

CITY OF OREGON CITY
PUBLIC WORKS
PAVEMENT CUT STANDARD

RESOLUTION NO. 12-29

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PREPARED BY

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CITY OF OREGON CITY PUBLIC WORKS PAVEMENT CUT STANDARD

INTRODUCTION

Pavement cuts are a necessary operation and cannot be avoided. Utilities need to serve new customers and repair existing facilities. There is a common good for all utilities to be placed in the public right-of-way. All parties shall strive to reduce the burden to the taxpayer/ratepayer, and damage to the roadways.

Studies conducted by multiple groups and organizations have determined that poorly restored pavement cuts cause permanent structural and functional damage increasing maintenance costs, future rehabilitation costs and produce a rough ride. If realized, the increased costs and rough ride are a burden for the taxpayer/ratepayer.

The pavement beyond the trench may be weakened by sagging which results from loss of lateral support. Heavy construction traffic also weakens the area adjacent to the trench. Studies have shown that the pavement life may be reduced by pavement cuts. Poorly constructed patches tend not to last through the life of the existing road and fail prematurely when there is a lack of good construction techniques used when backfilling and compacting. This causes an additional burden to maintenance departments and taxpayers/ratepayers. A poorly constructed pavement cut usually requires repair before the road needs to be resurfaced. Studies also reveal that patch areas probably require thicker overlays compared to the rest of the pavement in the area. This also results in higher costs to the taxpayer/ratepayer.

PURPOSE

The purpose of this standard is to establish a uniform approach to pavement cuts and street repair applicable to utilities and other contractors working in the public rights-of-way. The goal of this standard is to provide long lasting pavement repairs at the least possible overall cost to both utilities and taxpayers/ratepayers.

APPLICABLE STANDARDS AND SCOPE

This document supplements the Oregon City design and construction standards/drawings. All work and materials shall conform to the applicable Oregon Standard Specifications for Construction published by the Oregon Department of Transportation and modified by the City of Oregon City. This Pavement Cut Standard document pertains to the base aggregate, and asphalt and cement concrete sections for pavement patches only. For trench backfill requirements, see Oregon City Standard Drawing SD (No. 313). Requirements typical for pavement repair work associated with pavement cuts are described below.

DEFINITIONS

City: City of Oregon City.

City Engineer: City Engineer, or designee (Engineers, Inspectors, Project Managers, Field Personnel) representing the City of Oregon City.

Full Depth: Thickness of asphalt from top of asphalt to base aggregate.

Interim Patch: A temporary patch including two inches of hot mixed asphalt concrete (HMAC).

Length of Patch: The patch dimension parallel to the roadway.

New Roadway: Any roadway that has had a qualifying pavement treatment in the permitted excavation location that is less than or equal to three years.

ODOT: Oregon Department of Transportation

Travel Lane: Travel lane location shall be determined based on striping, where present. Where there is no striping, the travel lane width shall be twelve feet from the road centerline. Where the edge of the travel lane width is within four feet from the edge of pavement, the travel lane shall extend to the edge of the pavement.

Length of Patch: The patch dimension parallel to the roadway.

Permanent Patch: The final pavement repair as part of the current permitted job.

Permittees: The utility company or other entity who submits an application for a permit to conduct construction operations in the public right-of-way. The Permittee's contractor will be held to the requirements of the permit.

Qualifying Pavement Treatment: Preventative maintenance treatments such as slurry sealing and microsurfacing along with other rehabilitation methods such as overlays, grind/inlays and reconstruction constitute qualifying treatments that will re-start the tier timelines. Minor street maintenance such as spot repairs and crack sealing will not restart the tier timeline.

Tier: Grouping by age of street with respect to the most recent qualifying pavement treatment. Because the City keeps records of the year, but not exact dates on which pavement treatments are applied, the date of a given qualifying treatment will be assumed to be July 1st of the applicable year.

Travel Lane: Travel lanes shall be established based on striping, where present. Where there is no striping, the travel lane width shall be twelve feet from the road centerline.

The travel lane width shall extend to the edge of pavement if it is within four feet from the edge of pavement.

Width of Patch: The patch dimension perpendicular to the roadway.

PAVEMENT RESTORATION REQUIREMENTS

The City of Oregon City hereby establishes a tiered pavement cut standard system based on the date of the last qualifying pavement treatment applied to a pavement. The standard will be in effect for any City roadway from the time a qualifying pavement treatment was applied. The applicable standards are described below and specific replacement requirements are shown in Oregon City Standard Drawing No. 526, 527, and 528.

