



# CITY OF TAMPA

Bob Buckhorn, Mayor

Transportation Division

## PAVEMENT/RIGHT OF WAY RESTORATION REQUIREMENTS – Rev. 2012

### Pavement Options:

PAVEMENT (*Classification)	BASE MATERIAL (Section 1-2)	CONCRETE (Section 1-3)	ASPHALT SURFACE (Section 1-4)	FULL DEPTH ASHALT (Section 1-5)
A	6"	4"	1"	5"
I	8"	6"	2"	7"
II	12"	8"	3"	10"

### \*Classification:

- Class A: Alleyways, Residential and Low Volume Commercial Driveways
- Class I: 2-Lane Residential Streets and High Volume Commercial Driveways
- Class II: Multi-Lane or High Volume 2-Lane Streets (most depicted by centerline markings)

### Notes:

- 1) If existing roadway is stabilized, increase base material thickness by 50 %
- 2) If original pavement exceeds max. 3" ,match the existing asphalt thickness
- 3) Minimum 4" of shell marl, crush concrete, or asphalt millings placed in unimproved (dirt ) trafficked right-of -way
- 4) Concrete shock pad required for any utility repaired/ installed less than 30" (needs C.O.T. Engineer approval)
- 5) Brick pavement shall be restored as specified in Section 1-6 Brick Replacement

## SECTION 1 PAVEMENT RESTORATION SPECIFICATIONS

**1-1 BACKFILL and SUBGRADE:** Replace and compact clean sub-grade material classified as A-1, A-2, A-3. Backfill shall be free of objectionable material (bricks, broken pavement, concrete, clay, muck, etc.). If flowable fill is used both mix and installation shall conform to FDOT Standard Specifications for Road and Bridge Construction (January 2000), Section 121-1 through 121-6.

**1.1 Density Requirements:** Material shall be compacted in lifts not to exceed 12". Densities are required at alternative 1' lifts of vertical fill above excavation bottom of trench and for each prepared trench segment, not to exceed 200'. Density test is not to be taken through succeeding layers. The final subgrade density test shall be taken at elevation beneath Base Material or Full depth.

**1.2 Density Specification:** Shall meet 98% compaction of AASHTO T-180.

- 1-2 BASE MATERIAL:** Approved by a City of Tampa D.P.W. Engineer and/or meeting the FDOT Standard Specifications for Road and Bridge Construction (January 2000). Submittal may be requested by C.O.T.
- 2.2 Acceptable Materials:** Limerock, Shell Marl, Crushed Concrete, Concrete (3000 min. PSI), and Asphalt Plant Mix.
- 2.3 Density Requirements:** Place and compact in two lifts. Asphalt Plant Mix shall be compacted in accordance to Section 1-4. Densities are required for each trench segment at final grade, not to exceed 200'.
- 2.4 Density Specifications:** Shall meet 98% compaction of AASHTO T-180.
- 1-3 CONCRETE:** 3000 PSI minimum 28 days strength. Placed on compacted, moistened subgrade. Consolidate and cure. Do not load for 72 hours.
- 3.1 Concrete Specifications:** Density test of subgrade may be required at the Inspector's discretion.
- 1-4 ASPHALT SURFACE:** Sawcut all sides a minimum of 6" from replaced base. Paint with RC 70 (or equal) tack. Place and compact in lifts S-1 or S-3 type asphalt plant mix. The finished pavement is subject to inspection and approval by City of Tampa D.P.W. Engineer.
- 4.1 Density Requirements:** Type S-1 lift to be 1 ¼" min. and 3" max. (if lift exceeds 2", compact with a drum roller type compactor). Type S-3 lift to be ¾" min. and 1 ½" max.
- 4.2 Density Specifications:** Quality assurance testing of the asphalt may be required at the Inspector's discretion. (generally: 96 percent compaction of asphalt plant mix design bulk specific gravity)
- 1-5 FULL DEPTH ASPHALT:** Same as requirements for Section 1-4 ASPHALT SURFACE
- 1-6 BRICK REPLACEMENT:** Brick shall be re-laid according to Section 2 PROCEDURES. Place and grade 1 ½" of sand over base or concrete. Place brick uniformly, staggered with respect to the adjacent course. Any work area disturbing a street listed as a "Historical Street" shall be required to replace original brick. The contractor is responsible for safe storage of materials until such time the brick is re-laid.
- 6.1 Base Options:**
- A) Limerock, Shell Marl: shall meet Section 1-2 BASE MATERIALS, requires brick joints to be sealed with Asphaltic Steep #7330 or Surebond 1300 Sealer.
  - B) Crush Concrete: Shall meet Section 1-2 BASE MATERIALS, requires brick joints to be sealed with 1:4 sand cement mixture (slurry or moistened to ensure that cement sets).
  - C) Concrete: shall meet Section 1-3 CONCRETE, 4" 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).
- 6.2 Density Requirements:** Subgrade material shall meet Section 1-1 BACKFILL and SUBGRADE. Base material shall meet Section 1-2 BASE MATERIAL.
- 6.3 Density Specifications:** Shall meet 98% compaction of AASHTO T-180.

