DRAFT

PLAN OF DEVELOPMENT

WESTERN EXPANSION PROJECT III

MID-AMERICA PIPELINE COMPANY, LLC

BLM Farmington Field Office
BLM Rio Puerco Field Office
BLM Roswell Field Office

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List of Abbreviations and Acronyms

AO	Authorized Officer
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BMPs	Best Management Practices
bpd	barrels per day
COE	U.S. Army Corps of Engineers
MAPL	Mid-America Pipeline
MP	milepost
PI	point of intersection
POD	Plan of Development
SWPPP	Stormwater Pollution Prevention Plan
TUAs	temporary use areas
TUP	Temporary Use Permit
WEP III	Western Expansion Project III

PLAN OF DEVELOPMENT

1.0 INTRODUCTION

Mid-America Pipeline (MAPL) proposes to obtain a Right-of-Way Grant and Temporary Use Permit (TUP) from the Bureau of Land Management (BLM) to construct, operate, maintain, and abandon a 233.7-mile, 16-inch natural gas liquids pipeline, comprised of six loop segments (portions of segments 1 and 3 will be 20-inch diameter), in San Juan, Rio Arriba, Sandoval, McKinley, Bernalillo, Santa Fe, Torrance, Guadalupe, Lincoln, De Baca, Chaves, and Lea counties, New Mexico. The Western Expansion Project III (WEP III) will cross lands managed by the BLM Farmington, Rio Puerco, and Roswell field offices as well as lands managed by the Bureau of Indian Affairs (BIA). This Plan of Development (POD) describes specific construction activities that will be undertaken by MAPL during construction of WEP III on BLM-managed lands. The location of the proposed pipeline loop segments are shown on maps provided in Appendix A. The proposed pipeline loop segments will transport increased natural gas liquids production in New Mexico to Hobbs, New Mexico and ultimately to markets in Mont Belvieu, Texas. (The original proposal included a Segment 4, which was subsequently removed. In order to maintain consistency with survey information, the segments were not renumbered; therefore WEP III includes Segments 1, 2, 3, 5, 6, and 7.)

The following appendices provide the project location and describe measures that will be taken to protect resources:

Appendix A	Location Maps
Appendix B	Tables
Appendix C	Transportation Plan
Appendix D	Reclamation and Monitoring Plan
Appendix E	Stormwater Management Plan
Appendix F	Hydrostatic Test Discharge and Source Locations
Appendix G	Integrated Noxious and Invasive Weed Management Plan
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2.0 LAND REQUIREMENTS

WEP III will cross BLM-managed lands for 66.6 miles or 28.5 percent of the total length (see Table 1) and BIA-managed lands for 26.0 miles or 11.1 percent. The remainder of the lands crossed by the proposed pipeline loop segments are state lands (27.0 miles) and private lands (114.1 miles) comprising 11.6 percent and 48.8 percent of the total length, respectively. On BLM-managed lands, construction of the proposed pipeline will require a 125-foot wide construction right-of-way which includes a 50-foot wide permanent right-of-way and a 75-foot wide temporary use area (temporary construction right-of-way). The permanent right-of-way will consist of 1,415.9 acres, of which 401.5 acres will be on BLM-managed lands and 156.2 acres

will be on BIA-managed lands. The temporary construction right-of-way will consist of 2,110.0 acres of which 581.1 acres will be on BLM-managed lands and 227.9 acres will be on BIA-managed lands (see Table 2). On private lands, the construction right-of-way will be similar to that on BLM- and BIA-managed lands but will vary according to landowner agreements. In addition to the permanent right-of-way and temporary construction right-of-way, additional temporary use areas (TUAs) will be required in certain areas such as in areas with rugged terrain, waterbody crossings, road crossings, and at pipeline point of intersection (PI) locations (see Table B-5 in Appendix B). A total of 84.8 acres (for 221 sites) will be required for TUAs of which 33.0 acres (77 sites) will be on BLM-managed lands and 8.8 acres (35 sites) will be on BIA-managed lands (see Table 2).

Table 1
Landownership Crossed by WEP III

	Totals		BLM		BIA		Private		State	
Segment	**Miles**	**Acres**	**Miles**	**Acres**	**Miles**	**Acres**	**Miles**	**Acres**	**Miles**	**Acres**
Segment 1	45.7	700.7	28.9	431.5	9.6	136.3	6.5	95.7	0.7	37.2
Segment 2	50.9	789.7	27.8	430.4	16.4	257.0	2.9	44.6	3.8	57.7
Segment 3	46.8	729.6	0.5	7.3	0.0	0.0	40.6	634.1	5.7	88.2
Segment 5	30.2	464.8	5.2	81.1	0.0	0.0	17.8	272.5	7.2	111.2
Segment 6	27.3	420.9	4.2	65.3	0.0	0.0	19.6	301.9	3.5	53.7
Segment 7	32.8	505.0	0.0	0.0	0.0	0.0	26.7	410.4	6.1	94.6
Totals	**233.7**	**3,610.7**	**66.6**	**1,015.6**	**26.0**	**393.3**	**114.1**	**1,759.2**	**27.0**	**442.6**
Segments by BLM Field Office										
Segment 1/ Farmington	45.7	700.7	28.9	431.5	9.6	136.3	6.5	95.7	0.7	37.2
Segment 2/ Farmington	7.3	114.1	3.6	57.2	3.7	56.9	0.0	0.0	0.0	0.0
Segment 2/ Rio Puerco	43.5	675.5	24.1	373.1	12.7	200.1	2.9	44.6	3.8	57.7
Segment 3/ Rio Puerco	29.8	464.3	0.5	7.3	0.0	0.0	24.1	376.4	5.2	80.6
Segment 3/ Taos	17.1	265.3	0.0	0.0	0.0	0.0	16.6	257.7	0.5	7.6
Segment 5/ Roswell	30.2	464.9	5.2	81.2	0.0	0.0	17.7	272.5	7.2	111.2
Segment 6/ Roswell	27.3	420.9	4.3	65.3	0.0	0.0	19.6	301.9	3.5	53.7
Segment 7/ Carlsbad	32.8	505.0	0.0	0.0	0.0	0.0	26.7	410.4	6.1	94.6
Totals	**233.7**	**3,610.7**	**66.6**	**1,015.6**	**26.0**	**393.3**	**114.1**	**1,759.2**	**27.0**	**442.6**
Segments by County										
Segment 1/ San Juan	40.5	617.8	27.8	413.6	6.7	91.2	5.3	75.8	0.7	37.2
Segment 1/ Rio Arriba	5.2	82.9	1.1	17.9	2.9	45.1	1.2	19.9	0.0	0.0
Segment 2/ Sandoval	43.5	675.6	24.1	373.2	12.7	200.1	2.9	44.6	3.8	57.7
Segment 2/ McKinley	7.4	114.1	3.7	57.2	3.7	56.9	0.0	0.0	0.0	0.0
Segment 3/ Santa Fe	17.1	265.3	0.0	0.0	0.0	0.0	16.6	257.7	0.5	7.6
Segment 3/ Bernalillo	4.6	71.8	0.0	0.0	0.0	0.0	4.6	71.8	0.0	0.0
Segment 3/Sandoval	9.0	138.5	0.5	7.3	0.0	0.0	7.8	120.3	0.7	10.9
Segment 3/ Torrance	16.2	253.9	0.0	0.0	0.0	0.0	11.7	184.3	4.5	69.6
Segment 5/	8.2	126.6	5.0	77.6	0.0	0.0	3.2	49.0	0.0	0.0

Segment	Totals		BLM		BIA		Private		State	
	Miles	Acres	Miles	Acres	Miles	Acres	Miles	Acres	Miles	Acres
Guadalupe										
Segment 5/ Lincoln	16.9	259.9	0.2	3.5	0.0	0.0	9.6	147.6	7.1	108.8
Segment 5/De Baca	5.0	78.4	0.0	0.0	0.0	0.0	4.9	75.9	0.1	2.5
Segment 6/ Chaves	27.3	420.9	4.2	65.3	0.0	0.0	19.6	301.9	3.5	53.7
Segment 7/ Lea	32.8	505.0	0.0	0.0	0.0	0.0	26.7	410.4	6.1	94.6
Totals	**233.7**	**3,610.7**	**66.6**	**1,015.6**	**26.0**	**393.3**	**114.1**	**1,759.2**	**27.0**	**442.6**

Table 2
Estimated Disturbance Required for Construction of WEP III on Federal and Non-Federal Lands

Component	Surface Disturbance (acres)				
	Totals	BLM	BIA	Private	State
BLM Farmington Field Office (Segments 1 and 2)					
Permanent Right-of-Way	321.5	195.1	79.3	39.4	7.7
Temporary Construction Right-of-Way	470.0	273.9	112.4	54.8	28.9
Temporary Use Areas	23.3	19.7	1.5	1.5	0.6
Total	**814.8**	**488.7**	**193.2**	**95.7**	**37.2**
BLM Rio Puerco Field Office (Segments 2 and 3)					
Permanent Right-of-Way	443.6	149.0	76.9	163.2	54.5
Temporary Construction Right-of-Way	664.0	222.5	115.5	243.8	82.2
Temporary Use Areas	32.2	8.9	7.7	14.0	1.6
Total	**1,139.8**	**380.4**	**200.1**	**421.0**	**138.3**
BLM Taos Field Office (Segment 3)					
Permanent Right-of-Way	103.6	0.0	0.0	100.6	3.0
Temporary Construction Right-of-Way	156.2	0.0	0.0	151.6	4.6
Temporary Use Areas	5.5	0.0	0.0	5.5	0.0
Total	**265.3**	**0.0**	**0.0**	**257.7**	**7.6**
BLM Roswell Field Office (Segments 5 and 6)					
Permanent Right-of-Way	348.3	57.4	0.0	226.0	64.9
Temporary Construction Right-of-Way	521.2	84.7	0.0	338.8	97.7
Temporary Use Areas	16.3	4.4	0.0	9.6	2.3
Total	**885.8**	**146.5**	**0.0**	**574.4**	**164.9**
BLM Carlsbad Field Office (Segment 7)					
Permanent Right-of-Way	198.9	0.0	0.0	161.9	37.0
Temporary Construction Right-of-Way	298.6	0.0	0.0	242.1	56.5
Temporary Use Areas	7.5	0.0	0.0	6.4	1.1
Total	**505.0**	**0.0**	**0.0**	**410.4**	**94.6**
Grand Total – All Field Offices					
Permanent Right-of-Way	1,415.9	401.5	156.2	691.1	167.1
Temporary Construction Right-of-Way	2,110	581.1	227.9	1,031.1	269.9
Temporary Use Areas	84.8	33.0	9.2	37.0	5.6
Total	**3,610.7**	**1,015.6**	**393.3**	**1,759.2**	**442.6**

3.0 LOCATION AND DESCRIPTION OF FACILITIES

3.1.1 Pipeline Facilities

WEP III will be constructed in New Mexico in 12 counties (San Juan, Rio Arriba, Sandoval, McKinley, Bernalillo, Santa Fe, Torrance, Guadalupe, Lincoln, De Baca, Chaves, and Lea) (see maps in Appendix A) and consists of six loop segments of 16-inch diameter natural gas liquids pipeline totaling 233.7 miles in length and requiring new pipeline right-of-way that will parallel existing pipelines or existing rights-of-way for the entire length. A portion of Segment 1 (MPs 415.39 to 400.30) and a portion of Segment 3 (MPs 269.92 to 251.87) will be 20-inch diameter. The location of the pipeline loop segments was determined based on hydraulic modeling. The beginning and ending mileposts and legal location of each pipeline loop segment are provided in Table B-1 in Appendix B and landownership by milepost is provided in Table B-2 in Appendix B.

3.1.2 Aboveground Facilities

There are no new aboveground facilities associated with WEP III. Existing pump stations will be modified as necessary. Modifications, if necessary, will occur within existing footprints. MAPL will install block valves adjacent to existing block valves. Block valves will be installed within the permanent right-of-way.

3.1.3 Access Roads

Existing roads will be used to access the construction right-of-way. Paved roads are not likely to require improvement or maintenance prior to or during construction. Gravel roads and dirt roads may require maintenance during the construction period due to high use. Table B-3 in Appendix B provides a list of existing roads that will be crossed and indicates which roads may be used for access. Access roads are further discussed in the Transportation Plan (see Appendix C).

No new roads will be constructed; upgrading portions of 26 existing roads (approximately 23.8 acres) may be required (see Table B-4 in Appendix B). The applicable cultural and biological surveys have been or will be conducted and the appropriate State Historic Preservation Office (SHPO) and U.S. Fish and Wildlife Service (FWS) consultations and approvals will be obtained. Other state and local permits may also be required prior to construction.

3.1.4 Temporary Use Areas

On private, BLM-, and BIA-managed lands, TUAs will be required for construction in areas of rugged terrain, waterbody crossings, road crossings, and PI locations. TUAs associated with WEP III are listed in Table B-5 in Appendix B. There are a total of 221 TUAs sites (84.8 acres); however, only 77 TUAs sites (33.01 acres) will be on BLM-managed lands and 35 TUAs sites (8.82 acres) will be on BIA-managed lands.

3.1.5 Pipe Storage and Contractor Yards and Staging Areas

Three potential contractor and pipe storage yards, which would be utilized during construction for staging purposes (i.e., to store pipe materials and equipment, provide temporary office space for contractors, etc.) have been identified. The yards are located on private lands. The Cuba Yard site (approximately 15 acres) is located in Sandoval County approximately 7.5 miles east of Johnson Trading Post on State Route 197; the Moriarty Yard (approximately 17 acres) is located in Torrance County approximately 2 miles northeast of the town of Moriarty; and the San

Ysidro Yard (approximately 15 acres) is located approximately 1 mile southeast of the town of San Ysidro. Figures of the yards are provided in Appendix A.

3.2 PROJECT SCHEDULE AND WORKFORCE

3.2.1 Construction Schedule

Construction is scheduled to begin on or about April 1, 2013 and will take approximately 9 months to complete.

3.2.2 Project Workforce

MAPL estimates that construction activities would require the employment of approximately 550 to 600 workers consisting of MAPL employees, contractor employees, construction inspection staff, and environmental inspection staff. A peak workforce of 600 workers would be required with an average workforce of 200 workers during construction. While final staffing plans are not yet complete, no additional staffing is expected at this time to maintain and operate the facilities after construction.

3.2.3 Traffic

The majority of the workers will commute to the construction right-of-way early in the morning (between 7:00 a.m. and 8:00 a.m.) and will return in the evening during non-peak traffic hours (between 5:30 p.m. and 6:30 p.m.). Heavy equipment vehicles will be transported to the site and left on the right-of-way until construction is complete.

MAPL has prepared and will follow a Transportation Plan (see Appendix C). The plan provides anticipated traffic levels associated with construction, describes functional classification and anticipated use of existing roads, identifies proposed high and low traffic volume roads, and assesses the need for road improvement, construction, and maintenance.

4.0 GENERAL PIPELINE CONSTRUCTION PROCEDURE

4.1 PIPELINE CONSTRUCTION

Standard pipeline construction techniques will be used along the pipeline route, which typically involve the following sequential operations: preconstruction survey, mobilization, clearing, grading, installation of Best Management Practices (BMPs) for erosion control, topsoiling, trenching, pipe stringing, welding and coating pipe, lowering in and padding, backfilling, strength testing, and cleanup and restoration. The construction techniques described below will be used unless site-specific conditions warrant special methods. Construction of the pipeline will begin after all required federal, state, and local approvals have been obtained. Company personnel and construction contractors would discuss procedures and permit approvals prior to construction. MAPL will follow a Reclamation and Monitoring Plan (see Appendix D) and a Stormwater Management Plan (see Appendix E).

4.1.1 Pre-construction Survey

Construction staking is required to designate the centerline and outside right-of-way boundaries. The limits of disturbance will be clearly marked/staked prior to construction including the permanent easement/permanent right-of-way, temporary use areas, and access roads. Utility lines will be located and marked to prevent accidental damage during pipeline construction. Sensitive areas to be protected from disturbance or that require monitoring will be marked. The location of access road entry points will be properly marked. Flagging, signs, and other

markings identifying the limits of disturbance will be maintained through all phases of construction. A survey crew will be available during construction activities to refresh any damaged stakes.

4.1.2 Mobilization

Construction equipment will be transported to the construction right-of-way via tractor trailer and unloaded within a designated staging area. Transportation equipment will be removed from the site or parked within a staging area once off loading is completed.

4.1.3 Clearing and Grading

Vegetation will be cleared and the construction right-of-way will be graded to provide for safe and efficient operation of construction equipment and vehicles and to provide space for the storage of subsoil and topsoil. Construction activity and ground disturbance will be limited to approved, staked areas.

Trees will be cut with a chain saw and/or mechanical shears and brush will generally be cut with a hydro-axe or similar equipment. Trees and brush will be cut as close to the ground as possible. Vegetative material will typically be shredded and scattered back across the surface to increase roughness, facilitate seeding establishment, and protect the construction right-of-way. Stumps that are not shredded or chipped and that are incorporated into the topsoil would be removed and disposed of at an approved disposal facility. Vegetation may also be brush-hogged to preserve habitat.

4.1.4 Topsoiling

Topsoil will be salvaged and segregated from trench spoil materials to prevent mixing along the entire alignment in all non-forested areas on BLM- and BIA-managed lands to facilitate revegetation of the construction right-of-way after construction is complete. If topographic constraints prevent topsoil salvaging, those areas will be identified prior to construction for BLM approval. On BLM- and BIA-managed lands, all available topsoil up to a depth of 6 inches will be removed from the trenchline and working side of the right-of-way and will be stored on the non-working side of the right-of-way and segregated from the trench spoil. Segregated topsoil will not be used for padding the pipe.

Topsoil will be stockpiled separately from subsoil and will not be used to pad the trench or construct trench breakers. In areas where the construction right-of-way crosses ephemeral drainages, the drainages will not be blocked with topsoil or subsoil piles. Topsoil and subsoil will be placed on the banks of the drainages. Gaps will be left periodically in the topsoil and subsoil piles to avoid ponding and excess diversion of natural runoff during storm events.

4.1.5 Pipe Stringing and Welding

Pipe Stringing. After trenching is complete, individual joints of pipe will be strung along the construction right-of-way adjacent to the excavated trench and arranged so they are accessible to construction personnel. A mechanical pipe-bending machine will bend individual joints of pipe to the desired angle at locations where there are substantial changes in the natural ground contours or where the pipeline route changes direction.

Welding and Coating Pipe. After stringing and bending are complete, the sections will be aligned, welded together, and placed on temporary supports along the edge of the trench. All welds will be visually inspected by a qualified inspector. Non-destructive radiographic inspection methods will be conducted in accordance with current requirements. A specialized

contractor will be employed to perform this work. Any weld defects will be repaired or cut out as required under the specified regulations and standards.

To prevent corrosion, the pipe will be externally coated with fusion bonded epoxy coating prior to delivery. After welding, field joints will be coated with a tape wrap, shrinkable sleeve wrap, or field-applied fusion bond epoxy. Before the pipe is lowered into the trench, the pipeline coating will be visually inspected and tested with an electronic detector and any faults or scratches will be repaired.

4.1.6 Trenching

Trenching activities will be completed using track hoes. The trench will be to one side of the construction right-of-way to allow for spoil to be placed opposite of the wider working side. MAPL does not anticipate that blasting will be required during pipeline construction.

Access will be provided for landowners and grazing permittees to move vehicles, equipment, and livestock across the trench where necessary. Livestock operators will be contacted and adequate crossing facilities will be provided as needed to ensure livestock are not prevented from reaching water sources because of the open trench.

The contractor will keep wildlife and livestock trails open and passable by adding soft plugs (areas where the trench is excavated and replaced with minimal compaction) during the construction phase. Soft plugs with ramps on either side will be left at all well-defined livestock and wildlife trails and at no more than 0.5-mile intervals along the open trench to allow passage across the trench and provide a means of escape for livestock and wildlife that may fall into the trench.

Trench breakers will be installed to impede shallow groundwater from flowing down the trench and will generally be spaced according to the following, unless directed otherwise by an authorized company representative:

Slope Percent	Spacing (feet)
10-15	500
15-20	300
20-30	150
>30	100

4.1.7 Lowering-in and Padding

Before the pipe section is lowered into the trench, an inspection will be conducted to verify that the pipe is properly fitted and installed in the trench, minimum cover is provided, and the trench bottom is free of rocks and other debris that could damage the external pipe coating. The pipe sections will be simultaneously lifted in position over the trench and lowered in place. Sifted soil fines from the excavated subsoils will provide rock-free pipeline padding and bedding. Sandbags may be used to pad the bottom of the trench instead of, or in combination with, padding with soil fines. In rocky areas, padding material or a rock shield will be used to protect the pipe. Topsoil will not be used to pad the pipe.

4.1.8 Backfilling Pipeline

Backfilling will begin after a section of pipe has been successfully placed in the trench. Backfill will be conducted using a bulldozer or other suitable equipment. Subsoil excavated from the trench would generally be used to backfill the trench, except in rocky areas where imported

select fill material may be needed. Backfill will be graded and compacted, where necessary, for ground stability, by tamping or walking with a wheeled or tracked vehicle. Compaction will be performed to the extent that there would be no voids in the trench. Any excavated materials or materials unfit for backfill will either be utilized elsewhere or properly disposed of in accordance with applicable laws and regulations.

4.1.9 Hydrostatic Testing

Once the pipeline is in place, the pipeline will be pressure tested with water to ensure that the system is capable of operating at the design pressure. MAPL has identified potential water sources and discharge locations (see Appendix F). Anticipated volumes are also provided in Appendix F.

MAPL has identified 10 potential water source locations (see Appendix F). The required approvals/permits will be obtained prior to water withdrawal. MAPL will not seek new water rights but will negotiate to use existing water rights of the potential water sources. Water used for hydrostatic testing will be hauled to frac tank staging areas located along the construction right-of-way. MAPL has identified several locations for water discharge (see Appendix F and Appendix A). Water will be sampled and analyzed prior to discharge and discharge will be in compliance with the respective state discharge permits.

4.1.10 Cleanup and Restoration

Cleanup and restoration will occur after the pipeline loops are installed and backfill activities are completed. Cleanup of the surface along the construction right-of-way will include removal of construction debris and final grading to the finished contours. Permanent erosion control measures will be installed and seeding will occur in accordance with landowner requirements. Restoration details are provided in the Reclamation and Monitoring Plan (see Appendix D) and in the Stormwater Management Plan (see Appendix E).

4.2 SPECIAL CONSTRUCTION TECHNIQUES

4.2.1 Foreign Pipeline, Road and Railroad Crossings

The pipeline will meet or exceed the minimum depth of cover over the pipeline as required by code. Crossings of foreign pipelines will generally require the pipeline to be buried at greater depths. Where practicable, 12 inches of clearance will be maintained when crossing foreign pipelines, utilities, drain tiles, or any other existing underground utility. Table B-3 in Appendix B lists the roads and railroads crossed proposed pipeline route and the proposed crossing method for each road. The construction contractor will be responsible for preparing and implementing a Traffic Control Plan in coordination with local county road and bridge departments which will outline procedures for road closings and traffic control during open-cut crossings of roads. MAPL anticipates that roads would be closed at crossing point for a few hours followed by having one lane open with a plate cover over the road cut.

4.2.2 Waterbody and Wetland Crossings

Ecosphere Environmental Services (Ecosphere) conducted a wetland evaluation and delineation of the project area from July 2011 through August 2012 (ongoing) and identified potential jurisdictional wetlands and Waters of the U.S. (WoUS) within 125 feet on the north side and 75 feet on the south side of the proposed loop segments for a total buffer of 200 feet. Potentially jurisdictional wetlands were identified based on vegetation, soils, and hydrologic characteristics present at the site. WoUS were delineated using characteristics of

the Ordinary High Water Mark (OHWM). Table B-6 in Appendix B lists the wetlands in the vicinity of the construction right-of-way, and Table B-7 in Appendix B list the streams/drainages crossed by the proposed loop segments. MAPL would implement all general and special conditions in the U.S. Army Corps of Engineers Nationwide 12 Permit. After construction, MAPL would implement measures in the Reclamation and Monitoring Plan (see Appendix D) to ensure appropriate habitat restoration and appropriate revegetation measures for wetlands.

4.2.3 Horizontal Directional Drilling

Horizontal directional drills (HDDs) are planned for the locations indicated in Table 3. Appendix K provides plan and profile drawings for each HDD.

Table 3
Horizontal Directional Drills for Construction of WEP III

HDD Location	Milepost	Length (feet)	Purpose
Kutz Canyon	412.50	4,230	Avoid topographic issues and listed plant species
Navajo Irrigation Canal	411.10	878	Avoid elevated canal
Landfarm Environmental	404.40	3,734	Avoid landuse
Rio Puerco River	320.20	1,349	Avoid river
Pecos River	105.80	946	Avoid river

Directional drills are typically set up on the surface and drilled on an angle below a feature, then curved or angled back up to the surface on the other side of the feature. An HDD involves setup of a boring machine from the pipe trench and boring horizontally under the feature. A small pilot hole is drilled, enlarged, and then reamed to the proper diameter. The HDD rig then pulls the drill and prefabricated pipe section back out in the opposing direction from which the pilot bore entered (pullback). Temporary use areas parallel to the pipeline for the length of the directional drill are needed for stringing and welding the pipe section prior to its pullback.

In the event of an HDD failure, MAPL has prepared and will implement the Drilling Contingency Plan (see Appendix Q).

4.2.4 Fueling and Hazardous Materials

Fuels and hazardous materials will not be stored along the construction right-of-way. The Stormwater Management Plan (see Appendix E) includes measures to minimize occurrence of contaminants from construction equipment, welding, and refueling entering surface water. The stormwater plan was prepared in accordance with state permitting requirements. In the event of a spill, MAPL will follow the procedures detailed in the Spill Prevention, Control and Countermeasures Plan (see Appendix P).

4.2.5 Fire Control

MAPL will notify the BLM Authorized Officer (AO) of any fires during construction and would comply with all rules and regulations administered by the BLM AO concerning the use, prevention, and suppression of fires on federal lands. MAPL has prepared a Fire Prevention and Suppression Plan (see Appendix O).

4.2.6 Dust Control

Dust suppression techniques will used in construction zones to mitigate the impacts of fugitive dust emissions. The source and volume of water for dust control is provided in Appendix F. Magnesium chloride or other chemicals will not be used for dust control without prior approval from the BLM or BIA.

To minimize dust, vehicles travelling along the construction right-of-way will not exceed speeds of 15 miles per hour (mph). On access roads, posted speed limits will be followed. Where there is no posted speed limit, speeds on access roads will not exceed 30 mph. MAPL will not conduct clearing along the construction right-of-way when winds are in excess of 35 mph.

4.2.7 Weed Control

Biological surveys conducted by Ecosphere included documenting the presence of noxious weeds as part of general vegetation communities and species lists. MAPL has prepared and will follow the Weed Management Plan (see Appendix G). All equipment will be thoroughly cleaned prior to being brought to the construction right-of-way to avoid contamination from noxious weeds. If working in sites with weed-seed contaminated soil, equipment will be cleaned prior to moving to uncontaminated terrain. MAPL will avoid driving vehicles through areas where weed infestations exist.

4.2.8 Cathodic Protection

An impressed current cathodic protection (CP) system will be used to effectively limit corrosion for the buried pipeline. At locations where additional protection may be required, sacrificial anodes will be installed at valve sites, road crossings, and other pipeline crossings.

4.2.9 Line Markers/Aerial Markers

Line markers will be installed within line-of-sight, at road and rail crossings to identify the pipeline locations and provide emergency contact information. The markers will be placed in line with existing markers in order to minimize new visual impacts.

4.2.10 Survey Monuments

All survey monuments, witness corners, reference monuments, and bearing trees within the construction right-of-way will be protected against disturbance during construction, operation, maintenance, and restoration. If any monument, corner, or accessory is destroyed, obliterated, or damaged, a registered land surveyor will restore the disturbed monument, corner, or accessory. The survey will be recorded in the appropriate county and a copy will be sent to the appropriate BLM field office.

4.2.11 Erosion Control

Temporary erosion controls will be installed immediately after initial disturbance (clearing) and will be properly maintained throughout construction and reinstalled as necessary until replaced by permanent erosion controls or restoration is complete. These measures may include but are not limited to sediment barriers, slope breakers, mulch, and erosion control fabric as described in MAPL's Stormwater Management Plan (see Appendix E) and Reclamation and Monitoring Plan (see Appendix D).

4.2.12 Waste Disposal

Various waste materials will be generated during construction. Wastes will typically include trash and debris from construction materials and workers as well as sanitary sewage from temporary sanitary waste facilities. Trash and discarded materials will be cleaned up at the end of each work day. Cleanup will consist of patrolling work areas to pick up trash, scrap debris, other discarded materials, and contaminated soil. Wastes will be managed so as to not contribute to storm water pollution. Construction trash and debris will be collected in appropriate containers and hauled off-site for disposal in suitable landfills. Sanitary waste will be contained in portable toilets or other storage tanks located on trailers or properly secured to

the ground. Sanitary waste materials will be regularly pumped and transported off-site for proper disposal at approved facilities.

4.2.13 Human Health and Safety

The project will be constructed in accordance with MAPL's construction specifications. The pipeline and facilities will be operated and maintained according to accepted industry practices. During construction, operation, and maintenance, the applicable requirements of the Occupational Safety and Health Act will be followed. The guidelines will be provided to all MAPL employees, contractors, and environmental monitors engaged in the planning construction, operation, and maintenance of WEP III. Employees and contractors will be instructed to follow these guidelines, where applicable, when planning, installing, and operating the proposed pipeline and facilities.

4.2.14 Biological Resources

Biological resources surveys were conducted by Ecosphere. Details of surveys, observations, and recommendations have been provided in the Biological Survey Report. MAPL has prepared and will implement a Biological Resources Protection Plan (see Appendix H), which sets forth the procedures to be followed to protect wildlife including timing restrictions, where applicable, as well as measures to protect special status plant species known or potentially with the project area.

4.2.15 Cultural Resources

Cultural resources surveys have been conducted by the University of New Mexico. The report has been submitted to the New Mexico BLM State Office for review. The Cultural Monitoring and Discovery Plan (see Appendix I) provides measures to be followed during construction if there are unanticipated discoveries. MAPL's employees and contractors will be informed about relevant federal regulations protecting cultural resources. If any cultural remains, monument sites, objects, or antiquities subject to the *Antiquities Act of June 8, 1906* or the *Archaeological Resources Protection Act of 1979* are discovered during construction, activities would immediately cease and the responsible BLM AO will be notified.

4.2.16 Paleontological Resources

Paleontological resource pre-construction surveys have been and will be conducted. All recommendations included in the report will be followed including recommendations for monitoring during construction.

The Unanticipated Discovery Plan for Paleontological Resources (see Appendix J) will be followed during construction. If paleontological resources are uncovered during construction activities, all operations will be suspended to prevent further disturbance of such materials and the BLM AO will be immediately contacted who will arrange for a determination of significance and, if necessary, recommend a recovery or avoidance plan. Mitigation of paleontological resources will occur on a case-by-case basis, and MAPL would be responsible for the costs.

4.2.17 Environmental Compliance Monitoring

MAPL has committed to provide funding for a third-party environmental compliance monitoring program during construction of the project providing for a BLM Compliance Monitor. The BLM Compliance Monitor will ensure compliance with the design features and protective/mitigation measures contained in the Project documents during construction of the Project. MAPL will also

employ Environmental Monitors who shall work closely with the BLM Compliance Monitor but who report to MAPL personnel.

5.0 POST-CONSTRUCTION/RECLAMATION

After construction, all disturbed areas will be returned as closely as possible to pre-construction contours and a stable vegetative cover will be maintained on the right-of-way. The construction right-of-way will be restored and revegetated according to the measures outlined in the Reclamation and Monitoring Plan (see Appendix D).

6.0 PIPELINE OPERATION AND MAINTENANCE

MAPL operates and maintains its system in a manner that provides its customers with a safe, dependable supply of natural gas liquids. Industry-proven practices are implemented in accordance with the requirements of the U.S. Department of Transportation (DOT) Office of Pipeline Safety and the EPA. All pipeline facilities are under 24-hour, state-wide, one-call systems which will be incorporated into WEP III.

Until vegetation is re-established following construction, MAPL will conduct annual inspections of the pipeline route as required by storm water discharge permit requirements. After construction, periodic aerial patrols (26 times per year, not to exceed three week intervals) will be conducted to visually inspect for evidence of pipeline damage, nearby construction activities of landowners or other parties, erosion and wash-out areas, areas of sparse vegetation, damage to permanent erosion control devices, exposed pipe, and other potential problems that may affect the safety and operation of the pipeline. Pipeline markers and signs will be maintained or replaced as necessary to ensure the pipeline location is visible from the air and ground. Patrols will be followed up with site-specific inspections to better identify potential problems and make repairs as needed.

Impressed current cathodic protection will be maintained along the pipeline to prevent or minimize corrosion of the pipeline in accordance with federal regulations. The cathodic protection system will be monitored annually, at a minimum, depending on specific equipment and circumstances.

MAPL maintains a supply of pipe, leak-repair clamps, sleeves, etc. for emergency repairs and takes all measures necessary to protect the health and safety of all persons affected by activities performed in connection with the operation and maintenance of the pipeline. Emergency response procedures to be followed in case of leak, spill, or explosion are summarized below in Section 7.0 and are detailed in Appendix L.

The permanent right-of-way will be maintained in a manner consistent with pre-construction conditions. Herbicides, if needed on federal lands, will not be used without prior written approval of the BLM. Herbicides will be applied in compliance with BLM and other applicable laws and regulations. Herbicides will not be applied within 100 feet of wetlands or floodplains.

BLM lessees will be allowed to continue pre-construction land uses. Vegetation management practices may be modified in some localities in order to comply with applicable federal, state, and county requirements. At waterbodies, a 25-foot-wide riparian strip (measured from the mean high water mark) will be allowed to revert to native vegetation. In riparian areas, as well as in wetlands, a 10-foot-wide strip centered over the pipeline may be maintained in a treeless, herbaceous state to facilitate inspection and maintenance.

7.0 EMERGENCY RESPONSE

MAPL will follow the Emergency Response Plan - ERP (see Appendix L). The ERP will assist in planning and responding to a suspected or actual emergency involving WEP III. The ERP is also the Emergency Action Plan. The safety of employees, contractors, visitors, responding personnel and the surrounding population is critical in every emergency response, as generally the products contained in the pipeline or facility are highly volatile when released. With this in mind, it is critical for emergency responders to train their personnel on the proper response to a suspected or actual emergency.

In the event of an emergency, Pipeline Control will close any automated valves and local personnel will close manual valves as needed to mitigate a release. MAPL employees are required to be trained on the ERP. Each employee will be familiar with the plan and their duties under the plan. MAPL will provide a copy of the ERP to applicable agencies including 911 Call Centers, Fire Departments, Police Departments, Sheriff Departments, Office of Emergency Management and State Police.

8.0 PIPELINE SAFETY

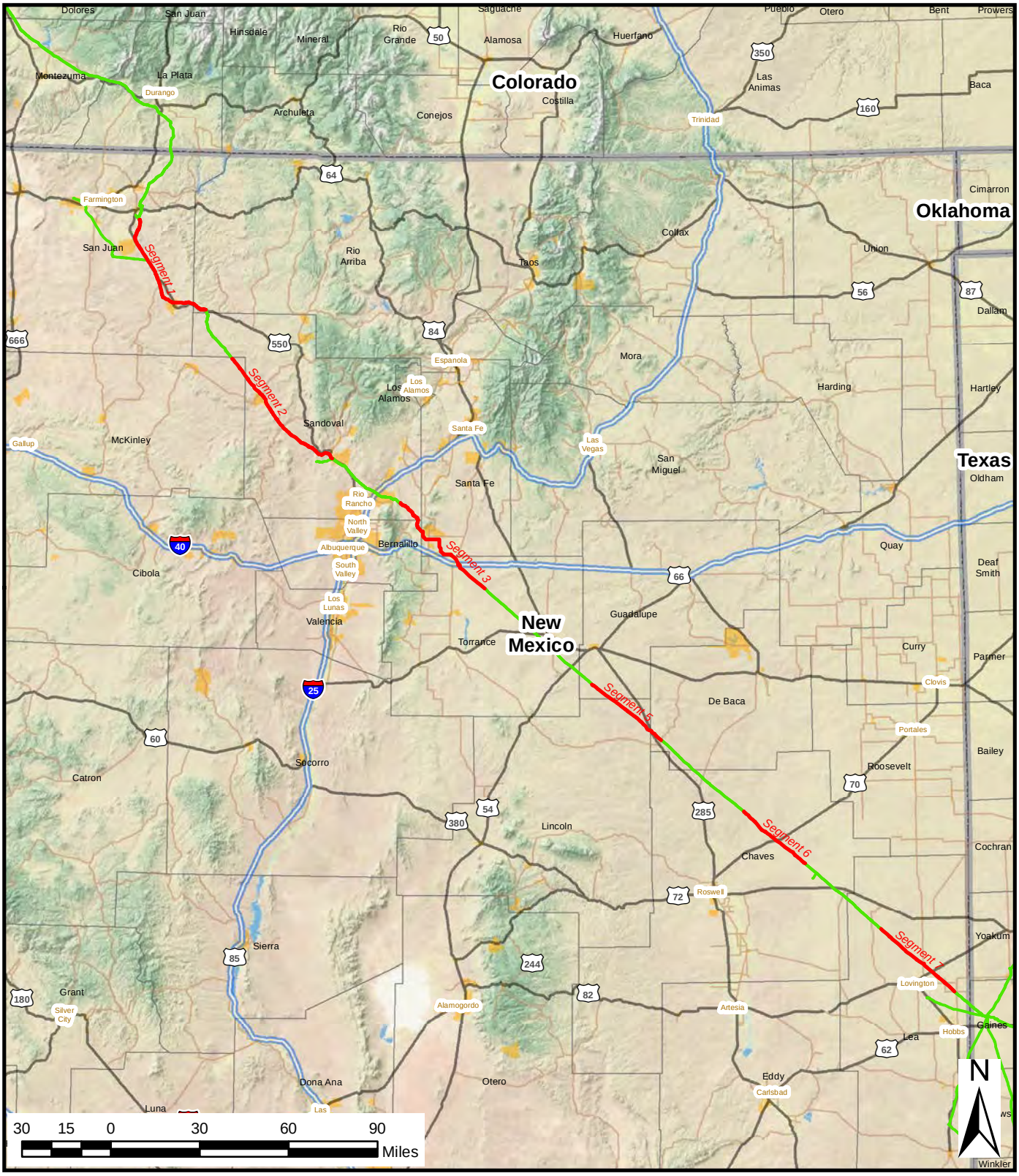
MAPL utilizes numerous safety measures to ensure that the pipeline will operate in a manner that is protective of human health and the environment. The measures include hydrostatic testing, radiographic inspection, supervisory control and data acquisition (SCADA), cathodic protection system, smart pigs, depth of cover, valve spacing, right-of-way marking, right-of-way monitoring, one-call system, public education and damage prevention programs, and safe operating and maintenance procedures. MAPL's safety measures are described in detail in Appendix M.

