



CITY OF FARMINGTON
110 West Columbia
Farmington, Missouri 63640
573.756.1701

BRAY ROAD IMPROVEMENTS

ADDENDUM #3

Date: 4/24/2026

This Addendum forms a part of the Bidding and Contract Documents and modifies the original Bidding Documents.

FAILURE TO ACKNOWLEDGE RECEIPT OF ADDENDUM MAY SUBJECT BIDDER TO DISQUALIFICATION.

Replace the Itemized Bid Form with the Revised Itemized Bid Form, attached.

Replace the Construction Plans with the Revised Construction Plans, attached.

Replace Section 321723 Pavement Marking of the specifications with Section 321723 Pavement Marking, attached.

Other Items

The ditch grading, shown on C6.0, north of the blue line is included within the scope of this project. The storm system, shown on C6.0, north of the blue line is included within the scope of this project. The other improvements north of the blue line are not included in this scope.

Bid Alternate 1 shall include dowel bars and supports as shown in MoDOT 502.10L, attached.

Lawn areas shall be restored in accordance with Chapter XI Landscaping, attached.

Street light standards and associated power lines will be installed by the City of Farmington.

10' Diameter Junction Boxes: Cast-in-place construction may be approved, provided that the proposed design is approved by the engineer and owner's representative.

The contractor is to coordinate with the City of Farmington prior to adjusting the manholes to grade. We may elect to leave them at the current height on a case-by-case basis.

All water, sewer, and power utility relocations will be by others.

END OF ADDENDUM NO. 3

Project: Bray Road Improvements

Itimized Bid Form

Revised: 4/24/26

BASE BID

Number	Description	Unit	Amount	Unit Price	Extended Cost
1	MOBILIZATION	LS	1		
2	CLEARING AND STRIPPING	LS	1		
3	EARTH EXCAVATION (EXCESS DIRT)	CY	220		
4	15" CMP PIPE REMOVAL	LF	55		
5	18" CMP PIPE REMOVAL	LF	424		
6	24" CMP PIPE REMOVAL	LF	138		
7	ADJUST MANHOLE TO GRADE	EA	2		
8	AREA INLET TO BE REMOVED AND REPLACED	EA	1		
9	EXISTING SIGN TO BE REMOVED AND RELOCATED	EA	6		
10	REMOVE AND RELOCATE MAILBOX/CARRRER	EA	2		
11	EXISTING OVERHEAD POLE/SERVICE TO BE REMOVED	EA	1		
12	GRAVEL ENTRANCE REMOVAL	SF	1,204		
13	ASPHALT PAVEMENT REMOVAL	SF	50,607		
14	10' DIAMETER MANHOLE	EA	1		
15	10' DIAMETER CURB INLET	EA	3		
16	10' DIAMETER DOUBLE CURB INLET	EA	1		
17	CURB INLET	EA	15		
18	DOUBLE CURB INLET	EA	4		
19	AREA INLET	EA	5		
20	18" CLASS V RCP	LF	40		
21	30" CLASS III RCP	LF	45		
22	36" CLASS V RCP	LF	250		
23	36" RCP FLARED END SECTION	EA	2		
24	108"X36" CLASS III RCP BOX CULVERT	LF	90		
25	PEDESTRIAN HANDRAIL	LF	100		
26	CAST-IN-PLACE CONCRETE WALL	SF	330		
27	MODOT TYPE 2 DITCH LINER	SF	5,755		
28	CONCRETE SWALE REWORK	SF	80		
29	TRENCH DRAIN	LF	30		
30	CONCRETE CURB AND GUTTER	LF	3,525		
31	ROLLED CURB	LF	18		
32	SEEDING (WITH STRAW BLANKET)	ACRE	1.88		
33	PAVEMENT STRIPING - LINE 6"	LF	3,890		
34	PAVEMENT STRIPING - TURN ARROW	EA	6		
35	STORMWATER PROTECTION	LS	1		
36	TRAFFIC CONTROL	LS	1		
				BASE BID SUB TOTAL	

Project: Bray Road Improvements

Itimized Bid Form

Number	Description	Unit	Amount	Unit Price	Extended Cost
BID ALTERNATE 1					
37	4" TYPE 5 AGGREGATE BASE	Tons	1,530		
38	8" CONCRETE PAVEMENT	CY	2,266		
BID ALTERNATE 1 SUB TOTAL					
BID ALTERNATE 2					
39	8" TYPE 5 AGGREGATE BASE	Tons	3,060		
40	8" ASPHALT BASE	Tons	4,440		
41	2" ASPHALT SURFACE	Tons	1,110		
42	ADDITIONAL EXCAVATION FOR ROADWAY	CY	565		
BID ALTERNATE 2 SUB TOTAL					
BID ALTERNATE 3					
43	18" RCP	LF	840		
44	24" RCP	LF	540		
45	30" RCP	LF	335		
46	36" RCP	LF	745		
BID ALTERNATE 3 SUB TOTAL					
BID ALTERNATE 4					
47	18" ADS HP PIPE	LF	840		
48	24" ADS HP PIPE	LF	540		
49	30" ADS HP PIPE	LF	335		
50	36" ADS HP PIPE	LF	745		
BID ALTERNATE 4 SUB TOTAL					
BID ALTERNATE 5					
51	5' WIDE CONCRETE SIDEWALK	SF	15,750		
52	CURB RAMPS WITH DETECTABLE WARNING STRIP	EA	20		
BID ALTERNATE 5 SUB TOTAL					

