



**DORCHESTER COUNTY
PUBLIC WORKS DEPARTMENT**

Utility Pavement Cut and Repair Guidelines

**January 29, 2024
Revised October 2, 2024**

1. PURPOSE

The purpose of these guidelines is to establish standard procedures to ensure that entities which cut and excavate streets maintained by the Dorchester County (County) have the knowledge, competence and resources needed to perform the type of work which they are permitted to perform. In addition, this document provides guidelines for better coordination and accountability employing less intrusive, more durable, and cost-efficient methods for restoring utility cuts. **PAVEMENT CUTS AND EXACATION FOR UTILITY INSTALLATION ARE NOT ALLOWED UNLESS APPROVED BY THE PUBLIC WORKS DIRECTOR.**

2. OBJECTIVE

To develop effective restoration techniques for utility pavement cuts. Pavement settlement occurring in and around utility cuts in the County is a common problem, resulting in uneven pavement surfaces, annoyance to drivers, and ultimately further maintenance.

3. PERFORMANCE

Utility pavement cut repairs, like other patches that are not done properly reduce the level of service of streets and roadways. Factors influencing the repairs include:

- The pavement material, soil conditions, climate, traffic, and repair techniques.
- Poor construction techniques, such as rocking the jackhammer while cutting the boundary of the patch, can damage the area adjacent to the cut and further degrade the patch and surrounding pavement.
- Pavement cut repairs made with quality materials; sound engineering and construction techniques tend to perform as well as the surrounding pavement.
- Numerous adjacent small repairs that deteriorate ride quality, appearance, and overall performance.

4. REQUIREMENT

No pavement shall be cut unless specifically authorized by the Public Works Director or assignee. When pavement cuts are approved the following standards must be followed unless stated otherwise. After excavation of pavement cut, ditch is to be completed with flow-able fill or compacted to 95% density in layers not exceeding eight inches (8”), the last eight inches (8”) of fill material shall be suitable aggregate base per SCDOT standard specifications latest edition, or three inches (3”) asphaltic base material. A suitable surface treatment of two inches (2”) of Plant Mix Asphalt shall be placed on surface of said excavation within fourteen (14) days after finishing work.

5. PERMIT APPLICATION AND NON-CONFORMANCE

5.1. Permitting

Any work in the County maintained streets, alleys, or rights-of-way requires an Encroachment Permit from the County. This permit allows the utility company, or a contractor hired by the utility company, or an individual, to conduct the work within the right-of-way (ROW). Approval of the County is required a minimum 48-hours prior to starting the work. Construction drawings

and a site- specific traffic control plan must be submitted with the Encroachment Permit Application. A

plan issued by the County authorizing the work must be always visible on the job site. If the site involves work within the SCDOT right-of-way, an approved SCDOT encroachment permit is also required. The Encroachment Permit Application form and fees can be found at: www.dorchestercountysc.gov.

5.2. Non-Conformance

Failure to comply with applicable permitting requirements would be considered a violation of County Ordinance 04-13, Zoning and Land Development, Ordinance 23-06, Stormwater Management, and the Stormwater Management Design Manual.

Prior to proceeding with the utility cut, the County shall approve the cutting limits and repair procedures and acknowledged by the applicant.

- Inspection requests shall be made to the Public Works Director by the permittee at least two days prior to the inspection.
- For any street closures an approval is required by the Public Works Director.
- Replacement of aggregate base or flow-able fill shall not be performed until the trench is inspected and approved by a representative of the Public Works Director.
- At the completion of the installation of the aggregate base or flow-able fill, Public Works Director shall be requested to inspect the backfill and approved prior to application of the asphalt pavement.
- The work performed shall be free from workmanship defects for a period of one (1) year after date of acceptance by the County.
- Existing pavements, bases, curbs/gutters, and sidewalks shall be cut and brought to a neat line by use of an air hammer, saw or other suitable equipment. Expansion joints removed shall be replaced.
- The minimum width of any cut repairs shall be ten feet.
- All repairs shall have a 2-foot minimum cutback on all sides except the edge of the pavement.
- New utility cuts will be milled and paved to any existing utility cut or damaged pavement within 10-feet. If existing cut or damaged pavement is less than 10-feet in length, the existing cut or damaged pavement shall also be milled and paved.
- Asphalt repair adjacent to curb and gutter along a roadway shall have a full lane width paving.
- Any disturbed pavement markings must be restored to current SCDOT standards.
- Diagonal repairs will be required to be squared off, milled, and paved.
- The permittee shall be responsible for repairing all damage to the street resulting from cutting the pavement and/or excavation of or boring under a street.
- The repairs shall follow these guidelines and the latest edition of the South Carolina Department of Transportation, Standard Specifications for Highway Construction.
- Any traffic control devices which are affected by any work done in the roadway shall be repaired or replaced in compliance with criteria set forth in the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD).