9.0 ABANDONMENT

At the end of the pipeline's useful life, the necessary authorizations will be obtained from the BLM AO to abandon the facilities in-place. The BLM AO will be contacted to arrange a pre-termination conference and joint inspection of the right-of-way to agree on an acceptable abandonment plan. Pipeline abandonment will be in accordance with the policies and standards employed by BLM at the time of abandonment. The pipeline will be purged of all combustible materials and retired in place. Unsalvageable materials will be disposed of at authorized sites. Regrading and revegetation of disturbed areas, as applicable, will be completed according to BLM or landowner standards, and the abandoned right-of-way will revert to the control of the landowners.

Appendix A

Location Maps



Legend

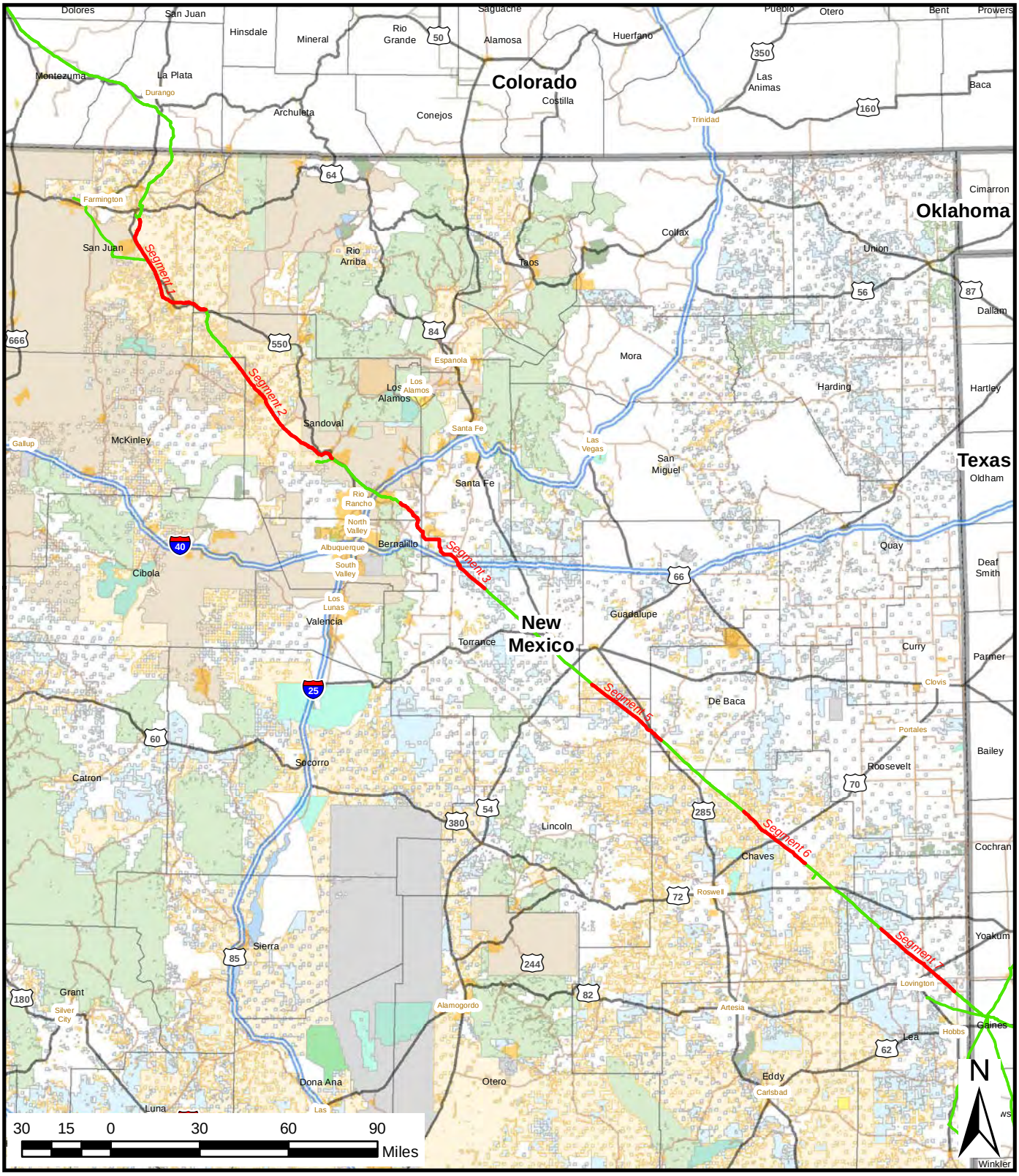
Proposed Centerline

Existing Corridor

1/10/2013

MID-AMERICA PIPELINE COMPANY, LLC

General Location of WEP III



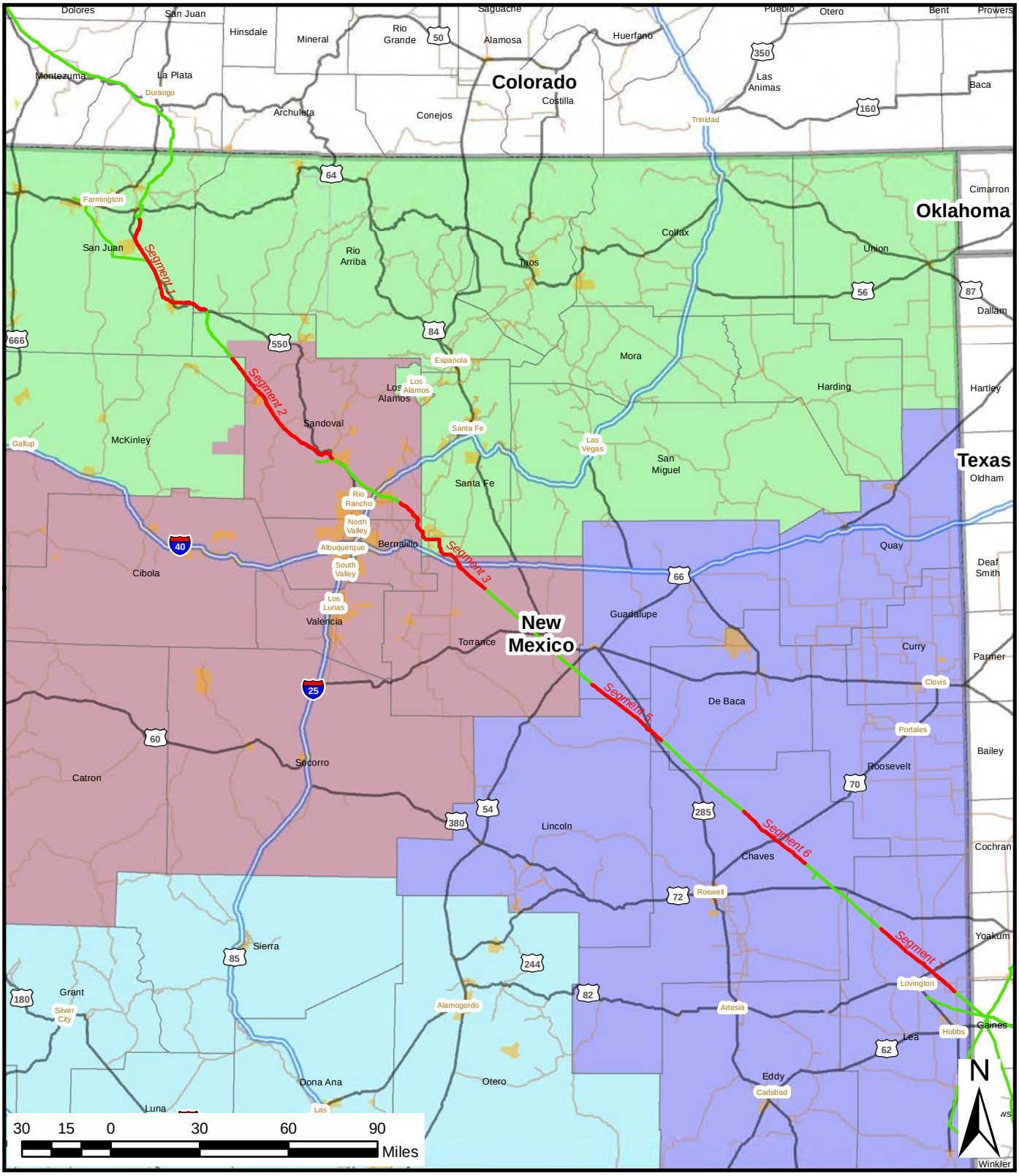
Legend

- Proposed Centerline
- Existing Corridor
- Bureau of Land Management
- Bureau of Indian Affairs / Tribal
- Bureau of Reclamation
- National Park Service
- Department of Agriculture
- Other Agencies
- Department of Defense
- State
- Department of Energy
- New Mexico State Game and Fish
- Forest Service
- State Parks
- Fish and Wildlife Service

1/10/2013

MID-AMERICA PIPELINE COMPANY, LLC

General Location of WEP III in Relation to New Mexico Federal Lands



Legend

- Proposed Centerline
- Existing Corridor

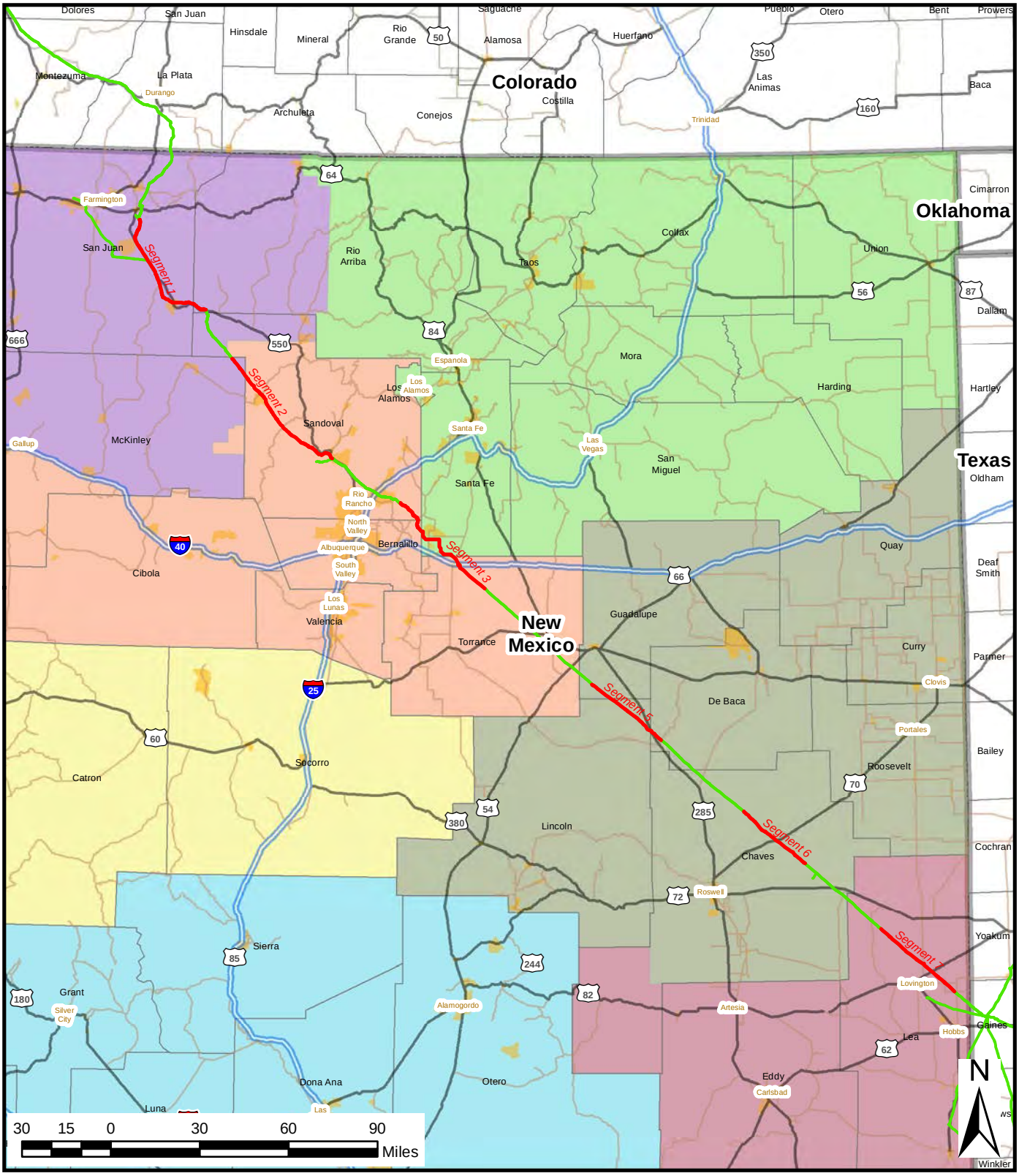
BLM Districts

- Albuquerque
- Farmington
- Las Cruces
- Pecos

1/10/2013

MID-AMERICA PIPELINE COMPANY, LLC

General Location of WEP III in Relation to New Mexico BLM Districts



Legend

- Proposed Centerline
- **Existing Corridor**

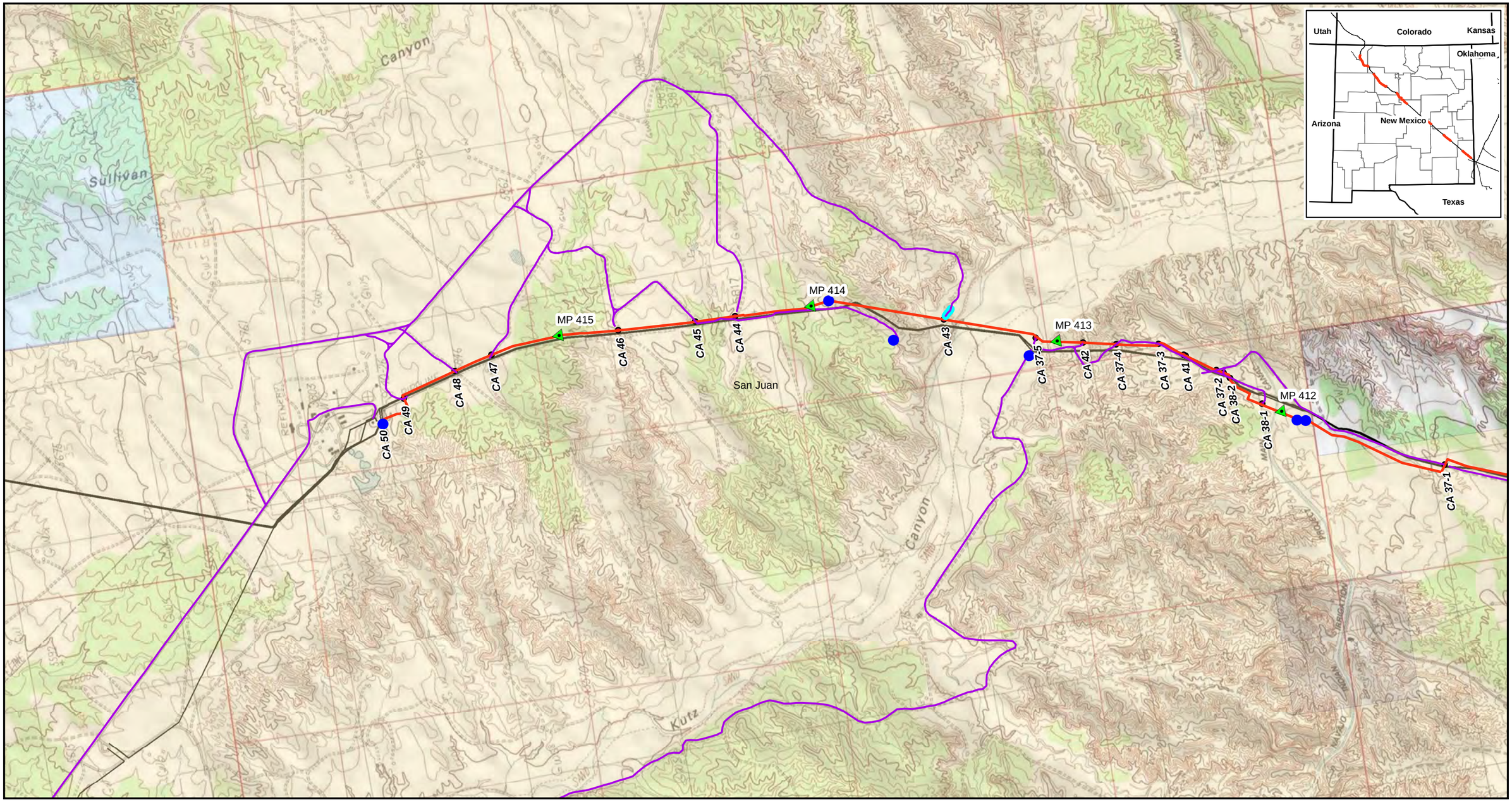
BLM Field Offices

- **Carlsbad**
- **Farmington**
- **Las Cruces**
- **Rio Puerco**
- **Roswell**
- **Socorro**
- **Taos**

1/10/2013

MID-AMERICA PIPELINE COMPANY, LLC

General Location of WEP III in Relation to New Mexico BLM Field Offices



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

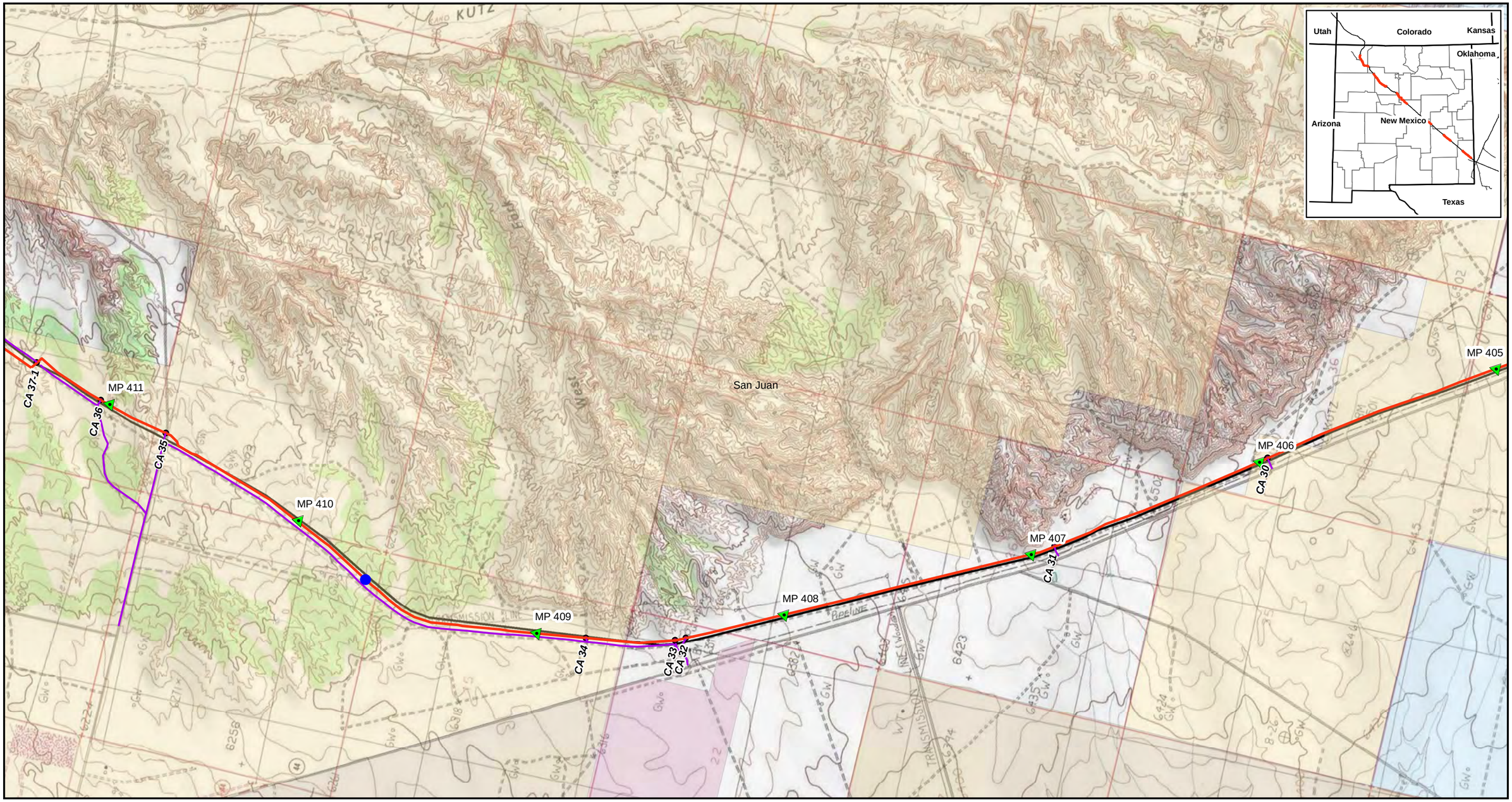
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 1

San Juan County, New Mexico

Sheet 1 of 8



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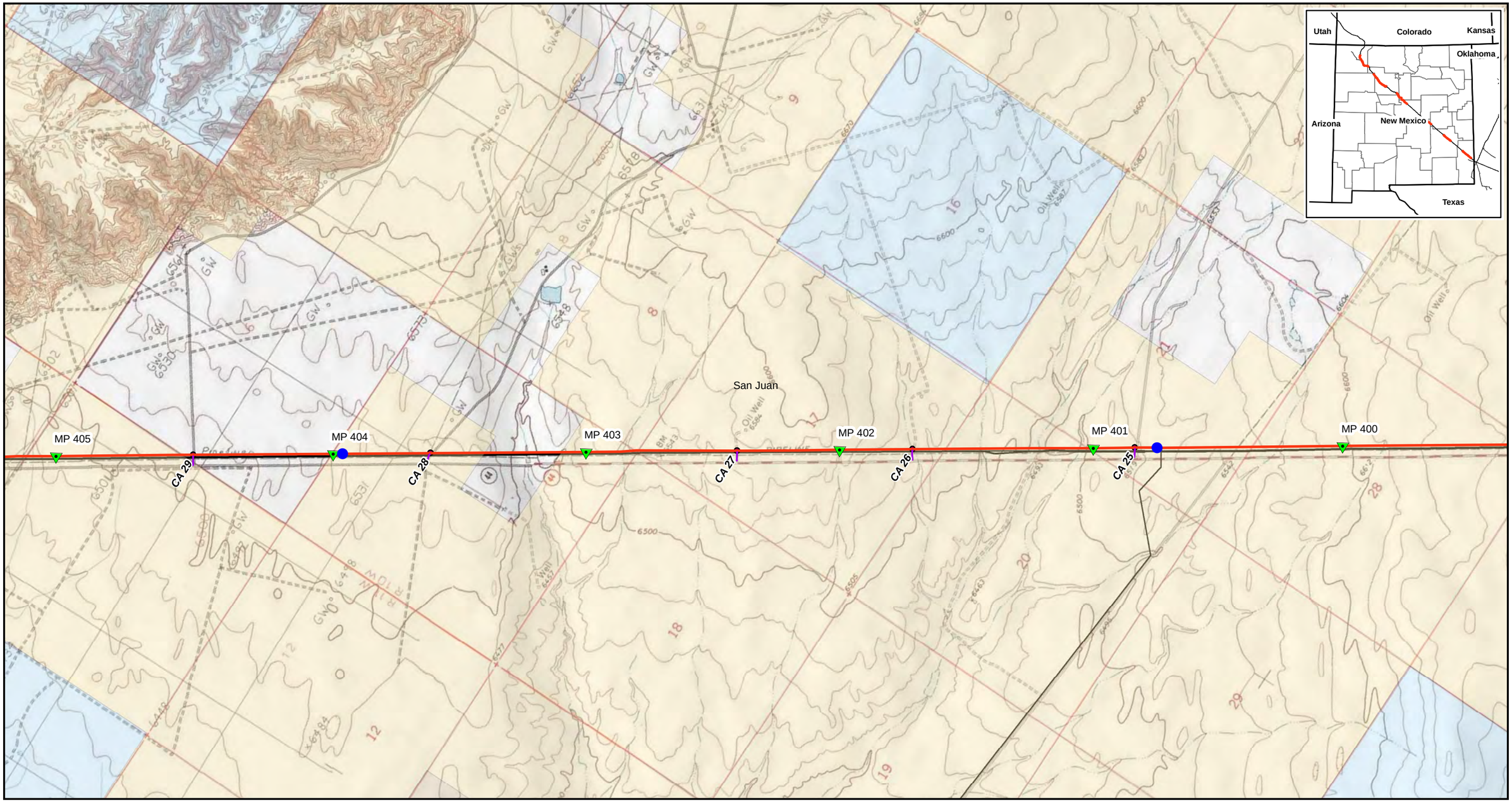
Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 1

San Juan County, New Mexico

Sheet 2 of 8



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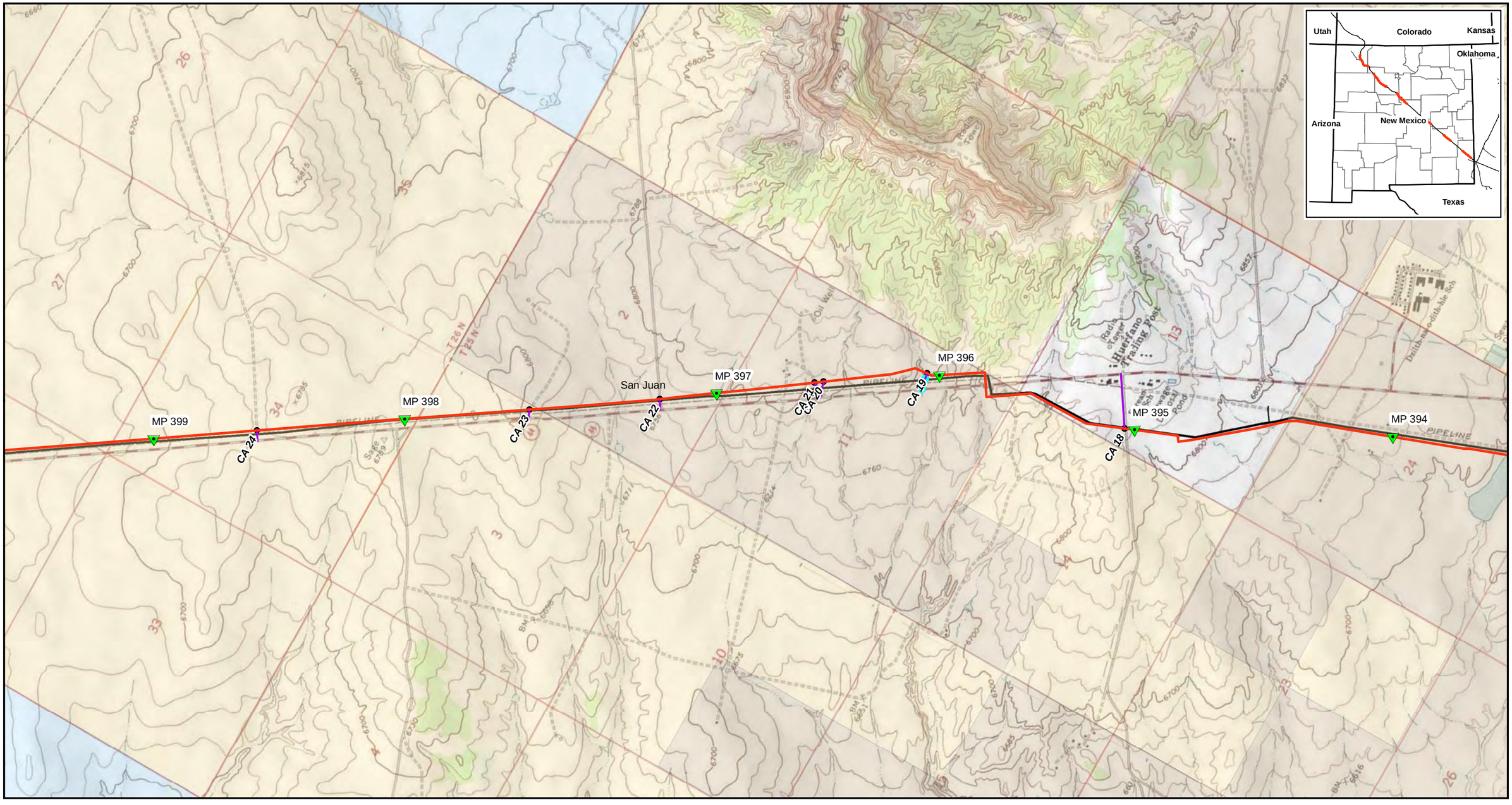
Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 1

San Juan County, New Mexico

Sheet 3 of 8



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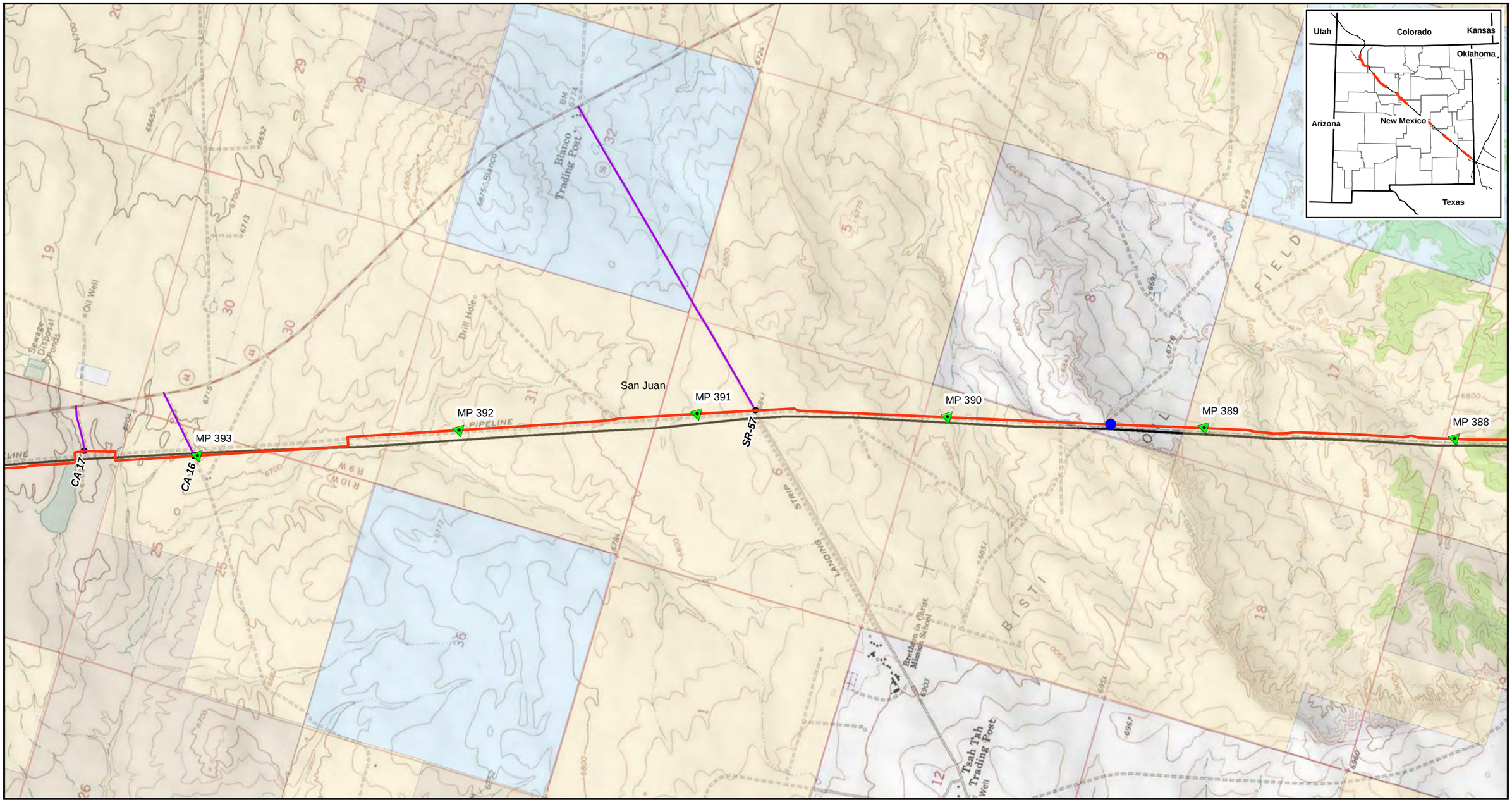
Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 1

San Juan County, New Mexico



Legend

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Land Ownership

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- BOR
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- State Game and Fish
- Private

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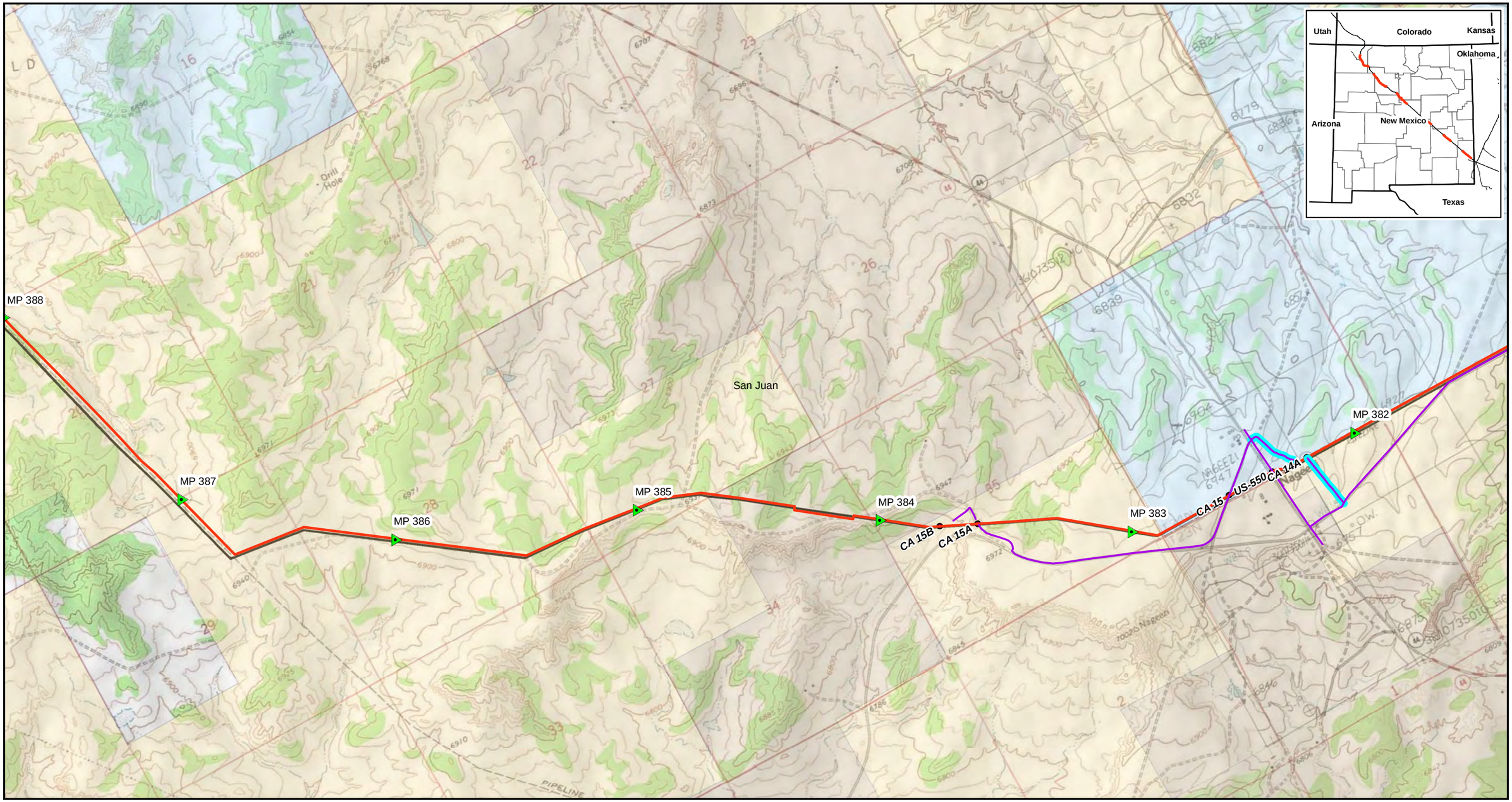
Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 1

