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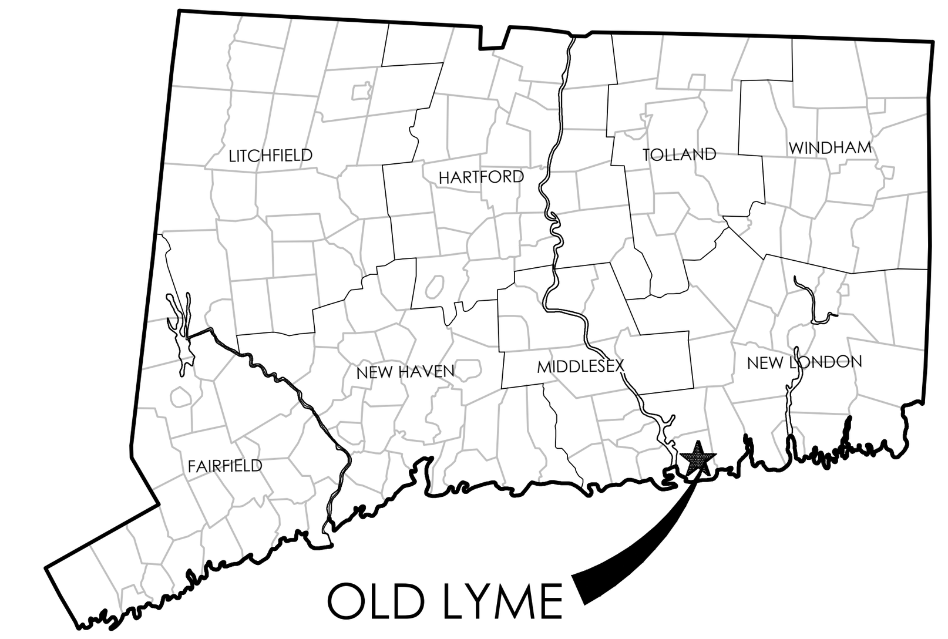
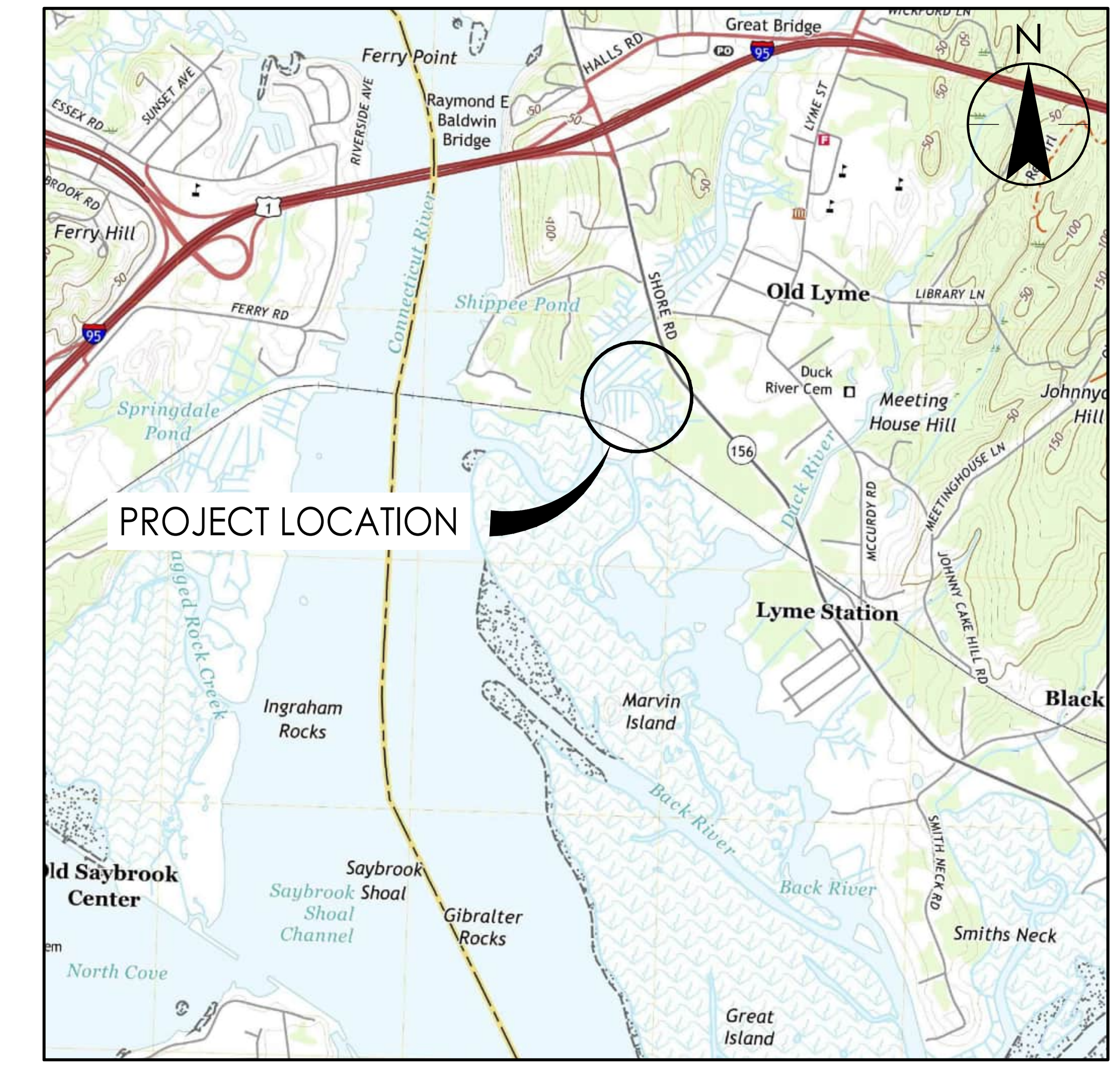
AMTRAK®

Replacement of Amtrak Connecticut River Bridge (MP 106.89) Tidal Marsh Mitigation Design 3.25-Acre Site

Old Lyme and Old Saybrook, CT



LOCATION MAP



VICINITY MAP
1"=2000'

INDEX OF SHEETS

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2023.04.07
PROJECT NUMBER: 195602497

PLANS FOR PERMITTING
APRIL 2023

DIG SAFE NOTE:

UTILITIES ARE PLOTTED FROM FIELD LOCATION AND SHOULD BE CONSIDERED APPROXIMATE. OTHER UTILITIES MAY EXIST. CONTRACTORS MUST CONTACT ALL UTILITY COMPANIES BEFORE EXCAVATING AND DRILLING. ALSO, CALL THE CONNECTICUT "CALL BEFORE YOU DIG" CENTER AT 1 (800) 922-4455 OR 811 WEBSITE: WWW.CBYD.COM

H&H

Hardesty & Hanover, LLC
850 Bear Tavern Road, Suite 206
West Trenton, NJ

PROJECT DESCRIPTION

THE OBJECTIVE OF THE 3.25-ACRE SITE MITIGATION DESIGN IS TO RESTORE NATURAL RESOURCES ON THE 3.25-ACRE SITE AS MITIGATION FOR IMPACTS AS PART OF THE AMTRAK CONNECTICUT RIVER BRIDGE REPLACEMENT PROJECT. THE GENERAL SCOPE OF WORK INCLUDES, BUT IS NOT LIMITED TO, INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES, ESTABLISHING CONSTRUCTION ACCESS, PREPARATION AND CONSTRUCTION OF THE TRANSPLANT AREA, AND PLUGGING OF THREE REMNANT MOSQUITO CONTROL DITCHES.

FISHERIES/WILDLIFE HABITAT NOTES

1. ALL ON-SITE CONSTRUCTION STAFF WILL ATTEND TRAINING BY AN QUALIFIED ENVIRONMENTAL SCIENTIST AND RECEIVE A COPY OF FINAL WILDLIFE PROTECTION PLAN PRIOR TO BEGINNING WORK ON SITE.
2. A QUALIFIED ENVIRONMENT SCIENTIST WILL BE PRESENT WHEN WORK IS BEING CONDUCTED.
3. NOISE-GENERATING CONSTRUCTION ACTIVITIES MUST BEGIN PRIOR TO MAY 1 AND CONTINUE WITHOUT PROLONGED INTERRUPTION THROUGH AUGUST 31. IF A SIGNIFICANT NOISE-GENERATING CONSTRUCTION ACTIVITY DOES NOT START PRIOR TO MAY 1, THEN A TIME OF YEAR RESTRICTION WILL APPLY, AND WORK MAY NOT BEGIN UNTIL SEPTEMBER 1 WITHOUT THE APPROVAL OF CTDEEP TO PROTECT LEAST BITTERN AND SALTMARSH SHARP-TAILED SPARROW.
4. IF BALD EAGLE NESTING ACTIVITY IS OBSERVED WITHIN 600 FT FROM CONSTRUCTION ACTIVITY ALL CONSTRUCTION MUST STOP UNTIL NESTING ACTIVITY HAS CEASED.
5. CONSTRUCTION WITHIN TIDAL CREEKS OR SIMILAR CHANNELIZED AQUATIC HABITAT IS PROHIBITED FROM NOVEMBER 1- MARCH 31 TO PROTECT OVER-WINTERING STATE-LISTED TURTLES.
6. WORK LIMITS MUST BE ENCLOSED BY A WILDLIFE BARRIER SYSTEM BETWEEN APRIL 1 AND OCTOBER 31 (E.G., SILT FENCE OR ELEVATED WORK SURFACES) TO PREVENT ENTRY BY STATE-LISTED TURTLES. THE ISOLATED WORK LIMITS ARE TO BE INSPECTED DAILY BY TRAINED CONSTRUCTION STAFF OR ENVIRONMENTAL MONITORS FOR THE PRESENCE OF STATE-LISTED TURTLES PRIOR TO THE START OF WORK; TURTLES ARE TO BE RELOCATED IF OBSERVED IN WORK LIMITS AND REPORTED TO THE ON-SITE ENVIRONMENTAL MONITOR AND AMTRAK REPRESENTATIVE; DEFICIENCIES IN THE WILDLIFE BARRIER ARE TO BE PROMPTLY REPAIRED.
7. SPEED LIMIT ALONG ACCESS ROADS IS NOT TO EXCEED 10 MPH.
8. REFUELING OR HANDLING OTHER BIO-TOXIC LIQUIDS IS PROHIBITED IN THE VICINITY OF LOW MARSH, RIVERBANKS, TIDAL CREEKS, OR DITCHES.
9. INACTIVE OSPREY NESTS MAY BE REMOVED FROM SEPTEMBER 1 - MARCH 1; CTDEEP IS TO BE NOTIFIED PRIOR TO REMOVING ANY OSPREY NEST.
10. TREE CLEARING IS PROHIBITED FROM JUNE 1 - JULY 31 TO PROTECT NORTHERN LONG-EARED BATS.
11. APPROPRIATE SOIL EROSION, SEDIMENT, AND TURBIDITY CONTROLS WILL BE USED AND MAINTAINED DURING CONSTRUCTION; AND AREAS CAPABLE OF PRODUCING GREATER THAN MINIMAL TURBIDITY OR SEDIMENTATION WILL BE DONE DURING PERIODS OF LOW- OR NO-FLOW TO PROTECT FISHERY RESOURCES.
12. WORK THAT PRODUCES GREATER THAN MINIMAL TURBIDITY OR SEDIMENTATION (DONE OUTSIDE OF TURBIDITY CURTAINS OR COFFERDAMS) IS PROHIBITED FROM FEBRUARY 1 - JUNE 30 TO PROTECT FISHERY RESOURCES.
13. EROSION AND SEDIMENT CONTROL MATERIALS CANNOT CONTAIN PLASTIC OR MONOFILAMENT MESHES TO REDUCE POTENTIAL WILDLIFE ENTANGLEMENT.

GENERAL NOTES

1. INFORMATION DEPICTED ON THESE PLANS DOES NOT CONSTITUTE AN AGREEMENT TO ACCESS OR WORK ON PROPERTIES DEPICTED ON THESE PLANS. ACCESS PERMISSION IS THE RESPONSIBILITY OF THE PROJECT OWNER AND MUST BE CONFIRMED BY THE CONTRACTOR.
2. EXISTING UTILITY EASEMENTS ARE NOT DEPICTED.
3. TOPOGRAPHIC AND SITE FEATURES ARE BASED UPON SURVEYS CONDUCTED BY MARTINEZ COUCH & ASSOCIATES, LLC.
4. ALL CONTOURS AND ELEVATIONS ARE PRESENTED IN FEET AND REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988).
5. NORTH ARROW, BEARINGS, AND COORDINATES ARE BASED UPON THE NORTH AMERICAN DATUM OF 1983 (NAD 1983) CONNECTICUT STATE PLANE COORDINATE SYSTEM FEET UNITS.
6. EXISTING CONTOURS ARE COMPUTER-GENERATED INTERPOLATIONS, EDITED TO GENERALLY CONFORM TO FIELD OBSERVATIONS.
7. INFORMATION REGARDING THE LOCATION OF EXISTING UTILITIES IS BASED UPON AVAILABLE INFORMATION, MAY BE INCOMPLETE, AND WHERE SHOWN SHOULD BE CONSIDERED APPROXIMATE. THE LOCATION OF ALL EXISTING UTILITIES SHALL BE CONFIRMED PRIOR TO BEGINNING OF CONSTRUCTION. CALL THE CONNECTICUT "CALL BEFORE YOU DIG" CENTER. ALL UTILITY LOCATIONS THAT DO NOT MATCH THE VERTICAL OR HORIZONTAL CONTROL SHOWN ON THE PLANS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION.
8. STANTEC ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF MAPS AND DATA THAT HAVE BEEN SUPPLIED BY OTHERS.
9. CONTRACTOR SHALL VERIFY CRITICAL ELEVATIONS AND GRADES IN THE FIELD PRIOR TO CONSTRUCTION.
10. IF CONTRACTOR OBSERVES FIELD CONDITIONS WHICH VARY SIGNIFICANTLY FROM WHAT IS SHOWN ON THESE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND ENGINEER FOR RESOLUTION OF THE CONFLICTING INFORMATION.
11. EXCEPT WHERE SPECIFICALLY NOTED, THE LOCATIONS AND INFORMATION ABOUT UNDERGROUND PIPES, UTILITIES OR OTHER STRUCTURES ARE COMPILED FROM AVAILABLE RECORD DATA AND VISIBLE FIELD EVIDENCE AND ARE NOT REPRESENTED AS BEING EXACT OR COMPLETE.
12. PRIOR TO MOBILIZING TO THE PROJECT SITE, CONTRACTOR SHALL GIVE ADEQUATE ADVANCE NOTICE TO THE CONNECTICUT "CALL BEFORE YOU DIG" CENTER, THE TOWN OF OLD LYME, AND PRIVATE UTILITY COMPANIES TO ALLOW FOR FIELD LOCATION OF FACILITIES IN THE VICINITY OF THE PROJECT.
13. COORDINATE WITH AMTRAK AND OBTAIN APPROVALS FOR ACCESS WITHIN RAILROAD RIGHT-OF-WAY.
14. CONTRACTOR SHALL INSTALL TEMPORARY MEASURES AS NECESSARY TO ADEQUATELY PROTECT AND PRESERVE BURIED UTILITIES AND INFRASTRUCTURE WITHIN AND ADJACENT TO PROJECT WORK AREAS.
15. CONTRACTOR IS RESPONSIBLE FOR EVALUATING THE CONDITION OF EXISTING ROADS AND CULVERTS AND INSTALLATION OF TEMPORARY MEASURES FOR USE OF ROADS AND CULVERTS DURING CONSTRUCTION.
16. THROUGHOUT THE DURATION OF THE WORK, THE CONTRACTOR SHALL PROTECT AND PRESERVE UTILITIES AND ALL RELATED INFRASTRUCTURE AND APPURTENANCES WITHIN THE VICINITY OF WORK, ACCESS/EGRESS, AND STAGING AND STORAGE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH REPAIRING UTILITIES AND RELATED INFRASTRUCTURE AND APPURTENANCES IF DAMAGED AS A PART OF CONSTRUCTION OF THIS PROJECT.
17. CONTRACTOR SHALL IMMEDIATELY REPORT ANY DAMAGE TO EXISTING PIPES, UTILITIES, OR STRUCTURES TO THE OWNER AND ENGINEER, AND OBTAIN DIRECTIONS AS TO REPAIR, REPLACEMENT OR ABANDONMENT.
18. REFERENCE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" AS PREPARED BY THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION IN COOPERATION WITH THE CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION, OR SUBSEQUENT VERSIONS.
19. THE CONTRACTOR SHALL RECORD THE MEASUREMENTS, DEPTHS, DIMENSIONS, MATERIALS, FIELD CONDITIONS, AND OTHER PERTINENT DATA ABOUT ALL PIPES, UTILITIES, AND STRUCTURES ENCOUNTERED DURING THE WORK, BOTH EXISTING AND CONSTRUCTED. CONTRACTOR SHALL SUBMIT RECORD DRAWINGS WITH THIS INFORMATION TO THE OWNER AND ENGINEER PRIOR TO COMPLETION OF THE WORK.
20. CONTRACTOR IS RESPONSIBLE FOR WATER MANAGEMENT DURING CONSTRUCTION INCLUDING PREPARATION OF A WATER MANAGEMENT PLAN TO BE APPROVED BY THE ENGINEER AND OWNER, WHICH SHALL INCLUDE AN OUTLINE OF PROTOCOLS AND PROCEDURES ASSOCIATED WITH HIGH-WATER CONDITIONS IN THE LIEUTENANT RIVER. THE OWNER AND ENGINEER WILL NOT BE HELD RESPONSIBLE FOR DAMAGES INCURRED TO CONTRACTOR'S EQUIPMENT OR CONSTRUCTION PROJECT MATERIALS FROM HIGH-WATER CONDITIONS.
21. CONSTRUCTION EQUIPMENT CANNOT BE OPERATED ON THE MARSH SURFACE EXCEPT AS APPROVED IN PROJECT PERMITS. CONSTRUCTION EQUIPMENT THAT IS APPROVED FOR OPERATION ON THE MARSH SURFACE CANNOT BE OPERATED WHEN THE MARSH SURFACE IS TIDALLY INUNDATED.
22. DURING ALL NON-WORK PERIODS EXCEEDING A DURATION OF 24 HOURS, CONTRACTOR'S EQUIPMENT SHALL BE DEMOBILIZED AS SPECIFIED IN PROJECT PERMITS.
23. ALL TEMPORARY AND PERMANENT MATERIALS FOR CONSTRUCTION SHALL BE CLEAN AND FREE OF DEBRIS.
24. CONTRACTOR SHALL THOROUGHLY WASH AND CLEAN EQUIPMENT PRIOR TO MOBILIZATION TO THE PROJECT SITE TO AVOID INTRODUCTION OF INVASIVE PLANT PROPAGULES TO THE PROJECT SITE.
25. CONTRACTOR'S EQUIPMENT SHALL BE SOUND, CLEAN, AND LEAK FREE PRIOR TO MOBILIZING TO THE PROJECT SITE AND SHALL BE MAINTAINED IN LEAK-FREE CONDITION WHILE ON SITE.
26. A COMPLETE SPILL KIT SHALL BE MAINTAINED AT THE PROJECT AREA. ALL CONSTRUCTION EQUIPMENT SHALL HAVE A MOUNTED FIRE EXTINGUISHER.
27. PERIMETER EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED PRIOR TO COMMENCING FURTHER WORK AND SHALL BE MAINTAINED THROUGHOUT THE DURATION OF WORK.
28. ON-SITE REFUELING SHALL OCCUR ONLY AS ALLOWED BY PROJECT PERMITS. A DRIP PAN OR ABSORBENT PADS SHALL BE USED DURING ALL DISPENSING OPERATIONS.
29. ALL MATERIAL REMOVED FROM THE PROJECT SITE SHALL BE DISPOSED OF IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS.
30. WORK SHALL COMPLY WITH ALL APPLICABLE ENVIRONMENTAL REGULATIONS AND PROJECT PERMIT CONDITIONS.

