NED LAMONT, GOVERNOR

DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION

KATHERINE S. DYKES
COMMISSIONER

REPLACEMENT OF CHATFIELD HOLLOW COVERED BRIDGE E159
LOOP TRAIL OVER CHATFIELD HOLLOW BROOK

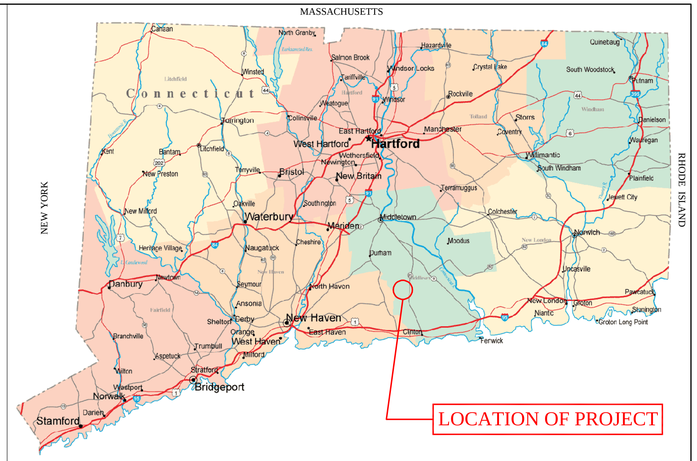
CHATFIELD HOLLOW STATE PARK
381 NORTH BRANFORD ROAD (CT Route 80)
KILLINGWORTH, CT

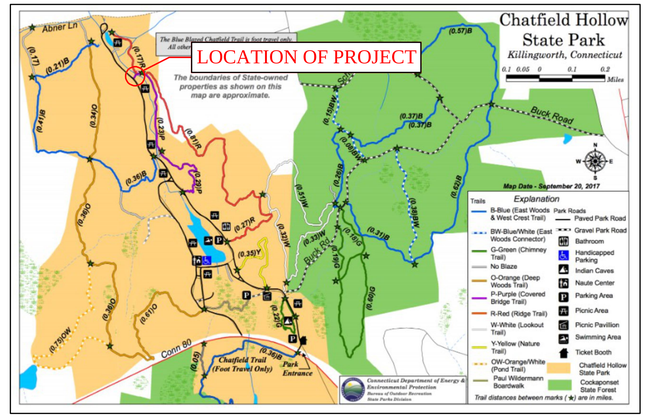
PROJECT NO. DEPA000013202327

AUGUST 30, 2024

CIVIL ENGINEER:
MACCHI ENGINEERS, LLC
44 GILLET STREET
HARTFORD, CT 06105

100% CONTRACT DOCUMENTS





LIST OF DRAWINGS

DWG NO.	DESCRIPTION	SHEET NO.
	TITLE PAGE	
	TOPOGRAPHIC SURVEY	EC-1.0
	SOIL EROSION CONTROL & SITE PREP. PLAN	C-1.0
	SOIL EROSION CONTROL NOTES & DETAILS	C-1.1
	SITE DETAILS	C-1.2
	DEWATERING PLAN	C-1.3
	SITE MATERIAL AND LAYOUT PLAN	C-2.0
	SITE GRADING PLAN	C-3.0
	GENERAL NOTES AND BRIDGE FRAMING DETAILS	S-1.0
	BRIDGE SECTIONS AND DETAILS	S-1.1
	BRIDGE ABUTMENT PLAN & SECTION VIEWS	S-2.0
	WING WALL PLAN, ELEVATION & SECTION VIEWS	S-2.1
	FORMER BRIDGE REFERENCE PHOTOS	S-3.0
	LIMITED SUBSURFACE GEOTECHNICAL INFORMATION	G-1.0

LIST OF STANDARD DRAWINGS

DWG NO.	DESCRIPTION	SHEET NO.

LIST OF DRAWING REVISIONS

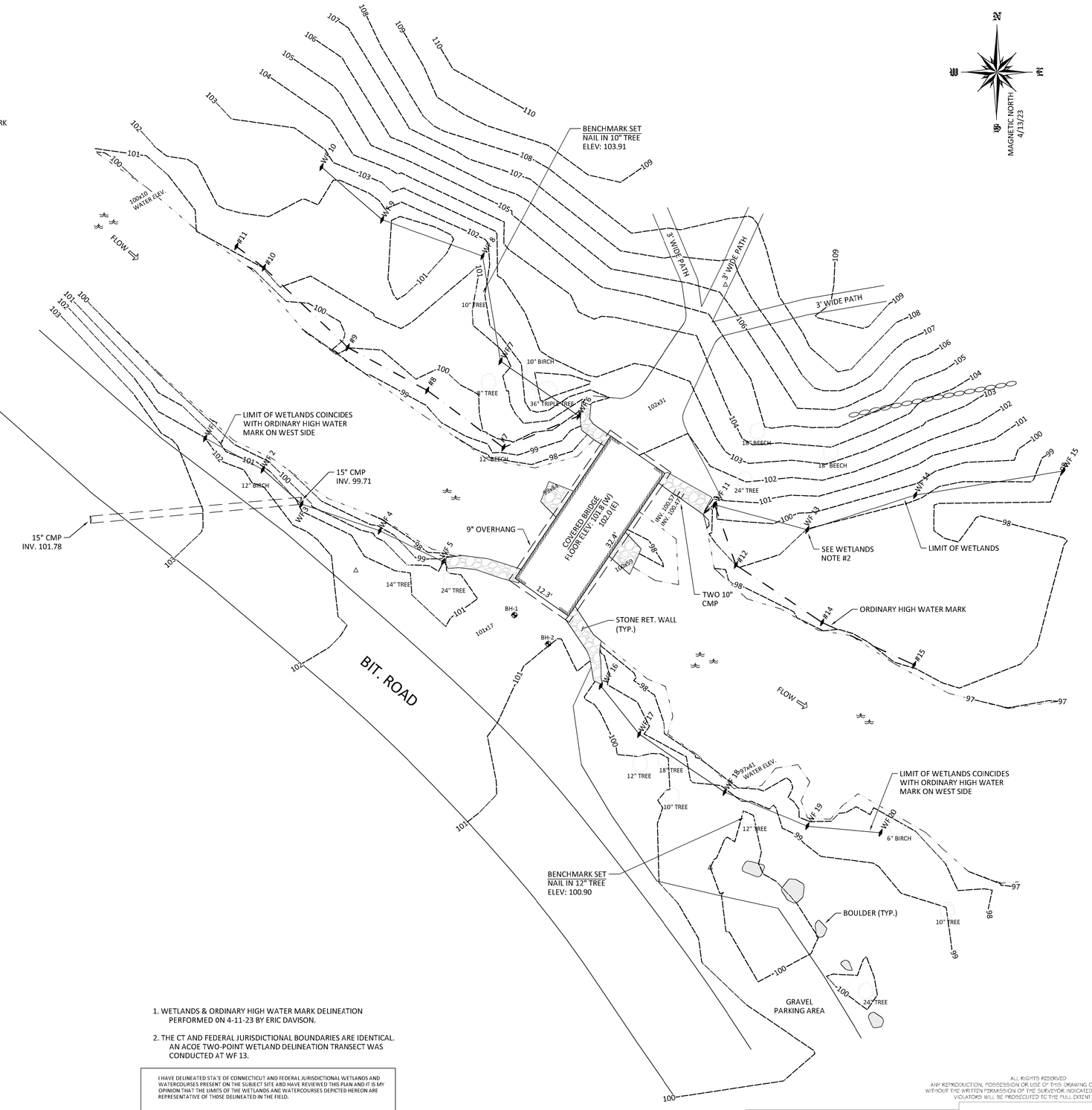
SHEET NO	DESCRIPTION	DATE

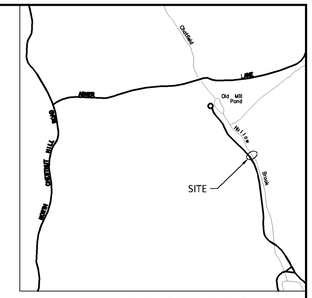
LEGEND

ABBREVIATION	MEANING
VIF	VERIFY IN FIELD
WP	WORKING POINT
B.F.	BOTTOM OF FOOTING
CLR.	CLEARANCE
DIA.	DIAMETER
CONT.	CONTINUOUS
ELEV	ELEVATION
PL.	PLATE
TYP.	TYPICAL
EA.	EACH
MIN.	MINIMUM
RE:	REFER
O.C.	ON CENTER
T/	TOP OF
W/	WITH
T/B	TOP AND BOTTOM
DWGS.	DRAWINGS
EQ.	EQUAL
EXIST.	EXISTING
℄	CENTER LINE

LEGEND

- STONE WALL
- EXISTING CONTOUR
- EDGE OF WATER
- WETLANDS DELINEATION (WF 7 — WF 8)
- ORDINARY HIGH WATER MARK
- BH — BORING LOCATION
- △ — SURVEYOR CONTROL POINT





GENERAL LOCATION MAP
SCALE: 1" = 1000'

MAP STANDARD NOTES:

1. THIS SURVEY (OR MAP) HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300b-1 THRU 20-300b-20 AND THE "STANDARDS AND SUGGESTED METHODS AND PROCEDURES FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON AUGUST 29, 2015.

   TYPE OF SURVEY: TOPOGRAPHIC SURVEY
   HORIZONTAL ACCURACY CLASS: A-2
   TOPOGRAPHIC ACCURACY CLASS: T-2
   VERTICAL DATUM: ASSUMED

1. WETLANDS & ORDINARY HIGH WATER MARK DELINEATION PERFORMED ON 4-11-23 BY ERIC DAVISON.
2. THE CT AND FEDERAL JURISDICTIONAL BOUNDARIES ARE IDENTICAL. AN ACOE TWO-POINT WETLAND DELINEATION TRANSECT WAS CONDUCTED AT WF 13.

I HAVE DELINEATED STATE OF CONNECTICUT AND FEDERAL JURISDICTIONAL WETLANDS AND WATERCOURSES PRESENT ON THE SUBJECT SITE AND HAVE REVIEWED THIS PLAN AND IT IS MY OPINION THAT THE LIMITS OF THE WETLANDS AND WATERCOURSES DEPICTED HEREON ARE REPRESENTATIVE OF THOSE DELINEATED IN THE FIELD.

Eric Davison
Registered Soil Scientist

Cerification is not valid without live signature.

NOTE: FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.

GRAPHIC SCALE
0' 10' 20' 30'
(IN FEET)
1 inch = 10 ft.

TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

THIS DRAWING IS NOT VALID UNLESS IT BEARS AN ORIGINAL INK SIGNATURE AND EMBOSSED SEAL.

ROBERT W. HELLSTROM, L.S. #13626

TOPOGRAPHIC SURVEY

REVISIONS

Mark	Date	Description

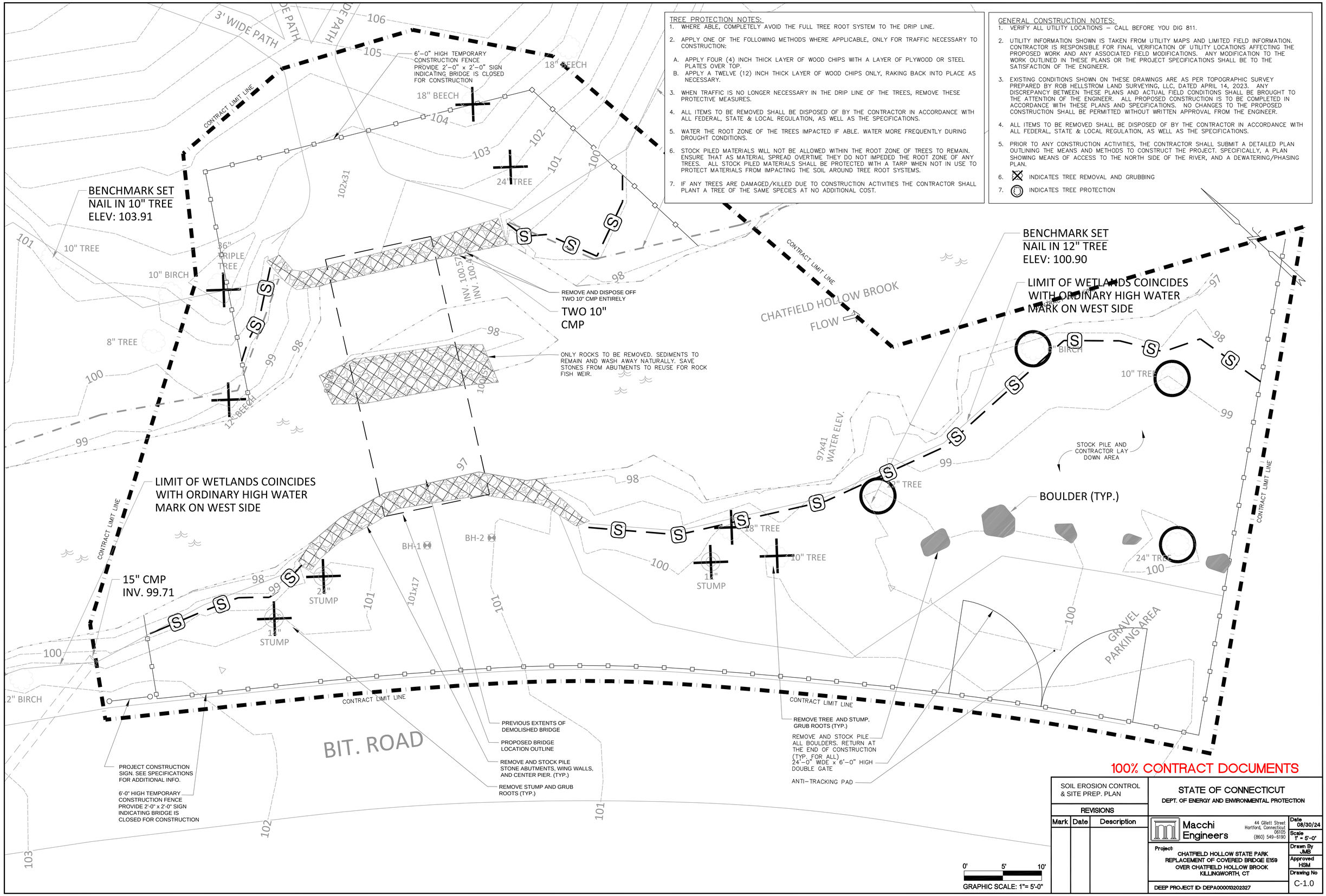
STATE OF CONNECTICUT
DEPT. OF ENERGY AND ENVIRONMENTAL PROTECTION

ROB HELLSTROM
LAND SURVEYING LLC
32 MAIN STREET
HEBRON, CT
(860)-228-9853

Project:
CHATFIELD HOLLOW STATE PARK
REPLACEMENT OF COVERED BRIDGE E159
OVER CHATFIELD HOLLOW BROOK
KILLINGWORTH, CT

DEEP PROJECT ID: DEPA000013202327

Date	4/13/23
Scale	1"=10'
Drawn By	JRR
Approved	RWH
Drawing No	EC-1.0



TREE PROTECTION NOTES:

