CITY OF TAMPA
MOBILITY DEPARTMENT
PAVEMENT AND RIGHT OF WAY RESTORATION REQUIREMENTS
REVISION MARCH 2024

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Unless properly restored, pavement cuts reduce the level of service on streets. The purpose of this document is to protect and improve the City of Tampa (C.O.T / City) roads by providing clear, consistent repair standards. These guidelines improve the street condition where the cuts are made. The intention is to avoid taxpayer subsidizing poor restoration efforts.

1. GENERAL

1.1. All work not addressed within these specifications should be performed under Florida Department of Transportation's (FDOT) applicable Standard Specifications for Road and Bridge Construction.

1.2. The Foreman on each project shall maintain on-site copies of the approved application and permit for construction and maintenance operations within public rights of way, including plans, drawings, and the City of Tampa Pavement/Right of Way Restoration Requirements.

1.3. The Permit holder is to contact the Right of Way Permitting Division at (813) 274-3104, 48 hours prior to starting permitted work.

1.4. Copies of all applicable material delivery tickets and copies of all test results not taken by the City's testing and inspections lab shall be forwarded to Street Maintenance Operations at 3802 East 26th Avenue, Tampa, Fla. 33605. Fax number: (813) 622-1956.

1.5. Tests will be performed by the City's Testing/Inspections Lab or a certified private engineering testing laboratory. The permittee shall bear all testing costs. **The material testing results should be forwarded to the department/inspection group performing the inspection.**

1.6. Any historic brick removed from streets and not used in the project shall be collected, palletized, and delivered to City of Tampa Mobility Department, Transportation Operations Division.

1.7. When restoring pavement, the contractor shall do all of the following:

a. Maintain temporary patches providing a smooth, all weather surface at all times until all other installation work is complete.
b. Notify the City's Maintenance Operations Manager at least two (2) business days prior to application of the permanent patches.
c. Install permanent patches as soon as all other installation work is completed.

2. EXCAVATION

2.1. Where pavement and/or base are undermined, disturbed, or otherwise damaged, such areas shall be cut away and the pavement replacement work extended to correct such conditions.

2.2. Tunneling under driveways, sidewalks, curbing, and retaining walls shall not be allowed unless permit prior to work is given by C.O.T. Transportation Design Engineer.

2.3. When obstructions are encountered in driving or jacking, pipe shall be cut off, left in place, and filled with a flowable fill type grout to prevent the formation of voids

2.4. Erosion control measures shall abide by Florida Department of Transportation (F.D.O.T.) applicable Standard Specifications for Road and Bridge Construction.

3. TRENCH REQUIREMENTS

3.1. Utility installations shall be placed a minimum of 30 inches below grade. If, because of utility conflicts or unusual conditions, the 30-inch minimum depth requirement cannot be maintained, special authorization for installation at a lesser depth may be granted in writing by the C.O.T. Transportation Design Engineer.

3.2. Excavate trenches for pipes to the elevation of the bottom of the pipe and to a width sufficient to provide adequate working room. For pipes less than 4 inches in diameter, a minimum of 18 inches is required to allow mechanical compaction of backfill and base. Density tests are required, and pavement restoration shall meet the requirements of Section 4. Remove soil not meeting the classification specified as suitable backfill material in Section 4.1.1 to a depth of 4 inches below the bottom of the pipe elevation. Where the soils permit, ensure that the trench sides are vertical up to at least the mid-point of the pipe.

3.3. **Compacted and Stabilized Fill Option:** Backfill material shall be placed in accordance with Section 125 of the most recent version of FDOT Standard Specifications. See City of Tampa Trench Restoration Detail (PVT-1). In Stage #1, construct compacted fill beneath the haunches of the pipe, using mechanical tamps suitable for this purpose. Compact the soil in 6-inch lifts to match the density of the soil in which the trench was cut. This compaction applies to the material placed beneath the haunches of the pipe and above any bedding. In Stage #2, construct compacted fill along the sides of the pipe and up to the bottom of the base layer, as noted in Section 4.1.1. Compact the soil in lifts not to exceed 12 inches to meet the requirements of Section 4.1.2.

3.4. **Flowable Fill Option:** If compaction cannot be achieved through standard mechanical methods, then flowable fill may be used. Flowable fill is to be placed in accordance to Section 121 (Sections 121-1 through 121-6) of the FDOT Standard Specifications for Road and Bridge Construction (most recent version), as approved by the C.O.T Construction Engineer. Do not allow the utility being installed to float. If a method is provided to prevent flotation from occurring, Stages #1 and #2 can be combined if approved by the C.O.T Construction Engineer. In Stage #1, place flowable fill midway up on both sides of the utility. Allow flowable fill to harden before placing Stage #2.

3.5. **Compaction and Testing Requirements:** Field density tests shall be performed on each compacted lift. There shall be a minimum of one test series for each one foot of lift over pipeline between manholes, and separation between subsequent tests shall not exceed 200 linear feet. Tests around structures shall be in one-foot lifts. For all types of pipe, fill to be compacted beneath the haunches using suitable tampers. For pipes less than 24 inches in diameter, backfill in appropriate lifts and test from the top of the pipe and every one (1) foot vertically thereafter. For pipe 24 inches to 72 inches in diameter, backfill in appropriate lifts and test from the springline and every one (1) foot vertically thereafter. For pipes larger than 72 inches, tests shall begin one foot above the base of the trench. Density tests are not to be taken through succeeding layers. The final subgrade density test shall be taken at elevation beneath the base material or beneath full-depth asphalt.

3.6. **Density Specification:** Requirements of Section 4.1.2 shall be met. .

4. PAVEMENT RESTORATION MATERIAL

4.1. Backfill and Subgrade

4.1.1 Backfill and subgrade Material should be A-3 type material classification per AASHTO. Replace and compact backfill and subgrade in accordance with FDOT Standard Plans for Road Construction Index 120-001 (most recent version). Backfill shall be free of unsuitable material, such as bricks, broken pavement, concrete, clay, muck, etc. If compaction cannot be achieved through normal mechanical methods, then flowable fill may be used. If flowable fill option is selected, both mix and installation shall conform to Section 121 (Sections 121-1 through 121-6) of the FDOT Standard Specifications for Road and Bridge Construction (most recent version).

4.1.2 **Density Specification:** Minimum 98% of the Modified Proctor maximum density per AASHTO T-180, shall be met. If the cover height below the bottom of base layer, or below

the unpaved ground, is less than 15 inches, compact the backfill cover to a density of at least 98% of the Modified Proctor maximum density per AASHTO T-180.

4.1.3 If mechanical compaction cannot be performed, compaction shall be performed using hand or power tamping in a manner acceptable to the C.O.T Transportation Design Engineer. Flowable fill may be used upon approval of the Engineer for backfill only as noted in Section 4.1.1.

4.2. Base Material

4.2.1 Approved by a C.O.T. Transportation Design Engineer and/or meeting the FDOT Standard Specifications for Road and Bridge Construction (FDOT 911) (most recent version). Submittal may be requested by C.O.T.