CONCEPTUAL CONSTRUCTION SEQUENCE

1. PRE-MOBILIZATION
   - 1.1. DEVELOP WORK PLANS
     - 1.1.1. REVIEW DESIGN
     - 1.1.2. REVIEW PERMITS
     - 1.1.3. DEVELOP WORK PLAN
   - 1.2. A. CONDUCT HERBICIDE CONTROL OF COMMON REED (PHRAGMITES AUSTRALIS) IN TRANSPLANT AREA AT LEAST 6-8 WEEKS PRIOR TO EQUIPMENT MOBILIZATION
   - 1.3. MOBILIZE WORK BOATS AND BARGES TO OFFSITE STAGING AREA(S)
2. FIELD DEMARCATION OF RESOURCES AND WORK AREAS
   - 2.1. IDENTIFY AND DEMARK SENSITIVE PLANT COMMUNITIES TO BE AVOIDED
   - 2.2. DEMARK BOUNDARIES OF PERMANENT WORK AREAS
     - 2.2.1. TRANSPLANT AREA
     - 2.2.2. DITCH PLUGGING AREAS
   - 2.3. DEMARK TEMPORARY WORK AREAS
     - 2.3.1. PRIMARY LANDING
     - 2.3.2. ACCESS ROUTES
     - 2.3.3. IF REQUIRED, INSTALL BUOYS TO DEMARK PRIMARY AND SECONDARY BARGE MOORING AREAS AND THE PRIMARY BOAT MOORING AREAS.
3. MOBILIZATION
   - 3.1. BOAT(S) AND BARGE(S) MOBILIZED ADJACENT TO PRIMARY MOORING AREA
   - 3.2. INSTALL TURTLE EXCLUSIONARY BARRIER MEASURES AND CONDUCT WORKSITE SWEEP FOR TURTLES
   - 3.3. INSTALL AND MAINTAIN OIL BOOMS
   - 3.4. ESTABLISH LANDING AREA AND ASSOCIATED EROSION AND SEDIMENT CONTROLS
   - 3.5. ESTABLISH TEMPORARY ACCESS ROUTES AND ASSOCIATED EROSION AND SEDIMENT CONTROLS
   - 3.6. ESTABLISH EROSION AND SEDIMENT CONTROLS ADJACENT TO PERMANENT WORK AREAS
4. CONSTRUCTION
   - 4.1. DAILY MOBILIZATION/DEMOBILIZATION OF CONSTRUCTION EQUIPMENT (ONSITE OR OFFSITE AS REQUIRED BY PROJECT PERMITS)
   - 4.2. CONDUCT PRE-CONSTRUCTION TURTLE SWEEP
   - 4.3. PLUG DITCHES
   - 4.4. PERFORM PRE-EXCAVATION IN TRANSPLANT AREA
   - 4.5. COORDINATE TRANSPLANT SITE PREPARATION WITH PLANT SALVAGE AND TRANSPORT
   - 4.6. STOCKPILE AND OFFSITE TRANSPORT OF EXCAVATED MATERIAL FROM TRANSPLANT AREA (ONGOING)
   - 4.7. INSTALLATION OF TRANSPLANT STOCK (ONGOING)
   - 4.8. MONITORING AND MAINTENANCE OF EROSION AND SEDIMENT CONTROLS (ONGOING)
   - 4.9. COMPLETION OF PRIMARY CONSTRUCTION
   - 4.10. RECEIPT OF OWNER'S ACCEPTANCE OF PRIMARY CONSTRUCTION WORK
5. DEMOBILIZATION
   - 5.1. REMOVE TEMPORARY ACCESS ROUTES
   - 5.2. RESTORE IMPACTED AREAS ALONG TEMPORARY ACCESS ROUTES
   - 5.3. ESTABLISH LONGER-TERM WATTLES ADJACENT TO TRANSPLANT AREA (IF USED)
   - 5.4. REMOVE EROSION AND SEDIMENT CONTROLS ALONG TEMPORARY ACCESS ROUTES
   - 5.5. REMOVAL OF LANDING AREA
   - 5.6. REMOVE OIL BOOMS
   - 5.7. RESTORE IMPACTS IN LANDING AREA
   - 5.8. REMOVE TEMPORARY DEMARCATION BUOYS
   - 5.9. RECEIPT OF OWNER'S ACCEPTANCE PRIOR TO COMPLETION OF DEMOBILIZATION
6. MONITORING AND MAINTENANCE
   - 6.1. REFERENCE PROJECT CONSTRUCTION AGREEMENT AND PERMITS

Legend

- EXISTING 5' MAJOR CONTOUR
- EXISTING 1' MINOR CONTOUR
- PROPOSED 5' MAJOR CONTOUR
- PROPOSED 1' MINOR CONTOUR
- EXISTING PROPERTY LINE
- EXISTING RIVER EDGE (APPROX.)
- MLW — MEAN LOW WATER
- MHW — MEAN HIGH WATER
- CJL — COASTAL JURISDICTION LINE
- HTL — HIGH TIDE LINE
- FEMA 100 — FEMA 100YR LINE
- OH — EXISTING OVERHEAD UTILITY
- C — EXISTING COMMUNICATION LINE
- E — EXISTING ELECTRIC LINE
- F/O — EXISTING FIBER OPTICS
- X — EXISTING METAL FENCE
- EXISTING GRAVEL DRIVE
- EXISTING STONE WALL
- EXISTING DRAINAGE SWALE
- PROPOSED DRAINAGE SWALE
- LIMITS OF CONSTRUCTION
- CONSTRUCTION ACCESS ROUTE
- RESTORED CONSTRUCTION ACCESS ROAD AREAS
- SEDIMENT CONTROL BARRIER
- OIL BOOM
- PHASED FLOW DIVERSION
- SEDIMENT CONTROL BARRIER
- TEMPORARY STAKED TURBIDITY CURTAIN
- TEMPORARY COFFER DAM
- WETLAND FLAG
- LIMITS OF DISTURBANCE

PLANS FOR PERMITTING

APRIL 2023

Stantec

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136 West Street, Suite 203
Northampton, MA 01060 U.S.A.
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Notes

Revision	By	Appd	YYYY.MM.DD

Issued	By	Appd	YYYY.MM.DD
PLANS FOR PERMITTING	MRC	MRC	2023.04.07

File Name: 02497_3-25ACRMS_G-002	MRC	MRC/LKB	MPA	2023.04.07
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

Client/Project Logo

AMTRAK

H&H

Client/Project

Amtrak, Hardesty & Hanover
3.25-Acre Mitigation Site

Replacement of Amtrak Connecticut River Bridge (MB 106.89)

Old Saybrook and Old Lyme, Connecticut

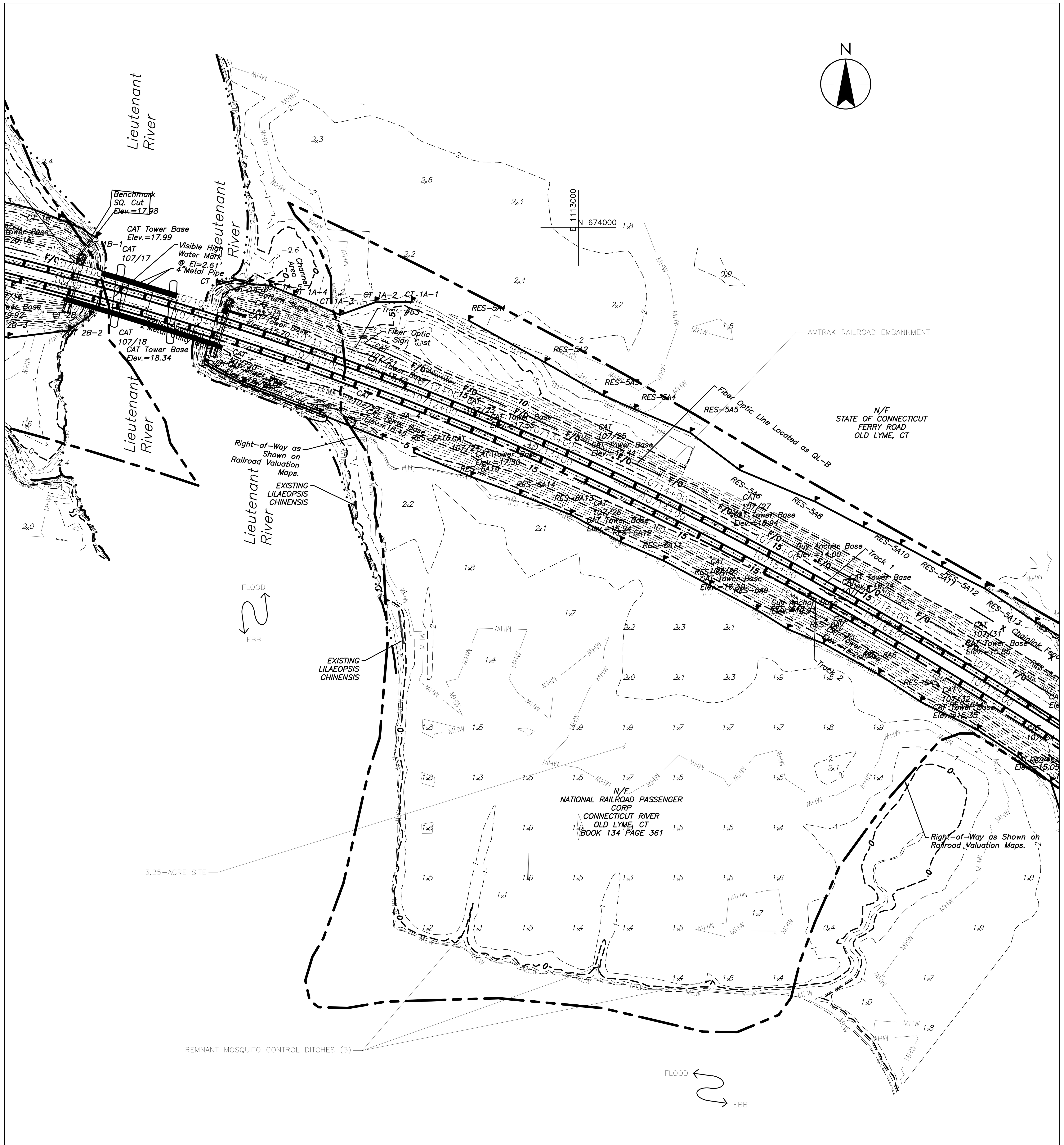
Title

GENERAL NOTES AND LEGEND

Project No.	Scale
195602497	AS SHOWN

Revision	Sheet	Drawing No.
0	2 of 7	G-002

ORIGINAL SHEET - ANSI D



TIDAL DATUM	NOAA (NAVD88) (ft)	USGS (NAVD88) (ft)
CJL	2.90	3.01
MLW	-1.71	-1.48
MHW	1.60	1.71
HTL	3.04	3.15
LCSTV	4.1	NA

*ALL ELEVATIONS SHOWN ARE APPROXIMATE AND CONTAINS AN ACCURACY OF 0.10' ± BASED ON RELATION WITH THE USGS AND NOAA GAUGE BENCHMARKS INTERPOLATION AND FIELD VERIFICATION.

FEMA 100-YR FLOOD: ZONE AE EL. 11 (NORTHWEST)
FEMA 100-YR FLOOD: ZONE AE EL. 10 (NORTHEAST FROM CT RIVER TO LIEUTENANT RIVER)
FEMA 100-YR FLOOD: ZONE AE EL. 12 (NORTHEAST FROM LIEUTENANT RIVER TO EASTERN EDGE OF WETLANDS)
FEMA 100-YR FLOOD: ZONE AE EL. 11 (NORTHEAST FROM EASTERN EDGE OF WETLANDS TO EAST)
FEMA 100-YR FLOOD: ZONE VE EL. 15 (SOUTHWEST)
FEMA 100-YR FLOOD: ZONE VE EL. 14 (SOUTHEAST)
FEMA 100-YR FLOOD: ZONE AE EL. 10 (SMALL SECTION OF SOUTHEAST EAST OF PROJECT)

0 50' 100'

PLANS FOR PERMITTING
APRIL 2023

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Notes

1. EXISTING CONDITIONS PLAN DEVELOPED USING INFORMATION IN AUTOCAD FILE "2017-272 C3D SURVEY-CURRENT(2022)-Merged.dwg" BY MCA.
2. HORIZONTAL DATUM IS IN REFERENCE TO CONNECTICUT STATE PLANE MAINLAND NORTH AMERICAN DATUM 1983 (NAD83).
3. REGULATORY LINES: CJL, MLW, MHW AND FEMA 100-YEAR ARE SHOWN BASED ON THE NOAA GAUGE BENCHMARK INTERPOLATION AND FIELD VERIFICATION.

Revision	By	Appd	YYYY.MM.DD

Issued	By	Appd	YYYY.MM.DD
PLANS FOR PERMITTING	MRC	MRC	2023.04.07

File Name: 02497_3-25ACMS_C-100	MRC	MRC	MPA	2023.04.07
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

Client/Project Logo

AMTRAK
H&H

Client/Project
Amtrak, Hardesty & Hanover
3.25-Acre Mitigation Site

Replacement of Amtrak Connecticut River Bridge (MB 106.89)

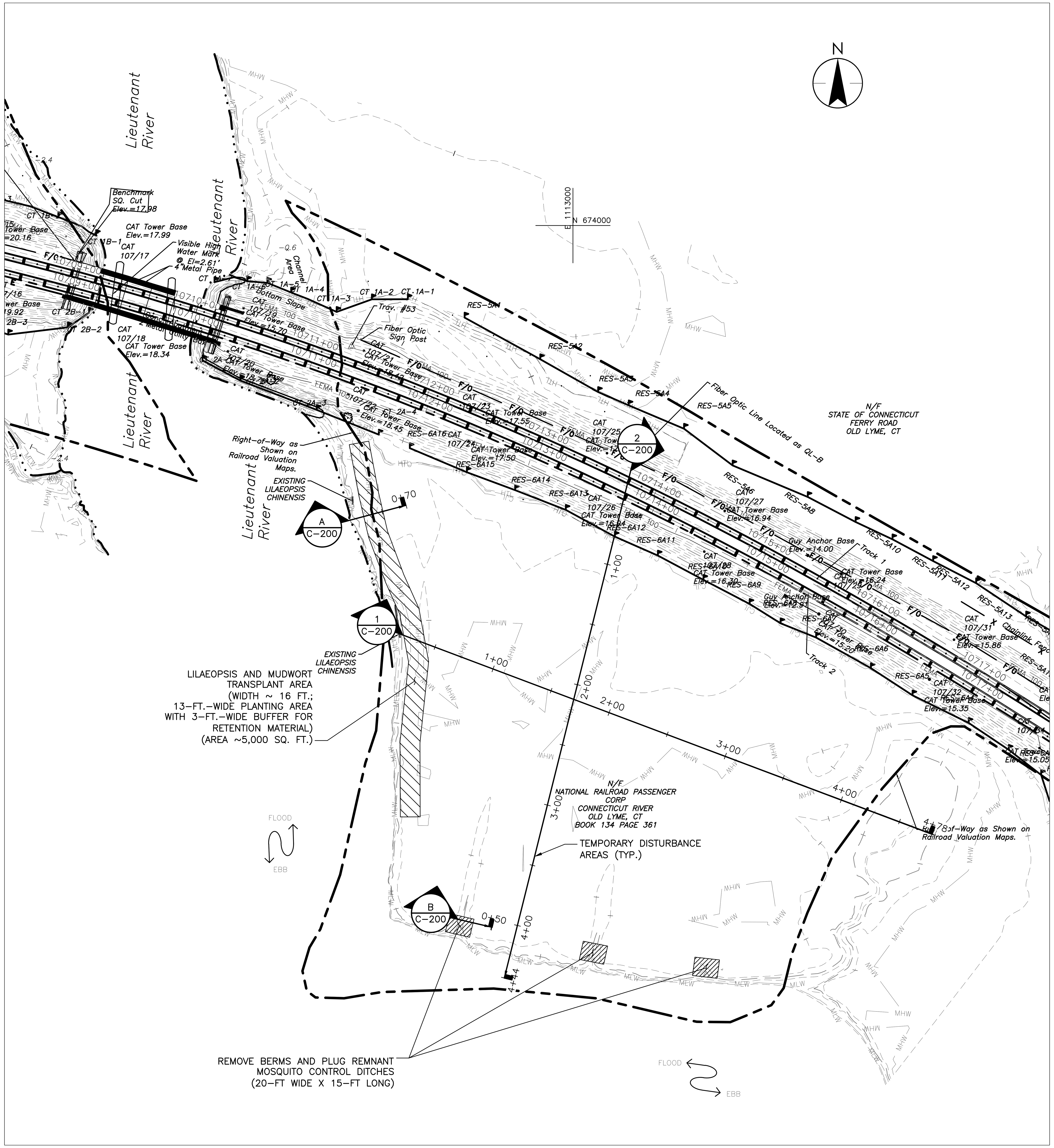
Old Saybrook and Old Lyme, Connecticut

Title
EXISTING CONDITIONS PLAN

Project No.	Scale
195602497	AS SHOWN

Revision 0 | Sheet 2 of 7 | Drawing No. **C-100**

ORIGINAL SHEET - ANSI D



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FEMA 100–YR FLOOD: ZONE VE EL. 14 (SOUTHEAST)
FEMA 100–YR FLOOD: ZONE AE EL. 10 (SMALL SECTION OF SOUTHEAST EAST OF PROJECT)

SHEET NOTES

1. TRANSPLANT AREA
   - 1.1. LILAEOPSIS AND MUDWORT TRANSPLANT AREA TO BE FIELD-LOCATED BY QUALIFIED PROFESSIONAL DESIGNATED IN PROJECT PERMITS.
   - 1.2. PREPARATION OF TRANSPLANT AREA WILL INCLUDE IDENTIFICATION OF EXISTING LILAEOPSIS AND AVOIDANCE OF IMPACTS TO EXISTING PLANTS.
   - 1.3. TRANSPLANT AREA WILL HOST SALVAGED LILAEOPSIS AND MUDWORT FROM BRIDGE WORK AREA.
   - 1.4. TARGET RANGE OF FINISHED GRADE ELEVATIONS FOR TRANSPLANT AREA IS 1.5 FT TO 1.8 FT.
   - 1.5. APPROXIMATE THICKNESS OF TRANSPLANT STOCK WITH SOIL IS 6 TO 8 INCHES.
   - 1.6. APPROXIMATE AVERAGE DEPTH OF EXCAVATION IN TRANSPLANT AREA IS 1 FT.
   - 1.7. ESTIMATED VOLUME OF MATERIAL TO BE EXCAVATED IN TRANSPLANT AREA IS 4,000 CUBIC FT (~150 CUBIC YARDS).
   - 1.8. THE ESTIMATED VOLUME OF THE TRANSPLANT STOCK AND SOIL IS 100 CUBIC YARDS BASED ON A TRANSPLANT SOIL THICKNESS OF 8 INCHES.
2. PLUGGING OF REMNANT MOSQUITO CONTROL DITCHES
   - 2.1. PLUGGING OF DITCHES WILL USE USE MATERIAL FROM ADJACENT BERMS OR SALVAGED MATERIAL FROM TRANSPLANTING ACTIVITIES ON THIS SITE PROVIDED THAT SUCH FILL IS FREE FROM VIABLE COMMON REED (PHRAGMITES AUSTRALIS) PLANTS OR ROOTS.
   - 2.2. PLACE FILL TO MATCH ADJACENT GRADES.
   - 2.3. ESTIMATED DISTURBANCE AREA FOR EACH DITCH-PLUGGING LOCATION IS 20-FT-WIDE CENTERED ON DITCH AND 15 FT (300 SQ. FT.) ALONG EACH DITCH. VOLUMES OF MATERIAL FOR DITCH PLUGGING WERE NOT ESTIMATED.

0 50' 100'

PLANS FOR PERMITTING
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Notes

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Revision	By	Appd	YYYY.MM.DD
PLANS FOR PERMITTING	MRC	MRC	2023.04.07
Issued	By	Appd	YYYY.MM.DD

File Name: 02497_3-25ACMS_C-101-102	MRC	MRC	MPA	2023.04.07
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

Client/Project Logo

AMTRAK
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3.25-Acre Mitigation Site

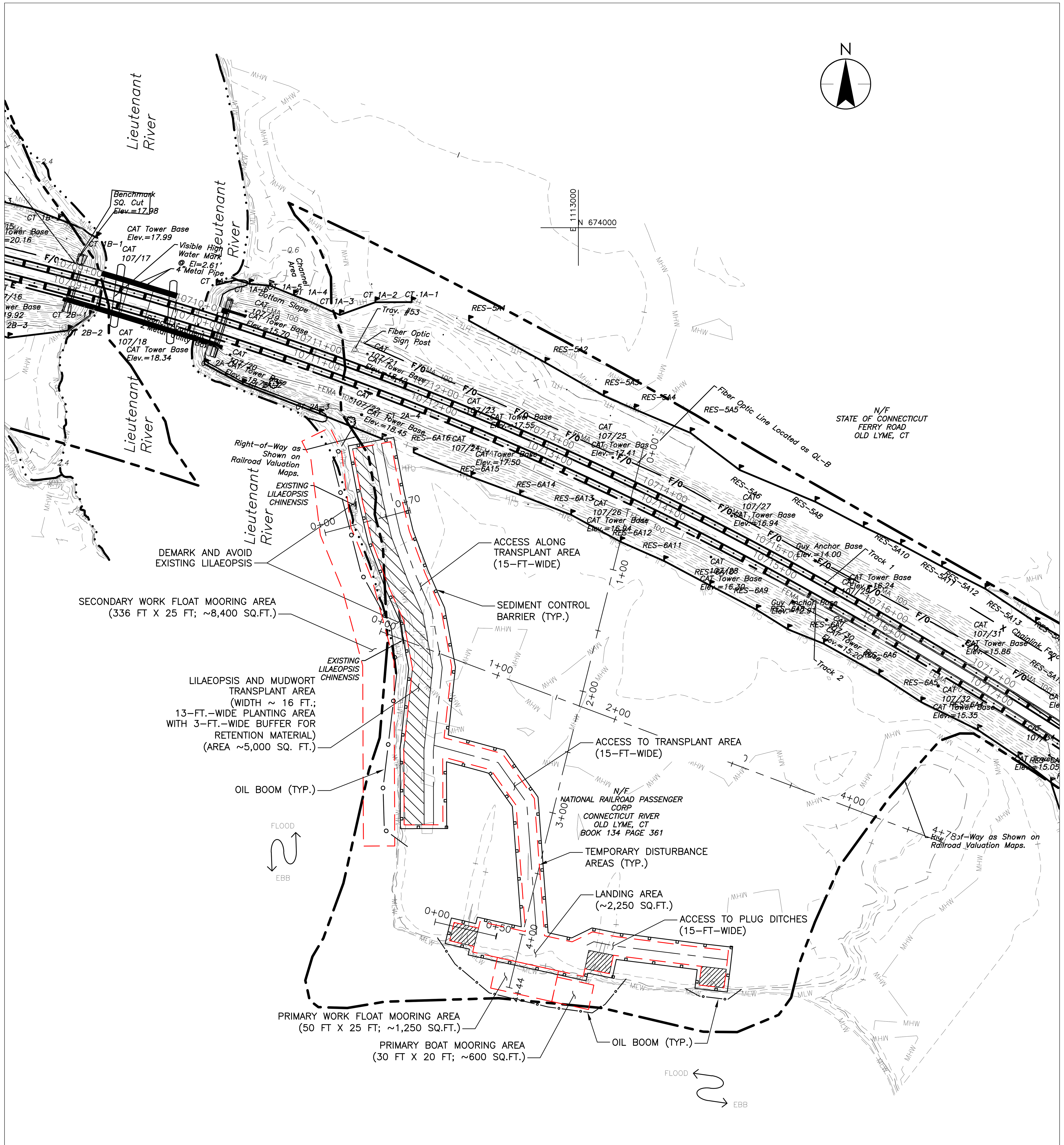
Replacement of Amtrak Connecticut River Bridge (MB 106.89)

Old Saybrook and Old Lyme, Connecticut

Title
PROPOSED CONDITIONS PLAN

Project No. 195602497
Scale 1"= 50 FT
Revision 0
Sheet 4 of 7
Drawing No. C-101

ORIGINAL SHEET - ANSI D



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LCSTV	4.1	NA

*ALL ELEVATIONS SHOWN ARE APPROXIMATE AND CONTAINS AN ACCURACY OF 0.10' ± BASED ON RELATION WITH THE USGS AND NOAA GAUGE BENCHMARKS INTERPOLATION AND FIELD VERIFICATION.

FEMA 100-YR FLOOD: ZONE AE EL. 11 (NORTHWEST)
FEMA 100-YR FLOOD: ZONE AE EL. 10 (NORTHEAST FROM CT RIVER TO LIEUTENANT RIVER)
FEMA 100-YR FLOOD: ZONE AE EL. 12 (NORTHEAST FROM LIEUTENANT RIVER TO EASTERN EDGE OF WETLANDS)
FEMA 100-YR FLOOD: ZONE AE EL. 11 (NORTHEAST FROM EASTERN EDGE OF WETLANDS TO EAST)
FEMA 100-YR FLOOD: ZONE VE EL. 15 (SOUTHWEST)
FEMA 100-YR FLOOD: ZONE VE EL. 14 (SOUTHEAST)
FEMA 100-YR FLOOD: ZONE AE EL. 10 (SMALL SECTION OF SOUTHEAST EAST OF PROJECT)

MITIGATION AREAS

1. ENTIRE PARCEL WILL HAVE COMMON REED CONTROL.
2. DISTURBANCE AREAS DO NOT INCLUDE AREAS FOR COMMON REED CONTROL
3. WETLAND CONVERSION AREAS
   - 3.1. INTERTIDAL TRANSPLANT AREA: 5,000 SQ. FT. (16-FT-WIDE X 642-FT-LONG)
   - 3.2. INTERTIDAL DITCH PLUGGING: THREE AREAS = 20 FT X 15 FT EACH = 900 SQ. FT.
4. TEMPORARY DISTURBANCE AREAS (ESTIMATED)
   - 4.1. INTERTIDAL AREAS: 11,450 SQ. FT.
   - 4.2. SUBTIDAL PRIMARY WORK FLOAT MOORING AREA: 1,250 SQ. FT.
   - 4.3. SUBTIDAL PRIMARY BOAT MOORING AREA: 600 SQ. FT.
   - 4.4. SUBTIDAL SECONDARY WORK FLOAT MOORING AREA: 8,400 SQ. FT.
5. TOTAL DISTURBANCE FOR MITIGATION ACTIVITIES (TEMPORARY + PERMANENT DISTURBANCE)
   - 5.1. INTERTIDAL AREA: 17,350 SQ. FT.
   - 5.2. SUBTIDAL AREA: 10,250 SQ. FT.

