

GENERAL SEED NOTES FOR ALL MIXES

1. THE CONTRACTOR SHALL PROVIDE GRASS SEED OF THE VARIETY AND AT THE RATES AS REQUIRED TO PRODUCE THE LIVE SEED RATES SHOWN BELOW OR AS SPECIFIED ON THE PLANS. THE VENDOR'S CERTIFIED STATEMENT FOR EACH SPECIES OF GRASS AND GRASS MIXTURE STATING EACH VARIETY, PERCENTAGE BY WEIGHT, AND PERCENTAGES OF PURITY, GERMINATION, AND WEED SEED SHALL BE FURNISHED. LIVE SEED FOR EACH GRASS SPECIES IS THE PRODUCT OF THE PERCENTAGE OF PURITY AND THE PERCENTAGE OF GERMINATION.
- 1.1. THE SEED SHALL BE NEW-CROP SEED COMPLYING WITH AND LABELED IN ACCORDANCE WITH U.S. DEPARTMENT OF AGRICULTURE "RULES AND REGULATIONS UNDER THE FEDERAL SEED ACT" IN EFFECT AT DATE OF PURCHASE OF SEED. ALL SEED SHALL BE FURNISHED IN STANDARD CONTAINERS, SEED WHICH HAS BECOME MOLDED, WET, OR OTHERWISE DAMAGED IN TRANSIT OR STORAGE SHALL NOT BE ACCEPTED.
- 1.2. A CERTIFICATE SHALL BE FURNISHED TO THE ENGINEER SHOWING THE DATE THAT THE SEED WAS TREATED. THE TREATED SEED SHALL BE PLANTED WITHIN TWENTY-FOUR (24) MONTHS AFTER TREATMENT AND ANY TREATED BUFFALO GRASS SEED HELD BY THE CONTRACTOR OR SUPPLIED BEYOND THIS PERIOD SHALL NOT BE USED.
- 1.3. THE SEED SHALL BE STORED IN A COOL DRY PLACE UNTIL SEEDING TIME.
2. FERTILIZER.
 - 2.1. FERTILIZER SHALL BE PROPORTIONED AS SPECIFIED ON THE PLANS OR SHOWN BELOW AND SHALL BE OF COMMERCIAL GRADE, UNIFORM IN COMPOSITION, FREE-FLOWING AND SUITABLE FOR APPLICATION WITH APPROVED EQUIPMENT, DELIVERED TO THE SITE IN BAGS OR OTHER CONVENIENT CONTAINERS, EACH FULLY LABELED, CONFORMING TO THE APPLICABLE STATE FERTILIZER LAWS, AND BEARING THE SAME TRADE NAME OR TRADE MARK, ANALYSIS AND WARRANTY OF THE PRODUCER. FERTILIZER SHALL BE APPLIED AT THE RATE OF .5 POUNDS OF ACTUAL NITROGEN, 1.0 POUNDS OF ACTUAL PHOSPHORUS, AND .5 POUNDS OF ACTUAL POTASSIUM PER 1,000 SQUARE FEET.
 - 2.2. WHEN APPLYING FERTILIZER, THE CONTRACTOR SHALL AVOID APPLICATION PRIOR TO HEAVY RAIN OR INTENSE STORMS.
3. WATER.
 - 3.1. WATER SHALL NOT CONTAIN SUBSTANCES IN THE AMOUNTS CONSIDERED HARMFUL FOR THE NORMAL GROWTH OF VEGETATION. THE CONTRACTOR SHALL SUPPLY WATER AND WATERING EQUIPMENT AS REQUIRED FOR THE ESTABLISHMENT AND MAINTENANCE OF GRASSED AREAS.
4. SITE PREPARATION
 - 4.1. PROJECT COORDINATION. AFTER THE CONSTRUCTION HAS BEEN COMPLETED, (EXCEPT AS PROVIDED BELOW), THE SITE HAS BEEN BROUGHT TO FINAL GRADES AS SHOWN ON THE PLANS, AND OTHER PLANTINGS HAVE BEEN ACCOMPLISHED, THE CONTRACTOR SHALL PREPARE THE AREAS TO BE GRASSED AS SPECIFIED. WHEN SO DIRECTED OR PERMITTED BY THE ENGINEER, PORTIONS OF THE CONSTRUCTION SITE MAY BE GRASSED AT DIFFERENT PERIODS OF TIME PROVIDED THAT THE PLANTING OCCURS IN PROPER SEASONS AS SPECIFIED. ANY GRASSED AREAS DAMAGED BY SUBSEQUENT OPERATIONS OF THE CONTRACTOR SHALL BE REPLANTED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