SECTION 321723 - PAVEMENT MARKING

PART 1 - GENERAL

1.1 SCOPE

The work covered by this specification consists of furnishing all labor, tools, equipment and materials necessary to place painted pavement markings as shown on the plans or as directed by the Engineer.

1.2 MATERIALS

Yellow and white striping paint shall be ProMar Acrylic solvent based marking paint or approved equal.

1.3 INSTALLATION REQUIREMENTS

Painted pavement markings shall be installed in accordance with the following requirements:

A. Prior to the application of the paint, the Contractor shall make certain that the pavement surface is dry and free of dirt or grease and, if necessary, clean the surface to the satisfaction of the Engineer.

B. Paint shall not be applied at air temperature below 40°F unless approved by the Engineer.

C. Unless directed by the Engineer, lines shall not be laid directly over a longitudinal crack or joint nor over a tar or asphalt painted line. The edge of a centerline or lane line shall be offset a minimum distance of 2 inches from a longitudinal crack or joint. Edge lines shall be approximately 2 inches from the edge of the pavement. The finished center and lane lines shall be straight, with the lateral deviation of any 15 foot line not to exceed 1 inch.

Equipment Requirements. Equipment used for installing painted pavement markings shall meet the following requirements:

1. The application equipment used for placing lane and edge lines shall be of sufficient size and stability to insure smooth, straight application. The equipment must have the capability of automatically placing new intermittent line patterns, as well as continuous lines. The equipment shall be so constructed as to provide the various widths of pavement marking lines specified. The mounting shall be such as to allow the equipment to accurately follow road irregularities and produce lines of uniform dimensions. Words, symbols, and lines other than lane and edge lines may be placed with a hand-operated machine. The Engineer may also permit the use of a hand-operated machine for those locations where only a limited quantity of lane and edge lining is required.

END OF SECTION 321723



ProMar® Acrylic
Solvent Based Traffic Marking Paint

TM5712 White, TM5713 Yellow



CHARACTERISTICS

ProMar® Solvent Based Acrylic Traffic Marking Paint is a conventional dry (non-heat applied) acetone based paint. It is 100% acrylic, which offers the following outstanding properties:

- Features:
- Fast dry and hardness development
 - Less dirt pick-up, improved durability

For use on properly prepared:
Cured asphalt, Concrete, Brick, Parking lots, curbs, runways

Recommended for use in:
Apartment Communities, Shopping Centers, Schools and Universities, Municipalities, Property Maintenance, Asphalt Seal Contractors, Pavement stripers, Airfields & Highways

Finish:	Flat
Color:	White & Yellow
Recommended Spreading Rate per coat:	Approximately 320 lineal feet of standard 4 inch stripe per gallon
Wet mils:	15.0
Dry mils: (White, Yellow)	7.0-7.2
Coverage sq. ft. per gallon:	107
Theoretical coverage: sq. ft. per gallon (White, Yellow)	753-770

Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness or porosity of the surface, method of application, surface irregularities, overthinning, climatic conditions, and excessive film build.

Drying Schedule @ 15.0 mils wet, @77° F (25°C), @ 50% RH:

Dry-no-pickup: maximum	10 minutes
Dry to touch: maximum	10 minutes

Drying time is temperature, humidity, and film thickness dependent.

Tinting: White only may be tinted with Maxitoner or GIC. %SherColor. Only exterior grade colorants should be used. Handicap Blue may be obtained by tinting white with 2-3 oz of blue colorant per gallon. Not controlled for tinting strength.

V.O.C. (less exempt solvents):
148 grams per litre; 1.23 lb. per gallon (White)
114 grams per litre; 0.95 lb. per gallon (Yellow)
As per 40 CFR 59.406

Volume Solids: 47 ± 2% (White)
48 ± 2% (Yellow)

Weight Solids: 70 ± 2% (White)
71 ± 2% (Yellow)

Weight per Gallon: Density 11.76 lbs. (White)
11.80 lbs. (Yellow)

Flash Point: -3°F PMCC

Shelf Life: 12 months, unopened

Store indoors at 40°F / 4.5°C to 90°F / 32°C

COMPLIANCE

As of 07/13/2021, Complies with:

OTC	Yes
OTC Phase II	No
S.C.A.Q.M.D.	No
CARB	Yes
CARB SCM 2007	No
CARB SCM 2020	No
Canada	Yes
LEED® v4 & v4.1 Emissions	N.A.
LEED® v4 & v4.1 V.O.C.	No
EPD-NSF® Certified	N.A.
MIR-Manufacturer Inventory	N.A.
MPI®	Yes
Indiana: Traffic Marking Coatings Restricted to 105 grams per litre VOC from May 1st-Sept 30. Oct 1 to April 30th VOCs are 150 grams per litre.	

