engineer, if needed.
6. Include a PLAN DATE (Latest revision date of sheet. Dates do not need to match within plan set)

On All Other Plan Views:

1. Show regulatory limits (bold) as required. The regulatory limits should be confirmed early in the design through an OEP review. They include, but are not limited to:
 - * Coastal Jurisdiction Line (CJL) - can be found on CTDEEP website.
 - * High Tide Line (HTL), Mean High Water (MHW), Mean Low Water (MLW) - can be found in the USACE Flood profiles.
 - * For projects requiring a USACE 408 or USCG coordination, include Mean Low Low Water (MLLW). Additional information may be required for USACE 408 and USCG permits. Consultation with OEP is recommended to review the necessary information.
 - * Include vegetated tidal wetland limits, if present.
 - * Include if the project area contains an intertidal flat.
2. For projects with Navigational waterways, show limits and dimensions of existing/temporary/proposed navigational horizontal and vertical clearances. Vertical clearances are measured from MHW to low chord, however, confirm with OEP during early project consultation. Projects on navigational waterways require additional information and may have additional permitting requirements. Early consultation with OEP is recommended.
3. If within a regulated flood zone, show existing flood limit lines on plan views (bold). Identify using the guidance in the 'Regulatory Floodplain Delineation, Permit Plan Set' dated May 2016 which can be found on the OEP webpage under 'Permit Plan Sets' - 'Guide for Floodplain Lines on Plans'
4. Show Floodway lines, if present (bold). This would be graphical from the FEMA map. If floodplain/floodway appears illogical, designer may consult with H&D regarding possible adjustment in order to depict on plans!
5. Show Cut/Fill limits
6. Include ebb/flood arrow and any storm drainage flow arrows (existing and proposed)
7. Do not include surveyed edge of stream line for tidal waters. If there are independent inland wetland/watercourses present, include surveyed edge of stream line and/or edge of waterbody for those inland areas on the plans (screened with survey file). However, Bold any delineated inland wetland areas found within the project area.
8. For Permit Plans, remove references to Contract Drawings as these drawings are not provided as part of the permit plan set. Remove reference to Specifications/Special Provisions (unless specifically recommended by OEP).
9. Add "PLAN DATE:" to every sheet in the set which is the latest revision date of the sheet. The dates do not need to match within the plan set.

Note: For additional information, see the Department's Office of Environmental Planning's webpage. OEP's Environmental Permitting Unit's section also includes a Permit Plan Set Checklist.

GENERAL NOTES See Title Sheet guidance note 4

1. THESE PLANS ARE NOT FOR CONSTRUCTION AND ARE 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 TIDAL WETLANDS AND WETLAND SOILS SEE RELEVANT SECTIONS OF THE PERMIT APPLICATION.
4. 400 FOOT GRID BASED ON CONNECTICUT COORDINATE SYSTEM N.A.D. 1983 (2011) VERTICAL DATUM BASED ON NAVD OF 1988.
5. ALL CONSTRUCTION ACTIVITIES WILL BE CONDUCTED IN ACCORDANCE WITH THE DEPARTMENT'S STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, 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 DEEP CONNECTICUT GUIDELINES FOR SOIL EROSION & SEDIMENT CONTROL AND THE DEEP CONNECTICUT STORMWATER QUALITY MANUAL.

IMPORTANT TO DESIGNER: PRIOR TO BEGINNING THE DEVELOPMENT OF THE TIDAL PERMIT PLANS, CONSULTATION SHOULD OCCUR WITH OEP/EPC.

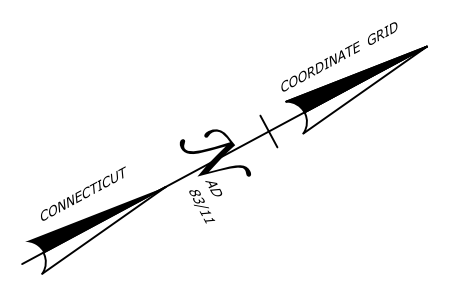
ALSO NOTE: PRELIMINARY PERMIT PLAN DEVELOPMENT SHOULD BE INITIATED AFTER THE 30% DESIGN REVIEW HAS BEEN COMPLETED. PLEASE ENSURE ANY PERTINENT/APPLICABLE 30% DESIGN REVIEW COMMENTS ARE INCORPORATED INTO THE PERMIT PLANS.

Block for Consultant stamp and signature if applicable

DESIGNED BY:
Consultant Name
Address

PLAN DATE: APRIL 2, 2024

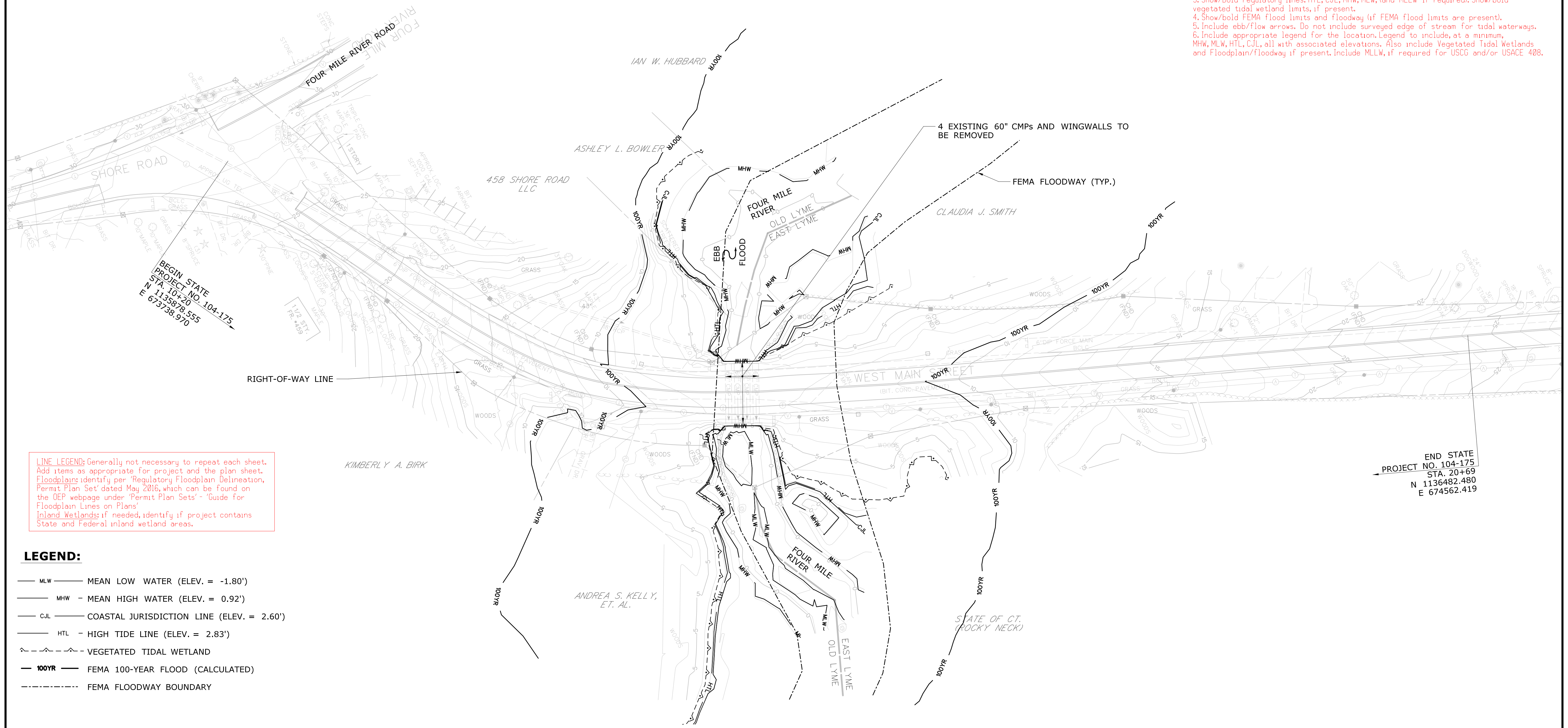
 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	SIGNATURE/ BLOCK:	PROJECT TITLE: REPLACEMENT OF BRIDGE NO. XXXXX, ROUTE X OVER A RIVER	TOWN: A TOWN	PROJECT NO. XXXX-XXXX	DRAWING NO. PMT-01	SHEET NO.	DRAWING TITLE: TITLE SHEET
DESIGNER/DRAFTER: CHECKED BY: SCALE AS NOTED	THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.	FILENAME: ...\\200_EPP_MSH_0104_0175_(2713)-Title Sheet.dgn	PLOTTED DATE: 4/2/2024				



Guide for the Development of the Permit Plan Set

Existing Condition Plan:

1. Plan of the existing survey of the project area.
2. Identify project limits.
3. Show/Bold regulatory lines: HTL, CJL, MHW, MLW, (and MLLW if required). Show/bold vegetated tidal wetland limits, if present.
4. Show/bold FEMA flood limits and floodway (if FEMA flood limits are present).
5. Include ebb/flow arrows. Do not include surveyed edge of stream for tidal waterways.
6. Include appropriate legend for the location. Legend to include, at a minimum, MHW, MLW, HTL, CJL, all with associated elevations. Also include Vegetated Tidal Wetlands and Floodplain/Floodway if present. Include MLLW, if required for USCG and/or USACE 408.



LINE LEGEND: Generally not necessary to repeat each sheet. Add items as appropriate for project and the plan sheet. Floodplain: identify per 'Regulatory Floodplain Delineation, Permit Plan Set' dated May 2016, which can be found on the OEP webpage under 'Permit Plan Sets' - 'Guide for Floodplain Lines on Plans'. Inland Wetlands: if needed, identify if project contains State and Federal inland wetland areas.