1. WHERE ABLE, COMPLETELY AVOID THE FULL TREE ROOT SYSTEM TO THE DRIP LINE.
2. APPLY ONE OF THE FOLLOWING METHODS WHERE APPLICABLE, ONLY FOR TRAFFIC NECESSARY TO CONSTRUCTION:
   A. APPLY FOUR (4) INCH THICK LAYER OF WOOD CHIPS WITH A LAYER OF PLYWOOD OR STEEL PLATES OVER TOP.
   B. APPLY A TWELVE (12) INCH THICK LAYER OF WOOD CHIPS ONLY, RAKING BACK INTO PLACE AS NECESSARY.
3. WHEN TRAFFIC IS NO LONGER NECESSARY IN THE DRIP LINE OF THE TREES, REMOVE THESE PROTECTIVE MEASURES.
4. ALL ITEMS TO BE REMOVED SHALL BE DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH ALL FEDERAL, STATE & LOCAL REGULATION, AS WELL AS THE SPECIFICATIONS.
5. WATER THE ROOT ZONE OF THE TREES IMPACTED IF ABLE. WATER MORE FREQUENTLY DURING DROUGHT CONDITIONS.
6. STOCK PILED MATERIALS WILL NOT BE ALLOWED WITHIN THE ROOT ZONE OF TREES TO REMAIN. ENSURE THAT AS MATERIAL SPREAD OVERTIME THEY DO NOT IMPEDED THE ROOT ZONE OF ANY TREES. ALL STOCK PILED MATERIALS SHALL BE PROTECTED WITH A TARP WHEN NOT IN USE TO PROTECT MATERIALS FROM IMPACTING THE SOIL AROUND TREE ROOT SYSTEMS.
7. IF ANY TREES ARE DAMAGED/KILLED DUE TO CONSTRUCTION ACTIVITIES THE CONTRACTOR SHALL PLANT A TREE OF THE SAME SPECIES AT NO ADDITIONAL COST.

GENERAL CONSTRUCTION NOTES:

1. VERIFY ALL UTILITY LOCATIONS – CALL BEFORE YOU DIG 811.
2. UTILITY INFORMATION SHOWN IS TAKEN FROM UTILITY MAPS AND LIMITED FIELD INFORMATION. CONTRACTOR IS RESPONSIBLE FOR FINAL VERIFICATION OF UTILITY LOCATIONS AFFECTING THE PROPOSED WORK AND ANY ASSOCIATED FIELD MODIFICATIONS. ANY MODIFICATION TO THE WORK OUTLINED IN THESE PLANS OR THE PROJECT SPECIFICATIONS SHALL BE TO THE SATISFACTION OF THE ENGINEER.
3. EXISTING CONDITIONS SHOWN ON THESE DRAWINGS ARE AS PER TOPOGRAPHIC SURVEY PREPARED BY ROB HELLSTROM LAND SURVEYING, LLC, DATED APRIL 14, 2023. ANY DISCREPANCY BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. ALL PROPOSED CONSTRUCTION IS TO BE COMPLETED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. NO CHANGES TO THE PROPOSED CONSTRUCTION SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL FROM THE ENGINEER.
4. ALL ITEMS TO BE REMOVED SHALL BE DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH ALL FEDERAL, STATE & LOCAL REGULATION, AS WELL AS THE SPECIFICATIONS.
5. PRIOR TO ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL SUBMIT A DETAILED PLAN OUTLINING THE MEANS AND METHODS TO CONSTRUCT THE PROJECT. SPECIFICALLY, A PLAN SHOWING MEANS OF ACCESS TO THE NORTH SIDE OF THE RIVER, AND A DEWATERING/PHASING PLAN.
6. INDICATES TREE REMOVAL AND GRUBBING
7. INDICATES TREE PROTECTION

100% CONTRACT DOCUMENTS

SOIL EROSION CONTROL & SITE PREP. PLAN

REVISIONS

Mark	Date	Description

STATE OF CONNECTICUT
DEPT. OF ENERGY AND ENVIRONMENTAL PROTECTION

Macchi Engineers
44 Gillett Street
Hartford, Connecticut
06105
(860) 549-6190

Project:
CHATFIELD HOLLOW STATE PARK
REPLACEMENT OF COVERED BRIDGE E159
OVER CHATFIELD HOLLOW BROOK
KILLINGWORTH, CT

DEEP PROJECT ID: DEPA000013202327

Date	08/30/24
Scale	1" = 5'-0"
Drawn By	JMB
Approved	HSM
Drawing No	C-1.0

SEDIMENT AND EROSION CONTROL PLAN

A. PROJECT DESCRIPTION

THIS PROJECT INVOLVES REPLACING THE CHATFIELD HOLLOW WOODEN COVERED BRIDGE.

THE BRIDGE HAS ALREADY BEEN DEMOLISHED. SPECIFIC WORK INCLUDES THE DEMOLITION OF THE EXISTING ABUTMENTS, CLEARING IN DESIGNATED AREAS, PROTECTING EXISTING PLANTINGS TO REMAIN, TOPSOIL STRIPPED AND STOCKPILED, SITE GRADING AND ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSTALLED.

B. MAINTENANCE/REPAIR OF EROSION & SEDIMENTATION CONTROL MEASURES:

DURING ALL STAGES OF CONSTRUCTION, AS WELL AS AFTER CONSTRUCTION IS COMPLETE, MAINTENANCE AND REPAIR OF EROSION & SEDIMENTATION CONTROL DEVICES IS ESSENTIAL. THE FOLLOWING ARE MINIMUM REQUIREMENTS:

DURING CONSTRUCTION

1) INSPECTION OF EROSION PRONE AREAS SHOULD OCCUR WITHIN 12 HOURS AFTER RAINFALL EVENTS IN EXCESS OF ONE INCH PER HOUR INTENSITY OR A RAINFALL EVENT WITH A TOTAL PRECIPITATION OF 1/2 INCH OR MORE. NOTE THAT THIS WILL REQUIRE THE INSTALLATION OF A RAINFALL GAUGE ON THE SITE, WHICH SHOULD BE MONITORED AND A RECORD KEPT OF EACH RAINFALL EVENT. CONCERNS SHOULD BE LOGGED AND REPAIRS SHOULD BE MADE IMMEDIATELY. FOR RAINFALL EVENTS OVER A PERIOD OF MORE THAN ONE DAY, INSPECTIONS AS DESCRIBED ABOVE SHOULD BE PERFORMED EACH DAY.

2) WEEKLY INSPECTIONS OF ALL EROSION & SEDIMENTATION CONTROL DEVICES, EROSION PRONE AREAS OR OTHER AREAS OF CONCERN SHOULD BE PERFORMED. INSPECTIONS SHOULD INCLUDE ALL SILT FENCE, HAY BALES, STONE CHECK DAMS, CATCH BASIN SUMPS, TEMPORARY SEDIMENTATION BASINS, DETENTION POND(S), HAY SLOPE MATTING, ETC. AND REPAIRS SHOULD BE MADE AS NECESSARY.

3) LOGS OF ALL INSPECTIONS AND REPAIRS SHOULD BE KEPT ON SITE, INCLUDING DATES & CONCERNS NOTED DURING INSPECTIONS, TIMING OF REPAIRS & ACTIONS TO BE TAKEN, DATES OF ACTUAL ACTIONS & RESPONSES, AND INITIALS OF THOSE INVOLVED.

4) ALL SILT FENCING, HAY MATTING AND OTHER EROSION CONTROL DEVISES SHALL BE LEFT IN PLACE AND MAINTAINED UNTIL PERMANENT VEGETATIVE COVER IS ESTABLISHED.

POST CONSTRUCTION

1) EROSION PRONE AREAS– INSPECT MONTHLY FOR THE FIRST SIX (6) MONTHS, AND BI–MONTHLY FOR THE SECOND SIX (6) MONTHS AFTER CONSTRUCTION IS COMPLETE. ALL SILT FENCING AND EROSION CONTROL DEVISES SHALL BE LEFT IN PLACE AND MAINTAINED UNTIL PERMANENT VEGETATIVE COVER IS ESTABLISHED.

2) ANY ERODED AREAS, OR MALFUNCTIONING COMPONENTS OF THE DRAINAGE SYSTEM, SHOULD BE REPAIRED IMMEDIATELY.

A. STANDARDS & GUIDELINES

1) CT DEEP GENERAL PERMIT FOR THE DISCHARGE OF STORMWATER AND DEWATERING WASTEWATERS FROM CONSTRUCTION ACTIVITIES.

2) REQUIREMENTS, SPECIFICATIONS, DETAILS AND INSTRUCTIONS AS SET FORTH IN THESE DOCUMENTS.

3) CONNECTICUT GUIDELINES FOR SOIL EROSION & SEDIMENT CONTROL (2002), AS AMENDED, AND THE CONNECTICUT D.O.T. "ON SITE MITIGATION FOR CONSTRUCTION ACTIVITIES".

4) CONNECTICUT D.O.T. STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION, FORM 818 SHALL BE USED FOR MATERIAL REQUIREMENTS, TECHNICAL SPECIFICATIONS AND CONSTRUCTION METHODS.

C. GENERAL NOTES

1) GRADING & CLEARING: THE SEQUENCE OF GRADING AND CONSTRUCTION ACTIVITIES MAY BE MODIFIED TO SUIT ACTUAL CONDITIONS ENCOUNTERED IN THE FIELD DURING CONSTRUCTION WHEN APPROVED BY THE ENGINEER. OTHERWISE THE FOLLOWING SEQUENCE OF EROSION & SEDIMENTATION CONTROL WILL BE IMPLEMENTED FOR EACH PROPOSED PHASE OF CONSTRUCTION. THE FOLLOWING NOTES WILL APPLY SEPARATELY TO EACH OF THE PROPOSED PHASES AND CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT.

2) INSTALLATION OF TEMPORARY BASINS SHALL BE DONE ONLY WHEN A SAFE AND STABILIZED OUTLET EXISTS OR CAN BE INSTALLED PRIOR TO INSTALLATION. FOR EXAMPLE STABILIZED OUTFALL CHANNELS OR THE INSTALLATION OF A FUNCTIONING DRAINAGE SYSTEM MUST EXIST PRIOR TO CONSTRUCTION OF A SEDIMENT/DISCHARGE BASIN. SEDIMENT/DISCHARGE BASINS SHALL BE GRADED SO AS TO RETAIN WATER TO A DEPTH OF NO MORE THAN 2 FEET.

3) LIMIT CLEARING OF VEGETATION AND TOPSOIL TO AREAS DESIGNATED FOR IMMEDIATE CONSTRUCTION. AREAS TO BE LEFT EXPOSED TO EROSION FOR MORE THAN 7 DAYS SHALL BE TEMPORARILY SEEDED AFTER ROUGH GRADING AS MAY BE SHOWN ON THE CONSTRUCTION PLANS.

4) KEEP SOIL EXPOSED TO EROSION AT A MINIMUM IN AREA AND TIME.

5) MAINTAIN THE MAXIMUM ATTAINABLE BUFFER BETWEEN CONSTRUCTION ACTIVITIES AND WETLANDS AND WATERCOURSES. MINIMUM BUFFER ZONES SHALL BE ADHERED TO UNLESS PREVIOUSLY APPROVED OR PERMITTED.

6) CLEAN DEPOSITED MATERIAL AS REQUIRED. THIS TYPICALLY SHALL MEAN WHEN SILT REACHES 50% OF THE CAPACITY OF A SEDIMENT BASIN, 1 FOOT DEEP IN THE SUMP OF A CATCH BASIN, AND HALF THE HEIGHT OF AN EROSION AND SEDIMENT CONTROL DIKE OR BERM. CONTROL DIKE OR BERM.

7) EXPOSED AREA IN FINAL GRADED SHAPE SHOULD BE DRESSED WITH TOPSOIL AND SEEDED, SEASON PERMITTING OR MULCHED FOR EROSION PROTECTION.

8) MAINTAIN ALL EROSION AND SEDIMENT CONTROLS UNTIL SUCCESSFUL RE–ESTABLISHMENT OF VEGETATIVE COVER AND THE CESSATION OF EROSION.

9) HAY BALE BARRIERS MAY REMAIN IN PLACE AFTER SUCCESSFUL RE–ESTABLISHMENT OF VEGETATIVE COVER AND THE CESSATION OF EROSION WHEN THE REMOVAL OF SUCH BARRIERS MAY RESULT IN ADDITIONAL SOIL EROSION UP SLOPE OF WETLANDS, WATERCOURSES OR STORM DRAIN INLETS. ADDITIONALLY, THE BALES MAY ONLY BE RETAINED IN PLACE TO DEGRADE NATURALLY WHEN THE BARRIER WILL NOT RESTRICT THE FLOW OF CONCENTRATED RUNOFF OR INTERFERE WITH THE FUNCTIONING OF STORM DRAINAGE AND OTHER CONSTRUCTED OR EXISTING COMPONENTS OF THE PROPOSED DEVELOPMENT. THE ENGINEER MUST APPROVE OF THE LOCATIONS WHERE HAY BALES MAY BE LEFT IN PLACE.

10) AFTER SUCCESSFUL RE–ESTABLISHMENT OF VEGETATIVE COVER AND CESSATION OF EROSION, AND IF NOT LEFT IN PLACE AS NOTED ABOVE, HAY BALES MAY BE BROKEN UP BY HAND AND SPREAD IN THE GENERAL AREA INITIALLY INSTALLED.

