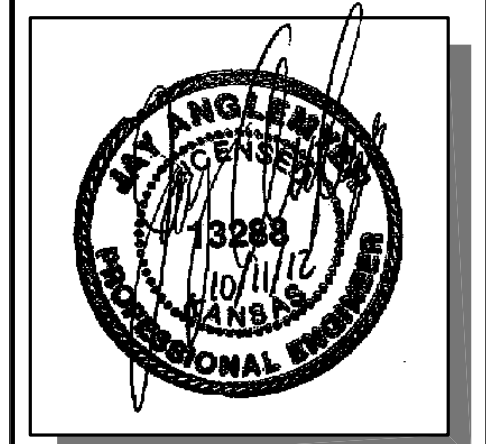


STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	87 N-0519-01	2012	131	212

MKEC
ENGINEERING
CONSULTANTS, INC.

411 N. WEBB ROAD
WICHITA, K.S. 67206
316-684-9600



**BROADWAY BRIDGE
AT 34TH STREET SOUTH**

**ROADSIDE
IMPROVEMENT
DETAILS 2**

SHEET TITLE
472-84830

PROJECT NUMBER

DESIGN BY **JRA**

DRAWN BY **TBK**

CHECKED BY **JRA**

ISSUED
October 9, 2012

REVISED

SHEET NO.
131 of 212

GENERAL NOTES FOR PROJECT SEEDING

SUBMITTALS

PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.

CERTIFICATION OF GRASS SEED: FROM SEED VENDOR FOR EACH GRASS-SEED MIXTURE STATING THE BOTANICAL AND COMMON NAME AND PERCENTAGE BY WEIGHT OF EACH SPECIES AND VARIETY, AND PERCENTAGE OF PURITY, GERMINATION, AND WEED SEED. INCLUDE THE YEAR OF PRODUCTION AND DATE OF PACKAGING.

PRODUCT CERTIFICATES: FOR SOIL AMENDMENTS, SIGNED BY PRODUCT MANUFACTURER.

MATERIAL TEST REPORTS: FOR EXISTING SURFACE SOIL AND IMPORTED TOPSOIL.

PLANTING SCHEDULE: INDICATING ANTICIPATED PLANTING DATES FOR SEED INSTALLATION.

QUALITY ASSURANCE

INSTALLER QUALIFICATIONS: A QUALIFIED LANDSCAPE INSTALLER WHO'S WORK HAS RESULTED IN SUCCESSFUL NATIVE GRASS ESTABLISHMENT.

INSTALLER'S FIELD SUPERVISION: REQUIRE INSTALLER TO MAINTAIN AN EXPERIENCED SUPERVISOR ON PROJECT SITE WHEN PLANTING IS IN PROGRESS.

DELIVERY, STORAGE, AND HANDLING

SEED: DELIVER SEED IN ORIGINAL SEALED, LABELED, AND UNDAMAGED CONTAINERS.

NATIVE GRASS SEED & WILDFLOWER MIX

WILDFLOWER MIX

DESCRIPTION
STOCKS WILDFLOWER MIX 10 PLS (pure live seed) POUNDS PER ACRE DRILLED, 12.5 PLS POUNDS PER ACRE

* MIX IS AVAILABLE THROUGH SHARP BROS. SEED CO., 28008 MILL ROAD MURDOCK, NE 68407 1-800-759-1520 (PROVIDE SEED MIX TICKETS TO LANDSCAPE ARCHITECT PRIOR TO COMMENCEMENT OF SEEDING.)

NATIVE PRAIRIE MIX

COMMON NAME	BOTANICAL NAME
BUFFALOGRASS (TEXOKA)	<i>Buchloe dactyloides</i>
BLUE GRAMA	<i>Bouteloua gracilis</i>
LITTLE BLUESTEM	<i>Schizachyrium scoparium</i>
SIDEOATS GRAMA	<i>Bouteloua curtipendula</i>

STOCKS PRAIRIE 3 PLUS MIX 10 PLS (pure live seed) POUNDS PER ACRE DRILLED, 15 PLS POUNDS PER ACRE

* MIX IS AVAILABLE THROUGH SHARP BROS. SEED CO., 28008 MILL ROAD MURDOCK, NE 68407 1-800-759-1520 (PROVIDE SEED MIX TICKETS TO LANDSCAPE ARCHITECT PRIOR TO COMMENCEMENT OF SEEDING.)

PLANT SEED BETWEEN MARCH 25TH AND APRIL 10TH (PREFERRED) BETWEEN FEBRUARY 15TH AND MAY 1ST (ACCEPTABLE).

NATIVE GRASS & WILDFLOWER SEED MIX (CONT.)

PLANTING ACCESSORIES

HERBICIDES: EPA REGISTERED AND APPROVED, OF TYPE RECOMMENDED BY MANUFACTURER FOR APPLICATION. HERBICIDES ARE NOT RECOMMENDED. IF NECESSARY HERBICIDES MAY BE APPLIED USING A WICK APPLICATOR.

