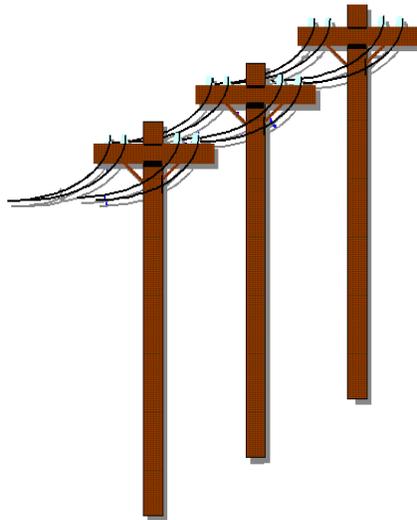


Gila County
RIGHT-OF-WAY ORDINANCE

#02-01



Approved by:

Chairman, Gila County
Board of Supervisors

Date

Approved as to form:

Gila County Attorney

Date

August, 2002

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1. GENERAL

A. Purpose

The purposes of this Ordinance are to:

- Instruct public utilities agencies and Contractors on how to prepare and submit plans and other documentation for Right-of-Way Permits;
- Describe processes, policies and requirements; and
- Define roles and responsibilities of all parties.

B. Introduction

Any person, contractor, firm, utility company, public service corporation, or entity that has a franchise from the Gila County Board of Supervisors, must obtain a Right-of-Way Permit for any work performed within the public rights-of-way of Gila County. The storage of materials and equipment within the public rights-of-way also requires a Permit.

To preserve the original investment of the street and roadway systems within Gila County, minimize the disruption and maximize the safety to the traveling public caused by construction, and reduce future maintenance problems, it is the policy of Gila County to require the installation of new utilities across existing streets be done by boring or tunneling if the pavement or chip seal is three years old or less. For these roads that are three years old or less open cutting of existing streets for the installation of new utilities will be permitted only when it can be proven it is not possible to use boring or tunneling techniques or if there is a pavement preservation project forthcoming.

Applicants for Right-of-Way Permits must plan for adequate time for review and approval. Generally, the greater the scope of work, the longer the permit review and approval process will take.

C. Applicability

This Ordinance shall apply within the unincorporated area of Gila County and supercedes any other ordinance previously adopted by the Gila County Board of Supervisors.

D. Permit Requirements

1. Permit Required

Except as otherwise provided in this Ordinance, no person may obstruct, or excavate in any right of way without first obtaining the appropriate right of way permit from the Engineering Department to do so.

2. Permit Extension

No person may excavate or obstruct the right of way beyond the date or dates specified in the permit unless such person (i) makes a supplementary application for another right of way permit before the expiration of the initial permit, and (ii) a new permit or permit extension is granted.

3. Permit Display

Permits issued under this Ordinance shall be conspicuously displayed or otherwise available at all times at the indicated work site and shall be available for inspection by the County.

4. Emergency Situation

Any person shall immediately notify Engineering Department of any event regarding its facilities that it considers to be an emergency. The person may proceed to take whatever actions are necessary to respond to the emergency. Within three days after the occurrence of the emergency the person shall apply for the necessary permits, pay the fees associated therewith and fulfill the rest of the requirements necessary to bring itself into compliance with this ordinance for the actions it took in response to the emergency.

5. Non-Emergency Situations

Except in an emergency, any person who, without first having obtained the necessary permit, obstructs or excavates a right of way must subsequently obtain a permit, pay double the normal fee for said permit, pay double all the other fees required by this ordinance, and deposit with the County the fees necessary to correct any damage to the right of way and comply with all of the requirements of this ordinance.

6. Penalty

Any person, Contractor, firm, utility company, or corporation who does not obtain written permission to work in County Right-of-Way in the form of a Permit, is in violation of the Gila County Ordinance and subject to criminal penalties as provided under Arizona Revised Statute.

E. Revocation of Permits.

1. Substantial Breach

The County reserves its right, as provided herein, to revoke any right of way permit, without a fee refund, if there is a substantial breach of the terms and conditions of any statute, ordinance, rule or regulation, or any material condition of the permit including a threat to the safety of workers, or the right of way user or the utility users. A substantial breach by permittee shall include, but shall not be limited to, the following:

(a) The violation of any material provision of the right of way permit;

(b) An evasion or attempt to evade any material provision of the right of way permit, or the perpetration or attempt to perpetrate any fraud or deceit upon the County or its citizens;

(c) Any material misrepresentation of fact in the application for a right of way permit;

(d) The failure to complete the work in a timely manner as stated in the permit; unless a permit extension is obtained, or unless the failure to complete work is due to reasons beyond the permittee's control, or failure to relocate existing facilities;

(f) The failure to correct, in a timely manner, work that does not conform to a condition indicated on an order issued.

Failure of the utility to pay any required costs, fees, or charges billed by the County.

Failure to provide traffic control that conforms to the provisions of the current Manual on Uniform Traffic Control Devices.

2. Written Notice of Breach

If the County determines that the permittee has committed a substantial breach of a term or condition of any statute, ordinance, rule, regulation or any condition of the permit the County shall make a written demand upon the permittee to remedy such violation. The demand shall state that continued violations may be cause for revocation of the permit. A substantial breach, as stated above, will allow the County, at its discretion, to place additional or revised conditions on the permit to mitigate and remedy the breach.

3. Response to Notice of Breach

Within twenty-four (24) hours of receiving notification of the breach, permittee shall provide the County with a plan, acceptable to the County, that will cure the breach. Permittee's failure to so contact the County, or the permittee's failure to submit an acceptable plan, or permittee's failure to reasonably implement the approved plan, shall be cause for immediate revocation of the permit. Further, permittee's failure to contact the County, or the permittee's failure to submit an acceptable plan, or permittee's failure to reasonably implement the approved plan, shall automatically revoke the permit and may include placing the permittee on probation for one (1) full year.

4. Cause for Probation

From time to time, the County may establish a list of conditions of the permit, which if breached will automatically place the permittee on probation for one full year, such as, but not limited to, working out of the allotted time period or working on right of way grossly outside of the permit authorization.

5. Automatic Revocation.

If a permittee, while on probation, commits a breach as outlined above, permittee's permit will automatically be revoked and permittee will not be allowed further permits for one full year, except for emergency repairs.

6. Reimbursement of County Costs

If a permit is revoked, the permittee shall also reimburse the County for the County's reasonable costs, including restoration costs and the costs of collection and reasonable attorneys' fees incurred in connection with such revocation.

7. Revoked Permit

If the County revokes a utility's permit for breach of this ordinance, the utility will not be allowed to install any utility or to obstruct or excavate within the county right of way until the breach situation is corrected to the satisfaction of the Director and the permit is reissued.

