

## SECTION 02500

### PAVING AND SURFACING

#### PART 1 – GENERAL

##### 1.01 SECTION INCLUDES

- A. Temporary Paving.
- B. Permanent Paving.
- C. Shoulder Restoration.
- D. Cement Concrete Sidewalks and Curbs.
- E. Bituminous Pavements.

##### 1.02 RELATED SECTIONS

- A. Trenching, Backfilling and Compaction: Section 02221.
- B. Pavement Markings: Section 02855.

##### 1.03 QUALITY ASSURANCE

- A. Source Quality Control:
  - 1. Use materials conforming to requirements of the Commonwealth of Pennsylvania Department of Transportation Specifications Publication 408, latest edition.
  - 2. Use products of a bituminous concrete producer regularly engaged in production of bituminous concrete conforming to the standards referenced herein.
  - 3. Maintain quality of work by using products of a qualified bituminous concrete producer and qualified plant operating workmen.
- B. Requirements of Regulatory Agencies:
  - 1. Removal, protection and replacement of paving on State Highways must be performed in accordance with the requirements of the Commonwealth of Pennsylvania, Pennsylvania Code, Title 67, Transportation, Department of Transportation, Chapter 459, Occupancy of Highways By Utilities.
  - 2. Removal, protection, and replacement of paving on State Highways will be subject to inspection by representatives of the Commonwealth of Pennsylvania Department of Transportation.
  - 3. Inspection, insurance, or other charges demanded by the Commonwealth of Pennsylvania Department of Transportation, or other authority having jurisdiction will be paid by the Contractor.
  - 4. Pavement removal and replacement requirements on State Highways specified in this Section are the requirements of the Highway Occupancy Permit obtained for the Project and supersede similar requirements of Title 67, Chapter 459, regulations. However, the

requirements of the Highway Occupancy Permit are subject to change by the Pennsylvania Department of Transportation.

5. Removal, protection and replacement of paving on streets other than state highways must be performed in accordance with the requirements of the municipality in which such work is located.

#### 1.04 REFERENCES

- A. The "PDT Sections" noted herein refer to sections contained in the Commonwealth of Pennsylvania Department of Transportation Specifications Publication 408, latest edition. The references pertain only to materials, construction, equipment, methods and labor. The payment provisions do not apply to work to be performed under this Contract.
  1. PDT Section 305 – Bituminous Concrete Base Course.
  2. PDT Section 401 – Plant Mixed Bituminous Concrete Courses.
  3. PDT Section 420 – Bituminous Wearing Course ID-2 and Bituminous Wearing Course ID-2, RPS.
  4. PDT Section 421 – Bituminous Binder Course ID-2 and Bituminous Binder Course ID-2, RPS.
  5. PDT Section 491 – Milling of Bituminous Pavement Surface.
  6. PDT Section 630 – Plain Cement Concrete Curb.
  7. PDT Section 676 – Cement Concrete Sidewalks.
  8. PDT Section 704 – Cement Concrete.
  9. PDT Section 705 – Joint Material.
  10. PDT Section 962 – Painting Traffic Lines and Markings.
- B. Commonwealth of Pennsylvania Department of Transportation Bulletin 25: Specifications for Bituminous Materials.
- C. Commonwealth of Pennsylvania Department of Transportation Bulletin 27: Bituminous Concrete Mixtures, Design Procedures, and Specifications for Special Bituminous Mixtures.
- D. Commonwealth of Pennsylvania, Pennsylvania Code, Title 67 – Transportation, Department of Transportation:
  1. Chapter 203 – Work Zone Traffic Control (PennDOT Chapter 203).
  2. Chapter 459 – Occupancy of Highways by Utilities (PennDOT Chapter 459).

#### 1.05 SUBMITTALS

- A. Certificates: Furnish certification from bituminous and aggregate producer attesting that materials conform to requirements of Pennsylvania Department of Transportation Specifications.

