

All excavations shall be made in accordance with the Trench Construction Safety Orders issued by the Division of Industrial Safety of the Department of Industrial Relations of the State of California. Adequate provisions shall be made for protection of traveling public on all public roads affected by said excavation.

The contractor shall perform all excavations necessary or required to construct all manholes and all pipelines as specified by the City Engineer and as approved on the plans. Excavation shall include the removal of all materials of whatever nature encountered. Excavation shall be by open trench unless otherwise specified, following neat, parallel lines equi-distance from the centerline. The maximum width of trench at the level of the springline of the pipe to be laid therein shall not exceed the width of the outside diameter of the barrel of the pipe plus 24 inches. Such width of trench shall be kept as small as practical while providing sufficient working space for joining the pipe and for placing backfill material.

Where trenching necessitates removing portions of paved streets, the pavement at the edge of the proposed trench shall be cut in neat straight lines by sawing to 1 1/2 inch minimum depth and 6 inches wider than each side of the trench walls (City Standard Drawing T-1).

Sawing shall be done with an approved saw capable of cutting a minimum of 1 1/2 inches in depth. The sawing shall be done to the exact lines snapped with a chalk line. (Should the saw line be broken or damaged in any way after the required cut, any additional sawing required shall be done at the contractor's sole expense.)

When utilities are to be placed under existing curb and gutter or sidewalk, the following requirements apply: Remove a section of existing concrete; then install the conduit or pipe. After compacting the backfill, make saw cuts (minimum 1-1/2 inches deep) at least 6 inches wider than each side of the trench walls (City Standard Drawing T-1). Curb and gutters shall have 1/2-inch dowels installed at least 3 inches into existing concrete. One dowel shall be placed in the curb and two in the gutter section at each saw cut joint.

After pipe has been properly laid and inspected, said backfill material shall be placed around pipe at a depth of 12 inches above top of pipe and shall be thoroughly compacted to final density of at least 90 percent maximum density, in such a manner as not to injure or disturb pipe, before any further backfill will be allowed. All excavation within the existing street roadbed shall be backfilled and compacted until the relative compaction is not less than 95 percent within the top 2 feet and 90 percent below the top 2 feet. Backfill material shall be placed in layers not to exceed 8 inches in depth and moistened as necessary before compaction. Each layer shall be thoroughly tamped, rolled, or otherwise compacted and brought to grade. Backfill in trenches between back of curb and property line shall be thoroughly consolidated to final density of at least 90 percent of maximum density. Compaction of backfill material by ponding or jetting will not be permitted. Field density may be determined by any method accepted by the City Engineer.

Excess native excavated material and broken pavement shall become the property of the contractor and shall be disposed of off limits of the work at a location to be provided by the contractor and approved by the Engineer.

ENGINEERING DEPARTMENT		CITY OF MERCED, CA.	
TRENCHING AND BACKFILL REQUIREMENTS			
DRAWN: MP	APPROVED BY:	DATE	T-3
ENG.	<i>Alan M. Stroud</i>	12-12-94	
REVISED:	CITY ENGINEER		
			SHEET OF