

## SECTION 02901 – CHANNEL BANK VEGETATION – NRCS PRACTICE CODE 322

SUMMARY: The work described herein consists of furnishing, transporting, and installing seeds, trees, and other materials as required for the rehabilitation and establishment of stream side vegetation. It is the Contractor's responsibility to perform soil preparation, native grass planting, bare root seedling planting, management, and such additional extra and incidental work as may be necessary to complete the work in accordance with the specification and plans. The Contractor shall furnish required materials, equipment, tools, labor, and incidentals, unless otherwise provided in the specifications or Drawings.

### PART 1 – GENERAL

#### 1.1 DESCRIPTION:

A. Planting required—both native grass and trees—is indicated as plantings. Plantings on the Drawings and, in general, include, but are not limited to:

1. Procurement, storage and protection of listed grass seed.
2. Preparation of planting sites.
3. Planting areas.
4. Contractor maintenance of plantings installed by Contractor.

B. Related Work in Other Sections:

1. Clearing and Grubbing: Section 02102
2. Excavating, Filling and Grading Section: Section 02200

#### 1.2 QUALITY ASSURANCE–NATIVE GRASS SEEDING

A. Qualification of Workmen: Provide at least one person who shall be present during execution of this portion of the work and who shall be thoroughly familiar with the type of materials being installed and the best methods for their installation and who shall direct work performed under this Section.

B. Standards:

1. Seeds shall meet or exceed the specification of Federal, State, and County laws requiring inspection for plant disease and insect control.
2. All seeds shall be true to species and shall be tagged with the name and percent pure live seed in accordance with accepted industry standards for grass seed.
3. Seed shall meet or exceed specifications of Federal, State and County laws requiring inspection for plant disease and insect control and shall be labeled in accordance with U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act.

1.3 QUALITY ASSURANCE–TREE PLANTING

A Qualification of Workmen: Provide at least one person who shall be present during execution of this portion of the work and who shall be thoroughly familiar with the type of materials being installed and the best methods for their installation and who shall direct work performed under this Section.

B Standards:

1. Bare root seedlings and cuttings must be grown from locally adapted seed or cuttings of known origin and meet height and caliper standards listed in the NRCS Kansas Forestry Technical Note KS-9.

1.4 JOB CONDITIONS:

A. Time of Planting:

1. The Contractor shall complete native grass seeding immediately following construction during favorable weather conditions.
2. The Contractor shall complete tree plantings during normal and accepted planting seasons listed in the NRCS Kansas Forestry Technical Note KS-9 and during favorable weather conditions.

1.5 SUBMITTALS:

A. Materials list include, but not limited to, the following:

1. Quantities, Signed and Dated by Supplier(s).

1.6 DELIVERY, STORAGE AND HANDLING:

A. Delivery, Storage and Handling:

1. The Contractor shall deliver seed, bare root seedlings, and cuttings to the project site in good condition.
2. The Contractor shall use all means necessary to protect the seed, bare root seedlings, and cuttings before, during, and after installation and to protect the installed work and materials of other trades.

B. Replacement: In the event of damage during construction, the Contractor shall immediately make repairs and replant necessary to the approval of the Engineer and at no additional cost to the Sponsor.

1.7 SITE DISTURBANCES:

A. It is the Contractor's responsibility to take precautions insuring that equipment and vehicles do not disturb or damage existing grading, seeding, or other site improvements.

- B. The Contractor shall repair and/or return to original condition any damage at no cost to Sponsor.

## PART 2 – MATERIALS

### 2.1 PLANT MATERIALS:

- A. General: Furnish seed that is true to name and type representative of the species or variety.
- B. Plant materials
  - 1. Native grass seeding shall follow recommendations in NRCS Critical Area Planting – Practice 342.
  - 2. Bare Root seedlings and tree cuttings shall follow recommendations in Kansas Forestry Technical Note No. KS-9.
- C. Mulching: Other materials not specifically described but required for a complete and proper planting installation shall be as selected by the Contractor, subject to the approval of the Engineer

### 2.2 WATER:

- A. Water, hose, and other watering equipment required for the work shall be furnished by the Contractor.

