



**US Army Corps  
of Engineers<sup>®</sup>**  
New England District  
**696 Virginia Road  
Concord, MA 01742-2751**

# PUBLIC NOTICE

**Comment Period Begins:** December 17, 2013

**Comment Period Ends:** January 17, 2014

**File Number:** NAE-2013-2380

**In Reply Refer To:** Lindsay Flieger

**Phone:** (978) 318-8656

**E-mail:** Lindsay.Flieger@usace.army.mil

The District Engineer has received a permit application from the applicant below to conduct work in waters of the United States as described below.

**APPLICANT** City of Bristol- Department of Public Works

**ACTIVITY** To widen and stabilize Coppermine Brook in order to improve flooding conditions. A detailed description and plans of the activity are attached.

## **WATERWAY AND LOCATION OF THE PROPOSED WORK**

This work is proposed in Coppermine Brook in the area to the northeast of the Mix Street and Farmington Avenue (Route 6) intersection in Bristol, Connecticut. The proposed location on the USGS Bristol quadrangle sheet is at Lat/Long coordinates 41.414069 N and -72.545153 W.

## **AUTHORITY**

Permits are required pursuant to:

Section 10 of the Rivers and Harbors Act of 1899

Section 404 of the Clean Water Act

Section 103 of the Marine Protection, Research and Sanctuaries Act).

The decision whether to issue a permit will be based on an evaluation of the probable impact of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which may reasonably accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are: conservation, economics, aesthetics, general environmental concerns, wetlands, cultural value, fish and wildlife values, flood hazards, flood plain value, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are

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also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Where the activity involves the discharge of dredged or fill material into waters of the United States or the transportation of dredged material for the purpose of disposing it in ocean waters, the evaluation of the impact of the activity in the public interest will also include application of the guidelines promulgated by the Administrator, U.S Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act, and/or Section 103 of the Marine Protection Research and Sanctuaries Act of 1972 as amended.

**SECTION 106 COORDINATION**

Based on his initial review, the District Engineer has determined that little likelihood exists for the proposed work to impinge upon properties with cultural or Native American significance, or listed in, or eligible for listing in, the National Register of Historic Places. Therefore, no further consideration of the requirements of Section 106 of the National Historic Preservation Act of 1966, as amended, is necessary. This determination is based upon one or more of the following:

- a. The permit area has been extensively modified by previous work.
- b. The permit area has been recently created.
- c. The proposed activity is of limited nature and scope.
- d. Review of the latest published version of the National Register shows that no presence of registered properties listed as being eligible for inclusion therein are in the permit area or general vicinity.
- e. Coordination with the State Historic Preservation Officer and/or Tribal Historic Preservation Officer(s)

**ENDANGERED SPECIES CONSULTATION**

The New England District, Army Corps of Engineers has reviewed the list of species protected under the Endangered Species Act of 1973, as amended, which might occur at the project site. It is our preliminary determination that the proposed activity for which authorization is being sought is designed, situated or will be operated/used in such a manner that it is not likely to adversely affect any Federally listed endangered or threatened species or their designated critical habitat. By this Public Notice, we are requesting that the appropriate Federal Agency concur with our determination.

The States of Connecticut, Maine, Massachusetts, New Hampshire and Rhode Island have approved **Coastal Zone Management Programs**. Where applicable the applicant states that any proposed activity will comply with and will be conducted in a manner that is consistent with the approved Coastal Zone Management Program. By this Public Notice, we are requesting the State concurrence or objection to the applicant's consistency statement.

The following authorizations have been applied for, or have been, or will be obtained:

- ( ) Permit, License or Assent from State.
- (X) Permit from Local Wetland Agency or Conservation Commission.
- (X) Water Quality Certification in accordance with Section 401 of the Clean Water Act.

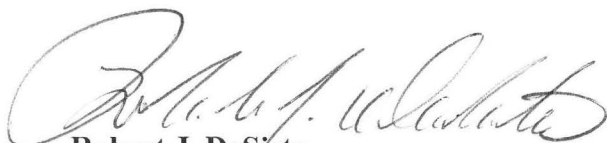
In order to properly evaluate the proposal, we are seeking public comment. Anyone wishing to comment is encouraged to do so. **Comments should be submitted in writing by the above date.** If you have any questions, please contact Lindsay Flieger at (978) 318-8656, (800) 343-4789 or (800) 362-4367, if calling from within Massachusetts.

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Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider the application. Requests for a public hearing shall specifically state the reasons for holding a public hearing. The Corps holds public hearings for the purpose of obtaining public comments when that is the best means for understanding a wide variety of concerns from a diverse segment of the public.

The initial determinations made herein will be reviewed in light of facts submitted in response to this notice. All comments will be considered a matter of public record. Copies of letters of objection will be forwarded to the applicant who will normally be requested to contact objectors directly in an effort to reach an understanding.

**THIS NOTICE IS NOT AN AUTHORIZATION TO DO ANY WORK.**



**Robert J. DeSista**  
**Chief, Permits and Enforcement Branch**  
**Regulatory Division**

If you would prefer not to continue receiving Public Notices, please contact Ms. Tina Chaisson at (978) 318-8058 or e-mail her at [bettina.m.chaisson@usace.army.mil](mailto:bettina.m.chaisson@usace.army.mil). You may also check here ( ) and return this portion of the Public Notice to: Bettina Chaisson, Regulatory Division, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751.

NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_

**PROPOSED WORK AND PURPOSE**

This work includes widening a segment of Coppermine Brook in Bristol, Connecticut in order to reduce flooding impacts to surrounding commercial and residential properties. Work also includes the discharge of fill material into the brook and stabilization of the adjacent streambank.

The City of Bristol is seeking to widen both sides Coppermine Brook, from the area immediately upstream of Farmington Avenue to the area just north of the Staples property line (as shown on plan sheet EX-1). The expansion of the brook will increase flow capacity and thereby reduce water surface elevations during lower storm events; approximately 0.3-0.5 feet during the 2-year storm event and 0.2-0.4 feet during the 10-year storm event. During the 100-year storm event, the decrease will be approximately 0.1 feet.

Two to three rows of gabions will be installed along the widened channel limits to stabilize the side slopes and maximize the channel width; cofferdams will be used to dewater sections of the brook during the gabion installation. Due to elevation changes along the watercourse, the rows of gabions will vary depending on site conditions. Approximately 70 cubic yards of material will be excavated from 0.111 acres of the brook, and approximately 90 cubic yards of material will be excavated from 0.039 acres of wetland. Any suitable soil that is removed will be stored for on-site reuse.

After the gabions are installed, natural bottom material will be placed from the end of the gabion levelling pad to the existing channel bed. Previous excavated material will be used and supplemented with additional material where necessary. Approximately 40 cubic yards of material will be placed within the existing watercourse and approximately 40 cubic yards of material will be placed within the existing wetland limit.

