

SEATTLE DEPARTMENT OF TRANSPORTATION

DRAFT

DIRECTOR'S RULE

2016-01

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1. PURPOSE, AUTHORITY, AND REFERENCES

Pursuant to the Seattle Municipal Code (SMC) Titles 3 and 15, and except as permitted otherwise by other SMC titles, the Seattle Transportation (SDOT) Director ("SDOT Director") adopts the following Rule that provides for uniform opening and restoration of public right-of-way, to ensure the integrity of the pavement infrastructure and other surface right-of-way features.

- 1.1 Purpose:** This Rule, known as the Right-of-Way Opening and Restoration Rule (RWORR), describes the requirements that permittees, contractors, and City crews shall meet when making or restoring openings within the right-of-way.
- 1.2 Administration, Interpretation, and Enforcement:** SDOT Street Use Division ("Street Use") administers, interprets and enforces the RWORR under the authority of the SDOT Director.
- 1.3 Permit for Street Opening:** A permit shall be obtained before any use or opening of the right-of-way. In order to obtain a permit, Street Use requires, at a minimum, a complete set of application materials. The permit application materials shall be approved before a permit is issued and work can begin. Contact Street Use for the specific requirements based on type and extent of work.
- 1.4 Appeals:** Restoration requirements for all permits shall be provided to the permittee in writing. A permittee may appeal an SDOT decision applying the RWORR within ten business days of receiving notice of the decision that is to be reviewed. SDOT will issue the decision in writing to the person making the request within five business days of receiving the request.

The permittee shall submit the written notice of appeal to the SDOT Operations Manager for Street Use. The notice of appeal shall identify the SDOT decision being appealed, and include any documentation in support of the appeal that the permittee wishes to submit.

If the appeal entails a dispute about the extent to which the permittee is required to repair the street, based upon pre-existing street conditions or other factors, the permittee shall provide documentation regarding the pre-existing condition or factors. Visual documentation shall be provided, by video or photographs.

SDOT will endeavor to issue a written decision in response to the appeal within five business days of receipt of the notice of appeal. If the permittee submits additional documentation after it submits the notice of appeal, SDOT will endeavor to issue its decision within five business days after the additional documentation is received. The decision may be transmitted by electronic mail (e-mail), and shall be mailed to the permittee.

This appeal procedure is in addition to any other appeal procedures that may be available, including those in SMC Sections 15.04.112 and SMC 15.44.140, The City of Seattle Standard Plans and Specifications for Road, Bridge, and Municipal Construction, and the

City of Seattle Right-of-Way Improvement Manual (ROWIM). A permittee need not pursue multiple appeals, and shall have exhausted its administrative remedies if it brings an appeal pursuant to this Rule or pursuant to any other applicable appeal procedures in the City's Code or SDOT administrative rules.

1.5 References: This Rule incorporates by reference as if fully stated in this Rule the following documents, in the edition or version current on the effective date of this Rule, and as hereafter amended:

- 1.5.1 Seattle Municipal Code (SMC) Chapters 15.26, 15.32, and 21.16.
- 1.5.2 City of Seattle Standard Plans and Standard Specifications for Road, Bridge, and Municipal Construction, referred to herein as the "Standard Plans" and "Standard Specifications."
- 1.5.3 The City of Seattle Traffic Control Manual for In-Street Work. References and interprets the City of Seattle Traffic Code (SMC Chapter 11)
- 1.5.4 The City of Seattle Right-of-Way Improvements Manual (ROWIM). Authorized by SMC 3.06.040 and 3.12.020.
- 1.5.5 Seattle Department of Planning and Development and Seattle Public Utilities joint Director's Rule 16-2009/2009-004. References and interprets the City's Stormwater Code (SMC 22.800) for technical requirements during construction.

The order of precedence for the various references is as presented above. Future editions of these references may have some different requirements from the editions that were current when this Rule was updated. When such a difference is discovered, the latest requirement in the updated reference takes precedence over the corresponding requirement in this Rule. The prevailing standards at the time of permit issuance or in the case of Capital Projects, bid advertisement date, shall be in effect.

2. DEFINITIONS

The following terms, phrases and words shall have the meaning given below.

Alley	A roadway not designed for general travel and primarily used as a means of access to the rear of residences and business establishments.
Areaway	A space below the level of the surface of the street or sidewalk covered or uncovered, affording room, access, or light to a building.
Arterial	Every street, or portion thereof, designated as such in Exhibit 11.18.010 of the Traffic Code.

Asphalt Concrete (AC)	A controlled mixture of asphalt binder and aggregate.
Backfill	Material used to fill an excavation, or to support a foundation or roadbed, or both.
Base Course	The rigid or flexible layer of aggregate, oil-treated aggregate, Portland cement concrete, treated soil or soil-aggregate that rests upon the subbase or, if no subbase, upon the subgrade.
Bioretention	A shallow earthen depression or vertical walled open or closed bottom boxes or containers with a designed soil mix and plants adapted to the local climate and soil moisture conditions. Treated water is infiltrated into the underlying soil, or in soils with lower infiltration rates, collected by an underdrain and discharged to the drainage system.
Bituminous Surface Treatment (BST)	Treating existing crushed rock, screened gravel, or bituminous roadway surfaces with liquid asphalt and covering with a mineral aggregate thoroughly cemented to the roadway to obtain a wearing course with good riding and non-skid qualities.
Bus Route	A street upon which scheduled public transit service is maintained, including a turn-around street.
Casting	A metal or concrete frame, lid, cover, or similar surface opening or appurtenance associated with an underground vault, pipe, basin or monument, located in the right-of-way.
Central Business District (CBD)	The portion of the city bounded on the north by Denny Way; on the east by I-5 and Boren Avenue (northerly portion); on the south by South Royal Brougham Way; on the west by Elliott Bay.
Cold Mix Asphalt	An asphalt concrete mixture designed to be placed at ambient temperature without the addition of heat.
Companion Ramp	An ADA curb ramp that is the receiving ADA curb ramp directly across from the one under construction per RCW 35.68.075(3).
Concrete	See "Portland Cement Concrete (PCC)".
Concrete Paving Panel	The contiguous surface bounded by joints in a concrete surface street.

Contractor	An individual, partnership, corporation, firm or joint venture contracting with an owner, permittee or their representative to do work within the street right-of-way.
Controlled Density Fill (CDF)	A prepared mixture consisting of Portland cement, fly ash, sand, water and entrained air used for backfill (reference Standard Specifications, Section 2-10.2(3)).
Curb Ramp	That portion of the sidewalk area which provides a direct connection between the roadway level and the constructed sidewalk level, for the purpose of allowing pedestrians and people with mobility impairments access between the roadway and sidewalk.
Cut	An opening in the right-of-way.
Decorative/Special Pavements	Any surface composed of cobblestones, paving stones, brick, unit pavers, tiles, concrete, or asphalt pavement colored or patterned by additives, proprietary products, or special surface treatments.
Drip-line	An area encircling the base of a tree, the minimum extent of which is delineated by a vertical line extending from the outer limit of a tree's branch tips down to the ground.
Driveway Landing	A depression in a concrete curb and the adjacent road surface that provides vehicular access to adjacent property beyond the street right-of-way.
Emergency	See definition provided in SMC Chapter 10.02.
Environmental Critical Area	An area identified, designated, and mapped by the Seattle Department of Construction and Inspection because of landslide potential, watershed criticality, or other concerns, and to which special rules apply.
Excavation	A person-made cut, cavity, or depression in the earth's surface, formed by earth removal.
Flexible Base	A base constructed of native material, aggregates, or asphalt treated base or equivalent.
Historic Landmark District	Any district designated or created by City ordinance as a Landmark District.

Mineral Aggregate	Rock or gravel or sand or a blend thereof, which may or may not be crushed, screened to size, and blended for use in road, bridge, and municipal infrastructure construction. (See Standard Specifications, Section 9-03.16 for aggregate types.)
Non-Arterials	All streets not designated as arterials. As a rule, non-arterial streets do not have yellow centerline pavement markings. Pavement restoration requirements may differ depending on whether the non-arterial street is residential or industrial/commercial. The Street Use Inspector can determine and clarify the type of street using the Seattle Comprehensive Transportation Program Street Classification Maps (July 1984), or an update.
Oil Mat	Any surface composed of dirt and rock that has had asphalt liquids applied for dust control.
One Call	A centralized telephone number (1-800-424-5555) or 811 connected to a service that provides underground utility locations.
Opening	The removal of street right-of-way surfacing, typically to accommodate excavation and to allow access below the pavement.
Pavement Structure	The combination of subbase, base course, and surface course, as applicable, placed on the subgrade to support and distribute the traffic load.
Permittee or Contractor	An individual, firm, contractor, corporation, company, or other entity authorized by permit, including a contractor hired by one who obtains a permit, to perform opening or restoration in the right-of-way.
Permeable Pavement	A paving system that allows rainfall to infiltrate into the pavement to underlying substrate or aggregate storage reservoir.
Portland Cement Concrete (PCC)	A mixture of Portland cement, aggregate, sand, and water, with or without additives.
Pre-level	Adjustment of the cross-section, elevation, and grade of a road surface before laying down the wearing or top course of pavement.