- The permittee shall protect the traveling public by proper warning signs and/or signals both day and night until the street is fully repaired. Warning signs and signals shall be installed by and at the expense of the permittee and in accordance with the street closures.
- Any materials and/or equipment used as the result of utility installation will be removed from through lanes between the hours of 3:30 p.m. and 8:00 a.m. each day, unless otherwise specified by the County.
- Any roadway surface will only be cut and/or excavated as described in the permit.
- The permittee shall maintain the area of the street cut until final acceptance of the work. The permittee shall hold The County, the agencies thereof, and their officers/employees harmless from all loss/damage which may arise out of or relate to the work performed under any permit issued hereunder.
- The permittee shall guarantee to repair or replace any defective work. This guarantee is part of the permittee promise of performance. Under special circumstances, the County may require the permittee to provide a performance bond issued by an acceptable surety company. The permittee guarantee and bond shall continue for a period of three years after the work has been finally accepted by the County.

6. PROTECTION OF THE COUNTY STORMWATER SYSTEM

The permittee shall protect all stormwater system including drainage appurtenances located adjacent to the construction site. The protection measures used shall be designed to prevent the discharge of pollutants to any portion of the stormwater system.

- The permittee shall be responsible for the removal of all construction debris, dirt, trash, rock, sediment, sand, or other pollutants that may accumulate in the stormwater conveyance system and stormwater appurtenances because of construction activities associated with a permit.
- No person shall cause the impediment of stormwater flow in the flow line of the curb and gutter. The permittee shall prevent sediment, debris, and all other pollutants from entering the stormwater system during all phases of construction.
- The cleaning of concrete delivery truck chutes or other equipment is prohibited at the job site.
- The permittee shall protect all stormwater facilities adjacent to any location where pavement cutting operations involving wheel cutting, saw cutting or abrasive water jet cutting are to take place.
- The permittee shall remove and properly dispose of all waste products generated by said cutting operations daily.
- The discharge of any water contaminated by waste products from cutting operations to the storm sewer system is prohibited.
- The discharge to the storm sewer system of water used for flushing off paved surfaces is prohibited unless measures have been taken to remove pollutants from the discharge.

7. CONSTRUCTIBILITY

Replacement of aggregate base or flowable fill shall not be performed until the trench is inspected and approved by a representative of the Public Works Director.

- At the completion of the installation of the aggregate base or flowable fill, the Public Works Director shall be requested to inspect the backfill. After acceptance of the backfill, the asphalt pavement can be applied.
- The work performed shall be free from workmanship defects for a period of one (1) year after date of acceptance by the Public Works Director.
- Existing pavements, bases, curbs/gutters, and sidewalks shall be cut and brought to a neat line by use of an air hammer, saw or other suitable equipment. Expansion joints removed shall be replaced.

8. USE OF TRENCHLESS TECHNOLOGY

Trenchless technology methods may be used where applicable and as approved by the Public Works Director.

- A subsoil investigation shall be performed to properly determine the subsoil conditions and to choose a desirable trenchless method that will not disrupt the integrity or surface elevation within the County ROW. The Public Works Director may require other information or justification on the methods proposed or the permittee ability to perform the work.
- All surface heave or settlement, or related problems caused by the trenchless method, shall be corrected at the expense of the permittee to the satisfaction of the Public Works Director. The methods of concerns include but are not limited to; pushing conduit or reaming and back pulling conduit through pilot bore holes of any size. Any annular region or other cavity remaining between the subgrade and the conduit or utility shall be pressure grouted to the satisfaction of the Public Works Director, prior to backfilling the bore pits.
- All drilling fluids shall be removed and disposed of properly. All entrance and exit bore pits and other areas used shall be cleaned of all objectionable material and properly backfilled according to industry standards. All such reclaimed areas shall be restored to original contour, condition, shape, and use.

9. USE OF STEEL PLATES

When backfill operations of an excavation in the traveled way, whether transverse or longitudinal, cannot be properly completed within a workday, steel plate bridging will be required to preserve unobstructed traffic flow in the County roadway. In such instances Public Works Director shall approve location and placement of the steel plate.

10. UTILITY CUT REPAIR AT INTERSECTIONS

The following figures show the acceptable methods for making utility cut repairs in roadway intersections.

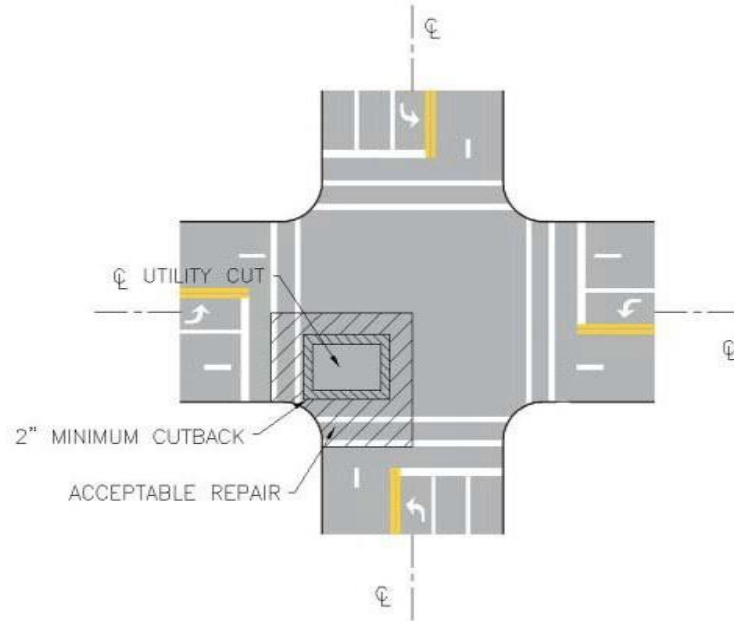


Figure 1: Utility contained in one quarter of intersection.