 - 4.2. NO-TILL. IT IS PREFERRED FOR THE AREAS OUTSIDE OF THE GRADING LIMITS TO BE NO-TILLED INTO THE EXISTING STUBBLE. NO SITE PREPARATION IS REQUIRED BEFORE NO-TILL SEEDING. AREAS TO BE TILLED (WITHIN GRADING LIMITS) SHALL BE PREPARED PER THE FOLLOWING NOTES.
 - 4.3. TILLAGE. THE AREAS REQUIRED TO BE GRASSED SHALL BE PREPARED FOR PLANTING BY CULTIVATION, REMOVAL OF ALL OBJECTIONABLE MATERIAL, AND FILLING OF GULLIES OR DEPRESSIONS. THE SOIL PREPARATION SHALL BE ACCOMPLISHED BY DISKING, HARROWING AND FIRING. (FLOWING WILL ALSO BE REQUIRED IF SO INDICATED ON THE PLANS.) THE MINIMUM DEPTH OF SOIL PREPARATION SHALL BE THREE (3) INCHES. EXISTING WEED STUBBLE, SMALL WEEDS AND GRASS THAT CAN BE DISKED SHALL BE CUT BY THE DISK AND PARTIALLY INCORPORATED INTO THE SOIL.
 - 4.4. SEVERAL DISKINGS AND HARROWINGS OVER SOME AREAS MAY BE REQUIRED TO PROVIDE A SATISFACTORY SEEDBED. AREAS TOO STEEP OR OTHERWISE INACCESSIBLE FOR DISKING SHALL BE PREPARED BY HAND METHODS. THE MINIMUM DEPTH OF PREPARATION OF THE SEEDBED WHERE HAND METHODS MUST BE EMPLOYED SHALL BE TWO (2) INCHES. DISKING, HARROWING AND RAKING SHALL BE DONE LONGITUDINALLY ON SLOPE AREAS.
 - 4.5. THE SOIL PREPARATION ON ALL SLOPE AREAS SHALL BE PERFORMED WITH DISKS AND HARROWS UNLESS DEMONSTRATION SHOWS SUCH METHODS IMPRACTICABLE AND THAT HAND METHODS MUST BE USED.
 - 4.6. DURING THE PROCESS OF SOIL PREPARATION, EXTREME CARE SHALL BE EXERCISED TO AVOID INJURY TO ALL TREES THAT HAVE BEEN PLANTED OR DESIGNATED BY THE ENGINEER TO BE SAVED.
 - 4.7. THE ENGINEER MAY DESIGNATE LOCAL AREAS OF DESIRABLE NATIVE PERENNIAL GRASSES TO BE OMITTED DURING THE SOIL PREPARATION. AREAS OF ANNUAL GRASSES SUCH AS CHEAT, CRAB GRASS, TRIPLE-AWN, ETC., SHALL BE DESTROYED BY THOROUGH DISKING PRIOR TO SEEDING.
 - 4.8. APPLICATION OF FERTILIZER. FERTILIZER SHALL BE DISTRIBUTED UNIFORMLY AT RATES SHOWN IN THE SEED MIX NOTES ON THIS PAGE AND OVER THE AREA TO BE PLANTED, AND SHALL BE INCORPORATED INTO THE SOIL TO A DEPTH OF AT LEAST 2 INCHES BY DISKING, HARROWING OR OTHER METHODS APPROVED BY THE ENGINEER. DISTRIBUTION BY MEANS OF AN APPROVED SEED DRILL OR HYDRO SEEDER EQUIPPED TO SOW SEED AND DISTRIBUTE FERTILIZER AT THE SAME TIME WILL BE ACCEPTABLE UNLESS OTHERWISE NOTED ON THE PLANS.
