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NWIRP CALVERTON
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LETTER REGARDING THE U S NAVY RESPONSES TO SUFFOLK COUNTY DEPARTMENT
OF HEALTH SERVICES COMMENTS ON THE BACKFLOW PREVENTION DEVICE FOR
NEW WATER LINE
1/18/2012
TETRA TECH



TETRA TECH

NOR-01312

January 18, 2012

Mr. Jason Hime, P.E.
Senior Public Health Engineer, Office of Water Resources
360 Yaphank Avenue, Suite 1C
Yaphank, New York, 11980

Reference: CLEAN Contract No. N62470-08-D-1001
Contract Task Order WE08

Subject: Backflow Prevention Device for a New Water Line
Peconic River Sportsmans Club, Manorville New York
Naval Weapons Industrial Reserve Plant (NWIRP) Calverton, New York

Dear Mr. Hime:

On behalf of the U.S. Navy, please find enclosed the following documents:

- Responses to your October 18, 2011 comments,
- Revision 2 of specification Section 33 11 -01 – Water Service, and
- Revised Drawings

These revisions primarily reflect the use of a large RPZ vault and the clarification that the water line is to be buried to a depth of 4 feet 6 inches. As indicated in the responses, other changes were also made.

If you have any questions please contact Ms. Lora Fly, NAVFAC Mid-LANT, at (757) 341-2012

Sincerely,

David Brayack
Project Manager

Enclosure: Documents

Distribution:
ECOR, Al Taormina
NAVFAC Mid-Atlantic, Lora Fly
RWD, Gary Pendzick
Administrative Record
Project File

Response to Suffolk County Department of Health Services Comments dated October 18, 2011 on *Installation of a proposed backflow prevention device/assembly in conjunction with the installation of a 2" diameter domestic water service for an existing facility known as the "Peconic River Sportsman's Club" located at 389 River Road, Manorville, New York.* SCDHS Reference: RPZ No.11-0033

We are in receipt of your submission of an application to install the necessary backflow prevention device at the above referenced facility in order to protect the public water supply system. Based upon the information submitted, we are unable to approve your project at this time as a result of the observed deficiencies as outlined on the returned documents and/or the review comments contained herein. Please submit four (4) revised copies of drawings and related documentation to this office for our review. Note that all drawings and applications must be sealed and signed by a New York State licensed professional engineer or registered architect. In addition, to assist us with our review, please return any annotated drawings with your resubmission to this office.

1. **Comment:** Please specify the water usage within the facility. The Engineer's Report indicates that there is an anticipated peak domestic water usage for the site of 15 gallons per minute; however the site plan on Sheet # C-1 identifies a fire pump house on the east side of the site and a sprinkler pump in a vault near the private residence. Please verify the source of water for any fire protection or irrigation at the site and specify the intended use of the proposed yard hydrants.

Response: The anticipated water use at the facility will average 20,000 gallons per month for normal domestic use plus an additional 30,000 gallons per month for lawn watering-type activities from June to October.

The fire pump house located onsite is a dedicated system used to provide emergency fire protection for the structures located at the club. The well water for the fire suppression system has been tested on a quarterly basis for approximately three years, and VOCs have not been detected. The existing fire protection system will remain in operation. The Sprinkler pump in the vault near the residence is abandoned. The drawings will be revised to reflect its current status.

2. **Comment:** Please specify the location of all proposed thrust blocks on the site plan.

Response: Drawings C-1, C-3, and C-4 have been modified to show the location of each of the thrust blocks.

3. **Comment:** Section 33 11 01 Part 3.1.10 of the technical specifications outlines the proposed sampling prior to placing the new water piping into service. Please revise this section to include the following:



Response: The following language has been added as indicated.

"The Navy approved laboratory for bacterial examination shall also be approved by the New York State Environmental Laboratory Approval Program (ELAP)."

"In accordance with Section 5.1.1 of AWWA Standard C651, two consecutive sets of bacteria samples, collected at least 24 hours apart, must be collected from the proposed service line. Based upon an approximate length of 2,000 linear feet of service line and two branches, a minimum of four sets of two samples each must be collected for the project for a total of 8 bacteria samples. Acceptable sampling locations may include the: pistol range yard hydrant, play house, main lodge and the private residence."

4. **Comment:** Section 33 11 01 Part 3.1.3 of the technical specifications states that the "[d]epth of cover over top of pipe shall not be less than 4'-0" feet. The Water Service Trench detail shown on Sheet # C-2 and the Water Main/Meter Connection and Bermed Reduced Pressure Zone (RPZ) details on Sheet # C-3 indicate a minimum cover of 4'-6" as required. Please revise the technical specifications to be consistent with the design drawings.

Response: Agreed, burial depth of the piping will be increased to 4'-6". Note that Section 2.1.2.6 will also be revised to indicate a 4'-6" burial depth and that the yard hydrant will include a siphon break.

5. **Comment:** Please provide a detail or details illustrating the separation distances required under the Ten States Standards (Recommended Standards for Water Works) as referenced in Water Service Installation Note #13 on Sheet C-2. The detail must indicate that the distance between the piping joints and the crossing point must be maximized.

6. **Response:** Detail #4 was added to Sheet C-2 to graphically depict Note #13.

7. **Comment:** The proposed size of the RPZ enclosure (i.e. 30" x 42" interior dimension precast concrete vault) is not large enough to accommodate the proposed RPZ assembly and the additional plumbing appurtenances including a pressure regulator, water hammer arrestor, and a pressure gauge. The interior length must accommodate a 30" clear space in front of the device, 8" clear space behind the device, and the device width of 6.75". The majority of the proposed 30" interior width of the vault will be utilized by the 20.25" long RPZ. Please verify the dimensions and revise the design as necessary.