APPLICATION

Temperature:	
minimum	40°F / 4.5°C
maximum	90°F / 32°C
air, surface, and material	
At least 5°F above dew point	

Relative humidity: 85% maximum
The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compatible with the existing environmental and application conditions.

Reducer: Not recommended

Conventional Spray: Typical fluid tip size is about 0.1 inch orifice, with a matching fan cap designed for striping application. Working pressures will vary with ambient temperatures. The correct pressure is the lowest pot and atomizing pressure that produces a flat line of the correct thickness. Heated air atomized spray may also be used, allowing improved sprayability but not necessarily dry time.

Airless Spray Line Striper:	
Pressure	1500-2000 p.s.i.
Hose	3/8 inch ID
Tip	.015-.019 inch
Filter	50-100 mesh
Brush-Roller:	Not recommended

If specific application equipment is listed above, equivalent equipment may be substituted. If the striping machine is used with water based paint, care must be taken to prevent contamination of the paint types.

In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with Acetone, R6K9.

Apply paint at the recommended film thickness and spreading rate as indicated. Application of coating below minimum recommended spreading rate will adversely affect coating performance.

APPLICATION TIPS

Make sure product is completely agitated (mechanically or manually) before use.

Mixing Instructions: Mix material to a uniform consistency. Some minor separation of solvent may occur on the surface.

It can also serve as a binder for glass beads to make reflective markings. Apply by dropping on glass beads while the paint is still wet. Can be used with stencils (Available through Sherwin-Williams) for street and parking lot marking.

RECOMMENDED SYSTEMS

Cured Asphalt, Concrete, and Brick:	
1 coat ProMar® Acrylic Solvent Based Traffic Marking Paint @ 320 lineal feet of standard 4 inch stripe per gallon approximately 15.0 mils wet 7.0-7.2 mils dry.	
White	0.0TM5712
Yellow	0.0TM5713

ProMar® Acrylic

Solvent Based Traffic Marking Paint

SURFACE PREPARATION

WARNING! Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and cleanup. For more information, call the National Lead Information Center at 1-800-424-LEAD (in US) or contact your local health authority.

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Minimum recommended surface preparation:

Concrete:	Cured, clean, dry, sound
Asphalt:	Cured, clean, dry, sound
Brick:	Cured, clean, dry, sound

Surfaces should be clean and dry and free from loose or peeling paint. Do not apply when air or surface temperatures are below 40°F (4.5°C), or when the relative humidity exceeds 85%, or when the temperature falls below the dew point.

The presence of concrete sealers or efflorescence on new concrete may interfere with adhesion and should be removed by extended weathering, etching, or abrasive blasting.

Most previously painted lines may be repainted without additional surface preparation, provided the old paint is still tightly adhered to the surface. However, multiple layers of paint will eventually peel and require removal. Recognize that any surface preparation short of total removal of the old coating may compromise the service length of the system.

New asphalt surfaces: should ideally be allowed to age several months before striping. Solvent based paints may cause bleeding through the paint. Placing an inconspicuous test stripe to determine if the asphalt has aged sufficiently to use solvent paint is recommended. If it is necessary to paint a fresh asphalt surface, use a latex striping paint following the recommended procedures.

PERFORMANCE TIPS

Asphalt surfaces generally require aging prior to painting. If the asphalt is insufficiently cured, applying a thin coat (approximately 1/2 the recommended d.f.t.) generally reduces the extent of lifting and cracking.

No painting should be done immediately after a rain or during foggy weather.

Do not paint on wet surfaces.

Check adhesion by applying a test strip to determine the readiness for painting.

Do not use on uncured asphalt, Asphalt surfaces generally require aging prior to painting.

Excessive reduction of material can affect film build, appearance, and adhesion.

The coating may be made into reflective paint by dropping on glass beads while the paint is still wet.

PERFORMANCE

Dry-No-Pickup

White:	10 minutes maximum
Yellow:	10 minutes maximum

Fineness of Grind:

White:	3 Hegman minimum
Yellow:	3 Hegman minimum

Contrast Ratio:

White:	.96 minimum
Yellow:	.97 minimum

KU:

White:	82-88
Yellow:	78-86

Reflectance:

White:	86 minimum
Yellow:	51 minimum

Density:

White:	11.61-11.91
Yellow:	11.66-11.96

Flexibility:

White:	1/2 inch mandrel
Yellow:	1/2 inch mandrel

SAFETY PRECAUTIONS

Refer to the Safety Data Sheets (SDSs) before use.