11) STOCKPILE AREAS: THE FOLLOWING SEQUENCE FOR USE OF STOCKPILE AREAS SHALL BE USED.

a) AREA TO BE USED SHALL BE IDENTIFIED WITH FLAGGING IN THE FIELD & SHALL BE LOCATED OUTSIDE OF ALL WETLANDS AND REGULATED BUFFER ZONES.

b) AREA SHALL THEN BE CLEARED AND GRUBBED AND GENERALLY BE MADE READY FOR USE.

c) THE STOCKPILE AREA SHALL BE IMMEDIATELY SURROUNDED WITH TWO ROWS OF SILT FENCE.

d) DURING USE, THE CONTRACTOR SHALL INSURE THAT THE GENERAL STOCKPILE USE AREA IS MAINTAINED SUCH THAT THERE IS NO SEDIMENTATION OF SURROUNDING LAND AREA. THE STOCKPILES SHALL BE COVERED AND/OR TEMPORARILY SEEDED TO PREVENT RUNOFF AND SEDIMENTATION IF NECESSARY.

e) IMMEDIATELY UPON COMPLETION OF USE AS A STOCKPILE AREA, THE LAND SHALL BE RESTORED.

12) ALL ROAD WAYS IN THE VICINITY OF THE PROPOSED PROJECT SHALL BE KEPT FREE OF DUST AND SEDIMENT, AND SHALL BE CLEANED PERIODICALLY AS REQUIRED BY CONSTRUCTION ACTIVITIES AND PRIOR TO ANY RAINFALL AND RUNOFF EVENT AS DIRECTED BY THE ENGINEER. METHODS USED TO MEET THIS REQUIREMENT SHALL CONFORM TO THE ENVIRONMENTAL MANAGEMENT SPECIFICATIONS AND THE SECTIONS ON STANDARDS & GUIDELINES.

13) IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSPECT AND REPAIR EROSION AND SEDIMENT CONTROL MEASURES DURING ALL STORM EVENTS AS REQUIRED TO PREVENT DAMAGE OR SEDIMENTATION TO ADJACENT LAND, STREAMS AND PROPERTY.

14) CONTRACTOR SHALL MAKE ANY REPAIRS OR RESTORATION TO PROPERTY OR ENVIRONMENT CAUSED BY SEDIMENTATION.

15) ALL WORK AFFECTING WETLANDS SHALL BE SCHEDULED DURING LOW FLOW MONTHS.

16) ALL WORK AND ALL ACTIVITIES SHALL FIRST BE IN COMPLIANCE WITH APPLICABLE PERMITS FOR THIS PROJECT. SECOND ALL WORK AND ACTIVITIES SHALL CONFORM TO THE REQUIREMENTS OF THE ENVIRONMENTAL MANAGEMENT SPECIFICATIONS WHICH ARE PART OF THESE PLANS. LASTLY, WORK AND ACTIVITIES SHALL BE CONSISTENT WITH THESE EROSION AND SEDIMENT CONTROL PLANS AS A MINIMUM.

D. EROSION AND SEDIMENT CONTROL NOTES

1) LIMITED CLEARING AND GRUBBING ACTIVITIES SHALL COMMENCE FIRST TO ENABLE THE INSTALLATION/CONSTRUCTION OF PERIMETER HAY BALE DIKES, CONSTRUCTION ENTRANCES SEDIMENT ANTI–TRACKING PAD, STAGING AREAS AND THE INSTALLATION OF CRUSHED STONE BERMS AT PROPOSED STORM DRAIN OUTFALL AREAS. SILT FENCE SHALL BE INSTALLED AT THE LIMITS OF CONSTRUCTION WHICH SHOULD BE CLEARLY MARKED BY FLORESCENT SURVEY FLAGGING OR FENCING BEFORE CLEARING AND GRUBBING TAKES PLACE.

2) DURING ALL PHASES, PERMANENT AND/OR TEMPORARY SEDIMENT BASINS SHALL BE CONSTRUCTED AT PROPOSED STORM DRAINAGE INLETS AND/OR OUTFALLS. AT OUTFALLS A DOUBLE STAGGERED ROW OF HAY BALES SHALL BE INSTALLED DOWN SLOPE OF THE OUTLETS OF ANY TEMPORARY BASINS AND A CRUSHED STONE SEDIMENT FILTER BERM SHALL BE INSTALLED JUST UP SLOPE OF THE DOUBLE STAGGERED ROW OF HAY BALES.

3) UPON INSTALLATION OF THE ABOVE MEASURES, INSTALLATION OF CONSTRUCTION ENTRANCE ANTI–TRACKING PADS AND CLEARING AND GRUBBING FOR THE ROADWAY CONSTRUCTION ACTIVITIES MAY COMMENCE. TEMPORARY DIVERSION BERMS/DITCHES SHALL BE CONSTRUCTED AS NECESSARY FOR INTERMEDIATE EXCAVATION STAGES. DIVERSIONS AND OTHER TEMPORARY INTERMEDIATE MEASURES SHALL BE APPROVED BY THE ENGINEER IN ADVANCE AND SHALL OUTLET RUNOFF TO SWALES WITH CHECK HAY BALE DAMS AND/OR TO TEMPORARY SEDIMENT BASINS.

4) EXCAVATION FOR CONSTRUCTION OF THE PROPOSED ROADWAY SHALL NOT COMMENCE UNTIL ASSOCIATED DRAINAGE & SEDIMENTATION DEVISES FOR THE AREA ARE IN PLACE. IT SHOULD BE NOTED THAT EXTENSIVE EXCAVATION WITHIN THE LIMITS OF THE CUT AND FILL LINE INDICATED ON THE PLANS MAY REQUIRE ADDITIONAL TEMPORARY SWALES AND DIVERSION IN ORDER TO DIVERT AND DIRECT RUNOFF AND SEEPAGE TO THE PROPOSED DISCHARGE POINTS UNTIL THE PERMANENT STORM DRAINAGE SYSTEM IS INSTALLED. THESE TEMPORARY MEASURES MUST BE APPROVED IN ADVANCE AND SHOULD BE INSPECTED REGULARLY FOR OPERATIONAL EFFICIENCY BY THE CONTRACTOR. UTILIZATION OF TEMPORARY INLETS AND DIVERSION SWALES UNTIL THE DRAINAGE SYSTEM IS COMPLETE IS EXPECTED. THESE INLETS/DIVERSIONS SHALL BE CONSTRUCTED SO AS TO PREVENT EROSION AND SEDIMENTATION.

5) MEASURES TO CONTROL CONSTRUCTION DEBRIS AND DUST SHALL BE IMPLEMENTED ON AN AS NEEDED BASIS AND AS DIRECTED BY THE ENGINEER. DUST SHALL BE CONTROLLED BY LIMITING THE AREA OF SOIL EXPOSED AND BY WATERING WITHOUT CHEMICAL ADDITIVES. CONSTRUCTION DEBRIS SHALL BE COLLECTED AS NECESSARY AND AT LEAST PRIOR TO THE END OF WORK EACH WEEK.

6) SOIL & ROCK STOCKPILE AREAS SHALL BE APPROVED IN ADVANCE AND HAY BALE AND/OR SILT FENCE BARRIERS SHOULD BE INSTALLED AROUND STOCKPILES AND DOWN SLOPE OF THESE AREA PRIOR TO STOCK PILING MATERIAL. ANY SOIL TO BE STORED FOR MORE THAN A MONTH SHOULD BE COVERED OR SEEDED AND/OR MULCHED AFTER BEING PLACED.

7) THE BASE MATERIAL FOR THE DRIVES AND PARKING AREAS SHALL BE PLACED AND WATERED AS REQUIRED BY CONDITIONS OR REQUESTED BY THE DEEP TO CONTROL DUST AS NOTED ABOVE.

8) ONCE THE PROPOSED SITE IS IN FINAL GRADED SHAPE, TOPSOIL AND SEEDING SHOULD COMMENCE ALONG WITH THE INSTALLATION OF NEW CHECK HAY BALE BARRIERS AS REQUIRED. CONSTRUCTION TRAFFIC SHOULD BE RUN ON APPROVED SUBBASE, WITH RUNOFF, EROSION & DUST CONTROLLED AS NECESSARY.

9) THESE EROSION AND SEDIMENTATION CONTROL PLANS SHALL BE IN COMPLIANCE WITH PERMITS ISSUED AND IN COMPLIANCE WITH THE ENVIRONMENTAL MANAGEMENT SPECIFICATIONS.

10) RESPONSIBLE PERSONS:

DURING CONSTRUCTION – TO BE DESIGNATED BY THE CONTRACTOR.
LONG TERM MAINTENANCE – TO BE DESIGNATED BY THE DEEP.

E. EARTH SLOPES

1) ALL EARTH SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL SHALL BE COVERED WITH EROSION CONTROL BLANKET UNTIL VEGETATION IS ESTABLISHED.

2) ALL EARTH SLOPES (REGARDLESS OF GRADE) WHERE THE TOE OF SLOPE IS WITHIN 25' OF A WETLAND SHALL BE COVERED WITH EROSION CONTROL BLANKET UNTIL VEGETATION IS ESTABLISHED.

F. SEEDING

1) TEMPORARY VEGETATIVE COVER: SHALL BE PERFORMED IN ACCORDANCE WITH THE STATE OF CONNECTICUT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS BRIDGES & INCIDENTAL CONSTRUCTION (FORM 817) AND THE SPECIFICATIONS.

2) PERMANENT VEGETATIVE COVER: DISTURBED AREAS SHALL BE FINE GRADED AND COVERED WITH A MINIMUM OF 6 INCHES OF TOPSOIL. FERTILIZER SHALL BE APPLIED AT THE RATE OF ±45 LBS. (NITROGEN) PER ACRE USING 1–2–1 OR EQUIVALENT. APPLY LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT THE RATE OF 3 TONS/ACRE (OR IN ACCORDANCE WITH SPECIFIC SOIL TESTS). WORK FERTILIZER AND LIMESTONE THOROUGHLY INTO THE TOPSOIL. REFER TO SPECIFICATIONS FOR FURTHER DETAILED FERTILIZER REQUIREMENTS.

3) SEED MIXTURE: SEED MIXTURE SHALL BE AS DEFINED IN THE SPECIFICATIONS. CONTRACTOR SHALL SUBMIT THE SEED SUPPLIERS NAME, LOCATION AND SEED MIX TO THE ENGINEER PRIOR TO APPLICATION OF SEED.

4) SEEDING DATES: ALL PERMANENT SEEDING SHALL BE DONE DURING THE SEEDING PERIODS OF APRIL 15 THROUGH JUNE 15 AND AUGUST 15 THROUGH OCTOBER 15. WATER, MOW, AND REPAIR VEGETATIVE COVER TO MAINTAIN IT IN A HEALTHY GROWING CONDITION. TEMPORARY SEEDING SHALL BE PERFORMED AS NECESSARY TO STABILIZE SLOPES DURING ALL PERIODS OF CONSTRUCTION. THE CONTRACTOR SHALL WATER AS NECESSARY TO ESTABLISH AND MAINTAIN HEALTHY GROWING CONDITIONS.

G. RECORDS

EROSION AND SEDIMENTATION CONTROL RECORDS SHALL BE KEPT BY THE CONTRACTOR. INSTALLATION, INSPECTION, APPROVAL AND MAINTENANCE OF INSTALLATION RECORDS SHALL INDICATE THE FOLLOWING:

1) LOCATION OF THE EROSION AND SEDIMENTATION CONTROL MEASURE.

2) INSTALLED BY (PRINT NAME AND SIGNATURE) AND DATE OF INSTALLATION.

3) APPROVAL BY DEEP OF THE INSTALLED MEASURE (PRINT NAME AND SIGNATURE) AND DATE OF APPROVAL.

4) SUBSEQUENT INSPECTIONS, DATE OF INSPECTION & REASON FOR INSPECTION.

5) RESULTS OF SUBSEQUENT INSPECTION, ACTION TO BE TAKEN BY THE CONTRACTOR SPECIFIC REQUIREMENTS OF THIS PLAN.

H. NATURAL DIVERSITY DATA BASE INFORMATION:

TO BE DETERMINED

1) USE BEST MANAGEMENT PRACTICES TO CONTROL SEDIMENTATION AND EROSION IN THE PROJECT AREA.

2) BEFORE BEGINNING WORK AROUND UNDERWATER SUPPORT STRUCTURES PROTECT FRESHWATER MUSSELS THAT WILL BE EXPOSED.

3) AT LEAST TWO WEEKS BEFORE INSTALLATION OF COFFERDAMS OR OTHER IN–STREAM WORK, YOU MUST CONTACT THE WILDLIFE DIVISION. CONTACT LAURA.SAUCIER@CT.GOV AND DEEP.NDDBREQUEST@CT.GOV TO ARRANGE FOR FRESHWATER MUSSELS TO BE MOVED AND RELOCATED.

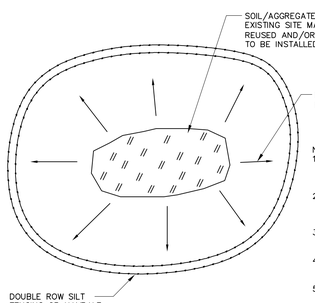
4) COFFERDAM CONSTRUCTION SHOULD EMPLOY CONTAINED STRUCTURES SUCH AS SANDBAGS (I.E. NOT LOOSE GRAVEL).

5) ENSURE THAT WATER PUMPED OUT OF THE WORK AREA INCLUDES FILTERING TO REMOVE SEDIMENT.

6) USE DEBRIS SHIELD UNDER AREAS OF CONSTRUCTION OR DECONSTRUCTION TO MINIMIZE THE AMOUNT OF DEBRIS FALLING INTO THE RIVER. DISPOSE OF DEBRIS APPROPRIATELY AND NOT IN THE WATER.

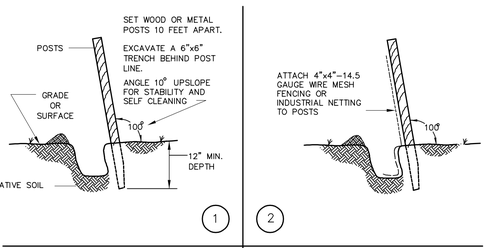
7) ANY IN–STREAM FISH HABITAT STRUCTURES SHOULD NOT BE CONSIDERED WITHOUT PRIOR CONSULTATION WITH BOTH THE WILDLIFE AND FISHERIES DIVISION IF STATE–LISTED FRESHWATER MUSSELS, DRAGONFLIES OR DAMSELFLIES ARE IN CLOSE PROXIMITY TO THE PROJECT AREA.

8) PROTECT NATURAL STREAM BANKS:
- MINIMIZE REMOVAL OF VEGETATION ON STREAM BANKS.
- MINIMIZE THE ALTERATION AND/OR HARDENING OF STREAM BANKS (I.E. MINIMIZE RIP–RAP USE).
- AFTER COMPLETION, ENSURE THAT TRAFFIC FLOW OF PUBLIC IS EFFECTIVELY DIRECTED OVER THE BRIDGE AND DIVERTED OR PREVENTED FROM TRAVELING DOWN BANKS TOWARD THE RIVER.