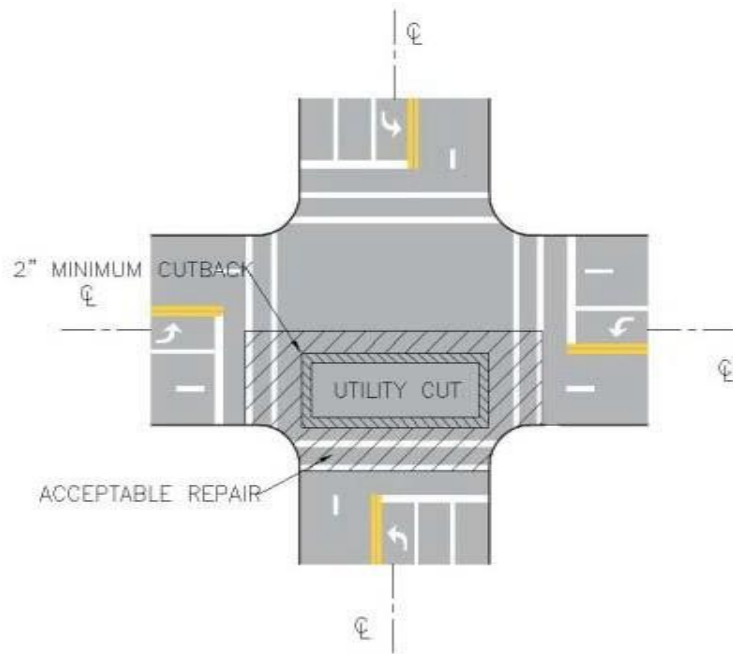


Figure 2: Utility cut contained in one half of intersection.

