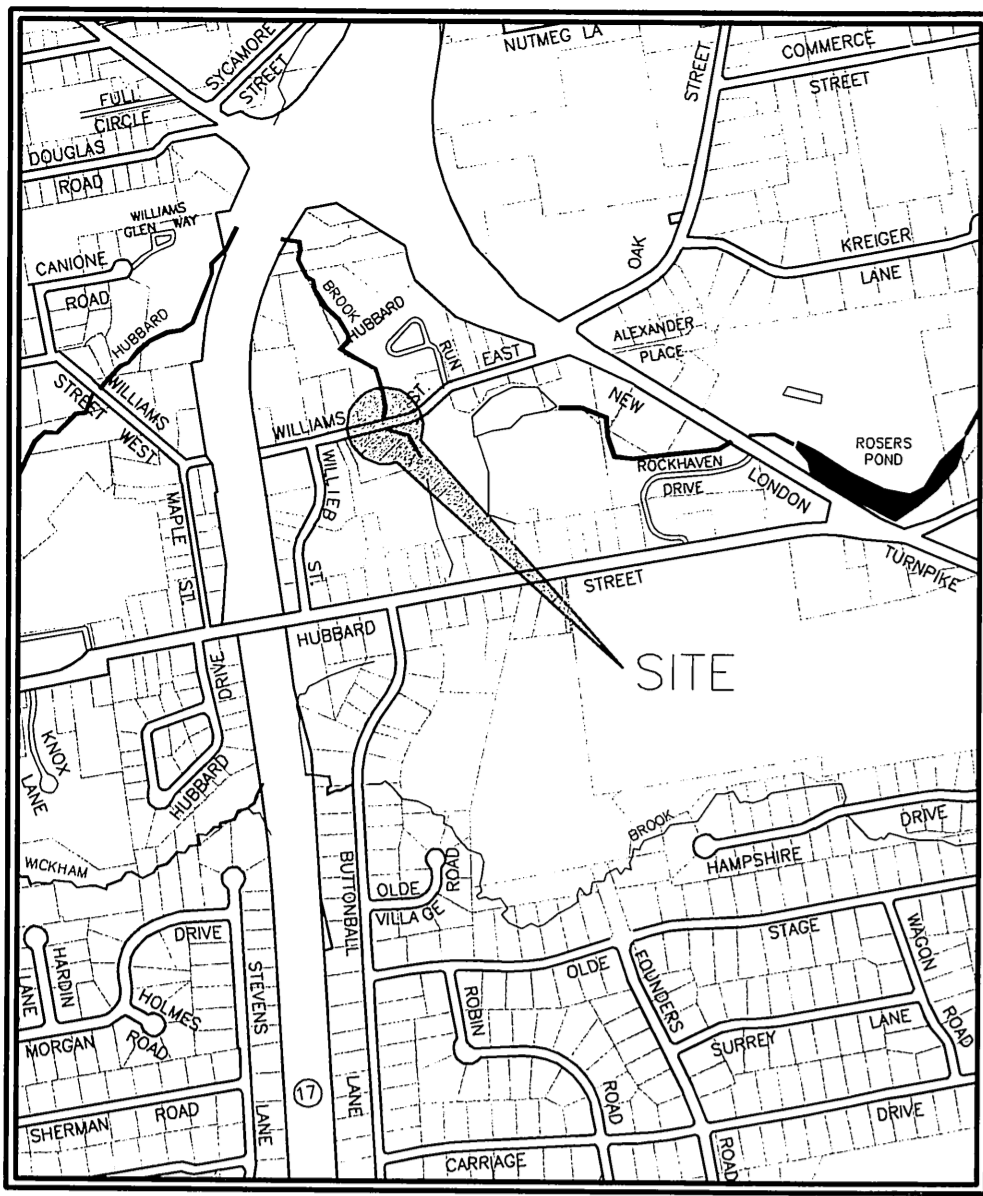
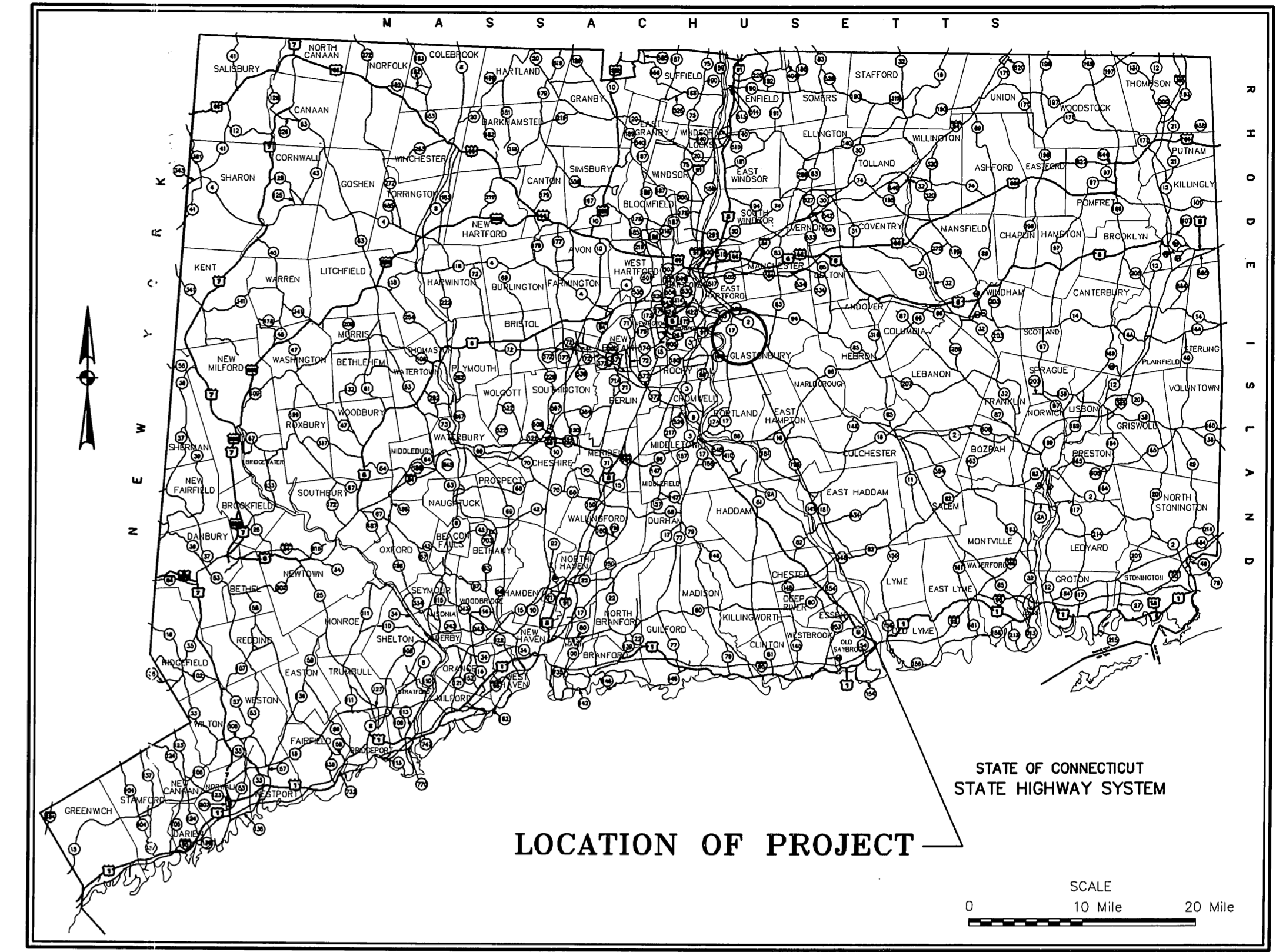


FILE:H:\DWG\Streets\WilliamsSt\_East\_Bridge.dwg USER:Charles Stenhiper DATE:6/20/2010



LOCATION MAP  
SCALE: 1" = 1000'

# TOWN OF GLASTONBURY DEPARTMENT OF ENGINEERING PLAN FOR THE REHABILITATION OF WILLIAMS STREET EAST BRIDGE STATE ( BRIDGE No. 053015 ) IN THE TOWN OF GLASTONBURY, CONNECTICUT



LOCATION OF PROJECT

SCALE  
0 10 Mile 20 Mile

RICHARD J. JOHNSON  
TOWN MANAGER

DANIEL A. PENNINGTON  
MANAGER OF PHYSICAL SERVICES/TOWN ENGINEER

LIST OF DRAWINGS	
SHEET NO.	TITLE
1	TITLE SHEET
2	PLAN & PROFILE SHEET
3	TYPICAL ROADWAY DETAILS & CROSS SECTIONS
4	BRIDGE PLAN
5-6	CONSTRUCTION DETAILS
7	WATER-MAIN CONSTRUCTION DETAILS
8	WATER-MAIN CONSTRUCTION DETAILS

PROPOSED SEQUENCE OF CONSTRUCTION:	
TOWN ITEMS	CONTRACTOR ITEMS
1. INSTALL SILT FENCE, AND EROSION CONTROLS	6. TEMPORARILY RELOCATE AND SUPPORT WATERMAIN (COORDINATE WITH MDC) PROTECT GAS MAIN (COORDINATE WITH CNG) 7. INSTALL DEBRIS SHIELD 8. EXCAVATE TO EXPOSE NORTH PORTION OF TOP OF ARCH BARREL 9. REMOVE NORTH SPANDREL WALL 10. REALIGN WEST ABUTMENT STONES 11. REPAIR ARCH / REBUILD NORTH SPANDREL WALL WITH NEW PARAPET 12. REPAIR SOUTH PARAPET (REPOINT JOINTS) 13. INSTALL GUIDE RAIL TERMINUS 14. EXCAVATE REMAINDER OF BRIDGE WIDTH 15. INSTALL H.D.P.E. WATERPROOFING MEMBRANE WITH GEOTEXTILE DRAINAGE FABRIC 16. INSTALL STRUCTURE UNDERDRAIN 17. RELOCATE WATERMAIN TO PERMANENT POSITION (COORDINATE WITH MDC) 18. BACKFILL TO LIMITS OF PROPOSED PAVEMENT STRUCTURE  25. INSTALL GUIDERAIL
2. CLEAR AND GRUB	
3. INSTALL AND SETUP MPT DEVICES / DETOUR	
4. REMOVE EXISTING PIPE RAILINGS TO LIMITS SHOWN ON THE PLANS	
5. SAWCUT AND REMOVE PAVEMENT STRUCTURE TO LIMITS SHOWN	
19. INSTALL SUBBASE, BASE AND PAVEMENT	
20. INSTALL SIDEWALK RAMP	
21. INSTALL BITUMINOUS CURBING	
22. GRADE DISTURBED AREAS / PLACE TOPSOIL / PLACE EROSION CONTROL MAT FOR SLOPE PROTECTION	
23. ESTABLISH TURF	
24. CLEAN SITE AND STRIPE PAVEMENT	

NOTE: ON-GOING CONSTRUCTION ACTIVITIES TO BE PROVIDED BY THE TOWN INCLUDE MAINTENANCE OF TRAFFIC CONTROL DEVICES, DUST CONTROL, AND CONSTRUCTION STAKING.

THE LOCATION OF UNDERGROUND UTILITIES DEPICTED HEREON ARE BASED ON FIELD LOCATIONS AND BY INFORMATION PROVIDED BY OTHERS. THEIR TRUE LOCATIONS MAY VARY FROM THOSE INDICATED, AND ALL UNDERGROUND UTILITIES MAY NOT BE SHOWN. IF APPLICABLE, UTILIZE THE "CALL BEFORE YOU DIG" NUMBER (1-800-922-4455), TO VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES, AND RESOLVE CONFLICTS PRIOR TO STARTING CONSTRUCTION, REPAIR OR DESIGN.

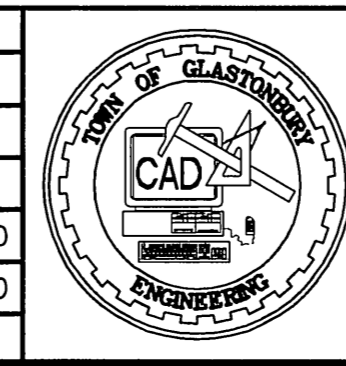
NOTE:  
HORIZONTAL CONTROL IS BASED ON THE CONNECTICUT GEODETIC SURVEY STATE PLANE COORDINATES, NORTH AMERICAN DATUM OF 1983 - (NAD83).  
ELEVATIONS AND VERTICAL CONTROL IS BASED ON THE NORTH AMERICAN VERTICAL DATUM 1988 - (NAV88).

ALL UTILITY INFORMATION AND DATA SHOWN OR INDICATED IN THE CONTRACT DOCUMENTS ARE COMPILED FROM MAPS AND DATA FURNISHED BY OTHERS. ANY SUCH INFORMATION SHOULD NOT BE CONSTRUED AS ACCURATE OR COMPLETE AND THE CONTRACTOR SHALL VERIFY ALL LOCATIONS PRIOR TO CONSTRUCTION.

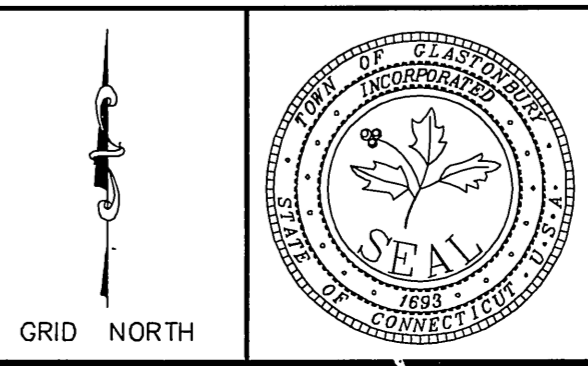
NOTE:  
THIS PLAN WAS COMPILED FROM OTHER MAPS, RECORD RESEARCH OR OTHER SOURCES OF INFORMATION. IT IS NOT TO BE CONSTRUED AS HAVING BEEN OBTAINED AS THE RESULT OF A FIELD SURVEY, AND IS SUBJECT TO SUCH CHANGE AS AN ACCURATE FIELD SURVEY MAY DISCLOSE.  
REPRODUCTIONS OF THIS PLAN ARE INVALID IF THEY DO NOT BEAR THE IMPRESSION SEAL OF THE UNDERSIGNED LAND SURVEYOR AND/OR PROFESSIONAL ENGINEER.



ISSUE STATUS		
NO.	DESCRIPTION	DATE
2.	ISSUED FOR CONSTRUCTION	5/20/2010
1.	ISSUED FOR PERMITTING	3/25/2010



SCALE: AS SHOWN	DATE: 2/23/2010
DRAWN BY: C.F.S.	5/20/2010
CHECKED BY: S.M.B.	5/20/2010
APPROVED BY: D.A.F.	5/20/2010
ST. FILE: <small>MANUAL REVISIONS TO THIS DOCUMENT ARE PROHIBITED. ALL REVISIONS MUST BE PERFORMED ON CAD FILE SHOWN IN THE LEFT MARGIN. IF THERE ARE ANY DISCREPANCIES OR QUESTIONS, CONTACT THE TOWN OF GLASTONBURY, ENGINEERING OFFICE, AT 860-652-7750.</small>	



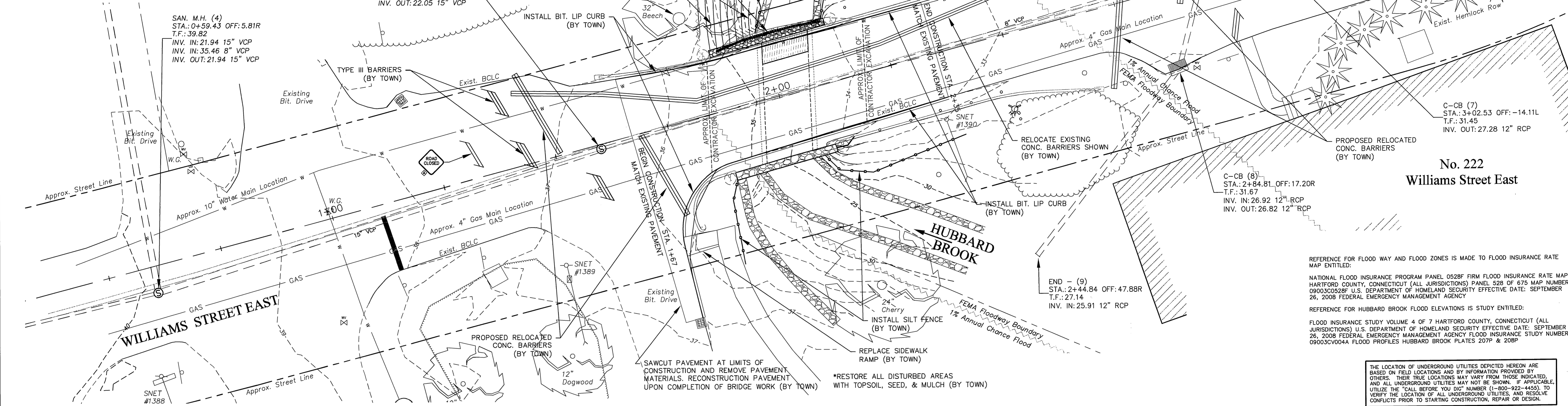
TITLE SHEET FOR THE  
PROPOSED REHABILITATION  
of the  
WILLIAMS STREET EAST BRIDGE  
located at  
WILLIAMS STREET & HUBBARD BROOK  
GLASTONBURY, CONNECTICUT

FILE: H:\DWG\Streets\WilliamsSt\_East\Cad\_3D\_2009\Williams St\_East\_Bridge.dwg USER: Charles\_Stemhiller DATE: 6/30/2010

NOTE:  
 LOCATION OF FEATURES AND CONTOUR DATA DEPICTED HEREON WERE ACQUIRED BY FIELD SURVEY ON NOVEMBER 2009.  
 THERE IS NO BOUNDARY/DETERMINATION OPINION.  
 NO EASEMENTS PERTAINING TO THE SUBJECT PARCEL ARE DEPICTED HEREON.  
 NOT ALL IMPROVEMENTS ARE DEPICTED HEREON.  
 HORIZONTAL CONTROL IS BASED ON THE CONNECTICUT GEODETIC SURVEY STATE PLANE COORDINATES, NORTH AMERICAN DATUM OF 1983 - (NAD83).  
 ELEVATIONS AND VERTICAL CONTROL IS BASED ON THE NORTH AMERICAN VERTICAL DATUM 1988 - (NAVD88).

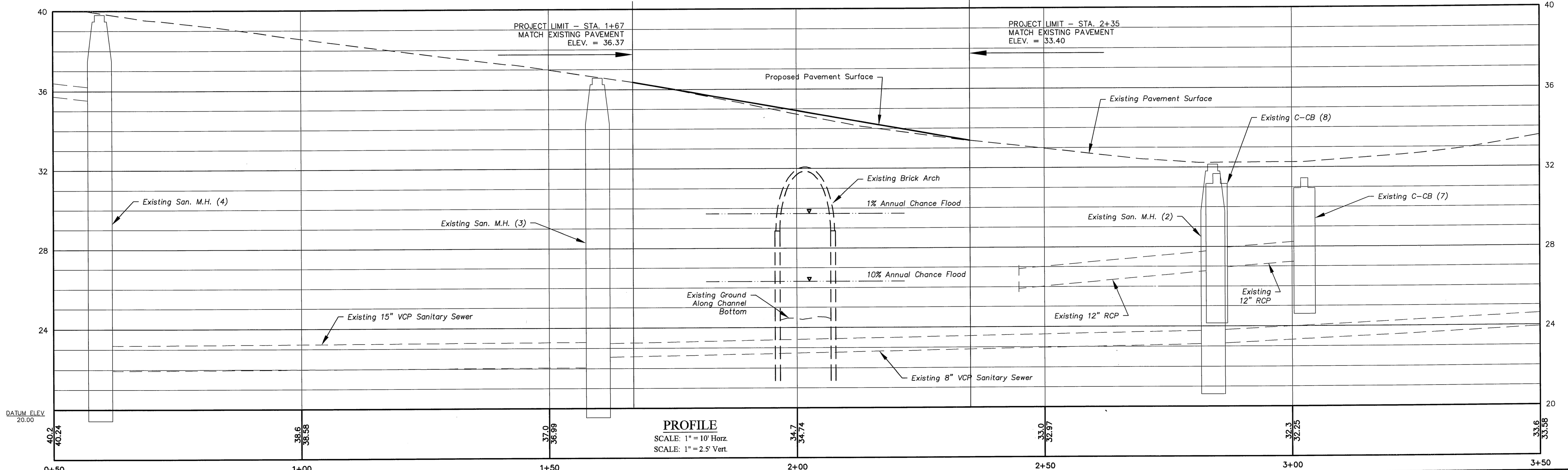
**No. 227  
 Williams Street East**

ALL UTILITY INFORMATION AND DATA SHOWN OR INDICATED IN THE CONTRACT DOCUMENTS ARE COMPILED FROM MAPS AND DATA FURNISHED BY OTHERS. ANY SUCH INFORMATION SHOULD NOT BE CONSTRUED AS ACCURATE OR COMPLETE AND THE CONTRACTOR SHALL VERIFY ALL LOCATIONS PRIOR TO CONSTRUCTION.