Preservation	Measures undertaken to maintain or improve the state of the existing right-of-way, in the absence of any additional work.
Reconstruction	The complete removal and replacement of the entire street.
Restoration	Reconstructing an opening in the street right-of-way and its attendant excavated area.
Rigid Base	A base constructed of concrete.
Sidewalk	That area between the curblines or the lateral edge lines of a roadway and the adjacent property, intended for the use of pedestrians or such portion of private property parallel and in proximity to a street or alley and dedicated to use by pedestrians. For the purposes of this subtitle, there is always deemed to be a sidewalk not less than 3 feet in width, whether actually constructed or not, on each side of each street except where there is less than 3 feet between the edge of the roadway and a physical obstruction which prohibits reasonable use by pedestrians. The sidewalk is located where constructed, or if not constructed, adjacent to the property line or as close thereto as can reasonably be used by pedestrians; provided, that no sidewalk shall be deemed to exist on private property unless it is actually constructed.
Shoulders	That portion of the street right-of-way adjacent to an improved driving surface without curbs.
Street Area	That portion of the street right-of-way improved for vehicular travel and use.
Public Right-of-Way	A strip of real property secured and reserved for public transportation purposes.
Subbase	The layers of specified or selected material of designated thickness in a pavement structure immediately above the subgrade and below the base course.
Surface Course	The top layer of the pavement structure designed to accommodate the traffic load and to resist skidding, traffic abrasion, and the disintegrating effects of climate; sometimes called the "wearing course."
"T" Cut	The removal of an asphalt overlay on a rigid base from the edges of a cut for a specified distance (see Standard Plan Nos. 404a and 404b).

Unimproved Street Right-of-Way	The street right-of-way that has not been improved for pedestrian or vehicular travel.
Void	Empty space or gap between the pavement surface and the underlying material, or within the underlying material.
Wearing Course	See "Surface Course."

3. GENERAL PROVISIONS

3.1 Responsibility for and cost of restoration: Anyone making an opening in the street right-of-way under a permit or any other authority is responsible for permanently restoring the street right-of-way according to this Rule. The permittee or contractor shall absorb all costs or reimburse SDOT for costs incurred resulting from maintenance or restoration of street openings under SMC Section 15.32.160.

3.2 Prevention of environmental pollution and preservation of natural resources: The permittee or contractor shall comply with all provisions of federal, state, and local regulations and rules pertaining to preventing environmental pollution and preserving public natural resources. The permittee or contractor shall control surface runoff, erosion and sediment at the construction site, as required by the Seattle Municipal Code (Title 22, Subtitle VIII. - Stormwater Code) and the Standard Specifications, Sections 1-07.5 and 1-07.15. The site and the surrounding area shall be kept clean and free of construction debris or other material, including but not limited to, mud, dust, rock, asphalt and concrete. Waste materials shall be collected and disposed of at an appropriate disposal site. These materials shall be prevented from entering any part of the public sewer and storm drain system, including bioretention facilities and permeable pavement, and any surface waters. For additional guidance, refer to the current version of the City's Construction Stormwater Control Technical Requirements Manual. Additional sampling may be required to ensure proper disposal of waste.

3.3 Underground construction: SDOT may require the permittee or contractor to consider special underground construction methods where difficulties are indicated in removing and restoring special or decorative surface features, adjacent or over areaways, in areas of historic significance, in areas of heavy traffic, or for other reasons. The permittee or contractor may be required to obtain the services of a geotechnical or structural engineer with expertise in underground construction methods.

3.3.1 Marking pavements for opening: Pavement removal street markings made in public places shall be identified by a painted triangle, inside of which shall be placed 4-inch letters. White shall be used for marking proposed openings and the cuts shall be marked before contacting the One Call Utility Notification Center, 1-800-424-5555 (or 811). Identification letters shall be placed adjacent to the street opening or on the face of the nearest curb, in line with the cut. Special care shall be taken when marking decorative streets and sidewalks. The permittee or contractor shall call the One Call Utility Underground Location Center not less than 2 or more than 10 business days before the

scheduled start of any excavation that might affect underground utilities. Calling before you dig ensures that any publicly owned underground facilities shall be marked according to the APWA color code so that you can dig safely. See more at <http://www.callbeforeyoudig.org>

3.4 Holiday season restrictions: No work shall be allowed in the following areas from Thanksgiving Day through January 1 within the Holiday Moratorium area, except under special conditions authorized by the SDOT Director or except emergencies that pose immediate threat of property damage, personal injury, or loss. The Holiday Moratorium area and the waiver request can be found at this link:

<http://www.seattle.gov/transportation/cams/CAM2107.pdf>

3.5 Cleanup, Incidental and Collateral Damage: The street right-of-way, material storage sites, construction staging areas, and all other areas affected by the work shall be left neat and presentable, and shall be fully restored as necessary according to this Rule, and as required by Standard Specifications, Sections 1-04.11 and 1-07.13. Costs associated with site cleanup and restoration are integral to the project. If SDOT incurs any cleanup costs, these costs shall be billed to the permittee or contractor. Moreover, except as provided in Revised Code of Washington (RCW) 19.122.030, any damage or destruction to existing public or private facilities done during the course of work shall be restored at the permittee or contractor's expense. This includes restoring all traffic devices and pavement markings. The SDOT Director shall determine the extent of damage and shall order the extent and type of restoration, except as provided in RCW 19.122.030.

3.6 Liability for Damages and for Maintaining a Street Restoration: The permittee or contractor is liable for incidental damages caused by construction, whether or not the damages have been discovered at the time of construction. Reference Standard Specification Section 1-07.13. When SDOT performs the restoration, the permittee or contractor remains liable for damages associated with their construction, but is no longer liable for maintaining the restoration. When the permittee or contractor performs the restoration, the permittee or contractor remains liable for maintaining the restoration for 5 years following restoration completion.

3.7 Alternate Methods: SDOT encourages innovative techniques and new technologies in removing and restoring street and sidewalk pavements. SDOT may on a case-by-case basis, waive certain specific requirements of this Rule, when such action would effectively advance a new technology or state of knowledge. The burden of testing or otherwise demonstrating that a new technique is likely to be effective rests with the permittee or contractor. The permittee or contractor shall provide adequate documentation in advance that the alternate method shall produce results equal to or better than those resulting from this applying this Rule and the relevant Standard Specifications and Plans, and that any adverse impacts to others' infrastructure, facilities, or property shall not occur.

3.8 Waivers to the Restoration Requirements: SDOT may grant exceptions to the restoration requirements on a case-by-case basis. Waivers shall be requested on the ROWIM Deviation Request form and submitted for review and approval by SDOT.

4. PROJECT COORDINATION

4.1 Pavement Moratorium: Opening new pavement shall not be permitted within the moratorium period specified in SMC 15.32.050 following its installation unless it meets the codified exemption requirements or is approved by the SDOT Director. If it is determined that the project is in a pavement moratorium area, a waiver request shall be submitted at the time of permit application. Pavement moratoriums shall be placed on streets that have been reconstructed or resurfaced for a length of one block or more, and the work extends from curb to curb. Streets that receive only a surface sealing, such as microsurfacing, chip sealing, or slurry sealing, shall not be included in the moratorium.

When any work is completed on a street within the moratorium period, the limits and extents of restoration shall conform to the following:

4.1.1 Rigid Pavement: For rigid pavement without an asphalt overlay, full panel replacement is required. For rigid pavement with an asphalt overlay the restoration limits shall be the same as flexible pavement.

4.1.2 Flexible Pavement: Restoration for flexible pavement shall conform to the following:

4.1.2.1 When work occurs before the third year, the asphalt pavement shall be milled and overlaid to a depth of 2 inches from the nearest curb to the centerline of the street for the entire length of the block (curb radii to curb radii).

4.1.2.2 When work occurs between the third and the fifth year, the pavement shall be milled and overlaid to a depth of 2 inches from the nearest curb to the centerline of the street for 50 feet, or the length of the cut, whichever is greater.

4.2 HUB Coordination: All work within a defined construction HUB coordination area shall be approved by the HUB coordinator before the start of work. The most current HUB construction map is located at this link:

<http://www.seattle.gov/transportation/hub.htm>

4.3 Emergency Repairs: A permit is required even when a street opening is necessary to address an emergency. The SDOT Street Use Inspector should be notified as soon as possible, and a permit application shall be submitted within 48 hours.

4.4 Notification: Public and private entities with facilities in Seattle's street right-of-way have rights as to protections, clearances, and coordination/notification (reference Standard Specifications, Sections 1-07.16, 1-07.17, and 1-07.28). The permittee or contractor shall also coordinate the work with other projects in the area as specified by the permit conditions

and in a manner that ensures public safety and seeks to minimize disruption to the public, as required by the Standard Specifications, Section 1-07.28. Moreover, the permittee or contractor shall plan, schedule, and implement the work in such a manner that allows the necessary and required time (see below) for notification of others that may be impacted by the project.

4.4.1 Contact and Coordination List:

Commented [SE1]: This list shall be updated just prior to publication to have the most current information.

