

## **SECTION 02 41 19.23 - FUEL SYSTEM ABANDONMENT AND DEMOLITION**

### **PART 1 - GENERAL**

#### **1.1 SUMMARY OF WORK**

- A. This section covers demolition and removal of indicated structures, utilities, pavement, underground storage tanks and associated equipment and other miscellaneous items. The work shall be accomplished in accordance with these specifications and the Contract Drawings.
- B. Drawings and General Provisions of the Contract, including General and Supplementary Conditions, Section 33 52 43.00 – Fuel System General Provisions and Division 1 Specification Sections, apply to this Section.

#### **1.2 REFERENCES**

- A. American Petroleum Institute (API):
  - 1. Bulletin 1604-10 – Closure of Underground Storage Tanks.
- B. Occupational Safety and Health Administration (OSHA):
  - 1. 29 CFR Part 1926-07 – Safety and Health Regulations for Construction.
  - 2. 40 CFR 280-07 – Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks.

#### **1.3 GENERAL REQUIREMENTS**

- A. Do not begin demolition until authorization is received from the Owner or Owner's Authorized Representative (OAR). Remove rubbish and debris from the project site immediately as generated; do not allow accumulations on aircraft apron or work site. Store materials that cannot be removed daily in areas approved by the Owner or Owner's Authorized Representative. Demolished materials not being reused in the project cannot be stored within the project limits. Demolished materials being reused in the project can only be stored within the project limits as indicated, specified or approved by the Owner or Owner's Authorized Representative.

#### **1.4 SUBMITTALS**

- A. Submit as specified in Division 1.
- B. Includes, but not limited to, the following:
  - 1. Photographs or videotape as specified, sufficiently detailed, of existing conditions of adjoining construction and site infrastructure that might be construed or misconstrued as being damage by Contractor's demolition or construction operations.
  - 2. Bill of sale or other appropriate documents for transfer of ownership for removed storage tanks.
  - 3. Submit a copy of all permits and notifications obtained or required as part of Work.

## **1.5 MATERIALS OWNERSHIP**

- A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the Owner's property, demolished materials shall become the Contractor's property and shall be removed from the site. Disposition of materials shall be at Contractor's option.

## **1.6 REGULATORY AND SAFETY REQUIREMENTS**

- A. Regulatory Requirements: Comply with local, state and federal regulations including 29 CFR Part 1926. Comply with hauling and disposal regulations of authorities having jurisdiction.

## **1.7 SCHEDULING**

- A. Arrange selective demolition schedule so as not to interfere with Owner's on-site operations.

## **1.8 FOREIGN OBJECT DEBRIS (FOD) AND DUST CONTROL**

- A. Prevent the spread of dust and debris and avoid the creation of a nuisance or hazard in the surrounding area. Maintain dust control in accordance with FAA requirements and comply with all directions issued during construction by the Airport Authority. Do not use water if it results in hazardous or objectionable conditions such as, but not limited to, ice, flooding, or pollution. Vacuum the work area and sweep pavements as often as necessary to control the spread of debris that may result in foreign object damage to aircraft.
- B. Aircraft and aircraft engines are subject to damage from debris and waste material lying on apron pavements. Remove immediately, all such materials that may appear on operational aircraft pavements due to the Contractor's operations. Report or remove all such materials observed and not caused by Contractor operations. If necessary, the Engineer will require the Contractor to install a temporary barricade at the Contractor's expense to control the spread of potential debris. Demolition operations involving buildings or other structures that are likely to result in wind blown debris such as roofing, paper, styrofoam or other FOD sources, shall have a temporary barrier to prevent the material from leaving the work limits. The barrier shall consist of a highly visible, low profile screen or fence designed to stop the spread of debris and be anchored properly to prevent displacement by winds or jet engine/propeller blasts. Remove barrier when no longer required.

## **1.9 PROTECTION**

- A. Traffic Control Signs and Barriers
  - 1. Furnish, install and maintain traffic control signs, lights and barriers as needed to direct workers, maintain existing operations and prevent accidents related to the demolition operations performed under this contract. Devices shall comply with all requirements of the airport authority and FAA.
- B. Existing Work
  - 1. Protect existing work that is to remain in place, be reused, or remain the property of the Owner. Repair items that are to remain and which are damaged during performance of the work to their original condition or replace with new. Do not overload pavements to remain. Provide new supports and reinforcement for existing construction weakened by

demolition or removal work. Repairs, reinforcement, or structural replacement will be at Contractor's expense and must have approval of the Owner and Engineer.

