

Kansas Sky Energy Center
Douglas County, Kansas

PROJECT NUMBER:09100007

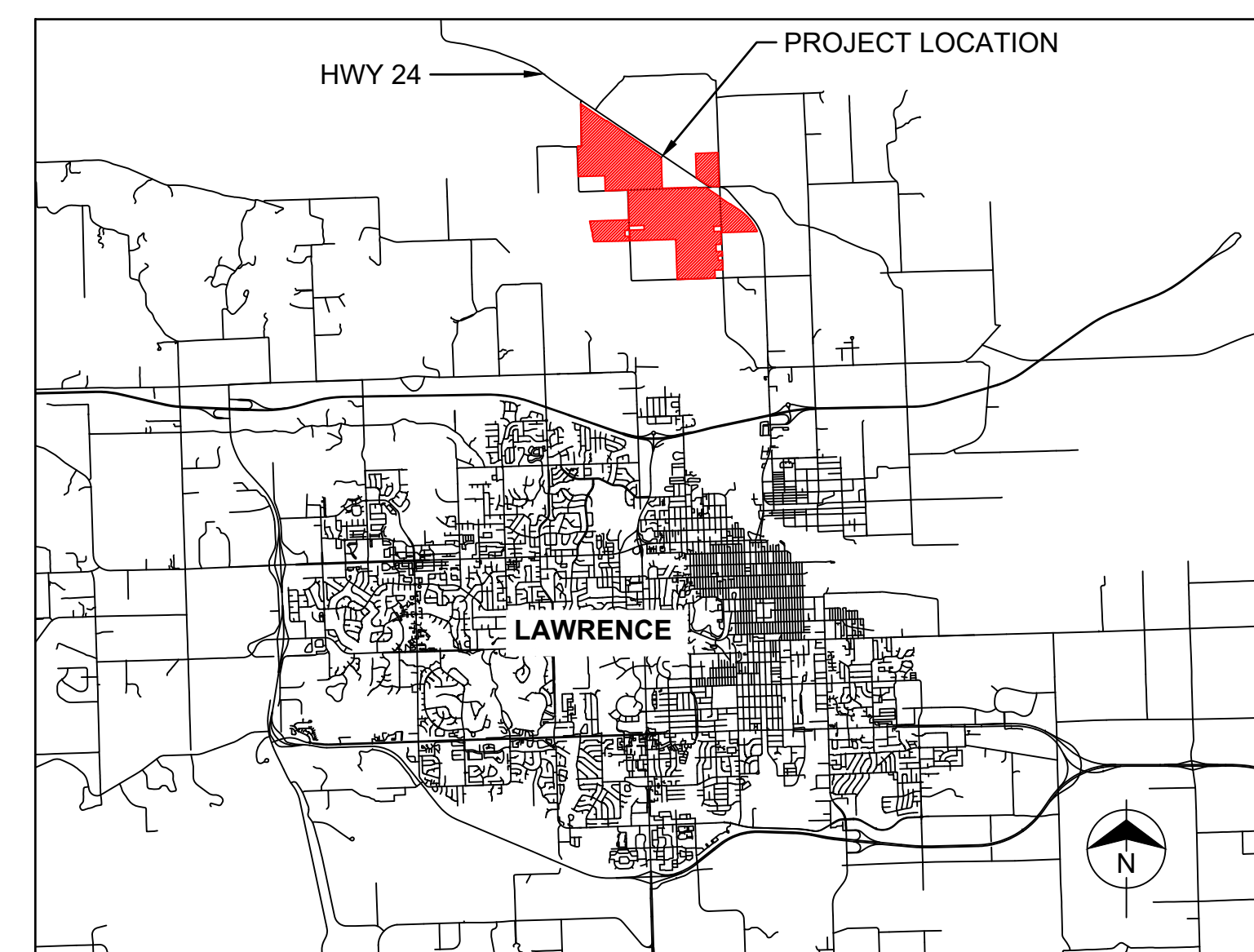
Conditional Use Permit Plans

KANSAS SKY ENERGY CENTER LANDSCAPING PLAN

PREPARED FOR FREE STATE
SOLAR PROJECT, LLC

DOUGLAS COUNTY, KANSAS
PROJECT NUMBER: 09100007

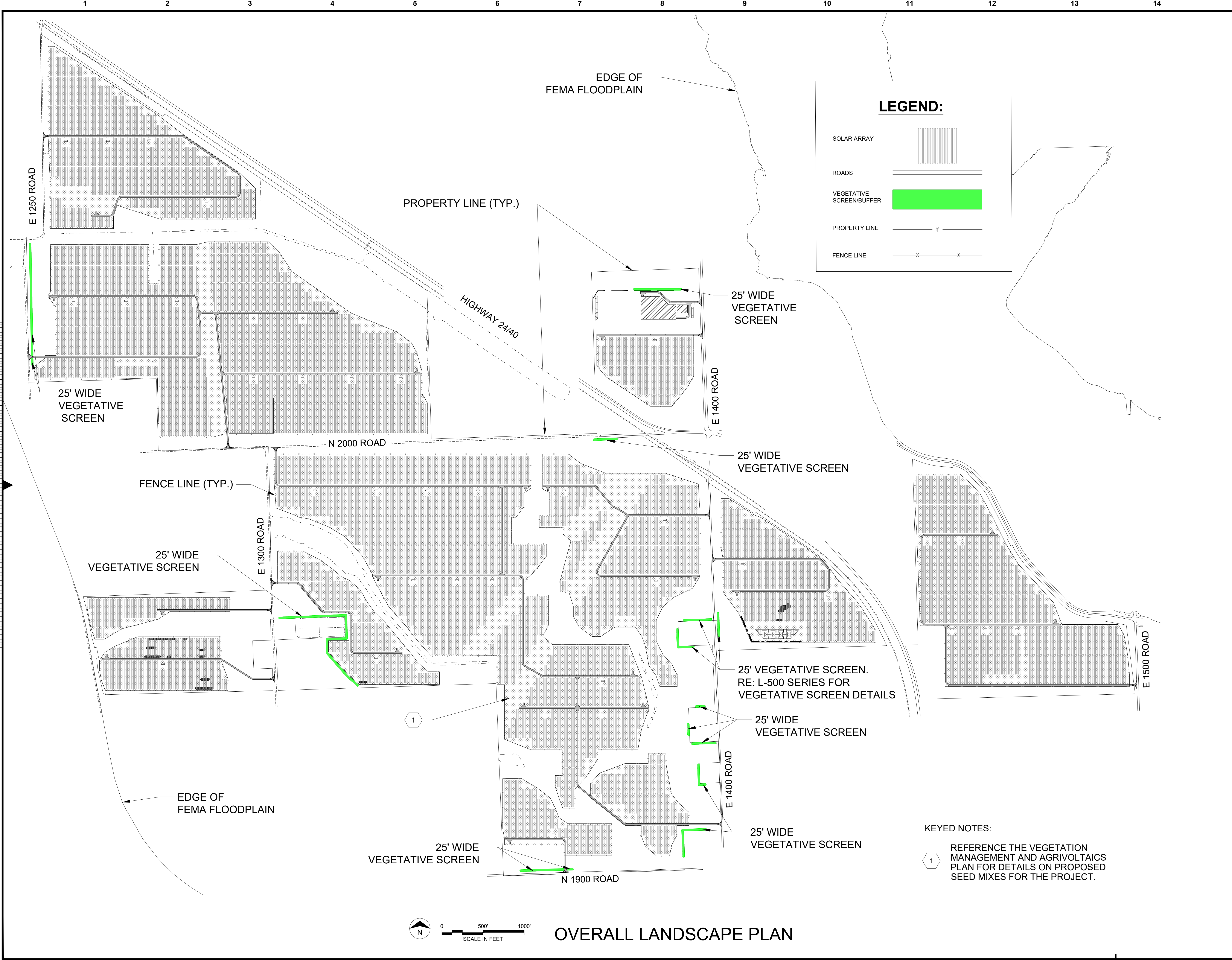
SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
C-001	COVER
L-100	OVERALL LANDSCAPE PLAN
L-500	VEGETATION DETAILS
L-501	VEGETATION DETAILS
L-502	VEGETATION DETAILS
L-503	VEGETATION DETAILS