Response: Please see the revised detail for a larger RPZ vault.

8. **Comment:** Please specify that sufficient backfill and/or supplemental insulation will be provided around or inside the vault to mitigate freezing of the RPZ device.

Response: Note #2 on Drawing C-3 was added.

9. **Comment:** Please specify that the RPZ assembly must be adequately supported and/or

restrained to prevent lateral movement. This may be accomplished by braces, saddles, stanchions or piers.

Response: Pipe bracing (stanchions) have been added to Detail #2 on Drawing C-3.

10. **Comment:** A note on the plan view detail for the Bermed Reduced Pressure Zone (RPZ) on Sheet # C-3 indicates that the 2" diameter reduced pressure zone assembly is from a Suffolk County approved RPZ list. As no such list exists, please specify that the device must be approved by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (FCCCHR).

Response: The drawing will be revised to reference FCCCHR.

11. **Comment:** A note on the section view detail for the Bermed Reduced Pressure Zone (RPZ) on Sheet # C-3 indicates that the top of the vault must be 3" above existing grade. In accordance with Section V of the enclosed NYSDOH design guidelines, please revise this note to indicate that the top of the watertight access doors and frame must be a minimum of 6 inches above the surrounding grade.

Response: The drawing will be revised to show 6 inches between the top of the vault and the surrounding ground surface.

SECTION 33 11 01**WATER SERVICE****PART 1 – GENERAL****1.1 SCOPE OF WORK**

Provide water service lines indicated as 2 inch line from water distribution main to building service at the points indicated. The water service line includes connecting to the RPZ vault, installing the 2" service line, all building tie-in's, yard hydrants, curb stops, and other appurtenances, and testing the system. Work begins on the service side of the RPZ, and ends on the outside face of the buildings.

1.2 RELATED SECTIONS

31 00 00 Excavation, Backfill, and Compaction

1.3 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

NEW YORK STATE DEPARTMENT OF HEALTH (NYSDOH)

Part 5, Subpart 5-1 Public Water Systems

AMERICAN WATER WORKS ASSOCIATION (AWWA)

AWWA B300	(2004) Hypochlorites
AWWA C651	(2005; Errata 2005) Standard for Disinfecting Water Mains
AWWA C800	(2005) Underground Service Line Valves and Fittings
AWWA C901-08	HDPE pipe (1/2" through 3")

ASME INTERNATIONAL (ASME)

ASME B16.22	(2001; R 2005) Standard for Wrought Copper and Copper Alloy Solder Joint Pressure Fittings
ASME B16.26	(2006) Standard for Cast Copper Alloy Fittings for Flared Copper Tubes

ASTM INTERNATIONAL (ASTM)

ASTM B 42	(2002e1) Standard Specification for Seamless Copper Pipe, Standard Sizes
ASTM B 88	(2003) Standard Specification for Seamless Copper Water Tube

ASTM D 3035-03a	Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter
ASTM D 2774-04	Standard Practice for Underground Installation of Thermoplastic Pressure Piping
ASTM D 3261	Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Butt Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing
ASTM F 1055	Standard Specification for Electrofusion Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing
ASTM F 2164	Standard Practice for Field Leak Testing of Polyethylene (PE) Pressure Piping Systems Using Hydrostatic Pressure
ASTM F 2620	Standard Practice for Heat Fusion of Polyethylene Pipe and Fittings

1.4 SUBMITTALS

The following shall be submitted:

Product Data: Water service line piping, fittings, joints, valves, couplings, corporation stops, and valve boxes. Include information concerning gaskets with submittal for joints and couplings.

Test Reports: Bacteriological Disinfection.

O&M / Manufacturer's Instructions: Manufacturer Instructions and data sheets for installation of HDPE pipe, joining HDPE pipe, joining HDPE pipe to copper pipe, and pressure testing HDPE pipe.

1.5 DELIVERY, STORAGE, AND HANDLING

1.5.1 Delivery and Storage

Inspect materials delivered to site for damage. Unload and store with minimum handling. Store materials on site in enclosures or under protective covering. Store jointing materials and rubber gaskets under cover out of direct sunlight. Do not store materials directly on the ground. Keep inside of pipes, fittings, valves free of dirt and debris.

1.5.2 Handling

Handle pipe, fittings, valves, and other accessories in a manner to ensure delivery to the trench in sound undamaged condition. Take special care to avoid injury to coatings and linings on pipe and fittings; make repairs if coatings or linings are damaged. Carry, do not drag pipe to the trench. The interior of pipe and accessories shall be thoroughly cleaned of foreign matter before being lowered into the trench and shall be kept clean during laying operations by plugging or other approved method. Before installation, the pipe shall be inspected for defects. Material found to be defective before or after laying shall be replaced with sound material without additional expense to the Government. Lines shall be laid as straight as possible and the Contractor shall not kink or crimp the line.

PART 2 – PRODUCTS

2.1 WATER SERVICE LINE MATERIALS

2.1.1 Piping Materials

2.1.1.1 Copper Pipe and Associated Fittings: Pipe, ASTM B 42, regular, threaded ends. Fittings shall be brass or bronze, ASME B16.15, 125 pound.

2.1.1.2 Copper Tubing and Associated Fittings: Tubing, ASTM B 88, Type K. Fittings for solder-type joint, ASME B16.18 or ASME B16.22; fittings for compression-type joint, ASME B16.26, flared tube type.

2.1.1.3 HDPE Piping: Both pipe and fittings shall carry the same pressure rating. All fittings shall be pressure rated to match the system piping to which they are joined. The HDPE pipe shall be rated for potable water and shall be rated for a minimum pressure of 160 psi. No broken, cracked, misshapen or damaged, material shall be used.