Work Impacts	Contact	Notice Required	Additional Notes
Any Right-of-Way	SDOT Street Use	24 Hours	The permittee or contractor shall provide SDOT's Street Use Division with at least 24-hours' advance notice before the start of work in the street right-of-way and then contact SDOT immediately upon completion.
Arterial Street, Sidewalk, or Alley	SDOT Traffic Control and Parking 206-684-7623 Seattle Fire Department 206-386-1494 or 206-386-1495 Seattle Police Department 206-684-5101 FAX (written notice)	72 Hours	
Parks			
Parks Boulevards			
UW Metro Tract			
Waste Management			
SDOT Parking Meter or Pay Station	SDOT Parking Meters and Pay Stations 206-5086 (to request meter hoods or parking restrictions) 206-684-5370 (to request meter or pay station removal).	48 Hours	
Signal Loops			
Street Trees			The Permittee is responsible for protecting all trees within the construction project area and shall contact Urban Forestry to

			disclose and describe any construction impacts to trees. Failure to contact the improvement owners or Urban Forestry is cause for Street Use to revoke this permit.
Structures	SDOT Roadway Structures 206-684-5301	5 Business Days	Work on or within 25 feet of any SDOT structure such as a bridge, bridge approach embankment, support wall, curb wall, retaining wall, rockery, areaway, or stairway shall be reviewed for approval by the Roadway Structures Section of SDOT before the start of any excavation or removal.
Metro Bus Route	<u>Metro Construction Information Center (CIC)</u> 206-477-1140 (Construction Impacts) 206-477-1150 (Trolley Impacts) 206-684-2686 (FAX) construction.coord@kingcounty.gov M-F 8 AM to 6 PM	48 Hours 5 Business Days - Relocate Bus Stop 10 Business Days – De-energize electric trolleybus line 15 Business Days - Relocate Stop Shelter	When work is within 10 feet of Metro's overhead trolleybus wires, it may be necessary to move or de-energize wires. Metro cannot replace electric trolleys with diesel buses except on some weekends. This requires advance notice to King County Metro by no less than 10 A.M. on the Tuesday before.
Railroads	Ballard Terminal Railroad 206-782-1447 Burlington Northern/Santa Fe 206-625-6462 Union Pacific	72 Hours	Railroads operate under franchise agreements with the City of Seattle. The railroads have exclusive maintenance jurisdiction within 7½ feet of the centerline of their tracks and safety jurisdiction over an envelope that extends out 25 feet

	206-764-1468	<p>from the centerline of the track. The railroads may require advance notification and operational coordination within this safety envelope. Operational coordination may include arranging for railroad flaggers with the total cost to be borne by the permittee, contractor or city crew. Three days' advance notice is necessary when railroad flaggers are needed.</p>
Monorail		<p>The Permittee shall be responsible for coordinating with the Seattle Center when any work, deliveries, or loading/unloading shall occur within 14 feet of a Monorail structure or 20 feet of a Monorail foundation or below-ground installation. The Permittee shall contact the Seattle Center at 206-905-2601 at least 10-business days before starting construction. Failure to do so is cause for permit revocation.</p> <p>Below grade: The restricted digging area includes a 45-degree cone extending outward and downward from the ground level of all monorail piers. Nearby excavations shall be monitored to assure footing stability. At- or above-grade: The piers above ground level cannot be moved, nor can any item like lighting or signage be attached to the piers without prior written consent from the Seattle Center Director.</p> <p>Piers shall not be painted.</p> <p>Landscaping shall not occur adjacent to piers or within 10 feet of a Monorail structure without prior written consent of the Seattle Center Director. Any construction activity in the area of the power rails shall follow</p>

			OSHA guidelines for working around high voltage. Construction equipment shall be located and operated in awareness of and taking account of beam height and the trains' 14-foot-operational envelope from each side of the beam. Contractors shall string warning lines from pier to pier under the beams as a guide. Spotters shall be employed when any construction activity occurs within 25 feet of the beams.
Streetcar			
Light Rail			
Water Mains			
Survey Monuments	Before any construction begins that may or shall disturb a monument or monument casting, the permittee or contractor shall comply with the requirements of Standard Specifications, Sections 1-07.16 and 1-07.28, item 17.		
Sanitary or Storm Sewers			
Natural Drainage Systems	SPU Asset Management (206) 684-4834	5 business days before the start of work.	Work in or within 10 feet of bioretention facility shall be reviewed for approval by the Engineering Section of SPU before the start of any excavation or removal.
Permeable Pavement			
Power Lines and Related Facilities			
Olympic Pipeline			When work in the right-of-way occurs within 100 feet of an Olympic Pipe Line Company ("OPLC") pipeline, the Permittee shall coordinate the work with OPLC, which may include submitting detailed construction plans to OPLC. The Permittee

			shall notify OPLC's field coordinator 10-business days in advance of the work (425-235-7767) and an OPLC representative may be required to be onsite during the work.
Other Utilities	Communications Natural Gas Olympic Pipeline Seattle Steam Electric (SCL) Others...		
Survey Monuments			
Historic Landmark Districts			
Traffic Circles	Seven days' notice is required before working in a traffic circle. (The lead-time is necessary for SDOT to coordinate with volunteers who maintain the plantings in the traffic circles; with advance planning valuable plantings can be temporarily relocated, thus avoiding expenses for new plantings).		
Art Newsstands Bikeshare	Office of Art & Cultural Affairs		For newsstands, the Permittee shall coordinate temporary relocation during the construction period by posting notice of upcoming construction projects at SeattleNewsstands.org at least 10-business days before starting work. For bike-share stations, the Permittee shall contact the bike-share operator at least 30-calendar days before starting work in order to coordinate the removal and relocation of the bike-share station. The Permittee shall be responsible for reinstalling the

			improvements or coordinating the reinstallation in their original location or at a reasonable alternative location approved by the existing improvement owner and meeting all applicable City requirements.
Street Lighting	SCL Electrical Service Representative or (206) 386-1783		Work impacting or upgrading street lighting and street light infrastructure should meet all SCL standard specifications available for reference at www.seattle.gov/light/engineerstd/ on the SCL web page. All work associated with street lighting shall be inspected and approved by an engineer from SCL Street Light Engineering. The SCL Electrical Service Representative assigned to the project should be notified that street light work is associated with the project so they are aware to include the street light engineer in notifications about project status and requested inspections. Street lights require an infrastructure inspection before energization and a commissioning inspection after energization.

5. INSPECTION AND QUALITY CONTROL

5.1 Quality of Construction: All work in the right-of-way shall be performed with diligence, in a timely manner, and conform to applicable City of Seattle Standard Specifications, Standard Plans, permit conditions, and any special provisions approved by the SDOT Director.

5.2 Role of the Street Use Inspector: The Street Use Inspector inspects work performed under permit. The Inspector monitors for compliance with City standards, codes, designs, and specifications. The Inspector verifies that public access and safety is maintained, existing City infrastructure is protected from damage, and City assets are restored to City standards. The Inspector and their agents may be on the job site at any time.

5.3 Testing: SDOT may require materials testing as deemed necessary to ensure that street restoration is performed according to City of Seattle Standard Specifications and Plans. Testing shall be conducted by a testing organization acceptable to the SDOT Director and shall be conducted at the expense of the permittee or contractor.

5.4 Approval of Materials: All materials used shall comply with the Standard Specifications. SDOT may require the permittee or contractor to provide a manufacturer's certificate of compliance for each material (see Standard Specifications, Section 1-06.3), may require the permittee or contractor to provide the source of supply for each material (see Standard Specifications, Section 1-06.1), and may require the permittee or contractor to obtain the services of an independent testing laboratory certified by AASHTO and ACI to test and provide certified test reports.

6. INFRASTRUCTURE IDENTIFICATION

6.1. Pavement identification: To estimate the removal and restoration limits associated with a planned pavement opening, it is first necessary to identify pavement type. The following sections provides some additional information about pavement types. The RWORR map identifying the pavement type can be found at this link:

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<http://seattlecitygis.maps.arcgis.com/apps/webappviewer/index.html?id=49903b3dfa0e4eeb87d12ff9a8ec5cac>

The following sections provide some additional information about pavement types.

6.1.1.1. Rigid pavement: Streets with a jointed Portland cement concrete (PCC) surface or base shall be considered rigid pavements for the purposes of restoration. These pavements can be identified by their jointing pattern, with panel joints spaced at regular intervals. The joints shall typically run parallel and perpendicular to roadway centerline. A portion of Seattle's jointed PCC pavement inventory has been surfaced over with a thin (1.5 to 3.0 inch depth) layer of hot mix asphalt (HMA) that was intended to improve ride. This layer is non-structural and the underlying PCC joints shall typically be visible through the asphalt layer as reflective cracks.

6.1.1.2. Flexible Pavement: Streets with hot mix asphalt (HMA) or seal coat surfaces and an aggregate, sheet asphalt, red brick, or stone block/cobblestone base shall be treated as flexible pavements for the purposes of restoration. Newer HMA pavements with aggregate base can typically be identified by the presence of a Standard Plan No. 410B type monolithic curb and gutter section. Seal coat surfaces (typically chip seals, slurry seals, or microsurfacing) are identifiable by their surface texture, their lack of a curb, and by location, mainly north of 85th Street and at the southern border of the City, areas annexed from King County. Older pavements with a sheet asphalt, red brick, or stone block/cobblestone base can often be identified by the presence of an armored or granite curb along the block face, and occasionally a red brick gutter section. These pavements are most commonly found in the city's older

neighborhoods in and around the center city. Although they were constructed with a lean, unjointed concrete base, they shall be considered flexible for the purposes of restoration.

6.1.1.3. Stone Block Streets: A complete list and map of stone block streets is provided here:

<http://seattlecitygis.maps.arcgis.com/apps/webappviewer/index.html?id=49903b3dfa0e4eeb87d12ff9a8ec5cac>

Many stone block streets are found in the older neighborhoods of Seattle. Much of the materials used historic, of great importance to the City, and cannot be replaced. Therefore, great care should be taken when in and around these streets.

6.1.1.4. Permeable Pavement: A pavement system that allows rainfall to infiltrate into the pavement to an underlying substrate or aggregate storage reservoir. Streets and sidewalks may be designed and constructed as permeable pavements. The most common surfacing material used in this application is porous concrete, identifiable by its open graded appearance. Other wearing course materials include permeable pavers, porous asphalt and grid systems. A list of images for permeable pavement wearing courses can be found at the following link:

http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web_informatioanal/p2375026.pdf

6.1.1.4.1. Permeable Pavement Surface: An infiltrating paving system that consists of a pervious wearing course aggregate subbase designed to manage only the water which falls on it.

6.1.1.4.2. Permeable Pavement Facility: An infiltrating paving system that consists of a pervious wearing course and an aggregate reservoir that manages the water which falls on it and stormwater runoff from other areas.