EROSION AND SEDIMENT CONTROL

1. THIS DRAWING PRESENTS TYPICAL EROSION AND SEDIMENT CONTROLS. CONSTRUCTION CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL PROJECT PERMITS AND ASSOCIATED REQUIREMENTS.
5. SENSITIVE AREAS WILL BE DEMARKED PRIOR TO MOBILIZATION OF CONSTRUCTION EQUIPMENT TO THIS SITE.
6. LANDING AREA TO BE DEMARKED PRIOR TO MOBILIZATION TO THIS SITE.
7. LOCATIONS OF TEMPORARY ACCESS ROUTES ARE APPROXIMATE AND HAVE WIDTHS OF 15 FT. ACTUAL LAYOUT OF TEMPORARY ACCESS WILL BE DETERMINED IN THE FIELD.
8. DEMARCATION IS IDENTIFIED AS "SEDIMENT CONTROL (TYP.)". USE OF ORANGE BARRIER FENCE IN LIEU OF SEDIMENT CONTROL BARRIER MAY BE USED IF SPECIFICALLY IDENTIFIED IN PROJECT PERMITS.
9. INCREASES IN THE AREA OF TEMPORARY IMPACTS MUST BE APPROVED IN WRITING BY OWNER AND ENGINEER.
10. SEDIMENT CONTROL BARRIER IS INTENDED TO DEMARK WORK AREA, IS SET 3 FT FROM THE LIMIT OF DISTURBANCE AND IS NOT INCLUDED IN TEMPORARY WORK AREAS.
11. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION, MAINTENANCE AND REMOVAL OF ALL TEMPORARY EROSION AND SEDIMENT CONTROLS THAT ARE REQUIRED FOR CONFORMANCE WITH PROJECT PERMITS AND APPLICABLE LAWS, RULES AND REGULATIONS.

0 50' 100'

PLANS FOR PERMITTING
APRIL 2023

Stantec

Stantec Consulting Services Inc.
136 West Street, Suite 203
Northampton, MA 01060 U.S.A.
Tel. 413.387.4776
www.stantec.com

Consultant

Notes

1. EXISTING CONDITIONS PLAN DEVELOPED USING INFORMATION IN AUTOCAD FILE "2017-272 C3D SURVEY-CURRENT(2022)-Merged.dwg" BY MCA.
2. EXISTING CONDITIONS DATA WAS NOT VERIFIED BY STANTEC.
3. HORIZONTAL DATUM IS IN REFERENCE TO CONNECTICUT STATE PLANE MAINLAND NORTH AMERICAN DATUM 1983 (NAD83).
4. DEPICTED REGULATORY INFORMATION (CJL, MLW, MHW AND FEMA 100-YEAR) ARE BASED ON INFORMATION BY MCA AND WERE NOT VERIFIED BY STANTEC.

Revision	By	Appd	YYYY.MM.DD

Issued	By	Appd	YYYY.MM.DD
PLANS FOR PERMITTING	MRC	MRC	2023.04.07

File Name: 02497_3-25ACMS_C-101-102	MRC	LKB/MRC	MPA	2023.04.07
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

Client/Project Logo

AMTRAK
H&H

Client/Project

Amtrak, Hardesty & Hanover
3.25-Acre Mitigation Site

Replacement of Amtrak Connecticut River Bridge (MB 106.89)

Old Saybrook and Old Lyme, Connecticut

Title

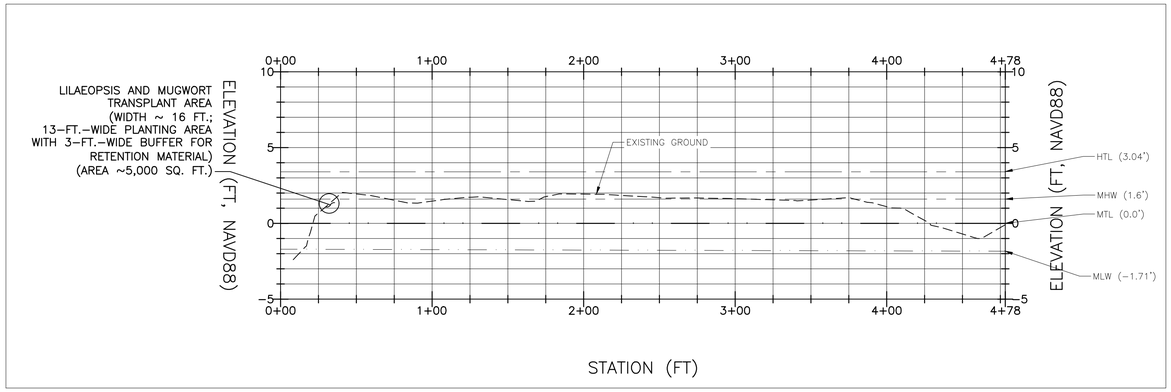
PROPOSED CONSTRUCTION ACCESS, SITE PREPARATION AND STAGING/LAYDOWN PLAN

Project No.	Scale
195602497	1"= 50 FT

Revision	Sheet	Drawing No.
0	5 of 7	C-102

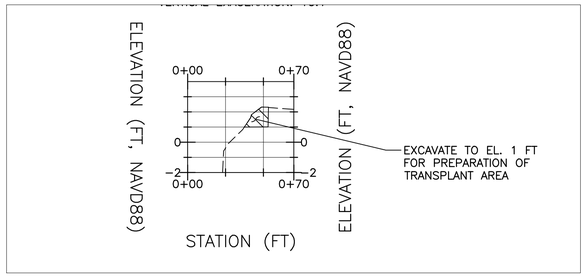
ORIGINAL SHEET - ANSI D

TIDAL DATUM	NOAA (NAVD88) (ft)	USGS (NAVD88) (ft)
CJL	2.90	3.01
MLW	−1.71	−1.48
MHW	1.60	1.71
HTL	3.04	3.15
LCSTV	4.1	NA



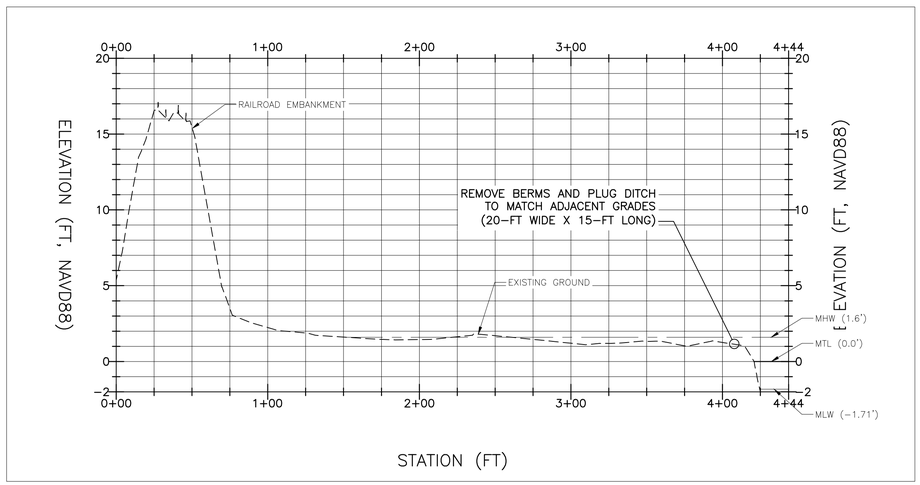
1 / C-101 SECTION – EXISTING TERRAIN – NORTH
VERTICAL = 1"=5' / HORIZONTAL = 1"=50'

NOTES:
1. REFERENCE SECTION DETAIL "B" (TRANSPLANT AREA (TYP.)) ON THIS SHEET.



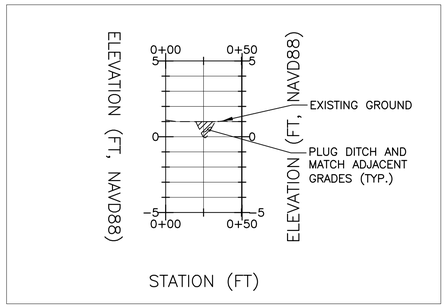
A / C-101 SECTION DETAIL – TRANSPLANT AREA (TYP.)
VERTICAL = 1"=5' / HORIZONTAL = 1"=50'

TRANSPLANT AREA NOTES:
1. REFERENCE SECTION 1 ON THIS SHEET FOR REFERENCE WATER SURFACE ELEVATIONS.
2. TOTAL WIDTH OF TRANSPLANT AREA IS ~16 FT.
   2.1. ~13 FT. WIDTH IS FOR TRANSPLANT STOCK
   2.2. ~3 FT. WIDTH FOR RETENTION MATERIAL ON DOWN-GRADIENT (WEST) SIDE ALONG LIEUTENANT RIVER FOR RETENTION MATERIAL (E.G., COIR LOG OR WATTLE)
3. EXCAVATE EXISTING MATERIAL TO EL. ~1 FT
4. LAY BACK CUT ABOVE FINISH GRADE A 1H:1V
5. INSTALL TRANSPLANT STOCK
6. FINISH ELEVATION OF TRANSPLANT STOCK IS EL. ~1.6 FT



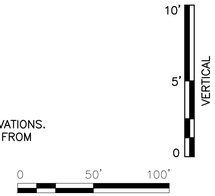
2 / C-101 SECTION – EXISTING TERRAIN – EAST
VERTICAL = 1"=5' / HORIZONTAL = 1"=50'

NOTES:
1. REFERENCE SECTION 1 ON THIS SHEET FOR REFERENCE WATER SURFACE ELEVATIONS.
2. REFERENCE SECTION DETAIL "B" (DITCH PLUGGING (TYP.)) ON THIS SHEET.



B / C-101 SECTION DETAIL – DITCH PLUGGING (TYP.)
VERTICAL = 1"=5' / HORIZONTAL = 1"=50'

DITCH PLUGGING NOTES:
1. REFERENCE SECTION 1 ON THIS SHEET FOR REFERENCE WATER SURFACE ELEVATIONS.
2. PLUG DITCH WITH MATERIAL FROM ADJACENT BERMS OR MATERIAL EXCAVATED FROM TRANSPLANT AREA
3. MATCH ADJACENT GRADES WITH DITCH PLUG MATERIAL



PLANS FOR PERMITTING
APRIL 2023

Stantec

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Consultant

Notes
1. EXISTING CONDITIONS PLAN DEVELOPED USING INFORMATION IN AUTOCAD FILE "2017-272 C3D SURVEY-CURRENT(2022)-Merged.dwg" BY MCA.
2. HORIZONTAL DATUM IS IN REFERENCE TO CONNECTICUT STATE PLANE MAINLAND NORTH AMERICAN DATUM 1983 (NAD83).
3. REGULATORY LINES: CJL, MLW, MHW AND FEMA 100-YEAR ARE SHOWN BASED ON THE NOAA GAUGE BENCHMARK INTERPOLATION AND FIELD VERIFICATION.

Revision	By	Appd	YYYY.MM.DD
PLANS FOR PERMITTING	MRC	MRC	2023.04.07
Issued	By	Appd	YYYY.MM.DD
File Name: 02497_3-25ACMS_C-200	MRC	MRC/LKB	MPA	2023.04.07
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

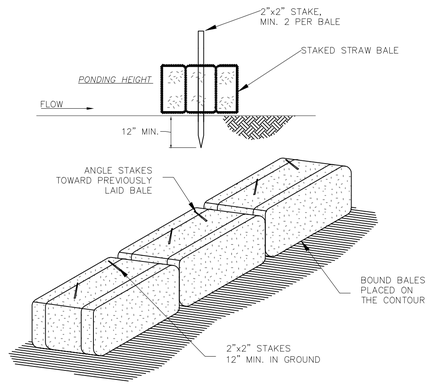
Client/Project Logo

AMTRAK
H&H

Client/Project
Amtrak, Hardesty & Hanover 3.25-Acre Mitigation Site
Replacement of Amtrak Connecticut River Bridge (MB 106.89)
Old Saybrook and Old Lyme, Connecticut

Title
SECTIONS AND SECTION DETAILS

Project No. 195602497
Scale AS SHOWN
Revision 0
Sheet 6 of 7
Drawing No. C-200



NOTES:

1. "STAKED EROSION CONTROL BARRIER: STRAW BALES" SHALL BE CONSTRUCTED WITH STRAW BALES OR BALES SHALL BE CERTIFIED FREE FROM WEEDS, INVASIVE SPECIES PROPAGULES, AND OTHER DELETERIOUS MATERIALS.

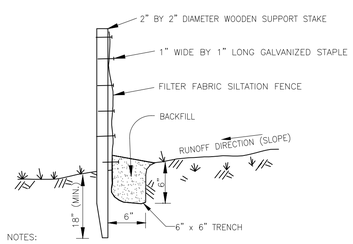
2. TO THE EXTENT PRACTICABLE, BALES SHALL BE PLACED ALONG THE SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

3. EACH STRAW BALE SHALL BE STAKED WITH AT LEAST 2 STAKES. BUTT BALES TOGETHER TO CREATE A TIGHT FIT. IN THAT CONDITIONS PREVENTING A TIGHT FIT BETWEEN BALES, OR BETWEEN BALES AND THE GROUND, ARE ENCOUNTERED (E.G., EXCESSIVE ROOTS, BEDROCK, OR FROZEN GROUND) THE CONTRACTOR SHALL UTILIZE ALTERNATIVE EROSION AND SEDIMENT CONTROL METHODS (E.G., FILTER BERM; SEE DETAIL, THIS SHEET).

4. STRAW BALES SHALL BE REMOVED AND REPLACED WHEN CLOGGED WITH SOIL PARTICLES OR AS DIRECTED BY THE ENGINEER.

5. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN STORAGE HEIGHT HAS BEEN REDUCED TO 9 INCHES. REMOVED SEDIMENT SHALL BE DEPOSITED IN AN AREA THAT IS NOT WITHIN JURISDICTIONAL RESOURCE AREA, WILL NOT CONTRIBUTE SEDIMENT OFF-SITE, AND CAN BE PERMANENTLY STABILIZED.

STAKED EROSION CONTROL BARRIER: STRAW BALE
NOT TO SCALE



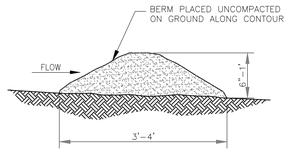
NOTES:

1. FENCE SHALL EXTEND 24" HIGH (MINIMUM) ABOVE GROUND.

2. EXTEND FILTER FABRIC A MINIMUM OF 6" INTO TRENCH AND BACKFILL TRENCH.

3. SILT FENCE MATERIAL SHALL BE ATTACHED TO THE SUPPORT STAKES WITH A MINIMUM OF SIX 1" WIDE BY 1" LONG GALVANIZED STAPLES.

STAKED EROSION CONTROL BARRIER: SILT FENCE
NOT TO SCALE



NOTES:

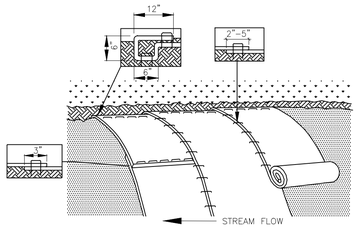
1. FILTER BERM SHALL BE PLACED ALONG SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

2. BERM MATERIAL SHALL BE BARK MULCH, STUMP GRINDINGS, OR OTHER APPROVED, BIODEGRADABLE MATERIAL, FREE FROM WEEDS, INVASIVE SPECIES PROPAGULES, AND OTHER DELETERIOUS MATERIALS.

3. BERM MATERIALS SHALL BE REPLACED AND/OR REPLENISHED AS REQUIRED TO MAINTAIN FUNCTIONALITY OF FILTER BERM.

4. FILTER BERM SHALL NOT BE USED ADJACENT TO STREAMS OR STREAMBANKS. CONTRACTOR SHALL USE AN ALTERNATE EROSION CONTROL BARRIER (E.G., STAKED BALES OR STRAW WATTLE) WHEN EROSION CONTROL BARRIER IS REQUIRED IN THESE LOCATIONS.

FILTER BERM
NOT TO SCALE



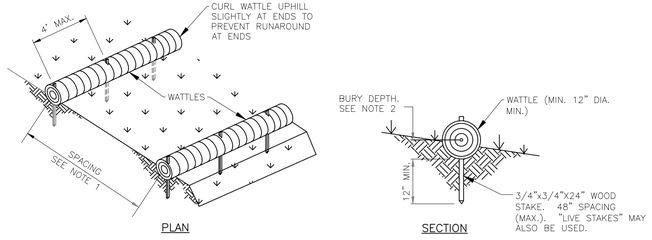
NOTES:

1. EROSION CONTROL BLANKET SHALL BE NORTH AMERICAN GREEN C-125BN OR APPROVED EQUAL.

2. EROSION CONTROL BLANKET SHALL BE INSTALLED IN AREAS DISTURBED BY CONSTRUCTION WITH SLOPES ≥ 4:1 (H:V) ABOVE MAHW ELEV. EXCEPT AS NOTED.

3. WHEN INSTALLING ADJACENT TO STREAM CHANNELS, BEGIN INSTALLATION AT DOWNSTREAM LIMIT AND WORK UPSTREAM SUCH THAT VERTICAL SEAM OVERLAPS ARE SHINGLED APPROPRIATELY IN RELATION TO STREAM FLOW DIRECTION.

EROSION CONTROL BLANKET
NOT TO SCALE



PLAN SECTION

NOTES:

1. WATTLE SPACING:
   1:1 SLOPES = 10 FEET APART
   2:1 SLOPES = 20 FEET APART
   3:1 SLOPES = 30 FEET APART
   4:1 SLOPES = 40 FEET APART

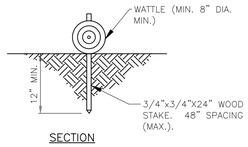
2. INSTALL WATTLE IN TRENCH DUG 2 TO 3 INCHES DEEP. COMPACT SOIL EXCAVATED FROM TRENCH AT UPSLOPE SIDE OF WATTLE. BACKFILL TRENCH AND RECOMPACT/TAMP SOIL WHEN ROLLS ARE REMOVED.

3. INSTALL WATTLES ALONG THE CONTOUR.

4. WHEN INSTALLING WATTLES END TO END, ENSURE THAT ENDS TIGHTLY ABUT.

6. FOR SLOPE GREATER THAN 5:1 WATTLE SHALL BE MIN. 20 INCHES IN DIAMETER. SMALLER-DIAMETER WATTLES MAY BE STACKED TO ACHIEVE SIMILAR LEVEL OF PROTECTION.

STAKED EROSION CONTROL BARRIER: STRAW WATTLE ON SLOPE
NOT TO SCALE



SECTION

NOTES:

1. INSTALL WATTLE ON GROUND.

2. INSTALL WATTLES ALONG CONTOUR.

3. WHEN INSTALLING WATTLES END TO END, ENSURE THAT ENDS TIGHTLY ABUT.

STAKED EROSION CONTROL BARRIER: STRAW WATTLE ON SHALLOW GRADE
NOT TO SCALE

General Notes

1. THIS PLAN IS TO BE USED AS A GUIDELINE ONLY. ADDITIONAL EROSION AND SEDIMENT CONTROL (ESC) MAY BE DICTATED BY FIELD CONDITIONS, PERMIT CONDITIONS, ENVIRONMENTAL REGULATORS, AND/OR THE ENGINEER, AND SHALL BE INSTALLED AT THE CONTRACTOR'S EXPENSE. OTHER ESC MEASURES MAY BE PROPOSED BY THE CONTRACTOR FOR APPROVAL. IN ADDITION TO ESC MEASURES SHOWN ON THE PLANS, ESC MEASURES SHALL BE UTILIZED AT THE BASE OF ALL TEMPORARY SOIL STOCKPILES.
2. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS AND PERMIT CONDITIONS.
3. ESC MEASURES SHALL BE INSTALLED PRIOR TO THE ONSET OF OTHER CONSTRUCTION ACTIVITIES AND SHALL BE ADEQUATE TO PREVENT EROSION AND SEDIMENT TRANSPORT BEYOND THE LIMITS OF WORK. ESC MEASURES SHALL BE INSPECTED, REPAIRED, AND MAINTAINED AS NECESSARY TO COMPLY WITH APPLICABLE REGULATIONS AND PROJECT PERMIT CONDITIONS.
4. THE CONTRACTOR SHALL STORE ON SITE ALL MATERIALS NECESSARY TO MAKE REPAIRS TO ALL ESC MEASURES. REPAIRS AND MAINTENANCE OF ESC MEASURES SHALL BE MADE IMMEDIATELY FOLLOWING IDENTIFICATION OF DEFICIENCIES AND AT NO ADDITIONAL COST TO THE OWNER.
5. THE CONTRACTOR SHALL INSTALL STABILIZED CONSTRUCTION ENTRANCES AT LOCATIONS DEPICTED ON THE PLANS AND AT ANY ALTERNATE APPROVED LOCATIONS USED TO ACCESS THE WORK AREA . ALTERNATE LOCATIONS MUST BE APPROVED BY THE OWNER PRIOR TO USE BY THE CONTRACTOR.
6. REFERENCE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" AS PREPARED BY THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION IN COOPERATION WITH THE CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION, OR SUBSEQUENT VERSIONS.
7. WATTLES MUST CONSIST OF BIODEGRADABLE FABRIC OR MESH AND NOT INCLUDE PLASTIC OR MONOFILAMENT NETTING TO REDUCE POTENTIAL WILDLIFE ENTANGLEMENT.