 - 4.9. ADDITIONAL SOIL CONDITIONERS SHALL BE MIXED INTO THE SOIL BY DISKING, HARROWING, ETC., WHEN SPECIFIED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER AND FURNISHED BY THE OWNER.
5. SEEDING
 - 5.1. TIME OF SEEDING. THE TWO GENERAL SEEDING SEASONS SHALL BE AS DEFINED FOR TEMPORARY AND PERMANENT SEEDING. THE PERMISSIBLE SEEDING PERIODS FOR VARIOUS SEEDS MAY BE EXTENDED A FEW DAYS IN SPECIAL CASES WHEN MULCHING IS SPECIFIED TO FOLLOW THE DRILLING OF SEEDS AND FERTILIZER.
 - 5.2. THE ENGINEER RESERVES THE RIGHT TO DELAY THE DRILLING OR SEEDING OF ANY SEEDS OR TO VARY THE PERMISSIBLE SEEDING SEASONS LISTED ABOVE DUE TO WEATHER OR SOIL CONDITIONS OR FOR OTHER CAUSES.
 - 5.3. SEED APPLICATION. SEEDS SHALL BE UNIFORMLY DISTRIBUTED WITH ACCEPTABLE DRILLS, HYDRAULIC SLURRY, OR OTHER EQUIPMENT APPROVED BY THE ENGINEER. BROADCASTING WITH A STANDARD GRASS SEEDER WILL BE REQUIRED ON AREAS WHERE IT IS IMPOSSIBLE TO OPERATE A DRILL AND THIS METHOD MAY ALSO BE REQUIRED FOR CERTAIN SMALL SEEDS.
 - 5.4. WHEN A STANDARD DRILL WITH FERTILIZER ATTACHMENT IS USED, CERTAIN MIXED SEEDS MAY BE PLACED IN THE SEED BOX AND THE FERTILIZER PLACED IN THE FERTILIZER COMPARTMENT. BOTH MAY BE APPLIED DURING ONE (1) OPERATION, UNLESS NOTES ON THE PLANS REQUIRE SEPARATE APPLICATIONS. FERTILIZER MAY BE DRILLED INTO THE SOIL OR APPLIED BY HYDRAULIC-SLURRY. BROADCASTING FERTILIZERS IS PERMISSIBLE ON ROUGH, ROCKY SLOPES WHERE DRILLS CANNOT OPERATE.
 - 5.5. ALL DRILLS SHALL BE FULLY ADJUSTABLE SO THAT THEY WILL DELIVER THE SEEDS AND FERTILIZER AT THE RATES SPECIFIED ON THE PLANS OR ORDERED BY THE ENGINEER. DRILLS THAT ARE IN POOR REPAIR OR THAT DO NOT DELIVER THE SEEDS AND FERTILIZER UNIFORMLY IN EACH DRILL FURROW, SHALL NOT BE USED. DRILLS SHALL BE ADJUSTABLE SO THAT THE SEEDS CAN BE PLANTED AND COVERED A MAXIMUM DEPTH OF 1/2 INCH.
 - 5.6. MOST OF THE SEEDS SHOULD BE DRILLED ABOUT ONE-HALF (1/2) INCH DEEP IN A WELL- PREPARED AND FIRM SEEDBED. WHEN THE FERTILIZING AND SEEDING OPERATIONS START ON AN AREA, THAT AREA SHALL BE COMPLETED AS SOON AS POSSIBLE. NO SEEDING SHALL BE DONE DURING WINDY WEATHER OR WHEN THE GROUND IS WET OR OTHERWISE NON-TILLABLE. THE GRASS SEED SHALL THEN BE COVERED, USING A FLEXIBLE TOOTHED WEEDER OR OTHER SUITABLE EQUIPMENT. AS SOON AS THIS COVERING OPERATION HAS BEEN COMPLETED, THE SEEDED AREA SHALL BE ROLLED AGAIN WITH THE CULTI-PACKER, THE CULTI-PACKER BEING RUN OVER THE AREA ONLY ONCE PARALLEL WITH THE CONTOURS OF THE GROUND.
6. MULCHING.
