**MICHIGAN DEPARTMENT OF TRANSPORTATION**
**BUREAU OF AERONAUTICS - STANDARD SPECIFICATION**
**T-904**
**Sodding**

## DESCRIPTION

**1.1** This item shall consist of furnishing, hauling, and placing approved live sod on prepared areas in accordance with this specification at the locations shown on the plans or as directed by the Engineer.

## MATERIALS

**2.1** **Sod.** Sod furnishing by the Contractor shall have a good cover of living or growing grass. This shall be interpreted to include grass that is seasonally dormant during the cold or dry seasons and capable of renewing growth after the dormant period. All sod shall be obtained from areas where the soil is reasonably fertile and contains a high percentage of loamy topsoil. Sod shall be cut or stripped from living, thickly matted turf relatively free of weeds or other undesirable foreign plants, large stones, roots, or other materials which might be detrimental to the development of the sod or to future maintenance.

Sod, unless otherwise specified, shall consist of the following classes:

(a) Class A Sod. The sod shall be composed of densely rooted blue grass, and/or other approved perennial grasses. Merion Blue grass will not be acceptable in excess of 20% of a blend or mixture. Class A sod is intended for terminal lawns and such other areas as may be designated on the plans.

(b) Class B Sod. The sod shall be composed of densely rooted perennial and desirable grasses other than Merion Blue grass, and shall be largely indigenous to the general locality where it is to be used. When associated with a turfing project constructed under specification T-901, Class B sod shall be largely composed of the same plant species specified for the turfing. When type of sod is not specified, Class B sod shall be furnished.

(c) As Specified Sod. When other specific types of sod are specified in the plans or documents, the sod furnished shall be composed of not less than 70% of plants of the species specified.

**2.2** **Lime.** Lime, if specified, shall conform to the requirements of T-901, 2.2.

**2.3** **Fertilizer.** Fertilizer is included as a part of the sodding pay item and shall conform to the chemical composition specified for specification T-901.

**2.4** **Water.** The water shall be sufficiently free from oil, acid, alkali, salt, or other harmful materials that would inhibit the growth of grass. It shall be subject to the approval of the Engineer prior to use.

**2.5** **Soil for Repairs.** The soil for fill and topsoiling of areas to be repaired shall conform to the requirements of T-901, 2.4.

## CONSTRUCTION METHODS

**3.1** **General.** Areas to be solid, stip, or spot sodded shall be shown on the plans. Areas requiring special ground surface preparation such as tilling and those areas in a satisfactory condition which are to remain undisturbed shall also be shown on the plans.

Suitable equipment necessary for proper preparation on the ground surface and for the handling and placing of all required materials shall be on hand, in good condition, and shall be approved by the Engineer before the various operations are started. The Contractor shall demonstrate to the Engineer before starting the various operations that the application of required materials will be made at the specified rates.

**3.2** **Preparing the Ground Surface.** After grading of areas has been completed and before applying fertilizer and limestone, areas to be sodded shall be raked or otherwise cleared of stones larger than 2 inches in any diameter, sticks, stumps, and other debris which might interfere with sodding, growth of grasses, or subsequent maintenance of grass-covered areas. If any damage by erosion or other causes occurs after grading of areas and before beginning the application of fertilizer and ground limestone, the Contractor shall repair such damage.

This may include filling gullies, smoothing irregularities, and repairing other incidental damage.

**3.3 Applying Fertilizer and Ground Limestone.** Following ground surface preparation, fertilizer shall be applied at the rate specified for Specification T-901. Liming, if specified, shall be accomplished under Specification T-901. These materials shall be incorporated into the soil to a depth of not less than 2 inches by discing, raking, or other methods acceptable to the Engineer. Any stones larger than 2 inches in any diameter, large clods, roots, and other litter brought to the surface by this operation shall be removed.

**3.4 Obtaining and Delivering Sod.** After inspection and approval of the source of sod by the Engineer, the sod shall be mowed to a height of 3 to 4 inches and shall be cut with approved sod cutters to such a thickness that after it has been transported and placed on the prepared bed, but before it has been compacted, it shall have a uniform thickness of not less than 1-inch for Class A sod and 1-1/2 inches for Class B and other sod. Sod sections or strips shall be cut in uniform widths, not less than 10 inches and in lengths of not less than 18 inches, but of such length, approximating ½ square yard, as may be readily lifted without breaking, tearing, or loss of soil. Where strips are required, the sod must be rolled without damage with the grass folded inside.

