

USER ID

SURFACE PREPARATION ITEM 160* FURN & PLACE TOPSOIL / ITEM 161* COMPOST MANUF TOPSOIL (4") SY

SURFACE PREPARATION
Prepare planting area surface BEFORE placing Topsoil, Compost, Fertilizer, Seed and/or Sod. Once project area has been completed to final lines, grade and compaction, remove objectionable materials from planting area surface and scarify existing surface to a depth of 4-inches, unless otherwise specified or directed.

Refer to Items 160 and 161 of TxDOT 2024 Standard Specifications* for specifications, dimensions, volumes, and measurements that have been modified or not shown in plans. Materials and construction shall meet all specifications.

- TOPSOIL NOTES:**
- When Topsoil is specified under Item 160, use suitable material salvaged from the project ROW in accordance with Item 160 specifications, and/or secure additional good material from approved sources.
 - Topsoil shall include only the top 6-inches of its native surface, and be easily cultivated, fertile, erosion-resistant and free of objectionable materials. Topsoil obtained from sites outside of the ROW must come from approved sources and have a pH between 5.5 and 8.5 su.
 - Place Topsoil on pre-scarified surface, spread to a uniform loose cover at thickness specified, and shape per plans.
 - Water and roll the finished surface with a light roller or other suitable equipment per Item 160.3; do not over-compact.

- COMPOST NOTES:**
- When Compost Manufactured Topsoil (4") is specified under Item 161, use compost meeting all requirements of Item 161.2 and Table 1. Provide quality control (QC) documentation and obtain Engineer approval prior to compost delivery.
 - Contractor shall provide tickets/invoices that document material type, quantity and placement for all compost delivered.
 - Additional topsoil may be required to be imported to achieve the compost/topsoil mix ratio. Topsoil must meet Item 160 specifications.

APPLICATION OF COMPOST MANUFACTURED TOPSOIL (4")
AFTER Surface Preparation, uniformly spread a 1-inch layer of compost on-grade with 3-inches topsoil over pre-scarified planting area. (25% compost and 75% topsoil - 1" compost and 3" topsoil.) Then mix compost and topsoil together by cultivating the compost into the topsoil (by till or disk) to a 4-inch (4") depth. Roll the finished surface with a light corrugated drum; do not over-compact.

FERTILIZER ITEM 166* FERTILIZER TON

SOIL ANALYSIS FOR FERTILIZER APPLICATION RATE
Unless otherwise stated in the plans, Contractor shall perform at least one soil analysis on each project before fertilization, and submit results to Engineer with recommended fertilizer rates based on soil analysis. Engineer may direct sample location(s). Soil analysis may be waived if both compost and sod are used on entire project.

- FERTILIZER NOTES:**
- Refer to Item 166 of TxDOT 2024 Standard Specifications* for specifications, dimensions, volumes, and measurements that have been modified or not shown in plans. Materials and construction shall meet all specifications.
 - Apply fertilizer BEFORE seeding, or AFTER placing sod.
 - Use fertilizer containing nitrogen (N), phosphoric acid (P) and potash (K) nutrients, unless otherwise specified. At least 50% of the Nitrogen component shall be a slow-release sulfur-coated urea as described in Item 166.3. Do not apply more than 60-pounds (lbs) Nitrogen per acre without Engineer concurrence.
 - Deliver fertilizer in bags, clearly labeled to show contents, unless otherwise specified or approved prior to delivery. When non-bagged, loose fertilizer is approved, provide documentation for each load of material delivered, to validate authenticity of the material.
 - Apply fertilizer uniformly, as a dry, granular material, essentially dust-free, and do not mix with water for application as a slurry.
 - When both temporary and permanent seeding are specified for the same area, apply half of the required fertilizer before the temporary seeding operation and the other half before the permanent seeding operation.