4.2.2 **Acceptable Materials:** Limerock, Crushed Concrete, Concrete (FDOT 346 Class I), and Asphalt Plant Mix. See City of Tampa Detail PVT-1 for required minimum depths. Full depth asphaltic concrete can be substituted for base material in an equivalent layer thickness as determined by the FDOT General Use Optional Base Groups.

4.2.3 **Compaction and Testing Requirements:** Place and compact in lifts not exceeding 6 inches. Density tests are required for each trench segment at final grade, not to exceed 200 linear feet. Asphalt Plant Mix shall be compacted in accordance with Section 4.4 (Asphalt).

4.2.4 **Density Specifications:** Shall meet 98% compaction of AASHTO T-180-19.

4.3. Asphalt Concrete Pavement

4.3.1 **Compaction and Testing Requirements:** Requirements of Section 334 of FDOT Standard Specifications for Road and Bridge Construction (most recent version) shall be met. Type SP 9.5 lifts are to be 1 inch min. and 1½ inches max. Type SP 12.5 lifts are to be 1 ½ inches min. and 2 ½ inches max. Determine the asphalt content of the mixture in accordance with FM 5 563. Determine the gradation of the recovered aggregate in accordance with FM 1 T 030. Monitor the roadway density using a minimum six-inch diameter roadway cores obtained at a minimum frequency of three cores per day or by Nuclear Density Method if approved by Engineer. Determine the roadway density in accordance with FM 1 T 166 or with FM 1-T 238. The minimum roadway density will be based on the percent of the maximum specific gravity (G_{mm}) from the approved mix design. Assure that the asphalt content, gradation, and density test results meet the criteria in the table below. Quality assurance testing of the asphalt may be required at the Inspector's discretion.

Quality Control and Acceptance Values	
Characteristic	**Tolerance**
Asphalt Binder Content (percent)	Target ± 0.55
Passing No. 8 Sieve (percent)	Target ± 6.00
Passing No. 200 Sieve (percent)	Target ± 2.00
Roadway Density (average of three cores)	91.5% G_{mm}
Roadway Density (any single core)	90.0% G_{mm}
Roadway Density (average of 3 tests nuclear method if approved by Engineer)	91.5% G_{mm}

4.4. Concrete

4.4.1 Minimum 3000 PSI 28 days strength is required. The concrete is to be placed on compacted, moistened subgrade. Consolidate and cure. Do not load for 72 hours.

4.4.2 Concrete Specifications: Requirements of Section 346 of FDOT Standard Specifications for Road and Bridge Construction (most recent version) shall be met. Density test of subgrade may be required at the Inspector's discretion.

5. PAVEMENT RESTORATION PROCEDURES

5.1. General

5.1.1. The repairing standard will be the "T-patch" which includes mechanical compaction and minimum bench (or key) of 18 inches beyond the edges of the excavation. Refer to Details PVT-1 through PVT-3 for requirements of cut restoration for flexible, rigid, and brick pavements, concrete sidewalks, and unpaved rights-of-way.

5.1.2. Minimum thickness requirements for roadway functional classifications, namely Alley, Local, Neighborhood Collector, Collector, and Arterial, are given in the attached details (PVT-1).

5.1.3. Final surface restoration must be completed to the City's standards, and the City reserves the right to require the entire roadway surface width to be overlaid to lengths determined by the City. The finished pavement is subject to inspection and approval by C.O.T. Inspector.

5.1.4. Upon completion of the roadway surface, the contractor shall replace all disturbed pavement markings per City standards.

5.2. Flexible Pavement Restoration

5.2.1. The thickness of replaced concrete pavements shall be as noted in Section 5.1.2.

5.2.2. Sawcut all sides a minimum of 12 inches from the replaced base. Paint with R.C. 70 (or equal) tack. Place and compact SP 9.5 or SP 12.5 type Asphalt Plant Mix in lifts given in Section 4.4.

5.2.3. Asphalt pavement edges of cuts are to be sawed in straight lines parallel and perpendicular to pavement edges. One uniform parallel line for paving shall exist along edge outside trench line. When the existing asphalt is less than 3 inches thick, pavement shall be cut and removed for a minimum distance of 12 inches from edge of the trench.

5.2.4. Tack coat shall be applied to the surface of the pavement base and adjoining asphalt butted edge joint. No "feathering" of asphalt at the joint will be allowed. These areas are to be free of all loose material and foreign matter before applying tack coat.

5.2.5. Asphalt pavement installation shall be rolled in place in a controlled pattern with a mechanical compactor capable of sufficiently applying enough load to meet density requirements in accordance with Section 4.4.

5.2.6. If an asphalt overlay is called for, obtain neat patches with straight edges. Where a cut is adjacent to or within 3 feet of a previous patch or as directed by the City of Tampa Engineer, the pavement replacement and/or resurfacing shall be extended to include the previous patch.

5.3. Rigid Pavement Restoration

5.3.1. The thickness of replaced concrete pavements shall be as noted in Section 5.1.2. Concrete and density requirements shall meet Section 4.5 (Concrete).

5.3.2. Shape and compact the foundation material to a firm, even surface, true to grade and cross-slope.

5.3.3. Concrete driveways or pavements affected by construction operations will be corrected by removing and replacing full panels. Cuts in concrete driveways shall be sawed in straight lines at panel joints and replaced with full panels.

5.4. Brick Pavement Restoration

5.4.1. Base Options:

A. Crushed Concrete: Shall meet Section 4.3 (Base Materials), requires brick joints to be sealed with 1:4 sand cement mixture (slurry or moistened to ensure that cement sets).

B. Concrete: shall meet Section 4.5 (Concrete), 4 inches of concrete is used as base material, requires brick joints to be sealed with 1:4 sand cement mixture (slurry or moistened to ensure that cement sets).

5.4.2. Place and grade 1½ inches of sand over base course or concrete.

5.4.3. Place bricks uniformly and in close contact; the joints of each course shall be uniformly staggered with respect to adjacent courses. Any work area disturbing a street listed as a "Historical Street" shall be required to replace the original bricks. The contractor is responsible for safe storage of materials until such time the brick is re-laid.

5.4.4. Brick pavement shall be re-laid as called for by the street replacement schedule and on a complete and accepted base with a sand cushion and only clean whole, sound brick shall be used.

5.4.5. Brick replacement consists of bringing the area to be repaved to a subgrade and base conforming to the required grade and cross section of uniform density ready to receive the brick.

5.4.6. Any part of the subgrade and base area inaccessible to the mechanical compactor shall be compacted by hand or power tamping in a manner acceptable to the Engineer.

5.4.7. The brick shall be laid in straight courses, flat on the prepared sand cushion, with the better side of face upward.

5.4.8. Whole brick shall be used except in starting or finishing a course and in fitting around manhole tops or structures. In general, not less than ¼ of brick shall be used in batting.