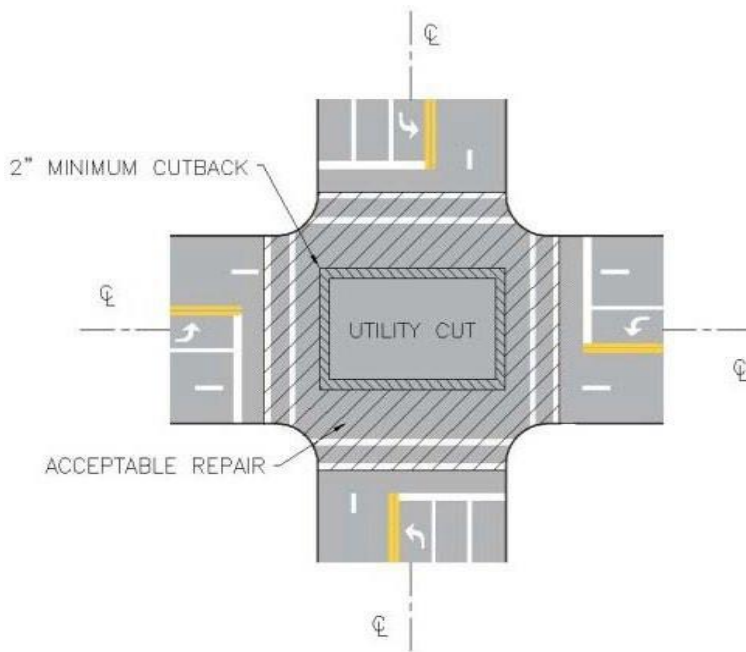


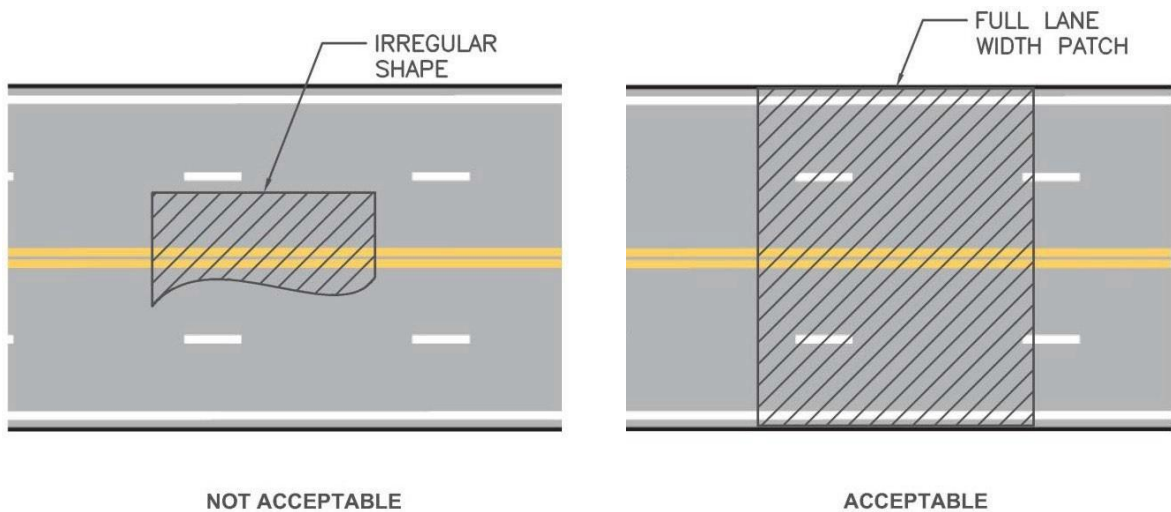
FIGURE 3: Utility cut contained more than one half of intersection.

11. REPAIR EXAMPLES

Some examples of repair methods that are not acceptable and the corresponding acceptable method are provided in the following figures:

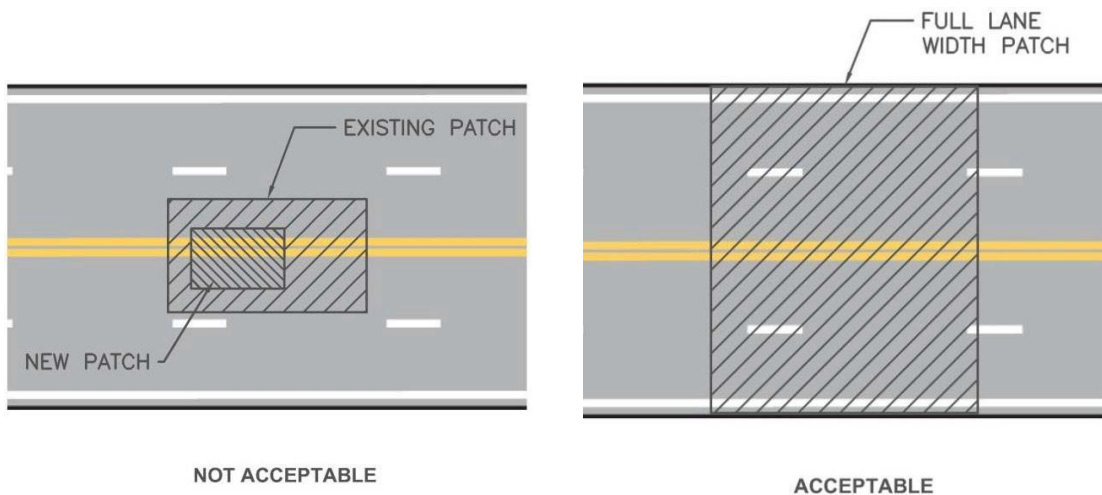
Example 1

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. All repairs should be full lane width.



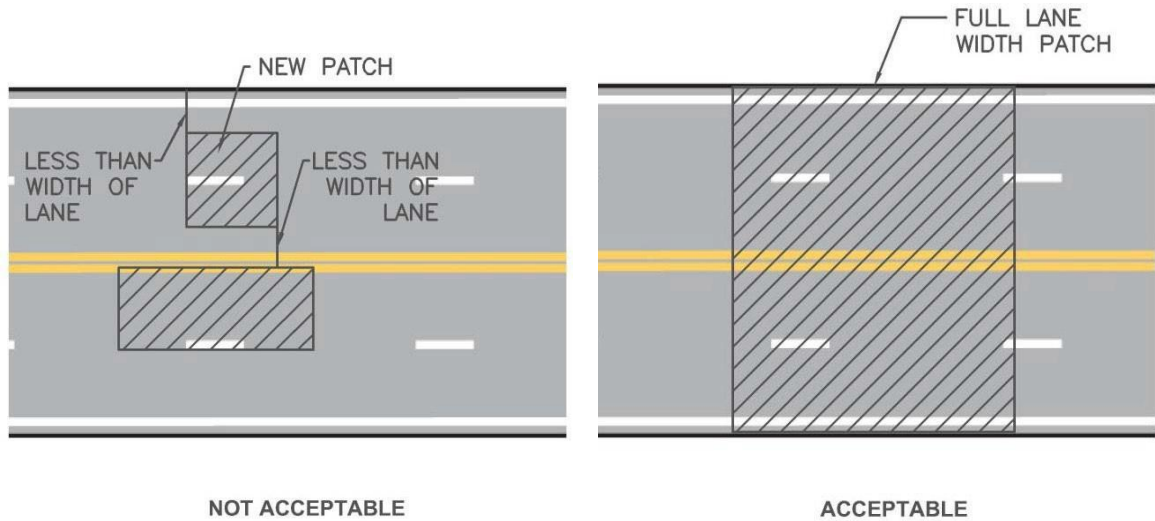
Example 2

Avoid patches within existing patches. If this cannot be avoided, make the boundaries of the patches coincide. All repairs should be full lane width.



