

SECTION 02575

REPLACEMENT PAVING AND DRIVES

PART 1 - GENERAL

1.1 SCOPE

The work to be performed under this section shall consist of replacing existing sidewalks and pavement in paved streets and driveways where such sidewalks and pavement have been removed for constructing pipelines, manholes, and all other appurtenances and structures.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cement: Conform to the requirements of Section 501 - Cement of the Alabama Standard Specifications for Highway Construction, 1992 Edition.
- B. Bituminous Prime and Tack: Conform to the requirements of Section 405 - Cutback Asphalt of the Alabama Standard Specifications for Highway Construction, 1992 Edition.
- C. Asphaltic Concrete Materials: Conform to the requirements of Section 411 - Hot Mix Asphaltic Concrete Construction of the Alabama Standard Specifications for Highway Construction, 1992 Edition.
- D. Traffic Line Stripe, Traffic Control Markings, and Pavement Markers: Conform to the requirements of Sections 701, 703, and 705 of the Alabama Standard Specifications for Highway Construction, 1992 Edition.

PART 3 - EXECUTION

3.1 TYPES OF PAVEMENTS

- A. All existing pavement in streets or driveways which is removed, destroyed, or damaged by construction shall be replaced with the same type of pavement as that which existed before construction work was started. Materials, equipment, and construction methods used for paving work shall conform to the State Department of Transportation specifications applicable to the particular type required for replacement, repair, or new pavements.

- B. Portland cement concrete pavement shall be replaced with Class “A” concrete in accordance with the section entitled “Cast-In-Place Concrete” of these Specifications. Cement concrete base courses shall be Class “B” concrete.

The surface finish of the concrete pavement replaced shall conform to that of the existing pavement. The surface of the replaced concrete base course shall be left rough. The slab shall be of depth equivalent to the existing concrete pavement or base course, but in no case less than 6 inches thick. Expansion joints removed shall be replaced. Concrete pavements or concrete base courses shall be reinforced and shall conform to details shown on the Drawings and applicable specification, Portland Cement Concrete Pavement, Section 501, Alabama Standard Specifications for Highway Construction, 1992 Edition.

- C. Type 416 bituminous concrete pavement for county highways shall be replaced with 2-inch minimum thickness of plant mix, fine aggregate bituminous concrete conforming to Hot Mix Asphaltic Concrete Construction, Section 416, latest edition. The pavement mixture shall not be spread until the designated surface has been previously cleaned and prepared, is intact, firm, properly cured, dry, and the tack coat has been applied.
- D. Type 411 bituminous concrete pavement shall be replaced with a minimum thickness of 1' inch conforming to Section 411, Hot Mix Asphaltic Concrete Construction.

3.2 REMOVING AND REPLACING PAVEMENT

Where water mains and appurtenances are constructed in existing paved streets, the pavements shall be removed and replaced in accordance with the following procedure:

- A. The existing street pavement or surface shall be neatly and squarely cut and removed along the line of the work for the width required for the trench or structure.
- B. Immediately following water main installation, trench backfill shall be compacted for the full depth of the trench.
- C. Trench backfill along paved streets and driveways shall include 6 inches of sand-clay base or 6 inches of No. 57 Crusher Run Stone as a temporary surfacing of the trenches. This temporary surface shall be installed level with the existing asphalt surface and shall be maintained dust-free by the Contractor until compaction tests are performed and the replacement pavement is placed.
- D. Within 30 days after backfill is placed the asphalt surface shall be replaced.

- E. When temporary sand-clay or crushed stone surface is considered by the Engineer to be sufficient to be used as base, the surface shall be graded smooth and to an elevation that will make the final permanent surfacing level with the adjacent surfacing that was undisturbed and compaction tests shall be performed. Minimum requirement for compaction shall be 98% of the maximum density at the optimum moisture as determined by AASHTO %-180, Method A (Modified Proctor) for sand-clay, and for crushed stone shall be 83% of the solid volume density determined from the bulle specific gravity by AASHTO T-84 and T-85 and the dry weight of the aggregate.
- F. If the temporary sand-clay or crushed rock surface is to be replaced, it shall be removed and new crushed stone surface for unpaved streets or new sand-clay or crushed stone base for bituminous surface treatment shall be placed. Crushed stone base shall be placed and allowed to sit for three (3) days before concrete base and/or pavement surface courses are applied.
- G. A prime coat consisting of a single application of bituminous material shall be applied to the prepared base. No prime coat shall be applied until the preparation of the old surface has been approved by the Engineer. Before applying prime, the surface shall be swept clean and all loose and foreign matter removed. Method of material application for prime shall conform to the requirements as set forth in Section 401 of the Alabama Standard Specifications for Highway Construction, 1992 Edition.
- H. Following application of prime, a surface course shall be applied. This item shall consist of a bituminous plant mix wearing surface conforming to Section 410 of the Alabama Standard Specification for the Highway Construction, 1992 Edition.
- I. If the street is to be subsequently resurfaced, the replaced asphalt shall be allowed to sit subject to weather and traffic until it has completely settled before the resurfacing takes place.
- J. Contractor shall remove all surplus excavation materials and debris and overspray of prime or tack from the street surfaces and rights-of-way and shall restore street, roadway, or sidewalk surfacing to its original condition. This work shall be done immediately following placement of asphalt and shall be considered as cleanup and no separate payment will be made for this item.