F. Definitions and Abbreviations

Wherever the following words, phrases, or abbreviations appear in these standards, they shall have the following meanings:

AS-BUILT CONSTRUCTED DRAWINGS - a set of construction drawings that has been red-penciled or otherwise marked to record all changes, which have occurred during the construction.

ADOT - Arizona Department of Transportation.

APPLICANT – means any Person requesting permission to install any utility or to excavate or obstruct a right of way.

BLUE STAKE - Statewide clearinghouse for coordinating and scheduling utility locates. Toll-free phone number for Blue Stake is 1-800-Stake-it.

CODE - shall mean the latest official adopted ordinances, policies codes and/or regulations of Gila County.

CONTRACTOR - shall mean a person, partnership or corporation duly bonded, licensed by the Arizona Board of Contractors and insured to perform work within public rights-of-way.

DAYS - intended as calendar days and not normal working days unless stipulated as working days in the Right-Of-Way permit.

ENGINEERING DEPARTMENT – Gila County Engineering Department

DRIVEWAY, RURAL - that portion of gravel or hard surfaced roadway from the street, roadway or alley to the private property line to gain access to the private property.

DRIVEWAY, URBAN - that portion of portland cement concrete or asphalt extending from the street gutter lip to the property line for the full width of access from the public right-of-way to the private property.

EQUIPMENT - any tangible asset used to install, repair, or maintain facilities in any right of way.

ENGINEERING PLANS - drawings, plans, profiles, cross sections and other required details for the construction of public or private improvements within the public rights-of-way or public easements, conforming to the applicable improvement standards and prepared in accordance with Arizona Revised Statute regarding Arizona Board of Technical Registration requirements.

EXCAVATE - any operation in which earth, rock or other material in the ground is moved, removed or otherwise displaced by means or use of any tools, equipment or explosives and includes, without limitation, grading, trenching, digging, ditching, drilling, augering, tunneling, scraping, cable or pipe plowing and driving.

FUNCTIONAL CLASSIFICATION - the objective grouping of roads, streets and highways into integrated systems, each ranked by their relative importance to the general welfare, the motorists and land use.

IMPROVEMENT STANDARDS - A set of regulations setting forth the details, specifications, instructions, and procedures to be followed in the planning, design, installation and construction of public or private improvements within the public rights-of-way or public easements.

INSPECTOR - shall mean an authorized representative of the Engineering Department assigned to make inspections for permit performances, standards and permit compliance.

MAY - a permissive condition. No requirement for design or application is intended.

MUTCD- Most current Manual on Uniform Traffic Control Devices (Federal Highway Administration).

OSHA - Occupational Safety and Health Administration.

PERSON – any individual or entity subject to the laws and rules of this state, however organized, whether public or private, whether domestic or foreign, whether for profit or nonprofit, and whether natural, corporate, or political.

RIGHT-OF-WAY (ROW.) - any strip or area of land, including surface, overhead, or underground, established, granted by deed, easement, dedication, prescription or lease, for construction and maintenance according to designated use, such as for streets and highways, drainage ditches, irrigation canals, etc.

ROW PERMIT - An official document authorizing the performance of a specified activity or work within public rights-of-way and public easements by a person, Contractor, company, firm, corporation, or public utility.

SHALL or Must - a mandatory condition. Where certain requirements in the design or application are described with the "shall or must" stipulation, it is mandatory that these requirements be met.

SHOULD - an advisory condition. Where the word "should" is used, it is considered to be advisable usage, recommended but not mandatory. Deviations may be allowed when reasons are given which show intent of the standard is met.

STREET - a general term denoting a public way for purposes of vehicular, pedestrian and bicycle travel ways, including the entire area within the right-of-way (includes alleyways).

TEMPORARY SURFACE – the compaction of subbase and aggregate base and replacement, in kind, of existing pavement only to the edges of the excavation. It is temporary in nature except when the replacement is of pavement included in the county's two-year project plan, in which case it is considered full restoration.

TRAFFIC CONTROL SUPERVISOR (TCS) - a well-trained and knowledgeable individual assigned the responsibility for traffic control devices at worksites. The TCS must be ATSSA (American Traffic Safety Services Association) certified or equivalent.

TRENCH – an excavation in the pavement, with the excavation having a length equal to or greater than the width of the pavement.

VARIANCE – A grant of relief from the requirements of these Guidelines, which permits construction or other uses of property in a manner that would otherwise be prohibited or restricted by these Guidelines.

G. Specific Conditions

1. Traffic Control Plans

A Traffic Control Plan (TCP) shall be submitted prior to or submitted with the permit application for all proposed work in/on arterial and collector streets as designated by Gila County Engineering for approval by the Gila County Engineering Department. Work in/on residential streets typically do not need a separate TCP but all signs, barricades, and other necessary traffic control devices shall be placed in accordance with the current edition of the MUTCD, Part VI and is the responsibility of the Contractor. Gila County may inspect the permitted site for compliance at any time.

2. Traffic Flow During Peak Hours

The TCP shall provide the control and movement of traffic to minimized congestion during the peak hours of 7:00 a.m. to 8:30 a.m. and from 4:30 p.m. to 6:00 p.m.

3. End of Day Lane Conditions

ASPHALT STREET - When work is stopped for the day, all lanes of a street shall be opened to traffic unless approved by the Engineering Department. A traffic lane shall be considered satisfactorily open only if it is paved with hot or cold mix asphalt paving or plated and properly barricaded including lights, except when the county allows an alternate temporary surface at its sole discretion.

CONCRETE STREET - When work is stopped for the day, all lanes of a street shall be opened for traffic. A traffic lane shall be considered satisfactorily open only if it is surfaced with a temporary asphalt surface or properly plated. In the event the street surface has been replaced in the same day as the excavation was made, the repaired areas should be properly barricaded including lights to protect the concrete during the curing stage.

UNPAVED STREET - When work is stopped for the day, all lanes of a street shall be opened to traffic unless approved by the Engineering Department. A traffic lane shall be considered satisfactorily open only if it is replaced on a satisfactory compacted backfill with gravel conforming to ADOT Class 5 or Class 6 aggregate base course or plated and properly

barricaded including lights, except when the county allows an alternate temporary surface at its sole discretion.

4. Inspection Requests

It shall be the responsibility of the person performing the work authorized by the permit to notify the Engineering Department or his authorized representatives that such work is ready for inspection. The Department requires that every request for inspection be received at least twenty-four (24) hours before such inspection is desired. Such requests may be in writing or by telephoning or faxing the Engineering Department.

5. Minimum Concrete Removals/Replacements

Saw cuts will be allowed if new joints are properly sealed and if not removal and replacement shall be to existing joints.

