ENVIRONMENTAL COMPLIANCE REPORT FOR WEWAKA BROOK CROSSING BRIDGE REPLACEMENT

SBA SITE: CT11934-S
Bridgewater 4
Wewaka Brook Road
Bridgewater, CT 06752

Report Date: 11/07/2012

Prepared By:

FDH Engineering, Inc

6521 Meridien Drive
Raleigh, NC 27616

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1. Introduction

SBA Communications proposes to construct a 170-ft monopole telecommunications tower off of Wewaka Brook Road in the Town of Bridgewater within Litchfield County, Connecticut. In order to provide access to the site, SBA will be constructing an approximately 2500-ft long access road from Wewaka Brook Road to the tower compound. This proposed roadway will consist of upgrades to an existing private asphalt driveway and an approximately 2215-ft section of new gravel access road. Currently, the private driveway crosses Wewaka Brook via an existing driveway bridge located approximately one mile north of the intersection of Wewaka Brook Road and Main Street (see *Figure 1*). In order for equipment to access the proposed construction site, the existing bridge over Wewaka Brook will require structural modifications necessitating the replacement of the existing structure.

To enable this replacement, FDH Engineering has prepared a proposed bridge design for the new Wewaka Brook crossing. The bridge type and preliminary design plans were prepared by CHA and presented in a preliminary report dated November 4, 2010. Elements of the preliminary bridge design that affect environmental impacts of Wewaka Brook and its adjacent wetlands have been preserved.

The following sections provide a description of the existing bridge, the planned temporary crossing at Wewaka Brook, the planned demolition procedure for the existing bridge, a description of the preliminary bridge design that is being considered as a replacement for the existing bridge, and means/methods of compliance with the governing environmental requirements.

Figure 1
Aerial Image of existing bridge over Wewaka Brook

2. Existing Bridge

The existing bridge spans Wewaka Brook as part of a private driveway located approximately 225-ft west of Wewaka Brook Road. The bridge's superstructure consists of four 24-in deep steel I-beams with an 11-ft, 6-in wide wood plank deck. The deck is situated at a grade of approximately 7.8% and consists of two layers of wooden planking. The first layer of planking runs perpendicular to the steel I-beams and is overlaid by a second layer of decking installed only in the locations of the wheel paths. This layer of planking runs parallel to the steel beams.

The substructure consists of two vertical concrete abutments on which the steel I-beams rest, with a clear span between the abutment faces of approximately 16'-0". Through a visual inspection of the streamward side of the abutments, they appear to lack footings and bear directly on the underlying soils. The existing concrete abutments are also deteriorating at their interface with the typical flow line of Wewaka Brook.

Additionally, according to FEMA FIRM for Town of Bridgewater, CT, Community Panel number 090184 0006 B, the existing bridge falls within flood Zone A4 and B for Wewaka Brook.

See *Photo 1* below for an image of the existing bridge conditions.

Photo 1:
Existing Bridge Structure Across Wewaka Brook

3.0 Temporary Crossing

In order to facilitate replacement of the existing bridge, a temporary crossing at Wewaka Brook will be required during demolition of the existing structure and construction of the new bridge. During the phase of demolition and construction, the temporary crossing will be utilized by the property owners for access to their residence and by construction personnel working on the tower facility.

To determine the most cost efficient and least environmentally intrusive location for this temporary structure, the feasibility of placing a temporary crossing directly to the north and south of the existing bridge was evaluated. To the north, the wetlands and waterway are narrower and the banks of the brook are almost parallel, making it a good location for a temporary crossing. However, there are multiple physical obstructions and space limitations that deter a temporary crossing to the north. A large 48" tree exists just to the northwest of the bridge. This large tree has an extensive drip line and contains significant branches low enough to the ground to create height restrictions for construction vehicles. Therefore, many of the branches and most likely the tree would need to be removed to create a temporary crossing in this area. There are also small trees, brush, and a utility pole to the northeast of the existing bridge that would complicate access in this area.

To the south, the wetlands and waterway are wider and the banks of the brook are irregular, increasing the geometric complexity of a crossing in this area. However, there is a significant amount of open space to the south, and a minimal amount of tree, utility, or other infrastructure impacts are anticipated. Anticipated impacts of a crossing to the south include the relocation of an existing fence and gate on the west side of Wewaka Brook in order to provide adequate horizontal clearance for vehicle access.

Due to space limitations and physical obstructions, it was decided that the temporary crossing would be installed south of the bridge. Just south of the bridge, three (3) 4-ft x 4-ft temporary precast box culverts will be placed in Wewaka Brook at the narrowest portion of the waterway. This culvert configuration has a hydraulic opening approximately equivalent to the existing bridge structure. The culverts will be placed in the brook on a bed of crushed granular material underlain by a geotextile fabric and situated such that the inlet and outlet inverts of the culvert match the elevation of the existing streambed. Fill will then be placed around the culverts to create a temporary access road over the brook. To accommodate this fill material,the downstream end of the box culverts will be equipped with precast concrete wingwalls. These wingwalls will act to reduce temporary wetland impacts by containing the extents of temporary fill and limiting exposure of the fill material to stream flows. A crushed rock road fill will then be utilized to construct a provisional roadway connecting the temporary brook crossing with the existing asphalt road to the west and east. Rip-rap protection will be used to stabilize any portion of the temporary fill material that is exposed or potentially vulnerable to the flows of Wewaka Brook. The proposed culverts and granular fill crossing will create a temporary wetland impact of approximately 400 square feet.

Although construction is specified during a historically low flow period, dewatering of the channel may be required prior to installation of the temporary crossing. If necessary, dewatering will be accomplished using a pump to bypass the stream flow around the temporary crossing location. The pump will be located upstream of the existing rock weir located approximately 80 feet upstream of the existing bridge. Utilizing this existing rock weir eliminates the impacts of placing a cofferdam upstream of the temporary crossing for dewatering purposes.

The temporary crossing is illustrated in *Appendix D, Sheet C1*.

4.0 Bridge Demolition

The bridge demolition process will be completed in a way to minimize impacts to Wewaka Brook and the nearby wetlands. Prior to demolishing the existing bridge structure, construction of the temporary access road and crossing (as described in **Section 3.0)** should be complete. Following completion of the temporary road, demolition of the existing structure and construction of the proposed structure will commence, with all operation of heavy equipment taking place from the landward (rear) side of each abutment.

Demolition will begin by installing shoring around the limits of excavation required for the bridge demolition process and construction of the new bridge. Next, sand bags or a similar type of water protection barrier will be placed along the water's edge. This barrier will act to create a berm for the purposes of preventing floodwaters from entering the area of excavation necessary for demolition at each abutment location. Once the shoring and water barriers are in place, excavation on the rear side of each abutment will begin. The initial phase of this excavation will expose the steel beam attachment to the concrete abutments. Once exposed, all steel beam anchors will be removed and a crane will be utilized to lift the entire superstructure off the abutments. The superstructure will then be placed away from Wewaka Brook and dismantled. This will minimize debris from entering Wewaka Brook during demolition since no cutting of the superstructure will occur over the waterway. Following superstructure removal, the remaining excavation will be performed as required to allow access to the back side of the abutments. The concrete abutments will then be removed by tilting them away from the waterway. The abutment can then be dismantled into smaller pieces for removal. The planned demolition process is illustrated in *Appendix D, Sheet C-1*.

5.0 Proposed Bridge

In an effort to provide construction flexibility and minimize work in the stream section, the proposed bridge design offers the contractor the option of using cast-in-place or precast concrete elements. For environmental considerations, the contractor should utilize precast concrete components for the footings, abutments, and deck to the maximum extent practicable. This will minimize the quantity and timeframe of construction work required in or adjacent to Wewaka Brook.

The abutments of the proposed bridge will be vertical with concrete footings and will be configured with a clear opening between the abutment faces of 26'-0". This is an increase of 10'-0" from the existing16'-0" clear opening. This increase in width will be distributed evenly by centering the proposed structure at the mid-point of the existing structure. The increase in clear opening will offer two benefits: 1) increase the hydraulic opening of the crossing and 2) allow the concrete abutments to be pulled out of the waterway so they can be protected from deterioration. At the approximate location of the existing concrete abutments, the toe of a 2.5:1 slope will be constructed on the streamward (front) side of the proposed abutments. These slopes will be armored with 15-in D50 rip-rap and extend to an approximate elevation on the proposed abutment face of 484.4, equivalent to the approximate 100-yr flood elevation shown on the FEMA FIS flood profiles for the Town of Bridgewater, CT (see *Appendix A and B*).

The side slopes to the north and south of the widened bridge will be excavated to a 1.25:1 maximum slope to provide a gradual transition from the widened hydraulic opening to the existing waterway. This transition will occur over a linear stream distance of approximately 54-ft. The excavated slopes will also be armored with 15-in D50 riprap.

The existing grade across the bridge will be maintained at 8% and the bridge deck will tie into the existing asphalt driveway to the east and west of the proposed structure. The cross section of the bridge will be modified to account for an increased travelway width. To accomplish this, the bridge deck will be increased from an overall width of 11'-6" to 16'-0". The new bridge section will consist of a clear travelway width of 13'-0" and 1'-6" wide curbs equipped with metal guardrails on either side of the travelway. The new bridge deck will also be designed to accommodate 3-in and 4-in utility conduits in order to further minimize stream impacts. The existing asphalt roadway on both sides of the bridge will also be increased in width and tapered to tie into the widened bridge travelway. The proposed bridge is illustrated in *Appendix D, sheets C-2 and S-1*.

6.0 Environmental Compliance

As a portion of the planned development proposes to discharge dredged or fill material to waters of the United States (Wewaka Brook), the proposed improvements must adhere to requirements set forth by Section 404 of the Clean Water Act. In Connecticut, Section 404 of the Clean Water Act is regulated by the New England District of the Army Corps of Engineers and the Connecticut Department of Energy and Environmental Protection (CT DEEP). In a March 28, 2012 letter (*see Appendix C*) regarding the proposed development at the Bridgewater-4 telecommunications site, the US Army Corps of Engineers found that "the proposed activity, which includes a discharge of dredged or fill material into waters or wetlands, will have only minimal individual and cumulative impacts on waters of the United States, including wetlands". In accordance with this finding, the impacts to waters of the United States proposed as part of the Bridgewater-4 site have been dedicated as a Category 1 impact and are therefore regulated under the Connecticut General Permit (GP). To adhere to permit requirements, the proposed bridge demolition and design have incorporated multiple features and construction considerations in an effort to minimize impacts to waters of the United States. The following section outlines the applicable requirements set forth by the Connecticut GP (see *Appendix C*) and the design and construction considerations that have been included to ensure compliance with this permit.

- *Placement of fill (temporary and permanent) into waters of the United States* – According to the GP, Category 1 activities are allowed to impart impacts of up to 5,000-sf to inland waters or wetlands. The impacts associated with the bridge replacement and temporary crossing at Wewaka Brook are anticipated to impact approximately 400-sf of wetlands, well below the 5,000-sf limit. Further, the proposed fill material will consist of clean stone or rip-rap armoring. Upon completion of the new structure, all temporary fill will be removed immediately and the disturbed area will be returned to pre-construction conditions.

- *Adequate sedimentation and erosion control management measures, practices, and devices shall be installed and properly maintained to reduce erosion and retain sediment on-site during and after construction* – Silt fence, shoring, and sandbag water control devices have been proposed to prevent sediment from leaving the construction area. Any sediment collected by these devices will be removed and disposed of in a location as to prevent its later erosion into any regulated waterway or wetland. Erosion and sediment control devices will be removed at the completion of work and all disturbed areas will be stabilized.

- *Operation/storage of heavy equipment within wetlands shall be minimized* – All heavy construction equipment activities will be conducted from the banks of Wewaka Brook, outside the boundaries of the delineated wetlands, and above the ordinary high water level. No construction equipment will be stored within the delineated boundaries of the wetlands or flowing waters.

- *Replacement of existing driveway crossings over a stream, river, or brook using a bridge or open-bottom structure must:*

    - *Span at least 1.2 times the watercourse bank full width* - At 26-ft of clear opening width from abutment face to abutment face, the proposed bridge is 1.63 times the existing watercourse bank full width at the bridge crossing.

    - *Have an openness ratio equal or greater than 0.25 meters (0.82 feet)* - The proposed bridge has an openness ratio of approximately 2.76 m (9.05 feet).

    - *Allow for continuous flow of the 50-year frequency storm flows* – According to the FEMA flood insurance study for the Town of Bridgewater, CT, the 50 year flood water surface is below the existing bridge's low chord. Since the proposed bridge is 10-ft wider and has a higher low chord elevation (which results in a larger hydraulic opening than the existing structure), the 50-year frequency storm's water surface is projected to be below the proposed low chord.

- *Not result in a change in the normal water surface elevation of the upstream waters or wetlands* - Since the proposed bridge is 10-ft wider and has a higher low chord elevation (which results in a larger hydraulic opening than the existing structure), the normal water surface elevations are projected to be lower or the same for upstream waters.

- *Improvements associated with work along the stream bank and stream bank stabilization tasks have the following restrictions:*
  - *Bank stabilization shall not exceed 200 feet in length* - The proposed bank stabilization is approximately 103 feet in length (total along both banks).
  - *Fill not to exceed 1 CY per linear foot below ordinary high water* - The proposed bridge increases the clear span by 10', resulting in a larger hydraulic section. Additionally, the proposed sloped portion of the abutments does not result in any net encroachment into the stream section as compared to the existing conditions.
  - *No fill within the streambed beyond the toe of slope of the streambank* - The proposed bridge increases the clear span by 10', widening the existing streambanks at the bridge section. Additionally, the proposed sloped portion of the abutments tie into existing grade at the approximate location of the existing streambanks.
  - *Limit work to the period of June 1 through September 30* – Work is expected to commence and be completed within this timeframe.

- *All temporary and permanent waterway crossings shall be suitably culverted or bridged to prevent the restriction of high flows and to maintain low flows* - The temporary three (3) 4'x4' box culverts have an approximate equivalent opening area of the existing bridge. Additionally, the bottom of the proposed temporary box culverts will match the existing channel elevation, thereby maintaining low flows in the existing stream channel. The proposed permanent bridge will include a larger hydraulic opening and maintain the existing streambed elevation, therefore preventing the restriction of high flows and ensuring the maintenance of low flows, respectively.

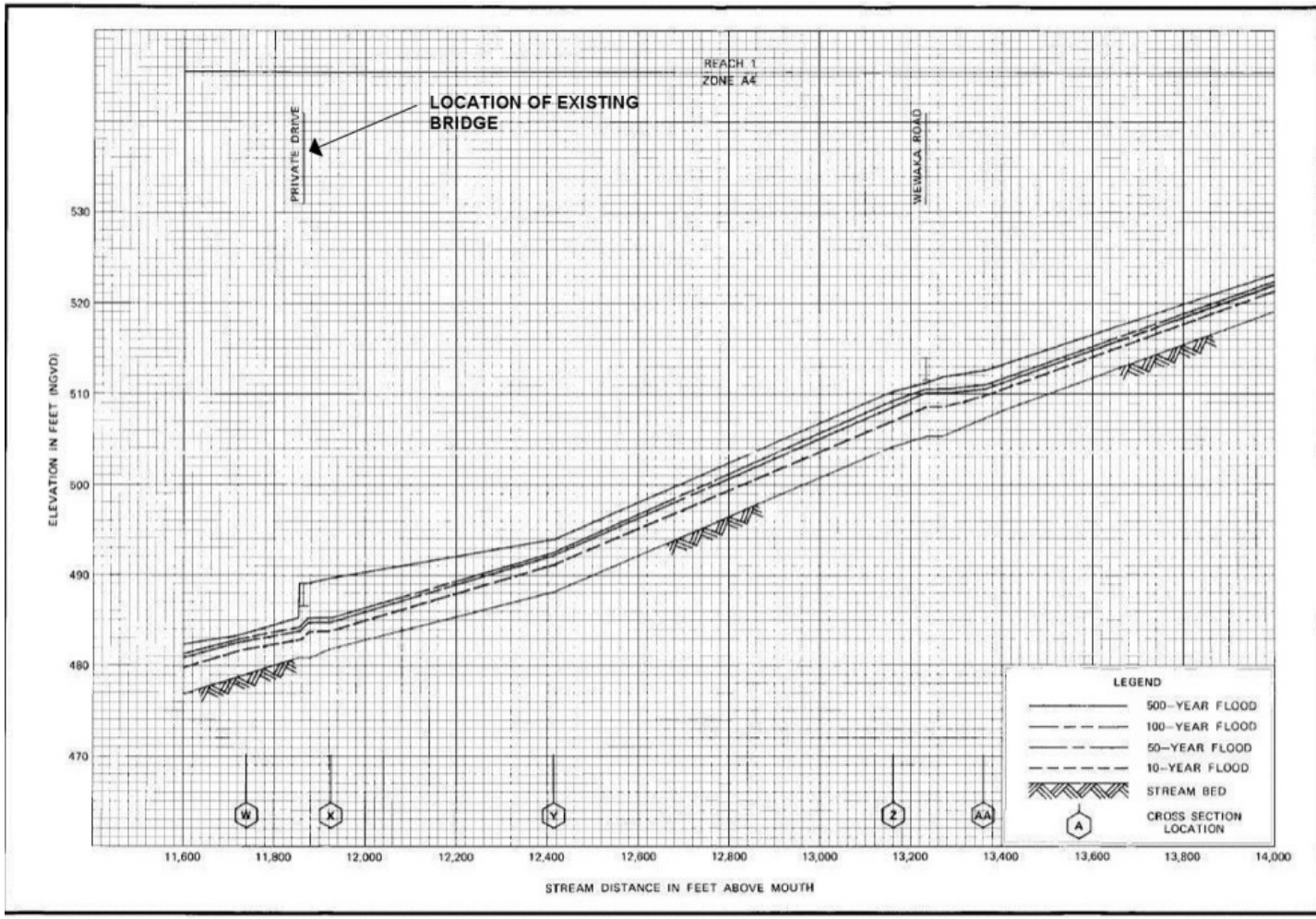
- *Vernal Pool Habitat Protection*: The construction area is located in the proximity to sensitive wetland resource areas that provide vernal pool habitat. To protect these vernal pools, construction will be restricted to the period of July 1 through September 30.

7.0 References:

1. Preliminary Design Report for Wewaka Brook Crossing by CHA, November 4, 2010.
2. FEMA Flood Insurance Rate Map for Town of Bridgewater, CT Litchfield County Panel 6 of 8; Community Panel number 090184 0006 B. Effective date: Nov 1, 1979.
3. FEMA Flood Insurance study for Town of Bridgewater, CT (Litchfield County), May 1979.

APPENDIX A

Wewaka Brook Flood Profiles



FLOOD PROFILES

WEWAKA BROOK

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

TOWN OF BRIDGEWATER, CT
(LITCHFIELD CO.)

06P

APPENDIX B

Wewaka Brook Floodway Data

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION		
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	WITH FLOODWAY (NGVD)	WITHOUT FLOODWAY (NGVD)	DIFFERENCE
WEWAKA BROOK							
A	245	370	555	2.0	182.2	182.2[2]	0.0
B	980	200	161	6.8	183.3	183.3[2]	0.0
C	1770	39	115	9.5	202.6	202.6	0.0
D	2805	38	107	9.6	239.7	239.7	0.0
E	3810	46	114	9.0	273.0	273.0	0.0
F	4700	38	107	9.6	298.7	298.7	0.0
G	4970	35	104	9.9	316.4	316.4	0.0
H	5080	70	353	2.9	336.7	336.7	0.0
I	5340	52	183	5.2	336.9	336.9	0.0
J	5460	35	147	6.5	337.5	337.5	0.0
K	6130	44	128	7.4	342.3	342.0	0.3
L	7180	53	117	6.4	353.8	353.8	0.0
M	7285	24	124	6.0	357.7	357.7	0.0
N	7550	25	85	8.8	359.2	359.0	0.2
O	7680	56	287	2.6	364.4	364.4	0.0
P	8065	47	92	8.1	365.7	365.7	0.0
Q	8470	48	93	8.0	375.2	375.2	0.0
R	8700	49	108	6.9	382.6	382.6	0.0
S	9400	29	72	9.0	405.6	405.6	0.0
T	10,200	23	67	9.7	450.3	450.3	0.0
U	10,865	32	74	8.8	470.1	470.1	0.0
V	11,115	119	310	2.1	475.3	475.2	0.1
W	11,740	98	88	7.4	482.9	482.9	0.0
X	11,925	64	103	6.3	485.2	485.2	0.0
Y	12,415	25	71	9.2	492.5	492.5	0.0

[1]FEET ABOVE MOUTH
[2]ELEVATION WITHOUT CONSIDERING BACKWATER EFFECT FROM LAKE LILLINONAH

TABLE 2

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

TOWN OF BRIDGEWATER, CT
(LITCHFIELD CO.)

FLOODWAY DATA

WEWAKA BROOK

APPENDIX C

USACOE General Permit Documents

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

REPLY TO
ATTENTION OF

March 28, 2012

Regulatory Division
CENAE-R-PEB
Permit Number: NAE-2012-0528

SBA Towers III LLC
Attn: Hollis M. Redding
One Research Drive, Suite 200 C
Westborough, MA 01581

Dear Ms Redding:

We have reviewed your application to construct an access road which will include the replacement of an existing 16' clear span bridge with a new 26' clear span bridge, in-kind replacement of an existing culvert and installation of one (1) new culvert at 89 Wewaka Brook Road in Bridgewater, Connecticut. The work is located over the Wewaka Brook and adjacent wetlands as described on the attached plans entitled "Project No. 15363-1054-4300" on 12 sheets, and dated "10/27/10."

Based on the information you have provided, we have determined that the proposed activity, which includes a discharge of dredged or fill material into waters or wetlands, will have only minimal individual and cumulative impacts on waters of the United States, including wetlands. Therefore, this work is authorized as a Category 1 activity under the attached Federal permit known as the Connecticut General Permit (GP). This work must be performed in accordance with the terms and conditions of the GP.

You are responsible for complying with all of the GP's requirements. Please review the attached GP carefully; in particular the GP conditions, to be sure you understand its requirements. You should ensure that whoever does the work also fully understands the requirements and that a copy of the permit document is at the project site throughout the time the work is underway.

The GP provides one year for completion of work that has commenced or is under contract to commence prior to this GP's expiration on July 15, 2016. For work within Corps jurisdiction that is not completed by July 15, 2017, you will need to review any reissued GP to see if your project is still authorized under Category 1. If it is no longer authorized, you must submit an application and receive written authorization before you can proceed.

This authorization requires you to complete and return the enclosed Work Start Notification Form/Mitigation Work Start Form to this office at least two weeks before the anticipated starting date. You must also complete and return the enclosed Compliance Certification Form within one month following the completion of the authorized work.

This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law, as listed on Page 2 of the GP. Performing work not specifically authorized by this determination or failing to comply with all the terms and conditions of the GP may subject you to the enforcement provisions of our regulations.

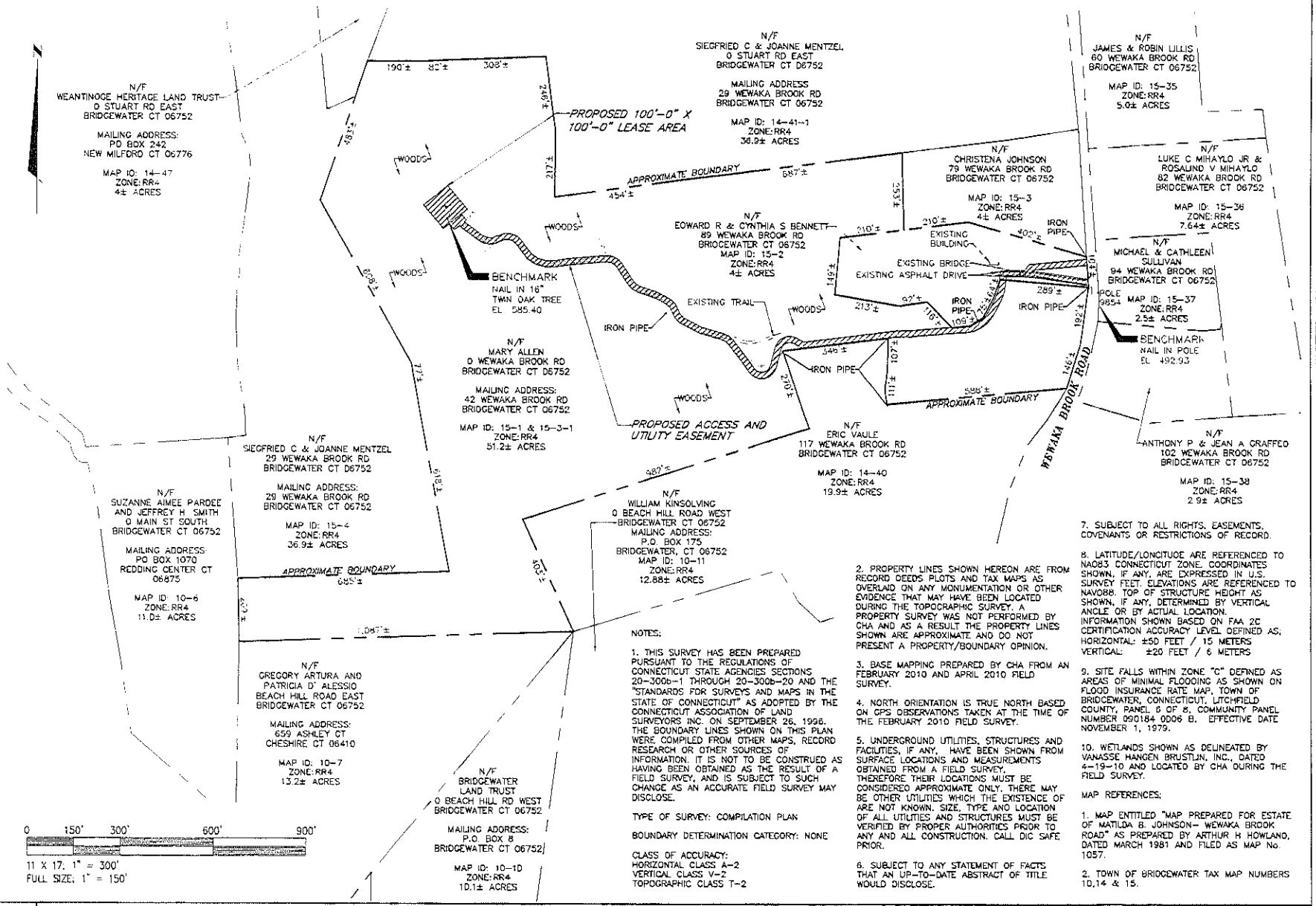
This authorization presumes that the work as described above and as shown on your plans noted above is in waters of the U.S. Should you desire to appeal our jurisdiction, please submit a request for an approved jurisdictional determination in writing to this office.

