

STANDARD SPECIFICATION FOR TAPPING SLEEVES IN ORDER TO WET TAP CONCRETE CYLINDER PIPES

ALL LATERAL CONNECTIONS TYING INTO ANY CONCRETE CYLINDER PIPELINES BELONGING TO TUCSON WATER, NEW OR EXISTING SHALL BE ACCOMPLISHED WITH THE USE OF A MECHANICAL TYPE TAPPING ASSEMBLY. THE MATERIALS SUPPLIED SHALL MEET OR EXCEED THE FOLLOWING SPECIFICATIONS:

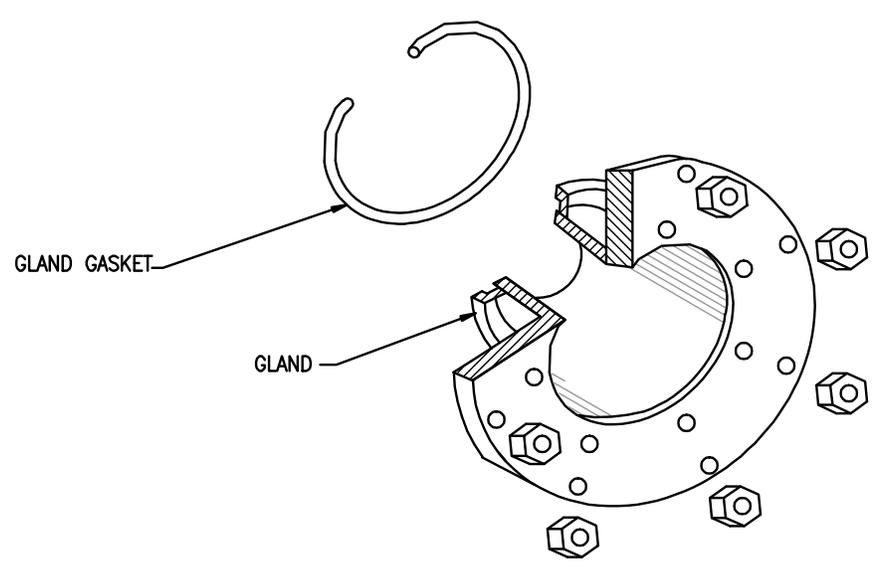
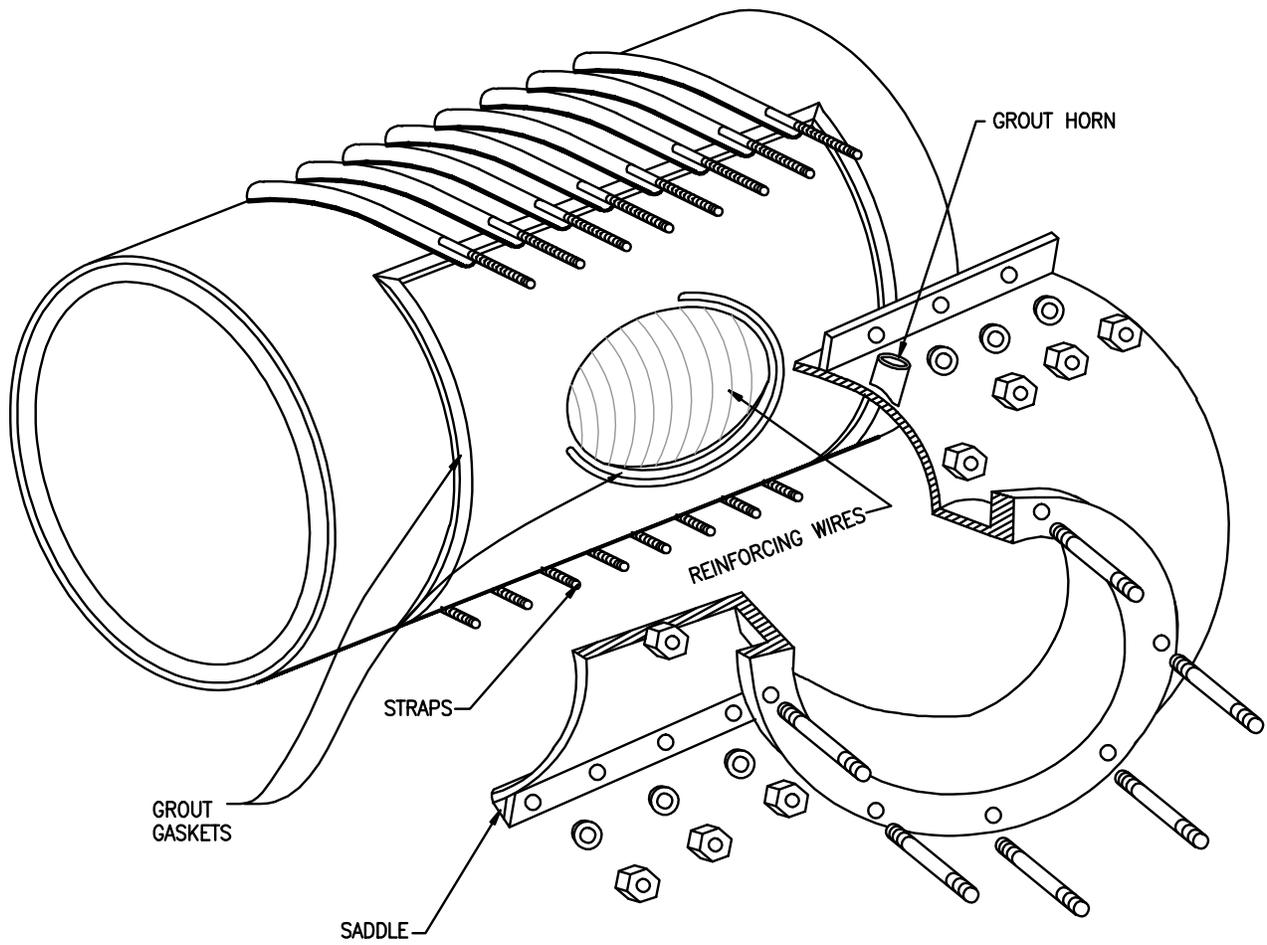
- Tapping sleeves for the above mentioned pipes shall be in accordance with the latest edition of the AWWA manual M-9. They shall also meet AWWA C-301 Standards pertaining to design, manufacturing, quality tests, and welder qualifications.
- The sleeves shall have a separate gland which permits installation of the sleeve prior to the cutting of the rods or prestressing wires.
- The gland shall have a fusion epoxy coated (per AWWA C-213) waterway and a 7/8" wide hydromechanical gasket set in a retaining groove of a pressure pressure plate.
- The pressure plate shall be gusseted to the draw flange to eliminate any flexing.
- The gland shall be equipped with load bearing set screws to protect the metal cylinder from being crushed, or distorted. The gland shall also have an opening (grout hole) for grouting of the annular space.
- The body of the sleeve shall be fusion epoxy coated per AWWA C-213.
- Tapping sleeves approved shall JCM #415 type 1 (ESS) or approved equal.
- The contractor shall provide 7 references of jobs that have been successfully completed using this sleeve design and 10 years of experience manufacturing this sleeve design.
- Welding onto these types of pipelines is strictly prohibited by the Tucson Water Department in accordance with AWWA M-9.
- In no case shall taps on concrete cylinder pipe be smaller than 8".

ISSUED:		STANDARD DETAIL		DETAIL NO.