 - 6.1. APPLYING HAY MULCH - HAY MULCH SHALL BE THE REQUIRED MULCHING MATERIAL FOR PERMANENT SEEDING, UNLESS SPECIFIED OTHERWISE ON THE PLANS OR DIRECTED BY THE ENGINEER. THE HAY SHALL NOT CONTAIN AN EXCESSIVE QUANTITY OF NOXIOUS WEED SEEDS. THE MULCH SHALL BE A SHARP GRADE PRAIRIE HAY, SEDAN GRASS HAY OR BROOM SEDGE OR ANY OTHER TYPE OF NATIVE HAY OR GRASS. STRAW SHALL BE 8 INCHES MINIMUM; 50% SHALL BE 10 INCHES IN LENGTH OR LONGER.
 - 6.2. AFTER SEEDING OPERATIONS ARE COMPLETE THE MULCH SHALL BE SPACED UNIFORMLY BY HAND, MANURE SPREADER, OR OTHER SUITABLE EQUIPMENT. THE MULCH SHALL BE ANCHORED TO THE SOIL BY A V-TYPE WHEEL LAND PACKER, A DISK HARROW SET TO CUT SLIGHTLY, OR OTHER SUITABLE EQUIPMENT WHICH WILL SECURE THE MULCH FIRMLY INTO THE GROUND 2 INCHES OR MORE TO FORM A SOIL-BINDING MULCH AND PREVENT LOSS OR BUNCHING BY WIND. SPACING BETWEEN DISKS SHALL NOT EXCEED 8 INCHES. APPLY HAY MULCH AT THE RATE OF 2 TONS PER ACRE OR 90 LBS. PER 1000 SQ. FT.
 - 6.3. APPLYING WOOD CELLULOSE FIBER MULCH - WOOD CELLULOSE FIBER MULCH MAY BE USED IN LIEU OF HAY MULCH WHEN THE CONTRACTOR ELECTS TO USE A HYDRO SEEDER AND THE METHOD IS APPROVED BY THE ENGINEER. WOOD CELLULOSE FIBER MULCH SHALL BE APPLIED AT THE MINIMUM RATE OF 2500 POUNDS PER ACRE, UNLESS SPECIFIED OTHERWISE.
7. WATERING.
 - 7.1. THE CONTRACTOR SHALL WATER THE SEEDED AREAS AS REQUIRED TO ASSURE AN ACCEPTABLE STAND OF GRASS.
8. PROTECTION AND MAINTENANCE.
 - 8.1. THE GRASSED AREA SHALL BE PROTECTED AGAINST TRAFFIC OR OTHER USE IMMEDIATELY AFTER PLANTING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER CARE OF THE GRASSED AREA UNTIL ALL WORK ON THE ENTIRE CONTRACT HAS BEEN COMPLETED AND ACCEPTED, OR A MINIMUM PERIOD OF 30 DAYS, WHICHEVER IS THE LONGEST DURATION. THE CONTRACTOR WILL BE RELIEVED FROM WATERING GRASSED AREAS ACCEPTED BY THE ENGINEER AND THE OWNER.
 - 8.2. ALL PLANTED AREAS SHALL BE GROWING WHEN ACCEPTED. AREAS NOT SHOWING A STAND OF GRASS OR EVIDENCE OF GROWTH SHALL BE REPLANTED IN ACCORDANCE WITH THESE SPECIFICATIONS. ALL COSTS IN CONNECTION WITH REPLANTING GRASSED AREAS SHALL BE BORNE BY THE CONTRACTOR UNTIL AN ACCEPTABLE STAND OF GRASS IS OBTAINED, WITH NO ADDITIONAL COST TO THE PROJECT.
9. PAYMENT
 - 9.1. ALL SEEDING OPERATIONS THROUGHOUT THE ENTIRE COURSE OF THE PROJECT FOR TEMPORARY AND PERMANENT SEEDING, SOIL PREPARATION, FERTILIZER APPLICATION, MULCHING, WATERING, AND ALL OTHER ASSOCIATED WORK, DESCRIBED ON THE SEEDING SHEETS, SHALL BE PAID FOR AS THE BID ITEM "PROJECT SEEDING, L.S." THIS BID ITEM INCLUDES ALL RE-SEEDING ACTIVITIES AND ANY ASSOCIATED WORK NECESSARY.