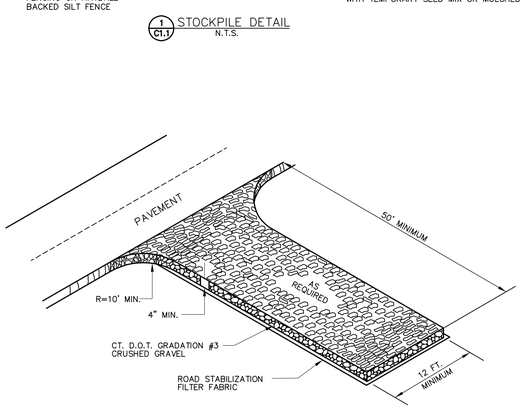
NOTES:
1. ALL EXISTING EXCAVATED MATERIAL THAT IS NOT TO BE REUSED IN THE WORK IS TO BE IMMEDIATELY REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.
2. SOIL/AGGREGATE STOCKPILE SITES TO BE WHERE SHOWN ON THE DRAWINGS OR LOCATED IN THE FIELD WITH THE APPROVAL OF THE ENGINEER.
3. RESTORE STOCKPILE SITES TO PRE–EXISTING PROJECT CONDITION AND RESEED AS REQUIRED.
4. STOCKPILE HEIGHTS MUST NOT EXCEED 35'. STOCKPILE SLOPES MUST BE 2(HORZ):1(VERT) OR FLATTER.
5. STOCKPILES OF EARTH MATERIALS TO BE IN PLACE GREATER THAN 30 DAYS SHALL BE COVERED, SEEDED WITH TEMPORARY SEED MIX OR MULCHED.

1 C1.1 STOCKPILE DETAIL
N.T.S.

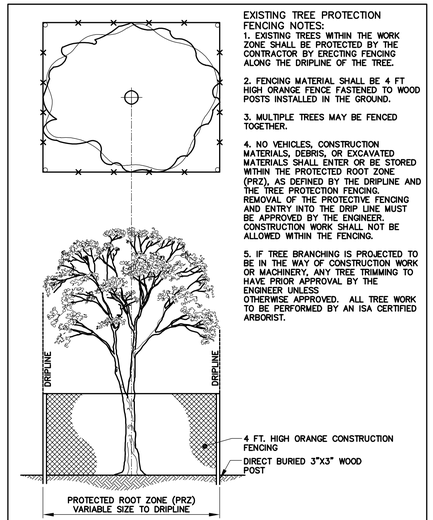


NOTE:
FENCE TO BE INSTALLED PRIOR TO CONSTRUCTION PREASSEMBLED UNITS ALSO MAY BE USED, INSTALLED AS INDICATED.

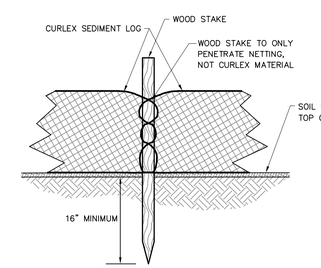
2 C1.1 FILTER FABRIC SILT FENCE PLACEMENT AND CONSTRUCTION
N.T.S.



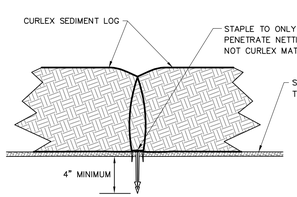
3 C1.1 TYPICAL ANTI–TRACKING PAD
N.T.S.



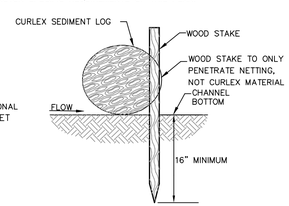
4 C1.1 TREE PROTECTION FENCING DETAIL
N.T.S.



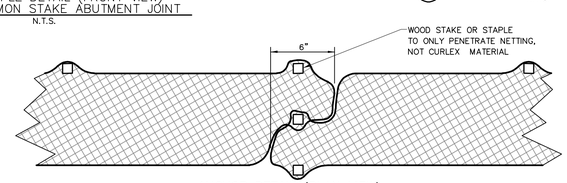
5 C1.1 STAPLE DETAIL (FRONT VIEW) COMMON STAKE ABUTMENT JOINT
N.T.S.



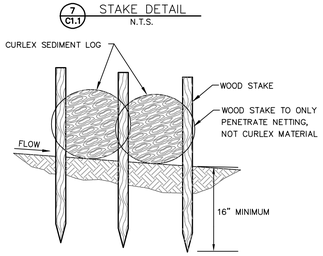
6 C1.1 STAPLE DETAIL (FRONT VIEW) COMMON STAPLE ABUTMENT JOINT
N.T.S.



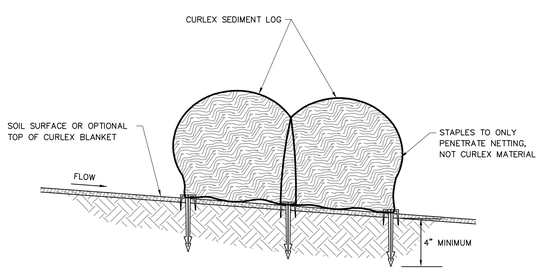
7 C1.1 STAKE DETAIL
N.T.S.



8 C1.1 ANCHOR DETAIL (PLAN VIEW) OPTIONAL OVERLAPPING JOINT
N.T.S.



9 C1.1 STAKE DETAIL
N.T.S.



10 C1.1 STAPLE DETAIL (SIDE VIEW) OVERLAPPING JOINT
N.T.S.

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SOIL EROSION NOTES AND DETAILS

REVISIONS

Mark	Date	Description

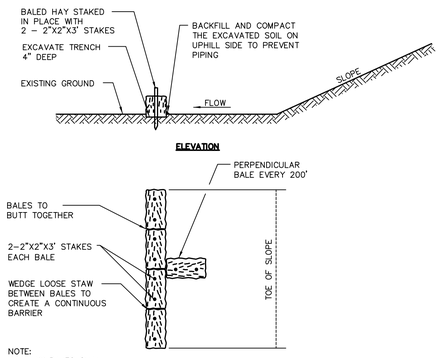
STATE OF CONNECTICUT
DEPT. OF ENERGY AND ENVIRONMENTAL PROTECTION

Macchi Engineers
44 Gillett Street
Hartford, Connecticut
06105
(860) 549–6190

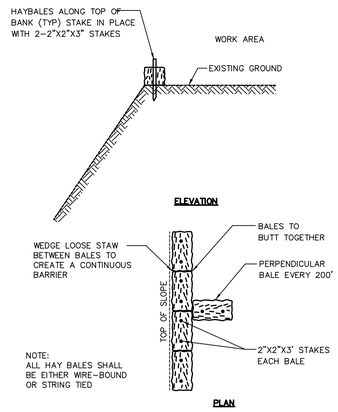
Project:
CHATFIELD HOLLOW STATE PARK
REPLACEMENT OF COVERED BRIDGE E159
OVER CHATFIELD HOLLOW BROOK
KILLINGWORTH, CT

DEEP PROJECT ID: DEPA000013202327

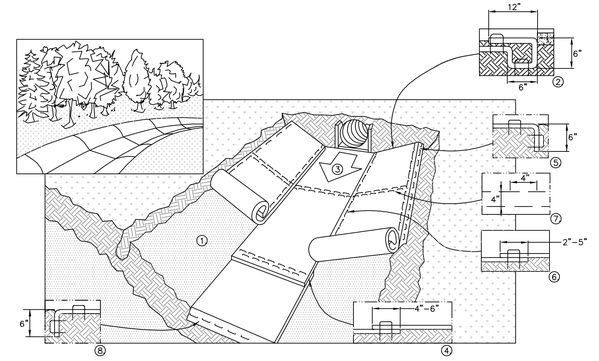
Date	08/30/24
Scale	AS NOTED
Drawn By	JMB
Approved	HSM
Drawing No	C-1.1



6 C1.2 TYPICAL HAY BALE SLOPE BARRIER AT TOE OF SLOPE
N.T.S.

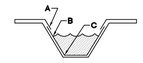


7 C1.2 TYPICAL HAY BALE SLOPE BARRIER AT TOP OF SLOPE
N.T.S.



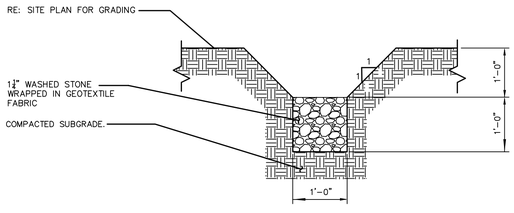
1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE RECP's IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP's EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMAPCT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" ACROSS THE WIDTH OF THE RECP's.
3. ROLL CENTER RECP's IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE RECP's END OVER END (SHINGLE STYLE) WITH A 4"–6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE RECP's.
5. FULL LENGTH EDGE OF RECP's AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT RECP's MUST BE OVERLAPPED APPROXIMATELY 2"–5" (DEPENDING ON RECP's TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE RECP's MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

NOTE:
* IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE RECP's.
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED UF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

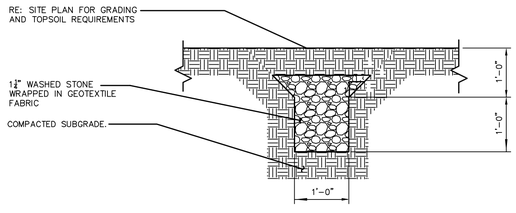


CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

5 C1.2 INSTALLATION OF EROSION CONTROL BLANKET – DRAINAGE SWALES
N.T.S.



15 C1.2 STONE SWALE
N.T.S.



16 C1.2 UNDER GRADE STONE SWALE
N.T.S.

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REVISIONS

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STATE OF CONNECTICUT
DEPT. OF ENERGY AND ENVIRONMENTAL PROTECTION

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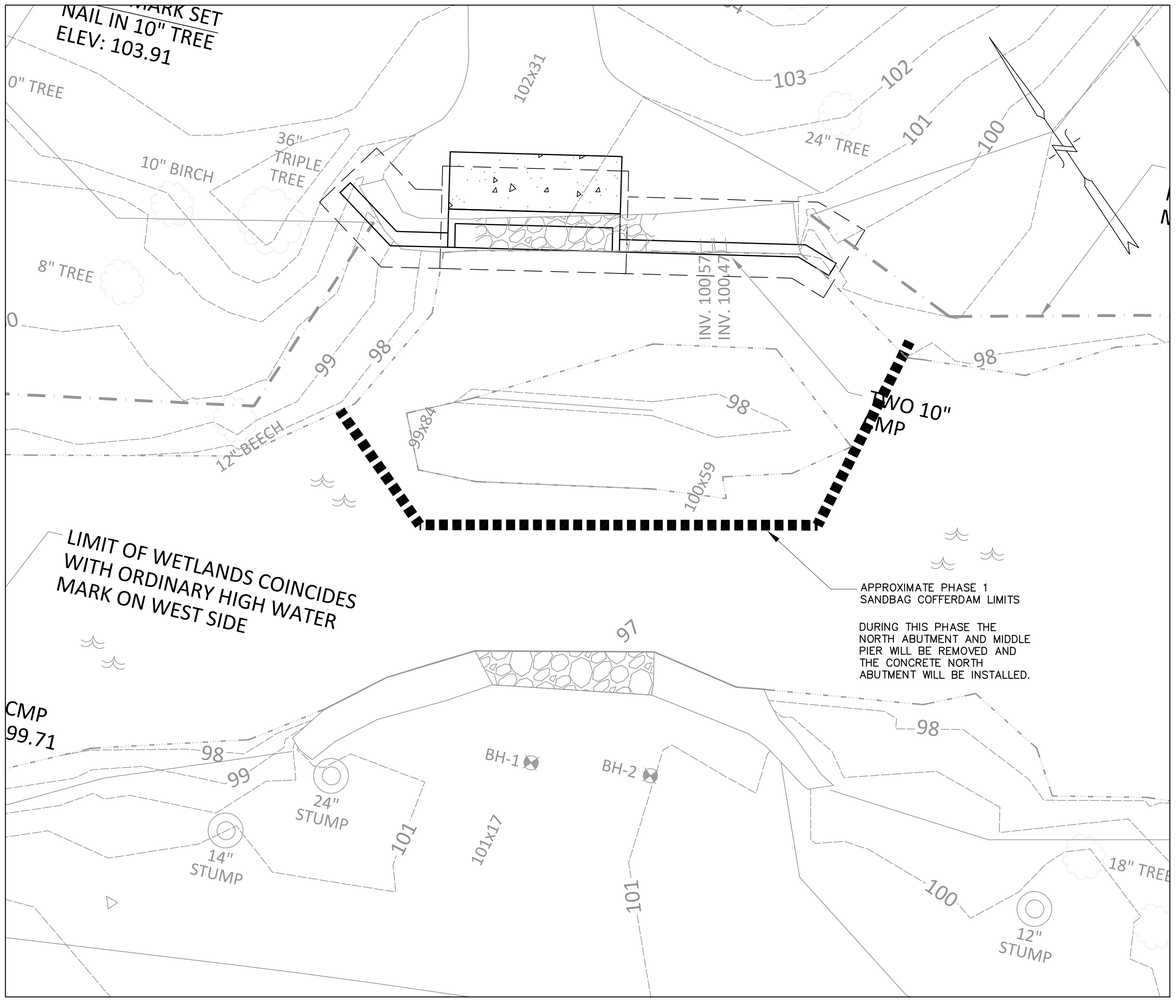
Hartford, Connecticut
06105
(860) 549–6190

