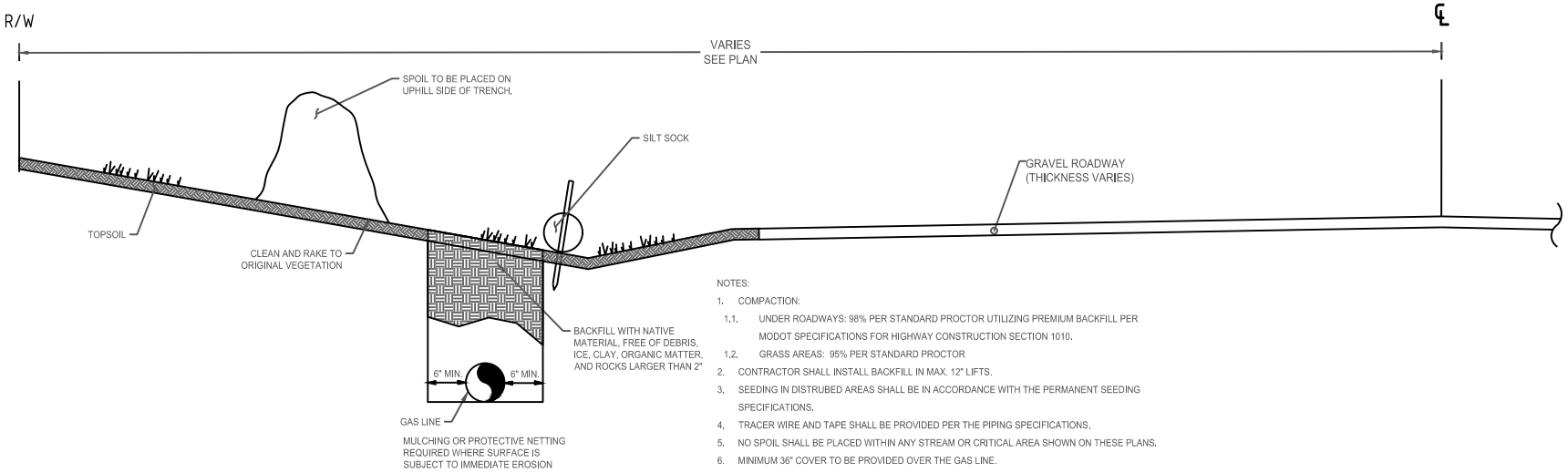

NOTES:

1. COMPACTION:
   - 1.1. UNDER ROADWAYS: 98% PER STANDARD PROCTOR UTILIZING PREMIUM BACKFILL PER MODOT SPECIFICATIONS FOR HIGHWAY CONSTRUCTION SECTION 1010.
   - 1.2. GRASS AREAS: 95% PER STANDARD PROCTOR
2. CONTRACTOR SHALL INSTALL BACKFILL IN MAX. 12" LIFTS.
3. SEEDING IN DISTRUBED AREAS SHALL BE IN ACCORDANCE WITH THE PERMANENT SEEDING SPECIFICATIONS.
4. TRACER WIRE AND TAPE SHALL BE PROVIDED PER THE PIPING SPECIFICATIONS.
5. NO SPOIL SHALL BE PLACED WITHIN ANY STREAM OR CRITICAL AREA SHOWN ON THESE PLANS.
6. MINIMUM 36" COVER TO BE PROVIDED OVER THE GAS LINE.
7. MINIMUM 8 - 10 FT COVER TO BE PROVIDED UNDER WATERWAYS OR DRAINAGE CROSSINGS.