## **PART 2 - PRODUCTS**

### **2.1 SALVAGED MATERIALS**

- A. The following items are to be salvaged by Contractor and delivered to DFW Fuel Company LLC or designated representative at the directed location:
  - 1. Hydrant Valves
  - 2. Hydrant Pit Lids
  - 3. EFSO Buttons
  - 4. EFSO Signage
- B. Excluding those items listed in 2.01 A, no materials are to be salvaged or delivered to the Owner. Material and equipment designated to be demolished shall become the property of the Contractor.

### **2.2 FUEL LINE ABANDONMENT**

- A. Abandon fuel, containment, glycol or other product pipe as indicated on the project drawings and specified herein.
- B. Materials to be provided by the Contractor for fuel line abandonment are as follows:
  - 1. Caps
    - a. Caps shall be of suitable material for welding to the pipeline on which they are installed. The wall thickness, pressure rating, and temperature rating shall not be less than the adjoining pipe.
  - 2. Welded Joints:
    - a. All welded joints shall be as specified in Section 33 52 43.13 – Fuel System Pipe, Fittings, and Installation.
  - 3. Portland Cement Grout
    - a. Contractor shall provide a grout mixture consisting of an appropriate combination of portland cement, fly ash, bentonite and sand for the placement requirements.
    - b. While low grout strength is not an issue of concern, a minimum amount of Portland cement or other materials is necessary to make the grout pumpable over the specific length of pipe being grouted. The Contractor should utilize local ready-mix supplier and concrete pumping company experience in selecting mix proportions. Mixture shall be of a consistency such that Contractor provided pumping equipment can grout the entire length of pipeline shown on the Contract Drawings.
    - c. When abandoning long segments of piping (over 300 feet ±), grout shall be made using natural, uncrushed sand where possible. Manufactured and crushed natural sand can significantly limit the pumping distance due to fractured particle interaction and increased friction at the pipe wall.

4. Pumping Equipment

- a. The Contractor shall utilize pumping equipment with sufficient pumping capacity and pressure to completely fill the line being abandoned before the grout begins to set.

### **PART 3 - EXECUTION**

#### **3.1 INSPECTION OF EXISTING CONDITIONS**

- A. Prior to start of demolition work, inspect areas and facilities to be demolished. Photograph existing conditions of structures, pavement, equipment and other facilities that might be alleged or construed as being damaged by activities performed under this contract.

#### **3.2 PREPARATION**

- A. Provide shoring and bracing necessary to prevent settlement or collapse of structures being demolished or adjacent facilities to remain.
- B. Cease operations and notify Engineer immediately if unsafe conditions develop in the structures being demolished or adjacent structures are endangered.
- C. Identify, locate and disconnect utility services to be demolished.
- D. Identify, locate and protect all utility services in or near the demolition limits that remain in service and are not indicated as being demolished.

#### **3.3 DEMOLITION**

- A. General Site Demolition
  1. Perform demolition in a systematic manner using appropriate means and methods for the defined work scope.
  2. Saw cut masonry and concrete that will remain visible to full depth to provide clean separation limits between remaining and demolished materials. Utilize a full depth offset secondary cut in pavement and other locations where necessary, indicated or directed to protect existing pavement edges to remain from damage during demolition. Walls and slabs that will be buried or otherwise hidden and do not connect to new construction do not have to be saw cut prior to demolition unless necessary to perform demolition and preserve structural integrity and function of infrastructure to remain.
  3. Demolish and remove all below grade wood or metal construction.
  4. Break up and remove all road and apron pavement, base and subbase where pavement demolition is indicated.
  5. Remove all fence fabric, posts, hardware and associated below ground construction such as concrete where fence demolition is indicated.
  6. Remove all fixtures, hardware, equipment, ladders, windows, doors, walls, floors, roofs and other elements of the structures shown to be demolished.
  7. No explosives will be permitted.
  8. Use sprinkling or other measures as appropriate to control the spread of dust and debris.
  9. Conform to all applicable laws and regulations.