6.2. Sidewalks and Curb Ramps: Sidewalks are defined as the area between the curblines or the lateral edge lines of a roadway and the adjacent property, intended for the use of pedestrians or such portion of private property parallel and in proximity to a street or alley and dedicated to use by pedestrians. Curb ramps are the portion of the sidewalk area which provides a direct connection between the roadway level and the constructed sidewalk level, for the purpose of allowing pedestrians and people with mobility impairments access between the roadway and sidewalk. The most current American with Disabilities Act (ADA) requirement can be found at the following link:
<https://www.ada.gov/>

6.3. Green Stormwater Infrastructure: Bioretention facilities are distributed Best Management Practices (BMPs) located throughout the city's right-of-way, integrated into a project design that use infiltration, filtration, storage, or evapotranspiration, or provides stormwater reuse which mimics natural ecological function by cleaning, slowing, detaining, or infiltrating runoff. This section assists engineers, inspectors, permittees, and contractors in determining when these features are present in the right-of-way.

6.3.1. Biofiltration Swales: Swales are open, gently sloped, vegetated channels designed to treat stormwater in the right-of-way and, are designed to slowly move water through the system dropping sediment from stormwater flow.

6.3.2. Infiltrating Bioretention: A shallow earthen depression or vertical walled open bottom boxes with a designed soil mix and plants adapted to the local climate and soil moisture conditions. Treated water is infiltrated into the underlying soil, or in soils with lower infiltration rates, collected by an underdrain and discharged to the drainage system. Infiltrating bioretention cells are not lined.

6.3.3. Non-infiltrating Bioretention: A shallow earthen depression or vertical walled containers with a designed soil mix and plants adapted to the local climate and soil moisture conditions. Treated water is collected by an underdrain and discharged to the drainage system. Non-infiltrating bioretention cells are lined or include an impermeable barrier to prevent infiltration into the underlying soil. Design and construction of non-infiltrating bioretention cells are approved by Seattle Public Utilities (SPU).

6.3.4. Underdrains: Underdrains are pipes with either slots or perforations wrapped in an aggregate blanket that are located within a BMP that either disperses water for infiltration or conveys water to a discharge point. They are generally-found in areas with tight soils, areas of flooding concerns, or near zones identified as hazardous. Underdrains are identifiable by 6 or 8 inch clean-outs located within or outside of the facility. They may be a component of both infiltrating and non-infiltrating bioretention and are found throughout GSI facilities.

6.3.5. Non-Standard Bioretention Facilities: There are infiltrating and non-infiltrating bioretention facilities, which have similar appearances to standard bioretention systems with innovative but non-standard elements, such as, but not limited to structural systems underground injection control facilities, liners, vertical walls, to meet site specific constraints or are determined to be a pilot project. These facilities may or may not have underdrains.

6.3.6. Structural Systems: These structural cells, such as Silva Cells/Deep Root, are located under sidewalks and within the ROW that supports pavement and contains

loosely compacted soil for tree growth and allow for concentrated stormwater flows. These systems may not be visible. Many of these systems have been installed throughout the City for improved tree health. The first installation for stormwater management shall be built in the Ballard area as part of the bioretention facilities in the summer of 2016 and should be avoided. It is anticipated that other structures such as these may be used in the future. A map of this street is provided in the following link:

<http://seattlecitygis.maps.arcgis.com/apps/webappviewer/index.html?id=49903b3dfa0e4eeb87d12ff9a8ec5cac>

6.3.7. Underground Injection Control Facilities: These are vertical well components designed for deep or shallow on-site infiltration of stormwater. It is imperative these systems remain free of sedimentation. Critical care shall be used when working near or around these facilities. These systems are currently located in the Venema and Delridge area and should be avoided. It is anticipated that other structures such as these may be used in the future. A map of UIC streets are provided in the map in the following link:

<http://seattlecitygis.maps.arcgis.com/apps/webappviewer/index.html?id=49903b3dfa0e4eeb87d12ff9a8ec5cac>

6.3.8. Liners: Liners are impermeable barriers located under GSI facilities which prevent water from infiltrating to the surrounding area and are typically unidentifiable by the naked eye. Liners can be, but are not limited to, bentonite mixtures keyed into native soils, screwed or other anchored PVC liners, and bentonite filled self-healing material liners.

6.3.9. Vertical Walls: These are linear components of a bioretention facility designed to increase bottom treatment area. They may be a component of both infiltrating and non-infiltrating bioretention. Vertical walls may be composed of rock, soil wrapped logs, concrete, or other materials.

6.3.10. Rain Gardens: are shallow landscaped depressions with compost amended soils or imported bioretention soils and plants, which are adapted to the local climate and soil moisture conditions. Rain gardens do not have liners or underdrains. They are typically designed to treat sidewalk stormwater runoff.

6.4. Other Right-of-Way Elements: There are many other types of right-of-way elements that need to be identified, protected, and restored if damaged as part of utility restoration work. The above list is not intended to be fully inclusive, but rather provide information for the most common types of infrastructure that may be encountered.

7. SITE PREPARATION, EXCAVATION, AND BACKFILL

- 7.1. General:** Excavations in the street right-of-way shall be backfilled according to Standard Specifications, Sections 2-10 and 8-33.3(1) if for electrical facilities. The backfill shall be appropriate for its intended use, and the prevailing soil and groundwater conditions, and shall be capable of supporting pavement structure. Subsurface utilities may have special bedding or foundation needs.
- 7.2. Protection of Existing Infrastructure:** Care shall be taken to not damage any infrastructure that is proposed to remain. If any damages occur, the restoration limits shall be expanded to include that damage.
- 7.2.1. Protection of Green Storm Infrastructure:** All Green Storm Infrastructure shall be protected to ensure no sedimentation from the work enters the system. All soils shall be protected so that any materials to remain are not compacted.
- 7.2.2. Tree Protection:** Openings and restorations within the drip-line of a tree shall be undertaken in a manner that minimizes damage to the tree. See Standard Plan Nos. 132 and 133. Tree root pruning or other tree trimming shall only be approved where necessary to minimize damage or otherwise mitigate impacts. Excavating or auguring within 5 feet of a tree trunk requires prior approval of the SDOT Arborist. Call 206-684-5047 for consultation. Any such excavation shall require special care (e.g. hand work or use of air spades) with the objective of retaining intact all roots 2 inches or larger in diameter. Tree protection measures such as trunk wrap, tie-up of low limbs, installing protective construction fencing, applying a 4 to 6 inch protective layer of mulch, or using rigid boards or steel plates to span root areas may be required whenever construction occurs within the drip-line of a tree. For more information about working in and around, and protecting tree roots. See Standard Specifications, Section 1-07.16(2).
- 7.3. Zone of Influence:** Openings in the pavement, and the activities associated with construction in the opening contribute to loss of foundation support for the pavement structure surrounding the opening. In general, the types and relative densities of surrounding soils and backfills, the influence of groundwater and associated dewatering activities, the impacts of construction methods and systems, and other influences may contribute to a loss, or potential for future loss, of pavement foundation support. Experience in Seattle has shown that in general, a horizontal distance of 25 percent of the depth of the opening extending out from the edge of the opening per Standard Specification 404C is a reasonable predictive limit in most instances to the loss of pavement foundation support. However, in some soil conditions the "zone of influence" can be extended or shortened. The Street Use inspector shall determine if any adjustments should be made to the final limits for the zone of influence.
- 7.4. Initial Cut Expansion:** Flexible pavement restoration requires the permittee or contractor to identify the location of their initial opening and then determine the final

limits of restoration. The restoration limits shall first be extended the full depth of the pavement section from the initial opening area to encompass the zone of influence. Full depth cuts shall be further full depth expanded to curbs, pavement edges, and cracks within 3 feet and to include existing patches less than 5 feet in width, within 5 feet of the opening, and to ensure new longitudinal joints are not located in a wheel path. Sawcuts shall not be located in the vehicle wheel path.

7.5. Pavement Backfill Materials and Placement: The standard backfill material for any pavement structure, including concrete walks, asphalt pathways and bikeways, within the street right-of-way shall be controlled density fill (CDF), unless an alternate material and materials testing plan has been approved as part of the permit conditions.

7.6. Backfilling with Controlled Density Fill (CDF): CDF shall be wet batched and meet the requirements of Standard Specification Section 2-10.2(3). CDF may be placed by any reasonable means from a mixing unit into the space to be filled. CDF placement into closed spaces may require installing vent holes. Agitation is required during transportation and waiting time. CDF is a heavy fluid material and during placement shall exert high fluid pressures against any form, embankment or wall. Placement shall be performed in a manner that: structures or pipes are not displaced from their desired final position, other underground alignments and grades encountered in the excavation are not dislocated, and CDF intrusion into undesirable areas is avoided. Placing CDF in multiple lifts may be required to control movement or shifting and prevent floating of pipes or vaults. Each placement of CDF shall be as continuous an operation as possible. If CDF is placed in more than one lift, the base lift shall be free of surface water and loose or foreign material before placement of the next lift.

7.6.1. Steam Lines: CDF shall not be used within 10 feet of a steam line.

7.6.2. Fluidized Thermal Backfill (FTB): FTB is a thermally conductive controlled density fill material that is typically used around subsurface electrical systems. Seattle City Light Standard 7150.0 Fluidized Thermal Backfill is specifically authorized as backfill material for subsurface electrical systems and shall be placed according to the current standard.