2.1.1.4 Insulating Joints: Joints between pipe of dissimilar metals shall have a rubber-gasketed or other suitable approved type of insulating joint or dielectric coupling which will effectively prevent metal-to-metal contact between adjacent sections of piping.

2.1.2 Water Service Line Appurtenances

2.1.2.1 Curb or Service Stops: Ground key, round way, inverted key type; made of bronze, ASTM B 61 or ASTM B 62; and suitable for the working pressure of the system. Ends shall be as appropriate for connection to the service piping. Arrow shall be cast into body of the curb or service stop indicating direction of flow.

2.1.2.2 Curb Boxes: Provide a curb box for each curb or service stop. Curb boxes shall be of cast iron of a size suitable for the stop on which it is to be used. Provide a round head. Cast the word "WATER" on the lid. Each box shall have a heavy coat of bituminous paint.

2.1.2.3 Service Clamps: Service clamps used for repairing damaged cast-iron, steel, PVC or asbestos-cement pipe shall have a pressure rating not less than that of the pipe to be connected and shall be either the single or double flattened strap type. Clamps shall have a galvanized malleable-iron body with cadmium plated straps and nuts. Clamps shall have a rubber gasket cemented to the body.

2.1.2.4 Dielectric Fittings: Dielectric fittings shall be installed between threaded ferrous and nonferrous metallic pipe, fittings and valves, except where corporation stops join mains. Dielectric fittings shall prevent metal-to-metal contact of dissimilar metallic piping elements and shall be suitable for the required working pressure.

2.1.2.5 Tapping Sleeves: Provide Tapping Sleeves where required.

2.1.2.6 Frost Proof Yard Hydrants: Provide Frost Proof Yard Hydrants that are lead free, bury length 4.5 feet, overall length 105 inches, head material cast iron, connections/spout ¾ in Aluminum, with siphon break, extension rod Eco Brass, rod size 7/17 in, handle cast iron, self draining bleeder valve, plunger one piece molded Buna N, include snap lock, with 1 inch galvanized riser, and padlock locator handle to head.

2.1.2.7 Disinfection: Chlorinating materials shall be Hypochlorite, Calcium or Sodium, per AWWA B300, or as specified by New York State Department of Health (NY DOH).

PART 3 – EXECUTION

3.1 INSTALLATION OF SERVICE PIPELINES

3.1.1 Location of Water Lines: Connect water service piping to the building service where the building service has been installed. Where water piping is required to be installed within 5 feet of existing structures, the water pipe shall be sleeved. The Contractor shall install the water pipe and sleeve ensuring that there will be no damage to the structures and no settlement or movement of foundations or footings.

Adhere to the water-sewer separation standards as depicted on the Construction Drawings and the "Recommended Standards for Water Works", 2007 Edition. Where the location of the water line is not clearly defined by dimensions on the drawings, do not lay water line closer horizontally than 10 feet from any sewer line. Where water lines cross under gravity sewer lines, encase sewer line fully in concrete for a distance of at least 10 feet on each side of the crossing. No water piping shall pass through or come in contact with any part of a sewer manhole.

Do not lay water lines in the same trench with gas lines, fuel lines, or electric wiring. Copper tubing shall not be installed in the same trench with ferrous piping materials. Where nonferrous metallic pipe, e.g. copper tubing, cross any ferrous piping, provide a minimum vertical separation of 12 inches between pipes.

3.1.2 Earthwork: Perform earthwork operations in accordance with Section 31 00 00 "Excavation, Backfill, and Compaction".

3.1.3 Pipe Laying and Jointing: Remove fins and burrs from pipe and fittings. Before placing in position, clean pipe, fittings, valves, and accessories, and maintain in a clean condition. Provide proper facilities for lowering sections of pipe into trenches. Do not under any circumstances drop or dump pipe, fittings, valves, or any other water line material into trenches. Cut pipe in a neat workmanlike manner accurately to length established at the site and work into place without springing or forcing. Grade the pipeline in straight lines; avoid the formation of dips and low points. Support pipe at proper elevation and grade. Secure firm, uniform support. Wood support blocking will not be permitted. Lay pipe so that the full length of each section of pipe and each fitting will rest solidly on the pipe bedding; excavate recesses to accommodate bells, joints, and couplings. Provide anchors and supports where indicated and where necessary for fastening work into place. Make proper provision for expansion and contraction of pipelines. Keep trenches free of water until joints have been properly made. At the end of each work day, close open ends of pipe temporarily with wood blocks or bulkheads. Do not lay pipe when conditions of trench or weather prevent installation. Depth of cover over top of pipe shall not be less than 4'-6" feet (54 inches). The depth of cover shall be maintained uniform with respect to finish grade.

1. Field cuts may be made for shorter than standard pipe lengths. If required, Contractor shall field cut HDPE pipe with proper tool, machine, or tool and machine. Contractor shall not cut pipe by burning and shall not crimp HDPE pipe. Pipe ends shall be saw cut square and perpendicular to pipe axis. Contractor shall examine cut ends for damage caused by cutting and shall finish cut ends of pipe. Contractor shall finish cut ends of HDPE pipe for thermal butt fusion joints in accordance with manufacturer's recommendations.
2. Contractor shall provide services of HDPE pipe and fitting manufacturer's representative as required to obtain correct installation of HDPE pipe and fittings. This assistance shall be provided at no additional cost to the Owner.
3. Provide pipe embedment material around pipe as per standard detail on drawing. Place embedment material so that pipe is uniformly supported along its length, do not drop pipe and fittings into trench, do not drag pipe in manner which causes scratching of pipe surface, excessive gouging of pipe surface will be cause for rejection. Clean each pipe and fitting of foreign material (including dirt)

before placing in trench and keep clean during jointing process. Should deleterious materials/dirt, or damaged pipe be observed in previously installed pipe, cease work until material is removed or damaged pipe removed and replaced. Close open ends of pipe and fittings with a watertight seal during periods when work is not in progress

4. Provide thrust blocks at bends, tees, and mechanical couplings as per the drawing detail.
5. Backfill remainder of trench with previously excavated material, install detectable warning tape as per trench detail. Compact material to 95% of dry density where noted on the drawings or specifications.