San Juan County, New Mexico

Sheet 5 of 8



Legend

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- Hydrostatic Discharge Location

Land Ownership

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- State Game and Fish
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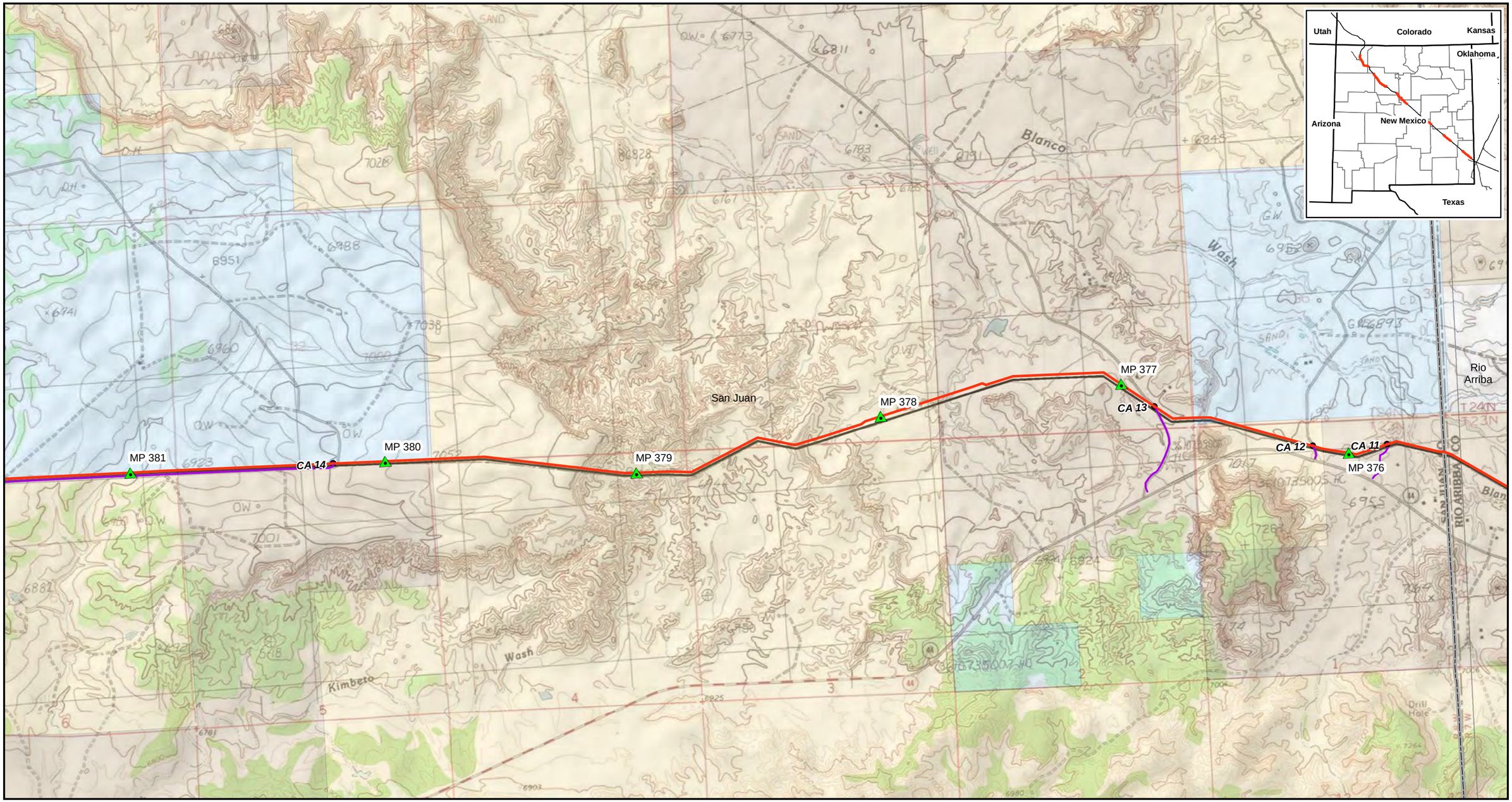
Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 1

San Juan County, New Mexico

Sheet 6 of 8



Legend

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N

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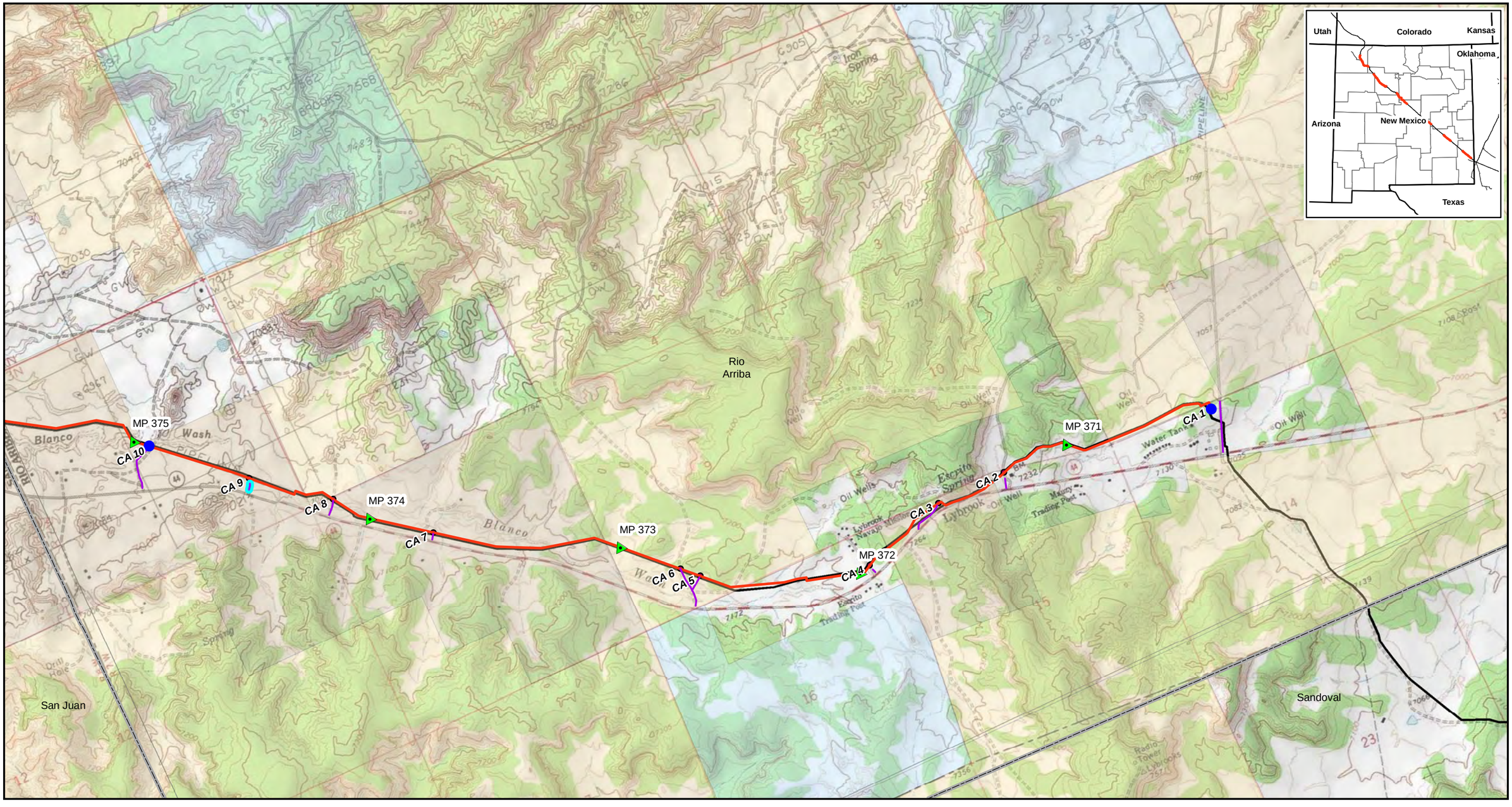
Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 1

San Juan County, New Mexico

Sheet 7 of 8



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- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

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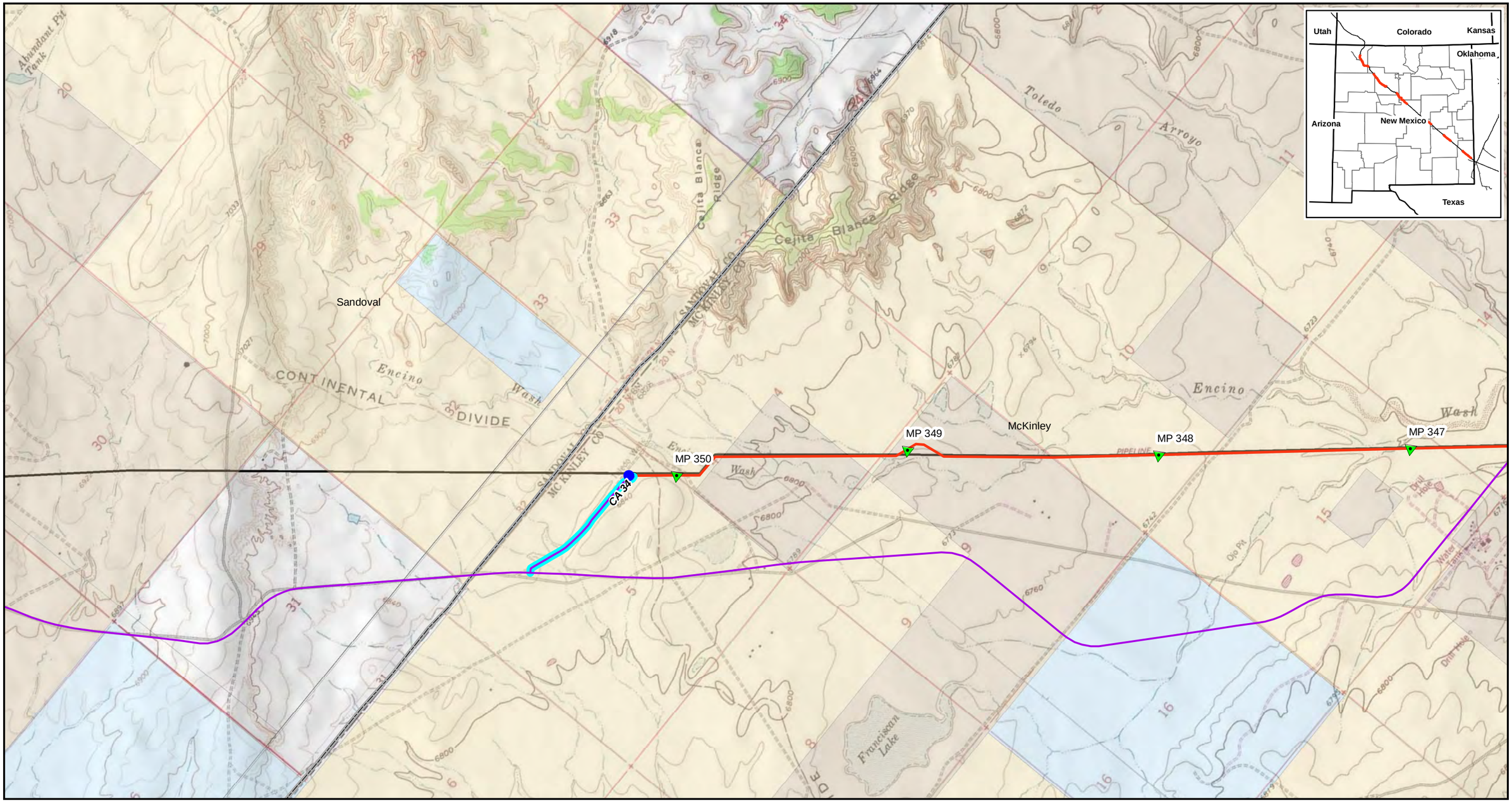
Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 1

Rio Arriba County, New Mexico

Sheet 8 of 8



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Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

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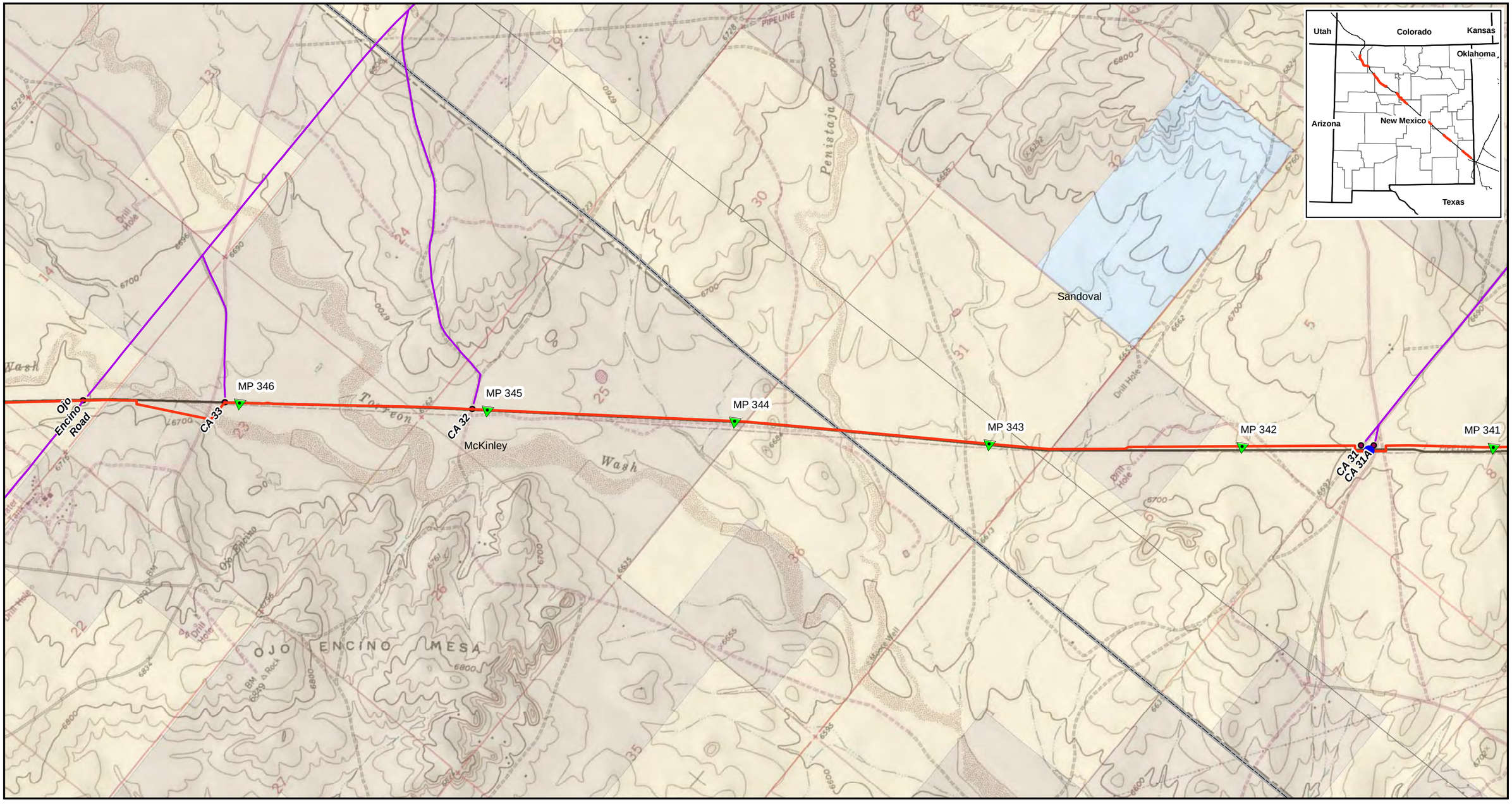
Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 2

McKinley County, New Mexico

Sheet 1 of 9



Legend

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Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

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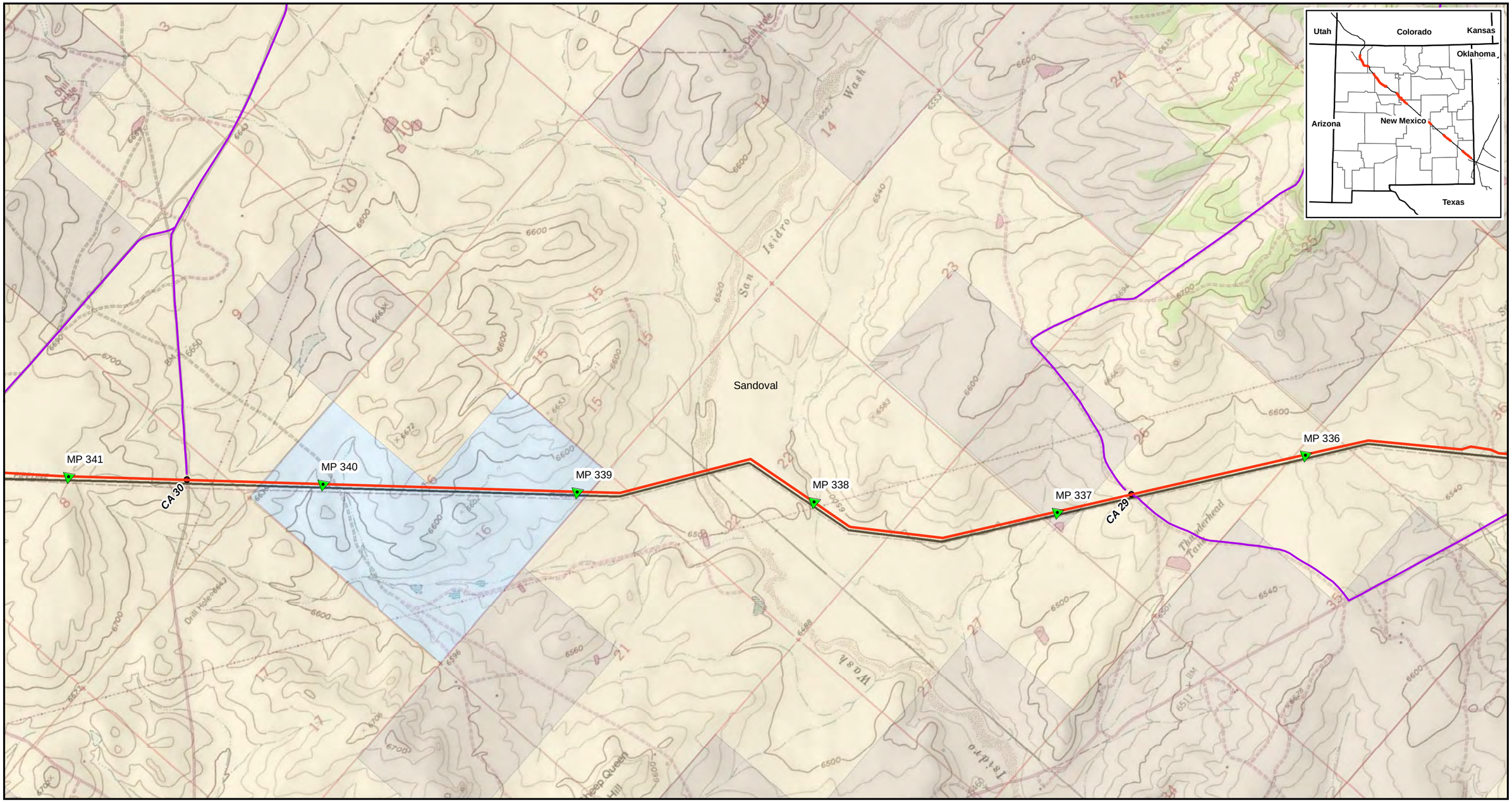
Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 2

Sandoval & McKinley Counties, New Mexico

Sheet 2 of 9



Legend

- Proposed Centerline
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- Construction Access
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- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

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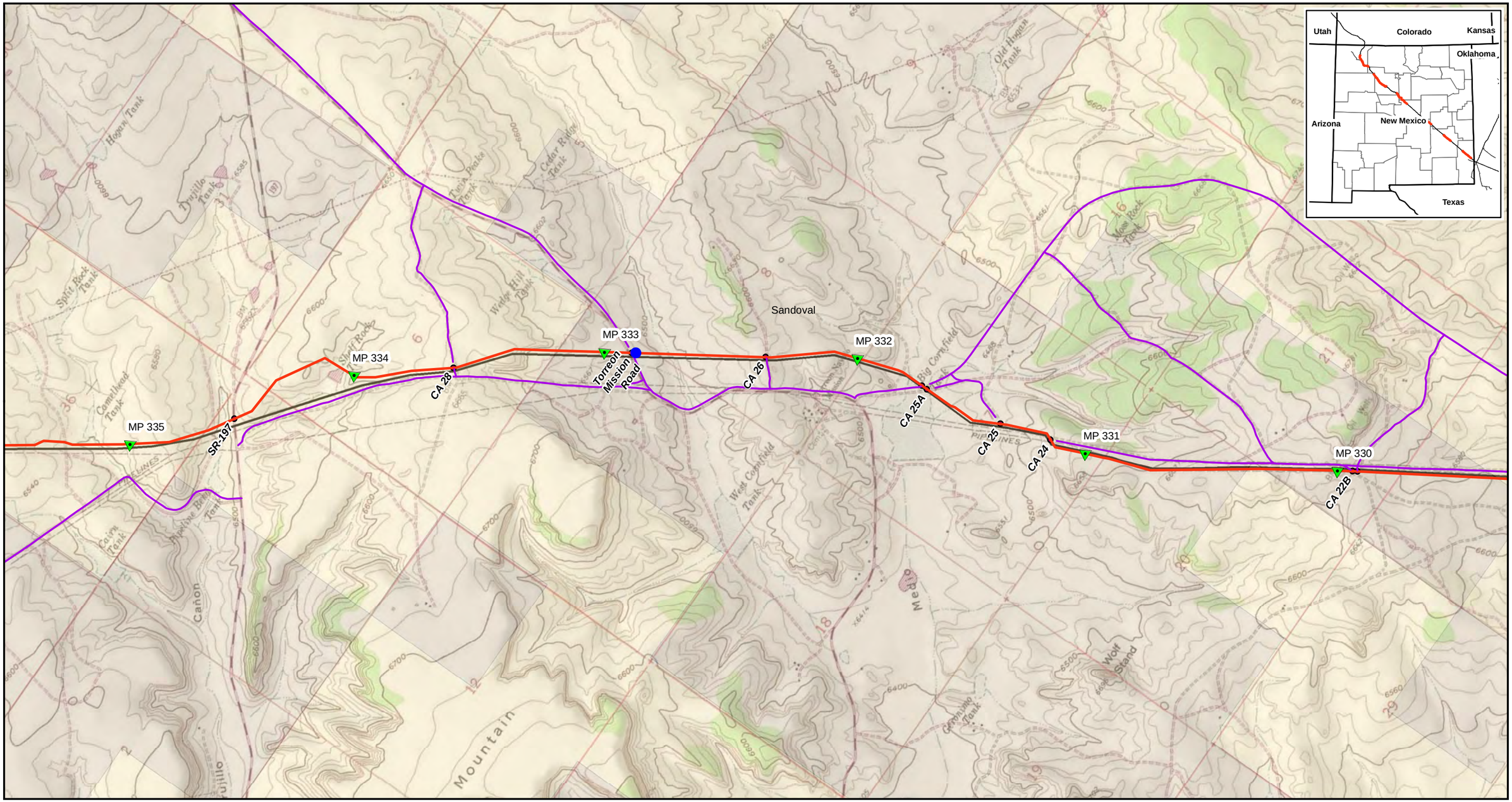
Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 2

Sandoval County, New Mexico

Sheet 3 of 9



Legend

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- BLM
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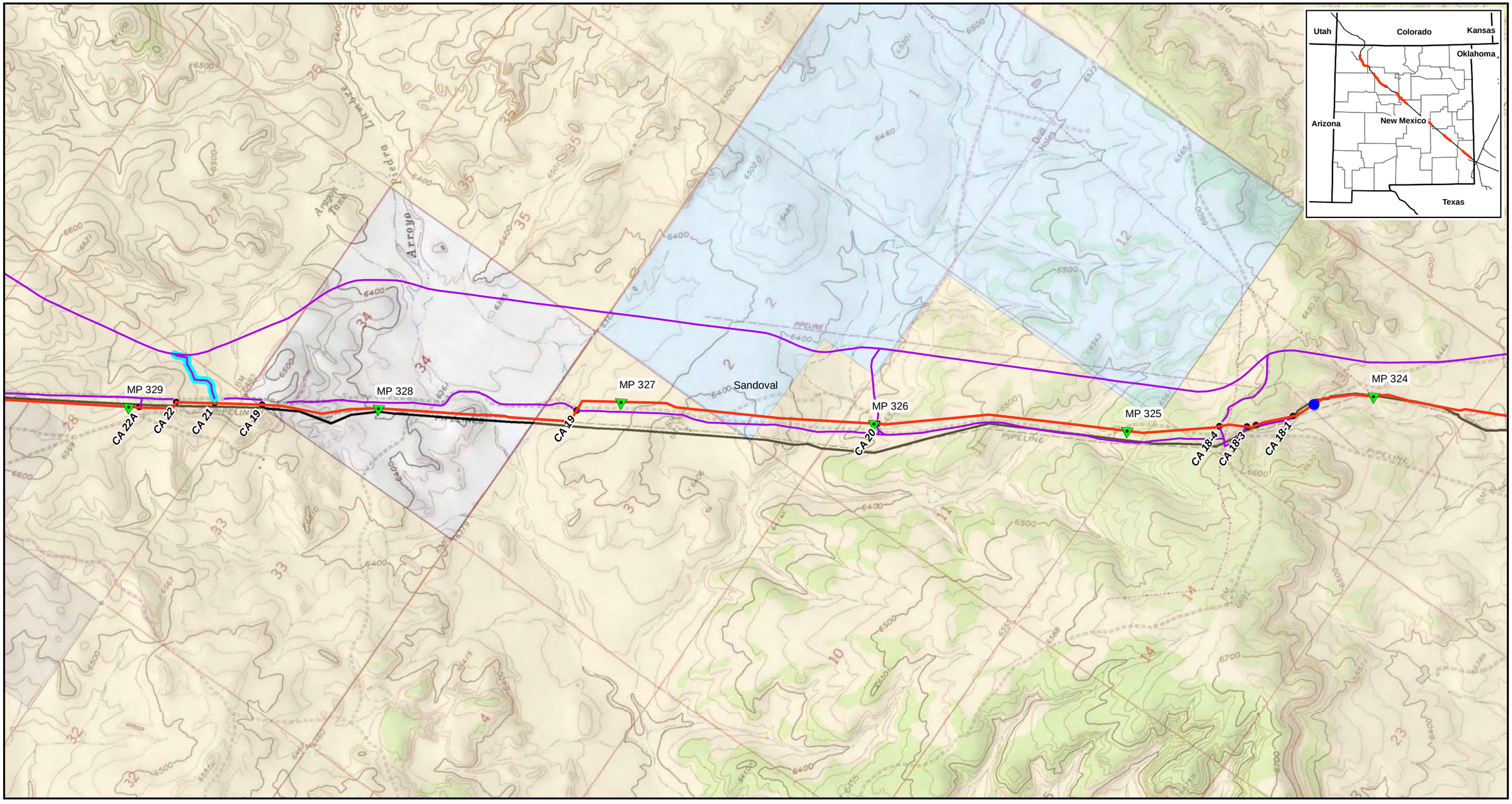
Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 2

Sandoval County, New Mexico



Legend

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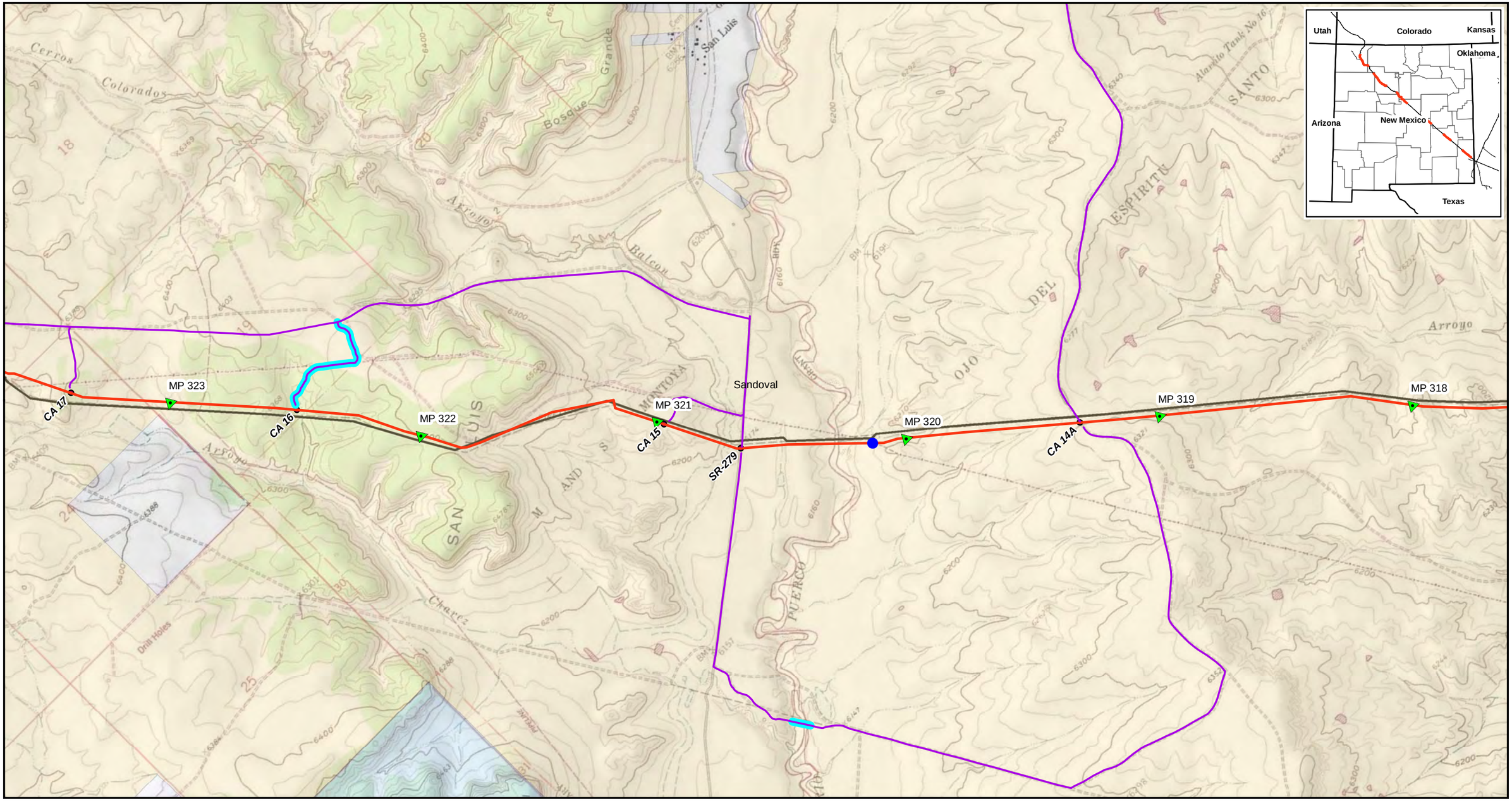
Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 2

Sandoval County, New Mexico

Sheet 5 of 9



Legend

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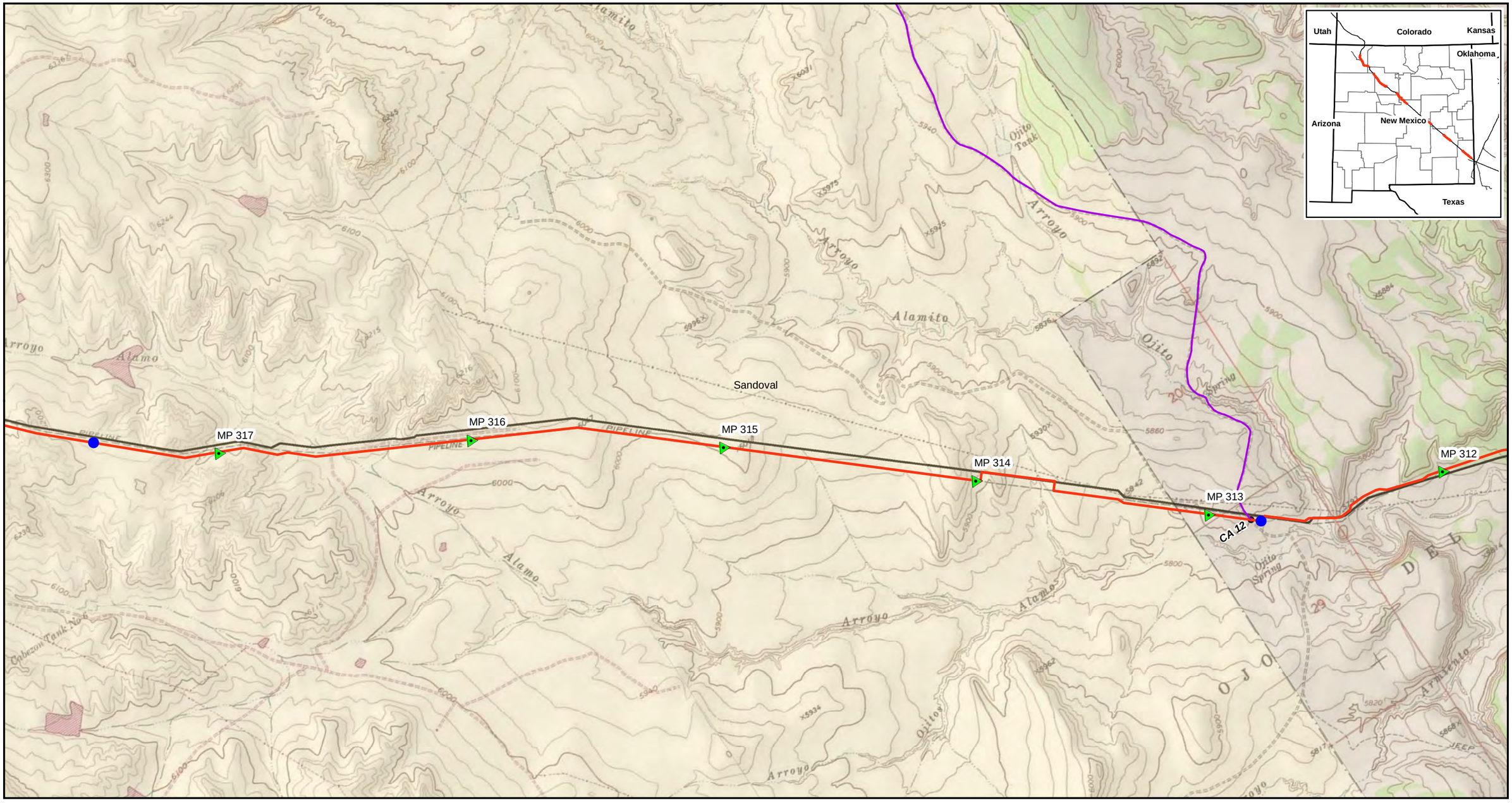
Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 2

Sandoval County, New Mexico

Sheet 6 of 9



Legend

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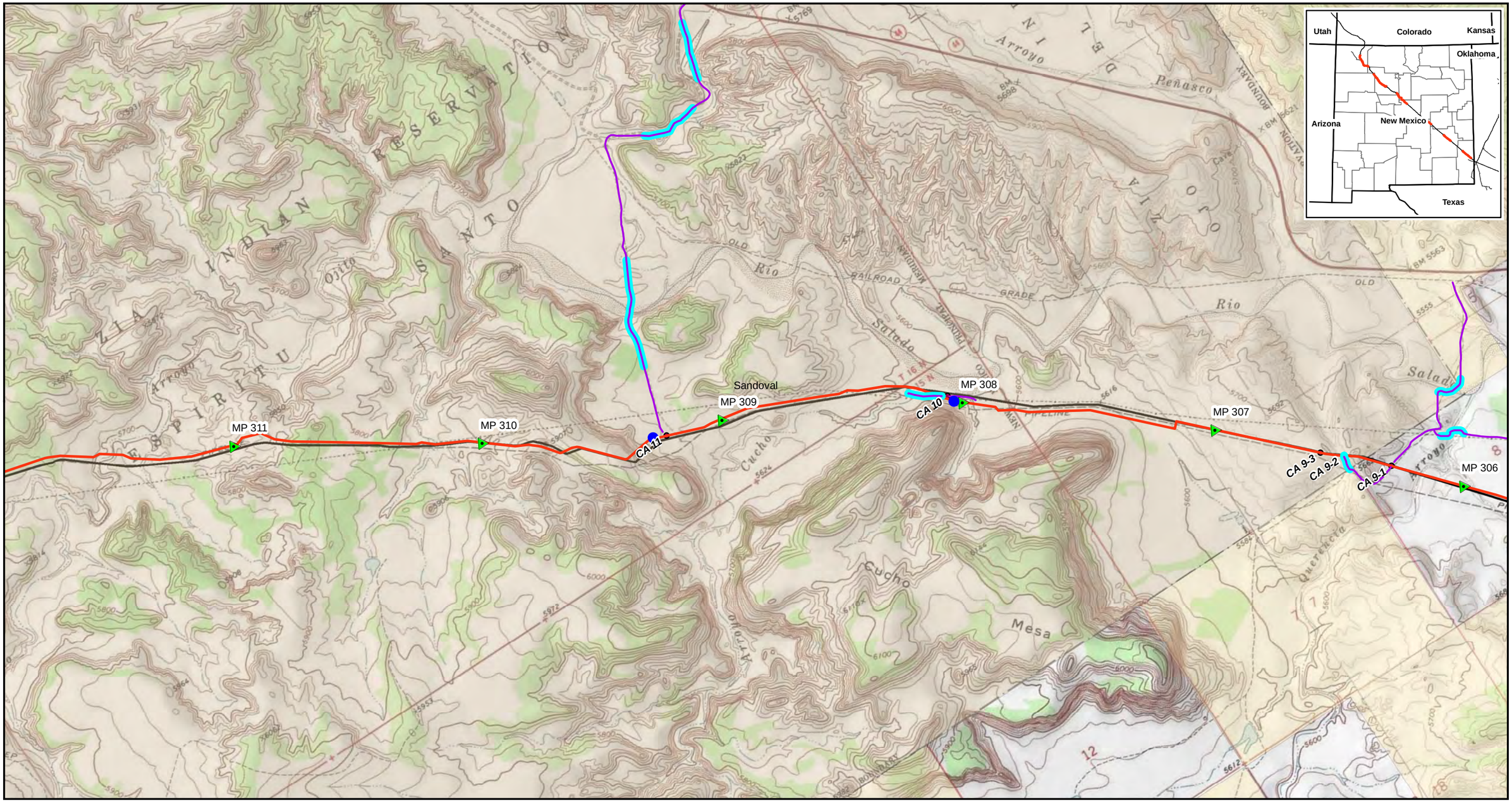
Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 2