7.7. Other Backfill Materials: Materials other than CDF shall be allowed provided they are suitable for the intended use and are inspected and tested under a quality assurance program. Use of materials other than CDF shall require quality assurance testing by a SDOT approved, certified materials laboratory that is paid for by the permittee. See Section 7.5

7.7.1. Native Material: Native material may be approved for backfill on large projects if it is: (a) capable of attaining 95 percent compaction where the subgrade supports pavement; (b) within reasonable tolerance of optimum moisture content; (c) reasonably free of organic material, clay, lumps, rocks or pavement chunks more than 6 inches in diameter; and (d) is free of other deleterious or potentially hazardous matter. In some areas, for example under flexible pavements that cross

over peaty soils, a special backfill may be necessary in order to match the behavior of the surrounding soils so that the flexible pavement experiences equivalent consolidation and settlement. Use of native material shall require project specific approval from SDOT before permit issuance. Use of native material shall only be allowed with an inspector and materials lab representative present full-time on the project.

7.8. Quality Assurance Requirements: Quality assurance (QA) refers to a set of controls that ensure a process satisfies specified requirements in a systematic and reliable fashion. In the case of aggregate backfills, a quality control program shall consist of approvals, tests, corrective actions, and reports that demonstrate that backfills are consistently meeting specification. Permittees wishing to use aggregate backfills shall complete the following:

7.8.1. Material Submittal and Approval: Permittees shall be required to submit samples and a data sheet for the fill material they wish to use. The sample submittal may be waived if current materials data is on file. The submittal shall call out the application and any City of Seattle Standard Specifications relevant to its use. Written approval is required for each fill material, in each application.

7.8.2. Quality Assurance Process Approval: QA determines consistency of both the material and the construction process. The permittee shall prepare a submittal describing their QA process. The process shall be approved by SDOT before using the material. The QA process submittal shall include the following information:

7.8.2.1. List of contacts with a description of roles and responsibilities.

7.8.2.2. Specifications and manufacturer's data sheets for each material in the QA program.

7.8.2.3. Description of the materials handling and construction process that shall be used to meet the placement requirements in the current version of the City of Seattle's Standard Specifications and Standard Plans for Road, Bridge, and Municipal Construction. Aggregates shall be required to meet compaction standard of Standard Specification Section 2-11.

7.8.2.4. Type and frequency of materials tests. The rate of testing on arterial and non-arterial streets shall be specifically addressed. The qualifications of the materials laboratory shall be addressed with reference to Specification Section 1-06.5.

7.8.2.5. Corrective action plan. When a failing test is reported, the cause of the failure shall be ascertained and documented, even if the specific test area is re-compacted. For each failed test, a plan of corrective action backward (e.g. recompact the previous lot) and forward (e.g. adjust moisture or compaction procedure) shall be implemented and reported. The corrective action plan shall

describe how the materials testing frequency shall increase in response to tests below specification. The plan shall outline the authority of the Street Use inspector to call for additional tests and approve corrective action.

7.8.2.6. Reporting plan. Monthly reports shall be required to keep stakeholders apprised of the results being achieved. Test information in the report shall be referenced by address and Street Use permit number. The initial QA Process Submittal shall include a sample report. Copies of the report shall be sent monthly or as otherwise required to the Street Use inspector.

7.8.3. Use of aggregate backfills with spot verification shall be permitted when the materials are approved and the QA process is in place.

7.8.4. SDOT has the authority to suspend quality assurance testing and use of the aggregate material if test results indicate specifications are not reliably met or the reporting protocol is not followed.

7.9. Emergency and Temporary Backfill: Street excavations made without SDOT inspection may be temporarily backfilled and patched by the contractor or permittee. The backfill shall be guaranteed by the permittee or contractor to provide acceptable foundation support for traffic until a permanent restoration is made. Should settlement or other failure of a surface patch occur, the permittee or contractor shall correct the defect within 24 hours. The permittee or contractor shall be required to replace the temporary backfill with an approved, tested material before completing the permanent restoration.

7.10. Unimproved or Landscaped Areas: Openings made in unimproved or vegetated areas of the street right-of-way such as planting strips may be backfilled with suitable native material with prior approval from the Street Use Inspector. The excavations shall be topped off with materials that match the existing and surrounding materials and material thicknesses (e.g., topsoil, mulch, etc.). When working in areas identified or serving as natural open space, or in a planted or otherwise improved landscape area of the street right-of-way, the work shall be conducted in a manner that minimizes removal or damage to vegetation and all associated improvements. The subsurface restoration shall be completed in a manner that enables the vegetation to continue to grow, it may be necessary to bring the excavation up to grade with crushed rock or native material, and then to finish with topsoil, permeable growing materials, or mulch, to match existing and as appropriate. Landscape materials shall conform to the standards in Standard Specification Section 9-14.

7.11. Bedding Materials: Specific bedding and backfill materials may be required around utility lines and other structures. These materials shall not allow for settlement and shall be capable of supporting the pavement structure. Backfill shall be according to City Standards Specification 2-10 or as approved by the specific utility.

7.12. SDOT Structures: Backfills within 30 feet of SDOT structures such as retaining walls, bulkheads, bridge approach embankments, or bridge footings shall be performed by SDOT unless otherwise approved as part of the permit conditions.

7.13. Groundwater: In areas of flowing groundwater, free-draining material or clay dams may be required due to slopes, soil, or water table conditions. When backfilling a linear excavation feature with CDF, care shall be taken to allow for groundwater migration across the feature.

7.14. Voids: Should a void be encountered during excavation or construction, the pavement opening shall be expanded to the entire are of the void. The voided area shall be filled with the required backfill material suitable for the location.

7.15. Drainage Systems: Openings made in ditches and channels shall be filled and replaced according to City Standards Specification 2-05.

8 TEMPORARY AND INTERIM PAVEMENT RESTORATIONS

8.1 General: A temporary or interim pavement may be necessary after an excavation has been backfilled and before the pavement is permanently restored. A temporary or interim pavement is mandatory in vehicular and pedestrian traffic areas unless the street right-of-way is restored permanently immediately after the work. Temporary restorations shall be permanently restored within 60 days on arterials or in commercial and industrial zones or 180 days on non-arterial streets in residential zones. An interim surface is a more durable surface than a temporary surface. SDOT may occasionally require that an interim surface be installed, especially on large projects in heavily trafficked areas where the interim surface may have to last for a year or more. Temporary or interim surfaces shall perform acceptably and be maintained in a safe and serviceable condition until the surface is permanently restored. If the surface is in a pedestrian accessible route it shall be ADA compliant.

The permittee or contractor shall make every effort to permanently restore pavement openings in a timely way. When permanent restoration must be delayed, the permittee or contractor shall make this known to SDOT and shall include the proposed timing and plans for temporary, interim, or permanent restoration at the time of applying for the permit.

8.2 Timeframe for Restoring Openings: The permittee or contractor shall make every effort to restore the street opening as soon as possible and within 60 days on arterials or in commercial or industrial zones or 180 days on non-arterial streets in residential zones. When restoration within the timeframe is not feasible, the permittee or contractor shall make it known when applying for the permit, the timing of making permanent restoration, and the intended use and plans for temporary or interim restoration as applicable.

8.3 Temporary Pavement Repairs: A temporary pavement patch may be necessary after an excavation has been backfilled, but before the pavement is permanently restored. Patches shall be leveled and compacted to meet adjacent surfaces.

The permittee or contractor shall place and maintain over the backfilled excavation a 3-inch minimum compacted thickness patch of hot mix asphalt (HMA) or cold mix asphalt. Cold-mix asphalt products shall be as specified in Standard Specifications Section 9-02.5 (Unique Paving Material UPM, Qualified Patch Material QPR, EZ Street Lakeside Industries, U.S. Cold Patch, or approved alternate).

8.4 Interim Pavements: Interim pavements are those which will remain in service for more than 60 days (180 days on non-arterial streets in residential zones), but not more than 5 years, typically between phases of a large project. Interim pavements shall perform acceptably and be maintained in safe and serviceable condition until the street is permanently restored.

Interim Pavements on Arterial, Bus Route, Commercial, and Industrial Streets: SDOT shall require that a pavement design be submitted for approval.

Interim Pavements on Non-arterial Residential Streets: Interim pavements shall consist of 2-inch minimum compacted thickness hot mix asphalt (HMA) placed over a 4 inch minimum compacted thickness layer of crushed rock Mineral Aggregate Type 1 or 2. SDOT may require a pavement design depending on the length of time the interim surface is to remain in place and the projected traffic.

8.5 Protection of openings: When an opening in the right-of-way cannot be restored by the end of the work day; a combination of traffic control devices, street saddles, or steel plates shall be used to protect the opening. These measures shall provide for public safety and conform to the requirements of all applicable standards, including the Standard Specifications, Sections 1-07.1, 1-07.23, 2-02.3(8) and the City of Seattle Traffic Control Manual for In-Street Work. The permittee or contractor shall protect the opening until temporary, interim, or permanent restoration is completed.

8.6 Maintenance and removal of protection and traffic control devices: All appropriate devices required to protect openings in the public right-of-way shall be maintained by the permittee or contractor until the temporary or permanent restoration is completed. The permittee or contractor shall remove the devices within 24 hours of notification from SDOT. The use and removal of the devices shall be at no cost to the City.

8.7 Maintenance of temporary and interim pavements: The permittee or contractor is responsible for maintaining temporary and interim pavements until the street has been permanently restored. Temporary and interim pavements shall be maintained flush with the adjacent street, at grade, and in good condition. Timely correction of settlement of the backfill beneath the temporary or interim surface is the responsibility of the permittee or contractor. Should settlement or other failure of a temporary or interim surface occur, the permittee or contractor shall correct the defect within 3 days. If the permittee or contractor cannot quickly be notified or cannot or does not maintain the restoration in a timely way, then SDOT may undertake the necessary restoration. Restorations made by SDOT will be billed to the permittee or contractor on a time and materials basis.