no.	date	by	ckd	description
A	6/16/23	KMC	BMS	DRAFT PERMIT PLANS



no.	date	by	ckd	description
A	06/16/23	KMC	BMS	DRAFT SUBMITTAL



LEGEND:

- SOLAR ARRAY: [Grid pattern symbol]
- ROADS: [Double line symbol]
- VEGETATIVE SCREEN/BUFFER: [Green shaded area symbol]
- PROPERTY LINE: [Dashed line symbol]
- FENCE LINE: [Line with 'x' marks symbol]

KEYED NOTES:

1 REFERENCE THE VEGETATION MANAGEMENT AND AGRIVOLTAICS PLAN FOR DETAILS ON PROPOSED SEED MIXES FOR THE PROJECT.

**BURNS
MCDONNELL**
 9400 WARD PARKWAY
 KANSAS CITY, MO 64114
 816-333-9400
 LICENSE NO. E-65

date	detailed
06/01/23	KMC
designed	checked
KMC	BMS

**FREE STATE SOLAR
PROJECT, LLC.**

422 ADMIRAL BLVD.,
KANSAS CITY, MO 64106

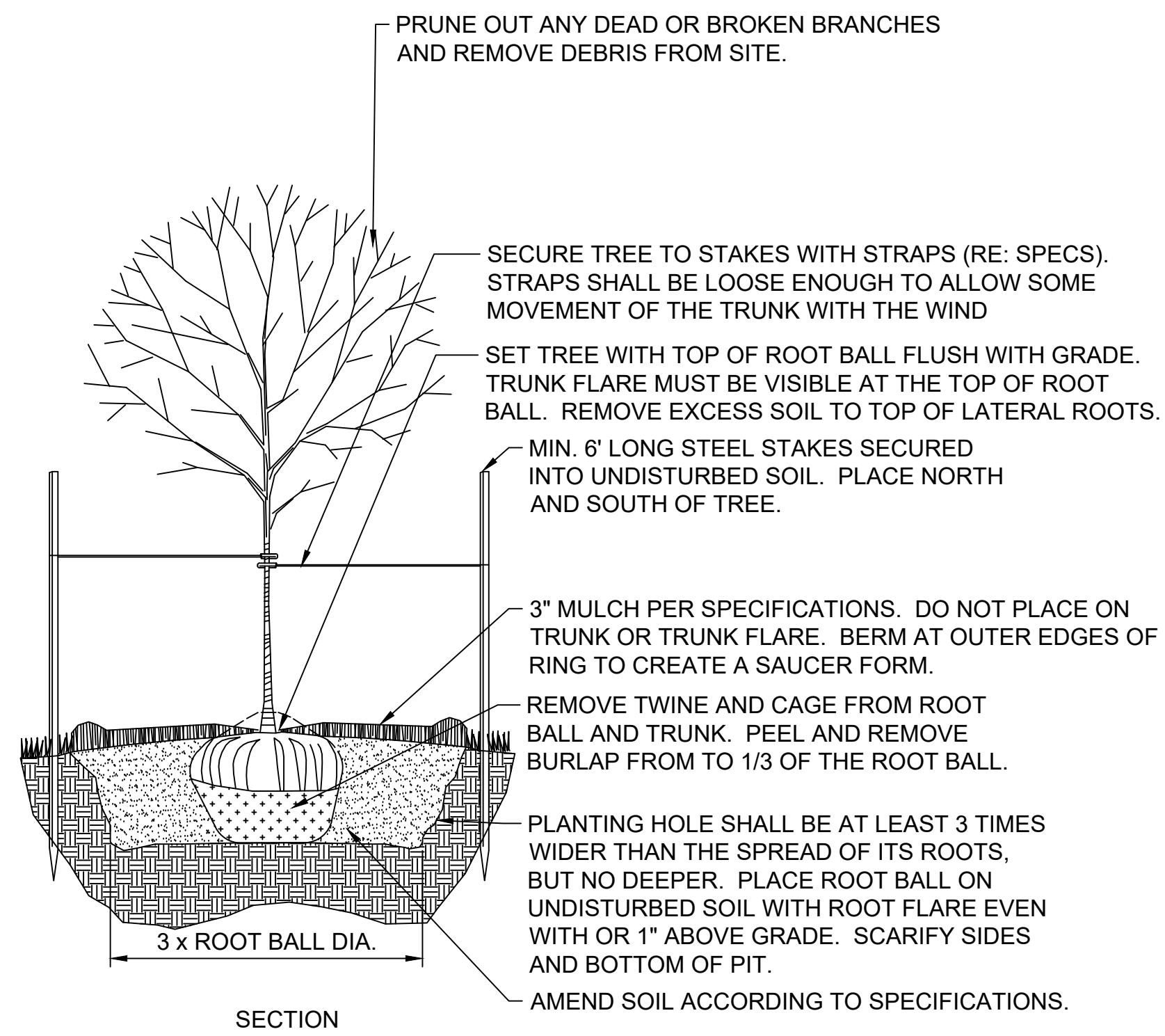
OVERALL LANDSCAPE PLAN

project	contract
144370	
drawing	rev.
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sheet	of sheets
file	