3.3 RESURFACING OF STREETS AND PAVED AREAS

- 3.3.1 Applicability: Where called for on the Plans or in the Specifications full-width bituminous resurfacing shall be applied in lieu of or in addition to temporary crushed stone surfaces or temporary or permanent asphalt patching. Full-width bituminous resurfacing shall consist of one more of the following items:

- 3.3.2 Pulverized In-situ Material Base Course: This item shall consist of mixing by pulverizing the existing surface and base material to provide a foundation course for a surface course or pavement.

The pulverized base course shall be in accordance with these specifications and in conformity with the lines, grades, thicknesses, and typical cross-sections shown on the plans or as designated by the Engineer. The work covered shall consist of furnishing all labor, equipment, and operation required to mix, shape water and compact the insitu materials base course in accordance with the plans and specifications therefor.

The base course shall be processed by thoroughly pulverizing, blending, and mixing until uniform in texture and appearance, the existing surface and base material. The material shall then be shaped, watered and compacted.

Density requirements for compaction shall be 95% of the maximum density at optimum moisture content as measured by AASHTO T-180, Method A.

The section and density shall be maintained until placement of the surface course.

- 3.3.3. Prime Coat: The bituminous treatment shall consist of a prime coat composed of a single application of bituminous material on a prepared base course.

No prime coat shall be applied until base course has been approved by the Engineer. Before applying prime, the surface shall be swept clean and sprinkled with water if directed by the Engineer. Care shall be taken to keep prime off curb and gutter. If splattered prime is unable to be removed from curb and gutter, it will be just cause for replacing the curb and gutter at the expense of the Contractor.

Method of application for prime shall conform to the requirements as set forth in Section 401 of the Alabama Highway Department Standard Specifications for Highway Construction, 1992 Edition.

- 3.3.4 Cleaning Existing Paved or Patched Surfaces: Loose material, dust, dirt, caked clay, and any foreign material that might prevent proper bond with the existing surface shall be removed to the shoulders or curb for the full width of the treatment by means of blading, revolving brooms, mechanical sweepers, and blowers. Surface dust and other loose materials not removed by mechanical means shall be removed with handd brooms. Particular care shall be taken to clean the outer edges of the strip to be treated in order to insure that the bituminous treatment will adhere. Sweeping and blowing shall be continued until all the loose dirt is removed and the surfaces of the larger size aggregate in the road surface are exposed but not dislodged. All sweeping shall be removed before any bituminous material is applied. Heavy concentration of broomed or loose stone, on or adjacent to resurfacing areas shall be removed and disposed of by the Contractor at a site obtained by the Contractor.

No tack coat shall be applied until the preparation of the old surface has been approved by the Engineer. Before applying tack all vegetation shall have been removed and surface treated with an approved soil sterilant to prevent the emergence of vegetation.

3.3.5 Tack Coat:

- A. The tack coat shall consist of a single application of bituminous material on a prepared existing asphalt surface.
- B. No tack coat shall be applied until the preparation of the old surface has been approved by the Engineer. Before applying tack, the surface shall be swept clean and all vegetation and foreign matter removed.
- C. Method of material application for tack shall conform to the requirements as set forth in Sections 401 and 405 of the Alabama State Highway Department Standard Specifications, 1992 Edition.

3.3.6 Bituminous Plant Mix Leveling Course: This item shall consist of a Bituminous Plant mix leveling course conforming to Sections 410 and 411 of the Alabama State Highway Department Standard Specifications, 1992 Edition.

3.3.7 Bituminous Plant Mix Wearing Surface for Resurfacing: This item shall consist of a Bituminous Plant Mix wearing surface conforming to Sections 410 and 411 of the Alabama Highway Department Specifications, 1992 Edition. The finished plant mix wearing course shall be placed at a rate of 125 lbs. Per square yard, unless shown otherwise on the plans.