8/00		CONCRETE		SD-900
REVISED:		CYLINDER PIPE TAP		
9/17				SHEET 1 OF 5

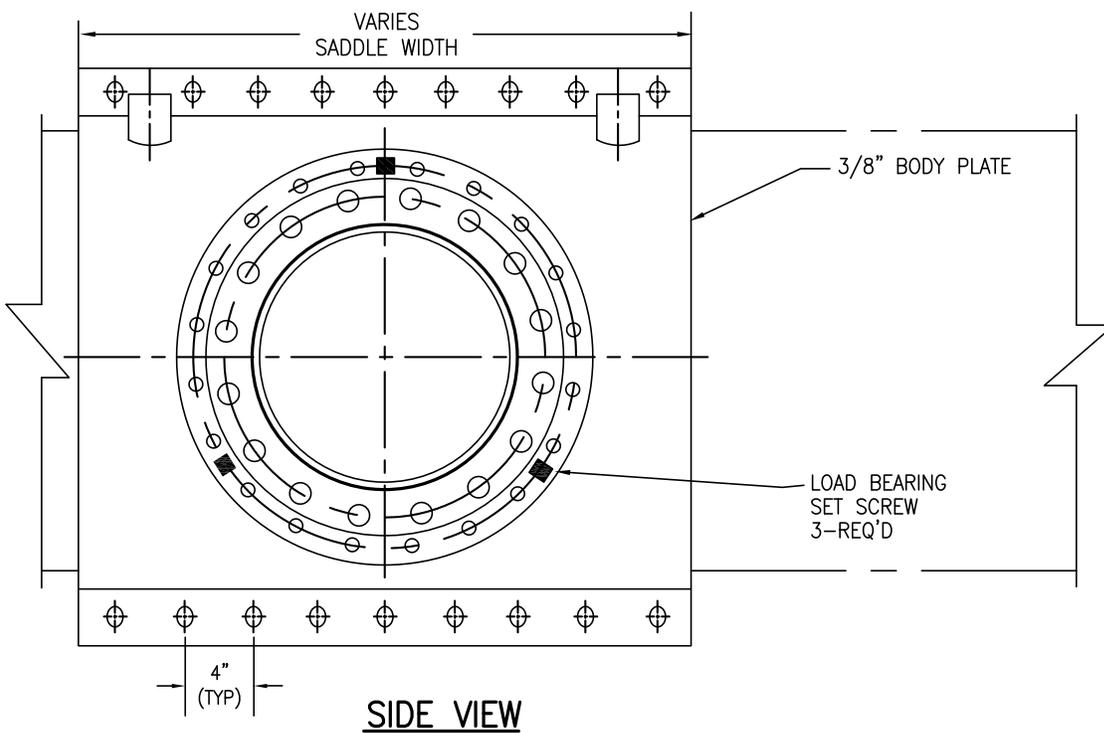
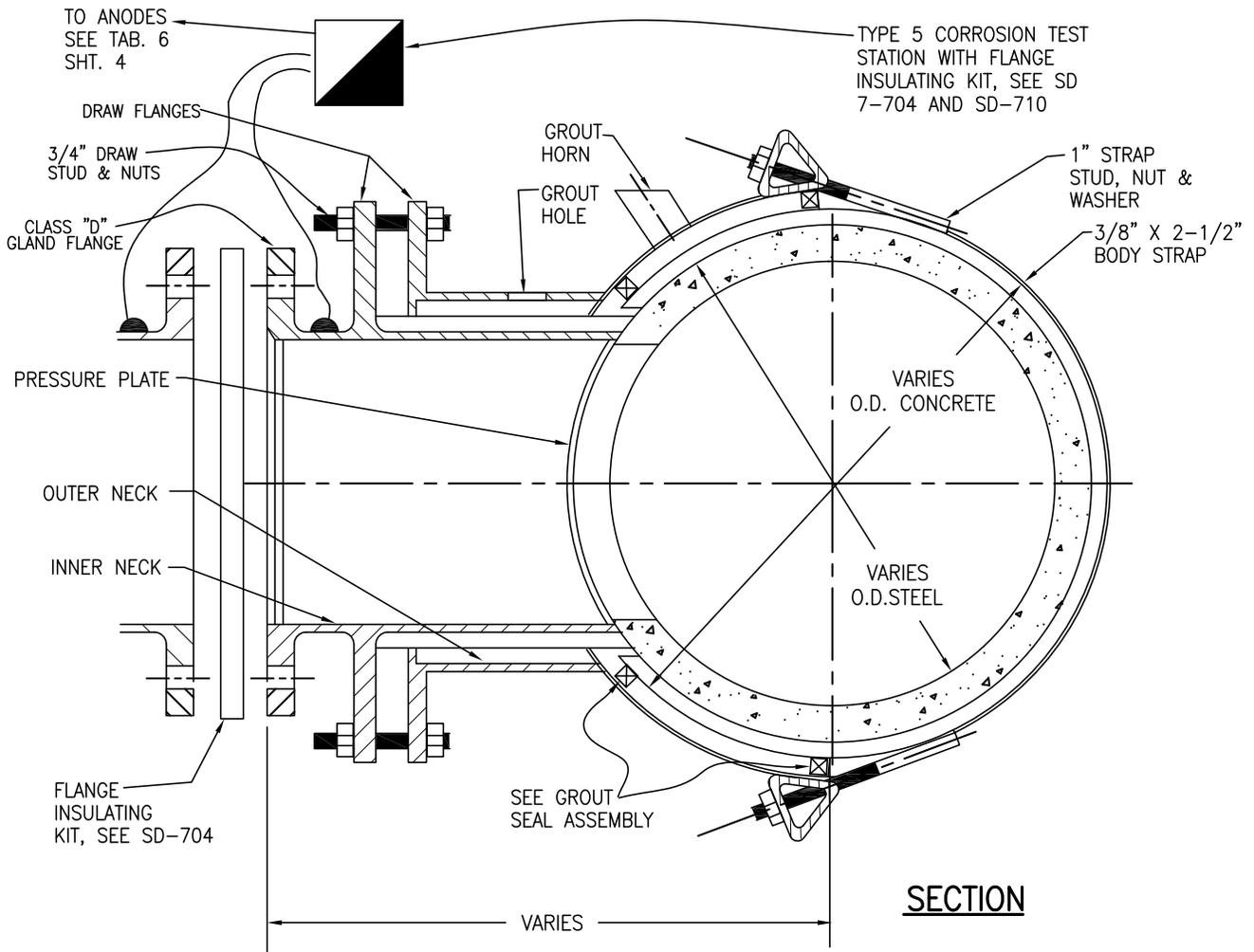
INSTALLATION PROCEDURES

1. Clean pipe in area where sleeve is to be installed. Remove any irregularities extending beyond the normal contour of the pipe surface. Check all measurements to be certain sleeve is correct size for the pipe.
2. Position gland on the pipe and mark area where mortar coating is to be removed.
3. Remove gland and set aside. Carefully remove mortar coating from the area where tap is to be made – exposing but not damaging the prestress wires and steel cylinder.
4. Check to make certain all grout gaskets are in place around the edge of the sleeve and around the outlet. Place the sleeve on the pipe with the outlet over the opening in the mortar coating (with grouting horns up) and install the straps. Tighten the straps with only sufficient torque to lightly seal the grout gaskets, alternating from one side to the other – starting at the outside straps and working in toward the center.
5. Pour cement grout into the grout horns in the sleeve filling the space between the sleeve and the pipe. Pound the sleeve with a hammer to vibrate grout into place. After the grout has set, tighten the 3/4" bolts on the straps to approximately 40 ft-lbs torque. Then retighten to approximately 50 ft-lbs torque. (Note: Torque given is based on clean and lightly lubricated threads).
6. Carefully cut and remove the exposed prestress wires to provide clearance for the gland to seal against the cylinder. For embedded cylinder pipe, the outer portion of the concrete core must be removed to expose the cylinder. Clean steel cylinder surface of any remaining concrete. (Note: If there is a weld seam on the cylinder of the pipe in the area of the tap, carefully grind the weld so that the tapping sleeve will seal on it).
