

## SECTION 321123 - AGGREGATE BASE COURSES

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Aggregate base course.

##### B. Related Sections:

1. Section 321216 - Asphalt Paving: Finish asphalt courses.
2. Section 321313 - Concrete Paving: Finish concrete surface course.

#### 1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

##### A. Aggregate Base Course:

1. Basis of Measurement: By the square yard of thickness indicated on Drawings.
2. Basis of Payment: Includes stockpiling, placing where required, watering, and compacting.

#### 1.3 REFERENCES

##### A. American Association of State Highway and Transportation Officials:

1. AASHTO M288 - Standard Specification for Geotextile Specification for Highway Applications.

##### B. ASTM International:

1. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
2. ASTM D2940 - Standard Specification for Graded Aggregate Material For Bases or Subbases for Highways or Airports.
3. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

#### 1.4 SUBMITTALS

##### A. Materials Source: Submit name of aggregate materials suppliers.

##### B. Manufacturer's Certificate: Certify base course meet or exceed specified requirements.

##### C. Samples: Submit 40 lb. sample of each type of aggregate fill to testing laboratory.

## 1.5 QUALITY ASSURANCE

- A. Furnish each aggregate material from single source throughout the Work.
- B. Perform Work according to City of Casper Public Works standards.

## PART 2 - PRODUCTS

### 2.1 AGGREGATE MATERIALS

- A. Base Aggregate: Grading W Base Course.
  - 1. Percent Passing per Sieve Size:
    - a. 1-1/2 Inch: 100.
    - b. 1 Inch: 90 to 100.
    - c. 1/2 Inch: 60 to 85.
    - d. No. 4: 45 to 65.
    - e. No. 8: 33 to 53.
    - f. No. 200: 3 to 12.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify compacted substrate is dry and ready to support paving and imposed loads.
- B. Verify substrate has been inspected, gradients and elevations are correct.

### 3.2 PREPARATION

- A. Substrate shall be scarified, reshaped, and re-compacted prior to placing base course.
- B. Do not place on soft, muddy, or frozen surfaces.

### 3.3 AGGREGATE PLACEMENT

- A. Place aggregate equal thickness layers to total required compacted thickness.
  - 1. Mechanical roller compaction equipment Layer Compacted Thickness: 6 inches
  - 2. Mechanical hand tamping equipment Layer Compacted Thickness: 4 inches
- B. Compact aggregate to 95 percent maximum density.
- C. Level and contour surfaces to elevations, profiles, and gradients indicated.

- D. Add small quantities of fine aggregate to coarse aggregate when required to assist compaction.
- E. Maintain +2% / -4% of optimum moisture content of fill materials to attain specified compaction density.
- F. Use mechanical hand tamping equipment in areas inaccessible to compaction equipment.

#### 3.4 TOLERANCES

- A. Maximum Variation From Flat Surface: 1/4 inch measured with 10 foot straight edge.
- B. Maximum Variation From Thickness: 1/2 inch.
- C. Maximum Variation From Elevation: 1/2 inch

#### 3.5 FIELD QUALITY CONTROL

- A. Owner will provide compaction testing performed according to ASTM D698, ASTM D2922, and ASTM D3017.
- B. When tests indicate Work does not meet specified requirements, remove Work, replace and retest.
- C. Frequency of Tests: One test shall be performed for every 50 SY of base course installed and one test shall be performed for all areas of work that fall within vehicular traffic areas. Additional testing shall be at the discretion of the Engineer.

#### 3.6 COMPACTION

- A. Compact materials to 95 percent of standard proctor maximum density.

END OF SECTION 321123