PIPELINE TRENCH DETAIL - WITHIN R/W GRASS AREA

NOT TO SCALE

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PIPELINE TRENCH DETAIL - WITHIN R/W GRASS AREA

OFF-FARM PIPELINE
DETAILS & SPECIFICATIONS

SCALE: NO SCALE

DATE: OCTOBER 2015

DESIGN: KAC

DRAWN: KAC

CHECKED: MRB

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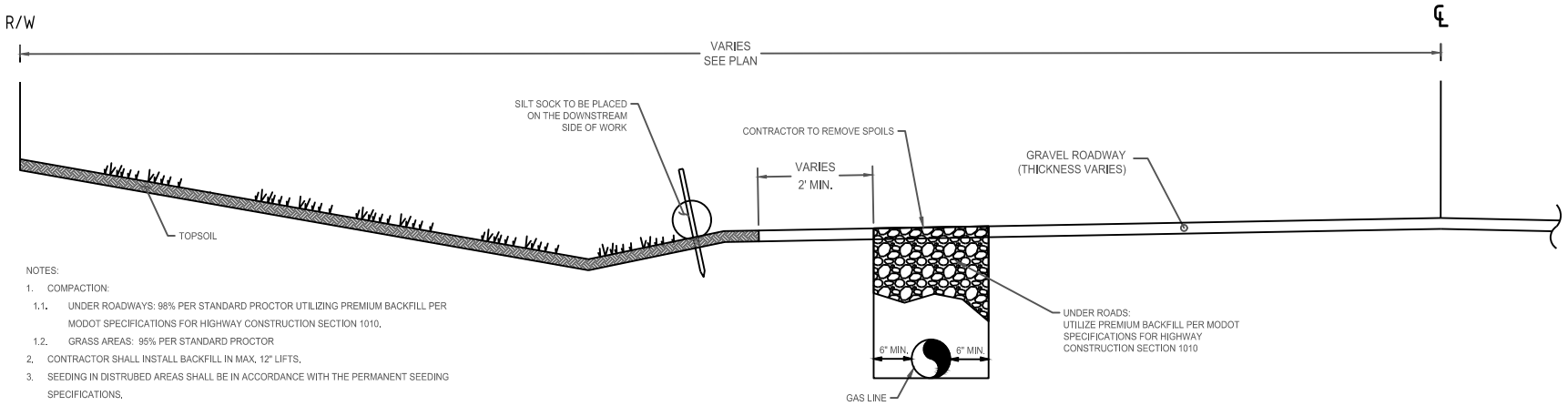

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PIPELINE TRENCH DETAIL - WITHIN R/W UNDER ROADWAY

NOT TO SCALE

REVISIONS		
NO.	DATE	DESCRIPTION
0	10/13/2015	INITIAL ISSUE

PIPELINE TRENCH DETAIL - WITHIN R/W UNDER ROADWAY

OFF-FARM PIPELINE
DETAILS & SPECIFICATIONS

SCALE: NO SCALE

DATE: OCTOBER 2015

DESIGN: KAC

DRAWN: KAC

CHECKED: MRB

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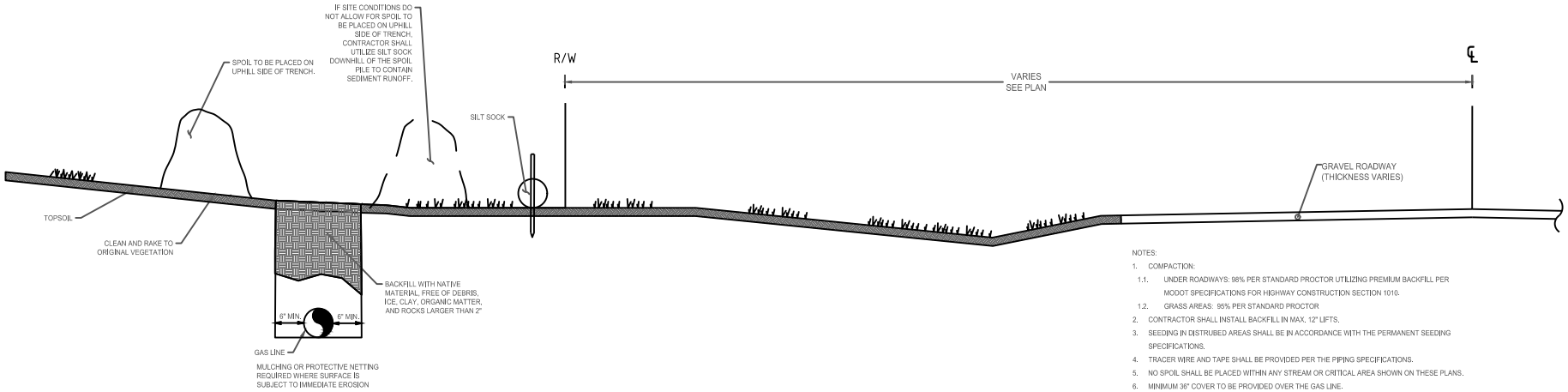