#### 1.06 PROJECT CONDITIONS

- A. State Highways:
  1. All work within the right of way of State Highways shall be performed in strict accordance with the requirements of PennDOT, Title 67, Chapter 459.
  2. Employ traffic control measures in accordance with the requirements of PennDOT, Title 67, Chapter 203.

- B. Time Requirements:
  - 1. State Highways: The permanent replacement of street roadway and shoulder pavement will not be permitted until at least 90 days after the required temporary pavement has been placed. However, permanent replacement pavement must be placed within 210 days after the required temporary pavement has been placed.
  - 2. Streets other Than State Highways: The permanent replacement of street roadway and shoulder pavement will be placed as soon as the trenches have been acceptably backfilled; however, in the event the permanent pavement cannot be placed due to the weather limitations, provide a temporary pavement.
- C. Protection:
  - 1. Protect paved surfaces outside of the limits of work. Repair pavement outside limits damaged by constructing operations at no additional expense to the Owner.
  - 2. The Contractor shall be liable for damages to all roads caused by equipment. The repairs may include lane or full roadway width overlays as directed by PennDOT or other entity having jurisdiction.

1.07 ENVIRONMENTAL REQUIREMENTS

- A. Do not install aggregate base course when ambient temperature is below or is expected to fall below freezing.
- B. Do not use aggregate containing frost nor place aggregate base course on frozen subgrade.
- C. Terminate placement of bituminous concrete surface courses of permanent pavement between October 15 to 31, and do not resume placement prior to April 1 to 15; interim days between date depending upon weather conditions.
- D. Do not place bituminous concrete surface of permanent pavement when the ambient temperature is 40°F or lower; nor when the temperature of the pavement, base or binder on which it is to be placed is 40°F or lower.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Bituminous Materials and Pavements:
  - 1. Asphalt Cement: AC-20 conforming to PDT Bulletin 25.
  - 2. Temporary Paving:
    - a. State Highway: Type 2-P Bituminous Stockpile Patching Material conforming to Section 484 of Bulletin 27.
    - b. Township Road: Type 2-P or ID-2.
  - 3. Bituminous Concrete Base Course: Conforming to PDT Section 305; mixture limited to asphalt cement.
  - 4. Wearing Course: Hot mixed, hot laid, Bituminous Wearing Course ID-2: Conforming to PDT Section 420.

- B. Cement Concrete:
  - 1. All concrete work for driveways, curbs, gutters, and sidewalks shall be in accordance with the latest edition of the Armitry Township's Code of Ordinances found in Chapter XXVI entitled "Streets, Sidewalks, Driveways, and Curbs."
- C. Superpave: Per PennDOT requirements for state highways.
- D. Traffic Paint: Conforming to PDT Section 962.2 (b).

### PART 3 – EXECUTION

#### 3.01 PREPARATION

- A. Pavement Removal:
  - 1. Saw cut and remove existing pavement to neat lines equidistant from the centerline of the trench.
  - 2. Initial pavement removal will be to width indicated in the Maximum Trench Widths table in Section 02221 under Aggregate Backfill and Temporary Pavement Width.
  - 3. Prior to permanent pavement restoration, saw cut and remove trench edge pavement one foot from each edge of trench. If pavement is removed or disturbed for a greater width than indicated in the "Final Pavement Restoration Width" specified in Section 02221, without written authorization of the Owner's Representative, the Owner will require the Contractor to replace such pavement without compensation.
  - 4. Perform milling of the 6:1 skew line transition for State Highway crossings in accordance with PDT Section 491, and as indicated on the Drawings.
  - 5. Subgrade: Backfill and compact trenches per requirements of Section 02221.
  - 6. At joints between existing pavements and new paving work, the edges of existing pavements shall be cut and neatly trimmed. An application of Class AC-20 petroleum asphalt shall be provided at all locations where new bituminous paving joins existing bituminous paving.