### 2.3 HERBICIDE:

- A. Herbicides shall be applied according to manufactures label instructions and adhere to State, Federal, and local laws.

## PART 3 – INSTALLATION

### 3.1 SURFACE CONDITIONS:

- A. Inspection:
  - 1. Prior to work of this Section, carefully inspect the installed work of other trades and verify that such work is complete to the point where these installations may properly commence.
  - 2. Verify that planting, seeding and related construction work may be completed in accordance with the original design and the referenced standards.
- B. Discrepancies:
  - 1. In the event of discrepancy, immediately notify the Engineer.
  - 2. Do not proceed with installation in areas of discrepancy until such discrepancies have been fully resolved.

3.2 SPREADING OF TOP SOIL:

- A. Finish Grading: Finish grading will be performed according to Section 02002 of these Specifications, in graded areas.

3.3 PLANTING NATIVE GRASS SEED:

A. Preparation:

- 1. Roughly grade seed beds with equipment, leave few ridges and depressions and making areas into a continuous, firm plane that ensures proper drainage.

B. Planting:

- 1. Native grass seed shall be planted by hand broadcast method as approved by the Engineer. Seeding of native grass should follow recommendation in NRCS Critical Area Planting.
- 2. For site-specific native grass mix, reference the KS-ECS-4 form found in the design packet.

3.4 PLANTING BARE ROOT SEEDLING

A. Preparation

- 1. Roughly grade channel bank slope with equipment, leave few ridges and depressions and making areas into a continuous, firm plane that ensures proper drainage. The planting area must be free of living sod and perennial weeds before planting. Vegetation from native grass seeding is acceptable.

B. Planting

- 1. Cuttings and bare root seedlings should follow recommendations in Kansas Forestry Technical Note KS-9.
- 2. For site-specific information on cutting and bare root seedlings, reference the KS-ECS-5 form found in the design packet.

3.5 MULCHING:

- A. Mulching shall immediately follow seed planting.

- B. Mulch shall be an organic substance capable of eventual complete decay. The mulch shall be native prairie hay, brome hay, or straw and shall be applied at a rate of 4,000 pounds per acre. Native prairie hay is the preferred mulch.

- C. Mulch shall be evenly distributed over the entire seeding area.

3.6 INSPECTION:

- A. In addition to normal progress inspections, NRCS shall schedule and conduct the following formal inspections, giving the Engineer at least 24 hours prior notice of readiness for inspection:
1. Inspection of plant locations, to verify compliance with the Drawings.
  2. Final inspection after completion of native grass seeding and final inspection after completion of cuttings and bare root seedling plantings; schedule these inspections sufficiently in advance, and in cooperation with the Engineer, so that final inspections may be conducted within 24 hours after completion of native grass seeding and tree planting.
  3. Final inspection at the end of the maintenance period provided that previous deficiencies have been corrected. The maintenance period consists of the first three years following native grass seeding and tree planting.

3.6 CLEAN-UP:

- A. During the progress of this work, and upon completion, the Contractor shall thoroughly clean the project area and remove and properly dispose of resultant dirt, debris and other waste materials.

PART 4 – MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT:

- A. The quantity of seeding and mulching will be measured in pounds of pure live seed and mulch applied. Seeding and Mulching shall be considered subsidiary to grass planting and the overall construction project.

4.2 BASIS OF PAYMENT:

- A. The amount of work completed and approved, as stated above, shall be paid in lump sum as part of the contract unit price. Such payment shall constitute full compensation for all labor, equipment, tools and all other items necessary and incidental for the completion of the work. Two payment requests should be made based on native grass seeding and tree planting complete. The first payment request shall follow native grass seeding and mulching. A separate payment request shall be made after the cuttings and bare root seedlings are planted.

END OF SECTION 02901