

1	NOTES:
	1. ALL BLOCKING SHALL BE AGAINST UNDISTURBED HAND DUG SOIL.
	2. WHERE SOIL CONDITIONS MAKE IT NECESSARY TO POUR CONCRETE BLOCKING OVER
	JOINTS. THE ENDS OF THE ADJACENT PIPES MUST HAVE A BRACE BLOCK TO
	RESIST MOVEMENT OF THESE JOINTS.
	3. ALL FITTINGS & PIPE SHALL BE COVERED WITH 8 MILL PLASTIC WHEN BLOCKING TO PREVENT BONDING OF
	CONCRETE.
	4. WHERE SHEAR IS HIGH PROPER REINFORCING MUST BE INSTALLED INTO THE
	BLOCKING AS DIRECTED BY ENGINEER.
	5. COVER SHALL BE A MINIMUM OF 3' BELOW NATURAL GRADE.
	6. CLEARANCE FROM OIL & GAS COMPANIES LINES SHALL BE A MINIMUM OF 18".

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7. THRUST BLOCKING DIMENSIONS SHALL BE 150% OF THE THRUST CALCULATED FROM
THE FORMULA (THRUST=2(A)(P)*SIN(θ /2): WHERE A=PIPE END AREA. P=PRESSURE
PRODUCED BY PUMPING LIQUID. & θ =ANGLE OF BEND TO BE BLOCKED) AND SOIL
BEARING CAPACITY OF 1000 PSF.
8. ALL CONCRETE SHALL BE 3000 PSI AT 28 DAY STRENGTH.

WATERLINE PIPE BEND THRUST BLOCK AREA				
SIZE & BEND DEGREE	STATIC THRUST (LB)	BLOCKING AREA (FT		
4" - 22 ½°	1103	1		
4"- 45°	2164	2		
4" - 90°/TEE/PLUG	3998	4		
6"- 22 1/2°	2482	2.5		
6" - 45°	4867	5		
6" - 90°/ TEE/PLUG	8997	9		
8" - 22 1/2°	4413	4.5		
8" - 45°	8656	8.5		
8" - 90°/ TEE/PLUG	15994	16		

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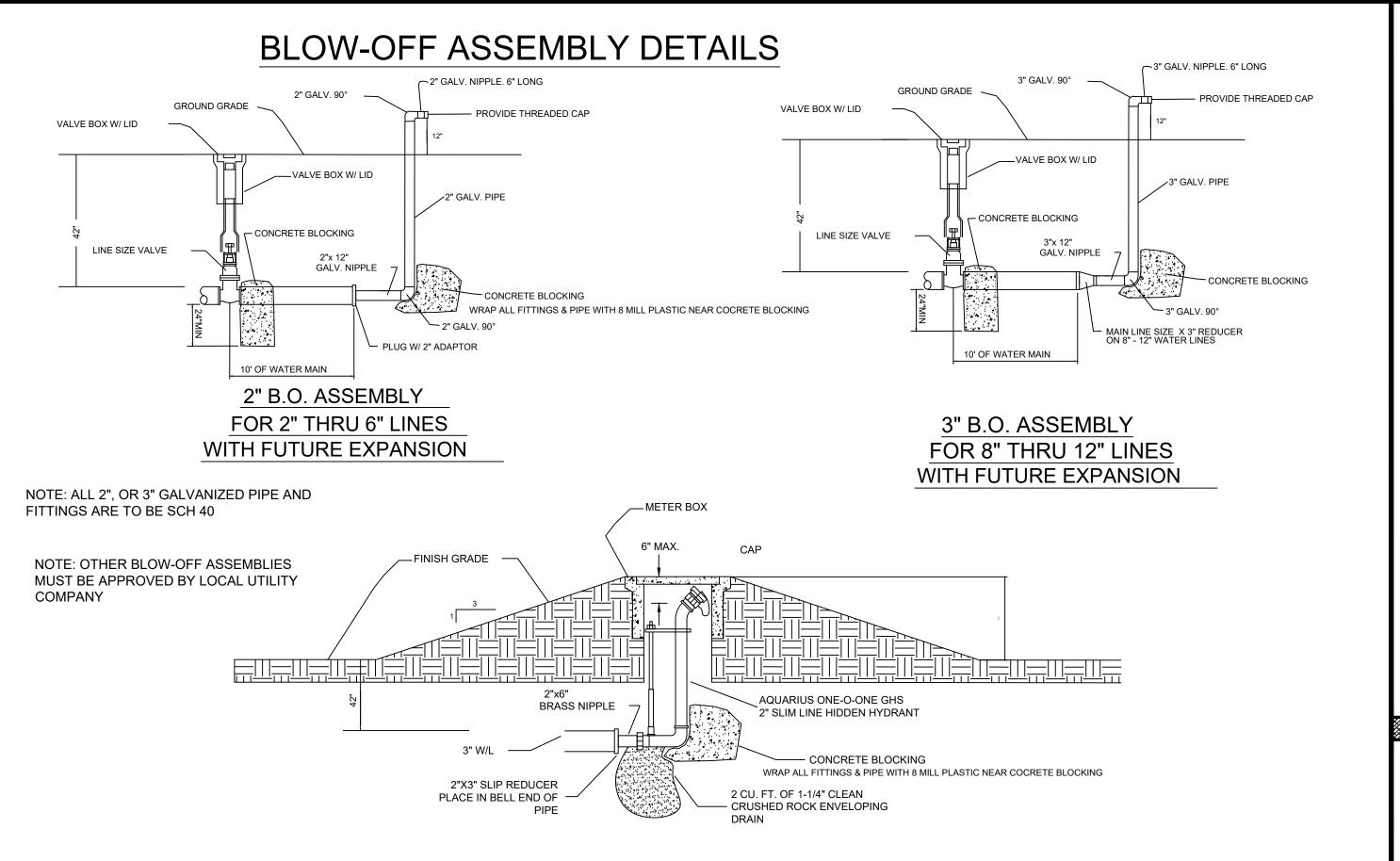
BURIAL DEPTH MARKER