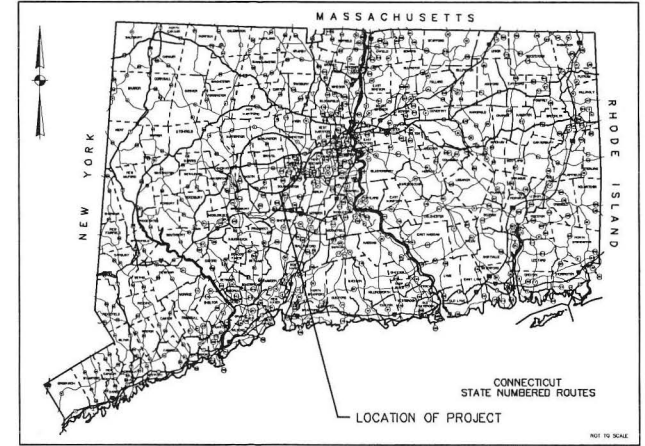
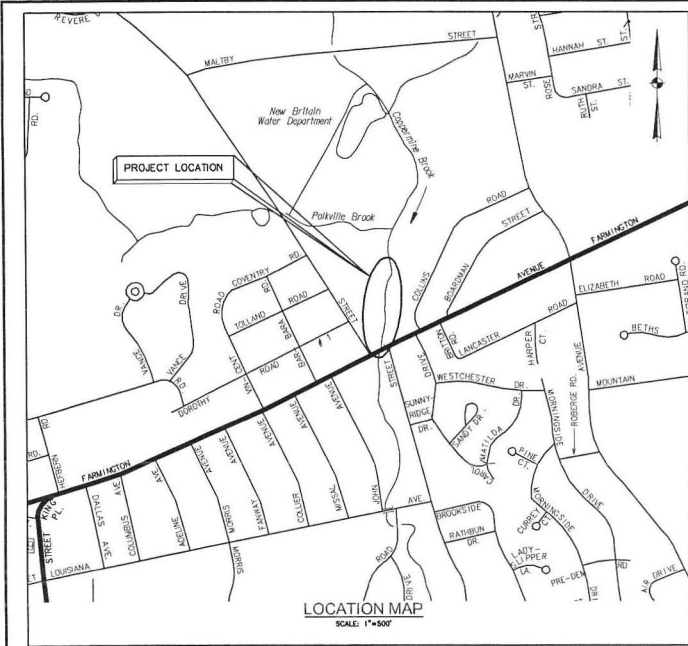
The work is described on the enclosed plans entitled “Construction Plans for Coppermine brook Flood Control Improvements in the City of Bristol,” on ten sheets, and dated “04/08/13.”

**MITIGATION**

As shown on plan sheet “LL-1”, a row of shrubs will be installed along the gabion walls to compensate for lost shading over Coppermine Brook. In addition, plantings are proposed at the northern limits of the project to replace the functions and values lost by the proposed channel improvements. The wetland system north of the Staples property line will be avoided entirely and previously excavated stones sized between 8”-12” will be placed on the streambed to mimic natural streambed material and therefore minimize impacts to stream wildlife.

# CONSTRUCTION PLANS FOR COPPERMINE BROOK FLOOD CONTROL IMPROVEMENTS IN THE CITY OF BRISTOL, CONNECTICUT

DESIGN SCALES { PLAN 1"=30'  
CROSS SECTIONS HORIZ. 1"=10' VER. 1"=10'  
OTHER SCALES AS NOTED



2004 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION FORM 816, INCLUDING ALL SUPPLEMENTS THERETO.  
ALL HORIZONTAL GEOMETRY ON THIS PROJECT BASED ON NAD 83.  
ALL ELEVATIONS ON THIS PROJECT BASED ON NAVD 88.

PERMIT REVIEW  
NOT FOR CONSTRUCTION

ENVIRONMENTAL PERMIT SUBMISSION  
OCTOBER 11, 2013

SHEET NO.	TITLE	LIST	OF	DRAWINGS
T-1	TITLE SHEET			
EX-1	IMPROVEMENT LOCATION SURVEY			
DET-1	MISCELLANEOUS DETAILS			
DET-2	MISCELLANEOUS DETAILS			
SP-1	CONSTRUCTION PLAN			
SP-2	WATER HANDLING PLAN			
LL-1	LANDSCAPE PLAN			
XS-1	CROSS SECTIONS			
XS-2	CROSS SECTIONS			
XS-3	CROSS SECTIONS			

DESIGNED BY  355 RESEARCH PARKWAY  
MERIDEN, CONNECTICUT 06450  
(203) 630-1408  
(203) 630-2615 Fax

PER \_\_\_\_\_  
DEREK A. KOHL, P.E.  
DIRECTOR OF ENGINEERING  
CT PROFESSIONAL ENGINEER NO. 21417

DATE \_\_\_\_\_

DATE PLOTTED: 04/27/14 10:21 AM PLOTTER: HP DesignJet T5300 Plotter PLOTTING: 100% SCALES: 1"=500'

**COPPERMINE BROOK  
 FLOOD CONTROL IMPROVEMENTS**  
 BRISTOL, CONNECTICUT

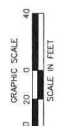
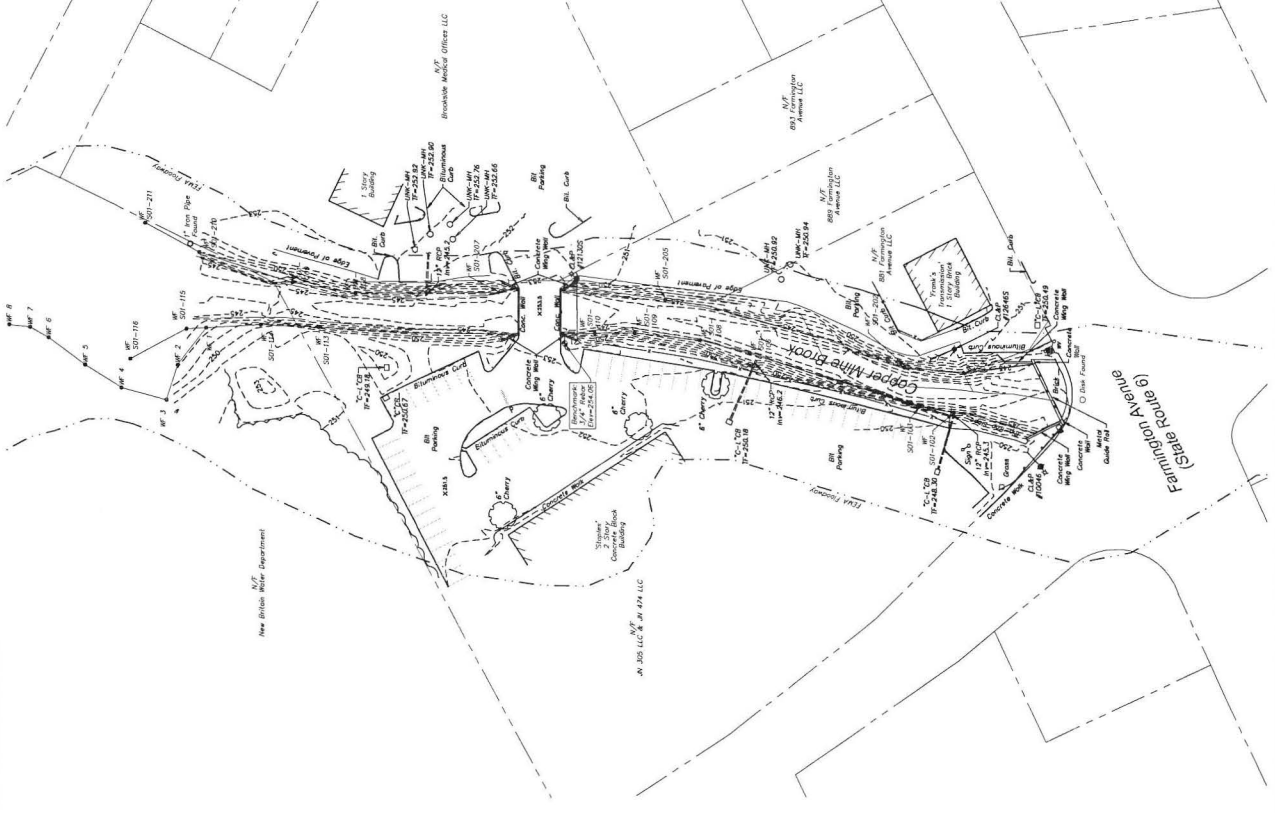
Sheet No. **EX-1**  
 IMPROVEMENT LOCATION SURVEY  
 Date: 04/26/13  
 Scale: 1"=40'  
 Project No. 10-010  
 Approved: [Signature]  
 M.C. [Signature]  
 S.S./J.P. [Signature]  
 462