1. Moratorium Standard: Pavement cuts will only be allowed on an emergency basis. No planned or permitted cuts will be allowed when this standard applies. If pavement cutting is necessary for emergencies, cuts shall be full depth and extend one foot beyond the nominal trench edge longitudinally and transversely. Two inch minimum thickness grind and inlay paving shall extend the full width of an established travel lane and to the curb line or edge of pavement.
2. Full Standard: Pavement cuts shall be full depth and extend one foot beyond the nominal trench edge longitudinally and transversely. Two inch minimum thickness grind and inlay paving shall extend the full width of an established travel lane. There shall be no gaps that are less than four feet from the edge of pavement.
3. Modified Standard: Pavement cuts shall be full depth and extend one foot beyond the nominal trench edge longitudinally and transversely. Two inch minimum thickness grind and inlay paving shall extend beyond the wheel path to the middle of the travel lane. There shall be no gaps that are less than four feet from the edge of pavement.
4. T-Cut Standard: Pavement cuts shall be full depth and extend 1-foot beyond the nominal trench edge longitudinally and transversely.

Applicable standards based on Tier (number of years since last qualifying pavement treatment) and City Street Classification is established in the following table:

TABLE 1- RESTORATION REQUIREMENTS BY CLASSIFICATION AND TIER

Street Classification	Tier 1 (≤ 3 years)	Tier 2 (3-6 years)	Tier 3 (> 6 years)
Arterial Streets	Moratorium Standard	Full Standard	Full Standard
Collector Streets	Moratorium Standard	Full Standard	Modified Standard
Local Streets	Moratorium Standard	Full Standard	T-Cut Standard

Note: Proposals to deviate from the standards described above will require approval in advance by the City Engineer. See exemption process described below. During the permit review process, the City Engineer will determine the applicable standard based on the above table.

PERMITS

1. As part of obtaining a Right-of-Way permit per OCMC 12.04, Permittee shall provide the proposed street cut information as requested by the Public Works department. A street cut form will be provided by the City. The City Engineer will determine the restoration requirements in accordance with this Standard. The Permittee shall provide the City Engineer 24 hours notice prior to completing final restoration to allow for inspection.
2. If the City Engineer determines, in his / her discretion, that previous violations of these Standards exist, future construction work may be disallowed until the Permittee has fulfilled all obligations. Written notification by the City Engineer will be sent prior to this action.
3. The Permittee shall notify the City Engineer of existing problems with the adjacent roadway to a proposed patch. Every effort will be made to leverage both utility and City dollars for street improvements.

RESPONSIBLE PARTY

The Permittee shall be responsible for all construction and warranty requirements of this standard even when the work is done by a Permittee retained contractor.

GENERAL REQUIREMENTS

1. Materials:
 - a. All patching materials and construction requirements not addressed in this document shall conform to the City's Standards.
 - b. Level 2, ½ inch Dense PG 64-22 HMA shall be used for all permanent asphalt restoration.
2. Patching:
 - a. Longitudinal cuts that extend through multiple tier classifications require discussion with the City Engineer to determine the appropriate patching approach. In principle, each road section will be patched according to the applicable standard and tier in which it is ranked; however the City retains the right to require higher level tier at its discretion.
 - b. For all full depth asphalt repairs, the minimum asphalt thickness shall be four inches thick, or match the existing depth of asphalt, whichever is greater.