5.4.9. The joints shall be filled in accordance with Section 5.4.1. The 1:4 sand/cement mixture shall be "soupy" and swept in with street brooms. Alternatively, it may be dry mixed, swept in with street brooms, consolidated by vibratory methods, and sufficiently moistened to ensure that cement sets. Excess grout shall be removed from surface. Joint filler shall take place immediately to prevent joints from filling with foreign matter.

5.5. Temporary Restoration

5.5.1. Temporary pavement surfaces and sub surface materials shall be restored conforming to all requirements regarding configuration, thickness, and density as detailed in Section 4.

5.5.2. The pavement shall be temporarily finished with a suitable grade of asphalt and sand to provide a temporary-wearing course and to eliminate a dust nuisance. Temporary pavement shall be restored with the proper permanent surface within the specified time period stated in the legal Permit for Construction and Maintenance Operations within Public Rights of Way.

6. RIGHT-OF-WAY RESTORATION

6.1. Refer to Pavement Restoration Details (PVT Series) for requirements limits of restoration.

6.2. During the installation of a utility facility, portions of the right-of-way will be disturbed. All non-emergency work within the right-of-way that interferes with or affects a business or residents' daily operation must be preceded by formal notification, either by flyer or in person 48 hours prior to beginning work. Restoration of these areas is the responsibility of the permittee. All restoration work within the right-of-way shall meet or exceed existing conditions. The only exception to this may be restoration for utility adjustment or relocation associated with a City Roadway Improvements

Project. In this scenario, the C.O.T. Right of Way Permitting may allow for temporary restoration depending on the limits of construction for the project.

6.3. Should the utility owner or its contractors not respond to a request for restoring the right-of-way, the C.O.T may perform any work which the City deems necessary to complete such work and restore the public right-of-way. The utility owner shall reimburse the City for any such costs incurred to complete said work. A utility owner shall guarantee any public right-of-way which the City determines have been affected or altered by any excavation in the public right-of-way or any break or cut in any surface of the public right-of-way made by such excavator for the 12 months following the date of completion of restoration.

6.4. For restoration of small cuts related to private utilities, contact City of Tampa Street Maintenance Operations at (813) 274-3101.

6.5. Minimum 4 inches of shell marl, crushed concrete, or asphalt millings shall be placed in unimproved (dirt) trafficked right-of-way (R.O.W).

6.6. If the edge of the excavation crosses or is less than one (1) foot away from the crown or edge of the travel lane, the surface repair must extend the full width of the street or edge of the next travel lane. On the local streets, surface restoration must cover the entire width of the street (curb to curb) regardless of the cut location (see PVT-2, SHEET 1 OF 2).

6.7. Diagonal Cuts: Refer to PVT-2.1 for the limits of pavement repair when the cut is not perpendicular nor parallel to the street.

7. PERMANENT RESTORATION FOR AREAS BEYOND EDGE OF PAVEMENT

7.1. As soon as it is practical after the installation and after all required densities have been obtained, the permittee or their contractor shall begin restoration of the disturbed areas. Restoration shall be such that the disturbed areas are restored to at least their original condition prior to construction. This may consist of seeding and mulching, sodding, tree replacement, sidewalk replacement, etc.

7.2. The adjacent property owner shall be notified by the permittee via letter, signs, or door hangers, if said area is maintained by the owner. No stockpiling of material in roadway is allowed; all dirt and debris will be removed from the job site upon completion.

7.3. Ditches disturbed by construction shall be restored to the proper line and grade and sodded. The City will assist in determining proper line and grade for the restoration of existing disturbed ditches. Access driveways shall be repaired with non-permanent base materials the same day they are disturbed and shall be completely restored within 14 days of the installation of the utility crossing. Trees and landscaping damaged or removed during construction shall be replaced in accordance with the C.O.T regulations. Prior to final acceptance, a final inspection will be conducted by the C.O.T. Transportation Design Engineer. All areas not meeting pre-construction conditions shall be removed and replaced with the appropriate restoration items.

7.4. Should damage occur to the existing roadway surface or any other City facility such as water, sewer, reclaimed, and stormwater pipes, the permittee shall make repairs in accordance with the requirements of this manual and technical specifications applicable and/or shall pay the City of Tampa for all damages and associated repair cost.

7.5. Ditches shall be restored promptly to prevent the formation of sediment in the existing drainage system. Erosion control shall be enforced. The existing ditch grade and cross section profile shall be maintained. The City will require sodding, sprigging, or seeding and mulching to restore stable cover of vegetation on ditch banks, shoulders, and other areas disturbed by construction. Requirements of Section 7.6(Sodding) shall be met.

7.6. Sodding

7.6.1. Scarify or loosen the areas requiring sod to a depth of 6 inches. Prior to sodding, thoroughly water area and allow water to percolate into the soil. Place sod immediately after ground preparation. Do not use sod that has been cut for more than 72 hours.

7.6.2. Do not sod when weather and soil conditions are unsuitable for proper results. Do not place sod on eroded or washed-out sites.

7.6.3. Place the sod on the prepared surface, with edges in close contact and embed it firmly and smoothly by lightly tamping with appropriate tools.

7.6.4. Thoroughly water the sod immediately after placing. Use watering equipment that will prevent damage to the finished surface. Keep the sod in a moist condition until well established. Staking of sod will be required if ditch slope exceeds 4:1.

7.6.5. Lawn and landscaped areas shall be restored to original or better condition. Each situation may require individual attention and differing restoration procedures.

7.7. Sidewalks

7.7.1. All damaged concrete sidewalks and driveway panels shall be replaced in their entirety. Replacement panels shall be constructed of 3,000 psi concrete and be a minimum of 4 inches thick for sidewalks and 6 inches thick for driveways, curb ramps, and returns. Replacement of concrete ADA curb ramps shall meet current ADA PROWAG Standards and be 6 inches thick. Subgrade under sidewalks and driveways shall be compacted to meet the requirements of Section 4.1 and saturated with water prior to concrete placement. See Driveway Details (Series DW) for slope and width requirements.

7.7.2. Concrete sidewalks affected by construction operations will be corrected by removing and replacing full panels. Refer to Section 7.7.1. for thickness requirements beyond the edge of pavement. Cuts in concrete sidewalks shall be sawed in straight lines at panel joints and replaced to full panels. Expansion joints shall be provided at no more than 50-ft intervals on concrete curb and sidewalk replacement work. Expansion material shall be used where new concrete meets existing. Sidewalks shall have tooled construction joints or sawed control joints at 5-ft intervals for 5-ft wide sidewalks and 6-ft intervals for 6-ft wide sidewalks. Jointing and panel size shall match existing patterns.

7.8. Curb and Gutters

7.8.1. Concrete curb and gutter will be formed and placed as a single unit to conform to C.O.T. Standards. Concrete curb and curb and gutter shall be sawcut, removed and replaced to nearest adjacent joint. Concrete and density requirements shall meet Sections 4.1 and 4.5.