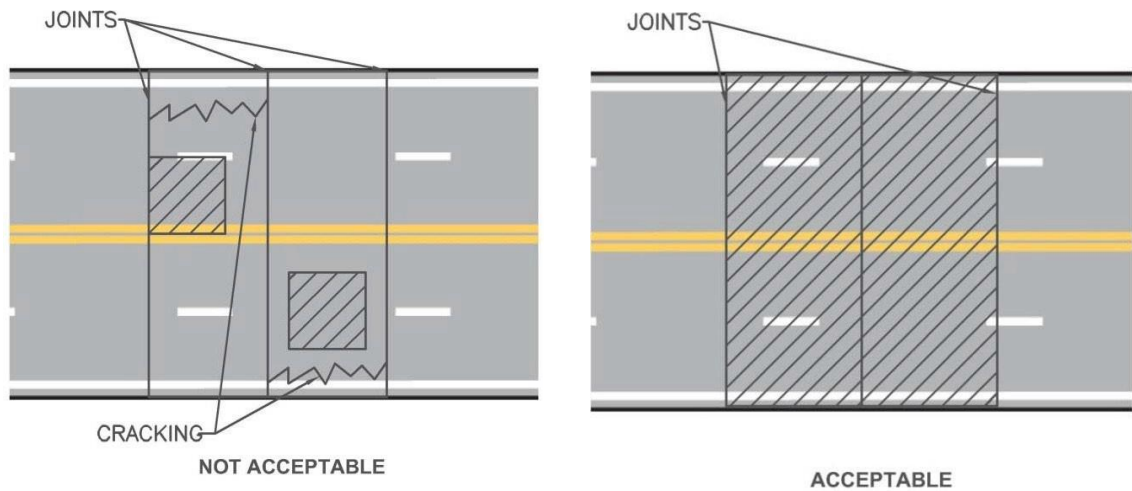
Example 3

Do not leave strips of pavement less than one-half lane in width from the edge of the new patch to the edge of an existing patch or the lip of the gutter.



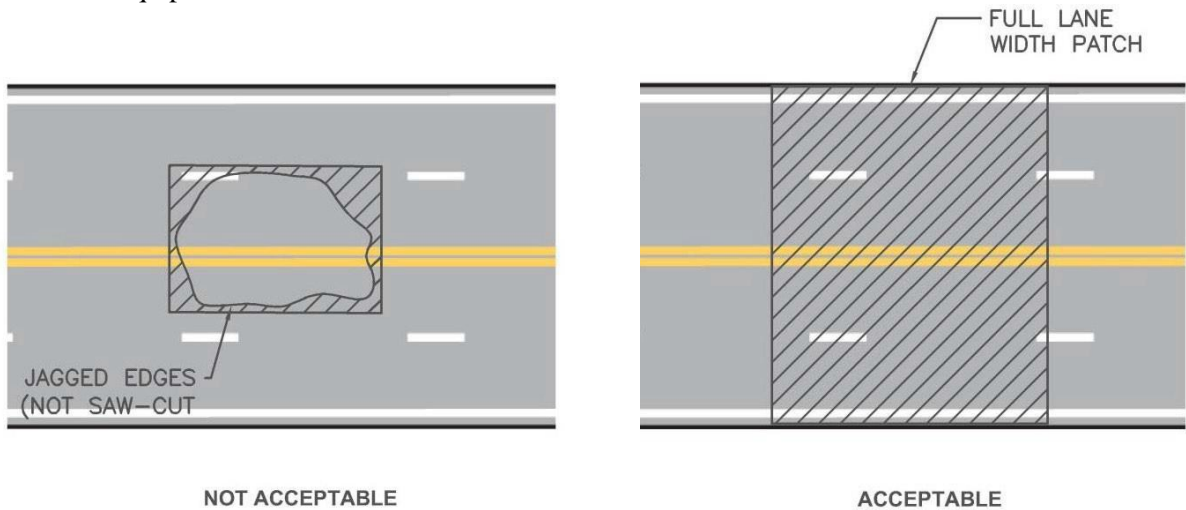
Example 4

In concrete pavements, remove sections to existing joints, or new saw cut joints at mid-slab, that is in good repair. In damaged concrete, the limits of removal should be determined in the field by a representative of the Public Works Director.