WATER LINE & FORCE MAIN

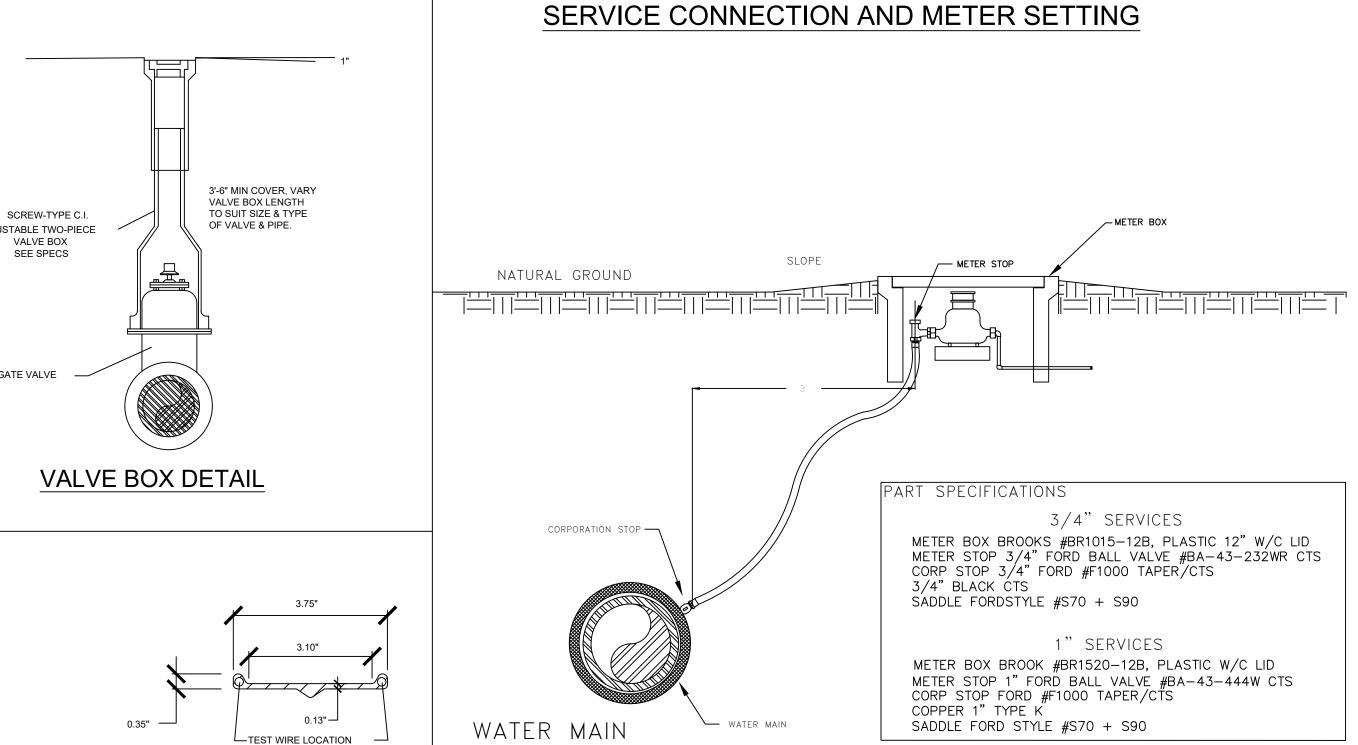
MARKER DETAIL

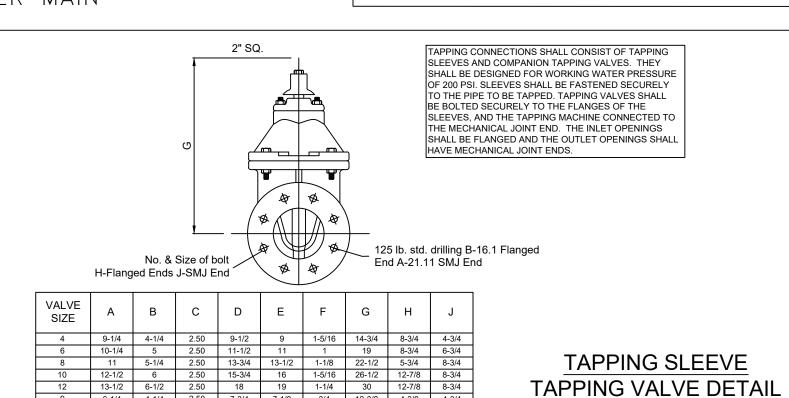
ANCHOR BARE

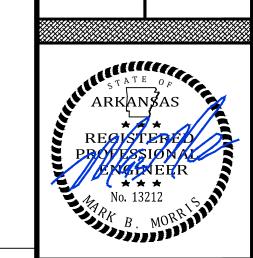
TEST POINT -



UNDERGROUND WASHOUT ASSEMBLY FOR COVES AND DEAD END LINES WITH NO FUTURE EXTENSION







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