- c. All HMAC lifts shall be compacted to 92% of the maximum theoretical density per AASHTO T-209 (Rice Density).
 - d. Existing base rock disturbed within full depth asphalt repairs shall be re-compacted prior to paving. For trench backfill requirements, see Oregon City Standard Drawings (No. 313).
 - e. All cold-planed surfaces shall be swept and kept clean at all times. All cold-planed materials shall be removed and disposed off-site at the cost of the Permittee.
 - f. If a patch exceeds seventy percent of an existing patch, the entire existing patch shall be replaced.
 - g. The minimum dimension of the patch parallel to the road shall be eight feet. If any part of the excavation, patch or damaged area intrudes into an adjacent lane, that lane shall also be replaced in accordance with the tiered chart and Oregon City standard drawings.
 - h. New patches adjacent to any existing patch shall be extended to the existing patch line where possible. If patch lines cannot be combined, a minimum gap of four feet shall be provided between patches.
 - i. When two or more patches on the same project are created within fifteen feet of each other, they shall be incorporated into a single patch at the expense of the Permittee. Anytime more than two patches are required within a 350-foot longitudinal area, the Permittee shall notify the City Engineer to determine if cost sharing is an option to expand the pavement repair/replacement area.
 - j. Pavement cuts shall be straight, clean and parallel/perpendicular pavement cuts with respect to the roadway will be allowed. No jagged, broken or undermined edges will be allowed.
 - k. All pavement overcuts shall be sealed using an ODOT approved edge sealing tack material and clean sand blanket.
 - l. The top lift of asphalt for all repairs with a length that exceeds twenty feet and width that exceeds eight feet shall be placed using a paving machine with a screed or an asphalt spreader box.
 - m. The completed surface of all courses shall be of uniform texture; smooth, uniform as to crown and grade and free from defects. The completed surface of the wearing course shall not vary more than 1/4 inch from the lower edge of a ten foot straightedge placed parallel to the centerline. Tolerance exceptions and corrective measures due to existing roadway conditions or other reasons must be approved by the City Engineer.
 - n. All areas outside of the travel lanes or shoulders that are affected by the work shall be restored to their original condition.
3. Traffic Control:
- a. Permittee shall follow the Oregon Temporary Traffic Control Handbook and erect and maintain traffic control per the most recent edition of the Manual of Uniform Traffic Control Devices (MUTCD) and Oregon State modification to the MUTCD. The Permittee shall submit a traffic control plan for review and approval by the City.

- b. All existing traffic control markings will be replaced as soon as possible after permanent paving is completed.
 - c. Temporary markings for lane lines and stop lines shall be in place prior to the roadway opening for traffic.
 - d. All remaining temporary striping will be completed within seven days of new pavement completion and shall be maintained by Permittee until permanently restored.
4. Emergency Repairs: The City will allow a Permittee to make emergency repairs provided a more reasonable alternative does not exist. Permittee shall make every reasonable effort to restore the roadway quickly. Permittee shall notify the City Engineer of emergency repairs not later than the next business day.

SPECIAL REQUIREMENTS FOR CHIP SEAL AND CONCRETE ROADS

1. Chip sealed roads shall be rehabilitated according to construction requirements for asphalt roads as outlined in this document.
2. All concrete road cuts shall be pre-approved before beginning work (except in the case of an emergency situation). Concrete roads shall require full panel replacement unless approved otherwise by the City Engineer. All concrete joints shall require an approved tie bar and dowel retrofit. Depth of concrete replacement shall match the existing thickness or shall be in accordance with City Standards whichever is greater. Care shall be made not to undermine the existing panels. If the adjacent panels are disturbed or damaged, they also shall be replaced at the discretion of the City Engineer. All joints shall be sealed with an approved material. Where concrete roads are overlaid with asphalt, the concrete shall be replaced as described above and asphalt portion of the cut shall be constructed according to the pavement standard.

EXCEPTIONS

This section identifies exceptions to the pavement restoration requirements for the activities listed below. The general and special restoration requirements shall still apply.

1. Valve and manhole repairs shall be exempt from the patching requirements of this standard. Valve and manhole patching requirements shall be in accordance with City Standards. All warranty and construction requirements shall be met. No longitudinal construction joints shall be allowed in the wheel path.
2. Potholing to find utilities shall be exempt from patching requirements of this standard. To be exempt, cuts shall be less than two-foot square with no longitudinal joints in the wheel path and shall be backfilled with controlled density or other approved fill from six inches above the utility to six inches below bottom of asphalt. Round cuts are preferred.

NEW DEVELOPMENT

This standard is a minimum standard applicable to all cuts made in existing roadways. For new development, additional requirements may apply. Contact the Public Works Department Development Services Division for specific additional requirements.

TEMPORARY PAVEMENT RESTORATION

Pavement shall be restored with temporary patches before the road is reopened to traffic as defined below. The Permittee shall maintain the temporary patch until the patch has been permanently restored. Gravel surfacing is not acceptable as a temporary patch.

1. **Immediate Patch:** An immediate patch may be used to open the roadway to traffic. Immediate patches may include the use of steel plates with signs or be a minimum of two-inch thick cold mix asphalt on two inches thick crushed surfacing. Immediate patches will only be allowed while work is being completed and shall be replaced with an interim or permanent patch within days after placement. Steel plates shall be pinned and ramped with cold mix asphalt.
2. **Interim Patch:** When a permanent patch cannot be completed within days of an immediate patch, an interim patch shall be used to keep the roadway open to traffic. Interim patches shall be a minimum of two-inch thick HMAC on 2-inch thick crushed surfacing. Interim patches shall be replaced with a final patch within 30 days after placement.