The sod shall be transplanted within 24 hours form the time it is stripped, unless circumstances beyond the Contractor's control make storing necessary. In such cases, sod shall be stacked, kept moist, and protected from exposure to the air and sun and shall be kept from freezing. Sod shall be cut and moved only when the soil moisture conditions are such that favorable results can be expected. Where the soil is too dry, permission to cut sod may be granted only after it has been watered sufficiently to moisten the soil to the depth the sod is to be cut.

**3.5 Laying Sod.** Sodding shall be performed only during the seasons when satisfactory results can be expected. Frozen sod shall not be used and sod shall not be placed upon frozen soil. Sod may be transplanted during periods of drought with the approval of the Engineer, provided the sod bed is watered to moisten the soil to a depth of at least 4 inches immediately prior to laying the sod.

The sod shall be moist and shall be placed on a moist earth bed. Pitch forks shall not be used to handle sod, and dumping from vehicles shall not be permitted. The sod shall be carefully placed by hand, edge to edge and with staggered joints, in rows at right angles to the slopes, commencing at the base of the area to be sodded and working upward. The sod shall immediately be pressed firmly into contact with the sod bed by tamping or rolling with approved equipment to provide a true and even surface, and insure knitting without displacement of the sod or deformation of the surfaces of sodded areas. Where the sod may be displaced during sodding operations, the workmen when replacing it shall work from ladders or treaded planks to prevent further displacement. Screened soil of good quality shall be used to fill all cracks between sods. The quantity of the fill soil shall not cause smothering of the grass. Where the grades are such that the flow of water will be from paved surfaces across sodded areas, the surface of the soil in the sod after compaction shall be set approximately 1 inch below the pavement edge. Where the flow will be over the sodded areas and onto the paved surfaces around manholes and inlets, the surface of the soil in the sod after compaction shall be placed flush with pavement edges.

All edges of sodded areas shall be turned 2 inches into the ground and covered with a layer of adjacent earth.

On slopes steeper than 1 vertical to 3 horizontal and in V-shaped or flat bottom ditches or gutters, the sod shall be pegged with wooden pegs not less than 8 inches in length and have a cross-sectional area of not less than 3/4 square inch. The pegs shall be driven flush with the surface of the sod.

**3.6 Watering.** Adequate water and watering equipment must be on hand before sodding begins, and sod shall be kept moist until it has become established and its continued growth assured. In all cases, watering shall be done in a manner which will avoid erosion from the application of excessive quantities and will avoid damage to the finished surface.

**3.7 Establishing Turf.**

(a) General. The Contractor shall provide general care for the sodded areas as soon as the sod has been laid and shall continue until final inspection and acceptance of the work.

(b) Protection. All sodded areas shall be protected against traffic or other use by warning signs or barricades approved by the Engineer.

(c) Mowing. The Contractor shall mow the sodded areas with approved mowing equipment, depending upon climatic and growth conditions and the needs for mowing specific areas. In the event that weeds or other undesirable vegetation are permitted to grow to such an extent that, either cut or uncut, they threaten to smother the sodded species, they shall be mowed and the clippings raked and removed from the area.

**3.8 Repairing.** When the surface has become gullied or otherwise damaged during the period covered by this contract, the affected areas shall be repaired to re-establish the grade and the condition of the soil, as directed by the Engineer, and shall then be resodded as specified in Section 3.5.

## METHOD OF MEASUREMENT

**4.1** This item shall be measured on the basis of the area in square yards of the surface covered with sod and accepted.

## BASIS OF PAYMENT

**5.1** Payment will be made under the nomenclature and seven digit item number specified in the plans and proposal for each type of sodding required per square meter.

The first three digits of any item number for work included under this specification shall be 904, i.e. 904XXXX.

## TESTING AND MATERIAL REQUIREMENTS

Test and Short Title

None

Material and Short Title

None

NOTE: Others as required by referenced specifications. Cross Reference Specification Required: T-901.