

**Policy Statement**  
for  
**STREET TRENCH BACKFILLING AND PAVEMENT REPLACEMENT**  
in the  
City of Mesa, Arizona

I. INTRODUCTION

Installation of underground utilities in paved streets are problem for all cities. The installation disrupts traffic flow and affects local residents and businesses. The procedure in this Policy will establish an improved trench backfill requirement and the establishment of a smoothness criteria (rideability) of the final pavement patch. In turn, this will minimize the disruptions to the motoring public and adjacent residents and businesses and reduce the chance that the trench will become a nuisance in later years.

II. DEFINITIONS

ABC:

Aggregate Base Course as specified in MAG Section 702.

CLSM:

Controlled Low Strength Material as specified in MAG Section 728.

Longitudinal Trench:

Any trench excavated in the pavement surface parallel to the center line of the roadway or street.

MAG:

The Uniform Standard Specifications for Public Works Construction as published by the Maricopa Association of Governments.

Short Length of Longitudinal Trench:

Any trench excavated in the pavement surface parallel to the center line of the roadway or street not exceeding 8 feet in length.

Small Street Excavation:

Any excavation within the pavement surface equal to or less than twenty-four (24) square feet of surface area (based on maximum width of three feet).

Transverse Trenches:

Any trench excavated not parallel to the center line of the roadway or street. All intersection crossings shall be considered transverse trenches.

III. REQUIREMENTS FOR TRENCHES AND OTHER EXCAVATIONS

The following procedures shall be implemented unless waived or modified by the City Engineer or his/her designated representative.

- A. Longitudinal Trenches:
  - 1. Short lengths of longitudinal trenches shall be backfilled and pavement replaced in accordance with Section IV, Part A of this Policy and Mesa Standard Detail M-19.4, Type B.
  - 2. Excavation around manholes, vaults and other structures in the longitudinal trench line shall be backfilled and paved in accordance with Section IV, Part A of this Policy and Mesa Standard Detail M-19.4, Type B.
  - 3. All other longitudinal trenches shall comply with MAG Section 336 and Mesa Standard Detail M-19.4, Type A.
  
- B. Transverse Trenches:
  - 1. All transverse trenches capable of being bridged by steel plates shall be backfilled in accordance with Section IV, Part A of this Policy and Mesa Standard Detail M-19.4, Type B.
  - 2. Transverse trenches too wide to be plated shall be backfilled in accordance with Section IV, Part B of this Policy and Mesa Standard Detail M-19.4, Type A.
  
- C. Other Street Excavations:
  - 1. Small street excavations shall be backfilled and pavement replaced in accordance with Section IV, Part A of this Policy and Mesa Standard Detail M-19.4, Type B.
  - 2. Larger street excavations not covered above shall be backfilled and pavement replaced in accordance with Section IV of this Policy and Mesa Standard Detail M-19.4. The plans or the City Engineer or his/her designated representative will specify the type of backfill and pavement replacement.

#### IV. BACKFILL AND PAVEMENT REPLACEMENT REQUIREMENTS

##### A. Steel Plates, CLSM and Pavement Replacement

On arterial and collector streets, steel plates shall be installed per Mesa Standard Detail M-19.5. In all other streets or paved surfaces, the plates shall be placed across the trench in a secure fashion not to move or vibrate under traffic conditions. During peak traffic as established by the City of Mesa Traffic Engineer and during times when no work is preformed on the new installation, all plates shall be in place and the street opened to full traffic flow. The Contractor shall at all times so conduct his/her work as to assure the least possible disruption to the motoring traffic and adjacent residents and businesses.

The excavated material from the trench shall be removed from the site. Backfilling shall begin immediately after completion of the designated utility work. Any backfill material other than special bedding around the pipe, cable or other conduit shall be one (1)-Sack CLSM. The CLSM shall replace the excavated material and the aggregate base section of the street. Once the moisture in the CLSM has dissipated (24 to 48 hours in good dry weather conditions), installation of the asphalt patch shall begin within five (5) working days for plates installed per Mesa Detail M-19.5 and two (2) working days for all other locations. The asphalt patch shall be placed as per MAG Section 336 and Mesa Standard Detail M-19.4, Type B.