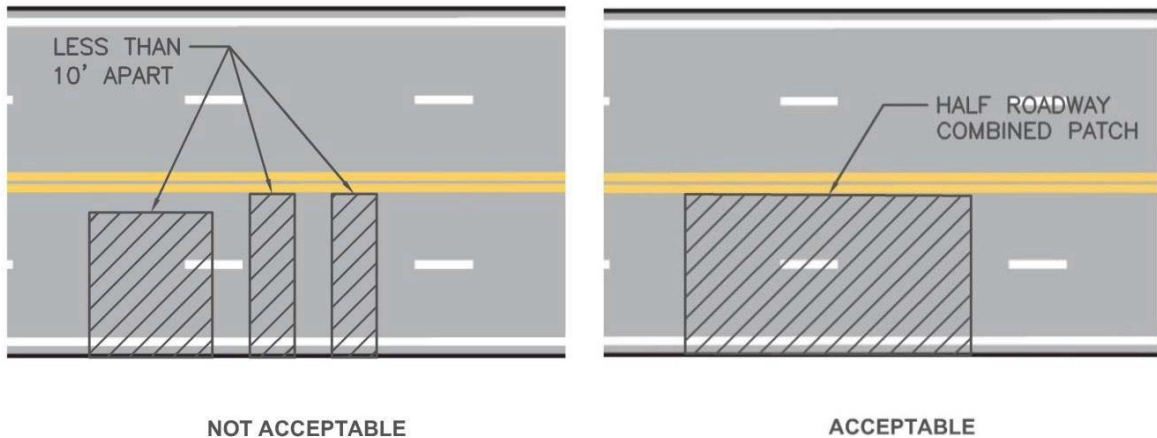
Example 5

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.



Example 6

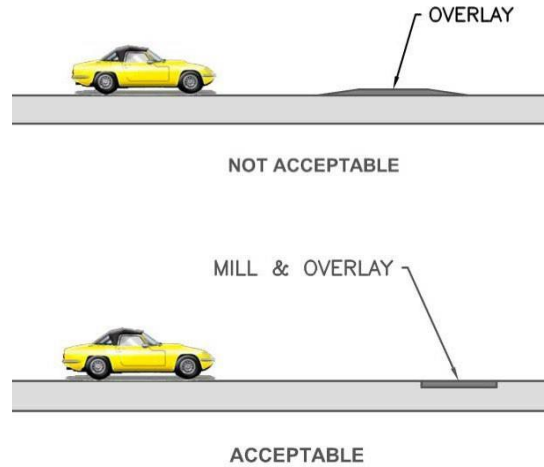
In the case of a series of patches or patches for service lines off a main trench, repair the pavement over the patches by grinding and overlay when the spacing between the patches is less than 10 feet.



Example 7

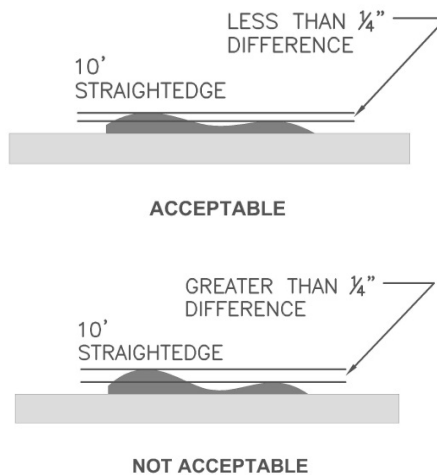
Completed street repairs should have rideability at least as good as, if not better than, the pavement prior to the repairs. A driver may be able to see a street repair, but in the case of a quality repair, should not be able to "feel" it in normal driving. A patch should provide a smooth ride with smooth transitions on and off the repair and all joints should be located outside the

wheel path. Overlays should be placed by first removing the existing pavement to the desired depth by grinding or milling, and then placing the pavement flush with the adjacent surfaces. Overlays with feathered edges are not acceptable.