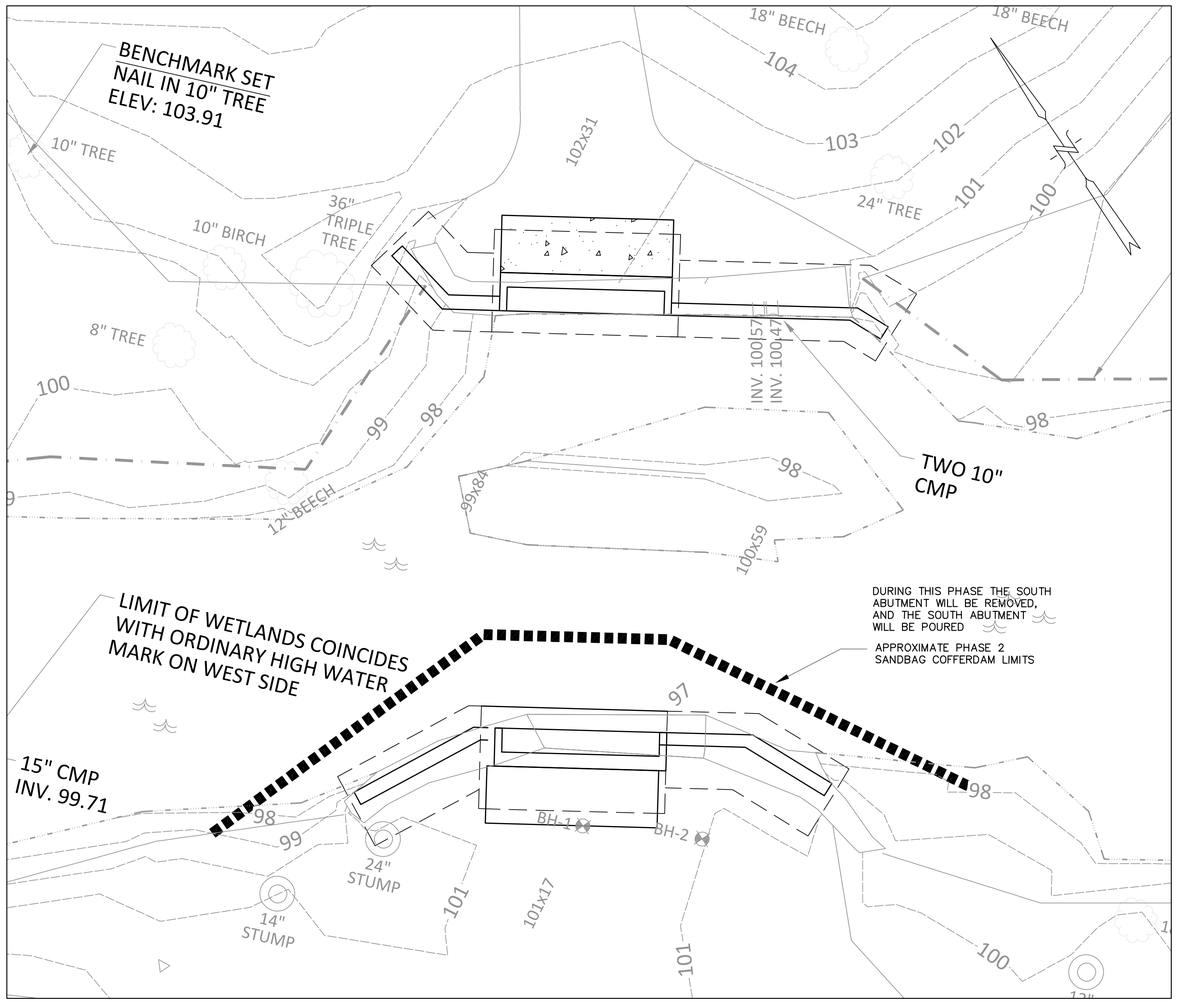
Project:
CHATFIELD HOLLOW STATE PARK
REPLACEMENT OF COVERED BRIDGE E159
OVER CHATFIELD HOLLOW BROOK
KILLINGWORTH, CT

DEEP PROJECT ID: DEPA000013202327

Date 08/30/24
Scale AS SHOWN
Drawn By JMB
Approved HSM
Drawing No C-1.2



PHASE 1 DEWATERING PLAN
SCALE: 1" = 5'-0"



PHASE 2 DEWATERING PLAN
SCALE: 1" = 5'-0"

GENERAL DEWATERING NOTES:

1. DRAWING IS SHOWN FOR GENERAL INFORMATION AND REFERENCE ONLY. CONTRACTOR IS TO SUBMIT PLANS FOR THE PROPOSED DEWATERING SYSTEM TO THE ENGINEER FOR REVIEW. DEWATERING SYSTEM SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF CONNECTICUT FOR THE DRAINAGE AREA BEING DIRECTED TO THE DEWATERING SYSTEM AND SUBMITTED FOR REVIEW.
2. A COFFERDAM SHALL BE INSTALLED WHERE SHOWN ON THE PLANS (NORTHWEST DEWATERING CONFIGURATION), DIVERTING THE STREAM EAST IN ORDER TO COMPLETE WORK ON THE WEST SIDE OF THE BRIDGE. ONCE WORK IS COMPLETED ON THE WEST SIDE OF THE BRIDGE, THE COFFERDAM SHALL BE MIRRORED ON THE EAST SIDE SO THAT NOW THE STREAM IS BEING DIVERTED TO THE WEST (SOUTHEAST DEWATERING CONFIGURATION). THE CONTRACTOR SHALL THEN COMPLETE WORK ON THE EAST SIDE OF THE BRIDGE.
3. THE CONTRACTOR SHALL MAKE USE OF TEMPORARY DIKES, BERMS, PUMPS, AND OTHER APPROVED MEANS IN ORDER TO PROTECT PREVIOUSLY COMPLETED WORK. NO TOOLS OR EQUIPMENT SHALL BE LEFT UNPROTECTED IN THE COFFERDAM CHANNEL AREA AT THE END OF EACH DAY.
4. THE CONTRACTOR IS TO PROVIDE PUMPS, GENERATORS, AND OTHER EQUIPMENT THAT MAY BE NECESSARY TO PERFORM EXCAVATIONS AND PLACE CONCRETE WORK IN THE DRY. ALL PUMPED WATER IS TO BE PUMPED INTO A TEMPORARY SEDIMENT BASIN AS SHOWN ON DRAWING C1.1.
5. REFER TO SPECIFICATION 312319 "DEWATERING" FOR ADDITIONAL INFORMATION.
6. NO MACHINERY SHALL BE IN THE STREAMBED AT ANY TIME DURING CONSTRUCTION.

CT DOT BRIDGE DESIGN MANUAL GENERAL NOTES:

1. SPECIFICATIONS: CONNECTICUT DEPARTMENT OF TRANSPORTATION FORM 819 (2024).

0' 5' 10'
GRAPHIC SCALE: 1"= 5'-0"

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DEWATERING PLAN

REVISIONS

Mark	Date	Description

STATE OF CONNECTICUT
DEPT. OF ENERGY AND ENVIRONMENTAL PROTECTION

Macchi Engineers
44 Gillett Street
Hartford, Connecticut
06105
(860) 549-6190

Date 08/30/24
Scale 1" = 5'-0"
Drawn By JMB
Approved HSM
Drawing No C-1.3

Project:
CHATFIELD HOLLOW STATE PARK
REPLACEMENT OF COVERED BRIDGE E159
OVER CHATFIELD HOLLOW BROOK
KILLINGWORTH, CT

DEEP PROJECT ID: DEPA000013202327

NOTES:

1. ALL PROPOSED CONSTRUCTION SHALL BE COMPLETED IN ACCORDANCE WITH THESE DRAWINGS, THE PROJECT MANUAL AND CT DOT FORM 819. NO CHANGES IN THE PROPOSED CONSTRUCTION SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER. NO UNAUTHORIZED CONSTRUCTION WILL BE ACCEPTED FOR PAYMENT.
2. PROVIDE POSITIVE DRAINAGE AWAY FROM THE BRIDGE AND AGGREGATE WALK.
3. THE CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY INTO EXISTING EARTHWORK.
4. CONTRACTOR SHALL VERIFY ALL EXISTING GRADES IN THE FIELD AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER PRIOR TO STARTING WORK.
5. ANY AREA OUTSIDE THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO THE OWNER.
6. ALL DISTURBED AREAS WITHIN THE CONTRACT LIMIT LINES OTHER THAN PAVED AREAS SHALL RECEIVE A MINIMUM OF 6" OF TOPSOIL AND BE SEEDED UNLESS OTHERWISE NOTED.
7. CONTRACTOR TO SWEEP THE PARKING LOT DAILY OF ANY DIRT AND DEBRIS FROM CONTRACTOR ACTIVITY.
8. NO CONSTRUCTION VEHICLE SHALL BE STORED, SERVICED, REFUELED, WASHED OR FLUSHED OUT IN A LOCATION WHERE LEAKS, SPILLAGE, WASTE MATERIALS, CLEANERS, OR WATERS WILL BE INTRODUCED OR FLOW INTO THE WETLANDS OR WATERCOURSES.
9. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN A SUPPLY OF ABSORBENT SPILL RESPONSE BOOMS AND BLANKETS ON-SITE FOR THE ENTIRE CONSTRUCTION PERIOD.
10. NO EQUIPMENT STORAGE, CLEANING, REPAIRING, OR REFUELING SHALL BE CONDUCTED WITHIN 25 FEET OF THE EMBANKMENT. SHOULD ANY CONTAMINANT SPILLS OCCUR, IMMEDIATELY NOTIFY THE OWNER'S AGENT, THE CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION'S EMERGENCY RESPONSE UNIT AT (860) 424-3338 AND THE ENGINEER.
11. SURPLUS OR UNSUITABLE SOILS SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL ORDINANCES, RULES, REGULATIONS AND CODES.

BRIDGE WING WALLS. SEE STRUCTURAL DRAWINGS FOR ADD. INFO. (TYP.)

COVERED BRIDGE. SEE STRUCTURAL PLANS FOR ADDITIONAL INFORMATION

BRIDGE ABUTMENT. SEE STRUCTURAL DRAWINGS FOR ADD. INFO. (TYP.)

4'-0" x 12'-0" CONCRETE APPROACH SLAB. SEE STRUCTURAL DRAWINGS FOR ADD. INFO. (TYP. BOTH SIDES)

4'-0" WIDE STONE DUST ADA PATH SEE DETAIL THIS SHEET

APPROX. LOCATION OF ROCK WEIR. LOCATION TO BE FIELD DIRECTED BY DEEP FISHERIES STAFF. SEE DETAIL 2 ON C1.2 FOR DETAILS.

REINSTALLED BOULDERS. SEE C 1.0.

CONTRACT LIMIT LINE

BH-1

BH-2

18" BEECH

24" TREE

36" TRIPLE TREE

10" TREE

10" BIRCH

8" TREE

12" BEECH

24" STUMP

12" STUMP

6" BIRCH

12" TREE

18" TREE

12" BIRCH

97x41 WATER ELEV.

102x31

99x8

100x59

101x1

100% CONTRACT DOCUMENTS

0' 5' 10'

GRAPHIC SCALE: 1"= 5'-0"

SITE MATERIAL AND LAYOUT PLAN

REVISIONS

Mark	Date	Description

STATE OF CONNECTICUT
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06105
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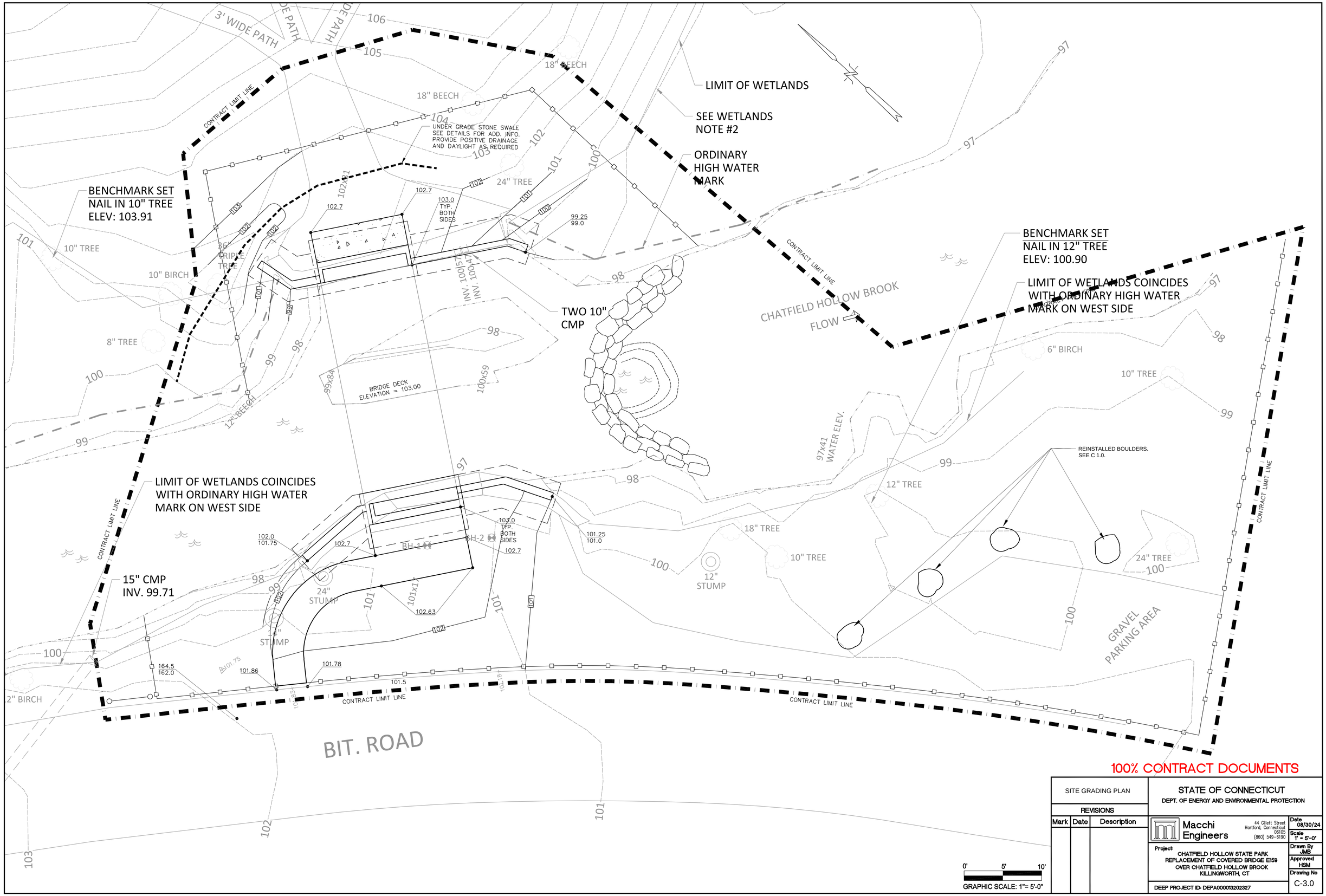
KILLINGWORTH, CT

DEEP PROJECT ID: DEPA000013202327

Date	08/30/24
Scale	1" = 5'-0"
Drawn By	JMB
Approved	HSM
Drawing No	C-2.0



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SITE GRADING PLAN

REVISIONS

Mark	Date	Description

0' 5' 10'