FOR PROFESSIONAL USE ONLY.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

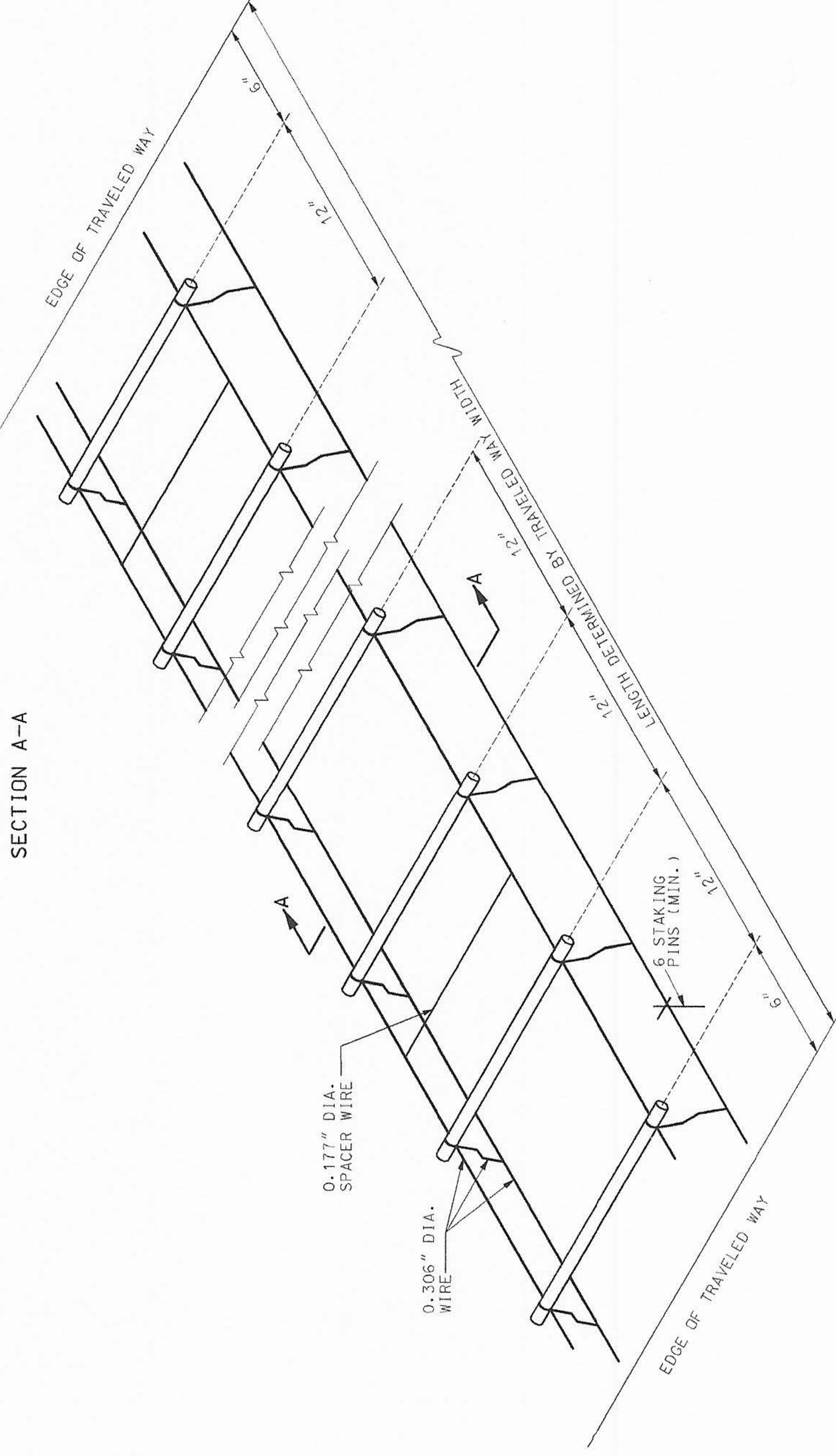
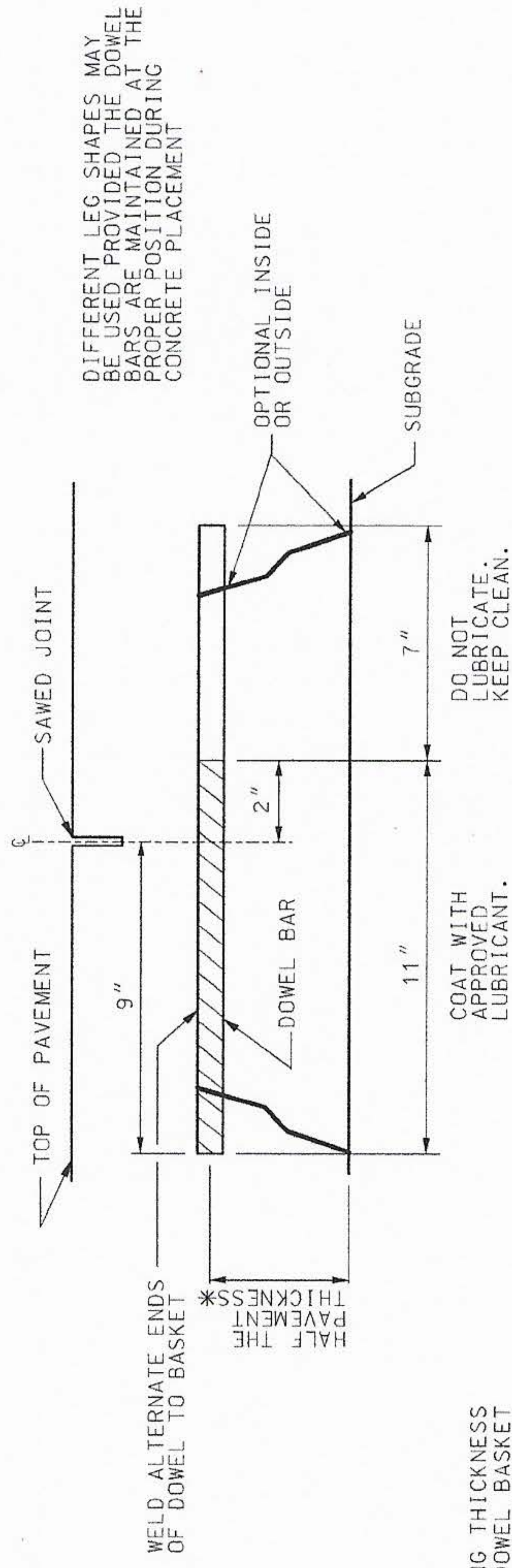
Painted surfaces can become slippery when wet. Zone Marking paints are not intended for use as floor paints, and should not be used to paint large areas subject to pedestrian traffic. For instance, painting an entire traffic stall is not recommended.