- GENERAL NOTES**
1. A) THIS MAP HAS BEEN PREPARED IN ACCORDANCE WITH THE REGULATIONS OF CONNECTICUT STATE AGENCIES, SECTIONS 36-300a-1 THROUGH 36-300a-5, AS APPLICABLE TO THIS PROJECT, AND THE CONNECCTICUT ASSOCIATION OF PROFESSIONAL SURVEYORS, INC. (C.A.S.), AS APPLICABLE TO THIS PROJECT.
  - B) THIS PLAN CONFORMS TO ALL APPLICABLE ACCORDANT CLASSES A-2 AND TOPOGRAPHIC ACCURACY 1/2".
  - C) NO BOUNDARY DETERMINATION WAS MADE AS PART OF THIS SURVEY.
  - D) THE TYPE OF SURVEY PERFORMED IS A PARTIAL TOPOGRAPHIC SURVEY, ALIQUOT AREAS OF COPPERMINE BROOK NEAR ADMINISTRATION AVENUE, IN BRISTOL, CONNECTICUT, AND THE ADJACENT AREAS, INCLUDING BUILDINGS, AND PARKING AREAS.
  - E) NORTH ARROWS REFER TO THE CONNECCTICUT COORDINATE SYSTEM (NAD 83), PERFORMED IN FEBRUARY 2013.
  - F) ELEVATIONS REFER TO NAVD 83 AND BASED ON GPS OBSERVATIONS.
  - G) THE SURVEYOR HAS CONDUCTED VISUAL INSPECTIONS OF THE SITE AND HAS OBSERVED THE STREAM AND ADJACENT AREAS THAT MOST AFFECT THE PROJECT. THE SURVEYOR HAS OBSERVED THE STREAM AND ADJACENT AREAS THAT MOST AFFECT THE PROJECT WITHOUT ASSISTANCE FROM ANY OTHER PERSONS. THE SURVEYOR HAS OBSERVED THE STREAM AND ADJACENT AREAS THAT MOST AFFECT THE PROJECT WITHOUT ASSISTANCE FROM ANY OTHER PERSONS. THE SURVEYOR HAS OBSERVED THE STREAM AND ADJACENT AREAS THAT MOST AFFECT THE PROJECT WITHOUT ASSISTANCE FROM ANY OTHER PERSONS.
  - H) THE UNDERGROUND UTILITIES IDENTIFIED HAVE BEEN PLACED FROM FIELD OBSERVATIONS AND THE UNDERGROUND UTILITIES IDENTIFIED COMPRISE ALL SUCH UTILITIES THAT THE SURVEYOR HAS OBSERVED. THE SURVEYOR HAS OBSERVED THE STREAM AND ADJACENT AREAS THAT MOST AFFECT THE PROJECT WITHOUT ASSISTANCE FROM ANY OTHER PERSONS.
  - I) THE SURVEYOR HAS OBTAINED ALL NECESSARY PERMISSIONS FROM THE CITY OF BRISTOL, CONNECTICUT, AND THE STATE OF CONNECTICUT, AND THE SURVEYOR HAS OBTAINED ALL NECESSARY PERMISSIONS FROM THE CITY OF BRISTOL, CONNECTICUT, AND THE STATE OF CONNECTICUT.
  - J) THE SURVEYOR HAS OBTAINED ALL NECESSARY PERMISSIONS FROM THE CITY OF BRISTOL, CONNECTICUT, AND THE STATE OF CONNECTICUT.

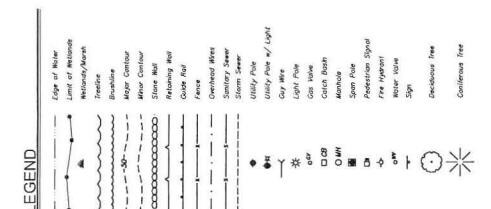
**PERMIT REVIEW  
 NOT FOR CONSTRUCTION**

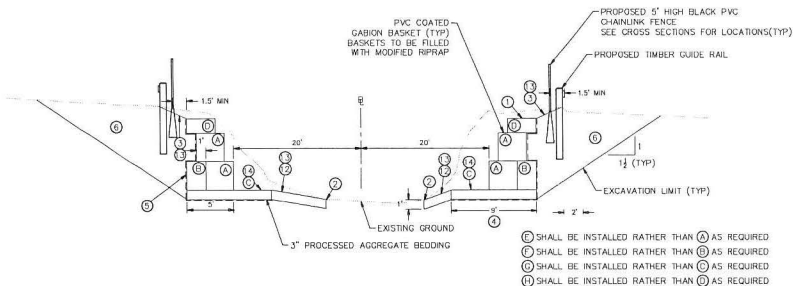
TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.  
 ROBERT H. ROBERT, L.S. #8493

THIS MAP BEARS THE ORIGINAL SIGNATURE AND IMPRESSED SEAL OF THE ABOVE NAMED LAND SURVEYOR.

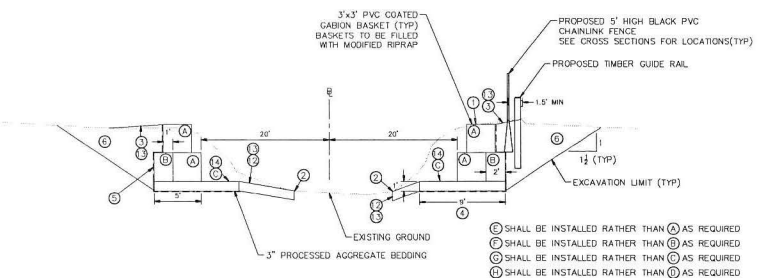


**LOCATION MAP**  
 NOT TO SCALE

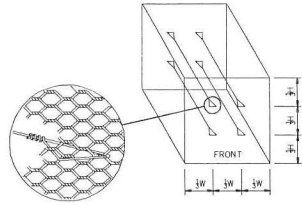
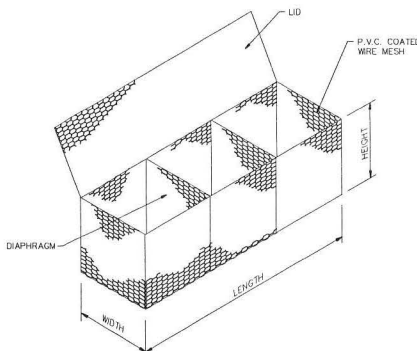




**TYPICAL SECTION - 7.5' HIGH GABION WALL**



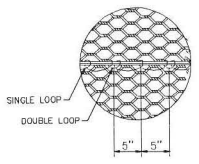
**TYPICAL SECTION - 6' HIGH GABION WALL**



**INTERIOR GABION TIE DETAIL**

**NOTE:**  
 ALL WIRE MESH TO BE PVC COATED.  
 BASKETS THAT ABUT EXISTING STRUCTURES SHALL  
 BE MODIFIED AS REQUIRED TO PROVIDE CLOSE FIT.

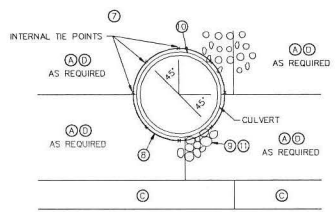
**GABION BASKETS**



ALL LACING WIRE SHALL BE #13 GAGE,  
 P.V.C. COATED. ALL SELVAGE WIRES AT  
 END OF ADJACENT BASKETS SHALL BE  
 LACED TOGETHER TIGHTLY.