7.8.2. See Curb Details (CB Series) for Special Details.

8. WARRANTY OF WORK

8.1. In addition to restoration, the permittee is responsible for the condition of the disturbed areas for a period of one year. Should erosion or settlement occur due to faulty construction practices within a one-year period, it is the permittee's responsibility to perform all necessary restoration work. Should damage occur to the existing roadway surface, the permittee shall make repairs in accordance with the requirements of this manual.

8.2. Restoration work associated with utility relocation work may be temporary provided the disturbed areas are within the limits of the proposed improvement project and approval is granted by the Right of Way Permitting. If temporary restoration is allowed, the disturbed areas shall be graded and sodded/seeded. Asphalt driveways shall be repaired with compacted approved base or equivalent asphalt base and one inch of Superpave. Ditches disturbed by construction shall be re-graded and

sodded/seeded. The permittee is responsible for maintaining these areas until such time as final restoration begins unless the area is disturbed by another utility owner or contractor.

9. FREQUENCY OF TESTING

9.1. Contractor is responsible for all testing including costs.
9.2. Table below shows frequency by materials

Item	Test		Test Frequency
Embankment	Optimum Moisture/Maximum Dry Density of soil (proctor) as determined by AASHTO TI80.		Per Soil Type
	Density Test within Right-of-Way (R.O.W.).	98% of Maximum Dry Density as determined by AASHTO T180 for all trafficked areas including sidewalks 95% of Maximum Dry Density as determined by AASHTO T180 for all sodded or ground cover areas	One per 200' horizontally, in one-foot lifts (1)
	Gradation (Sieve Analysis) AASHTO T 27, T 11, ND T 89, ND T90.		Per Soil Type
Utility Trench Backfill – over pipelines and around structures from R.O.W. line to R.O.W. line	Optimum Moisture/Maximum Dry Density of soil by AASHTO T180.		Per Soil Type
	98% of Maximum Dry Density (proctor). Soil mix by AASHTO T180.		(1)(2)
Utility Trench Backfill – over pipelines and around structures outside R.O.W. line	Optimum Moisture/Maximum Dry Density (proctor). Soil Mix by AASHTO T180.		Per Material Type
	95% of Maximum Dry Density as determined by AASHTO T180.		(1)(2)
Stabilized Subgrade	Limerock Bearing Ratio (LBR) as per FM 5-515.		Per Soil Type
	Minimum 40 LBR.		Per Material Type (3)
	Minimum 20 LBR (For Soil Cement Only).		Per Material Type

	Subgrade to be used under soil cement shall have a minimum 20 LBR.	Per Material Type
	Moisture/Maximum Dry Density of soil (proctor). Proctor as per FM 5-515.	Per Material Type
	98% of Maximum Dry Density as determined by FM 5-515. No tolerance. Soil Cement - 97% of Maximum Dry Density as determined by AASHTO-T134. No tolerance	(3)(4)
Base (Other than soil cement or crushed concrete)	Limerock Bearing Ratio (FM 5-515). Minimum LBR 100.	Per Material Type/Per Source
	98% of Maximum Dry Density as determined by FM 5-515. No tolerance.	(3)(4)
Item	**Test**	**Test Frequency**
Superpave Asphalt	Mix Design	One per FDOT Approved type
	Temperature	(6)
	Maximum Specific Gravity (FM 1-T209)	One per day.
	Extraction/Gradation (FM5-563/FM 1-T030	
	Thickness. No core shall be less than the specified thickness.	Three cores per production day.
	Straightedge (FM 5-509)	(7)
	Bulk Specific Gravity (MF 1-T166) 90% of Lab Density for Local Roadways (Remove and Replace if not met); and 92% of Lab Density for Collectors and Arterials (Remove and Replace if not met).	(3) see Nuclear Density Testing
Item	**Test**	**Test Frequency**
Soil Cement Base	Mix Design	Per Material Type
	Moisture/Maximum Dry Density of soil (proctor) AASHTO T134	Per Material Type
	97% of Maximum Dry Density as determined by AASHTO T134. No tolerance.	(3)(4)
	Compressive Strength of Specimens	One set of three per material type daily
	Cores Thickness Test	(3)
Crushed Concrete Base	Gradation	Per Type of Material/Source (5)
	Abrasion per FM 1-T096	Per Type of Material/Source

	Limerock Bearing Ratio (LBR) as per FM 5-515. Minimum LBR 150.	Per Type of Material/Source
	98% of Maximum Dry Density as determined by FM 5-515. No tolerance.	(4)
Concrete	Temperature (ASTM C1064)	One per set of cylinders
	Slump (ASTM C143)	One per set of cylinders
	Air Content (ASTM C231 or C173 as applicable)	One per set of cylinders
	Compressive Strength Cylinders (ASTM C31 and C39)	One set of four (6x12) inch or one set of five (4x8) inch cylinders for 100 cubic yards or fraction thereof, per class of concrete. Tested as follows: 1 at 7 days, 2 at 28 days, and 1 as reserve tested 56 days is necessary. Three cylinders shall be tested at 28 days if 4x8 inch cylinders are used.

1) *Recommend testing methods: FM 1-T238, FM- T204, ASTM D6938, and ASTM D2937.*

2) *Tests shall be located no more than 200 feet apart. Tests shall be performed on each lift, except that tests shall not be further apart than one foot vertically. Field Densities shall be taken over all road crossings. Field Densities for Sanitary Lines shall be staggered to include results over service laterals. There shall be a minimum of one test series for each one foot of lift over pipeline between manholes. Tests around structures shall be spiraled in one-foot lifts. For all type pipe, fill to be compacted beneath the haunches using suitable tampers. For pipe less than 24 inches in diameter, backfill in appropriate lifts and test from the top of the pipe and every one foot vertically thereafter. For pipe 24 inches to 72 inches in diameter, backfill in appropriate lifts and test from the springline and every one-foot vertically thereafter. For pipe larger than 72 inches, tests shall begin one foot above the base of the trench.*

3) *Tests for base material shall be located no more than 200 feet apart. Tests for asphalt pavement shall be located no more than 500 feet apart. There shall be no less than one test per street. No core shall be less than specified minimum thickness. Nuclear Density Tests may be acceptable if approved by the City Engineer/Engineer of Record.*

4) *Testing for the subgrade and base compaction shall be located no more 200 feet apart and shall be staggered to the left, right, and on the centerline of the roadway. The City Engineer may reserve the right to sample and test any material utilized in the construction of the roadway. Testing shall be in accordance with the Testing Schedule and applicable City of Tampa Standard Specifications and latest FDOT Standard Specifications for Road and Bridge Construction. Inspection of the subgrade and base shall be conducted by the City Inspector, and shall be approved by the City Engineer/Engineer of Record prior to the base and asphalt construction respectively. Note: The City reserves the right to sample and test any material during construction.*

5) *Materials requirements as per latest FDOT Standard Specifications for Road and Bridge Construction*

6) *Continuous for the five first loads if the temperature is within the master range take a temperature measurement every five (5) loads thereafter or as directed by the Engineer.*