We continually strive to improve our customer service. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at http://per2.nwp.usace.army.mil/survey.html

Please contact Michael Riccio of my staff, at (978) 318-8685 if you have any questions.

Sincerely,

Robert J. DeSista
Chief, Permits & Enforcement Branch
Regulatory Division



NOTES:

1. THIS SURVEY HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300b-1 THROUGH 20-300b-20 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS INC. ON SEPTEMBER 26, 1996. THE BOUNDARY LINES SHOWN ON THIS PLAN WERE COMPILED FROM OTHER MAPS, RECORD RESEARCH OR OTHER SOURCES OF INFORMATION. IT IS NOT TO BE CONSTRUED AS HAVING BEEN OBTAINED AS THE RESULT OF A FIELD SURVEY, AND IS SUBJECT TO SUCH CHANGE AS AN ACCURATE FIELD SURVEY MAY DISCLOSE.

TYPE OF SURVEY: COMPILATION PLAN

BOUNDARY DETERMINATION CATEGORY: NONE

CLASS OF ACCURACY:
HORIZONTAL CLASS A-2
VERTICAL CLASS V-2
TOPOGRAPHIC CLASS T-2

2. PROPERTY LINES SHOWN HEREON ARE FROM RECORD DEEDS PLOTS AND TAX MAPS AS OVERLAID ON ANY MONUMENTATION OR OTHER EVIDENCE THAT MAY HAVE BEEN LOCATED DURING THE TOPOGRAPHIC SURVEY. A PROPERTY SURVEY WAS NOT PERFORMED BY CHA AND AS A RESULT THE PROPERTY LINES SHOWN ARE APPROXIMATE AND DO NOT PRESENT A PROPERTY/BOUNDARY OPINION.

3. BASE MAPPING PREPARED BY CHA FROM AN FEBRUARY 2010 AND APRIL 2010 FIELD SURVEY.

4. NORTH ORIENTATION IS TRUE NORTH BASED ON GPS OBSERVATIONS TAKEN AT THE TIME OF THE FEBRUARY 2010 FIELD SURVEY.

5. UNDERGROUND UTILITIES, STRUCTURES AND FACILITIES, IF ANY, HAVE BEEN SHOWN FROM SURFACE LOCATIONS AND MEASUREMENTS OBTAINED FROM A FIELD SURVEY. THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHER UTILITIES WHICH THE EXISTENCE OF ARE NOT KNOWN. SIZE, TYPE AND LOCATION OF ALL UTILITIES AND STRUCTURES MUST BE VERIFIED BY PROPER AUTHORITIES PRIOR TO ANY AND ALL CONSTRUCTION. CALL DIG SAFE PRIOR.

6. SUBJECT TO ANY STATEMENT OF FACTS THAT AN UP-TO-DATE ABSTRACT OF TITLE WOULD DISCLOSE.

7. SUBJECT TO ALL RIGHTS, EASEMENTS, COVENANTS OR RESTRICTIONS OF RECORD.

8. LATITUDE/LONGITUDE ARE REFERENCED TO NAD83 CONNECTICUT ZONE. COORDINATES SHOWN, IF ANY, ARE EXPRESSED IN U.S. SURVEY FEET. ELEVATIONS ARE REFERENCED TO NAVD88. TOP OF STRUCTURE HEIGHT AS SHOWN, IF ANY, DETERMINED BY VERTICAL ANGLE OR BY ACTUAL LOCATION. INFORMATION SHOWN BASED ON FAA 2C CERTIFICATION ACCURACY LEVEL DEFINED AS; HORIZONTAL: ±50 FEET / 15 METERS
VERTICAL: ±20 FEET / 6 METERS

9. SITE FALLS WITHIN ZONE "C" DEFINED AS AREAS OF MINIMAL FLOODING AS SHOWN ON FLOOD INSURANCE RATE MAP, TOWN OF BRIDGEWATER, CONNECTICUT, LITCHFIELD COUNTY, PANEL 6 OF 8, COMMUNITY PANEL NUMBER 090184 0006 B. EFFECTIVE DATE NOVEMBER 1, 1979.

10. WETLANDS SHOWN AS DELINEATED BY VANASSE HANGEN BRUSTLIN, INC., DATED 4-19-10 AND LOCATED BY CHA DURING THE FIELD SURVEY.

MAP REFERENCES:

1. MAP ENTITLED "MAP PREPARED FOR ESTATE OF MATILDA B. JOHNSON- WEWAKA BROOK ROAD" AS PREPARED BY ARTHUR H HOWLAND, DATED MARCH 1981 AND FILED AS MAP No. 1057.

2. TOWN OF BRIDGEWATER TAX MAP NUMBERS 10,14 & 15.

1 ABUTTERS MAP

SBA
SBA TOWERS III LLC
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487-2797
TEL: (561) 226-9523
FAX: (561) 226-9368

CHA
2139 Silas Deane Highway, Suite 212 - Rocky Hill, CT 06067-2036
Main: (860) 257-4467 - www.chacompanies.com

A&E PROJECT #:	15363-1054-43000
DRAWN BY:	PAL
CHECKED BY	PAL

REVISIONS

NO.	DATE	DESCRIPTION
4	10/12/10	UPDATED ABUTTERS
3	10/27/10	ISSUED CSC CERTIFICATE

PROJECT No.
15363-1054-43000

SITE NAME:
BRIDGEWATER

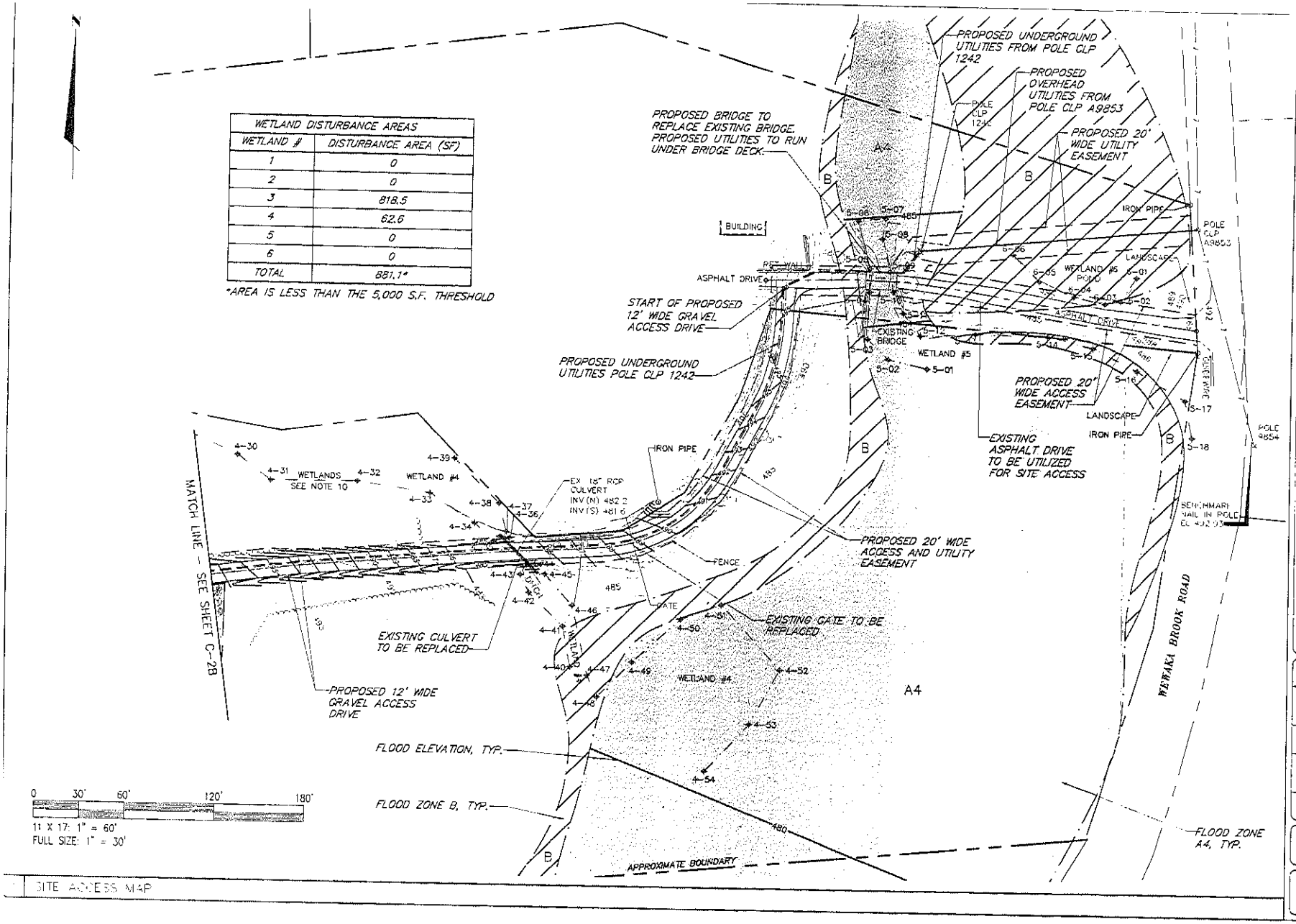
SITE NUMBER:
CT 11934

SITE ADDRESS:
WEWAKA BROOK ROAD
BRIDGEWATER, CT 06752

DESIGN TYPE:
RAW LAND

SHEET TITLE:
ABUTTERS MAP

DRAWING NO.: C-1
REVISION: A



WETLAND DISTURBANCE AREAS	
WETLAND #	DISTURBANCE AREA (SF)
1	0
2	0
3	818.5
4	62.6
5	0
6	0
TOTAL	881.1*

*AREA IS LESS THAN THE 5,000 S.F. THRESHOLD

SITE ACCESS MAP

SBA

SBA TOWERS III LLC
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487-2797
TEL: (561) 226-9525
FAX: (561) 226-9368

CHA

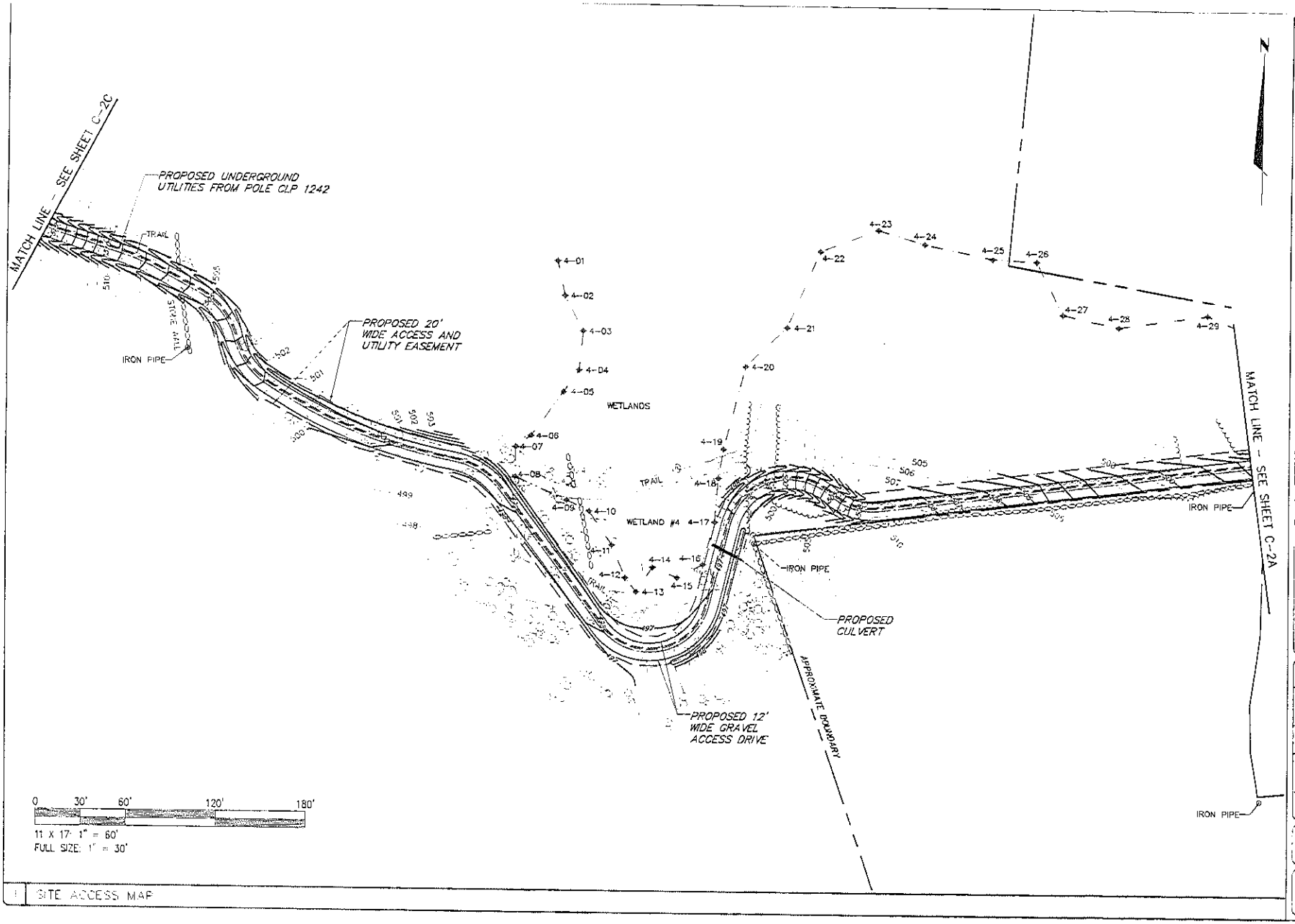
A&E PROJECT #:	15363-1054-43000
DRAWN BY:	PAL
CHECKED BY:	PAL

REVISIONS

NO.	DATE	DESCRIPTION
1	10/27/10	ISSUED CSC CERTIFICATE

PROJECT No.: 15363-1054-43000
SITE NAME: BRIDGEWATER
SITE NUMBER: CT 11934
SITE ADDRESS: WEWAKA BROOK ROAD BRIDGEWATER, CT 06752
DESIGN TYPE: RAW LAND
SHEET TITLE: SITE ACCESS MAP

DRAWING NO: C-2A
REVISION: A



SITE ACCESS MAP

SBA
SBA TOWERS III LLC
5900 BROKEN SOUND PARKWAY, NW
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TEL: (561) 226-9523
FAX: (561) 226-9368

A&E PROJECT #	15363-1054-43000
DRAWN BY	PAL
CHECKED BY	PAL

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1	10/27/10	ISSUED CSC CERTIFICATE

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15363-1054-43000

SITE NAME
BRIDGEWATER

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CT 11934

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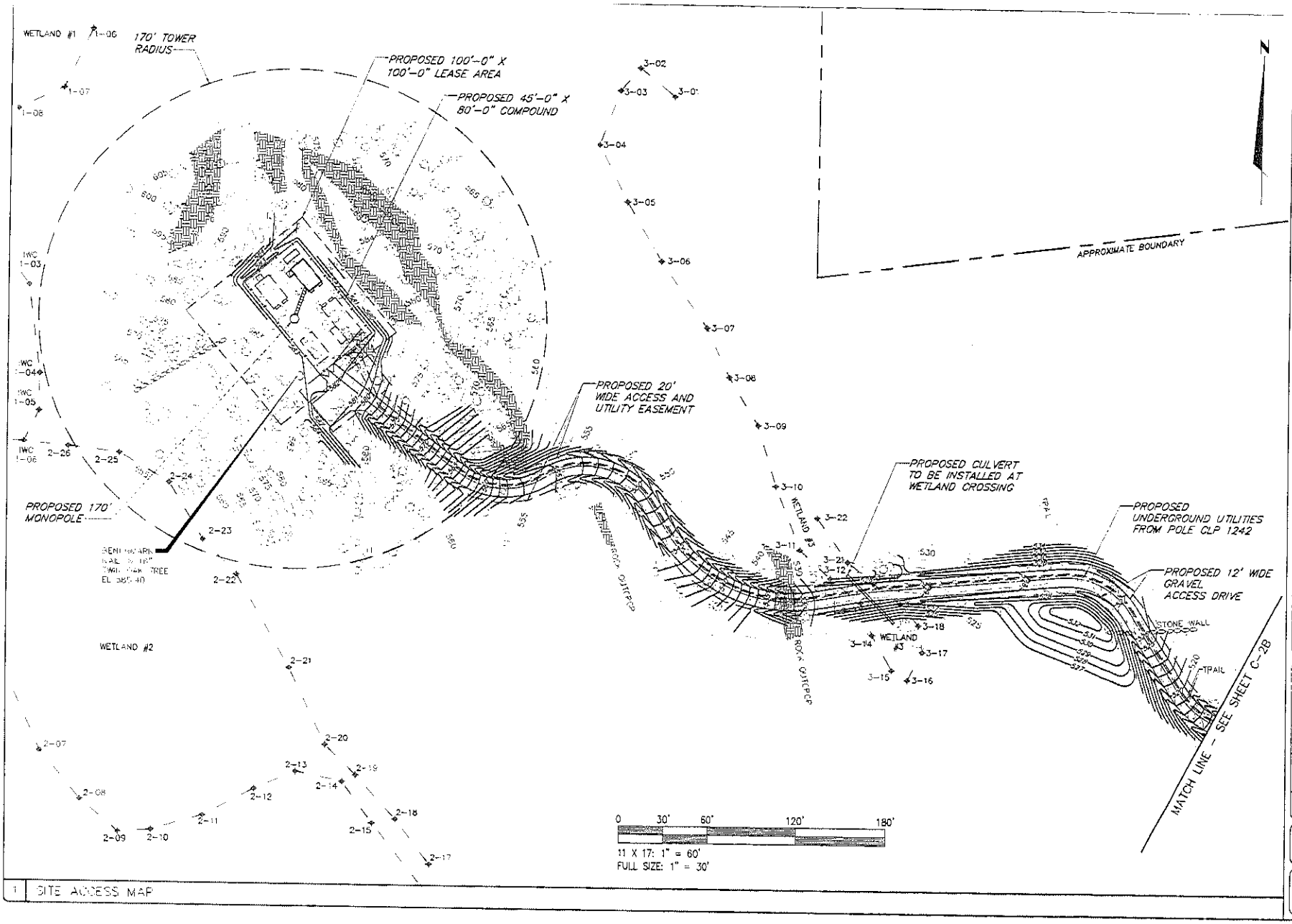
WEWAKA BROOK ROAD
BRIDGEWATER, CT 06752

DESIGN TYPE
RAW LAND

SHEET TITLE
SITE ACCESS MAP

DRAWING NO	REVISION
C-2B	A



1 SITE ACCESS MAP

SBA
SBA TOWERS III LLC
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487-2797
TEL: (561) 226-9525
FAX: (561) 226-9388

A&E PROJECT #	15363-1054-43000
DRAWN BY	PAL
CHECKED BY	PAL

REVISIONS

NO.	DATE	DESCRIPTION
1	10/27/10	ISSUED CSC CERTIFICATE

PROJECT No.
15363-1054-43000

SITE NAME:
BRIDGEWATER

SITE NUMBER:
CT 11934

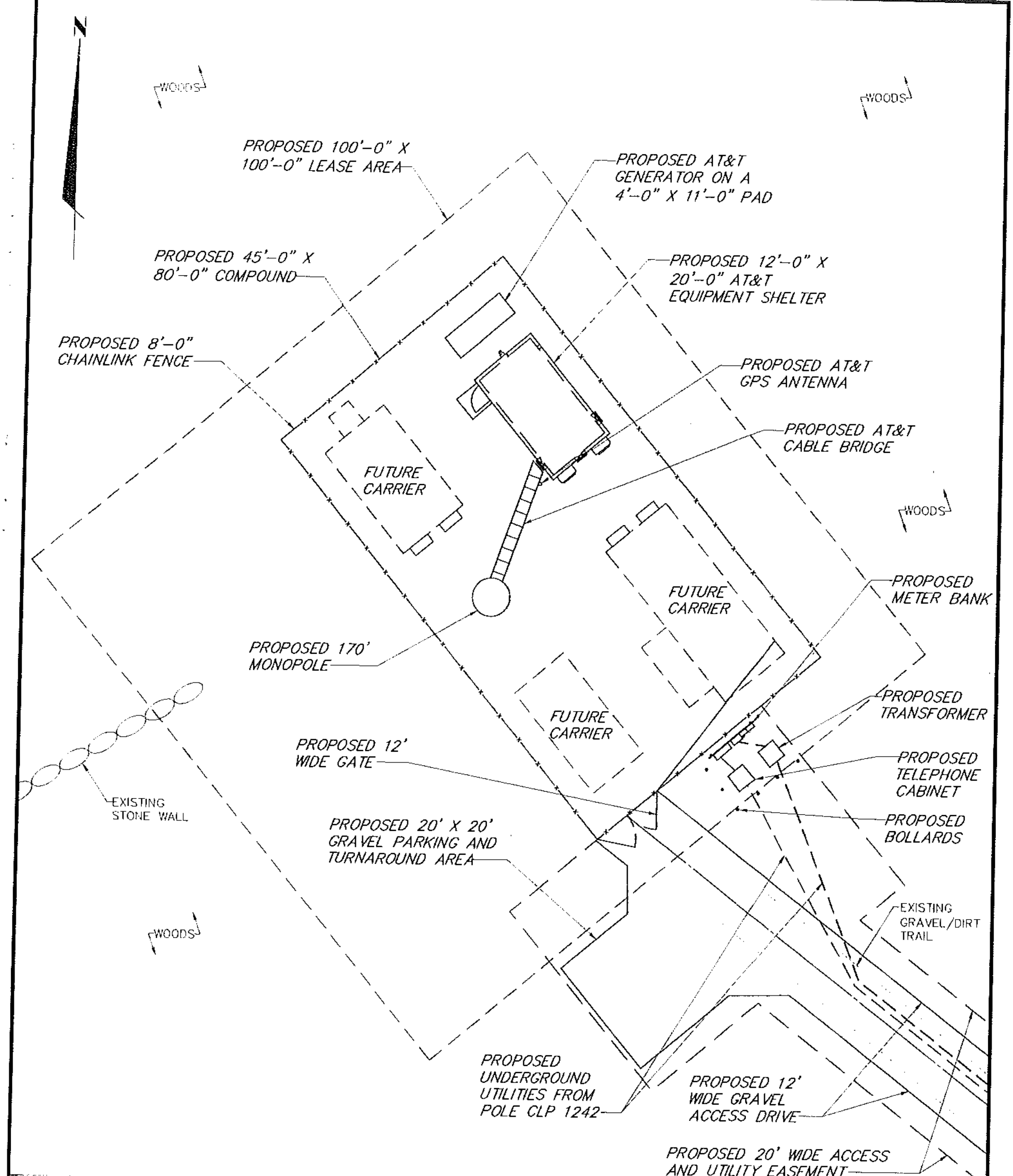
SITE ADDRESS:
WEWAKA BROOK ROAD
BRIDGEWATER, CT 06752

DESIGN TYPE:
RAW LAND

SHEET TITLE:
SITE ACCESS MAP

DRAWING NO.
C-2C

REVISION
A



CHA

2139 Silas Deane Highway, Suite 212 - Rocky Hill, CT 06067-2336
Main (860) 257-4557 • www.chacompanies.com

SBA

SBA TOWERS III LLC
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BOCA RATON, FL 33487-2797
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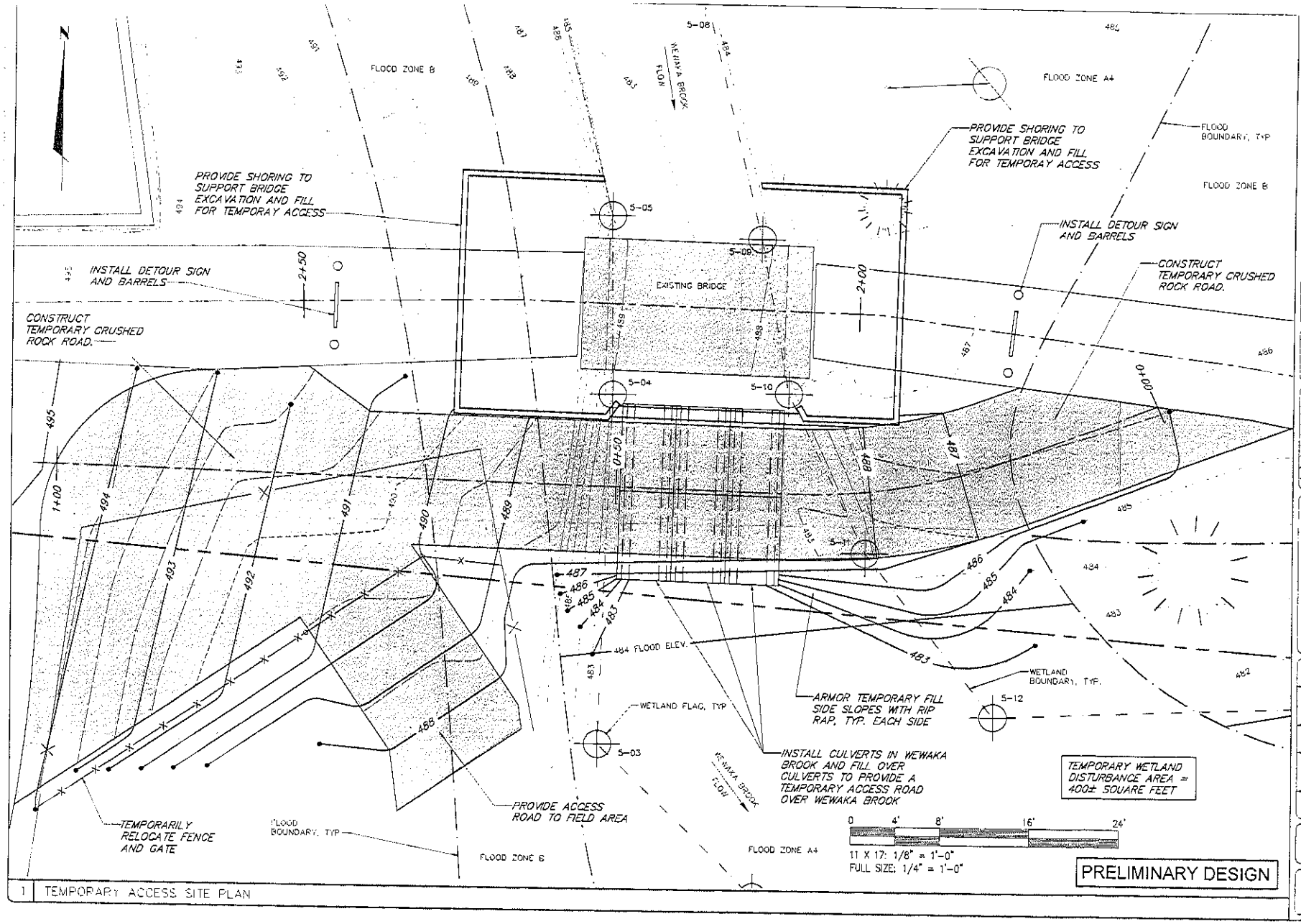
CT 11934
BRIDGEWATER
WEWAKA BROOK ROAD
BRIDGEWATER, CT 06752
LITCHFIELD COUNTY
CHA PROJ. NO. – 15383-1054-43000