**GABION LACING DETAILS**

**TYPICAL GABION DETAILS**



**CULVERT THROUGH GABION WALL**

LETTER CODE OF SIZE	SIZE		
	LENGTH	WIDTH	HEIGHT
A	12'	3'	3'
B	12'	2'	3'
C	12'	3'	1'
D	12'	3'	1.5'
E	9'	3'	3'
F	9'	3'	3'
G	9'	2'	1'
H	9'	2'	1.5'

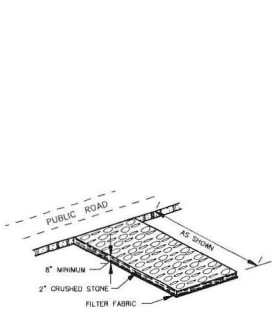
**NOTES**

- 1 SEE TABLE 1 FOR GABION BASKET SIZE CODES.
- 2 CHANNEL EXCAVATION LIMITS.
- 3 4" TOPSOIL WITH LOW MAINTENANCE SEED MIX.
- 4 TYPICAL DISTANCE, SEE PLANS FOR VARIATIONS.
- 5 FILTER FABRIC - MIRAF 140, PROPEX 4545 OR APPROVED EQUAL.
- 6 PERVIOUS STRUCTURE BACKFILL.
- 7 8 INTERNAL TIES, EVENLY SPACED AROUND THE O.D. OF THE CULVERT.
- 8 PRE-CUT GABION FABRIC SUCH THAT A GAP OF NO MORE THAN 1" EXISTS BETWEEN THE OUTSIDE SURFACE OF THE CULVERT AND THE EDGE OF THE GABION FABRIC.
- 9 PLACE STONE IN GABION BASKETS (PRIOR TO PLACEMENT OF CULVERT) IN A CRADLE SHAPE CONFORMING TO THE OUTSIDE SHAPE OF THE CULVERT. PREPARE THE BOTTOM LEVEL (OUTTING BASKET, INSTALLING THE WIRES AND PLACING STONE) AND LAY PIPE IN STONE CRADLE. CONSTRUCT THE SECOND LEVEL OF GABIONS AFTER CULVERT HAS BEEN INSTALLED. PLACE INTERIOR TIE WIRES WHILE HAND PLACING STONE AROUND CULVERT.
- 10 EXTEND CULVERT 2" OUTSIDE GABION WALLS.
- 11 MATERIALS AND CONSTRUCTION METHODS FOR STONE FILL FOR GABIONS SHALL BE IN STRICT CONFORMANCE WITH THE SPECIFICATIONS. MINIMUM STONE SIZE SHALL BE 4" WITH NO STONE LARGER THAN 8". STONES PLACED AGAINST THE BASKET FABRIC SHALL BE DONE BY HAND WITH THE FLAT FACE AGAINST THE FABRIC.
- 12 12" CHANNEL BOTTOM MATERIAL, SEE "EXCAVATION AND REUSE OF EXISTING CHANNEL BOTTOM MATERIAL" SPECIFICATION FOR DETAILS.
- 13 GRADE VARIES, SEE CROSS SECTIONS.
- 14 EXISTING STREAMBED STONE SIZED 8" TO 12" RANDOMLY PLACED ON TOP OF GABION LEVELING PAD.

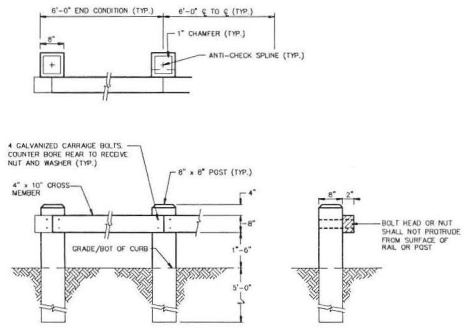
ⓐ ⓑ ⓓ ⓔ ⓖ ⓗ ⓙ ⓚ ⓛ  
 DENOTES CODE OF SIZE, SEE TABLE 1.

**PERMIT REVIEW  
 NOT FOR CONSTRUCTION**

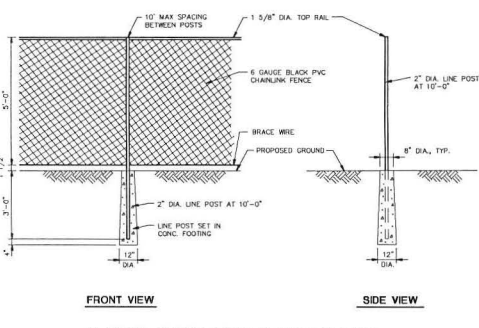




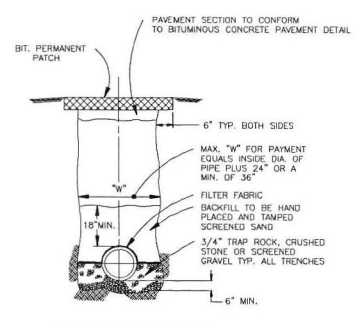
**CONSTRUCTION ENTRANCE**



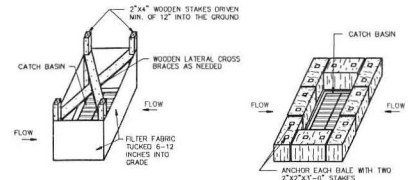
**TIMBER GUIDE RAIL**



**5' HIGH CHAIN LINK FENCE DETAIL**



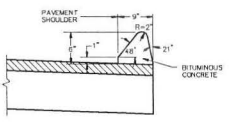
**TYPICAL TRENCH**



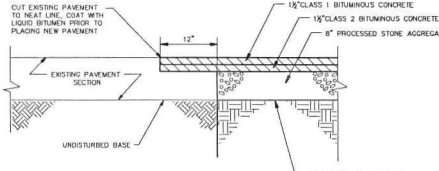
**SILT FENCE INSTALLATION AT CATCH BASINS AT LOW POINTS**

STORMWATER INLETS WHICH DO NOT DISCHARGE TO SEDIMENT TRAPS OR BASINS, MUST BE PROTECTED UNTIL THE TRENCH ARE STABILIZED.  
 SEDIMENT MUST BE REMOVED FROM INLET PROTECTION AFTER EACH STORM EVENT.

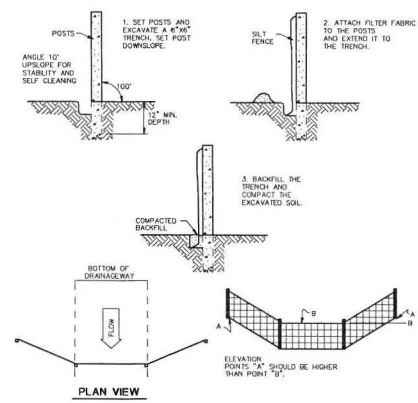
**HAY BALE FILTER INSTALLATION AT CATCH BASIN AT LOW POINTS**



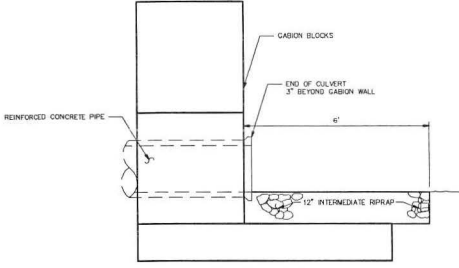
**BITUMINOUS CONCRETE LIP CURBING**



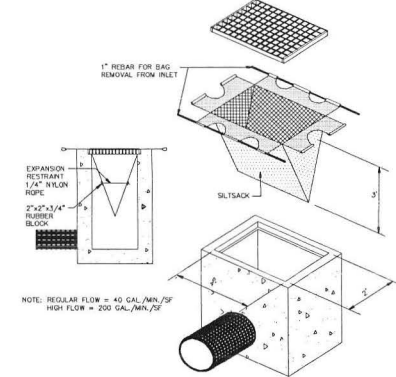
**BITUMINOUS PAVEMENT**



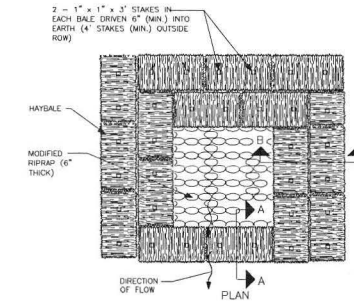
**SILT FENCE BARRIER**



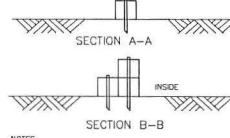
**RIPRAP SPLASH PAD**



**SILTSACK DETAIL**



**DEWATERING DISCHARGE RECEPTACLE**



NOTES:  
 1.) THE DESIGN OF DEWATERING METHODS AND DEVICES SHALL BE THE CONTRACTORS RESPONSIBILITY. THE CONTRACTOR SHALL PROVIDE A WRITTEN PROPOSAL FOR SPECIFIC METHODS AND DEVICES, INCLUDING DETAILS FOR PUMPS, DISCHARGE RECEPTACLE AND OTHER ASSOCIATED WORK AS REQUIRED BY BEST MANAGEMENT PRACTICES.  
 2.) PAYMENT FOR THE DEWATERING RECEPTABLES IS INCLUDED IN THE CONTRACT UNIT PRICE FOR "COFFERDAM AND DEWATERING".  
 3.) THE SIZE AND NUMBER OF RECEPTABLES SHALL BE MODIFIED AS REQUIRED BY THE FLOW RATES.