B. ABC and Cold Mix:

When the requirements of Part III, B, 2 or Part III, C, 2 apply, ABC shall be used for backfill material and for the aggregate base section of the street. Backfill shall begin immediately after completion of the designated utility work. ABC backfill and base shall be placed in six (6) to eight (8) inch lifts and compacted with equipment designed for such purpose. Ample water shall be added at the time of backfilling to obtain optimum moisture content. Immediately after installation of the ABC, an asphalt patch shall be placed in the trench and the street opened to full traffic flow. The asphalt shall be cold mix (minimum 3 inches thick) per MAG Section 336 or permanent base course asphalt per Mesa Standard Detail M-19.4, Note 10. If cold mix is used, the mix shall be replaced with permanent base course asphalt within 3 work days. If a drop off exists at the edge of the trench, a wedge course of asphalt shall be placed along the edges of the trench for a smooth transition. Prior to placement of the permanent surface course asphalt, the asphalt wedge transition shall be removed. Permanent surface course asphalt per Mesa Standard Detail 19.4, Note 10 shall be placed no sooner than 3 work days and no longer than 7 calendar days.

V. SMOOTHNESS REQUIREMENTS

The surface, after compaction of the final pavement replacement shall be placed flush with the surface of the adjacent existing asphalt. The grade from one edge of the excavation (trench) to the other shall be smooth and straight with no more than one-quarter (1/4) of an inch plus or minus deviation, but not both, measured in the direction of traffic flow.

VI. PERMIT REQUIREMENTS

A special City of Mesa Permit shall be required for all work as specified in Section III of this Policy except for Section III, A, 3 or unless specifically waived by the City Engineer. The permit shall be for the backfill and pavement replacement associated with the utility installation. The contractor responsible for the utility installation, backfill and pavement replacement shall obtain and sign for the permit. The permit will not be issued to developers, building contractors or others not directly responsible for the trench backfill and pavement replacement.

VII. CASH BOND REQUIREMENTS

A cash bond shall be required for all permits issued in Section VI of this Policy, unless specifically waived in advance by the City Engineer. Contract work that requires performance bonds will not require an additional cash bond in order to be in compliance with this Policy. Utility companies may be exempt from the cash bond if their franchised agreement and construction standards meet or exceed those in Section IV and are approved by the City Engineer. A revolving bond account may be established for those contractors or utility companies who do a considerable amount of this type of work.

The amount of the cash bond will be established by the City based on \$20.00 per square foot for pavement replacement plus \$1,250.00. A separate cash bond will be required for

each utility installation, project, plan submittal, etc. requiring a street cut. The cash bond(s) shall have a maximum amount of \$12,500.00.

#### VIII. CASH BOND ENFORCEMENT PROCEDURES

When the permit is issued, the permittee shall deposit the cash bond(s) with the City. The permittee may recover the bond(s) after completion and acceptance of the work. If the work is not completed in the designated time or is not acceptable, as defined in Section IV and V, the City will notify the permittee in writing. After three (3) working days from the receipt of the notice, the City may complete or correct the work. When the City is required to correct or complete the work per this Policy, the permit holder will forfeit the total bond amount for that street cut.

#### IX. OTHER CONSIDERATIONS

This Policy does not relieve the contractor or permit holder from the warranty provisions described in MAG Section 108.8 but serves as a guarantee that the said work is performed in a manner prescribed and within the time constraints allowed. Also, this Policy does not relieve the contractor or permit holder from any and all local, county, state and federal laws, ordinances and policies regarding the work covered under this policy. The safety, convenience, and the protection of persons and property, of the general public, employees of the contractor, City of Mesa personnel and residents, businesses adjacent to the work area shall be provided for by the Contractor.

This Policy shall become effective this 29 Day of September, 1999.

S/ Jack Friedline  
Jack FRIEDLINE  
Public Works Manager

S/ Keith Nath  
Keith NATH  
City Engineer