3.3.8 Manhole and Valve Adjustments:

- A. Manholes shall be adjusted to finished paving surface prior to the placement of any asphalt resurfacing. The manholes shall be adjusted by resetting manhole frames. Manhole frames shall be dug up and re-set to the proper grade to match the new resurfacing. The frames shall be properly grouted in place and all patching around the manhole shall be completed with concrete and left 1½ inches below finish grade for bituminous resurfacing course.
- B. Water and Gas Valves shall also be adjusted to the finished paving surface prior to the placement of any asphalt resurfacing. The Contractor shall notify the water and gas companies that serve the area and have them locate all known valves to be affected by this project.

3.4 CONCRETE DRIVE REPLACEMENT

A. Construction

1. All concrete drives shall be built and/or replaced with Class "A" concrete which shall conform with requirements of the section entitled "Cast-In-Place Concrete" of these specifications.
 2. Asphalt sidewalks shall be replaced with asphalt materials as specified herein.
 3. Preformed joints for use in concrete drives shall be ½-inch thick conforming to the latest edition of AASHTO Standard Specifications, M59, for preformed bituminous fiber joints.
 4. Concrete forms shall be of wood or metal, shall be straight and free from warp, and shall be of sufficient strength when in place to hold the concrete true to line and grade within springing or distortion.
- B. When a section of drive is removed, the existing drive shall be cut to a neat line perpendicular to both the centerline and the surface of the slab. Concrete shall be cut along the nearest existing contraction joints unless such joints do not exist in which case the cut shall be made at minimum distances shown on the Drawings.
- C. Existing drives that have been cut and removed for construction purposes shall be replaced with drives of the same width and surface as the portion removed. Concrete drives etc. shall have a minimum uniform thickness of 4 inches. The new work shall be neatly jointed to the old so that the surface of the new work shall form an even unbroken plane with the old drive.
- D. The subgrade for concrete drives shall be formed by excavating to a depth equal to the thickness of the concrete plus 2 inches. Subgrade shall be of such width as to permit the proper installation and bracing of the forms. Subgrades shall be compacted by hand tamping or rolling. Soft, yielding, or unstable material shall be removed and backfilled with satisfactory material. Two (2) inches of porous crushed stone shall be placed under all sidewalks and shall be compacted thoroughly and finished to a smooth unyielding surface at proper line, grade, and cross section.

The subgrade for asphalt sidewalks shall be formed by excavating to a depth equal to the thickness of the asphalt plus 6 inches and to a width of the asphalt plus 12 inches.

- E. Base for asphalt sidewalks shall be 6 inches thick sand/clay and shall be 12 inches wider than the asphalt surface. Base shall be compacted to a minimum of 95% of the maximum laboratory density at optimum water content as determined by AASHTO T-99, Method A (Standard Proctor).
- F. A prime coat shall be sprayed uniformly over the compacted base at a rate of 0.15 gallons per square yard.
- G. A minimum of 125 pounds per square yard of asphalt shall be placed and compacted the entire width of the sidewalk. Asphalt shall be compacted to 95% of the maximum laboratory density. A core shall be cut every 100 linear feet at locations selected by the Engineer and used to determine the average thickness of the asphalt. The thickness of no core shall be less than 1/4-inch less than the average thickness of all cores.
- H. Expansion joints shall be required to replace any existing expansion joints that are removed with the sidewalk or in new construction every 30 feet. Expansion joints shall be true and even, shall present a satisfactory appearance, and shall extend to within 1/2-inch of the top of finished concrete surface.
- I. Concrete shall be suitably protected from freezing and excessive heat. It shall be kept covered with burlap or other suitable material and kept wet until cured.

3.5 TRAFFIC LINE STRIPE, TRAFFIC CONTROL MARKINGS AND PAVEMENT MARKERS

This item shall consist of preparing finished pavement for and applying reflectorized traffic paint (Class I, Type A) in accordance with the plans and these specifications. Construction methods and materials shall conform with Class I, Type A Sections 701 and 703 of the Alabama State Highway Department Standard Specifications, 1992 Edition. The Contractor may close sections of the street to traffic while applying and allowing paint to dry with written permission of the Engineer, and coordination with the City. Reflective markers shall comply with Section 705 of the above specifications.

Traffic materials shall be applied only to surfaces that have sufficiently cured to permit good adhesion of materials. Paving shall be cured a minimum of 14 days prior to striping or placement of markers.

3.6 MAINTENANCE

The Contractor shall maintain the surfaces of roadways built and pavements replaced until the acceptance of the project. Maintenance shall include such dragging, reshaping, wetting, and rerolling as are necessary to prevent raveling of the road material, the preservation of reasonably smooth surfaces and repair of damaged or unsatisfactory

surfaces to the satisfaction of the Engineer. Maintenance shall also include sprinkling as may be necessary to abate dust.

END OF SECTION 02575.