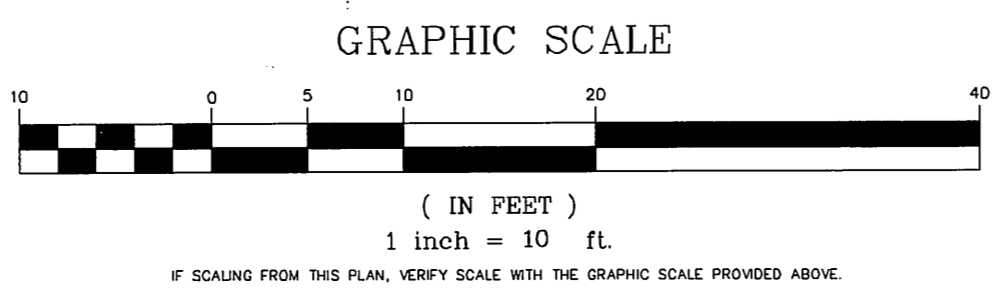


REFERENCE FOR FLOOD WAY AND FLOOD ZONES IS MADE TO FLOOD INSURANCE RATE MAP ENTITLED:  
 NATIONAL FLOOD INSURANCE PROGRAM PANEL 0528F FIRM FLOOD INSURANCE RATE MAP HARTFORD COUNTY, CONNECTICUT (ALL JURISDICTIONS) PANEL 528 OF 675 MAP NUMBER 09003C0528F U.S. DEPARTMENT OF HOMELAND SECURITY EFFECTIVE DATE: SEPTEMBER 26, 2008 FEDERAL EMERGENCY MANAGEMENT AGENCY  
 REFERENCE FOR HUBBARD BROOK FLOOD ELEVATIONS IS STUDY ENTITLED:  
 FLOOD INSURANCE STUDY VOLUME 4 OF 7 HARTFORD COUNTY, CONNECTICUT (ALL JURISDICTIONS) U.S. DEPARTMENT OF HOMELAND SECURITY EFFECTIVE DATE: SEPTEMBER 26, 2008 FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE STUDY NUMBER 09003C004A FLOOD PROFILES HUBBARD BROOK PLATES 207P & 208P

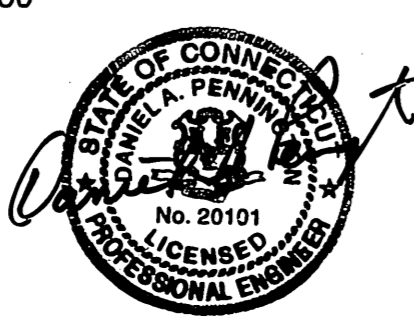
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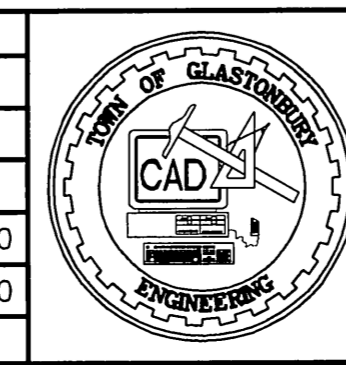
**PROFILE**  
 SCALE: 1" = 10' Horiz.  
 SCALE: 1" = 2.5' Vert.



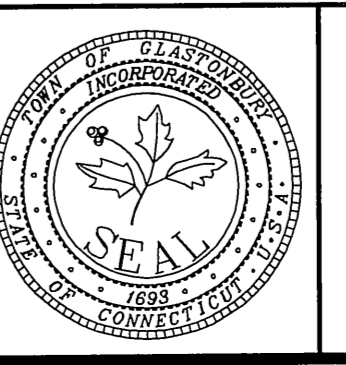
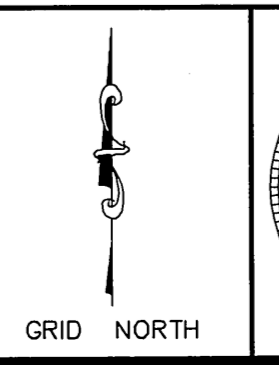
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NO.	DESCRIPTION	DATE
2.	ISSUED FOR CONSTRUCTION	5/20/2010
1.	ISSUED FOR PERMITTING	3/25/2010



SCALE: AS SHOWN  
 DATE: 2/23/2010  
 DRAWN BY: C.F.S.  
 CHECKED BY: S.M.B. 5/20/2010  
 APPROVED BY: D.A.P. 5/20/2010  
 ST. FILE:  
 MANUAL REVISIONS TO THIS DOCUMENT ARE PROHIBITED. ALL REVISIONS MUST BE PERFORMED ON CAD FILE SHOWN IN THE LEFT MARGIN. IF THERE ARE ANY DISCREPANCIES OR QUESTIONS, CONTACT THE TOWN OF GLASTONBURY, ENGINEERING OFFICE AT 860-856-7125.

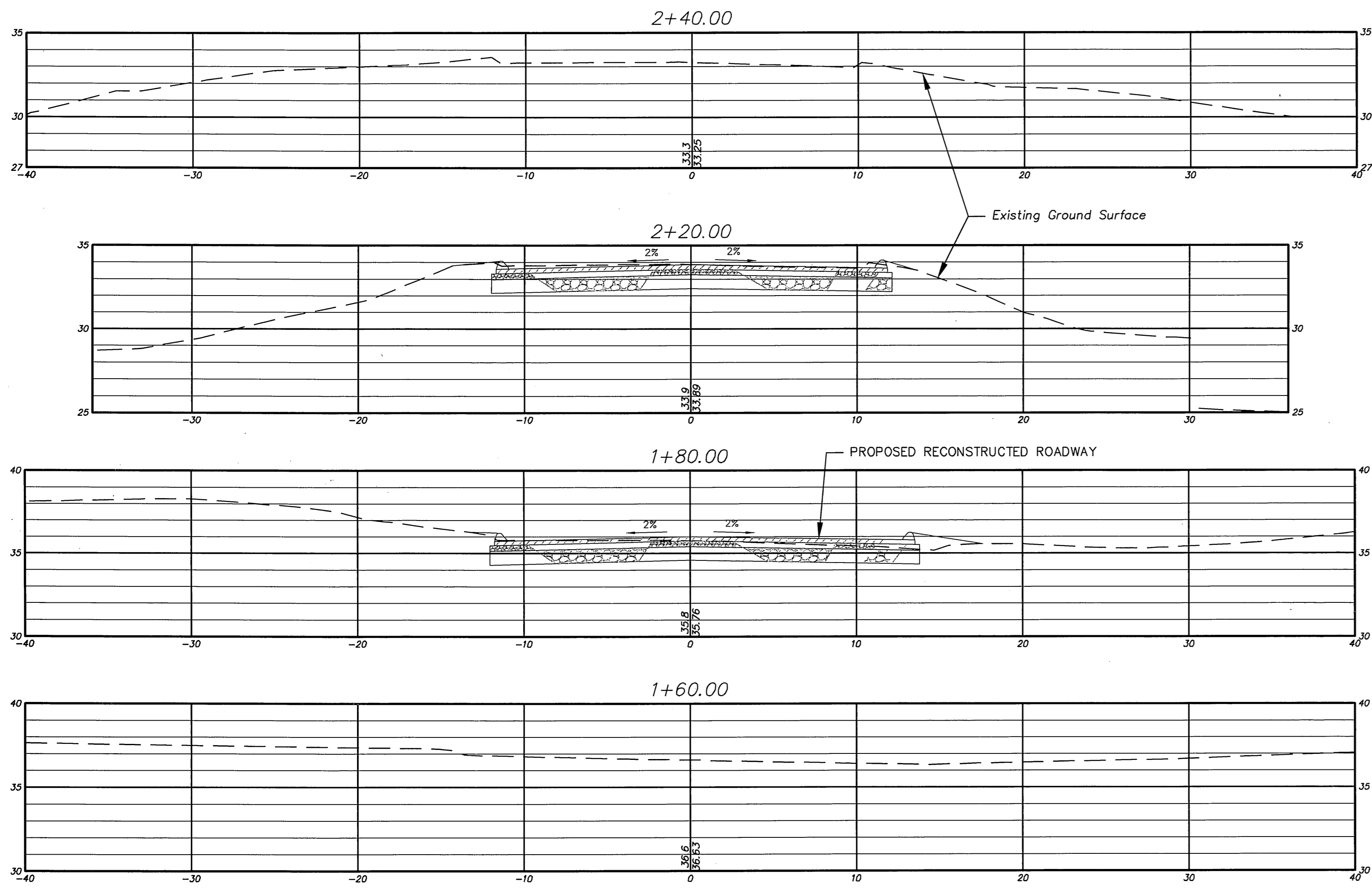


**PLAN & PROFILE DEPICTING  
 PROPOSED REHABILITATION  
 of the  
 WILLIAMS STREET EAST BRIDGE**  
 located at  
**WILLIAMS STREET & HUBBARD BROOK  
 GLASTONBURY, CONNECTICUT**

SHEET NO. **2**  
 OF 8

PW-0917

FILE:H:\DWG\Streets\WilliamsSt\_East\Civil\_3D\_2009\Williams St\_East\_Bridge.dwg USER:Charles Stenhilper DATE:6/30/2010



CROSS SECTIONS  
SCALE: 1" = 5'

PROJECT NARRATIVE:

THIS PROJECT INVOLVES THE REHABILITATION OF THE MASONRY ARCH CULVERT / BRIDGE CARRYING WILLIAMS STREET EAST OVER HUBBARD BROOK INCLUDING THE FOLLOWING BASIC WORK ITEMS: EXCAVATION, REMOVAL, AND REPLACEMENT OF APPROXIMATELY 70 LINEAR FEET OF PAVEMENT STRUCTURE; TEMPORARY RELOCATION OF THE MDC WATER MAIN CROSSING THE BRIDGE; REMOVAL OF THE NORTHERLY SPANDEL WALL; REPAIR OF THE NORTHERLY 4'-FOOT SECTION OF THE MASONRY ARCH CULVERT; REBUILDING THE NORTH SPANDEL WALL AND INSTALLATION OF NEW STONE MASONRY PARAPET; INSTALLATION OF A NEW WATER MAIN; REGRADING A 225 SQUARE FOOT SLOPED AREA ADJUTING THE NORTH SPANDEL WALL ON WEST SIDE OF BROOK; AND INSTALLATION OF NEW METAL BEAM GUARD RAIL (WEATHERING STEEL). A DETAILED CONSTRUCTION SEQUENCE IS INCLUDED ON SHEET 1 OF THE PLAN SET.

THE ENTIRE PROJECT WORK AREA IS WITHIN THE 100-YEAR FLOOD ZONE AND THE 100 FOOT UPLAND REVIEW AREA FOR HUBBARD BROOK. EXISTING GRADES SHALL BE RE-ESTABLISHED TO ENSURE THAT THERE IS NO LOSS OF FLOOD STORAGE FOR HUBBARD BROOK. TOTAL AREA OF DISTURBANCE FOR THE PROJECT IS APPROXIMATELY 0.1 ACRES.

PROJECT SPECIFIC SEDIMENTATION AND EROSION CONTROL PLAN.

CONSTRUCTION ACTIVITIES OF CONCERN RELATIVE TO THE PROTECTION OF ADJACENT WETLANDS AND WATERCOURSES FROM SEDIMENTATION ARE AS FOLLOWS:

- STOCKPILING: EXCAVATED MATERIAL SHALL NOT BE STOCKPILED ADJACENT TO STORM DRAIN INLETS, WETLANDS, OR WATERCOURSES. WHEN IT IS NECESSARY BASED ON THE PROPOSED METHODS OF CONSTRUCTION TO STAGE EXCAVATED MATERIAL FOR SHORT DURATIONS IN THE VICINITY OF STORM DRAIN INLETS, THESE INLETS SHALL BE PROPERLY PROTECTED AS DESCRIBED ON THE PLANS. LONGER DURATION STOCKPILING OF MATERIAL, WHEN NECESSARY, SHALL BE ONLY IN LOCATIONS APPROVED IN ADVANCE BY THE ENGINEER, AND SUCH STOCKPILES SHALL BE RINGED WITH A SEDIMENTATION CONTROL SYSTEM.
- DISTURBED AREAS: LIMITS OF DISTURBANCE SHALL BE IN STRICT ACCORDANCE WITH THE APPROVED PLAN. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH THE FINAL SURFACE TREATMENT AS SOON AS POSSIBLE AFTER CONSTRUCTION ACTIVITIES ARE COMPLETED. THE AREA OF SLOPE GRADING TO BE PERFORMED ON THE NORTHWEST SIDE OF THE BRIDGE SHALL BE PROTECTED WITH EROSION CONTROL MATTING IMMEDIATELY UPON COMPLETION OF THE GRADING WORK.
- DEMOLITION WORK: DEMOLITION OF THE SPANDEL WALL AND MASONRY ARCH CULVERT SHALL BE PERFORMED IN SUCH A MANNER THAT WILL NOT ALLOW DEBRIS TO FALL INTO THE WATERCOURSE. A TEMPORARY WORK PLATFORM SHALL BE INSTALLED AS DESCRIBED ON THE PLANS TO MINIMIZE THE POTENTIAL FOR DEBRIS TO ENTER THE WATERCOURSE. THE PLATFORM INSTALLATION SHALL BE INSPECTED BY THE ENGINEER OR ENVIRONMENTAL PLANNER PRIOR TO COMMENCING DEMOLITION WORK.
- TEMPORARY FOOTINGS: TEMPORARY FOOTINGS AS REQUIRED FOR THE WORK PLATFORM SHALL BE INSTALLED IN THE WATERCOURSE USING HAND METHODS WITH MINIMAL DISTURBANCE TO THE WATERCOURSE. THE CONTRACTOR SHALL SUBMIT A PLAN DEPICTING THE TEMPORARY PLATFORM AND FOOTINGS FOR REVIEW AND APPROVAL BY THE ENGINEER OR ENVIRONMENTAL PLANNER.
- SEVERE WEATHER CONTINGENCY PLAN: IN ADVANCE OF A SEVERE WEATHER EVENT, ALL EROSION CONTROLS DESCRIBED ABOVE AND ELSEWHERE ON THE PLANS SHALL BE INSPECTED AND ADJUSTED AS NECESSARY. THE TEMPORARY WORK PLATFORM SHALL BE REMOVED FROM THE WATERCOURSE IF IT HAS NOT BEEN CERTIFIED TO BE FLOODPROOF BY THE CONTRACTOR.

RESPONSIBLE PARTIES:

THE DEPARTMENT OF PHYSICAL SERVICES SHALL PROVIDE A REPRESENTATIVE WHO IS RESPONSIBLE FOR IMPLEMENTING THE EROSION AND SEDIMENTATION CONTROL PLAN. THIS INCLUDES THE INSTALLATION AND MAINTENANCE OF ALL CONTROL MEASURES, INFORMING ALL PARTIES ENGAGED ON THE CONSTRUCTION SITE OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN.

ALL UTILITY INFORMATION AND DATA SHOWN OR INDICATED IN THE CONTRACT DOCUMENTS ARE COMPILED FROM MAPS AND DATA FURNISHED BY OTHERS. ANY SUCH INFORMATION SHOULD NOT BE CONSIDERED AS ACCURATE OR COMPLETE AND THE CONTRACTOR SHALL VERIFY ALL LOCATIONS PRIOR TO CONSTRUCTION.

GENERAL EROSION CONTROL REQUIREMENTS:

THESE GUIDELINES SHALL APPLY TO ALL WORK CONSISTING OF ANY AND ALL TEMPORARY AND/OR PERMANENT MEASURES TO CONTROL WATER POLLUTION AND SOIL EROSION AS MAY BE REQUIRED, DURING THE CONSTRUCTION OF THE PROJECT.

IN GENERAL, ALL ACTIVITIES SHALL PROCEED IN SUCH A MANNER SO AS NOT TO POLLUTE ANY WETLANDS, WATERCOURSE, WATERBODY AND CONDUIT CARRYING WATER, ETC. THE CONTRACTOR SHALL LIMIT, INsofar AS POSSIBLE, THE SURFACE AREA OF EARTH MATERIALS EXPOSED BY CONSTRUCTION METHODS, AND IMMEDIATELY PROVIDE PERMANENT AND TEMPORARY POLLUTION CONTROL MEASURES TO PREVENT CONTAMINATION OF ADJACENT WETLANDS, WATERCOURSES AND WATERBODIES, AND TO PREVENT, INsofar AS POSSIBLE, EROSION ON THE SITE.

CONSTRUCTION METHODS, IN GENERAL, SHALL BE IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN THE "GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" (2002) BY THE STATE OF CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION.

- ALL CONTROL MEASURES SHALL BE INSTALLED AS NOTED ABOVE AND AS SHOWN ON THE PLANS.
- ALL CONTROL MEASURES SHALL BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO COMMENCEMENT OF ANY WORK, INCLUDING PRE-CONSTRUCTION CLEARING AND GRUBBING.
- ALL CONTROL MEASURES SHALL BE MAINTAINED AND UPGRADED AS REQUIRED TO ACHIEVE PROPER SEDIMENT CONTROL THROUGHOUT THE CONSTRUCTION PERIOD, AND UNTIL DISTURBED AREAS HAVE BEEN THOROUGHLY STABILIZED.
- NO CONTROL MEASURES SHALL BE REMOVED WITHOUT APPROVAL FROM THE ENGINEER.
- ADDITIONAL CONTROL MEASURES SHALL BE INSTALLED DURING THE CONSTRUCTION PERIOD IF DEEMED NECESSARY BY THE ENGINEER.
- THE LIMITS OF CLEARING, GRADING AND DISTURBANCE, AS SHOWN ON THE PLANS(S), SHALL BE KEPT TO A MINIMUM WITHIN THE APPROVED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE THE LIMITS OF CLEARING SHALL REMAIN TOTALLY UNDISTURBED.
- ANY CONTROL MEASURES RETAINING SEDIMENT OVER 1/2 THEIR HEIGHT SHALL HAVE THE SEDIMENT IMMEDIATELY REMOVED, AND ALL DAMAGED CONTROL MEASURES SHALL BE REMOVED AND REPLACED.
- ALL NEW AND EXISTING CATCH BASIN LOCATED WITHIN THE PROJECT LIMITS SHALL BE PROTECTED WITH A SEDIMENTATION CONTROL SYSTEM (IN GRASSED AREAS) OR WITH A SEDIMENTATION CONTROL SACK IN PAVED AREAS UNTIL ALL DISTURBED AREAS HAVE BEEN THOROUGHLY STABILIZED.
- SEDIMENT REMOVED FROM CONTROL MEASURES AND DRAINAGE FACILITIES SHALL BE DISPOSED OF IN A MANNER THAT IS CONSISTENT WITH STATE AND LOCAL REGULATIONS.
- THE PLANTING SEASONS FOR THE SPECIFIED SEED MIXTURE SHALL BE AS DEFINED IN THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, UNLESS DIRECTED OTHERWISE BY THE TOWN ENVIRONMENTAL PLANNER. OUTSIDE OF THESE SPECIFIED DATES, AREAS WILL BE STABILIZED WITH HAYBALE CHECK DAMS, FILTER FABRIC, OR WOODCHIP MULCH AS REQUIRED TO CONTROL EROSION.



Town of Glastonbury

2155 MAIN STREET • P.O. BOX 6523 • GLASTONBURY, CONNECTICUT 06033-6523

April 16, 2010

CONSERVATION COMMISSION AND INLAND WETLANDS & WATERCOURSES AGENCY

Steve Braun  
Assistant Town Engineer  
Town of Glastonbury  
Post Office Box 6523  
Glastonbury, Connecticut 06033-6523

Re: Application of the Town of Glastonbury Engineering Division for an inland wetlands and watercourses permit for the proposed Williams Street East Bridge Rehabilitation project over Hubbard Brook - Fuss & O'Neill, C.E. - Steve Braun, Assistant Town Engineer

Dear Steve:

At its Regular Meeting of April 15, 2010, the Conservation Commission/Inland Wetlands & Watercourses Agency approved an Inland Wetlands and Watercourses Permit, in accordance with the plans and conditions cited in the attached motion.

Please read the conditions of approval carefully and comply with them. Some of the conditions may require interaction with the Environmental Planner (e.g. inspection of soil erosion and sediment control); it will be your responsibility to schedule such interactions. Any questions you may have about the stated conditions can be directed to the Office of Community Development at 652-7511.

This Permit:

- requires that the approved regulated activities be completed within one (1) year from commencement... said activities;
- is valid for five (5) years and then expires on April 15, 2015; and
- may not be transferred unless authorized by the Inland Wetlands & Watercourses Agency

This Permit may be revoked if you exceed the conditions or limitations of this Permit or have secured this Permit through inaccurate information.

Once again should you have any questions, please do not hesitate to contact us.