3.1.4 Connections to Existing Water Lines: Make connections to existing water lines after approval is obtained. Interruption of service on the existing line shall be kept to a minimum. Make connections to existing lines under pressure in coordination with and in accordance with the standard practices of Riverhead Water District (RWD). Inform and coordinate with RWD prior to making any connections. Connections can be made only in the presence of a RDW representative. RDW Contact Information: Gary J. Pendzick, Superintendent (Phone #: 631-727-3205).

- A. Prior to pipe installation dig test pits to determine size, type, and exact location of existing pipe to which proposed pipe will connect.
- B. Prior to pipe installation, excavate sufficient trench in advance and test pit existing underground utilities/structures (shown on drawings or visually identified in the field), and resolve conflicts, as approved by Engineer.

3.1.5 Penetrations: Pipe passing through walls of valve pits and structures shall be provided with Schedule 40 steel wall sleeves. Annular space between walls and sleeves shall be filled with rich cement mortar. Annular space between pipe and sleeves shall be filled with mastic.

3.1.6 Flanged Pipe: Not Used.

3.1.7 Service Line Connections to Water Mains: A service tap should already be present on the water mains to which the service line will be connected.

3.1.8 Metallic Pipe Jointing:

- A. Screwed Joints: Make screwed joints up tight with a stiff mixture of graphite and oil, inert filler and oil, or graphite compound; apply to male threads only. Threads shall be full cut; do not leave more than three threads on the pipe exposed after assembling the joint.
- B. Joints for Copper Tubing: Cut copper tubing with square ends; remove fins and burrs. Handle tubing carefully; replace dented, gouged, or otherwise damaged tubing with undamaged tubing. Make solder joints using ASTM B 32, 95-5 tin-antimony or Grade Sn96 solder. Solder and flux shall contain not more than 0.2 percent lead. Before making joint, clean ends of tubing and inside of fitting or coupling with wire brush or abrasive. Apply a rosin flux to the tubing end and on recess inside of fitting or coupling. Insert tubing end into fitting or coupling for the full depth of the recess and solder. For compression joints on flared tubing, insert tubing through the coupling nut and flare tubing.

3.1.9 HDPE Pipe Cutting & Joining: Field cuts may be made for shorter than standard pipe lengths. If required, Contractor shall field cut HDPE pipe with proper tool, machine, or tool and machine. Contractor shall not cut pipe by burning and shall not crimp HDPE pipe. Pipe ends shall be saw cut square and perpendicular to pipe axis. Contractor shall examine cut ends for damage caused by cutting and shall finish cut ends of pipe. Contractor shall finish cut ends of HDPE pipe for thermal butt fusion joints in accordance with manufacture's recommendations.

Contractor shall provide services of HDPE pipe and fitting manufacturer's representative as required to obtain correct installation of HDPE pipe and fittings. This assistance shall be provided at no additional cost to the Owner.

3.1.10 Disinfection: Before the line is put into service, all the piping and all appurtenances shall be thoroughly disinfected. Prior to disinfection, obtain Contracting Officer approval of the proposed method for disposal of waste water from disinfection procedures. Disinfect new water piping and existing water piping affected by Contractor's operations in accordance with AWWA C651. Fill piping systems with solution containing minimum of 50 parts per million of available chlorine and allow solution to stand for minimum of 24 hours. Flush solution from the systems with domestic water until maximum residual chlorine content is within the range of 0.2 and 0.5 parts per million, or the residual chlorine content of domestic water supply. All valves in the lines being disinfected shall be opened and closed several times during the contact period, individual service lines shall be opened momentarily to flush each service with chlorinated water.

In accordance with Section 5.1.1 of AWWA Standard C651, two consecutive sets of bacteria samples, collected at least 24 hours apart, must be collected from the proposed service line. Based upon an approximate length of 2,000 linear feet of service line and two branches, a minimum of four sets of two samples each must be collected for the project for a total of 8 bacteria samples. Acceptable sampling locations may include the: pistol range yard hydrant, play house, main lodge and the private residence.

Obtain at least two consecutive satisfactory bacteriological samples from new water piping, analyze by a certified laboratory, and submit the results prior to the new water piping being placed into service. After the water system has been disinfected and thoroughly flushed, the Contractor shall take samples of water from four remote points of the distribution system and shall forward the samples to a Navy approved laboratory for bacterial examination. The Navy approved laboratory for bacterial examination shall also be approved by the New York State Environmental Laboratory Approval Program (ELAP). If tests of such samples indicate the presence of coliform organisms, the disinfection shall be repeated until tests indicate the absence of such organisms. The bacterial tests shall be satisfactorily completed before the new system is connected to the existing system and placed in operation.

It shall be the Contractor's responsibility to obtain satisfactory samples. The Contractor shall submit the test results to Suffolk County Department of Health Services for approval.

3.2 FIELD QUALITY CONTROL

3.2.1 Field Tests and Inspections

Prior to hydrostatic testing, obtain Contracting Officer approval of the proposed method for disposal of waste water from hydrostatic testing. The Contracting Officer will conduct field inspections and witness field tests specified in this section. The Contractor shall perform field tests, and provide labor, equipment, and incidentals required for testing, except that water and electric power will be furnished. The Contractor shall produce evidence, when required, that any item of work has been constructed in accordance with the drawings and specifications. Do not begin testing on any section of a pipeline where concrete thrust blocks have been provided until at least 5 days after placing of the concrete.