PERMIT REVIEW  
 NOT FOR CONSTRUCTION



**PROJECT GENERAL NOTES**

1. THE CONTRACTOR SHALL SUBMIT A DETAILED CONSTRUCTION SEQUENCING, STAGING, AND BEST MANAGEMENT PRACTICES (BMP) SHALL BE UTILIZED AS APPROPRIATE AND SHALL BE CONSISTENT WITH THE CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, AND INCIDENTAL CONSTRUCTION, FROM BR, ZODIA, STATE OF CONNECTICUT, DEPARTMENT OF TRANSPORTATION.
3. ALL MATERIAL EXCAVATED FROM THE STREAMBED SHALL BE STOCKPILED AND USED AS FILL IN AN AREAS DETERMINED BY THE CONTRACTOR.
4. THE WATER HANDLING PLANS ARE DESIGNED TO CONVEY THE AVERAGE SPRING FLOW, IF THE FLOW BEYOND THE DESIGN FLOW (100-YEAR FLOOD) IS SIGNIFICANTLY GREATER THAN THE DESIGN FLOW, THE CONTRACTOR SHALL CLARIFY THE WORKER UNTIL THE BASE FLOW GROUPS ARE ONE-FOOT BELOW THE TOP HEIGHT OF THE COPPERMINE BROOK.

**PROJECT NARRATIVE**

**EROSION AND SEDIMENTATION CONTROL**  
 INSTALLATION OF GABIENS ALONG COPPERMINE BROOK TO PROVIDE FLOOD CONTROL IMPROVEMENTS.  
**PROJECT DESCRIPTION**  
 THIS PROJECT WOULD STABILIZE THE PROPOSED CHANNEL LIMITS, GABIENS, PVC COATED WIRE MESH, AND WOOD LOGS ALONG THE STREAMBED TO STABILIZE THE CHANNEL AND PREVENT EROSION. THE BROOK LIES ON TWO PARCELS OWNED BY GABIENS, INC. PROPOSED, DEPENDING ON SITE CONDITIONS.

**EROSION AND SEDIMENTATION CONTROL**

1. SURVEY AND FLAG THE LIMITS OF CONSTRUCTION.
2. SCHEDULE AND EROSION & SEDIMENT CONTROL PROCEDURES. THE "CALL BEFORE YOU DIG" NUMBER (1-800-485-4455) SHALL BE NOTIFIED PRIOR TO ANY EXCAVATION MEASURES IN ACCORDANCE WITH REGION PLANS. SILT FENCE SHALL BE INSTALLED TO PREVENT EROSION. ADDITIONAL FENCE WILL BE INSTALLED AS SITE CONDITIONS MAY DICTATE.
3. REMOVE EXISTING CONCRETE AND EXISTING PAVEMENTS.
4. TEMPORARY STOPPING OF EXCAVATED MATERIALS SHALL BE RINGED WITH A CHAIN LINK FENCE TO PREVENT THE MATERIAL FROM BEING RELOCATED.
5. REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES. CONTROL MEASURES SHALL BE MAINTAINED UNTIL WATER WAS LEFT UNOBSERVED ON SURFACES THAT ARE PERMANENTLY PROTECTED FROM EROSION AND THE PRODUCTION OF SEDIMENT.

**ENVIRONMENTAL PERMITTING**

1. PERMIT REQUIRED FROM THE STATE AND WATER RESOURCES AGENCY
2. CT DEEP - 401 WATER QUALITY
3. CT DEEP - 402 WATER DIVERSION
4. AND EROSION & SEDIMENTATION - GENERAL PERMIT CATEGORY 2

**MAINTENANCE REQUIREMENTS FOR CONTROL MEASURES**

**SILT FENCE, HAYBALES, AND SILENCES**  
 INSPECT FENCE, HAYBALES, AND SILT SACKS AT LEAST ONCE WEEK AND WITHIN 24 HOURS OF THE END OF A LOG RAIN OR GREATER RAINFALL EVENT. REMOVE INTERMEDIATE PORTIONS OF FENCE WITHIN 24 HOURS OF DISCOVERED FAILURE. (2002 GUIDELINES, SECTION 5-11-30 FOR SUPPLEMENTAL INFORMATION)

**ACCUMULATED SEDIMENT**  
 INSPECT AT LEAST ONCE EVERY TWO HOURS DURING USE. CLEAN RECEPTACLE OF ACCUMULATED SEDIMENT AS NEEDED. ADD ADDITIONAL RECEPTACLES IF INCREASED VOLUME IS ACCUMULATED.

**AND MAINTENANCE RESPONSIBILITY**  
 THE CONTRACTOR SHALL BE RESPONSIBLE TO IMPLEMENT, OPERATE, MONITOR AND REFORM REQUIRED MAINTENANCE FOR THE EAS CONTROL MEASURES DESCRIBED, SHOWN AND DETAILED ON THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL ASPECTS OF THE NAMED CONTROL MEASURES, AND BE RESPONSIBLE FOR THE MAINTENANCE OF THESE CONTROL MEASURES WITH ALL APPROVING AGENCIES, SUCH AS EAS PROFESSIONAL, AND IN COORDINATION WITH ALL APPROVING AGENCIES, SUCH AS EAS PROFESSIONAL, AND IN COORDINATION WITH ALL APPROVING AGENCIES, SUCH AS EAS PROFESSIONAL. THE CONTRACTOR SHALL HAVE THE ADDITIONAL RESPONSIBILITY OF ENSURING THAT ALL CONTROL MEASURES ARE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL CONTROL MEASURES THROUGHOUT THE CONSTRUCTION PERIOD TO ENSURE THAT THE CONTROL MEASURES MEET MONITORING AND MAINTENANCE REQUIREMENTS.

**AGENT OF RECORD**

CITY OF BRISTOL, ENGINEERING DIVISION  
 PROJECT NO. 11-0001  
 BRISTOL, CT 06010  
 (860) 584-6297

**HYDRAULIC DATA**

CHANNEL AREA = 13.8 SQM  
 AVERAGE SPRING FLOW = 26 cfs  
 THE ENTIRE PROJECT AREA IS WITHIN THE 100-YEAR FLOODPLAIN

- LEGEND**
- PROPERTY LINE
  - - - - CONSTRUCTION LIMIT LINE
  - ==== RECONSTRUCT BITUMINOUS CONCRETE PAVEMENT

**BASELINE GEOMETRY**

PC	STATION 10+00
PT	STATION 10+48.2
BEARINGS	N102° 13' 00" E
DISTANCE	48.2
PI	STATION 10+24.1
PT	STATION 10+72.3
BEARINGS	N102° 13' 00" E
DISTANCE	48.2
PI	STATION 10+48.2
PT	STATION 10+96.4
BEARINGS	N102° 13' 00" E
DISTANCE	48.2
PI	STATION 10+72.3
PT	STATION 11+20.5
BEARINGS	N102° 13' 00" E
DISTANCE	48.2
PI	STATION 10+96.4
PT	STATION 11+44.5
BEARINGS	N102° 13' 00" E
DISTANCE	48.2
PI	STATION 11+20.5
PT	STATION 11+68.7
BEARINGS	N102° 13' 00" E
DISTANCE	48.2
PI	STATION 11+44.5
PT	STATION 12+36.7
BEARINGS	N102° 13' 00" E
DISTANCE	48.2
PI	STATION 12+12.5
PT	STATION 12+60.7
BEARINGS	N102° 13' 00" E
DISTANCE	48.2
PI	STATION 12+36.7
PT	STATION 12+84.9
BEARINGS	N102° 13' 00" E
DISTANCE	48.2
PI	STATION 12+60.7
PT	STATION 13+09.1
BEARINGS	N102° 13' 00" E
DISTANCE	48.2
PI	STATION 12+84.9
PT	STATION 13+33.3
BEARINGS	N102° 13' 00" E
DISTANCE	48.2
PI	STATION 13+09.1
PT	STATION 13+57.3