## SECTION 2 PAVEMENT RESTORATION PROCEDURES

### GENERAL:

The Permit holder is to contact D.P.W. Technical Services at (813) 635-622-1949 or Fax. 622-1956, 48 hours prior to starting permitted work. The material testing results should be forwarded to the department/inspection group performing the inspection

Testing/Inspection shall be scheduled with D.P.W. Materials Testing and Inspections on any part of the replacement work. Tests will be performed by the City's Testing/Inspections Lab or an approved private engineering testing laboratory. The permittee shall bear all testing costs. **Contact: (813) 635-3400.**

The Foreman on each project shall maintain on-site, copies of the approved Department of Public Works "Application and Permit for Construction and Maintenance Operations Within Public Rights of Way, including plans, drawings, and the Pavement Restoration Requirements – 2003.

Copies of all applicable material delivery tickets and copies of all test results not taken by D.P.W. Materials Testing and Inspections, shall be forwarded to D.P.W. Technical Services at 3806 26 Ave East, Tampa, Fla. 33605. Fax number (813)-622-1956.

### **EXCAVATION:**

Utility installations shall be placed a minimum of 30" below grade. If, because of utility conflicts or unusual conditions, the 30" minimum depth requirement cannot be maintained, special authorization may be granted for installation at a lesser depth. Installations shall maintain the 30" depth, unless special authorization is granted in writing, by the D.P.W. Engineer.

All trench widths under pavement, including driveways, are to be a minimum of 18", to allow mechanical compaction of backfill and base. Density tests are required and restoration shall meet SECTION 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.

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

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.

Edges of jacking pits, directional bore pits, exit pits, trenches, etc. shall be a minimum distance, equal to the depth of the pit excavation, from any pavement, curbs, sidewalks, or other structures. If this distance cannot be maintained, backfill shall be compacted in lifts not to exceed 12" and density tests taken as outlined in SECTION 1-1.

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. Vegetation restoration will be kept moist and maintained until well established. Staking of sod will be required if ditch slope exceeds 4:1.

Erosion control shall abide by Erosion Control Methods set forth in C.O.T: D.P.W. Standard Drawings where applicable

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

## **CONCRETE:**

Concrete sidewalks, driveways or pavement affected by construction operations will be corrected by removing and replacing full panels. Cuts in concrete sidewalks or driveways shall be sawed in straight lines at panel joints and replaced to full panels.

Concrete replacement shall be a minimum thickness of 6" for driveways and 4" for sidewalks. Concrete and density requirements shall meet SECTION 1-3.

Concrete curb and gutter will be formed and placed as a single unit to conform to City of Tampa Standards.

Expansion joints shall be provided at not more than 50' intervals on 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' intervals for 5' wide sidewalk and 6' intervals for 6' wide sidewalk

## **BRICK:**

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.

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. Material and density requirements shall meet SECTION 1-6.

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.

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

The brick shall be laid in close contact and the joints of each course shall be uniformly staggered with respect to adjacent courses. 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.

The joints shall be filled in accordance with SECTION 1-6.1. The 1:4 sand/cement mixture shall be "soupy" and swept in with street brooms or 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.

## **ASPHALT:**

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 trenchline. When the existing asphalt is less than 3" thick, pavement shall be cut and removed for a minimum distance of 6" from edge of the trench.

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.

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 1-4.2.

If an asphalt overlay is called for, a string line must be used while spreading the material, to obtain neat patches with straight edges. Where a cut is adjacent to or within 3' of a previous patch, the pavement replacement and/or resurfacing shall be extended to include the previous patch.

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.

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

**TEMPORARY RESTORATION:**

Temporary pavement surfaces and sub surface materials shall be restored conforming to all requirements regarding configuration, thickness, and density as detailed in SECTION 1. The pavement shall be temporary 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 specified time period stated in the legal Permit for Construction and Maintenance Operations within Public Rights of Way.