3.2.2 Testing Procedure

Following installation of the piping and appurtenances, the waterlines shall be flushed to remove any foreign matter. Flushing water shall be with clean and potable, and flushing shall continue until water runs clean. The Contractor shall dispose of the flushing water without causing a nuisance or property damage.

All components of the water distribution system, including fittings and valves shall be hydrostatic tested. Hydrostatic pressure leak tests of PE pressure piping systems should be conducted in accordance with ASTM F 2164. The pipe shall be hydrostatically testing at a pressure of 150 psig for a period of not less

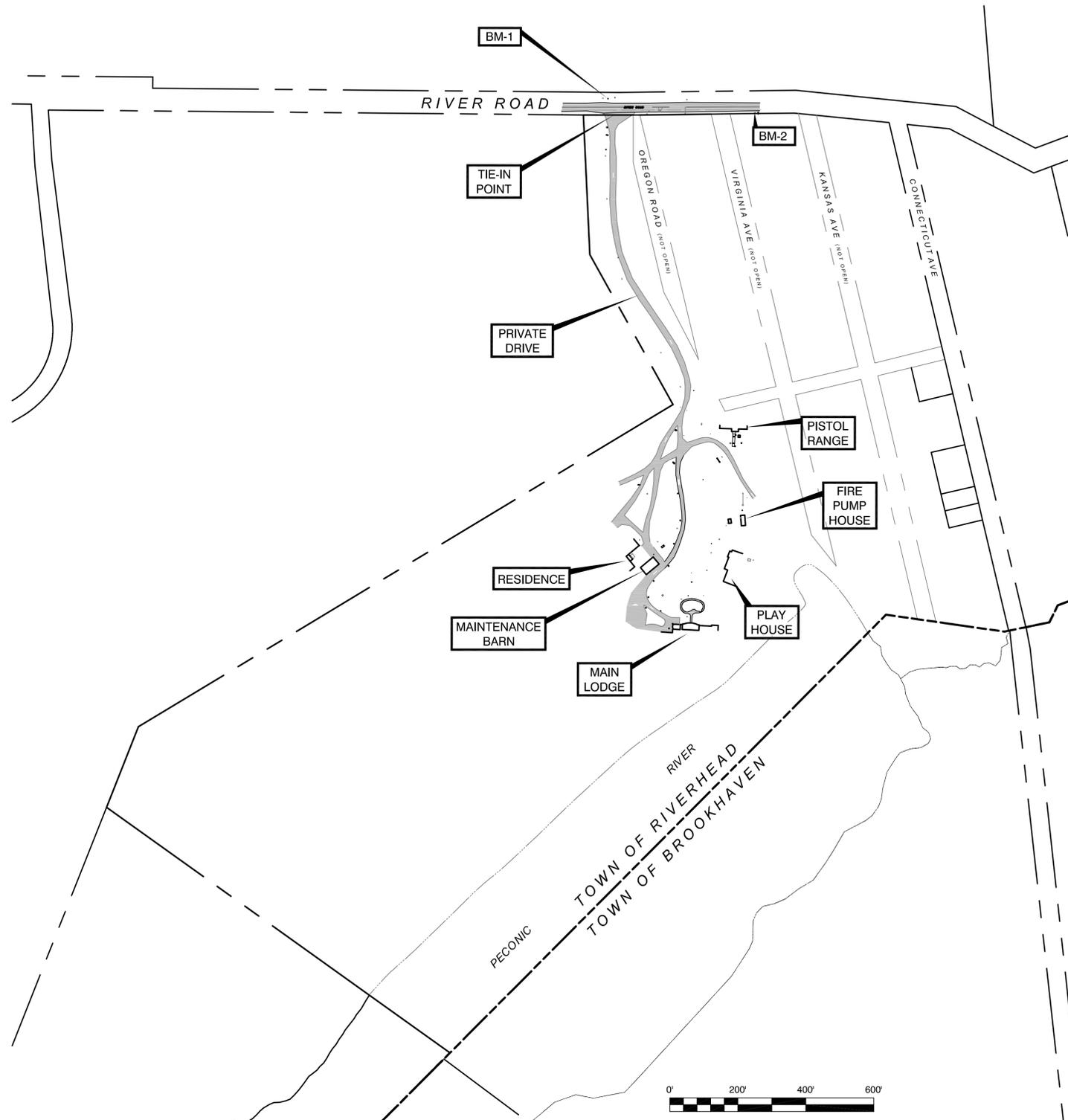
than 2 hours. Other than initial fluctuations at the start of the test, no change in the applied pressure shall be observed during the entire two-hour test. Pipes/joints that fail the pressure test shall be repaired/replaced at the contractors expense and retested.