**PERMIT REVIEW NOT FOR CONSTRUCTION**

SCALE IN FEET  
 0 15 30

**COPPERMINE BROOK CONTROL IMPROVEMENTS**  
 BRISTOL, CT

REVISIONS  
 NO. DATE  
 1  
 2

DRAWN BY: [Name]  
 CHECKED BY: [Name]  
 DATE: [Date]

PROJECT NO. [Number]  
 SHEET NO. [Number] OF [Number]  
 DRAWN BY [Name]

**SP-1**

THIS DRAWING SHALL NOT BE USED BY ANY PERSON, FIRM OR CORPORATION WITHOUT THE WRITTEN PERMISSION OF THE CONTRACTOR.

DATE: 07/23/2018 09:50 AM

**SUGGESTED SEQUENCE OF CONSTRUCTION:**

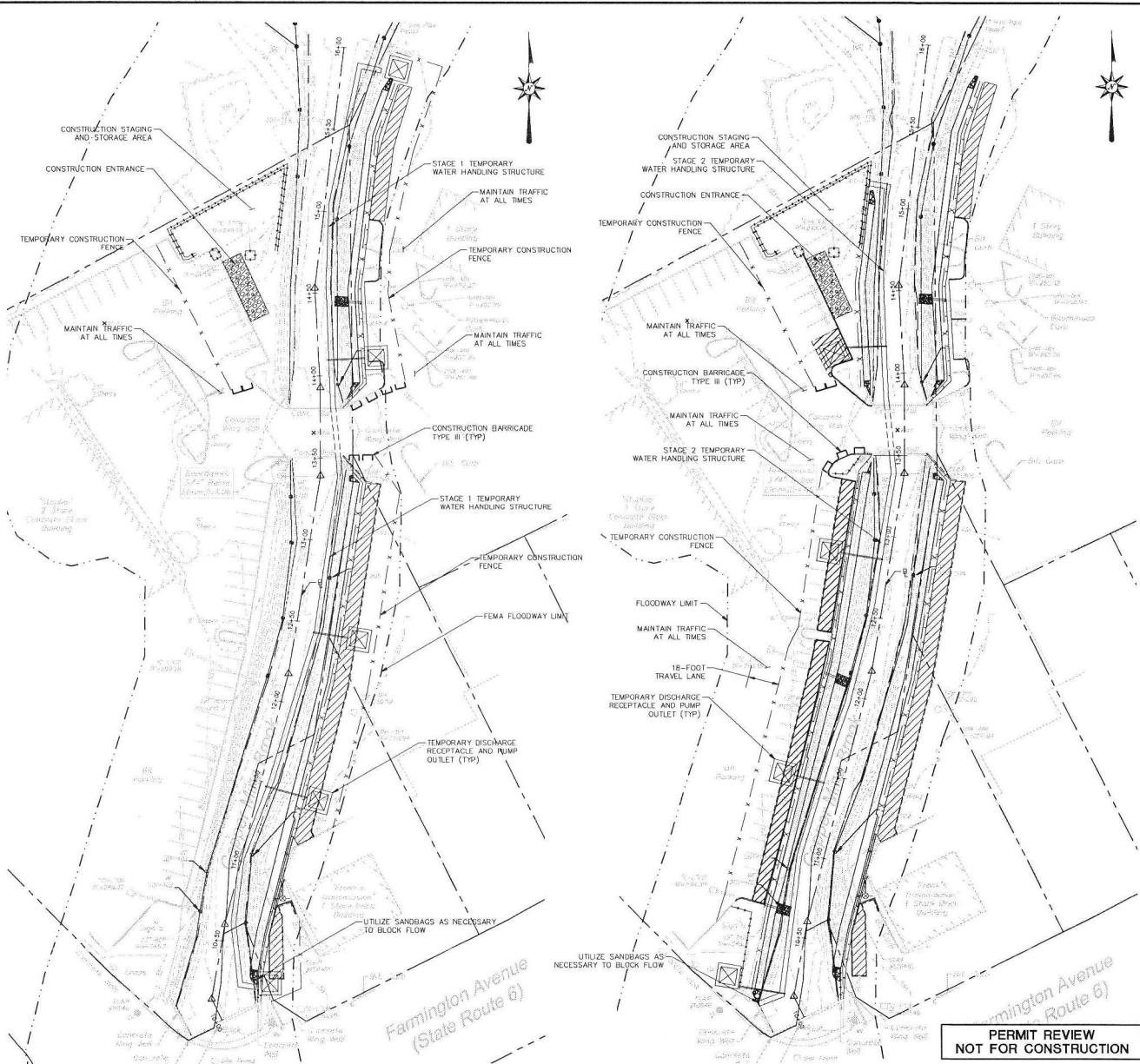
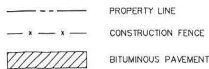
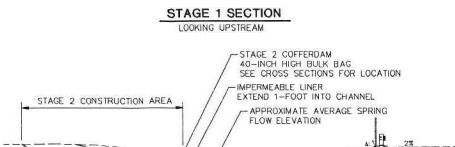
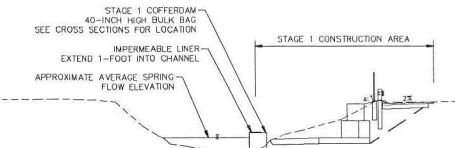
**STAGE 1**

1. INSTALL EROSION AND SEDIMENTATION CONTROLS AND TEMPORARY CONSTRUCTION FENCE. THE TEMPORARY CONSTRUCTION FENCE SHALL HAVE STABLE BASES THAT DO NOT DAMAGE THE EXISTING PAVING OR LOT PAVEMENT.
2. CLEAR EXISTING VEGETATION ALONG EAST SIDE OF COPPERMINE BROOK AS NECESSARY TO INSTALL STAGE 1 TEMPORARY WATER HANDLING STRUCTURES. MINIMIZE GROUND DISTURBANCE TO PREVENT DISCHARGE OF MATERIAL INTO BROOK.
3. INSTALL TEMPORARY WATER HANDLING STRUCTURES.
4. LOWER THE CONSTRUCTION AREA UTILIZING TEMPORARY DISCHARGE RECEPTACLES. THE RECEPTACLES ARE SHOWN FOR INFORMATION ONLY AND ARE TO BE DESIGNED AND LOCATED BY THE CONTRACTOR. THE RECEPTACLES ARE TO BE MOVED AS NECESSARY.
5. FINISH CLEARING OF VEGETATION ALONG EAST SIDE OF BROOK.
6. EXCAVATE EAST SIDE OF BROOK.
7. STOCKPILE STREAMBED MATERIAL FOR REUSE.
8. STOCKPILE STREAMBED STONE BETWEEN 8-INCHES AND 12-INCHES ON SITE. THIS STONE IS TO BE RANDOMLY PLACED ON TOP OF THE GABION LEVELING PAD AFTER GABION INSTALLATION.
9. INSTALL STORM DRAINAGE PIPE. ANY ADDITIONAL DRAINS ENCOUNTERED SHALL BE THREADED THROUGH THE GABION WALLS TO OUTLET INTO THE BROOK.
10. INSTALL GABION WALLS AND NATURAL CHANNEL BOTTOM MATERIAL.
11. FILL AREA BEHIND GABION WALLS.
12. REMOVE TEMPORARY WATER HANDLING STRUCTURES.
13. INSTALL 5' HIGH BLACK PVC CHAINLINK FENCE AND TIMBER GUIDE RAIL.
14. RECONSTRUCT BITUMINOUS CONCRETE PAVEMENT AND INSTALL BITUMINOUS CONCRETE LIP CURB AND PAVEMENT MARKINGS.
15. INSTALL PLANTINGS, TOPSOIL AND ESTABLISH TURF.
16. REMOVE TEMPORARY CONSTRUCTION FENCING.
17. GO TO STAGE 2 CONSTRUCTION SEQUENCING.