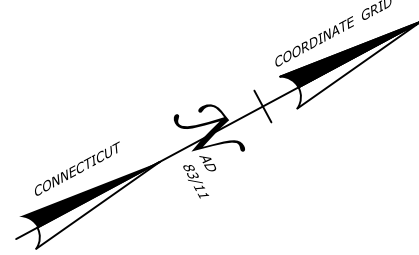
- LEGEND:**
- MLW — MEAN LOW WATER (ELEV. = -1.80')
 - MHW — MEAN HIGH WATER (ELEV. = 0.92')
 - CJL — COASTAL JURISDICTION LINE (ELEV. = 2.60')
 - HTL — HIGH TIDE LINE (ELEV. = 2.83')
 - VEGETATED TIDAL WETLAND
 - 100YR — FEMA 100-YEAR FLOOD (CALCULATED)
 - FEMA FLOODWAY BOUNDARY

BEGIN STATE PROJECT NO. 104-175
STA. 10+69
N 1135978.555
E 673798.970

END STATE PROJECT NO. 104-175
STA. 20+69
N 1136482.480
E 674562.419

ENVIRONMENTAL PERMIT PLANS
PLAN DATE: JULY 7, 2023

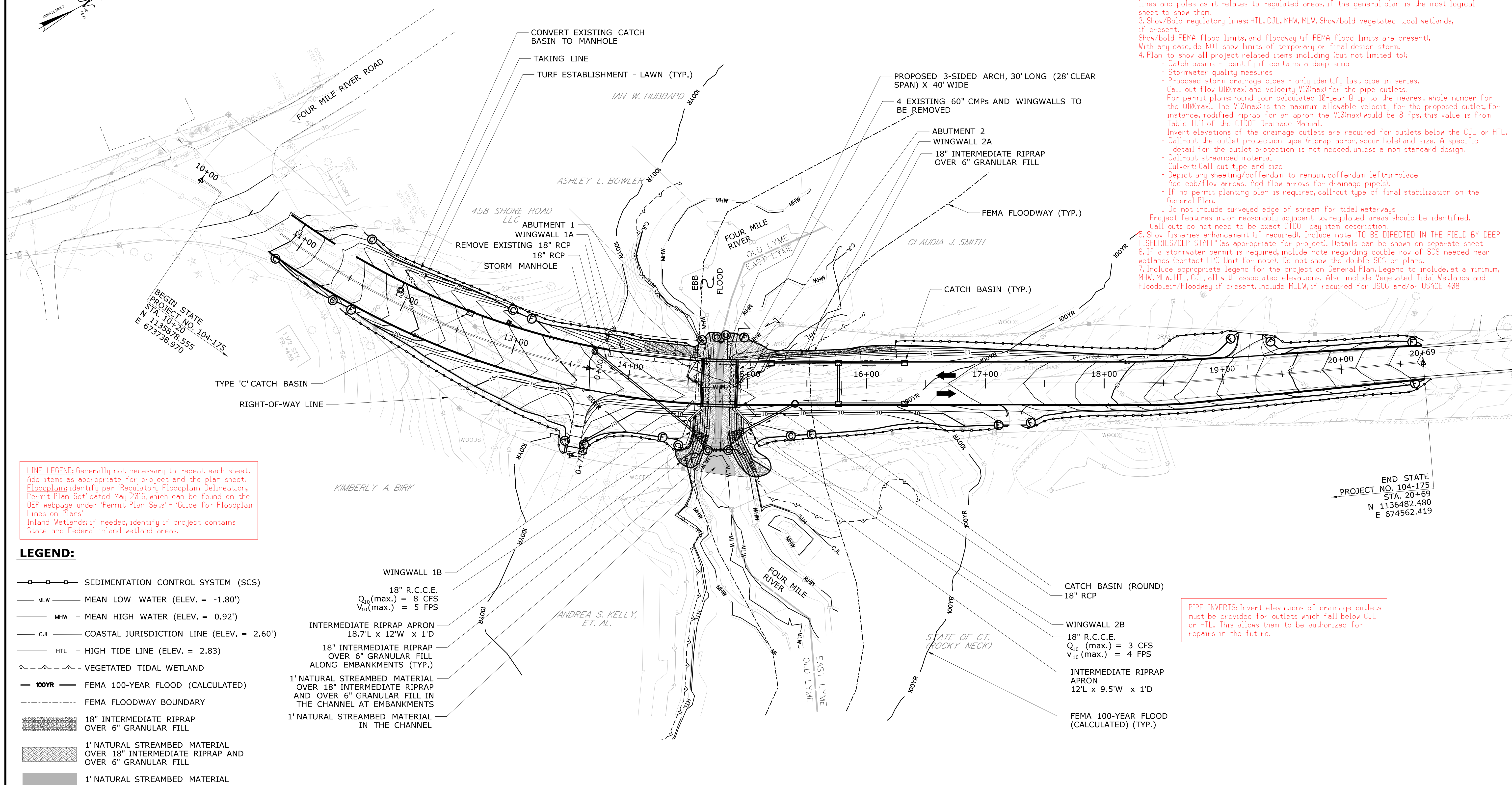
THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAFTER: CHECKED BY: SCALE 1" = 40' 40 20 0 40	<p>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</p> <p>Signature/Block:</p>	PROJECT TITLE: <p>REPLACEMENT OF BRIDGE NO. XXXXX, ROUTE X OVER A RIVER</p>	TOWN: <p>A TOWN</p>	PROJECT NO. XXXX-XXXX DRAWING NO. PMT-02 SHEET NO.
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 7/31/2023	DRAWING TITLE: <p>EXISTING CONDITION PLAN</p>	



Guide for the Development of the Permit Plan Set

General Site Plan:

- Show project at completion with proposed bridge. Identify project limits. Plan to include existing survey (screened), including existing culverts and existing contours. Include proposed contours and label contour elevations so the reader can clearly understand grades and slope. Show SCS for final stabilization (toe of slope).
- Permanent access roads should be shown (show temporary access roads on impact plan(s)). Some temporary items can be shown; construction easements, approx. location of utility lines and poles as it relates to regulated areas, if the general plan is the most logical sheet to show them.
- Show/Bold regulatory lines: HTL, CJL, MHW, MLW. Show/bold vegetated tidal wetlands, if present.
- Show/bold FEMA flood limits, and floodway (if FEMA flood limits are present). With any case, do NOT show limits of temporary or final design storm.
- Plan to show all project related items including (but not limited to):
 - Catch basins - identify if contains a deep sump
 - Stormwater quality measures
 - Proposed storm drainage pipes - only identify last pipe in series. Call-out flow $Q_{10}(\max)$ and velocity $V_{10}(\max)$ for the pipe outlets.
 - For permit plans: round your calculated 10-year Q up to the nearest whole number for the $Q_{10}(\max)$. The $V_{10}(\max)$ is the maximum allowable velocity for the proposed outlet, for instance, modified riprap for an apron the $V_{10}(\max)$ would be 8 fps, this value is from Table 11.11 of the CTDOT Drainage Manual.
 - Invert elevations of the drainage outlets are required for outlets below the CJL or HTL.
 - Call-out the outlet protection type (riprap apron, scour hole) and size. A specific detail for the outlet protection is not needed, unless a non-standard design.
 - Call-out streambed material
 - Culvert: Call-out type and size
 - Depict any sheeting/cofferdam to remain, cofferdam left-in-place
 - Add ebb/flow arrows. Add flow arrows for drainage pipe(s).
 - If no permit planting plan is required, call-out type of final stabilization on the General Plan.
 - Do not include surveyed edge of stream for tidal waterways
 - Project features in, or reasonably adjacent to, regulated areas should be identified.
 - Call-outs do not need to be exact CTDOT pay item description.
 - Show fisheries enhancement (if required). Include note "TO BE DIRECTED IN THE FIELD BY DEEP FISHERIES/DEP STAFF" (as appropriate for project). Details can be shown on separate sheet
 - If a stormwater permit is required, include note regarding double row of SCS needed near wetlands (contact EPC Unit for note). Do not show the double SCS on plans.
 - Include appropriate legend for the project on General Plan. Legend to include, at a minimum, MHW, MLW, HTL, CJL, all with associated elevations. Also include Vegetated Tidal Wetlands and Floodplain/Floodway if present. Include MLLW, if required for USC& and/or USACE 408



LINE LEGEND: Generally not necessary to repeat each sheet. Add items as appropriate for project and the plan sheet. Floodplain: identify per 'Regulatory Floodplain Delineation, Permit Plan Set' dated May 2016, which can be found on the DEP webpage under 'Permit Plan Sets' - 'Guide for Floodplain Lines on Plans'. Inland Wetlands: if needed, identify if project contains State and Federal inland wetland areas.

- LEGEND:**
- SEDIMENTATION CONTROL SYSTEM (SCS)
 - MLW — MEAN LOW WATER (ELEV. = -1.80')
 - MHW — MEAN HIGH WATER (ELEV. = 0.92')
 - CJL — COASTAL JURISDICTION LINE (ELEV. = 2.60')
 - HTL — HIGH TIDE LINE (ELEV. = 2.83)
 - VEGETATED TIDAL WETLAND
 - 100YR — FEMA 100-YEAR FLOOD (CALCULATED)
 - FEMA FLOODWAY BOUNDARY
 - 18" INTERMEDIATE RIPRAP OVER 6" GRANULAR FILL
 - 1' NATURAL STREAMBED MATERIAL OVER 18" INTERMEDIATE RIPRAP AND OVER 6" GRANULAR FILL
 - 1' NATURAL STREAMBED MATERIAL
 - SHEET PILE COFFERDAM LEFT-IN-PLACE (CUT 1' BELOW CHANNEL INVERT)

WINGWALL 1B
18" R.C.C.E.
 $Q_{10}(\max.) = 8$ CFS
 $V_{10}(\max.) = 5$ FPS

INTERMEDIATE RIPRAP APRON
18.7'L x 12'W x 1'D
18" INTERMEDIATE RIPRAP OVER 6" GRANULAR FILL ALONG EMBANKMENTS (TYP.)