9. RESTORATION LIMITS AND PERMANENT RESTORATION REQUIREMENTS

9.1 General: The following requirements apply to all pavement restoration.

9.1.1 Sawcutting: Sawcuts are made to protect the existing pavement from damage during breaking and excavation. Necessary sawcuts shall be made before any pavement breaking or removal. If the permittee or contractor fails to sawcut before breaking, they shall be required to sawcut and remove to additional pavement to the next joint or crack where sound pavement is present. To the maximum extent practicable sawcuts shall be made parallel or perpendicular to the roadway centerline and to longitudinal and transverse joints. Sawcuts shall be made to full pavement depth on both rigid and flexible pavements. When a full rigid/concrete pavement panel is to be replaced, sawcuts will only be required to cut dowel bars and tie bars, if present. Reference Standard Specification Section 2-02.3(6).

9.1.2 Pavement Condition: A map showing the current pavement condition for all streets can be found at the following link:

<http://seattlecitygis.maps.arcgis.com/apps/webappviewer/index.html?id=49903b3dfa0e4eeb87d12ff9a8ec5cac>

9.2 Rigid Pavement Restoration

9.2.1 General: Rigid pavements shall be restored according to Standard Specification Section 5-05 and Standard Plan Nos. 400-411.

9.2.2 Limits of Restoration

9.2.2.1 Removal and Restoration Area

9.2.2.1.1 Streets Not In Failed Condition: Full concrete panel replacement shall be required on rigid pavements not in failed condition. Reference Standard Specification Section 2-02.3(3)C.

9.2.2.1.2 Streets In Failed Condition: Streets in failed condition may be restored for the full panel dimensions in asphalt according to the requirements specified in Section 9.3.

9.2.2.1.3 Location of Initial Opening: Initial openings shall be located to avoid undermining adjacent panels. Undermining an adjoining panel shall require its replacement.

9.2.2.1.4 Oversized Panels: Seattle has many concrete streets that were constructed with joints spaced in excess of the current 15 foot standard spacing. When these panels are opened and restored, they may be divided according to the following rules.

9.2.2.1.4.1 Transverse Division: Large panels may be divided transversely, provided no new or remaining portion of the panel is less than 9 feet in length.

9.2.2.1.4.2 Longitudinal Division: Large panels may only be divided longitudinally if the location of the division matches both the lane line and the cracks in the existing panels. Newly-formed longitudinal joints shall not be located in a wheel path. Refer to Standard Specifications Section 5-05.3(8)E2 for standard longitudinal joint location.

9.2.2.1.4.3 Retaining Curb and Gutter: The curb and gutter section adjacent to pavement replacement may remain in place if it is in good condition and shall be flush with the placement of the new pavement. Curbs and gutters adjacent to pavement replacement shall be replaced if they have multiple cracks or spalls. Curbs and gutters that shift or are damaged during construction shall be replaced. Under no circumstances shall a curb be left in place if it is not flush with the panel being restored. When a curb is to be left in place, a sawcut shall be made before demolition and removal 18 inches from the face of the curb.

9.2.2.1.5 Holes: Auger or core holes in pavement may be necessary to gather information on soils and right-of-way infrastructure. Holes in pavement up to 12 inches in diameter that are drilled with an auger and then filled and sealed by the permittee or contractor are exempted from the restoration area requirements of this Rule except for the following requirements: auger holes shall be spaced at least 15 feet apart; and no more than two auger holes shall be drilled into a single concrete panel. Auger holes shall be filled with an approved CDF mixture to the top of the subgrade or as otherwise required by Department of Ecology, and the pavement structure shall be restored in-kind. These requirements do not apply to roto-drilled holes less than 2 inches in diameter for securing steel plates and leak testing. Exceptions require the permission of SDOT.

9.2.3 Rigid Pavement Section Depth: Rigid concrete pavements shall be restored using the sections outlined below, unless a site specific pavement design has been approved as part of the permit. The pavement design shall meet the requirements in the Right-of-way Improvement Manual.

9.2.3.1 Base or Subbase: The concrete surfacing layer shall be placed over a minimum of 6 inches of compacted crushed rock (Mineral Aggregate Type 2) over compacted subgrade; except in the case of non-arterial residential streets, which may be placed directly on compacted subgrade according to Standard Plan No. 401.

9.2.3.2 Concrete Depth: The concrete layer depth requirements by street type are:

9.2.3.2.1 Bus Routes and Arterial Streets in Commercial or Industrial Areas: 12 inches or match existing if greater.

9.2.3.2.2 All Other Arterial Streets: 10 inches or match existing if greater.

9.2.3.2.3 Non-arterial Streets in Industrial or Commercial Zones: 10 inches or match existing if greater.

9.2.3.2.4 Non-arterial Residential Streets: 6 inches or match existing if greater.

9.2.3.3 Thickened Edges: Thickened edges at construction joints shall be constructed in full panel replacement of less than 10 inches in thickness. Standard Plan No. 405a.

9.2.4 Portland Cement Concrete (PCC) Class: The class of concrete for arterial, bus route and non-arterial industrial or commercial street pavement restoration is Roadway Cement Concrete, Variable Mixes. The class of concrete for non-arterial, residential streets is Roadway Cement Concrete, Variable Mixes. High Early Strength (HES) concrete may be used to meet early opening requirements. Refer to Standard Specifications, Section 5-05 for concrete pavement details. A mix design shall be submitted for review and approval. Alternatively, an approved mix may be selected from Appendix E.

9.2.5 Asphalt Surface: If the rigid concrete panels are surfaced with asphalt, it shall be replaced at matching depth. The class of asphalt shall be HMA C1 1/2 inch as described in section 9.3.3.3 of this Rule and Standard Specification Section 5-04.

9.2.6 Joint Details: The following joint details are required in the restoration of rigid pavements:

9.2.6.1 Joint Layout Plan: SDOT may require a paving plan with concrete joint layouts. SDOT shall normally require this for projects that pass through an intersection or extend for a city block or more.

9.2.6.2 Joint Types and Layouts: Transverse and longitudinal joints shall be contraction or construction joints. Insofar as possible, joints shall follow the existing layout. Joints shall be placed parallel or at right angles to the centerline of the roadway, except for normal deviations necessary to accommodate manholes, vaults, and other features in the street right-of-way; in general, joints shall approach these features at right angles. SDOT may require a pavement joint layout plan, as stated above. See Standard Specifications, Section 5-05.3(8) and Standard Plan No. 405.

9.2.7 Tie Bars and Load Transfer Dowel Bars: Longitudinal joint tie bars are required at the longitudinal joints of new concrete panels whenever two or more panels are replaced. Transverse joint load transfer dowel bars shall be required at the joints of new concrete panels whenever two or more panels are replaced, except on non-arterial streets in residential areas. See Standard Specification Section 5-05.3(10) and Standard Plan No. 405.

9.2.8 Retrofit of Tie Bars and Load Transfer Dowel Bars: If present in the existing pavement, dowel bars and tie bars shall be replaced between the newly placed slab

and the existing pavement by drilling and epoxying bars of the type and spacing outlined in Standard Plan No. 405. The free end of the bar shall have a parting compound, such as grease, applied to it. Refer to Standard Specifications Specification Section 5-05.3(10)A.

9.2.9 Protection of Existing Tie Bars and Load Transfer Dowel Bars: Newer rigid pavements on arterial, bus route, commercial, and industrial streets have typically been constructed with tie bars and dowel bars. To protect the adjacent panels, the bars shall be severed by sawcutting at the panel joints before any pavement removal. Damage to an adjoining panel shall require its replacement.

9.2.10 Surface Smoothness: The surface of the pavement shall meet the following tolerances when tested with a 10 foot straightedge as described in Standard Specification 5-05.3(12).

1/4 inch variance in ten feet.

Roadways:

Concrete Bases and Alleys: 3/8 inch variance in ten feet.

The grade and smoothness in the gutter shall be such that water does not pond. If the surface smoothness after curing exceeds the above tolerances, high spots shall be ground until the surface meets the tolerances in the Standard Specifications. If surface smoothness tolerances are not satisfactorily met or correction would require the removal of greater than 1/2 inch of concrete, the affected panels shall be removed and replaced.

9.2.11 Finish and Color: Pavement surface finish shall be finished according to Standard Specification Section 5-05.3(11) and to match existing finish patterns as appropriate. Color shall match the surrounding surface to the extent practicable.

9.2.12 Curing: Pavements shall be cured according to Standard Specification 5-05.3(13), typically through the application of liquid membrane-forming concrete curing compound Type 2 and white polyethylene sheeting. CSS-1 or CRS-1 asphalt emulsion should be substituted as curing compound on concrete bases to ensure bond with the asphalt surfacing.

9.3 Flexible Pavement Restoration

9.3.1 General: Flexible pavements shall be restored according to Standard Specification Section 5-04 and Standard Plan Nos. 401D, 402C, and 404a (Typical Patch for Flexible Pavement).

9.3.2 Placement of Materials: Any time a full lane of asphalt 50 feet or more in length is placed, the permittee shall use hauling equipment, planing equipment, asphalt pavers, and rollers meeting the requirements of Standard Specification Section 5-04.3(3)B and C.

9.3.3 Flexible Pavement Section Depth: Flexible pavements shall be restored using the sections outlined below. Alternative sections may be approved with a site specific pavement design provided that meets the design criteria in the Right-of-Way Improvements Manual.

9.3.3.1 Base or Subbase: All asphalt shall be placed over a minimum of 6 inches of compacted crushed rock (Mineral Aggregate Type 2) over compacted subgrade.