6. Road Closures

Main Arterial Streets and Collector Streets will not be closed unless written approval from the Public Works Director or his designee.

7. Normal Working Hours

Work in the Gila County Right-Of-Way will occur only during normal business hours (M- F, 6-6 except legal holidays) or as approved by the Engineering Department.

H. Permit Fees

A complete fee schedule approved by the Board of Supervisors can be found in Appendix B. The Engineering Department permit fees are established under appropriate enabling resolutions and/or ordinances and are subject to change periodically and may not be reflected in Appendix B. For current fee information please contact the Engineering Department.

Additional fees may be charged for any excavation work that may affect the accuracy of the Local Entities' Survey Monumentation System, **or for any work requiring county staff to work during time outside normal working hours (M-F, 8-5).**

I. Insurance Requirements

Prior to commencement of any work, the contractor shall forward Certificates of Insurance to Gila County Engineering Department. The insurance required shall be procured and maintained for the duration of the Contract or kept on file for one year for any given blanket permit and shall be written for not less than the following amounts, or greater if required by law.

1. Comprehensive General Liability on an Occurrence Form (including Premises Operations; Independent Contractors; Products & Completed Operations; Broad Form Property Damage as appropriate.)

1. Bodily Injury: \$1,000,000 Aggregate/\$500,000 Each Occurrence
2. Property Damage: \$1,000,000 Aggregate/\$500,000 Each Occurrence
3. Contractor agrees that such insurance is primary.

2. Comprehensive Automobile Liability (Owned, non-owned, hired). Statutory Arizona Personal Injury Protection and Statutory Arizona Uninsured/Underinsured Motorist Liability Coverages:

Bodily Injury & Property Damage \$1,000,000 Combined Single Limit

3. All insurance policies shall include Gila County and its elected officials and employees as additional insurers as their interests may appear.
- a. The County reserves the right to reject any insurer it deems not financially acceptable by insurance industry standards. Property and Liability Insurance Companies shall be licensed to do business in Arizona and shall have an AM Best rating of not less than B+ and/or VII.
 - b. Certificates of insurance on all policies shall list Gila County as certificate holder.
 - c. Certificates of insurance on all policies shall give the County written notice of not less than thirty (30) days prior to cancellation or change in coverage.

THE ENGINEERING DEPARTMENT MUST APPROVE ANY DEVIATIONS FROM THE STANDARDS GIVEN ABOVE.

2. PERMIT APPLICATION PROCESS

A. Obtaining and Submitting Application

A blank permit application can be obtained from the Gila County Engineering Department as shown in Appendix A. The applicant must fill out the application completely and accurately. When completed submit application together with all required documentation to the Engineering Department and a permit will be issued within 10 working days of receipt of a complete application.

B. Submission of Plans

Drawings or plans that clearly indicate the proposed work must be attached to the permit application. These drawings must be to a working scale and must show position and location of work, street/road names/numbers, widths of streets, property lines, topographic and man-made features, existing drainage patterns, etc. Plans shall show the relative position of proposed work to existing utilities and existing improvements and shall be drawn to a scale of one (1) inch = fifty (50) feet or larger and shall include a north reference.

C. Submission of Traffic Control Plans

Traffic Control Plans shall show in detail the proposed work area location and the traffic control devices being proposed to meet the requirements of the current MUTCD manual. Such plan shall be on paper at least 8 1/2 inches by 11 inches and may be faxed, mailed or brought to the Engineering Department with the permit application. Traffic Control Plans may require more detail than normal at the discretion of the Engineering Department due to unique or unusual conditions. Traffic control shall also include construction traffic routing requirements.

D. Payment of Fee

Acceptable methods of payment have been established, as identified in Appendix B.

E. Review of Submittals

The Engineering Department will review the completed submittals. If additional information is needed, the Applicant will be contacted. The Engineering Department will make certain that the Applicant has provided the required bond license and insurance certificates.

A pre-approval meeting may be required by the Engineering Department prior to the issuance of the permit for further clarification.

F. Approval of Submittals

Once the permit application and all required submittals have been reviewed and found to be complete, the Engineering Department may approve the Permit.

G. Issuance of Permit

The approved Permit with any stipulations will be issued to the Applicant or their authorized agent only. Any modifications to the approved permit including any schedule or scope changes must be submitted in writing to the Engineering Department for review and approval. The Applicant is solely responsible for all work permitted within the right of way. A pre-construction meeting may be required as a stipulation of the permit.

H. Other Permits

Federal, State, and Local permits may be required and issuance of this permit does not relieve the applicant of the responsibility or liability of obtaining other permits. It is the applicants' responsibility to obtain all permits needed and evidence may be required by the county before issuance of the permit.

3. CONSTRUCTION DETAILS

A. General Conditions

The following general conditions apply to all work done within the County rights-of-way such as utility line installation or repairs performed by any Contractor or utility department, public or private.

1. Protection of Existing Improvements

- a. The Applicant/Contractor shall at all times take proper precautions and be responsible for the protection of existing street and alley surfaces, driveway culverts, street intersection culverts or aprons, irrigation systems, mail boxes, driveway approaches, curb, gutter and sidewalks and all other identifiable installations that may be encountered during construction.
- b. The Applicant/Contractor shall at all times take proper precautions for the protection of existing utilities, the presence of which are known or can be determined by field locations of the utility companies. The Applicant/Contractor shall contact **BLUE STAKE AT 1-800-STAKE-IT** for utility locates a minimum of three (3) working days prior to his proposed start of work.
- c. Existing improvements to adjacent property such as landscaping, fencing, utility services, driveway surfaces, etc., that are not to be removed shall be protected from injury or damage resulting from the Applicant/Contractor operations.
- d. The Applicant/Contractor shall at all times take proper precautions for the protection of property pins/corners and survey control monuments encountered during construction. A registered land surveyor contracted by the contractor and at the Applicant/Contractor expense shall replace any damaged or disturbed survey markers.
- e. The repair of any damaged improvements as described above shall be the responsibility of the applicant/permit holder or their bond will not be released.
- f. The Applicant/Contractor shall make adequate provisions to assure that traffic and adjacent property owners experience a minimum of inconvenience.

2. Temporary Surfaces Required

When the final surface is not immediately installed, it shall be necessary to place a temporary asphalt surface matching existing pavement on any street cut opening. The temporary surface installation and maintenance shall be the responsibility of the Contractor until the permanent surface is completed and accepted. It shall be either a hot mix or cold mix paving material. Temporary surfaces shall be compacted, rolled smooth and sealed to prevent degradation of the repair and existing structures during the temporary period. Permanent patching shall occur within thirty (30) days of the temporary patch installation unless otherwise approved by the Engineering Department.