7. Check the gasket in the gland to make certain it is undamaged and in its retaining groove. Remove any tape used to secure gasket in place during shipment.
8. Install the four (4) threaded studs in the sleeve outlet to assist in properly aligning the gland. Install the gland in the sleeve outlet so that the contour of the gasket seat exactly matches the contour of the steel cylinder. Install the remainder of the draw bolts. Check the gasket seat alignment. Tighten the draw bolts evenly to compress the gasket. A feeler gauge can be used to check gasket position during tightening. When completely tightened there should be approximately 1/8" between the gasket seat and pipe cylinder.
9. After installation of the tapping gland tighten the three (3) load bearing set screws located between the draw bolts of the outer circle. This locks the gland in place and transfers any loading from the outlet onto the sleeve and away from the cylinder.
10. Install a flange insulating kit between the tapping valve and the existing pipe. See SD-704.
11. Install the tapping valve utilizing the inner circle of studs and nuts furnished with the gland.
12. Use water to pressure test the gland seal, flange gaskets and tapping valve to assure all joints are tight and gaskets properly seated.
13. The Tucson Water Inspector shall call the Tucson Water NACE Technician at 791-5264 to coordinate testing.
14. On completion of the tap pour cement mortar (2 parts sand, 1 part cement) into the opening between the gland and the saddle and into the grouting hole in the sleeve neck completely filling the space around the gland. A protective coating of cement mortar to a minimum thickness of 1" over the entire assembly including straps will further protect the sleeve.

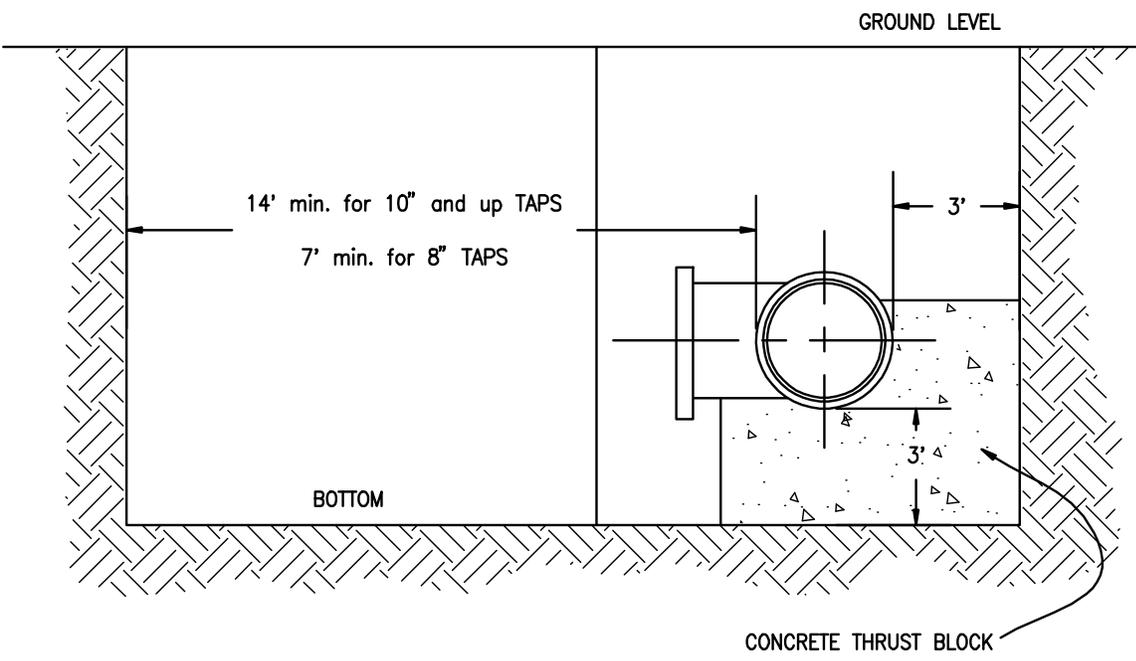
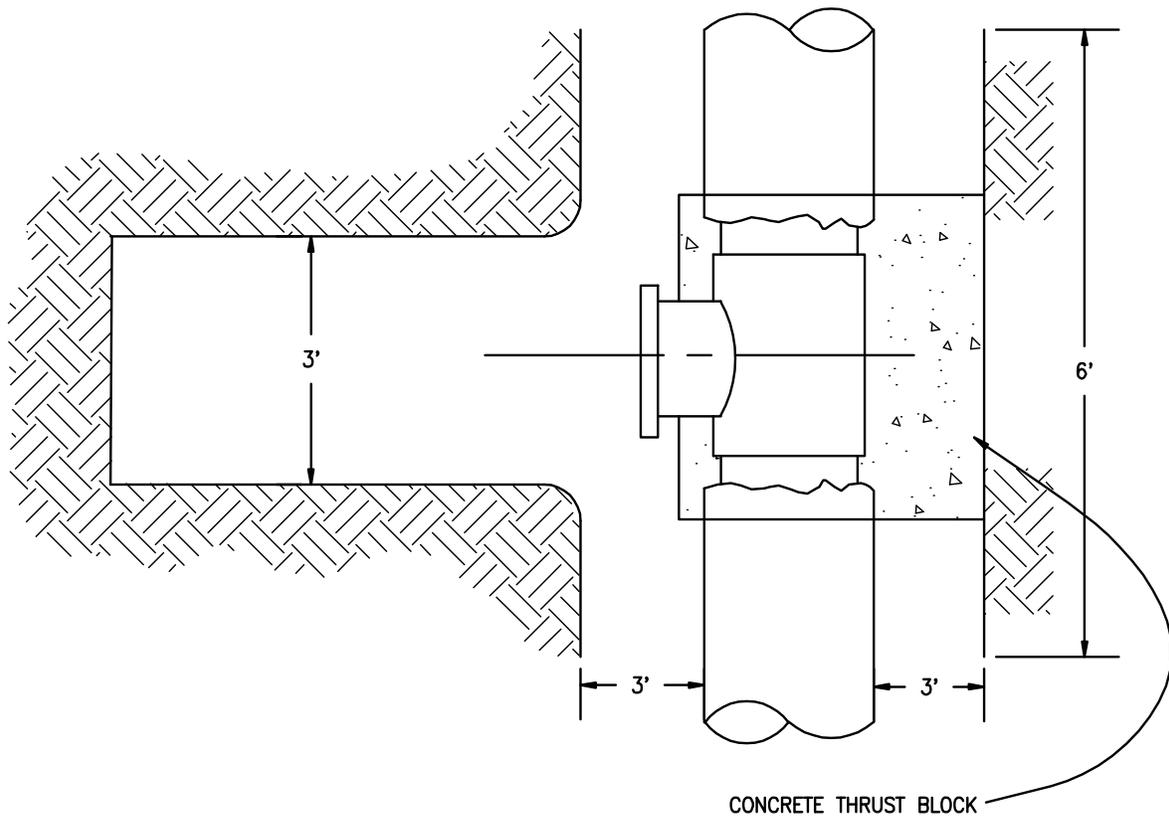
ISSUED:		STANDARD DETAIL		DETAIL NO.
6/00		CONCRETE		SD-900
REVISED:		CYLINDER PIPE TAP		
				SHEET 2 OF 5



ISSUED:		STANDARD DETAIL		DETAIL NO.
6/00		CONCRETE		SD-900
REVISED:		CYLINDER PIPE TAP		SHEET 3 OF 5



ISSUED:		STANDARD DETAIL		DETAIL NO.
8/00		CONCRETE CYLINDER PIPE TAP		SD-900
REVISED:				
12/16				SHEET 4 OF 5



ISSUED:		STANDARD DETAIL		DETAIL NO.
8/00		CONCRETE CYLINDER PIPE TAP		SD-900
REVISED:				SHEET 5 OF 5
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