Sandoval County, New Mexico

Sheet 7 of 9



Legend

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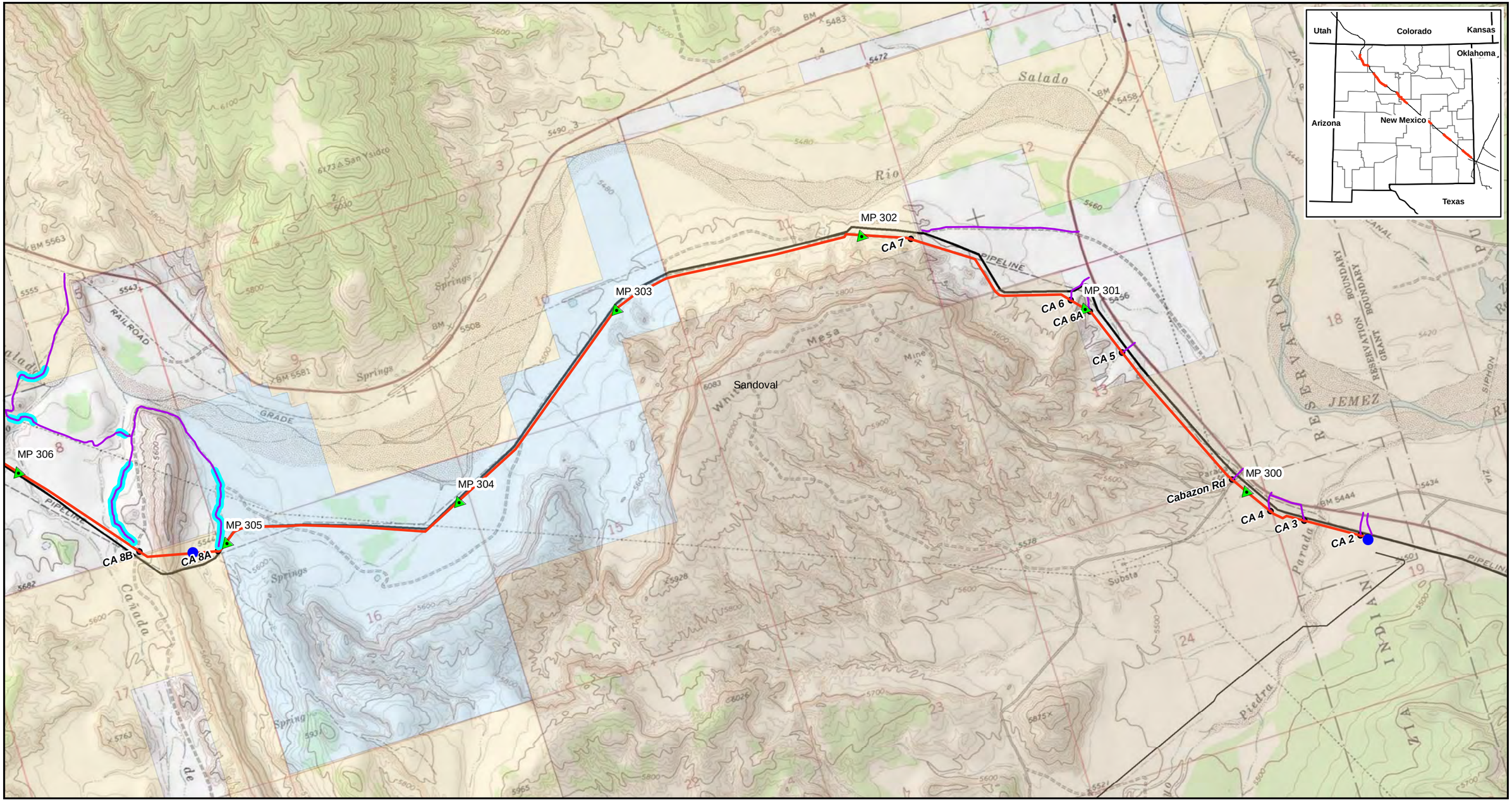
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 2

Sandoval County, New Mexico

Sheet 8 of 9



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 2

Sandoval County, New Mexico

Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

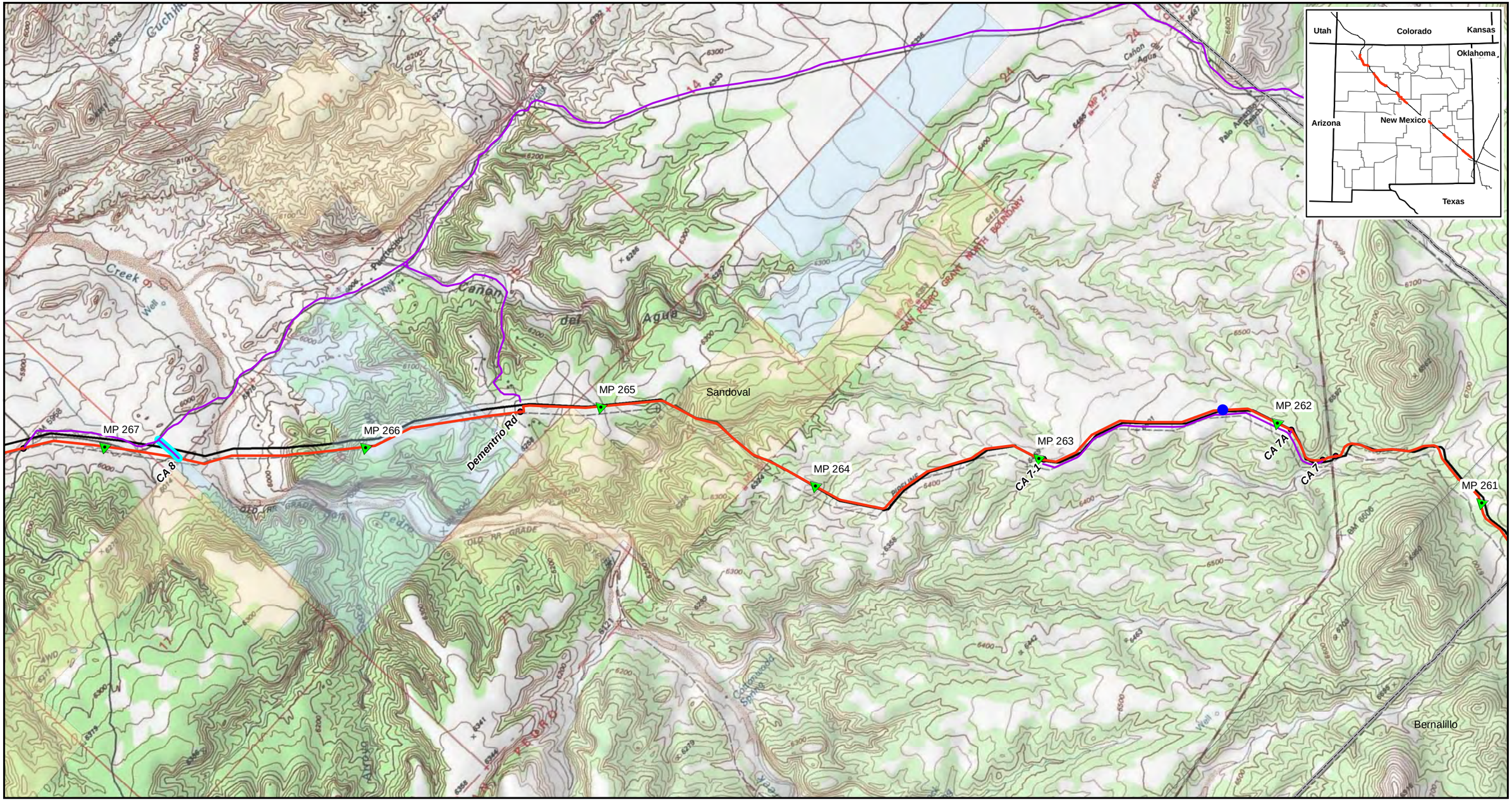
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 3

Sandoval County, New Mexico

Sheet 1 of 8



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

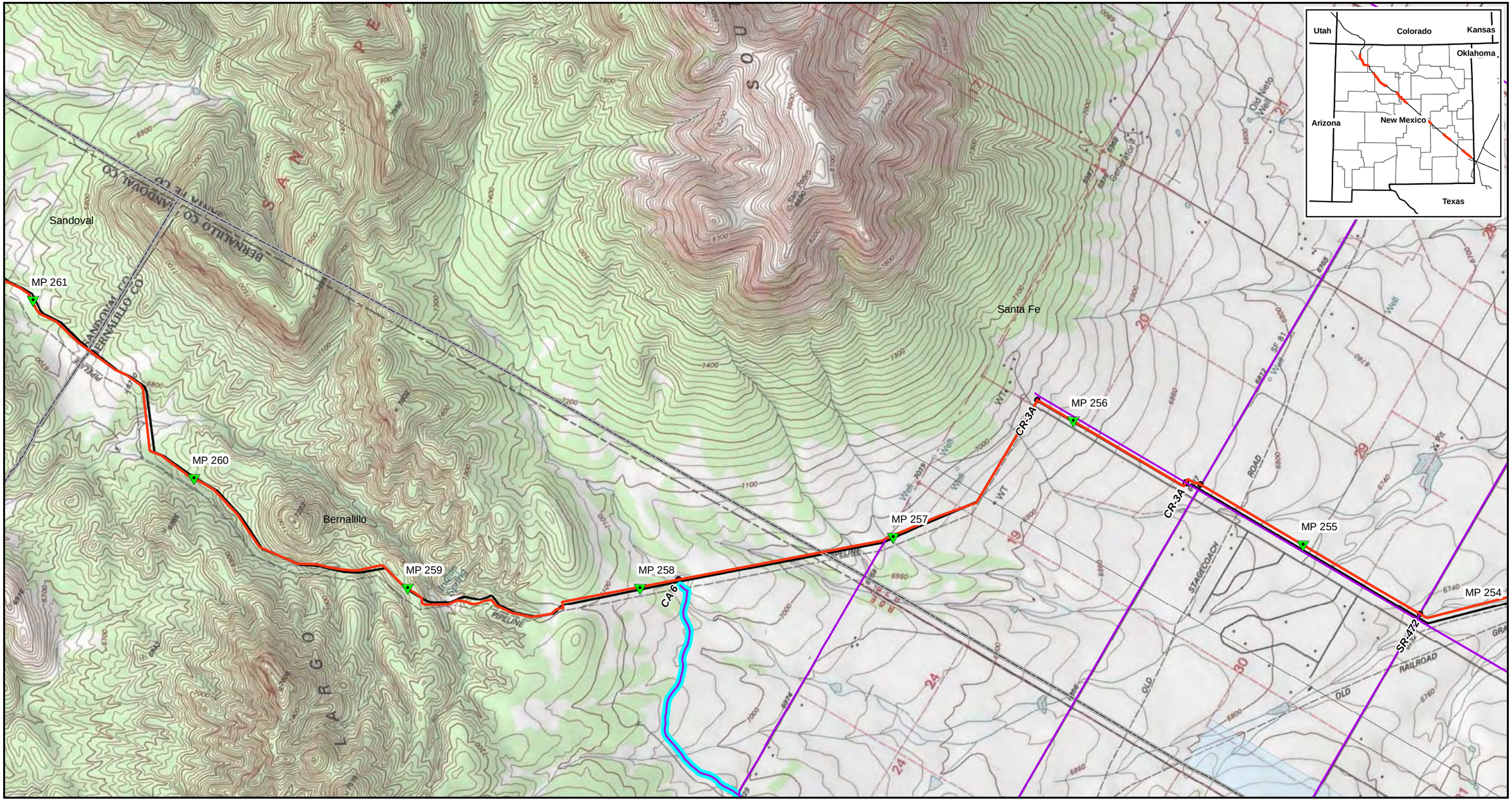
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 3

Sandoval County, New Mexico

Sheet 2 of 8



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

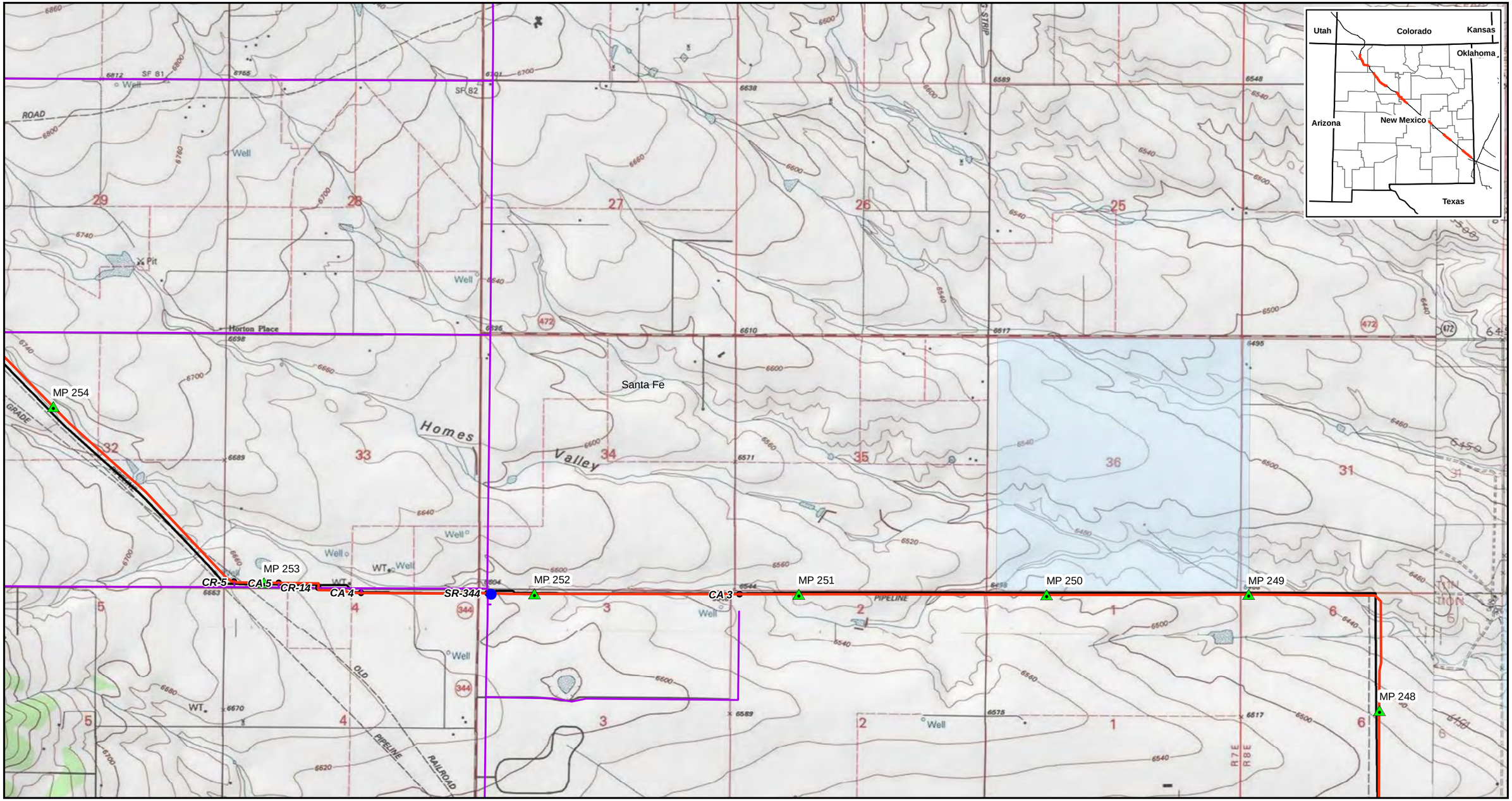
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 3

Santa Fe & Bernalillo Counties, New Mexico

Sheet 3 of 8



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

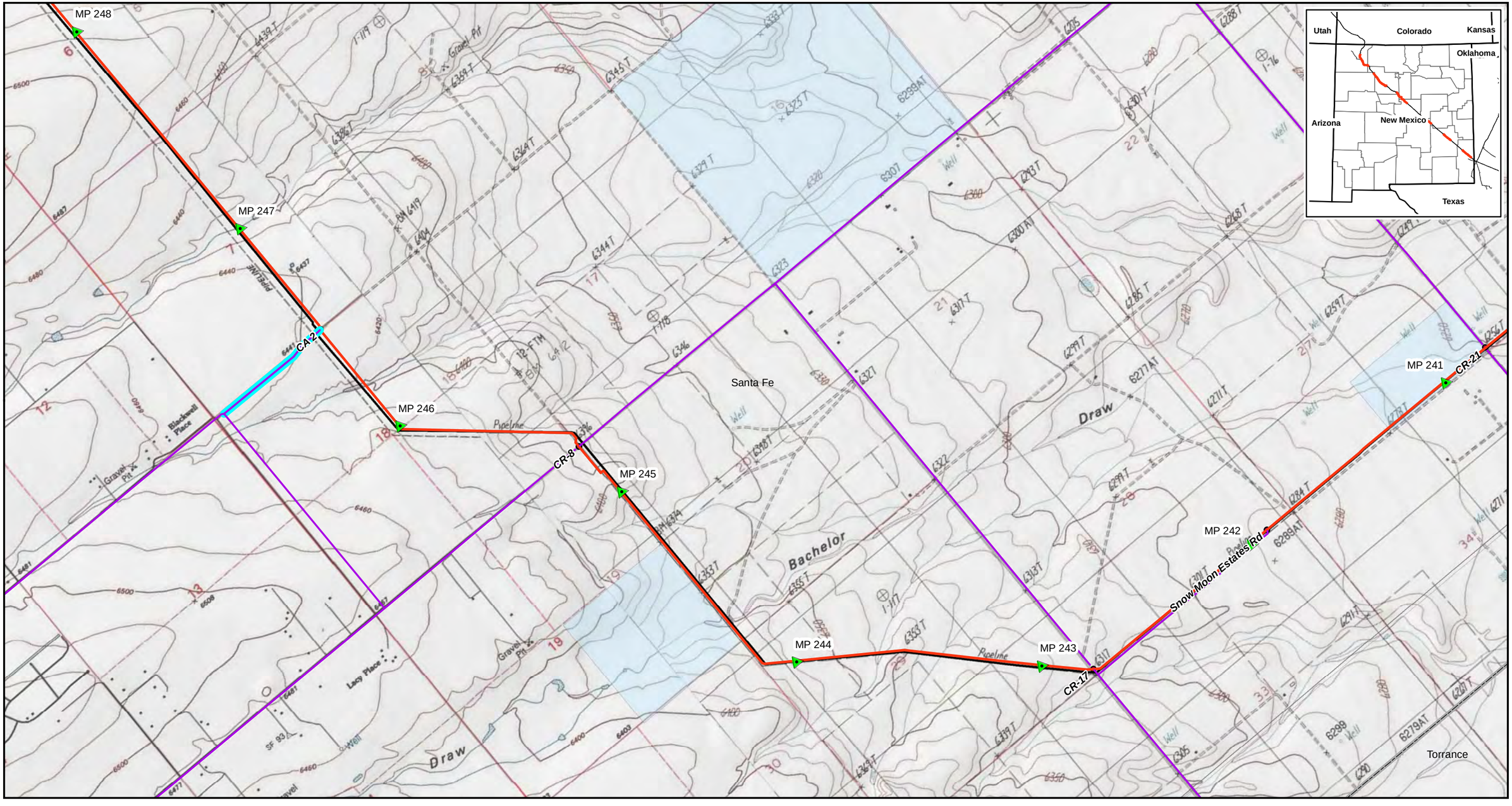
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 3

Santa Fe County, New Mexico

Sheet 4 of 8



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

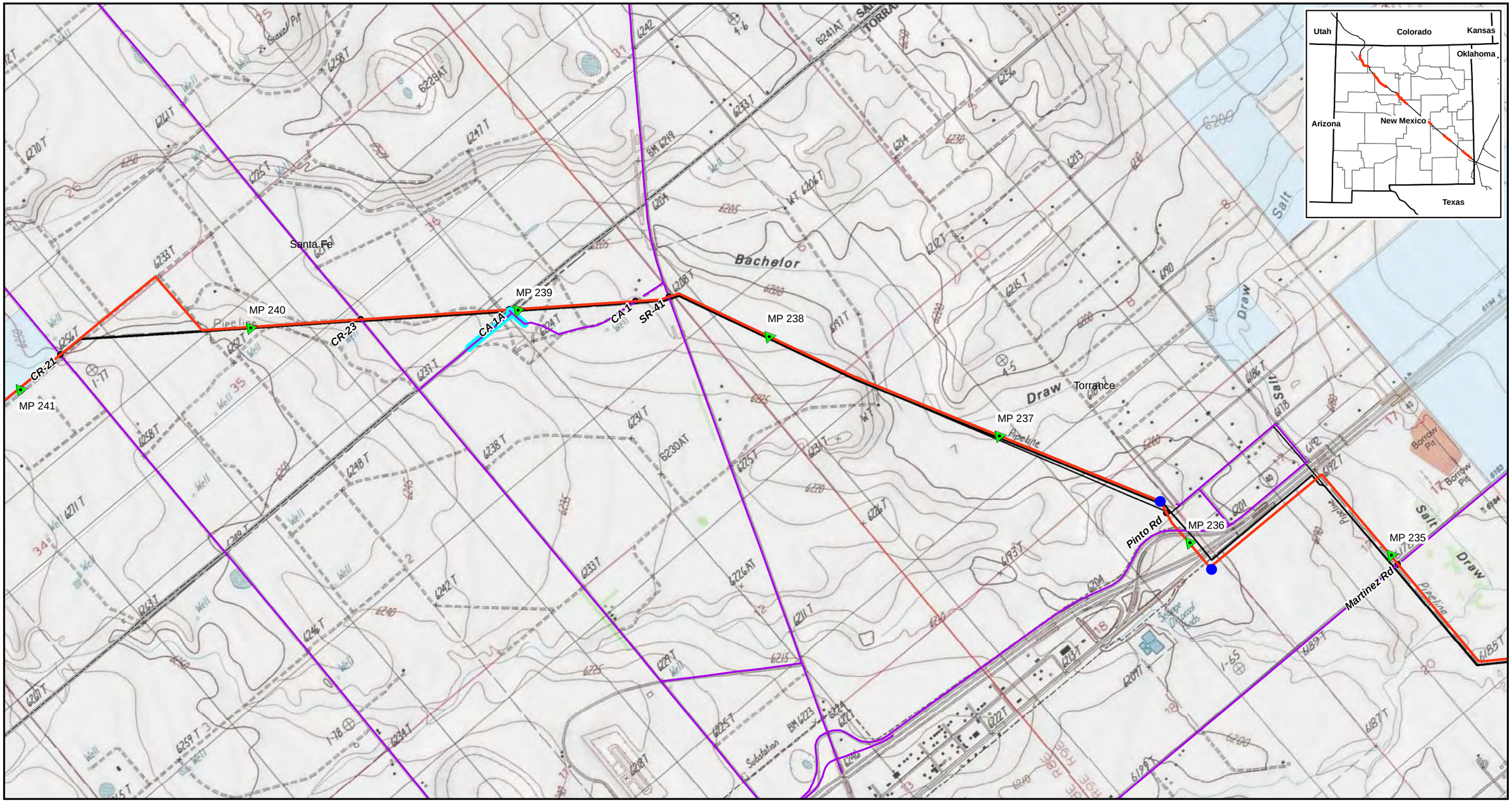
2,000 0 2,000
Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 3

Santa Fe County, New Mexico

Sheet 5 of 8



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

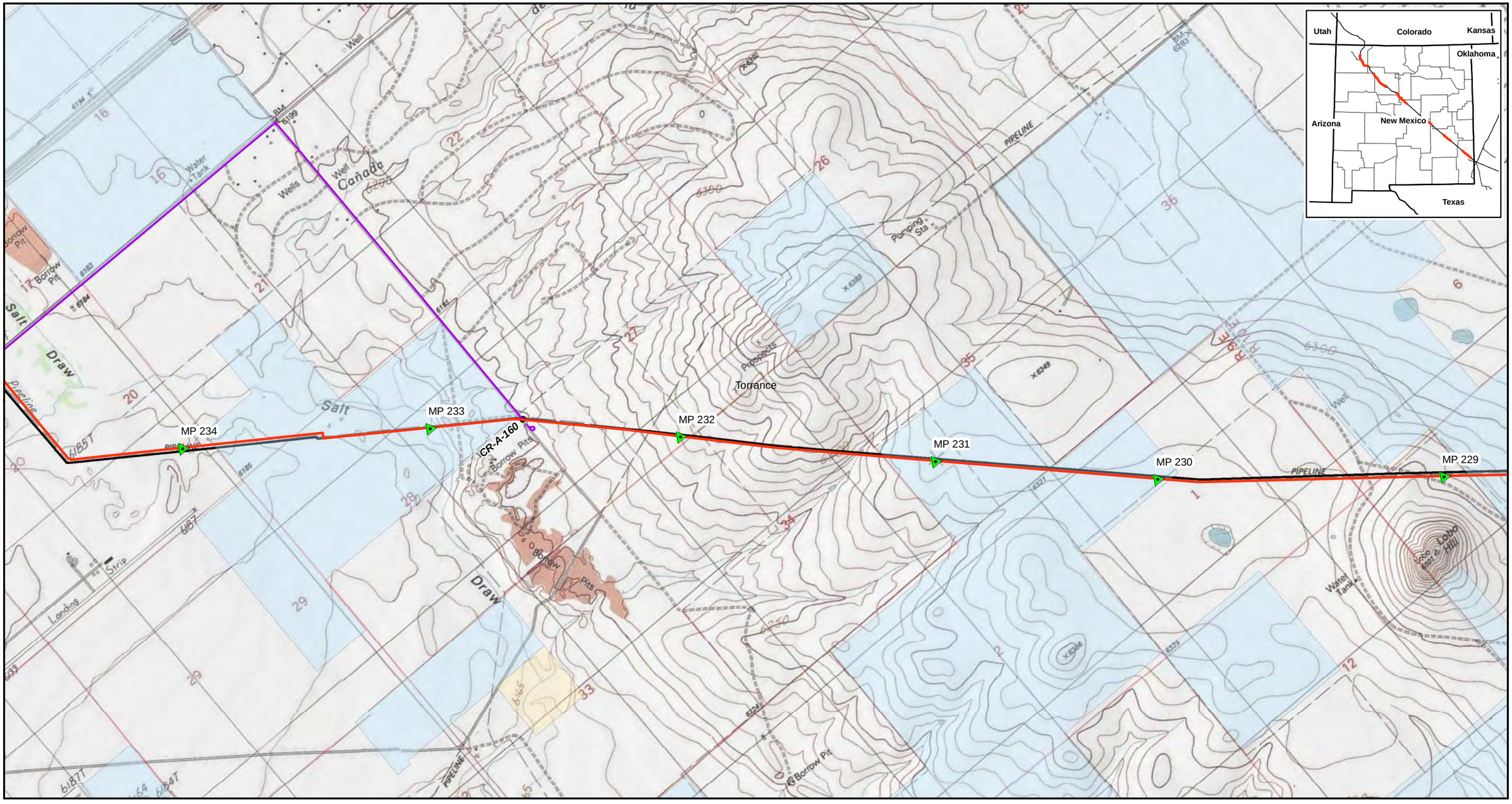
2,000 0 2,000
Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 3

Torrance & Santa Fe Counties, New Mexico

Sheet 6 of 8



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

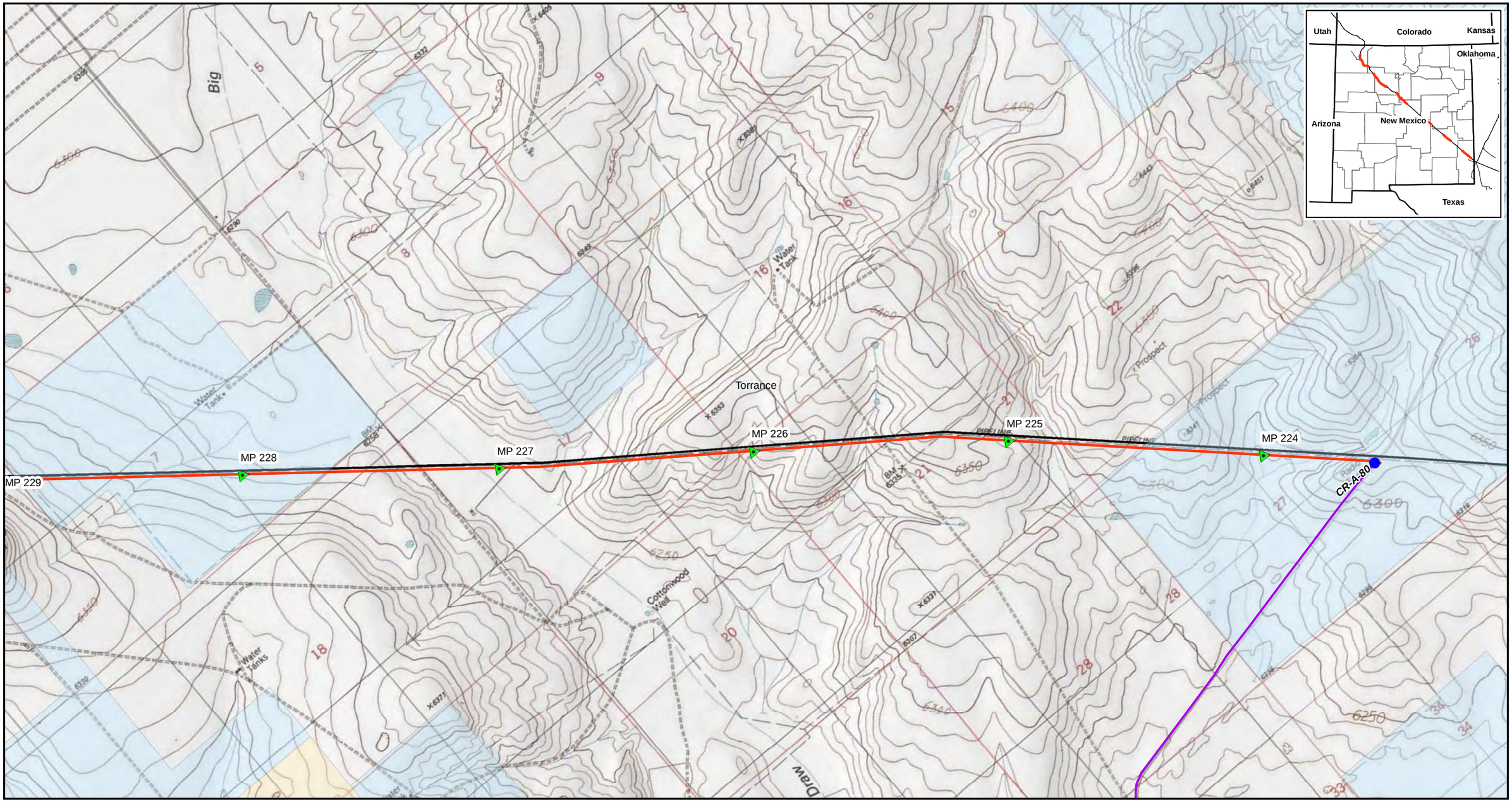
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 3

Torrance County, New Mexico

Sheet 7 of 8



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

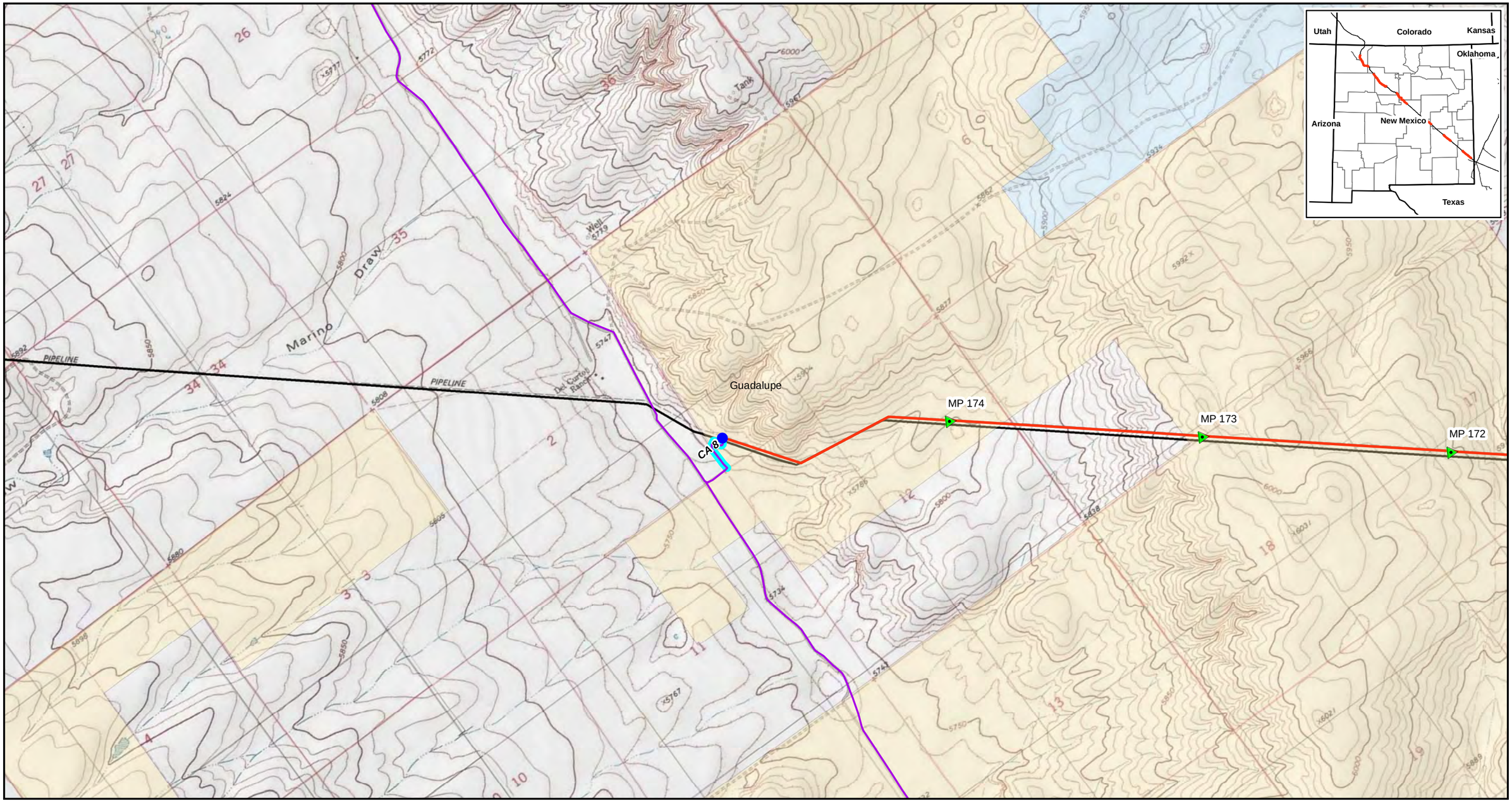
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 3