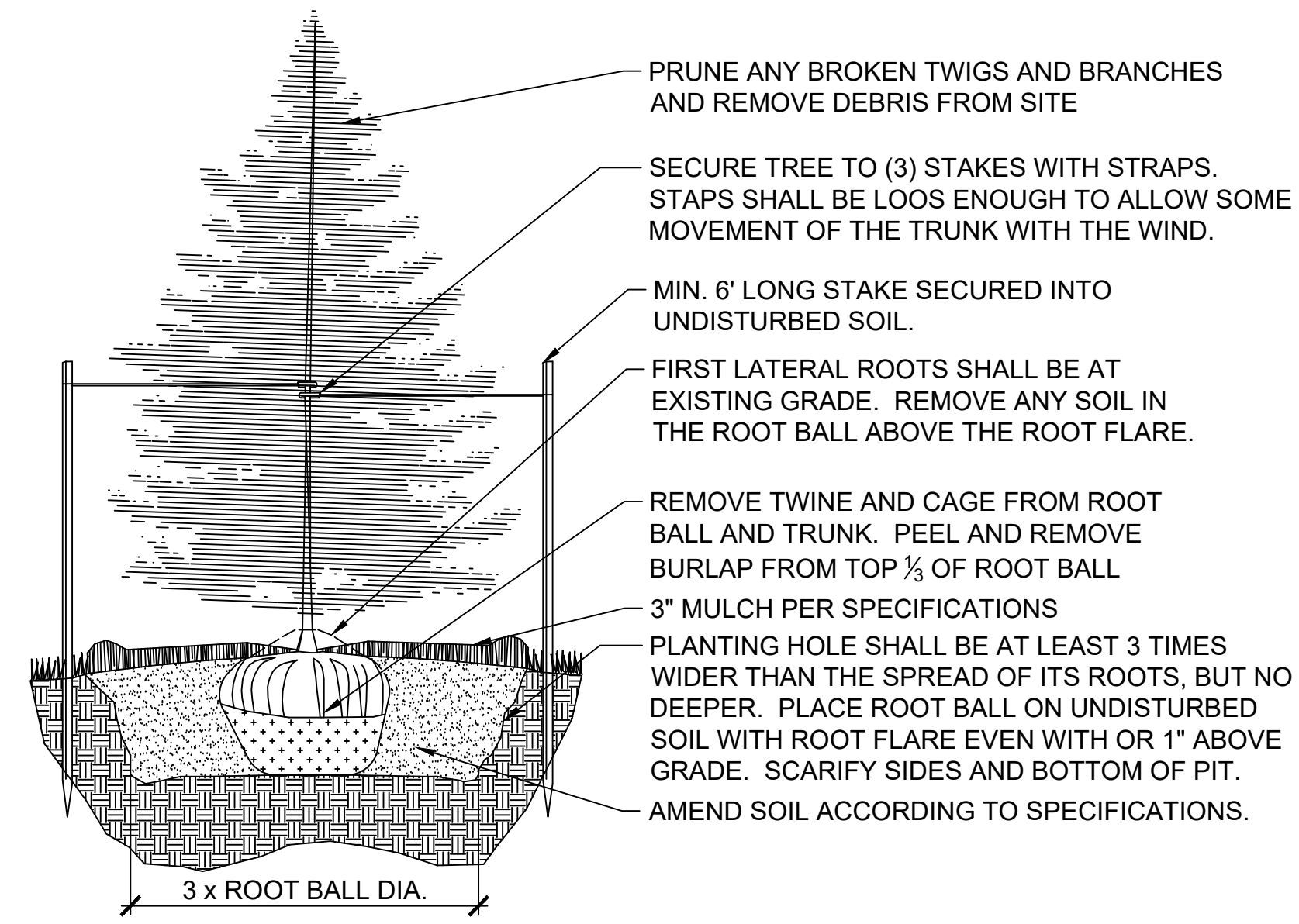
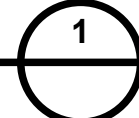
OVERALL LANDSCAPE PLAN

NOTES:

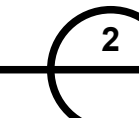
- TREES THAT DO NOT MEET THE SIZE REQUIREMENT WILL BE REJECTED
- TREES SHALL BE INSPECTED BY OWNERS REPRESENTATIVE PRIOR TO INSTALLATION.



DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE

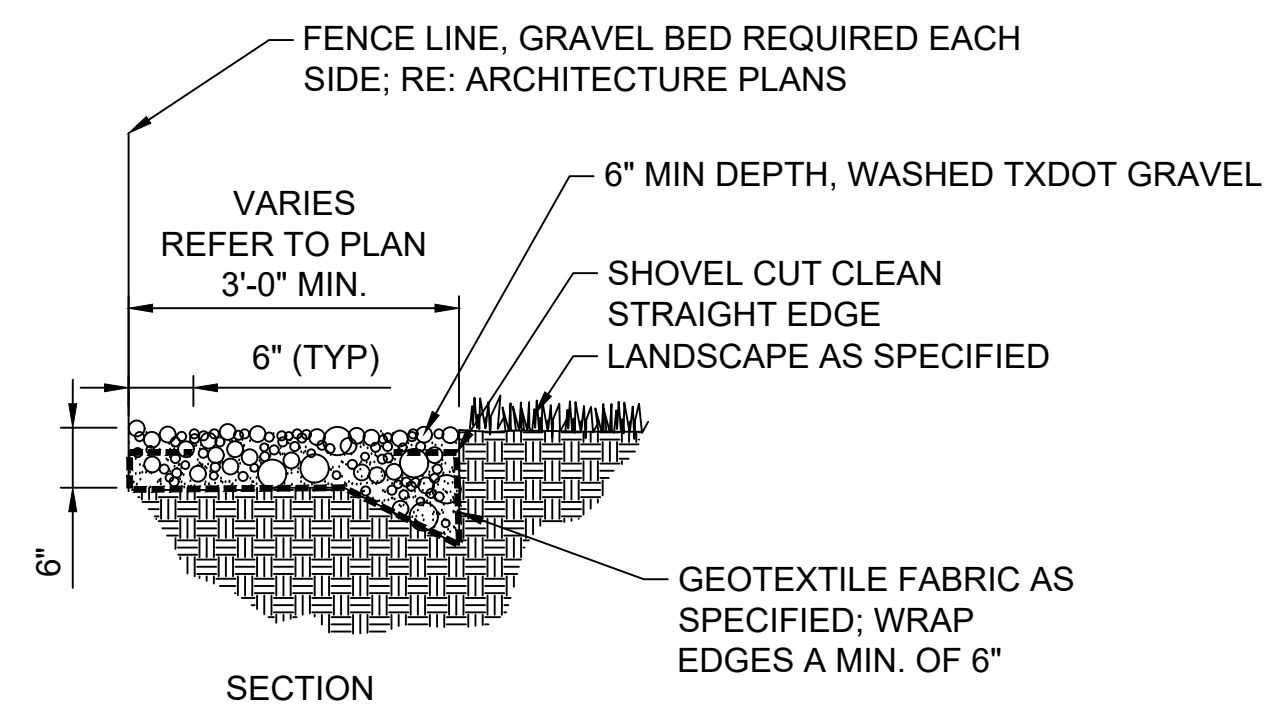


EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE

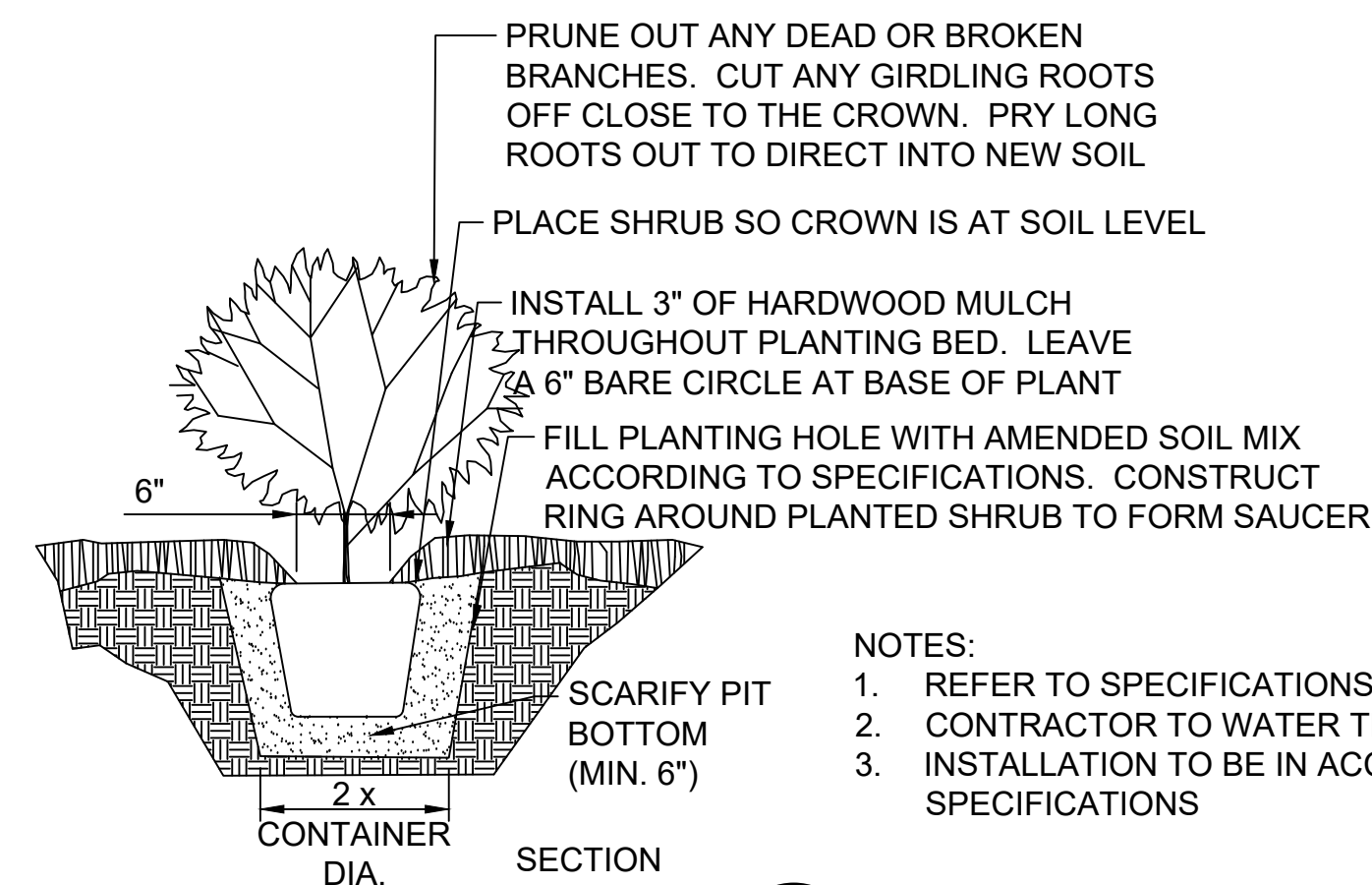
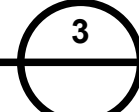


GENERAL NOTES:

- MATERIALS WILL ADHERE TO DOUGLAS COUNTY ZONING AND LAND USE REGULATIONS SECTION 12-307-3.10(K).
- PRIOR TO ANY CLEARING THE LIMIT OF DISTURBANCE SHALL BE SURVEYED AND MARKED IN THE FILED FOR REVIEW AND APPROVAL. THIS LIMIT SHALL INCLUDE THE LIMIT OF TREE CLEARING, THE LIMIT OF STUMP GRUBBING AND IN AREAS WHERE NO CLEARING IS REQUIRED AND THE LIMIT OF SOIL DISTURBANCE.
- AN INVASIVE SPECIES SURVEY SHALL BE PERFORMED PRIOR TO CLEARING AND A LICENSED APPLICATOR SHALL BE RETAINED TO PREPARE AND IMPLEMENT A SITE-SPECIFIC CONTROL TREATMENT PLAN.
- GRADED AREAS SHALL PROVIDE A SMOOTH UNIFORM SLOPE, FREE FROM RILLS AND GULLIES.
- THE SUBCONTRACTOR MUST PROVIDE THE CONSTRUCTION COORDINATOR DOCUMENTATION FROM THE SUPPLIER THAT LANDSCAPE VEGETATION MEETS OR EXCEEDS THE SPECIFIED STANDARD.
- FIRE MITIGATION. THERE SHALL BE A THREE FOOT WIDE FIRE BREAK ON EITHER SIDE OF THE FENCE LINE.
- THE GROUND SURFACE AROUND THE PCUS, TRANSFORMERS, AND INTERCONNECTION EQUIPMENT SHALL BE KEPT FREE OF VEGETATION AND BRUSH IN A WEED FREE ENVIRONMENT TO A DISTANCE OF 5 FEET. THE SCADA ENCLOSURES AND AUXILIARY RACKS ADJACENT TO THE PCU IS EXCLUDED FROM THIS REQUIREMENT.
- TOPSOIL SOURCE: REUSE SURFACE SOIL STOCKPILED ON THE SITE. VERIFY SUITABILITY OF SURFACE SOIL TO PRODUCE TOPSOIL MEETING REQUIREMENTS AND AMEND TO ACHIEVE REQUIRED PH AND ORGANIC CONTENT AS NECESSARY AND RECOMMENDED THROUGH SOIL TESTS. CLEAN TOPSOIL OF ROOTS, PLANTS, SODS, STONES, CLAY LUMPS, AND OTHER EXTRANEIOUS MATERIALS HARMFUL TO PLANT GROWTH. SOIL SHALL NOT CONTAIN MORE THAN 20 STONES OR OTHER FOREIGN MATERIAL LESS THAN 1 INCH (25 MM) IN DIAMETER IN ANY ONE SQUARE YARD AREA.



FIRE BREAK AT FENCELINE
NOT TO SCALE



SHRUB DETAIL
NOT TO SCALE



NOTES:

- REFER TO SPECIFICATIONS FOR TOPSOIL BACKFILL MIX.
- CONTRACTOR TO WATER THOROUGHLY AFTER PLANTING
- INSTALLATION TO BE IN ACCORDANCE WITH PLANTING SPECIFICATIONS

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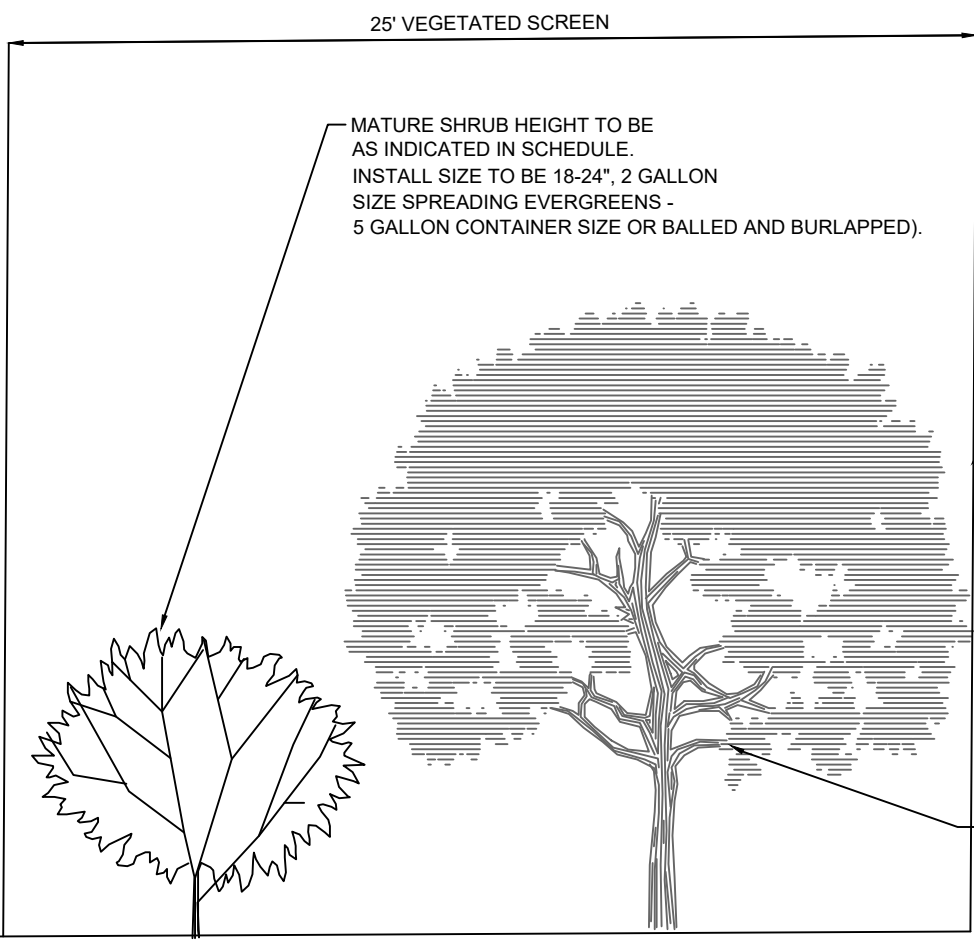
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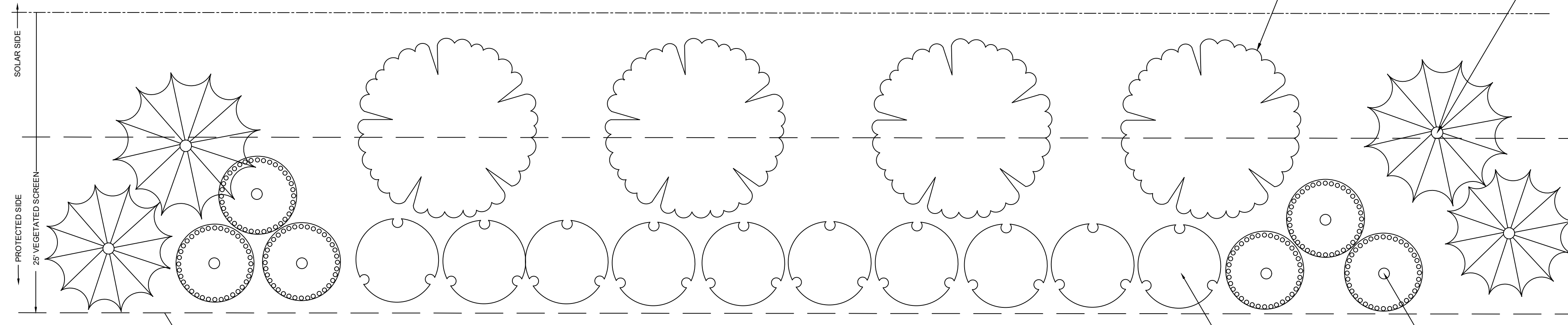
REVEGETATION NOTES