SHEET TITLE:
COMPOUND PLAN

DATE:
05/26/10

REVISION: 0



1 TEMPORARY ACCESS SITE PLAN

SBA
SBA TOWERS II LLC
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487-2797
TEL: (561) 226-9503
FAX: (561) 226-9388

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REVISIONS

NO.	DATE	DESCRIPTION
A	10/27/10	ISSUED CSC CERTIFICATE

PROJECT NO
15363-1054-43000

SITE NAME:
BRIDGEWATER

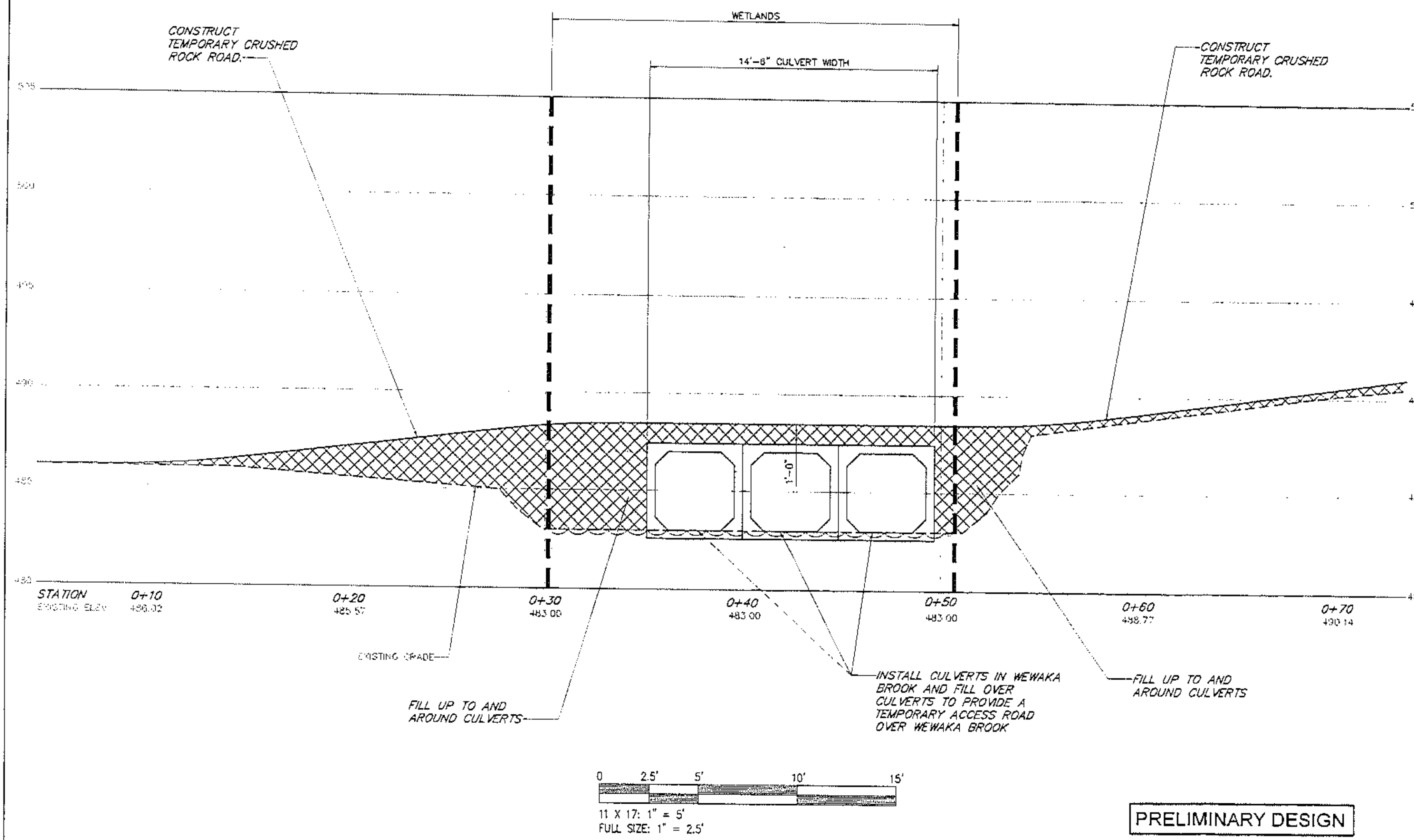
SITE NUMBER:
CT 11934

SITE ADDRESS:
WEWAKA BROOK ROAD
BRIDGEWATER, CT 06752

DESIGN TYPE:
RAW LAND

SHEET TITLE:
TEMPORARY ACCESS SITE PLAN

DRAWING NO.: EX-1
REVISION: A



PRELIMINARY DESIGN

1 TEMPORARY ACCESS PROFILE

SBA

SBA TOWERS III LLC
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487-2797
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FAX: (561) 226-9368

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THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO THE CLIENT IS STRICTLY PROHIBITED.

A&E PROJECT #	15363-1054-43000
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REVISIONS

NO.	DATE	DESCRIPTION
A	10/27/10	ISSUED CSC CERTIFICATE

PROJECT No.
15363-1054-43000

SITE NAME
BRIDGEWATER

SITE NUMBER
CT 11934

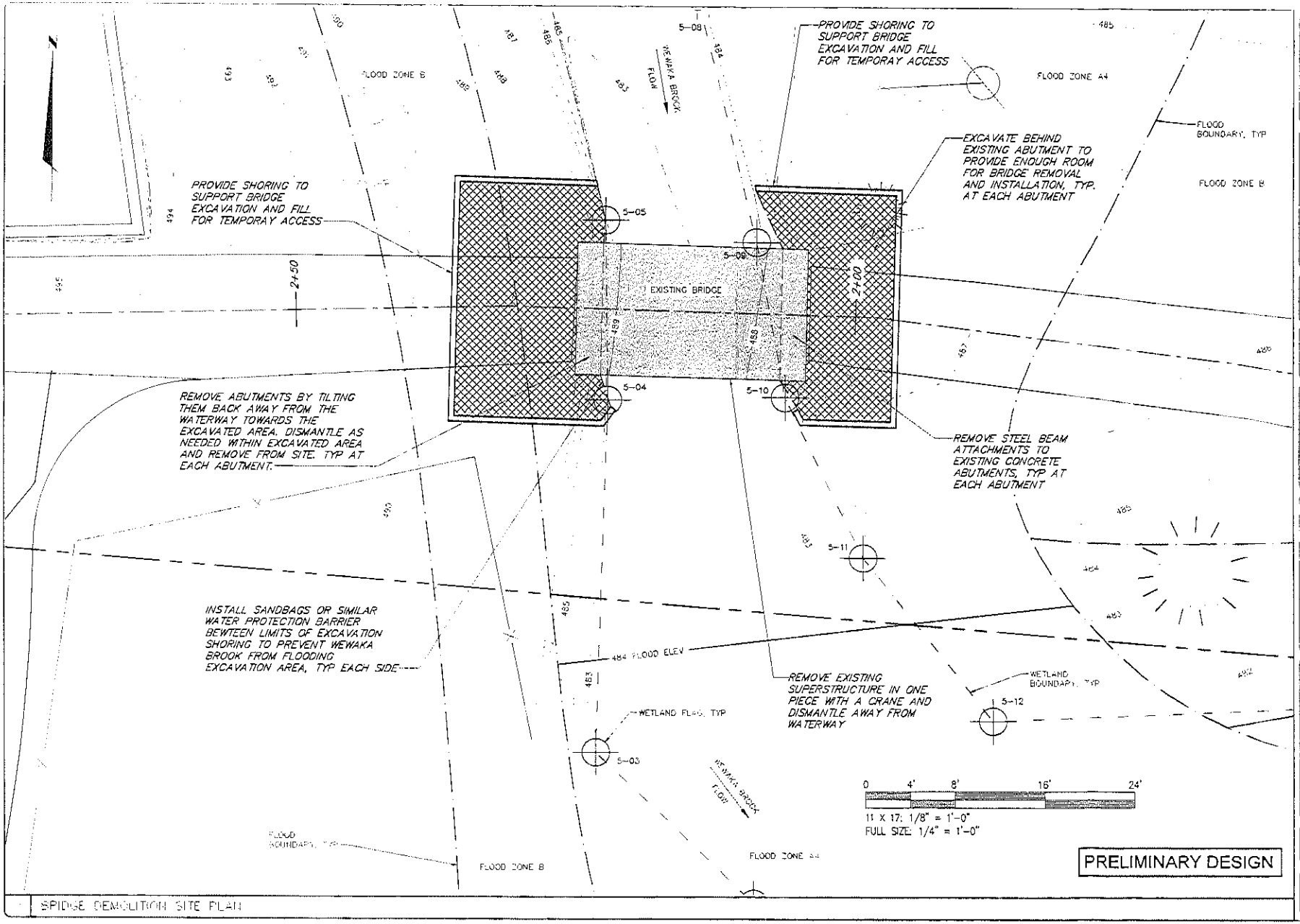
SITE ADDRESS
WEWAKA BROOK ROAD
BRIDGEWATER, CT 06752

DESIGN TYPE
RAW LAND

SHEET TITLE
TEMPORARY ACCESS PROFILE

DRAWING NO.
EX-2

REVISION
A



BRIDGE DEMOLITION SITE PLAN

SBA TOWERS III LLC
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487-2707
TEL: (561) 226-9523
FAX: (561) 226-9768

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A&E PROJECT #	15363-1054-43000
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REVISIONS

NO.	DATE	DESCRIPTION
1	10/27/10	ISSUED CSC CERTIFICATE

PROJECT No
15363-1054-43000

SITE NAME
BRIDGEWATER

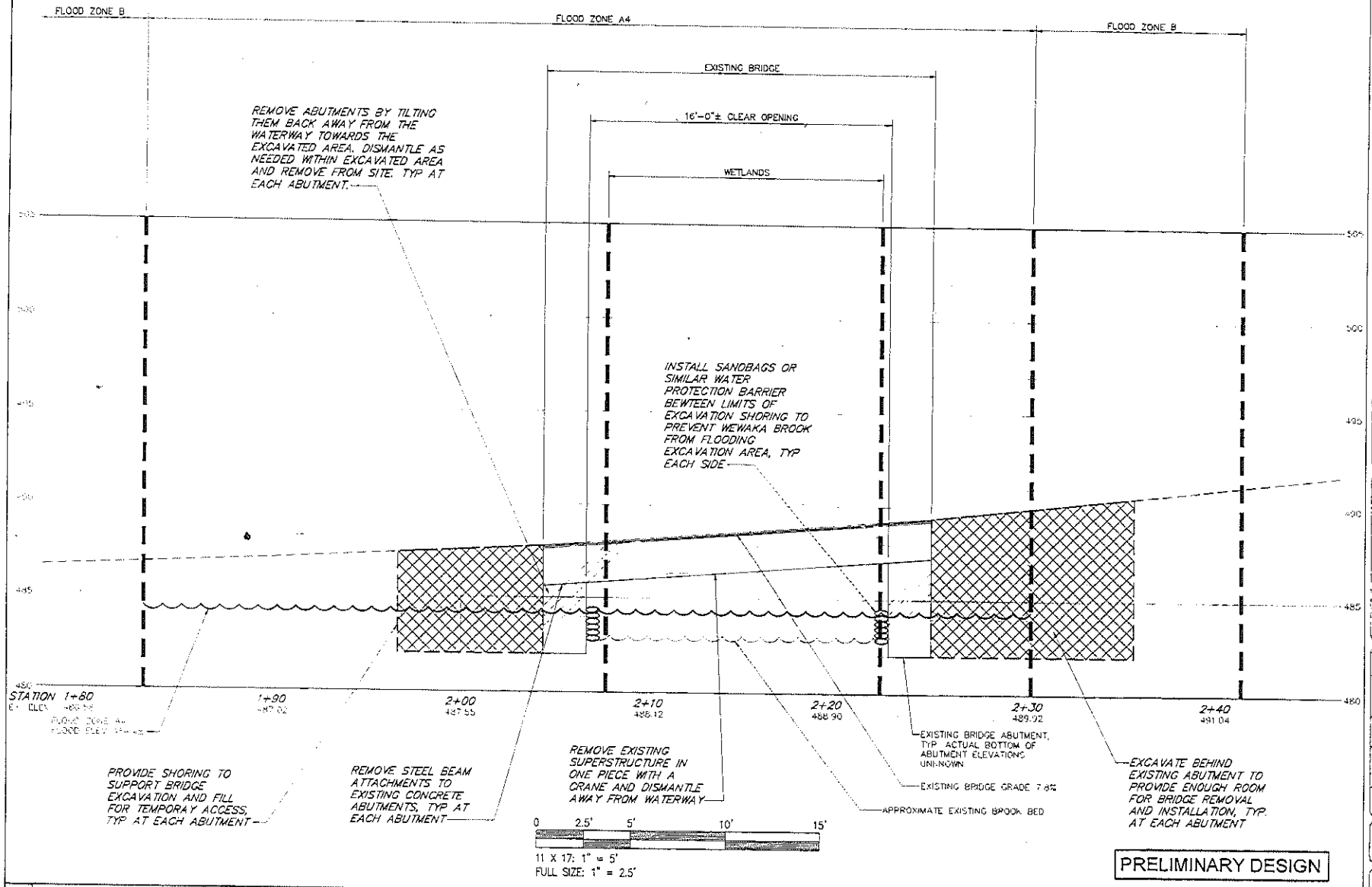
SITE NUMBER
CT 11934

SITE ADDRESS:
WEWAKA BROOK ROAD
BRIDGEWATER, CT 06752

DESIGN TYPE:
RAW LAND

SHEET TITLE:
BRIDGE DEMOLITION SITE PLAN

DRAWING NO	REVISION
EX-3	A



1 BRIDGE DEMOLITION PROFILE

SBA
SBA TOWERS III LLC
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487-2797
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FAX: (561) 226-9368

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A&E PROJECT #	15363-1054-43000
DRAWN BY	PAL
CHECKED BY	PAL

REVISIONS

NO	DATE	DESCRIPTION
A	10/27/10	ISSUED CTC CERTIFICATE

PROJECT No
15363-1054-43000

SITE NAME
BRIDGEWATER

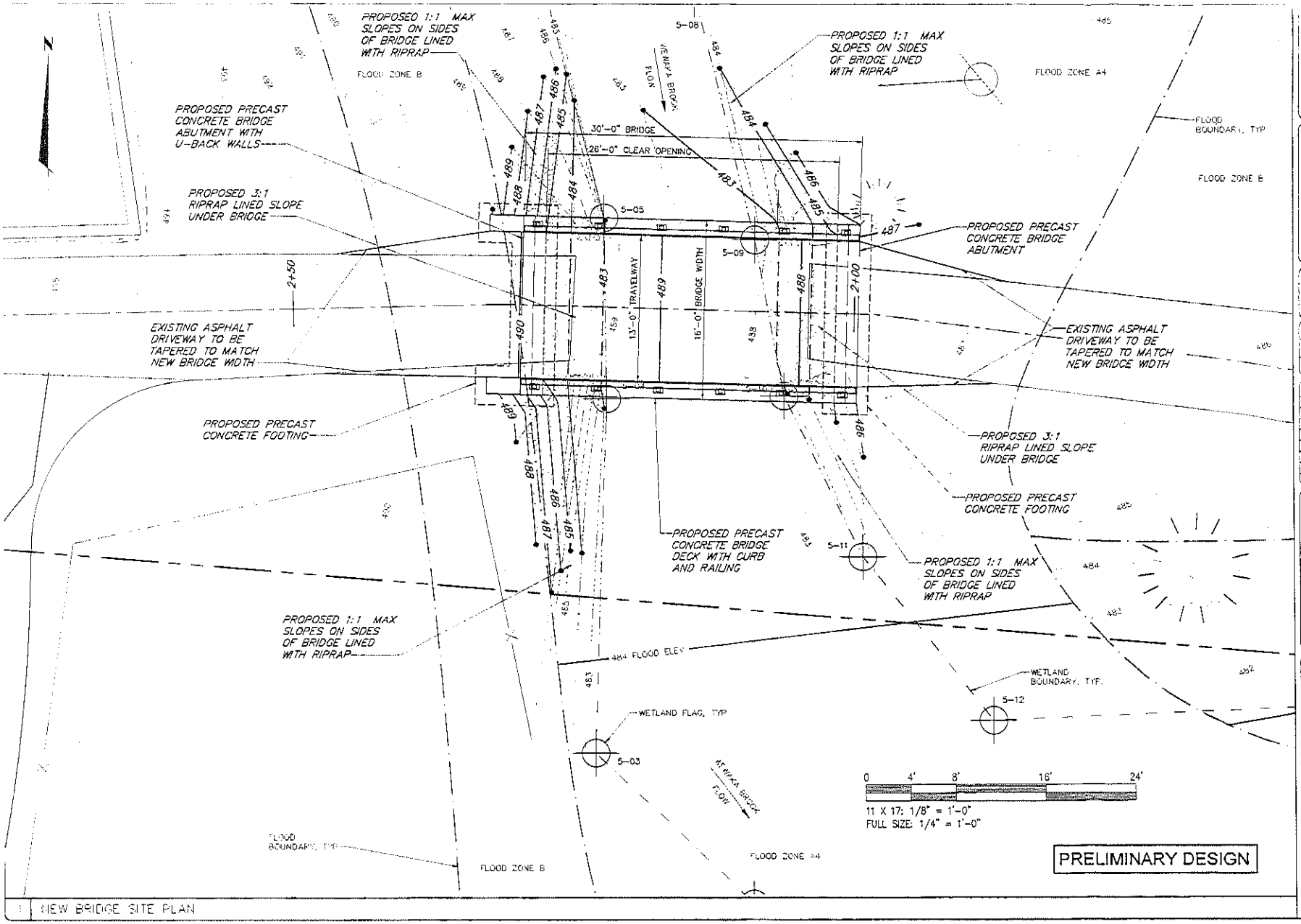
SITE NUMBER
CT 11934

SITE ADDRESS
WEWAKA BROOK ROAD
BRIDGEWATER, CT 06752

DESIGN TYPE
RAW LAND

SHEET TITLE
BRIDGE DEMOLITION PROFILE

DRAWING NO: EX-4
REVISION: A



1 NEW BRIDGE SITE PLAN

SBA
SBA TOWERS III LLC
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487-2797
TEL: (561) 226-9523
FAX: (561) 226-0368

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Voice: (860) 257-4447 • www.chacompanies.com

AAE PROJECT #:	15363-1054-43000
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CHECKED BY	PAL

REVISIONS

NO.	DATE	DESCRIPTION
1	10/27/10	ISSUED CSC CERTIFICATE

PROJECT No
15363-1054-43000

SITE NAME:
BRIDGEWATER

SITE NUMBER:
CT 11934

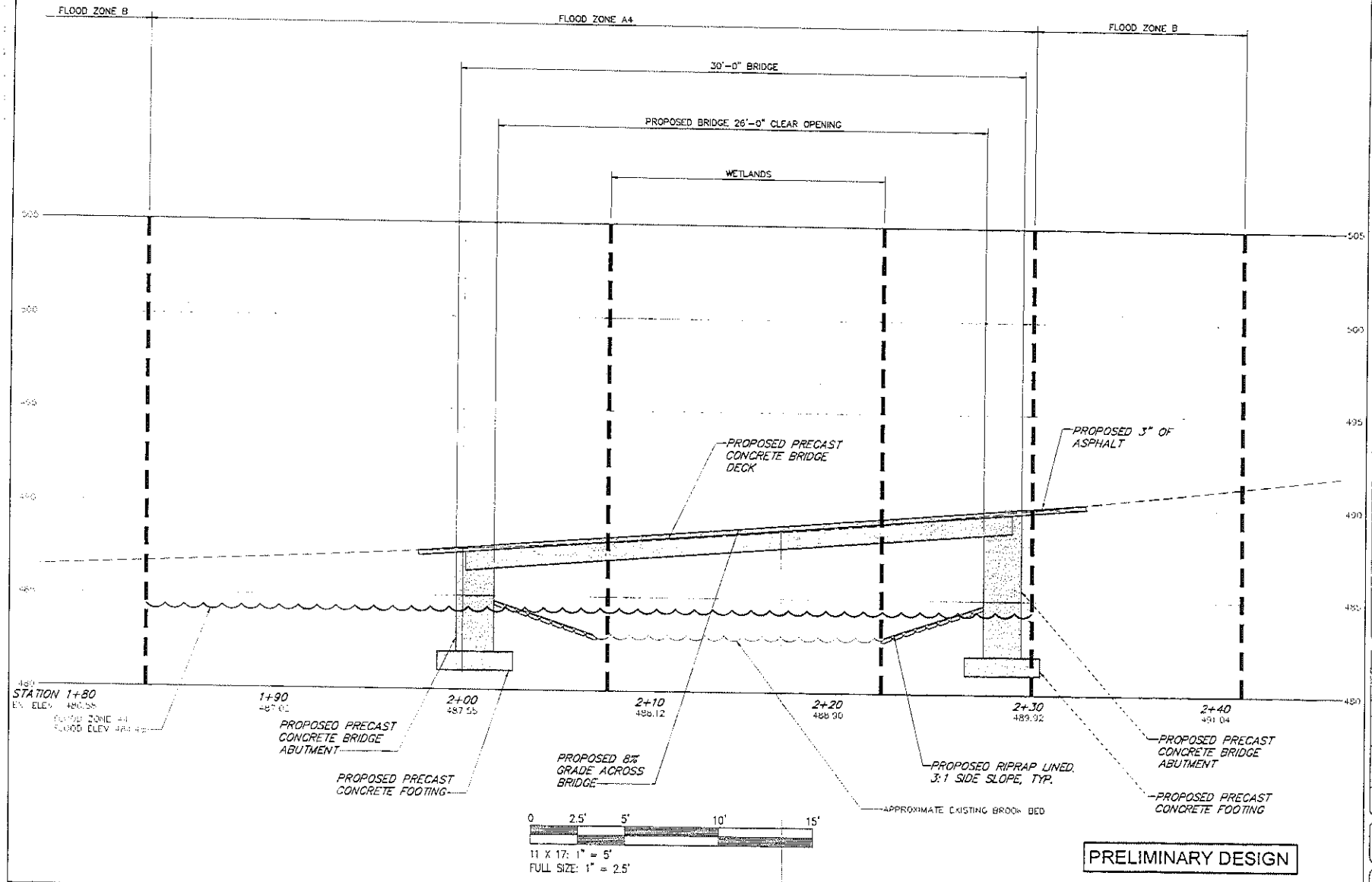
SITE ADDRESS:
WEWAKA BROOK ROAD
BRIDGEWATER, CT 06752

DESIGN TYPE:
RAW LAND

SHEET TITLE:
NEW BRIDGE SITE PLAN

DRAWING NO.: EX-5

REVISION: A



1 NEW BRIDGE PROFILE

SBA
SBA TOWERS III LLC
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487-2797
TEL: (561) 226-9523
FAX: (561) 226-9368

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A&C PROJECT #:	15363-1054-43000
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REVISIONS

NO.	DATE	DESCRIPTION
A	10/27/10	ISSUED CSC CERTIFICATE

PROJECT NO.
15363-1054-43000

SITE NAME:
BRIDGEWATER

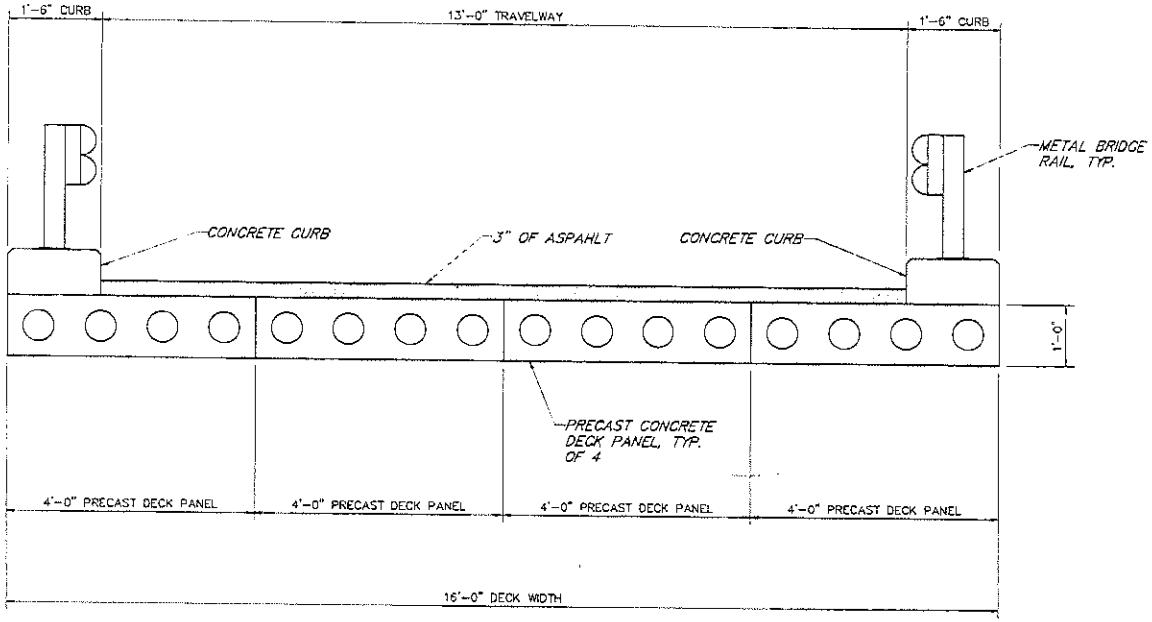
SITE NUMBER:
CT 11934

SITE ADDRESS:
WEWAKA BROOK ROAD
BRIDGEWATER, CT 06752

DESIGN TYPE:
RAW LAND

SHEET TITLE:
NEW BRIDGE PROFILE

DRAWING NO: EX-6
REVISION: A



0 1' 2' 4' 6'

11 X 17: 1/2" = 1'-0"
FULL SIZE: 1" = 1'-0"

PRELIMINARY DESIGN

1 BRIDGE SECTION

SBA
SBA TOWERS III LLC
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487-2797
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A&E PROJECT #	15363-1054-43000
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REVISIONS

NO.	DATE	DESCRIPTION
A	10/27/10	ISSUED CSC CERTIFICATE

PROJECT No
15363-1054-43000

SITE NAME
BRIDGEWATER

SITE NUMBER
CT 11934

SITE ADDRESS
WEWAKA BROOK ROAD
BRIDGEWATER, CT 06752

DESIGN TYPE
RAW LAND

SHEET TITLE
BRIDGE SECTION

DRAWING NO
EX-7

REVISION
A

Effective Date: July 15, 2011 **Expiration Date: July 15, 2016**

Applicant: General Public in the State of Connecticut & Lands Located within the Boundaries of an Indian Reservation

DEPARTMENT OF THE ARMY GENERAL PERMIT

STATE OF CONNECTICUT

&

LANDS LOCATED WITHIN THE BOUNDARIES OF AN INDIAN RESERVATION[1]

The New England District of the U.S. Army Corps of Engineers (Corps) hereby issues a General Permit (GP) for activities in waters of the United States (U.S.) that have minimal individual and cumulative impacts on the aquatic environment within the State of Connecticut and lands located within the exterior boundaries of an Indian reservation.