Federal EPA has added acetone to the list of solvents exempt from the VOC definition. State or local laws may incorporate the federal definitions, or may use their own, and may take precedence over the federal rules. Acetone may or may not be an exempt solvent where state or local regulations are in effect. Consult with your local Sherwin-Williams representative for additional information.

CLEANUP INFORMATION

Clean spills and spatters immediately with a compliant compatible solvent or Acetone, R6K9. Clean tools immediately after use with a compliant solvent. Follow manufacturer's safety recommendations when using any solvent.

HOTW	07/13/2021	0.0TM5712	11	148
HOTW	07/13/2021	0.0TM5713	19	114



DOWEL BARS		
PAVEMENT THICKNESS	BAR SIZE	
	DIAMETER	LENGTH
LESS THAN 7 "	NONE	NONE
7 " TO 10 "	1 $\frac{1}{4}$ "	18 "
GREATER THAN 10 "	1 $\frac{1}{2}$ "	18 "

GENERAL NOTES:

THE DOWEL SUPPORTING UNITS SHALL BE FACTORY ASSEMBLED AND CAPABLE OF HOLDING THE DOWELS IN THEIR REQUIRED POSITIONS. IN THE COMPLETED JOINT INSTALLATION, DOWELS SHALL BE POSITIONED WITHIN 1/2" OF THE VERTICAL AND HORIZONTAL PLANE AND IN THE LONGITUDINAL DIRECTION. THE SKEW TOLERANCE SHALL BE 1/4".

THE FREE END OF EACH EPOXY COATED DOWEL SHALL BE MARKED WITH A SPOT OF PAINT AT LEAST ONE INCH IN DIAMETER AND CONTRASTING IN COLOR WITH THE EPOXY COATING.

WIRE SIZES SHOWN ARE MINIMUM REQUIRED.

WIRES, BARS OR CLIPS SHALL BE USED AS NECESSARY TO STRENGTHEN THE ASSEMBLIES.

THE DIAMETER OF THE SPACER WIRE SHALL NOT EXCEED 0.200".

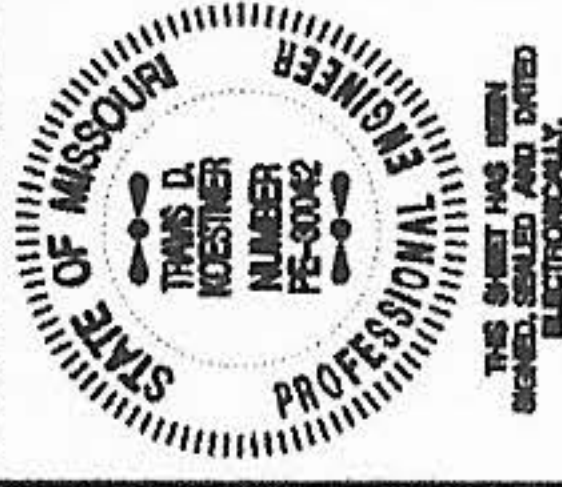
SPACER WIRE MAY BE CUT OR LEFT INTACT.

