

# DAMMON ENGINEERING, INC.

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1095 Florida Ave.  
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985-649-5832  
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January 19, 2010

Mississippi State Department of Health  
570 East Woodrow Wilson  
P.O. Box 1700  
Jackson, MS 39215  
attn: Ms. Wendy Ferrill, P.E.

Re: **Water Main Extension for Combatant Craft Operations Facility  
Stennis Space Center  
PWS ID #0230015, Hancock County  
Ref #113472**

Dear Ms. Ferrill,

I am writing this letter to further respond to your review letter of December 15, 2009, copy attached.

Attached, please find the approval letter requested in Item No. 2.

I hope this meets with your satisfaction.

Sincerely,



Robert Wiltse  
Chief Architect  
Dammon Engineering, Inc.



**STATE OF MISSISSIPPI**  
HALEY BARBOUR  
GOVERNOR  
**MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY**  
TRUDY D. FISHER, EXECUTIVE DIRECTOR

January 14, 2009

Mr. Chuck Dammon  
Dammon Engineering, Inc.  
1095 Florida Avenue  
Slidell, LA 70458

Dear Mr. Dammon:

RE: Sewer Tie-in for  
Combatant Craft Operations Facility  
Stennis Space Center  
Hancock County, MS

Based on your description of the referenced project, we would consider this a service connection to the existing sewage collection system. Therefore, our regulations do not require that you submit plans and specifications for our review and approval. We do concur with this connection to the existing sewer system.

If we can be of further assistance, please contact our office.

Sincerely,

A handwritten signature in blue ink, appearing to read "Michael J. Freiman".

Michael J. Freiman, P.E.  
Chief, Municipal and Private Facilities Branch  
Environmental Permits Division

Cc: Mr. Keith Allen, MDOH

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January 13, 2010

Mississippi State Department of Health  
570 East Woodrow Wilson  
P.O. Box 1700  
Jackson, MS 39215  
attn: Ms. Wendy Ferrill, P.E.

Re: **Water Main Extension for Combatant Craft Operations Facility  
Stennis Space Center  
PWS ID #0230015, Hancock County  
Ref #113472**

Dear Ms. Ferrill,

I am writing this letter to respond to your review letter of December 15, 2009, copy attached.

We have applied for, and will forward the approval letters requested in Items No. 1 and #2.

Attached, please find the relevant section of the specifications regarding Item No. 3, concerning water and sewer separation; and Item No. 4 concerning sampling.

I hope this meets with your satisfaction.

Sincerely,



Robert Wiltse  
Chief Architect  
Dammon Engineering, Inc.

(3) Flanged Joints: Make flanged joints up tight, taking care to avoid undue strain on flanges, valves, fittings, and accessories.

- b. Protection of Buried Steel Service Line Piping: Unless otherwise specified, prepare, prime, and coat exterior surface of zinc-coated steel pipe and associated fittings to be buried with hot-applied coal-tar enamel with a bonded single layer of felt wrap in accordance with AWWA C203. For the felt wrap material, use fibrous-glass mat as specified in AWWA C203; use of asbestos felt will not be permitted. Use solvent wash only to remove oil, grease, and other extraneous matter from zinc-coated pipe and fittings.

#### 3.1.4.2 Installation of Plastic Piping

Install pipe and fittings in accordance with paragraph entitled "General Requirements for Installation of Pipelines" and with the applicable requirements of ASTM D 2774 and ASTM D 2855, unless otherwise specified. Handle solvent cements used to join plastic piping in accordance with ASTM F 402.

- a. Jointing: Make solvent-cemented joints for PVC plastic piping using the solvent cement previously specified for this material; assemble joints in accordance with ASTM D 2855. Make solvent-cemented joints for ABS plastic piping using the solvent cement previously specified for this material; assemble joints in accordance with the recommendations of the pipe manufacturer, as approved. Make plastic pipe joints to other pipe materials in accordance with the recommendations of the plastic pipe manufacturer.
- b. Plastic Pipe Connections to Appurtenances: Connect plastic pipe service lines to corporation stops and gate valves in accordance with the recommendations of the plastic pipe manufacturer.

#### 3.1.4.3 Service Lines for Sprinkler Supplies

Water service lines used to supply building sprinkler systems for fire protection shall be connected to the water distribution main in accordance with NFPA 24.

#### 3.1.4.4 Location of Meters

Meters and meter boxes shall be installed at the locations shown on the drawings. The meters shall be centered in the boxes to allow for reading and ease of removal or maintenance.

#### → 3.1.5 Disinfection

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. 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. Disinfection of systems supplying nonpotable water is not required.