Torrance County, New Mexico

Sheet 8 of 8



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

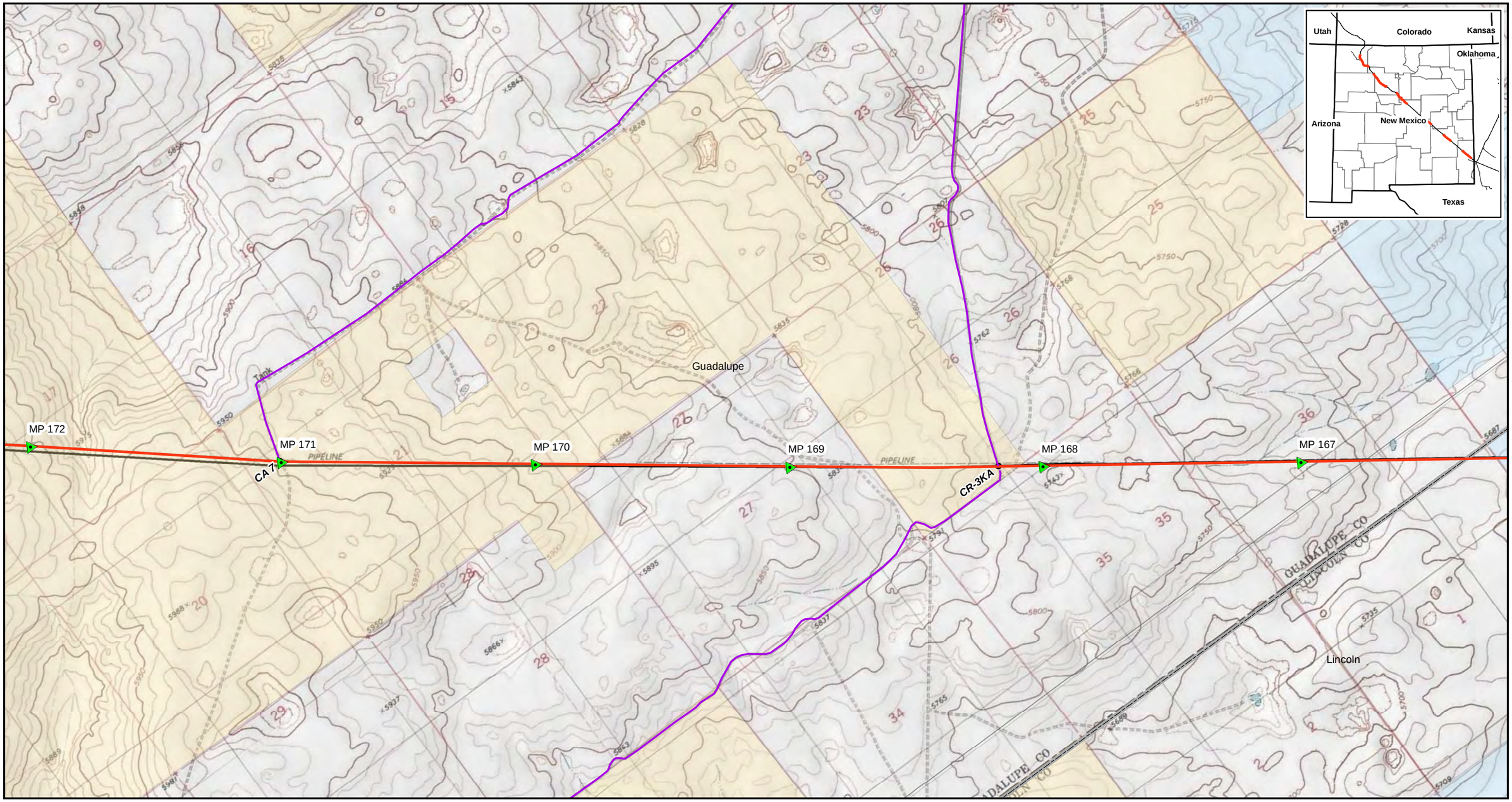
2,000 0 2,000
Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 5

Guadalupe County, New Mexico

Sheet 1 of 6



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

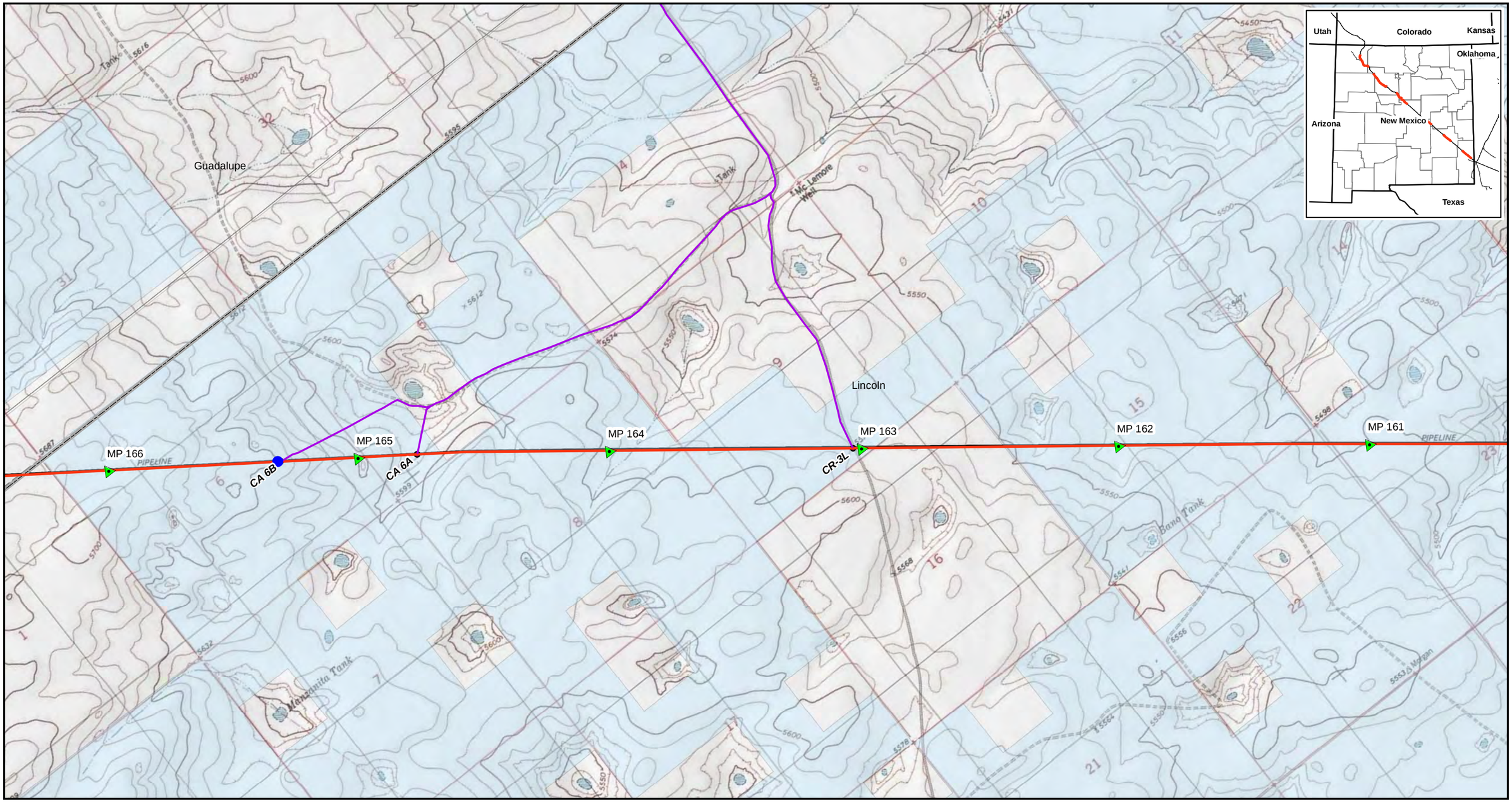
2,000 0 2,000
Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 5

Lincoln & Guadalupe Counties, New Mexico

Sheet 2 of 6



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

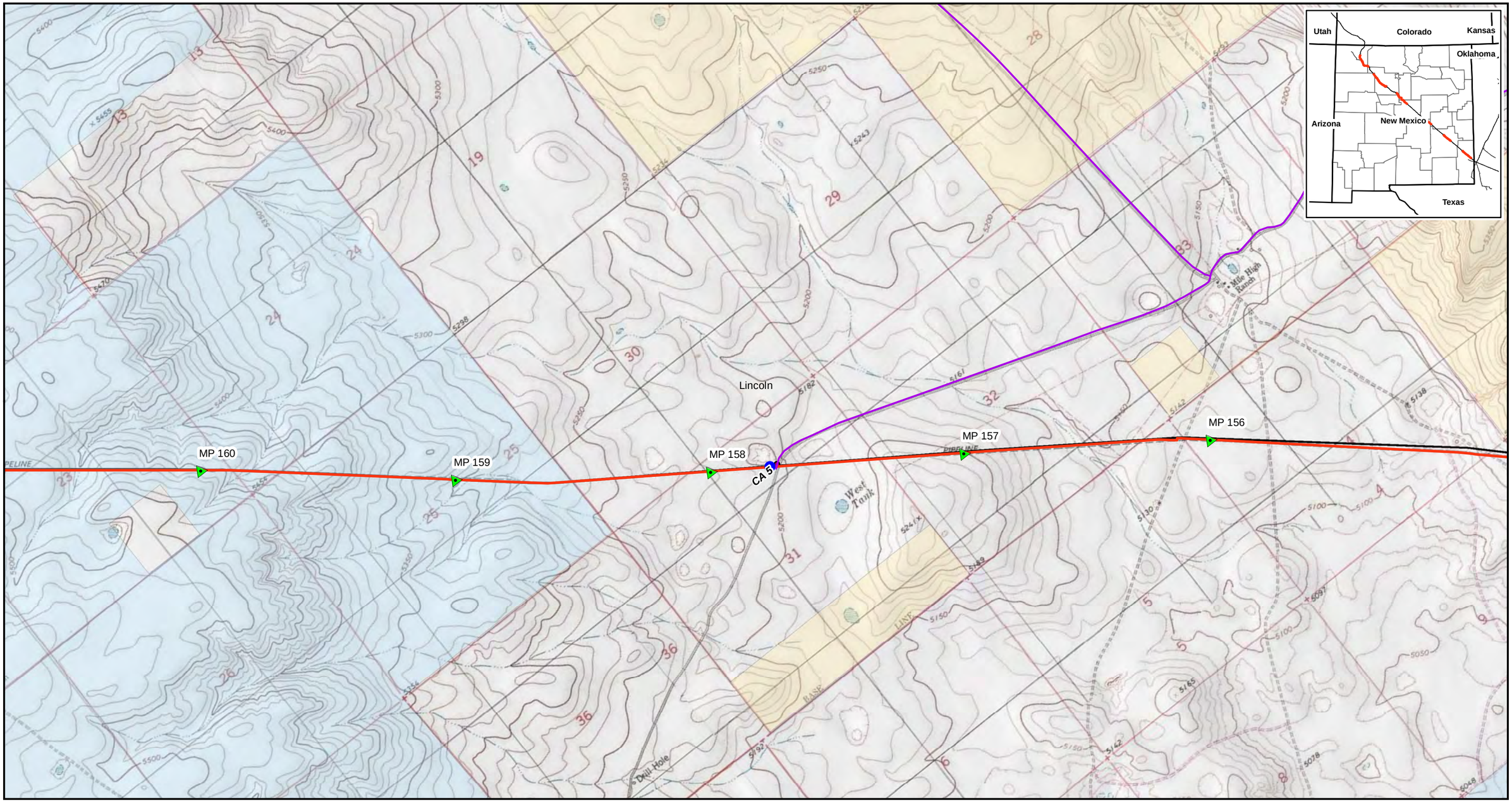
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 5

Lincoln County, New Mexico

Sheet 3 of 6



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

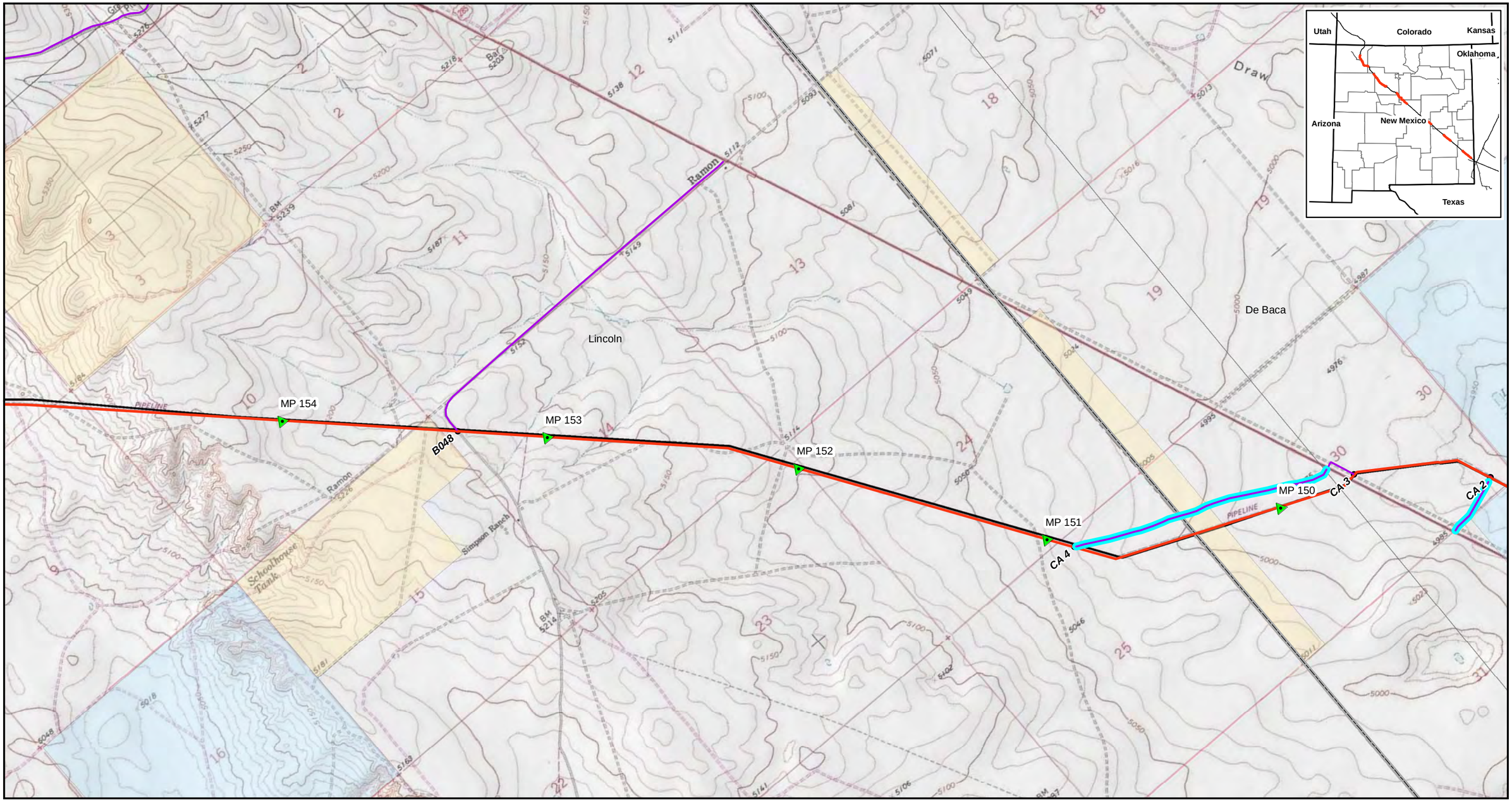
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 5

Lincoln County, New Mexico

Sheet 4 of 6



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

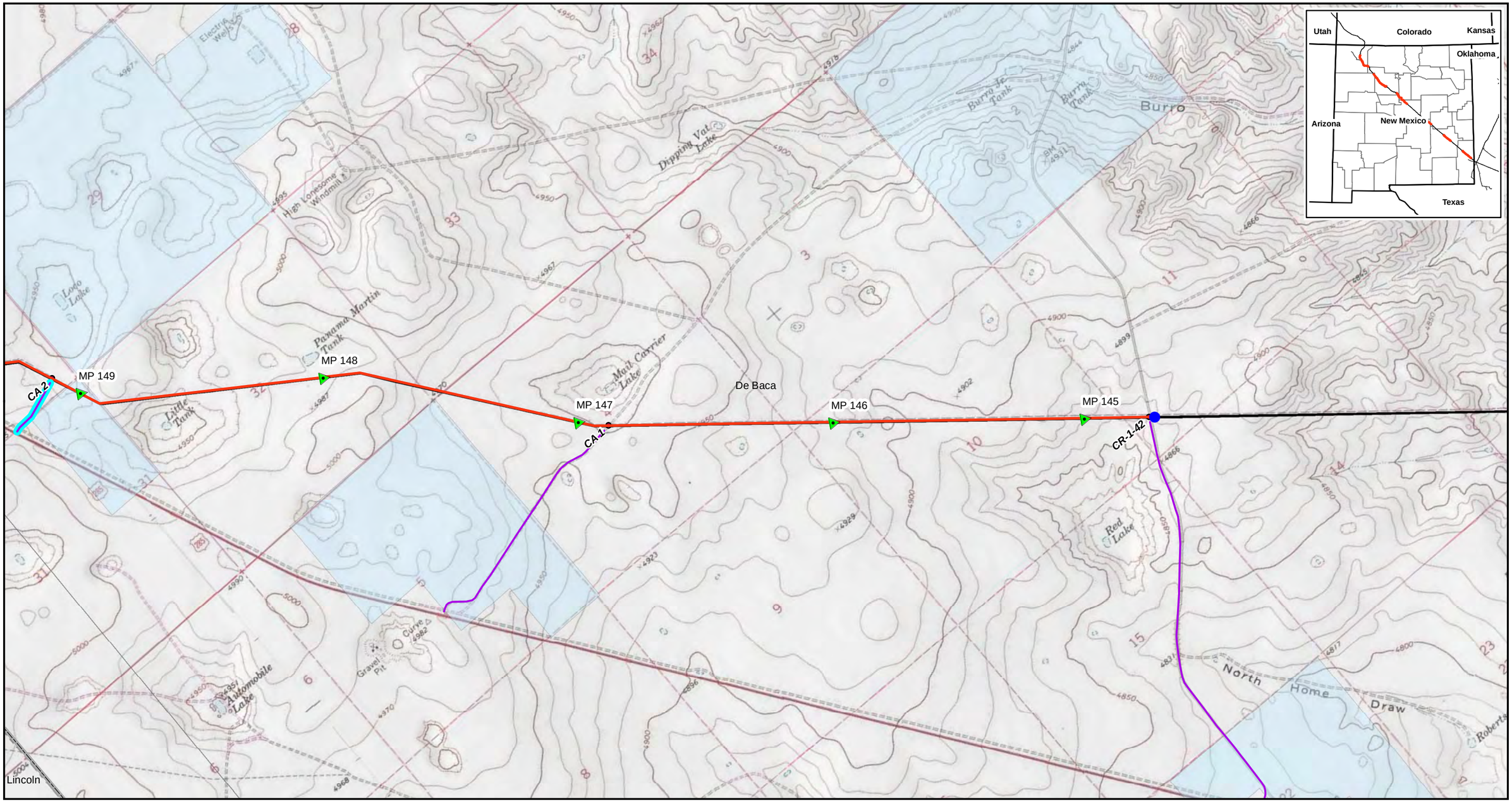
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 5

De Baca & Lincoln Counties, New Mexico

Sheet 5 of 6



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

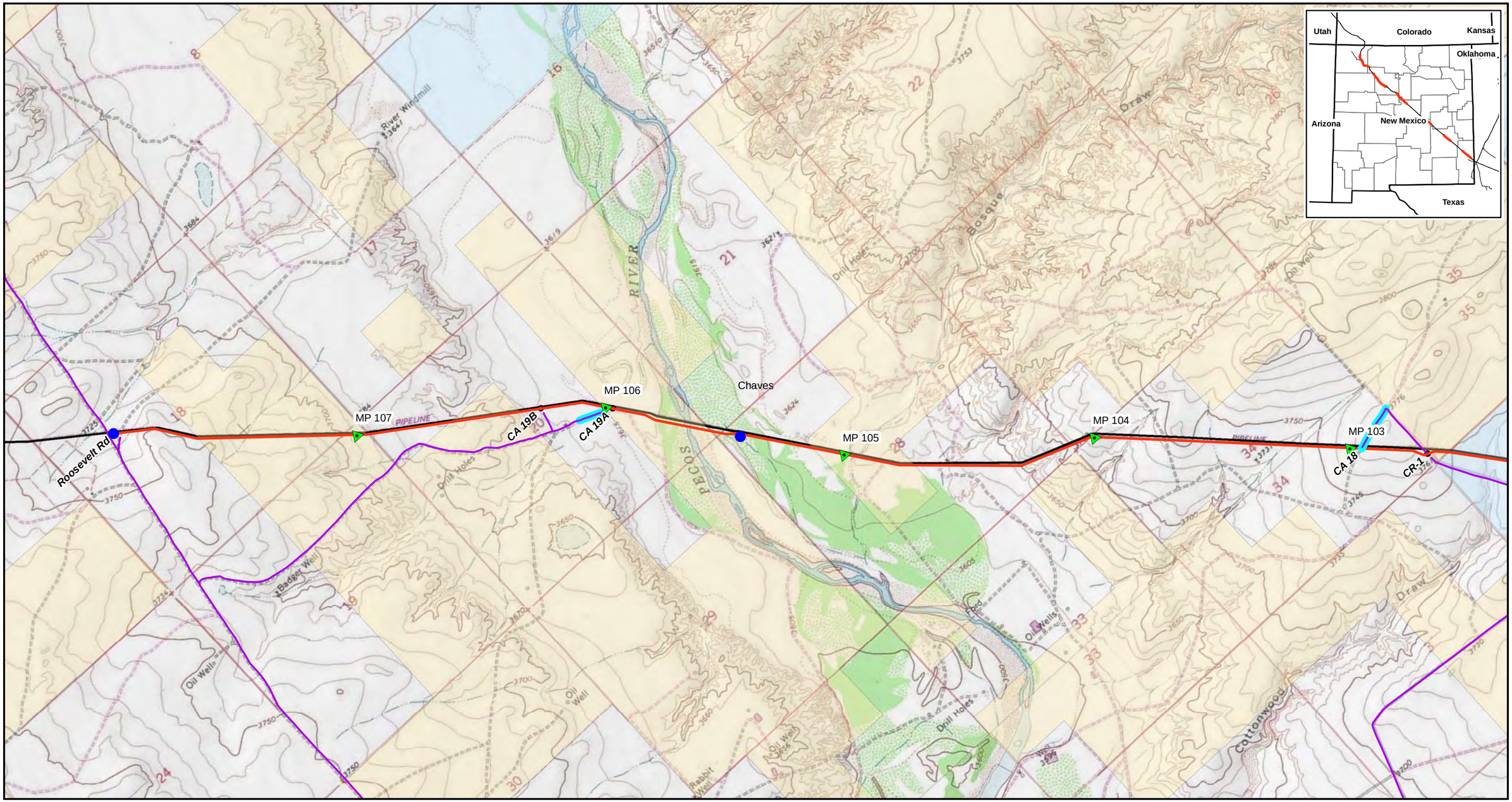
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 5

De Baca County, New Mexico

Sheet 6 of 6



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

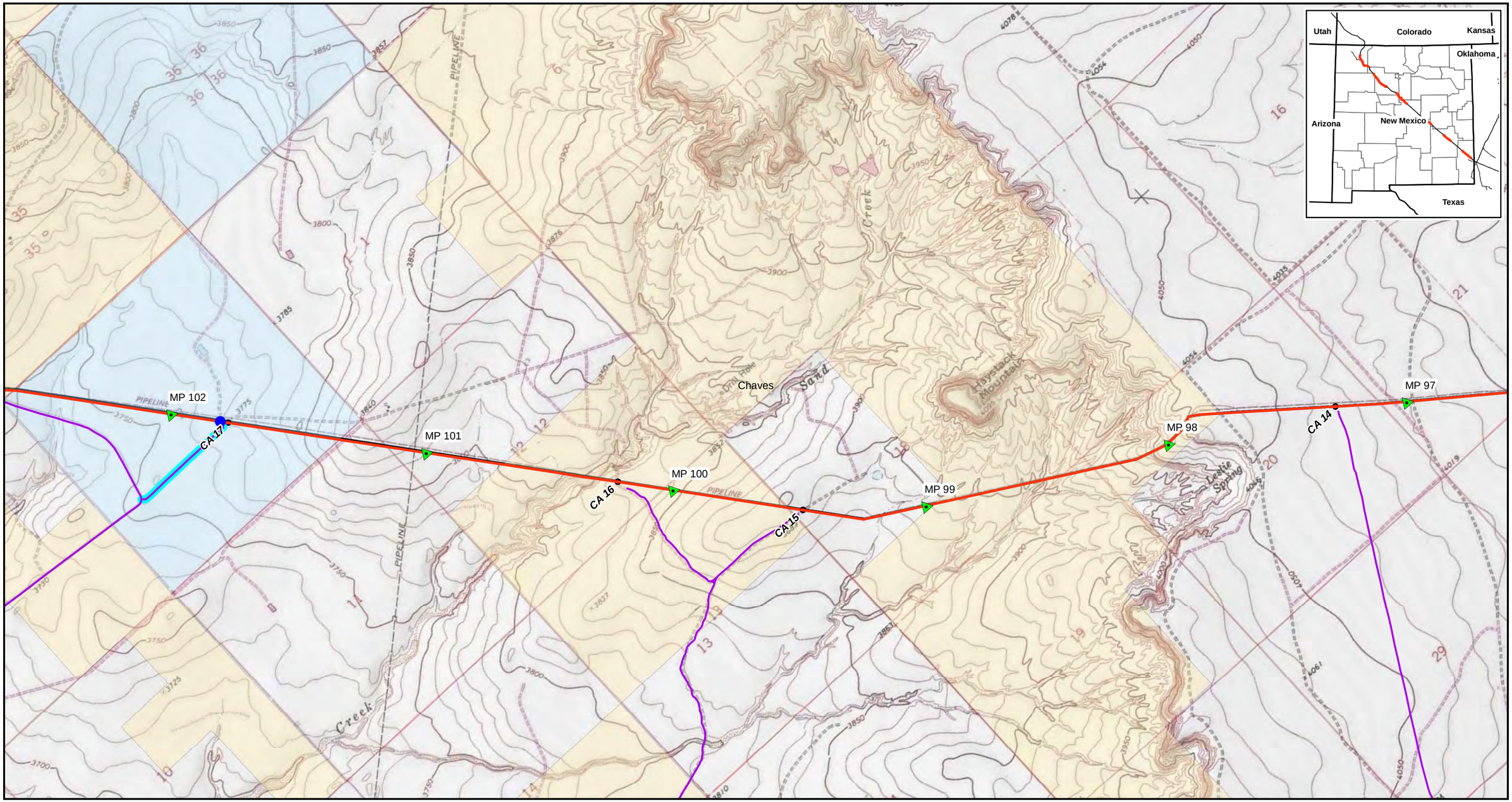
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 6

Chaves County, New Mexico

Sheet 1 of 7



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

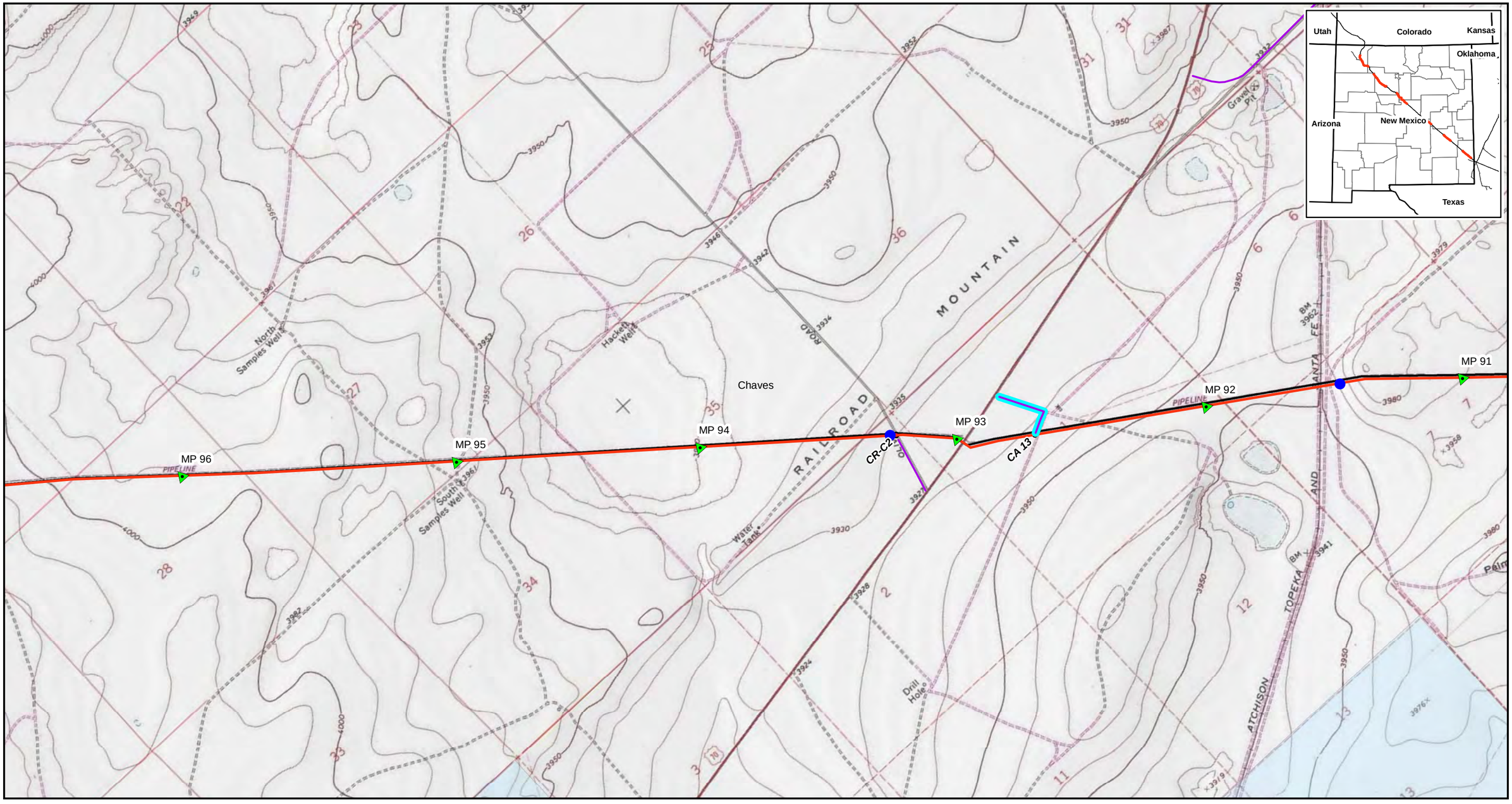
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 6

Chaves County, New Mexico

Sheet 2 of 7



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

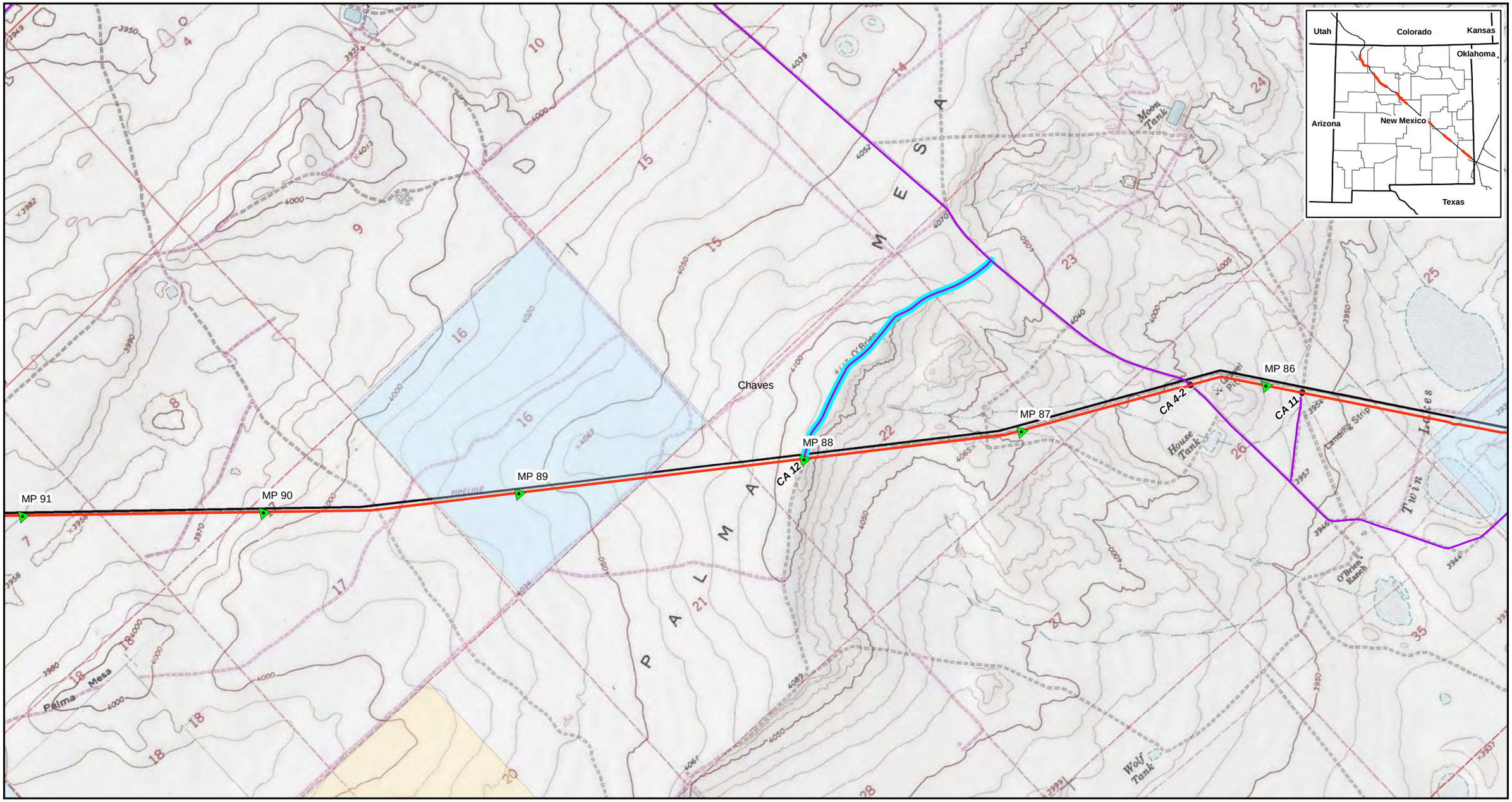
2,000 0 2,000
Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 6

Chaves County, New Mexico

Sheet 3 of 7



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

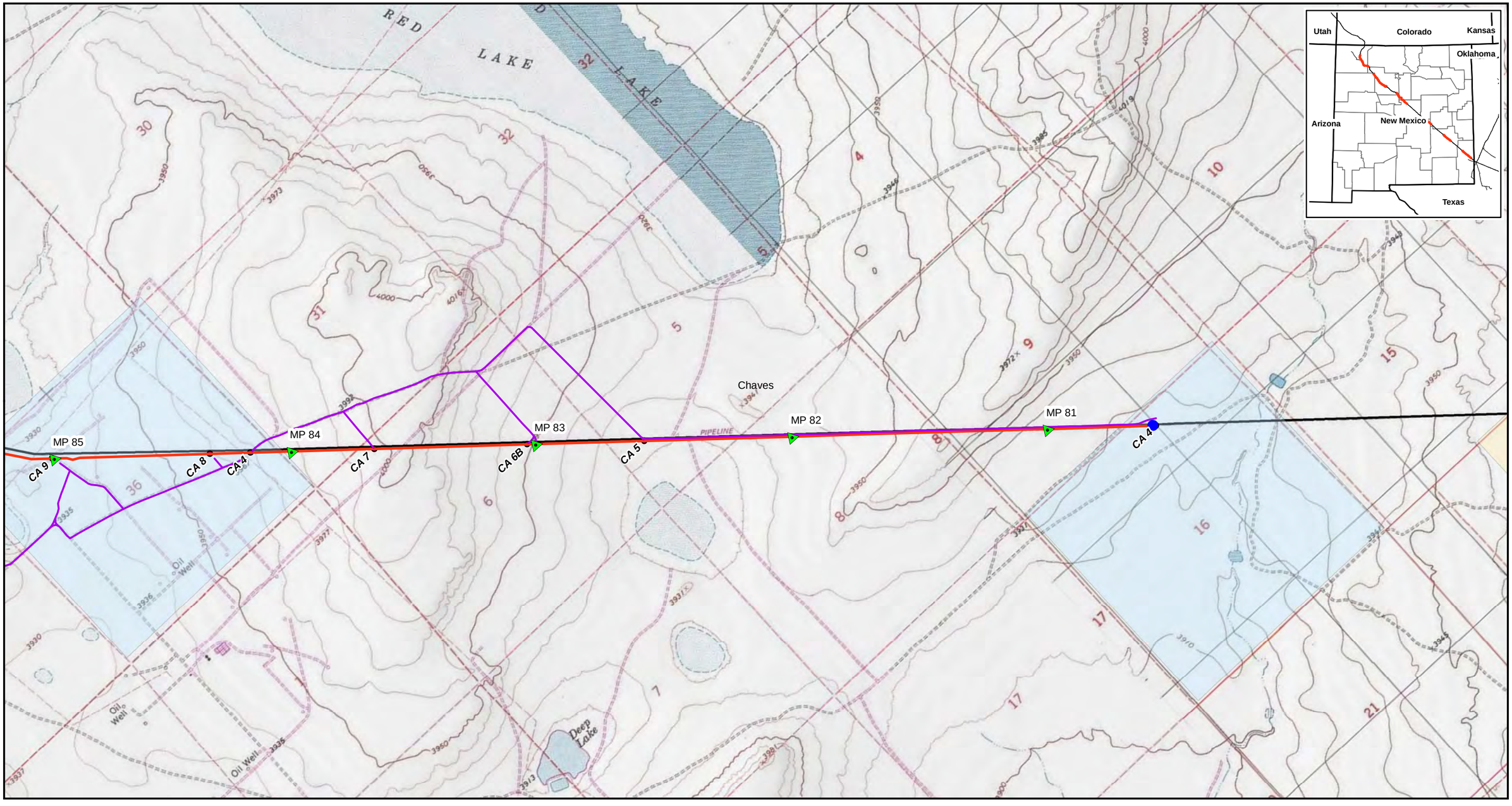
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 6