This GP is separated into sections. **Section 1** is for activities occurring within Inland Waters and Wetlands within the State of Connecticut. **Section 1A** is for activities occurring within Inland Waters and Wetlands located within the boundaries of Mashantucket. **Section 2** is for activities occurring within Tidal, Coastal and Navigable Waters.

In order for activities to qualify for this GP, they must meet the GP's terms and eligibility criteria and stipulations listed in the Definition of Categories (Appendices 1 and 2) as well as the GP's general conditions.

[1] Indian reservation lands are considered a sovereign nation, and are therefore acknowledged separately from the State of Connecticut for purposes of this General Permit.

CONNECTICUT GENERAL PERMIT
General Conditions

The following conditions, as well as Appendices 1 and 2 apply to **ALL** activities authorized under this GP unless otherwise specified.

1. Other Permits. Authorization under this General Permit does not obviate the need to obtain other federal, state, or local authorizations required by law.

2. Federal Jurisdictional Boundaries. Applicability of this GP shall be evaluated with reference to Federal jurisdictional boundaries. Applicants are responsible for ensuring that the boundaries depicted satisfy the Federal criteria defined at 33 CFR 328-329. Wetland boundaries need to be delineated for all wetlands on the subject parcel(s), including isolated wetlands and/or vernal pools. This requirement can be waived by the Corps and Connecticut Department of Energy & Environmental Protection, (CT DEEP) on a case-by-case basis and after coordination with the resource agencies. Wetland boundaries shall be delineated in accordance with the applicable Corps of Engineers Wetlands Delineation Manual and regional supplement. For Corps Wetland Delineation Manual, regional supplements and data sheets, and the National List of Plant Species that Occur in Wetlands, visit our website at www.nae.usace.army.mil/reg and then click on "Jurisdictional Limits and Wetlands". The Natural Resources Conservation Service (NRCS) publishes the current hydric soil definition, criteria and lists which can be found at http://soils.usda.gov/use/hydric. For the Field Indicators for Identifying Hydric Soils in New England, visit: www.neiwpcc.org/hydricsoils.asp.

3. Minimal Direct, Secondary and Cumulative Impacts.

a. Projects authorized by this general permit shall have no more than minimal direct, secondary and cumulative adverse environmental impacts. Applicants shall provide information on secondary and cumulative impacts.

b. Secondary impacts to waterway and/or wetland areas, (e.g., areas drained, flooded, cleared, excavated or fragmented) shall be added to the total fill area when determining whether the project qualifies for Category 1 or 2. Site clearing, grading and construction activities in the upland habitat within 750 feet surrounding vernal pools are secondary impacts. **(NOTE: Not applicable for activities within the exterior boundaries of the Mashantucket Reservation– see additional criteria specified within Appendix 1)**

c. Cumulative impacts are the changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual discharges of dredged or fill material. Although the impact of a particular discharge may constitute a minor change in itself, the cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems

Mitigation will generally be required to offset unavoidable direct, secondary and temporary impacts in accordance with the April 10, 2008 Mitigation Rule 33 CFR 332. See **General Condition 15** below for additional information regarding mitigation.

4. Discretionary Authority. Notwithstanding compliance with the terms and conditions of this permit, the Corps retains discretionary authority to require an Individual Permit review based on concerns for the aquatic environment or for any other factor of the public interest [33 CFR 320.4(a)]. This authority is invoked on a case-by-case basis whenever the Corps determines that the potential consequences of the proposal warrant Individual Permit review based on the concerns stated above. This authority may be invoked for projects with cumulative environmental impacts that are more than minimal, or if there is a special resource or concern associated with a particular project. Whenever the Corps notifies an applicant that an Individual Permit may be required, authorization under this GP is voided and no work may be conducted until a Corps Individual Permit is obtained or until the Corps notifies the applicant that further review has demonstrated that the work may be reviewed under this GP.

5. Single and Complete Projects means the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers.

a. This GP shall not be used for piecemeal work and shall be applied to single and complete projects. When determining eligibility for a single and complete project, proponents must include any permanent historic fill placed since August 1993 that is associated with that project and all currently proposed temporary and permanent impact areas.

b. For non-linear projects, a single and complete project must have independent utility. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed, even if the other phases were not built, can be considered as separate single and complete projects with independent utility.

c. Unless the Corps determines the activity has independent utility:

   (1) This GP shall not be used for any activity that is part of an overall project for which an Individual Permit is required.

   (2) All components of a single project and/or all planned phases of a multi-phased project shall be treated together as constituting one single and complete project.

d. For linear projects such as power lines or pipelines with multiple crossings, a "single and complete project" is all crossings of a single water of the U.S. (i.e. single waterbody) at a specific location. For linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly-shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately. If any crossing requires a Category 2 review or an individual permit, then the entire linear project shall be reviewed as one project under Category 2 or the individual permit procedures.

6. Permit On-Site. For Category 2 projects, the permittee shall ensure that a copy of this GP and the accompanying authorization letter are at the work site (and the project office) authorized by this GP whenever work is being performed, and that all personnel with operational control of the site ensure that all appropriate personnel performing work are fully aware of its terms and conditions. The entire permit authorization shall be made a part of any and all contracts and sub-contracts for work that

affects areas of Corps jurisdiction at the site of the work authorized by this GP. This shall be achieved by including the entire permit authorization in the specifications for work. The term "entire permit authorization" means this GP, including General Conditions and the authorization letter (including its drawings, plans, appendices and other attachments) and also includes permit modifications. If the authorization letter is issued after the construction specifications, but before receipt of bids or quotes, the entire permit authorization shall be included as an addendum to the specifications. If the authorization letter is issued after receipt of bids or quotes, the entire permit authorization shall be included in the contract or sub-contract as a change order. Although the permittee may assign various aspects of the work to different contractors or sub-contractors, all contractors and sub-contractors shall be obligated by contract to comply with all environmental protection provisions contained within the entire GP authorization, and no contract or sub-contract shall require or allow unauthorized work in areas of Corps jurisdiction.

7. Historic Properties. Any activity authorized by this GP shall comply with Section 106 of the National Historic Preservation Act. Information on the location and existence of historic resources can be obtained from the Connecticut Commission on Culture and Tourism, Historic Preservation and Museum Division, the National Register of Historic Places and the Tribal Historic Preservation Officer (THPO) of both the Mashantucket Pequot Tribe and the Mohegan Tribe. Project proponents shall apply to the Corps for all projects that would otherwise qualify for Category 1 if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. . These projects may be eligible under Category 2. If the permittee, while accomplishing the activity authorized by this permit, encounters a previously unidentified archaeological or other cultural resource that might be eligible for listing in the National Register of Historic Places, he/she shall immediately notify the District Engineer. The historic properties contacts can be found on Appendix 4.

8. National Lands. Any of the following is not eligible under Category 1:

a. Activities that impinge upon the value of any National Wildlife Refuge, National Forest, National Marine Sanctuary or any area administered by the National Park Service, U. S. Fish and Wildlife Service (USFWS) or U.S. Forest Service.

b. Work on Corps properties and/or Corps-controlled easement. Contact the Corps Real Estate Division at (978)318-8585 to initiate reviews about both Corps holdings and permit requirements.

c. Any proposed temporary or permanent modification or use of a federal project (including but not limited to a levee, dike, floodwall, channel, seawall, bulkhead, jetty, wharf pier, or other work built by the United States), which would obstruct or impair the usefulness of the federal project in any manner, and/or would involve changes to the authorized federal project's scope, purpose, and/or functioning that go beyond minor modifications required for normal operations and maintenance and is not eligible for Category 1 and requires review and approval by the Corps pursuant to 33 USC 408.

9. Federal Threatened and Endangered Species.

a. No activity may be authorized under this GP (Category 1 or 2) which would:

(1) Be "likely to adversely affect" a threatened or endangered species, a proposed species, designated or proposed critical habitat (all herein referred to as "listed species or habitat") as identified under the federal Endangered Species Act (ESA),

(2) Result in a "take" of any federally-listed, threatened or endangered species of fish or wildlife, or

(3) Result in any other violation of Section 9 of the ESA protecting threatened or endangered species of plants.

b. No activity may be authorized under Category 1 if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat (see (c) below). The following USFWS and NMFS sites must be referenced to ensure that listed species or critical habitat are not present in the action area or to provide information on federally-listed species or habitat: www.fws.gov/newengland/EndangeredSpec-Consultation_Project_Review.htm and www.nero.noaa.gov/prot_res/esp/ListE&Tspec.pdf.

c. Proponents must submit an application if any of the activities in (a) or (b) may occur and provide information on federally-listed species or habitat to allow the Corps to conduct any required consultation under Section 7 of the ESA. The Endangered Species Act Consultation Handbook – Procedures for Conducting Section 7 Consultations and Conferences, defines action areas as "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action". [50 CFR 402.02]

10. Essential Fish Habitat. As part of the GP reviewing process, the Corps will coordinate with the NMFS in accordance with the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSA) to protect and conserve the habitat of marine, estuarine and anadromous finfish, mollusks, and crustaceans. This habitat is termed "Essential Fish Habitat," (EFH) and is broadly defined to include "those waters and substrate necessary to fish for spawning, breeding, feeding and growth to maturity." All species managed under the MSA have had EFH designations. There are 61 species with EFH in the coastal waters of southern New England. Applicants may be required to describe and identify potential impacts to EFH. For instance, in Connecticut, this act protects Atlantic salmon (*Salmo salar*) habitat. Any work in the main stem or tributary streams of the Connecticut River watershed that are being managed for Atlantic salmon are **NOT** be eligible for authorization under Category 1 of this GP because the activity requires screening for potential impacts to designated EFH. Conservation recommendations regarding the protection of EFH for species managed under the MSA made by NMFS will normally be included as special conditions to any permit issued by the Corps. Information on the location of EFH can be obtained from NMFS. The NMFS has established a web site at www.nero.nmfs.gov/RO/DOC/appguide1.html.

11. Wild and Scenic Rivers. Any activity that occurs in the designated main stem of, within 0.25 miles up or downstream of the designated main stem of, or in tributaries within 0.25 miles of the designated main stem of a National Wild and Scenic River, or that has the potential to alter flows within a river within the National Wild and Scenic River System is not eligible for Category 1, regardless of the size of the impacts. This condition applies to both designated Wild and Scenic Rivers and rivers officially designated by Congress as study rivers for possible inclusion while such rivers are in official active study status.

The Corps will consult with the National Park Service (NPS) with regard to potential impacts of the proposed work on the resource values of the wild and scenic river. The culmination of this coordination will be a determination by the NPS and the Corps that the work: (1) may proceed as proposed; (2) may proceed with recommended conditions; or (3) could pose a direct and adverse effect on the resource values of the river and an Individual Permit is required. If preapplication consultation between the applicant and the NPS has occurred whereby NPS has made a determination that the proposed project is appropriate for authorization under this GP (with respect to Wild and Scenic River issues), this determination should be furnished to the Corps with submission of the application.

As of May 31, 2011, affected rivers in Connecticut include: the West Branch of the Farmington River from Colebrook to Canton (designated river); the Eightmile River and tributaries in Salem, Lyme and East Haddam (designated river); and the Lower Farmington River from Canton to Windsor (study river – including its tributary Salmon Brook).

Additional information can be found at: http://www.rivers.gov/wildriverslist.html and scrolling down to "Connecticut".

12. Federal Navigation Project. Any structure or work that extends closer to the horizontal limits of any Corps navigation project than a distance of three times the project's authorized depth shall be subject to removal at the owner's expense prior to any future Corps dredging or the performance of periodic hydrographic surveys.

13. Navigation.

a. There shall be no unreasonable interference with navigation by the existence or use of the activity authorized herein, and no attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the activity authorized herein.

b. The permittee understands and agrees that, if future operations by the U.S. require the removal, relocation, or other alteration of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the U.S. No claim shall be made against the U.S. on account of any such removal or alteration.

14. Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes;

b. damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the U.S. in the public interest;

c. damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit; and

d. design or construction deficiencies associated with the permitted work; (e) damage claims associated with any future modification, suspension, or revocation of this permit.

15. Avoidance, Minimization and Compensatory Mitigation.

a. Discharges of dredged or fill material into waters of the U.S., including wetlands, shall be avoided and minimized to the maximum extent practicable. Compensatory mitigation of unavoidable direct and indirect impacts (including temporal loss) is expected for all Category 2 projects. The mitigation will need to be sufficient to replace the suite of aquatic resource functions and services lost as a result of the permitted activity (see the NAE Mitigation Guidance and Recommended Ratios at http://www.nae.usace.army.mil/reg/Mitigation/CompensatoryMitigationGuidance.pdf.

Applicants can also pursue minimization by the implementation of low impact development (LID) practices to reduce impervious cover and better manage stormwater. Examples of LID best management practices include, but are not limited to: replacing curbs and gutters with swales; using an open space design for subdivisions; using permeable, pervious or porous pavements; constructing bio-retention systems; and/or, adding a green roof or rain garden. For additional information on these best management practices, including applicability and maintenance and cost considerations, please see http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm and click on post construction.

For additional information see the Corps website at http://www.nae.usace.army.mil/reg and click on "Mitigation" to view the April 10, 2008 "Final Compensatory Mitigation Rule" (33 CFR 332) and related documents. The Q&A document states: "In order to reduce risk and uncertainty and help ensure that the required compensation is provided, the rule establishes a preference hierarchy for mitigation options. The most preferred option is mitigation bank credits, which are usually in place before the activity is permitted. In-lieu fee (ILF) program credits are second in the preference hierarchy, because they may involve larger, more ecologically valuable compensatory mitigation projects as compared to permittee-responsible mitigation. Permittee-responsible mitigation is the third option, with three possible circumstances: (1) conducted under a watershed approach, (2) on-site and in kind, and (3) off-site/out-of-kind. While Connecticut is lacking In-Lieu-Fee and Mitigation Bank choices, mitigation will be required on a case-by-case basis. However, when such choices are available, mitigation will be required for all Category 2 projects. Mitigation will become more practical as additional ILF and Banking choices become available in Connecticut.

b. For coastal structures such as piers and docks, the height above the marsh at all points should be equal to or exceed the width of the deck. The height shall be measured from the marsh substrate to the bottom of the longitudinal support beam. This will help ensure sunlight reaches the area beneath the structure.

c. Coastal floats must be supported at least 18" above the intertidal and shallow sub-tidal substrate during all tidal cycles.

16. Heavy Equipment in Wetlands. Operating heavy equipment other than fixed equipment (drill rigs, fixed cranes, etc.) within wetlands shall be minimized, and such equipment shall not be stored, maintained or repaired in wetlands, to the maximum extent practicable. Where construction requires heavy equipment operation in wetlands, the equipment shall either have low ground pressure (typically <3 psi), or it shall be placed on swamp/construction/timber mats (herein referred to as "construction mats") that are adequate to support the equipment in such a way as to minimize disturbance of wetland soil and vegetation. Construction mats are to be placed in the wetland from the upland or from equipment positioned on swamp mats if working within a wetland. Dragging construction mats into position is prohibited. Other support structures that are capable of safely supporting equipment may be used with written Corps authorization. Similarly, the permittee may request written authorization from the Corps to waive use of mats during frozen or dry conditions (see General Condition 17 below). An adequate supply of spill containment equipment shall be maintained on site.

17. Temporary Fill. Fill placed into waters of the U.S. (including wetlands) totaling greater than or equal to 5,000 square feet in total area (i.e., the sum of permanent and temporary fill areas) exceeds the Category 1 threshold and may not be discharged without written authorization from the Corps. When temporary fill is used (e.g., access roads, swamp mats, cofferdams), it shall be stabilized and maintained during construction in such a way as to prevent its eroding into portions of waters of the U.S. where it is not authorized and shall be removed immediately following construction. The following criteria must also be met:

a. Unconfined temporary fill authorized for discharge into flowing water (rivers and streams) shall consist only of clean stone.

b. Temporary fill authorized for discharge into wetlands shall be placed on geotextile fabric laid on the pre-construction wetland grade. (Swamp and timber mats are excluded from this requirement.)

c. Temporary fill shall be removed as soon as it is no longer needed, and it shall be disposed of at an upland site and suitably contained to prevent its subsequent erosion into waters of the U.S.

d. Waters of the U.S. where temporary fill was discharged shall be restored (see **General Condition 18**).

e. No temporary work shall drain a water of the U.S. by providing a conduit for water on or below the surface.

18. Restoration of Inland Wetland Areas.

a. Upon completion of construction, all disturbed wetland areas (the disturbance of these areas must be authorized) shall be stabilized with a wetland seed mix containing only plant species native to New England and shall not contain any species listed in the "Invasive and Other Unacceptable Plant Species" Appendix in the "New England District Compensatory Mitigation Guidance".

b. The introduction or spread of invasive plant species in disturbed areas shall be controlled. If swamp or timber mats are to be used, they shall be thoroughly cleaned before re-use.

c. In areas of authorized temporary disturbance, if trees are cut they shall be cut at or above ground level and not uprooted in order to prevent disruption to the wetland soil structure and to allow stump sprouts to revegetate the work area, unless otherwise authorized.

d. Wetland areas where permanent disturbance is not authorized shall be restored to their original condition and elevation, which under no circumstances shall be higher than the pre-construction elevation. Original condition means careful protection and/or removal of existing soil and vegetation, and replacement back to the original location such that the original soil layering and vegetation schemes are approximately the same, unless otherwise authorized.

19. Coastal Bank Stabilization. Projects involving construction or reconstruction/maintenance of bank stabilization structures within Corps jurisdiction should be designed to minimize environmental effects, effects to neighboring properties, scour, etc. to the maximum extent practicable. For example, vertical bulkheads should only be used in situations where reflected wave energy can be tolerated. This generally eliminates bodies of water where the reflected wave energy may interfere with or impact on harbors, marinas, or other developed shore areas. A revetment is sloped and is typically employed to absorb the direct impact of waves more effectively than a vertical seawall. It typically has a less adverse effect on the beach in front of it, abutting properties and wildlife. For more information on this topic, go to the Corps Coastal Engineering Manual (supersedes the Shore Protection Manual), located at http://chl.erdc.usace.army.mil. Select "Products/ Services," "Publications." Part 5, Chapter 7-8, a (2) c is particularly relevant.

20. Sedimentation and Erosion Control. Adequate sedimentation and erosion control management measures, practices and devices, such as phased construction, vegetated filter strips, geotextile silt fences, hay bales or other devices, shall be installed and properly maintained to reduce erosion and retain sediment on-site during and after construction. These measures shall be capable of preventing erosion, of collecting sediment, suspended, and floating materials, and of filtering fine sediment. These devices shall be removed upon completion of work and the disturbed areas shall be stabilized. The sediment collected by these devices shall be removed and placed at an upland location, in a manner that will prevent its later erosion into a waterway or wetland. All exposed soil and other fills shall be permanently stabilized at the earliest practicable date.

21. Waterway Crossings.

a. All temporary and permanent crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed to withstand and to prevent the restriction of high flows, and to maintain existing low flows, and so as not to obstruct the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction.

b. Open bottom arches, bridge spans or embedded culverts are generally preferred over traditional culverts and are required for Category 1 projects. However, site constraints (e.g., placing footings) may make use of an open bottom arch, bridge span or embedded culverts impractical, and in these cases well-designed culverts may actually perform better. Project proponents shall consult with the Corps if an open bottom arch, bridge span or embedded culvert is impractical.

c. No projects involving open trench excavation in flowing waters are allowed in Category 1 unless the permittee utilizes management techniques such as temporary flume pipes, culverts, cofferdams, etc. and maintains normal flows within the stream boundary's confines so the work does not occur in flowing waters. Projects utilizing these management techniques must meet the other Category 1 requirements and all of this GP's terms and conditions. If not, they will require review under the Category 2 screening procedures.

d. Temporary bridges, culverts, or cofferdams shall be used for equipment access across streams. (**Note:** areas of fill and/or cofferdams must be included in total waterway/wetlands impacts to determine applicability of this GP).

e. Projects using slip lining (retrofitting an existing culvert by inserting a smaller diameter pipe), plastic pipes, and High Density Polyethylene Pipes (HDPP) are not authorized under Category 1, either as new work or maintenance activities.

f. For projects that otherwise meet the terms of Category 1, unconfined in-stream construction work shall be conducted during the low flow period June 1 through September 30 in any year except in instances where a specific written exception has been issued by the Connecticut Department of Energy & Environmental Protection. All other projects shall be screened pursuant to Category 2, regardless of the waterway and wetland fill and/or impact area.

g. All temporary fill must be removed as soon as it is no longer needed and all disturbed areas must be returned to their pre-construction conditions

22. Discharge of Pollutants. All activities involving any discharge of pollutants into waters of the U.S. authorized under this GP shall be consistent with applicable water quality standards, effluent limitations, standards of performance, prohibitions, and pretreatment standards and management practices established pursuant to the CWA (33 U.S.C. 1251), and applicable state and local laws. If applicable water quality standards, limitations, etc., are revised or modified during the term of this permit, the authorized work shall be modified to conform with these standards within 6 months of the effective date of such revision or modification, or within a longer period of time deemed reasonable by the District Engineer in consultation with the Regional Administrator of the EPA. Applicants may presume that state water quality standards are met with issuance of the Section 401 WQC (Applicable only to the Section 404 activity).

23. Spawning Areas. Discharges of dredged or fill material, and/or suspended sediment-producing activities in fish and shellfish spawning or nursery areas and amphibian and waterfowl breeding areas shall be avoided. During all times of year, impacts to these areas shall be avoided to the maximum extent practicable.

24. Storage of Seasonal Structures. Coastal structures, such as pier sections and floats, that are removed from the waterway for a portion of the year (often referred to as seasonal structures) shall be stored in an upland location, located above mean high water (MHW) and **not** in tidal wetlands. These seasonal structures may be stored on the fixed, pile-supported portion of the structure that is seaward of MHW. This is intended to prevent structures from being stored on the marsh substrate and the substrate seaward of MHW.

25. Environmental Functions and Values. The permittee shall make every reasonable effort to carry out the construction or operation of the work authorized herein in a manner that minimizes any adverse impacts on existing fish, wildlife, and the environmental to the extent practicable. The permittee will discourage the establishment or spread of plant species identified as non-native invasive species by any federal or state agency.

26. Protection of Vernal Pools. Wetland boundaries for vernal pools and isolated wetlands on the subject parcel(s) must be delineated in accordance with Federal criteria defined at 33 CFR 328-329. For all inland Category 2 projects, the applicant must complete a vernal pool survey of the entire site, not just for the areas being directly impacted. The applicant must report the results of the survey to the Corps. If no vernal pools are found on the site, the applicant must confirm that in writing and also identify the party that conducted the survey and the survey date. This requirement may be waived by the Corps, in writing, on a case-by-case basis. Impacts to uplands in proximity (within 750 feet) to the vernal pools referenced in the Definitions of Categories shall be minimized to the maximum extent possible.