EXAMINATION

EXAMINE AREAS TO RECEIVE NATIVE GRASS FOR COMPLIANCE WITH REQUIREMENTS AND OTHER CONDITIONS AFFECTING PERFORMANCE. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

PREPARATION

PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES, TREES, SHRUBS, AND PLANTINGS FROM DAMAGE CAUSED BY PLANTING OPERATIONS.

PROVIDE EROSION-CONTROL MEASURES TO PREVENT EROSION OR DISPLACEMENT OF SOILS AND DISCHARGE OF SOIL-BEARING WATER RUNOFF OR AIRBORNE DUST TO ADJACENT PROPERTIES AND WALKWAYS.

BROADCAST AND RAKE INTO BARE SOILS IN AREAS INACCESSIBLE TO A DRILL. IT IS SUGGESTED THAT THE CONTRACTOR WATER IN NEWLY PLANTED AREAS THAT ARE BROADCAST FOR BEST RESULTS IN ENSURING A GOOD STAND, IF RAINFALL DOESN'T OCCUR WITHIN 2 WEEKS AFTER SEEDING. TEMPORARY WATERING IS CONSIDERED SUBSIDIARY TO PROJECT.

UNLESS NO-TILL DRILLING INTO AN APPROVED COVER CROP ELIMINATE COMPETING GRASS VEGETATION IN ALL AREAS TO BE IMPROVED WITH "ROUNDUP" OR AN APPROVED EQUAL ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. SEVERAL APPLICATIONS MAY BE NECESSARY. WORK TO REMOVE COMPETING VEGETATION, PARTICULARLY BERMUDA GRASS, SHALL BEGIN SEVERAL MONTHS OR ONE YEAR BEFORE SEEDING OPERATIONS COMMENCE.

TEMPORARY COVER CROP FOR NATIVE SEED AREAS:

A TEMPORARY COVER CROP SHALL BE PLANTED ON ALL DISTURBED AREAS WITHIN 20 DAYS OF NO ACTIVITY. TEMPORARY COVER CROPS SHALL ONLY BE PLANTED WHEN THE SEEDING DATES ARE OUTSIDE OF THE NATIVE GRASS ACCEPTABLE PLANTING DATE PERIOD. THE TEMPORARY COVER CROP SHALL BE ESTABLISHED WITH "REGREEN" STERILE WHEAT (OR APPROVED EQUAL) AT 30LBS PER ACRE OR APPROVED EQUAL.

NATIVE GRASS & WILDFLOWER SEEDBED PREPARATION (BARE SOIL)

LIMIT SEED PREPARATION TO AREAS TO BE PLANTED.

DETERMINE THROUGH SOIL TESTING THAT LONG-RESIDUAL HERBICIDES ARE NOT PRESENT IN THE SOIL. PRESENT FINDINGS TO THE OWNER'S REPRESENTATIVE BEFORE PROCEEDING. RESIDUAL HERBICIDES COULD RESULT IN SEEDLING DAMAGE.

PREPARE SURFACE SOIL AS FOLLOWS:

- REMOVE EXISTING GRASS, VEGETATION, AND TURF. DO NOT MIX INTO SURFACE SOIL.
- LOOSEN SURFACE SOIL TO A DEPTH OF AT LEAST OF 6 INCHES. TILL SOIL TO A HOMOGENEOUS MIXTURE OF FINE TEXTURE.
- REMOVE STONES LARGER THAN 1 INCH IN ANY DIMENSION AND STICKS, ROOTS, TRASH, AND OTHER EXTRANEIOUS MATTER.
- LEGALLY DISPOSE OF WASTE MATERIAL, INCLUDING GRASS, VEGETATION, AND TURF, OFF OWNER'S PROPERTY.

A FIRM WEED-FREE SEEDBED IS PREFERRED.

FINISH GRADING: GRADE PLANTING AREAS TO A SMOOTH, UNIFORM SURFACE PLANE WITH LOOSE, UNIFORMLY FINE TEXTURE. GRADE TO WITHIN PLUS OR MINUS 2 INCHES OF FINISH ELEVATION. ROLL AND RAKE, REMOVE RIDGES, AND FILL DEPRESSIONS TO MEET FINISH GRADES. LIMIT FINE GRADING TO AREAS THAT CAN BE PLANTED IN THE IMMEDIATE FUTURE.

RESTORE AREAS IF ERODED OR OTHERWISE DISTURBED AFTER FINISH GRADING AND BEFORE PLANTING.

DRILL NATIVE SEED INTO EXISTING COVER CROP AT SPECIFIED RATES. USE A DRILL SPECIFICALLY SUITED FOR FLUFFY NATIVE SEED. USE A NATIVE GRASS DRILL WITH A PACKER WHEELS OR A CULTIPACKER ROLLER BEHIND THEM TO FIRM THE SOIL AFTER THE SEED IS PLANTED. A CONVENTIONAL DRILL WILL NOT WORK AND SHOULD NOT BE USED.