**SODDING:**

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.

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

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

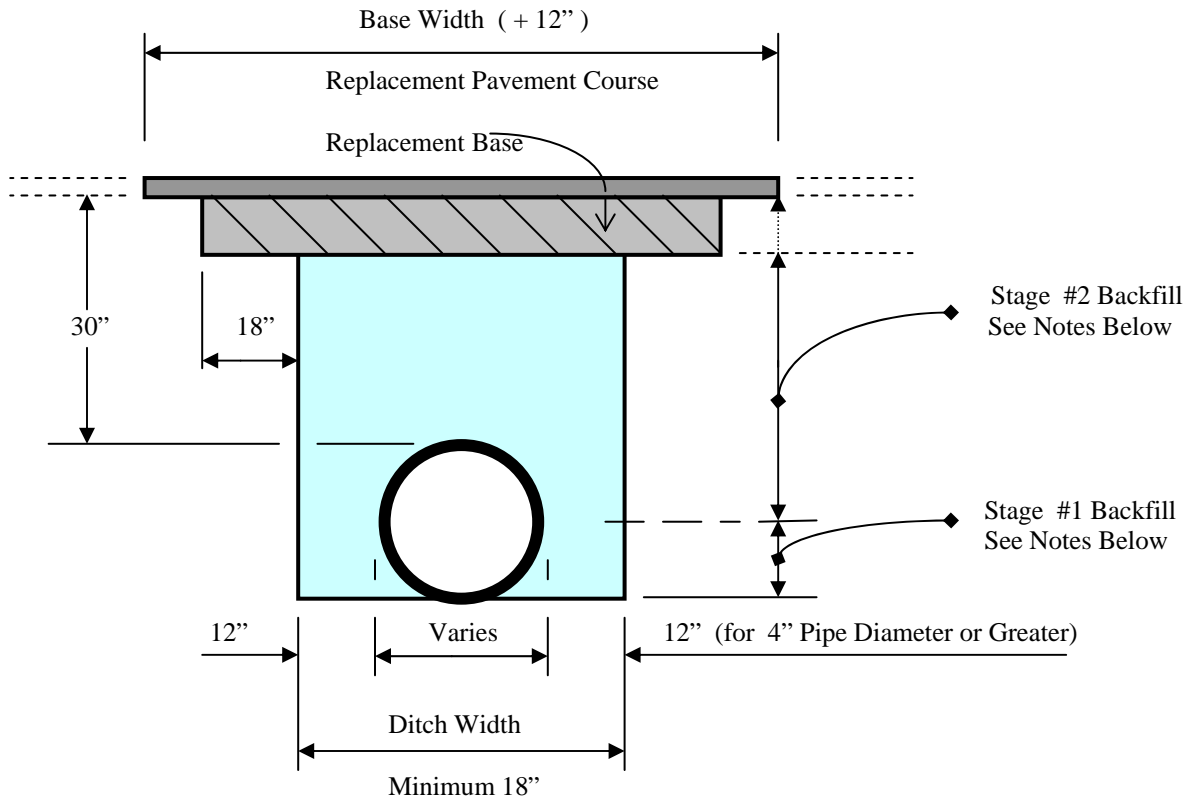
Thoroughly water the sod immediately after placing. Use watering equipment that will prevent damage to the finished surface. Keep the sod in a moist condition until well established.

**QUESTIONS:**

May contact Scott Brooks, Materials Testing/ Inspections Supervisor at 635-3400.

# STANDARD DETAILS FOR RESTORATION WITHIN ROADWAY

(Details Modified From FDOT Design Standards Index 307))



## **FLEXIBLE PAVEMENT NOTES:**

**Pavement shall be mechanically sawed.**

Pavement, Base, and Backfill material shall be placed in accordance with **City of Tampa Pavement Restoration Requirements – 2003**

In Stage #1, construct compacted fill beneath the haunches of the pipe, using mechanical tamps suitable for this purpose. This compaction applies to the material placed beneath the haunches of the pipe and above any bedding.