3. Pavement Patches

All permanent pavement patches and repairs shall be made with "in kind" materials. For example, concrete patches in concrete surfaces, full depth asphalt patches with full depth asphalt, concrete pavement with asphalt overlay patches will be expected in permanent "overlaid" concrete streets, etc. In no case is there to be an asphalt patch in concrete streets or concrete patch in asphalt streets. Any repair not meeting these requirements will be removed and replaced by the Applicant/Contractor at his expense. Permanent patching shall be in accordance with Mag C-3/4 or Adot 409.

4. Work to be done in Expedient Manner

All work shall be done in an expedient manner. Repairs shall be made as rapidly as is consistent with high quality workmanship and materials. Use of fast setting concrete and similar techniques are encouraged whenever possible without sacrificing the quality of repair. Completion of the work including replacement of pavement and cleanup shall normally be accomplished within thirty (30) days after the repair work or activity involving the cut is done. Extension of time for completion shall be with the written approval of the Engineering Department. If the repairs are not completed in the allotted time, the Engineering Department has the right to repair the street at the Contractor expense.

5. Removal and Replacement of Unsatisfactory Work

Removal and replacement of unsatisfactory work shall be completed within fifteen (15) days of written notification of the deficiency unless deemed an emergency requiring immediate action. In the event the replacement work has not been completed, the Engineering Department

with help from the County Attorneys office will take action upon the Applicant/Contractor bond to cover all related costs, unless an agreement for an extension is granted by the Engineering Department.

B. Excavation

1. Excavation shall consist of removal of all material necessary for the construction of the roadway section to the subgrade elevation, line, and grade shown on the plans or as specified in the contract documents. Unacceptable material defined as any earthen material containing vegetable or organic silt, topsoil, frozen material, trees, stumps, certain man-made deposits, or industrial waste, sludge or landfill, or other undesirable materials will be categorized as "unclassified excavation" and removed from the site and disposed of in accordance with applicable County, State and Federal requirements. All tree stumps and roots shall be removed to a minimum of two (2) feet below subgrade. Unclassified excavation includes any and all earthen materials encountered, including rocks and boulders measuring less than one-half cubic yard in volume, during construction.

2. Excavation shall be performed in a careful and orderly manner with due consideration given to protection of adjoining property, the public and workmen. Any damage to streets, parking lots, utilities, irrigation systems, plants, trees, building or structures or private property, or the bench marks and construction staking due to the negligence of the Contractor, shall be repaired and restored to its original conditions by the Contractor at his expense. Those areas that are to be saved will be clearly fenced off by the Contractor according to the Engineering Department's instructions and it will be the Contractor responsibility to ensure that these areas are not damaged during the construction process. Following completion of construction, should any of these trees, shrubs or irrigation facilities, etc. require replacement, it shall be done at the Contractor expense.

3. All materials determined acceptable by the Engineering Department acquired from roadway excavations may be used for embankment fill and backfill as needed. The entire area in the vicinity of the construction where excavation and filling has been performed shall be raked clean of all trash, wood forms, and debris, after completion of the work with no additional cost to the County. The Contractor shall dispose of material removed in excavation and not acceptable or not required for embankment fill or backfill. It shall not be wasted on private property without written

permission of the property owner. Waste banks shall be left with reasonable smooth and regular surfaces.

4. The construction of any repair activity within the street or alley rights-of-way shall be accomplished by methods approved by the Engineering Department. **Any changes from the approved permit will require approval by the Engineering Department.**

5. Trenches shall be excavated along the lines and grades established and in no case shall be more than two hundred (200) feet in length, or be trenched or backfilled in non-continuous sections unless approved by the Engineering Department. Failure by the Contractor to comply with these requirements may result in an order to stop the excavation in progress until compliance has been achieved.

6. All excavated material shall be stockpiled in a manner that does not endanger the work or workers and that does not obstruct sidewalks, streets and driveways. No stockpiled materials shall be allowed on the asphalt surface or adjacent walkways. The work shall be done in a manner that will minimize interference with traffic and/or drainage of the street. The Contractor at the end of each day shall barricade all excavations and ditch lines, remove excess material from travel ways, and thoroughly clean all street, alleys and sidewalks affected by the excavation. If it becomes necessary to accomplish this, all streets, alleys (if asphalt or concrete) and sidewalks shall be swept or washed as required by the Engineering Department.

7. Materials encountered during excavation such as rubbish, organic, or frozen material, and any other material that is not satisfactory for use as backfill in the opinion of the Engineering Department, shall be removed from the site and disposed of daily by the Contractor at his expense. Stones, concrete or asphalt chunks larger than six (6) inches or frozen material shall be considered unsatisfactory backfill and removed by the Contractor.

8. All excavation, shoring and trenching, and the like shall comply with OSHA's "Construction Industry Standards" as well as all applicable Federal and State regulations.

9. No tracked vehicles shall be allowed on asphalt or concrete unless approved by the Engineering Department.

10. Crossings under sidewalks or curbs may be made by tunneling only when approved by the Engineering Department. If the Contractor elects to

remove a portion of the sidewalk or curb, the applicable standards shall be followed.

11. Grading shall be done as necessary to prevent surface water from entering the excavation; any other water accumulation therein shall be promptly removed. Surface drainage, driveways, fire hydrants, manholes, water valves, etc. of adjoining areas shall be unobstructed.

12. When soft or unstable material or rock is encountered in the trench subgrade that will not uniformly support the pipe, such material shall be excavated to additional depths directed by the Engineering Department and backfilled with Type B material, as described in Subsection G, Part 2.

C. Blasting

1. The Contractor blasting procedures shall conform to Federal, State, and local ordinances. The Contractor shall acquire all required permits prior to the start of blasting.

2. Blasting for excavation will be permitted only after securing the approval of the Engineering Department. The Engineering Department will set the hours of blasting. The Contractor shall use the utmost care to protect life and property. All explosives shall be safely and securely stored in compliance with all federal, state, and local laws and ordinances, and all storage places shall be clearly marked "Dangerous Explosives". No explosives shall be left unprotected where they could endanger life or property.

3. When blasting in trenches, the Contractor shall cover the area to be shot with earth backfill or approved blasting mats. Prior to blasting, the Contractor shall station flaggers and provide signals of danger in suitable places to warn people and stop vehicles. The Contractor shall be responsible for all damage to property and injury to persons resulting from blasting or accidental explosions that may occur in connection with the use of explosives.

D. Equipment

1. The use of trench digging equipment will be permitted in places where its operation will not cause damage to existing structures or features, in which case hand methods shall be employed.
2. No tracked vehicles shall be permitted on streets unless approved by the Engineering Department. When tracked vehicles are allowed, existing facilities will be restored to original condition at the Contractor expense.
3. Construction equipment and material delivery routing will be made a condition of the Permit.