Sincerely,

Tom Mecklo

Environmental Planner

cc: Daniel Remington, Town Engineer  
Edward P. Piayusha, Building Official



Town of Glastonbury

2155 MAIN STREET • P.O. BOX 6523 • GLASTONBURY, CONNECTICUT 06033-6523

TOWN PLAN AND ZONING COMMISSION

SECTION 4.11 (FLOOD ZONE) SPECIAL PERMIT

APPLICANT: TOWN OF GLASTONBURY  
PHYSICAL SERVICES DEPARTMENT  
P.O. BOX 6523  
GLASTONBURY, CT 06033-6523

OWNER: TOWN OF GLASTONBURY  
P.O. BOX 6523  
GLASTONBURY, CT 06033-6523

FOR: WILLIAMS STREET EAST BRIDGE REHABILITATION PROJECT OVER THE HUBBARD BROOK

MOVED, that the Town Plan and Zoning Commission approve the application of the Town of Glastonbury, Physical Services Department, for a Section 4.11 (Flood Zone) Special Permit- Williams Street East Bridge Rehabilitation project over the Hubbard Brook in accordance with the following plan:

"PLAN & PROFILE DEPICTING PROPOSED REHABILITATION OF THE WILLIAMS STREET EAST BRIDGE LOCATED AT WILLIAMS STREET & HUBBARD BROOK, GLASTONBURY, CONNECTICUT SCALE: AS SHOWN DRAWN BY: C.F.S. 2/23/2010 CHECKED BY: S.M.B. APPROVED BY: D.A.P. SHEET NO. 2 OF 4"

"CROSS SECTIONS & DETAILS PROPOSED REHABILITATION OF THE WILLIAMS STREET EAST BRIDGE LOCATED AT WILLIAMS STREET & HUBBARD BROOK, GLASTONBURY, CONNECTICUT SCALE: AS SHOWN DRAWN BY: C.F.S. 2/23/2010 CHECKED BY: S.M.B. APPROVED BY: D.A.P. SHEET NO. 3 OF 4"

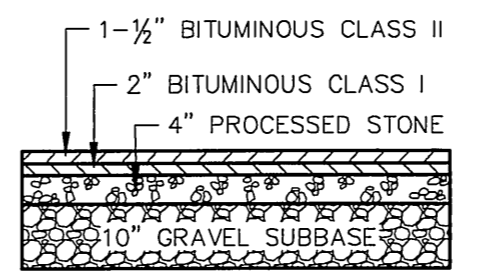
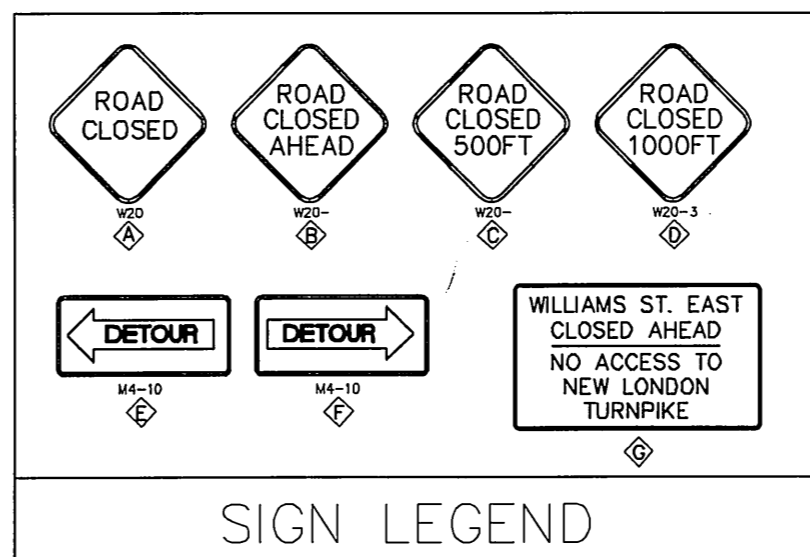
"TOWN OF GLASTONBURY BRIDGE PLAN WILLIAMS STREET BRIDGE OVER HUBBARD BROOK REHABILITATION (BRIDGE I.D. 03015) GLASTONBURY CONNECTICUT FUSS & O'NEILL, 146 HARTFORD RD MANCHESTER, CT 06040 860.646.2469 HORIZ.: AS NOTED PROJ. NO. 20081435 A20 DATE DEC. 16, 2009 SHEET #1 SHEET #2"

and in compliance with the following condition

- Certification from a Professional Engineer shall be required confirming no loss of flood storage capacity.

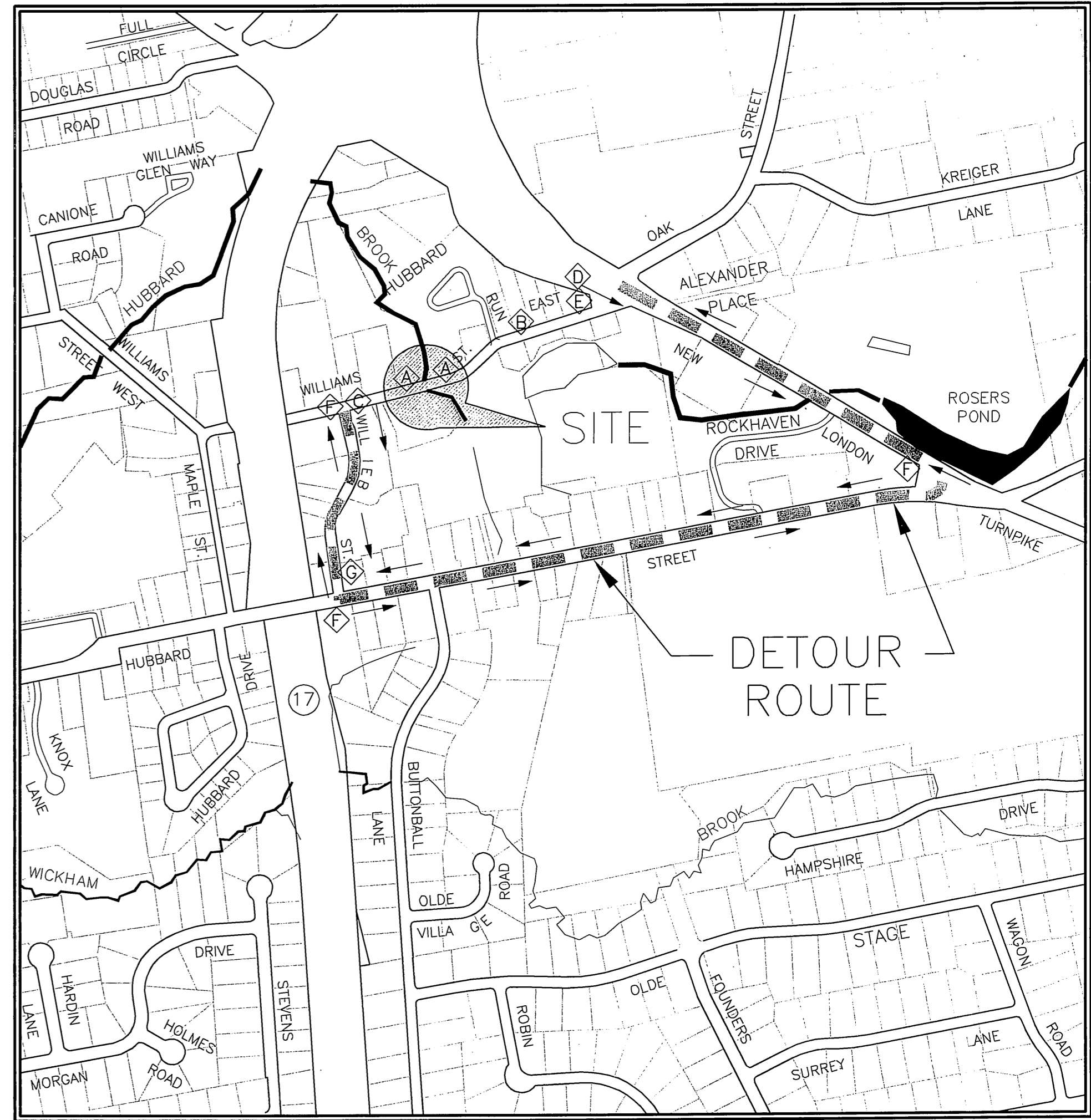
APPROVED: TOWN PLAN AND ZONING COMMISSION  
MAY 4, 2010

PATRICIA V. LOW, ACTING CHAIRMAN



PROPOSED PAVEMENT SECTION

TOWN OF GLASTONBURY PROJECT/APPLICANT FLOOD ZONE ZONE  
WILLIAMS STREET EAST BRIDGE OVER HUBBARD BROOK PROJECT ADDRESS  
SPECIAL PERMIT SECTION TPZ CHAIRPERSON  
DATE SPECIAL PERMIT APP'D DIRECTOR OF COMMUNITY DEVELOPMENT  
FILE NO.



DETOUR MAP  
SCALE: 1" = 500'

APPROVED WETLANDS PERMIT MOTION

MOVED, that the Inland Wetlands and Watercourses Agency grants an inland wetlands and watercourses permit to the Town of Glastonbury Engineering Division for the Williams Street East Bridge Rehabilitation Project over and adjacent to Hubbard Brook in accordance with plans on file in the Office of Community Development and in compliance with the following conditions:

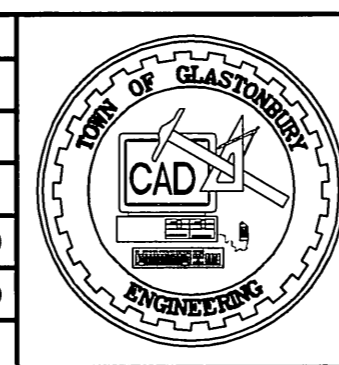
- The Engineering Division shall explore with the property owner of 227 Williams Street East permission to plant one native shrub or tree, that provides conservation/wildlife value and function, within the land area proposed to be graded on the west bank of Hubbard Brook, just downstream from the bridge; if such permission is granted, then species selection shall occur under consultation with the Environmental Planner.
- The demolition and repair work for this project shall be limited to occur during favorable flow and climatic conditions as determined by the Environmental Planner.
- A preconstruction meeting shall be held to discuss the project and its environmentally-sensitive aspects prior to starting the work.
- Healthy mature trees shall be preserved and saved when possible. Said trees shall be protected with the use of high visibility construction fence during construction or otherwise protected as required by state.
- Installation of soil erosion and sedimentation control and stabilization measures shall be the Permittee's responsibility. Once installed these measures shall then be inspected by the Environmental Planner prior to land disturbance activities. Afterwards it then shall be the Permittee's responsibility to inspect these control measures during, and immediately following, substantial storm events and maintain and/or replace the control measures, when needed, on a regular basis until the site is vegetatively established. Hay bales shall be replaced every 60 days. The Environmental Planner is hereby authorized to require additional soil erosion and sediment controls and stabilization measures to address situations that arise on the site.
- Adequate provision, as determined by the Environmental Planner, shall be provided at the site to facilitate the collection of refuse material generated from construction activities.
- The Permittee shall be fully responsible for damages caused by all activities undertaken pursuant to this permit that may have a detrimental effect on wetlands and/or watercourses, and all such activities that cause erosion and sedimentation problems.

NOTE:

LOCATION OF FEATURES AND CONTOUR DATA DEPICTED HEREON WERE ACQUIRED BY FIELD SURVEY ON NOVEMBER 2009.  
THERE IS NO BOUNDARY/DETERMINATION OPINION.  
NO EASEMENTS PERTAINING TO THE SUBJECT PARCEL ARE DEPICTED HEREON.  
NOT ALL IMPROVEMENTS ARE DEPICTED HEREON.  
HORIZONTAL CONTROL IS BASED ON THE CONNECTICUT GEODETIC SURVEY STATE PLANE COORDINATES, NORTH AMERICAN DATUM OF 1983 - (NAD83).  
ELEVATIONS AND VERTICAL CONTROL IS BASED ON THE NORTH AMERICAN VERTICAL DATUM 1988 - (NAV88).

THE LOCATION OF UNDERGROUND UTILITIES DEPICTED HEREON ARE BASED ON FIELD LOCATIONS AND BY INFORMATION PROVIDED BY OTHERS. THEIR TRUE LOCATIONS MAY VARY FROM THOSE INDICATED, AND ALL UNDERGROUND UTILITIES MAY NOT BE SHOWN. IF APPLICABLE, UTILIZE THE "CALL BEFORE YOU DIG" NUMBER (1-800-922-4455), TO VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES, AND RESOLVE CONFLICTS PRIOR TO STARTING CONSTRUCTION, REPAIR OR DESIGN.

NO.	DESCRIPTION	DATE
2.	ISSUED FOR CONSTRUCTION	5/20/2010
1.	ISSUED FOR PERMITTING	3/25/2010



ISSUE STATUS	DATE
ISSUED FOR CONSTRUCTION	5/20/2010
ISSUED FOR PERMITTING	3/25/2010

SCALE:	AS SHOWN	DATE:
DRAWN BY:	C.F.S.	2/23/2010
CHECKED BY:	S.M.B.	5/20/2010
APPROVED BY:	D.A.P.	5/20/2010

CROSS SECTIONS & DETAILS  
PROPOSED REHABILITATION  
of the  
WILLIAMS STREET EAST BRIDGE  
located at  
WILLIAMS STREET & HUBBARD BROOK  
GLASTONBURY, CONNECTICUT

SHEET NO.  
3  
OF 8

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**GENERAL NOTES:**

**SPECIFICATIONS:** CONNECTICUT DEPARTMENT OF TRANSPORTATION FORM 816 (2004), SUPPLEMENTAL SPECIFICATION DATED (01/10) AND SPECIAL PROVISIONS.

**DESIGN SPECIFICATIONS:** STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION (AASHTO-2002), AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL (2003).

**ALLOWABLE DESIGN STRESSES:**  
 CLASS "A" CONCRETE BASED ON  $f'_c = 3000$  PSI

**REINFORCEMENT**  
 (ASTM A615 GRADE 60)..... $F_y = 60000$  PSI

**STRUCTURAL STEEL**  
 (AASHTO M270, GRADE 50 WT2)..... $F_y = 50000$  PSI

**LIVE LOAD:** HS20

**FUTURE PAVING ALLOWANCE:** 30 POUNDS PER SQUARE FOOT

**DIMENSIONS:** WHEN DECIMAL DIMENSIONS ARE GIVEN TO LESS THAN THREE DECIMAL PLACES, THE OMITTED DIGITS SHALL BE ASSUMED TO BE ZEROS.

**EXISTING DIMENSIONS:** DIMENSIONS OF THE EXISTING STRUCTURE SHOWN ON THESE PLANS ARE FOR GENERAL REFERENCE ONLY. THEY HAVE BEEN TAKEN FROM FIELD MEASUREMENTS AND UTILITY DRAWINGS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL TAKE ALL FIELD MEASUREMENTS NECESSARY TO ASSURE PROPER FIT OF THE FINISHED WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THEIR ACCURACY. WHEN SHOP DRAWINGS BASED ON FIELD MEASUREMENTS ARE SUBMITTED FOR APPROVAL, THE FIELD MEASUREMENTS SHALL ALSO BE SUBMITTED FOR REFERENCE BY THE REVIEWER.

**CLASS "A" CONCRETE:** CLASS "A" CONCRETE SHALL BE USED THROUGHOUT.

**EXPOSED EDGES:** EXPOSED EDGES OF CONCRETE SHALL BE BEVELED 1"x1" UNLESS DIMENSIONED OTHERWISE.

**CONCRETE COVER:** ALL REINFORCEMENT SHALL HAVE TWO INCHES COVER UNLESS DIMENSIONED OTHERWISE.

**REINFORCEMENT:** ALL REINFORCEMENT SHALL BE ASTM A615 GRADE 60.

**ANCHOR BOLTS:** ANCHOR BOLTS FOR TEMPORARY ATTACHMENT OF STEEL ANGLES TO EXISTING MASONRY ABUTMENTS SHALL BE REMOVABLE SLEEVE TYPE ANCHORS.

**GUIDE RAIL:** GUIDE RAIL SHALL BE CONSTRUCTED OF WEATHERING STEEL ELEMENTS AND POSTS. THE EMBEDDED PORTION OF EACH POST SHALL BE GALVANIZED IN ACCORDANCE WITH CONNDOT FORM 816 ARTICLE M.10.02-1C AND THE CONNDOT STANDARD DETAILS. ALL HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH CONNDOT FORM 816 ARTICLE M.10.02-6.

**EXCAVATION:** THE EQUIPMENT USED FOR EXCAVATION ABOVE AND ADJACENT TO THE EXISTING MASONRY ARCH SHALL BE OF A SIZE AND TYPE THAT ALLOWS FOR PRECISE EXCAVATION OF THE FILL ABOVE AND ADJACENT TO THE MASONRY ARCH. EXCAVATION OF THE FILL IMMEDIATELY ABOVE AND ADJACENT TO THE MASONRY ARCH, WITHIN 12 INCHES, SHALL BE CONDUCTED WITH THE USE OF HAND TOOLS. ALL EXCAVATION, EXCEPT THE REMOVAL OF BITUMINOUS OR CONCRETE ROAD SURFACES, WITHIN 18 INCHES ON EITHER SIDE OF A HAZARDOUS FUEL LINE MUST BE DONE WITH HAND TOOLS ONLY.

**REMOVAL OF EXISTING MASONRY:** THE DEMOLITION OF THE EXISTING STONE MASONRY SPANDREL WALL, BRICK MASONRY ARCH, AND APPURTENANCES SHALL CONDUCTED IN A MANNER TO ENSURE DEBRIS DOES NOT FALL INTO HUBBARD BROOK. IN NO CASE SHALL EXCAVATORS OR EQUIPMENT MOUNTED PNEUMATIC OR HYDRAULIC HAMMERS BE USED TO REMOVE OR DEMOLISH THE EXISTING STRUCTURE OR PORTIONS OF THE STRUCTURE AS A WHOLE. REMOVAL OF EXISTING MASONRY SHALL COMPLY WITH THE SPECIAL PROVISION.

**DEBRIS PROTECTION:** THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO ENSURE THAT DEBRIS DOES NOT FALL INTO HUBBARD BROOK WHICH SHALL INCLUDE AT A MINIMUM THE INSTALLATION OF A TEMPORARY DEBRIS SHIELD, AND THE INSTALLATION OF TEMPORARY FALSE WORK AS NEEDED TO PERFORM THE WORK.

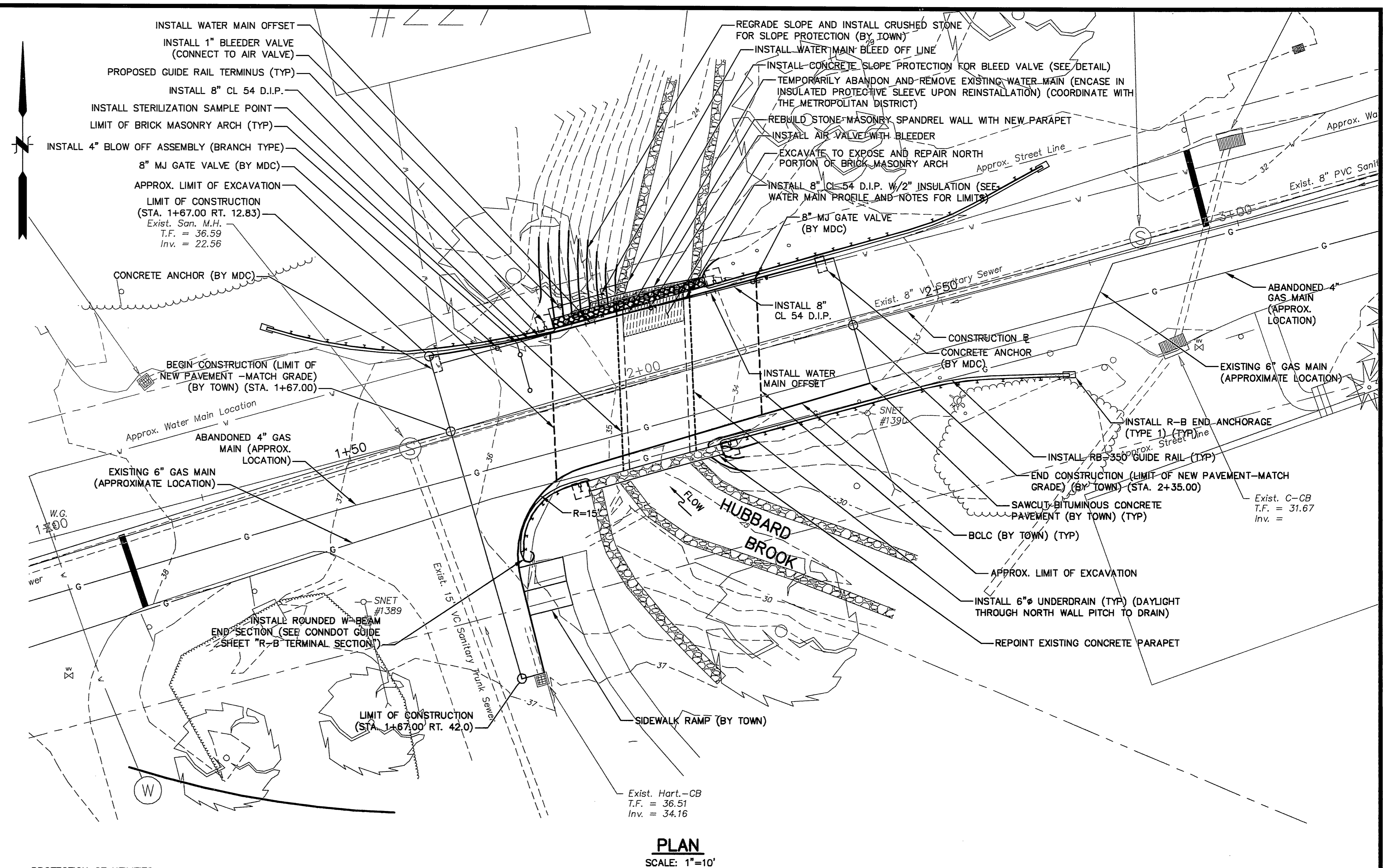
**DEBRIS SHIELD/WORK PLATFORM:** THE INSTALLATION OF THE DEBRIS SHIELD/WORK PLATFORM SHALL ALLOW FOR ITS TIMELY REMOVAL DURING INCLEMENT WEATHER EVENTS. THE DEBRIS SHIELD/WORK PLATFORM SHOWN IS FOR REFERENCE ONLY. THE CONFIGURATION OF THE DEBRIS SHIELD/WORK PLATFORM SHALL BE DETERMINED BY THE CONTRACTOR. CONFIGURATIONS THAT SPAN HUBBARD BROOK AND ARE SUPPORTED BY STEEL SECTIONS TEMPORARILY ANCHORED TO THE EXISTING STONE MASONRY ABUTMENTS, OR BY OTHER MEANS, SHALL BE DESIGNED AND DETAILED BY THE CONTRACTOR AND SUBMITTED FOR REVIEW BY THE ENGINEER. THE PLATFORM/ DEBRIS SHIELD SHALL BE CAPABLE OF SUPPORTING THE FOLLOWING LOADS:  
 - A MINIMUM OF 125 PSF UNIFORM LOAD  
 - ANY LOAD ANTICIPATED BY THE CONTRACTOR WHICH WOULD HAVE A GREATER EFFECT THAN THE MINIMUM 125 PSF UNIFORM LOAD

**FALSEWORK:** THE INSTALLATION OF TEMPORARY FALSEWORK NECESSARY FOR THE RECONSTRUCTION OF THE STONE MASONRY SPANDREL WALL AND MASONRY ARCH SHALL BE DETAILED BY THE CONTRACTOR AND SUBMITTED FOR REVIEW BY THE ENGINEER. THE TEMPORARY FALSE WORK MAY BE USED AS A DEBRIS SHIELD.