Chaves County, New Mexico

Sheet 4 of 7



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

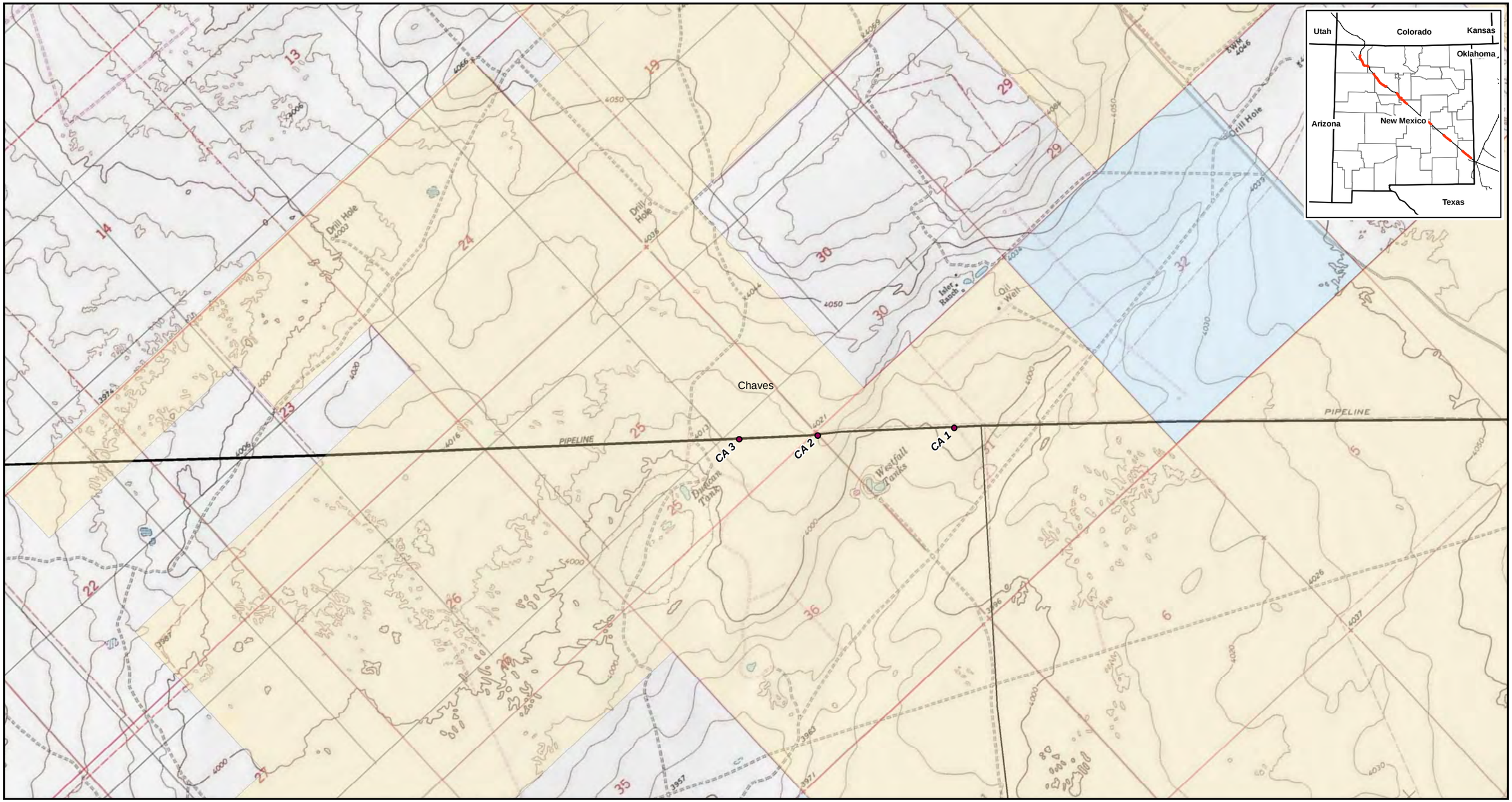
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 6

Chaves County, New Mexico

Sheet 5 of 7



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

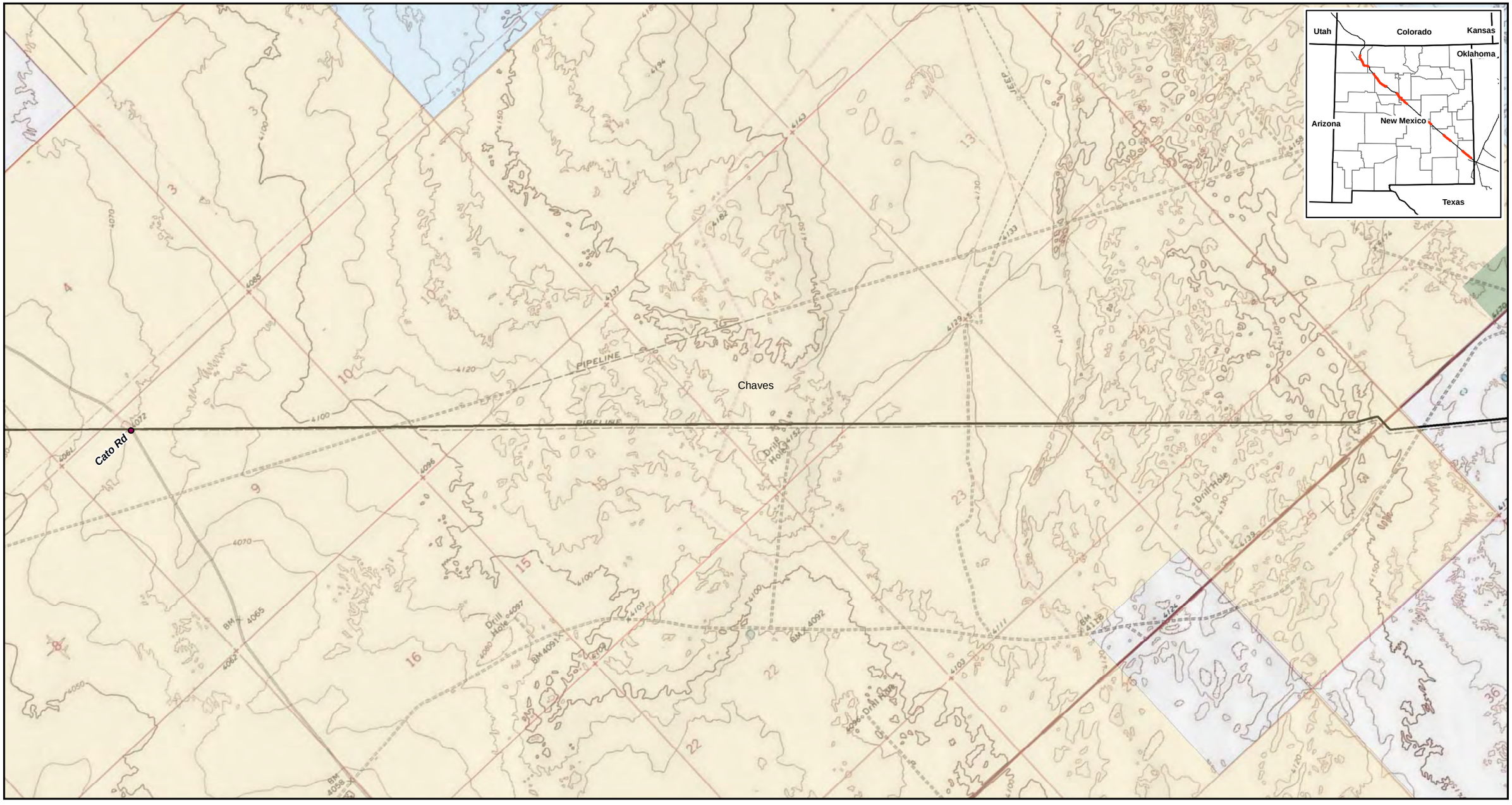
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 6

Chaves County, New Mexico

Sheet 6 of 7



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

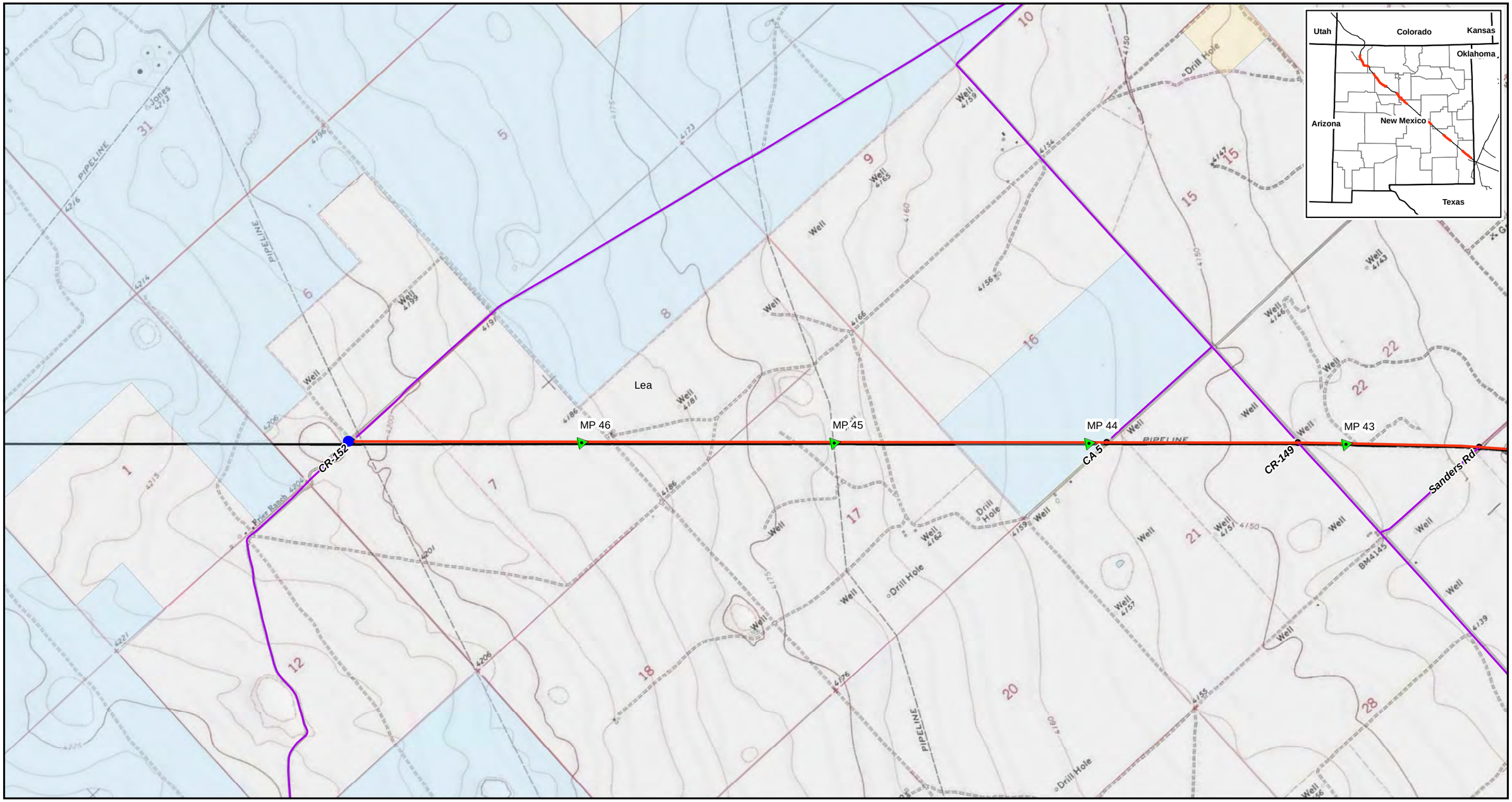
2,000 0 2,000
Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 6

Chaves County, New Mexico

Sheet 7 of 7



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

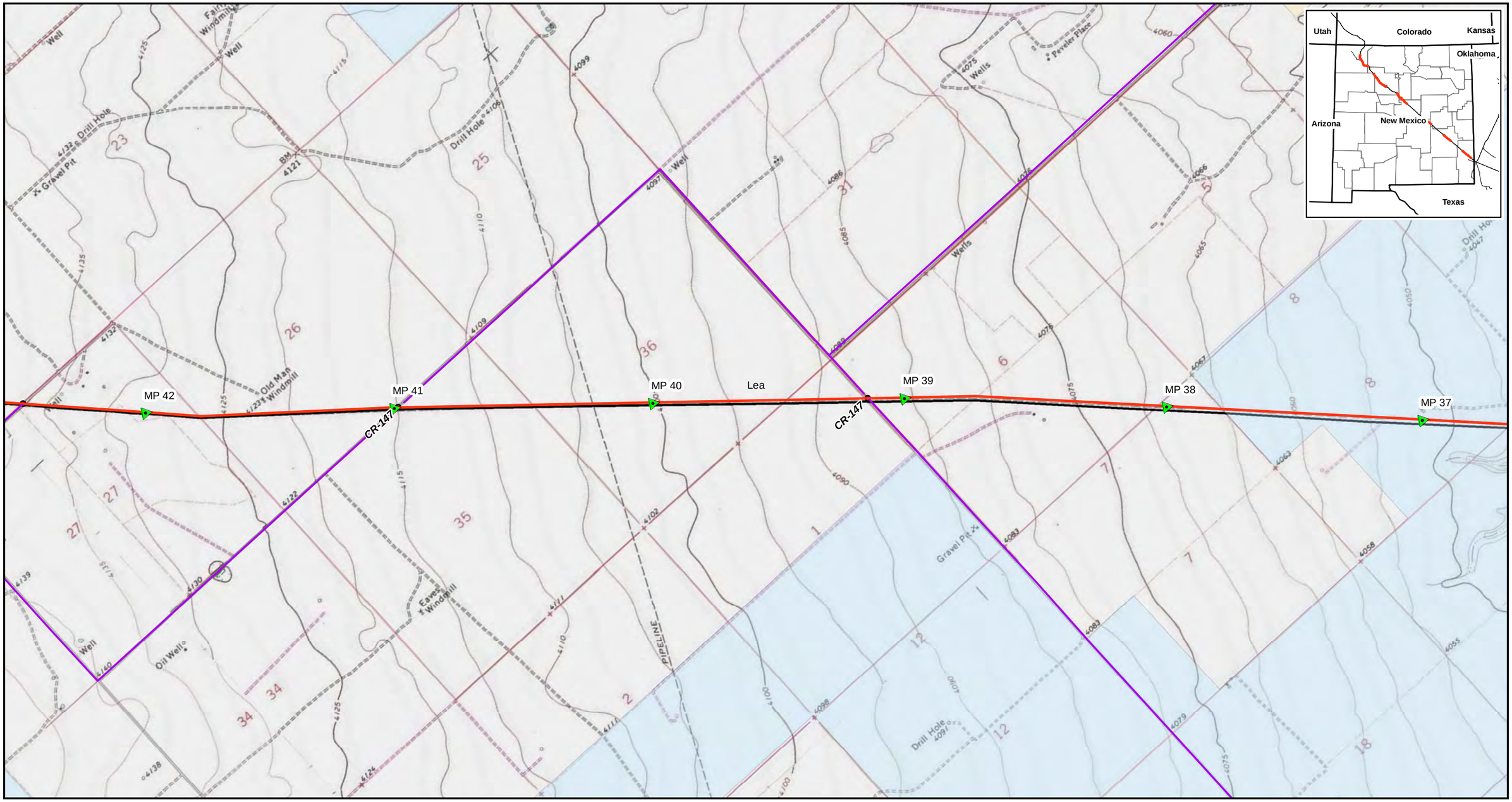
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 7

Lea County, New Mexico

Sheet 1 of 6



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

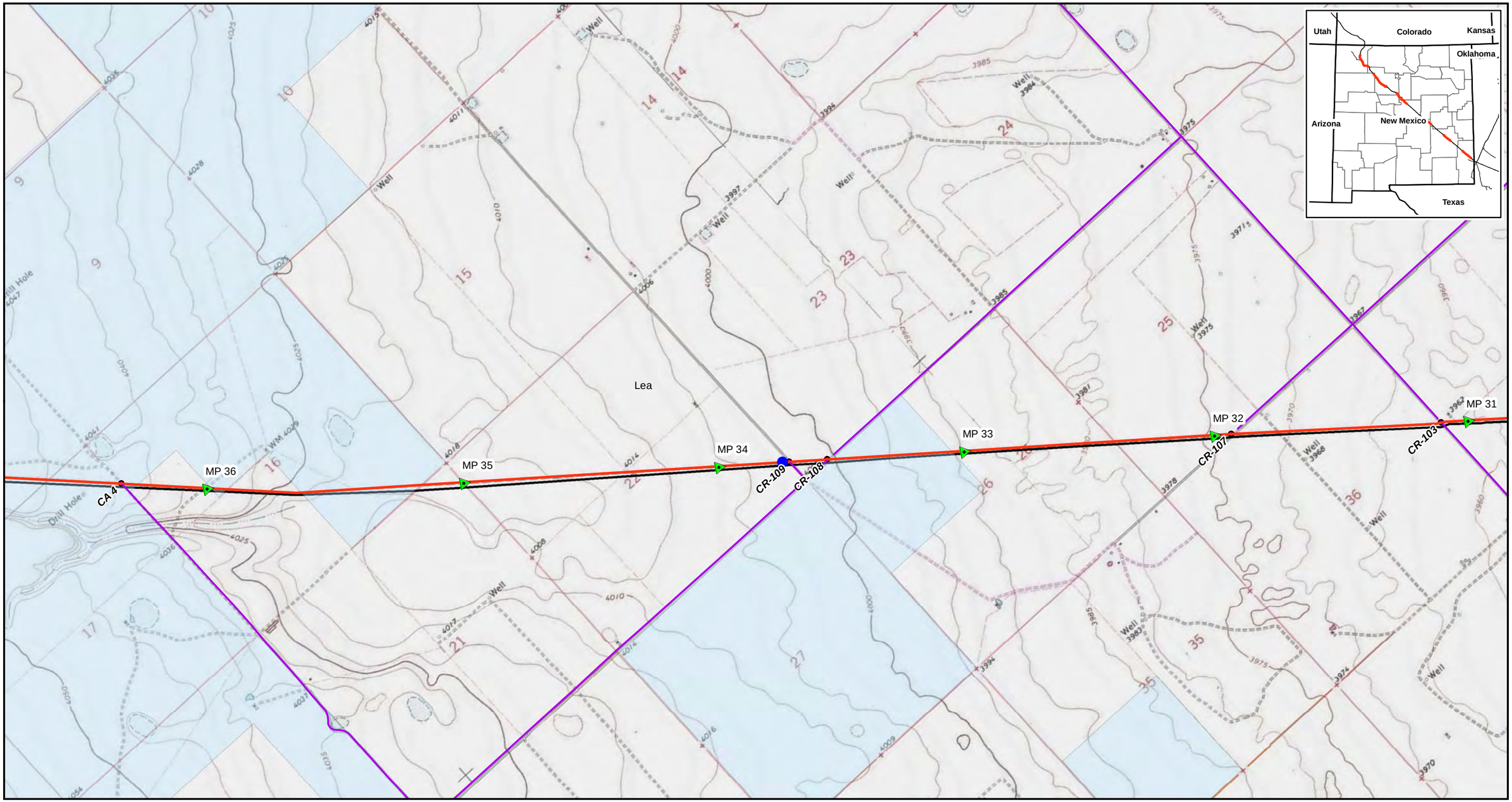
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 7

Lea County, New Mexico

Sheet 2 of 6



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

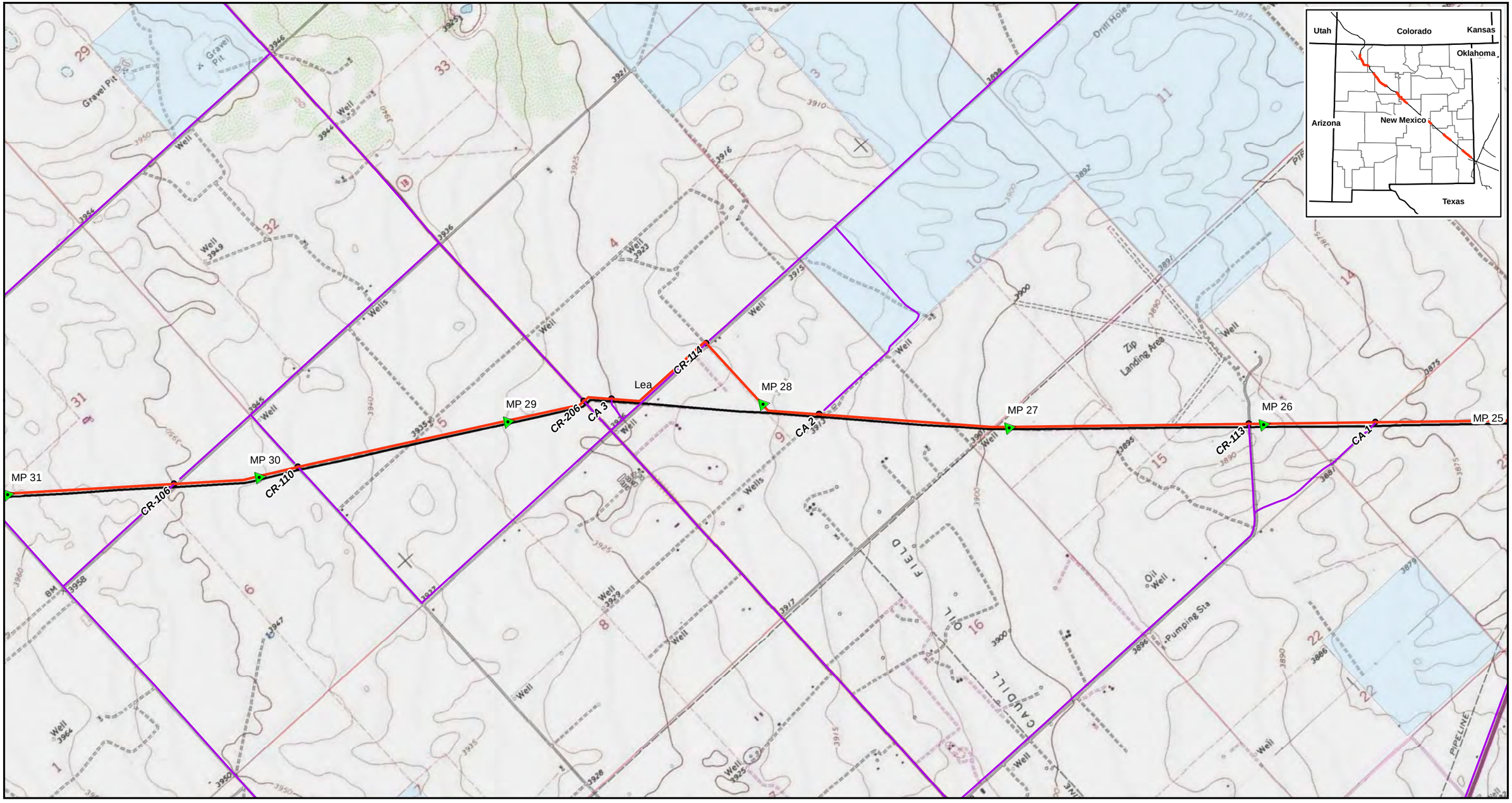
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 7

Lea County, New Mexico

Sheet 3 of 6



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

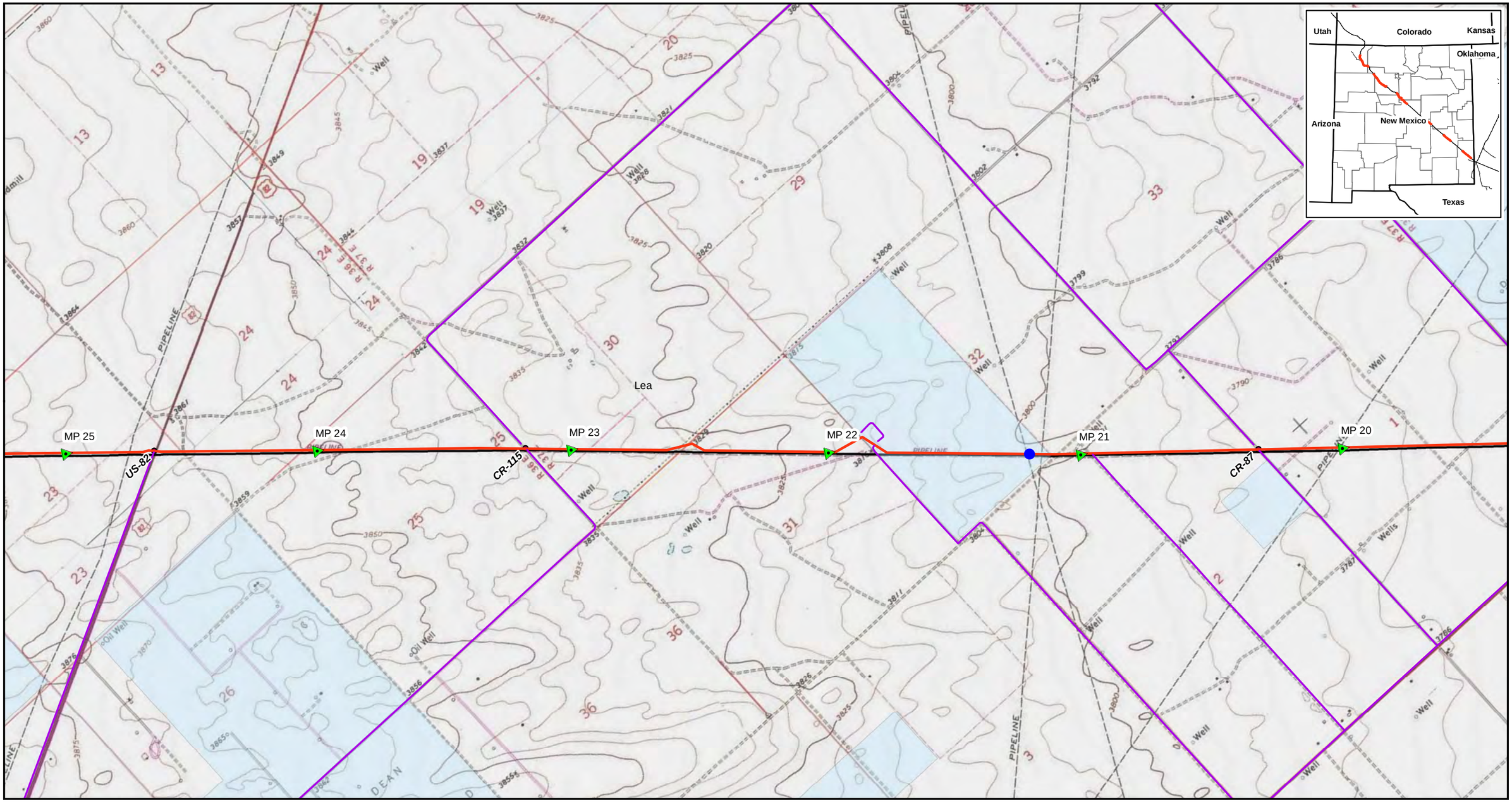
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 7

Lea County, New Mexico

Sheet 4 of 6



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

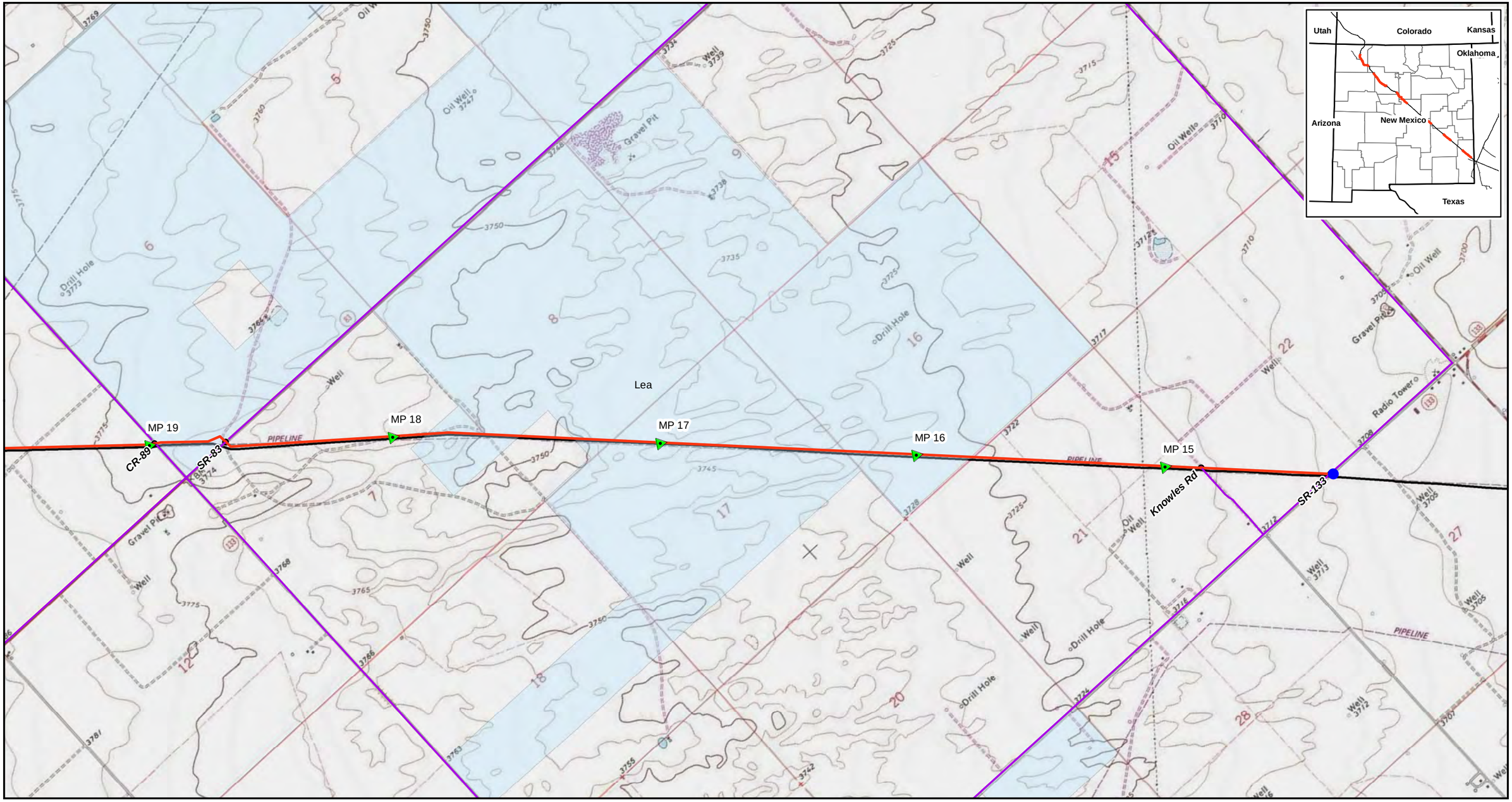
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 7

Lea County, New Mexico

Sheet 5 of 6



Legend

- Proposed Centerline
- Existing MAPL System
- Construction Access
- Access Road Improvements
- Hydrostatic Discharge Location

Land Ownership

- BLM
- BOR
- Forest Service
- BIA/Tribal
- State
- State Game and Fish
- Private