E. Dewatering

Where ground water is encountered in the excavation, it shall be removed to avoid interfering with the work. It is the Contractor responsibility to comply with all Federal, State and local permitting requirements prior to beginning any dewatering operations.

F. Removals

1. Streets, Paved

- a. Bituminous pavement shall be saw cut to clean, straight lines and should be perpendicular or parallel to the flow of traffic. (See Section 4(B)(1)).
- b. In existing pavement, all excavations within 36" of the edge of the asphalt shall require removal and replacement from the edge of asphalt to the excavation edge.
- c. Concrete pavement, valley gutters, driveways, streets and alleys shall be removed to neatly sawed edges cut to full depth.

2. Streets, Gravel

- a. When trenches are excavated in streets or alleys, which have only a gravel surface, the Contractor shall replace such surfacing on a satisfactory compacted backfill with gravel conforming to

ADOT Class 5 or Class 6 aggregate base course. Gravel replacement shall be one (1) inch greater in depth to that which originally existed, but not less than eight (8) inches. The surface shall conform to the original street grade. Where the completed surface settles, additional gravel base shall be placed and compacted by the Contractor immediately after being notified by the Engineering Department, to restore the roadbed surface to finished grade.

- b. Some streets may have been treated with a special surface treatment to control dust and/or bind the aggregates together. In these cases the Contractor is responsible for installing the gravel surface in the same manner as what existed. Such surface treatments shall be of the same chemical composition as what existed prior to the excavation work. The Engineering Department shall note on the permit the surface treatment that will be required.

3. Concrete Curb, Gutter and Sidewalk

- a. Concrete shall be removed to neatly sawed edges to full depth for sidewalks and curb and gutter and shall be saw cut in straight lines either parallel to the curb or perpendicular to the alignment of the sidewalk or curb. Any removal shall be done to the nearest joint. Replaced sections may require doweling connections if required by the Engineering Department.

G. Backfill

1. FLOWABLE-FILL may BE REQUIRED AS UTILITY TRENCH BACKFILL. Refer to Section 5 for compaction requirements. This requirement applies to all pavement and gravel locations. Flowable-fill vibration may be required.

- a. The recommended mix for flowable-fill is shown below. Flash-fill may be used if approved by the Engineering Department. Refer to ADOT specification 206.02.

INGREDIENTS	POUNDS/CUBIC YARD
Cement	42 (0.47 sack)
Water	235 (39 gallons or as needed)
Coarse Aggregate (Size No. 57)	1700
Sand (ASTM C-33)	1845

- c. The maximum desired 28-day strength is 60 psi. The above combination of material, or an equivalent, may be used to obtain the desired "flowable-fill".
- d. Flowable-fill or flash-fill shall be prohibited as a temporary or permanent street surface. Trenches shall initially be backfilled to the level of the original surface. After the flowable-fill has cured, the top surface of the flowable-fill shall be removed and the temporary or permanent surface shall be placed.
- e. Bridging and cutback requirements as described in these standards **may** still be required **if** the street failures indicate a clear need.
- f. Repair of failed trenches will be the responsibility of the permit holder requiring the trench.

2. Conventional Backfill (Other Than Flowable Fill)

When "non flowable-fill" backfill material has been pre-approved by the Engineering Department, backfill in existing or proposed streets, curbs, gutters, sidewalks and alleys is divided into three (3) categories: initial, intermediate and final lifts as defined below:

- a. The INITIAL LIFT, designated as Class B and generally comprised of a washed, clean gravel material, consists of the section from the bottom of the excavation to a point six to twelve (6 - 12) inches above the top of the installation. Placement and compaction of the initial layer shall be as specified by the utility to protect their installation.
- b. The INTERMEDIATE LIFT, generally comprised of native material, consists of the section above the initial layer to a point within ten – twelve (10-12) inches of the ground level or the bottom of the pavement section whichever is greater. Excavated material may

be used in the intermediate layer provided that it is deemed suitable by the Engineering Department.

- c. The FINAL LIFT includes both road base and asphalt surfacing. Road base material shall be ADOT Class 2 aggregate base course or as specified by the Engineering Department.

Maximum dry density of all soil types used will be determined in accordance with AASHTO T 99 or AASHTO T 180. These densities will be determined prior to placement of backfill.

The maximum layer for compaction shall be 12-18 inches as approved by the Engineering Department.

3. Compaction Testing Requirements

See testing section.

4. Embankment and Slopes

- a. The Engineering Department shall approve all fill material.
- b. All trenching shall conform to OSHA standards.

H. Restoration

1. Bore Holes - Vertical and Horizontal

- a. For openings less than or equal to 6" in diameter, boreholes shall be filled with patching material approved by the Engineering Department (**cold mix is not acceptable**) to prevent entry of moisture. Patching material used shall be in all cases compatible with the existing surface. Subgrade shall be replaced with flowable fill to provide necessary support to the surface. The sealing of boreholes is the responsibility of the Contractor or persons making the bore.
- b. For openings greater than 6" in diameter, the limits of repair shall be identified in the permit.

- c. The completed job shall be flush with the surrounding pavement and have no indentations, pockets, or recesses that may trap and hold water.

2. Subgrade

The subgrade for the pavement structure shall be graded to conform to the cross sections and profile required by the construction plans. Prior to the placement of aggregate base course or sub-course, the subgrade should be properly prepared. The subgrade should be scarified to a minimum depth of six (6) inches, moisture adjusted as necessary, and recompacted to not less than the following:

- a. For cohesive soils, 90% maximum Modified Proctor dry density at 2% of optimum moisture content, or 95% maximum Standard Proctor dry density at 2% of optimum moisture content.
- b. For non-cohesive soils, 92% maximum Modified Proctor dry density at 2% of optimum moisture content, or 97% maximum Standard Proctor dry density at 2% of optimum moisture content.
- c. For expansive soils, 88% maximum Modified Proctor dry density at 3% or greater above optimum moisture content, or 93% maximum Standard Proctor dry density at 1% or greater above optimum moisture content. For highly expansive soils (swell potential 2% under 200 psf surcharge pressure), paving will not be permitted without a subgrade treatment approved by the Engineering Department.

Prior to approval to place the base or sub-base course, all utility main and service trenches shall be compacted to not less than the above referenced densities required for the given soil classification. This density requirement also applies to all utility trenches within the public rights-of-way from a point four (4) feet beyond the edge of asphalt and descending at 1:1 outward.

3. Asphalt Surfacing

Any damage, even superficial, to the existing asphalt surface in the vicinity of the work shall be repaired at the expense of the Contractor, including but not limited to gouges, scrapes, outrigger marks, backhoe

bucket marks, etc. A slurry seal type covering will be considered the minimum repair. Patching may be required, at the discretion of the Engineering Department.