**UTILITIES:** THE CONTRACTOR SHALL LOCATE AND PROTECT ALL UTILITIES AS NECESSARY FOR THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS OF THE INDIVIDUAL UTILITY COMPANIES WITH REGARD TO EXCAVATION OF, SUPPORT OF, RELOCATION OF, AND WORK PERFORMED ON A UTILITY OWNED BY SAID COMPANY.

**CALL BEFORE YOU DIG:** THE CONTRACTOR SHALL CONTACT CALL BEFORE YOU DIG (C.B.Y.D.) PRIOR TO PROCEEDING WITH EXCAVATION IN ACCORDANCE WITH CONNECTICUT STATE LAW AT 1-800-922-4455. IT IS THE CONTRACTORS RESPONSIBILITY TO MAINTAIN THE UTILITY MARK-OUTS.

**CONTROL OF WATER:** THE CONTRACTOR SHALL NOT RESTRICT THE FLOW OF WATER OR DIVERT THE FLOW OF WATER IN HUBBARD BROOK BEYOND THAT CREATED/CAUSED BY THE INSTALLATION OF THE DEBRIS SHIELD/WORK PLATFORM SUPPORTS. IT IS ANTICIPATED THAT CONSTRUCTION ACTIVITIES WILL BE CONDUCTED DURING LOW-FLOW CONDITIONS AND THAT ALL DEBRIS SHIELD/WORK PLATFORM SUPPORTS ARE TO BE REMOVED FROM THE BROOK DURING INCLEMENT WEATHER.



**PLAN**  
 SCALE: 1"=10'

**PROTECTION OF UTILITIES**

- IN ACCORDANCE WITH THE STATE OF CONNECTICUT PUBLIC ACT 87-71, SECTION 16-345-4, RESPONSIBILITY OF EXCAVATORS:  
 EXERCISE REASONABLE CARE WHEN WORKING IN THE PROXIMITY OF UNDERGROUND FACILITIES OF ANY PUBLIC UTILITY. REASONABLE CARE SHALL INCLUDE, WITHOUT LIMITATION, THE USE OF CONSTRUCTION METHODS APPROPRIATE TO ENSURE THE INTEGRITY OF EXISTING UTILITY FACILITIES AND THEIR TEMPORARY AND PERMANENT SUPPORT INCLUDING BUT NOT LIMITED TO ADEQUATE AND PROPER SHORING AND PROPER BACKFILLING METHODS AND TECHNIQUES; THE SELECTION OF EQUIPMENT CAPABLE OF PERFORMING THE WORK WITH THE MINIMUM REASONABLE LIKELIHOOD OF DISTURBANCE TO UNDERGROUND FACILITIES; ADEQUATE SUPERVISORY PERSONNEL TO ENSURE PROPER ACTIONS; PROPER UNDERSTANDING BY THE PERSONNEL ON THE JOB SITE OF THE AUTHORITY OF ALL PARTIES INVOLVED IN THE ACTIVITY SO THAT PROMPT ACTION CAN BE TAKEN IN THE EVENT OF UNANTICIPATED CONTACT WITH UNDERGROUND FACILITIES; ADEQUATE TRAINING OF EMPLOYEES IN EXECUTING THEIR ASSIGNMENTS TO ENSURE PROTECTION OF UTILITY FACILITIES AND THE PUBLIC; MAINTAINING NECESSARY LIAISON WITH OWNERS OF UNDERGROUND FACILITIES; SPONSORING PREPLANNING AND PRECONSTRUCTION MEETINGS AS NECESSARY AND COMPLYING WITH ALL APPLICABLE LAWS AND REGULATIONS
- PROTECTION OF GAS FACILITIES:
  - THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH THE PROVISIONS AND REQUIREMENTS CONTAINED WITHIN THE CONNECTICUT NATURAL GAS CORPORATION (CNG) DEPARTMENT PROCEDURE 480.01 - PROTECTION/REPLACEMENT OF EXPOSED GAS FACILITIES
  - SUPPORTS FOR THE GAS FACILITY SHALL BE PROVIDED AS DETAILED IN THE EXHIBITS PROVIDED WITHIN CNG DEPARTMENT PROCEDURE 480.01
  - THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO THE GAS FACILITY
  - CNG DOCUMENTS INDICATE THAT THE EXISTING 4 INCH GAS FACILITY IS ABANDONED
  - CNG DOCUMENTS INDICATE THE PRESENCE OF A 6 INCH DIAMETER GAS FACILITY CROSSING THE EXISTING BRIDGE IN A 10 INCH DIAMETER STEEL SLEEVE
  - TEMPORARILY SUPPORTING THE EXISTING 6" GAS MAIN IN ACCORDANCE WITH CNG REQUIREMENTS, INCLUDING ALL MATERIALS, EXCAVATION, EQUIPMENT, TOOLS, LABOR AND INCIDENTAL ITEMS SHALL BE PAID FOR UNDER ITEM NO. "PROTECTION AND SUPPORT OF EXISTING UNDERGROUND CNG FACILITIES"

No.	DATE	DESCRIPTION	BY
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PROJ. MANAGER:	
CHIEF DESIGNER:	
REVIEWED BY:	DATE

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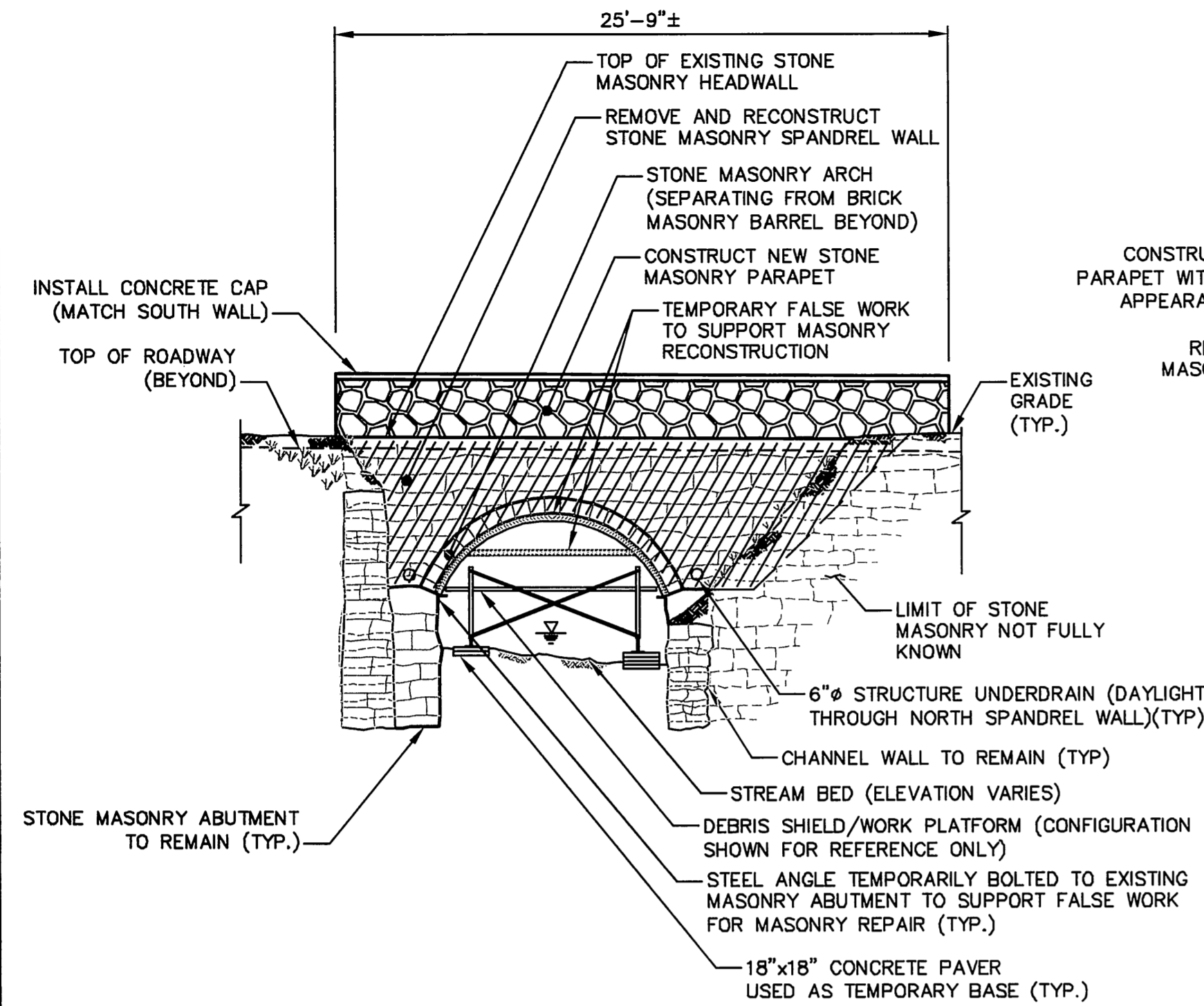
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TOWN OF GLASTONBURY  
 BRIDGE PLAN  
 WILLIAMS STREET BRIDGE OVER HUBBARD BROOK  
 REHABILITATION (BRIDGE I.D. 053015)  
 GLASTONBURY CONNECTICUT

PROJ. No.: 20081435.A20  
 DATE: APRIL 9, 2010

**4**



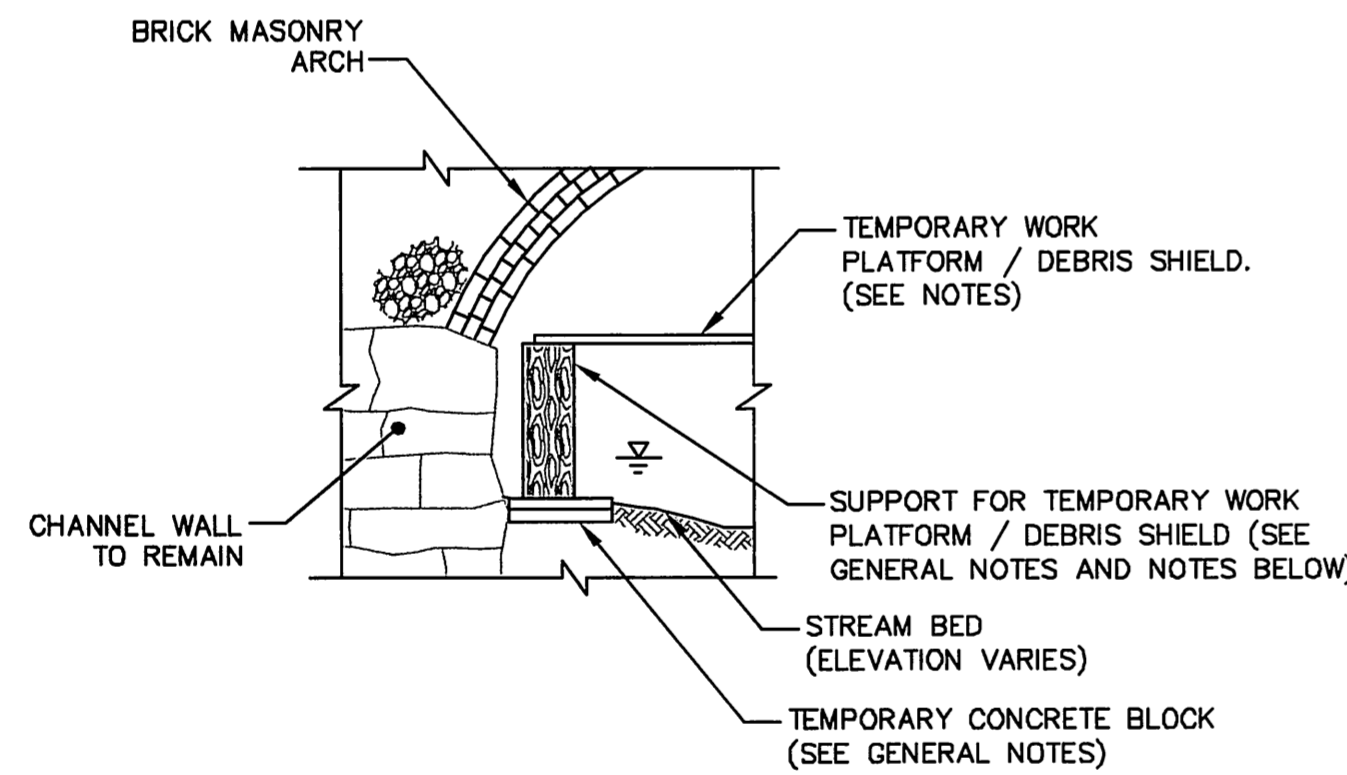
**NOTES:**

- ANCHOR BOLTS FOR ATTACHING STEEL SECTION SHALL BE MECHANICAL SLEEVE TYPE; ANCHORS CAPABLE OF BEING REMOVED AFTER COMPLETION OF WORK  
 - MIN. ALLOWABLE STATIC SHEAR CAPACITY = 3,000 LBS  
 - MIN. ANCHOR DIAMETER = 1/2"  
 - MAX. DISTANCE BETWEEN ANCHORS = 24" O.C.

- HOLES DRILLED INTO EXISTING STONE ABUTMENTS FOR ANCHORS USED TO TEMPORARILY ATTACH SUPPORT ANGLES SHALL BE FILLED WITH NON-SHRINK, NON-STAINING GROUT AFTER ANCHORS ARE REMOVED UPON COMPLETION OF THE WORK

**NORTH SPANDREL WALL ELEVATION**

SCALE: 1/8"=1'-0"

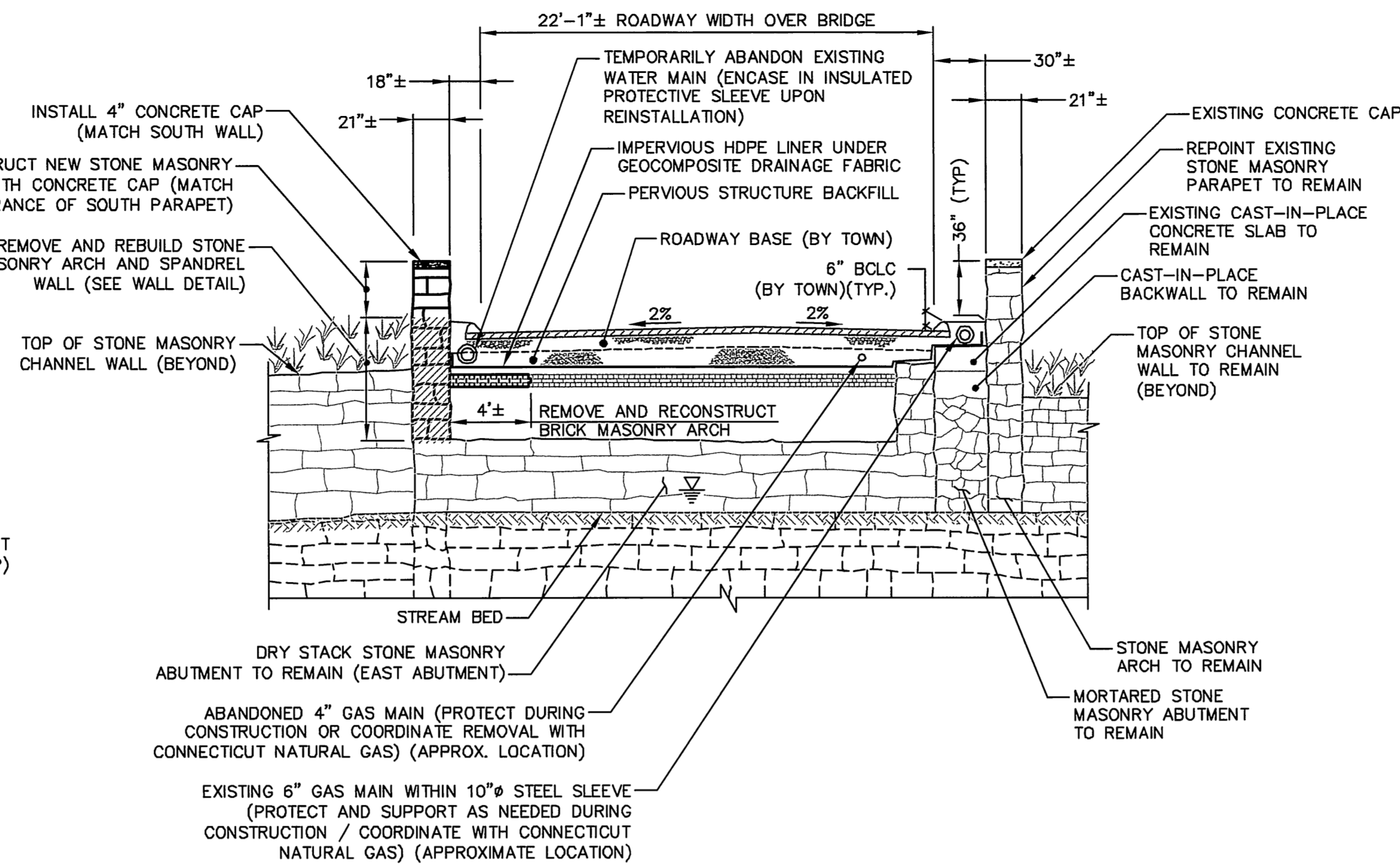


**NOTES:**

- TIMBER SUPPORT SHOWN FOR TEMPORARY PLATFORM / DEBRIS SHIELD, OTHER SUPPORTS MAY BE USED IN ACCORDANCE WITH THESE NOTES.
- THERE SHALL BE NO MORE THAN 6 TEMPORARY SUPPORTS, STANCHIONS, COLUMNS OR SCAFFOLDING LEGS ALLOWED WITHIN THE WATERWAY FOR THE PURPOSE OF SUPPORTING THE DEBRIS SHIELD/WORK PLATFORM.
- THE MAXIMUM DIMENSION OF EACH TEMPORARY SUPPORT, STANCHION, COLUMN OR SCAFFOLD LEG WITHIN THE WATERWAY SHALL BE 12 INCHES SQUARE.
- TEMPORARY BLOCKS UNDER EACH INDIVIDUAL SUPPORT SHALL MEASURE NO MORE THAN 18 INCHES SQUARE IN PLAN AND EXTEND NO MORE THAN 12 INCHES ABOVE THE SURFACE OF THE STREAMBED.

