

**ROGERS WATER UTILITIES
ROGERS, ARKANSAS**

**SPECIFICATIONS FOR
CONCRETE THRUST BLOCKING
AUGUST 2007**

1. **SCOPE**

This specification governs the installation of concrete thrust blocking for water mains, fire hydrants, fire lines and sanitary sewer force mains.

2. **MATERIALS**

Concrete shall conform to Class A or Class B concrete as specified in Section 04-07 Concrete of the RWU specification.

3. **GENERAL REQUIREMENTS**

- a. Concrete thrust blocking shall be provided for all fire hydrants, bends, caps, plugs (not attached to a restrained valve with tee or larger than 12 inch diameter), tees, tapping sleeve and others fittings where hydraulic thrust may develop.
- b. The horizontal concrete thrust blocking must be braced against unexcavated soil and /or select backfill material.
- c. The reaction bearing (contact) area calculation for horizontal concrete thrust blocking is based on a hydraulic test pressure of 150 psi and undisturbed soil bearing pressure of 2,500 pounds per square foot.
- d. The Contractor shall make the excavation of sufficient size to provide the reaction area for the horizontal concrete thrust blocking as shown on the RWU standard details. The minimum reaction area and shape of the horizontal concrete thrust blocking are shown on the RWU standard details. The reaction area shall be required to prevent movement of the joint, but in no case shall the reaction area be less than one square foot.
- e. If, in the opinion of the Engineer and RWU personnel, the reaction area of the undisturbed material for horizontal concrete thrust blocking is not sufficient to provide adequate restraint based on minimum reaction area shown on the RWU standard details, then the reaction area shall be increased to a size that will ensure adequate restraint.

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- f. If other trenching is located behind the reaction area of the undisturbed material for horizontal concrete thrust blocking (within 6 feet) or if undisturbed material is not present such as an non-engineered backfill, the Engineer and RWU personnel may require the installation of concrete anchor blocking or other necessary means of thrust restraint in lieu of horizontal concrete thrust blocking.
- g. Vertical concrete thrust blocking shall be sized to resist hydraulic thrust with an equal weight of concrete. The weight of concrete is assumed to be 150 pounds per cubic foot.
- h. The Contractor shall make the excavation of sufficient size for the installation of the vertical concrete thrust blocking and/or concrete anchor blocking as shown on the RWU standard details.
- i. A visqueen bond breaker shall be placed between the fitting and the concrete thrust blocking to prevent permanent bonding to concrete. The fitting joints shall be accessible for repair.
- j. The minimum cure time for concrete thrust blocking is 24 hours after placement before placing in service.
- k. If the main/line must be immediately placed into service, the Contractor shall install wood timbers or steel tubing of such design as to support the hydraulic thrust between the fitting and the trench wall in addition to the required horizontal concrete thrust blocking as shown on the RWU standard details (Cut/Cap Blocking).
- l. No mechanical tamping or compacting shall be allowed above the concrete thrust blocking for a minimum of 24 hours after placement. All wood forms for concrete placement shall be removed before backfilling.

4. **ACCEPTANCE**

- a. The visqueen bond breaker at fitting, wood concrete forms and trench bank (reaction area) must be inspected and approved by the Engineer and RWU personnel prior to the placement of concrete.
- b. The Contractor shall place the concrete for the thrust blocking in the presence of the Engineer and RWU personnel or the Contractor shall leave the trench open until the concrete thrust blocking has been inspected and approved by the Engineer and RWU personnel.

Previous Specifications

April 16,1997

