# **UNDERPASS WAY STORM DRAIN**

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## Item No. 101 - MOBILIZATION

- **.01 DESCRIPTION.** This work shall consist of the construction preparatory operations, including the movement of personnel and equipment to the project site.
- .02 MATERIALS. Not applicable.
- .03 CONSTRUCTION. Not Applicable.
- .04 MEASUREMENT AND PAYMENT. Mobilization will not be measured but will be paid for at the Contract lump sum price. The cost of all required insurance and bonds will be incidental to the Mobilization item. Payment of 50 percent of the Mobilization item will be made in the first monthly estimate after the Contractor has established the necessary facilities. The remaining 50 percent will be prorated and paid in equal amounts on each subsequent monthly estimate. The payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work. Payment of the Mobilization item will not be made more than once, regardless of the fact that the Contractor may have, for any reason, shut the work down on the project, moved their equipment away from the project and then back again.

#### **Item No. 102 - MAINTENANCE OF TRAFFIC**

- .01 DESCRIPTION. This work shall consist of maintaining traffic, both vehicular and pedestrian, on, along, or through the construction area per approved SHA Standard Details. This section sets forth the traffic control requirements necessary for the safe and continuous maintenance of traffic throughout the area affected by the work. Temporary Traffic Control signs and temporary pavement markings shall be included as part of the MOT item.
- .02 MATERIALS. Not applicable.
- **CONSTRUCTION.** Refer to the General Conditions, Sections 7.08 & 7.09 (page GC-58) and the following:

- A. Temporary Traffic Control Typical Application details are included in the RFQ. Should the said details not be appropriate for the Contractors means and methods of construction, a predetermined Traffic Control Plan (TCP) shall be submitted, seven (7) calendar days prior to the commencement of the operation. The TCP shall address the type, size, and placement of signs, job location and personnel to be used. The TCP developed by the Contractor may not be employed until the plan is approved by the County.
- B. All personnel on the project site shall comply with MOSH and Federal OSHA regulations. At a minimum, all personnel shall wear reflective safety vests within the work zone and/or the road right-of-way.
- .04 MEASUREMENT AND PAYMENT. Maintenance of Traffic will not be measured for payment, but will be paid for at the Contract lump sum price. The payment will be full compensation for all work necessary to maintain traffic including all work, sequence of operations, Temporary Traffic Signs, temporary pavement markings, and flagmen for the fulfillment of the Contract requirements and implementation of the approved Traffic Control Plan.

## Item No. 103 – TEMPORARY ORANGE CONSTRUCTION FENCE

- **.01 DESCRIPTION:** Refer to Section 104.20.01 of the MDOT SHA Standard Specifications.
- **.02 MATERIALS:** Refer to Section 104.20.02 of the MDOT SHA Standard Specifications.
- **.03 CONSTRUCTION:** Refer to Section 104.20.03 of the MDOT SHA Standard Specifications.
- **MEASUREMENT AND PAYMENT:** Refer to Section 104.20.04 of the MDOT SHA Standard Specifications.

## Item No. 104 – <u>DRUMS FOR MAINTENANCE OF TRAFFIC</u>

- .01 **DESCRIPTION.** Furnish, set, reset, maintain, and remove drums for maintenance of traffic.
- **.02 MATERIALS.** Refer to MDOT SHA Standard Specifications Section 104.12.02 and the following:

Low Density Polyethylene Drums Reflectorization MDOT SHA Section 950.03.06 MDOT SHA Section 950.03

- **.03 CONSTRUCTION.** Refer to MDOT SHA Standard Specifications Section 104.12.03 and the following:
  - A. **<u>DELETE</u>** General Conditions, Section 7.08 (i), page GC-60.
- **.04 MEASUREMENT AND PAYMENT.** Drums for Maintenance of Traffic will be measured and paid for once at the Contract unit price per each. The payment will be full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work. Where drums have been set and damaged by traffic and the Engineer determines that they are not repairable, replacement will be measured and paid for at the Contract unit price.

## Item No. 201 - UNCLASSIFIED EXCAVATION

**.01 DESCRIPTION:** This work shall consist of all excavation and grading to the lines and grades specified in the Contract Documents. All excavation on this project shall be unclassified and shall include all material regardless of type.

All suitable material from excavation operations shall be used for construction of embankments and restoration of existing grades throughout the limits of the work. Such work shall be performed in accordance with Section 204 of the MDOT SHA Specification Booklet. The Contractor shall be responsible for providing all required testing prior to placing material.