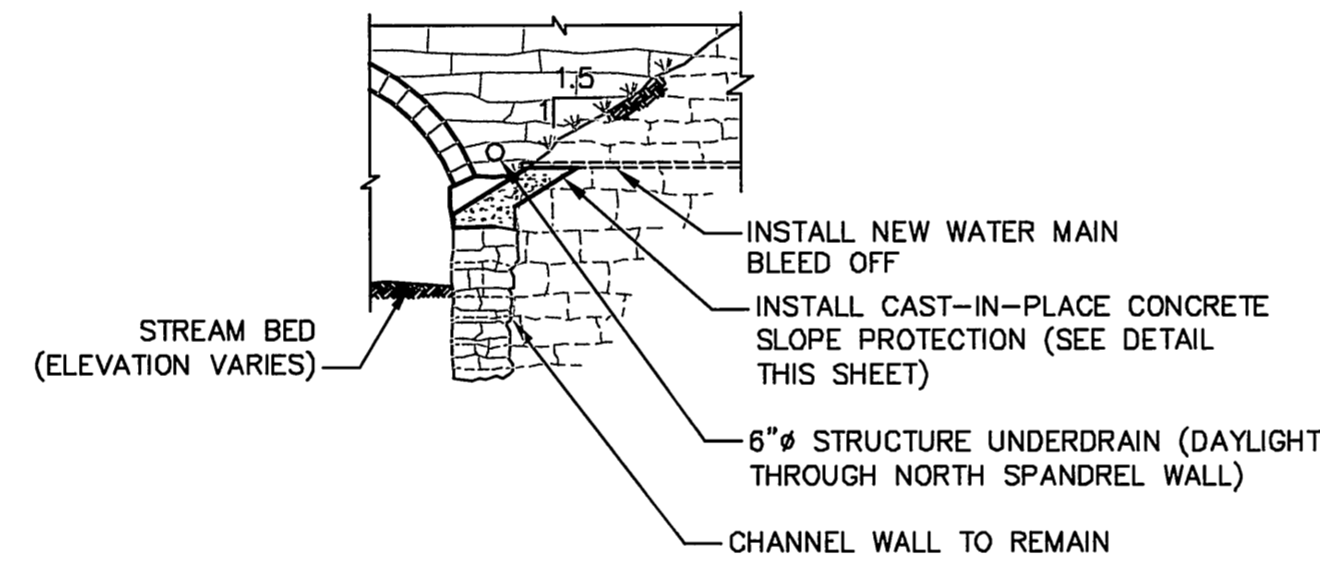
**DEBRIS SHIELD/WORK PLATFORM SUPPORT**

SCALE: N.T.S.



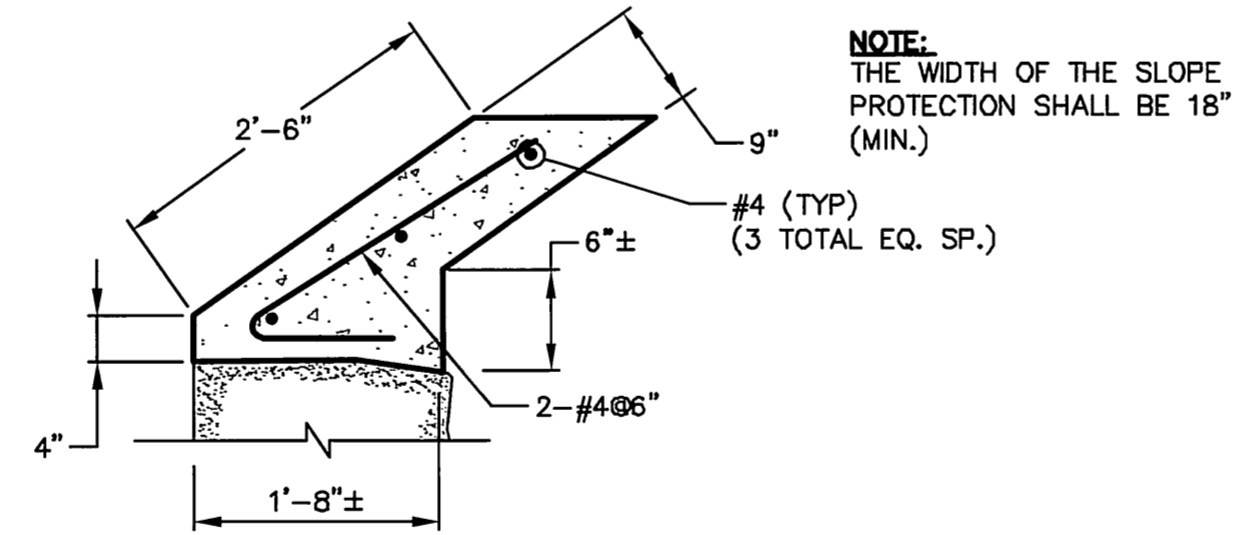
**TRANSVERSE SECTION**

SCALE: 1/8"=1'-0"



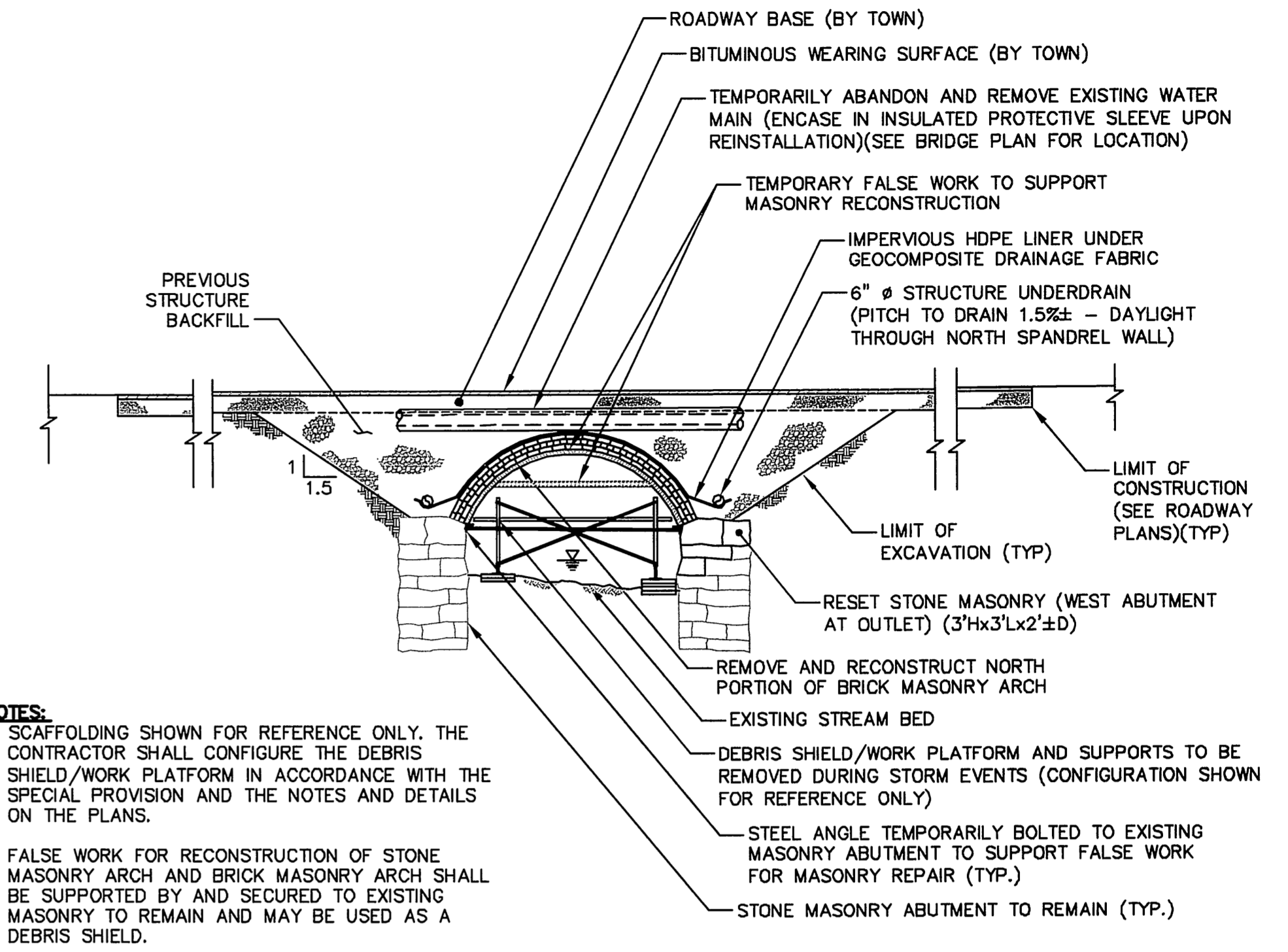
**BLEED VALVE SLOPE PROTECTION**

SCALE: N.T.S.



**SLOPE PROTECTION DETAIL**

SCALE: N.T.S.

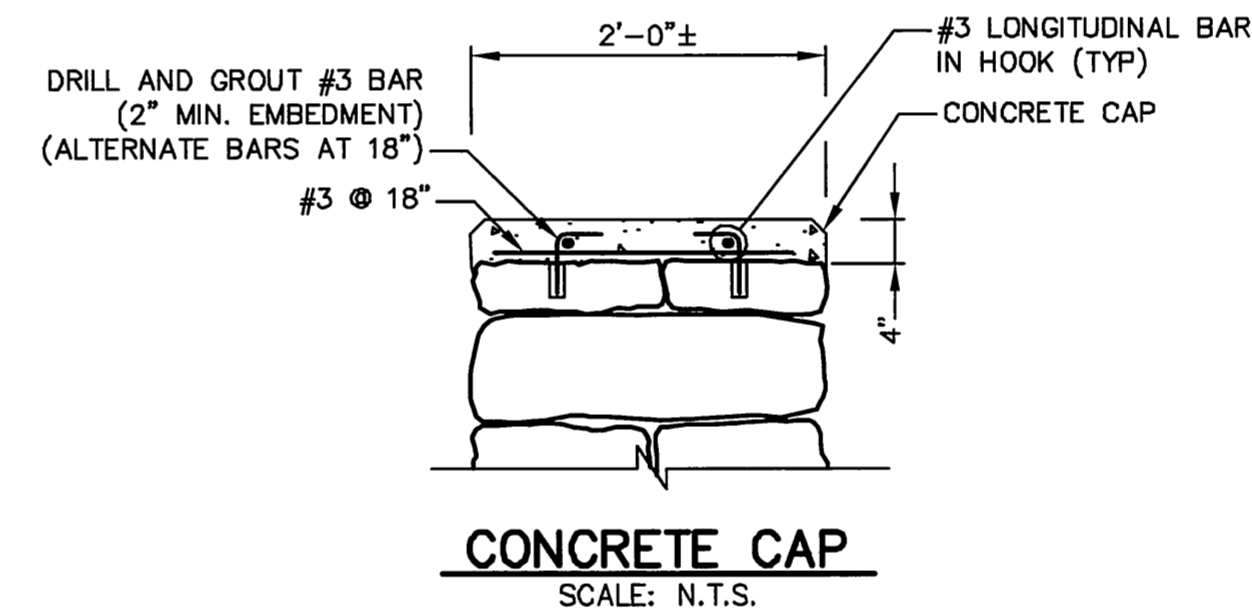


**NOTES:**

- SCAFFOLDING SHOWN FOR REFERENCE ONLY. THE CONTRACTOR SHALL CONFIGURE THE DEBRIS SHIELD/WORK PLATFORM IN ACCORDANCE WITH THE SPECIAL PROVISION AND THE NOTES AND DETAILS ON THE PLANS.
- FALSE WORK FOR RECONSTRUCTION OF STONE MASONRY ARCH AND BRICK MASONRY ARCH SHALL BE SUPPORTED BY AND SECURED TO EXISTING MASONRY TO REMAIN AND MAY BE USED AS A DEBRIS SHIELD.

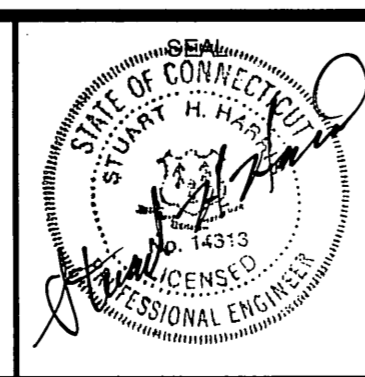
**LONGITUDINAL SECTION**

SCALE: 1/8"=1'-0"



No.	DATE	DESCRIPTION	BY
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PROJ. MANAGER:	SEAL
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TOWN OF GLASTONBURY  
 CONSTRUCTION DETAILS  
**WILLIAMS STREET BRIDGE OVER HUBBARD BROOK  
 REHABILITATION (BRIDGE I.D. 053015)**  
 GLASTONBURY CONNECTICUT

PROJ. No.: 20081435 A20  
 DATE: APRIL 9, 2010

**5**

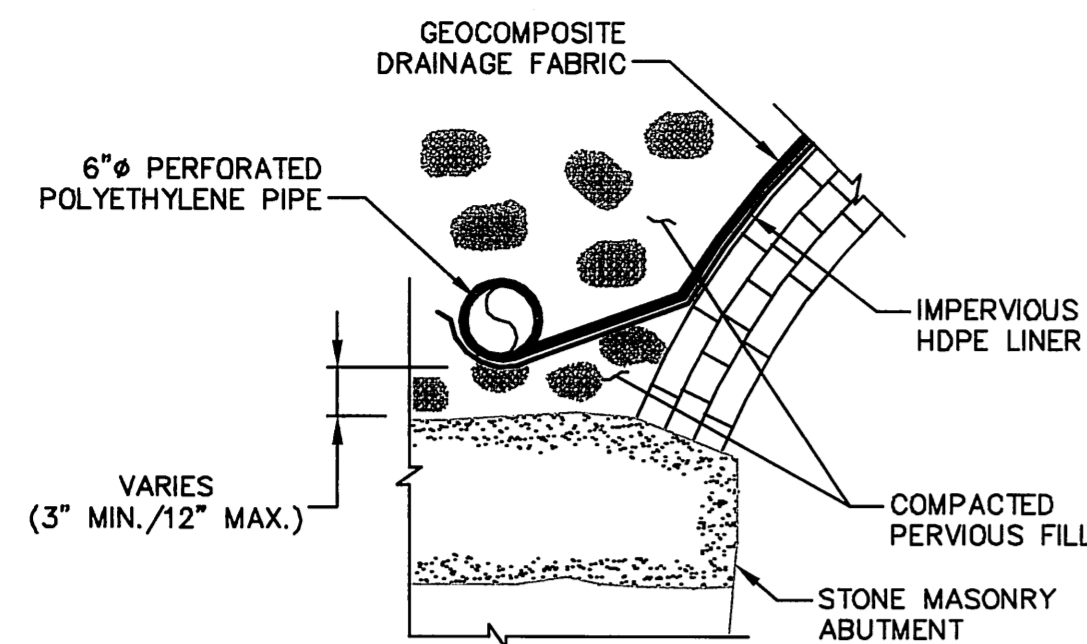
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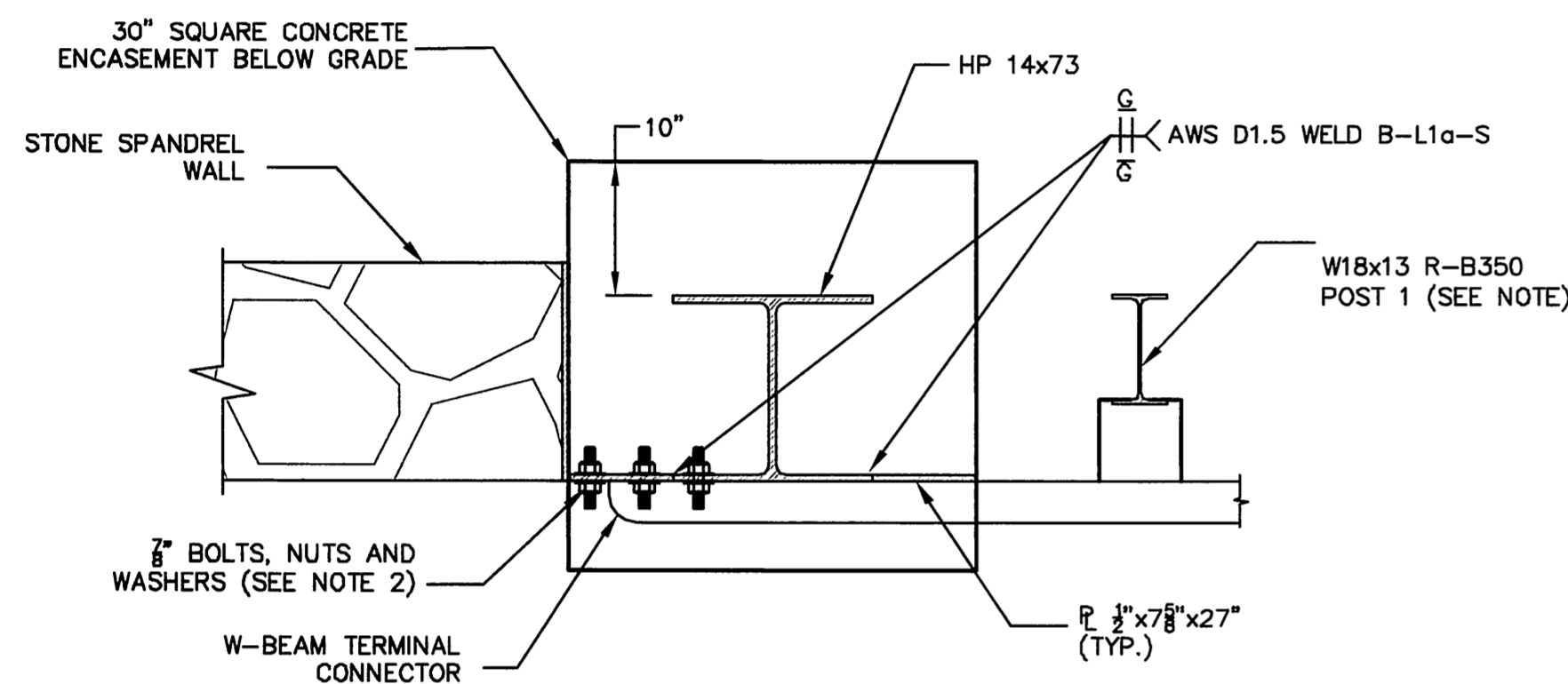


**STRUCTURE UNDERDRAIN**

SCALE: 3/8"=1'-0"

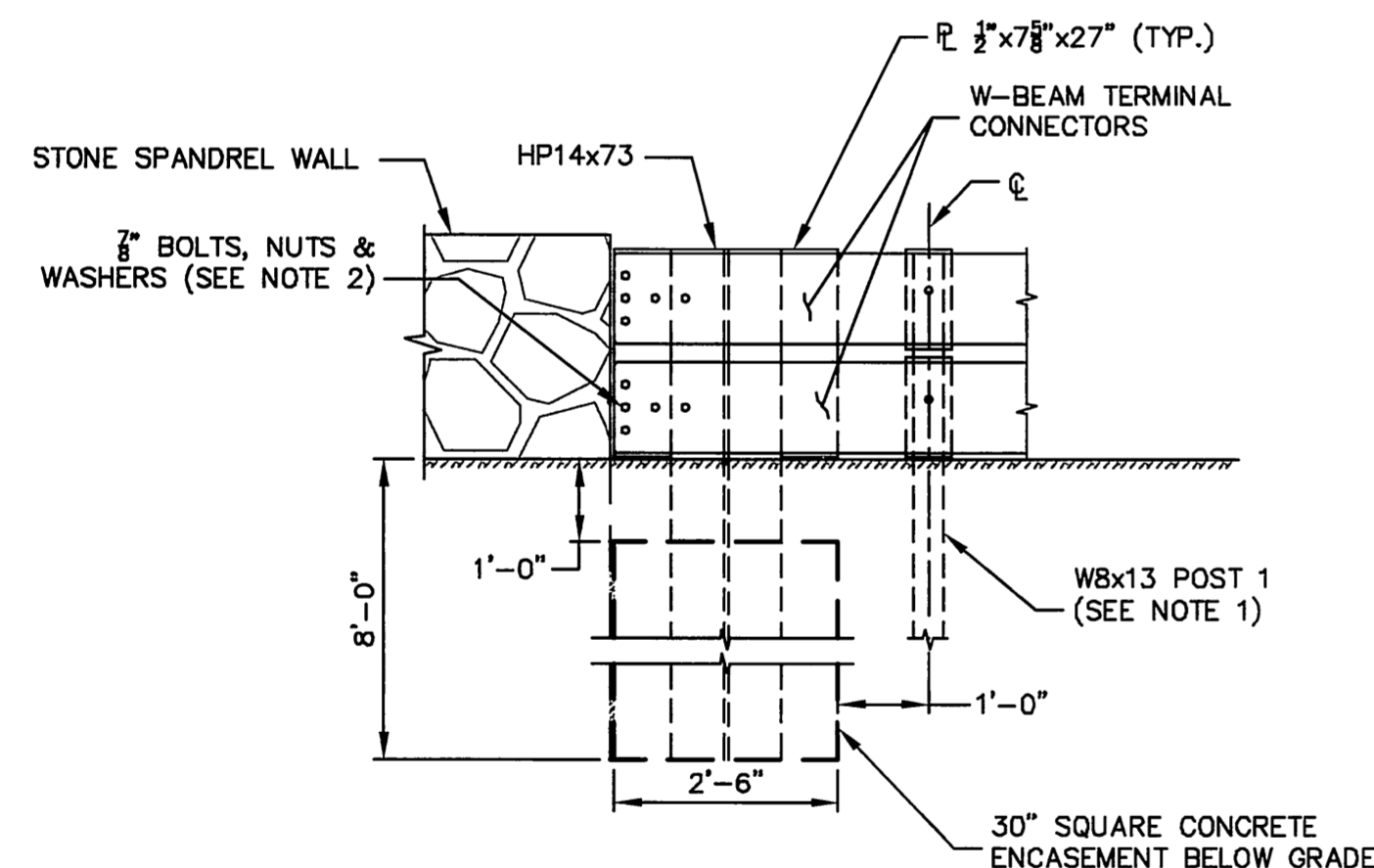
**NOTES:**

1. IMPERVIOUS HDPE LINER SHALL BE 60 MIL. (MIN.) HIGH DENSITY POLYETHYLENE GEOMEMBRANE TEXTURED ON BOTH SIDES
2. THE GEOCOMPOSITE DRAINAGE FABRIC SHALL BE TENAX TENAX RooDrain GEOCOMPOSITE, SYTEC CORP., BALTIMORE, MARYLAND, OR APPROVED EQUAL.
3. SECURE GEOCOMPOSITE DRAINAGE FABRIC AROUND 6"Ø UNDERDRAIN IN ACCORDANCE WITH THE MANUFACTURES RECOMMENDATIONS
4. UNDER DRAIN SHALL BE SLOPED FROM SOUTH TO NORTH AND DAYLIGHTED THROUGH THE NORTHERN WALL - SLOPE OF UNDERDRAIN SHALL BE 1.5%±