- a. The depth of asphalt patches in asphalt streets shall typically be the depth of the existing asphalt surface plus two (2) inches or as specified by the Engineering Department.
- b. The asphalt patch area for street excavations that fall within the wheel path of the vehicular travel lane shall be increased in size to the center of the lane or adjacent lane. In no circumstance will the edge of a patch area be allowed to fall within the wheel path.
- c. All street cuts shall be patched as per the guidelines of Section 4 below.
- d. Warranty period for all materials and workmanship shall be for one year from completion.

EXCEPTIONS - There may be situations where the patching standards are considered inappropriate. For example, rebuilding half of a road today when the county knows the road is due for reconstruction at a different profile within 1 year. In these cases, the Permit Holder can provide a more modest patch adequate to accommodate traffic for the 1-year period. In addition, the Permit Holder may be required to make a financial contribution to the street maintenance, rehabilitation or reconstruction program to support the more permanent improvements that are anticipated. The Engineering Department shall make this determination.

DISPUTE RESOLUTION - Mutual acceptance of these guidelines is expected to evolve over time with experience in the field. Disagreements over requirements and cost sharing are inevitable. In cases where agreement cannot be reached, the dispute shall not prevent the Contractor from compliance to the specific Permit or guidelines provided by this document unless approved by the Engineering Department.

4. Concrete Surfacing and Patching

- a. The concrete pavement shall be replaced with 4,000 psi concrete to match the finish and thickness of the existing pavement, but not less than eight (8) inches thick. All concrete construction shall be protected from vehicular traffic, including Contractor vehicles, until the concrete has achieved eighty (80) percent of its ultimate strength. Concrete shall be coated and sealed with a

uniform application of membrane curing compound applied in accordance with manufacturer's recommendations.

- b. The use of quick curing concrete (2000 psi strength within 24 hours) shall be used on all arterial and collector streets when repair areas are less than 500 square feet or when temperatures are below 40° F. Quick curing concrete repairs may be opened to traffic within two (2) days or when the concrete has achieved eighty (80) percent of its ultimate strength.
- c. Where existing cracks or damage are adjacent to the area being repaired the repair area shall include the cracked or damaged concrete. Pavement repairs shall include all areas of damage, including leak test holes, potholes, equipment and/or material scaring of the exiting surface.
- d. When repairing concrete, removal perimeter shall be saw cut and replacement concrete shall be doweled into the old concrete as directed by the Engineering Department.

5. Joint Filling

Asphalt

- a. Following placement of the asphalt surface, the joints where the new asphalt abuts the old shall be sealed with crack sealing.

Concrete

- a. Joints shall be thoroughly cleaned of all foreign material then filled with a hot-poured elastic type joint filler conforming to M 173, ASTM D1190-80 or ASTM D1751-83, D1752-84, D3405-78, D3406-78, D3407-78 or silicone sealants or others as approved by the Engineering Department. Joint material shall be filled to within 1/2 inch of the surface. Excess material shall be scraped off to provide a smooth riding surface.

4. DEVELOPING A "QUALITY" APPROACH TO STREET REPAIRS

A. General

Every street and street repair situation is unique. Design criteria and construction standards cannot address every situation but, in order to maintain some form of consistency, these standards have been developed. In most cases, they provide the minimum acceptable standards for construction or repair.

Consequently, when strictly applied, they will provide the minimum acceptable product. Therefore, this criterion has been developed to maintain the same integrity of the street pavement and subsurface condition prior to its being cut for utility installations.

To achieve the goal of "Quality" or "Excellence" in street repairs, these criteria shall be viewed as guidelines when used in conjunction with good planning and judgment. This will restore the street to an acceptable condition with minimal patching failures. In most cases, it will be necessary to exceed the minimum standards to achieve a quality repair.

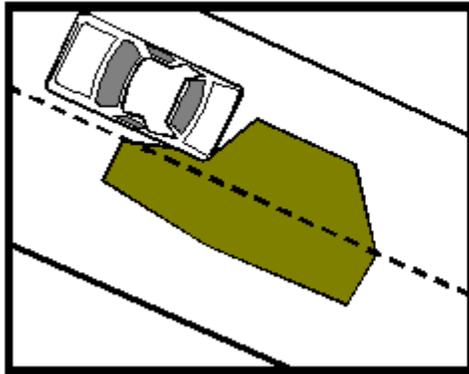
Issues that shall be considered in a quality approach to street repairs are as follows (these criteria must all be balanced against the long-term maintenance needs of the applicant).

B. Appearance

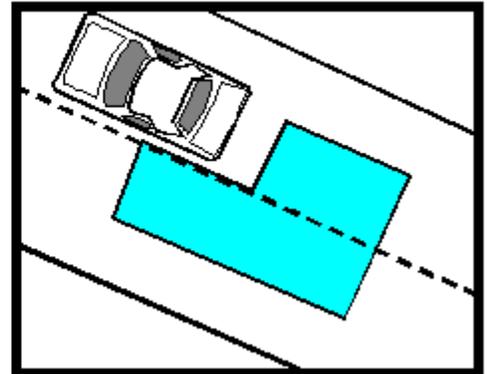
Does the final appearance of the street suggest the repairs were planned, or that they happened by accident?

- i. Consciously or not, the driving public "rates" the appearance of the street system, including street repairs, every day. Street repairs, which are satisfactory from a functional point of view, may produce a negative reaction from the public if they give the appearance of being poorly planned or executed.
- ii. The public's perception of street repairs is based primarily on shape, size, and orientation -- the geometry of a patch. Here are some guidelines for the geometry of a quality patch:
 1. Existing pavements should be removed to clean, straight lines parallel and perpendicular to the flow of traffic. Do not construct patches with angled sides and irregular shapes.