project	contract
144370	
drawing	rev.
L-500	A
sheet	of sheets
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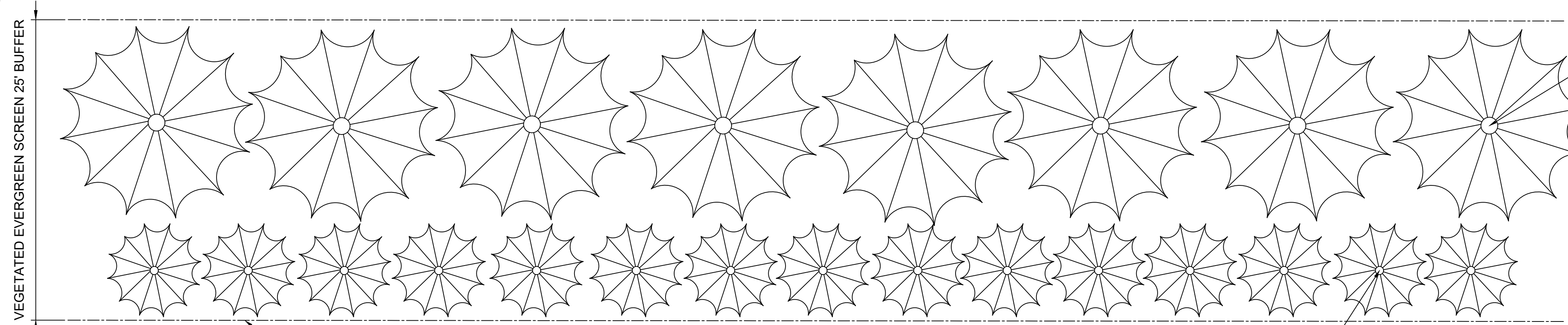
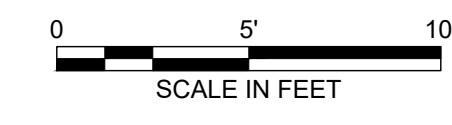
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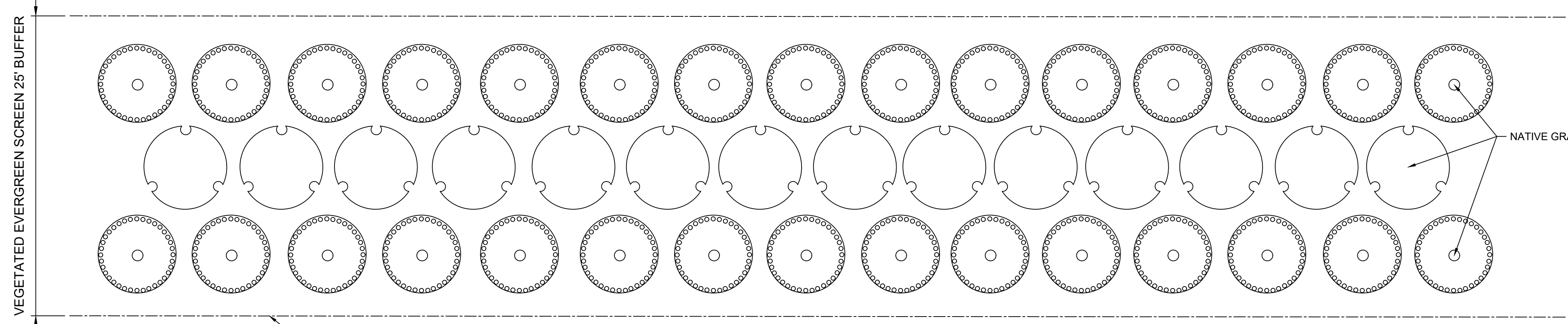
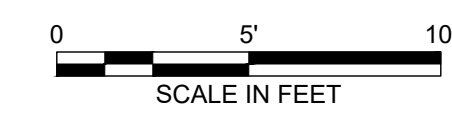
TYPICAL VEGETATED SCREEN SECTION
SCALE: NTS



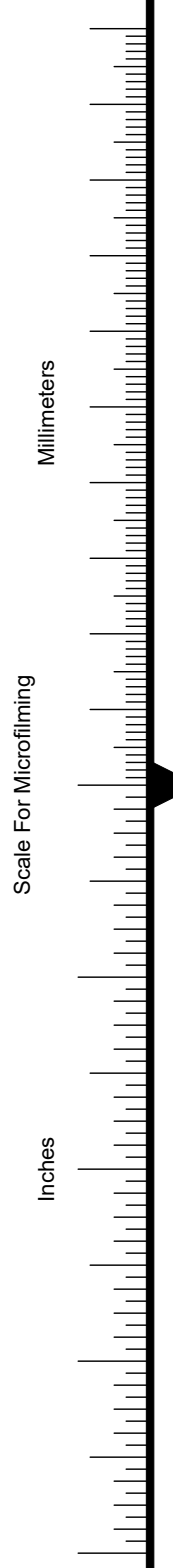
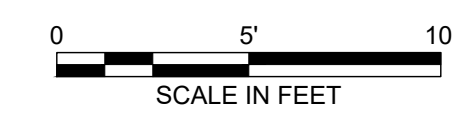
OPTION 1: TYPICAL 100' VEGETATED SCREEN PLAN VIEW



OPTION 2: TYPICAL 100' VEGETATED SCREEN PLAN VIEW



OPTION 3: TYPICAL 100' VEGETATED SCREEN PLAN VIEW



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REVEGETATION DETAILS

project 144370	contract
drawing L-501	rev. A
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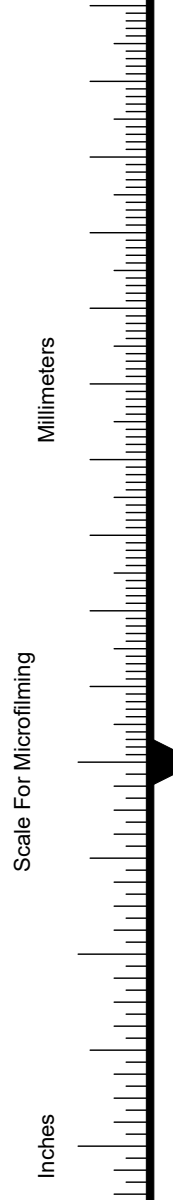
Vegetative Screening