27. Invasive Species.

a. The introduction, spread, or the increased risk of invasion of invasive plant or animal species on the project site, into new or disturbed areas, or areas adjacent to the project site caused by the site work shall be avoided. Hence, swamp and timber mats shall be thoroughly cleaned before reuse.

b. Unless otherwise directed by the Corps, all applications for Category 2 inland projects proposing fill in Corps jurisdiction shall include an Invasive Species Control Plan (ISCP).

Additional information can be found at: www.hort.uconn.edu/cipwg/

28. Inspections. The permittee shall allow the Corps to make periodic inspections at any time deemed necessary in order to ensure that the work is being or has been performed in accordance with the terms and conditions of this permit. The Corps may also require post-construction engineering drawings for completed work or post-dredging survey drawings for any dredging work. To facilitate these inspections, the permittee shall complete and return to the Corps:

a. For Category 1 Inland projects, the **Category 1 Form (Appendix 1A)**, and the **Compliance Certification Form (Appendix 5)**.

b. For Category 2 projects, the **Work-Start Notification Form** and the **Compliance Certification Form.** Both are provided as attachments with each Category 2 authorization letter.

29. Maintenance. The permittee shall maintain the activity authorized by this GP in good condition and in conformance with the terms and conditions of this permit. This does not include maintenance of dredging projects. Maintenance dredging is subject to the review thresholds in Appendix 2 – Coastal Definition of Categories (attached) and/or any conditions included in a written Corps authorization. Maintenance dredging includes only those areas and depths previously authorized and dredged. Some maintenance activities may not be subject to regulation under Section 404 in accordance with 33 CFR 323.4(a) (2). Information on mosquito ditching and maintenance is provided at www.nae.usace.army.mil. Go to "Regulatory/Permitting," and then "Other."

30. Property Rights. This permit does not convey any property rights, either in real estate or material, or any exclusive privileges, nor does it authorize any injury to property or invasion of rights or any infringement of federal, state, or local laws or regulations.

31. Modification, Suspension, and Revocation. This permit and any individual authorizations issued thereof may either be modified, suspended, or revoked in whole or in part pursuant to the policies and procedures of 33 CFR 325.7; and any such action shall not be the basis for any claim for damages against the United States.

32. Restoration. The permittee, upon receipt of a notice of revocation of authorization under this permit, shall restore the wetland or waterway to its former conditions, without expense to the United States and as directed by the Secretary of the Army or his authorized representative. If the permittee fails to comply with such a directive, the Secretary or his designee may restore the wetland or waterway to its former condition, by contract or otherwise, and recover the cost from the permittee.

33. Special Conditions. The Corps may impose other special conditions on a project authorized pursuant to this general permit that are determined necessary to minimize adverse environmental effects or based on any other factor of the public interest. These may be based on concerns from CT DEEP or a Federal resource agency. Failure to comply with all conditions of the authorization, including special conditions, will constitute a permit violation and may subject the permittee to criminal, civil, or administrative penalties or restoration.

34. False or Incomplete Information. If the Corps makes a determination regarding the eligibility of a project under this permit, and subsequently discovers that it has relied on false, incomplete, or inaccurate information provided by the permittee, the permit will not be valid, and the U.S. government may institute appropriate legal proceedings.

35. Abandonment. If the permittee decides to abandon the activity authorized under this general permit, unless such abandonment is merely the transfer of property to a third party, he/she may be required to restore the area to the satisfaction of the District Engineer.

36. Enforcement cases. This GP does not apply to any existing or proposed activity in Corps jurisdiction associated with an on-going Corps or EPA enforcement action, until such time as the enforcement action is resolved or the Corps determines that the activity may proceed independently without compromising the enforcement action.

37. Duration of Authorization. This GP expires five years from the effective date listed at the top of Page 1 of this GP. Activities authorized by this GP that have either commenced (i.e., are under construction) or are under contract to commence in reliance upon this authorization will have an additional year from this GP's expiration date to complete the work. The permittee must be able to document to the Corps' satisfaction that the project was under construction or under contract by the appropriate date. If work is not completed within the one year extended timeframe, the permittee must contact the Corps. The Corps may issue a new authorization provided the project meets the terms and conditions of the CT GP current at the time.

Activities authorized under this GP will remain authorized, unless:

a. the GP is either modified or revoked, or

b. discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization in accordance with 33 CFR 325.2(e)(2).

Activities completed under the Category 1 or Category 2 authorizations of this GP will continue to be authorized by this GP after its expiration date.

38. Previously Authorized Activities:

a. Activities completed under the authorizations of past GPs that were in effect at the time the activity was completed will continue to be authorized by those GPs.

b. Projects that have received written verification or approval from the Corps, based on applications made to the Corps prior to issuance of this GP, regional general permits, or letters of permission shall remain authorized as specified in each authorization.

c. Activities authorized pursuant to 33 CFR Part 330.3 ("Activities occurring before certain dates") are not affected by this GP.

d. If the permittee sells the property associated with a General Permit authorization, the permittee may transfer the General Permit authorization to the new owner by submitting a letter to the Corps to validate the transfer. A copy of the General Permit authorization letter must be attached to the letter, and the letter must include the following statement: "The terms and conditions of this General Permit, including any special conditions, will continue to be binding on the new owner(s) of the property". This letter should be signed by both the seller and new property owner(s).

JMCarthy 7/15/11

for DISTRICT ENGINEER DATE

SECTION 1
ACTIVITIES OCCURRING WITHIN INLAND WATERS & WETLANDS LOCATED WITHIN THE STATE OF CONNECTICUT

I. ACTIVITIES COVERED:

The discharge of dredged or fill material into Waters of the United States[1], which is regulated by the Corps under Section 404 of the Clean Water Act (CWA)[1]

II. REVIEW PROCESS:

1. State and Local Approvals:

In order for authorizations under this GP to be valid, and before commencing any work within Corps jurisdiction, applicants are responsible for applying for and obtaining any of the following required State approvals as well as any local approvals (see General Condition 1):

Inland Wetlands and Watercourses Permit under the Inland Wetlands and Watercourses Act (Connecticut General Statutes (CGS) Sections 22a-36 to 22a-45(a), inclusive)

Water Diversion Permit under the Connecticut Water Diversion Policy Act (CGS Sections 22a-365 to 22a-378(a), inclusive)

Stream Channel Encroachment Lines Permit (CGS Sections 22a-342 to 22a-349(a), inclusive)

Dam Safety Construction Permit (CGS Sections 22a-401 to 22a-411, inclusive)

Water Quality Certification (WQC) under Section 401 of the Federal CWA (33 USC Sec. 1341). Section 401(a)(1) of the Clean Water Act requires that applicants obtain a WQC or waiver from the state water pollution control agency which in Connecticut is the Connecticut Department of Energy and Environmental Protection (CT DEEP) or U. S. EPA for Indian reservation lands to discharge dredged or fill material into waters of the U.S.

Flood Management Certification (CGS Sections 25-68b through 25-68h)

The Connecticut Department of Energy & Environmental Protection, Inland Water Resources Division (CT DEEP IWRD) has conditionally granted WQC for Category 1 activities in inland wetlands and waterways provided those activities meet the criteria as contained in the attached definition of categories.

The U.S. EPA granted WQC for Category 1 activities located on land within the exterior boundaries of an Indian Reservation.

The CT DEEP- IWRD has denied WQC for Category 2 activities in inland wetlands and waterways, until the Commissioner issues a written 401 eligibility determination.

[1]Defined at 33 CFR 328

2. General Permit Review Categories:

a. Category 1 – An application to the Corps is NOT required. However, submittal of the attached Category 1 Form at Appendix 1A to the Corps and CT DEEP, IWRD is required prior to commencement of work authorized by this GP.

Eligibility Criteria

Activities in Connecticut and lands located within the exterior boundaries of an Indian reservation that meet the following criteria are eligible under Category 1 of this General Permit:

- are subject to Corps jurisdiction (See General Condition 2),
- meet the definition of Category 1 in the attached Appendix 1, Definition of Categories, and
- meet the General Conditions of the GP

Project proponents seeking Category 1 authorizations must comply with this GP's General Conditions and other federal laws such as the National Historic Preservation Act, the Endangered Species Act (ESA) and the Wild and Scenic Rivers Act. Therefore, consultation with the Corps and/or outside experts, such as the Connecticut Commission on Culture and Tourism and any appropriate Indian tribes, is recommended when there is a high likelihood of the presence of resources of concern.

Projects not eligible under Category 1 of this GP may be screened under Category 2, provided they meet the criteria as defined in the attached Definition of Categories for Category 2 activities.

b. Category 2 – An application to the Corps is required.

Eligibility Criteria

Activities in Connecticut and lands located within the exterior boundaries of an Indian reservation that meet the following criteria are eligible under Category 2 of this General Permit:

- are subject to Corps jurisdiction (See General Condition 2),
- meet the definition of Category 2 in the attached Appendix 1, Definition of Categories, and
- meet the General Conditions of the GP

3. Applying for a Category 2 permit:

A Corps application form (ENG Form 4345) is required for Category 2 activities and can be found on our website: www.nae.usace.army.mil/reg under forms as well as a list of required additional information.

Applicants must also submit the following to the Corps:

- 2 copies of the application form,
- one set of 8.5" x 11" drawings and one large-scale drawing,
- 2 copies of the wetlands functions and values assessment,
- 2 copies of Federal wetland delineation documentation (data sheets),

- one copy of the CT DEEP addendum found at: http://www.ct.gov/dep/lib/dep/Permits_and_Licenses/LandUse_General_Permits%5CInland Water_General_Permits/CT_addendum_app.pdf,
- one copy of any correspondence with the Connecticut Commission on Culture and Tourism and Tribal Historic Preservation Officer indicating coordination with these entities,
- an Invasive Species Control Plan (See **General Condition 27**), and
- a plan describing any proposed mitigation.

Applicants must concurrently submit three copies of the following to the CT DEEP at the address below:

- the Corps application form,
- 8.5" x 11" drawings, large scale drawings;
- wetlands functions and values assessment,
- Federal wetlands delineation documentation (data sheets),
- CT DEEP addendum, and
- a plan describing any proposed mitigation.

State of Connecticut
Department of Energy & Environmental Protection
Central Permit Processing Unit
79 Elm Street
Hartford, CT 06106-5127

NOTE: Applicants must submit all project revisions and modifications to both agencies.

The Corps will coordinate review of all Category 2 activities with federal and state agencies to ensure that the proposed activity results in no more than a minimal impact to the aquatic environment. To be eligible and subsequently authorized, an activity must meet the criteria in paragraph 2 above and result in no more than minimal impacts to the aquatic environment as determined by the Corps in conjunction with the interagency review team which consists of federal and state resource agencies. This may require project modifications involving avoidance, minimization, and/or compensatory mitigation for unavoidable impacts to ensure the net effects of a project are minimal.

NOTE: For projects receiving State funding with work proposed within a FEMA floodway/floodplain, it is recommended that applicants apply for and receive a Flood Management Certification from CT DEEP, IWRD if one is required, before applying to the Corps.

Written approval from the Corps for Category 2 activities is required before work can commence.

Emergency Situation Procedures: 33 CFR 325.2 (e) (4) states that an "emergency" is a situation which would result in an unacceptable hazard to life, a significant loss of property, or an immediate, unforeseen and significant economic hardship if corrective action requiring a permit is not undertaken within a time period less than the normal time needed to process the application under standard procedures." Notification to the Corps and CT DEEP – IWRD is required. The Corps will determine if a project qualifies as an emergency and will work with all applicable agencies to expedite authorization in emergency situations. If the project qualifies as an emergency, authorization under Category 1 or Category 2 of this General Permit is not required.

Individual Permit Procedures: Work that is **NOT** eligible under Category 2 as defined in the attached Appendix 1, Definition of Categories, or that does not meet the terms and conditions of this GP, will require review under the Corps Individual Permit procedures (see 33 CFR Part 325.1). The applicant shall submit the appropriate application materials (including the Corps ENG 4345 application form) to the Corps of Engineers. General information and application forms can be obtained at the Corps web site noted in Paragraph 3 above. An individual water quality certification is required from the CT DEEP, IWRD before Corps' permit issuance. **The application form and instructions for Section 401 Water Quality Certification are available from the Connecticut DEP web site at http://www.ct.gov/dep/.**

SECTION 1A
ACTIVITIES OCCURRING WITHIN INLAND WATERS & WETLANDS LOCATED WITHIN THE BOUNDARIES OF MASHANTUCKET

I. ACTIVITIES COVERED:

The discharge of dredged or fill material into waters of the U.S.[1], which is regulated by the Corps under Section 404 of the Clean Water Act (CWA) [1]

II. REVIEW PROCESS:

1. Tribal Approval:

In order for authorizations under this GP to be valid and before commencing any work within Corps jurisdiction, applicants are responsible for applying for and obtaining approval from the Mashantucket Pequot Tribal Nation (MPTN) Land Use Commission in compliance with the MPTN Inland Wetlands and Watercourses Regulation.

2. General Permit Review Categories:

a. Category 1 - **An application to the Corps is NOT required. However, submittal of the attached Category 1 Form at Appendix IA to the Corps and the MPTN Natural Resources Protection and Regulatory Affairs Department is required prior to commencement of work authorized by this GP.**

Eligibility Criteria

Activities in Mashantucket that meet the following criteria are eligible under Category 1 of this General Permit:

- are subject to Corps jurisdiction (See General Condition 2),
- meet the definition of Category 1 in the attached Definition of Categories, Appendix 1, and
- meet the General Conditions of the GP

Project proponents seeking Category 1 authorizations must comply with the applicable General Conditions of this GP and other federal laws such as the National Historic Preservation Act, the Endangered Species Act (ESA) and the Wild and Scenic Rivers Act. Therefore, consultation with the Corps and/or outside experts such as the Connecticut Commission on Culture and Tourism and any other appropriate Indian tribes is recommended when there is a high likelihood of the presence of resources of concern.

Projects not eligible under Category 1 of this GP may be screened under Category 2 provided they meet the applicable criteria as defined in the attached Appendix 1, Definition of Categories for Category 2 activities.

[1]Defined at 33 CFR 328

APPENDIX 1

INLAND WATERS AND WETLANDS

WATERS OF THE U.S. [1][2]

DEFINITION OF CATEGORIES

Inland Waters and Wetlands: Waters that are regulated under Section 404 of the Clean Water Act, including rivers, streams, lakes, ponds and wetlands, not including Section 10 Navigable Waters of the United States. [1][2]

Waters of the United States: Inland rivers, streams, brooks, lakes, ponds and wetlands, including navigable waters. [Refer to Title 33 CFR 328 and Section 1362 Federal Clean Water Act.] [1][2]

The jurisdictional limits are the ordinary high water (OHW) mark in the absence of adjacent wetlands, beyond the OHW mark to the limit of adjacent wetlands when adjacent wetlands are present, and the wetland limit when only wetlands are present.

Navigable Waters: Waters that are subject to the ebb and flow of the tide, and Federally designated navigable waters which in Connecticut includes the Connecticut River to the Massachusetts state line.

Note: For the purposes of this GP, fill placed in the area below the high tide line (HTL), and in wetlands that border and are contiguous to tidal waters, are reviewed in the Tidal, Coastal and Navigable Waters section. (See Coastal Definition of Categories)

Activities must be conducted consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control (DEP Bulletin 34) and the 2004 Connecticut Stormwater Quality Manual or subsequent revisions.

See the Page 10 of 10 for footnote definitions.

The following Activities are NOT eligible for authorization under Category 1 Within Inland Waters and Wetlands Located Within the State of Connecticut:

Piping, boxing, enclosing or covering of inland waters for other than a driveway or roadway crossing.

Projects with direct or secondary impact(s) to:

- Special Wetlands(3)
- Threatened, Endangered, or Special Concern Species (4) http://www.dep.state.ct.us/
- Significant Natural Communities (4) identified by the CT Natural Diversity Database http://www.dep.state.ct.us/

Projects requiring a Corps permit with associated construction activities within 100 feet of Special Wetlands(3).

Projects with fill placed within a FEMA established floodway http://msc.fema.gov , unless the applicant has obtained a State of Connecticut Flood Management Certification for the project pursuant to section 25-68d of the Connecticut General Statutes.

Projects with fill placed within a FEMA established floodplain that would adversely affect the hydraulic characteristics of the floodplain(6). **Note: Projects that have received a Flood Management Certification are assumed to have no adverse effect to hydraulic characteristics.**

Projects with detention or retention of stormwater in inland waters or wetlands including:

- Watercourse or wetland crossing that by design or default functions to provide stormwater detention,
- Retention or detention of stormwater in inland waters or wetlands, or
- Construction of stormwater detention or retention basin in inland waters or wetlands.

Projects occurring in a segment of a National Wild and Scenic River System or within 0.25 mile upstream or downstream of the main stem or tributaries of a National Wild and Scenic River System segment. http://www.nps.gov/rivers/

Channeling or relocating inland waters.

Unconfined in-stream work, including construction, installation or removal of sheet pile cofferdam structures, conducted from October 1 through May 31. However, installation and removal of cofferdams, other than sheet pile cofferdams, is allowed during the period October 1 through May 31.

The following Activities are NOT eligible for authorization under Category 1 within Inland Waters and Wetlands Located within the Boundaries of Mashantucket

Piping, boxing, enclosing or covering of inland waters for other than a driveway or roadway crossing.

Projects with fill placed within a FEMA established floodway http://msc.fema.gov , unless the applicant has a State of Connecticut Flood Management Certification for the project pursuant to section 25-68d of the Connecticut General Statutes.

Projects with fill placed within a FEMA established floodplain that would adversely affect the hydraulic characteristics of the floodplain. (6)

Projects with detention or retention of stormwater in inland waters or wetlands including:

- Watercourse or wetland crossing that by design or default functions to provide stormwater detention,
- Retention or detention of stormwater in inland waters or wetlands, or
- Construction of stormwater detention or retention basin in inland waters or wetlands.

Projects occurring in a segment of a National Wild and Scenic River System or within 0.25 mile upstream or downstream of the main stem or tributaries of a National Wild and Scenic River System segment. http://www.nps.gov/rivers/

Channeling or relocating inland waters.

General Condition 3(c) is not applicable to projects within Mashantucket, instead the following work shall be excluded from Category 1 for all vernal pools (VPs) on, or known VPs surrounding, the project site:

a. Any work within a VP depression (inside seasonal high water mark of pool).

b. Any work, including roads and driveways, in the VP envelope (100' from VP depression edge)

c. Any work that individually or cumulatively impacts >25% of the VP critical terrestrial habitat (750' from VP depression edge)

The following activities ARE eligible under CATEGORY 1:

1. A. NEW FILL AND/OR FILL ASSOCIATED WITH EXCAVATION

Less than 5,000 square feet (s.f.) of Fill and Secondary Impacts in Inland Waters and/or Wetlands.

Direct fill impacts include all temporary and permanent fill and excavation discharges resulting from a single and complete project, see General Condition 5.

Secondary impacts include but are not limited to impacts to inland waters or wetlands drained, dredged, flooded, cleared or degraded resulting from a single and complete project. (See 40 CFR 230.11 (g) and (h))

LIMITATIONS FOR SPECIFIC PROJECT ACTIVITIES:

UTILITY LINE RIGHT-OF-WAY CROSSINGS. These must be constructed as follows:

- When trenching, the uppermost 12 inches of the trench is backfilled to the original grade with native soil or streambed material, as appropriate, of the same nature, type and characteristics as the adjacent soil or streambed material, and
- The right-of-way is managed to prevent the introduction, establishment, or spread of plant species determined by the CT Invasive Plants Council to be invasive or potentially invasive. http://nbii-nin.ciesin.columbia.edu/ipane/ctcouncil/CT_invasive.htm

STREAM, RIVER, BROOK CROSSINGS. The following are required for driveway or roadway crossings constructed on streams, rivers, brooks and their tributaries. These provisions do not apply to crossings of drainage ditches or waters with no definable channel.

- CROSSING USING A BRIDGE OR OPEN-BOTTOM STRUCTURE MUST:
  - Spans at least 1.2 times the watercourse bank full width,
  - Has an openness ratio[5] equal to or greater than 0.25 meters, and
  - Allows for continuous flow of the 50-year frequency storm flows

- CROSSING USING A CULVERT PROVIDED:
  - The tributary watershed to the culvert does not exceed 1.0 sq. mile (640 acres),
  - The culvert gradient (slope) is no steeper than the streambed gradient immediately upstream or downstream of the culvert,
  - For a crossing constructed using a single box or pipe arch culvert, the inverts are set not less than 12 inches below the streambed elevation,
  - For a crossing constructed using multiple box or pipe arch culverts, the inverts of one of the boxes or pipe arch culverts are set not less than 12 inches below the elevation of the streambed,
  - For a crossing constructed using a pipe culvert, the inverts are set such that not less than 25% of the pipe diameter or 12 inches, whichever is less, is set below the streambed elevation,
  - The culvert is backfilled with natural substrate material matching upstream and downstream streambed substrate,
  - The structure does not otherwise impede the passage of fish and other aquatic organisms, and
  - The structure allows for continuous flow of the 50-year frequency storm flows

1. B. STREAM BANK STABILIZATION

LIMITATIONS:

- Bank stabilization not to exceed 200 feet in length
- Fill not to exceed an average of 1 cubic yard of per linear foot below ordinary high water
- No fill within the streambed beyond the toe of slope of the stream bank, and
- Work limited to the period June 1 through September 30

NOTE: Length is defined as the sum of the lengths of bank stabilization work along each bank of the inland water.

1. C. REPAIR AND MAINTENANCE OF EXISTING AUTHORIZED OR GRANDFATHERED FILL
Less than 5,000 s.f. of Fill and Secondary Impacts in Inland Waters and/or Wetlands.

Direct fill impacts include all temporary and permanent fill and excavation discharges resulting from a single and complete project, see General Condition 5.

Secondary impacts include but are not limited to impacts to inland waters or wetlands drained, dredged, flooded, cleared or degraded resulting from a single and complete project. (See 40 CFR 230.11 (g) and (h))

LIMITATIONS FOR SPECIFIC PROJECT ACTIVITIES:

REPAIR OR MAINTENANCE OF EXISTING, CURRENTLY SERVICEABLE, AUTHORIZED, GRANDFATHERED FILLS:
- No change in use.
- Conditions of the original authorization apply. However, minor deviations in fill design allowed.

REPLACEMENT OF EXISTING DRIVEWAY CROSSINGS USING A BRIDGE OR OPEN-BOTTOM STRUCTURE:
- Span at least 1.2 times the watercourse bank full width,
- Has an openness ratio [5] equal to or greater than 0.25 meters,
- Allows for continuous flow of the 50-year frequency storm flows
- Does not result in a change in the normal water surface elevation of the upstream waters or wetland.

REPLACEMENT OF EXISTING ROADWAY CROSSING USING A BRIDGE OR OPEN-BOTTOM STRUCTURE:
- Spans at least 1.2 times the watercourse bank full width,
- Has an openness ratio [5] equal to or greater than 0.25 meters,
- Allows for continuous flow of the 50-year frequency storm flows
- Does not result in a change in the normal water surface elevation of the upstream waters or wetland.
- Has a riparian bank on one or both sides for wildlife passage,

REPLACEMENT OF AN EXISTING DRIVEWAY OR ROADWAY CROSSING USING A CULVERT:
- The tributary watershed to the culvert does not exceed 1.0 square mile (640 acres),
- The culvert gradient (slope) is no steeper than the streambed gradient immediately upstream or downstream of the culvert,
- For a single box or pipe arch culvert, the inverts are set not less than 12 inches below the elevation of the streambed,
- For multiple box or pipe arch culverts, the inverts of one of the boxes or pipe arch culverts are set not less than 12 inches below the elevation of the streambed,
- For a pipe culvert, the inverts are set such that not less than 25% of the pipe diameter or 12 inches, whichever is less, is set below the elevation of the streambed,
- The culvert is backfilled with natural substrate material matching upstream and downstream streambed substrate,
- The structure does not otherwise impede the passage of fish and other aquatic organisms, and
- The structure allows for continuous flow of the 50-year frequency storm flows

REPLACEMENT OF A UTILITY LINE WITHIN AN EXISTING RIGHT-OF-WAY CROSSING:
- No horizontal expansion or impacts beyond previously cleared areas,
- No open trench excavation w/in flowing waters w/out management techniques as stated in Special Condition 21 (c)
- When trenching, the uppermost 12 inches of the trench is backfilled with native soil or streambed material, as appropriate, of the same nature, type and characteristics as the adjacent soil or streambed material,
- There are no endangered, threatened or special concern species that would be adversely impacted (CT Natural Diversity Database)
- The right-of-way is managed to prevent the introduction, establishment, or spread of plant species determined by the CT Invasive Plants Council to be invasive or potentially invasive. http://nbii-nin.ciesin.columbia.edu/ipane/ctcouncil/CT_invasive.htm

Note: Replacement of utility line projects w/impacts solely within wetlands greater than 5,000 s.f. may be eligible for Category 1 authorization provided the standards are met. Replacement of utility line projects involving stream crossings with impacts over 5,000 s.f. must be screened under Category 2.

DAM AND FLOOD CONTROL LEVEE REPAIR
- No change in the permanent water surface elevation of the impoundment.
- Drawdown of impoundment for construction not to exceed 18 months or one growing season. (Secondary impacts from the drawdown do not count towards the 5,000 s.f. threshold).
- No dredging within impoundment area except for that essential for repair of the structure.

The following activities are NOT eligible for authorization under CATEGORY 2:

Piping, boxing, or other enclosing or covering of inland waters for other than a driveway or roadway crossing.