9.3.3.2 Hot Mix Asphalt Depth: The HMA layer depth requirements by street type are:

9.3.3.2.1 Bus Routes and Arterial Streets in Commercial or Industrial Areas: Thirteen inches total asphalt depth consisting of 2 inches of HMA Class 1/2 inch over 11 inches of HMA Class 1 inch, or match existing pavement thickness if greater.

9.3.3.2.2 All Other Arterial Streets: Nine inches total asphalt depth consisting of 2 inches of HMA Class 1/2 inch over 7 inches of HMA Class 1 inch, or match existing pavement thickness if greater.

9.3.3.2.3 Non-arterial Streets in Industrial or Commercial Areas: Nine inches total asphalt depth consisting of 2 inches of HMA Class 1/2 inch over 7 inches of HMA Class 1 inch, or match existing pavement thickness if greater.

9.3.3.2.4 Non-arterial Residential Streets: Eight inches total asphalt depth consisting of 2 inches of HMA Class 1/2 inch over 6 inches of HMA Class 1 inch, or match existing pavement thickness if greater.

9.3.3.2.5 Bituminous Surface Treated Streets: Three inches of HMA Class 1/2 inch or match existing pavement thickness if greater.

9.3.3.3 Hot Mix Asphalt Class: The asphalt shall meet the mix design criteria outlined below and described in detail in Standard Specification Section 5-04 and summarized in Standard Plan Nos. 401 and 402.

Street classification	Hot mix asphalt (HMA) class
Arterial, commercial, and industrial streets	HMA Class 1/2 inch or 1 inch PG 64-22 for 10M ESALs
Non-arterial residential streets	HMA Class 1/2 inch or 1 inch PG 64-22 for 3M ESALs

In jobs less than 100 feet in length and only requiring small quantities, HMA Class 1/2 inch may be used instead of HMA Class 1 inch. Warm mix asphalt (WMA) may be used in place of HMA. All asphalt mixes shall be a mix design that has been verified and approved by the SPU Materials Laboratory within the last twelve months.

9.3.4 Flexible Pavement Restoration Limits:

9.3.4.1 Openings 100 Feet or Longer: The minimum restoration requirement for openings 100 linear feet or longer is a full-lane-width plane and HMA overlay at 2 inch depth for all lanes affected. The paving work shall conform to the requirements of Standard Specification Section 5-04. Non-arterial streets surfaced with a chip seal or microsurfacing treatment, or other surface seal coating are exempt from the full-lane requirement.

9.3.4.2 Curb and Sidewalk: When a curb and sidewalk is being restored, the maximum width of adjacent pavement restoration may be 3 feet, regardless of length, provided that the street is classified as a non-arterial street, or the work is entirely within a designated parking lane.

9.3.4.3 Minimum Patch Size: On flexible pavements, the cut shall be expanded to a minimum dimension of 6 feet in the longitudinal and to the nearest lane centerline, lane line or 18 inches from the curb.

9.3.4.4 For streets identified in poor condition: The minimum cut size shall be determined by the dimensions of the excavation plus the zone of influence only.

9.3.4.5 Cored Holes: Auger or core holes in pavement may be necessary to gather information on soils and right-of-way infrastructure. Holes in pavement up to 12 inches in diameter that are drilled with an auger and then filled and sealed by the permittee or contractor are exempted from the restoration area requirements of this Rule except for the following requirements. Auger holes shall be filled with an approved CDF mixture to the top of the subgrade or as required by Department of Ecology, and the pavement structure shall be restored in-kind. Exceptions require the permission of SDOT.

9.3.5 Preleveling: When a surface of the existing pavement or base is irregular, it shall be brought to a uniform grade and cross section by preleveling. Refer to Standard Specification Sections 5-04.3(4)B2, 5-04.3(8) and 5-04.3(9)A

9.3.6 Placement and Compaction: Asphalt shall be placed in lifts as described in Standard Specification Section 5-04.3(8) and summarized below:

Material	Maximum Compacted Lift Thickness
Base Course (HMA Class 1/2 inch or 1 inch)	0.35 feet (4.2 inches)
Surface Course (HMA Class 1/2 inch)	0.25 feet (3.0 inches)

Asphalt shall be compacted to a relative density minimum of 92 percent of the reference maximum density. The completed course shall be free from segregation, ridges, ruts, humps, depressions, objectionable marks, and irregularities. Reference Standard Specification Section 5-04.3(9).

9.3.7 Surface Smoothness: The completed surface of the final wearing course shall not vary more than 1/8 inch from the lower edge of a 10 foot straightedge placed on the surface parallel to the centerline. The transverse slope of the completed surface of the wearing course shall vary not more than 1/4 inch in 10 feet from the rate of transverse slope shown on the drawings. When deviations in excess of, but not more than twice, the above tolerances are found, the pavement surface may be ground with an acceptable machine. The corrected deviation shall be sealed according to Standard Specification Section 5-04.3(18). Areas where the pavement deviates by more than twice the allowable tolerances described above shall be removed and replaced. Where SDOT determines grinding does not allow for an acceptable repair, removal and replacement of the surface course of asphalt concrete shall be required.

9.4 Stone Block Streets

9.4.1 General: Stone block streets are shown in the following map:
<http://seattlecitygis.maps.arcgis.com/apps/webappviewer/index.html?id=49903b3dfa0e4eeb87d12ff9a8ec5cac>

The condition is also noted in the map. Those rated in condition 4 or 5 shall be preserved and shall be restored in-kind. Stone block streets with a condition rating less than 4 be restored according to the rigid pavement restoration requirements, with a matching stamp pattern.

9.4.2 Mortared Paving Materials: Bricks, cobblestones, or pavers shall be removed to a joint with the intent of salvaging as many units as possible unless SDOT indicates there is no requirement to reuse the material. Do not cut or break the materials.

9.4.3 Source of Supply: The permittee or contractor shall verify whether a source of replacement material exists and shall be prepared to submit samples and other information for approval as requested by SDOT or others. If original, matching materials cannot be located, the permittee or contractor shall submit an alternative restoration plan to SDOT.

9.4.4 Photographic Documentation: SDOT may require that the permittee or contractor photograph the existing decorative treatment or special treatment surfaces before beginning work to aid in restoring the area to an in-kind condition.

9.4.5 Disposition of Salvaged Bricks, Cobblestones, Pavers, and Granite Curbs: Salvaged materials shall be reused in the restoration unless otherwise approved by the SDOT Director. Salvaged materials not used in the restoration remain SDOT's property. The materials shall be returned to a place specified by SDOT Maintenance and Operations Division. The material shall be free of soil, stacked on a pallet and shrink wrapped and delivered to the location identified by SDOT Maintenance and Operations. Contact Maintenance and Operations at (206) 386-1218 to coordinate return. Their disposition shall be at the direction of the SDOT Director (see Standard

Specifications, Section 2-02.3(7)E). SDOT will provide a receipt of materials upon delivery of the materials to the determined location.

9.5 Sidewalk and ADA Curb Ramp Restoration

- 9.5.1 Standard Portland Cement Concrete Sidewalks:** The construction of Portland cement concrete sidewalks is detailed in Standard Specification Section 8-14 and Standard Plan Nos. 400, 420, 421, 422a, 422b, 422c, 424, 430, and 431.
- 9.5.2 Sidewalk Depth:** Sidewalks shall be constructed to the thicknesses specified in Standard Plan Nos. 420, 421, 422a, 422b, 422c, 430, and 431. In general, Portland cement concrete sidewalks shall be poured a minimum of 3.5 inches thick. Residential driveway landings shall be 6 inches thick and commercial driveways and alley landings shall be 8 inches thick.
- 9.5.3 Sidewalk Removal and Restoration Limits:** Full concrete panel replacement shall be required on concrete sidewalks according to the rigid pavement guidelines of this Rule. In the case of sidewalks without existing joints, the sidewalk panel shall be a maximum of 15 feet.
- 9.5.4 Sidewalks Over Areaways:** Especially in the Central Business District and in historic districts, the permittee or contractor shall be mindful that a sidewalk may be over or adjacent to an areaway. Public and private authorities and responsibilities for areaways are addressed in SMC 15.04.015 and 15.08.010. Wherever this is a concern, the permittee or contractor shall contact SDOT.
- 9.5.5 Asphalt Walkways and Trails:** Asphalt walkways shall be replaced full width. Asphalt walkway removal and restoration requirements shall follow the flexible pavement guidelines in Section 9.3.3. The minimum asphalt walkway restoration section shall be 2 inches of commercial HMA CI 1/2 inch or 3/8 inch over a base of 4 inches of Mineral Aggregate Type 1 or 2. Bicycle trails shall be 3 inches of commercial HMA CI 1/2 inch or 3/8 inch over a base of 4 inches of Mineral Aggregate Type 1 or 2. Vehicle crossings shall meet the flexible pavement cross-section requirements in Section 9.3.
- 9.5.6 ADA Curb Ramps:** Curb ramp shall be designed by a professional engineer, meet current ADA requirements, and match Standard Plans 422a, 422b, and 422c as closely as possible. Construction shall be according to Standard Specification 8-14. If the design cannot meet all requirements, a licensed engineer shall submit document showing the ADA ramp meets the requirements to the maximum extent feasible. The maximum extent feasible template can be found in the Right of Way Improvements Manual.