Scientific Name	Cultivar	Common Name	Height (ft)	Spread (ft)	Type	Exposure	Moisture Requirements	Maintenance	Ecosystem Services (function)	Native/ Introduced?	Wetland Indicator Status	Source Information
Option 1 "Traditional"												
<i>Buxus sempervirens</i>	Arctic Emerald	upright boxwood	10	3	Broadleaf Evergreen	Full Sun	Mesic	Medium	Screening	Introduced	UPL	Missouri Botanical Garden
<i>Juniperus chinensis</i>	Robusta Green	robust green juniper	15	7	Evergreen	Full Sun	Mesic	Low	Screening	Introduced	UPL	KS State Research and Extension, Conifer Trees of Kansas Page 7
<i>Juniperus chinensis</i>	Wintergreen	wintergreen juniper	15	6	Evergreen	Full Sun	Mesic	Low	Screening	Introduced	UPL	KS State Research and Extension, Conifer Trees of Kansas Page 7
<i>Juniperus virginiana</i>	Manhattan Blue	manhattan blue juniper	12	8	Evergreen	Full Sun	Mesic/Dry	Low	Screening/ Windbreaks	Native	FACU	Kansas Forest Service
<i>Prunus americana</i>		American plum	10	12	Deciduous	Full Sun/ Part Shade	Mesic/Dry	Low	Wildlife	Native	UPL	Kansas Forest Service
<i>Sambucus canadensis</i>		American black elderberry	10	12	Deciduous	Full Sun/ Part Shade	Mesic/ Wet	Medium	Pollinators/ Wildlife	Native	FAC	Kansas Forest Service
<i>Syringa vulgaris</i>		lilac	12	10	Deciduous	Full Sun/ Part Shade	Mesic/Dry	Low	Wildlife/ Windbreaks	Introduced	UPL	Kansas Forest Service
<i>Taxus x media</i>		yew	12	12	Evergreen	Full Sun/ Part Shade	Mesic	Low	Screening	Introduced	UPL	Missouri Botanical Garden
Option 2 "Hybrid"												
<i>Amelanchier alnifolia</i>		Serviceberry	4	6	Deciduous	Part Shade	Mesic	Low	Wildlife	Native	FACU	Missouri Botanical Garden
<i>Aronia melanocarpa</i>		chokeberry	7	5	Deciduous	Full Sun/ Part Shade	Wet/Mesic	Low	Pollinators/ Wildlife	Native	FACW	Missouri Botanical Garden
<i>Corylus americana</i>		American hazelnut	6	10	Deciduous	Full Sun/ Part Shade	Mesic/Dry	Low	Pollinators/ Wildlife	Native	FACU	Kansas Wildflowers and Grasses
<i>Lindera benzoin</i>		spicebush	12	12	Deciduous	Part Shade/ Shade	Mesic/ Wet	Low	Pollinators/ Wildlife	Native	FACW	Kansas Wildflowers and Grasses
<i>Prunus americana</i>		American plum	10	12	Deciduous	Full Sun/ Part Shade	Mesic/Dry	Low	Wildlife	Native	UPL	Kansas Forest Service
<i>Prunus virginiana</i>		chokecherry	6	12	Deciduous	Full Sun/ Part Shade	Mesic	Low	Pollinators/ Wildlife	Native	FACU	Kansas Forest Service
<i>Sambucus canadensis</i>		American black elderberry	10	12	Deciduous	Full Sun/ Part Shade	Mesic/ Wet	Medium	Pollinators/ Wildlife	Native	FAC	Kansas Forest Service
Option 3 "Prairie"												
<i>Andropogon gerardii</i>		big bluestem	6	3	Herbaceous	Full Sun	Dry/ Mesic	Low	Wildlife	Native	FAC	Kansas Wildflowers and Grasses
<i>Eragrostis spectabilis</i>		purple lovegrass	2	2	Herbaceous	Full Sun	Mesic/ Dry	Low	Wildlife	Native	UPL	Kansas Wildflowers and Grasses
<i>Panicum virgatum</i>		switchgrass	5	2	Herbaceous	Full	Mesic	Low	Wildlife	Native	FAC	Kansas Wildflowers and Grasses
<i>Schizachyrium scoparium</i>		little bluestem	3	1	Herbaceous	Full	Mesic	Low	Wildlife	Native	FACU	Kansas Wildflowers and Grasses
<i>Sorghastrum nutans</i>		indiangrass	5	2	Herbaceous	Full	Mesic/ Dry	Low	Wildlife	Native	FACU	Kansas Wildflowers and Grasses
<i>Asclepias syriaca</i>		common milkweed	5	1	Herbaceous	Full	Mesic/ Dry	Low	Wildlife	Native	UPL	Kansas Wildflowers and Grasses
<i>Dalea purpurea</i>		purple prairie clover	2	1.5	Herbaceous	Full	Mesic/ Dry	Low	Wildlife	Native	UPL	Kansas Wildflowers and Grasses
<i>Elymus canadensis</i>		nodding wild rye	4	2.5	Herbaceous	Full	Mesic/ Dry	Low	Wildlife	Native	FACU	Kansas Wildflowers and Grasses

Plant species may vary depending on commercial availability and are subject to change. All changes to species must be approved by Owner prior to implementation.

Key for Wetland Indicator Status Column

Indicator Status	Abbr.	Ecological Description	% Occurrence in Wetlands
Obligate	OBL	Almost always is a hydrophyte, rarely in uplands.	99
Facultative Wetland	FACW	Usually is a hydrophyte but occasionally found in uplands.	67-99
Facultative	FAC	Commonly occurs as either a hydrophyte or a non-hydrophyte.	34-66
Facultative Upland	FACU	Occasionally is a hydrophyte, but usually occurs in uplands.	1-33
Upland	UPL	Rarely is a hydrophyte, almost always in uplands.	1



date 06/01/23	detailed KMC
designed KMC	checked BMS

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SCREENING OPTIONS

project 144370	contract
drawing L-502	rev. A
sheet	of sheets
file	

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1.0 GENERAL

A. Summary:

1. This Section includes the following areas of Work:

- Topsoil.
- Soil Amendments.
- Fertilizer.
- Miscellaneous Material
- Maintenance.