Projects with fill placed within a FEMA established floodplain that would adversely affect the hydraulic characteristics of the floodplain.(6)

Detention or retention of stormwater in inland waters or wetlands including:

- Watercourse or wetland crossing that by design or default functions to provide stormwater detention,
- Retention or detention of stormwater in inland waters or wetlands, or
- Construction of stormwater detention or retention basin in inland waters or wetlands.

The following activities ARE eligible under CATEGORY 2:

2. A. NEW FILL AND/OR FILL ASSOCIATED WITH EXCAVATION

5,000 s.f. to less than 1 acre of Fill and Secondary Impacts in Inland Waters and/or Wetlands.

Direct fill impacts include all temporary and permanent fill and excavation discharges resulting from a single and complete project.

Secondary impacts include, but are not limited to impacts to inland waters or wetlands drained, dredged, flooded, cleared or degraded resulting from a single and complete project. (See 40 CFR 230.11 (g) and (h))

LIMITATIONS FOR SPECIFIC PROJECT ACTIVITIES:

UTILITY LINE RIGHT-OF-WAY CROSSING:

- The uppermost 12 inches of the trench is backfilled with native soil or streambed material, as appropriate, consistent with the adjacent soil or streambed material, and
- The right-of-way is managed to prevent the introduction, establishment, or spread of plant species determined by the Connecticut Invasive Plants Council to be invasive or potentially invasive. http://invasives.eeb.uconn.edu/ipane/ctcouncil/CT_Invasive_Plant_List.htm
- Temporary mats are not counted towards the 1 acre threshold provided they are adequately cleaned after previous use, removed immediately after completion of construction, and disposed of at an upland site.

STREAM, RIVER, BROOK CROSSINGS. The following are required for driveway or roadway crossings constructed on streams, rivers, brooks and their tributaries. These provisions do not apply to crossings of drainage ditches or waters with no definable channel.

- CROSSING CONSTRUCTED USING A BRIDGE OR OPEN-BOTTOM STRUCTURE:
  - Spans at least 1.2 times the watercourse bank full width,
  - Has an openness ratio[5] equal to or greater than 0.25 meters, and
  - Allows for continuous flow of the 50-year frequency storm flows

- CROSSING CONSTRUCTED USING A CULVERT:
  - The use of a bridge or open-bottom structure is determined to be not practicable,
  - For a crossing constructed with a single box or pipe arch culvert, the inverts are set not less than 12 inches below the elevation of the natural streambed,
  - For a crossing constructed with multiple box or pipe arch culverts, the inverts of one of the boxes or pipe arch culverts are set at least 12 inches below the elevation of the natural streambed,
  - For a crossing constructed with a pipe culvert, the inverts are set such that not less than 25% of the diameter of the pipe or 12 inches, whichever is less, is set below the elevation of the natural stream bed,
  - The culvert gradient (slope) is no steeper than the streambed gradient immediately upstream or downstream of the culvert,
  - The culvert is backfilled with natural substrate material matching upstream and downstream substrate,
  - The culvert has an openness ratio[5] equal to or greater than 0.25 meters
  - The structure does not result in a change in the normal water surface elevation of the upstream waters or wetlands, and
  - The structure allows for continuous flow of the 50-year frequency storm flows
  - There is no practicable alternative location for the crossing that would have less environmental impacts.

NOTE: In instances where it is determined by the agencies that it is not practicable to construct a crossing consistent with the standards, the crossing may be authorized as a Category 2 project provided that the crossing is constructed in a manner that minimizes impediments to fish and aquatic life passage to the greatest extent practicable. A mere showing of expense will not necessarily determine that compliance with the standards is not practicable. Documentation should be submitted with the Category 2 application package.

2. B. STREAM BANK STABILIZATION

Stream Bank Stabilization not to exceed 500 feet in length with the following limitations:

- Fill not to exceed an average of 1 cubic yard per linear foot below ordinary high water
- No fill within the streambed beyond the toe of slope of the stream bank, and
- Work limited to the period June 1 through September 30

NOTE: Length is defined as the sum of the lengths of bank stabilization work along each bank of the inland water.

2. C. REPAIR & MAINTENANCE OF EXISTING AUTHORIZED OR GRANDFATHERED FILL

Replacement of Non-Serviceable Fills, or Repair or Maintenance of Serviceable Fills with horizontal expansion of less than 1 acre or with a change in use.

LIMITATIONS FOR SPECIFIC PROJECT ACTIVITIES:

REPLACEMENT OF EXISTING STREAM, RIVER, BROOK CROSSINGS. The following are required for the replacement of existing driveway or roadway crossings constructed on streams, rivers, brooks and their tributaries. These provisions do not apply to crossings of drainage ditches or waters with no definable channel.

- CROSSING RECONSTRUCTED USING A BRIDGE OR OPEN-BOTTOM STRUCTURE:
  - Spans at least 1.2 times the watercourse bank full width,
  - Has an openness ratio[5] equal to or greater than 0.25 meters, and
  - Allows for continuous flow of the 50-year frequency storm flows

- CROSSING RECONSTRUCTED USING A CULVERT:
  - The use of a bridge or open-bottom structure is determined to be not practicable,
  - For a crossing constructed with a single box or pipe arch culvert, the inverts are set not less than 12 inches below the elevation of the natural streambed,
  - For a crossing constructed with multiple box or pipe arch culverts, the inverts of one of the boxes or pipe arch culverts are set at least 12 inches below the elevation of the natural streambed,
  - For a crossing constructed with a pipe culvert, the inverts are set such that not less than diameter of the pipe or 12 inches, whichever is less, is set below the elevation of the natural stream bed,
  - The culvert is backfilled with natural substrate material matching upstream and downstream substrate,
  - The culvert has an openness ratio[5] equal to or greater than 0.25 meters
  - The structure does not result in a change in the normal water surface elevation of the upstream waters or wetlands, and
  - The structure allows for continuous flow of the 50-year frequency storm flows

- UTILITY LINE RIGHT-OF-WAY CROSSING:
  Temporary mats are not counted towards the 1 acre threshold provided they are adequately cleaned after previous use, removed immediately after completion of construction ,and disposed of at an upland site

NOTE: In instances where it is determined by the agencies that it is not practicable to construct a crossing consistent with the standards, the crossing may be authorized as a Category 2 project provided that the crossing is constructed in a manner that minimizes impediments to fish and aquatic life passage to the greatest extent practicable. A mere showing of expense will not necessarily determine that compliance with the standards is not practicable. Documentation should be submitted with the Category 2 application package.

2. D. WETLAND OR STREAM RESTORATION OR ENHANCEMENT

Such projects with any amount of impact may be screened for eligibility under Category 2. The Corps, in concurrence with State and Federal agencies, must determine that net adverse effects are minimal.

2. E. POND OR LAKE RESTORATION OR ENHANCEMENT

Such projects with any amount of impact may be screened for eligibility under Category 2. The Corps, in concurrence with the Connecticut Department of Energy & Environmental Protection, Inland Water Resources Division (CT DEEP, IWRD), must determine that net adverse effects are minimal.

LIMITATIONS:

- There is no horizontal expansion of the pond or lake.
- Excavation is limited to restoring the pond or lake basin to its original contours through the removal of accumulated material,
- Excavated material is disposed outside of inland waters, wetlands and floodplains,
- The area being dredged is physically isolated from adjoining areas of flowing water during construction,
- Best management practices are employed to avoid creating erosion, sedimentation or water quality degradation during excavation and during any period of dewatering and refilling,
- Adequate littoral zones and cover are maintained to provide habitat suitable for supporting fish and other aquatic life during construction, and following completion of the project
- During the period of pond or lake refilling, continual downstream flow is maintained consistent with the requirements under Water Diversion Regulations, Section 22a-377(b)-1(b) of the Regulations of Connecticut State Agencies.

DEFINITIONS

(1) **Waters of the U. S.:** Inland rivers, streams, brooks, lakes, ponds and wetlands. [Refer to Title 33 CFR 328 and Section 1362 Federal Clean Water Act], including navigable waters.

(2) **Navigable Waters:** Waters that are subject to the ebb and flow of the tide, and Federally designated navigable waters which in Connecticut includes the Connecticut River to the Massachusetts state line. [Refer to Title 33 CFR Part 329 and Section 1362 Federal Clean Water Act]

(3) **Special Wetlands:** Include vernal pools, bogs, fens, cedar swamps, spruce swamps, calcareous seepage swamps, and wetlands that provide habitat for threatened or endangered species or species of special concern as designated by the State of Connecticut Natural Diversity Database. The following definitions for bogs, calcareous seepage wetlands, cedar swamps, fens, spruce swamps, and vernal pools apply for the purposes of this GP:

Bog: a peat accumulating wetland dominated by sphagnum moss. Typical plant species include sphagnum moss, leatherleaf, black spruce, pitcher plant and sundew.
Calcareous Seepage Swamp: a forested wetland characterized by the discharge of groundwater with a chemistry influenced by underlying limestone geology.
Cedar Swamp: a forested wetland characterized by the presence of Northern White Cedar or Atlantic White Cedar.
Fen: a peat accumulating wetland dominated by sedges and/or ericaceous shrubs. Typical plant species include low sedges, ericaceous shrubs, sphagnum and other mosses.
Spruce Swamp: a forested wetland characterized by the presence of Red or Black Spruce.
Vernal Pool: an often temporary body of water occurring in a shallow depression of natural or human origin that fills during spring rains and snow melt and typically dries up during summer months. Vernal pools support populations of species specially adapted to reproducing in these habitats. Such species may include wood frogs, mole salamanders (*Ambystoma* sp.), fairy shrimp, fingernail clams, and other amphibians, reptiles and invertebrates. Vernal pools lack breeding populations of fish. **(NOTE: The Corps will determine on a case-by-case basis which vernal pools are within their jurisdiction. When Corps jurisdiction over a project has been established, impacts to vernal pools from project activities will be considered. All vernal pools are subject to the jurisdiction of the CT DEEP under Connecticut Water Quality Standards or, the Mashantucket Pequot Tribal Nation under the MPTN IWWC Regulation.)**

(4) **Threatened, Endangered or Special Concern Species; Significant Natural Communities:** Species listed by CT DEEP pursuant to Chapter 495 of the Connecticut General Statute as threatened or endangered species or species of special concern. Known locations of threatened and endangered species and species of special concern, and significant natural communities are identified on maps entitled "State and Federal Listed Species and Significant Natural Communities", as amended. These maps are available at city or town clerk offices and in the CT DEEP File Room located on the store level of 79 Elm Street, Hartford and on their website: http://www.ct.gov/dep/

(5) **Openness Ratio:** The cross-sectional area (in square meters) of the opening of a structure divided by the length (measured in meters) of the structure. For a box culvert, openness ratio = (height x width)/length (measured in meters). The imbedded portion of the culvert is not included in the cross-sectional area used for calculating the openness ratio.

(6) **Adverse Effect to Hydraulic Characteristics:** An adverse effect to hydraulic characteristics includes an increase in flood water surface elevation, an increase in flood flow velocity or a restriction of flood flow conveyance in a manner that would impact upstream, downstream or adjacent property.

US Army Corps of Engineers®
New England District

Appendix 1A: Category 1 Certification Form
(Required for all Inland Projects in Connecticut)

Submit this form **before** work commences to the following addresses:

U.S. Army Corps of Engineers, Permits & Enforcement Branch B (CT),
696 Virginia Road, Concord, MA 01742-2751

Connecticut Department of Energy & Environmental Protection, CT DEEP,
Inland Water Resources Division, 79 Elm Street, Hartford, CT 06106-5127
(not required if work is done within exterior boundaries of Mashantucket)

Permittee Name & Address: _____

Phone number & Email address: _____

Work Location/Address: _____

Latitude/Longitude coordinates: _____

Waterway name: _____

Contractor Name & Address: _____

Phone number & Email address: _____

Proposed Work Dates: Start: _____ Finish: _____

Work will be done within Inland Waters & Wetlands under the following categories – refer to Appendix 1 (check all that apply):

_____ 1.A. New Fill and/or Fill Associated with Excavation

_____ 1.B. Stream Bank Stabilization

_____ 1.C. Repair & Maintenance of Existing Authorized or Grandfathered Fill.

Wetland impact: _____ square feet (sf) Waterway impact: _____sf and/or _____ linear feet

Brief Project Description _____

_____

Project purpose: _____

Secondary Impacts include but are not limited to impacts to inland waters or wetlands drained, dredged, flooded, cleared or degraded resulting from a single and complete project. See General Condition 3.

Does your project include any of these secondary impacts? Y/N – If yes, please describe them:

_____

_____

Your signature below, as permittee, indicates that you accept and agree to comply with the terms, eligibility criteria, and general conditions of Category 1 of this Connecticut General Permit.

Permittee Signature: _____ **Date:** _____

APPENDIX D

Bridge Plans and Profiles

GENERAL NOTES:

1. THE CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS AND INSPECTIONS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNMENT AGENCIES.
2. ANY PERMITS WHICH MUST BE OBTAINED SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND AT HIS EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
3. LOCATION OF EXISTING SEWER, WATER OR GAS LINES, CONDUITS OR OTHER STRUCTURES ACROSS, UNDERNEATH, OR OTHERWISE ALONG THE LINE OF PROPOSED WORK ARE NOT NECESSARILY SHOWN ON THE PLANS, AND IF SHOWN ARE ONLY APPROXIMATELY CORRECT. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF ALL UTILITIES IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT ENGINEER IMMEDIATELY IF LOCATION OR ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLANS. IF THERE APPEARS TO BE A CONFLICT, OR UPON DISCOVERY OF ANY UTILITY NOT SHOWN ON THE PLANS, CONTACT ENGINEER IMMEDIATELY.
4. EXISTING PAVEMENT AND OTHER SURFACES DISTURBED BY THE CONTRACTOR (WHICH ARE NOT TO BE REMOVED) SHALL BE REPAIRED TO LIKE-NEW CONDITION BY THE CONTRACTOR.
5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL DITCHES, PIPES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURES IN OPERABLE CONDITION.
6. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED, AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE IN WHICH IT IS TO BE PERFORMED.
7. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE BEGINNING OF ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK.
8. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES. SHOULD THE CONTRACTOR REQUIRE DIRECT CONSULTATION, FDH ENGINEERING, INC. IS WILLING TO OFFER SERVICES BASED UPON AN AGREED FEE FOR THE WORK REQUIRED.
9. NEITHER THE PROFESSIONAL ACTIVITIES OF FDH ENGINEERING, INC, NOR THE PRESENCE OF FDH ENGINEERING, INC, EMPLOYEES AND SUB-CONSULTANTS AT THE CONSTRUCTION SITE SHALL RELIEVE THE GENERAL CONTRACTOR AND OR SUBCONTRACTORS AND ANY OTHER ENTITY OF THEIR OBLIGATIONS, DUTIES, AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO; CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES, OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING, OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. THE GENERAL CONTRACTOR AND OR SUBCONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SAFETY, AND WARRANTS THAT THIS INTENT IS EVIDENT BY ACCEPTING THIS WORK.
10. IF CONTRACTOR WISHES TO FURNISH OR USE A SUBSTITUTE ITEM OF MATERIAL OR EQUIPMENT, CONTRACTOR SHALL FIRST MAKE WRITTEN APPLICATION TO ENGINEER FOR ACCEPTANCE THEREOF, CERTIFYING THAT THE PROPOSED SUBSTITUTE WILL PERFORM ADEQUATELY THE FUNCTIONS AND ACHIEVE THE RESULTS CALLED FOR BY THE GENERAL DESIGN, BE SIMILAR IN SUBSTANCE TO THAT SPECIFIED AND SUITED TO THE SAME USE AS THAT SPECIFIED. ALL VARIATIONS OF THE PROPOSED SUBSTITUTE FROM THAT SPECIFIED WILL BE IDENTIFIED IN THE APPLICATION AND AVAILABLE MAINTENANCE, REPAIR, AND REPLACEMENT SERVICE WILL BE INDICATED. THE APPLICATION WILL ALSO CONTAIN AN ITEMIZED ESTIMATE OF ALL COSTS OR CREDITS THAT WILL RESULT DIRECTLY OR INDIRECTLY FROM ACCEPTANCE OF SUCH SUBSTITUTE INCLUDING COSTS OF REDESIGN AND CLAIMS OF OTHER CONTRACTORS AFFECTED BY THE RESULTING CHANGE. ALL OF WHICH WILL BE CONSIDERED BY ENGINEER IN EVALUATION OF THE PROPOSED SUBSTITUTE. ENGINEER MAY REQUIRE CONTRACTOR TO FURNISH ADDITIONAL DATA ABOUT THE PROPOSED SUBSTITUTE.
11. ALL SURVEY WORK ASSOCIATED WITH THE IMPROVEMENTS RECOMMENDED HEREIN SHALL BE PERFORMED BY A LICENSED LAND SURVEYOR IN THE STATE OF WORK PERFORMED.
12. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS WITH THE RESIDENT LEASING AGENT FOR APPROVAL.
13. ALL WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL CODES AND ORDINANCES. THE MOST STRINGENT CODE WILL APPLY IN THE CASE OF DISCREPANCIES OR DIFFERENCES IN THE CODE REQUIREMENTS.
14. ANY DAMAGE TO LOCAL PROPERTIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
15. COORDINATE THE CONSTRUCTION STAGING AREA WITH THE PROPERTY OWNER AND THE PROPERTY MANAGER WELL IN ADVANCE OF THE CONSTRUCTION START DATE.
16. ALL EXCESS FILL OR SPOIL SHALL BE REMOVED FROM THE SITE OR STORED IN A LOCATION APPROVED BY SBA COMMUNICATIONS AND THE PROPERTY OWNER.
17. EASEMENT LOCATIONS DEPICTED ON THIS PLAN ARE APPROXIMATE AND ARE NOT INTENDED TO ILLUSTRATE ACTUAL LEGAL BOUNDARIES.
18. ALL MATERIALS USED SHALL MEET THE SPECIFICATIONS OF THE STATE DOT UNLESS OTHERWISE SPECIFIED.
19. REMOVE ALL ORGANICS AND OTHER DEBRIS FROM THE AREA TO BE FILLED, EXCAVATED, OR GRADED.
20. SITE OWNER AND/OR CONTRACTOR ARE RESPONSIBLE FOR COORDINATING THE PROPOSED WORK WITH THE TOWN OR OTHER AGENCY HAVING JURISDICTION OVER THE PORTION OF THE ROADWAY FOR WHICH WORK IS PROPOSED. OBTAINING ALL TOWN OR OTHER GOVERNING AGENCY REQUIRED REVIEWS, APPROVALS, PERMITS AND PERMISSIONS TO PERFORM WORK AS SPECIFIED IN THIS PLAN ARE THE SOLE RESPONSIBILITY OF THE SITE OWNER AND/OR CONTRACTOR.
21. CONTRACTOR TO NOTIFY THE APPROPRIATE GOVERNING AGENCY BEFORE PERFORMING WORK IN ANY JURISDICTIONAL STREAM, WETLAND, OR OTHER WATERBODY.
22. ALL CONSTRUCTION EQUIPMENT SHALL BE STAGED AND OPERATED FROM THE BANKS OF WEWAKA BROOK, OUTSIDE OF THE DENUDED WETLANDS AND ABOVE THE ELEVATION OF ORDINARY HIGH WATER.

ENVIRONMENTAL NOTES:

VERNAL POOL PROTECTION PROTECTION PROGRAM

THE CONSTRUCTION AREA IS LOCATED IN PROXIMITY TO SENSITIVE WETLAND RESOURCE AREAS THAT PROVIDE VERNAL POOL HABITAT. THE FOLLOWING PROTECTIVE MEASURES WILL AVOID UNINTENTIONAL MORTALITY TO VERNAL POOL HERPTOFAUNA (I.E., SPOTTED SALAMANDER, WOOD FROG, ETC.) AS A RESULT OF CONSTRUCTION ACTIVITIES FOR THE SITE IMPROVEMENTS PROPOSED. THIS VERNAL POOL PROTECTION PROGRAM HAS BEEN DEVELOPED IN ACCORDANCE WITH RECOMMENDATION CONTAINED IN THE CONNECTICUT SITING COUNCIL'S CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED (DOCKET NO. 412; JANUARY 19, 2012) WITH ADHERENCE TO THIS VERNAL POOL PROTECTION PROGRAM, THE PROPOSED DEVELOPMENT AT THIS PROPERTY WILL NOT HAVE AN ADVERSE EFFECT ON VERNAL POOL SPECIES.

IT IS OF THE UTMOST IMPORTANCE THAT THE CONTRACTOR COMPLIES WITH THE REQUIREMENTS FOR THE INSTALLATION OF PROTECTIVE MEASURES AND THE EDUCATION OF EMPLOYEES AND SUBCONTRACTORS PERFORMING WORK ON THE PROJECT SITE. ALL-POINTS TECHNOLOGY CORPORATION, P.C. (APT) WILL SERVE AS THE ENVIRONMENTAL MONITOR FOR THIS PROJECT TO ENSURE THAT VERNAL POOL PROTECTION MEASURES ARE IMPLEMENTED PROPERLY. THE CONTRACTOR SHALL CONTACT DEAN GUSTAFSON, SENIOR WETLAND SCIENTIST AT APT, AT LEAST 5 BUSINESS DAYS PRIOR TO THE PRE-CONSTRUCTION MEETING. MR. GUSTAFSON CAN BE REACHED AT (860) 984-0515 AND AT DGUSTAFSON@ALLPOINTSTECH.COM

THE PROPOSED VERNAL POOL PROTECTION PROGRAM CONSISTS OF SEVERAL COMPONENTS. ISOLATION OF THE PROJECT PERIMETER; PERIODIC INSPECTION AND MAINTENANCE OF ISOLATION STRUCTURES; HERPTOFAUNA SWEEPS; EDUCATION OF ALL CONTRACTORS AND SUB-CONTRACTORS PRIOR TO INITIATION OF WORK ON THE SITE; PROTECTIVE MEASURES; AND REPORTING.

1. SEASONAL RESTRICTION
   - A. CONSTRUCTION WILL BE SEASONALLY RESTRICTED FROM OCCURRING BETWEEN MARCH 1 TO MAY 15 TO AVOID CONSTRUCTION ACTIVITIES AND POTENTIAL DISTURBANCE DURING THE PEAK AMPHIBIAN MIGRATION AND BREEDING PERIOD. ACCESS DRIVE CONSTRUCTION ACTIVITIES LOCATED MORE THAN 750 FEET FROM THE VERNAL POOLS ARE NOT SEASONALLY RESTRICTED FROM THIS PERIOD. EXCEPTING IN-STREAM WORK SEASONAL RESTRICTIONS ASSOCIATED WITH THE BRIDGE REPLACEMENT WORK (UNCONFINED IN-STREAM WORK, INCLUDING CONSTRUCTION INSTALLATION OR REMOVAL OF COFFERDAM STRUCTURES OR PLACEMENT OF FILL, IS LIMITED TO THE PERIOD JULY 1 THROUGH SEPTEMBER 30).
2. ISOLATION MEASURES
   - A. INSTALLATION OF CONVENTIONAL SILT FENCING, WHICH WILL ALSO SERVE AS AN ISOLATION OF THE WORK ZONE FROM SURROUNDING AREAS AND IS REQUIRED FOR EROSION CONTROL COMPLIANCE, SHALL BE PERFORMED BY THE CONTRACTOR FOLLOWING CLEARING ACTIVITIES AND PRIOR TO ANY EARTHWORK. APT WILL INSPECT THE WORK ZONE AREA PRIOR TO AND FOLLOWING EROSION CONTROL BARRIER INSTALLATION TO ENSURE THE AREA IS FREE OF VERNAL POOL HERPTOFAUNA.
   - B. THE FENCING WILL CONSIST OF CONVENTIONAL EROSION CONTROL WOVEN FABRIC, INSTALLED APPROXIMATELY SIX INCHES BELOW SURFACE GRADE TO BURY THE BOTTOM OF THE SILT FENCE AND STAKED AT SEVEN TO TEN-FOOT INTERVALS USING FIVE-FOOT STEEL OR OAK STAKES. IN ADDITION TO REQUIRED DAILY INSPECTION BY THE CONTRACTOR, THE FENCING WILL BE INSPECTED FOR TEARS OR BREACHES IN THE FABRIC FOLLOWING INSTALLATION AND AT APPROXIMATELY ONE-WEEK INTERVALS OR AFTER STORM EVENTS OF 0.5 INCH OR GREATER BY APT. INSPECTIONS WILL BE CONDUCTED BY APT THROUGHOUT THE COURSE OF THE CONSTRUCTION PROJECT.
   - C. THE EXTENT OF THE BARRIER FENCING WILL BE AS SHOWN ON THE SITE PLANS. FIELD CONDITIONS MAY REQUIRE THE INSTALLATION OF ADDITIONAL BARRIER FENCING AT THE DIRECTION OF APT. THE CONTRACTOR SHALL MAINTAIN ADDITIONAL SUPPLIES OF BARRIER FENCING AND EROSION CONTROLS ON SITE FOR THIS PURPOSE.
   - D. NO EQUIPMENT, VEHICLES OR CONSTRUCTION MATERIALS SHALL BE STORED OUTSIDE OF BARRIER FENCING.
3. CONTRACTOR EDUCATION:
   - A. PRIOR TO WORK ON SITE, THE CONTRACTOR SHALL ATTEND AN EDUCATIONAL SESSION AT THE PRE-CONSTRUCTION MEETING WITH APT. THIS ORIENTATION AND EDUCATIONAL SESSION WILL CONSIST OF AN INTRODUCTORY SESSION WITH PHOTOS IDENTIFYING VARIOUS COMMON VERNAL POOL HERPTOFAUNA, STRESSING THE NON-AGGRESSIVE NATURE OF THESE SPECIES AND THE ABSENCE OF NEED TO DESTROY ANIMALS THAT MIGHT BE ENCOUNTERED, HOW TO PROPERLY HANDLE THESE SPECIES IF ENCOUNTERED AND THE NEED TO FOLLOW PROTECTIVE MEASURES AS DESCRIBED IN SECTION 4.
   - B. THE CONTRACTOR WILL BE PROVIDED WITH CELL PHONE AND EMAIL CONTACTS FOR APT ENVIRONMENTAL MONITOR STAFF TO IMMEDIATELY REPORT ANY ENCOUNTERS WITH VERNAL POOL HERPTOFAUNA. POSTER MATERIALS WILL BE PROVIDED BY APT TO THE CONTRACTOR FOR POSTING ON THE JOB SITE TO MAINTAIN WORKER AWARENESS OF THE SENSITIVE NATURE OF THE JOB SITE.
4. PROTECTIVE MEASURES
   - A. A THOROUGH COVER SEARCH OF THE CONSTRUCTION AREA WILL BE PERFORMED BY AN APT ENVIRONMENTAL MONITOR FOR VERNAL POOL HERPTOFAUNA PRIOR TO AND FOLLOWING INSTALLATION OF SILT FENCING TO REMOVE ANY SPECIES FROM THE WORK ZONE PRIOR TO THE INITIATION OF CONSTRUCTION ACTIVITIES.
   - B. PRIOR TO THE START OF CONSTRUCTION EACH DAY, THE CONTRACTOR SHALL SEARCH THE ENTIRE WORK AREA FOR VERNAL POOL HERPTOFAUNA.
   - C. IF HERPTOFAUNA ARE FOUND, THEY SHOULD BE CAREFULLY GRASPED IN BOTH HANDS AND PLACED JUST OUTSIDE OF THE ISOLATION BARRIER IN THE APPROXIMATE DIRECTION THEY WERE HEADING.
   - D. SPECIAL CARE SHALL BE TAKEN BY THE CONTRACTOR DURING EARLY MORNING AND EVENING HOURS SO THAT POSSIBLE BASKING OR FORAGING HERPTOFAUNA ARE NOT HARMED BY CONSTRUCTION ACTIVITIES.
   - E. ANY STORMWATER MANAGEMENT FEATURES, RUTS OR ARTIFICIAL DEPRESSIONS THAT COULD HOLD WATER CREATED INTENTIONALLY OR UNINTENTIONALLY BY SITE CLEARING/CONSTRUCTION ACTIVITIES WILL BE PROPERLY FILLED IN AND PERMANENTLY STABILIZED WITH VEGETATION TO AVOID THE CREATION OF VERNAL POOL "DECOY POOLS" THAT COULD INTERCEPT AMPHIBIANS MOVING TOWARD THE VERNAL POOLS. STORMWATER MANAGEMENT FEATURES SUCH AS PLUNGE POOLS LOCATED WITHIN 750 FEET OF VERNAL POOL HABITAT WILL CAREFULLY REVIEWED IN THE FIELD TO ENSURE THAT STANDING WATER DOES NOT ENDURE FOR MORE THAN A 24 HOUR PERIOD TO AVOID CREATION OF DECOY POOLS AND MAY BE SUBJECT TO FIELD DESIGN CHANGES. ANY SUCH DESIGN CHANGES WILL BE REVIEWED BY THE DESIGN ENGINEER TO ENSURE STORMWATER MANAGEMENT FUNCTIONS ARE MAINTAINED.
   - F. EROSION CONTROL MEASURES WILL BE REMOVED NO LATER THAN 30 DAYS FOLLOWING FINAL SITE STABILIZATION SO AS NOT TO IMPEDE MIGRATION OF AMPHIBIANS OR OTHER WILDLIFE.
   - G. THE USE OF HERBICIDES AND PESTICIDES AT THE PROPOSED WIRELESS TELECOMMUNICATIONS FACILITY AND ALONG THE PROPOSED ACCESS DRIVE ARE STRICTLY PROHIBITED.
5. REPORTING
   - A. WEEKLY INSPECTION REPORTS (BRIEF NARRATIVE AND APPLICABLE PHOTOS) WILL BE SUBMITTED TO THE CONNECTICUT SITING COUNCIL FOR COMPLIANCE VERIFICATION. ANY OBSERVATIONS OF VERNAL POOL HERPTOFAUNA WILL BE INCLUDED IN THE REPORTS.