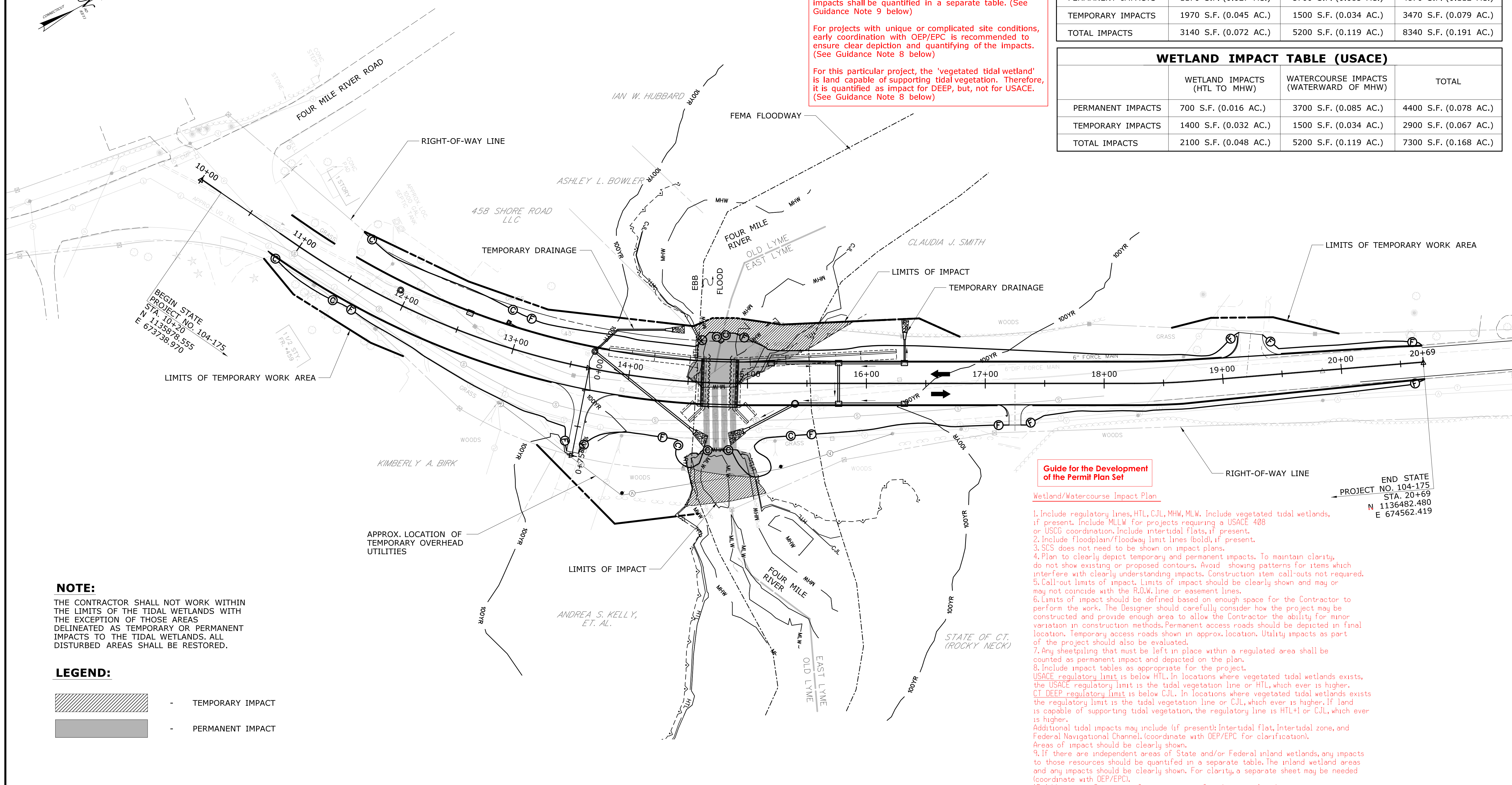
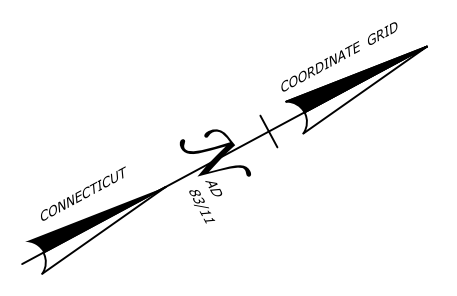
1' NATURAL STREAMBED MATERIAL OVER 18" INTERMEDIATE RIPRAP AND OVER 6" GRANULAR FILL IN THE CHANNEL AT EMBANKMENTS

1' NATURAL STREAMBED MATERIAL IN THE CHANNEL

PIPE INVERTS: Invert elevations of drainage outlets must be provided for outlets which fall below CJL or HTL. This allows them to be authorized for repairs in the future.

ENVIRONMENTAL PERMIT PLANS
PLAN DATE: JULY 7, 2023

REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 7/31/2023	DESIGNER/DRAFTER:	CHECKED BY:	SCALE 1" = 40'	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	SIGNATURE/ BLOCK:	PROJECT TITLE: REPLACEMENT OF BRIDGE NO. XXXXX, ROUTE X OVER A RIVER	TOWN:	PROJECT NO. XXXX-XXXX
											A TOWN	DRAWING NO. PMT-03
											GENERAL SITE PLAN	SHEET NO.



IMPACT TABLE:

The values can be rounded up as shown in this example.

For projects which also include inland wetlands, those impacts shall be quantified in a separate table. (See Guidance Note 9 below)

For projects with unique or complicated site conditions, early coordination with OEP/EPC is recommended to ensure clear depiction and quantifying of the impacts. (See Guidance Note 8 below)

For this particular project, the 'vegetated tidal wetland' is land capable of supporting tidal vegetation. Therefore, it is quantified as impact for DEEP, but, not for USACE. (See Guidance Note 8 below)

WETLAND IMPACT TABLE (DEEP)			
	WETLAND IMPACTS (TIDAL WETLAND LIMIT TO MHW)	WATERCOURSE IMPACTS (WATERWARD OF MHW)	TOTAL
PERMANENT IMPACTS	1170 S.F. (0.027 AC.)	3700 S.F. (0.085 AC.)	4870 S.F. (0.112 AC.)
TEMPORARY IMPACTS	1970 S.F. (0.045 AC.)	1500 S.F. (0.034 AC.)	3470 S.F. (0.079 AC.)
TOTAL IMPACTS	3140 S.F. (0.072 AC.)	5200 S.F. (0.119 AC.)	8340 S.F. (0.191 AC.)

WETLAND IMPACT TABLE (USACE)			
	WETLAND IMPACTS (HTL TO MHW)	WATERCOURSE IMPACTS (WATERWARD OF MHW)	TOTAL
PERMANENT IMPACTS	700 S.F. (0.016 AC.)	3700 S.F. (0.085 AC.)	4400 S.F. (0.078 AC.)
TEMPORARY IMPACTS	1400 S.F. (0.032 AC.)	1500 S.F. (0.034 AC.)	2900 S.F. (0.067 AC.)
TOTAL IMPACTS	2100 S.F. (0.048 AC.)	5200 S.F. (0.119 AC.)	7300 S.F. (0.168 AC.)

BEGIN STATE PROJECT NO. 104-175
STA. 10+20
N 1135878.555
E 673738.970

END STATE PROJECT NO. 104-175
STA. 20+69
N 1136482.480
E 674562.419

NOTE:
THE CONTRACTOR SHALL NOT WORK WITHIN THE LIMITS OF THE TIDAL WETLANDS WITH THE EXCEPTION OF THOSE AREAS DELINEATED AS TEMPORARY OR PERMANENT IMPACTS TO THE TIDAL WETLANDS. ALL DISTURBED AREAS SHALL BE RESTORED.

LEGEND:

- TEMPORARY IMPACT

- PERMANENT IMPACT

Guide for the Development of the Permit Plan Set

- Wetland/Watercourse Impact Plan
1. Include regulatory lines, HTL, CJL, MHW, MLW. Include vegetated tidal wetlands, if present. Include MLLW for projects requiring a USACE 408 or USCG coordination. Include intertidal flats, if present.
 2. Include floodplain/floodway limit lines (bold), if present.
 3. SCS does not need to be shown on impact plans.
 4. Plan to clearly depict temporary and permanent impacts. To maintain clarity, do not show existing or proposed contours. Avoid showing patterns for items which interfere with clearly understanding impacts. Construction item call-outs not required.
 5. Call-out limits of impact. Limits of impact should be clearly shown and may or may not coincide with the R.O.W. line or easement lines.
 6. Limits of impact should be defined based on enough space for the Contractor to perform the work. The Designer should carefully consider how the project may be constructed and provide enough area to allow the Contractor the ability for minor variation in construction methods. Permanent access roads should be depicted in final location. Temporary access roads shown in approx. location. Utility impacts as part of the project should also be evaluated.
 7. Any sheetpiling that must be left in place within a regulated area shall be counted as permanent impact and depicted on the plan.
 8. Include impact tables as appropriate for the project.
USACE regulatory limit is below HTL. In locations where vegetated tidal wetlands exists, the USACE regulatory limit is the tidal vegetation line or HTL, which ever is higher.
CT DEEP regulatory limit is below CJL. In locations where vegetated tidal wetlands exists the regulatory limit is the tidal vegetation line or CJL, which ever is higher. If land is capable of supporting tidal vegetation, the regulatory line is HTL+1 or CJL, which ever is higher.
Additional tidal impacts may include (if present): Intertidal flat, Intertidal zone, and Federal Navigational Channel. (coordinate with OEP/EPC for clarification). Areas of impact should be clearly shown.
 9. If there are independent areas of State and/or Federal inland wetlands, any impacts to those resources should be quantified in a separate table. The inland wetland areas and any impacts should be clearly shown. For clarity, a separate sheet may be needed (coordinate with OEP/EPC).
 10. Add note to Contractor for restriction of work in regulated areas.