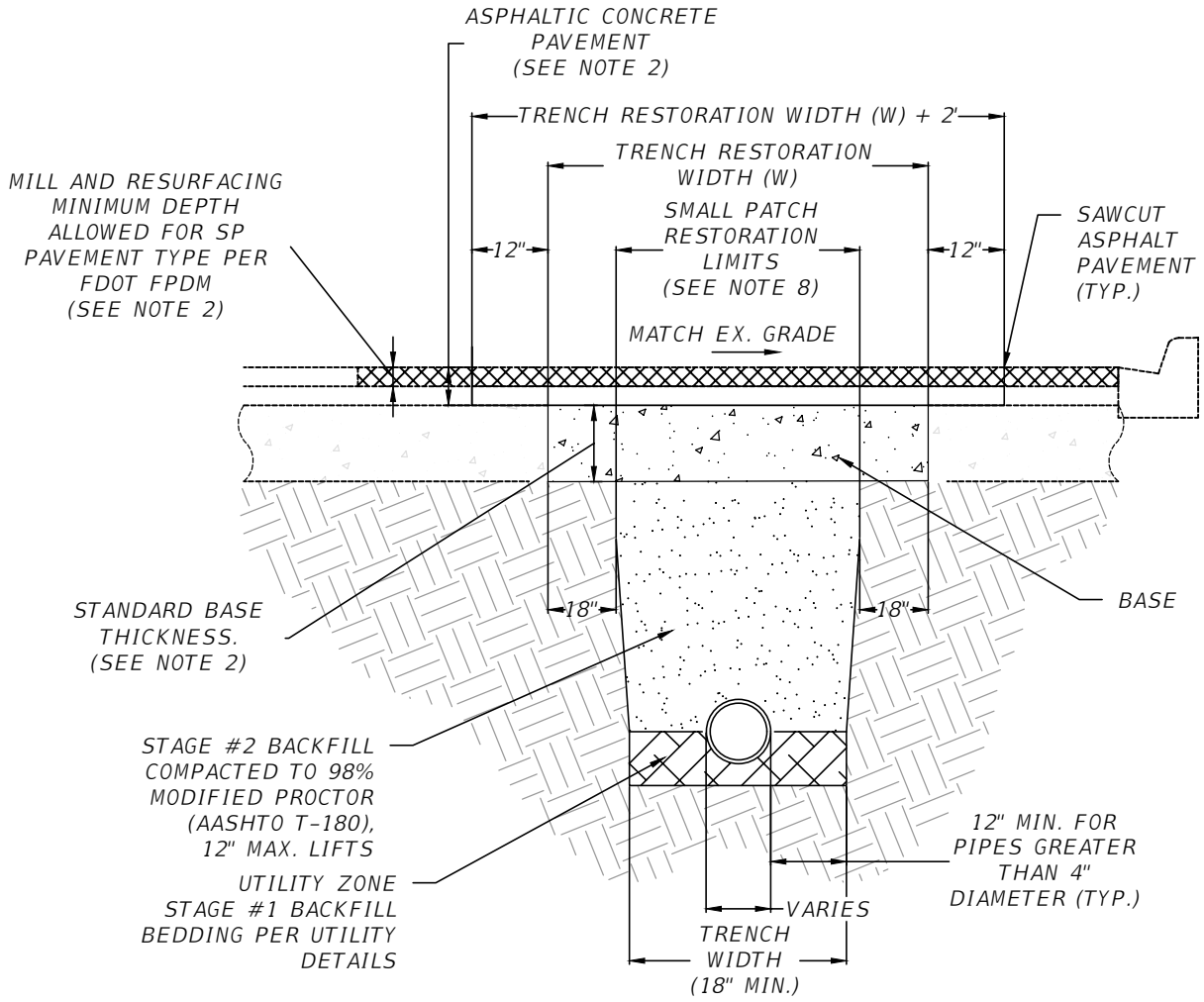
7) *For City local roads the straightedge test will be required only if requested by the City Engineer/Engineer of Record.*

10. QUESTIONS/ C.O.T Contacts

Transportation Engineering Division at (813) 274-3101

Right of Way Permitting Division at (813) 274-3104

Contract Administration Department at (813) 635-3400



NOTES:

1. ALL WORK, MATERIALS, AND TESTING PER CITY OF TAMPA PAVEMENT AND RIGHT OF WAY RESTORATION REQUIREMENTS.
2. CITY OF TAMPA MINIMUM PAVEMENT THICKNESS STANDARDS ARE LOCATED ON SHEET 2 OF 2. MATERIAL, TYPE AND THICKNESS SHALL BE PER CITY OF TAMPA MINIMUM PAVEMENT DESIGN STANDARDS.
3. SEE CITY OF TAMPA FLEXIBLE PAVEMENT RESTORATION LIMITS DETAIL (PVT-2) FOR REQUIRED LIMITS OF MILLING & RESURFACING.
4. IF EXISTING ASPHALTIC CONCRETE PAVEMENT LAYER THICKNESS EXCEEDS MINIMUM STANDARD PER CITY OF TAMPA MINIMUM PAVEMENT DESIGN STANDARDS, ANY ASPHALT THICKNESS THAT EXCEEDS THE CITY OF TAMPA MINIMUM PAVEMENT STANDARDS CAN BE CONSIDERED AS PART OF THE MINIMUM BASE THICKNESS.
5. ANY ROADWAY RESTORATION OUTSIDE THE LIMITS OF TRENCH RESTORATION OR ANY NEW ROADWAY CONSTRUCTION SHALL MEET THE MINIMUM MATERIAL AND THICKNESS REQUIREMENTS WITHIN THE CITY OF TAMPA PAVEMENT DESIGN STANDARDS, ON SHEET 2 OF 2.
6. CONTRACTOR SHALL REVIEW ROADWAY LONGITUDINAL ROADWAY GRADES PRIOR TO PAVEMENT RESTORATION WORK TO ENSURE THAT ROADWAY MEETS MINIMUM SLOPE PER THE FLORIDA MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE (FLORIDA GREENBOOK).
7. FOR BRICK PAVER SECTIONS, SEE CITY OF TAMPA MISCELLANEOUS RESTORATION DETAILS, PVT-3. FOR RIGID PAVEMENT, SEE FLORIDA DEPT. OF TRANSPORTATION (FDOT) STANDARD PLANS.
8. THE 18" WIDE BASE EXTENSIONS AND 12" ASPHALT RESTORATION EXTENSION (IE, "TRENCH RESTORATION WIDTH (W) + 2'") ON EITHER SIDE OF THE TRENCH ARE NOT REQUIRED FOR SMALL PATCH RESTORATIONS. PAVEMENT AND BASE THICKNESS AND BACKFILL REQUIREMENTS SHALL BE PER THIS DETAIL.
9. TEMPORARY RESTORATION SHALL BE LIMITED TO A TIME PERIOD OF NO LONGER THAN 30 DAYS, UNLESS SPECIFICALLY APPROVED BY THE CITY'S ENGINEER.
10. ALL THERMOPLASTIC STRIPING SHALL BE REPLACED IN KIND. STRIPING SHALL BE PAINTED UNTIL THERMOPLASTIC CAN BE PLACED.