PROJECT DESCRIPTION:

BRIDGEWATER 4 - BRIDGE REPLACEMENT

BRIDGEWATER, CT

SBA

SITE NAME:

BRIDGEWATER 4, CT

CT11934-S

SITE ADDRESS:
WEWAKA BROOK ROAD
BRIDGEWATER, CT 06752

LATITUDE - 41° 30' 31.50" N
LONGITUDE - 73° 21' 16.00" W

OWNER CONTACT

CONTACT: SEAN GORMLEY
SITE DEVELOPMENT MANAGER
PHONE: (508) 251-0720 EXT. 304

PROJECT CONTACT

ENGINEER: FDH ENGINEERING, INC.
CONTACT: SALMAN MOAZZAM, P.E.
ADDRESS: 6521 MERIDIEN DRIVE
RALEIGH, NC 27616
PHONE: (919) 755-1012
FAX: (919) 755-1031

VICINITY MAP

SHEET INDEX

UTILITY LOCATE

811 Know what's below. Call before you dig.

CONTACT AT LEAST 48 HOURS PRIOR TO CONSTRUCTION

CALL CENTER: 811 OR 800-922-4455
WEBSITE: WWW.CBYD.COM

BASE MAP NOTES:

1. THIS SURVEY HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300b-1 THROUGH 20-300b-20 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS INC. ON SEPTEMBER 26, 1996. THE BOUNDARY LINES SHOWN ON THIS PLAN WERE COMPILED FROM OTHER MAPS. RECORD RESEARCH OR OTHER SOURCES OF INFORMATION, IT IS NOT TO BE CONSTRUED AS HAVING BEEN OBTAINED AS THE RESULT OF A FIELD SURVEY, AND IS SUBJECT TO SUCH CHANGE AS AN ACCURATE FIELD SURVEY MAY DISCLOSE.

   TYPE OF SURVEY: COMPILATION PLAN

   BOUNDARY DETERMINATION CATEGORY: NONE

   CLASS OF ACCURACY: HORIZONTAL CLASS A-2
   VERTICAL CLASS V-2
   TOPOGRAPHIC CLASS T-2
2. PROPERTY LINES SHOWN HEREON ARE FROM RECORD DEEDS PLOTS AND TAX MAPS AS OVERLAID ON ANY MONUMENTATION OR OTHER EVIDENCE THAT MAY HAVE BEEN LOCATED DURING THE TOPOGRAPHIC SURVEY. A PROPERTY SURVEY WAS NOT PERFORMED BY CHA AND AS A RESULT THE PROPERTY LINES SHOWN ARE APPROXIMATE AND DO NOT PRESENT A PROPERTY/BOUNDARY OPINION.
3. BASE MAPPING PREPARED BY CHA FROM AN FEBRUARY, APRIL AND MAY 2010 FIELD SURVEY.
4. NORTH ORIENTATION IS TRUE NORTH BASED ON GPS OBSERVATIONS TAKEN AT THE TIME OF THE FEBRUARY 2010 FIELD SURVEY.
5. UNDERGROUND UTILITIES, STRUCTURES AND FACILITIES, IF ANY, HAVE BEEN SHOWN FROM SURFACE LOCATIONS AND MEASUREMENTS OBTAINED FROM A FIELD SURVEY, THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHER UTILITIES WHICH THE EXISTENCE OF ARE NOT KNOWN, SIZE, TYPE AND LOCATION OF ALL UTILITIES AND STRUCTURES MUST BE VERIFIED BY PROPER AUTHORITIES PRIOR TO ANY AND ALL CONSTRUCTION. CALL DIG SAFE PRIOR.
6. SUBJECT TO ALL RIGHTS, EASEMENTS, COVENANTS OR RESTRICTIONS OF RECORD.
7. LATITUDE/LONGITUDE ARE REFERENCED TO NAD83 CONNECTICUT ZONE. COORDINATES SHOWN, IF ANY, ARE EXPRESSED IN U.S. SURVEY FEET. ELEVATIONS ARE REFERENCED TO NAVD88. TOP OF STRUCTURE HEIGHT AS SHOWN, IF ANY, DETERMINED BY VERTICAL ANGLE OR BY ACTUAL LOCATION. INFORMATION SHOWN BASED ON FAA 2C CERTIFICATION ACCURACY LEVEL DEFINED AS;
   HORIZONTAL: ±50 FEET / 15 METERS
   VERTICAL: ±20 FEET / 6 METERS
8. SITE FALLS WITHIN ZONE "AA" DEFINED AS AREAS INUNDATED BY 100 YEAR FLOODING, FOR WHICH NO BFES HAVE BEEN ESTABLISHED, AND "B" DEFINED AS AREAS OF 100-YEAR FLOODING WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; OR AN AREA PROTECTED BY LEVEES FROM 100-YEAR FLOODING, AS SHOWN ON FLOOD INSURANCE RATE MAP, TOWN OF BRIDGEWATER, CONNECTICUT, LITCHFIELD COUNTY, PANEL 6 OF 8, COMMUNITY PANEL NUMBER 090184 0006 B, EFFECTIVE DATE NOVEMBER 1, 1979.
9. WETLANDS SHOWN AS DELINEATED BY VANASSE HANGEN BRUSTLIN, INC., DATED 4-19-10 AND LOCATED BY CHA DURING THE FIELD SURVEY.

Prepared by:
FDH ENGINEERING INNOVATION
6521 MERIDIEN DRIVE
RALEIGH, NC 27616
PHONE: 919•755•1012
FAX: 919•755•1031

Prepared for:
SBA
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800) 487-SITE

STATE OF CONNECTICUT — J. DARRIN HOLT — NO. 22988 — REGISTERED PROFESSIONAL ENGINEER

11/07/12

J. DARRIN HOLT, P.E.
CONNECTICUT LICENSE NO. 22988

PROJECT NO.:	00-00000
DRAWN BY:	CB
CHECKED BY:	SM
ENG. APPV'D:	DH

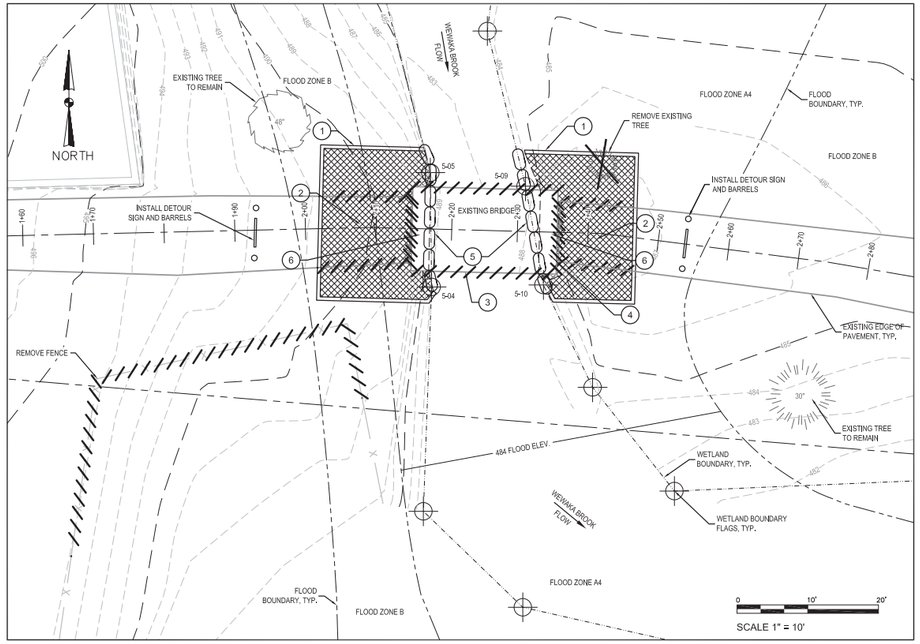
SUBMITTALS

DATE	DESCRIPTION	REV
10/17/12	DESIGN FINAL	A

BRIDGEWATER 4
PERMIT DRAWINGS
WEWAKA BROOK ROAD
BRIDGEWATER, CT 06752

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1



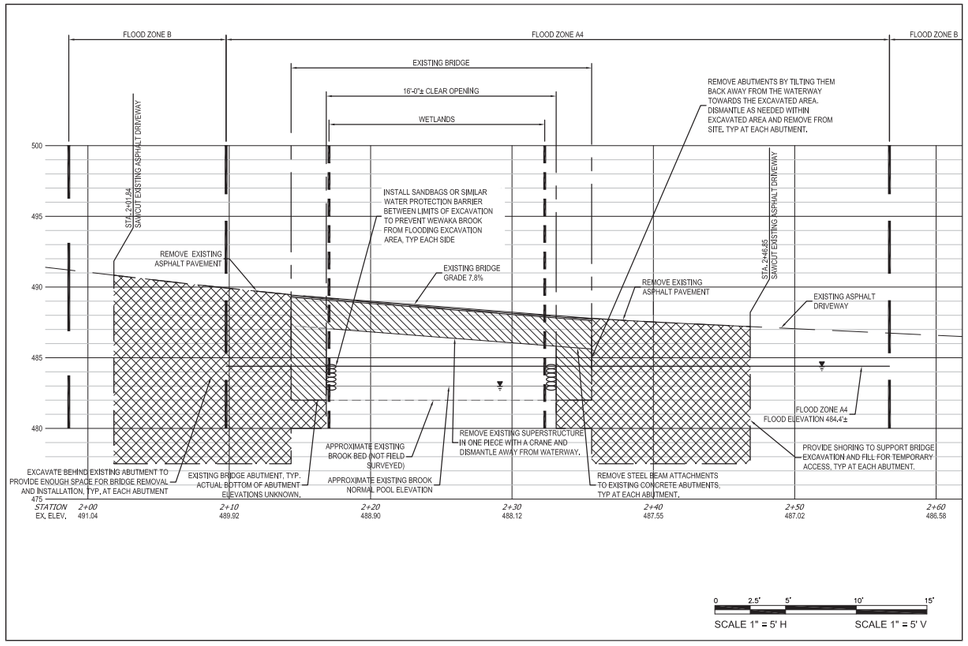
BRIDGE DEMOLITION SITE PLAN

BRIDGE DEMOLITION SEQUENCE:

1. PROVIDE SHORING TO SUPPORT BRIDGE EXCAVATION AND FILL FOR TEMPORARY ACCESS.
2. DEMO EXISTING ASPHALT DRIVE AND EXCAVATE BEHIND EXISTING ABUTMENT TO PROVIDE ENOUGH SPACE FOR BRIDGE REMOVAL AND INSTALLATION, TYP, AT EACH ABUTMENT,
3. REMOVE EXISTING SUPERSTRUCTURE IN ONE PIECE WITH A CRANE AND DISMANTLE AWAY FROM WATERWAY.
4. REMOVE STEEL BEAM ATTACHMENTS TO EXISTING CONCRETE ABUTMENTS, TYP AT EACH ABUTMENT
5. INSTALL SANDBAGS OR SIMILAR WATER PROTECTION BARRIER BETWEEN LIMITS OF EXCAVATION, (HATCHED AREA) TO PREVENT WEWAKA BROOK FROM FLOODING EXCAVATION AREA, TYP EACH SIDE.
6. REMOVE ABUTMENTS BY TILTING THEM BACK AWAY FROM THE WATERWAY TOWARDS THE EXCAVATED AREA, DISMANTLE AS NEEDED WITHIN EXCAVATED AREA AND REMOVE FROM SITE, TYP AT EACH ABUTMENT.

LEGEND

- EXISTING WETLAND BOUNDARY FLAG
- EXCAVATION AREA
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING FENCE
- WETLAND BOUNDARY
- FLOOD BOUNDARY
- KEYNOTE



BRIDGE DEMOLITION PROFILE

GENERAL NOTES:

1. THE ELEVATIONS SHOWN ON THESE DRAWINGS ARE TO BE CONSIDERED GUIDANCE AND SHOULD BE ADJUSTED TO FIT ACTUAL FIELD CONDITIONS DURING CONSTRUCTION. THE CONTRACTOR SHALL USE JUDGEMENT WHEN ESTABLISHING CONSTRUCTION GRADES AND ELEVATIONS.
2. THE CONTRACTOR SHALL LOCATE, MARK, SAFEGUARD AND PRESERVE ALL SURVEY CONTROL MONUMENTS AND R.O.W. MONUMENTS IN THE AREAS OF CONSTRUCTION. CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL PROPERTY, EASEMENT AND R.O.W. BOUNDARIES.
3. THE CONTRACTOR SHALL VERIFY SURVEY DATA AS DEPICTED ON THE PLANS. ANY DISCREPANCIES OR OTHER ITEMS IN CONFLICT SHALL BE NOTED AND ADJUSTED WITH THE ENGINEER'S PERMISSION IN CONSULTATION WITH THE PROJECT SURVEYOR.

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STATE OF CONNECTICUT J. DARRIN HOLT No. 22988 LICENSED PROFESSIONAL ENGINEER

11/07/12

J. DARRIN HOLT, P.E.
CONNECTICUT LICENSE NO. 22988

PROJECT NO.:	00-00000
DRAWN BY:	CB
CHECKED BY:	SM
ENG. APPVD:	DH

SUBMITTALS

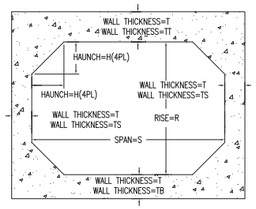
DATE	DESCRIPTION	REV
10/17/12	DESIGN/PERMIT	A

BRIDGEWATER 4
PERMIT DRAWINGS

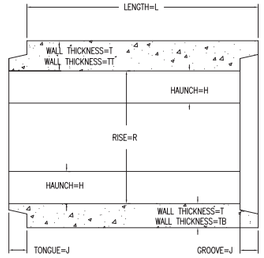
WEWAKA BROOK ROAD
BRIDGEWATER, CT 06752

SHEET TITLE
DEMOLITION PLAN

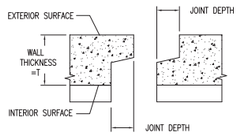
SHEET NUMBER
C-1



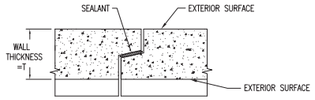
CROSS SECTION
AT CENTERLINE OF BOX LENGTH
NO REINFORCEMENT SHOWN



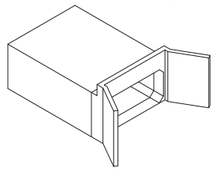
PROFILE SECTION
AT CENTERLINE OF BOX SPAN
NO REINFORCEMENT SHOWN



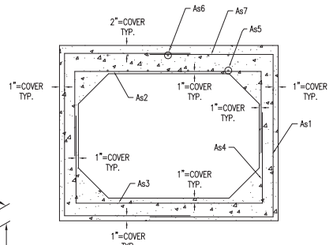
JOINT DETAILS
NO REINFORCEMENT SHOWN



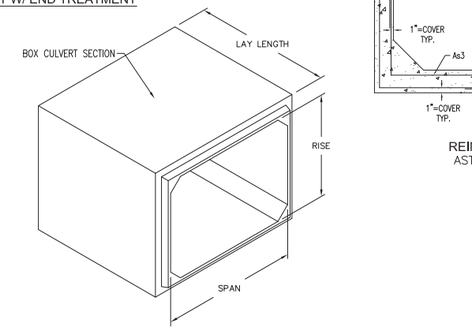
JOINT DETAIL ASSEMBLED
NO REINFORCEMENT SHOWN



BOX CULVERT W/ END TREATMENT



TYPICAL
REINFORCEMENT
ASTM C-1433

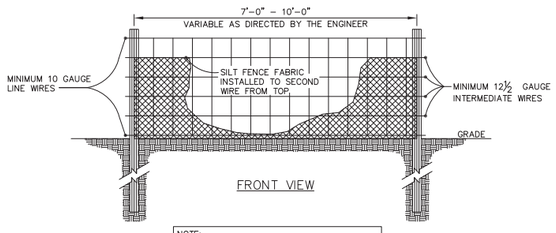


NOTE:
AREA OF REINFORCEMENT, NUMBER OF CAGES, AND CONCRETE COMPRESSIVE STRENGTHS SHALL BE IN CONFORMANCE WITH A.S.T.M. SPECIFICATIONS.

ALL DIMENSIONS ARE SUBJECT TO ALLOWABLE SPECIFICATION TOLERANCES AND PARAMETERS.

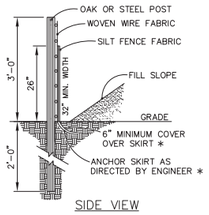
SPAN S FEET	RISE R FEET	WALL Tt	WALL Ts	WALL Tb	HAUNCH H INCHES	LENGTH L FEET	WEIGHT WT. #'S/FT.	TONGUE J INCHES	GROOVE J INCHES	WATERWY AREA SQ. FT.	EQUIV. DIA. INCHES
4'	4'	8"	5"	6"	8"	8'	1160	4.50"	4.50"	15.1	52.6"

Oldcastle Precast
www.oldcastleprecast.com



FRONT VIEW

NOTE:
USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND NEVER IN AREAS OF CONCENTRATED FLOW.



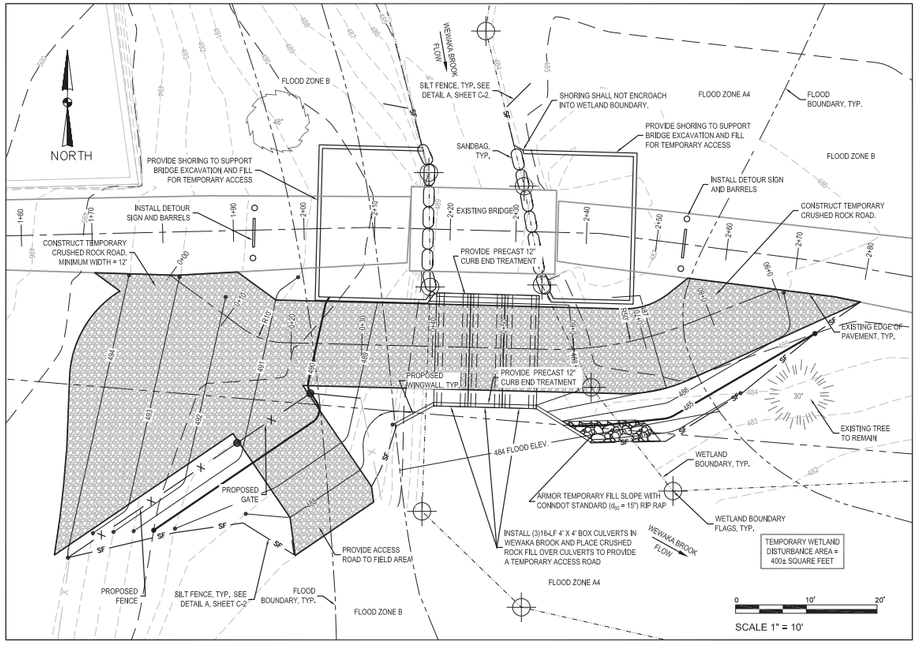
SIDE VIEW

A C-2 SILT FENCE DETAIL
NOT TO SCALE

SYMBOL — SF —

LEGEND

- EXISTING WETLAND BOUNDARY FLAG
- PROPOSED RIP RAP
- PROPOSED CRUSHED ROCK ROAD
- 490 — EXISTING MAJOR CONTOUR
- 483 — EXISTING MINOR CONTOUR
- 490 — PROPOSED MAJOR CONTOUR
- 483 — PROPOSED MINOR CONTOUR
- SF — PROPOSED SILT FENCE
- X — EXISTING FENCE
- X — PROPOSED FENCE

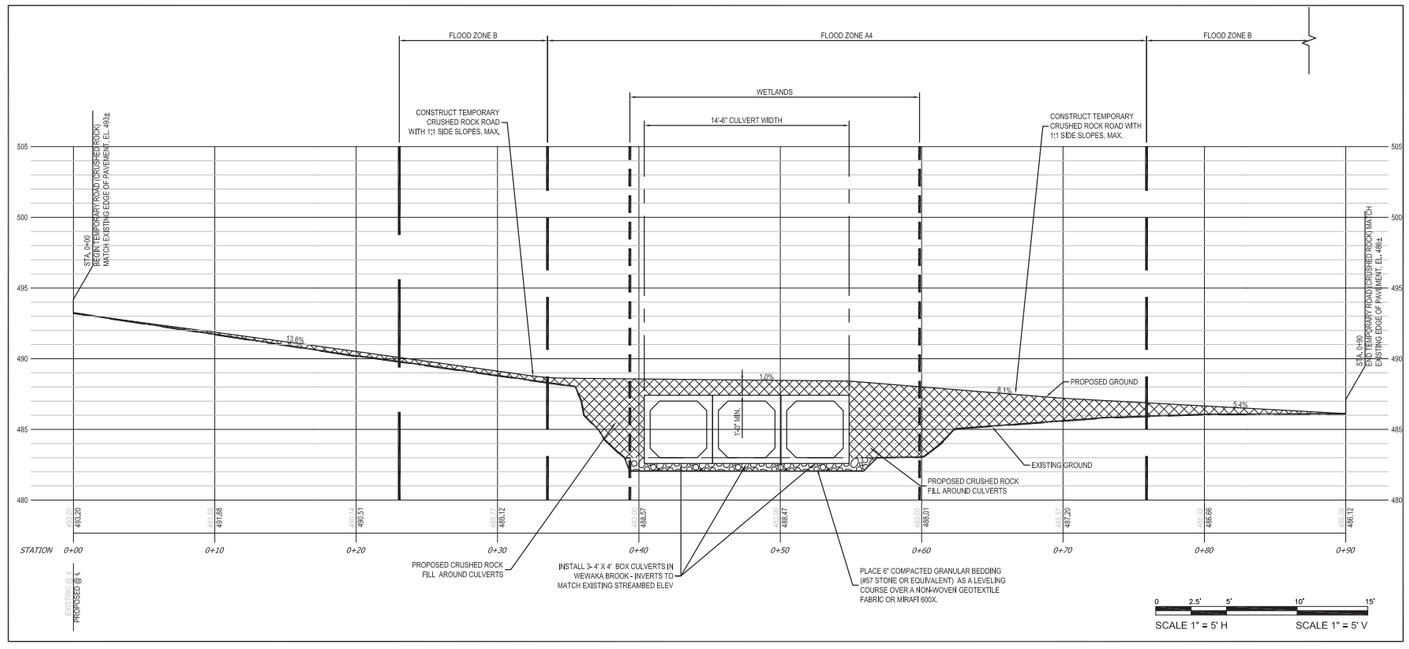


EXISTING CONDITIONS & TEMPORARY ACCESS SITE PLAN

NOTES:
1. EXISTING WEWAKA BROOK STREAM BED WAS NOT FIELD SURVEYED. EXISTING STREAMBED LOCATIONS IN THIS PLAN SET ARE APPROXIMATE ONLY.
2. GEOTECHNICAL BORING AND SOILS DATA IS NOT AVAILABLE FOR THE SITE.
3. AREA FOR GRANULAR BEDDING WILL BE CLEARED FOR ANY DELETERIOUS AND ORGANIC MATERIAL.
4. GEOTEXTILE FABRIC, MIRAFI 600X WILL BE PLACED BELOW THE CRUSHED ROCK.
5. CRUSHED ROCK FILL OVER CULVERTS SHOULD BE PLACED IN WELL COMPACTED LAYERS - NOT EXCEEDING 8-INCHES.