PLANS FOR PERMITTING
APRIL 2023

Stantec
Stantec Consulting Services Inc.
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Northampton, MA 01060 U.S.A.
Tel. 413.387.4776
www.stantec.com

Consultant

Notes

Revision	By	Appd	YYYY.MM.DD
PLANS FOR PERMITTING	MRC	MRC	2023.04.07
Issued	By	Appd	YYYY.MM.DD
File Name: 02497_3-25ACMS_C-300	MRC Dwn.	MRC Dsgn.	MPA Chkd. 2023.04.07 YYYY.MM.DD

Permit/Seal

Client/Project Logo

AMTRAK
H&H

Client/Project
Amtrak, Hardesty & Hanover
3.25-Acre Mitigation Site

Replacement of Amtrak Connecticut River Bridge (MB 106.89)

Old Saybrook and Old Lyme, Connecticut

Title
EROSION AND SEDIMENT CONTROL NOTES & DETAILS

Project No. 195602497
Scale AS SHOWN
Revision 0
Sheet 7 of 7
Drawing No. C-300

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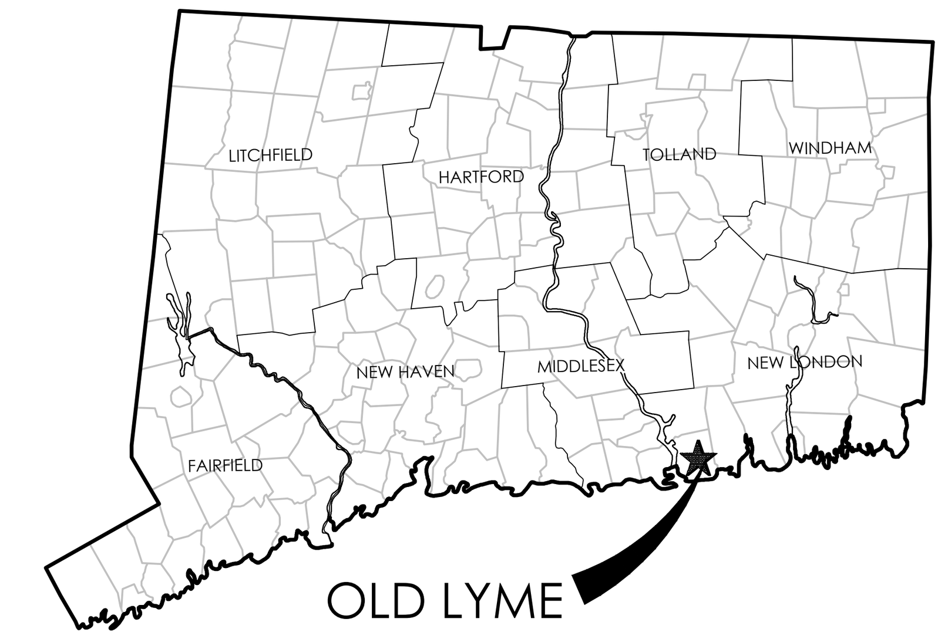
ORIGINAL SHEET - ANSI D

Stantec

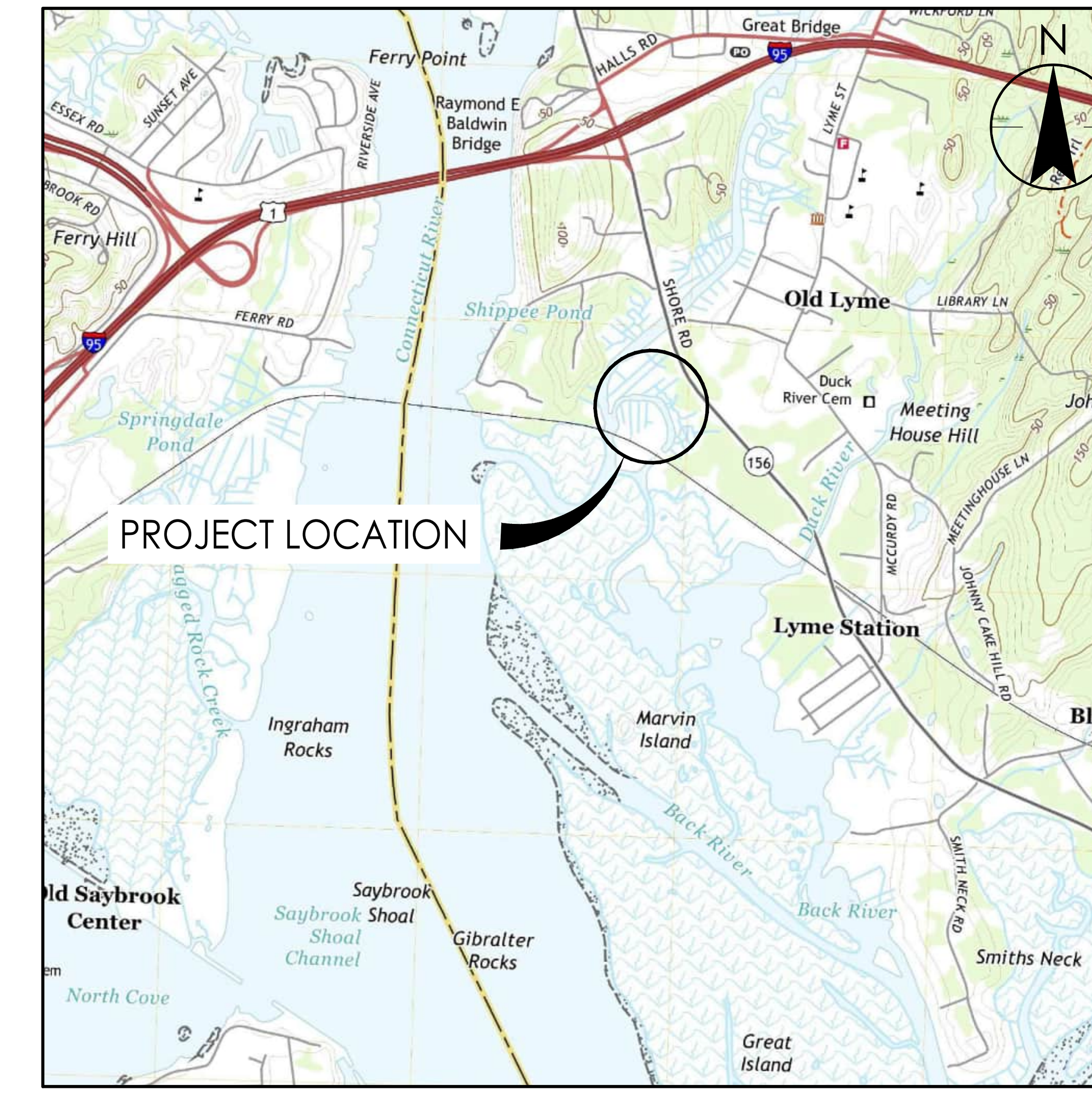
AMTRAK

Replacement of Amtrak Connecticut River Bridge (MP 106.89) Tidal Marsh Mitigation Design 17 Shore Road Site

Old Lyme and Old Saybrook, CT



LOCATION MAP



VICINITY MAP

1"=2000'

INDEX OF SHEETS

2023.04.07

PROJECT NUMBER: 195602497

PLANS FOR PERMITTING

APRIL 2023

DIG SAFE NOTE:

UTILITIES ARE PLOTTED FROM FIELD LOCATION AND SHOULD BE CONSIDERED APPROXIMATE. OTHER UTILITIES MAY EXIST. CONTRACTORS MUST CONTACT ALL UTILITY COMPANIES BEFORE EXCAVATING AND DRILLING. ALSO, CALL THE CONNECTICUT "CALL BEFORE YOU DIG" CENTER AT 1 (800) 922-4455 OR 811 WEBSITE: WWW.CBYD.COM

H&H

Hardesty & Hanover, LLC
850 Bear Tavern Road, Suite 206
West Trenton, NJ

PROJECT DESCRIPTION

THE OBJECTIVE OF THE 17 SHORE ROAD SITE MITIGATION DESIGN IS TO RESTORE NATURAL RESOURCES ON THE 17 SHORE ROAD SITE AS MITIGATION FOR IMPACTS AS PART OF THE AMTRAK CONNECTICUT RIVER BRIDGE REPLACEMENT PROJECT. THE GENERAL SCOPE OF WORK INCLUDES, BUT IS NOT LIMITED TO, INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES, ESTABLISHING CONSTRUCTION ACCESS, WATER MANAGEMENT, INSTALLATION OF THE PROPOSED CULVERT UNDER THE EXISTING ACCESS ROAD, CONSTRUCTION OF TIDAL MARSH AND ADJACENT UPLAND RESTORATION AND PLUGGING OF A REMNANT MOSQUITO CONTROL DITCH.

FISHERIES/WILDLIFE HABITAT NOTES

1. ALL ON-SITE CONSTRUCTION STAFF WILL ATTEND TRAINING BY AN QUALIFIED ENVIRONMENTAL SCIENTIST AND RECEIVE A COPY OF FINAL WILDLIFE PROTECTION PLAN PRIOR TO BEGINNING WORK ON SITE.
2. A QUALIFIED ENVIRONMENTAL SCIENTIST WILL BE PRESENT WHEN WORK IS BEING CONDUCTED.
3. NOISE-GENERATING CONSTRUCTION ACTIVITIES MUST BEGIN PRIOR TO MAY 1 AND CONTINUE WITHOUT PROLONGED INTERRUPTION THROUGH AUGUST 31. IF A SIGNIFICANT NOISE-GENERATING CONSTRUCTION ACTIVITY DOES NOT START PRIOR TO MAY 1, THEN A TIME OF YEAR RESTRICTION WILL APPLY, AND WORK MAY NOT BEGIN UNTIL SEPTEMBER 1 WITHOUT THE APPROVAL OF CTDEEP TO PROTECT LEAST BITTERN AND SALTMARSH SHARP-TAILED SPARROW.
4. IF BALD EAGLE NESTING ACTIVITY IS OBSERVED WITHIN 600 FT FROM CONSTRUCTION ACTIVITY ALL CONSTRUCTION MUST STOP UNTIL NESTING ACTIVITY HAS CEASED.
5. CONSTRUCTION WITHIN TIDAL CREEKS OR SIMILAR CHANNELIZED AQUATIC HABITAT IS PROHIBITED FROM NOVEMBER 1- MARCH 31 TO PROTECT OVER-WINTERING STATE-LISTED TURTLES.
6. WORK LIMITS MUST BE ENCLOSED BY A WILDLIFE BARRIER SYSTEM BETWEEN APRIL 1 AND OCTOBER 31 (E.G., SILT FENCE OR ELEVATED WORK SURFACES) TO PREVENT ENTRY BY STATE-LISTED TURTLES. THE ISOLATED WORK LIMITS ARE TO BE INSPECTED DAILY BY TRAINED CONSTRUCTION STAFF OR ENVIRONMENTAL MONITORS FOR THE PRESENCE OF STATE-LISTED TURTLES PRIOR TO THE START OF WORK; TURTLES ARE TO BE RELOCATED IF OBSERVED IN WORK LIMITS AND REPORTED TO THE ON-SITE ENVIRONMENTAL MONITOR AND AMTRAK REPRESENTATIVE; DEFICIENCIES IN THE WILDLIFE BARRIER ARE TO BE PROMPTLY REPAIRED.
7. SPEED LIMIT ALONG ACCESS ROADS IS NOT TO EXCEED 10 MPH.
8. REFUELING OR HANDLING OTHER BIO-TOXIC LIQUIDS IS PROHIBITED IN THE VICINITY OF LOW MARSH, RIVERBANKS, TIDAL CREEKS, OR DITCHES.
9. INACTIVE OSPREY NESTS MAY BE REMOVED FROM SEPTEMBER 1 - MARCH 1; CTDEEP IS TO BE NOTIFIED PRIOR TO REMOVING ANY OSPREY NEST.
10. TREE CLEARING IS PROHIBITED FROM JUNE 1 - JULY 31 TO PROTECT NORTHERN LONG-EARED BATS.
11. APPROPRIATE SOIL EROSION, SEDIMENT, AND TURBIDITY CONTROLS WILL BE USED AND MAINTAINED DURING CONSTRUCTION; AND AREAS CAPABLE OF PRODUCING GREATER THAN MINIMAL TURBIDITY OR SEDIMENTATION WILL BE DONE DURING PERIODS OF LOW- OR NO-FLOW TO PROTECT FISHERY RESOURCES.
12. WORK THAT PRODUCES GREATER THAN MINIMAL TURBIDITY OR SEDIMENTATION (DONE OUTSIDE OF TURBIDITY CURTAINS OR COFFERDAMS) IS PROHIBITED FROM FEBRUARY 1 - JUNE 30 TO PROTECT FISHERY RESOURCES.
13. EROSION AND SEDIMENT CONTROL MATERIALS CANNOT CONTAIN PLASTIC OR MONOFILAMENT MESHES TO REDUCE POTENTIAL WILDLIFE ENTANGLEMENT.

GENERAL NOTES

1. INFORMATION DEPICTED ON THESE PLANS DOES NOT CONSTITUTE AN AGREEMENT TO ACCESS OR WORK ON PROPERTIES DEPICTED ON THESE PLANS. ACCESS PERMISSION IS THE RESPONSIBILITY OF THE PROJECT OWNER AND MUST BE CONFIRMED BY THE CONTRACTOR.
2. EXISTING UTILITY EASEMENTS ARE NOT DEPICTED.
3. TOPOGRAPHIC AND SITE FEATURES ARE BASED UPON SURVEYS CONDUCTED BY MARTINEZ COUCH & ASSOCIATES, LLC.
4. ALL CONTOURS AND ELEVATIONS ARE PRESENTED IN FEET AND REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988).
5. NORTH ARROW, BEARINGS, AND COORDINATES ARE BASED UPON THE NORTH AMERICAN DATUM OF 1983 (NAD 1983) CONNECTICUT STATE PLANE COORDINATE SYSTEM FEET UNITS.
6. EXISTING CONTOURS ARE COMPUTER-GENERATED INTERPOLATIONS, EDITED TO GENERALLY CONFORM TO FIELD OBSERVATIONS.
7. INFORMATION REGARDING THE LOCATION OF EXISTING UTILITIES IS BASED UPON AVAILABLE INFORMATION, MAY BE INCOMPLETE, AND WHERE SHOWN SHOULD BE CONSIDERED APPROXIMATE. THE LOCATION OF ALL EXISTING UTILITIES SHALL BE CONFIRMED PRIOR TO BEGINNING OF CONSTRUCTION. CALL THE CONNECTICUT "CALL BEFORE YOU DIG" CENTER. ALL UTILITY LOCATIONS THAT DO NOT MATCH THE VERTICAL OR HORIZONTAL CONTROL SHOWN ON THE PLANS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION.
8. STANTEC ACCEPTS NO RESPONSIBILITY FOR THE ACCURACY OF MAPS AND DATA THAT HAVE BEEN SUPPLIED BY OTHERS.
9. CONTRACTOR SHALL VERIFY CRITICAL ELEVATIONS AND GRADES IN THE FIELD PRIOR TO CONSTRUCTION.
10. IF CONTRACTOR OBSERVES FIELD CONDITIONS WHICH VARY SIGNIFICANTLY FROM WHAT IS SHOWN ON THESE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND ENGINEER FOR RESOLUTION OF THE CONFLICTING INFORMATION.
11. EXCEPT WHERE SPECIFICALLY NOTED, THE LOCATIONS AND INFORMATION ABOUT UNDERGROUND PIPES, UTILITIES OR OTHER STRUCTURES ARE COMPILED FROM AVAILABLE RECORD DATA AND VISIBLE FIELD EVIDENCE AND ARE NOT REPRESENTED AS BEING EXACT OR COMPLETE.
12. PRIOR TO MOBILIZING TO THE PROJECT SITE, CONTRACTOR SHALL GIVE ADEQUATE ADVANCE NOTICE TO THE CONNECTICUT "CALL BEFORE YOU DIG" CENTER, THE TOWN OF OLD LYME, AND PRIVATE UTILITY COMPANIES TO ALLOW FOR FIELD LOCATION OF FACILITIES IN THE VICINITY OF THE PROJECT.
13. COORDINATE WITH AMTRAK AND OBTAIN APPROVALS FOR ACCESS WITHIN RAILROAD RIGHT-OF-WAY.
14. CONTRACTOR SHALL INSTALL TEMPORARY MEASURES AS NECESSARY TO ADEQUATELY PROTECT AND PRESERVE BURIED UTILITIES AND INFRASTRUCTURE WITHIN AND ADJACENT TO PROJECT WORK AREAS.
15. CONTRACTOR IS RESPONSIBLE FOR EVALUATING THE CONDITION OF EXISTING ROADS AND CULVERTS AND INSTALLATION OF TEMPORARY MEASURES FOR USE OF ROADS AND CULVERTS DURING CONSTRUCTION.
16. THROUGHOUT THE DURATION OF THE WORK, THE CONTRACTOR SHALL PROTECT AND PRESERVE UTILITIES AND ALL RELATED INFRASTRUCTURE AND APPURTENANCES WITHIN THE VICINITY OF WORK, ACCESS/EGRESS, AND STAGING AND STORAGE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH REPAIRING UTILITIES AND RELATED INFRASTRUCTURE AND APPURTENANCES IF DAMAGED AS A PART OF CONSTRUCTION OF THIS PROJECT.
17. CONTRACTOR SHALL IMMEDIATELY REPORT ANY DAMAGE TO EXISTING PIPES, UTILITIES, OR STRUCTURES TO THE OWNER AND ENGINEER, AND OBTAIN DIRECTIONS AS TO REPAIR, REPLACEMENT OR ABANDONMENT.
18. REFERENCE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" AS PREPARED BY THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION IN COOPERATION WITH THE CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION, OR SUBSEQUENT VERSIONS.
19. THE CONTRACTOR SHALL RECORD THE MEASUREMENTS, DEPTHS, DIMENSIONS, MATERIALS, FIELD CONDITIONS, AND OTHER PERTINENT DATA ABOUT ALL PIPES, UTILITIES, AND STRUCTURES ENCOUNTERED DURING THE WORK, BOTH EXISTING AND CONSTRUCTED. CONTRACTOR SHALL SUBMIT RECORD DRAWINGS WITH THIS INFORMATION TO THE OWNER AND ENGINEER PRIOR TO COMPLETION OF THE WORK.
20. CONTRACTOR IS RESPONSIBLE FOR WATER MANAGEMENT DURING CONSTRUCTION INCLUDING PREPARATION OF A WATER MANAGEMENT PLAN TO BE APPROVED BY THE ENGINEER AND OWNER, WHICH SHALL INCLUDE AN OUTLINE OF PROTOCOLS AND PROCEDURES ASSOCIATED WITH HIGH-WATER CONDITIONS. THE OWNER AND ENGINEER WILL NOT BE HELD RESPONSIBLE FOR DAMAGES INCURRED TO CONTRACTOR'S EQUIPMENT OR CONSTRUCTION PROJECT MATERIALS FROM HIGH-WATER CONDITIONS.
21. CONSTRUCTION EQUIPMENT CANNOT BE OPERATED ON THE MARSH SURFACE OR IN OTHER REGULATED RESOURCE AREAS EXCEPT AS APPROVED IN PROJECT PERMITS. CONSTRUCTION EQUIPMENT THAT IS APPROVED FOR OPERATION ON THE MARSH SURFACE CANNOT BE OPERATED WHEN THE MARSH SURFACE IS TIDALLY INUNDATED.
22. DURING ALL NON-WORK PERIODS EXCEEDING A DURATION OF 24 HOURS, CONTRACTOR'S EQUIPMENT SHALL BE DEMOBILIZED AS SPECIFIED IN PROJECT PERMITS.
23. ALL TEMPORARY AND PERMANENT MATERIALS FOR CONSTRUCTION SHALL BE CLEAN AND FREE OF DEBRIS.
24. CONTRACTOR SHALL THOROUGHLY WASH AND CLEAN EQUIPMENT PRIOR TO MOBILIZATION TO THE PROJECT SITE TO AVOID INTRODUCTION OF INVASIVE PLANT PROPAGULES TO THE PROJECT SITE.
25. CONTRACTOR'S EQUIPMENT SHALL BE SOUND, CLEAN, AND LEAK FREE PRIOR TO MOBILIZING TO THE PROJECT SITE AND SHALL BE MAINTAINED IN LEAK-FREE CONDITION WHILE ON SITE.
26. A COMPLETE SPILL KIT SHALL BE MAINTAINED AT THE PROJECT AREA. ALL CONSTRUCTION EQUIPMENT SHALL HAVE A MOUNTED FIRE EXTINGUISHER.
27. PERIMETER EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED PRIOR TO COMMENCING FURTHER WORK AND SHALL BE MAINTAINED THROUGHOUT THE DURATION OF WORK.
28. ON-SITE REFUELING SHALL OCCUR ONLY AS ALLOWED BY PROJECT PERMITS. A DRIP PAN OR ABSORBENT PADS SHALL BE USED DURING ALL DISPENSING OPERATIONS.
29. ALL MATERIAL REMOVED FROM THE PROJECT SITE SHALL BE DISPOSED OF IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS.
30. WORK SHALL COMPLY WITH ALL APPLICABLE ENVIRONMENTAL REGULATIONS AND PROJECT PERMIT CONDITIONS.

GENERAL CONSTRUCTION SEQUENCE:

THE GENERAL CONSTRUCTION SEQUENCING SHALL BE AS DESCRIBED BELOW.