3.3 CLEANUP

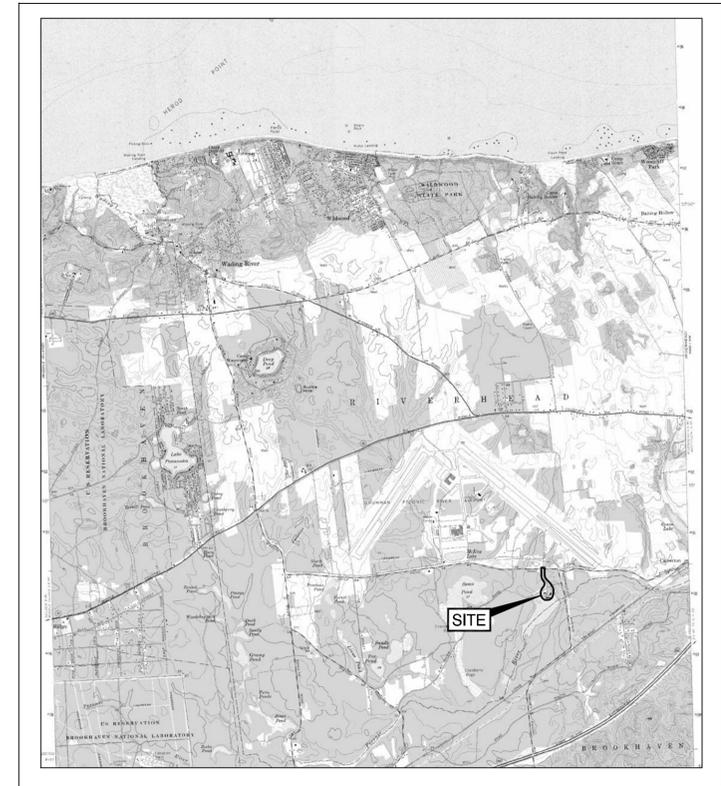
Upon completion of the installation of water lines, and appurtenances, all debris and surplus materials resulting from the work shall be removed.

END OF SECTION

INSTALLATION OF WATER SERVICE TO THE PECONIC RIVER SPORTSMAN'S CLUB SUFFOLK COUNTY, NEW YORK



PECONIC RIVER SPORTSMAN'S CLUB: 1" = 200' SCALE'



GENERAL VICINITY MAP - 1"=5000'
SOURCE: USGS - WADING RIVER, NY - 7.5 MINUTE QUADRANGLE - 1967

SITE DATA:

- PREPARED FOR: UNITED STATES NAVY
- PROPERTY OWNER: PECONIC RIVER SPORTSMAN'S CLUB
- PROPERTY ADDRESS: 389 RIVER ROAD
MANORVILLE, NY 11949-1405
SUFFOLK COUNTY, NEW YORK
- TAX PARCEL NUMBER: 0600-14200-0200-001001 (MAIN PARCEL)
- PARCEL AREA: 62.7± ACRES (MAIN PARCEL)
- TOPOGRAPHY: TOPOGRAPHY IS BASED ON A FIELD SURVEY PERFORMED BY TETRA TECH ON MARCH 29 & 30, 2011 (RAB/CSG).
- DATUM: HORIZ. & VERT.: NEW YORK STATE PLANE EAST, NAD83/NAVD88, FEET
- BENCHMARK:

DESC:	NORTH	EAST	ELEV
BM-1 (RBR @ PP#103)	271331.3732	1322017.3789	36.21
BM-2 (RBR @ RR SIGN/PP#107)	271289.8775	1322449.5911	-

BM-1 SET BY GPS RTK USING DISK Q334 (LOCATED ON SOUND AVE NEAR PP# 681). BM-2 SET BY TOTAL STATION.
- BOUNDARY: BOUNDARY LINES ARE BASED ON SUFFOLK COUNTY TAX PARCEL MAP SECTIONS 142 AND 143, AND FIT TO PHYSICAL FIELD EVIDENCE. A BOUNDARY SURVEY WAS NOT PREPARED FOR THIS PROJECT. NO PINS OR MONUMENTS WERE FOUND DURING THE FIELD SURVEY.
- WATER: RIVERHEAD WATER DISTRICT
- UTILITIES: UTILITIES ARE SHOWN ACCORDING FOUND SURFACE EVIDENCE. ALL UTILITIES ARE APPROXIMATE OR ASSUMED AND MUST BE VERIFIED BY A UTILITY LOCATING SERVICE PRIOR TO COMMENCING EXCAVATION OR TRENCHING OPERATIONS.
- REFERENCE PLANS: "INSTALLATION OF WATER MAINS & APPURTENANCES, EXTENSION NO. 89, PECONIC RIVER SPORTSMAN'S CLUB," ROWD 10-53, RIVERHEAD WATER DISTRICT, TOWN OF RIVERHEAD, SUFFOLK COUNTY, NEW YORK, PREPARED BY H2M ENGINEERS, DATED MARCH 2011.

DRAWING LIST

- GENERAL**
G-1 COVER SHEET
- CIVIL**
C-1 SITE UTILITY PLAN
C-2 LEGEND AND DETAILS
C-3 DETAILS
C-4 DETAILS
L-1 LANDSCAPE PLAN AND DETAILS

SUFFOLK COUNTY DEPT OF HEALTH SERVICES

Unauthorized alteration or addition to this plan is a violation of Section 7209 of the New York State Education Law, unless the person is acting under the direction of a licensed professional engineer. Any plan alterations by another engineer must be marked as such, including the signature and seal of the altering engineer.

CAUTION: IF SHEET IS LESS THAN 34"x22" USE GRAPHIC SCALE

DATE	DESCRIPTION	BY
4/16/10	N/A	
7/28/11	ISSUED FOR BID	
7/22/11	REVISED RFP VAILT SIZE	
1/18/12	REVISED SET PER SC-01H COMMENTS	