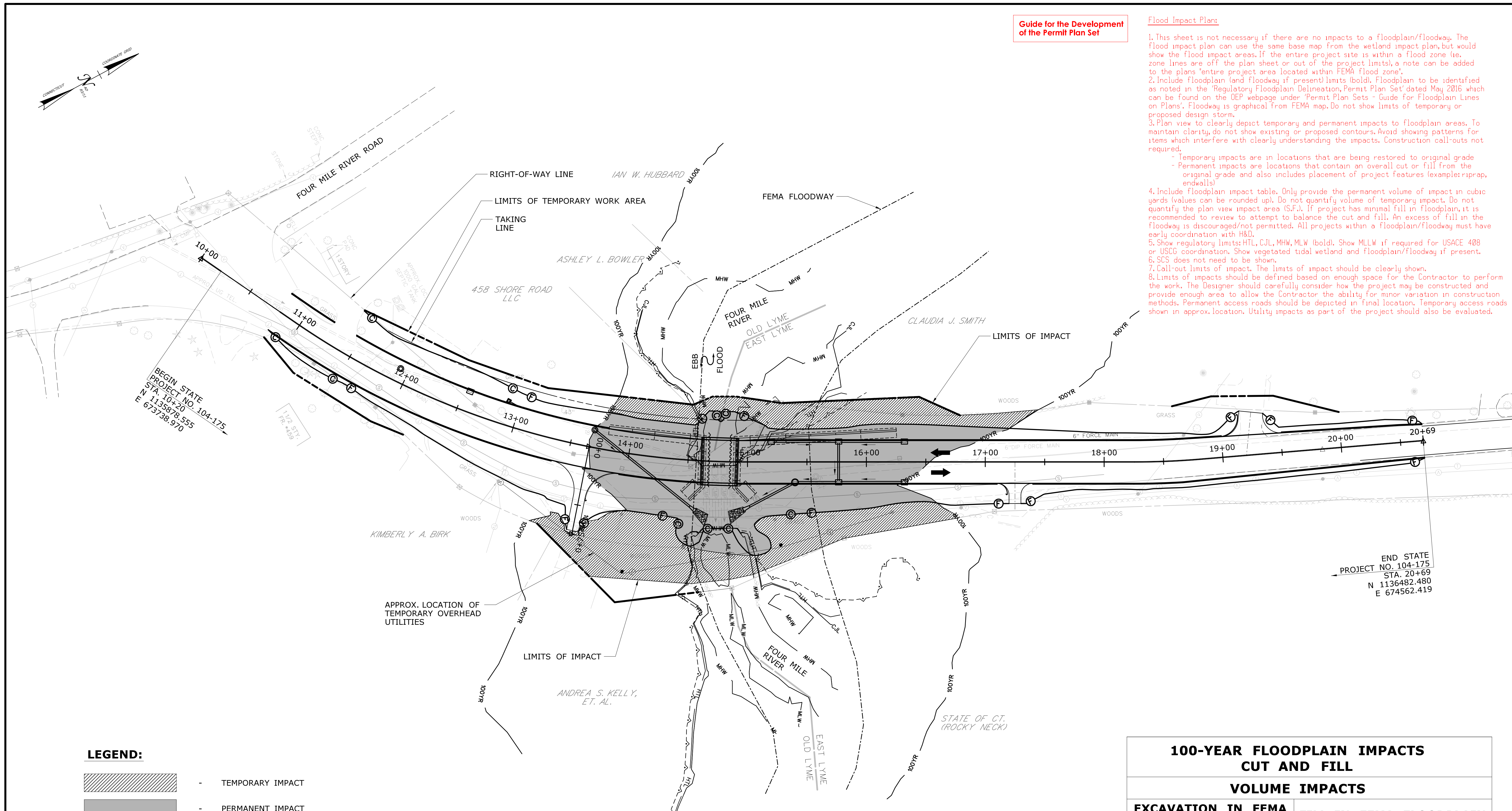
ENVIRONMENTAL PERMIT PLANS
PLAN DATE: JULY 7, 2023

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">REV.</td> <td style="width: 10%;">DATE</td> <td style="width: 60%;">REVISION DESCRIPTION</td> <td style="width: 25%;">SHEET NO.</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	REV.	DATE	REVISION DESCRIPTION	SHEET NO.					<p>Plotted Date: 8/10/2023</p>	<p>DESIGNER/DRAFTER:</p> <p>CHECKED BY:</p> <p align="center">SCALE 1" = 40'</p> <p align="center">40 20 0 40</p>	<p>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</p> <p>Filename: ...202_EPP_MSH_0104_0175_(2713)-Wetland Impacts.dgn</p>	<p>SIGNATURE/ BLOCK:</p>	<p>PROJECT TITLE:</p> <p>REPLACEMENT OF BRIDGE NO. XXXXX, ROUTE X OVER A RIVER</p>	<p>TOWN:</p> <p align="center">A TOWN</p> <p>DRAWING TITLE:</p> <p align="center">WETLAND/WATERCOURSE IMPACT PLAN</p>	<p>PROJECT NO.</p> <p align="center">XXXX-XXXX</p> <p>DRAWING NO.</p> <p align="center">PMT-04</p> <p>SHEET NO.</p>
REV.	DATE	REVISION DESCRIPTION	SHEET NO.												

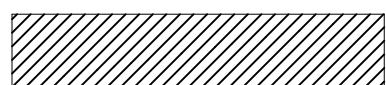

Guide for the Development of the Permit Plan Set

Flood Impact Plan:

1. This sheet is not necessary if there are no impacts to a floodplain/floodway. The flood impact plan can use the same base map from the wetland impact plan, but would show the flood impact areas. If the entire project site is within a flood zone (ie, zone lines are off the plan sheet or out of the project limits), a note can be added to the plans "entire project area located within FEMA flood zone".
2. Include floodplain (and floodway if present) limits (bold). Floodplain to be identified as noted in the "Regulatory Floodplain Delineation, Permit Plan Set" dated May 2016 which can be found on the DEP webpage under "Permit Plan Sets - Guide for Floodplain Lines on Plans". Floodway is graphical from FEMA map. Do not show limits of temporary or proposed design storm.
3. Plan view to clearly depict temporary and permanent impacts to floodplain areas. To maintain clarity, do not show existing or proposed contours. Avoid showing patterns for items which interfere with clearly understanding the impacts. Construction call-outs not required.
 - Temporary impacts are in locations that are being restored to original grade
 - Permanent impacts are locations that contain an overall cut or fill from the original grade and also includes placement of project features (example: riprap, endwalls)
4. Include floodplain impact table. Only provide the permanent volume of impact in cubic yards (values can be rounded up). Do not quantify volume of temporary impact. Do not quantify the plan view impact area (S.F.). If project has minimal fill in floodplain, it is recommended to review to attempt to balance the cut and fill. An excess of fill in the floodway is discouraged/not permitted. All projects within a floodplain/floodway must have early coordination with H&D.
5. Show regulatory limits: HFL, C.J.L, MHW, MLW (bold). Show MLLW if required for USACE 408 or USCG coordination. Show vegetated tidal wetland and floodplain/floodway if present.
6. SCS does not need to be shown.
7. Call-out limits of impact. The limits of impact should be clearly shown.
8. Limits of impacts should be defined based on enough space for the Contractor to perform the work. The Designer should carefully consider how the project may be constructed and provide enough area to allow the Contractor the ability for minor variation in construction methods. Permanent access roads should be depicted in final location. Temporary access roads shown in approx. location. Utility impacts as part of the project should also be evaluated.






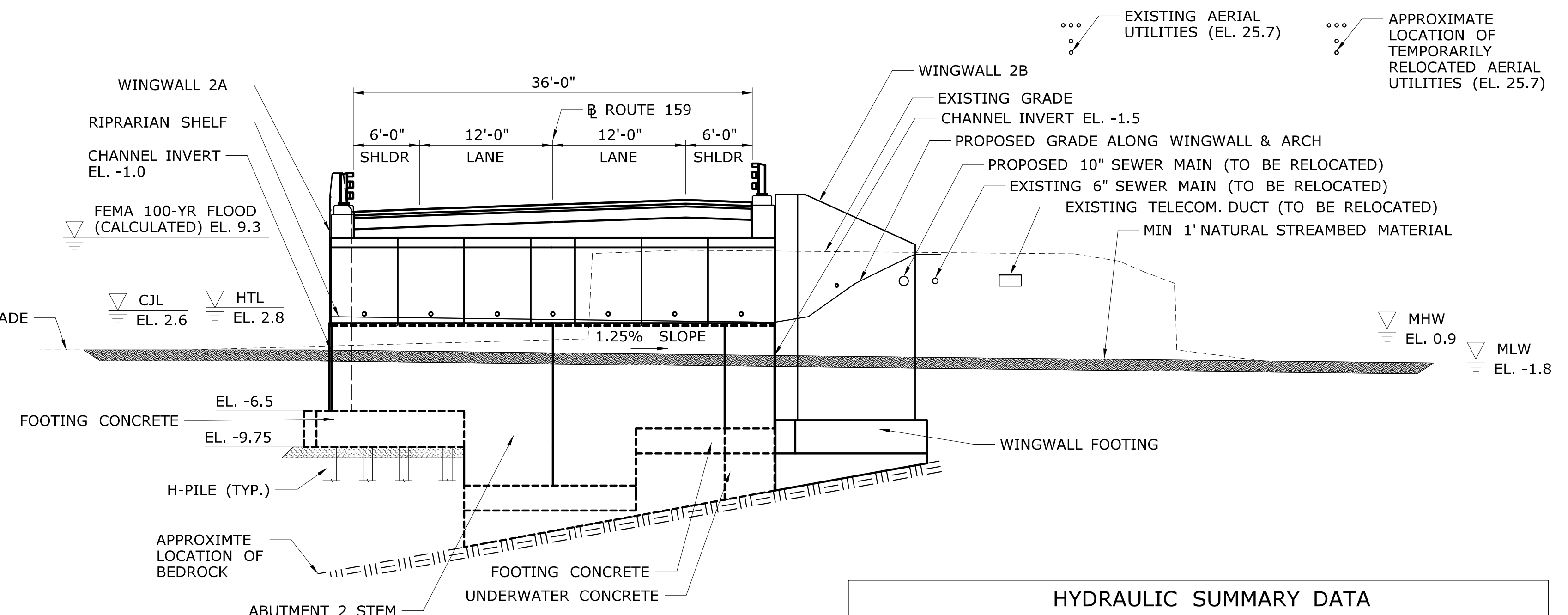
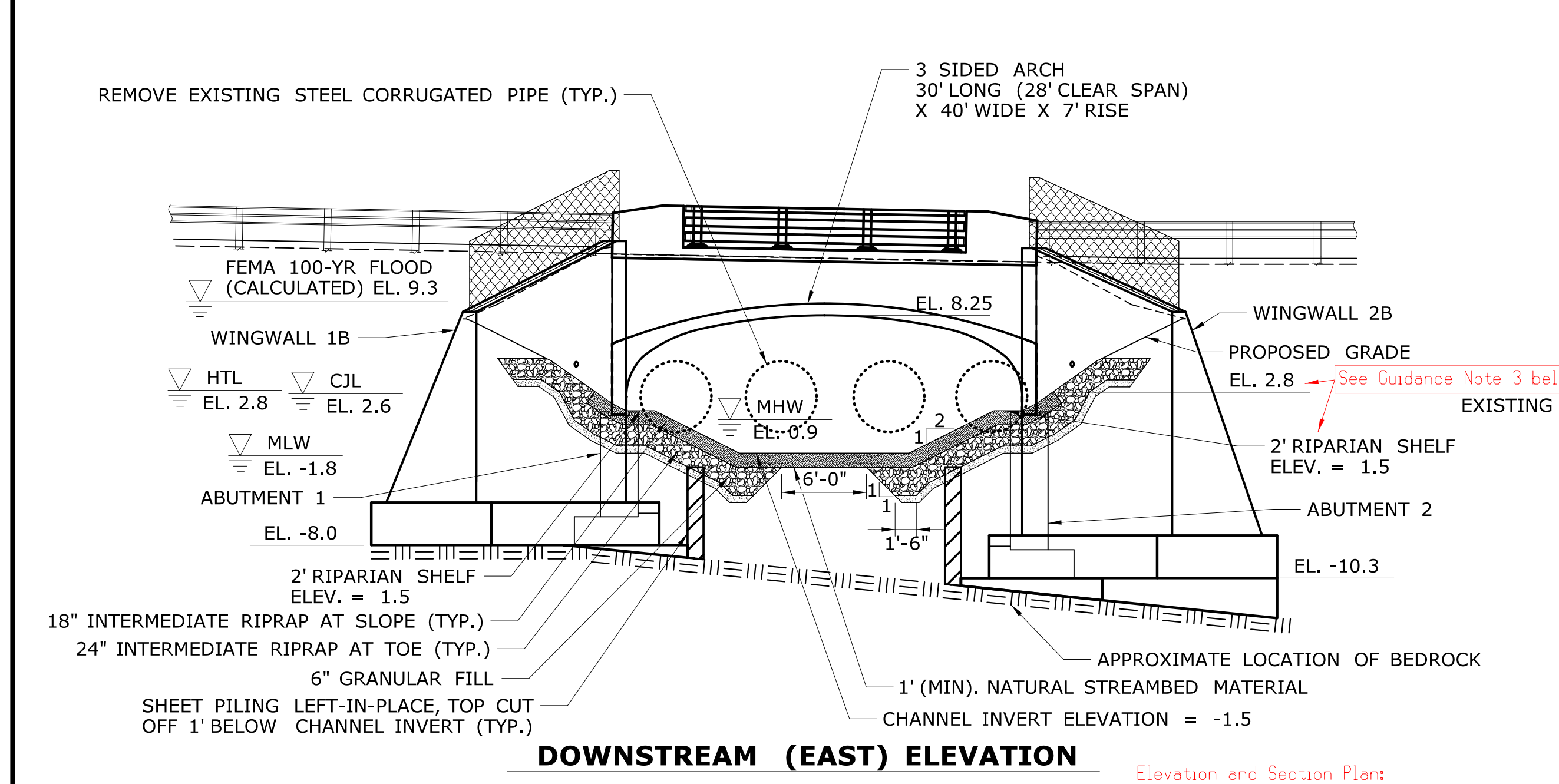
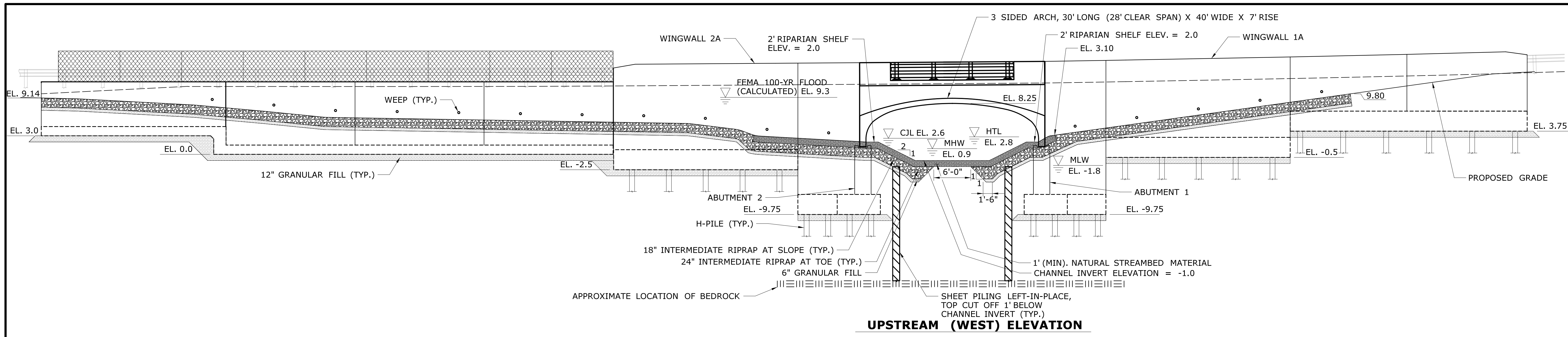
LEGEND:

-  - TEMPORARY IMPACT
-  - PERMANENT IMPACT

100-YEAR FLOODPLAIN IMPACTS CUT AND FILL	
VOLUME IMPACTS	
EXCAVATION IN FEMA FLOODPLAIN	FILL IN FEMA FLOODPLAIN
1540 C.Y.	3350 C.Y.

ENVIRONMENTAL PERMIT PLANS
PLAN DATE: JULY 7, 2023

REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 7/31/2023	DESIGNER/DRAFTER:	CHECKED BY:	 <p>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</p>	 <p>SIGNATURE/ BLOCK:</p>	PROJECT TITLE: REPLACEMENT OF BRIDGE NO. XXXXX, ROUTE X OVER A RIVER	TOWN: A TOWN	PROJECT NO. XXXX-XXXX
							<p>SCALE 1" = 40'</p> 			DRAWING TITLE: 100-YEAR FLOOD IMPACT PLAN	DRAWING NO. PMT-05
							Filename: ...203_EPP_MSH_0104_0175_(2713)-100 Year Flood Impacts.dgn				SHEET NO.



Elevation and Section Plan:

1. Include inlet and outlet views and longitudinal section view to show elevations for 100-year flood (for the design year as applicable), HTL, CJL, MHW, MLW, and inverts. Inverts for the culvert(s) can be depicted to the tenth (example: 98.1) to allow tolerance with installation. Also include MLLW if required.
2. Extend longitudinal view to depict where proposed grade meets existing (this should be along the centerline of the watercourse). Include slope on longitudinal view if a pipe/culvert. Include flow arrow.
3. Type of bedding and riprap used should be shown and depth called out. For natural streambed material, identify top elevation for placement along stream bank (Elev. is often project specific. Consult with OEP for confirmation). A riparian/wildlife shelf is not required, however, can include if feasible.
4. Add streambed material notes (as applicable for the project) and supplemental streambed material note, if needed.
5. Show locations of utility crossings over the waterway (temp. and perm.). Refer to CFR-2012-TITLE33-VOL3-SEC322-5 for additional information.
7. Include hydraulic data table as appropriate for project. Do not need scour information in the data table.
8. Plan sheet does not need to show unnecessary construction notes and comments. Sheet should show items pertinent to environmental permitting.
9. If project is proposing to leave sheeting in place within a regulated area, show sheeting in elevation views with call-out. Sheeting is to be cut minimum 1 ft. below proposed channel invert. (For navigational waterways, this depth may be more. Consult with OEP for confirmation).
10. For projects within a navigable waterway, show the vertical and horizontal dimensions and limits of the existing and proposed opening within the navigational channel. Projects on navigational waterways generally require additional information and may have additional permitting requirements. Early consultation and coordination with DEP is recommended.

Hydraulic Data Calculated by DOT's Hydraulics and Drainage Unit or Consultant

HYDRAULIC SUMMARY DATA		
DRAINAGE AREA (SQ. MI.)	6.2	
MEAN LOW WATER (FT)	-1.8	
MEAN HIGH WATER (FT)	0.9	
COASTAL JURISDICTION LINE (FT)	2.6	
HIGH TIDE LINE (1-YEAR TIDE) (FT)	2.8	
10-YEAR TIDE (FT)	5.2	
100-YEAR TIDE (FT)	9.3	
DESIGN FREQUENCY/EVENT	TIDAL: 10-YEAR	RIVERINE: 100-YEAR
DESIGN DISCHARGE (CFS)	1,070	
DESIGN WATER SURFACE ELEVATION - EBB DIRECTION (FT)	6.2	
DESIGN WATER SURFACE ELEVATION - FLOOD DIRECTION (FT)	9.0 (FEMA 100-YEAR)	

NATIVE STREAMBED MATERIAL NOTES:

1. NATIVE CHANNEL MATERIAL EXCAVATED DURING THE CONSTRUCTION SHALL BE STOCKPILED AND THEN REPLACED WITHIN THE PROPOSED CHANNEL 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". ANY SUBGRADE EXCAVATION MATERIAL IS TO BE INSPECTED BY OEP PRIOR TO REUSE.
2. ADDITIONAL CHANNEL MATERIAL, IF REQUIRED, SHALL BE IN ACCORDANCE WITH SPECIAL PROVISION "SUPPLEMENTAL STREAMBED CHANNEL MATERIAL". SUPPLEMENTAL MATERIAL SHALL MATCH EXISTING MATERIAL. SUPPLEMENTAL MATERIAL SHALL BE REVIEWED AND ACCEPTED BY THE ENGINEER OF THEIR AUTHORIZED DELEGATE PRIOR TO DELIVERY TO THE SITE.
3. THE STOCKPILE SHALL BE LOCATED OUTSIDE THE TIDAL WETLAND LIMITS AND PROTECTED WITH SEDIMENTATION CONTROL SYSTEM.

ENVIRONMENTAL PERMIT PLANS
PLAN DATE: JULY 7, 2023

DESIGNER/DRAFTER:	<p>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</p>	SIGNATURE/BLOCK:	PROJECT TITLE:	TOWN:	PROJECT NO.:
CHECKED BY:		<p>REPLACEMENT OF BRIDGE NO. XXXXX, ROUTE X OVER A RIVER</p>		A TOWN	XXXX-XXXX
SCALE: 1/8" = 1'-0"	<p>Filename: ...1204_EPP_MSH_0104_0175_(2713)-Elevation & Section Plan.dgn</p>			DRAWING TITLE:	DRAWING NO.:
REV. DATE REVISION DESCRIPTION SHEET NO. Plotted Date: 8/10/2023				ELEVATION AND SECTION PLAN	PMT-06
					SHEET NO.

WATER HANDLING NOTES:

1. THE CONTRACTOR SHALL MAINTAIN WATER THROUGH THE TEMPORARY WATER HANDLING SYSTEM AS REQUIRED DURING CONSTRUCTION OF THE NEW STRUCTURE.
2. A DEWATERING BASIN SHALL BE ESTABLISHED OUTSIDE OF THE TIDAL WETLAND LIMITS.
3. TEMPORARY WATER-HANDLING-COFFERDAM SHALL CONSIST OF AN APPROVED SYSTEM THAT THE CONTRACTOR ELECTS TO USE WHICH WILL SAFELY CONVEY WATER FLOWS THROUGH THE CONSTRUCTION AREA, SHALL BE ABLE TO SUPPORT CONSTRUCTION ACTIVITY AND SHALL CONFORM TO PERMITS.
4. WATER HANDLING MEASURES SHALL NOT EXCEED IMPACT AREAS SHOWN ON THE TIDAL WETLAND AND FLOODPLAIN IMPACT SHEETS OF THE PERMIT PLANS.
5. ANY STORM DRAINAGE DISCHARGING INTO A CONFINED WORK AREA FROM EXISTING OR PROPOSED STORM DRAINAGE PIPES SHALL BE DIVERTED OR PUMPED OUTSIDE THE CONFINED AREAS. PUMPS/PIPES SHALL BE SIZED BY THE CONTRACTOR TO 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 AND IS INCLUDED AS PART OF WATER HANDLING.