N

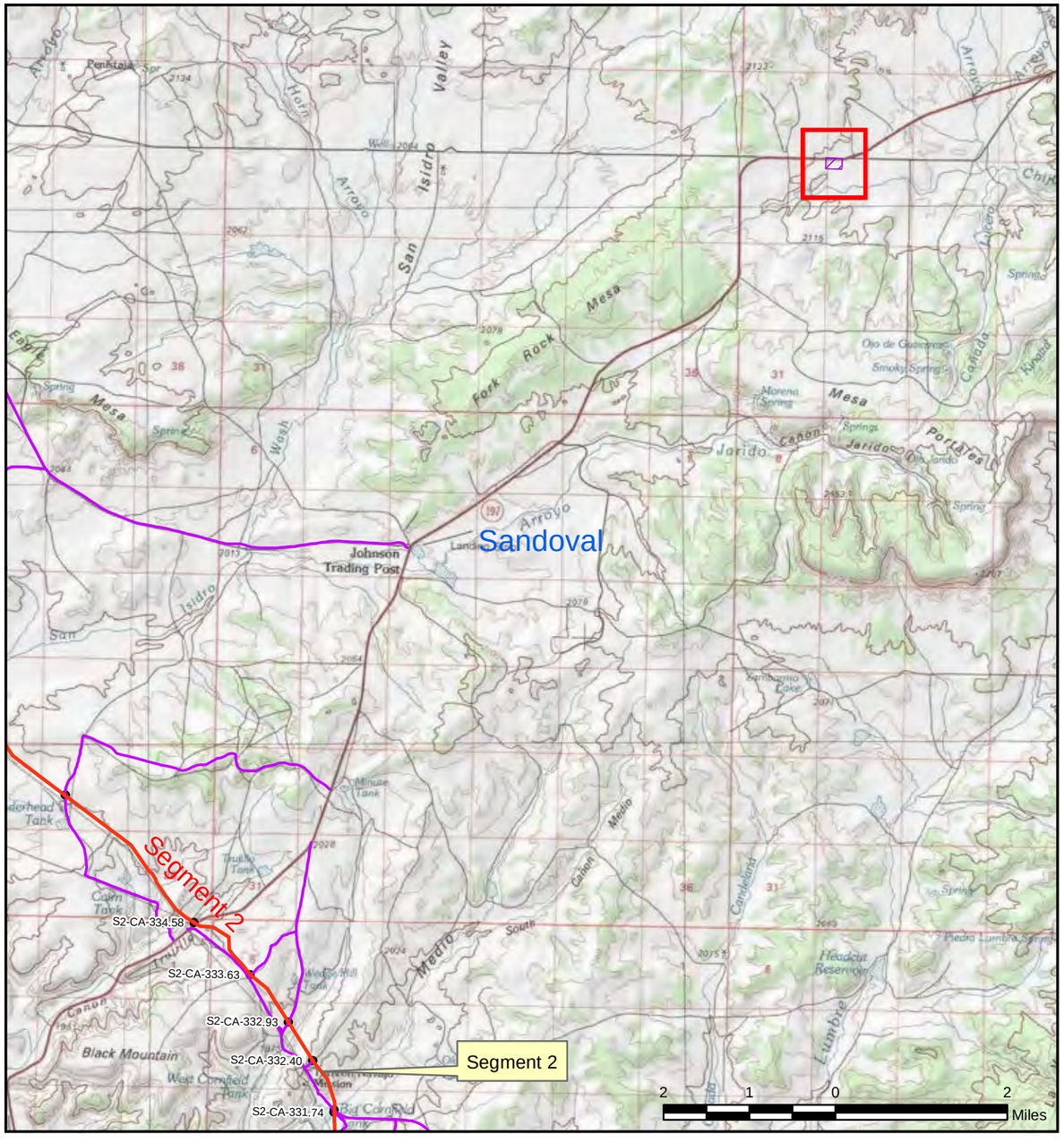
2,000 0 2,000 Feet

Mid-America Pipeline

General Location of the WEP III Loop Pipeline Segment 7

Lea County, New Mexico

Sheet 6 of 6



Legend

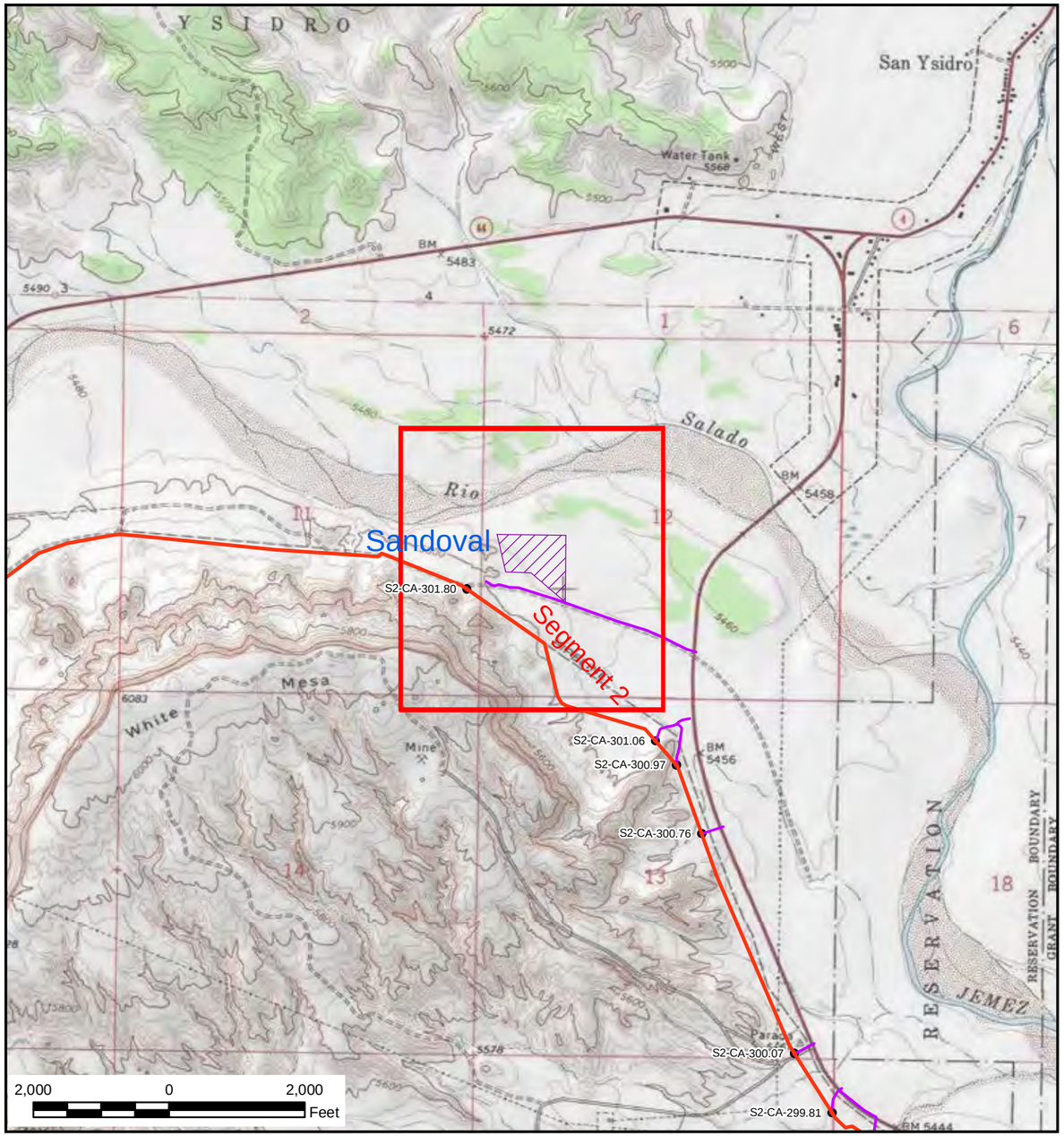
- Pipeyard
- Proposed Centerline

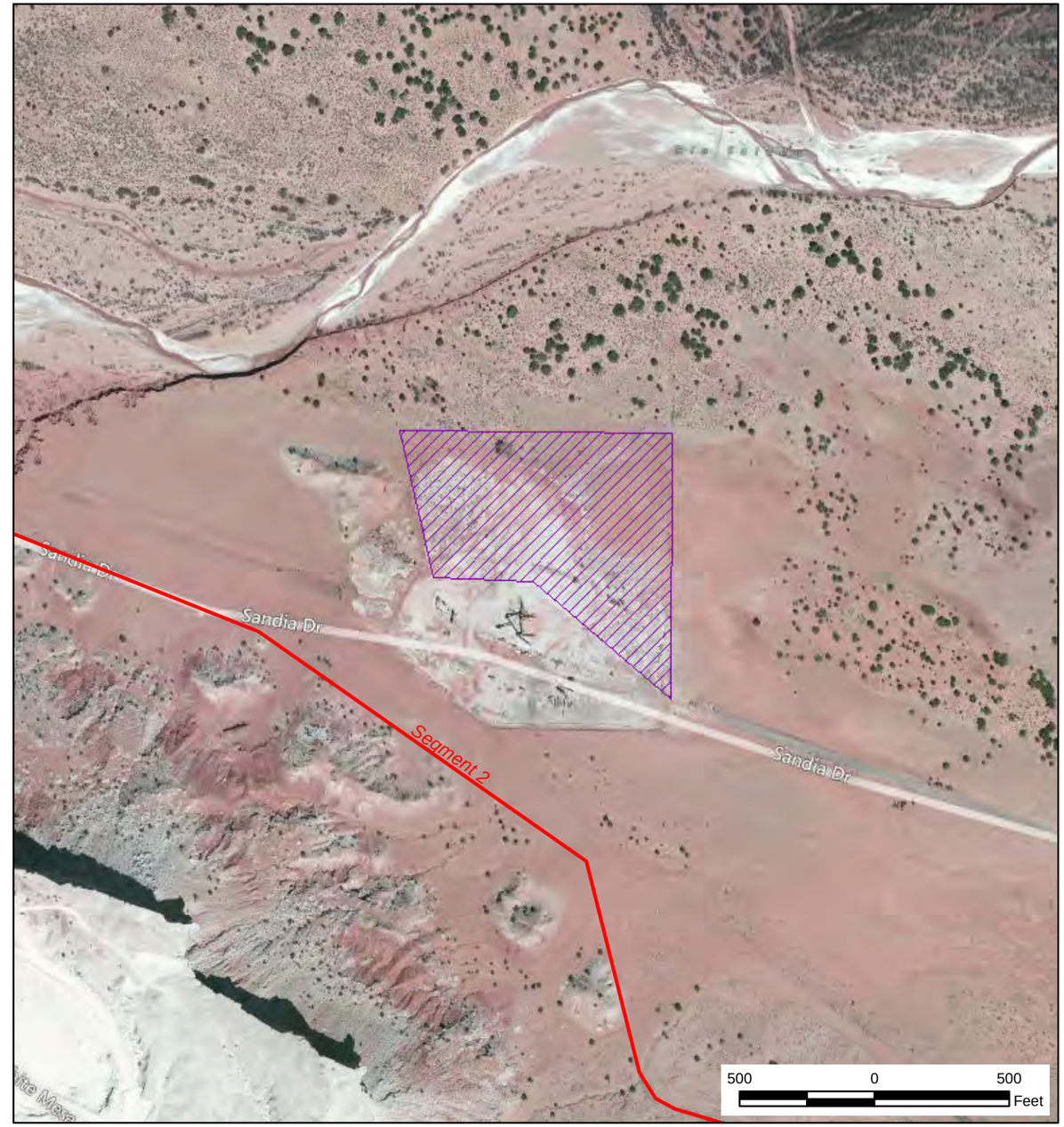
N

Mid-America Pipeline Company, LLC

General Location of the WEP III Cuba Pipe Yard

Sandoval County, New Mexico





Legend

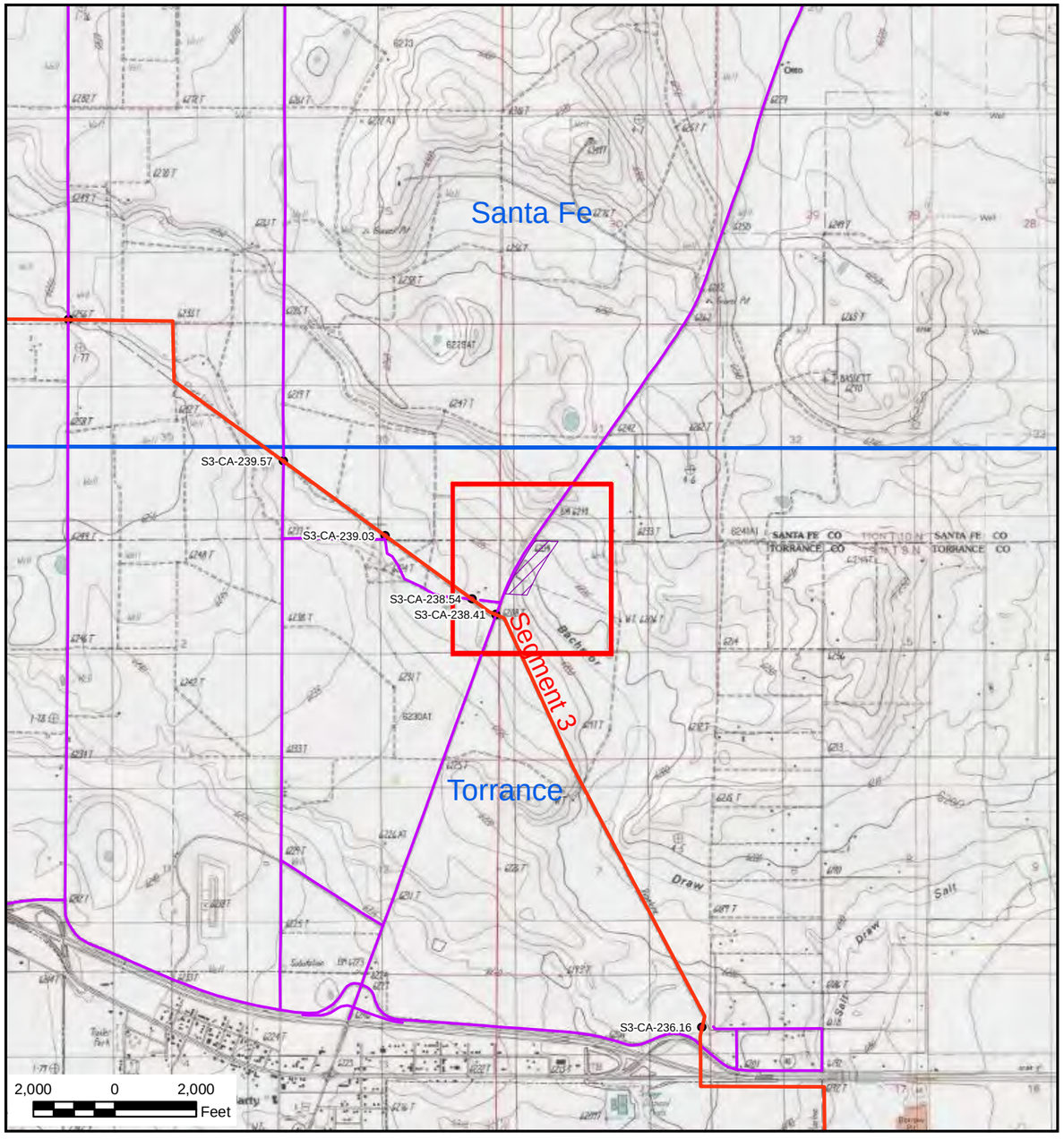
- Pipeyard
- Proposed Centerline

N

Mid-America Pipeline Company, LLC

General Location of the WEP III
San Ysidro Pipe Yard

Sandoval County, New Mexico



Legend

Pipeyard

Proposed Centerline

N

Mid-America Pipeline Company, LLC

General Location of the WEP III Moriarty Pipe Yard

Torrance County, New Mexico

Appendix B

Tables

Table B-1 Legal Location and Mileposts for WEP III
Table B-2 Landownership by Milepost for WEP III
Table B-3 Existing Roads that Would Be Crossed or Used as Access Roads for WEP III
Table B-4 Existing Access Roads Requiring Improvements
Table B-5 Temporary Use Areas Required for WEP III
Table B-6 Wetlands Located along WEP III
Table B-7 Waterbodies Crossed by WEP III

Table B-1
Legal Location and Mileposts for WEP III
(New Mexico Principal Meridian)

Segment	Length	Begin MP [1]	End MP [1]	Legal Location	
				Federal Lands – BLM	
				T. 28 N., R. 11 W.	Sec. 13, SW1/4 NW1/4, SE1/4 NW1/4, E1/2 SW1/4
					Sec 24, E1/2 W1/2
					Sec 25, E1/2 NW1/4, NE1/4 SW1/4, W1/2 SW1/4
					Sec 36, E1/2 NW1/4
					Sec 35, SE1/4 NE1/4, NE1/4 SE1/4, S1/2 SE1/4
				T. 27 N., R. 11 W.	Sec 2, E1/2 W1/2, SW1/4 SW1/4
					Sec 11, E1/2 NW1/4, NW1/4 SW1/4
					Sec 10, E1/2 SE1/4
					Sec 15, E1/2 E1/2
					Sec 35, NW/14 NE1/4
					Sec 36, SW1/4 NW1/4, E1/2 SW1/4, SW1/4 SE1/4
				T. 26 N., R. 11 W.	Sec 1, NW1/4 NE1/4, E1/2 NE1/4
Segment 1	45.7	415.69	370.39	T. 26 N., R. 10 W.	Sec 7, NE1/4 NW1/4, W1/2 NE1/4, SE1/4 SE1/4
					Sec 8, NW1/4 NW1/4
					Sec 17, W1/2 NW1/4, SE1/4 NW1/4, NE1/4 SW1/4, W1/2 SE1/4
					Sec 20, W1/2 NE1/4, E1/2 NE1/4
					Sec 21, W1/2 SW1/4, SE1/4 SW1/4
					Sec 28, NE1/4 NW1/4, W1/2 NE1/4, N1/2 SE1/4, SE1/4 SE1/4
					Sec 27, SW1/4 SW1/4
					Sec 34, W1/2 NW1/4, SE1/4 NW1/4, NE1/4 SW1/4, W1/2 SE1/4
				T. 25 N., R. 10 W.	Sec 3, N1/2 NE1/4, SE1/4 NE1/4
					Sec 14, NE1/4 NE1/4
					Sec 25, E1/2 NE1/4, NE1/4 SE1/4
				T. 25 N., R. 9 W.	Sec 30, W1/2 SW1/4
					Sec 31, N1/2 NW1/4, SE1/4 NW1/4, E1/2 SW1/4, SW1/4 SE1/4
				T. 24 N., R. 9 W.	Sec 6, W1/2 NE1/4, E1/2 SE1/4
					Sec 7, E1/2 NE1/4, NE1/4 SE1/4
					Sec 17, W1/2 NW1/4, N1/2 SW1/4, SE1/4 SW1/4

Segment	Length	Begin MP [1]	End MP [1]	Legal Location	
					Sec 20, E1/2 NW1/4, SW1/4 NE1/4, W1/2 SE1/4
					Sec 29, W1/2 NE1/4, SE1/4 NE1/4
					Sec 28, S1/2 NW1/4, NE1/4 SW1/4, W1/2 SE1/4, SE1/4 SE1/4
					Sec 27, S1/2 SW1/4, SW1/4 SE1/4
					Sec 35, N1/2 SW1/4, W1/2 SE1/4 SE1/4 SE1/4
				T. 24 N., R. 8 W.	Sec 33, SW1/4, SW1/4
					Sec 34, S1/2 S1/2
				T. 23 N., R. 8 W.	Sec 4, NE1/4 NW1/4, N1/2 NE1/4
					Sec 3, NW1/4 NW1/4
					Sec 1, N1/2 NW1/4
				T. 23 N., R. 7 W.	Sec 9, W1/2 SW1/4, SE1/4 SW1/4
					Sec 11, S1/2 SW1/4
				Indian/Tribal	
				T. 25 N., R. 10 W.	Sec 2, SW1/4 NW1/4, W1/2 SW1/4, SE1/4 SW1/4
					Sec 11, NE1/4 NW1/4, W1/2 NE1/4, SE1/4 NE1/4, E1/2 SE1/4
					Sec 24, NE1/4 NW1/4, W1/2 NE1/4, W1/2 SE1/4, SE1/4 SE1/4
				T. 24 N., R. 9 W.	Sec 34, N1/2 NE1/4, SE1/4 NE1/4
					Sec 35, SW1/4 NW1/4
				T. 24 N., R. 8 W.	Sec 35, S1/2 S1/2
				T. 23 N., R. 8 W.	N1/2 NE1/4
				T. 23 N., R. 7 W.	Sec 6, W1/2 NW1/4, SE1/4 NW1/4, N1/2 SE1/4, SE1/4 SE1/4
					Sec 8, N1/2 NW1/4, SE1/4 NW1/4, SW1/4 NE1/4, N1/2 SE1/4
					Sec 15, N1/2 NW1/4
				State Lands	
				T. 24 N., R. 9 W.	Sec 36, S1/2 S1/2
				T. 24 N., R. 8 W.	Sec 31, S1/2 S1/2
					Sec 32, S1/2 S1/2
					Sec 36, SW1/4 SW1/4
				Private Lands	
				T. 27 N., R. 11 W.	Sec 2, NW1/4 NW1/4
					Sec 22, E1/2 NE1/4

Segment	Length	Begin MP [1]	End MP [1]	Legal Location	
					Sec 23, SW1/4 NW1/4, W1/2 SW1/4, SE1/4 SW1/4
					Sec 26, E1/2 NW1/4, SW1/4 NE1/4, NW1/4 SE1/4, E1/2 SE1/4
					Sec 36, NW1/4 NW1/4, SE1/4 NW1/4
				T. 27 N., R. 10 W.	Sec 6, W1/2 SE1/4, SE1/4 SW1/4
				T. 26 N., R. 10 W.	Sec 7, N1/2 SE1/4
				T. 25 N., R. 10 W.	Sec 13, W1/2 W1/2, SE1/4 SW1/4
				T. 24 N., R. 9 W.	Sec 8, W1/2 SW1/4
				T. 23 N., R. 7 W.	Sec 16, NE1/4 NW1/4, N1/2 NE1/4
					Sec 15, NW1/4 NE1/4
					Sec 10, S1/2 SE1/4
					Sec 14, NE1/4 NW1/4
				Federal Lands – BLM	
Segment 2	50.9	350.21	299.4	T. 20 N., R. 5 W.	Sec 5, E1/2 NE1/4
					Sec 4, SW/14 NW1/4, SW1/4 SE1/4
					Sec 10, W1/2 SW1/4, SE1/4 SW1/4
					Sec 15, NE1/4 SW1/4, E1/2 NE1/4, NE1/4 SE1/4
					Sec 14, W1/2 SW1/4, SE1/4 SW1/4
					Sec 36, E1/2 NE1/4
				T. 20 N., R. 4 W.	Sec 31, SW1/4 NW1/4, NW1/4 SW1/4, E1/2 SW1/4
				T. 19 N., R. 4 W.	Sec 6, NE1/4 NW1/4, NE1/4 SE1/4
					Sec 5, W1/2 SW1/4, SE1/4 SW1/4
					Sec 8, E1/2 NW1/4, SW1/4 NE1/4, N1/2 SE1/4, SE1/4 SE1/4
					Sec 9, SW1/4 SW1/4
					Sec 21, NE1/4 NE1/4
					Sec 22, W1/2 NW1/4, SE1/4 NW1/4, E1/2 SW1/4, SW1/4 SE1/4
					Sec 27, N1/2 NE1/4, SE1/4 NE1/4
					Sec 26, N1/2 SW1/4, SE1/4 SW1/4, S1/2 SE1/4
					Sec 35, NE1/4 NE1/4
					Sec 36, W1/2 NW1/4, SE1/4 NW1/4, E1/2 SW1/4, SW1/4 SE1/4
				T. 18 N., R. 4 W.	Sec 1, N1/2 NE1/4
				T. 18 N., R. 3 W.	Sec 6, W1/2 NW1/4, SE1/4 SE1/4, NE1/4 SW1/4, W1/2 SE1/4, SE1/4 SE1/4

Segment	Length	Begin MP [1]	End MP [1]	Legal Location	
					Sec 20, NE1/4 SE1/4
					Sec 28, SW1/4 NE1/4, N1/2 SE1/4, SE1/4 SE1/4
					Sec 33, NE1/4 NE1/4
				T. 17 N., R. 3 W.	Sec 3, N1/2 NE1/4, SE1/4 NE1/4, NE1/4 SE1/4
					Sec 2, S1/2 SW1/4
					Sec 11, E1/2 NW1/4, SW1/4 NE1/4, N1/2 SE1/4, SE1/4 SE1/4
					Sec 14, NE1/4 NE1/4
					Sec 13, W1/2 NW1/4, SE1/4 NW1/4, NE1/4 SW1/4, W1/2 SE1/4
					Sec 24, N1/2 NE1/4, SE1/4 NE1/4
					Sec 19, SW1/4 NW1/4, N1/2 SW1/4, SE1/4 SW1/4
				PLS GAP	
				T. 15 N., R. 1 E.	Sec 17, N1/2 NE1/4
					Sec 11, N1/2 S1/2
				Indian/Tribal	
				T. 20 N., R. 5 W.	Sec 4, N1/2 SW1/4, NE1/4 SW1/4
					Sec 9, N1/2 NE1/4, SE1/4 NE1/4
					Sec 23, E1/2 NW1/4, SW1/4 NE1/4, N1/2, SE1/4, SE1/4 SE1/4
					Sec 24, SW1/4 SW1/4
					Sec 25, W1/2 NW1/4, SE1/4 NW1/4, NE1/4 SW1/4, W1/2 SE1/4, SE1/4 SE1/4
				T. 19 N., R. 4 W.	Sec 6, W1/2 NE1/4, SE1/4 NE1/4
					Sec 26, SW1/4 NW1/4
				T. 18 N., R. 3 W.	Sec 7, E1/2 NE1/4
					Sec 8, SW1/4 NW1/4, N1/2 SW1/4, SE1/4 SW1/4
					Sec 17, NE1/4 NW1/4, W1/2 NE1/4, W1/2 SE1/4
					Sec 20, N1/2 NE1/4, SE1/4 NE1/4
					Sec 21, W1/2 SW1/4, SE1/4 SW1/4
					Sec 28, E1/2 NW1/4
				T. 16 N., R. 1 W.	Sec 20, S1/2 SW1/4
					Sec 29, NE1/4 NW1/4, N1/2 NE1/4
				PLS GAP	
				T. 15 N., R. 1 E.	Sec 13, N1/2 NW1/4, N1/2 SE1/4, SE1/4 SE1/4

Segment	Length	Begin MP [1]	End MP [1]	Legal Location	
					Sec 24, NE1/4 NE1/4
					Sec 19, W1/2 NW1/4, SE1/4 NW1/4
				State Lands	
				T. 19 N., R. 4 W.	Sec 16, N1/2 NW1/4, SE1/4 NW1/4, NE1/4 SW1/4, W1/2 SE1/4, SE1/4 SE1/4
				T. 17 N., R. 3 W.	Sec 2, NW1/4 SW1/4
				T. 15 N., R. 1 E.	Sec 16, N1/2 N1/2
					Sec 15, N1/2 NW1/4
					Sec 10, SE1/4 SW1/4, W1/2 SE1/4, NE1/4 SE1/4
				Private Lands	
				T. 18 N., R. 3 W.	Sec 34, W1/2 NW1/4, SE1/4 NW1/4, E1/2 SW1/4, SW1/4 SE1/4
				T. 15 N., R. 1 E.	Sec 8, SW1/4 NW1/4, NE1/4 SW1/4, W1/2 SE1/4
					Sec 12, W1/2 SW1/4
					Sec 13, W1/2 NE1/4
Segment 3	46.8	270.06	223.48	**Federal Lands – BLM**	
				T. 12 N., R. 6 E.	Sec 22, NW1/4 NW1/4, SE1/4 NW1/4, SW1/4 NE1/4, W1/2 SE1/4
				State Lands	
				T. 12 N., R. 6 E.	Sec 16, SW1/4 NE1/4, N1/2 SE1/4, SE1/4 SE1/4
				T. 9 N., R. 9 E.	Sec 21, S1/2 SW1/4
					Sec 28, NE1/4 NW1/4, W1/2 NE1/4, SE1/4 NE1/4, NE1/4 SE1/4
					Sec 35, W1/4 SW1/4, SE1/4 SW1/4
				T. 8 N., R. 9 E.	Sec 1, N1/2 NW1/4, N1/2 SE1/4 NW1/4
				T. 8 N., R. 10 E.	Sec 7, SE1/4 NW1/4, NE1/4 SW1/4, W1/2 SE1/4, SE1/4 SE1/4
					Sec 27, N1/2 NW1/4, SE1/4 NW1/4, S1/2 NE1/4, NE1/4 SE1/4
				Private Lands	
				T. 12 N., R. 6 E.	Sec 8, W1/2 NW1/4, SW1/4 NE1/4, N1/2 SE1/4, SE1/4 SE1/4
					Sec 9, SW1/4 SW1/4
					Sec 16, N1/2 NW1/4, SE1/4 NW1/4
					Sec 15, SW1/4 SW1/4
					Sec 22, NE1/4 NW1/4
				PLS GAP	
				T. 11 N., R. 7 E.	Sec 19, N1/2 N1/2, E1/2 E1/2

Segment	Length	Begin MP [1]	End MP [1]	Legal Location	
					Sec 20, SW1/4 SW1/4
					Sec 29, W1/2 W1/2
					Sec 32, W1/2 NW1/4, SE1/4 NW1/4, SW1/4 NE1/4, N1/2 SE1/4, SE1/4 SE1/4
					Sec 33, S1/2 SW1/4
				T. 10 N., R. 7 E.	Sec 4, NE1/4 NW1/4, N1/2 NE1/4
					Sec 3, N1/2 N1/2
					Sec 2, N1/2 N1/2
					Sec 1, N1/2 N1/2
				T. 10 N., R. 8 E.	Sec 6, N1/2 NW1/4, W1/2 E1/2
					Sec 7, W1/2 E1/2
					Sec 18, W1/2 NE1/4, N1/2 SE1/4, SE1/4 SE1/4
					Sec 19, NE1/4 NE1/4
					Sec 20, W1/2 W1/2
					Sec 29, W1/2 NW1/4, SE1/4 NW1/4, SW1/4 NE1/4, N1/2 SE1/4, SE1/4 SE1/4
					Sec 28, S1/2 S1/2
					Sec 27, S1/2 S1/2
					Sec 26, SW1/4 SW1/4
					Sec 35, N1/2 NW1/4, SE1/4 NW1/4, S1/2 NE1/4, NE1/4 SE1/4
					Sec 36, W1/2 SW1/4, SE1/4 SW1/4
				T. 9 N., R. 8 E.	NE1/4 NW1/4, N1/2 NE1/4, SE1/4 NE1/4
				T. 9 N., R. 9 E.	Sec 6, SW1/4 NW1/4, W1/2 SW1/4, SE1/4 SW1/4
					Sec 7, E1/2 NW1/4, SW1/4 NE1/4, W1/2 SE1/4, SE1/4 SE1/4
					Sec 18, E1/2 NE1/4, NE1/4 SE1/4
					Sec 17, N1/2 SW1/4, W1/2 SE1/4
					Sec 20, W1/2 NE1/4, N1/2 SE1/4, SE1/4 SE1/4
					Sec 27, W1/2 SW1/4, SE1/4 SW1/4
					Sec 34, NE1/4 NW1/4, W1/2 NE1/4, SE1/4 NE1/4, NE1/4 SE1/4
				T. 8 N., R. 9 E.	Sec 1, S1/2 SE1/4 NW1/4, SW1/4 NE1/4, N1/2 SE1/4, SE1/4 SE1/4
				T. 8 N., R. 10 E.	Sec 6, SW1/4 SW1/4
					Sec 7, W1/2 NW1/4
					Sec 18, NE1/4 NE1/4

Segment	Length	Begin MP [1]	End MP [1]	Legal Location	
					Sec 17, W1/2 NW1/4, SE1/4 NW1/4, NE1/4 SW1/4, W1/2 SE1/4, SE1/4 SE1/4
					Sec 16, SW1/4 SW1/4
					Sec 21, N1/2 NW1/4, SE1/4 NW1/4, W1/2 SE1/4, SE1/4 SE1/4
					Sec 22, SW1/4 SW1/4
Segment 5	30.2	144.72	175.00	**Federal Lands – BLM**	
				T. 2 N., R. 16 E.	Sec 1, SW1/4 SW1/4
					Sec 12, N1/2 NW1/4, W1/2 NE1/4, SE1/4 NE1/4
				T. 2 N., R. 17 E.	Sec 7, SW1/4 SE1/4
					Sec 18, N1/2 NE1/4, SE1/4 NE1/4
					Sec 17, SW1/4 NW1/4, N1/2 SW1/4, SE1/4 SW1/4, S1/2 SE1/4
					Sec 20, NE1/4 NE1/4
					Sec 21, W1/2 NW1/4, SE1/4 NW1/4, NE1/4 SW1/4, N1/2 SE1/4 SE1/4 SE1/4
					Sec 22, SW1/4 SW1/4
					Sec 26, W1/2 SW1/4, SE1/4 SW1/4
				T. 1 S., R. 19 E.	Sec 15, NE1/4 NE1/4
				T. 1 S., R. 20 E.	Sec 30, W1/2 SW1/4 NW1/4
				State Lands	
				T. 2 N., R. 16 E.	Sec 12, NE1/4 SE1/4
				T. 2 N., R. 17 E.	Sec 7, N1/2 SW1/4, SE1/4 SW1/4
				T. 1 N., R. 18 E.	Sec 6, W1/2 NW1/4, SE1/4 NW1/4, SW1/4 NE1/4, N1/2 SE1/4, SE1/4 SE1/4
					Sec 5, SW1/4 SW1/4
					Sec 8, NE1/4 NW1/4, W1/2 NE1/4, SE1/4 NE1/4, NE1/4 SE1/4
					Sec 9, N1/2 SW1/4, SE1/4 SW1/4, SW1/4 SE1/4
					Sec 15, SW1/4 NW1/4, N1/2 SW1/4, W1/2 SE1/4, SE1/4 SE1/4
					Sec 22, NE1/4 NE1/4
					Sec 23, W1/2 NW1/4, SE1/4 NW1/4, SW1/4 NE1/4, N1/2 SE1/4, SE1/4 SE1/4
					Sec 24, SW1/4 SW1/4
					Sec 25, N1/2 NW1/4, SE1/4 NW1/4, SW1/4 NE1/4, N1/2 SE1/4
				T. 1 S., R. 20 E.	Sec 31, NE1/4 NE1/4
				Private Lands	
				T. 2 N., R. 17 E.	Sec 27, N1/2 NW1/4, SE1/4 NW1/4, N1/2 NE1/4, NE1/4 SE1/4

Segment	Length	Begin MP [1]	End MP [1]	Legal Location	
					Sec 35, NE1/4 NW1/4, N1/2 NE1/4, SE1/4 NE1/4
					Sec 36, SW1/4, NW1/4, N1/2 SW1/4, W1/2 SE1/4, SE1/4 SE1/4
				T. 1 N., R. 17 E.	Sec 1, NE1/4 NE1/4
				T. 1 N., R. 18 E.	Sec 5, SE1/4 SW1/4
					Sec 16, N1/2 NE1/4, SE1/4 NE1/4
				T. 1 N., R. 19 E.	Sec 30, W1/2 SW1/4, SE1/4 SW1/4
					Sec 31, NE1/4 NW1/4, N1/2 NE1/4, SE1/4 NE1/4
					Sec 32, SW1/4 NW1/4, N1/2 SW1/4, SE1/4 SW1/4, S1/2 SE1/4
				T. 1 S., R. 19 E.	Sec 5, NE1/4 NE1/4
					Sec 4, W1/2 NW1/4, SE1/4 NW1/4, NE1/4 SW1/4, W1/2 SE1/4, SE1/4 SE1/4
					Sec 9, NE1/4 NE1/4
					Sec 10, W1/2 NW1/4, SE1/4 NW1/4, NE1/4 SW1/4, W1/2 SE1/4, SE1/4 SE1/4
					Sec 14, W1/2 NW1/4, SE1/4 NW1/4, NE1/4 SW1/4, W1/2 SE1/4, SE1/4 SE1/4
					Sec 23, NE1/4 NE1/4
					Sec 24, W1/2 NW1/4, N1/2 SW1/4, SE1/4 SW1/4, SW1/4 SE1/4
					Sec 25, N1/2 NE1/4, SE1/4 NE1/4
				T. 1 S., R. 20 E.	Sec 30, E1/2 SW1/4 NW1/4, SE1/4 NW1/4, NE1/4 SW1/4, N1/2 SE1/4, SE1/4 SE1/4
					Sec 32, W1/2 NW1/4, SE1/4 NW1/4, SW1/4 NE1/4, N1/2 SE1/4, SE1/4 SE1/4
					Sec 33, SW1/4 SW1/4
				T. 2 S., R. 20 E.	Sec 4, W1/2 NW1/4, SE1/4 NW1/4, NE1/4 SW1/4, W1/2 SE1/4, SE1/4 SE1/4
					Sec 3, SW1/4 SW1/4
					Sec 10, N1/2 NW1/4, SW1/4 NW1/4, SW1/4 NE1/4, N1/2 SE1/4, SE1/4 SE1/4
					Sec 11, SW1/4 SW1/4
Segment 6	27.3	107.96	80.57	**Federal Lands – BLM**	
				T. 6 S., R. 26 E.	Sec 18, W1/2 SE1/4, SE1/4 SE1/4
					Sec 19, NE1/4 NE1/4
					Sec 20, SE1/4 NW1/4, E1/2 SE1/4
					Sec 28, SE1/4 NW1/4, NE1/4 SW1/4
				T. 7 S., R. 26 E.	Sec 12, E1/2 SW1/4, W1/2 SE1/4
				T. 7 S., R. 27 E.	Sec 18, NE1/4 SW1/4, S1/2 SE1/4
					Sec 19, NE1/4 NE1/4

Segment	Length	Begin MP [1]	End MP [1]	Legal Location	
					Sec 20, N1/2 NW1/4
				State Lands	
				T. 7 S., R. 26 E.	Sec 2, N1/2 NW1/4, SE1/4 NW1/4, NE1/4 SW1/4, W1/2 SE1/4, SE1/4 SE1/4
				T. 8 S., R. 28 E.	Sec 16, SW1/4 NW1/4, N1/2 SW1/4, SE1/4 SW1/4
					Sec 36, N1/2 NW1/4, SE1/4 NW1/4, SW1/4 NE1/4, N1/2 SE1/4, SE1/4 SE1/4
				T. 9 S., R. 29 E.	Sec 16, N1/2 NE1/4, SE1/4 NE1/4
				Private Lands	
				T. 6 S., R. 26 E.	Sec 18, S1/2 NW1/4, NE1/4 SW1/4
					Sec 20, N1/2 NW1/4, SW1/4 NE1/4, NW1/4 SE1/4
					Sec 21, SW1/4 SW1/4
					Sec 28, W1/2 NW1/4, W1/2 SE1/4, SE1/4 SE1/4
					Sec 27, SW1/4 SW1/4
					Sec 34, N1/2 NW1/4, SE1/4 NW1/4, SW1/4 NE1/4, N1/2 SE1/4 SE1/4 SE1/4
				T. 7 S., R. 26 E.	Sec 11, NE1/4 NE1/4
					Sec 12, W1/2 NW1/4, SE1/4 NW1/4
				T. 7 S., R. 27 E.	Sec 18, SW1/4 NW1/4, N1/2 SW1/4
					Sec 20, W1/2 NE1/4, SE1/4 NE1/4, NE1/e SE1/4
					Sec 21, W1/2 SW1/4, SE1/4 SE1/4
					Sec 28, NE1/4 NW1/4, N1/2 NE1/4, SE1/4 NE1/4
					Sec 27, SW1/4 NW1/4, N1/2 SW1/4, SW1/4 SE1/4
					Sec 34, N1/2 NE1/4, SE1/4 NE1/4
					Sec 35, S1/2 NW1/4,NE1/4 SW1/4, W1/2 SE1/4, SE1/4 SE1/4
				T. 8 S., R. 27 E.	Sec 2, NE1/4 NE1/4
					Sec 1, W1/2 NW1/4, SE1/4 NW1/4, NE1/4 SW1/4, N1/2 SE1/4 SE1/4 SE1/4
				T. 8 S., R. 28 E.	Sec 6, SW1/4 SW1/4
					Sec 7, N1/2 NW1/4, W1/2 NE1/4, SE1/4 NE1/4, NE1/4 SE1/4
					Sec 8, W1/2 SW1/4, SE1/4 SW1/4
					Sec 17, NE1/4 NW1/4, W1/2 NE1/4, SE1/4 NE1/4
					Sec 21, N1/2 NE1/4
					Sec 22, W1/2 NW1/4, SE1/4 NW1/4, NE1/4 SW1/4, W1/2 SE1/4, SE1/4 SE1/4
					Sec 23, SW1/4 SW1/4
					Sec 26, N1/2 NW1/4, W1/2 NE1/4, SE1/4 NE1/4, NE1/4 SE1/4

Segment	Length	Begin MP [1]	End MP [1]	Legal Location	
					Sec 25, W1/2 SW1/4
				T. 8 S., R. 29 E.	SW1/4 SW1/4
				T. 9 S., R. 29 E.	Sec 6, N1/2 NW1/4, W1/2 NE1/4, SE1/4 SE1/4, NE1/4 SE1/4
					Sec 5, W1/2 SW1/4, SE1/4 SW1/4
					Sec 8, NE1/4 NW1/4, W1/2 NE1/4, SE1/4 NE1/4, NE1/4 SE1/4
					Sec 9, N1/2 SW1/4, SE1/4 SW1/4
Segment 7	32.8	46.91	14.33	**State Lands**	
				T. 13 S., R. 34 E.	Sec 16, W1/2 SW1/4, SE1/4 SW1/4
				T. 14 S., R. 35 E.	Sec 8, W1/2 NW1/4, SE1/4 NW1/4, NE1/4 SW1/4, W1/2 SE1/4, SE1/4 SE1/4
					Sec 17, NE1/4 NE1/4
					Sec 16, NW1/4 NW1/4, SE1/4 NW1/4, W1/2 SE1/4, SE1/4 SE1/4
					Sec 26, N1/2 NW1/4, SE1/4 NW1/4
				T. 15 S., R. 37 E.	Sec 32, SW1/4 NW1/4, W1/2 SW1/4, SE1/4 SW1/4
				T. 16 S., R. 38 E.	Sec 6, SW1/4 SW1/4
					Sec 7, NE1/4 SE1/4
					Sec 8, NW1/4 SW1/4, SE1/4 SW1/4
					Sec 17, NE1/4 NW1/4, W1/2 NE1/4, SE1/4 NE1/4, NE1/4 SE1/4
					Sec 16, W1/2 SW1/4, SE1/4 SW1/4
				Private Lands	
				T. 13 S., R. 34 E.	Sec 6, SW1/4 SW1/4
					Sec 7, N1/2 NW1/4, W1/2 NE1/4, SE1/4 NE1/4, NE1/4 SE1/4
					Sec 8, W1/2 SW1/4, SE1/4 SW1/4
					Sec 17, NE1/4 NW1/4, W1/2 NE1/4, SE1/4 NE1/4, NE1/4 SE1/4
					Sec 21, NE1/4 NW1/4, W1/2 NE1/4, SE1/4 NE1/4, NE1/4 SE1/4
					Sec 22, W1/2 SW1/4, SE1/4 SW1/4, SW1/4 SE1/4
					Sec 27, N1/2 NE1/4, SE1/4 NE1/4, NE1/4 SE1/4
					Sec 26, N1/2 SW1/4, SE1/4 SW1/4, SW1/4 SE1/4
					Sec 35, N1/2 NE1/4, SE1/4 NE1/4
					Sec 36, SW1/4 NW1/4, N1/2 SW1/4, SE1/4 SW1/4, SW1/4 SE1/4
				T. 14 S., R. 34 E.	Sec 1, NE1/4 NE1/4
				T. 14 S., R. 35 E.	Sec 6, W1/2 NW1/4, NE1/4 SW1/4, W1/2 SE1/4 SE1/4 SE1/4

Segment	Length	Begin MP [1]	End MP [1]	Legal Location	
					Sec 7, NE1/4 NE1/4
					Sec 16, SW1/4 NW1/4, NE1/4 SW1/4
					Sec 21, NE1/4 NE1/4
					Sec 22, W1/2 NW1/4, SE1/4 NW1/4, NE1/4 SW1/4, N1/2 SE1/4, SE1/4 SE1/4
					Sec 23 SW1/4 SW1/4
					Sec 26, SW1/4 NE1/4, N1/2 SE1/4, SE1/4 SE1/4
					Sec 25, W1/2 SW1/4, SE1/4 SW1/4
					Sec 36, NE1/4 NW1/4, W1/2 NE1/4 SE1/4 NE1/4, NE1/4 SE1/4
				T. 14 S., R. 36 E.	Sec 31, N1/2 SW1/4, SE1/4 SW1/4
				T. 15 S., R. 36 E.	Sec 6, N1/2 NE1/4, SE1/4 NE1/4
					Sec 5, S1/2 NW1/4, NE1/4 SW1/4, N1/2 SE1/4, SE1/4 SE1/4
					Sec 4, S1/2 SW1/4, SW1/4 SE1/4
					Sec 9, W1/2 NE1/4, N1/2 SE1/4, SE1/4 SE1/4
					Sec 10, SW1/4 SW1/4
					Sec 15, N1/2 NW1/4, SE1/4 NW1/4, SW1/4 NE1/4, N1/2 SE1/4 SE1/4 SE1/4
					Sec 14, SW1/4 SW1/4
					Sec 23, N1/2 NW1/4, W1/2 NE1/4, SE1/4 NE1/4, NE1/4 SE1/4
					Sec 24, W1/2 SW1/4, SE1/4 SW1/4
					Sec 25, NE1/4 NW1/4, W1/2 NE1/4, SE1/4 NE1/4
				T. 15 S., R. 37 E.	Sec 30, W1/2 SW1/4, SE1/4 SW1/4
					Sec 31, NE1/4 NW1/4, W1/2 NE1/4, SE1/4 NE1/4
					Sec 32, SW1/4 SE1/4
				T. 16 S., R. 37 E.	Sec 2, NE1/4 NW1/4, N1/2 NE1/4, SE1/4 NE1/4
					Sec 1, S1/2 NW1/4, NE1/4 SW1/4, N1/2 SE1/4 SE1/4 SE1/4
				T. 16 S., R. 38 E.	Sec 7, N1/2 SW1/4, W1/2 NE1/4, SE1/4 NE1/4
					Sec 8, SW1/4 SW1/4
					Sec 21, NE1/4 NW1/4, W1/2 NE1/4, SE1/4 NE1/4, NE1/4 SE1/4
					Sec 22, W1/2 SW1/4, SE1/4 SW1/4
					Sec 27, NE1/4 NW1/4

[1] Beginning and ending mileposts of the loop segments are associated with MAPL's existing mainline system (comprised of the 695 and 701 pipelines).