STAKING PINS SHALL BE FABRICATED FROM 0.306" DIAMETER WIRE MINIMUM WITH A SUITABLE HOOK. STAKING PINS SHALL HAVE A MINIMUM LENGTH OF 12" FOR DOWEL ASSEMBLIES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

MINOR VARIATIONS IN THE CONFIGURATION OF THE SUPPORT UNITS WILL BE ALLOWED.



**MISSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION**
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



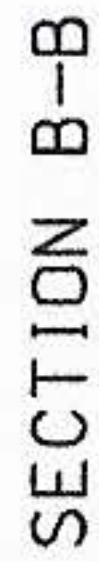
DOWEL SUPPORTING UNITS

APPROVED FOR USE
WITH TRANSVERSE JOINTS

DATE EFFECTIVE: _____
DATE PREPARED: _____

502.10L

SHEET NO. 1 OF 2



STATE OF MISSOURI
PROFESSIONAL ENGINEER
THOMAS D. KOESTNER
NUMBER PE-30442

DOWEL SUPPORTING UNITS
MECHANICAL PLACEMENT

DATE EFFECTIVE: _____
DATE PREPARED: _____

502.10L

SHEET NO.
2 OF 2

CHAPTER XI LANDSCAPING

A. SUMMARY

1. This section includes criteria for seeding, sodding and tree planting. All disturbed areas shall be seeded and mulched except for sodded areas, surfaced areas, and solid rock. Disturbed areas outside of authorized construction limits shall be seeded and mulched, or sodded at the contractor's expense.

B. MATERIALS

1. SEED

- a. Grass Seed: Fresh, clean, dry, new-crop seed complying with United States Department of Agriculture Rules and Regulations under the Federal Seed Act. for purity and germination tolerances.
- b. Seed Species: State-certified seed of grass species shall be used, proportioned by weight as follows:
 - 20% Adventure Fescue
 - 20% Jaguar IV Fescue
 - 20% Olympic Fescue
 - 20% Arid Fescue
 - 20% Regal Perennial
- c. Certification of seed mixture shall be submitted.

2. TOPSOIL

- a. Topsoil: ASTM D 5268, pH range of 5.5 to 7, a minimum of 4 percent organic material content; free of stones 1 inch or larger in any dimension and other extraneous materials harmful to plant growth.
- b. Topsoil Source: Reuse surface soil stockpiled on-site. Verify suitability of stockpiled surface soil to produce topsoil. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth.
- c. Supplement with imported or manufactured topsoil from off-site sources when quantities are insufficient.

3. INORGANIC SOIL AMENDMENTS

- a. Lime: ASTM C 602, agricultural limestone containing a minimum of 80 percent calcium carbonate equivalent and as follows:
 - 1. Class: T, with a minimum of 99 percent passing through No. 8 sieve and a minimum of 75 percent passing through No. 60 sieve.
- b. Perlite: Horticultural perlite, soil amendment grade.
- c. Agricultural Gypsum: Finely ground, containing a minimum of 90 percent calcium sulfate.
- d. Sand: Clean, washed, natural or manufactured, free of toxic materials.

4. ORGANIC SOIL AMENDMENTS

- a. Peat: Sphagnum peat moss, partially decomposed, finely divided or granular texture, with a pH range of 3.4 to 4.8.
- b. Peat: Finely divided or granular texture, with a pH range of 6 to 7.5, containing partially decomposed moss peat, native peat, or reed-sedge peat and having a water-absorbing capacity of 1100 to 2000 percent.

5. FERTILIZER

- a. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
- b. Composition: 1 lb/1000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.
- c. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
- d. Composition: 12 percent nitrogen, 12 percent phosphoric acid, and 10 percent potash, by weight.

6. MULCHES

- a. Straw Mulch: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.
- b. Mulch for Trees: Mulch shall be composted yard waste or wood chips, two inches (2") or less in size.

7. SOD

- a. Sod: Sod shall be the same type as removed or damaged, shall be best quality, not more than two years old and meeting the following standards:
 - (1) Thickness of Cut: Sod shall be machine cut at a uniform soil thickness of 5/8 inch, plus or minus 1/4 inch, at the time of cutting. Measurement for thickness shall exclude top growth and thatch.
 - (2) Pad Size: Individual pieces of sod shall be cut to the supplier's standard width and length. Maximum allowable deviation from standard widths and lengths shall be plus or minus 1/2 inch on width and plus or minus 5 percent on length. Broken pads and torn or uneven ends will not be acceptable.
 - (3) Strength of Sod Sections: Standard size sections of sod shall be strong enough to support their own weight and should retain their size and shape when suspended vertically from a firm grasp on the upper 10 percent of the section.
 - (4) Moisture Content: Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) will adversely affect its survival. No dry or frozen sod shall be used.
 - (5) Mowing Height: Before stripping, sod shall be mowed uniformly at a height of 1 to 2-1/2 inches.
 - (6) Thatch: Sod shall be relatively free of thatch, up to 1/2 inch allowable (uncompressed).
 - (7) Diseases, Nematodes, and Insects: Sod shall be reasonably free of diseases, nematodes, and soil-borne insects.