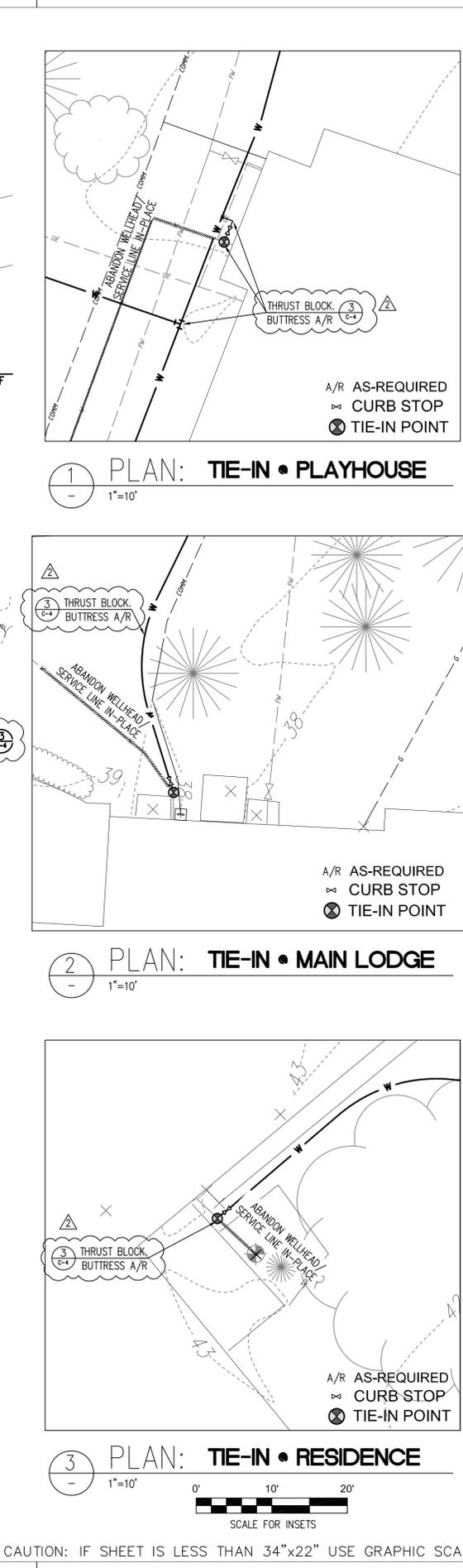
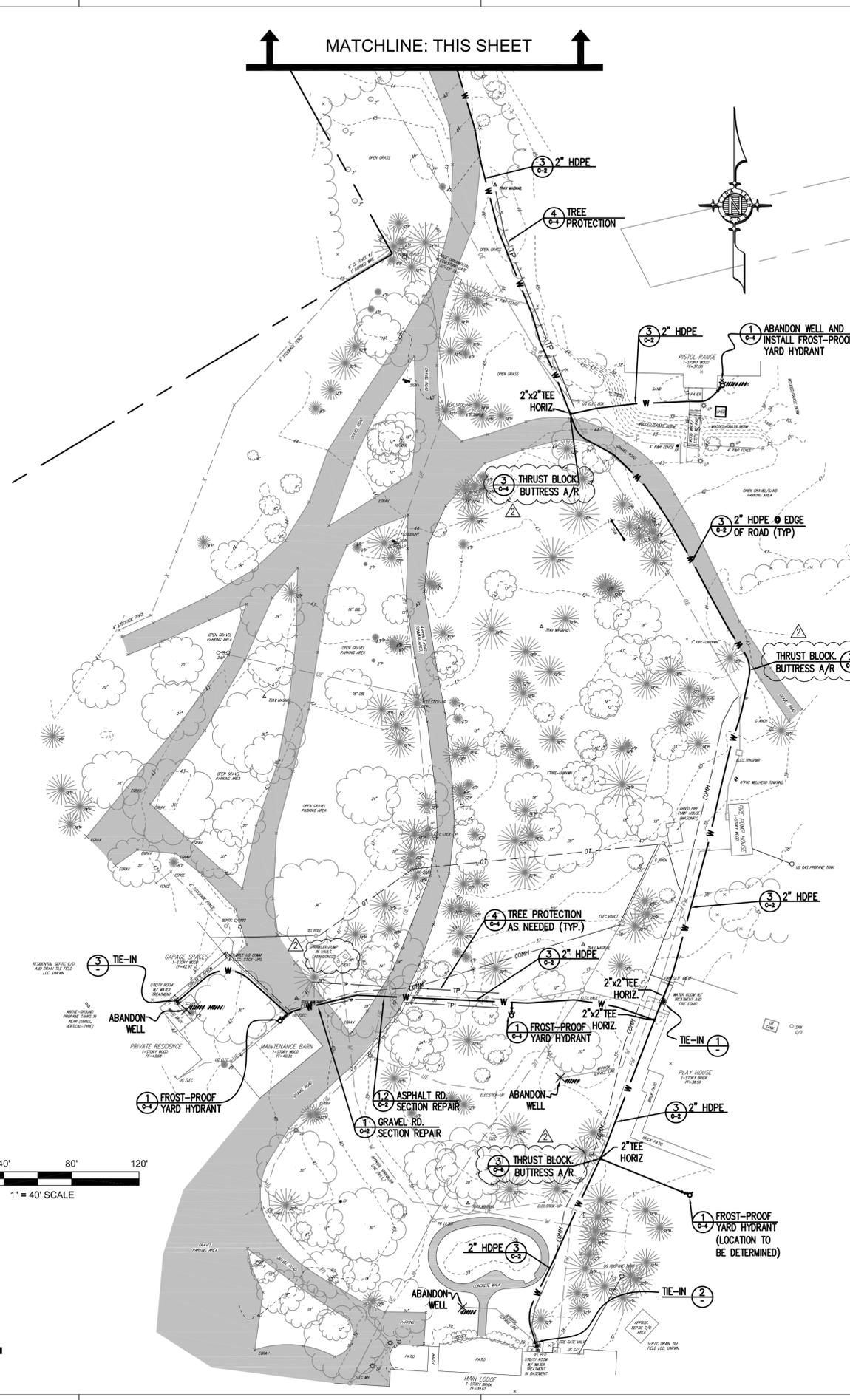
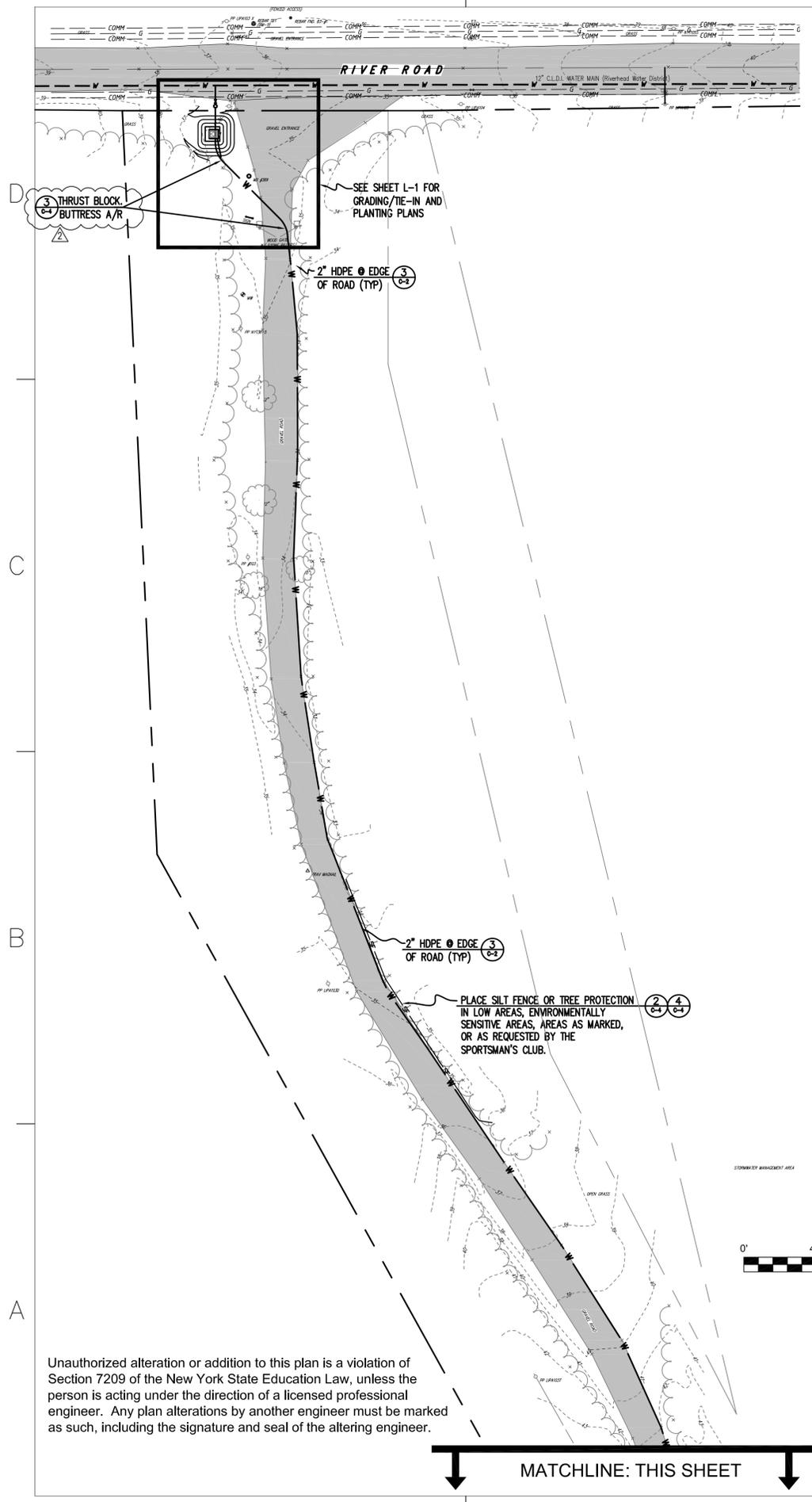