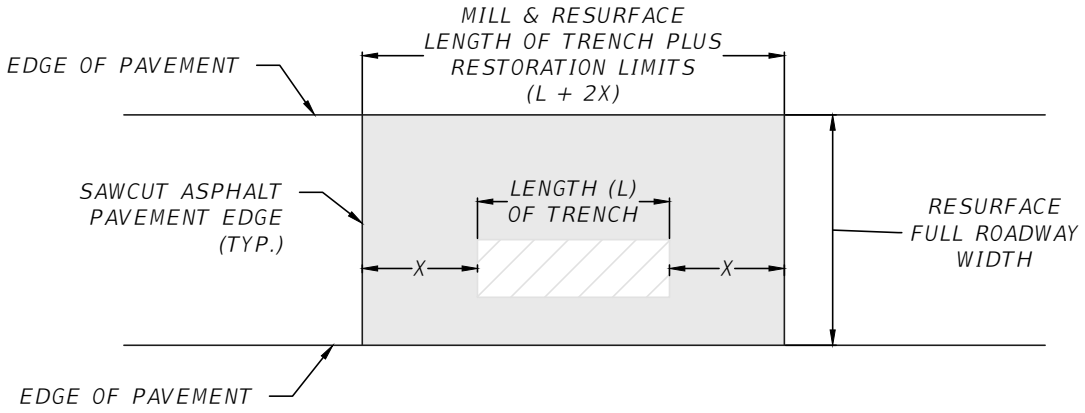
	REVISION DATE	DESCRIPTION	DETAIL NO.
	MARCH 2024	TRENCH RESTORATION	PVT-1 SHEET 1 OF 2

PAVEMENT DESIGN MINIMUM STANDARDS			
	FLEXIBLE PAVEMENT		
ROADWAY CLASSIFICATION	ASPHALTIC CONCRETE	BASE MATERIAL	TYPE B STABILIZATION (MIN LBR 40)
ALLEY	1"	6"	12"
LOCAL	2"	8"	12"
NEIGHBORHOOD COLLECTOR	3"	8"	12"
COLLECTOR/ ARTERIAL	4"*	12"*	12"

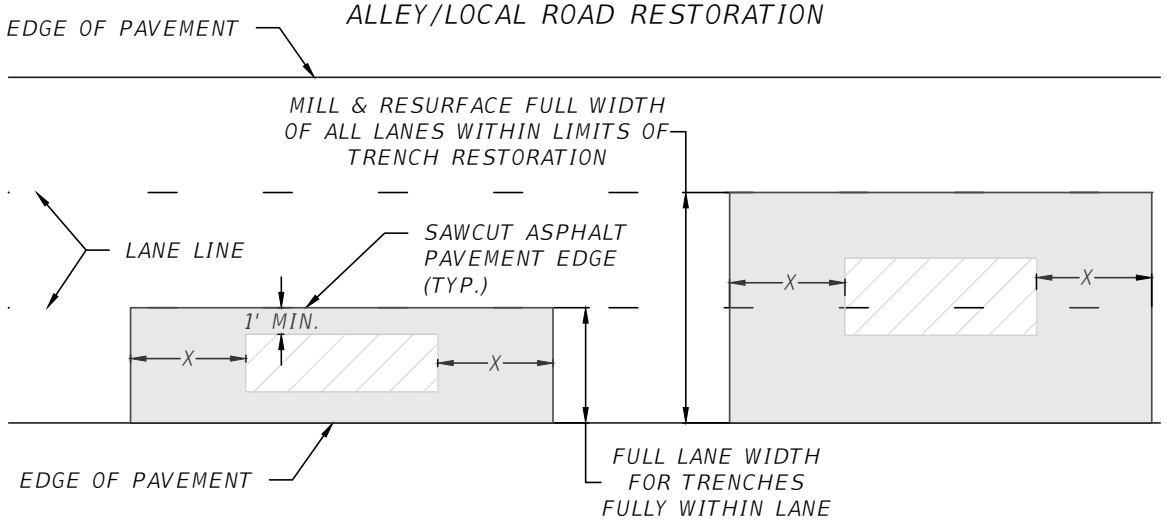
* MINIMUM PAVEMENT SECTIONS CAN BE MODIFIED WITH AN APPROVED PAVEMENT DESIGN SUBMITTED TO THE CITY OF TAMPA MOBILITY DEPT., TRANSPORTATION ENGINEERING DIVISION.

NOTES:

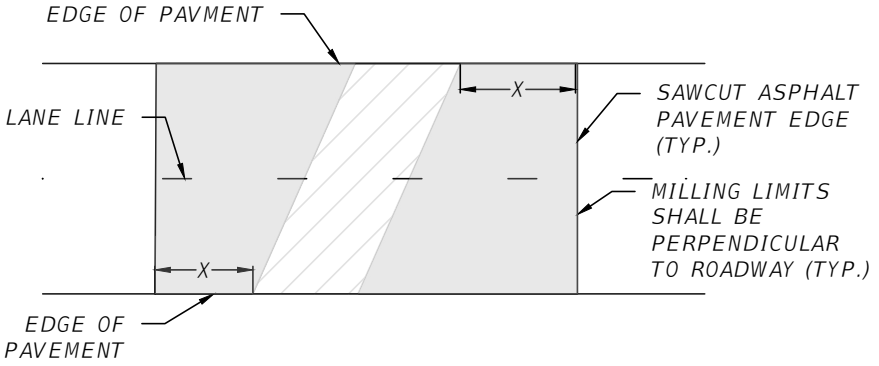
1. ALL WORK, MATERIALS, AND TESTING PER CITY OF TAMPA PAVEMENT AND RIGHT OF WAY RESTORATION REQUIREMENTS.
2. MATERIAL, TYPE AND THICKNESS OF ASPHALTIC CONCRETE PAVEMENT AND BASE PER CITY OF TAMPA PAVEMENT DESIGN STANDARDS.
3. ASPHALTIC CONCRETE SHALL BE TYPES SP-9.5 (TRAFFIC LEVEL C) OR SP-12.5 (TRAFFIC LEVEL C), ONLY. ARTERIALS SHALL USE SP-12.5, ONLY. MINIMUM LIFT THICKNESS PER FDOT FLEXIBLE PAVEMENT DESIGN MANUAL.
4. OPTIONAL BASE GROUP, INCLUDING ASPHALT BASE, PER FDOT STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION MAY BE USED IN LIEU OF STANDARD DEPTH. USE CORRESPONDING LR BASE THICKNESS TO DETERMINE REQUIRED DEPTH.
5. FOR ANY RIGID PAVEMENT ROADWAYS, CONTACT MOBILITY DEPARTMENT CHIEF ENGINEER.