NOT ACCEPTABLE

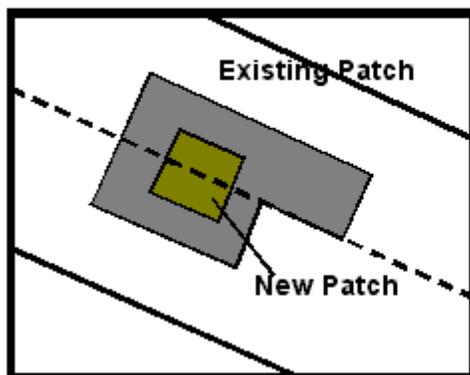


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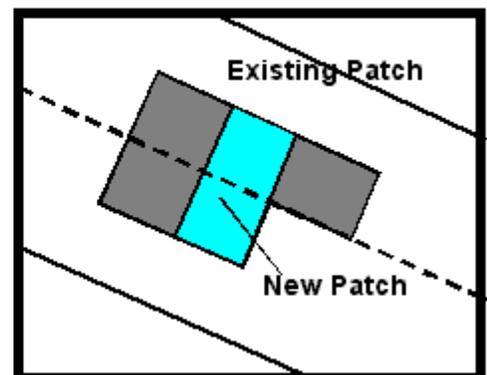


2. Avoid patches within existing patches. If this cannot be avoided, make the boundaries of the patches coincide.

NOT ACCEPTABLE

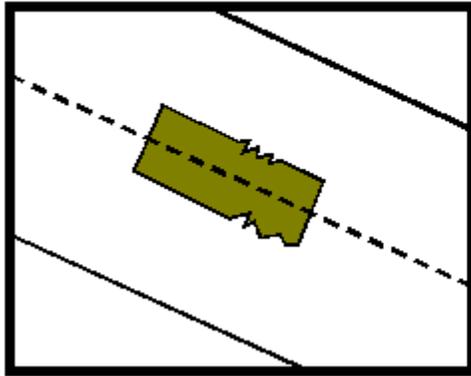


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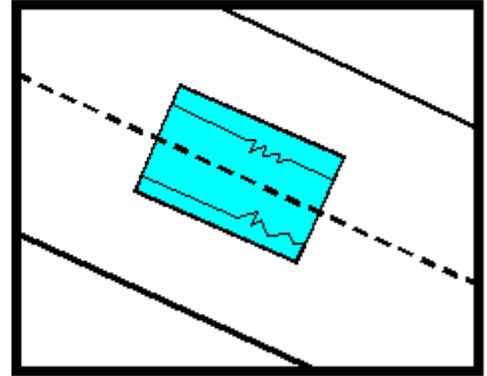


3. Asphalt and concrete pavements should be removed by saw cutting or grinding. Avoid breaking away the edges of the existing pavement or damaging the remaining pavement with heavy construction equipment.

NOT ACCEPTABLE



ACCEPTABLE

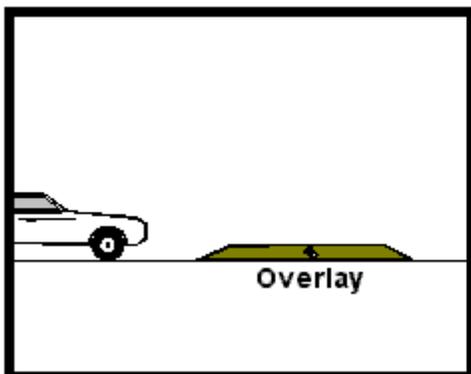


C. Rideability

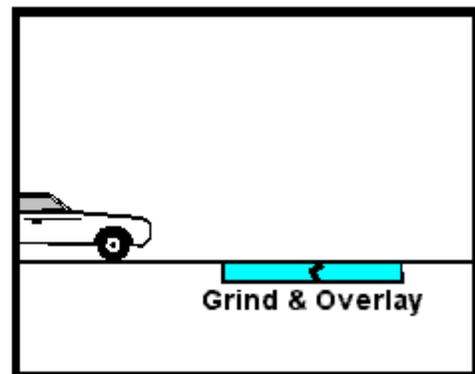
Are the transitions on and off of the repair smooth? Does the patch itself offer a smooth ride? Are the joints located outside of the normal wheel path?

- i. Completed street repairs should have rideability at least as good as, if not better than, the pavement prior to the repairs. A driver may be able to see a street repair, but in the case of a quality repair, he/she should not be able to "feel" it in driving normally down the street.
- ii. Do not place overlays with feathered edges on streets of any classification. Overlays should be placed by first removing the existing pavement to the desired depth by grinding, and then placing the pavement flush with the adjacent surfaces.

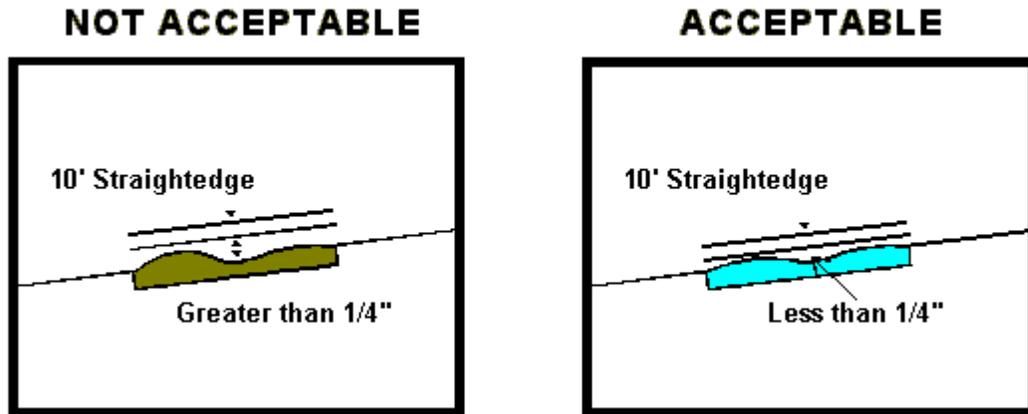
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ACCEPTABLE



- iii. Surface tolerances for street repairs should meet the standard for new construction. That is, the finished surface of the street repair, when tested with a ten (10) foot straightedge parallel to the centerline or perpendicular across joints, will show variations measured from the testing face of the straightedge to the surface of the street repair which do not exceed one-quarter (1/4) inch.

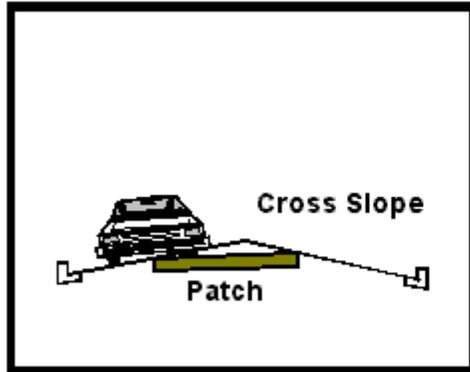


D. Pavement Management

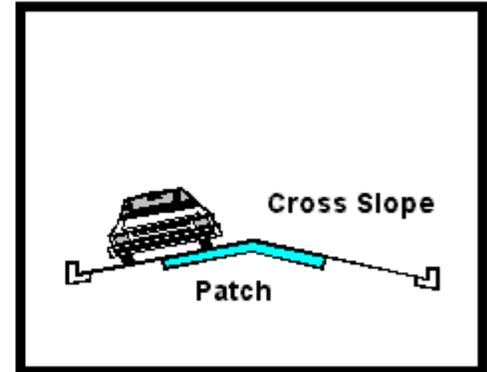
Is the repair consistent with the long-term pavement management strategy for the particular street?