9.5.6.1 ADA Curb Ramp Installation Requirements

- 9.5.6.1.1 Whenever a curb ramp is damaged or removed, the ramp is to be replaced with a new ramp that meets current federal ADA requirements.
- 9.5.6.1.2 Where at grade and above ground infrastructure is being replaced in-kind, it is acceptable to omit curb ramp improvements if the restorations do not impact the adjacent curb ramp run, landing, or side flares. A plan shall be submitted demonstrating that any infrastructure placed shall not preclude the provision of a future compliant curb ramp.
- 9.5.6.1.3 Alterations in the marked or legal crosswalk trigger curb ramp improvements at associated locations where existing compliant curb ramps are not present.
- 9.5.6.1.3.1 Restoration in the legal or marked crosswalk limited to 12 feet in width do not trigger curb ramp improvements.
- 9.5.6.1.4 An ADA compliant curb ramp is required when a restoration impacts more than 50 percent of the entire intersection.
- 9.5.6.1.5 An ADA compliant curb ramp is required where restorations occur behind the curb radius and compliant curb ramps are not provided.
- 9.5.6.1.5.1 If a restoration includes removing and replacing one feature of a curb ramp, it is acceptable to omit reconstructing the undisturbed curb ramp features, provided that those features comply with current ADA standards.
- 9.5.6.1.5.2 If the scope of the work only includes constructing one curb ramp, it is acceptable to omit constructing the adjacent curb ramp at a large curb radii if the new construction does not impact the adjacent curb ramp run, landing, or side flares.
- 9.5.6.1.5.3 At large curb radii, it is acceptable to limit curb ramp improvements to one ramp if the restorations are contained within half of the area behind the curb radius and the restorations do not impact the adjacent curb ramp run, landing, or side flares.
- 9.5.6.1.6 A companion ramp is required if one does not exist per RCW 35.68.075(3).

9.6 Green Stormwater Infrastructure Restoration

9.6.1 General: Green stormwater infrastructure (GSI) mimics natural ecological function by cleaning, slowing, detaining, and infiltrating runoff. This section assists engineers, inspectors, permittees, and contractors in determining when these features are present in the right-of-way. GSI features shall be restored in-kind to their original design and specifications, to the extent practicable. Restoration shall be according to guidelines established by SPU, Seattle's lead agency on stormwater and GSI.

9.6.2 Bioretention Facilities

- 9.6.3 General:** The following requirements apply to all facilities. Restoration shall be according to an existing as-built plan, or a cross-section established by SPU. The most current design guidelines for bioretention can be found in the City of Seattle Right-of-Way Improvements Manual. Non-standard facility restoration shall be reviewed and approved, before the start of any excavation or removal. Bioretention facilities are drainage structures and shall be restored so their infiltration characteristic are preserved. During construction, debris and sediment shall be contained to protect the infiltrating area and surrounding surface from clogging. All bioretention or rain garden facilities shall be restored according to the plant list in the City of Seattle Stormwater Manual, Volume 3, Appendix E Green Factor Plan List found here:
http://www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web_informational/p2358283.pdf
- 9.6.4 Photographic Documentation:** SDOT may, in order to aid in restoring the area and facility to an in-kind condition, require that the permittee or contractor photograph the existing facility before beginning work.
- 9.6.4.1 Vegetation:** Vegetation shall be of similar size, height, and density; and provide in-kind coverage over the disturbed area.
- 9.6.4.2 Watering Replaced Vegetation:** All new vegetation shall be irrigated for one year post installation and any disturbed and or stressed vegetation shall be watered during any dry periods to maintain the life of the vegetation.
- 9.6.4.3 Infiltrating, Non-infiltrating Bioretention and Biofiltration Facilities:** Standard bioretention facilities shall be restored to their original design and specifications, to the extent practicable. Restoration shall be according to Standard Specification 7-21.
- 9.6.4.4 Underdrains:** Underdrain pipes shall be restored in-kind. Restoration shall be according to Standard Plan Number 281.
- 9.6.4.5 Non-standard infiltrating and non-infiltrating bioretention facilities:** Non-standard facilities shall be restored to their original design and specifications to the extent practicable. Restoration plans shall be reviewed and approved, before the start of any excavation or removal.
- 9.6.4.6 Structural Systems:** Restoration shall be according to manufacture specifications and approved before beginning construction.
- 9.6.4.7 Vertical Walls:** Vertical walls shall be approved before beginning construction, to ensure proper restoration.
- 9.6.4.8 Underground Injection Control Facilities:** Mandatory erosion control near these systems shall be reviewed and approved before beginning work and all work near these facilities should be avoided.

9.6.4.9 Liners: Impermeable liners shall be restored according to the manufacturer's specifications.

9.6.5 Permeable Sidewalk and Roadway Pavements: Porous pavements are drainage structures and shall be restored so that their infiltration characteristics are preserved. During construction, dirt and sediment shall be contained to protect the surrounding surface from clogging.

9.6.5.1 Permeable Surfaces: Permeable surfaces shall be restored according to standard plans and specifications. See Standard Plans 400 Series: Street Paving & Appurtenance; Standard and Specifications Division 5: Surface Treatments and Pavements.

9.6.5.2 Permeable Facilities: Porous pavements facilities shall be restored to their original design and specifications, to the extent practicable. Restoration plans shall be submitted and approved before permit issuance.

9.7 Other Right-of-Way Elements

9.7.1.1 Alleys

9.7.1.1.1 Rigid Pavement Alleys: Portland cement concrete alleys shall be restored as rigid pavements (Section 9.2 of this Rule). Pavement depth shall be as shown in Standard Plan No. 403, 6 inches thick for residential traffic or 8 inches thick for commercial traffic or match existing pavement depth if greater.

9.7.1.1.2 Flexible Pavement Alleys: Asphalt/flexible base or Chip Seal (BST) alleys shall be restored as non-arterial, residential streets (Section 9.3 of this Rule). Asphalt concrete alley pavement thickness shall be as outlined for non-arterial, residential streets (section 9.3.3.2.4 of this Rule), a minimum 8 inches total asphalt depth consisting of 2 inches of HMA Class 1/2 inch over 6 inches of HMA Class 1 inch, or match existing pavement thickness if greater..

9.7.1.1.3 Gravel or Dirt Alleys and Streets: Untreated road or alley surfaces (crushed rock, gravel, oil mat surfaces, or unimproved surfaces) shall be resurfaced with a minimum of 4 inches of Mineral Aggregate Type 1 or other approved material according to Standard Specifications, Section 4-04.3(13), and then treated with a dust palliative (such as CMS-2) according to Standard Specifications, Section 4-04.3(12).

9.7.2 Unimproved Road Shoulders: Unimproved road shoulders shall be restored with crushed rock (Mineral Aggregate Type 1) to a compacted depth of 4 inches.

9.7.3 Driveway Landings: Driveway landings are integral elements of the street right-of-way and shall be restored according to Standard Plan Nos. 430 and 431, Standard Specifications, Sections 8-14 and 8-19, and according to the rigid pavement

restoration standards in section 9.2 of this Rule. Driveway landings shall not be left in three pieces (the utility restoration counts as one piece). As shown on Standard Plan Nos. 430 and 431, concrete driveway landings shall be 6 inches thick for residential traffic or 8 inches thick for commercial traffic or match existing pavement depth if greater.

9.7.4 Traffic Circles: Traffic circles shall be restored in-kind.

9.7.5 Decorative Treatments and Special Pavement: Seattle has sidewalk, gutter, alley, street, curb, and other public areas with decorative or special surface treatments. In general, these areas shall be restored in-kind. Exceptions and substitutions may be allowed with SDOT's approval, and may also require other approvals (such as restorations within historic districts, restorations over areaways, or restorations where the Seattle Arts Commission or local community associations have approved decorative treatments).

9.7.5.1 Source of Supply: The permittee or contractor shall verify whether a source of replacement material exists and shall be prepared to submit samples and other information for approval as requested by SDOT or others. If original, matching materials cannot be located, the permittee or contractor shall submit an alternative restoration plan to SDOT.

9.7.5.2 Photographic Documentation: SDOT may require that the permittee or contractor photograph the existing decorative treatment or special treatment surfaces before beginning work, to aid in restoring the area to an in-kind condition.

9.7.6 Signal Loops, Pavement Markings, and Other Traffic Operations Appurtenances: If the excavation damages or removes any traffic operations features, then the permittee or contractor is responsible for costs associated with restoring those features. Signal, sign, and marking restorations shall ordinarily be undertaken by SDOT. The Permittee shall contact the SDOT Transportation Operations Division to complete the work. All work completed by SDOT shall be billed to the Permittee. The Standard Specifications Sections for traffic operations appurtenances are 8-08, 8-10, 8-21, 8-22, 8-30, 8-31, 8-32, and 8-33.

9.7.7 Restoring and Adjusting Castings and Survey Monuments: The permittee or contractor shall adjust castings according to Standard Specifications, Section 7-20 at no cost to the City. Castings, such as drainage inlets, maintenance holes, valve chambers, and meter boxes shall be adjusted to finish grade before construction of the final surface course (See Standard Specifications, Section 5-04.3(8)A). Any casting or lid that is worn or broken shall be replaced before installing the final surface.

9.7.8 Unimproved, or Landscaped Areas and Planting Strips

9.7.9 Private Improvements: Private improvements in the street right-of-way, such as plantings, irrigation systems, paving treatments, and driveways shall be safeguarded

from damage or restored in-kind. Where trees and shrubs are irreparably harmed, restoration shall be completed according to Standard Specifications, Section 1-07.16(2). The SDOT Arborist may be consulted for plant restoration information, call 206-684-5047.

9.7.10 Drainage, Erosion Control and Designated Environmental Critical Areas:

Restorations in the street right-of-way shall be in-kind and shall not adversely affect the drainage features of the roadway from the condition that existed before construction. Erosion and sediment controls shall comply with section 3.2 of this Rule. Vegetation restoration shall be in-kind, unless the SDOT Director has approved otherwise. Where restoration is undertaken in an area designated as an Environmentally Critical Area in SMC Chapter 25.09, then policies and regulations of that chapter shall also apply.

APPENDICES

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