- **.02 MATERIALS:** Not applicable.
- **CONSTRUCTION:** Within fifteen (15) calendar days of the Notice to Proceed the Contractor shall provide written verification of all excavation quantities. Failure to dispute the excavation quantities within fifteen (15) calendar days of the Notice to Proceed, shall imply the Contractor's acceptance of the quantities being accurate.
  - A. Section 201.03.01 through 201.03.08, inclusive shall apply to this project, with the exception of Section 201.03.04 (b) Blasting, which will not be permitted on this project.
  - B. The limit of Unclassified Excavation shall include all material from existing ground to subgrade. Unclassified Excavation will include the removal and disposal of all existing concrete curb, sidewalk, median, and asphalt paving as specified on the construction drawings.
  - C. Moisture and compaction requirements shall conform to Section 204.03.04.

based on the average end area method using cross sections, and paid at the Contract unit price bid per cubic yard. In areas without cross section, the Contractor shall perform survey prior to and after excavation. No adjustments will be made for material swelling. The payment will be full compensation for all excavation and hauling, formation and compaction of embankments and backfills; disposing of excess and unsuitable materials; removal and disposal of existing rock, removal and disposal of existing pavement, removal and disposal of existing curbing, removal and disposal of existing sidewalk or median, etc.; topsoil stripping and stockpiling; preparation and completion of subgrade and shoulders except as otherwise specified; serrated slopes; rounded and transition slopes and for all material, labor, equipment, tools and incidentals necessary to complete the work. Payment will not be made for excavation of any material that is used for purposes other than those designed.

## Item No. 202 – <u>SAW CUTS</u>

- **.01 DESCRIPTION:** The Contractor shall saw cut the existing roadway pavement full depth to provide a clean joint to place the new construction adjacent to the existing pavement. The Contractor shall saw cut either hot mix asphalt or Portland cement concrete pavement to provide a along a line designated by the Engineer.
- **.02 MATERIALS:** Not applicable
- **.03 CONSTRUCTION:** Saw cuts shall be made with a power saw, to the width directed by the Engineer. Saw cuts shall be clean, dry, and free from dust, grit, oil and moisture to the satisfactory of the Engineer. This item shall be used only where and as directed by the Engineer.
- **.04 MEASUREMENT AND PAYMENT:** This item will be measured and paid at the Contract unit price bid per linear foot. Payment will be for full compensation for all material, labor, equipment, tools, and incidentals necessary to complete the work.

## Item No. 301 – <u>SELECT BACKFILL USING CR6</u>

**.01 DESCRIPTION**. This work shall consist of placing selected backfill material as specified in the contract documents or as directed by the Engineer.

#### .02 MATERIALS.

No. 57 Aggregate

MDOT SHA Section 901.01

#### .03 CONSTRUCTION.

- A. Compaction may be achieved using tamped fill methods conforming to Section 210, acceptable to the Engineer.
- B. The Contractor shall provide the Owner all laboratory tests for aggregates (fine & coarse) for quality control purposes prior to its placement. The tests shall include, but not be limited to, sieve analysis, moisture-density relationship, and specific gravity tests (if required by the Engineer). All tests shall be performed from a finished product at the quarry in accordance with AASHTO/ASTM Standards.

**.04 MEASUREMENT AND PAYMENT**. Selected Backfill using No. 57 Aggregate will be measured and paid for at the Contract unit price bid per cubic yard. The payment will be full compensation for compaction and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

## Item No. 501 - 6 INCH GRADED AGGREGATE BASE COURSE

- **.01 DESCRIPTION:** Refer to Section 501.01 of the MDOT SHA Standard Specifications.
- **.02 MATERIALS:** Refer to Section 501.02 of the MDOT SHA Standard Specifications.
- **.03 CONSTRUCTION:** Refer to Section 501.03 of the MDOT SHA Standard Specifications.
- **.04 MEASUREMENT AND PAYMENT:** Refer to Section 501.04 of the MDOT SHA Standard Specifications.

# Item No. 502 – <u>HOT MIX ASPHALT SUPERPAVE 19.0mm FOR BASE</u>, <u>PG64-22</u>, <u>LEVEL-2</u>

**.01 DESCRIPTION:** Refer to Section 504.01 of the MDOT SHA Standard Specifications and add the following:

ADD: This work shall consist of furnishing and installing Hot Mix Asphalt (HMA) Superpave courses as shown herein and/or as directed by the Engineer. HMA Superpave courses shall consist of crushed stone, crushed slag, or crushed gravel and fine aggregate, slag or stone screening or a combination thereof combined with asphalt cement. The Engineer will permit the use of Superpave courses containing RAP material in the specified mixes. All mix designs used on this contract shall be MDOT SHA approved and certified.

**.02 MATERIALS:** Refer to Section 504.02 of the MDOT SHA Standard Specifications and the following.

**ADD:** Hot Applied Joint Sealer

MDOT SHA Section 911.01

- A. Hot Mix Asphalt Superpave Mixes shall meet the requirements of <u>Standard Specification for SUPERPAVE Volumetric Mix Design, AASHTO Designations MP2-99</u>, and be subject to approval by the Engineer.
- B. The Contractor shall submit a certificate of analysis showing conformance with Performance Graded Asphalt Binder Specification, MP1 for the following mixes:

| Mix                   | Binder   |
|-----------------------|----------|
| HMA Superpave 9.5 mm  | PG 64-22 |
| HMA Superpave 19.0 mm | PG 64-22 |

(Job mix formulas shall be submitted for approval by the County for the above mixes prior to placement)

C. Mixes shall be designed for an Equivalent Single Axle Load (ESAL) range of 0.3 million to < 3.0 million ESAL's (compaction level 2) and a seven (7) Day Average Design Air Temperature < 39°C.