**STAGE 2**

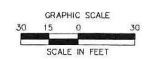
1. FOLLOW THE SAME CONSTRUCTION SEQUENCE (STEPS ONE THRU 15) AS STAGE 1.
2. AFTER GROUND STABILIZATION, REMOVE ALL EROSION CONTROL MEASURES.
3. REMOVE TEMPORARY CONSTRUCTION FENCING.
4. PERFORM FINAL SITE CLEANUP.

SECTION	STAGE 1	STAGE 2
10+50	7.5	8.3
10+75	2.4	10.6
11+00	-0.7	13.5
11+25	1.2	12.4
11+50	4.8	11.4
11+75	6.1	10.1
12+00	7.1	8.2
12+25	11.9	5.1
12+50	11.7	5.2
12+75	11.8	5.1
13+00	11.7	5.2
13+25	11.6	5.3
13+50	6.8	8.2
13+75	6.8	8.4
14+00	6.8	9.7
14+25	6.8	9.6
14+50	7.6	9.3
14+75	5.6	11.2
15+00	3.4	12.6
15+25	4.7	
15+50	6.4	
15+75	8.8	



**STAGE 1**  
SCALE: 1" = 30'

**STAGE 2**  
SCALE: 1" = 30'



**PERMIT REVIEW  
NOT FOR CONSTRUCTION**



**COPPERMINE BROOK  
FLOOD CONTROL IMPROVEMENTS  
BRISTOL, CT**

DESIGNED: D.M.C.  
DRAWN: D.M.C.  
CHECKED: D.A.K.  
APPROVED: D.A.K.  
SCALE: AS SHOWN  
PROJECT NO: 11C3359  
DATE: 10/11/13  
CAD FILE: 5P11C335902

**WATER HANDLING PLAN**

Sheet No: **SP-2**

DATE: 07/2013, 8:10am, D:\004\_0\_00001\11C3359\DWG\5P11C335902.dwg  
LAYOUT: 1 (sheet)

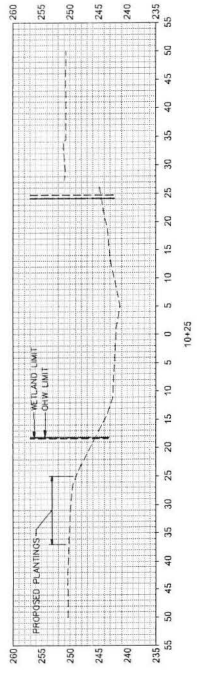
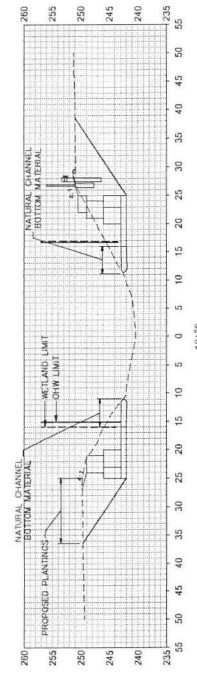
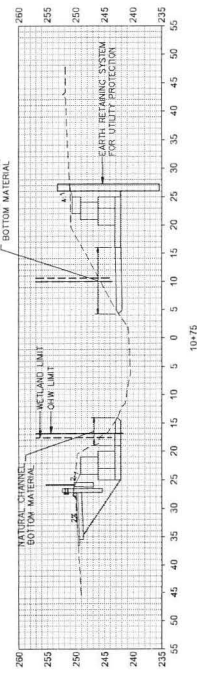
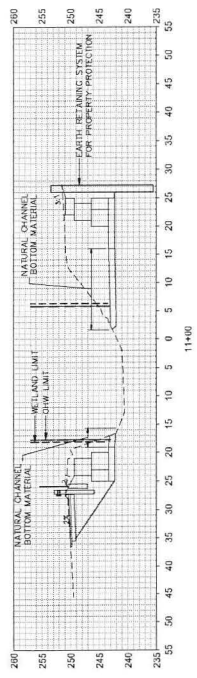
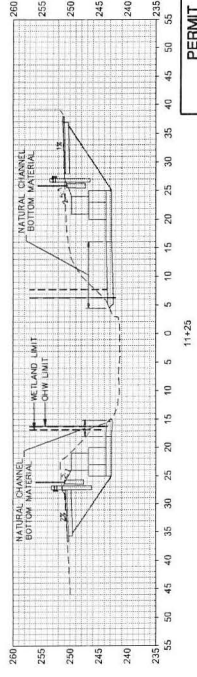
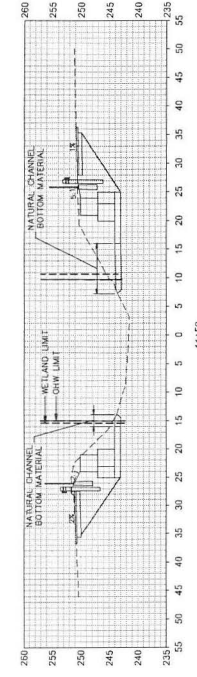
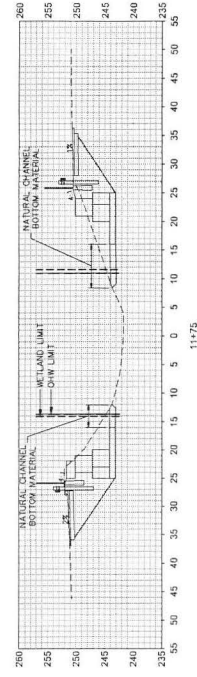
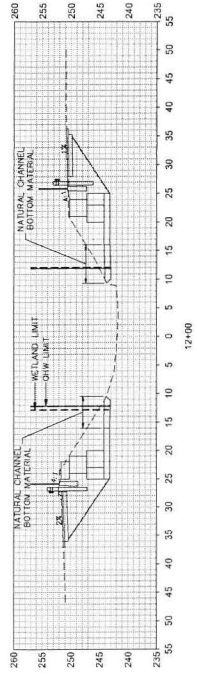
THIS DRAWING SHALL NOT BE UTILIZED BY ANY PERSON, FIRM OR CORPORATION WITHOUT THE SPECIFIC WRITTEN PERMISSION OF BL COMPANIES



**COPPERMINE BROOK  
 FLOOD CONTROL IMPROVEMENTS  
 BRISTOL, CT**

DESIGNED BY: B.M.C.  
 DRAWN BY: B.M.C.  
 CHECKED BY: B.M.C.  
 SCALE: 1" = 10'  
 PROJECT NO.: 103288  
 DATE: 10/07/13  
 CAD FILE: 101328801

**TITLE CROSS SECTIONS**  
 SHEET NO. **XS-1**



**NOT FOR CONSTRUCTION**

NOTE:  
 OHW = ORDINARY HIGH WATER  
 THE OHW LIMIT IS BASED ON THE 2-YEAR STORM EVENT

GRAPHIC SCALE  
 10 5 0 5 10  
 SCALE IN FEET

THESE DRAWINGS SHALL NOT BE UTILIZED BY ANY PERSON, FIRM OR CORPORATION WITHOUT THE EXPRESS WRITTEN PERMISSION OF B.L. COMPANIES