**ANCHOR POST PLAN**

SCALE: 1/2"=1'-0"



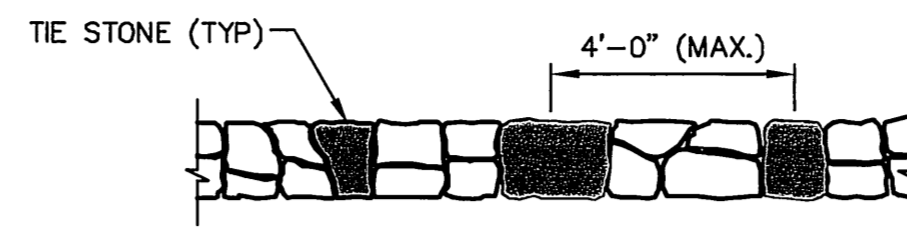
**ANCHOR POST ELEVATION**

SCALE: 1"=1'-0"

**NOTES:**

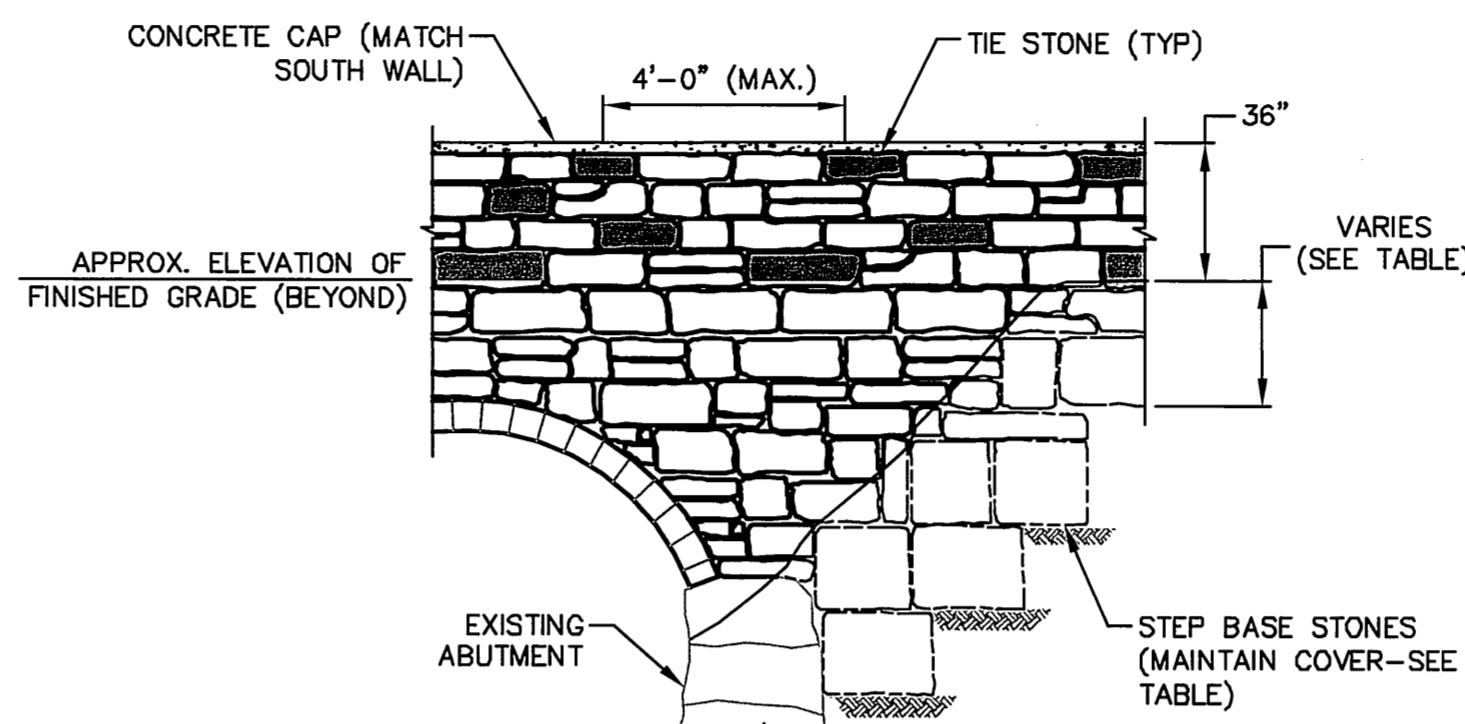
1. SEE CONN DOT. STANDARD DRAWINGS "R-B 350 BRIDGE ATTACHMENT - VERTICAL SHAPE PARAPET" FOR GUIDE RAIL DETAILS
2. SUBSTITUTE A325 GALVANIZED BOLTS, NUTS AND WASHERS FOR CHEMICAL ANCHORS IN NOTE 9 ON CONNDOT STANDARD DRAWING "R-B 350 BRIDGE ATTACHMENT - VERTICAL SHAPE PARAPET"
3. CONCRETE SHALL BE CLASS 'A' CONCRETE AND PAID FOR UNDER THE ITEM "CLASS 'A' CONCRETE"
4. THE ANCHOR POST AND PLATE SHALL BE WEATHERING STEEL AND COMPLY WITH CONNDOT FORM 816 ARTICLE M.10.2-1.C AND SHALL BE PAID FOR UNDER THE ITEM "STRUCTURAL STEEL"

**GUIDE RAIL ANCHOR POST**



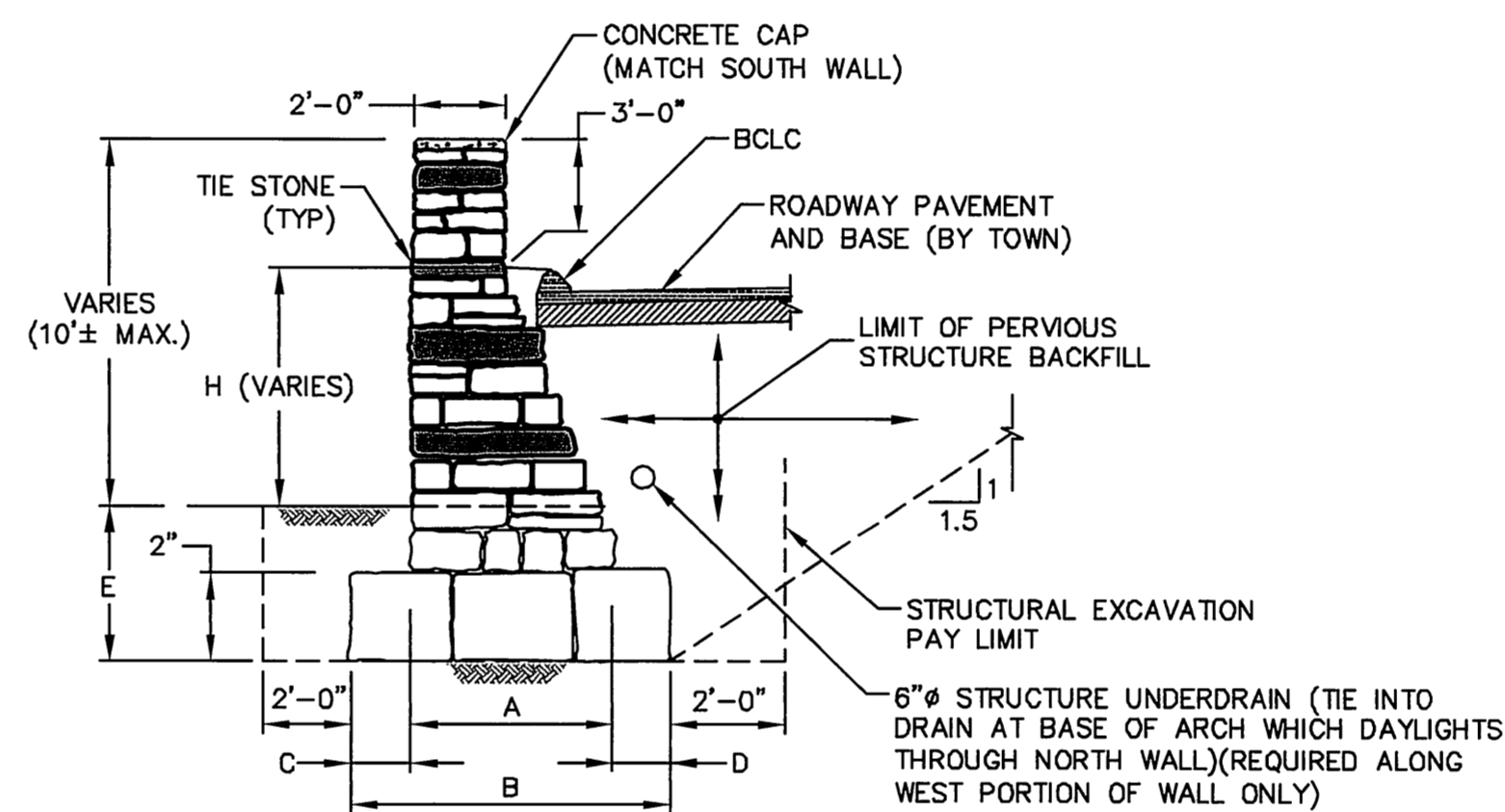
**WALL PLAN**

NOT TO SCALE



**WALL ELEVATION**

NOT TO SCALE



**WALL SECTION**

NOT TO SCALE

**CEMENTED STONE MASONRY SPANDREL WALL/PARAPET DETAIL**

SCALE: N.T.S.

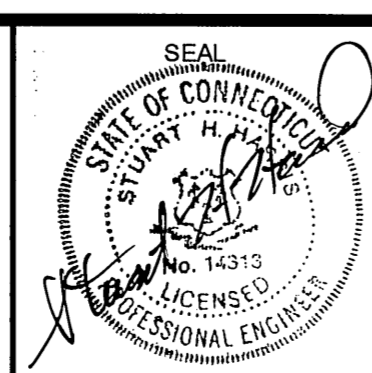
**NOTES:**

1. CONSTRUCTION SHALL BE IN ACCORDANCE WITH SEC. 6.06 OF CONNDOT FORM 816
2. JOINTS SHALL NOT EXCEED 1 1/2" IN WIDTH
3. JOINTS SHALL BE POINTED TO MATCH THE APPEARANCE OF THE SOUTH WALL
4. POINTING OF JOINTS ON TOP OF WALL SHALL BE FLUSH AND PITCHED TO DEFLECT WATER OFF THE WALL
5. DRESS 6" BELOW GRADE FOR FRONT FACE OF WALL
6. TIE STONES SHALL BE PLACED SUCH THAT THE MAXIMUM SPACING IS 4'-0" O.C. A TIE STONE AS SHOWN SHALL BE LARGE ENOUGH TO SPAN FROM THE FRONT WALL FACE TO THE BACK WALL FACE TO PROVIDE AN INTERLOCKING MECHANISM
7. STONES AND MORTAR FOR THE CONSTRUCTION OF THE WALL AS DETAILED SHALL BE PAID FOR UNDER ITEM "CEMENT RUBBLE MASONRY".
8. SIZE SHAPE AND COLOR OF STONE FOR NEW NORTH PARAPET SHALL MATCH THE EXISTING STONE WITHIN THE SOUTH PARAPET

DIMENSIONS				
H	A	B	C	E
2'-0"	3'-3"	—	—	2'-6"
3'-0"	3'-8"	—	—	2'-6"
4'-0"	4'-1"	—	—	2'-6"
5'-0"	4'-6"	—	—	2'-6"
6'-0"	—	5'-4"	1'-0"	3'-6"
7'-0"	—	6'-2"	1'-4"	3'-6"
8'-0"	—	6'-5"	1'-6"	3'-6"

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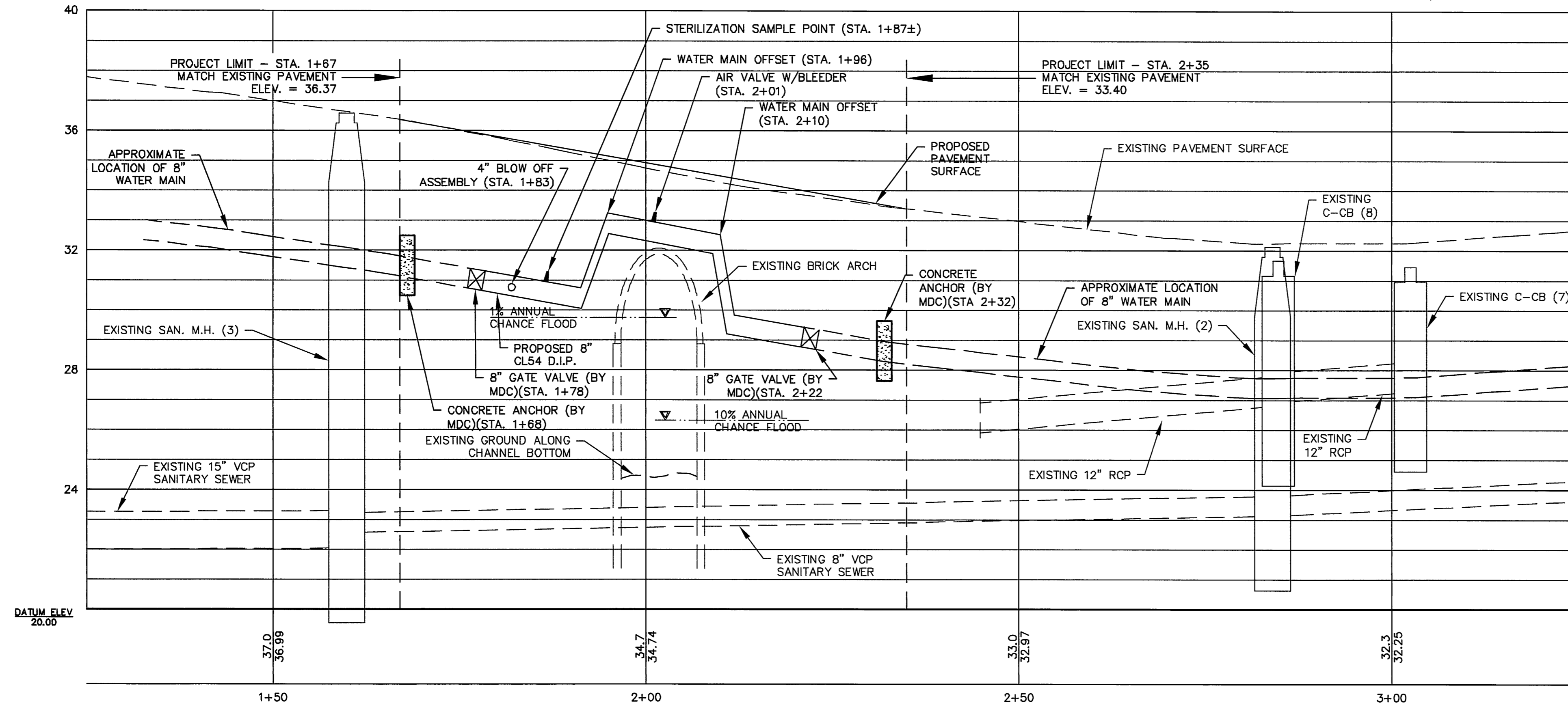


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TOWN OF GLASTONBURY
CONSTRUCTION DETAILS
<b>WILLIAMS STREET BRIDGE OVER HUBBARD BROOK</b>
<b>REHABILITATION (BRIDGE I.D. 053015)</b>
GLASTONBURY
CONNECTICUT

PROJ. No.: 20081435.A20
DATE: APRIL 9, 2010
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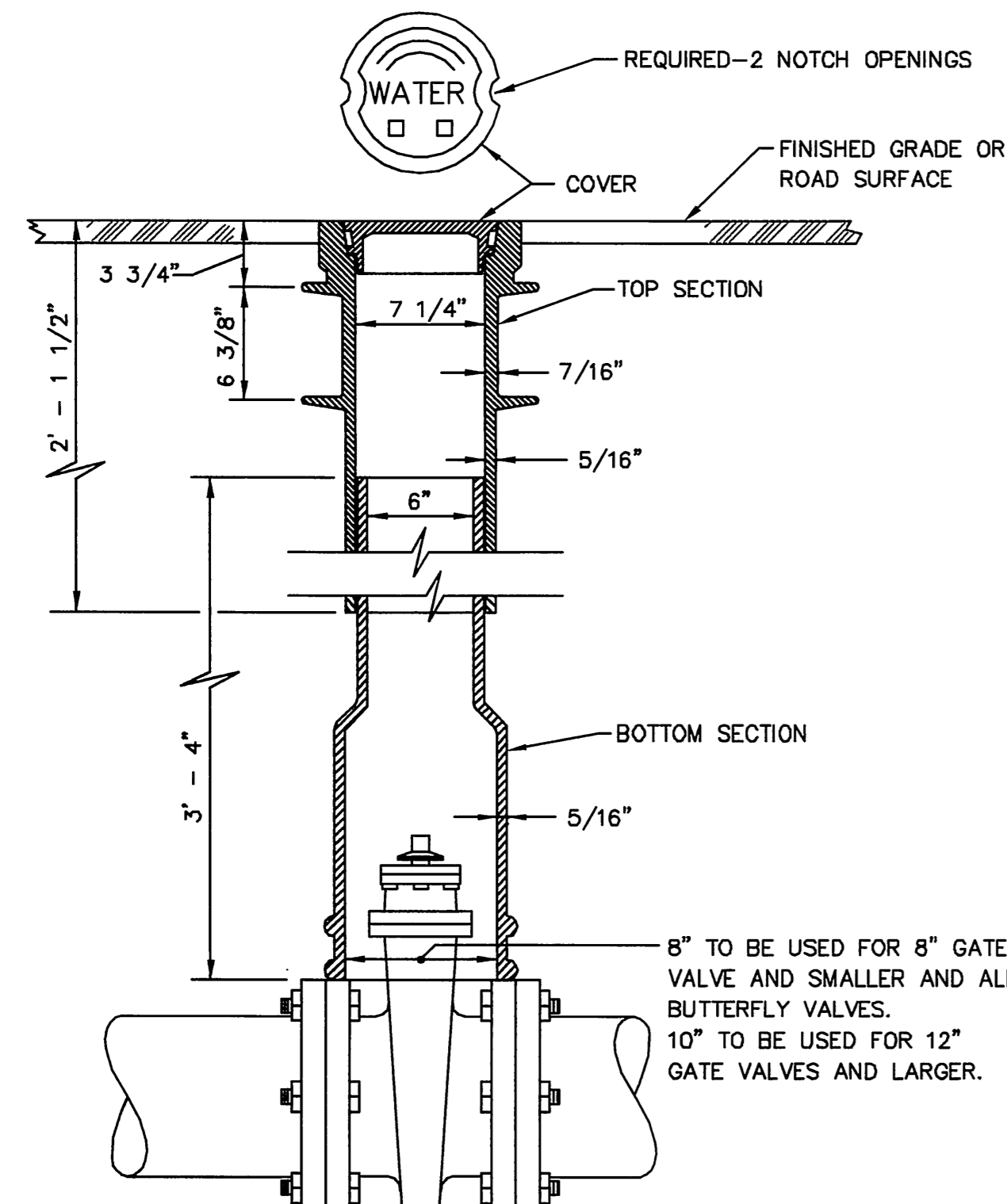