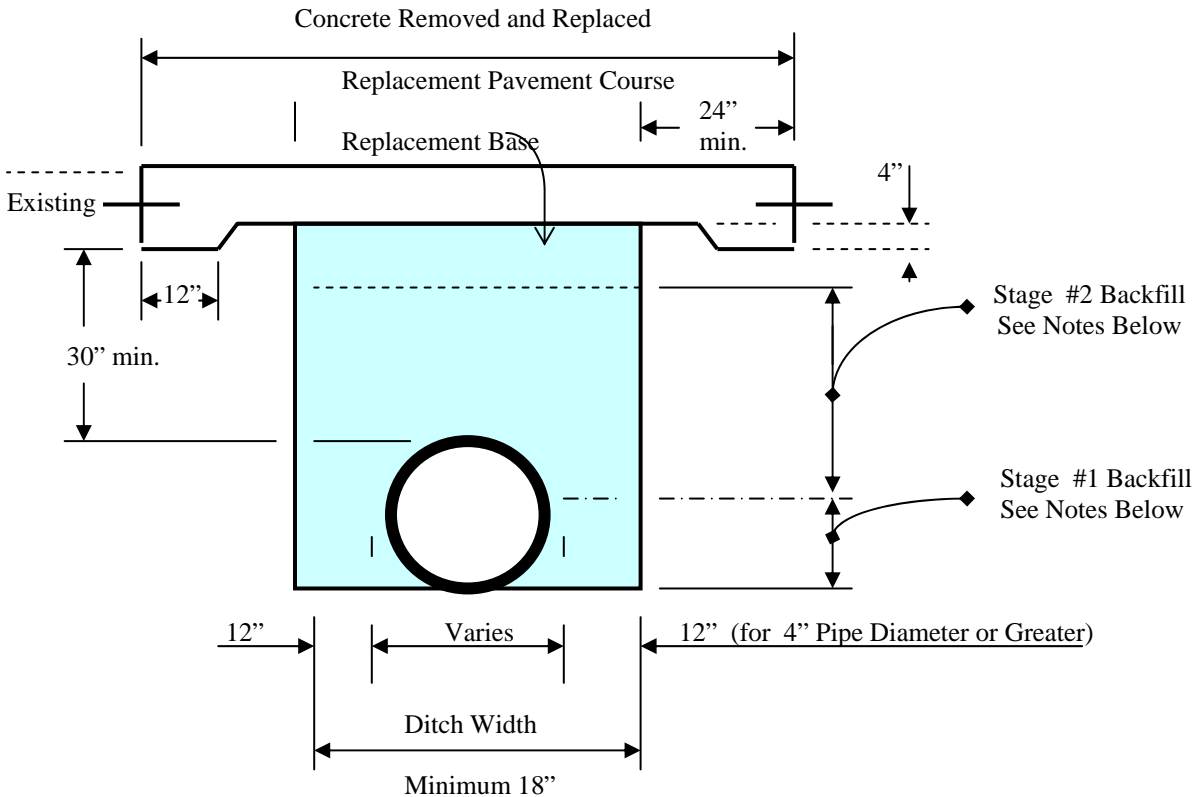
In Stage # 2, construct compacted fill along sides of the pipe and up to the bottom of the base. Compact material using mechanical tamps suitable to achieve Density meeting 98% of AASHTO T-180, lifts not to exceed 12" compacted.

If mechanical compaction is difficult to achieve, then flowable fill may be used. In Stage #1, place flowable fill midway up on both sides of the utility. Allow to harden before placing Stage #2. If a method is provided to prevent floatation from occurring, Stage #1 and #2 can be combined, if approved by the Engineer.

Note: Specification Standards and Requirements not illustrated shall meet latest FDOT Standard Specifications.

# STANDARD DETAILS FOR RESTORATION WITHIN ROADWAY

(Details Modified From FDOT Design Standards Index 307))



## **RIGID PAVEMENT NOTES:**

Pavement shall be mechanically sawed and restored to conform with existing pavement joints.

**High early strength cement concrete (3000 psi) meeting the requirements of FDOT Standard Specification 346 shall be used for rigid pavement replacement.**

Pavement, Base, and Backfill material shall be placed in accordance with **City of Tampa Pavement Restoration Requirements – 2003**

In Stage #1, construct compacted fill beneath the haunches of the pipe, using mechanical tamps suitable for this purpose. This compaction applies to the material placed beneath the haunches of the pipe and above any bedding.

In Stage #2, construct compacted fill along sides of the pipe and up to the bottom of the base. Compact material using mechanical tamps suitable to achieve Density meeting 98% of AASHTO T-180, lifts not to exceed 12" compacted.

If mechanical compaction is difficult to achieve, then flowable fill may be used. In Stage #1, place flowable fill midway up on both sides of the utility. Allow to harden before placing Stage #2. If a method is provided to prevent floatation from occurring, Stage #1 and #2 can be combined, if approved by the Engineer.