DEWATERING NOTES:
1. CONTRACTOR TO PROVIDE FOR PUMP-DISCHARGE TO BYPASS THE SITE OF TEMPORARY CROSSING, AS APPLICABLE.
2. PUMP BYPASS TO BE LOCATED AT EXISTING ROCK WEIR LOCATED APPROXIMATELY 80-FT NORTH OF THE EXISTING BRIDGE.

TEMPORARY CULVERT NOTES:
1. PLACE BOX CULVERTS INLETS & OUTLETS AT AN ELEVATION EQUAL TO EXISTING STREAMBED.
2. CULVERT SLOPES SHOULD FOLLOW THE GRADE OF THE EXISTING CHANNEL.
3. CONTRACTOR TO VERIFY THE EXISTING STREAMBED ELEVATION PRIOR TO BEGINNING CONSTRUCTION. STREAMBED ELEVATIONS WERE NOT SURVEYED AND ARE SHOWN HERE AS APPROXIMATE ELEVATIONS.
4. CONTRACTOR TO PROVIDE AND INSTALL PRECAST TEMPORARY BOX CULVERT, WING WALLS, AND CURB END UNITS. PRECAST UNITS CAN BE BY OLD CASTLE AS SHOWN ON THIS SHEET OR AN APPROVED EQUAL.
5. TEMPORARY BOX CULVERT(S) PROVIDE EQUIVALENT HYDRAULIC OPENING AS THE EXISTING BRIDGE.



TEMPORARY ACCESS ROAD PROFILE

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STATE OF CONNECTICUT J. DARRIN HOLT No. 22988 LICENSED PROFESSIONAL ENGINEER

11/07/12

J. DARRIN HOLT, P.E.
CONNECTICUT LICENSE NO. 22988

PROJECT NO.:	00-00000
DRAWN BY:	CB
CHECKED BY:	SM
ENG. APPVD:	DH

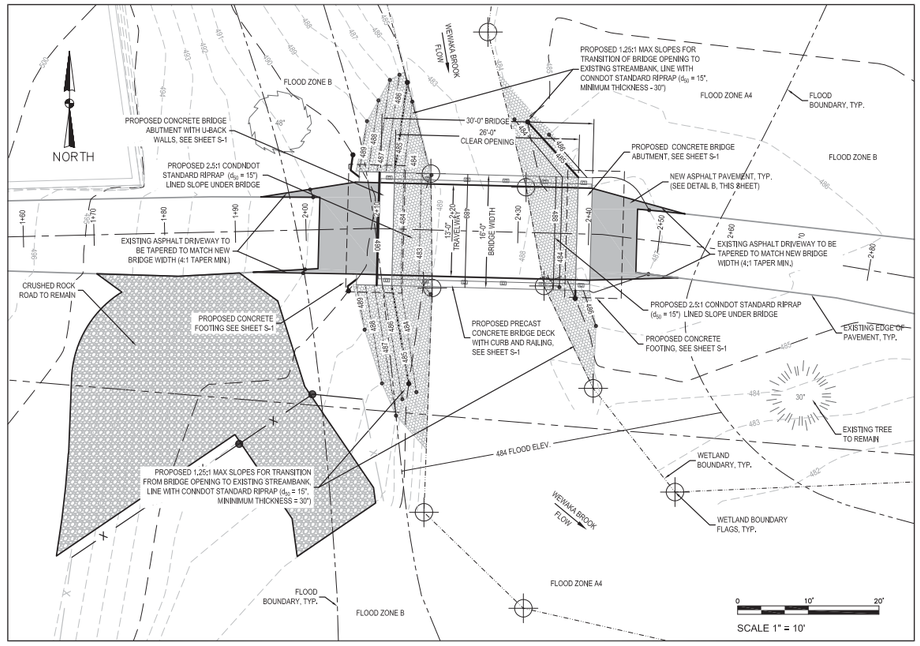
SUBMITTALS

DATE	DESCRIPTION	REV
10/17/12	DESIGN/PERMIT	A

BRIDGEWATER 4
PERMIT DRAWINGS
WEWAKA BROOK ROAD
BRIDGEWATER, CT 06752

SHEET TITLE
TEMPORARY ACCES

SHEET NUMBER
C-2



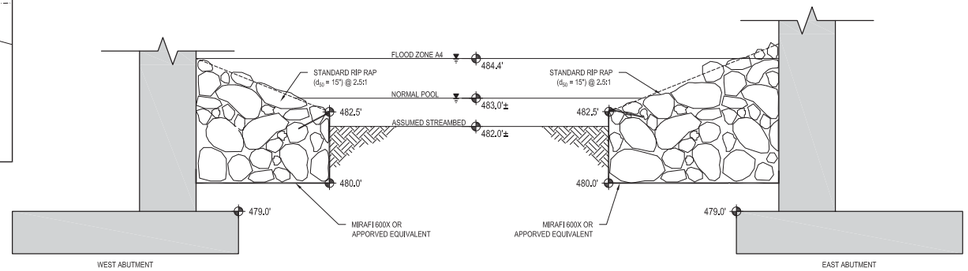
NEW BRIGE SITE PLAN

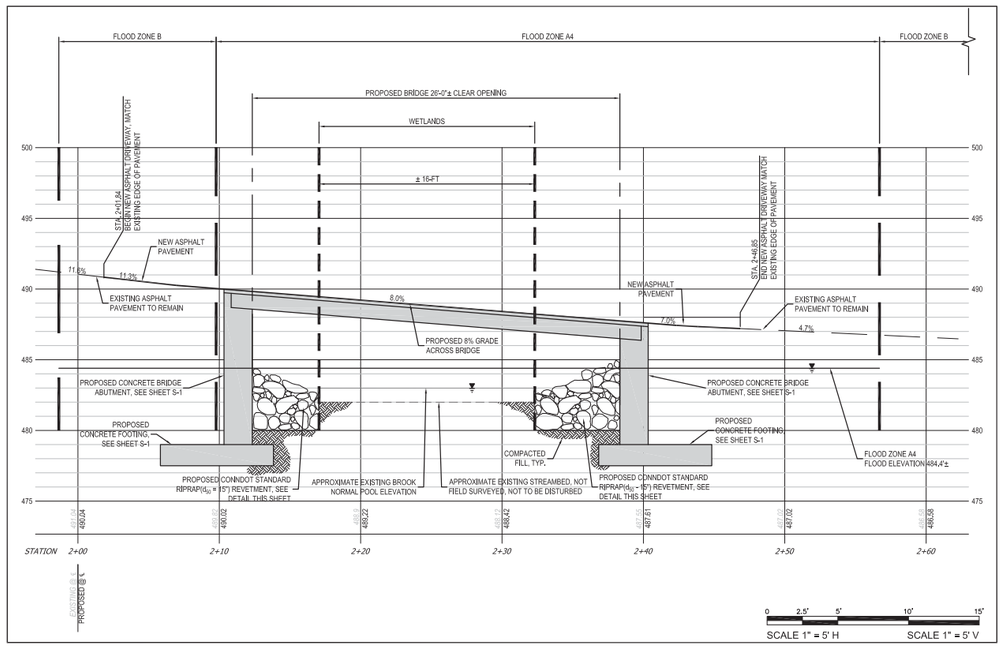
NOTES:

1. AFTER REMOVAL OF TEMPORARY FILL AND BOX CULVERTS, CONTRACTOR TO BACKFILL THE CHANNEL BOTTOM TO ORIGINAL GRADE WITH NATIVE SOIL AND STREAMBED MATERIAL.
2. CONTRACTOR TO MAINTAIN EROSION CONTROL MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
3. CONTRACTOR TO SEED ALL DENUDED AREAS UPON COMPLETION.

EARTHWORK, COMPACTION, AND GRADING NOTES:

1. GRADING AND EROSION CONTROL MEASURES SHALL BE KEPT WITHIN THE LIMITS SHOWN. CONTRACTOR SHALL PROTECT EXISTING TREES AND VEGETATION OUTSIDE THE LINES OF GRADING.
2. CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS PRIOR TO BEGINNING ANY EXCAVATION ACTIVITIES. CONTRACTOR SHALL DETERMINE EXACT LOCATIONS AND ELEVATION OF UNDERGROUND UTILITIES BEFORE CONSTRUCTION AND IS RESPONSIBLE FOR ANY NECESSARY RELOCATIONS.
3. ALL SITE IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL LAWS.
4. AFTER STRIPPING AND STOCKPILING OF TOPSOIL, REMOVE FROM THE SITE ALL UNSUITABLE MATERIAL AS ENCOUNTERED IN THE FIELD.
5. PRIOR TO FILL PLACEMENT FOR PAVEMENT AREAS, CONTRACTOR SHALL REMOVE ALL UNSTABLE MATERIAL AND STABILIZE IN PLACE AND THEN COMPACT THE FILL TO 95% MAXIMUM DENSITY AND TO A MINIMUM DEPTH OF 12", AS DETERMINED BY ASTM D-1557.
6. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND ELEVATIONS OF OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE.
7. EXISTING PAVEMENT SHALL BE SAWCUT TO OBTAIN A STRAIGHT AND NEAT EDGE FOR PAVING.
8. STUMPS AND BRUSH MAY NOT BE BURIED ON SITE.
9. IF SHEETING OR SHORING IS REQUIRED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS DESIGN, INSTALLATION AND REMOVAL AS PART OF CONTRACTOR'S ESTIMATE.
10. CONSTRUCTION WASTE SUCH AS ASPHALT AND CONCRETE SHALL BE TAKEN OFF-SITE.
11. CONTRACTOR SHALL COORDINATE WITH GEOTECHNICAL ENGINEER TO ASSESS EXCAVATED SOIL CONDITIONS PRIOR TO REPAIRING SUBGRADE.
12. TOTAL DISTURBED AREA = 0.09 ACRES.
13. TEMPORARY CROSSING FILL WILL BE COMPRISED OF CRUSHED ROCK MATERIAL WHICH SHALL BE FREE FROM CLAY, LOAM, ORGANIC MATERIAL, DEBRIS, FROZEN MATERIAL AND ANY MATERIAL THAT IS CLASSIFIED AS A TOXIC POLLUTANT BY EPA AS DESCRIBED IN CODE OF FEDERAL REGULATIONS 40 CFR 401.5.
14. STREAMBED HAS NOT BEEN SURVEYED.

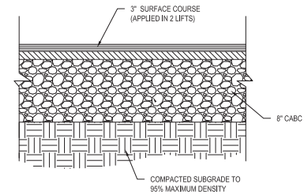




NEW BRIDGE PROFILE

C C-2 RIP RAP REVETMENT

NOT TO SCALE



B C-2 HEAVY DUTY ASPHALT PAVING

NOT TO SCALE

LEGEND

- EXISTING WETLAND BOUNDARY FLAG
- NEW ASPHALT CEMENT CONCRETE
- PROPOSED RIP RAP
- PROPOSED CRUSHED ROCK ROAD
- 490 EXISTING MAJOR CONTOUR
- 483 EXISTING MINOR CONTOUR
- 490 PROPOSED MAJOR CONTOUR
- 483 PROPOSED MINOR CONTOUR
- X EXISTING FENCE
- X PROPOSED FENCE

Prepared by:
FDH ENGINEERING INNOVATION
6521 MERIDIEN DRIVE
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PHONE: 919-755-1012
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Prepared for:
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STATE OF CONNECTICUT J. DARRIN HOLT No. 22988 LICENSED PROFESSIONAL ENGINEER

11/07/12

J. DARRIN HOLT, P.E.
CONNECTICUT LICENSE NO. 22988

PROJECT NO.:	00-00000
DRAWN BY:	CB
CHECKED BY:	SM
ENG. APPVD:	DH

SUBMITTALS

DATE	DESCRIPTION	REV
10/17/12	DESIGN/PERMIT	A

BRIDGEWATER 4
PERMIT DRAWINGS

WEWAKA BROOK ROAD
BRIDGEWATER, CT 06752

SHEET TITLE

SITE PLAN

SHEET NUMBER

C-3

DESIGN AND CODE INFORMATION:

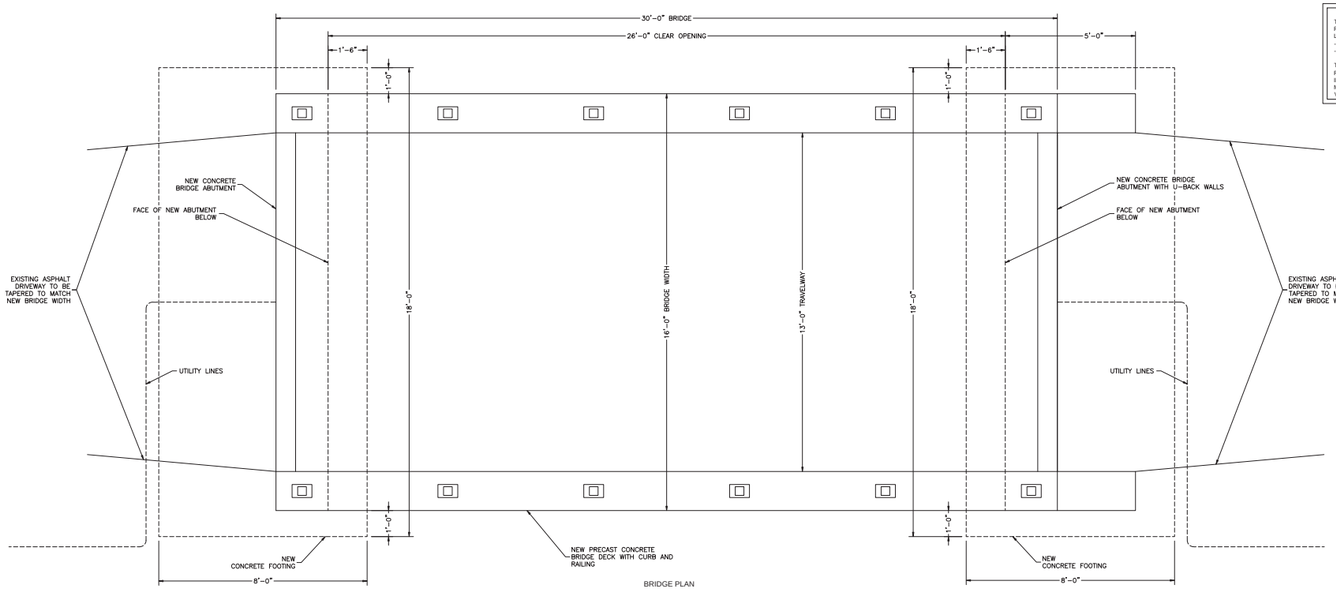
1. ALL CONSTRUCTION SHALL CONFORM TO THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
2. VERIFY EXISTING CONDITIONS AND NOTIFY FDH ENGINEERING, INC. OF ANY CONDITIONS WHICH DO NOT COMPLY WITH PLANS AND SPECIFICATIONS.
3. THE DESIGN ADEQUACY, SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC. IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
4. DESIGN LIVE LOADS: HL-93
5. THIS PROJECT CONTAINS A SERIES OF DETAILS CONSIDERED "TYPICAL DETAILS". THESE SHALL APPLY AT ALL SITUATIONS THAT ARE THE SAME OR SIMILAR AS THESE DETAILS. THESE "TYPICAL DETAILS" SHALL APPLY WHETHER OR NOT THEY ARE INDICATED OR CUT AT EACH LOCATION.
6. USE OF STRUCTURAL DRAWINGS FOR SHOP DRAWINGS IS NOT PERMITTED. CONTRACTOR TO REVIEW AND STAMP DRAWINGS ACCORDINGLY PRIOR TO SUBMITTING TO THE ENGINEER. THE OMISSION OF ITEMS FROM SHOP DRAWINGS SHALL NOT RELIEVE CONTRACTOR OF RESPONSIBILITY OF FURNISHING AND INSTALLING ITEMS REGARDLESS OF WHETHER SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED.

FOUNDATION NOTES:

1. FOUNDATION DESIGN IS BASED UPON AN ASSUMED VALUE.
2. FOOTINGS ARE DESIGNED TO BEAR ON UNIFORM SOIL CAPABLE OF SUPPORTING 2000 PSF. A GEOTECHNICAL INVESTIGATION SHOULD BE PERFORMED TO DETERMINE ACTUAL SOIL PARAMETERS.
3. WHERE FOOTING EXCAVATIONS ARE TO REMAIN OPEN AND MAY BE EXPOSED TO RAINFALL, THE EXCAVATIONS SHALL BE UNDERCUT AND A 3" THICK MUD MAT OF 2000 PSI CONCRETE SHALL BE PLACED IN THE BOTTOM TO PROTECT THE BEARING SOILS.

REINFORCED CONCRETE:

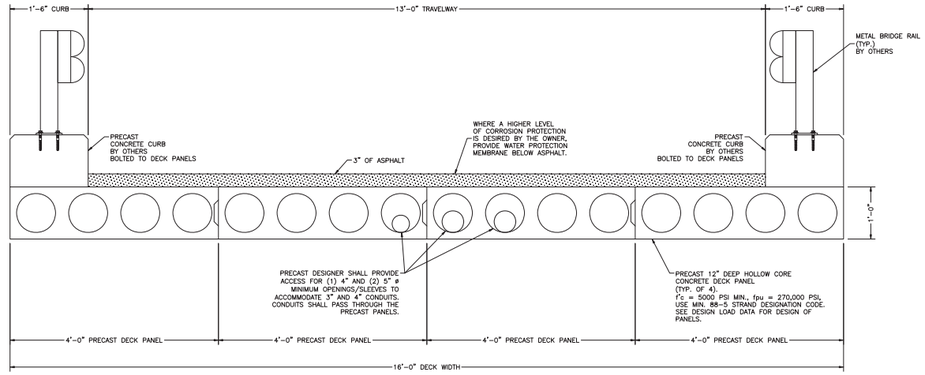
1. ALL CONCRETE WORK SHALL CONFORM TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE," (ACI 318, 08)
2. REINFORCING STEEL SHALL BE DEFORMED BARS ASTM A-615 (GRADE 60).
3. THE COMPRESSIVE STRENGTH AT 28 DAYS OF ALL CAST IN PLACE CONCRETE SHALL BE 4000 PSI (SEE CIVIL DRAWINGS FOR SITE CONCRETE) KEEP COPY OF CONCRETE TEST REPORTS ON SITE AT ALL TIMES.
4. LAP SPLICES FOR REINFORCING BARS SHALL BE 24" MINIMUM, UNLESS NOTED OTHERWISE.
5. CONCRETE COVER TO REINFORCING STEEL SHALL CONFORM TO THE MINIMUM COVER RECOMMENDATIONS IN ACI 318-08, UNLESS THE DRAWINGS SHOW GREATER COVER REQUIREMENTS.



BRIDGE PLAN

1 / S-1 PLAN VIEW

3/8"=1'-0"



DESIGN LOAD DATA

THE PRECAST DECK SYSTEM SHALL BE DESIGNED FOR HL-93 LOADING PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE GOVERNING LOAD COMBINATION WILL INCLUDE THE FOLLOWING LOADS:
- DESIGN TANDEM - PAIR OF 25.0K AXLES SPACED 4FT APART.
- DESIGN LANE LOAD - UNIFORMLY DISTRIBUTED LOAD OF 0.64KLF

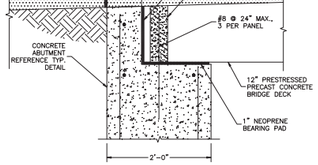
THE PRECAST DECK SYSTEM SHALL BE DESIGNED TO WITHSTAND THE FOLLOWING SUPERIMPOSED ULTIMATE LOADS (DEAD LOADS NOT INCLUDED):
Mu = 900 K*FT
Vu = 110 K

NOTES:
1. PRECAST DESIGNER SHALL DESIGN DECK PANEL AND CONNECTIONS FOR THE DESIGN LOAD DATA PROVIDED.
2. PRECAST DESIGNER TO PROVIDE SHOP DRAWINGS FOR REVIEW.

BRIDGE DECK ELEVATION

3 / S-1 DETAIL

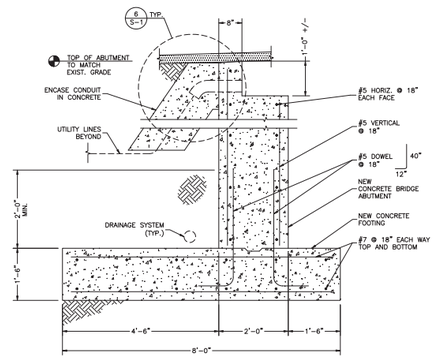
3/4"=1'-0"



TYP. DECK TO ABUTMENT DETAIL

4 / S-1 DETAIL

3/4"=1'-0"

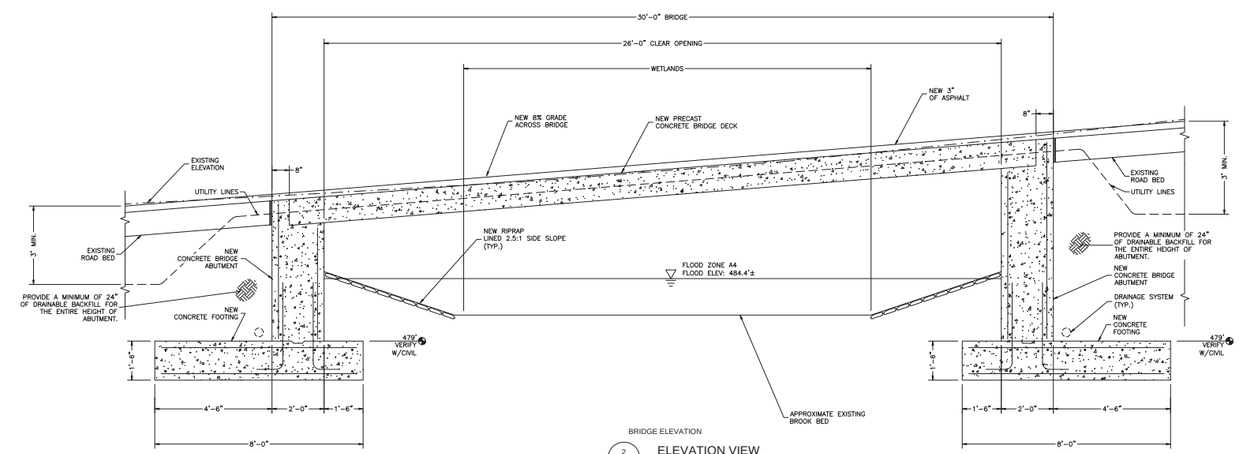


TYP. ABUTMENT DETAIL

5 / S-1 DETAIL

1/2"=1'-0"

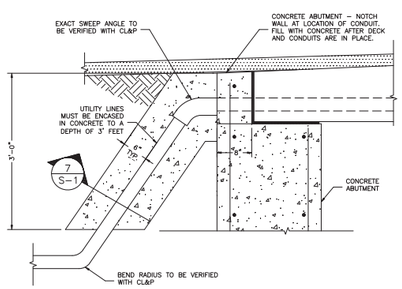
ABUTMENT AND FOOTINGS SHOWN ARE CAST IN PLACE CONCRETE. EQUIVALENT PRECAST CONCRETE ABUTMENT AND FOOTINGS MAY BE USED PROVIDED THE CONTRACTOR SUBMITS SHOP DRAWINGS FOR APPROVAL.



BRIDGE ELEVATION

2 / S-1 ELEVATION VIEW

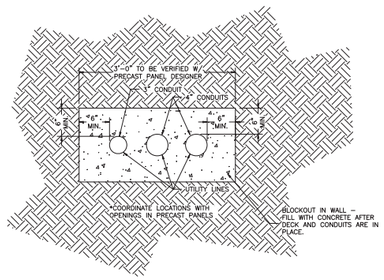
3/8"=1'-0"



ABUTMENT DETAIL @ UTILITIES

6 / S-1 DETAIL

3/4"=1'-0"



CONCRETE ENCASED CONDUIT

7 / S-1 DETAIL

3/4"=1'-0"

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STATE OF CONNECTICUT – J. DARRIN HOLT – NO. 22988 – LICENSED PROFESSIONAL ENGINEER

11/07/12

J. DARRIN HOLT, P.E.
CONNECTICUT LICENSE NO. 22988

PROJECT NO.:	12–03422E C1
DRAWN BY:	MMG
CHECKED BY:	SSA
ENG. APPV'D:	MGH

SUBMITTALS

DATE	DESCRIPTION	REV
10/17/12	DESIGN/FINAL	A

BRIDGEWATER 4

WEWAKA BROOK ROAD
BRIDGEWATER, CT 06752

SHEET TITLE

STRUCTURAL
BRIDGE PLANS AND DETAILS

SHEET NUMBER

S-1