SEEDING FOR EROSION CONTROL ITEM 164* DRILL SEED SY

PERMANENT SEEDING MIXES (ADD FLOWER SEEDING MIX TO PERMANENT SEED, ALL SOILS) PERMANENT SEED PLANTING SEASON: FEB. 1 TO MAY 15				TEMPORARY SEEDING MIX DRILL SEED (TEMP_WARM_COOL)			
RURAL CLAY SOILS (PERM_RURAL_CLAY)	Sideoats Grama (Haskell)	15%	1.5 lbs PLS per acre	RURAL SANDY SOILS (PERM_RURAL_SAND)	Shortspike Windmillgrass (Welder)	10%	0.2 lbs PLS per acre
	Hooded Windmillgrass (Burnet)	15%	0.3 lbs PLS per acre		Hairy Grama (Chaparral)	15%	0.6 lbs PLS per acre
URBAN CLAY SOILS (PERM_URBAN_CLAY)	White Tridens (Guadalupe)	15%	0.3 lbs PLS per acre	URBAN SANDY SOILS (PERM_URBAN_SAND)	Sand Dropseed (Taylor)	10%	0.2 lbs PLS per acre
	Little Bluestem (OK Select)	15%	1.05 lbs PLS per acre		Little Bluestem (OK Select)	15%	1.05 lbs PLS per acre
	Buffalograss (Texoka)***	10%	1.5 lbs PLS per acre		Sideoats Grama (Haskell)	10%	1.0 lbs PLS per acre
	Silver Bluestem (Santiago)	05%	0.2 lbs PLS per acre		Green Sprangletop (Van Horn)	10%	0.4 lbs PLS per acre
	Green Sprangletop (Van Horn)	05%	0.2 lbs PLS per acre		Hooded Windmillgrass (Burnet)	10%	0.2 lbs PLS per acre
	Shortspike Windmillgrass (Welder)	05%	0.1 lbs PLS per acre		Sand Lovegrass (Mason)	10%	0.4 lbs PLS per acre
	Canada Wildrye (Lavaca)	10%	2.0 lbs PLS per acre		Silver Bluestem (Santiago)	10%	0.4 lbs PLS per acre
	Sand Dropseed (Taylor)	05%	0.1 lbs PLS per acre				

- SEEDING NOTES:**
- When seeding is specified under Item 164, refer to TxDOT 2024 Standard Specifications* for specifications, dimensions, volumes, and measurements that have been modified or not shown. Materials and construction shall meet all specifications.
 - Conduct seeding upon completion of each applicable construction stage (dependent upon planting season requirements), without compensation for additional move-ins.
 - Place seed AFTER preparing planting area surface. Refer to Surface Preparation detail this sheet, as well as Topsoil Item 160 and Compost Manufactured Topsoil Item 161 when specified. Apply fertilizer per Item 166 BEFORE seeding, per specifications and this sheet, to help drill the fertilizer into the soil.
 - When temporary grasses are well-established and more than 2-inches tall, mow planting area before seeding permanent grasses; mowing for this purpose will be subsidiary. When vegetation is not already well-established, scarify planting area to a depth as described in Item 164.3, before temporary seeding and before permanent seeding.
 - Seed material must be appropriate to the location, soil type and season. Use the seed mix species and pure live seed rates designated in Tables 1-5 of the TxDOT 2024 Standard Specifications* for Item 164, unless otherwise specified.
 - All seed shall meet labeling, delivery, analysis, and testing requirements described in Item 164.2.1. Deliver seed in labeled, unopened bags or containers to Engineer prior to planting.
 - Uniformly plant seed over the designated planting area, along the contour of slopes, and drill seed to a depth as described in Item 164.3.5.
 - Hydroseeding per Item 164.2.5.2 and 164.3.4 may be allowed, when specified or Engineer concurs. For hydroseeding, increase PLS rate by 25% and avoid microplastics.
 - Implement and continue Vegetative Watering per the schedule, rate and volume specified under Item 168.

- TxDOT REFERENCE MATERIALS:**
- "STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MAINTENANCE OF HIGHWAYS, STREETS, AND BRIDGES" 2024
 - "A GUIDANCE TO ROADSIDE VEGETATION ESTABLISHMENT" 2004
 - ONLINE TRAINING COURSE: MNT415 REVEGETATION DURING CONSTRUCTION
 - DALLAS DISTRICT "VEGETATION ESTABLISHMENT GUIDELINES"

SODDING FOR EROSION CONTROL ITEM 162* BLOCK SODDING SY

BLOCK OR ROLL SOD	COMMON NAME	BOTANICAL NAME
	Common Bermuda Grass	Cynodon dactylon

- SODDING NOTES:**
- Refer to Item 162 of TxDOT 2024 Standard Specifications* for specifications, dimensions, volumes, and measurements that have been modified or not shown in plans. Materials and construction shall meet all specifications.
 - Place sod between the average date of the last freeze in the Spring and 6 weeks before the average date of the first freeze in the Fall, per the Texas Almanac for the project area.
 - Place sod only AFTER soil surface preparation is complete as detailed in this sheet. Dry soil may require pre-watering.
 - Place all sod (blocks or rolls) within 24-hours of delivery to the site, and keep moist from the time it is dug up until it is planted. Sod with dried roots will not be accepted.
 - Place sod with joints alternating on each row to prevent all joints from lining up, and place blocks firmly against adjacent blocks. Roll, tamp and trim sod per Item 162.3.
 - Place fertilizer promptly AFTER sodding operation is complete in each area.
 - Water sod immediately following placement, and continue Vegetative Watering per Item 168.