ALLEY/LOCAL ROAD RESTORATION



ALL OTHER CLASSIFICATION ROAD RESTORATION



TRANSVERSE TRENCHES

TRENCH RESTORATION LIMITS
(N.T.S.)

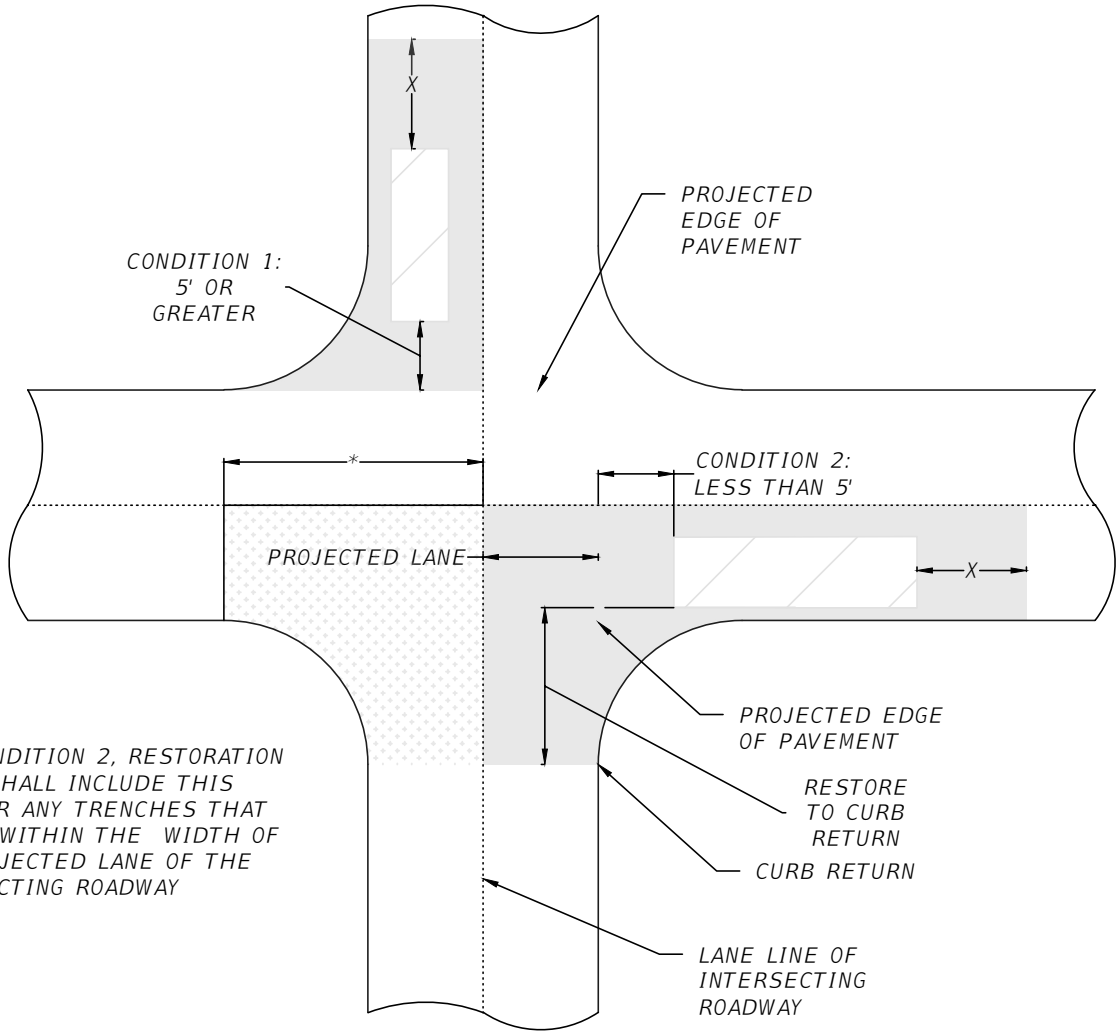
RESURFACING LIMITS	
ROADWAY CLASSIFICATION	LENGTH, X (LF)
ALLEY/LOCAL	5
ALL OTHER CLASSIFICATIONS	10

LEGEND

LIMITS OF TRENCH RESTORATION

LIMITS OF MILL AND RESURFACE

REVISION DATE	DESCRIPTION	DETAIL NO.
MARCH 2024	FLEXIBLE PAVEMENT RESTORATION LIMITS	PVT-2 SHEET 1 OF 2



TRENCHES AT INTERSECTIONS

NOTES:
1. RESURFACING LIMITS "X" ACCORDING TO TRENCH RESTORATION LIMITS DETAIL, PVT-2 (SHEET 1 OF 2).

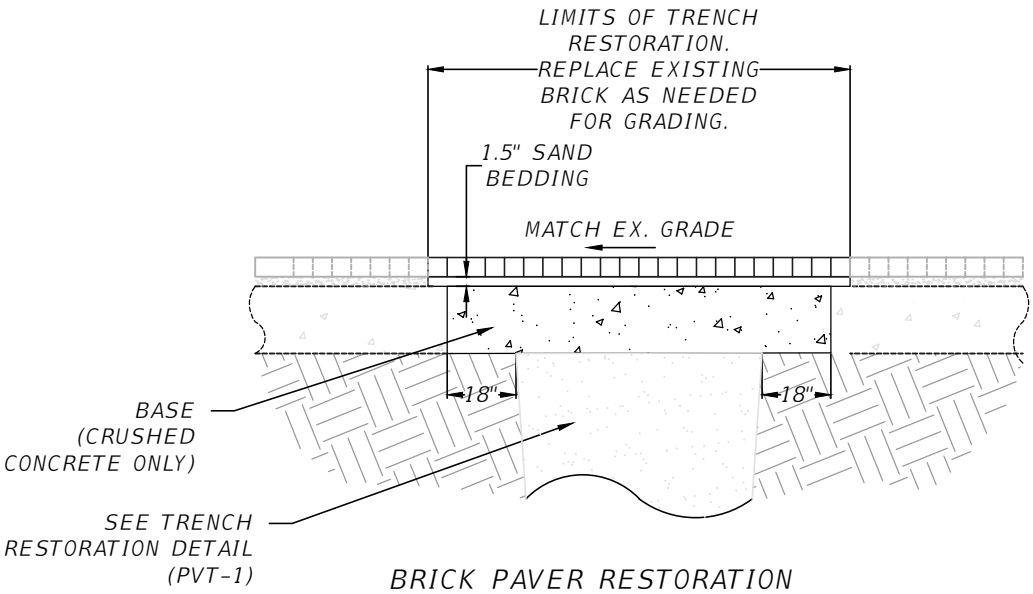
RESTORATION WORK AT INTERSECTIONS
(N.T.S.)