- (8) Weeds: Sod shall be free of objectionable grassy and broad leaf weeds. Sod shall be considered free of such weeds if less than 5 such plants are found per 100 square feet of area. Sod will not be acceptable if it contains any of the following weeds: quack grass, Johnson grass, poison ivy, nutsedge, nimblewill, Canada thistle, bind weed, wild garlic, ground ivy, perennial sorrel, brome grass, bentgrass, and Bermuda grass.

8. TREES

- a. Trees shall be 1.5 to 2.5 inch caliper measured 18 inches above ground line. Number, species, and location of trees shall be as shown on the plans. For trees replacing those removed during construction, new trees shall be the same type as those removed, shall be approximately the same size and dimensions, and shall be nursery grown. Trees shall be wrapped with standard nursery paper from the ground line to the first branches above the ground line and balled with burlap wrapping. Fertilizer shall not be used in or around hole. Mulch shall be composted yard waste or wood chips, two (2) inches or less in size, placed around the tree.

C. PRELIMINARY CLEANUP AND PREPARATION

1. Newly Graded Subgrades: Loosen subgrade to a minimum depth of 4 inches. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
2. Thoroughly blend planting soil mix off-site before spreading or spread topsoil, apply soil amendments and fertilizer on surface, and thoroughly blend planting soil mix.
3. Spread planting soil mix to a depth of 4 inches but not less than required to meet finish grades after light rolling and natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.
4. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit finish grading to areas that can be planted in the immediate future.

5. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
6. Before planting, restore areas if eroded or otherwise disturbed after finish grading.

D. SEEDING

1. Do not broadcast or drop seed when wind velocity exceeds 5 mph. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
2. Sow seed at a total rate of 7 to 8 lb./1000 square feet or 350 lb./acre.
3. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray.
4. Protect seeded areas by spreading straw mulch. Spread uniformly at a minimum rate of 2 tons/acre to form a continuous blanket 1-1/2 inches in loose depth over seeded areas. Spread by hand, blower, or other suitable equipment.
5. Anchor straw mulch by crimping into soil with suitable mechanical equipment.

E. SODDING

1. The sodbed shall have a uniform surface free from rills, washes, and depressions and shall conform to the finished grade and cross section as shown on the plans. The area to be sodded shall be fertilized with the specific mixture by spreading evenly at the rate of twelve (12) pounds per one thousand (1,000) square feet of area. Fertilizer will not be required where strip sodding is designated. The bed shall be in a firm but uncompacted condition with a relatively fine texture at the time of sodding. No sod shall be placed until the sodbed is approved by the Engineer. Delivery of sod shall be timed so that sod will be transplanted within a period of 36 hours unless a suitable preservation method is approved prior to delivery. Sod not transplanted within this period shall be inspected and approved by the Engineer prior to its installation. Sod shall be moist and shall be placed on a moist earth bed. Sod strips shall be laid along contour lines, by hand,

commencing at the base of the area to be sodded and working upward. The transverse joints of sod strips shall be broken, and the sod carefully laid to produce tight joints. Care shall be exercised to ensure that the sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots. The sod shall be firmed, watered, and refirmed immediately after it is placed. The firming shall be accomplished by use of a lawn roller or tamper. On 3:1 slopes, or steeper, the sod shall be pegged with wood pegs approximately one half (1/2) inch X twelve (12) inches driven into the ground, leaving about one half (1/2) inch of the peg above the sod, and spaced not more than two (2) feet apart. Pegging of sod shall be done immediately after the sod has been firmed. When sodding is completed, the sodded areas shall be cleared of loose sod, excess soil, or other foreign material, and a thin application of topsoil shall be scattered over the sod as a top dressing. The quantity of topsoil shall be such as will cause no smothering of the grass. It shall then be thoroughly watered to a depth sufficient that underside of the new sod pad and the soil immediately below the sod are thoroughly wet.

2. In areas designated for Strip Sodding, the sod strips shall be laid in a horizontal line with tight transverse joints and a spacing of eighteen (18) inches between strips. The area where the sod strips are to be laid shall be trenched to a depth sufficient to ensure complete embedment of the sod. The sod shall be firmed, watered, and refirmed immediately after it is placed. The firming shall be accomplished by the use of tampers or other approved methods. A thin application of topsoil shall be scattered over the sod as a top dressing, and the areas thoroughly moistened.

F. LAWN MAINTENANCE

1. Protection: Seeded and sodded areas shall be protected against traffic. If necessary, barricades or warning signs shall be erected. Such protective devices shall be maintained until final acceptance of the project.
2. Maintenance: All seeded and sodded areas shall be maintained by the Contractor until acceptance, but in no case shall maintenance be for less than 30 days following completion of all seeding, mulching, and sodding operations. Maintenance shall include watering, mowing, reseeding, repair

of erosion damage, maintenance of mulch, fertilizing, weeding and removal of litter.