TIME-OF-YEAR BMP NOTE:

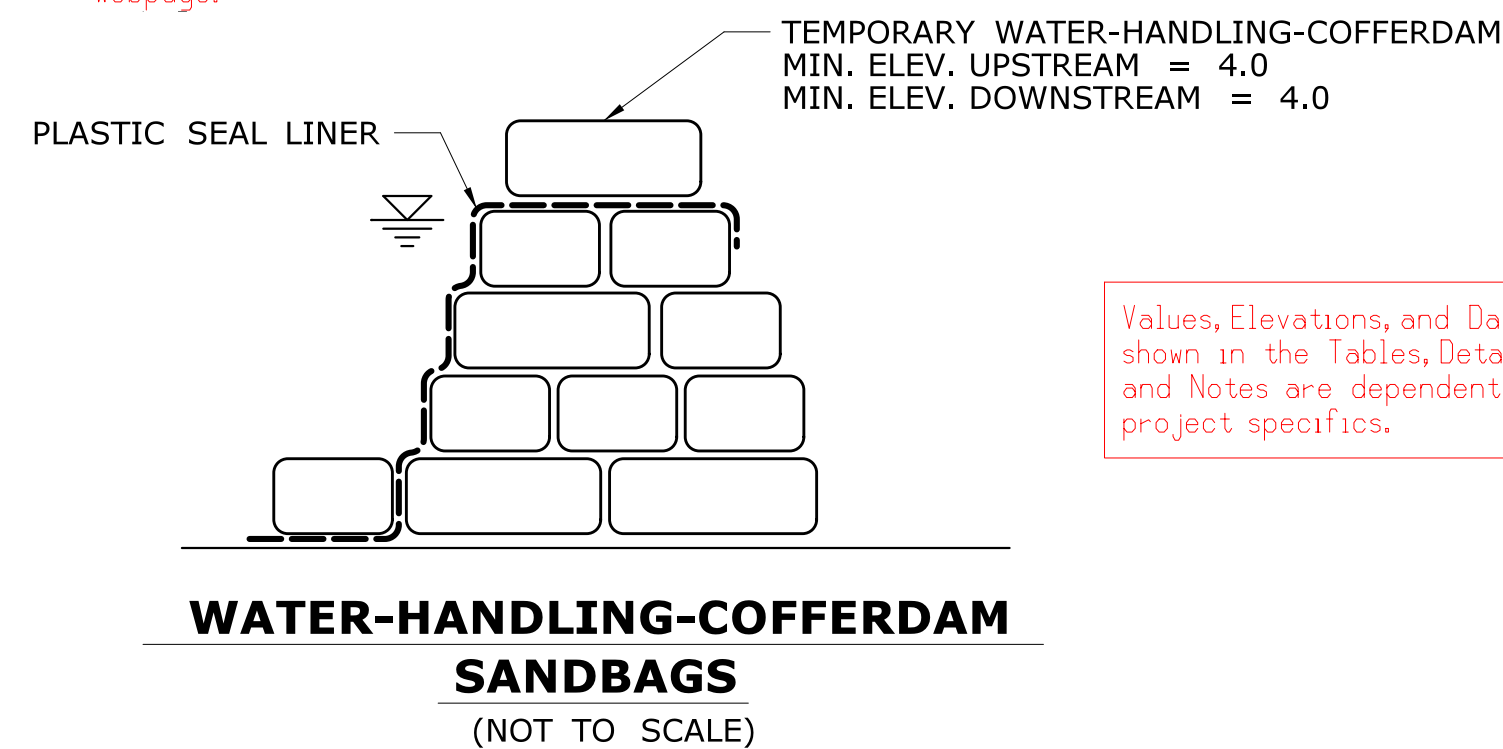
DUE TO THE PRESENCE OF ANADROMOUS FISH RUN, THE IN-WATER WORK, INCLUDING THE INSTALLATION AND REMOVAL OF WATER-HANDLING COFFERDAMS AND COFFERDAMS, IS PROHIBITED FROM MARCH 15 THROUGH MAY 30, INCLUSIVE.

See Guidance Note 5 below

Staging/Water Handling Plan:

1. The purpose of this plan sheet is to show the regulating agency the general intended scheme for construction/staging of the project and also the method(s) intended for water handling. It is expected that more detailed plans may be developed for final construction and also submitted by the contractor. It is intended that these permit plans are general enough that later contract plans can comply with the intent of the permit plans.
2. Include "SUGGESTED SEQUENCE OF CONSTRUCTION" which lists the basic information for construction of the project as it relates to regulated areas. Include general work within tidal wetlands/waters, and the installation of items such as (but not limited to):
 - Sedimentation Control System (SCS) (install and then removal upon final stabilization)
 - debris shield (if required) with a minimum elevation (no need to show in view, can state in sequence)
 - fisheries enhancements (include notifying DEEP Fisheries 10 days in advance of installation, if required)
 - installation of plantings as required for the project.
3. Show dewatering basin (approx. location).
4. Include appropriate water-handling-cofferdam detail and the proposed top elevation of the water-handling-cofferdam. The temporary hydraulic condition for handling water should be reviewed to determine the required minimum water-handling-cofferdam elevation. The elevation should be set a minimum of 1 ft. above the HTL elevation or the minimum required elevation determined by the temporary hydraulic condition, whichever is higher. A maximum elevation may also be specified depending on project requirements.
5. Note any regulatory Time-of-Year restriction(s) (may be Federal and/or State or include additional requirements). Time-of-year restrictions are project specific, designer should review regulatory comments and consult with OEP to ensure TOY requirements are met.
6. Include temporary hydraulic table as appropriate for the project.

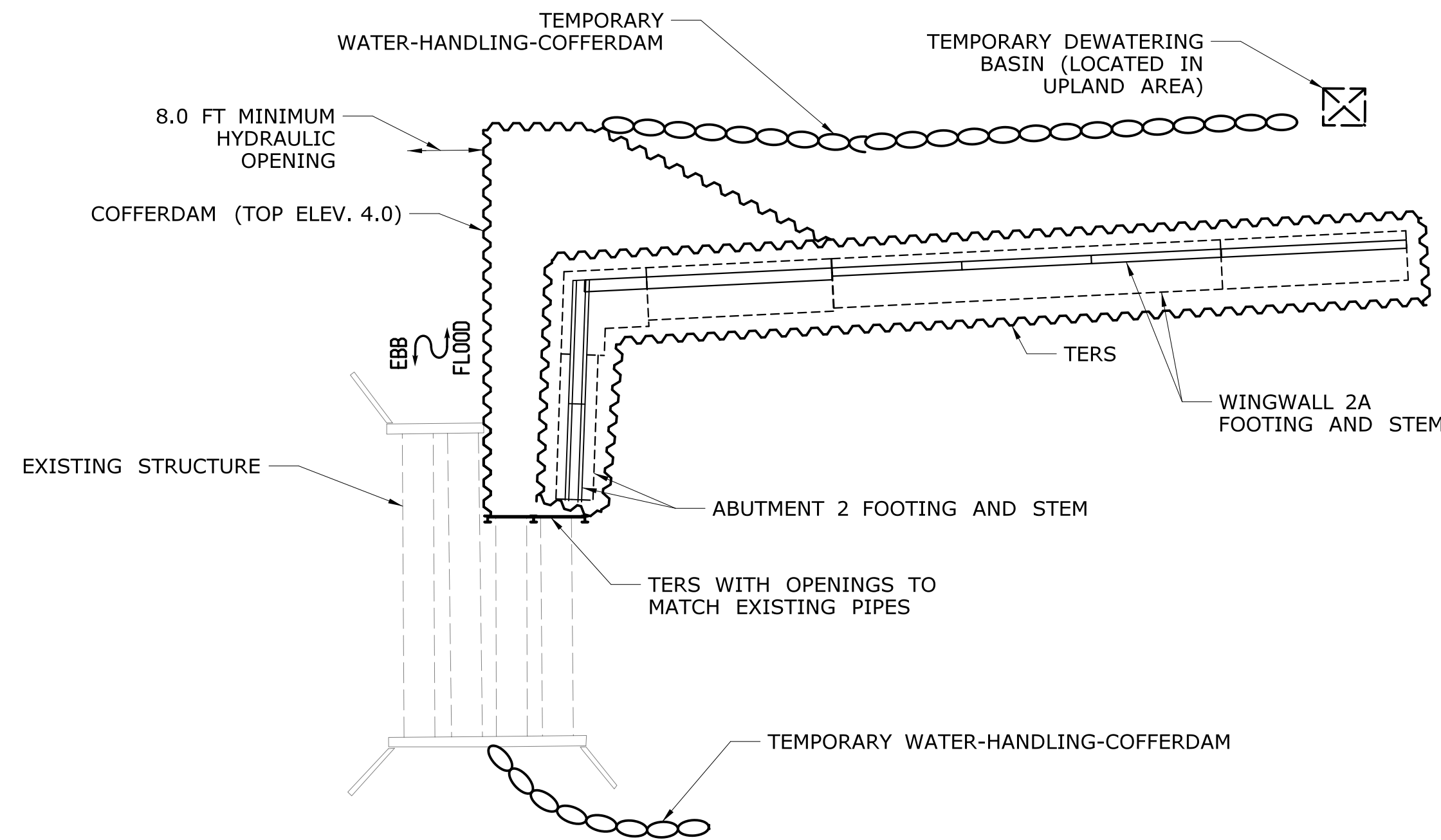
NOTE: This sample project had a complicated water handling, however, for other projects that have a simpler water handling scheme, the designer can use the Department's Water Handling Typical Schematics which can be found on the OEP webpage.