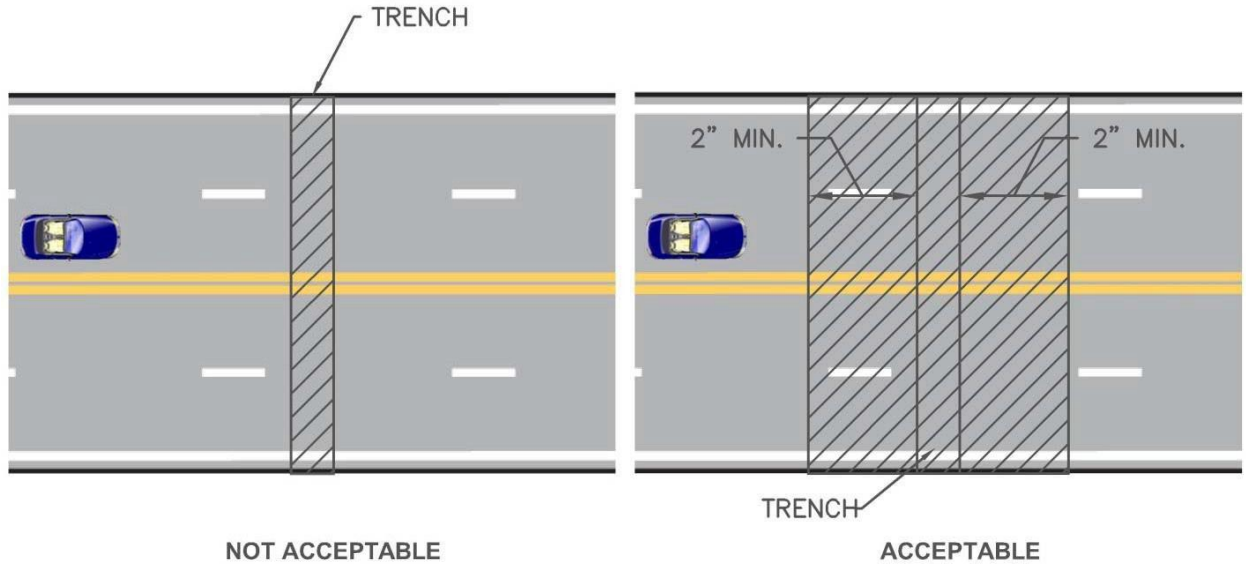
Example 8

Surface tolerances for street repairs should meet the standard for new construction. The finished surface of the street repair should be tested with a 10-foot straightedge parallel to the centerline or perpendicular across joints. Variations measured from the testing face of the straightedge to the surface of the street repair should not exceed $\frac{1}{4}$ inch.



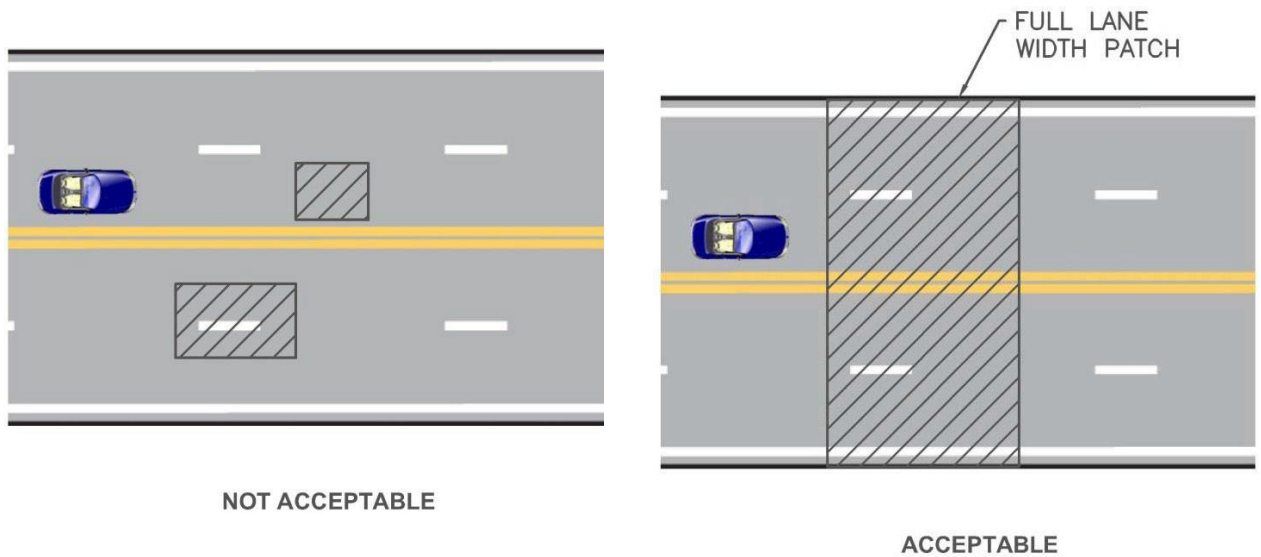
Example 9

Transverse patches on arterial and collector streets shall be overlaid across the entire street width for two 2 feet minimum on all sides of the trench using The County's typical utility ROW cut detail (T-Patch) shown at the end of these guidelines.



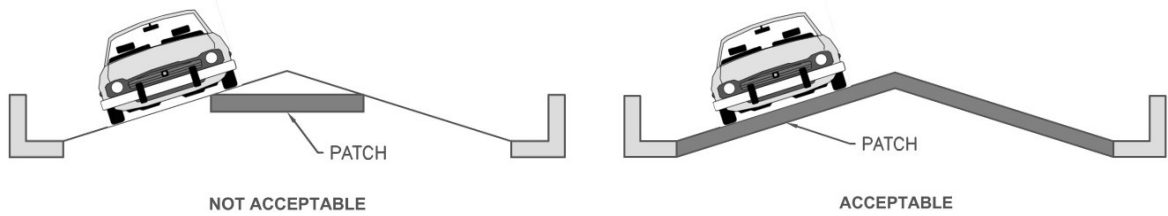
Example 10

Do not allow the edges of patches to fall in existing wheel paths. The edges of patches parallel to the direction of traffic shall be limited to the boundaries of lanes or to the centerline of travel.