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PIPELINE TRENCH DETAIL - OUTSIDE R/W

NOT TO SCALE

REVISIONS		
NO.	DATE	DESCRIPTION
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PIPELINE TRENCH DETAIL - OUTSIDE R/W

OFF-FARM PIPELINE
DETAILS & SPECIFICATIONS

SCALE: NO SCALE

DATE: OCTOBER 2015

DESIGN: KAC

DRAWN: KAC

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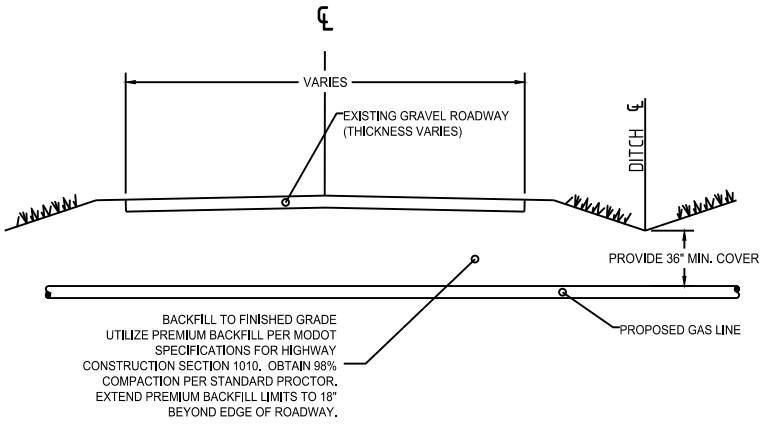

OPEN CUT ROADWAY CROSSING DETAIL

NOT TO SCALE

REVISIONS		
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OPEN CUT ROADWAY CROSSING

OFF-FARM PIPELINE
DETAILS & SPECIFICATIONS

SCALE: NO SCALE

DATE: OCTOBER 2015

DESIGN: KAC

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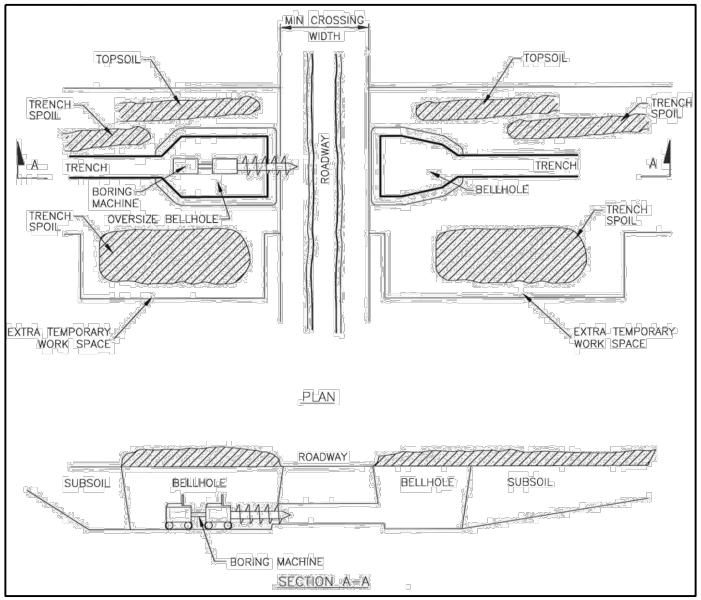

NOTES:

1. THE SIDES OF THE BORE PITS SHALL BE SLOPED BACK TO STABLE CONFIGURATION OR SUPPORTED BY TRENCH BOXES, SHEET PILING OR OTHER SHORING MEANS.
2. INSTALL SAFETY FNECE AROUND BORE PITS AS NECESSARY.
3. INSTALL TEMPORARY EROSION CONTROL PROCEDURES AS SPECIFIED IN SWPPP GENERAL NOTES.
4. DEWATER BORE PIT TO CONTROL SEEPAGE WATER FLOW. DEWATER INTO AN APPROPRIATE DEWATERING STRUCTURE TO PREVENT ENTRY OF SILT LADEN WATER INTO THE RECEIVING WATERBODY.
5. BORE PIT SPOIL SHALL BE COMPACTED ON BACKFILLING TO MINIMIZE SETTLEMENT. REDISTRIBUTE SALVAGED TOPSOIL.