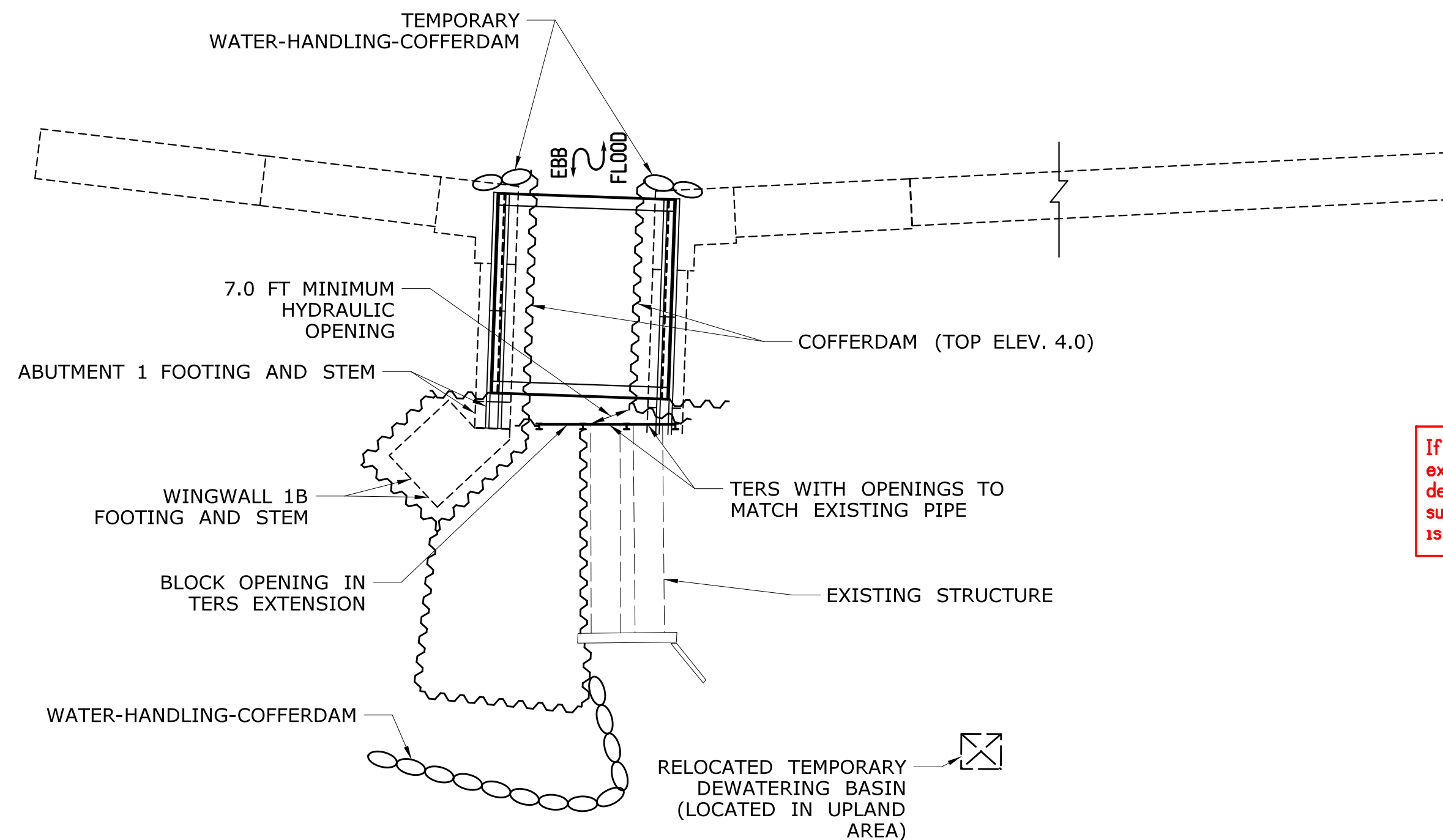
Values, Elevations, and Dates shown in the Tables, Details, and Notes are dependent upon project specifics.

TEMPORARY HYDRAULIC DATA		
MEAN LOW WATER (FT)	-1.8	
MEAN HIGH WATER (FT)	0.9	
COASTAL JURISDICTION LINE (FT)	2.6	
HIGH TIDE LINE (1-YEAR TIDE) (FT)	2.8	
TEMPORARY DESIGN FREQUENCY	TIDAL: HTL	RIVERINE: 5-YEAR
DESIGN DISCHARGE (CFS)	370	
MAX. TEMPORARY WATER ELEVATION (FT)	4.0	

Temp. Hydraulic Data values calculated by DOT's Hydraulics and Drainage Unit or Consultant



**PROPOSED WATER HANDLING
STAGE 1A (AND 1B - MIRROR)**
SCALE: 1" = 20'



**PROPOSED WATER HANDLING
STAGE 2A (AND 2B - MIRROR)**
SCALE: 1" = 20'

SUGGESTED SEQUENCE OF CONSTRUCTION:

STAGE 1A:

1. INSTALL SEDIMENTATION CONTROL SYSTEM, REMOVE INVASIVE SPECIES AND CLEAR AND GRUB.
2. INSTALL COFFERDAM UP THROUGH THE CENTERLINE OF THE EXISTING STRUCTURE.
3. INSTALL TEMPORARY WATER-HANDLING-COFFERDAMS AND DEWATERING BASIN.
4. INSTALL TEMPORARY EARTH RETAINING SYSTEM (TERS).
5. PARTIALLY REMOVE EXISTING STRUCTURE.
6. COMPLETE COFFERDAM INSTALLATION.
7. CONSTRUCT PORTION OF ABUTMENT 2 AND WINGWALL 2A.
8. PARTIALLY REMOVE COFFERDAM AROUND WINGWALL 2A AND INSTALL RIPRAP AND STREAMBED MATERIAL WITHIN THE CHANNEL AND ALONG THE WINGWALL.

STAGE 1B:

9. PARTIALLY REMOVE COFFERDAM TO ALLOW WATER TO FLOW THROUGH PIPES AS NEEDED. INSTALL COFFERDAMS TO SURROUND THE EXISTING STRUCTURE.
10. RELOCATE TEMPORARY WATER-HANDLING-COFFERDAMS AND DEWATERING BASIN.
11. INSTALL TEMPORARY EARTH RETAINING SYSTEM EXTENSION.
12. PARTIALLY REMOVE EXISTING STRUCTURE.
13. COMPLETE COFFERDAM INSTALLATION.
14. CONSTRUCT PORTION OF ABUTMENT 1 AND WINGWALL 1A.
15. PARTIALLY REMOVE COFFERDAM ALONG WINGWALL 1A AND INSTALL RIPRAP AND STREAMBED MATERIAL IN THE CHANNEL AND ALONG THE WINGWALL.

STAGE 1C:

16. RELOCATE TEMPORARY WATER-HANDLING-COFFERDAMS AND REMOVE PORTIONS AS NEEDED.
17. CONSTRUCT ARCH (STAGE 1 PORTION)
18. INSTALL PORTIONS OF COFFERDAM FOR STAGE 2 AS NEEDED.

STAGE 2A:

19. INSTALL COFFERDAM THROUGH THE CENTERLINE OF THE EXISTING STRUCTURE AND AROUND THE REMAINING PORTION OF THE EXISTING STRUCTURE. INSTALL TEMPORARY WATER-HANDLING-COFFERDAMS AND DEWATERING BASIN.
20. PARTIALLY REMOVE EXISTING STRUCTURE AND INSTALL REMAINING COFFERDAM AROUND WINGWALL 1B.
21. INSTALL RIPRAP AND STREAMBED MATERIAL.
22. COMPLETE ABUTMENT 1 CONSTRUCTION AND CONSTRUCT WINGWALL 1B.

STAGE 2B:

23. PARTIALLY REMOVE COFFERDAM AS NEEDED, REMOVE TEMPORARY WATER-HANDLING-COFFERDAM, PARTIALLY REMOVE TEMPORARY EARTH RETAINING SYSTEM, AND BLOCK OPENING IN TEMPORARY EARTH RETAINING SYSTEM.
24. INSTALL COFFERDAM SURROUNDING THE EXISTING STRUCTURE AND REMOVE REMAINING EXISTING STRUCTURE.
25. INSTALL RIPRAP AND STREAMBED MATERIAL.
26. INSTALL COFFERDAM.
27. COMPLETE ABUTMENT 2 CONSTRUCTION AND CONSTRUCT WINGWALL 2B.

STAGE 2C:

28. REMOVE COFFERDAMS WITHIN CHANNEL AND TEMPORARY EARTH RETAINING SYSTEM AND RELOCATE TEMPORARY WATER-HANDLING-COFFERDAM AS NEEDED.
29. COMPLETE ARCH CONSTRUCTION (STAGE 2).
30. REMOVE COFFERDAM AT WINGWALL 2B.
31. CUT LEFT-IN-PLACE COFFERDAM AND COMPLETE RIPRAP AND STREAMBED INSTALLATION.

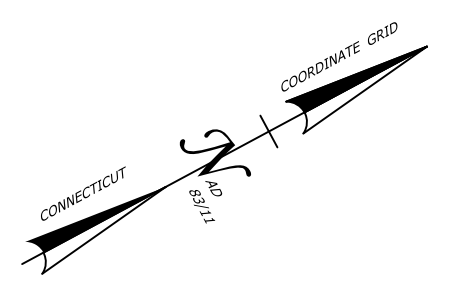
STAGE 2D:

32. RELOCATE TEMPORARY WATER-HANDLING-COFFERDAM AND DEWATERING BASIN.
33. REMOVE COFFERDAM AT WINGWALL 1B.
34. CUT LEFT-IN-PLACE COFFERDAM AND COMPLETE RIPRAP AND STREAMBED INSTALLATION.
35. REMOVE TEMPORARY WATER-HANDLING-COFFERDAM AND DEWATERING BASIN.
36. INSTALL FINAL SEEDING AND PLANTINGS.
37. REMOVE SEDIMENTATION CONTROL SYSTEM UPON FINAL STABILIZATION.

If stages are self explanatory, written description will suffice. A drawing is not necessary.

**ENVIRONMENTAL PERMIT PLANS
PLAN DATE: JULY 7, 2023**

DESIGNER/DRAFTER:	<p>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</p>	SIGNATURE/ BLOCK:	PROJECT TITLE:	TOWN:	PROJECT NO.:	
CHECKED BY:		REPLACEMENT OF BRIDGE NO. XXXXX, ROUTE X OVER A RIVER	A TOWN	XXXX-XXXX		
SCALE AS NOTED	Plotted Date: 8/10/2023	Filename: ...205_EPP_MSH_0104_0175_(2713)-Water_Handling_Plan.dgn	DRAWING TITLE: STAGING AND WATER HANDLING PLAN			DRAWING NO. PMT-07
REV. DATE	REVISION DESCRIPTION	SHEET NO.	SHEET NO.			