#### 3.02 INSTALLATION

- A. Temporary Pavement: Install temporary pavement over areas where the pavement has been removed, with top surface flush with surface of adjacent pavement, and maintained until permanent restoration is made.
  - 1. In State Highways, install temporary pavement to 2 inches thickness after compaction.
  - 2. In Borough or Township Roads, install pavement to 1½ inches thickness after compaction.
- B. Replacement of Permanent Pavement:
  - 1. General:
    - a. The Contractor shall restore all street paving, shoulders, driveways, and parking areas, including subgrade, and base courses with materials, as specified herein. This includes areas within the Maximum Trench Widths as well as areas disturbed outside the Maximum Trench Widths. Such restoration is for that area removed or broken in the execution of the work or that subsequently fails as a result thereof.
    - b. Method of preparing and placing mixture, compaction, and protection of in-place bituminous concrete for pavement shall comply with PDT Sections 305.3 and 401.3.
    - c. Types and thicknesses of replacement pavements shall conform to the specifications of PennDOT or the applicable municipality where the work is performed.

2. Bituminous Concrete Base Course (BCBC): Construct in accordance with the requirements of PDT Section 305.
    - a. Where roadways receive trench restoration only, install the Bituminous Concrete Base Course with the top surface below the surface of the adjacent pavement a distance equal to the thickness of the replacement surface course pavement.
  3. Bituminous Concrete Wearing Course (ID-2): Construct in accordance with the requirements of PDT Section 420.
    - a. Install wearing course with top surface flush with surface of adjacent pavement.
- C. Shoulder Restoration: Restore as required to match existing with the exception of State Highways, which will be restored in accordance with PDT Standards.
- D. Roadway Traffic Lines and Markings: As specified in Section 02855.
- E. Curbs, Sidewalks, and Driveways: Limit of restoration/reconstruction for curbs, sidewalks, and driveways will be 2'-0" on each side of the trench. Trench payment width as indicated in Section 02221.
  1. Cement Concrete Curbs: Replace curbs to dimensions, shape and workmanship indicated on the Drawings. Construction methods specified in PDT Section 630.
  2. Cement Concrete Sidewalk: Replace cement concrete sidewalk removed or disturbed as indicated on the Detail Drawings; width to match existing. Construct bed and concrete surface as specified in PDT Section 676.
  3. Cement Concrete Driveway: Backfill as specified in Section 02221. Replace cement concrete to same workmanship, thickness and finish as the original driveway unless otherwise required by the Owner's Representative.
  4. Bituminous Concrete Driveway: Provide a 2-inch thick wearing course of ID-2 bituminous concrete with the top surface flush with the top surface of the adjacent existing paving.
  5. Gravel Driveway: Restore to a condition equal to its original undisturbed condition using the same type and quality material as that of the particular driveway restored.
- F. Contractor shall be responsible for all costs associated with restoring/reconstructing all paved areas, curbs, sidewalks and driveways disturbed beyond the specified limits.

### 3.03 CLEAN-UP AND MAINTENANCE

- A. During construction, surfaces of all areas including, but not limited to, roads, streets, and driveways shall be maintained daily basis to produce a safe, desirable, and convenient condition.
  1. Streets shall be swept and flushed after backfilling, and recleaned as dust, mud, stones and debris caused by the work, or related to the work again accumulates.
  2. Failure of the Contractor to perform this work shall be cause for the Owner's Representative to order the work to be done by others, and charge all costs to the Contractor.
- B. Repair or Correction of Unsatisfactory Conditions: All unsatisfactory conditions resulting from the work shall be corrected.
- C. Continuously maintain temporary pavement without additional compensation until it is replaced with permanent pavement.

- D. Any subnormal or dangerous condition caused by the work, on any surface, shall be repaired or corrected within two hours of observance or notification of its existence. If repairs or corrections are not made within this period, the Owner will have the work performed by others and charge all costs to the Contractor.

END OF SECTION