3. Replanting: Prior to the end of the maintenance period, seeded and sodded areas that show signs of substantial desiccation, as evident by a loss of color and a distinct yellowing or where no germination is evident, shall be considered as failed and shall be reseeded or resodded and continue to be reseeded or resodded until an acceptable cover is obtained. Replanting operations shall be as originally specified.
4. Maintenance of Grades: Original grades of grass areas shall be maintained after commencement of planting operations and during the maintenance period. Any damage to the finished surface from construction operations shall be repaired within a reasonable time. In the event erosion occurs from watering operations or rainfall, such damage shall be repaired within a reasonable time. Ruts, ridges, tracks, and other surface irregularities shall be corrected, and reseeded where required.
5. Maintenance of Mulch: Mulched areas shall be maintained until covered with growing grass seedlings. Mulch material that has been removed from the site by wind or other causes shall be replaced and secured.
6. Mowing: All sodded areas shall be mowed at least once for acceptance.

Not more than 1/3 of the grass leaf shall be removed by the initial cutting or subsequent cuttings. Height shall be maintained at 2-1/2 inches.

Mowing equipment shall be rotary type in good operating condition, well adjusted, and with sharp blades. Extra care shall be taken when mowing around trees and shrubs to prevent bark damage. Any trees and shrubs with damaged bark as a result of maintenance operations shall be replaced by the Contractor at his expense. Clippings shall be blown off of private driveways and parking lots.

Prior to any mowing operations, all debris that would interfere with mowing shall be collected and removed. The debris includes, but shall not be limited to, paper and cardboard, cans, bottles, and any other wastes that detract from the general appearance of any area of the site.

7. Satisfactory Lawn: At end of maintenance period, a healthy, uniform, close stand of grass shall be established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any and bare spots not exceeding 5 by 5 inches. Specified materials shall be used to reestablish lawns that do not comply with requirements and maintenance shall be continued until lawns are satisfactory.

G. TREE PLANTING

1. Holes for the balled trees shall be a minimum of two (2) feet greater in diameter than the balled tree and six (6) inches deeper than the depth of the ball. The hole shall be filled with water prior to planting and drained before soil is backfilled around new tree. Fifty percent topsoil and 50 percent peat moss shall be used to fill around and under the tree and shall be free of rocks greater than one-half inch diameter and tamped firmly in place. It is important to note the soil-stained ring on the base of the tree trunk be at ground level when planted. Stability shall be provided using stakes and wires. Two stakes, equally spaced and opposite each other, shall be installed two (2) feet from the tree. Appropriate wire shall be affixed around the tree and to the stakes four (4) feet above and parallel to the ground, with protection so as not to injure or cut the tree. Mulch shall be placed over the entire excavated area for the tree to a depth of six (6) inches. All disturbed areas around the trees shall be mulched. Disturbed areas outside of authorized construction limits shall be seeded and mulched or sodded as determined by the Engineer, at the contractor's expense.

H. SCHEDULE PROVISIONS

All landscaping work shall be performed within acceptable planting seasons. For work to be performed outside of the guidelines listed below, approval shall be obtained from the Director of Public Works:

1. Seed – Seeding shall not be placed from June 1 to September 1 nor from November 1 to March 15.
2. Sod – Sod shall not be placed during a drought nor from June 1 to September 1.
3. Trees – Trees shall not be planted from May 15 to November 1.

If a project is completed except landscaping components, the schedule for liquidated damages will be adjusted based on the allowing planting schedule.

I. WAIVER

Some aspects of this Landscaping Section may be waived by the Engineer if the property which is the subject of the waiver request is owned by the same party that is contracting to install the water main. Such request must be made in writing and state that the owner of the property is installing the main and will accept all responsibility for all of the requirements herein being requested to be waived. The request will also state that the owner will be solely responsible for and hold harmless the City of Farmington for any damage to the owners or any surrounding property due to the contractor's lack of compliance with those provisions being waived.

J. BASIS OF PAYMENT

1. Seeding will be paid for on a unit price per acre basis, with measurement made to the nearest one-tenth (1/10) acre. The unit price is to include all costs associated with the seeding, soil amendments, fertilizer, mulch, and maintenance of the seeded area until the job is accepted by the Engineer.
2. Sodding will be paid for on a unit price per square yard basis. Measurement will be made to the nearest square yard of approved sodded surface area, including the area between strips for strip sodding. The unit price is to include all costs associated with subgrade preparation, sodding, and maintenance of the sodded area until the job is accepted by the Engineer.
3. Trees will be paid for based on the unit price bid for each tree. The unit price will include excavation, planting, removal of spoils, watering, soil replacement, staking and mulching. The unit price will also include a one-year guarantee for replacement in the event the tree dies.