### 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. 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

Test water mains and water service lines in accordance with the applicable specified standard, except for the special testing requirements given in paragraph entitled "Special Testing Requirements." Test ductile-iron water mains and water service lines in accordance with the requirements of [AWWA C600](#) for hydrostatic testing. The amount of leakage on ductile-iron pipelines with mechanical-joints or push-on joints shall not exceed the amounts given in [AWWA C600](#); no leakage will be allowed at joints made by any other method. Test PVC plastic water mains and water service lines made with PVC plastic water main pipe in accordance with the requirements of [UBPPA UNI-B-3](#) for pressure and leakage tests. The amount of leakage on pipelines made of PVC plastic water main pipe shall not exceed the amounts given in [UBPPA UNI-B-3](#), except that at joints made with sleeve-type mechanical couplings, no leakage will be allowed. Test concrete water mains in accordance with the recommendations in [AWWA M9](#), Chapter 10, "Hydrostatic Testing and Disinfection of Mains." The amount of leakage on concrete pipelines shall not exceed 20 gallons per 24 hours per inch of pipe diameter per mile of pipeline. Test steel water mains in accordance with applicable requirements of [AWWA C600](#) for hydrostatic testing. The amount of leakage on steel pipelines with rubber-gasketed bell-and-spigot joints shall not exceed 20 gallons per 24 hours per inch of pipe diameter per mile of pipeline; no leakage will be allowed at joints made by any other method. Repair of welded joints to stop leakage shall be done by welding only. Test water service lines in accordance with applicable requirements of [AWWA C600](#) for hydrostatic testing. No leakage will be allowed at copper pipe joints, copper tubing joints (soldered, compression type, brazed), plastic pipe joints, flanged joints and screwed joint].

#### 3.2.3 Special Testing Requirements

For pressure test, use a hydrostatic pressure 50 psi greater than the maximum working pressure of the system, except that for those portions of the system having pipe size larger than 2 inches in diameter, hydrostatic test pressure shall be not less than 200 psi. Hold this pressure for not less than 2 hours. Prior to the pressure test, fill that portion of the pipeline being tested with water for a soaking period of not less than 24 hours. For leakage test, use a hydrostatic pressure not less than the maximum working pressure of the system. Leakage test may be performed at the same time and at the same test pressure as the pressure test.

the meter to final grade at the meter location. The lid shall have the word "WATER" cast in it.

#### 2.2.2.15 Disinfection

Chlorinating materials shall conform to the following:

Chlorine, Liquid: AWWA B301.

Hypochlorite, Calcium and Sodium: AWWA B300.

### PART 3 EXECUTION

#### 3.1 INSTALLATION OF PIPELINES

##### 3.1.1 General Requirements for Installation of Pipelines

These requirements shall apply to all pipeline installation except where specific exception is made in the "Special Requirements..." paragraphs.

##### 3.1.1.1 Location of Water Lines

Terminate the work covered by this section at a point approximately 5 feet from the building. 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, unless sewer line is made of pressure pipe with rubber-gasketed joints and no joint is located within 3 feet horizontally of the crossing. Lay water lines which cross sewer force mains and inverted siphons at least 2 feet above these sewer lines; when joints in the sewer line are closer than 3 feet horizontally from the water line, encase these joints in concrete. 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.

Where water piping is required to be installed within 1 m 3 feet of existing structures, the water pipe shall be sleeved as required in Paragraph "Casting Pipe". 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.

Terminate the work covered by this section at a point approximately 5 feet from the building. Do not lay water lines in the same trench with gas lines fuel lines or electric wiring.

##### a. Water Piping Installation Parallel With Sewer Piping

(1) Normal Conditions: Lay water piping at least 10 feet horizontally from a sewer or sewer manhole whenever possible. Measure the distance edge-to-edge.

(2) Unusual Conditions: When local conditions prevent a horizontal separation of 10 feet, the water piping may be laid closer to a sewer or sewer manhole provided that:

(a) The bottom (invert) of the water piping shall be at least 18 inches above the top (crown) of the sewer piping.

(b) Where this vertical separation cannot be obtained, the sewer piping shall be constructed of AWWA-approved water pipe and pressure tested in place without leakage prior to backfilling. Approved waste water disposal method shall be utilized.

(c) The sewer manhole shall be of watertight construction and tested in place.

b. Installation of Water Piping Crossing Sewer Piping

(1) Normal Conditions: Water piping crossing above sewer piping shall be laid to provide a separation of at least 18 inches between the bottom of the water piping and the top of the sewer piping.

(2) Unusual Conditions: When local conditions prevent a vertical separation described above, use the following construction:

(a) Sewer piping passing over or under water piping shall be constructed of AWWA-approved ductile iron water piping, pressure tested in place without leakage prior to backfilling.

(b) Water piping passing under sewer piping shall, in addition, be protected by providing a vertical separation of at least 18 inches between the bottom of the sewer piping and the top of the water piping; adequate structural support for the sewer piping to prevent excessive deflection of the joints and the settling on and breaking of the water piping; and that the length, minimum 20 feet, of the water piping be centered at the point of the crossing so that joints shall be equidistant and as far as possible from the sewer piping.

c. Sewer Piping or Sewer Manholes: No water piping shall pass through or come in contact with any part of a sewer manhole.

3.1.1.2 Earthwork

Perform earthwork operations in accordance with Section 31 23 00.00 20 Excavation and Fill.

3.1.1.3 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. Replace by one of the proper length any pipe or fitting that does not allow sufficient space for proper installation of jointing material. Blocking or wedging between bells and spigots will not be permitted. Lay bell-and-spigot pipe with the bell end pointing in the direction of laying. 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