GRAPHIC SCALE: 1"= 5'-0"

STATE OF CONNECTICUT
DEPT. OF ENERGY AND ENVIRONMENTAL PROTECTION

Macchi Engineers
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06105
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REPLACEMENT OF COVERED BRIDGE E159
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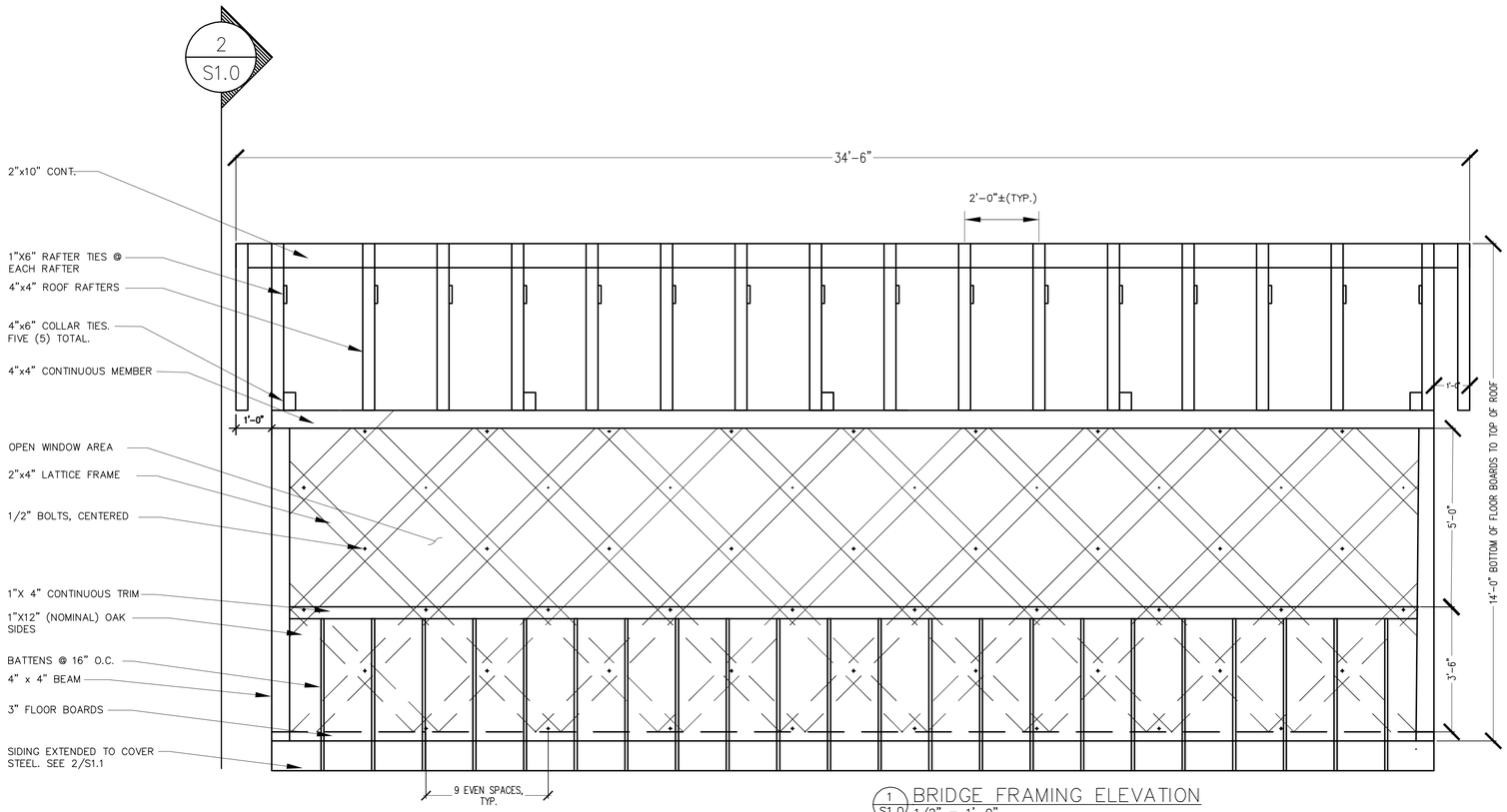
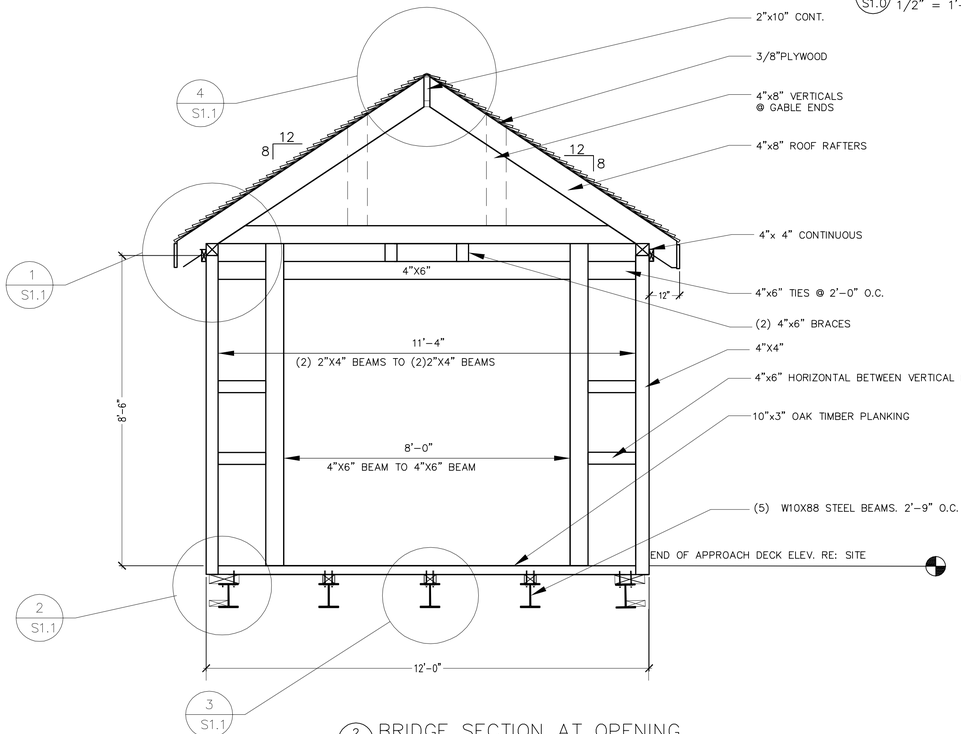
KILLINGWORTH, CT

DEEP PROJECT ID: DEPA000013202327

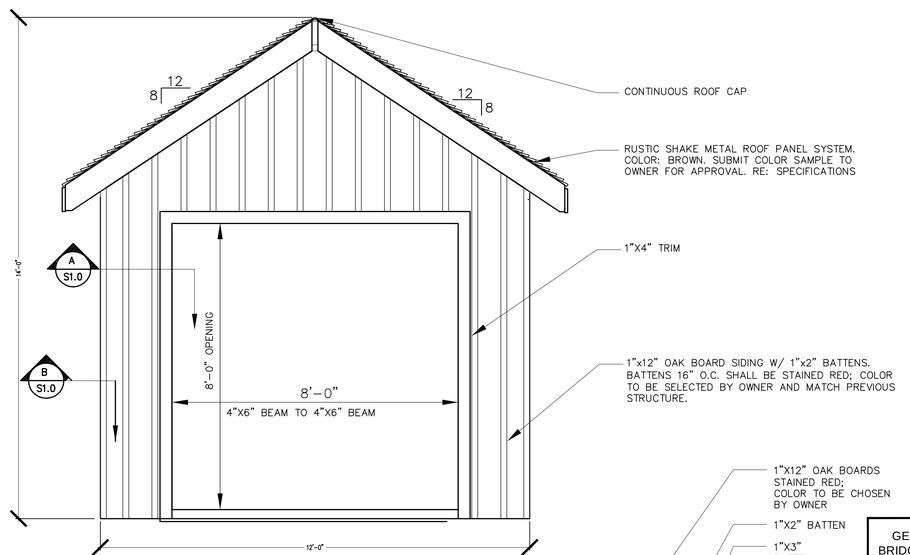
Date	08/30/24
Scale	1" = 5'-0"
Drawn By	JMB
Approved	HSM
Drawing No	C-3.0



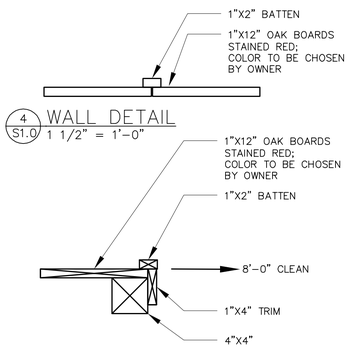
1 S1.0 BRIDGE FRAMING ELEVATION
1/2" = 1'-0"



2 S1.0 BRIDGE SECTION AT OPENING
1/2" = 1'-0"

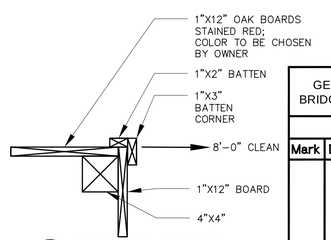


3 S1.0 EXTERIOR BRIDGE SECTION AT OPENING
1/2" = 1'-0"



4 S1.0 WALL DETAIL
1 1/2" = 1'-0"

A S1.0 TRIM AT OPENING DETAIL
1 1/2" = 1'-0"



B S1.0 CORNER DETAIL
1 1/2" = 1'-0"

GENERAL NOTES

A. FILL AND BACKFILL

1. ANY PLACED MATERIAL SHALL BE COMPACTED WITH A MECHANICAL VIBRATOR TO A MINIMUM OF 95% PROCTOR DENSITY AS DEFINED BY ASTM D1557.
2. SEE PLANS FOR GRAVEL FILL REQUIREMENTS.
3. NO WALLS ARE TO BE BACKFILLED UNTIL CONCRETE HAS BEEN IN PLACE A MINIMUM OF 7 DAYS UNLESS DIRECTED BY THE ENGINEER.

B. CONCRETE

1. CONCRETE STRENGTH AT 28 DAYS SHALL BE AS INDICATED IN DESIGN DATA.
2. PROTECTIVE COVER, SPLICE LAP AND EMBEDMENT FOR REINFORCING STEEL SHALL BE PER ACI SPECIFICATION.

C. FOOTINGS

1. ELEVATION OF BOTTOM OF FOOTINGS TO BE VERIFIED WITH FIELD CONDITIONS. ALL FOOTINGS SHALL BE PLACED A MINIMUM OF 3'-6" BELOW FINAL GRADES.
2. ALL FOOTINGS TO BEAR ON FIRM, UNDISTURBED SOIL HAVING A SAFE BEARING CAPACITY AS STATED IN THE DESIGN DATA.

D. STRUCTURAL STEEL

1. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND IN ACCORDANCE WITH ALL AWS STANDARDS.
2. ALL WELDING TO BE PERFORMED USING E70-XX ELECTRODES.
3. THE STEEL ERECTOR IS RESPONSIBLE FOR SUPPLYING TEMPORARY BRACING AND GUYING OF STEEL FRAMING UNTIL ALL CONNECTIONS AND FLOORING HAVE BEEN COMPLETED.
4. RE: PAINTING SPECIFICATION PRIOR TO REINSTALLATION OF STEEL.

E. GENERAL

1. ALL WOOD MEMBERS INCLUDING BUT NOT LIMITED TO VERTICAL POSTS, RAFTERS AND BRACES, SHALL BE MADE OF WHITE OAK.
2. ALL THRU-BOLTS, CARRIAGE BOLTS, AND ANY OTHER MISCELLANEOUS HARDWARE SHALL BE HOT DIPPED GALVANIZED.
3. NO STORAGE OF MATERIALS SHALL BE ALLOWED ON ROOF MEMBERS DURING CONSTRUCTION.
4. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
5. ANY PAINTED ELEMENTS THAT GET DAMAGED DURING CONSTRUCTION SHALL BE TOUCHED UP WITH TOUCH UP PAINT.
6. CONTAINMENT METHODS SHALL REMAIN IN PLACE THROUGHOUT CONSTRUCTION.
7. ALL DIMENSIONS FOR WOODEN MEMBERS ARE NOMINAL
8. 1 / S1 — INDICATES SECTION NUMBER / INDICATES SHEET NUMBER

DESIGN DATA

CODES AND STANDARDS USED:

2022 CONNECTICUT BUILDING CODE
2021 INTERNATIONAL BUILDING CODE
AMERICAN CONCRETE INSTITUTE BUILDING CODE (ACI-318-14)
AMERICAN INSTITUTE OF STEEL CONSTRUCTION "ALLOWABLE STRESS DESIGN" (AISC-14TH EDITION,ANSI/AISC 360-10)
ACI 530-13 / ASCE 5-13 / TMS 402-11 MASONRY CODES
ACI 530.1-11 / ASCE 6-11 / TMS 602-11 MASONRY SPECIFICATIONS
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 7TH EDITION

ALLOWABLE STRESSES: SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION

ANGLES, & PLATES ASTM A36;
REINFORCING STEEL – ASTM A-615, GRADE 60 & ASTM A-185
CONCRETE – f'c AT 28 DAYS
4,500 PSI FOR ALL FOOTINGS & WALLS
GROUT – f'c AT 28 DAYS = 3,000 PSI
ALLOWABLE SOIL BEARING PRESSURES:
2 KSF (ASSUMED)

MINIMUM WOOD PROPERTIES:

ALL APPROACH RAMP AND DECKING TO BE WHITE OAK: SELECT STRUCTURAL

MINIMUM Fb = 1200 PSI
MINIMUM Ft = 700 PSI
MINIMUM Fv = 205 PSI

ALL OTHER WOOD TO BE WHITE OAK
MINIMUM Fb = 875 PSI
MINIMUM Ft = 500 PSI
MINIMUM Fv = 220 PSI

WIND LOAD REQUIREMENTS: (IBC SECTION 1609)

EXPOSURE CATEGORY B (IBC 1609.4)
ULTIMATE DESIGN WIND SPEED Vult = 125 MPH KILLINGWORTH)
NOMINAL DESIGN WIND SPEED Vasd = 97 MPH (KILLINGWORTH)
RISK CATEGORY II (IBC 1609.4)
EXPOSURE CATEGORY B (IBC 1609.4)
WALL PRESSURES VARY UPON LOCATION– DETERMINED BY ASCE 7-CHAPTER 26-30
HURRICANE PRONE REGION

