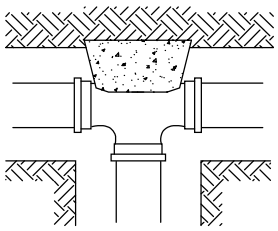
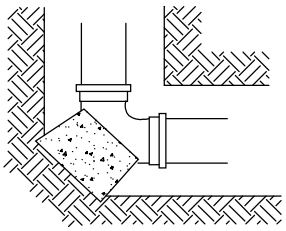
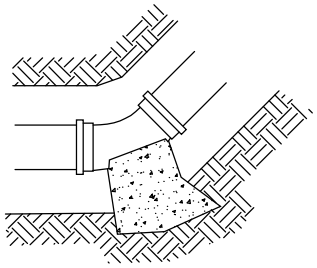


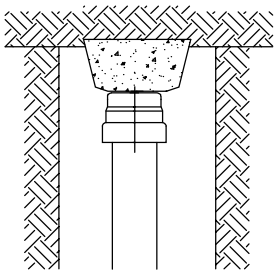
TEE



90° BEND

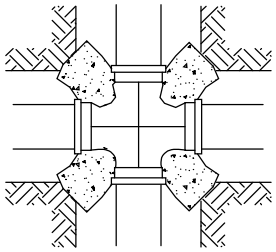


45°, 22½°, AND 11¼° BENDS



DEAD END

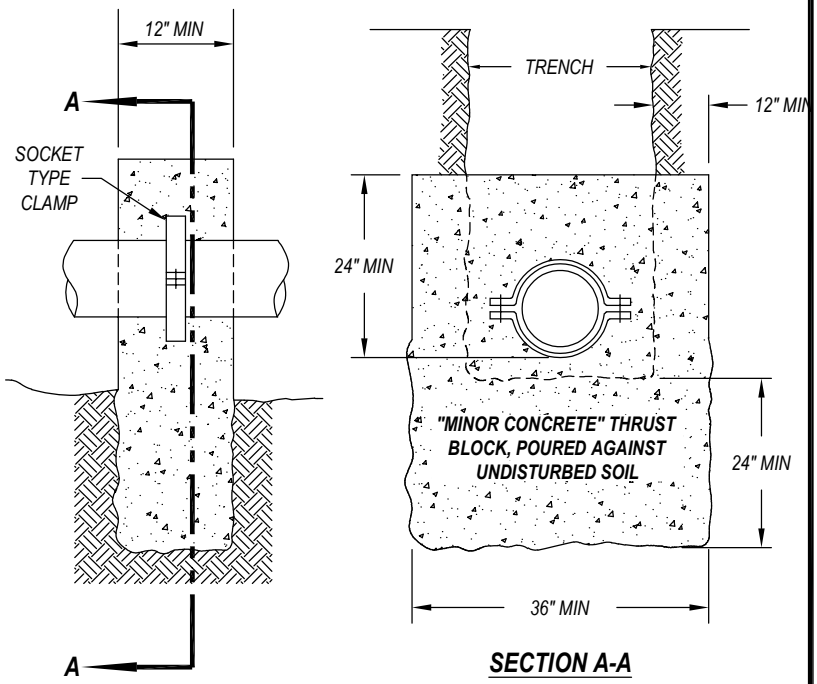
(WITH APPROVAL FROM WATER DIVISION ENGINEER)



CROSS

NOTES

1. *DETAILS ON THIS SHEET ARE FOR WATER MAINS 8" IN DIAMETER AND SMALLER. SEE W-14B FOR RESTRAINT REQUIREMENTS FOR 12" AND LARGER WATER MAINS.*
2. *"MINOR CONCRETE" PER SECTION 90 OF THE CALTRANS STANDARDS, WITH 3/4" AGGREGATE, SHALL BE USED FOR THRUST BLOCKS AND WINGWALLS. CONCRETE SHALL BE POURED AGAINST UNDISTURBED SOIL AND BARE PIPE.*
3. *FOR ADDITIONAL RESTRAINT DETAILS, SEE W-14C. FOR WATER MAIN OFFSET AND JOINT DEFLECTION DESIGN REQUIREMENTS, SEE W-15.*
4. *RESTRAINTS SHALL BE USED PER CITY OF NAPA WATER DIVISION SPECIFICATIONS, INSTEAD OF THRUST BLOCKS, FOR RESTRAINING WATER MAINS WITH LESS THAN STANDARD COVER (PER W-12), AND WATER MAINS WITHIN STEEL CASINGS.*
5. *CONCRETE RESTRAINTS SHALL BE CURED FOR A MINIMUM OF 7 DAYS (OR REACH A MINIMUM 75% OF THE FINAL CURE STRENGTH) PRIOR TO INSTALLATION OF OFFSET ON EXISTING WATER FACILITIES, OR ACTIVATION OF NEW WATER FACILITIES.*



SECTION A-A

WINGWALL DETAIL FOR BLOW-OFFS, VERTICAL, AND HORIZONTAL OFFSETS

CITY OF NAPA			UTILITIES DEPARTMENT
TITLE: THRUST BLOCKS AND WINGWALLS	DRAWN BY: DF	CHECKED BY: SL	
	APPROVAL DATE: 09/2021	APPROVED BY: DD	
	SCALE: NTS	DRAWING NO. W-14A	
	REVISED DATE: 09/2021		