**PROPOSED WATER MAIN PROFILE**

SCALE: H 1:10  
V 1:2.5

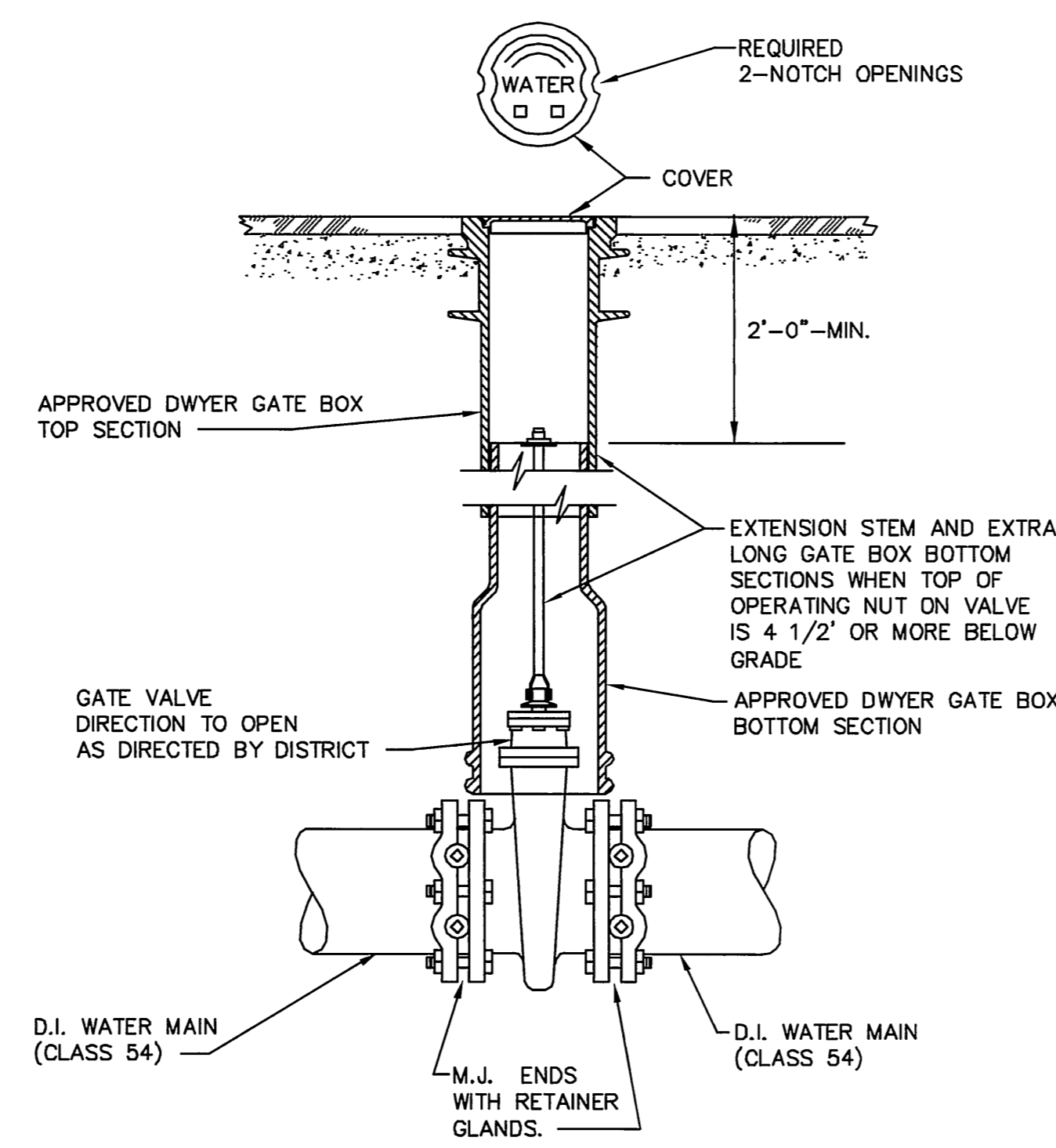
**STANDARD WATER MAIN NOTES**

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH METROPOLITAN DISTRICT STANDARDS AND SPECIFICATIONS.
2. WATER MAIN TO BE INSTALLED IN ACCORDANCE WITH THE METROPOLITAN DISTRICT'S DEVELOPERS MANUAL FOR WATER MAIN DESIGN AND INSTALLATION STANDARDS.\*
3. "CALL BEFORE YOU DIG" - THE CONTRACTOR IS HEREBY REMINDED THAT TITLE 16, CHAPTER 293 OF THE CONNECTICUT GENERAL STATUTES REQUIRES NOTIFICATION OF THE UTILITY COMPANIES OF PENDING EXCAVATION AT OR NEAR PUBLIC UTILITIES. THE CONTRACTOR SHALL CALL 1-800-922-4455 AT LEAST 48 HOURS PRIOR TO BEGINNING THE EXCAVATION.
4. ALL FEDERAL AND STATE OSHA SAFETY STANDARDS MUST BE FOLLOWED DURING WATER MAIN INSTALLATIONS AND TESTING, INCLUDING 29 CFR 1926.650 - 1926.652, THAT ADDRESS EXCAVATION WORK AND REQUIREMENTS FOR PROTECTIVE SYSTEMS.
5. TEST PITS SHALL BE DUG WELL IN ADVANCE OF THE WATER MAIN INSTALLATION TO DETERMINE POSSIBLE OFFSETS ABOVE OR BELOW OTHER UTILITIES, STRUCTURES OR OBSTACLES.
6. EXTREME CARE MUST BE EXERCISED BY THE CONTRACTOR TO PROTECT EXISTING SANITARY SEWERS, SANITARY SEWER LATERALS, STORM DRAINS AS WELL AS OTHER UTILITIES DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL FURNISH TO THE ENGINEER A MATERIALS LIST, FOR APPROVAL, PRIOR TO THE INSTALLATION OF THE PROPOSED WATER MAIN.
8. ALL WATER MAIN AND APPURTENANCES SHALL BE STAKED (SURVEYED) OUT BY A PROFESSIONAL SURVEYOR LICENSED IN THE STATE OF CONNECTICUT. THE SURVEY SHALL INCLUDE AN OFFSET LINE OR STREET LINE EVERY FIFTY FEET (50'0"), FINAL ROAD OR SURFACE ELEVATION.
9. TEST PRESSURE SHALL BE 150 PSI, AS DETERMINED BY THE METROPOLITAN DISTRICT.
10. GATE OPERATIONS FOR THIS PROJECT SHALL BE "OPEN LEFT".
11. MINIMUM DEPTH OF COVER OVER PROPOSED WATER MAIN SHALL BE 4.5 FEET AS MEASURED FROM THE UNDERSIDE OF THE PAVEMENT TO THE TOP OF THE PIPE.
12. WHERE THE MINIMUM DEPTH OF COVER OVER THE PROPOSED WATER MAIN CAN NOT BE MAINTAINED 2 INCH INSULATION SHALL BE INSTALLED AROUND THE WATER MAIN UNTIL A MINIMUM OF 4.0 FEET OF COVER IS ACHIEVED.
13. ALL WATER MAINS SHALL BE CLASS 54 ANSI/AWWA C151/A21.51-81 DUCTILE IRON PIPE CENTRIFUGALLY CAST IN METAL MOLDS OR SAND LINED MOLDS FOR WATER OR OTHER LIQUIDS.
14. WHERE ROCK IS ENCOUNTERED DURING THE INSTALLATION OF THE PROPOSED WATER MAIN, THE PROPOSED MAIN SHALL BE LAID ON A PRE-COMPACTED BED OF APPROVED MATERIAL A MINIMUM SIX INCHES (6") IN DEPTH.
15. ALL FITTINGS, UNLESS OTHERWISE SPECIFIED, SHALL BE MECHANICAL JOINT AND SHALL BE INSTALLED WITH RESTRAINT IN EACH DIRECTION.
16. WHERE RESTRAINT IS INDICATED, APPROVED RETAINER GLANDS OR RODDING MAY BE UTILIZED.
17. WHERE "PULLING" OR DEFLECTING PIPE IS INDICATED, SUCH DEFLECTION SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS OF "THE DIPRA HANDBOOK." IN NO CASE SHOULD THE DEFLECTION BE GREATER THAN FIVE DEGREES.
18. ALL GATE VALVES, AIR VALVES AND BLOWOFFS SHALL BE INSTALLED COMPLETE WITH DISTRICT APPROVED GATE BOXES AND APPURTENANCES UNLESS OTHERWISE NOTED.
19. GATE NUT EXTENSION STEMS REQUIRED WHERE GATE VALVE NUTS ARE PLACED AT A DEPTH GREATER THAN 4.5 FEET BELOW FINAL GRADE.
20. MAINTAIN A MINIMUM DISTANCE OF 10 FEET (10'0") HORIZONTAL BETWEEN THE WATER MAIN AND ANY EXISTING OR PROPOSED SANITARY SEWER. WHEN LOCAL CONDITIONS PREVENT THIS, A LESSER DISTANCE IS ALLOWED IF (A) THE WATER MAIN IS IN A SEPARATE TRENCH, OR (B) IT IS LOCATED IN THE SAME TRENCH TO ONE SIDE ON A BENCH OF UNDISTURBED EARTH WITH AT LEAST TWELVE INCHES (12"), AND PREFERABLY EIGHTEEN INCHES (18") HORIZONTAL SEPARATION BETWEEN THE EDGES OF THE SEWER PIPE AND THE WATER MAIN. IN EITHER CASE, THE BOTTOM OF THE WATER MAIN SHALL BE EIGHTEEN INCHES ABOVE THE CROWN OF THE SEWER PIPE.
21. WHERE THE WATER MAIN IS TO BE INSTALLED BELOW DRAIN PIPE, MAINTAIN A MINIMUM OF 18 INCHES BETWEEN THE BOTTOM OF STORM DRAIN AND THE CROWN OF THE WATER MAIN.
22. AFTER PLACING APPROXIMATELY TWO FEET (2'0") OF BACKFILL MATERIAL OVER THE WATER MAIN, THE CONTRACTOR SHALL PLACE A SIX-INCH WIDE STRIP OF DURABLE, NON-DETECTABLE, COLOR CODED (BLUE FOR WATER) UNDERGROUND UTILITY DETECTION TAPE IMPRINTED WITH THE APPROPRIATE WARNING INDICATING THE PRESENCE OF A BURIED UTILITY CONDUIT.
23. TRENCH BACKFILL UNDER ROADWAYS AND WALKWAYS SHALL BE BANK RUN GRAVEL, SAND, OR ACCEPTABLE NATIVE SOIL SATISFACTORY TO THE TOWN, CITY OR AND/OR STATE AUTHORITY HAVING JURISDICTION.
24. ROADWAYS REQUIRING FILL SHALL HAVE A MINIMUM OF THREE FEET (3'0") OF ACCEPTABLE FILL PLACED ABOVE THE TOP OF THE PROPOSED PIPE ELEVATION OR TO ESTABLISHED GRADE, AND COMPACTED TO 95% DENSITY PRIOR TO INSTALLATION OF THE SANITARY SEWER.
25. TEMPORARY AND PERMANENT PAVING RESTORATION SHALL BE MADE IN ACCORDANCE WITH DISTRICT AND/OR TOWN AND/OR STATE SPECIFICATIONS.
26. CONTRACTOR SHALL ASSIST THE DISTRICT STAFF WITH THE FILLING, FLUSHING AND TESTING OF THE WATER MAIN. THE CONTRACTOR SHALL ABIDE BY THE DISTRICT'S STANDARDS FOR DISINFECTING WATER MAINS, INCLUDING PROPERLY NEUTRALIZING THE CHLORINATED WATER AND DISCHARGING THE WATER ACCORDINGLY.
27. SHOULD THE WATER MAIN FAIL TO PASS THE REQUIRED PHYSICAL, CHEMICAL AND BIOLOGICAL PARAMETERS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INJECTING THE WATER MAIN WITH THE PROPER QUANTITY OF LIQUID HYPOCHLORITE SOLUTION, AT NO EXPENSE TO THE DISTRICT.



**STANDARD GATE BOX DWYER TYPE**

FIGURE-14



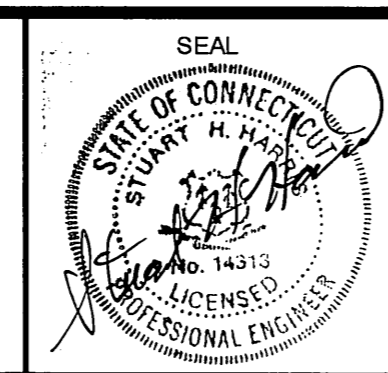
**TYPICAL GATE VALVE INSTALLATION 12\"/>**

FIGURE-13

No.	DATE	DESCRIPTION	BY
1.			
REVISIONS			

PROJ. MANAGER:	
CHIEF DESIGNER:	
REVIEWED BY:	DATE

SEAL	SEAL
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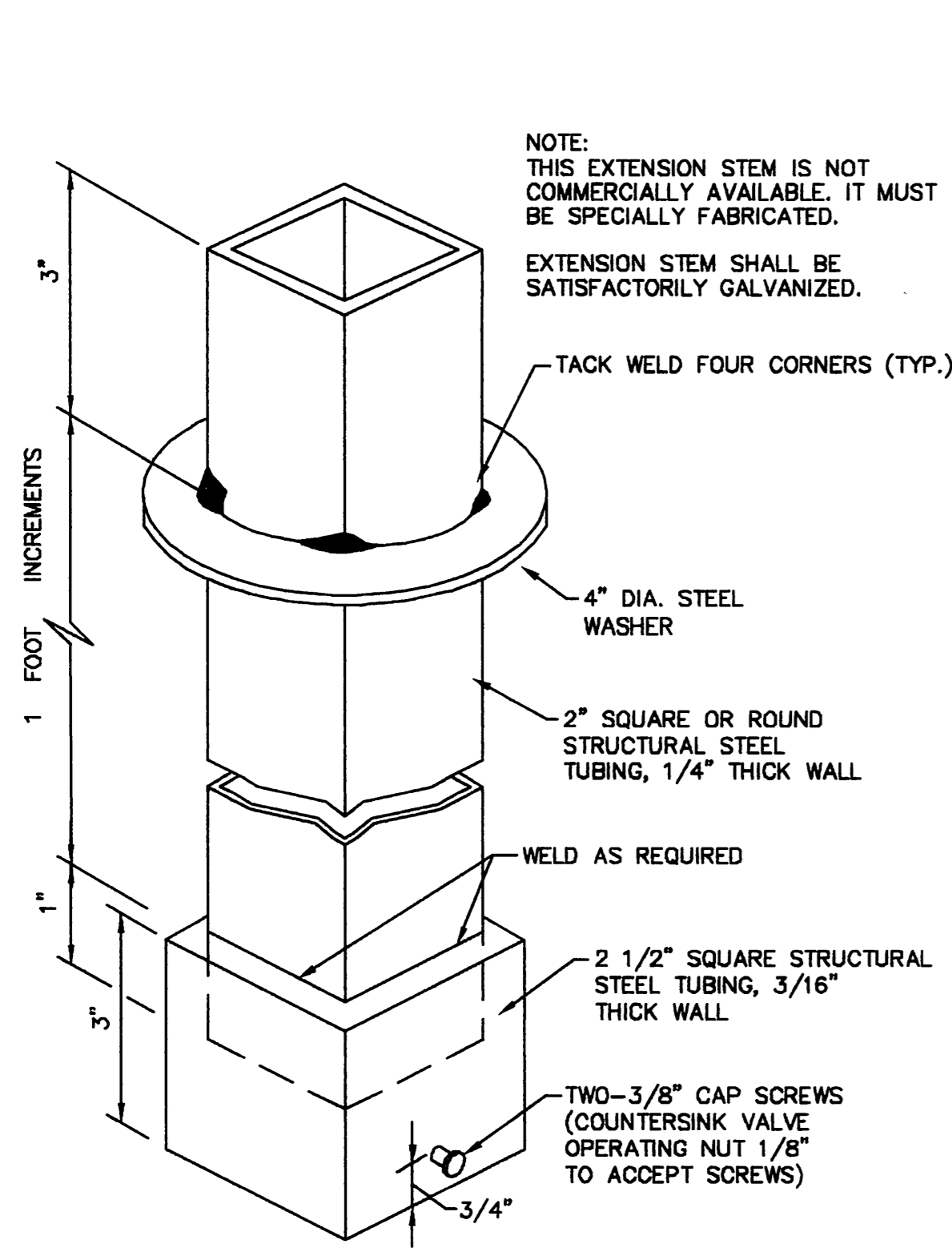
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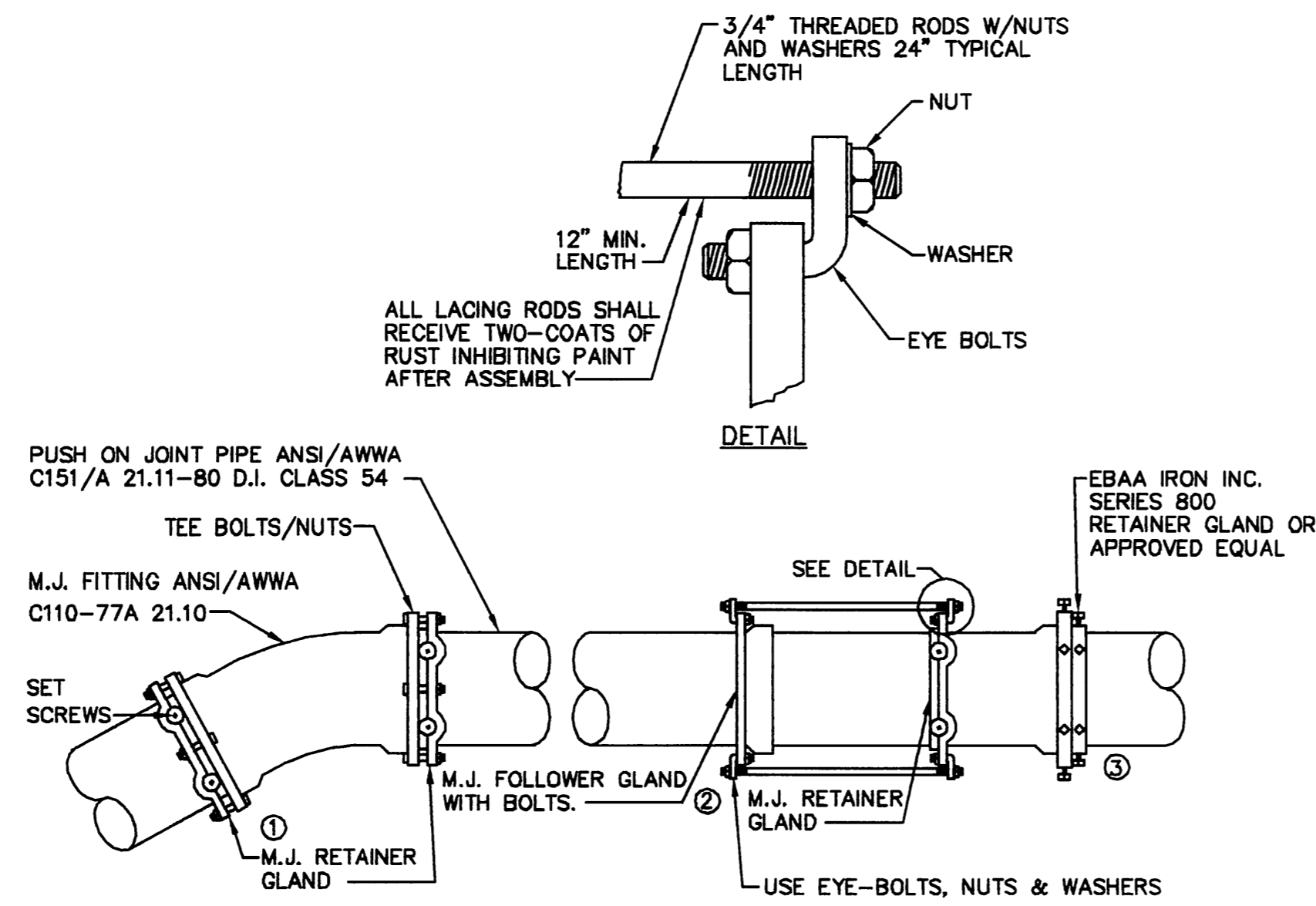
TOWN OF GLASTONBURY  
**WATER MAIN CONSTRUCTION DETAILS**  
WILLIAMS STREET BRIDGE OVER HUBBARD BROOK  
REHABILITATION (BRIDGE I.D. 053015)  
GLASTONBURY CONNECTICUT