2. Related Work Specified Elsewhere:

- Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

B. References:

1. Applicable Standards:

- American Society for Testing and Materials (ASTM) _ Equivalent AASHTO standards may be substituted as approved.

C. Submittals:

1. General: Upon completion of the installation, deliver to Landscape Architect the following:

2. Plant and Material Certificates:

- Fertilizer shall be accompanied by certificate from vendors certifying they meet requirements of these Specifications.
- Manufacturer's literature: submit three copies of fertilizer manufacturer's literature along with schedule of maintenance program spanning the life of the guarantee and three copies of a recommended post guarantee maintenance program.
- Certificates of inspection as required by governmental authorities.
- Planting schedule indicating anticipated dates and locations for each type of planting.
- Maintenance instructions recommending procedures to be established by Owner Representative for maintenance of landscaping during an entire year. Submit 3 copies before expiration of required maintenance programs.
- Qualification data for firms and persons specified in "Quality Assurance" article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
 - Soil amendments
 - Mulch
 - Inoculants

D. Quality Assurance

1. Qualifications:

- A qualified Contractor shall employ or provide a qualified installation manager who meets any of the required qualifications:
 - Bachelor of Science Degree in Horticulture, Botany, Soil Physics, Agronomy, General Agriculture, Agricultural or Biological Engineering, or a related field.
- The above-described individual(s) shall be identified by the contractor and shall be on the project during the following installations;
 - Vegetative Screening.

2. Installer Qualifications: Engage a single firm specializing in landscape work with a minimum of 5 years experience who has completed landscaping work similar in material, design, and extent to that indicated for this Project and with a record of successful landscape establishments.

- Installers Field Supervision: Require installers to maintain an experienced full-time Supervisor on the project site during times that landscaping is in progress.

3. Provide maintenance recommendations to be implemented by the installation and maintenance contractor, in the manner approved by the Landscape Architect as follows:

- Monthly: For the first three (3) months following completion of each vegetative screening area.
- Seasonally: Spring and Fall for a total of 6 reports.

E. Landscaping

1. Packaged Materials: Deliver packaged materials in containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery and while stored at site.

F. Delivery, Storage and Handling

1. Packaged Materials: Deliver packaged materials in containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery and while stored at site.

G. Project Conditions

1. Utilities: Determine location of above grade and underground utilities and perform work in a manner which will avoid damage. Hand excavate, as required. Maintain grade stakes until removal is mutually agreed upon by parties concerned.

2. Excavation: When conditions are detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify Landscape Architect before planting.

H. Sequencing and Scheduling

1. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.

2.0 PRODUCTS

A. Cover Crop Seeding

- Cover crop seeding shall be installed when seasonal conditions do not allow for seeding of the native grass mix specified above.
- Provide fresh, clean, new-crop seed complying with tolerance for purity and germination established by Official Seed Analysts of North America. Provide seed mixture composed of grass species.
- Annual Oats
- Cover Crop Application Rate: 10 lbs. PLS per Acre

B. Topsoil:

1. Topsoil: ASTM D 5268, pH range of 5.5 to 7.4 percent organic material minimum, free of stones 1/2 inch (25 mm) or larger in any dimension, and other extraneous materials harmful to plant growth.

- Topsoil Source: Reuse surface soil stockpiled on the site. Verify suitability of surface soil to produce topsoil meeting requirements and amend to achieve required pH and organic content as necessary and recommended through soil tests. Clean topsoil of roots, plants, sods, stones, clay lumps, and other extraneous materials harmful to plant growth. Soil shall not contain more than 20 stones or other foreign material less than 1 inch (25 mm) in diameter in any one square yard area.

D. Soil Amendments:

- Lime: ASTM C 602, Class T, agricultural limestone containing a minimum 80 percent calcium and magnesium equivalent, with a minimum 90 percent passing a No. 8 sieve, a minimum 75 percent passing a No. 60 sieve, and 100% passing a No. 100 sieve.
- Peat Humus: Shredded horticultural grade sphagnum peat moss, 90% organic moss peat, with ash content of 10% or less, brown in color.
- Manure: Well-rotted, unleached stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, and material harmful to plant growth.
- Water: Potable.

E. Fertilizer:

- Do NOT use fertilizers in Native Grass and Wildflower seeding areas.

3.0 EXECUTION

A. Examination:

1. Examine areas to receive vegetative screening for compliance with requirements and for conditions affecting performance of work of this Section. Do not proceed with installation until unsatisfactory conditions have been corrected.

B. Preparation:

1. Lay out vegetative screening areas. Stake locations and secure Landscape Architect's acceptance before the start of planting work. Make minor adjustments as may be required.

2. Year One:

- Maintenance (June-September)
 - Weed Control - mowing should keep annual weeds down. Spot spray weeds using Round-Up before first mowing.
- Monitoring:
 - Monitor for invasive weeds such as: velvet leaf, brome grass, Johnson grass, crown vetch, clover, prickly lettuce, etc. Spot spray as necessary.
- Evaluation and Remediation:
 - Cover crop should be growing within 2 weeks of planting.
 - Seedlings spaced 1-6" apart in drill rows.
 - If there is a flush of growth from invasive weeds, mow more frequently.
 - As determined by the horticulturist, add new mulch in areas where mulch has been disturbed by wind or maintenance operations sufficiently to nullify its purpose. Anchor as required to prevent displacement.

3. Year Two and Three

- Maintenance (June - September):
 - Weed Control - periodic mowing should keep annual weeds down. Spot spray or manually remove invasive weeds.
- Monitoring:
 - Monitor for invasive weeds such as: velvet leaf, brome grass, Johnson grass, crown vetch, clover, prickly lettuce, etc. Spot spray as necessary.
- Evaluation and Remediation:
 - Cover crop will not be present.
 - If there is a flush of growth from invasive weeds, mow site again.

C. Protection:

4. Erect barricades and warning signs as required to protect newly planted areas from traffic. Maintain barricades throughout maintenance period until vegetation is established.

D. Cleanup:

1. Promptly remove soil and debris created by lawn Work from paved areas. Clean wheels of vehicles prior to leaving Site to avoid tracking soil onto surfacing of roads, walks, or other paved areas.

E. Disposal or Surplus and Waste Material

1. Disposal: Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of it off the Owner's property.

F. Measurement and Payment

1. Time of Completion: Completion time for seeding shall not apply to provisions for liquidated damages with respect to Contract completion time. Payment for seeding will be withheld until such Work is accepted.

Scale For Microfilming
Millimeters
Inches

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VEGETATION NOTES

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