- SEEDING DEPTH SHOULD BE 1/4 INCH.
- A LAWN STARTER FERTILIZER SHOULD BE APPLIED AT THE MANUFACTURER'S RECOMMENDED RATE.
- APPLY PRAIRIE HAY MULCH IMMEDIATELY AFTER DRILLING/BROADCASTING AT 2 TONS/ACRE. ANCHOR MULCH BY CRIMPING INTO TOPSOIL WITH SUITABLE MECHANICAL EQUIPMENT.

NATIVE GRASS ESTABLISHMENT (NO-TILL INTO EXISTING COVER CROP)

LIMIT SEED PREPARATION TO AREAS TO BE PLANTED. SEEDBED GRADES SHOULD CONFORM TO CRITERIA IN SECTION ABOVE IN ORDER TO UTILIZE THIS METHOD.

MOW WHEAT COVER CROP DURING PREVIOUS GROWING SEASON TO ENSURE NO SEED IS PRODUCED THAT WILL GERMINATE THE FOLLOWING SEASON AND COMPETE WITH NATIVE SEEDING.

APPROVED SHORT-TERM HERBICIDES MAY BE USED IF WEED GROWTH BEGINS BEFORE SEEDING

MOW EXCESS COVER CROP (4 INCHES HIGH IF ANNUAL RYE OR WHEAT) (12-18 INCHES HIGH IF COVER CROP IS A GRAIN SORGHUM OF SOME TYPE)

- A MINIMUM OF 14 DAYS BEFORE PLANTING THE PERMANENT NATIVE AND WILDFLOWER SEED APPLY ROUND-UP HERBICIDE TO THE COVER CROP. WAIT AS NECESSARY FOR THE WHEAT TO BE GREENED UP BEFORE SPRAYING TO GET A GOOD KILL SO THAT IT POSES NO COMPETITION TO THE PERMANENT SEED BY COMPETING FOR MOISTURE AND NUTRIENTS.

NO-TILL DRILL NATIVE SEED INTO EXISTING COVER CROP AT SPECIFIED RATES. USE A NO-TILL DRILL SPECIFICALLY SUITED FOR FLUFFY NATIVE SEED. USE A NATIVE GRASS NO-TILL DRILL WITH A PACKER WHEELS OR A CULTIPACKER ROLLER BEHIND THEM TO FIRM THE SOIL AFTER THE SEED IS PLANTED. A CONVENTIONAL DRILL WILL NOT WORK AND SHOULD NOT BE USED.

- SEEDING DEPTH SHOULD BE 1/4 INCH IN CLAY, 1/2 INCH IN SAND.
- A LAWN STARTER FERTILIZER SHOULD BE APPLIED AT THE MANUFACTURER'S RECOMMENDED RATE.

MULCHING

ALL AREAS DESIGNATED SHALL BE IMMEDIATELY MULCHED WITH PRAIRIE HAY AT A RATE OF 2 TONS/ACRE. ALL MULCH SHALL BE ANCHORED BY CRIMPING INTO TOPSOIL WITH SUITABLE MECHANICAL EQUIPMENT. ANCHORING OF MULCH SHALL BE SUFFICIENT TO PREVENT BLOWING OR WASHING OF MATERIAL PLACED.

SATISFACTORY NATIVES STAND

SATISFACTORY NATIVE STANDS: WITHIN ONE FULL GROWING SEASON, A HEALTHY, WELL-ROOTED, VIABLE NATIVE STAND HAS BEEN ESTABLISHED, FREE OF BARE AREAS GREATER THAN TWO SQUARE FEET IN SIZE AND AREAS FAILING TO ACHIEVE 85% COVERAGE.

REESTABLISH NATIVE STANDS THAT DO NOT COMPLY WITH REQUIREMENTS UNTIL NATIVE STANDS ARE SATISFACTORY.

CLEANUP AND PROTECTION

PROMPTLY REMOVE SOIL AND DEBRIS CREATED BY LAWN WORK FROM PAVED AREAS. CLEAN WHEELS OF VEHICLES BEFORE LEAVING SITE TO AVOID TRACKING SOIL ONTO ROADS, WALKS, OR OTHER PAVED AREAS.

ERECT BARRICADES AND WARNING SIGNS AS REQUIRED TO PROTECT NEWLY PLANTED AREAS FROM TRAFFIC. MAINTAIN BARRICADES THROUGHOUT MAINTENANCE PERIOD AND REMOVE AFTER LAWN IS ESTABLISHED.

TOPSOIL REQUIREMENTS

TOPSOIL MATERIAL SHALL BE CLAY LOAM AS SPECIFIED BY THE U.S. DEPARTMENT OF AGRICULTURE, WITH 20%-30% CLAY CONTENT. THE CONTRACTOR SHALL PROVIDE INDEPENDENT TEST REPORTS FOR ALL TOPSOIL MATERIAL IMPORTED, WITH A MINIMUM OF FIVE (5) INDIVIDUAL TESTS PERFORMED INCREMENTALLY THROUGHOUT THE TOTAL QUANTITY IMPORTED. EACH LOAD OF TOPSOIL DELIVERED TO THE PROJECT SITE SHALL BE ACCOMPANIED BY BATCH TICKETS SHOWING COMPLIANCE WITH PROJECT SPECIFICATIONS.