1. PRE-MOBILIZATION
   - 1.1. DEVELOP WORK PLANS
     - 1.1.1.1. REVIEW DESIGN
     - 1.1.1.2. REVIEW PERMITS
     - 1.1.1.3. DEVELOP WORK PLANS
   - 1.2. CONDUCT HERBICIDE CONTROL OF COMMON REED (PHRAGMITES AUSTRALIS) IN TRANSPLANT AREA AT LEAST 6-8 WEEKS PRIOR TO EQUIPMENT MOBILIZATION
2. FIELD DEMARCATION OF RESOURCES AND WORK AREAS
   - 2.1. IDENTIFY AND DEMARK SENSITIVE PLANT COMMUNITIES TO BE AVOIDED
   - 2.2. DEMARK BOUNDARIES OF TEMPORARY WORK AREAS
     - 2.2.1. STAGING AREAS
     - 2.2.2. ACCESS ROUTES
   - 2.3. DEMARK PERMANENT WORK AREAS (STAGED BASED ON FINAL SEQUENCE OF WORK)
     - 2.3.1. CULVERT WORK AREA
     - 2.3.2. DITCH PLUGGING AREA
     - 2.3.3. TIDAL CHANNEL ON NORTHWEST SIDE OF EXISTING ACCESS ROAD AND PROPOSED CULVERT
     - 2.3.4. MITIGATION AREA ON SOUTHEAST SIDE OF EXISTING ACCESS ROAD AND PROPOSED CULVERT
3. MOBILIZATION
   - 3.1. INSTALL TURTLE EXCLUSIONARY BARRIER MEASURES AND CONDUCT WORKSITE SWEEP FOR TURTLES
   - 3.2. ESTABLISH STAGING AREAS AND ASSOCIATED EROSION AND SEDIMENT CONTROLS
   - 3.3. ESTABLISH TEMPORARY ACCESS ROUTES AND ASSOCIATED EROSION AND SEDIMENT CONTROLS
   - 3.4. ESTABLISH EROSION AND SEDIMENT CONTROLS ADJACENT TO PERMANENT WORK AREAS
4. CONSTRUCTION - CULVERT
   - 4.1. DAILY PLANNING AND COORDINATION (E.G., MONITOR WEATHER FORECASTS)
   - 4.2. DAILY MOBILIZATION/DEMOBILIZATION OF CONSTRUCTION EQUIPMENT FROM WORK AREA
   - 4.3. CONDUCT PRE-CONSTRUCTION TURTLE SWEEP
   - 4.4. INSTALL AND MAINTAIN OIL BOOMS (ONGOING)
   - 4.5. MONITORING AND MAINTENANCE OF EROSION AND SEDIMENT CONTROLS (ONGOING)
   - 4.6. MONITORING AND MAINTENANCE OF WATER MANAGEMENT SYSTEMS (ONGOING)
   - 4.7. CONSTRUCTION
   - 4.8. COMPLETION OF CULVERT CONSTRUCTION
   - 4.9. RESTORATION OF CULVERT WORK AREA
   - 4.10. RECEIPT OF OWNER'S ACCEPTANCE PRIOR TO COMPLETION OF DEMOBILIZATION FROM WORK AREA
   - 4.11. INSTALLATION OF TEMPORARY BARRIER(S) TO PREVENT TIDAL INTRUSION PRIOR TO CONSTRUCTION OF MITIGATION AREA SOUTHEAST FROM ACCESS ROAD AND CULVERT.
   - 4.12. DEMOBILIZATION FROM CULVERT WORK AREA
5. MITIGATION AREA NORTHWEST FROM ACCESS ROAD AND CULVERT
   - 5.1. DAILY PLANNING AND COORDINATION (E.G., MONITOR WEATHER FORECASTS, TIDES)
   - 5.2. DAILY MOBILIZATION/DEMOBILIZATION OF CONSTRUCTION EQUIPMENT FROM WORK AREA
   - 5.3. CONDUCT PRE-CONSTRUCTION TURTLE SWEEP
   - 5.4. INSTALL AND MAINTAIN OIL BOOMS (ONGOING)
   - 5.5. MONITORING AND MAINTENANCE OF EROSION AND SEDIMENT CONTROLS (ONGOING)
   - 5.6. MONITORING AND MAINTENANCE OF WATER MANAGEMENT SYSTEMS (ONGOING)
   - 5.7. ESTABLISH TEMPORARY ACCESS ROUTES
   - 5.8. CONSTRUCTION
     - 5.8.1. PLUG DITCH
     - 5.8.2. CONSTRUCTION TIDAL CHANNEL
   - 5.9. RECEIPT OF OWNER'S ACCEPTANCE PRIOR TO COMPLETION OF DEMOBILIZATION FROM WORK AREA
   - 5.10. REMOVE TEMPORARY ACCESS ROUTES IN INTERTIDAL AREAS AND RESTORE IMPACTED AREAS
   - 5.11. REMOVE EROSION AND SEDIMENT CONTROLS
   - 5.12. DEMOBILIZATION FROM THIS WORK AREA
6. MITIGATION AREA SOUTHEAST FROM ACCESS ROAD AND CULVERT
   - 6.1. DAILY PLANNING AND COORDINATION (E.G., MONITOR WEATHER FORECASTS, TIDES)
   - 6.2. DAILY MOBILIZATION/DEMOBILIZATION OF CONSTRUCTION EQUIPMENT FROM WORK AREA
   - 6.3. CONDUCT PRE-CONSTRUCTION TURTLE SWEEP
   - 6.4. INSTALL AND MAINTAIN OIL BOOMS (ONGOING)
   - 6.5. MONITORING AND MAINTENANCE OF EROSION AND SEDIMENT CONTROLS (ONGOING)
   - 6.6. MONITORING AND MAINTENANCE OF WATER MANAGEMENT SYSTEMS (ONGOING)
   - 6.7. ESTABLISH TEMPORARY ACCESS ROUTES
   - 6.8. INSTALL TIDAL BARRIER ON LANDWARD (NORTH) SIDE OF AMTRAK CULVERT UNDER RAILROAD EMBANKMENT
   - 6.9. EXCAVATION AND GRADING
   - 6.10. INSTALLATION OF PLANT STOCK
   - 6.11. INSTALLATION OF TEMPORARY MEASURES TO CONTROL EROSION AND SUPPORT ESTABLISHMENT OF PLANT STOCK
   - 6.12. RECEIPT OF OWNER'S ACCEPTANCE PRIOR TO COMPLETION OF DEMOBILIZATION FROM WORK AREA
   - 6.13. REMOVE EROSION AND SEDIMENT CONTROLS
   - 6.14. DEMOBILIZATION FROM THIS WORK AREA
7. COMMISSIONING
   - 7.1. COMMISSION MITIGATION SITE
   - 7.2. REMOVE BARRIERS FROM ACCESS ROAD AND AMTRAK RAILROAD EMBANKMENT CULVERTS
   - 7.3. MONITORING AND MAINTENANCE
8. FINAL DEMOBILIZATION
   - 8.1. RECEIPT OF OWNER'S ACCEPTANCE PRIOR TO INITIATING FINAL DEMOBILIZATION FROM WORK AREA
   - 8.2. REFERENCE PROJECT CONSTRUCTION AGREEMENT AND PERMITS
   - 8.3. FINAL DEMOBILIZATION

Legend

Symbol	Description
	EXISTING 5' MAJOR CONTOUR
	EXISTING 1' MINOR CONTOUR
	EXISTING PROPERTY LINE
	EXISTING RIVER EDGE (APPROX.)
MLW	MEAN LOW WATER
MHW	MEAN HIGH WATER
CJL	COASTAL JURISDICTION LINE
HTL	HIGH TIDE LINE
FEMA 100	FEMA 100YR LINE
OH	EXISTING OVERHEAD UTILITY
C	EXISTING COMMUNICATION LINE
E	EXISTING ELECTRIC LINE
F/O	EXISTING FIBER OPTICS
X	EXISTING METAL FENCE
	EXISTING GRAVEL DRIVE
	EXISTING STONE WALL
	EXISTING DRAINAGE SWALE
	PROPOSED DRAINAGE SWALE
	LIMITS OF CONSTRUCTION
	CONSTRUCTION ACCESS ROUTE
	RESTORED CONSTRUCTION ACCESS ROAD AREAS
	SEDIMENT CONTROL BARRIER
	OIL BOOM
	PHASED FLOW DIVERSION
	SEDIMENT CONTROL BARRIER
	TEMPORARY STAKED TURBIDITY CURTAIN
	TEMPORARY COFFER DAM
	WETLAND FLAG
	LIMITS OF DISTURBANCE
	LIMIT OF TIDAL HABITAT RESTORATION – SOUTHEAST MITIGATION AREA

PLANS FOR PERMITTING
APRIL 2023

Stantec

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Notes

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Permit/Seal

Client/Project Logo

AMTRAK
H&H

Client/Project
Amtrak, Hardesty & Hanover
17 Shore Road Mitigation Site

Replacement of Amtrak Connecticut River Bridge (MB 106.89)

Old Saybrook and Old Lyme, Connecticut

Title
GENERAL NOTES AND LEGEND

Project No. 195602497
Scale AS SHOWN
Revision 0
Sheet 2 of 9
Drawing No. G-002

ORIGINAL SHEET - ANSI D

TIDAL DATUM	NOAA (NAVD88) (ft)	USGS (NAVD88) (ft)
CJL	2.90	3.01
MLW	−1.71	−1.48
MHW	1.60	1.71
HTL	3.04	3.15
LCSTV	4.1	NA

*ALL ELEVATIONS SHOWN ARE APPROXIMATE AND CONTAINS AN ACCURACY OF 0.10' ± BASED ON RELATION WITH THE USGS AND NOAA GAUGE BENCHMARKS INTERPOLATION AND FIELD VERIFICATION.

FEMA 100-YR FLOOD: ZONE AE EL. 11 (NORTHWEST)
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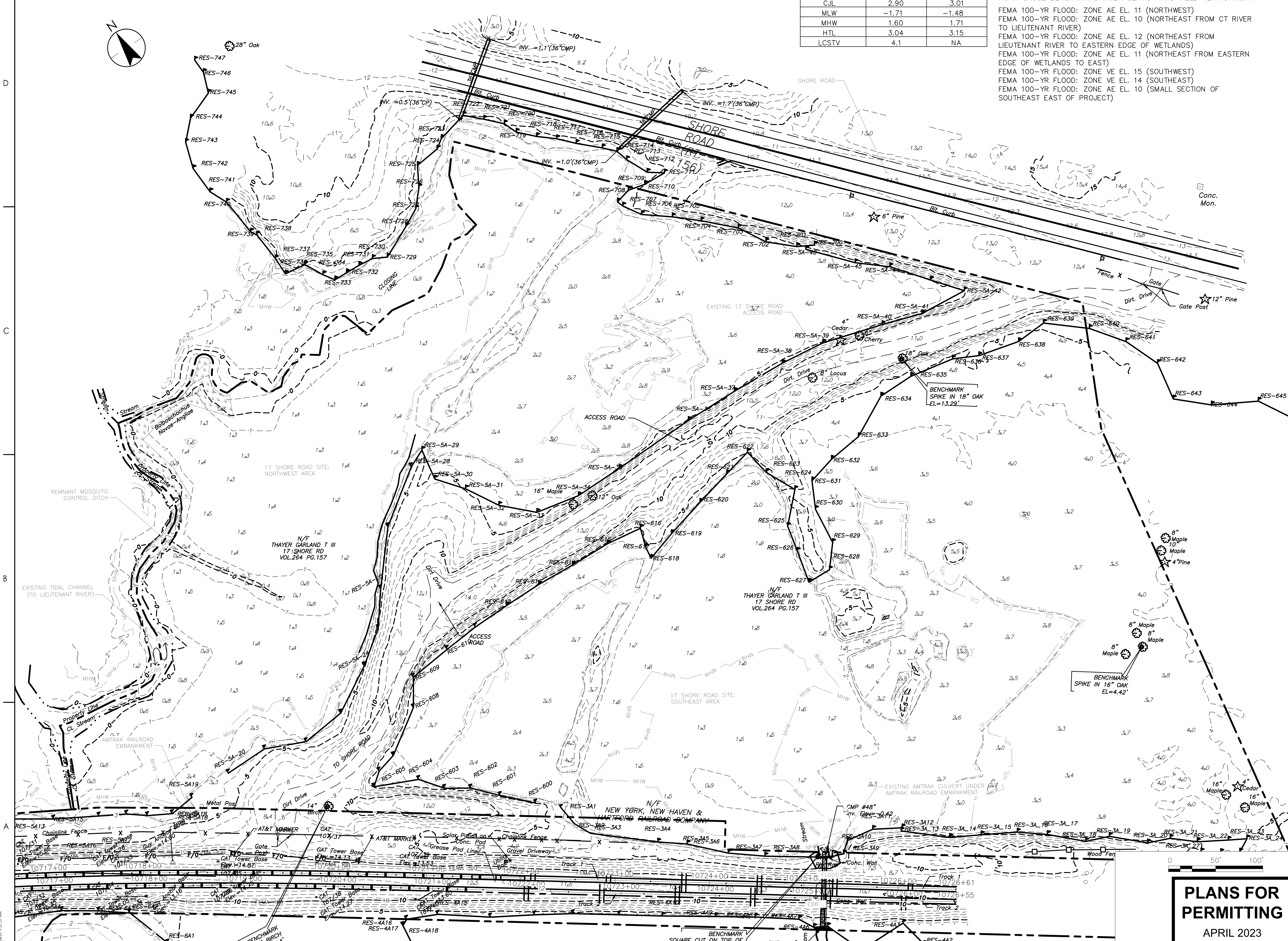
FEMA 100-YR FLOOD: ZONE VE EL. 15 (SOUTHWEST)
FEMA 100-YR FLOOD: ZONE VE EL. 14 (SOUTHEAST)
FEMA 100-YR FLOOD: ZONE AE EL. 10 (SMALL SECTION OF SOUTHEAST EAST OF PROJECT)



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Notes

1. EXISTING CONDITIONS PLAN DEVELOPED USING INFORMATION IN AUTOCAD FILE "2017-272 C3D SURVEY-CURRENT(2022)-Merged.dwg" BY MCA.
2. HORIZONTAL DATUM IS IN REFERENCE TO CONNECTICUT STATE PLANE MAINLAND NORTH AMERICAN DATUM 1983 (NAD83).
3. REGULATORY LINES: CJL, MLW, MHW AND FEMA 100-YEAR ARE SHOWN BASED ON THE NOAA GAUGE BENCHMARK INTERPOLATION AND FIELD VERIFICATION.

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Permit/Seal

Client/Project Logo

AMTRAK

H&H

Client/Project

Amtrak, Hardesty & Hanover
17 Shore Road Mitigation Site

Replacement of Amtrak Connecticut River Bridge (MB 106.89)

Old Saybrook and Old Lyme, Connecticut

Title

EXISTING CONDITIONS PLAN

Project No. 195602497

Scale AS SHOWN

Revision 0

Sheet 3 of 9

Drawing No. C-100

SHEET NOTES

REFERENCE GENERAL NOTES ON SHEET G-002.

1. REFERENCE CONCEPTUAL CONSTRUCTION SEQUENCE ON SHEET G-002
2. PLUGGING OF REMNANT MOSQUITO CONTROL DITCH
   - 2.1. PLUGGING OF DITCH WILL USE USE MATERIAL FROM ADJACENT BERMS OR SALVAGED MATERIAL FROM THE ADJACENT TIDAL CHANNEL CONSTRUCTION ON THE NORTHWEST SIDE OF THIS SITE PROVIDED THAT SUCH FILL IS FREE FROM VIABLE COMMON REED (PHRAGMITES AUSTRALIS) PLANTS OR ROOTS.
   - 2.2. PLACE FILL TO MATCH ADJACENT GRADES.
   - 2.3. ESTIMATED DISTURBANCE AREA FOR DITCH-PLUGGING LOCATION IS 20-FT-WIDE CENTERED ON DITCH AND 15 FT (300 SQ. FT.) ALONG DITCH. VOLUME OF MATERIAL FOR DITCH PLUGGING WAS NOT ESTIMATED.
3. CULVERT CONSTRUCTION
   - 3.1. CONTRACTOR IS RESPONSIBLE FOR LAYOUT OF CULVERT. LAYOUT MUST BE REVIEWED AND ACCEPTED BY OWNER PRIOR TO CONSTRUCTION OF CULVERT.
   - 3.2. THESE PLANS PROVIDE GENERAL INFORMATION ON THE PROPOSED CULVERT. DETAILED DESIGN TO BE PREPARED BY OTHERS. REFERENCE DESIGN MATERIALS BY OTHERS FOR STRUCTURAL AND GEOTECHNICAL DESIGN INFORMATION.
   - 3.3. CULVERT TO BE INSTALLED HORIZONTAL WITH INVERT AT EL -3.0 FT.
   - 3.4. CULVERT INTERNAL DIMENSIONS ARE 8-FT-WIDE BY 10-FT-HIGH.
   - 3.5. WINGWALLS ARE AS GENERALLY DEPICTED WITH FILL ABOVE MARSH ELEVATION ON ACCESS ROAD/UPHILL SIDES OF WINGWALLS. FILL ON RESTORATION AREA SIDES OF WINGWALLS TO BE GRADED TO ADJACENT TIDAL MARSH AND CHANNEL ELEVATIONS.
   - 3.6. GRAVEL SUBSTRATE TO BE INSTALLED TO A DEPTH OF 0.5 FT ON BOTTOM OF CULVERT TO FILL TO EL. -2.5 FT.
   - 3.7. SALVAGED MATERIAL FROM CONSTRUCTION OF TIDAL CHANNELS AND INTERTIDAL AREAS TO BE INSTALLED OVER GRAVEL SUBSTRATE TO A HEIGHT OF 1 FT ABOVE THE CULVERT INVERT (INSTALL MATERIAL UP TO EL. -2.0 FT).
   - 3.8. INSTALL ADDITIONAL SALVAGED MATERIAL IN CONSTRUCTED CHANNELS EXTENDING 30 FT FROM EACH END OF THE CULVERT TO FAIR-IN SALVAGED MATERIAL PLACED IN THE CULVERT (EL. -2.0 FT) TO THALWEG (BOTTOM) OF TIDAL CHANNELS (EL. -2.5 FT).
4. PROPOSED TIDAL CHANNEL ON NORTHWEST SIDE OF SITE
   - 4.1. CONTRACTOR IS RESPONSIBLE FOR LAYOUT OF THE TIDAL CHANNEL. LAYOUT MUST BE REVIEWED AND ACCEPTED BY OWNER PRIOR TO CONSTRUCTION OF THIS CHANNEL.
   - 4.2. CONSTRUCTION CHANNEL PER DIMENSIONS IN THESE PLANS WITHOUT OVER-EXCAVATION OR SOIL DISTURBANCE ALONG AND ADJACENT TO CHANNEL.
5. TIDAL HABITAT CONSTRUCTION ON SOUTHEAST SIDE OF SITE.
   - 5.1. CONTRACTOR IS RESPONSE FOR LAYOUT OF THE TIDAL HABITAT FEATURES DURING CONSTRUCTION.
   - 5.2. REMOVE OVERBURDEN TO TO A MAXIMUM DEPTH OF 0.75 FT BELOW FINISHED GRADES WHERE FINISHED GRADES ARE AT OR ABOVE EL. 0.0 FT.
     - 5.2.1. REMOVAL OF OVERBURDEN IS NOT REQUIRED WHERE FINISH GRADES ARE LOWER THAN EL. 0.0 FT.
     - 5.2.2. WHERE FINISH GRADES ARE BETWEEN EL. 0.0 FT AND EL. 0.75 FT, REMOVE OVERBURDEN TO EL. 0.0 FT.
     - 5.2.3. WHERE FINISH GRADES ARE HIGHER THAN EL. 0.75 FT, REMOVE 0.75 FT OF OVERBURDEN.
     - 5.2.4. USE OF SALVAGED AND STOCKPILED TIDAL MARSH TOPSOIL FROM CONSTRUCTION OF PROJECT TO ACHIEVE FINISH GRADES OF CONSTRUCTED MARSH SURFACE IS ACCEPTABLE PROVIDED THE SOIL IS FREE OF VIABLE COMMON REED (PHRAGMITES AUSTRALIS) ROOTS AND RHIZOMES AT THE TIME OF INSTALLATION. USE OF OTHER NATURAL OR MANUFACTURED TOPSOIL TO ACHIEVE FINISH GRADES OF CONSTRUCTED TIDAL MARSH SURFACE SHALL CONTAIN NO LESS THAN 75% SAND BY WEIGHT AND AN ORGANIC MATTER CONTENT NOT LESS THAN 10% AND NOT MORE THAN 15% AND MUST BE ANALYZED BY USDA-APPROVED METHODOLOGY FOR ORGANIC MATTER CONTENT.
     - 5.2.5. INSTALL TEMPORARY STRAW WATTLES ON FINISHED GRADES IN INTERTIDAL AREAS ABOVE EL. 0.5 FT.
   - 5.3. INSTALLATION OF PLANTINGS ON SOUTHEAST SIDE OF SITE
     - 5.3.1. PLANTINGS ARE TO BE INSTALLED AFTER INITIAL COMMISSIONING OF THIS SITE AND AT LEAST TWO WEEKS OF TIDAL INUNDATION.
     - 5.3.2. INSTALL PLANTS IN INTERTIDAL AREAS ABOVE EL. 0.0 FT (REFERENCE SHEET C-103).
   - 5.4. EXISTING CULVERT UNDER THE AMTRAK RAILROAD EMBANKMENT TO BE DECOMMISSIONED AFTER COMMISSIONING OF MITIGATION SITE.

TIDAL DATUM	NOAA (NAVD88) (ft)	USGS (NAVD88) (ft)
CJL	2.90	3.01
MLW	-1.71	-1.48
MHW	1.60	1.71
HTL	3.04	3.15
LCSTV	4.1	NA

*ALL ELEVATIONS SHOWN ARE APPROXIMATE AND CONTAINS AN ACCURACY OF 0.10' ± BASED ON RELATION WITH THE USGS AND NOAA GAUGE BENCHMARKS INTERPOLATION AND FIELD VERIFICATION.

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FEMA 100-YR FLOOD: ZONE AE EL. 10 (NORTHEAST FROM CT RIVER TO LIEUTENANT RIVER)
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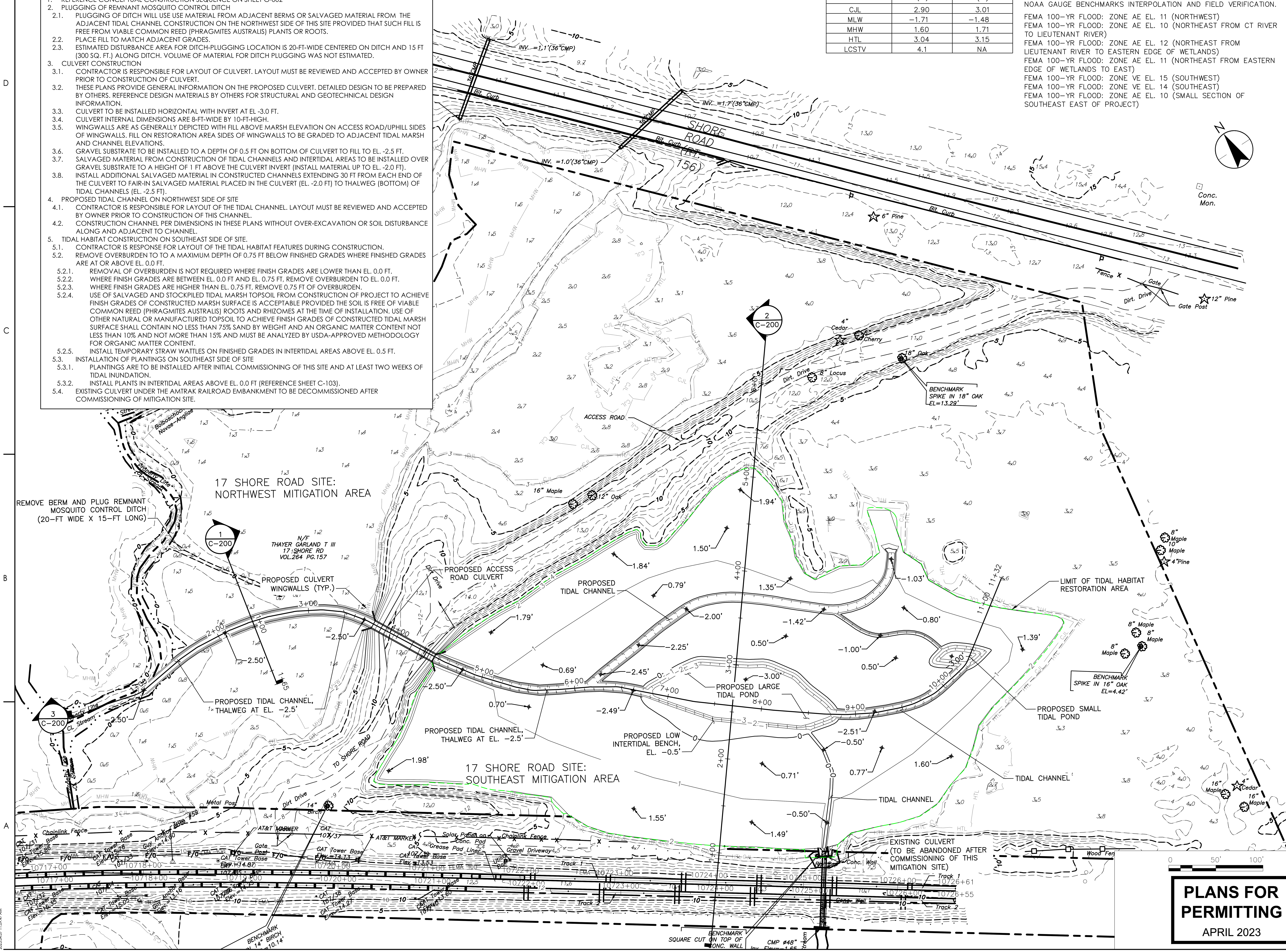

PLANS FOR PERMITTING
APRIL 2023

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Notes

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2. HORIZONTAL DATUM IS IN REFERENCE TO CONNECTICUT STATE PLANE MAINLAND NORTH AMERICAN DATUM 1983 (NAD83).
3. REGULATORY LINES: CJL, MLW, MHW AND FEMA 100-YEAR ARE SHOWN BASED ON THE NOAA GAUGE BENCHMARK INTERPOLATION AND FIELD VERIFICATION.
4. EXISTING CONDITIONS RESOURCE AREAS ARE NOT DEPICTED WITHIN THE 17 SHORE ROAD SOUTHEAST MITIGATION AREA ON THIS SHEET.