- i. Street repairs should leave a pavement in a condition at least as good as, if not better than, the condition prior to the repairs.
- ii. In most cases, and particularly in the cases of extensive excavation and repairs, it is desirable to survey the existing pavement condition with a representative of the County prior to the work. After completion of the work, survey the pavement condition again to verify that the pavement condition has been maintained or improved.
 - 1. In the case of minor repairs, these pavement surveys can be made by visual observation.
 - 2. However, in the case of major projects that involve excessive haul of materials or unusually heavy construction equipment or activity, non-destructive testing of the pavement condition before and after construction is required.
 - 3. Patches should have a smooth longitudinal grade consistent with the existing roadway. Patches should also have a cross slope or cross section consistent with the design of the existing roadway.

NOT ACCEPTABLE



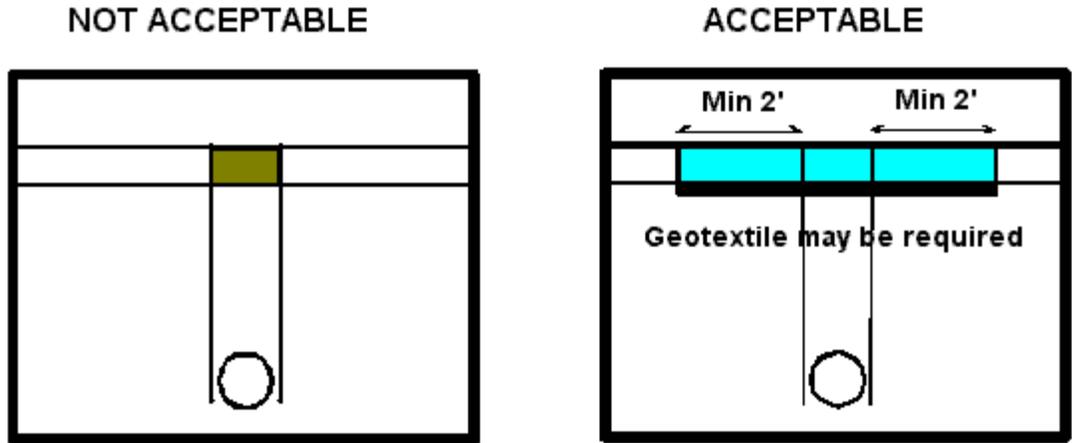
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E. Future Maintenance

Will the repair pose any future maintenance problems or make future maintenance more difficult?

- i. Excavations and street repairs, even well constructed street repairs, shorten a pavement's life. Several types of street distress, settlement, alligator cracking, and potholes, often show up around patches.
 - ii. Quality street repairs should attempt to reduce the occurrence of these types of distress.
 - iii. Avoid weakening or destroying the existing pavement around an excavation with heavy construction equipment, stockpiling or delivery of materials, etc. When damage does occur, remove the damaged pavement, extending the limits of the street repair, before replacing the pavement. Remember, no stockpiling of backfill or road building materials is permitted on the pavement.
-
1. In the case of older pavement where the likelihood of cracking and potholes next to the patch is greater, it may be necessary to extend the "shoulders" of the pavement beyond the two-foot minimum, and reinforce this area with a geotextile. "T" cutting is required for all repairs.



2. For patches in asphalt, a tack coat shall be applied to all edges of the existing asphalt before placing the new pavement. After placing the new asphalt, all seams (joints) between the new and existing pavements shall be sealed with an asphalt tack coat or rubberized crack seal material.

5. TESTING

A. Description

The Contractor is required to provide material testing for each phase of the work and at no cost to the County. The Independent Geotechnical Testing Firm chosen to perform this work for the Contractor must be qualified and identified on the Permit application.

B. Testing Frequencies

- i. The number of density tests required may be increased or decreased if directed by the Engineering Department. The costs of any testing, as required, shall be borne by the Contractor. Proctors shall be determined prior to backfilling. Independent lab results shall be faxed to the County as soon as possible. The horizontal frequencies of density tests are as follows:
 1. Utility Mains - One test per 100 linear feet per lift.
 2. Service Lines - One test per each service per lift.
 3. Manholes and valve boxes per each lift.

- ii. Following are the minimum number of tests required for each construction activity. These tests must be submitted to the Engineering Department on a daily basis as acquired and shall be hand delivered or faxed to the County.
 - 1. Native or imported backfill - One (1) test for every two (2) vertical feet and every one hundred (100) feet horizontally, or some fraction thereof with at least one (1) test per each lift.
 - 2. Flowable-fill - Testing may be required at the discretion of the Engineering Department.
 - 3. Concrete pavement, curbs, gutters and sidewalks - Testing to be conducted for every 100 cubic yards or portion thereof, with a minimum of one. The types of testing required shall be as prescribed by each County.
 - 4. Asphalt Pavement
 - a. Asphalt content - One test per 500 tons or fraction thereof of mix produced, minimum of one test per job.
 - b. Gradation - Aggregate: one test per 500 tons or fraction thereof of mix produced, minimum of one test per job.
 - c. In-place density - One test per 500 tons or fraction thereof of mix placed, minimum of one test per job.
 - 5. Aggregate base course materials -One test per 400 lane feet. No less than two (2) tests per excavation.

6. INSPECTION

All construction work within the public rights-of-way shall be subject to inspection by the Engineering Department and certain types of work may have continuous inspection. It shall be the responsibility of the Contractor to provide safe access for the inspector to perform the required inspections.

It shall be the responsibility of the person performing the work authorized by the Permit to notify the Engineering Department or his authorized representatives that such work is ready for inspection. The Engineering Department requires that every request for inspection is to be received at least twenty-four (24) hours before such inspection is desired. Such requests may be in writing or by telephoning or faxing the Engineering Department.

The Engineering Department may make or require other inspections of any work as deemed necessary to ascertain compliance with the provisions of these Guidelines or the Engineering Department's Roadway Standards. Any work performed without the required inspections shall be subject to removal and replacement at the Contractor expense, regardless of the quality of the work.

Where large-scale projects exceed the ability of the Engineering Department to provide inspection, the applicant will incur the cost of a private inspection firm. The Permit applicant and the Engineering Department prior to issuance of the Permit will mutually agree upon this inspection firm. The inspection firm will submit sealed test results and reports in compliance with the Arizona State Board of Technical Registration.

7.Violation

A. Any person, firm or corporation who violates any section of this ordinance shall be punished by a fine or imprisonment, or both, to the limitations applicable to a class 1 misdemeanor.

Appendix A
Permit Application

Appendix B

Fee Schedule