TEMPORARY SEEDING

TEMPORARY SEED NOTES

1. TEMPORARY SEEDING SHALL BE INSTALLED AS TEMPORARY COVER AFTER GRADING AND/OR CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED IN AN AREA OF THE PROJECT. TEMPORARY SEED SHALL BE INSTALLED WHEN:
 - 1.1. CONSTRUCTION ACTIVITY WILL CEASE FOR AT LEAST 28 DAYS; OR
 - 1.2. WITHIN 21 DAYS FROM THE LAST CONSTRUCTION ACTIVITY IN THAT AREA; OR
 - 1.3. WHEN PERMANENT SEEDING CANNOT TAKE PLACE WITHIN THE SPECIFIED PLANTING WINDOW.
2. TEMPORARY SEEDING SHALL BE PLACED VIA APPROPRIATE SEED DRILL. THE TEMPORARY SEED MIX IS AS FOLLOWS:

ANNUAL RYE	20#/ ACRE
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3. TEMPORARY SEED MAY BE PLACED ANY TIME DURING CONSTRUCTION.
4. PROTECT SEEDED AREAS FROM EROSION BY SPREADING WEED-FREE STRAW MULCH TO FORM A CONTINUOUS BLANKET 1-1/2" LOOSE DEPTH AND CRIMP IN TO SOIL BY SUITABLE METHODS.
5. DO NOT SEED OR WORK SOIL WHEN THERE IS STANDING OR RUNNING WATER PRESENT IN DISTURBED AREAS.
6. SEEDING PROCESS: REFER TO SEEDING NOTES.

PERMANENT SEEDING (COOL SEASON GRASS)

1. PERMANENT SEEDING WITH THE FESCUE MIX SHALL BE INSTALLED AT THE COMPLETION OF CONSTRUCTION ACTIVITIES IN COORDINATION WITH PERMANENT EROSION CONTROL BMPs, AS DEFINED IN THE NOTES IN THIS SECTION, WITHIN THE PLANS AND SPECIFICATIONS.
2. FESCUE MIX SHALL BE KANSAS PREMIUM FESCUE BLEND SEED CONTAINING LOCALLY AVAILABLE VARIETIES. SEED AT A RATE OF 8 TO 10 LBS/ 1000 S.F. FOR NEW INSTALLATIONS OR 4 TO 6 LBS/ 1000 S.F. FOR OVERSEEDING/ REPAIR.
3. APPLY 10-20-10 FERTILIZER AT A RATE OF 40 LBS/ ACRE
4. PERMANENT SEEDING SHALL BE DONE OCTOBER 15- JUNE 1.
5. COOL SEASON GRASS MIX SEED MIXTURE SHALL BE FRESH, CLEAN NEW CROP SEED. LANDSCAPE CONTRACTOR SHALL PROVIDE LANDSCAPE ARCHITECT WITH DEALER'S GUARANTEED STATEMENT OF COMPOSITION OF MIXTURE AND PERCENTAGE OF PURITY AND GERMINATION OF SEED USED.
6. SEEDING PROCESS: REFER TO SEEDING NOTES.