HORIZONTAL BORING DETAIL

NOT TO SCALE

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HORIZONTAL BORING DETAIL

OFF-FARM PIPELINE
DETAILS & SPECIFICATIONS

SCALE: NO SCALE

DATE: OCTOBER 2015

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PIPELINE SPECIFICATIONS:

PIPELINE SPECIFICATIONS AND REGULATIONS VARY BASED UPON USE, OPERATING PRESSURE, AND CLASS LOCATION. THIS SPECIFICATION IS A GUIDANCE ONLY. ALL CURRENT AND APPLICABLE FEDERAL AND STATE OF MISSOURI CODES DICTATE AND ARE TO BE FOLLOWED.

PER FEDERAL CODE PART 192.8 THE PROPOSED PIPELINE SYSTEM IS ANTICIPATED TO BE A NON-METALLIC TYPE B GATHERING LINE. IF ANY PORTION OF THE PIPELINE LIES WITHIN THE FOLLOWING AREAS, IT SHOULD BE REGARDED AS A REGULATED GATHERING LINE:

- AREA 1: CLASS 3 OR 4 LOCATION
- AREA 2: AN AREA WITH A CLASS 2 LOCATION THE OPERATOR DETERMINES BY USING ANY OF THE FOLLOWING THREE METHODS:
  - A CLASS 2 LOCATION;
  - AN AREA EXTENDING 150 FEET ON EACH SIDE OF THE CENTERLINE OF ANY CONTINUOUS 1-MILE OF PIPELINE AND INCLUDING MORE THAN 10 BUT FEWER THAN 46 DWELLINGS;
  - AN AREA EXTENDING 150 FEET ON EACH SIDE OF THE CENTERLINE OF ANY CONTINUOUS 1000 FEET OF PIPELINE AND INCLUDING 5 OR MORE DWELLINGS.

PER CFR 192.9, ANY REGULATED GATHERING LINE SHALL BE DESIGNED AND OPERATED ACCORDING TO THE FOLLOWING REQUIREMENTS:

- IF A LINE IS NEW, REPLACED, RELOCATED, OR OTHERWISE CHANGED, THE DESIGN, INSTALLATION, CONSTRUCTION, INITIAL INSPECTION, AND INITIAL TESTING MUST BE IN ACCORDANCE WITH REQUIREMENTS OF THIS PART APPLICABLE TO TRANSMISSION LINES;
- IF THE PIPELINE IS METALLIC, CONTROL CORROSION ACCORDING TO REQUIREMENTS OF SUBPART I OF CFR 192 APPLICABLE TO TRANSMISSION LINES;
- CARRY OUT A DAMAGE PREVENTION PROGRAM UNDER CFR 192.614;
- ESTABLISH A PUBLIC EDUCATION PROGRAM UNDER CFR 192.616;
- ESTABLISH THE MAOP OF THE LINE UNDER CFR 192.619;
- INSTALL AND MAINTAIN LINE MARKERS ACCORDING TO THE REQUIREMENTS FOR TRANSMISSION LINES IN CFR 192.707.

NON-REGULATED PORTIONS OF THE GATHERING LINE CAN BE OPERATED AT THE MANUFACTURERS RECOMMENDED PRESSURE RATINGS WHILE REGULATED PORTIONS OF THE GATHERING LINE SHALL BE OPERATED AT THE FEDERAL AND/OR STATE CODE REGULATIONS. THE FOLLOWING TABLE DEPICTS THE ALLOWABLE PRESSURES FOR THE VARIOUS PIPE WALL THICKNESS RATIOS:

MAXIMUM ALLOWABLE OPERATING PRESSURES (MAOP) FOR: DRISCOPLEX 6400, DRISCOPIPE 8100, OR YELLOWSTRIPE 8300 PIPE SPECIFICATIONS

SDR	NON-REGULATED PIPE [1] (PSIG)	REGULATED PIPE (PSIG)
17	125	64 [2,3]
13.5	160	82 [2,3]
11	200	102 [2] (100 [3])
9	250	125 [2] (100 [3])

[1] PER PIPE MANUFACTURER
[2] PER CFR 192.121 AND 123
[3] PER MISSOURI 4 CSR 240-40.030(3)(I) & (J)

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PIPELINE SPECIFICATIONS

OFF-FARM PIPELINE DETAILS & SPECIFICATIONS

SCALE: NO SCALE

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