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Permit/Seal

Client/Project Logo

AMTRAK
H&H

Client/Project
Amtrak, Hardesty & Hanover
17 Shore Road Mitigation Site
Replacement of Amtrak Connecticut River Bridge (MB 106.89)
Old Saybrook and Old Lyme, Connecticut

Title
PROPOSED GRADING PLAN

Project No.	Scale
195602497	AS SHOWN

Revision	Sheet	Drawing No.
0	4 of 9	C-101

SHEET NOTES

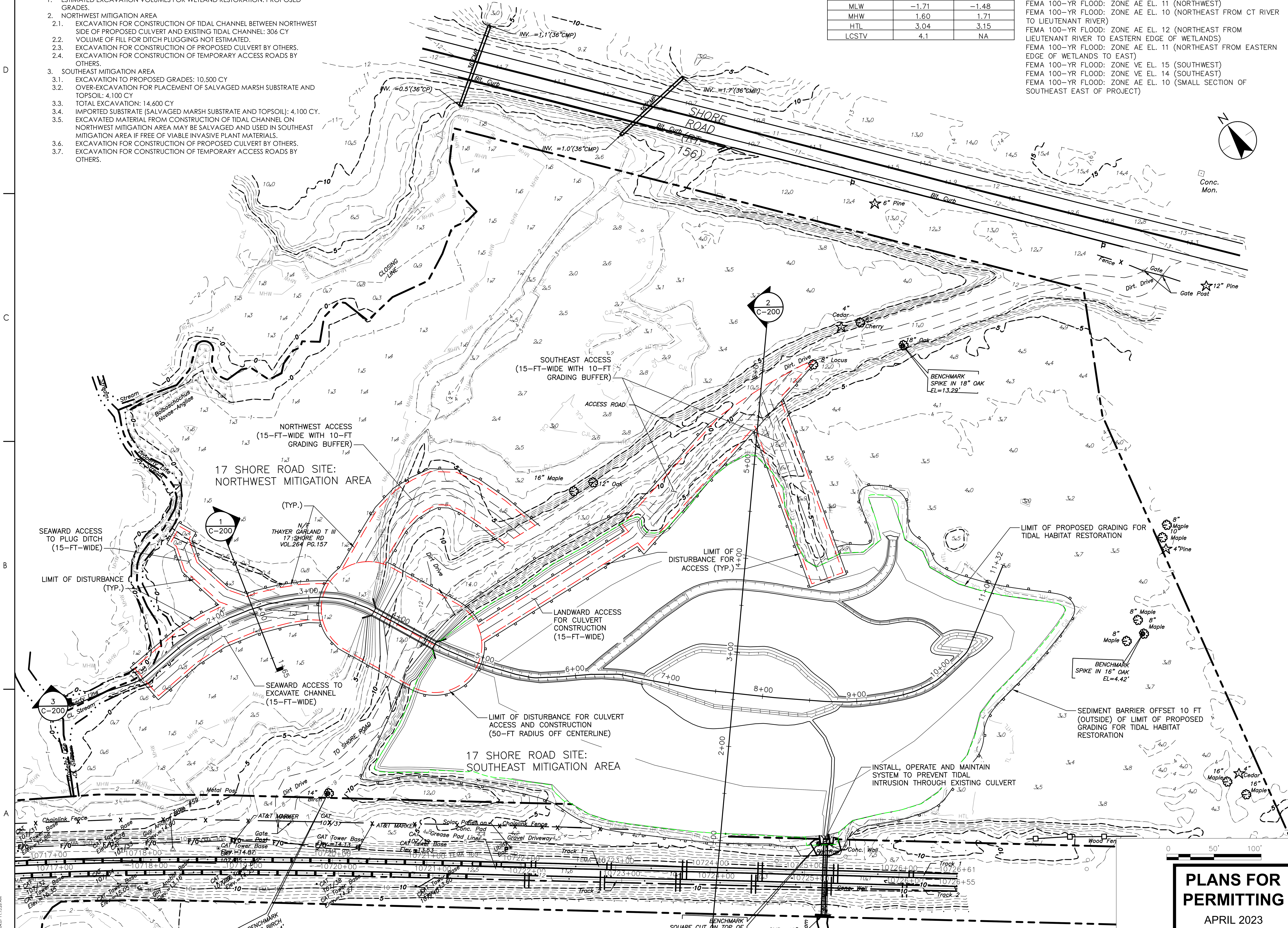
ESTIMATED MATERIAL VOLUMES

1. ESTIMATED EXCAVATION VOLUMES FOR WETLAND RESTORATION: PROPOSED GRADES.
2. NORTHWEST MITIGATION AREA
   - 2.1. EXCAVATION FOR CONSTRUCTION OF TIDAL CHANNEL BETWEEN NORTHWEST SIDE OF PROPOSED CULVERT AND EXISTING TIDAL CHANNEL: 306 CY
   - 2.2. VOLUME OF FILL FOR DITCH PLUGGING NOT ESTIMATED.
   - 2.3. EXCAVATION FOR CONSTRUCTION OF PROPOSED CULVERT BY OTHERS.
   - 2.4. EXCAVATION FOR CONSTRUCTION OF TEMPORARY ACCESS ROADS BY OTHERS.
3. SOUTHEAST MITIGATION AREA
   - 3.1. EXCAVATION TO PROPOSED GRADES: 10,500 CY
   - 3.2. OVER-EXCAVATION FOR PLACEMENT OF SALVAGED MARSH SUBSTRATE AND TOPSOIL: 4,100 CY
   - 3.3. TOTAL EXCAVATION: 14,600 CY
   - 3.4. IMPORTED SUBSTRATE (SALVAGED MARSH SUBSTRATE AND TOPSOIL): 4,100 CY.
   - 3.5. EXCAVATED MATERIAL FROM CONSTRUCTION OF TIDAL CHANNEL ON NORTHWEST MITIGATION AREA MAY BE SALVAGED AND USED IN SOUTHEAST MITIGATION AREA IF FREE OF VIABLE INVASIVE PLANT MATERIALS.
   - 3.6. EXCAVATION FOR CONSTRUCTION OF PROPOSED CULVERT BY OTHERS.
   - 3.7. EXCAVATION FOR CONSTRUCTION OF TEMPORARY ACCESS ROADS BY OTHERS.

TIDAL DATUM	NOAA (NAVD88) (ft)	USGS (NAVD88) (ft)
CJL	2.90	3.01
MLW	-1.71	-1.48
MHW	1.60	1.71
HTL	3.04	3.15
LCSTV	4.1	NA

*ALL ELEVATIONS SHOWN ARE APPROXIMATE AND CONTAINS AN ACCURACY OF 0.10' ± BASED ON RELATION WITH THE USGS AND NOAA GAUGE BENCHMARKS INTERPOLATION AND FIELD VERIFICATION.

FEMA 100-YR FLOOD: ZONE AE EL. 11 (NORTHWEST)
FEMA 100-YR FLOOD: ZONE AE EL. 10 (NORTHEAST FROM CT RIVER TO LIEUTENANT RIVER)
FEMA 100-YR FLOOD: ZONE AE EL. 12 (NORTHEAST FROM LIEUTENANT RIVER TO EASTERN EDGE OF WETLANDS)
FEMA 100-YR FLOOD: ZONE AE EL. 11 (NORTHEAST FROM EASTERN EDGE OF WETLANDS TO EAST)
FEMA 100-YR FLOOD: ZONE VE EL. 15 (SOUTHWEST)
FEMA 100-YR FLOOD: ZONE VE EL. 14 (SOUTHEAST)
FEMA 100-YR FLOOD: ZONE AE EL. 10 (SMALL SECTION OF SOUTHEAST EAST OF PROJECT)



PLANS FOR PERMITTING
APRIL 2023

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Notes

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2. HORIZONTAL DATUM IS IN REFERENCE TO CONNECTICUT STATE PLANE MAINLAND NORTH AMERICAN DATUM 1983 (NAD83).
3. REGULATORY LINES: CJL, MLW, MHW AND FEMA 100-YEAR ARE SHOWN BASED ON THE NOAA GAUGE BENCHMARK INTERPOLATION AND FIELD VERIFICATION.
4. EXISTING CONDITIONS RESOURCE AREAS ARE NOT DEPICTED WITHIN THE 17 SHORE ROAD SOUTHEAST MITIGATION AREA ON THIS SHEET.

Revision	By	Appd	YYYY.MM.DD
PLANS FOR PERMITTING	MRC	MRC	2023.04.07

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File Name: 02497_17SRMS_C-101-102-103	MRC	MRC/LKB	MPA	2023.04.07
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

Client/Project Logo

AMTRAK
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Client/Project
Amtrak, Hardesty & Hanover
17 Shore Road Mitigation Site
Replacement of Amtrak Connecticut River Bridge (MB 106.89)
Old Saybrook and Old Lyme, Connecticut

Title
PROPOSED CONSTRUCTION ACCESS, SITE PREPARATION AND STAGING/LAYDOWN PLAN

Project No.	Scale
195602497	AS SHOWN

Revision	Sheet	Drawing No.
0	5 of 9	C-102

ORIGINAL SHEET - ANSI D

SHEET NOTES

1. TOTAL AREA OF 17 SHORE ROAD SOUTHEAST MITIGATION AREA BELOW EL.2.0 FT IS 169,248 SQ. FT. (3.885 ACRES)
2. TOTAL AREA OF INTERTIDAL HABITAT BETWEEN EL. 0.0 FT AND EL. 2.0 FT IS 145,113 SQ. FT. (3.331 ACRES)
   - 2.1. TOTAL AREA OF INTERTIDAL HABITAT BETWEEN EL. 0.0 FT AND EL. 1.0 FT IS 72,117 SQ. FT. (1.656 ACRES)
   - 2.2. TOTAL AREA OF INTERTIDAL HABITAT BETWEEN EL. 1.0 FT AND EL. 2.0 FT IS 72,996 SQ. FT. (1.676 ACRES)
3. TOTAL AREA OF INTERTIDAL AND SUBTIIDAL HABITAT LOWER THAN EL. 0.0 FT 24,135 SQ. FT. (0.554 ACRES)
4. TOTAL AREA OF MARSH EDGE COMMUNITY BETWEEN EL. 2.0 FT AND EL. 4.1 FT IS 2,515 SQ. FT. (0.058 ACRES)

PLANT QUANTITIES

1. *NOTE IN TABLE: TWO (2) CULMS ARE TO BE PLANTED IN EACH HOLE; THE NUMBERS PRESENTED IN TABLE BELOW ASSUMES PLANT PLUG STOCK MATERIAL CONTAIN 1 CULM PER PLUG.
2. 1.0-2.0' ZONE TO BE PLANTED AS A MOSAIC OF VEGETATION; DUE TO RHIZOMATOUS GROWTH, DISCRETE PATCHES OR ZONES OF PLANTINGS PER SPECIES ARE RECOMMENDED OVER RANDOM DISTRIBUTION. SINGLE-SPECIES PATCHES ARE TO RANGE FROM APPROXIMATELY 100 SQ. FT. TO 500 SQ. FT.
3. WAND PANIC GRASS (*PANICUM VIRGATUM*) TO BE PLANTED IN DISTURBED AREAS AND WHERE OTHERWISE IDENTIFIED BY OWNER. PLANT TWO (2) 2-INCH PLUGS IN SINGLE HOLE 24-INCHES ON CENTER.

Legend	Planting Group	Species	Elevation Zone (feet, NAVD88)	Size*	Spacing	Percent of Area	Number
	Low Marsh Community (0.0' to 1.0')	Smooth cord grass / Spartina alterniflora	0.0'-1.0'	2" plug	18" OC	80%	51,283
		Seaside club-rush / Bolboschoenus robustus	0.0'-1.0'	2" plug	18" OC	10%	6,410
		Big cord grass / Spartina cynosuroides	0.0'-1.0'	2" plug	18" OC	10%	6,410
	High Marsh Community (1.0' to 2.0')	Salt-meadow cord grass / Spartina patens	1.0'-2.0'	2" plug	18" OC	35%	51,097
		Seaside club-rush / Bolboschoenus robustus	1.0'-2.0'	2" plug	18" OC	25%	16,221
		Big cord grass / Spartina cynosuroides	1.0'-2.0'	2" plug	18" OC	15%	9,733
		Three-square / chairmaker's club-rush / Schoenoplectus punges / S. americanus	1.0'-2.0'	2" plug	18" OC	25%	16,221
	Marsh Edge Community (2.0' to 4.1')	Wand panic grass / Panicum virgatum	2.0'-4.1'	2" plug	24" OC	100%	1,258

TIDAL DATUM	NOAA (NAVD88) (ft)	USGS (NAVD88) (ft)
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MLW	-1.71	-1.48
MHW	1.60	1.71
HTL	3.04	3.15
LCSTV	4.1	NA

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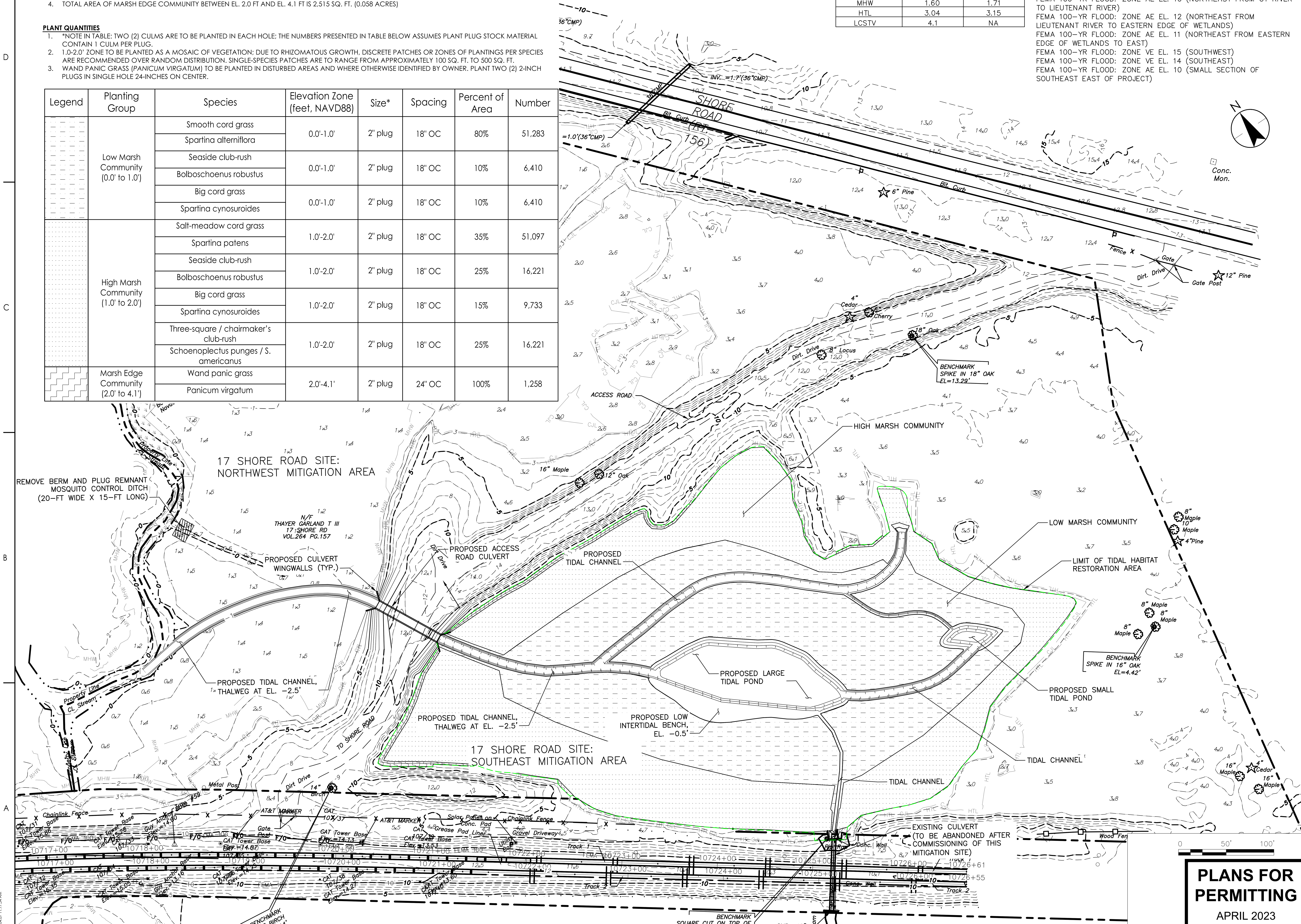

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	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Permit/Seal

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Amtrak, Hardesty & Hanover
17 Shore Road Mitigation Site

Replacement of Amtrak Connecticut River Bridge (MB 106.89)

Old Saybrook and Old Lyme, Connecticut

Title

PLANTING PLAN

PLANS FOR PERMITTING
APRIL 2023

Project No. 195602497 | Scale AS SHOWN

Revision 0 | Sheet 6 of 9

Drawing No. **C-103**

TIDAL DATUM	NOAA (NAVD88) (ft)	USGS (NAVD88) (ft)
CJL	2.90	3.01
MLW	-1.71	-1.48
MHW	1.60	1.71
HTL	3.04	3.15
LCSTV	4.1	NA

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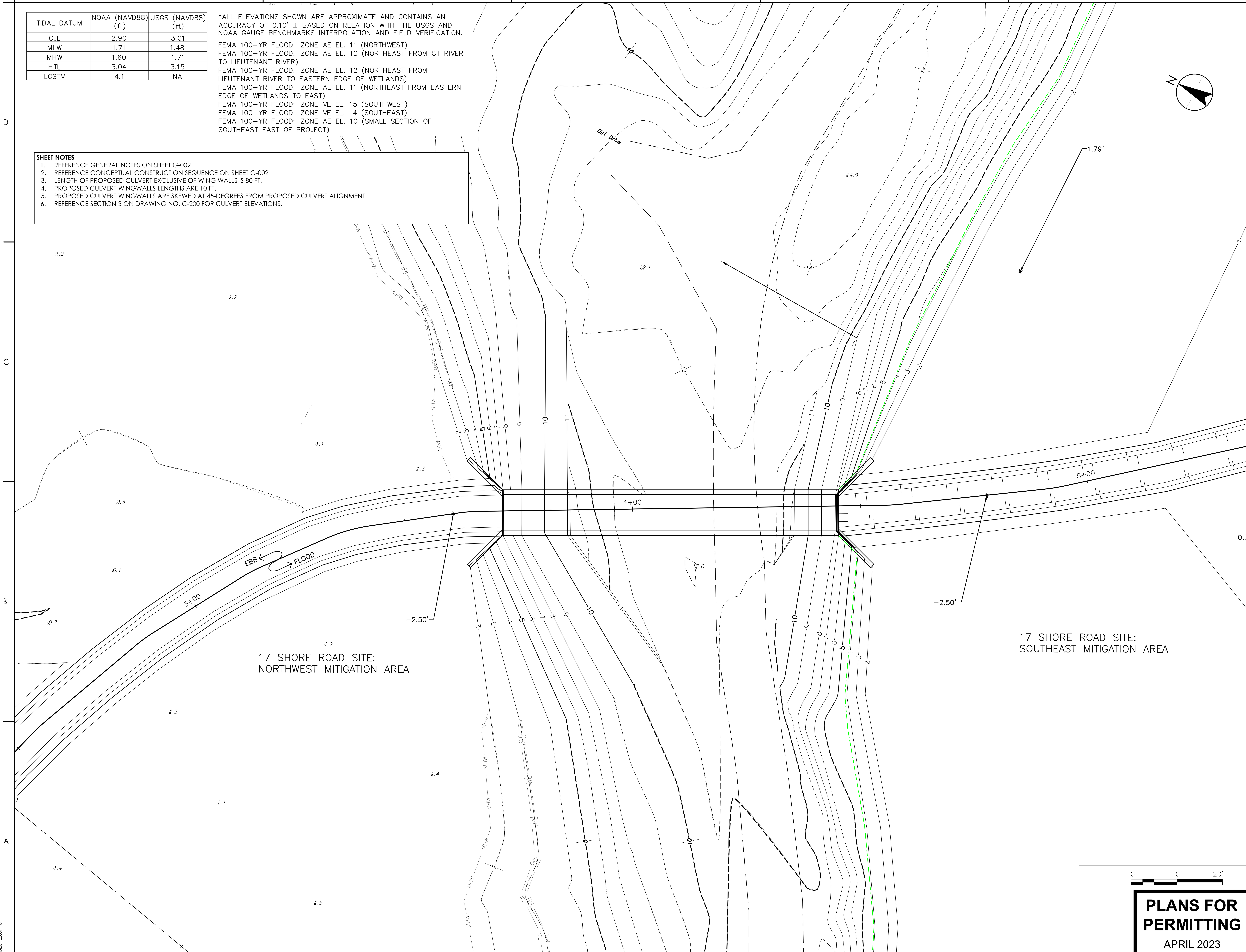
FEMA 100-YR FLOOD: ZONE VE EL. 14 (SOUTHEAST)
FEMA 100-YR FLOOD: ZONE AE EL. 10 (SMALL SECTION OF SOUTHEAST EAST OF PROJECT)

SHEET NOTES

1. REFERENCE GENERAL NOTES ON SHEET G-002.
2. REFERENCE CONCEPTUAL CONSTRUCTION SEQUENCE ON SHEET G-002
3. LENGTH OF PROPOSED CULVERT EXCLUSIVE OF WING WALLS IS 80 FT.
4. PROPOSED CULVERT WINGWALLS LENGTHS ARE 10 FT.
5. PROPOSED CULVERT WINGWALLS ARE SKEWED AT 45-DEGREES FROM PROPOSED CULVERT ALIGNMENT.
6. REFERENCE SECTION 3 ON DRAWING NO. C-200 FOR CULVERT ELEVATIONS.