VEGETATIVE WATERING FOR ESTABLISHING SEED AND SOD ITEM 168* VEGETATIVE WATERING TGL

WATERING SCHEDULE

SEASON (Usual Months)	RATE	TIME SCHEDULE	TOTAL WATER ESTIMATE
SPRING & FALL (March, April, May, and October)	7,000 gallons/acre per working day	Vegetative watering for seed shall begin on the day after rainfall described below and continue for 60-consecutive working days.	420,000 gallons/acre (60 working days)
SUMMER (June through September)	12,000 gallons/acre per working day	Vegetative watering for sod shall begin on the day sod is placed and continue for a minimum of 15-consecutive working days.	720,000 gallons/acre (60 working days)
WINTER (November through February)	1,000 gallons/acre per working day	Vegetative watering for seed and/or sod shall begin on the day after placement and continue for 15-consecutive working days	15,000 gallons/acre (15 working days)

Notes: Watering rate and frequency may be adjusted, with the approval of the Engineer, to meet site conditions (especially with sod). For informational purposes only: 1,000-gallons equals 1 TGL.

- VEGETATIVE WATERING NOTES:**
- Refer to Item 168 of TxDOT 2024 Standard Specifications* for specifications, dimensions, volumes, and measurements that have been modified or not shown in plans. Materials and construction shall meet all specifications.
 - Use clean water, free of industrial waste and other substances harmful to vegetation growth, per Item 168.2.
 - For seeding, use Vegetative Watering to keep the seed bed moist during germination; not to provide initial watering. [After drill seeding, postpone watering operations until site receives at least 1/2-inch of natural rainfall in a single day. Also delay watering operations for warm season grasses until soil temperature exceeds 70 degrees F.]
 - For sod, water immediately.
 - All water distribution equipment shall be furnished and operated to provide water at a uniform and controllable rate. Use a metering device on all watering equipment.
 - Evenly distribute water over entire area designated for seeding and/or sodding, using even spray patterns that do not disturb seed bed and/or dislodge seed from seed bed.
 - Do not water between the hours of 12:00 p.m. and 6:00 p.m. when daytime temperatures exceed 95 degrees F.
 - After initial establishment period, continue intermittent watering of newly established seed or sod at a rate of approximately 1-inch water/week, during summer months until end of contract.
 - If 1/4-inch or more of rainfall occurs on site on any given working day, no vegetative watering will be needed on that working day. (Note: 1/4-inch of rain equals 7,000 gallons of water per acre.)
 - Should the Contractor fail to apply the specified amount of water within the time allowed, any seed or sod in poor condition shall be replaced, fertilized, and watered at Contractor's expense.

ROADSIDE MOWING ITEM 730* AC

- MOWING NOTES:**
- During project construction, once seed is established, use mowing to promote permanent grasses by mowing any remaining temporary grasses.
 - Also mow established turf and ROW grasses in designated areas of project limits as specified or directed by Engineer.
 - Remove litter and debris prior to mowing.
 - Do not mow on wet ground when soil rutting can occur.
 - Hand-trim around obstructions and stormwater control devices as needed.
 - Maintain paved surfaces free of tracked soils and clipped vegetation.

- SEQUENCE OF WORK:**
- SCARIFY SURFACE SOIL.
 - PREPARE / PLACE TOPSOIL, OR
 - PREPARE / PLACE COMPOST MANUFACTURED TOPSOIL.
 - APPLY FERTILIZER AND THEN PLACE SEEDING, OR
 - PLACE SOD AND THEN APPLY FERTILIZER.
 - CONDUCT VEGETATIVE WATERING.
 - CONDUCT ROADSIDE MOWING, AS DIRECTED.



VEGETATION ESTABLISHMENT SHEET
(DALLAS DISTRICT)

TEMPLATE REVISION DATE: 07/17/24

DESIGN	FED. RD. DIV. NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
XXX	6	(See Title Sheet)		
CHECK	STATE	DISTRICT	COUNTY	SHEET NO.
XXX	TEXAS	DALLAS		
CHECK	CONTROL	SECTION	JOB	
XXX				

DATE