ITEM NO. 834
FIRE HYDRANTS

834.1 DESCRIPTION: This item shall consist of fire hydrant installations using joint restraints in accordance with these specifications and as directed by the Engineer with the contract documents.


834.3 CONSTRUCTION:

1. General: Hydrants shall be connected to mains as shown in the contract documents or as directed by the Engineer. They shall be installed in accordance with Standard Drawings DD-834-01, DD-834-02, and DD-834-03. Hydrants shall also be installed in a location where there is accessibility and in a safe location where there is a minimum possibility of damage from vehicles or injury to pedestrians. In situations where hydrants are placed directly behind curbs, hydrant barrels shall be set so that no portion of the hydrant will be less than 12 inches nor more than 7 feet from the back of the curb. Where hydrants are set in the lawn spaces between the curb and the sidewalk or between the sidewalk and the property line, no portion of the hydrant or nozzle cap shall be within 6 inches of the sidewalk.

Setting final grade of fire hydrants to match proposed or existing field conditions is the responsibility of Contractor.

Hydrants shall be set in accordance with Standard Drawings DD-834-01, DD-834-02, and DD-834-03 and shall be set plumb and shall have their nozzles parallel with, or at right angles to, the curb with the pumper nozzle facing the curb. Drainage and concrete pads shall be provided at the base of hydrants as specified. No fire hydrant drainage system or pit shall be connected to a storm or sanitary sewer.

The Contractor shall install anchored or flanged style fittings in accordance with Standard Drawings DD-834-01, DD-834-02, and DD-834-03.
2. **Restrained Joints:** Restrained mechanical joints that require field welding or groove cuts into the pipe barrel for restraint will not be accepted. Restrained joints shall be furnished for pipe at all changes in direction as indicated in the contract documents, or as directed by the Engineer. Restrained mechanical joints shall be locked mechanical joints. All joints shall conform to the San Antonio Water System Material Specification Item No. 95-10, “Pipe Joint Restraint Systems.” The restraint system shall be capable of a test pressure twice the maximum sustained working pressure of 350 psi for ductile iron and PVC pipe.

3. **Replacing and Relocating Existing Fire Hydrants:** When existing fire hydrants are to be replaced or relocated, the work shall be accomplished by either of the following:

   a. Cutting or installing a tee of the size and type as indicated in the contract documents or as directed by the Engineer.

   b. Using a tapping sleeve and valve of the size and type as indicated in the contract documents to install a new fire hydrant to an existing or new water main. Size on size taps will not be permitted.

   c. Relocating the existing fire hydrant by closing the existing fire hydrant branch valve, removing the existing fire hydrant, extending the fire hydrant branch and installing the existing fire hydrant as specified herein.

The Contractor shall salvage the existing fire hydrants and other materials as designated in the field by the Inspector and shall deliver this material to the SAWS materials storage yard, located at 3930 East Houston Street. Fire hydrant branches shall be abandoned by cutting and capping the fire hydrant cast iron tee at the service main and the surface restored to its original condition.

After a fire hydrant has been set, hydrants shall be painted with a suitable primer and finished with oil-based aluminum paint from the top of the hydrant to a point 18-20 inches below the center line of the pumper nozzle and applied to all exposed metal surfaces above the hydrant base flange. The payment for fire hydrant painting shall be included in the unit cost for installing the fire hydrant.
4. **Installation on Water Mains**: Ductile iron pipe, cast iron and ductile iron fittings, and valves used in the placement of fire hydrants and connections to the main will be considered part of the fire hydrant installation and not a part of the main construction. No separate payment will be made for this pipe. Hydrants shall be connected to the mains as shown in the contract documents or as directed by the Engineer. Hydrants shall also be installed in a location where there is accessibility and in a safe location where there is a minimum possibility of damage from vehicles or injury to pedestrians.

834.4 **MEASUREMENT**: Standard Fire Hydrants with 6 inch Valve and Box will be measured by the unit of each fire hydrant, valve, and box installed. Relocate Fire Hydrants will be measured by the unit of each fire hydrant relocated.

Standard Fire Hydrants with Tapping Sleeve, 6 inch Valve, and Box will be measured by the unit of each fire hydrant, including the various sizes of tapping sleeves, valves and boxes installed.

834.5 **PAYMENT**: Payment included in following bid pay items shall include: excavation, backfill, selected material, anti corrosion embedment when specified, hauling and disposition of surplus excavated materials, backfill, branch line pipe, nipples, and fittings exclusive of the tee from the main line pipe, polyethylene sleeve where required, asphalted material for ferrous surfaces, joint restraints, concrete pad, restoration of existing fire hydrant sites and removal and relocation of existing fire hydrant as specified.

PAY ITEM No. 834.1 – Fire Hydrant: Installation of a new fire hydrant as specified in the contract documents and as specified herein for a fire hydrant with 6 inch valve and box.

PAY ITEM No. 834.2 – Tapped Fire Hydrant: Payment for installation of a new fire hydrant by tapping an existing or new water main as specified in the contract documents and as specified herein for a Fire Hydrant with tapping sleeve, 6 inch valve and box.

PAY ITEM No. 834.3 – Relocate Fire Hydrant: Payment for Relocate Fire Hydrant shall include relocating an existing fire hydrant to a new location as specified in the contract documents and as specified herein. Restoration of the existing fire hydrant site shall be inclusive to this line item.

- End of Specification -
PREFERRED INSTALLATION
Profile shown, without Horizontal Bend

ALTERNATE INSTALLATION
Plan shown, with Bend

* Resilient Seat
Note:
For Highway installation, see TxDOT
Specifications.

Paint exposed 6" Steel pipe and Concrete Cap
with one coat of rust-inhibitive primer and one
cost of safety yellow paint

6" Steel pipe filled with concrete and
rounded on top

Mound
Grade

3000 psi Concrete

Note:
Install Guard Post as required to protect
Fire Hydrant from vehicular traffic.

PROPERTY OF
SAN ANTONIO WATER SYSTEM
SAN ANTONIO, TEXAS

FIRE HYDRANT
GUARD POST

APPROVED
MARCH 2008

REvised
APRIL 2014

DD-834-02
SHEET 1 OF 1
Property Line

Curb Face

7'-0" Max. 2' Min.

12' Min.

6" Or 8" D.I. Nipple, Plain End At Both Sides

6" Gate Valve, M.J. W/Box* Should Be Installed In Street

3,000 psi Concrete Pad 16" x 16" x 4"

Restrained Lengths To Be Determined By Design Engineer.

* RESILIENT SEAT

PROPERTY OF
SAN ANTONIO WATER SYSTEM
SAN ANTONIO, TEXAS

FIRE HYDRANT INSTALLATION AT CUL-DE-SAC (JOINT RESTRAINT)

APPROVED
MARCH 2006

REVISED
APRIL 2014

DD-834-03 SHEET 2 OF 2