PLANS FOR PERMITTING
APRIL 2023

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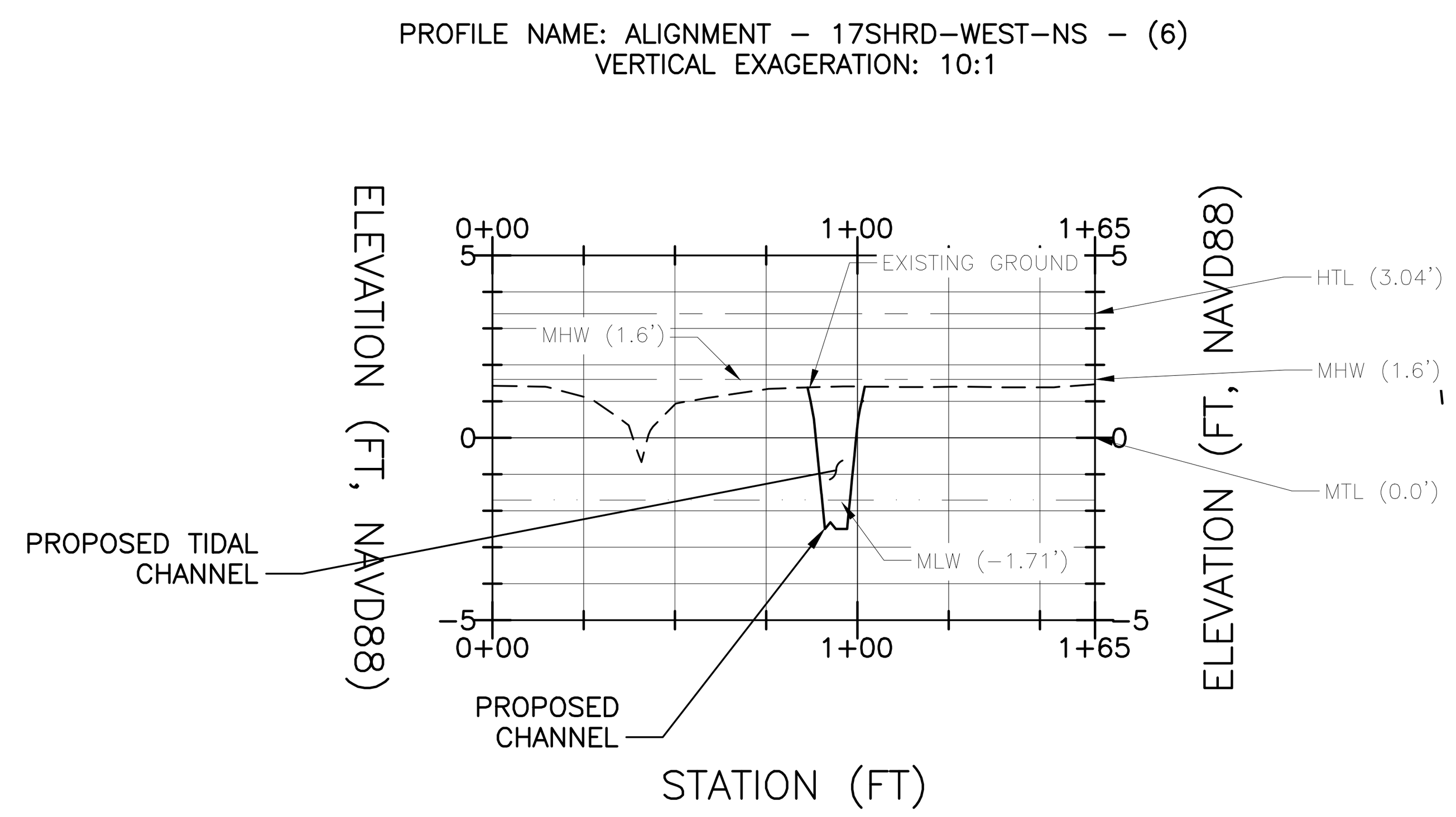
17 Shore Road Mitigation Site
Replacement of Amtrak Connecticut River Bridge (MB 106.89)
Old Saybrook and Old Lyme, Connecticut

Title
PROPOSED CULVERT GRADING PLAN

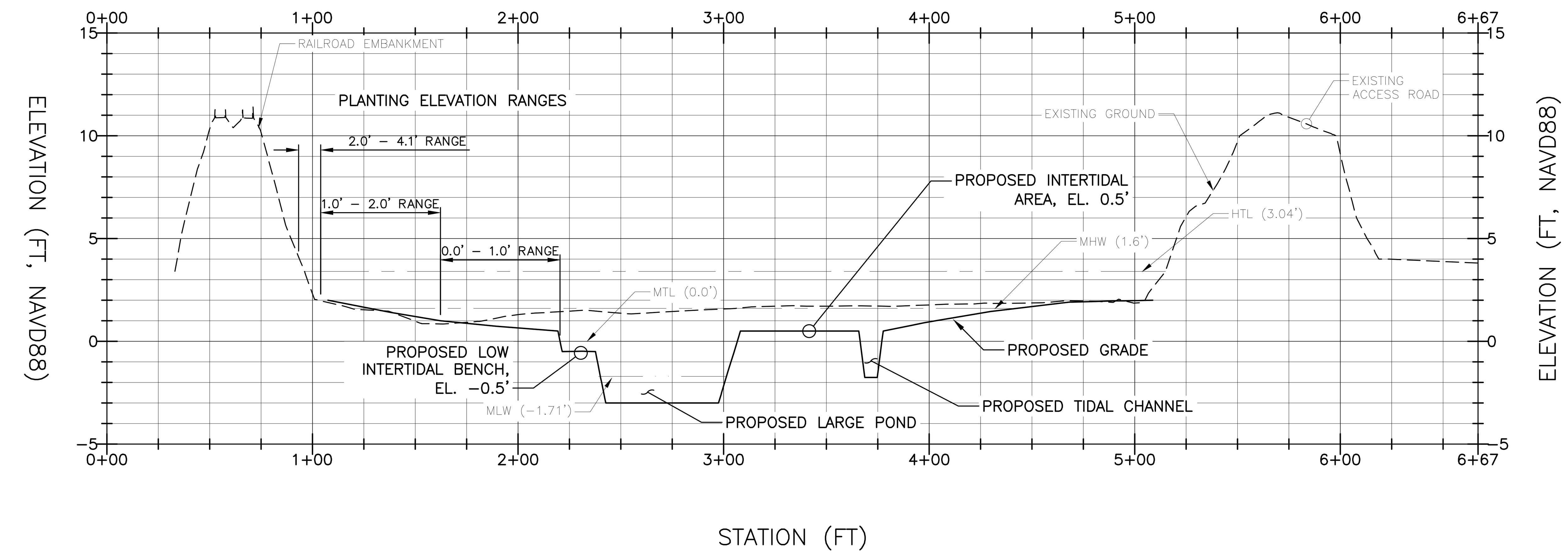
Project No. 195602497
Scale AS SHOWN
Revision 0
Sheet 7 of 9
Drawing No. C-104

ORIGINAL SHEET - ANSI D



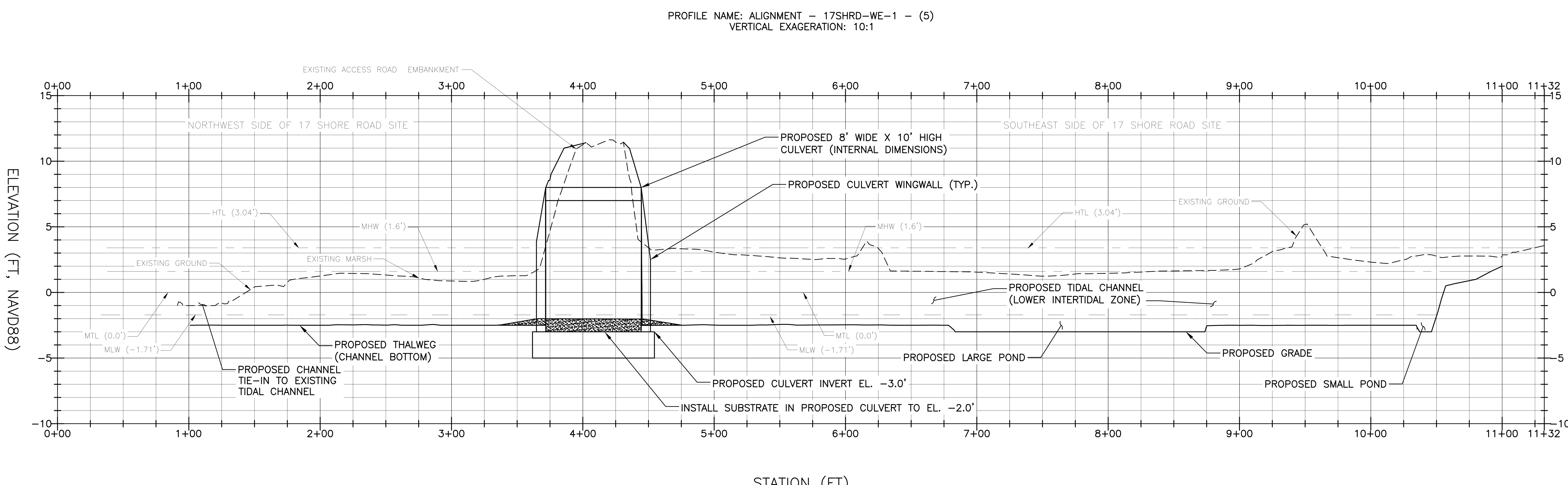
1 C-101 SECTION 1 – EXISTING AND PROPOSED TERRAIN – EAST

HORIZONTAL SCALE: 1"=50' / VERTICAL SCALE: 1"=5'



2 C-101 SECTION 2 – EXISTING AND PROPOSED TERRAIN – WEST

HORIZONTAL SCALE: 1"=50' / VERTICAL SCALE: 1"=5'



3 C-101 SECTION 3 – EXISTING AND PROPOSED TERRAIN – TIDAL CHANNEL – NORTH

HORIZONTAL SCALE: 1"=50' / VERTICAL SCALE: 1"=5'

PLANS FOR PERMITTING

APRIL 2023

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Revision	By	Appd	YYYY.MM.DD
PLANS FOR PERMITTING	MRC	MRC	2023.04.07
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File Name: 02497_17SRMS_C-200	MRC	MRC/LKB	MPA	2023.04.07
	Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

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17 Shore Road Mitigation Site

Replacement of Amtrak Connecticut River Bridge (MB 106.89)

Old Saybrook and Old Lyme, Connecticut

Title

SECTIONS AND PROFILES

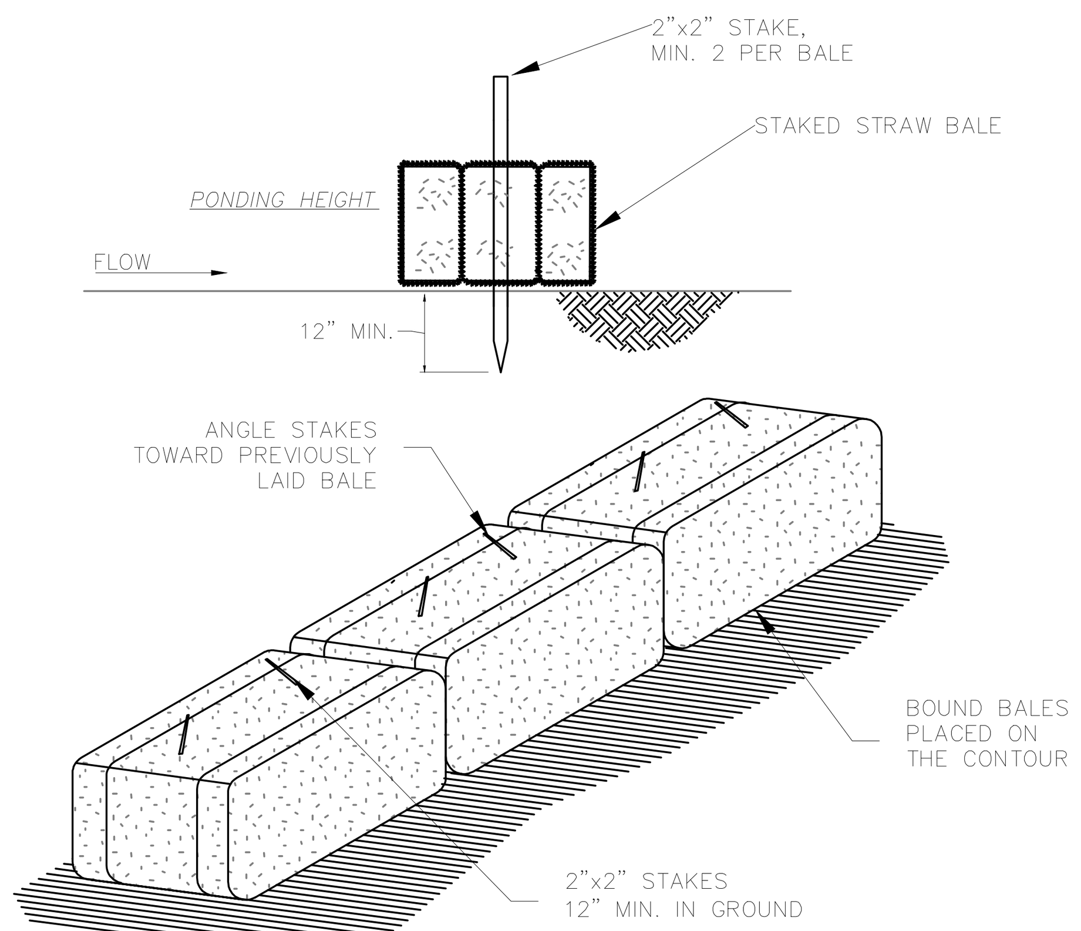
Project No.	Scale
195602497	AS SHOWN

Revision	Sheet	Drawing No.
0	8 of 9	C-200

ORIGINAL SHEET - ANSI D

1 2 3 4 5

D C B A



NOTES:

1. "STAKED EROSION CONTROL BARRIER: STRAW BALES" SHALL BE CONSTRUCTED WITH STRAW BALES OR BALES SHALL BE CERTIFIED FREE FROM WEEDS, INVASIVE SPECIES PROPAGULES, AND OTHER DELETERIOUS MATERIALS.

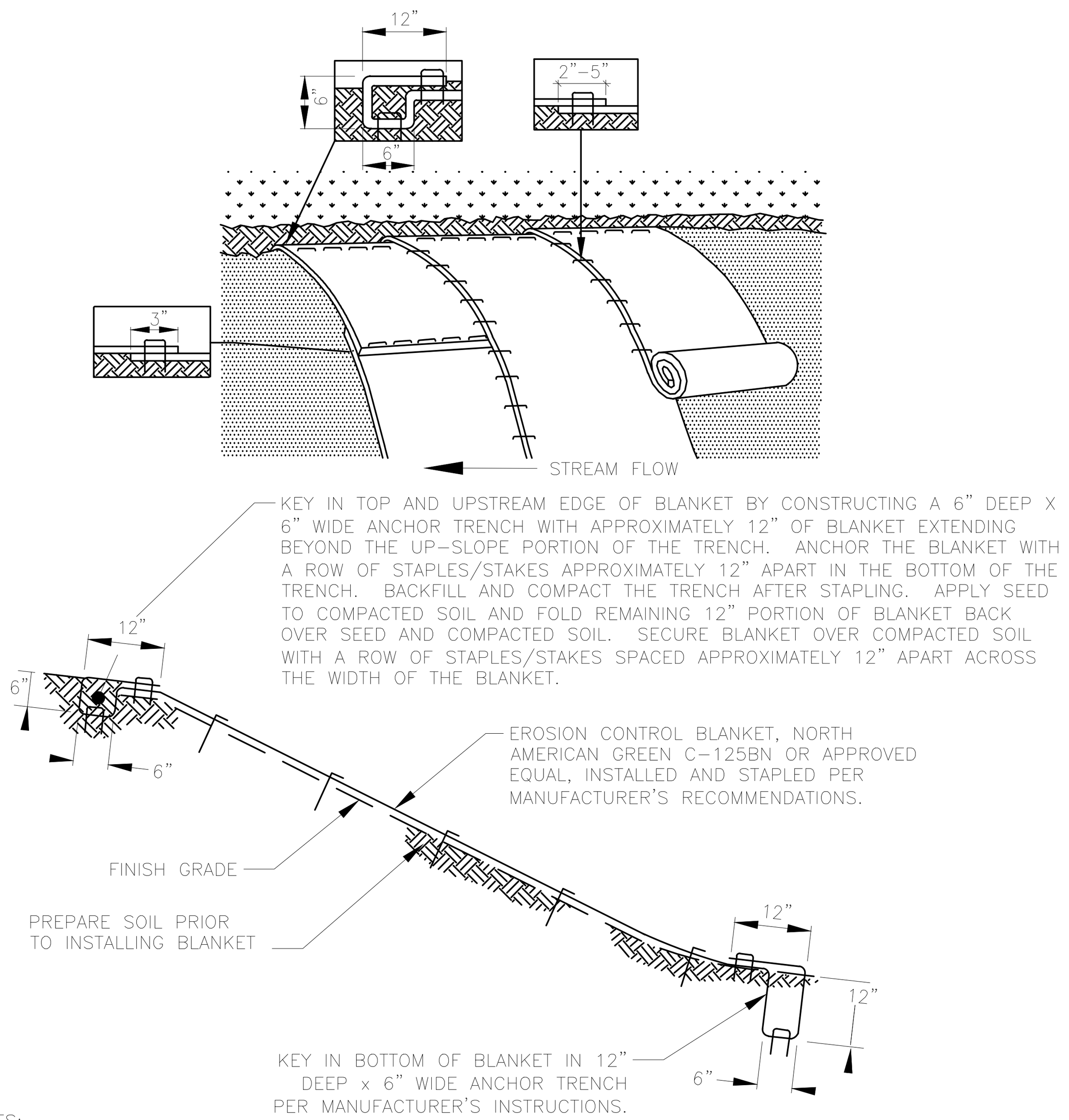
2. TO THE EXTENT PRACTICABLE, BALES SHALL BE PLACED ALONG THE SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

3. EACH STRAW BALE SHALL BE STAKED WITH AT LEAST 2 STAKES. BUTT BALES TOGETHER TO CREATE A TIGHT FIT. IN THAT CONDITIONS PREVENTING A TIGHT FIT BETWEEN BALES, OR BETWEEN BALES AND THE GROUND, ARE ENCOUNTERED (E.G., EXCESSIVE ROOTS, BEDROCK, OR FROZEN GROUND) THE CONTRACTOR SHALL UTILIZE ALTERNATIVE EROSION AND SEDIMENT CONTROL METHODS (E.G., FILTER BERM; SEE DETAIL, THIS SHEET).

4. STRAW BALES SHALL BE REMOVED AND REPLACED WHEN CLOGGED WITH SOIL PARTICLES OR AS DIRECTED BY THE ENGINEER.

5. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN STORAGE HEIGHT HAS BEEN REDUCED TO 9 INCHES. REMOVED SEDIMENT SHALL BE DEPOSITED IN AN AREA THAT IS NOT WITHIN JURISDICTIONAL RESOURCE AREA, WILL NOT CONTRIBUTE SEDIMENT OFF-SITE, AND CAN BE PERMANENTLY STABILIZED.

STAKED EROSION CONTROL BARRIER: STRAW BALE
NOT TO SCALE



NOTES:

1. EROSION CONTROL BLANKET SHALL BE NORTH AMERICAN GREEN C-125BN OR APPROVED EQUAL.

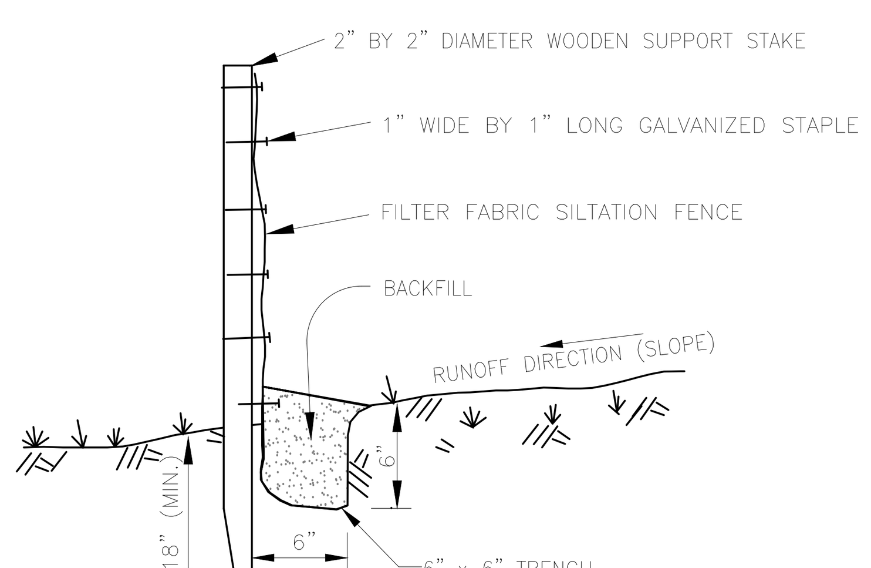
2. EROSION CONTROL BLANKET SHALL BE INSTALLED IN AREAS DISTURBED BY CONSTRUCTION WITH SLOPES $\geq$ 4:1 (H:V) ABOVE MAHW ELEV. EXCEPT AS NOTED.

3. WHEN INSTALLING ADJACENT TO STREAM CHANNELS, BEGIN INSTALLATION AT DOWNSTREAM LIMIT AND WORK UPSTREAM SUCH THAT VERTICAL SEAM OVERLAPS ARE SHINGLED APPROPRIATELY IN RELATION TO STREAM FLOW DIRECTION.

EROSION CONTROL BLANKET
NOT TO SCALE

General Notes

1. THIS PLAN IS TO BE USED AS A GUIDELINE ONLY. ADDITIONAL EROSION AND SEDIMENT CONTROL (ESC) MAY BE DICTATED BY FIELD CONDITIONS, PERMIT CONDITIONS, ENVIRONMENTAL REGULATORS, AND/OR THE ENGINEER, AND SHALL BE INSTALLED AT THE CONTRACTOR'S EXPENSE. OTHER ESC MEASURES MAY BE PROPOSED BY THE CONTRACTOR FOR APPROVAL. IN ADDITION TO ESC MEASURES SHOWN ON THE PLANS, ESC MEASURES SHALL BE UTILIZED AT THE BASE OF ALL TEMPORARY SOIL STOCKPILES.
2. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS AND PERMIT CONDITIONS.
3. ESC MEASURES SHALL BE INSTALLED PRIOR TO THE ONSET OF OTHER CONSTRUCTION ACTIVITIES AND SHALL BE ADEQUATE TO PREVENT EROSION AND SEDIMENT TRANSPORT BEYOND THE LIMITS OF WORK. ESC MEASURES SHALL BE INSPECTED, REPAIRED, AND MAINTAINED AS NECESSARY TO COMPLY WITH APPLICABLE REGULATIONS AND PROJECT PERMIT CONDITIONS.
4. THE CONTRACTOR SHALL STORE ON SITE ALL MATERIALS NECESSARY TO MAKE REPAIRS TO ALL ESC MEASURES. REPAIRS AND MAINTENANCE OF ESC MEASURES SHALL BE MADE IMMEDIATELY FOLLOWING IDENTIFICATION OF DEFICIENCIES AND AT NO ADDITIONAL COST TO THE OWNER.
5. THE CONTRACTOR SHALL INSTALL STABILIZED CONSTRUCTION ENTRANCES AT LOCATIONS DEPICTED ON THE PLANS AND AT ANY ALTERNATE APPROVED LOCATIONS USED TO ACCESS THE WORK AREA . ALTERNATE LOCATIONS MUST BE APPROVED BY THE OWNER PRIOR TO USE BY THE CONTRACTOR.
6. REFERENCE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" AS PREPARED BY THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION IN COOPERATION WITH THE CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION, OR SUBSEQUENT VERSIONS.
7. WATTLES MUST CONSIST OF BIODEGRADABLE FABRIC OR MESH AND NOT INCLUDE PLASTIC OR MONOFILAMENT NETTING TO REDUCE POTENTIAL WILDLIFE ENTANGLEMENT.