- D. The allowable percentage of recycled asphalt pavement (RAP) and its suitability for use shall be in conformance with MSMT 412 and M 323. The allowable amount of RAP in the specified mixes shall not exceed 20% for surface mixes or 25% for base mixes. When using 20% or less of RAP, binder viscosity adjustments are not required. Documentation of RAP stockpile quality and traceability shall be submitted to the Engineer for an approval prior to use.
- E. Crushed glass and roofing shingles shall not be used in the Superpave mixes.
- **.03 CONSTRUCTION:** Refer to Section 504.03 of the MDOT SHA Standard Specifications and the following.

## ADD:

- A. The Contractor shall provide a copy of the plant quality control testing results within 24 hours of placement of applicable HMA.
- B. At any time during the period of the Contract, the Engineer may increase, delete, or substitute asphalt or sealant tonnage, milling area or patching quantities as listed herein for Washington County, at his/her discretion. The Engineer may also change the limits of the work by adding or deleting roads as listed herein. A change in quantities shall be in accordance with the "Estimated Quantities" provision as stated in Washington County General Conditions, Section 4.04, page GC-27.
- C. All construction joints and cores shall be sealed with an approved hot applied joint sealer within two (2) working days after the surface course has been completed.
- D. All compaction of HMA shall take place while in place temperature is above 185 degrees. HMA shall be compacted to an in place density of 92.0 to 97.0 percent of the maximum density.
- E. The Paver speed shall not be in excess of 35 feet per minute. The Engineer may require a lesser speed if it is deemed that the rollers are not able to achieve the required compaction at that speed.
- F. At the direction of the Engineer, the Contractor shall perform density testing
- G. Random testing may be performed at the direction of the Engineer.
- H. Roadway surface must be completely dry before placement of any tack coat or HMA.
- I. When applying the tack coat to a vertical surface, a wand may be used. While applying tack coat to a horizontal surface (mainline or shoulder), the tack coat shall be applied using a controlled application method. Application to horizontal surfaces with a wand is considered unacceptable.

- J. Prior to applying the tack coat, remove all loose and foreign materials from the surface. Apply using full circulation spray bars that are laterally and vertically adjustable and that provide triple fanning and overlapping action. The tack coat distributing equipment shall have a computerized rate control for adjusting and controlling the application from the cab, this application rate shall be a minimum of .04 gal/sq yd.
- **MEASUREMENT AND PAYMENT:** Refer to Section 504.04 of the MDOT SHA Standard Specifications and the following.
  - A. Superpave Hot Mix Asphalt (HMA) pavements will be measured and paid at the Contract unit price bid per ton for the respective types of Superpave. The payment will be full compensation for furnishing, hauling, placing, field and plant quality control, field and laboratory testing, tack coat, labor, equipment, tools and incidentals necessary to complete the work.
  - B. Joint Seal shall be considered incidental to the cost of the pertinent asphalt pay items. Joint Seal shall be used for any location that new pavement is adjacent to existing pavement surfaces and shall include, but not limited to, storm drain inlets, roadway tie-ins, driveway tie-ins, patches, and any Longitudinal and/or Transverse joints that are identified by the Engineer. Joint Seal shall be applied no later than two (2) working days after the final surface course or patch course has been completed.
  - C. There will be no Price Adjustments for Asphalt Binder.
  - D. There will be no Pay Adjustments for Pavement Density and Hot Mix Asphalt Mixture.

## Item No. 701 – TOPSOIL FOR TIE-INS

- **.01 DESCRIPTION:** Refer to Section 701.01 of the MDOT SHA Standard Specifications.
- **.02 MATERIALS:** Refer to Section 701.02 of the MDOT SHA Standard Specifications.
- **.03 CONSTRUCTION:** Refer to Section 701.03 of the MDOT SHA Standard Specifications.
- **.04 MEASUREMENT AND PAYMENT:** Topsoil for Tie ins will be measured and paid for at the Contract unit price bid per cubic yard. The payment will be full compensation for compaction and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

## Item No. 702 – TURFGRASS ESTABLISHMENT

- **.01 DESCRIPTION:** Refer to Section 705.01 of the MDOT SHA Standard Specifications.
- **.02 MATERIALS:** Refer to Section 705.02 of the MDOT SHA Standard Specifications.
- **.03 CONSTRUCTION:** Refer to Section 705.03 of the MDOT SHA Standard Specifications and the following.
  - A. Areas located along roadways that have been seeded by the Contractor shall be mowed when the grass or vegetation exceeds 6 in. in height. Mowing shall take place until the final surface course of asphalt is placed.
- **.04 MEASUREMENT AND PAYMENT:** Turfgrass Establishment including preparing soil, preparing seed bed, applying fertilizer, seed mixes, seed additives, overseeding, reseeding, mulching, securing mulch, and repairing unacceptable areas will be measured and paid at the Contract unit price per square yard of established area.