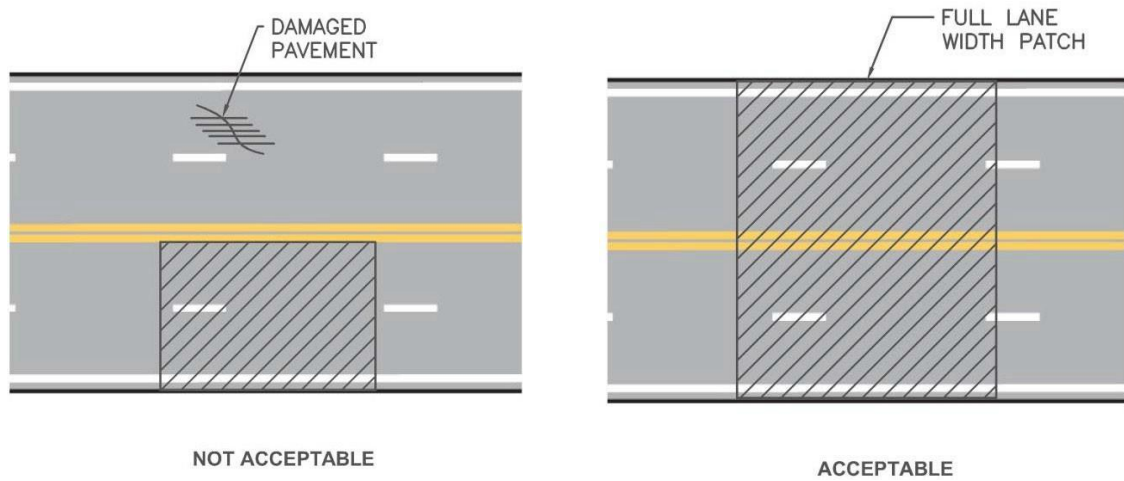
Example 11

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.

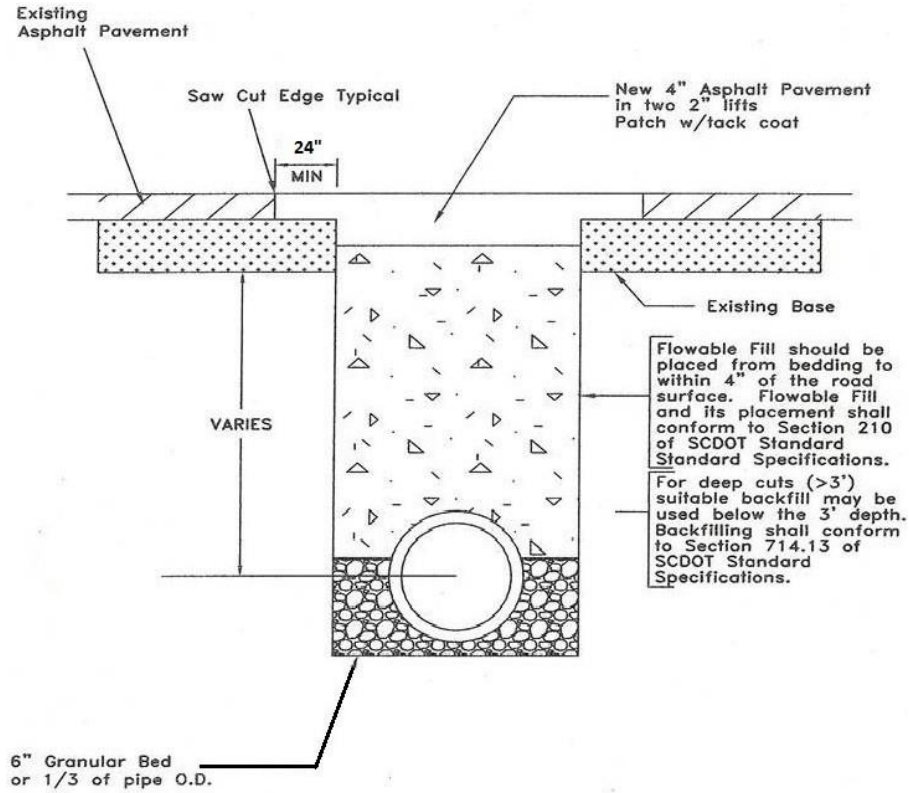


Example 12

When the proposed excavation falls within 10 feet of a section of pavement damaged during the utility repair, the failed area shall be removed to sound pavement and patched. Scarring, gouging, or other damaged pavement adjacent to a patch shall be removed and the pavement repaired to the satisfaction of the Public Works Director.



Typical Utility ROW Cut Detail (T-Patch)



NOTE: PRIOR TO PLACING THE ASPHALT PATCH THE EXISTING PAVEMENT MUST BE SAW CUT NEATLY AT A MINIMUM OF 24" BEYOND THE DISTURBANCE CAUSED BY TRENCHING.

TYPICAL UTILITY ROW CUT

References

- The City of Charleston, Department of Public Service. (2014, October 31, 2014) *The City of Charleston Department of Public Service – Engineering Division Utility Pavement Cut and Repair Guidelines*. Retrieved January 29, 2024, from City of Charleston: <http://www.charleston-sc.gov/DocumentCenter>
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