**B. Removal of Existing Concrete Pavement**

1. The existing concrete to be removed shall be freed from the pavement to remain. This shall be accomplished by sawing through the complete depth of the slab. If existing load transfer devices are to be reused, drilling or saw cuts shall be one and a half feet inside the perimeter of the final removal limits shown on the contract drawings or outside the load transfer devices, whichever is greater.
2. Where the removal limits are located on existing joints, the perimeter shall be saw cut to the full depth of the pavement and new load transfer devices installed. The pavements inside the saw cut may be broken or removed in whole slabs as determined most suitable by the Contractor. The Contractor's removal operation shall not cause damage to cables, utility ducts, pipelines or drainage structures, the cathodic protection system, pavement under drains or pavement to remain in place. Utilize a full depth offset secondary cut in pavement and other locations where necessary, indicated or directed to protect existing pavement edges to remain from damage during demolition. Any damage shall be repaired by the Contractor at the Contractor's expense with no added expense to the Owner. Over sawing at intersections of pavement removal limits shall be held to an absolute minimum. The contractor may make full depth saw cuts at the limits of pavement removal through existing keyways, dowels or other load transfer devices provided new replacement dowels are installed with an equivalent load transfer capacity. Regardless of the demolition limits indicated, the Contractor shall make reasonable attempts make field adjustments where necessary or directed to keep demolition cuts in logical locations along existing pavement joints and not leave small slivers or irregular strips of pavement.

**C. Demolition and Removal of Underground Fuel Piping**

1. The Contractor shall remove fluids, debris, loose scale, liquid and sludge from the piping in accordance with industry standards. Waste material shall be transported to a properly permitted treatment, storage and disposal facility in accordance with local, state and federal regulations. Contractor shall provide appropriate devices and piping at terminus end of pipe to contain and capture any drained or dislodged product or sludge without spillage.
2. Contractor shall be responsible for waste sampling as necessary to satisfy the disposal facility requirements.
3. Contractor shall prepare shipping papers for fluid disposal, including manifests, to be signed by the Owner, who is the generator, before any shipments leave the premises.
4. Generator copies of the waste-shipping manifest shall be returned to a specified representative of the Owner. Owner shall provide copies of the documents to the Contractor. Any disposal discrepancies identified by Owner, or others, shall be the responsibility of the Contractor and shall be resolved by the Contractor, the waste transporter and the disposal facility.

**3.4 FUEL AND PRODUCT PIPING ABANDONMENT**

- A. Fuel Piping shall be abandoned as indicated on the project drawings and specified in here within.

**3.5 FILLING PIPING WITH GROUT**

- A. After pigging and fuel removal is complete, the Contractor shall completely fill the pipes designated to be abandoned with a Portland cement grout approved by the Engineer. When possible, a pig shall be used directly in front of the grout to ensure that the line is completely filled and there is a minimum amount of contaminated grout generated. If necessary, the Contractor shall sectionalize the pipe to ensure complete filling of the pipeline. Any fuel/water residue that has accumulated in front of the pig and grout shall be collected and disposed of by the Contractor.

### **3.6 HAZARDOUS MATERIALS**

- A. If hazardous materials are encountered during demolition operations, comply with applicable regulations and notify the Owner immediately. Obtain direction from Owner prior to proceeding.
- B. Owner's Representative shall be responsible for screening soil and groundwater for contamination. At the direction from Owner, Contractor may be required to perform additional excavation, handling and disposal of material exceeding applicable cleanup standards.

### **3.7 DISPOSITION OF MATERIAL**

- A. Except where specified in other sections, all materials and equipment removed or demolished, shall become the property of the Contractor and shall be removed from Owner's property and legally disposed of or retained by the Contractor. The Owner will not be responsible for the condition or loss of, or damage to, such property prior to or after notice to proceed.
- B. Materials and equipment shall not be viewed by prospective purchasers or sold on the site. Only soil or other materials approved by the Owner can be reused onsite.
- C. No burning will be permitted.

**END OF SECTION 02 41 19.23**