EARTHQUAKE REQUIREMENTS: (IBC SECTIONS 1613-1623)

SEISMIC IMPORTANCE FACTOR, Ie = 1.25
SITE CLASS = D (ASSUMED)
Ss = 0.210 (KILLINGWORTH) S1 = 0.055 (KILLINGWORTH)

RISK CATEGORY II

RESPONSE MODIFICATION COEFFICIENT R = 3 (ASSUMED)
(NO SPECIAL SEISMIC DETAILING REQUIREMENT)
DEFLECTION AMPLIFICATION FACTOR (ASCE TABLE 12.2-1)
EQUIVALENT LATERAL FORCE PROCEDURE

LIVE LOAD:

PEDESTRIAN BRIDGE = 100 PSF (PEDESTRIAN)
2,000 LBS (EQUESTRIAN)

SNOW LOAD:

ROOF SNOW LOADS: (ASCE7 – CHAPTER 7)
GROUND SNOW LOAD P_g = 30 PSF (KILLINGWORTH)
FLAT ROOF SNOW LOAD, Pf = 30 PSF (MINIMUM)
TERRAIN CATEGORY B
SNOW IMPORTANCE FACTOR, Is = 1.0
THERMAL FACTOR = 1.2
SLIDING SNOW, UNBALANCED SNOW LOADS, DRIFTS ON LOWER ROOFS, ROOF PROJECTIONS PARTIAL LOADING, PONDING INSTABILITY, SLOPED ROOF SNOW LOADS AND RAIN-ON-SNOW SURCHARGE IN ACCORDANCE WITH ASCE 7, CH.7.
MIN. DESIGN SNOW LOAD 30 PSF

100% CONTRACT DOCUMENTS

GENERAL NOTES AND BRIDGE FRAMING DETAILS

REVISIONS

Mark	Date	Description

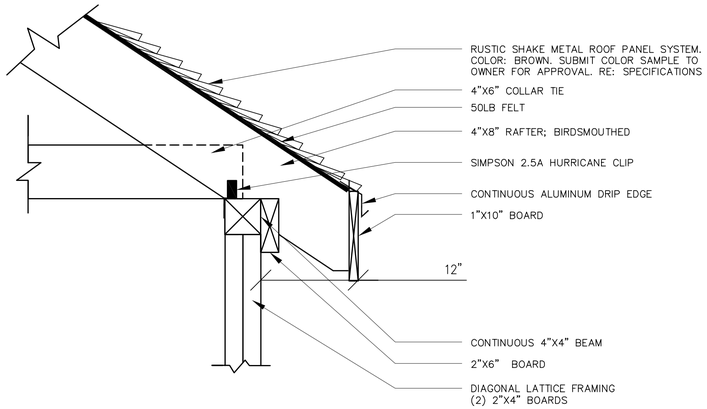
STATE OF CONNECTICUT
DEPT. OF ENERGY AND ENVIRONMENTAL PROTECTION

Macchi Engineers
44 Gillett Street
Hartford, Connecticut
06105
(860) 549-6190

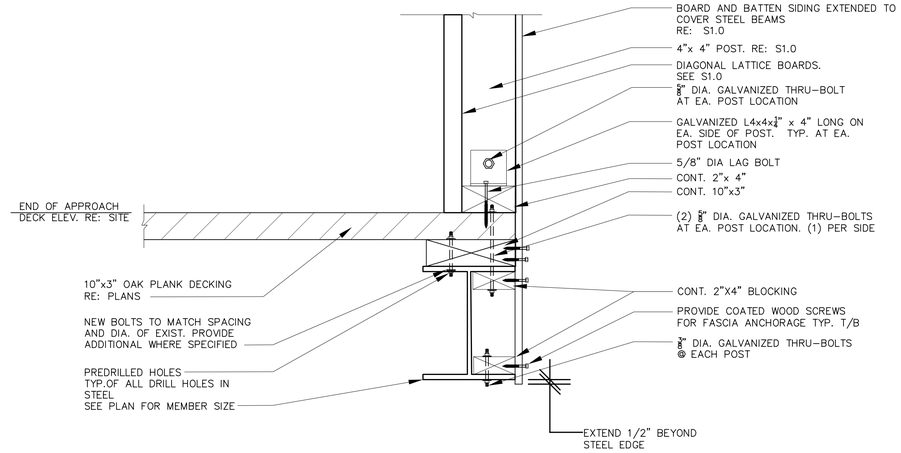
Project:
CHATFIELD HOLLOW STATE PARK
REPLACEMENT OF COVERED BRIDGE E159
OVER CHATFIELD HOLLOW BROOK
KILLINGWORTH, CT

DEEP PROJECT ID: DEPA000013202327

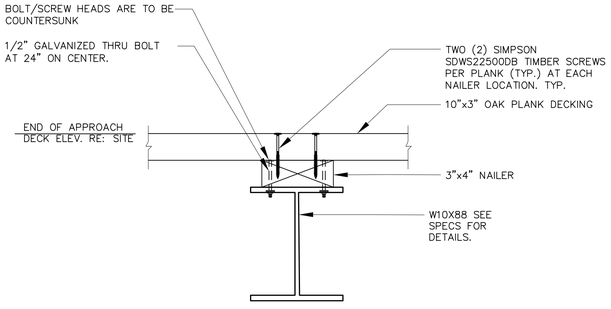
Date	08/30/24
Scale	AS NOTED
Drawn By	JMB
Approved	HSM
Drawing No	S-1.0



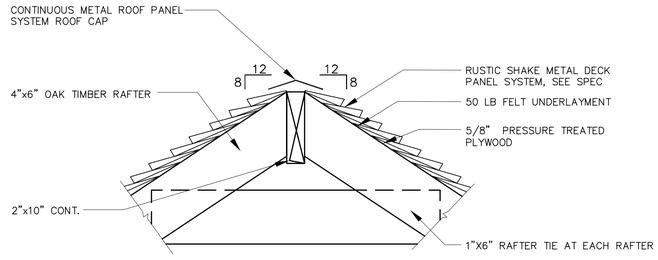
1 / S1.1 RAFTER CONNECTION DETAIL
SCALE: 1-1/2" = 1'-0"



2 / S1.1 BEAM CONNECTION DETAIL
SCALE: 1-1/2" = 1'-0"



3 / S1.1 DECK ATTACHMENT DETAIL
SCALE: 1-1/2" = 1'-0"



4 / S1.1 DETAIL AT RIDGE
SCALE: 1-1/2" = 1'-0"

100% CONTRACT DOCUMENTS

BRIDGE SECTIONS AND DETAILS

REVISIONS

Mark	Date	Description

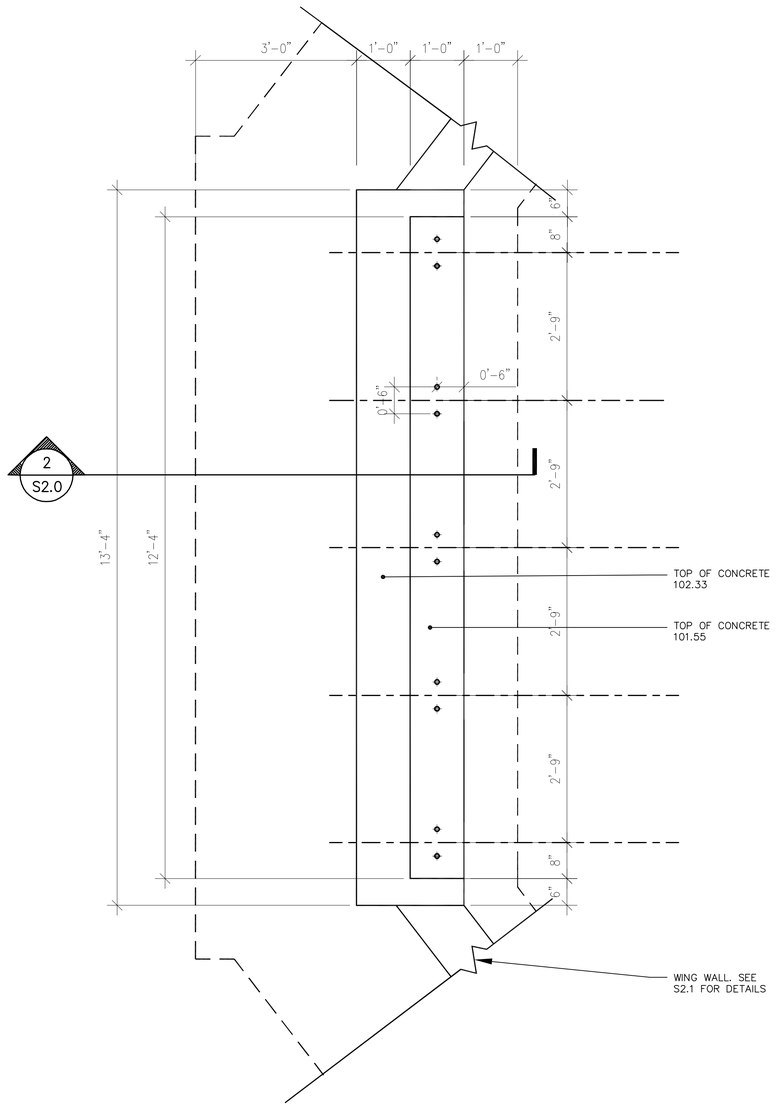
STATE OF CONNECTICUT
DEPT. OF ENERGY AND ENVIRONMENTAL PROTECTION

Macchi Engineers
44 Gillett Street
Hartford, Connecticut
06105
(860) 549-6190

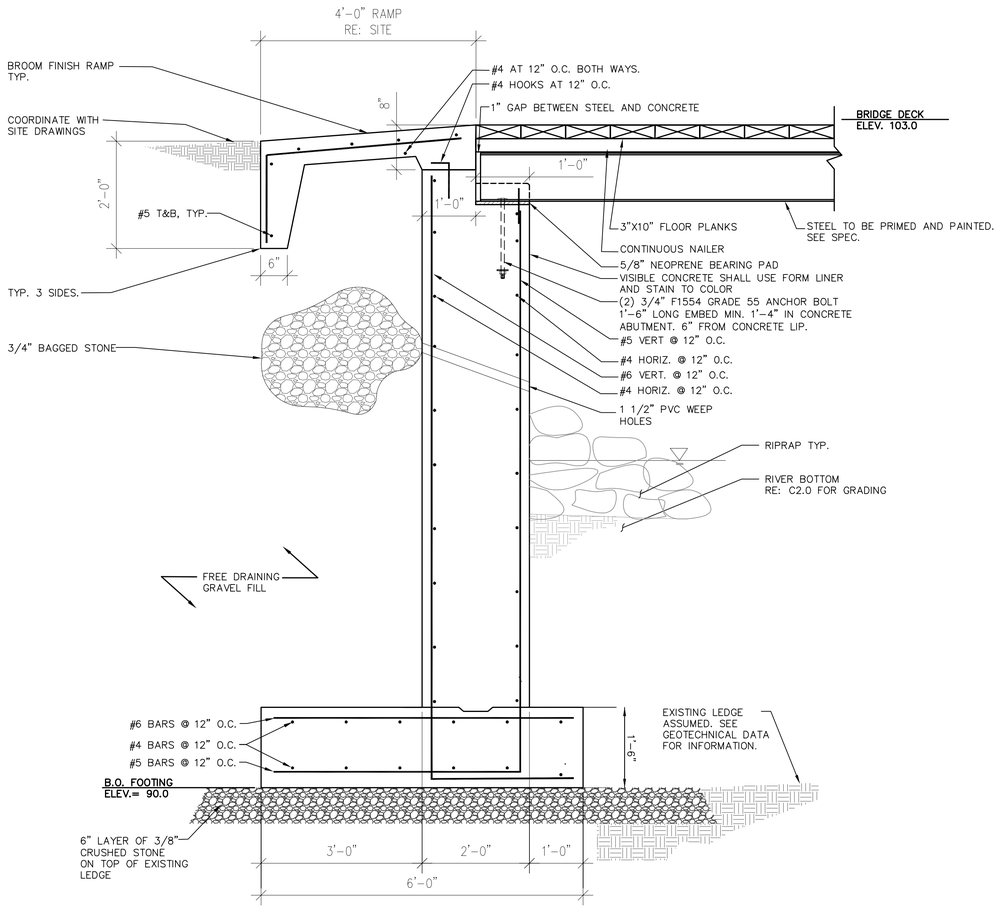
Date 08/30/24
Scale 1" = 5'-0"
Drawn By JMB
Approved HSM
Drawing No S-1.1

Project:
CHATFIELD HOLLOW STATE PARK
REPLACEMENT OF COVERED BRIDGE E159
OVER CHATFIELD HOLLOW BROOK
KILLINGWORTH, CT

DEEP PROJECT ID: DEPA00001320327



1 S2.0 ABUTMENT PLAN VIEW
3/4" = 1'-0"



2 S2.0 ABUTMENT SECTION
SCALE: 3/4" = 1'-0"

100% CONTRACT DOCUMENTS

BRIDGE ABUTMENT
PLAN & SECTION VIEWS

REVISIONS

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Macchi Engineers
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Date 08/30/24
Scale
Drawn By JMB
Approved HSM
Drawing No S-2.0

