

SECTION 212 - STONE BASE

212.01 DESCRIPTION

Work consists of all labor, materials, equipment and services necessary for and incidental to the execution and completion of preparation of stone base, as called for in the plans and specifications herein.

212.02 MATERIALS

- A. Graded Aggregate Sub-base (ASTM D2940): This material shall be in accordance with MSHA (2008) Specifications Section 901.
- B. #2 / #3 Stone: This material shall be in accordance with M43, No.2
- C. No. 57 (AASHTO M43): This material shall be in accordance with MSHA (2008) Specifications, Section 901, (No. 57) stone.
- D. Bank Run Gravel Sub-base (ASTM D2940). This material shall be in accordance with MSHA (2008) Specifications, Section 910.
- E. Crusher Run Aggregate (CR-6): This material shall be in accordance with MSHA Specifications, Section 910.

212.03 CONSTRUCTION:

- A. After completion of excavation, filling and grading, it shall be ensured that the line, grade, shape, elevations are in accordance with and shall meet the final grades as shown in the plans. It shall also be ensured that the sub-base has been properly compacted during the excavation/grading operation to 95% of maximum dry density. The area where the stone base is to be provided shall be free of topsoil or any other unsuitable material. The earth sub-base shall not be frozen. The tolerance of the earth sub-base shall be $\pm 1/2$ inch from the designed grade.
- B. The M-NCPPC Construction Manager shall approve the earth sub-base before stone is deposited.
- C. The stone material as specified in the plans and "materials" above, shall then be deposited and spread in the area (roads, parking lots, tennis courts, multi-use courts, etc.) as required to the depth of fully compacted stone as shown in the plans, details, list of items, contract, etc. The material shall be spread on earth sub-base, foundations, or preceding layer (previously compacted to required density), in a manner that will prevent segregation of coarse and fine particles. Proper equipment shall be used to indicate the required depth for the spreading of stone layers. An approved machine capable of spreading the material to the desired width shall be used.

- D. Compaction requirements: The moisture content shall be maintained within 2% of the material's optimum moisture. The maximum dry density for bank run gravel shall be in accordance with AASHTO T180. For GASB, the dry density shall be in accordance with MSMT 321. Compaction shall begin by making a single pass with a steel wheeled roller weighing not less than 8 tons or such a weight as to provide the compaction density mentioned above. All rolling shall be done longitudinally beginning at the sides, overlapping the shoulder at least a foot, and progressing towards the center of the road, parking lot, tennis courts, multi-use court or any other facility requiring a stone base. The compaction operation shall continue until all compaction marks are eliminated and the layer/course is properly compacted.
- E. After the compaction has been completed by the Contractor, the Construction Manager or his representative will witness the stone base surface proof rolling by contractor and if he is not satisfied with the compaction will require the Contractor to re-compact, remove the stone to check the sub-base and adjust it if necessary, delay the rolling to permit drying of the subgrade, reconstruction of the entire base or sub-base, or request the Geotech engineer or an approved lab check the density of the stone base at the contractor's expense and at no cost to the Commission.
- F. These methods shall apply for each layer/course of stone base, should there be more than one layer of stone base.
- G. Tolerances after spreading, laying and compacting a stone base shall be no more than 1/2 inch from designed grade. The compacted thickness of the stone base, duly approved by the Commission, shall be as per plans, sections, and details for the various facilities requiring a stone base. Serpentine origin crushed stone shall be used only if it is to be covered by asphalt paving or concrete.

212.04 MEASUREMENT AND PAYMENT

- A. Payment will be full compensation for all material, labor, equipment, tools and incidental items necessary to complete the work. Payment shall be made on a unit rate or lump sum basis as shown in the bid proposal; or shall be considered incidental to other bid items if not specifically listed on bid forms.