TESTING & WARRANTY REQUIREMENTS

1. Asphalt density testing to meet 92% maximum theoretical density per AASHTO T-209 (Rice Density) shall be performed by the Permittee. A minimum of one density test shall be formed for each patch. For patches longer than 300 feet in length, at least one test shall be completed per every 300 linear feet.
2. Base rock density testing within the trench limits to meet 95% maximum dry density per AASHTO T-180 shall be performed by the Permittee prior to paving. A minimum of one density test shall be formed at top of rock for each patch prior to paving. For patches longer than 300 feet in length, at least one test shall be completed at the top of rock per every 300 linear feet.
3. Pavement restoration on roadways under all pavement cut standards will have a warranty period of two years. The patch shall be repaired if necessary until the warranty has passed.
4. All warranties will become void if the road receives a qualifying pavement treatment within the patching limits.

5. For road cuts performed by a Permittee using its internal capability, that Permittee or assignee will be responsible for repairs required during the warranty period.
6. All warranty work requires that a City inspector be on site. The Permittee shall be required to coordinate inspection with the City Engineer.
7. The following defects identified by the City Engineer shall be covered by warranty:
 - a. Sunken pavement patches greater than or equal to one-quarter inch (measured by a ten-foot straight edge).
 - b. Surface raveling or oxidation due to deficiencies with the asphalt material.
 - c. Poor workmanship.
 - d. Inadequate compaction per City standards.
8. Notice of Repairs
 - a. If emergency repairs are needed due to safety concerns, the Permittee shall immediately upon contact make such repairs from time of verbal notice by the City Engineer. Such notice shall be reduced to writing and transmitted to the Permittee within two business days.
 - b. For non-emergency repairs on arterial or collector streets, the Permittee shall have forty-eight hours in which to make such repairs from time of verbal notice by the City Engineer. For residential streets, the Permittee shall have up to seven days to make such repairs.
 - c. The City Engineer may provide for repairs not completed within the specified timeframes above. The City Engineer shall give notice of noncompliance to the Permittee within two business days. Repairs involving public safety may be made without notice. Permittee will be assessed all costs associated with the repairs. The costs shall be based on actual costs or the average bid items for comparable projects for the year preceding, plus fifteen percent overhead fees. If repairs are made other than seam sealing to the warranted patch, a new warranty will be implemented for the new patch.

COMPLIANCE

1. As part of the notice of noncompliance, the City Engineer will include a notice to comply within five working days or all future permits may be denied until the problems have been corrected. A meeting shall be arranged with the City Engineer and a plan of action to prevent future noncompliance shall be presented before issuance of any new permits.
2. An appeal can be applied for in writing to the City Engineer.
3. Noncompliance Activities include:
 - a. Failure to take out a permit.
 - b. Failure to maintain temporary patches.
 - c. Failure to make permanent repairs.

- d. Failure to make emergency repairs.
- e. Failure to make warranty repairs.
- f. Failure to inform the City Engineer of asphalt completion date.
- g. Failure to follow traffic control measures, as required.

EXEMPTIONS

- a. General. A waiver or exemption from the moratorium standards restoration requirements may be granted if the City Engineer determines that impacts to vehicle, bicycle, and/or pedestrian traffic would negate the public benefit of this standard.
- b. Capital Improvement Areas. A waiver of the moratorium and full standards restoration requirements may be granted for cutting within roads that are identified within the Oregon City Capital Improvement Plan for resurfacing in that year pursuant to the waiver request provisions below.
- c. City Owned Projects. City projects will be subject to testing and warranty requirements that are established under the applicable public procurement contracts and are exempt from the testing and warranty requirements of this Standard.
- c. Waiver Request. Permittees may seek a waiver of certain Standard requirements as follows:
 - 1. Permittee shall submit a waiver request to the City Engineer identifying the proposed project, the impact the project will have on the roadway, the timeline for completion and explaining how all alternative solutions including avoidance have been exhausted.
 - 2. A meeting with the City Engineer to discuss the project may be required and additional information may be requested from the City.
 - 3. The City Engineer may attach conditions of approval when granting a waiver that may require additional restoration of the area affected and/or special inspections, the cost of which shall be borne by the Permittee.