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KILLINGWORTH, CT

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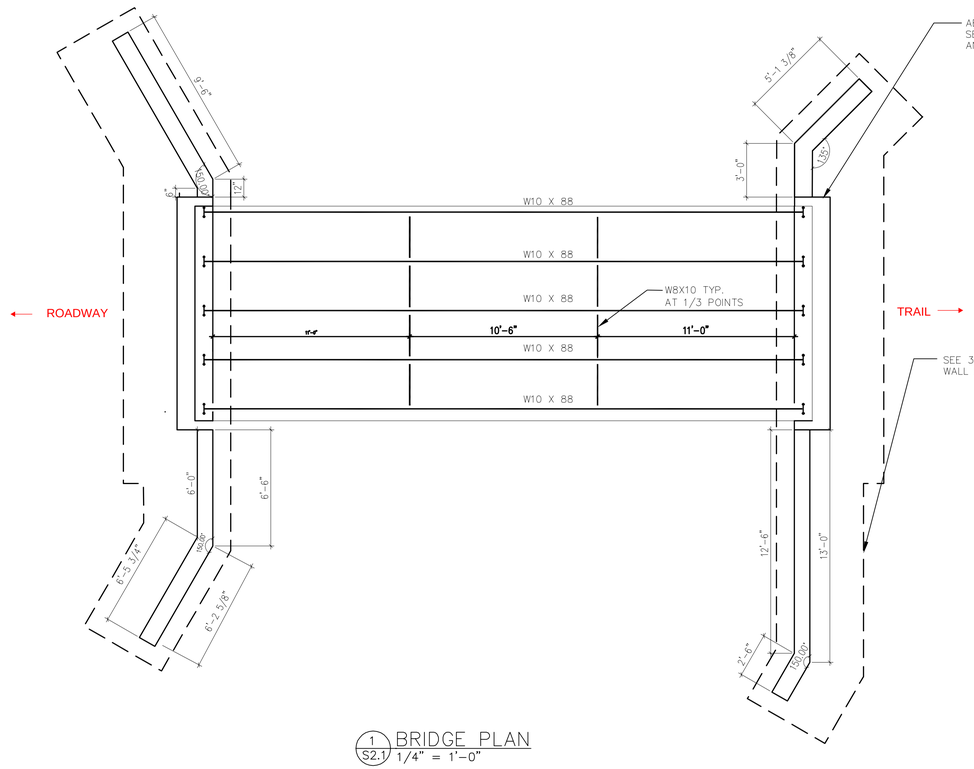
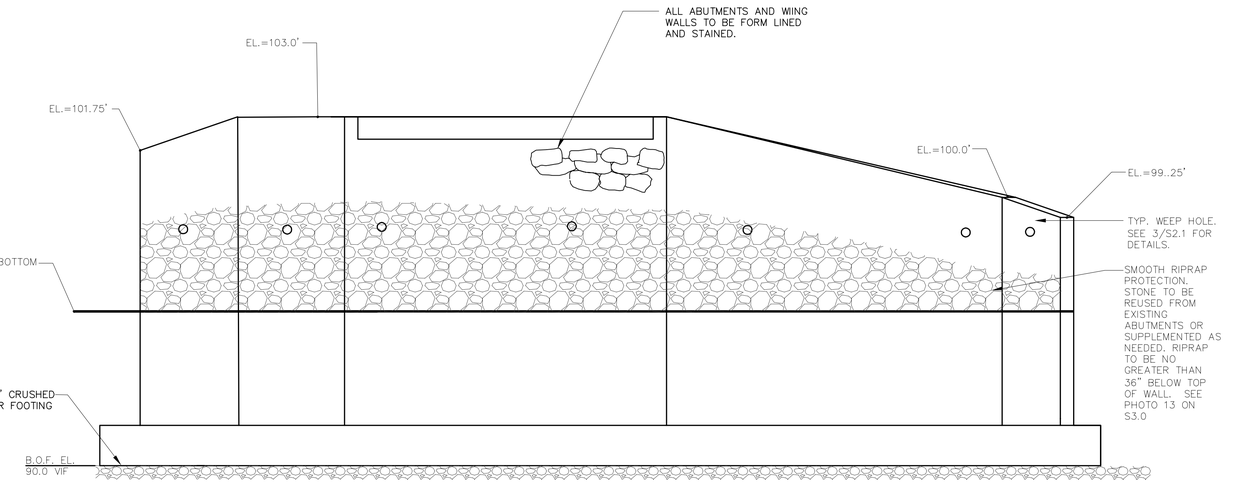
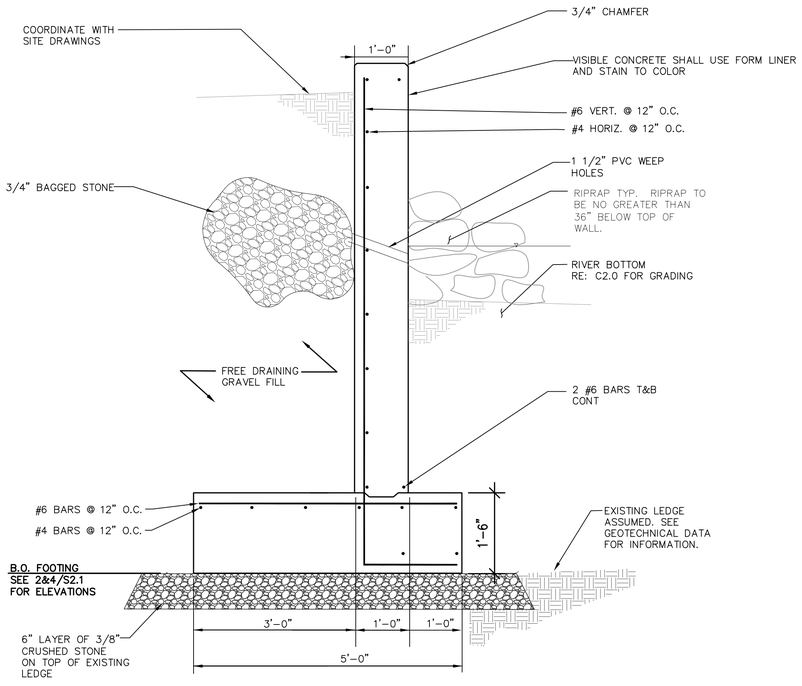


1 S2.1 BRIDGE PLAN
1/4" = 1'-0"

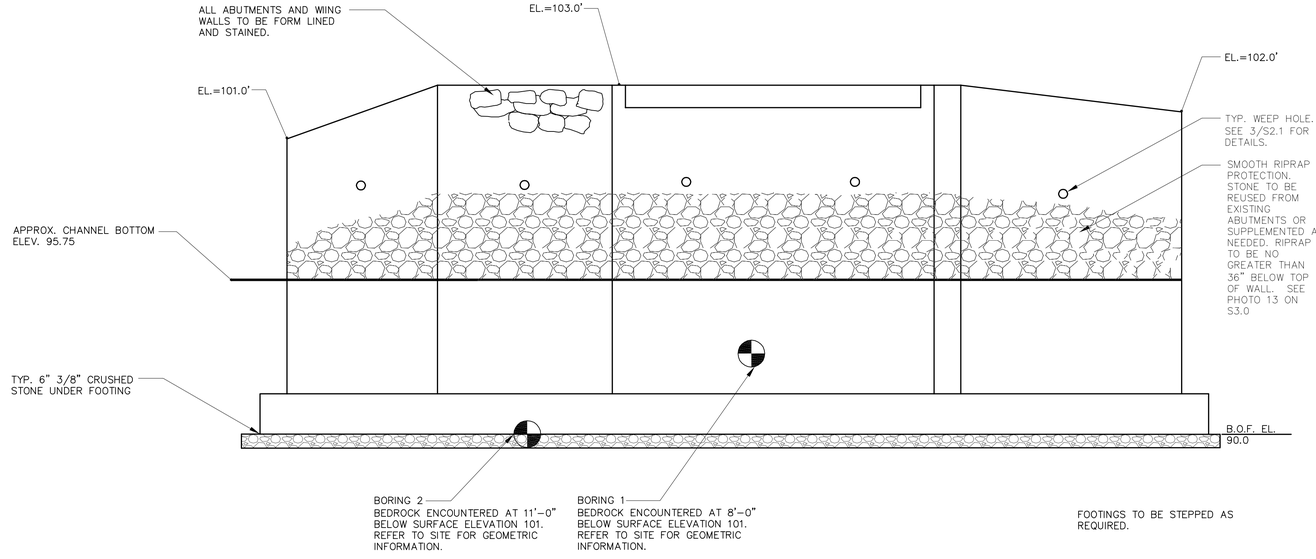


FOOTINGS TO BE STEPPED AS
REQUIRED. NO BORINGS PERFORMED
ON THE NORTH EAST SIDE.
ASSUMED TO MATCH DEEPEST
LEDGE ENCOUNTERED ON SOUTH
WEST SIDE.

2 S2.1 NORTH EAST ABUTMENT AND WING WALLS
3/8" = 1'-0"



3 S2.1 WING WALL SECTION
SCALE: 3/4" = 1'-0"



FOOTINGS TO BE STEPPED AS
REQUIRED.

4 S2.1 SOUTH WEST ABUTMENT AND WING WALLS
3/8" = 1'-0"

100% CONTRACT DOCUMENTS

WING WALL PLAN,
ELEVATION &
SECTION VIEWS

REVISIONS

Mark	Date	Description

STATE OF CONNECTICUT
DEPT. OF ENERGY AND ENVIRONMENTAL PROTECTION

Macchi Engineers
44 Gillett Street
Hartford, Connecticut
06105
(860) 549-6190

Project:
CHATFIELD HOLLOW STATE PARK
REPLACEMENT OF COVERED BRIDGE E159
OVER CHATFIELD HOLLOW BROOK
KILLINGWORTH, CT

DEEP PROJECT ID: DEPA000013202327

Date	08/30/24
Scale	
Drawn By	JMB
Approved	HSM
Drawing No	S-2.1

1 S3.0 PREVIOUS BRIDGE SOUTHWEST OPENING

2 S3.0 PREVIOUS BRIDGE INTERIOR

3 S3.0 PREVIOUS BRIDGE CEILING

4 S3.0 PREVIOUS BRIDGE COLLAR TIE

5 S3.0 PREVIOUS BRIDGE RAFTERS

6 S3.0 PREVIOUS BRIDGE SIDING

7 S3.0 PREVIOUS BRIDGE SOUTHERN ELEVATION

8 S3.0 PREVIOUS BRIDGE NORTHERN ELEVATION

9 S3.0 PREVIOUS BRIDGE ABUTMENTS

10 S3.0 PREVIOUS BRIDGE UNDERNEATH

11 S3.0 PREVIOUS BRIDGE SUPPORT BEAM

12 S3.0 PREVIOUS BRIDGE LATTICE FRAMING

13 S3.0 ROUND NEW ENGLAND FIELD STONE

NOTE:
PHOTOS OF FORMER BRIDGE
ARE FOR INFORMATION ONLY

100% CONTRACT DOCUMENTS

FORMER BRIDGE
REFERENCE PHOTOS

REVISIONS

Mark	Date	Description

STATE OF CONNECTICUT
DEPT. OF ENERGY AND ENVIRONMENTAL PROTECTION

Macchi Engineers
44 Gillett Street
Hartford, Connecticut
06105
(860) 549-6190

Project:
CHATFIELD HOLLOW STATE PARK
REPLACEMENT OF COVERED BRIDGE E159
OVER CHATFIELD HOLLOW BROOK
KILLINGWORTH, CT

DEEP PROJECT ID: DEPA000013202327

Date 08/30/24
Scale NONE
Drawn By JMB
Approved HSM
Drawing No S-3.0

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT: KILLINGWORTH, CT

PROJECT NAME: PROPOSED COVERED BRIDGE REPLACEMENT
LOCATION: CHATFIELD HOLLOW STATE PARK

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75"		1.375"	
HAMMER WT.			140lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV.
HOLE NO. **B-1**
GROUND WATER OBSERVATIONS
AT 3.5 FT. AFTER 0 HOURS
AT FT. AFTER HOURS
START DATE 4/18/23
FINISH DATE 4/18/23

DEPTH	SAMPLE NO.	BLOWS/6"	DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0	1	1-2-1-1	0.0'-2.0'		BR.FINE-CRS.SAND, LITTLE GRAVEL, FEW COBBLES, TRACE SILT - FILL	
	2	1-60	2.0'-2.9'			
5	3	16-17-20-23	5.0'-7.0'		GREY/BR.FINE-CRS.SAND, SOME GRAVEL & COBBLES, LITTLE SILT — 4.0	
					CORED BEDROCK - GRANITIC GNEISS — 8.0	
10					RUN #1 8.0' - 13.0' RECOVERED 58" RQD=67%	
					BOTTOM OF BORING @ 13.0' — 13.0	
15						
20						
25						
30						
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:
SHEET 1 OF 1 HOLE NO. **B-1**

CLARENCE WELTI ASSOC., INC.
P.O. BOX 397
GLASTONBURY, CONN 06033

CLIENT: KILLINGWORTH, CT

PROJECT NAME: PROPOSED COVERED BRIDGE REPLACEMENT
LOCATION: CHATFIELD HOLLOW STATE PARK

	AUGER	CASING	SAMPLER	CORE BAR.
TYPE	HSA		SS	
SIZE I.D.	3.75"		1.375"	
HAMMER WT.			140lbs	
HAMMER FALL			30"	

OFFSET
LINE & STA.
N. COORDINATE
E. COORDINATE

SURFACE ELEV.
HOLE NO. **B-2**
GROUND WATER OBSERVATIONS
AT 3.5 FT. AFTER 0 HOURS
AT FT. AFTER HOURS
START DATE 4/18/23
FINISH DATE 4/18/23

DEPTH	SAMPLE NO.	BLOWS/6"	DEPTH	A	STRATUM DESCRIPTION + REMARKS	ELEV.
0	1	2-2-3-4	0.0'-2.0'		DARK BR.FINE-MED.SAND, SOME SILT, LITTLE GRAVEL - FILL — 0.25	
					BR.FINE-CRS.SAND, LITTLE GRAVEL, FEW COBBLES, TRACE SILT - FILL	
	2	2-1-1-10	2.0'-4.0'			
5	3	15-16-17-28	4.0'-6.0'		GREY/BR.FINE-CRS.SAND, SOME GRAVEL & COBBLES, LITTLE SILT — 4.0	
10	4	24-60	10.0'-11.0'		CORED BEDROCK - GRANITIC GNEISS — 11.0	
					RUN #1 11.0' - 16.0' RECOVERED 60" RQD=82%	
15						
					BOTTOM OF BORING @ 16.0' — 16.0	
20						
25						
30						
35						

LEGEND: COL. A:
SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON
PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%

DRILLER: K. CHRISTIANA
INSPECTOR:
SHEET 1 OF 1 HOLE NO. **B-2**

NOTE: FOR INFORMATIONAL PURPOSES ONLY
REFER TO THE PROJECT MANUAL FOR THE
COMPLETE SUBSURFACE GEOTECHNICAL
EXPLORATORY INFORMATION

100% CONTRACT DOCUMENTS

LIMITED SUBSURFACE GEOTECHNICAL INFORMATION

REVISIONS

Mark	Date	Description

STATE OF CONNECTICUT
DEPT. OF ENERGY AND ENVIRONMENTAL PROTECTION

Macchi Engineers
44 Gillett Street
Hartford, Connecticut
06105
(860) 549-6190

Date 08/30/24
Scale N.T.S.
Drawn By JMS
Approved HSM
Drawing No G-1.0

Project:
CHATFIELD HOLLOW STATE PARK
REPLACEMENT OF COVERED BRIDGE E159
OVER CHATFIELD HOLLOW BROOK
KILLINGWORTH, CT

DEEP PROJECT ID: DEPA000013202327