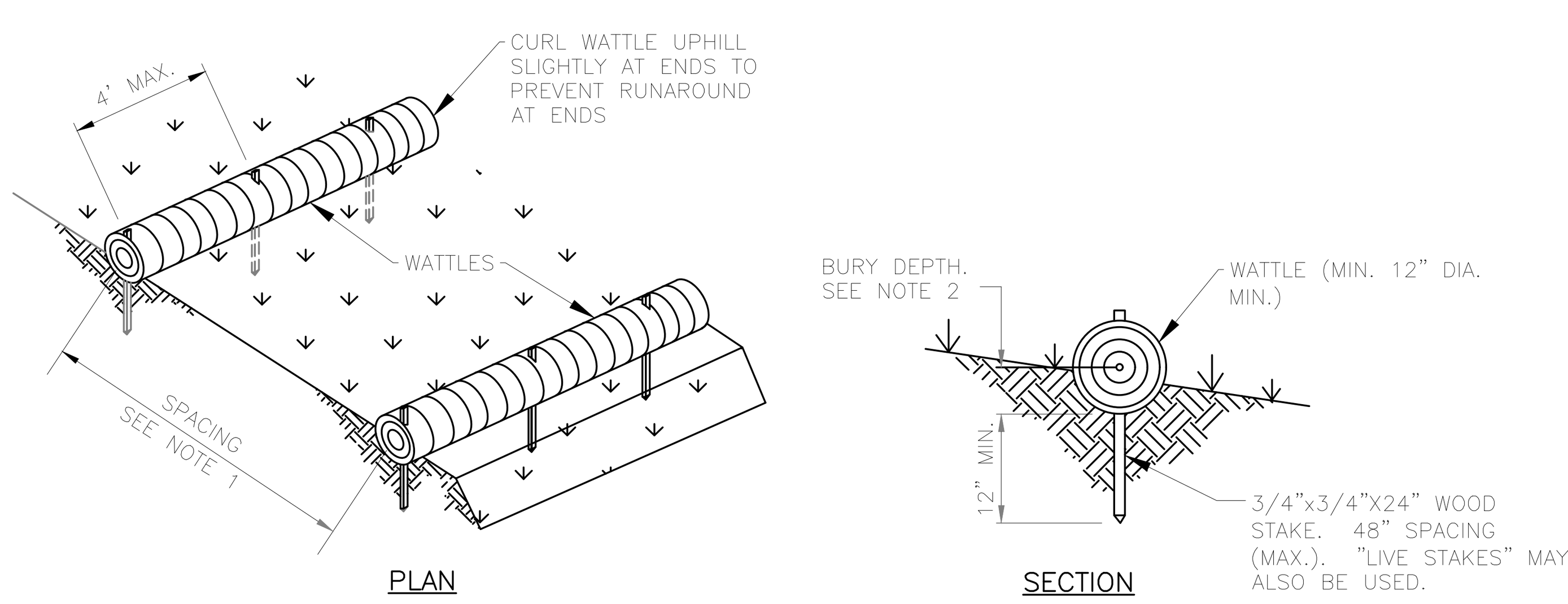
NOTES:

1. FENCE SHALL EXTEND 24" HIGH (MINIMUM) ABOVE GROUND.

2. EXTEND FILTER FABRIC A MINIMUM OF 6" INTO TRENCH AND BACKFILL TRENCH.

3. SILT FENCE MATERIAL SHALL BE ATTACHED TO THE SUPPORT STAKES WITH A MINIMUM OF SIX 1" WIDE BY 1" LONG GALVANIZED STAPLES.

STAKED EROSION CONTROL BARRIER: SILT FENCE
NOT TO SCALE



NOTES:

1. WATTLE SPACING:
   1:1 SLOPES = 10 FEET APART
   2:1 SLOPES = 20 FEET APART
   3:1 SLOPES = 30 FEET APART
   4:1 SLOPES = 40 FEET APART

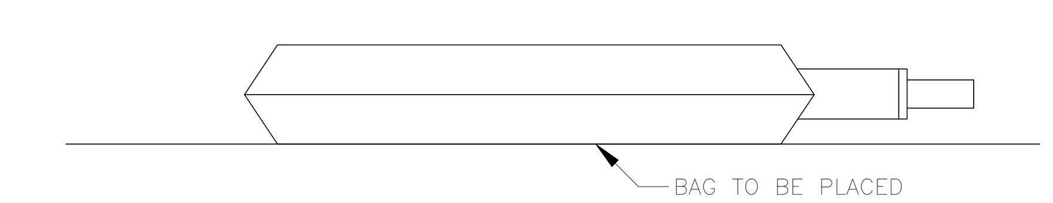
2. INSTALL WATTLE IN TRENCH DUG 2 TO 3 INCHES DEEP. COMPACT SOIL EXCAVATED FROM TRENCH AT UPSLOPE SIDE OF WATTLE. BACKFILL TRENCH AND RECOMPACT/TAMP SOIL WHEN ROLLS ARE REMOVED.

3. INSTALL WATTLES ALONG THE CONTOUR.

4. WHEN INSTALLING WATTLES END TO END, ENSURE THAT ENDS TIGHTLY ABUT.

6. FOR SLOPE GREATER THAN 5:1 WATTLE SHALL BE MIN. 20 INCHES IN DIAMETER. SMALLER-DIAMETER WATTLES MAY BE STACKED TO ACHIEVE SIMILAR LEVEL OF PROTECTION.

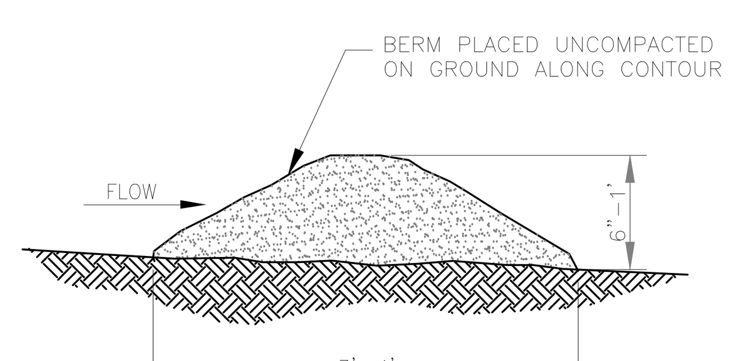
STAKED EROSION CONTROL BARRIER: STRAW WATTLE ON SLOPE
NOT TO SCALE



SECTION A-A'

PLAN VIEW

DEWATERING BAG STRUCTURE
NOT TO SCALE



NOTES:

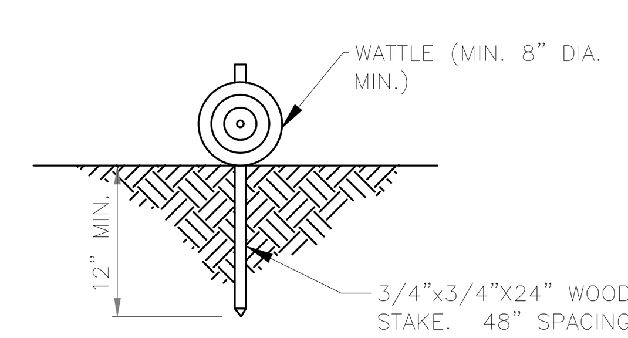
1. FILTER BERM SHALL BE PLACED ALONG SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

2. BERM MATERIAL SHALL BE BARK MULCH, STUMP GRINDINGS, OR OTHER APPROVED, BIODEGRADABLE MATERIAL, FREE FROM WEEDS, INVASIVE SPECIES PROPAGULES, AND OTHER DELETERIOUS MATERIALS.

3. BERM MATERIALS SHALL BE REPLACED AND/OR REPLENISHED AS REQUIRED TO MAINTAIN FUNCTIONALITY OF FILTER BERM.

4. FILTER BERM SHALL NOT BE USED ADJACENT TO STREAMS OR STREAMBANKS. CONTRACTOR SHALL USE AN ALTERNATE EROSION CONTROL BARRIER (E.G., STAKED BALES OR STRAW WATTLE) WHEN EROSION CONTROL BARRIER IS REQUIRED IN THESE LOCATIONS.

FILTER BERM
NOT TO SCALE



SECTION

NOTES:

1. INSTALL WATTLE ON GROUND.

2. INSTALL WATTLES ALONG CONTOUR.

3. WHEN INSTALLING WATTLES END TO END, ENSURE THAT ENDS TIGHTLY ABUT.

STAKED EROSION CONTROL BARRIER: STRAW WATTLE ON SHALLOW GRADE
NOT TO SCALE

PLANS FOR PERMITTING
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Permit/Seal

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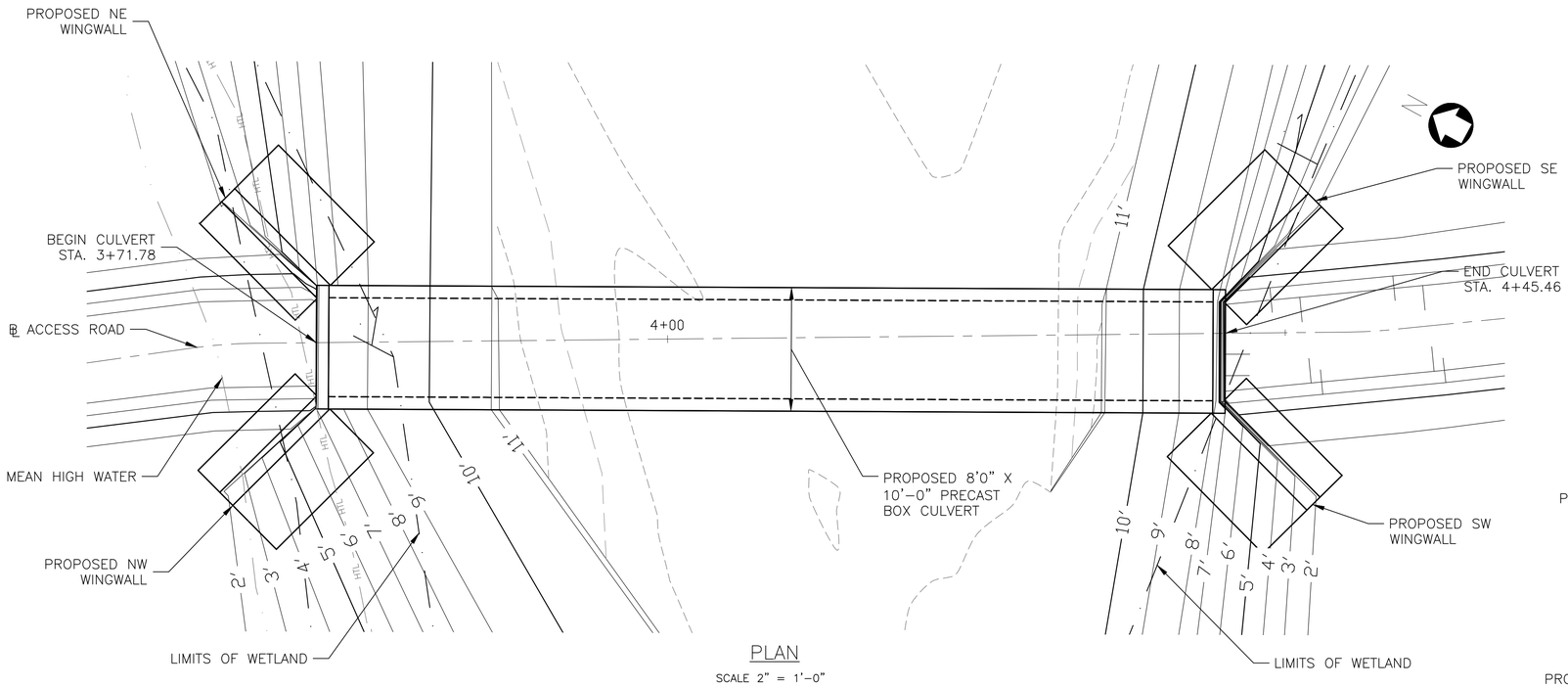
Old Saybrook and Old Lyme, Connecticut

Title
EROSION AND SEDIMENT CONTROL NOTES & DETAILS

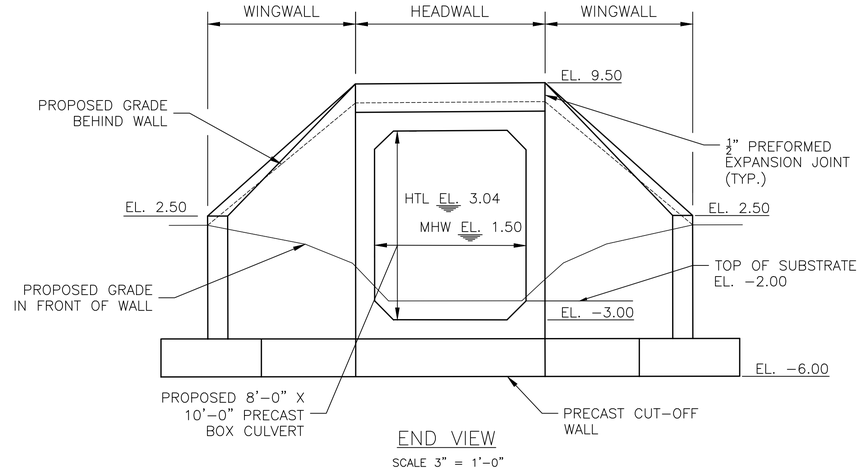
Project No.	Scale
195602497	AS SHOWN

Revision	Sheet	Drawing No.
0	9 of 9	**C-300**



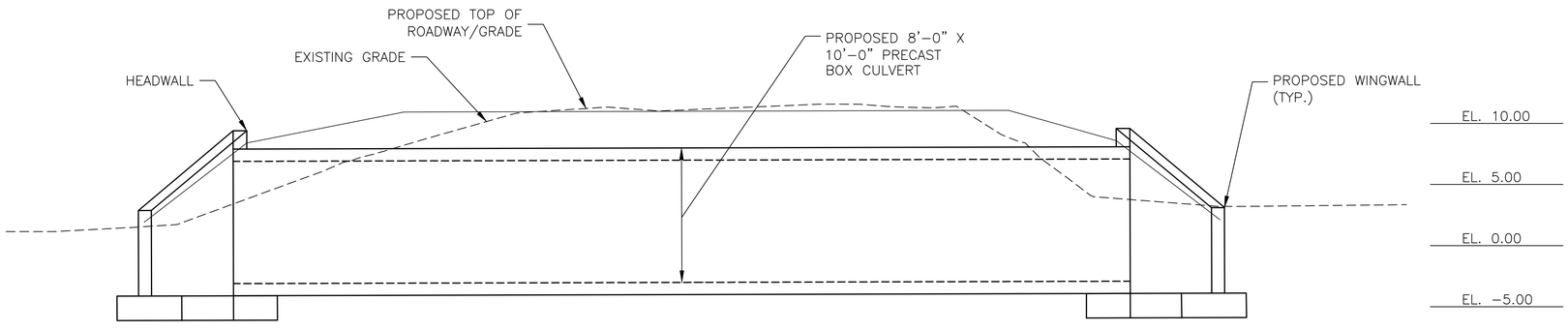
PLAN

SCALE 2" = 1'-0"



END VIEW

SCALE 3" = 1'-0"



ELEVATION

SCALE 2" = 1'-0"

30% PERMIT SET-NOT FOR CONSTRUCTION

No.	Revisions	Date	By

Office of Chief Engineer
STRUCTURES
National Railroad Passenger Corporation
30th Street Station, Philadelphia, Pennsylvania 19104

Approved	Date

STATE OF CONNECTICUT · KARI F. FAY · 35227 · LICENSED PROFESSIONAL ENGINEER

HARDESTY & HANOVER, LLC
ENGINEERING
1501 Broadway New York, NY 10036
WSP 1700 Market St. Suite 1050 Philadelphia, PA 19103

OLD SAYBROOK CONNECTICUT

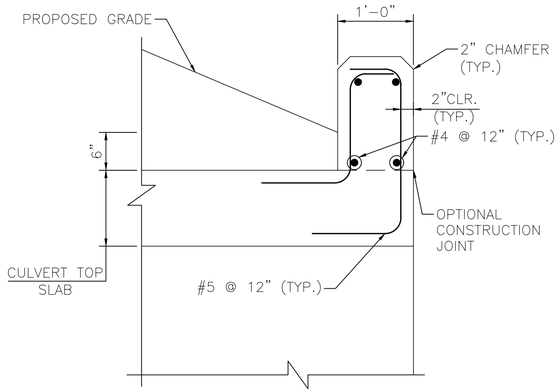
REPLACEMENT OF MB 106.89 OVER CONNECTICUT RIVER

17 SHORE ROAD - ACCESS ROAD CULVERT
GENERAL PLAN, ELEVATION & SECTION

Designed	Drawn	Checked	Date
JV	CC	BTS	4/6/23

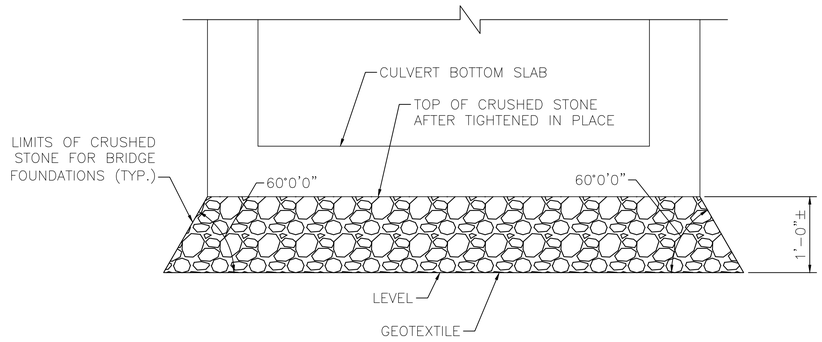
Project Code:	XXX XXX
WBS:	000000
Sheet No.	OF 000
Dwg No.	

FILE NAME: ROADWAY CULVERT - SHEET 1.DWG
PRINT DATE/TIME: 4/6/2023 2:33 PM
PLOT SCALE: AS NOTED
STANDARD PEN TABLE: YES



HEADWALL DETAIL

SCALE: 1" = 1'–0"

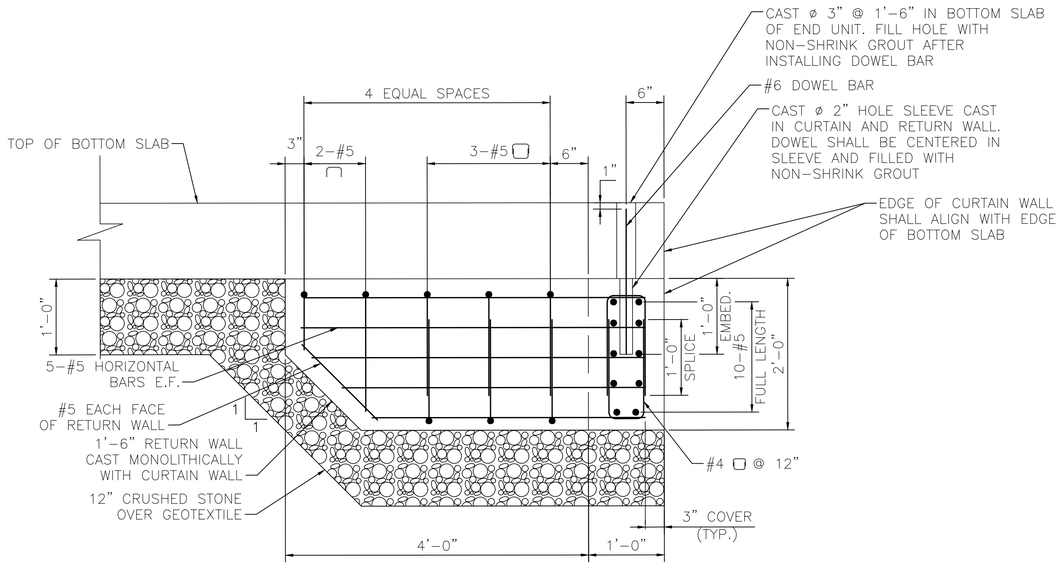


LIMITS OF CRUSHED STONE

NOT TO SCALE

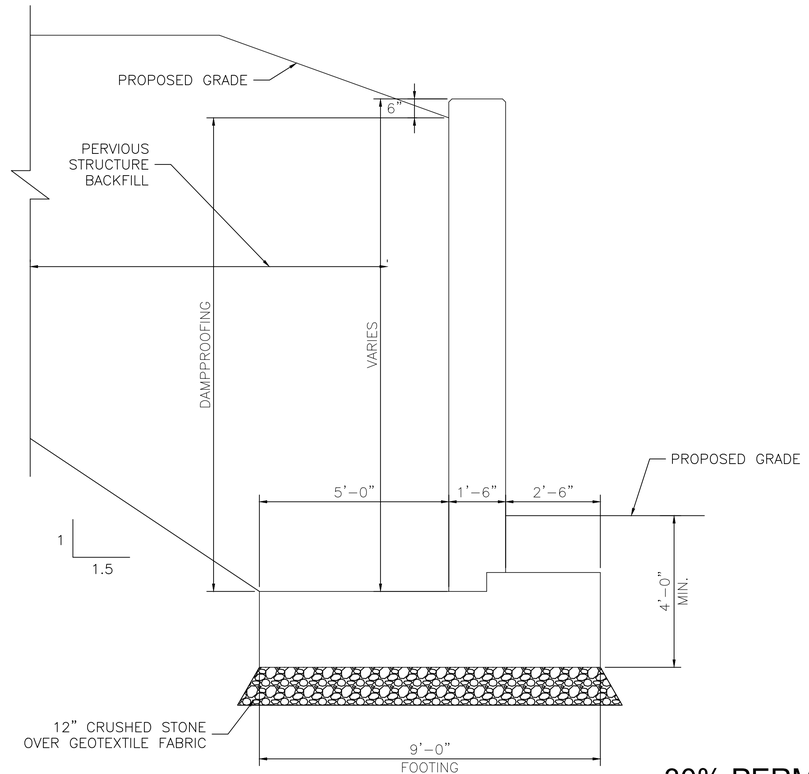
NOTES:

1. SUBSTRUCTURE TYPE AND DEPTH OF FOUNDATION MATERIAL SUBJECT TO CHANGE FOLLOWING GEOTECHNICAL EXPLORATION AND ANALYSIS.



CUT–OFF AND RETURN WALL SECTION

SCALE: 1" = 1'–0"



TYPICAL WINGWALL SECTION

SCALE: 1/2" = 1'–0"

30% PERMIT SET-NOT FOR CONSTRUCTION

FILE NAME: ROADWAY CULVERT - SHEET 2.DWG
PRINT DATE/TIME: 4/6/2023 2:32 PM
PLOT SCALE: AS NOTED
STANDARD PEN TABLE: YES

No.	Revisions	Date	By

Amtrak®

Office of Chief Engineer
STRUCTURES
National Railroad Passenger Corporation
30th Street Station, Philadelphia, Pennsylvania 19104

Approved	Date

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17 SHORE ROAD – ACCESS ROAD CULVERT DETAILS

Designed	Drawn	Checked	Date
JV	CC	BTS	4/6/23

Project Code:	XXX XXX
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Sheet No.	OF 000
Dwg No.	