PERMIT PLANTING ITEMS

Botanical Name	Common Name and Size	Quantity	Spacing (o.c.)	WetLand Indicator	Comments
CORNUS ALBA	RED OSIER 3'-4' HT. B.B.	20 ea.	6' On Center	FAC	
ILEX VERTICILLATA	COMMON WINTERBERRY 3'-4' HT. B.B.	25 ea.	6' On Center	FACW	
ALNUS INCANA	SPECKLED ALDER 4'-5' HT. B.B.	20 ea.	6' On Center	FACW	
AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY 5'-6' HT. B.B.	10 ea.	Field Locate	FAC	
VIBURNUM LENTAGO	NANNYBERRY VIBURNUM 3'-4' HT. B.B.	25 ea.	5' On Center	FAC	
SAMBUCUS CANADENSIS	COMMON ELDERBERRY 3'-4' HT. B.B.	20 ea.	6' On Center	FACW	
ACER RUBRUM	RED MAPLE 2" - 2 1/2" CAL. B.B.	2 ea.	Field Locate	FAC	
HIBISCUS MOSCHEUTOS	ROSE MALLOW 18" - 24" HT. CONTAINER	20 ea.			
BACCHARIS HALIMIFOLIA	GROUNDSEL TREE 2' - 3' B.B.	20 ea.			
IVA FRUTESCENS	JESUIT'S BARK 2' - 3' HT. B.B.	20 ea.			
SPARTINA ALTERNIFLORA	SMOOTH CORDGRASS 2" PLUGS	1000 ea.	1' On Center		
SPARTINA PATENS	SALTMEADOW CORDGRASS	300 ea.	1' On Center		

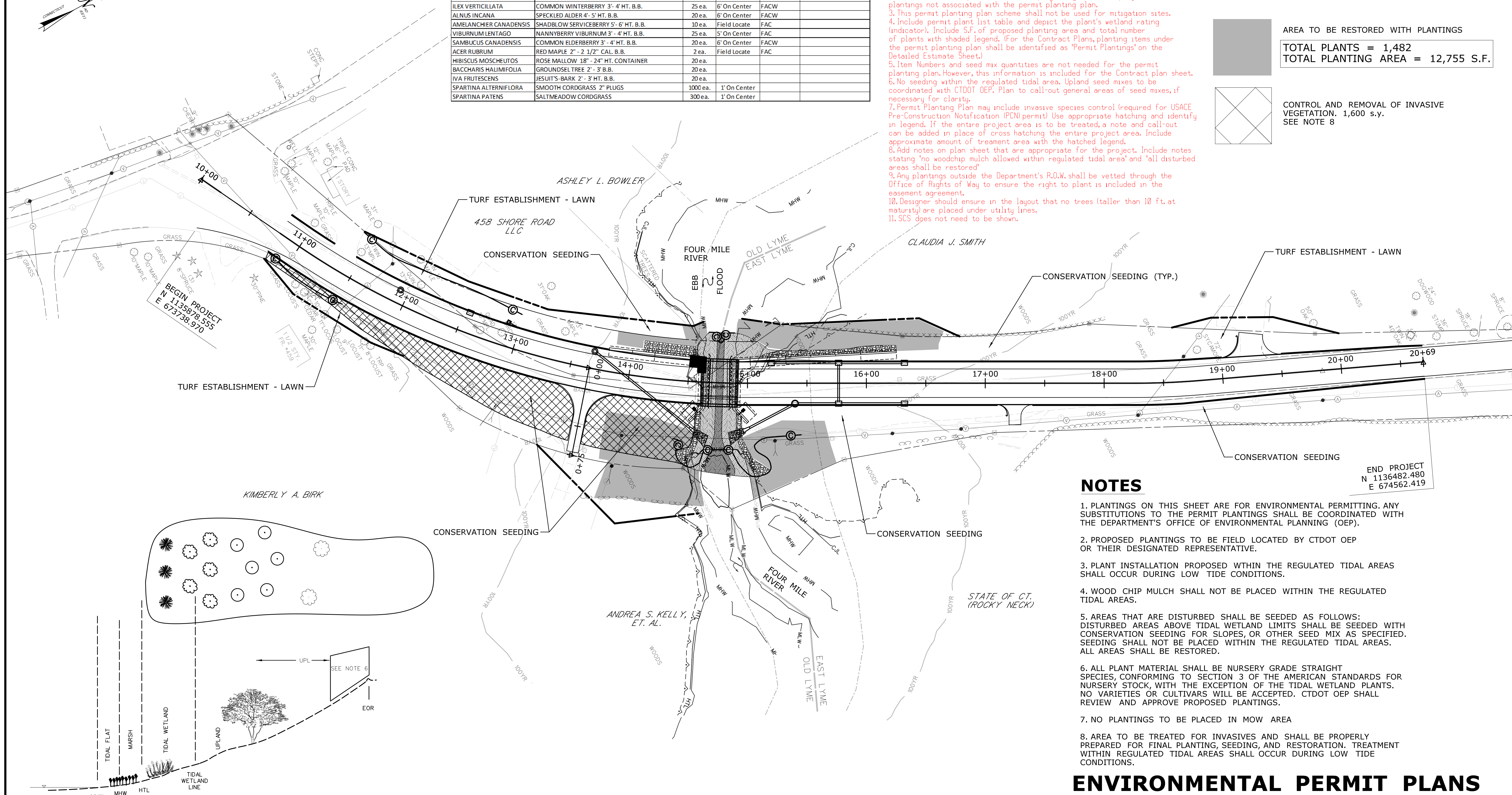
Permit Planting Plan (if required):

- Plan depicts completed project with proposed planting area (shaded) as related to the environmental permit planting plan. If a designated permit planting plan sheet is not required for the project, call-outs can be added to the General Plan for seeding type and any invasive species control.
- Coordinate with Department's Landscaping Design Unit for projects with plantings not associated with the permit planting plan.
- This permit planting plan scheme shall not be used for mitigation sites.
- Include permit plant list table and depict the plant's wetland rating (indicator). Include S.F. of proposed planting area and total number of plants with shaded legend. (For the Contract Plans, planting items under the permit planting plan shall be identified as 'Permit Plantings' on the Detailed Estimate Sheet.)
- Item Numbers and seed mix quantities are not needed for the permit planting plan. However, this information is included for the Contract plan sheet.
- No seeding within the regulated tidal area. Upland seed mixes to be coordinated with CTDOT OEP. Plan to call-out general areas of seed mixes, if necessary for clarity.
- Permit Planting Plan may include invasive species control (required for USACE Pre-Construction Notification (PCN) permit) Use appropriate hatching and identify in legend. If the entire project area is to be treated, a note and call-out can be added in place of cross hatching the entire project area. Include approximate amount of treatment area with the hatched legend.
- Add notes on plan sheet that are appropriate for the project. Include notes stating 'no woodchip mulch allowed within regulated tidal area' and 'all disturbed areas shall be restored'
- Any plantings outside the Department's R.O.W. shall be vetted through the Office of Rights of Way to ensure the right to plant is included in the easement agreement.
- Designer should ensure in the layout that no trees (taller than 10 ft. at maturity) are placed under utility lines.
- SCS does not need to be shown.

AREA TO BE RESTORED WITH PLANTINGS

TOTAL PLANTS = 1,482
TOTAL PLANTING AREA = 12,755 S.F.

CONTROL AND REMOVAL OF INVASIVE VEGETATION. 1,600 s.y. SEE NOTE 8



BEGIN PROJECT
N 1135878.555
E 673738.970

END PROJECT
N 1136482.480
E 674562.419

NOTES

- PLANTINGS ON THIS SHEET ARE FOR ENVIRONMENTAL PERMITTING. ANY SUBSTITUTIONS TO THE PERMIT PLANTINGS SHALL BE COORDINATED WITH THE DEPARTMENT'S OFFICE OF ENVIRONMENTAL PLANNING (OEP).
- PROPOSED PLANTINGS TO BE FIELD LOCATED BY CTDOT OEP OR THEIR DESIGNATED REPRESENTATIVE.
- PLANT INSTALLATION PROPOSED WITHIN THE REGULATED TIDAL AREAS SHALL OCCUR DURING LOW TIDE CONDITIONS.
- WOOD CHIP MULCH SHALL NOT BE PLACED WITHIN THE REGULATED TIDAL AREAS.
- AREAS THAT ARE DISTURBED SHALL BE SEEDING AS FOLLOWS: DISTURBED AREAS ABOVE TIDAL WETLAND LIMITS SHALL BE SEEDING WITH CONSERVATION SEEDING FOR SLOPES, OR OTHER SEED MIX AS SPECIFIED. SEEDING SHALL NOT BE PLACED WITHIN THE REGULATED TIDAL AREAS. ALL AREAS SHALL BE RESTORED.
- ALL PLANT MATERIAL SHALL BE NURSERY GRADE STRAIGHT STANDARDS FOR NURSERY STOCK, WITH THE EXCEPTION OF THE TIDAL WETLAND PLANTS. NO VARIETIES OR CULTIVARS WILL BE ACCEPTED. CTDOT OEP SHALL REVIEW AND APPROVE PROPOSED PLANTINGS.
- NO PLANTINGS TO BE PLACED IN MOW AREA
- AREA TO BE TREATED FOR INVASIVES AND SHALL BE PROPERLY PREPARED FOR FINAL PLANTING, SEEDING, AND RESTORATION. TREATMENT WITHIN REGULATED TIDAL AREAS SHALL OCCUR DURING LOW TIDE CONDITIONS.

SCHEMATIC PLANTING

ENVIRONMENTAL PERMIT PLANS

PLAN DATE: JULY 7, 2023

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAFTER: CHECKED BY: SCALE IN FEET SCALE 1"=40' Plotted Date: 7/31/2023	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION Signature/Block: OFFICE OF ENGINEERING APPROVED BY:	PROJECT TITLE: REPLACEMENT OF BRIDGE NO. XXXXX, ROUTE X OVER A RIVER	TOWN: A TOWN DRAWING TITLE: PERMIT PLANTING PLAN	PROJECT NO. XXXX-XXXX DRAWING NO. PMT-08 SHEET NO.
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 7/31/2023		