PROJ. No.: 20081435.A20
DATE: APRIL 9, 2010
<b>7</b>



**GATE NUT EXTENSION STEM FOR GATE BOX INSTALLATION**

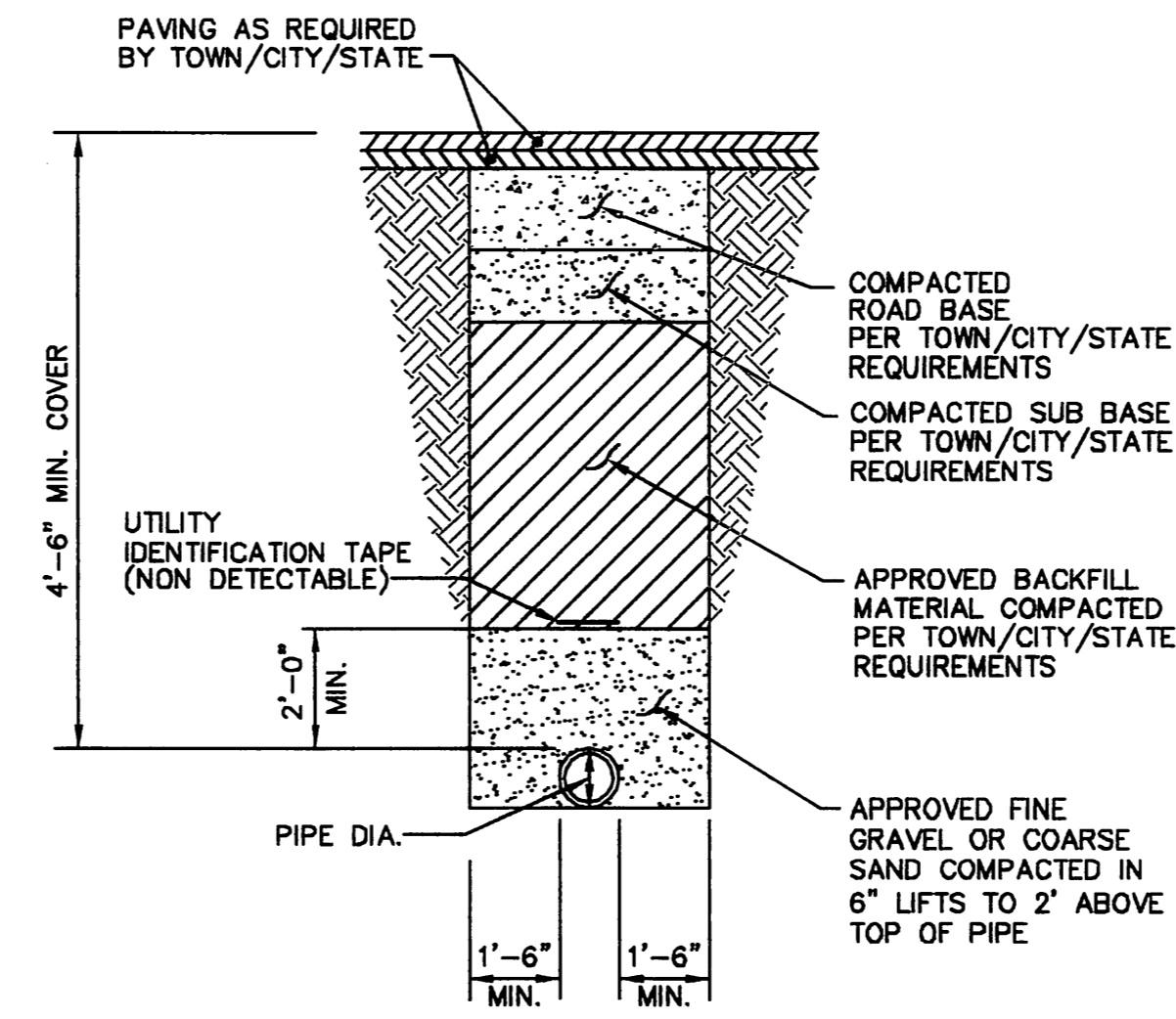
FIGURE-22



- THRUST RESTRAINT-RESTRAINED JOINT METHODS
- ① MECHANICAL JOINT RETAINER GLANDS
  - ② PUSH-ON JOINT RESTRAINT USING MECHANICAL JOINT RETAINER GLANDS AND LACING
  - ③ PUSH-ON JOINT RETAINER GLANDS

**TYPICAL RESTRAINED JOINTS**

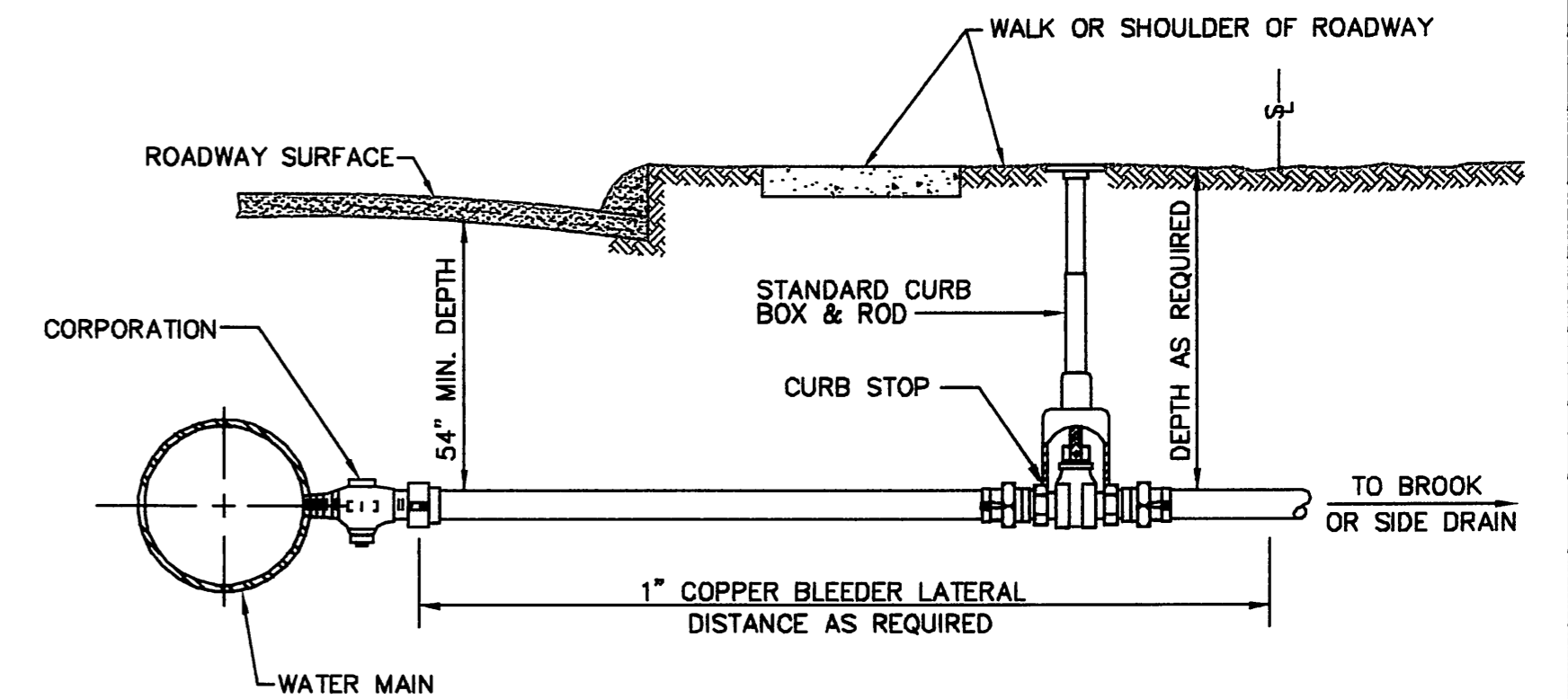
FIGURE-28



**TYPICAL WATER MAIN TRENCH**

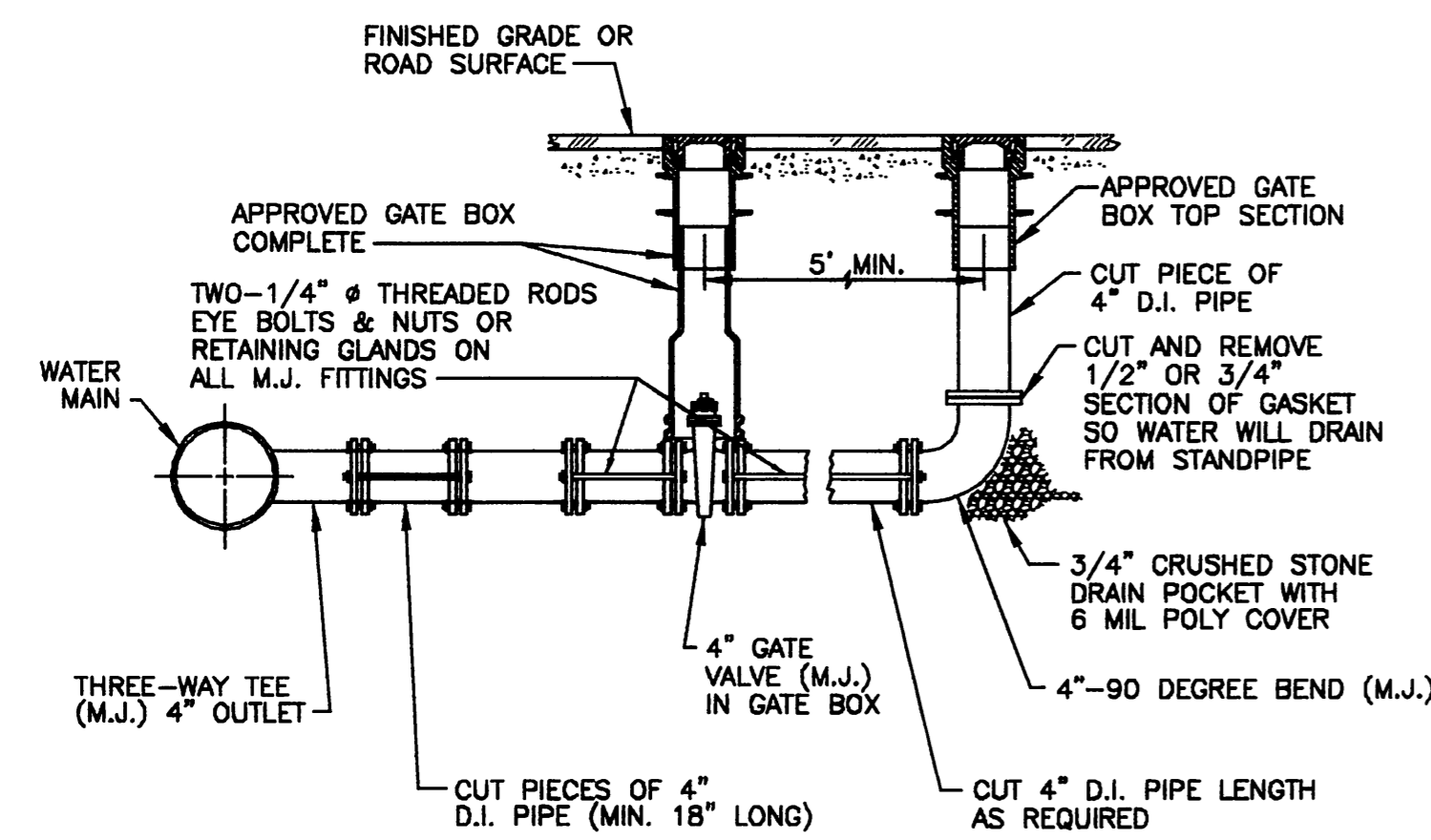
CROSS SECTION

FIGURE-4



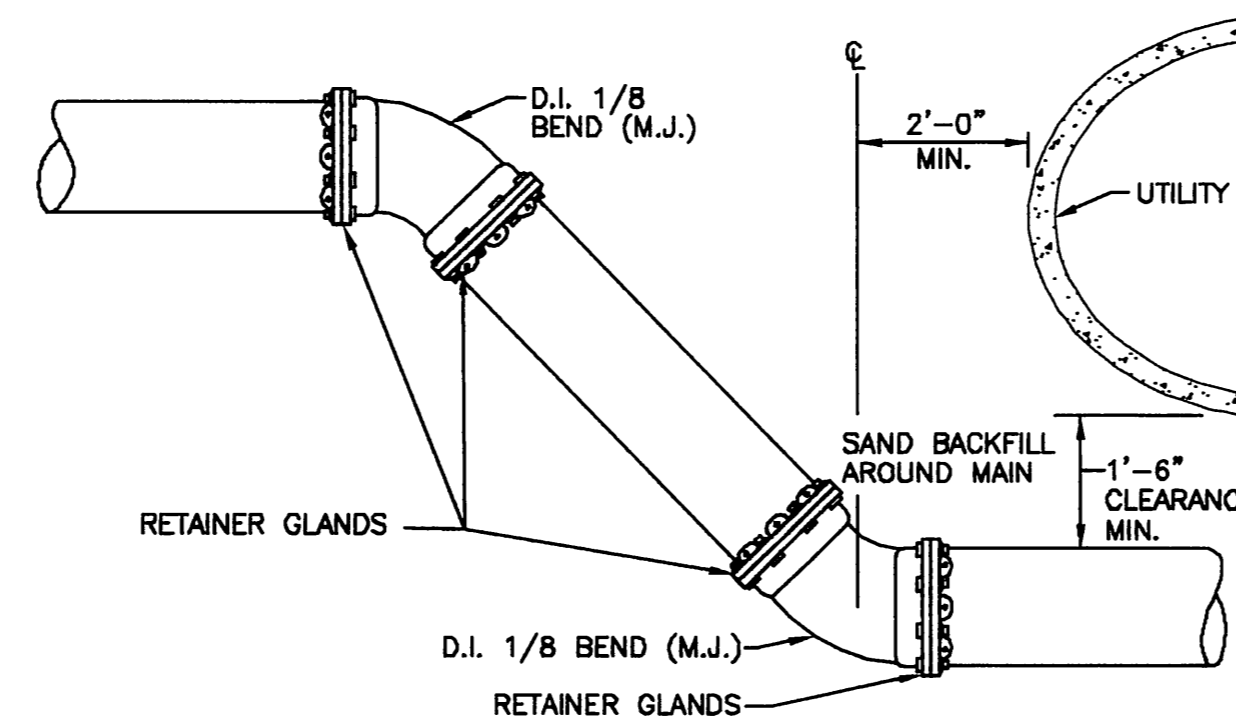
**1" BLEEDER (OUT OF ROADWAY)**

FIGURE - 54



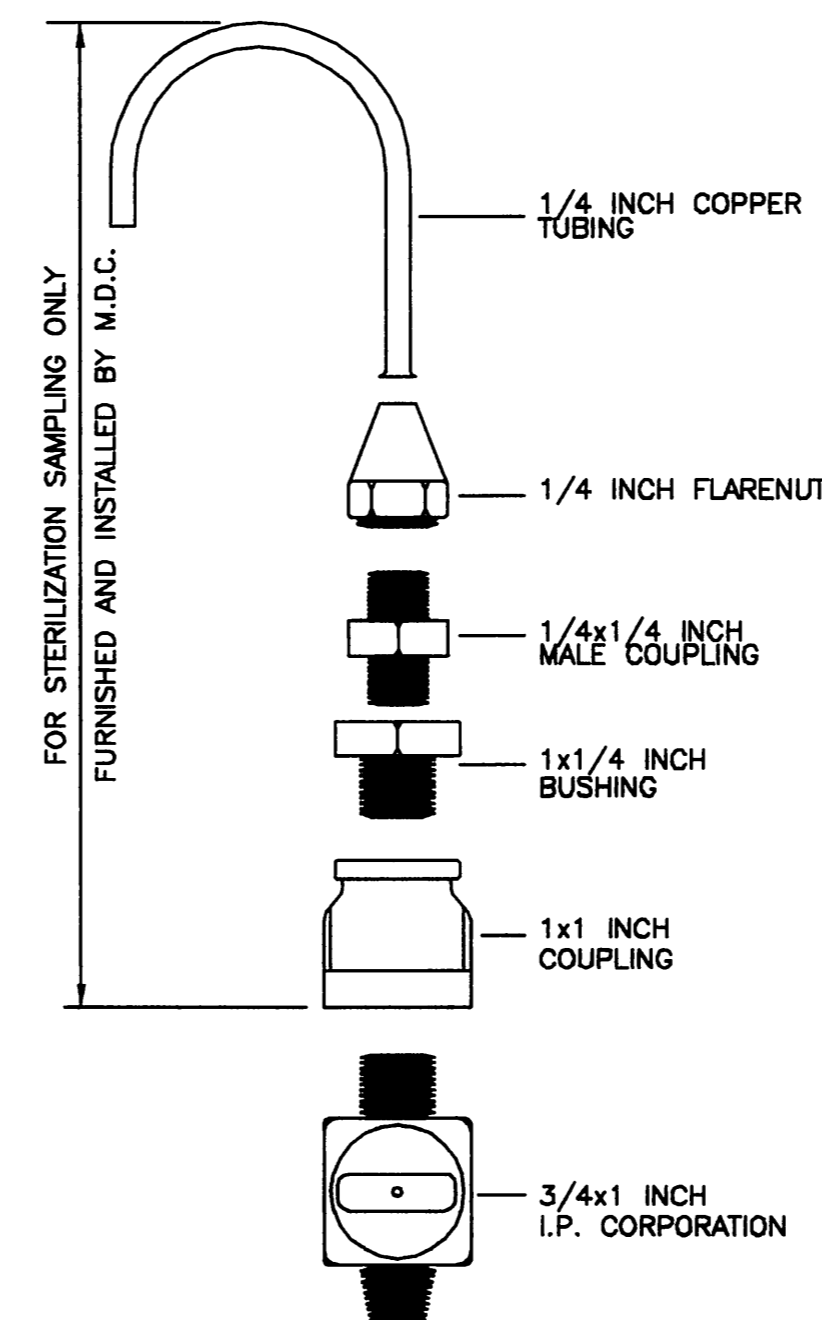
**4" BLOW-OFF ASSEMBLY (BRANCH TYPE)**

FIGURE-52



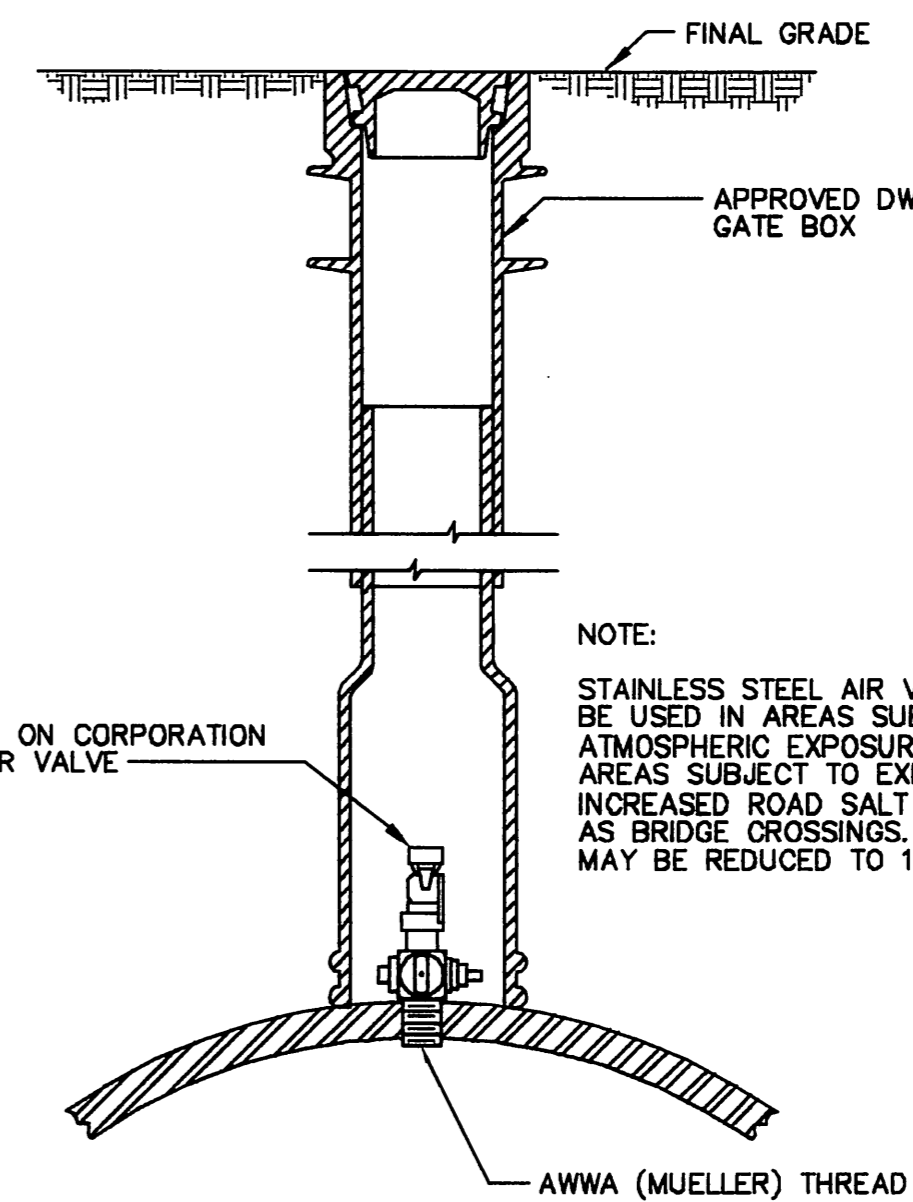
**TYPICAL OFFSET**

FIGURE-30



**STERILIZATION SAMPLING FITTING**

FIGURE-47



DIA. OF MAIN	MIN. SIZE AIR VALVE	CORPORATION COCK	ANGLE VALVE SIZE
TO 12" (INCL.)	3/4"	3/4"x 1"	1"
16" & 20"	1"	1"x 1"	1"
24" & 30"	1 1/4"	1 1/4"x 1 1/2"	1 1/2"
36" & 42"	1 1/2"	1 1/2"x 2"	2"
48" & 54"	2"	2"x 2"	2"

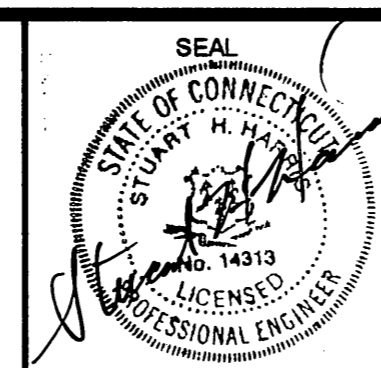
**AIR VALVE (STANDARD MINIMUM SIZES)**

FIGURE-50

No.	DATE	DESCRIPTION	BY
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CHIEF DESIGNER:	
REVIEWED BY:	DATE

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TOWN OF GLASTONBURY

**WATER MAIN CONSTRUCTION DETAILS**

**WILLIAMS STREET BRIDGE OVER HUBBARD BROOK REHABILITATION (BRIDGE I.D. 053015)**

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