LEGEND

LIMITS OF TRENCH RESTORATION

LIMITS OF MILL AND RESURFACE

	REVISION DATE	DESCRIPTION	DETAIL NO.
	MARCH 2024	FLEXIBLE PAVEMENT RESTORATION LIMITS	PVT-2 SHEET 2 OF 2

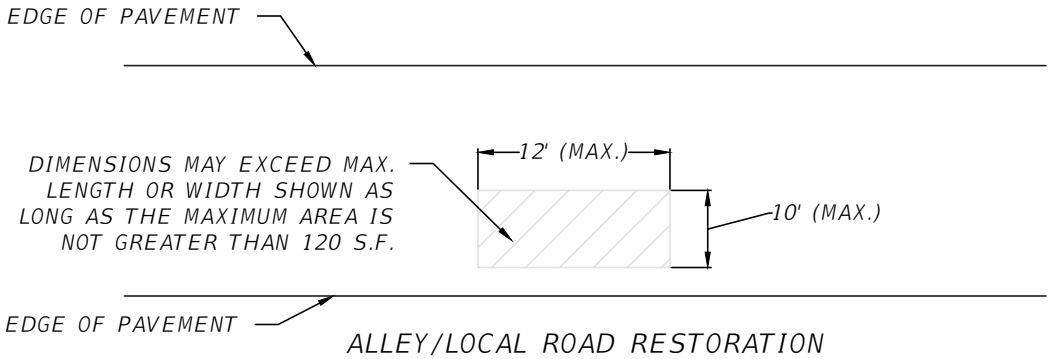


BRICK PAVER RESTORATION

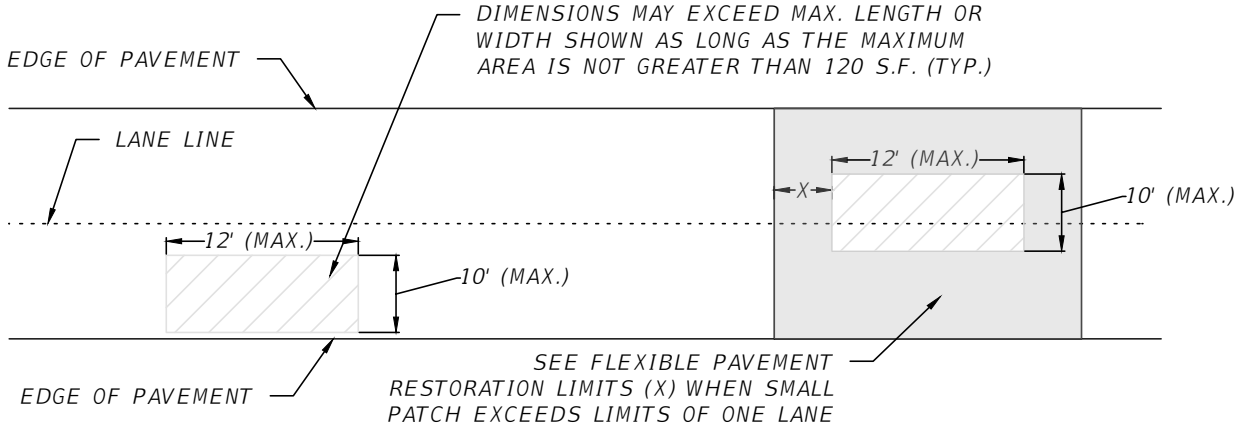
NOTES:

1. MATERIAL, TYPE AND THICKNESS OF BASE PER CITY OF TAMPA PAVEMENT DESIGN STANDARDS. SEE PVT-1, SHEET 2 OF 2, PAVEMENT DESIGN MINIMUM STANDARDS.
2. FOR ANY HISTORIC BRICK REMOVED FROM STREETS AND NOT USED IN THE PROJECT NEEDS TO BE COLLECTED, REFER TO SPECIFICATION 1.6.

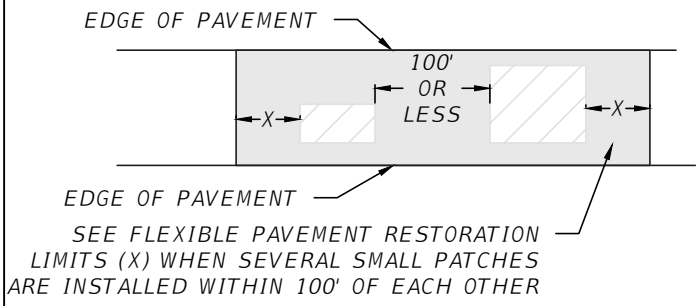
	REVISION DATE	DESCRIPTION	DETAIL NO.
	MARCH 2024	MISCELLANEOUS RESTORATION DETAILS	PVT-3 SHEET 1 OF 1

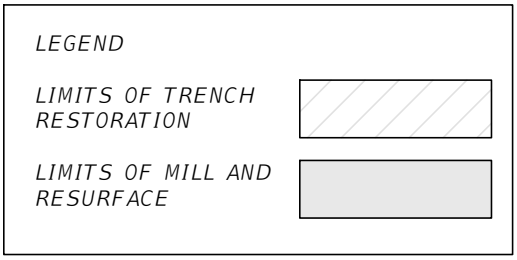


ALLEY/LOCAL ROAD RESTORATION



ALL OTHER CLASSIFICATION ROAD RESTORATION





PROJECTS WITH MULTIPLE PATCHES

NOTES:

1. SMALL PATCH RESTORATION WORK IS MEANT FOR EXPLORATORY TEST HOLES AND SMALL UTILITY CONNECTIONS AND POINT REPAIRS.
2. MILLING LIMITS SHALL BE EXPANDED TO INCLUDE EXISTING PATCHES WHEN EXISTING PATCHES ARE WITHIN 3 FEET.
3. ALL SMALL PATCH RESTORATION TRENCHES SHALL BE A MINIMUM 2' BY 2'.
4. CUTS SHALL BE DONE PERPENDICULAR TO THE EDGE OF PAVEMENT AND DIRECTION OF TRAVEL, RESPECTIVELY.
5. RESTORATION SHALL BE DONE IN ACCORDANCE WITH TRENCH RESTORATION DETAILS, PVT-1.
6. ALL WORK THAT EXCEED MAXIMUM DIMENSIONS OR OCCURS WITHIN MULTIPLE LANES OF A ROADWAY CLASSIFIED OTHER THAN ALLEY OR LOCAL SHALL BE PER THE CITY OF TAMPA FLEXIBLE PAVEMENT RESTORATION LIMITS, PVT-2.
7. ALL RESTORATION, INCLUDING SMALL PATCH RESTORATION ON ROADWAYS RESURFACED WITHIN THE LAST THREE (3) YEARS, SHALL BE DONE PER THE CITY OF TAMPA FLEXIBLE PAVEMENT RESTORATION LIMITS, PVT-2.
8. PAVEMENT RESTORATION DETAILS DO NOT APPLY TO CORING AND AUGERS.

	REVISION DATE	DESCRIPTION	DETAIL NO.
	MARCH 2024	SMALL PATCH RESTORATION	PVT-4 SHEET 1 OF 1