DES	CSG	DR	CSG
REVIEWED BY		HKM	
FM/DM		HKM	
CHIEF ENG/ARCH		DB	

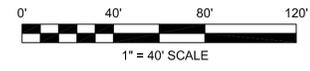
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ~ MID-ATLANTIC
NAVAL STATION - NORFOLK, VIRGINIA
389 RIVER RD CALVERTON NY SUFFOLK COUNTY, NEW YORK
INSTALLATION OF WATER SERVICE
TO PECONIC RIVER SPORTSMAN'S CLUB

CODE ID. NO. 80091	SIZE D
SCALE: AS SHOWN	
MAXIMO NO.	
JOB ORDER NO.	
SPEC. NO.	
CONSTR. CONTR. NO. 112G02045	
NAVFAC DRAWING NO.	
SHEET 1	OF 6

G-1



Unauthorized alteration or addition to this plan is a violation of Section 7209 of the New York State Education Law, unless the person is acting under the direction of a licensed professional engineer. Any plan alterations by another engineer must be marked as such, including the signature and seal of the altering engineer.



DATE	DESCRIPTION	BY	CHKD
4/16/10	N/A		
7/28/11	N/A		
7/22/11	N/A		
1/18/12	N/A		

DES	CSG	DR	CSG
REVIEWED BY	HKM		
FM/DM	HKM		
CHIEF ENG/ARCH	DB		

DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	NAVAL FACILITIES ENGINEERING COMMAND ~ MID-ATLANTIC	NAVAL STATION - NORFOLK, VIRGINIA
NORTHEAST IFT	389 RIVER RD	CALVERTON NY SUFFOLK COUNTY, NEW YORK	INSTALLATION OF WATER SERVICE TO PECONIC RIVER SPORTSMAN'S CLUB
CODE ID. NO.	80091	SIZE	D
SCALE:			1"=40'
MAXIMO NO.			
JOB ORDER NO.			
SPEC. NO.			
CONSTR. CONTR. NO.	112G02045		
NAVFAC DRAWING NO.			
SHEET	2	OF	6

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CAUTION: IF SHEET IS LESS THAN 34"x22" USE GRAPHIC SCALE