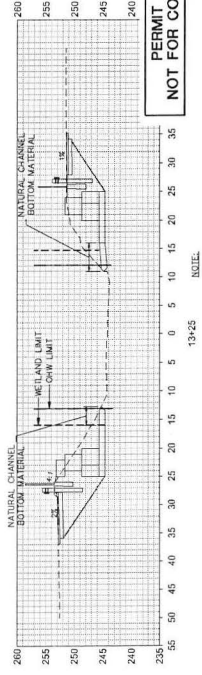
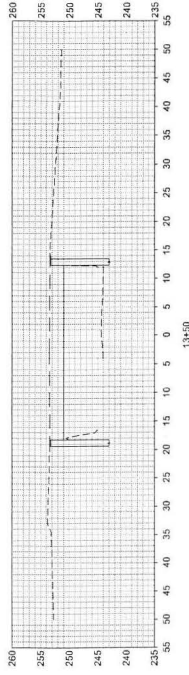
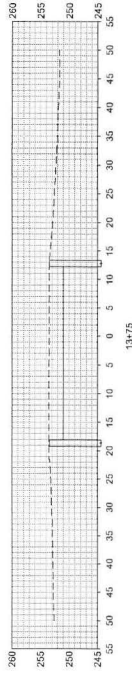
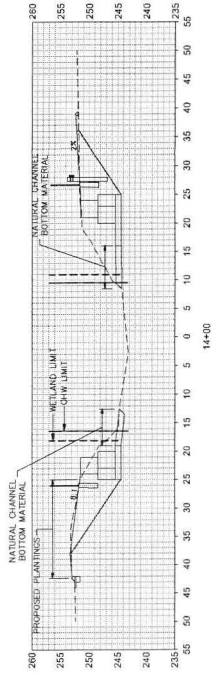
**COPPERMINE BROOK  
 FLOOD CONTROL IMPROVEMENTS  
 BRISTOL, CT**

REVISIONS  
 No. Description Date

Revised B.M.C.  
 Checked B.M.C.  
 Drawn B.M.C.  
 Scale 1"=10'  
 Project No. 11C0308  
 Date 10/17/13  
 Job File 1011230801

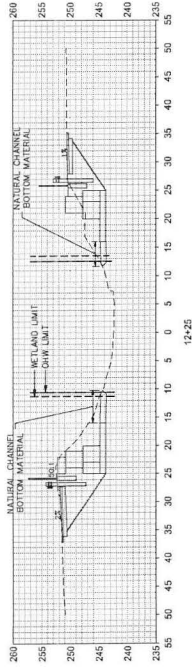
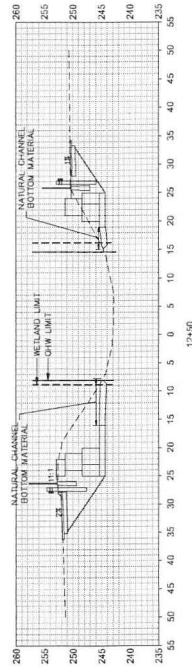
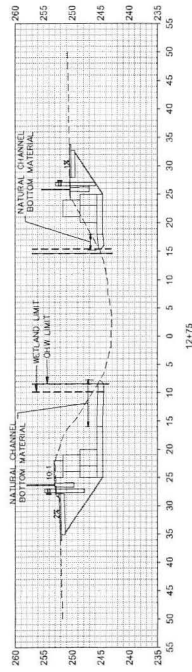
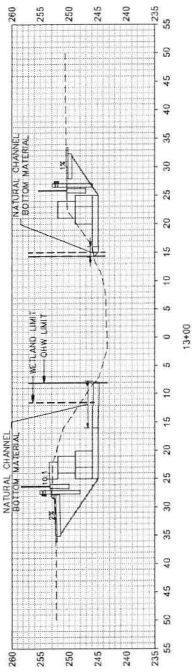
CROSS  
 SECTIONS

Sheet No. **XS-2**



**PERMIT REVIEW  
 NOT FOR CONSTRUCTION**

SCALE IN FEET  
 10 5 0 10  
 GRAPHIC SCALE  
 OHW = ORDINARY HIGH WATER  
 THE OHW LIMIT IS BASED ON THE 2-YEAR STORM EVENT



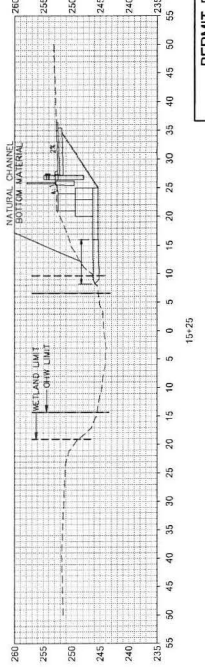
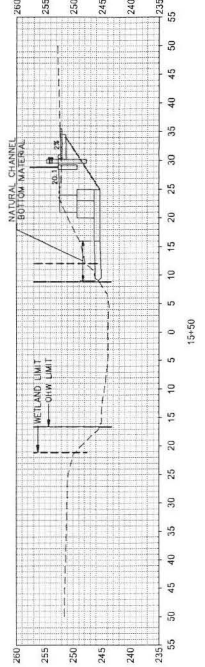
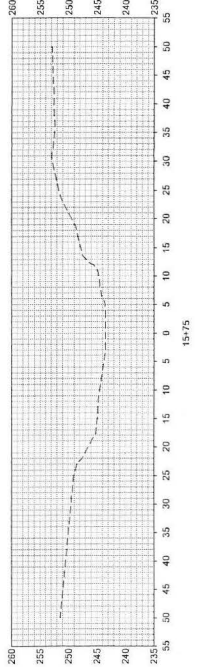
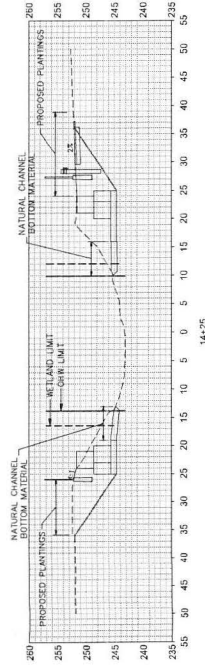
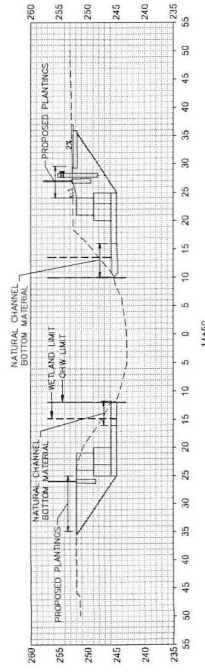
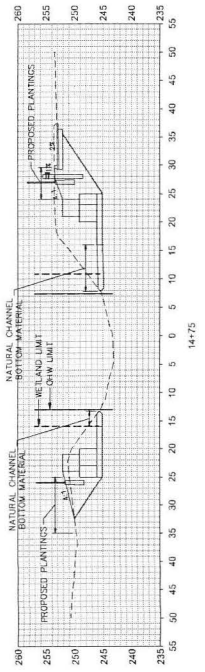
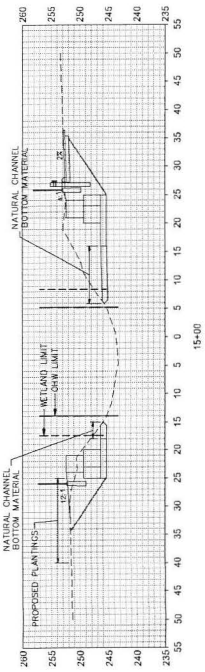


**COPPERMINE BROOK  
 FLOOD CONTROL IMPROVEMENTS  
 BRISTOL, CT**

DATE: \_\_\_\_\_  
 REGION: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 PROJECT NO.: 1103308  
 DATE: 7/17/13  
 JOB FILE: 110330800

**CROSS SECTIONS**

Sheet No. **XS-3**



**NOT FOR CONSTRUCTION**

NOTE: ORDINARY HIGH WATER  
 THE OHW LIMIT IS BASED ON THE 2-YEAR STORM EVENT

GRAPHIC SCALE  
 10 5 0 5 10  
 SCALE IN FEET