PERMANENT SEEDING (WARM SEASON GRASS)

1. PERMANENT SEEDING WITH THE PRAIRIE MIX SHALL BE INSTALLED AT THE COMPLETION OF CONSTRUCTION ACTIVITIES IN COORDINATION WITH PERMANENT EROSION CONTROL BMPs, AS DEFINED IN THE NOTES IN THIS SECTION, WITHIN THE PLANS AND SPECIFICATIONS.
2. PRAIRIE SEED MIX SHALL BE A WARM SEASON GRASS MIX SEED CONTAINING LOCALLY AVAILABLE VARIETIES, AS SPECIFIED BELOW. SEED AT A RATE OF 4.5# PLS/ ACRE.

Botanical Name	Common Name	PLS Oz./Acres
BOUTELOUA DACTYLOIDES	BUFFALOGRASS (TEXOKA, SHRP'S IMPROVED, ISON, PLAINS, OR CODY)	
BOUTELOUA GRACILIS	BLUE GRAMA	
BOUTELOUA CURTIPENDULA	SIDEOATS GRAMA	
3. APPLY 10-20-10 FERTILIZER AT A RATE OF 40 LBS/ ACRE.
4. PERMANENT SEEDING SHALL BE DONE OCTOBER 15- JUNE 1.
5. WARM SEASON GRASS MIX SEED MIXTURE SHALL BE FRESH, CLEAN NEW CROP SEED. LANDSCAPE CONTRACTOR SHALL PROVIDE LANDSCAPE ARCHITECT WITH DEALER'S GUARANTEED STATEMENT OF COMPOSITION OF MIXTURE AND PERCENTAGE OF PURITY AND GERMINATION OF SEED USED.
6. SEEDING PROCESS: REFER TO SEEDING NOTES.

PERMANENT SEEDING (WATER QUALITY MIX)

1. PERMANENT SEEDING WITH THE WATER QUALITY MIX SHALL BE INSTALLED AT THE COMPLETION OF CONSTRUCTION ACTIVITIES IN COORDINATION WITH PERMANENT EROSION CONTROL BMPs, AS DEFINED IN THE NOTES IN THIS SECTION, WITHIN THE PLANS AND SPECIFICATIONS.
2. WATER QUALITY SEED MIX SHALL BE A WARM SEASON GRASS MIX SEED CONTAINING LOCALLY AVAILABLE VARIETIES, AS SPECIFIED BELOW. SEED AT A RATE OF 32.18# PLS/ ACRE.

Botanical Name	Common Name	PLS Oz./Acres
PERMANENT GRASSES		
Andropogon gerardii	Big Bluestem	12.00
Bouteloua curtipendula	Side Oats Grama	16.00
Carex bicknellii	Bicknell's Sedge	1.50
Carex molesta	Field Oval Sedge	1.50
Elymus canadensis	Canada Wild Rye	24.00
Panicum virgatum	Switch Grass	2.50
Schizachyrium scoparium	Little Bluestem	28.00
Sorghastrum nutans	Indian Grass	12.00
	Total	97.50
TEMPORARY GRASS		
Lolium multiflorum	Annual Rye	100.00
3. APPLY PURE NITROGEN FERTILIZER AT A RATE OF 2 LBS/ 1000 SF.
4. PERMANENT SEEDING SHALL BE DONE OCTOBER 15- JUNE 1.
5. WATER QUALITY SEED MIXTURE SHALL BE FRESH, CLEAN NEW CROP SEED. LANDSCAPE CONTRACTOR SHALL PROVIDE LANDSCAPE ARCHITECT WITH DEALER'S GUARANTEED STATEMENT OF COMPOSITION OF MIXTURE AND PERCENTAGE OF PURITY AND GERMINATION OF SEED USED.
6. SEEDING PROCESS: REFER TO SEEDING NOTES.



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CEDAR CREEK ADD,
PHASE 2 - SANITARY

SEEDING NOTES

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DATE: JAN 2022
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DRAWN BY: MCP

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