Table B-2
Landownership by Milepost for WEP III

From MP	To MP	County	Ownership
Segment 1			
415.69	411.87	San Juan	BLM Farmington
411.87	411.63	San Juan	Private
411.63	408.64	San Juan	BLM Farmington
408.64	406.35	San Juan	Private
406.35	406.24	San Juan	BLM Farmington
406.24	406.03	San Juan	Private
406.03	405.82	San Juan	BLM Farmington
405.82	405.71	San Juan	Private
405.71	404.54	San Juan	BLM Farmington
404.54	404.00	San Juan	Private
404.00	403.39	San Juan	BLM Farmington
403.39	403.09	San Juan	Private
403.09	397.56	San Juan	BLM Farmington
397.56	395.56	San Juan	BIA/Tribal
395.56	395.52	San Juan	BLM Farmington
395.52	394.40	San Juan	Private
394.40	393.30	San Juan	BIA/Tribal
393.30	389.56	San Juan	BLM Farmington
389.56	389.07	San Juan	Private
389.07	384.68	San Juan	BLM Farmington
384.68	383.83	San Juan	BIA/Tribal
383.83	382.87	San Juan	BLM Farmington
382.87	382.31	San Juan	State
382.31	380.81	San Juan	BLM Farmington
380.81	379.81	San Juan	BIA/Tribal
379.81	377.76	San Juan	BLM Farmington
377.76	376.66	San Juan	BIA/Tribal
376.66	376.51	San Juan	State
376.51	376.11	San Juan	BLM Farmington
376.11	375.54	San Juan	BIA/Tribal
375.54	374.28	Rio Arriba	BIA/Tribal
374.28	374.17	Rio Arriba	BLM Farmington
374.17	373.06	Rio Arriba	BIA/Tribal
373.06	372.46	Rio Arriba	BLM Farmington
372.46	371.85	Rio Arriba	Private
371.85	371.33	Rio Arriba	BIA/Tribal
371.33	370.86	Rio Arriba	Private
370.86	370.42	Rio Arriba	BLM Farmington
370.42	370.39	Rio Arriba	Private
Segment 2			
350.21	349.77	McKinley	BLM Farmington

From MP	To MP	County	Ownership
349.77	349.24	McKinley	BIA/Tribal
349.24	349.09	McKinley	BLM Farmington
349.09	348.41	McKinley	BIA/Tribal
348.41	346.50	McKinley	BLM Farmington
346.50	343.95	McKinley	BIA/Tribal
343.95	342.84	McKinley	BLM Farmington
342.84	342.83	Sandoval	BLM Farmington
342.83	342.72	Sandoval	BLM Rio Puerco
342.72	342.17	Sandoval	BIA/Tribal
342.17	340.22	Sandoval	BLM Rio Puerco
340.22	338.93	Sandoval	State
338.93	337.01	Sandoval	BLM Rio Puerco
337.01	336.85	Sandoval	BIA/Tribal
336.85	333.23	Sandoval	BLM Rio Puerco
333.23	330.42	Sandoval	BIA/Tribal
330.42	330.36	Sandoval	BLM Rio Puerco
330.36	329.43	Sandoval	BIA/Tribal
329.43	328.52	Sandoval	BLM Rio Puerco
328.52	327.46	Sandoval	Private
327.46	326.75	Sandoval	BLM Rio Puerco
326.75	326.50	Sandoval	State
326.50	313.11	Sandoval	BLM Rio Puerco
313.11	306.40	Sandoval	BIA/Tribal
306.40	305.37	Sandoval	Private
305.37	305.04	Sandoval	BLM Rio Puerco
305.04	302.77	Sandoval	State
302.77	301.76	Sandoval	BLM Rio Puerco
301.76	301.38	Sandoval	Private
301.38	301.07	Sandoval	BIA/Tribal
301.07	300.63	Sandoval	Private
300.63	299.40	Sandoval	BIA/Tribal
Segment 3			
270.06	266.70	Sandoval	Private
266.70	266.68	Sandoval	State
266.68	266.15	Sandoval	Private
266.15	265.48	Sandoval	State
265.48	265.11	Sandoval	Private
265.11	265.10	Sandoval	BLM Rio Puerco
265.10	264.71	Sandoval	Private
264.71	264.21	Sandoval	BLM Rio Puerco
264.21	261.11	Sandoval	Private
261.11	256.60	Bernalillo	Private
256.60	241.29	Santa Fe	Private

From MP	To MP	County	Ownership
241.29	240.78	Santa Fe	State
240.78	239.66	Santa Fe	Private
239.66	233.87	Torrance	Private
233.87	232.65	Torrance	State
232.65	231.20	Torrance	Private
231.20	229.95	Torrance	State
229.95	228.90	Torrance	Private
228.90	227.66	Torrance	State
227.66	224.48	Torrance	Private
224.48	223.48	Torrance	State
Segment 5			
175.00	173.79	Guadalupe	BLM Roswell
173.79	173.07	Guadalupe	Private
173.07	169.77	Guadalupe	BLM Roswell
169.77	168.67	Guadalupe	Private
168.67	168.09	Guadalupe	BLM Roswell
168.09	166.72	Guadalupe	Private
166.72	166.22	Lincoln	Private
166.22	164.66	Lincoln	State
164.66	164.60	Lincoln	Private
164.60	162.95	Lincoln	State
162.95	162.44	Lincoln	Private
162.44	158.53	Lincoln	State
158.53	153.49	Lincoln	Private
153.49	153.40	Lincoln	BLM Roswell
153.40	150.36	Lincoln	Private
150.36	150.24	Lincoln	BLM Roswell
150.24	149.75	Lincoln	Private
149.75	149.05	De Baca	Private
149.05	148.89	De Baca	State
148.89	144.72	De Baca	Private
Segment 6			
107.96	107.59	Chaves	Private
107.59	106.95	Chaves	BLM Roswell
106.95	106.62	Chaves	Private
106.62	106.34	Chaves	BLM Roswell
106.34	106.01	Chaves	Private
106.01	105.55	Chaves	BLM Roswell
105.55	105.13	Chaves	Private
105.13	104.72	Chaves	BLM Roswell
104.72	102.69	Chaves	Private
102.69	102.61	Chaves	BLM Roswell
102.61	101.34	Chaves	State

From MP	To MP	County	Ownership
101.34	100.69	Chaves	Private
100.69	99.54	Chaves	BLM Roswell
99.54	98.97	Chaves	Private
98.97	97.73	Chaves	BLM Roswell
97.73	89.32	Chaves	Private
89.32	88.55	Chaves	State
88.55	85.29	Chaves	Private
85.29	84.03	Chaves	State
84.03	80.57	Chaves	Private
Segment 7			
46.91	44.53	Lea	Private
44.53	43.93	Lea	State
43.93	37.78	Lea	Private
37.78	36.27	Lea	State
36.27	35.98	Lea	Private
35.98	35.92	Lea	State
35.92	35.63	Lea	Private
35.63	35.16	Lea	State
35.16	33.55	Lea	Private
33.55	33.04	Lea	State
33.04	21.85	Lea	Private
21.85	21.11	Lea	State
21.11	18.96	Lea	Private
18.96	18.67	Lea	State
18.67	17.86	Lea	Private
17.86	17.52	Lea	State
17.52	17.32	Lea	Private
17.32	15.78	Lea	State
15.78	14.33	Lea	Private

Table B-3
Existing Roads that Would Be Crossed or Used as Access Roads for WEP III

MP	Name	Surface	Crossing Method	Ingress	Construction Access Name	County	Land Ownership
415.69	CR-4980	Gravel	N/A	YES	S1-CA-415.69	San Juan	BLM FFO
415.55	Road 4980	Dirt	Open Cut	YES	S1-CA-415.55	San Juan	BLM FFO
415.35	Unknown Road	Dirt	Open Cut	YES	S1-CA-415.35	San Juan	BLM FFO
415.29	Unknown Road	Dirt	Open Cut	NO		San Juan	BLM FFO
415.22	Unknown Road	Dirt	Open Cut	YES	S1-CA-415.22	San Juan	BLM FFO
415.00	Unknown Road	Dirt	Open Cut	NO		San Juan	BLM FFO
414.76	Unknown Road	Dirt	Open Cut	YES	S1-CA-414.76	San Juan	BLM FFO
414.45	Unknown Road	Dirt	Open Cut	YES	S1-CA-414.45	San Juan	BLM FFO
414.36	Unknown Road	Dirt	Open Cut	NO		San Juan	BLM FFO
414.30	Unknown Road	Dirt	Open Cut	YES	S1-CA-414.30	San Juan	BLM FFO
413.46	Unknown Road*	Dirt	Open Cut	YES	S1-CA-413.46	San Juan	BLM FFO
413.08	Unknown Road	Dirt	Open Cut	YES	S1-CA-413.08	San Juan	BLM FFO
412.89	Unknown Road	Dirt	Open Cut	YES	S1-CA-412.89	San Juan	BLM FFO
412.76	Unknown Road	Dirt	Open Cut	YES	S1-CA-412.76	San Juan	BLM FFO
412.58	Unknown Road	Dirt	Open Cut	YES	S1-CA-412.58	San Juan	BLM FFO
412.47	Unknown Road	Dirt	Open Cut	YES	S1-CA-412.47	San Juan	BLM FFO
412.46	Unknown Road	Dirt	Open Cut	YES	S1-CA-412.46	San Juan	BLM FFO
412.32	Unknown Road	Dirt	Open Cut	YES	S1-CA-412.32	San Juan	BLM FFO
412.30	Unknown Road	Dirt	Open Cut	YES	S1-CA-412.30	San Juan	BLM FFO
412.26	Unknown Road	Dirt	Open Cut	YES	S1-CA-412.26	San Juan	BLM FFO
412.08	Unknown Road	Dirt	Open Cut	YES	S1-CA-412.08	San Juan	BLM FFO
411.51	Unknown Road	Dirt	Open Cut	NO		San Juan	BLM FFO
411.32	Unknown Road	Dirt	Open Cut	YES	S1-CA-411.32	San Juan	BLM FFO
411.03	Unknown Road	Dirt	Open Cut	YES	S1-CA-411.03	San Juan	BLM FFO
410.71	CR-7020	Dirt	Bore	YES	S1-CA-410.71	San Juan	BLM FFO
410.52	Unknown Road	Dirt	Open Cut	NO		San Juan	BLM FFO

MP	Name	Surface	Crossing Method	Ingress	Construction Access Name	County	Land Ownership
410.31	Unknown Road	Dirt	Open Cut	NO		San Juan	BLM FFO
409.58	Unknown Road	Dirt	Open Cut	NO		San Juan	BLM FFO
409.10	Unknown Road	Dirt	Open Cut	NO		San Juan	BLM FFO
408.80	Unknown Road	Gravel	Open Cut	YES	S1-CA-408.80	San Juan	BLM FFO
408.44	Unknown Road	Dirt	Open Cut	YES	S1-CA-408.44	San Juan	Private
408.39	Unknown Road	Dirt	Open Cut	YES	S1-CA-408.39	San Juan	Private
408.14	Unknown Road	Dirt	Open Cut	NO		San Juan	Private
407.82	Unknown Road	Dirt	Open Cut	NO		San Juan	Private
407.44	Unknown Road	Dirt	Open Cut	NO		San Juan	Private
407.20	Unknown Road	Dirt	Open Cut	NO		San Juan	Private
406.89	Unknown Road	Dirt	Open Cut	YES	S1-CA-406.89	San Juan	Private
406.35	Unknown Road	Dirt	Open Cut	NO		San Juan	Private
406.22	Unknown Road	Dirt	Open Cut	NO		San Juan	Private
406.13	Unknown Road	Dirt	Open Cut	NO		San Juan	Private
405.96	Unknown Road	Dirt	Open Cut	YES	S1-CA-405.96	San Juan	BLM FFO
405.92	Unknown Road	Dirt	Open Cut	NO		San Juan	BLM FFO
404.50	CR-7175	Gravel	HDD	YES	S1-CA-404.50	San Juan	Private
403.61	CR-7225	Gravel	Bore	YES	S1-CA-403.61	San Juan	BLM FFO
402.40	Unknown Road	Dirt	Open Cut	YES	S1-CA-402.40	San Juan	BLM FFO
401.70	Unknown Road	Dirt	Open Cut	YES	S1-CA-401.70	San Juan	BLM FFO
400.83	Unknown Road	Dirt	Bore	YES	S1-CA-400.83	San Juan	BLM FFO
398.58	Unknown Road	Dirt	Open Cut	YES	S1-CA-398.58	San Juan	BLM FFO
397.59	Unknown Road	Dirt	Open Cut	YES	S1-CA-397.59	San Juan	BLM FFO
397.18	CR-7425	Gravel	Bore	YES	S1-CA-397.18	San Juan	BIA/Tribal
396.69	Unknown Road	Dirt	Open Cut	NO		San Juan	BIA/Tribal
396.55	Unknown Road	Dirt	Open Cut	YES	S1-CA-396.55	San Juan	BIA/Tribal
396.52	Unknown Road	Dirt	Open Cut	YES	S1-CA-396.52	San Juan	BIA/Tribal
396.05	Unknown Road*	Dirt	N/A	YES	S1-CA-396.05	San Juan	BIA/Tribal

MP	Name	Surface	Crossing Method	Ingress	Construction Access Name	County	Land Ownership
395.73	US-550	Paved	Bore	NO		San Juan	BIA/Tribal
395.04	CR-7500 (Indian Service Route 7023)	Gravel	Open Cut	YES	S1-CA-395.04	San Juan	Private
394.33	Private Driveway	Dirt	Open Cut	NO		San Juan	BIA/Tribal
394.23	Unknown Road	Dirt	Open Cut	NO		San Juan	BIA/Tribal
394.08	Unknown Road	Dirt	Open Cut	NO		San Juan	BIA/Tribal
393.94	Unknown Road	Dirt	Open Cut	NO		San Juan	BIA/Tribal
393.55	Unknown Road	Dirt	Open Cut	NO		San Juan	BIA/Tribal
393.51	Unknown Road	Dirt	Open Cut	NO		San Juan	BIA/Tribal
393.45	CR-7592	Chip & Seal	Open Cut	YES	S1-CA-393.45	San Juan	BIA/Tribal
393.32	Unknown Road	Dirt	Open Cut	NO		San Juan	BIA/Tribal
393.01	CR-7595	Dirt	Bore	YES	S1-CA-393.01	San Juan	BLM FFO
392.41	Unknown Road	Dirt	Open Cut	NO		San Juan	BLM FFO
391.32	Unknown Road	Dirt	Open Cut	NO		San Juan	BLM FFO
391.24	Unknown Road	Dirt	Open Cut	NO		San Juan	BLM FFO
390.76	SR-57	Gravel	Bore	YES	S1-CA-390.76	San Juan	BLM FFO
390.53	Unknown Road	Dirt	Open Cut	NO		San Juan	BLM FFO
390.21	Unknown Road	Dirt	Open Cut	NO		San Juan	BLM FFO
389.39	Unknown Road	Dirt	Open Cut	NO		San Juan	Private
389.01	Unknown Road	Dirt	Open Cut	NO		San Juan	BLM FFO
388.96	Unknown Road	Dirt	Open Cut	NO		San Juan	BLM FFO
385.05	Unknown Road	Dirt	Open Cut	NO		San Juan	BLM FFO
384.80	Unknown Road	Dirt	Open Cut	NO		San Juan	BLM FFO
384.29	Unknown Road	Dirt	Open Cut	NO		San Juan	BIA/Tribal
384.20	Unknown Road	Dirt	Open Cut	NO		San Juan	BIA/Tribal
384.10	Unknown Road	Dirt	Open Cut	NO		San Juan	BIA/Tribal
383.76	Unknown Road	Dirt	Open Cut	YES	S1-CA-383.76	San Juan	BLM FFO
383.60	CR-7786	Gravel	Open Cut	YES	S1-CA-383.60	San Juan	BLM FFO

MP	Name	Surface	Crossing Method	Ingress	Construction Access Name	County	Land Ownership
382.56	CR-7800 (Indian Service Route 45)	Paved	Bore	YES	S1-CA-382.56	San Juan	State
382.36	US-550	Paved	Bore	YES	S1-CA-382.36	San Juan	State
382.21	Unknown Road*	Dirt	Open Cut	YES	S1-CA-382.21	San Juan	BLM FFO
380.20	Unknown Road	Dirt	Open Cut	YES	S1-CA-380.20	San Juan	BIA/Tribal
376.83	CR-7997	Gravel	Open Cut	YES	S1-CA-376.83	San Juan	BIA/Tribal
376.15	CR-7998	Gravel	Open Cut	YES	S1-CA-376.15	San Juan	BLM FFO
375.84	Unknown Road	Dirt	N/A	YES	S1-CA-375.84	San Juan	BIA/Tribal
374.93	Unknown Road	Gravel	Open Cut	YES	S1-CA-374.93	Rio Arriba	BIA/Tribal
374.52	Unknown Road*	Dirt	N/A	YES	S1-CA-374.52	Rio Arriba	BIA/Tribal
374.16	Unknown Road*	Dirt	Open Cut	YES	S1-CA-374.16	Rio Arriba	BIA/Tribal
373.74	Unknown Road	Dirt	Open Cut	YES	S1-CA-373.74	Rio Arriba	BIA/Tribal
372.74	CR-377	Dirt	Open Cut	YES	S1-CA-372.74	Rio Arriba	BLM FFO
372.66	Unknown Road	Gravel	Open Cut	YES	S1-CA-372.66	Rio Arriba	BLM FFO
371.95	Unknown Road	Gravel	Open Cut	YES	S1-CA-371.95	Rio Arriba	Private
371.58	Unknown Road	Dirt	Open Cut	YES	S1-CA-371.58	Rio Arriba	BIA/Tribal
371.28	Unknown Road	Gravel	Open Cut	YES	S1-CA-371.28	Rio Arriba	Private
370.40	CR-378	Gravel	N/A	YES	S1-CA-370.40	Rio Arriba	Private
350.19	Unknown Road*	Dirt	Open Cut	YES	S2-CA-350.19	McKinley	BLM FFO
347.62	Unknown Road	Dirt	Open Cut	NO		McKinley	BLM FFO
346.60	Ojo Encino Road	Paved	Bore	YES	S2-CA-346.60	McKinley	BLM FFO
346.05	Indian Service Route 475	Dirt	Open Cut	YES	S2-CA-346.05	McKinley	BIA/Tribal
345.06	Eagle Nest Road	Dirt	Open Cut	YES	S2-CA-345.06	McKinley	BIA/Tribal
342.37	Unknown Road	Dirt	Open Cut	NO		Sandoval	BIA/Tribal
341.90	Unknown Road	Dirt	Open Cut	NO		Sandoval	BLM RPFO
341.52	Unknown Road	Dirt	Open Cut	YES	S2-CA-341.52	Sandoval	BLM RPFO
341.47	Unknown Road	Dirt	Open Cut	YES	S2-CA-341.47	Sandoval	BLM RPFO
340.52	Unknown Road	Dirt	Open Cut	YES	S2-CA-340.52	Sandoval	BLM RPFO

MP	Name	Surface	Crossing Method	Ingress	Construction Access Name	County	Land Ownership
339.95	Unknown Road	Dirt	Open Cut	NO		Sandoval	State
336.65	Unknown Road	Gravel	Open Cut	YES	S2-CA-336.65	Sandoval	BLM RPFO
334.58	SR-197	Paved	Bore	YES	S2-CA-334.58	Sandoval	BLM RPFO
333.63	Unknown Road	Dirt	Open Cut	YES	S2-CA-333.63	Sandoval	BLM RPFO
332.93	Torreon Mission Road	Paved	Bore	YES	S2-CA-332.93	Sandoval	BIA/Tribal
332.40	Unknown Road	Gravel	Open Cut	YES	S2-CA-332.40	Sandoval	BIA/Tribal
331.76	San Louis to Torreon Cut-Off	Paved	Bore	YES	S2-CA-331.76	Sandoval	BIA/Tribal
331.74	Unknown Road	Dirt	Open Cut	YES	S2-CA-331.74	Sandoval	BIA/Tribal
331.42	Unknown Road	Gravel	Open Cut	YES	S2-CA-331.42	Sandoval	BIA/Tribal
331.21	Unknown Road	Dirt	Open Cut	YES	S2-CA-331.21	Sandoval	BIA/Tribal
330.00	Unknown Road	Gravel	Open Cut	YES	S2-CA-330.00	Sandoval	BIA/Tribal
329.98	Unknown Road	Dirt	Open Cut	YES	S2-CA-329.98	Sandoval	BIA/Tribal
329.02	Unknown Road	Dirt	Open Cut	YES	S2-CA-329.02	Sandoval	BLM RPFO
328.86	Unknown Road	Dirt	N/A	YES	S2-CA-328.86	Sandoval	BLM RPFO
328.70	Unknown Road*	Dirt	N/A	YES	S2-CA-328.70	Sandoval	BLM RPFO
328.51	Unknown Road	Dirt	N/A	YES	S2-CA-328.51	Sandoval	Private
328.46	Unknown Road	Dirt	Open Cut	NO		Sandoval	Private
327.28	Unknown Road	Dirt	Open Cut	YES	S2-CA-327.28	Sandoval	BLM RPFO
326.03	Unknown Road	Dirt	Open Cut	YES	S2-CA-326.03	Sandoval	BLM RPFO
324.64	BLM 1102 Road	Dirt	Open Cut	YES	S2-CA-324.64	Sandoval	BLM RPFO
324.53	Unknown Road	Gravel	Open Cut	YES	S2-CA-324.53	Sandoval	BLM RPFO
324.50	Unknown Road	Gravel	Open Cut	YES	S2-CA-324.50	Sandoval	BLM RPFO
324.34	Unknown Road	Gravel	Open Cut	YES	S2-CA-324.34	Sandoval	BLM RPFO
323.36	Unknown Road	Dirt	Open Cut	YES	S2-CA-323.36	Sandoval	BLM RPFO
322.46	Unknown Road*	Dirt	Open Cut	YES	S2-CA-322.46	Sandoval	BLM RPFO
320.96	Unknown Road	Dirt	N/A	YES	S2-CA-320.96	Sandoval	BLM RPFO
320.65	SR-279	Gravel	Bore	YES	S2-CA-320.65	Sandoval	BLM RPFO

MP	Name	Surface	Crossing Method	Ingress	Construction Access Name	County	Land Ownership
319.30	West Ridge Road*	Dirt	Open Cut	YES	S2-CA-319.30	Sandoval	BLM RPFO
312.83	Ridge Road (Indian Service Route 3)	Dirt	Open Cut	YES	S2-CA-312.83	Sandoval	BIA/Tribal
309.22	Unknown Road*	Dirt	Open Cut	YES	S2-CA-309.22	Sandoval	BIA/Tribal
308.06	Unknown Road*	Dirt	N/A	YES	S2-CA-308.06	Sandoval	BIA/Tribal
306.57	Unknown Road	Dirt	Open Cut	YES	S2-CA-306.57	Sandoval	BIA/Tribal
306.48	Unknown Road	Dirt	Open Cut	YES	S2-CA-306.48	Sandoval	BIA/Tribal
306.28	Unknown Road	Dirt	Open Cut	YES	S2-CA-306.28	Sandoval	Private
305.39	Unknown Road*	Dirt	Open Cut	YES	S2-CA-305.39	Sandoval	Private
305.04	Unknown Road*	Dirt	Open Cut	YES	S2-CA-305.04	Sandoval	BLM RPFO
301.80	Unknown Road	Dirt	N/A	YES	S2-CA-301.80	Sandoval	BLM RPFO
301.06	Unknown Road	Dirt	Open Cut	YES	S2-CA-301.06	Sandoval	Private
300.97	Unknown Road	Dirt	Open Cut	YES	S2-CA-300.97	Sandoval	Private
300.76	Unknown Road	Dirt	Open Cut	YES	S2-CA-300.76	Sandoval	Private
300.07	Cabazon Road (White Mesa Road)	Gravel	Bore	YES	S2-CA-300.07	Sandoval	BIA/Tribal
299.81	Unknown Road	Gravel	Open Cut	YES	S2-CA-299.81	Sandoval	BIA/Tribal
299.65	Unknown Road	Gravel	Open Cut	YES	S2-CA-299.65	Sandoval	BIA/Tribal
299.43	Unknown Road	Gravel	Open Cut	YES	S2-CA-299.43	Sandoval	BIA/Tribal
267.32	La Madera Road	Gravel	Open Cut	YES	S3-CA-267.32	Sandoval	Private
266.71	Unknown Road*	Dirt	Open Cut	YES	S3-CA-266.71	Sandoval	Private
265.34	Dementrio Road	Dirt	Open Cut	YES	S3-CA-265.34	Sandoval	Private
262.97	Unknown Road	Gravel	Open Cut	YES	S3-CA-262.97	Sandoval	Private
261.93	Unknown Road	Dirt	Open Cut	YES	S3-CA-261.93	Sandoval	Private
261.75	Unknown Road	Gravel	Open Cut	YES	S3-CA-261.75	Sandoval	Private
261.69	SR-14	Paved	Bore	YES	S3-CA-261.69	Sandoval	Private
260.42	Unknown Road	Dirt	Open Cut	NO		Bernalillo	Private
258.81	Unknown Road	Dirt	Open Cut	NO		Bernalillo	Private
257.84	Unknown Road*	Dirt	N/A	YES	S3-CA-257.84	Bernalillo	Private

MP	Name	Surface	Crossing Method	Ingress	Construction Access Name	County	Land Ownership
257.02	Entranosa Loop Road	Dirt	Open Cut	NO		Bernalillo	Private
256.16	Broken Arrow Road (CR-3A)	Gravel	N/A	YES	S3-CA-256.16	Santa Fe	Private
255.50	Broken Arrow Road (CR-3A)	Gravel	Bore	YES	S3-CA-255.50	Santa Fe	Private
255.43	Entranosa Road (CR-18)	Gravel	Open Cut	YES	S3-CA-255.43	Santa Fe	Private
254.42	Frost Road East (SR-472)	Paved	Bore	YES	S3-CA-254.42	Santa Fe	Private
253.10	Horton Road (CR-5)	Dirt	Open Cut	YES	S3-CA-253.10	Santa Fe	Private
252.95	Field Road	Gravel	Open Cut	YES	S3-CA-252.95	Santa Fe	Private
252.79	Nugent Road (CR-14)	Gravel	Bore	YES	S3-CA-252.79	Santa Fe	Private
252.62	Field Road	Gravel	Open Cut	YES	S3-CA-252.62	Santa Fe	Private
252.17	SR-344	Paved	Bore	YES	S3-CA-252.17	Santa Fe	Private
251.22	Ranch Road	Dirt	N/A	YES	S3-CA-251.22	Santa Fe	Private
246.48	Field Road*	Dirt	Open Cut	YES	S3-CA-246.48	Santa Fe	Private
245.25	Dinkle Road (CR-8)	Paved	Bore	YES	S3-CA-245.25	Santa Fe	Private
245.11	Field Road	Dirt	Open Cut	NO		Santa Fe	Private
242.79	Martin Road (CR-17)	Paved	Bore	YES	S3-CA-242.79	Santa Fe	Private
241.91	Snow Moon Estates Road	Gravel	Bore	YES	S3-CA-241.91	Santa Fe	Private
240.78	King Farm Road (CR-21)	Gravel	Bore	YES	S3-CA-240.78	Santa Fe	State
239.57	Valley Irrigation Road (CR-23)	Gravel	Open Cut	YES	S3-CA-239.57	Torrance	Private
239.03	Field Road*	Dirt	Open Cut	YES	S3-CA-239.03	Torrance	Private
238.54	Field Road	Dirt	Open Cut	YES	S3-CA-238.54	Torrance	Private
238.41	SR-41	Paved	Bore	YES	S3-CA-238.41	Torrance	Private
236.16	Pinto Road	Gravel	N/A	YES	S3-CA-236.16	Torrance	Private
236.07	Frontage Road	Paved	HDD	NO		Torrance	Private
236.04	Central Avenue (RT-66)	Paved	HDD	NO		Torrance	Private
235.95	I-40 West	Paved	HDD	NO		Torrance	Private

MP	Name	Surface	Crossing Method	Ingress	Construction Access Name	County	Land Ownership
235.93	I-40 East	Paved	HDD	NO		Torrance	Private
235.92	Central Avenue (RT-66)	Paved	HDD	NO		Torrance	Private
234.95	East Martinez Road	Paved	Bore	YES	S3-CA-234.95	Torrance	Private
232.88	CR-A112	Dirt	Open Cut	NO		Torrance	State
232.62	Stagecoach Road (CR-A-160)	Gravel	Bore	YES	S3-CA-232.62	Torrance	Private
229.26	Unknown Road	Dirt	Open Cut	NO		Torrance	Private
226.81	Unknown Road	Dirt	Open Cut	NO		Torrance	Private
225.49	Unknown Road	Dirt	Open Cut	NO		Torrance	Private
223.51	CR-A-80	Dirt	Open Cut	YES	S3-CA-223.51	Torrance	State
187.16	CR-C-71	Gravel	Bore	YES	S4-CA-187.16	Torrance	Private
186.98	Unknown Road	Dirt	Open Cut	NO		Torrance	Private
186.17	Unknown Road	Dirt	Open Cut	NO		Torrance	Private
184.20	US-54	Paved	Bore	NO		Torrance	Private
184.05	Unknown Road	Dirt	Open Cut	YES	S4-CA-184.05	Torrance	Private
183.87	Unknown Road	Dirt	Open Cut	NO		Torrance	Private
182.84	Unknown Road	Dirt	Open Cut	NO		Torrance	Private
181.98	Unknown Road	Dirt	Open Cut	NO		Torrance	Private
181.92	Unknown Road	Dirt	Open Cut	NO		Torrance	Private
180.71	Unknown Road	Dirt	Open Cut	NO		Guadalupe	Private
174.99	Access Road - Duran Meter Station*	Dirt	N/A	YES	S5-CA-174.99	Guadalupe	BLM RFO
171.82	Unknown Road	Dirt	Open Cut	NO		Guadalupe	BLM RFO
171.00	Unknown Road	Dirt	Open Cut	YES	S5-CA-171.00	Guadalupe	BLM RFO
168.17	Jackalope Road (CR-3KA)	Gravel	Open Cut	YES	S5-CA-168.17	Guadalupe	BLM RFO
165.30	Unknown Road	Dirt	Open Cut	YES	S5-CA-165.30	Lincoln	State
164.76	Unknown Road	Dirt	Open Cut	YES	S5-CA-164.76	Lincoln	State
163.03	CR-3L	Gravel/Dirt	Open Cut	YES	S5-CA-163.03	Lincoln	State

MP	Name	Surface	Crossing Method	Ingress	Construction Access Name	County	Land Ownership
157.72	Fo34	Dirt	Open Cut	YES	S5-CA-157.72	Lincoln	Private
156.10	Unknown Road	Dirt	Open Cut	NO		Lincoln	Private
155.77	Unknown Road	Dirt	Open Cut	NO		Lincoln	Private
153.33	Red Cliff Road (B048)	Gravel	Bore	YES	S5-CA-153.33	Lincoln	Private
152.84	Unknown Road	Dirt	Open Cut	NO		Lincoln	Private
150.88	Unknown Road*	Dirt	Open Cut	YES	S5-CA-150.88	Lincoln	Private
149.70	US-285	Paved	Bore	NO		De Baca	Private
149.67	Unknown Road	Dirt	Open Cut	YES	S5-CA-149.67	De Baca	Private
149.12	Unknown Road*	Dirt	Open Cut	YES	S5-CA-149.12	De Baca	Private
146.87	CR-1-51	Gravel	Open Cut	YES	S5-CA-146.87	De Baca	Private
146.04	Unknown Road	Dirt	Open Cut	NO		De Baca	Private
144.74	Yeso Creek Road (CR-1-42)	Gravel	Open Cut	YES	S5-CA-144.74	De Baca	Private
107.91	Unknown Road	Dirt	Open Cut	NO		Chaves	Private
106.25	Unknown Road	Dirt	Open Cut	YES	S6-CA-106.25	Chaves	Private
105.96	Unknown Road*	Dirt	Open Cut	YES	S6-CA-105.96	Chaves	BLM RFO
104.55	Unknown Road	Dirt	Open Cut	NO		Chaves	Private
102.95	Unknown Road*	Gravel/Dirt	Open Cut	YES	S6-CA-102.95	Chaves	Private
102.69	Cloudcraft Road (CR-1)	Gravel/Dirt	Open Cut	YES	S6-CA-102.69	Chaves	BLM RFO
101.80	Unknown Road	Dirt	Open Cut	NO		Chaves	State
101.77	Aztec Road (CR-1) *	Gravel/Dirt	Open Cut	YES	S6-CA-101.77	Chaves	State
101.32	Unknown Road	Dirt	Open Cut	NO		Chaves	Private
100.22	Unknown Road	Gravel/Dirt	Open Cut	YES	S6-CA-100.22	Chaves	BLM RFO
99.48	Unknown Road	Gravel/Dirt	Open Cut	YES	S6-CA-99.48	Chaves	Private
97.73	Unknown Road	Dirt	Open Cut	NO		Chaves	Private
97.28	Unknown Road	Dirt	Open Cut	YES	S6-CA-97.28	Chaves	Private
93.23	Olive Road (CR-C2)	Gravel	Bore	YES	S6-CA-93.23	Chaves	Private
92.96	US-70	Paved	Bore	NO		Chaves	Private

MP	Name	Surface	Crossing Method	Ingress	Construction Access Name	County	Land Ownership
92.67	Unknown Road*	Dirt	Open Cut	YES	S6-CA-92.67	Chaves	Private
91.55	Santa Fe RR	RR	Bore	NO		Chaves	Private
87.99	Unknown Road*	Dirt	Open Cut	YES	S6-CA-87.99	Chaves	Private
86.30	White Lake Ranch Road (CR-50)	Gravel/Dirt	Open Cut	YES	S6-CA-86.30	Chaves	Private
85.85	White Lake Ranch Road (CR-49)	Gravel/Dirt	Open Cut	YES	S6-CA-85.85	Chaves	Private
85.00	Unknown Road	Gravel/Dirt	Open Cut	YES	S6-CA-85.00	Chaves	State
84.34	Unknown Road	Gravel/Dirt	Open Cut	YES	S6-CA-84.34	Chaves	State
84.17	Unknown Road	Gravel/Dirt	Open Cut	YES	S6-CA-84.17	Chaves	State
83.65	Unknown Road	Gravel/Dirt	Open Cut	YES	S6-CA-83.65	Chaves	Private
83.03	Unknown Road	Gravel/Dirt	Open Cut	YES	S6-CA-83.03	Chaves	Private
82.99	Unknown Road	Gravel/Dirt	Open Cut	YES	S6-CA-82.99	Chaves	Private
82.57	Unknown Road	Gravel/Dirt	Open Cut	YES	S6-CA-82.57	Chaves	Private
80.57	Access Road - White Lake Meter Station	Gravel/Dirt	N/A	YES	S6-CA-80.57	Chaves	State
80.39	Unknown Road	Dirt	Open Cut	NO		Chaves	State
80.11	Unknown Road	Dirt	Open Cut	NO		Chaves	State
78.44	Unknown Road	Dirt	Open Cut	NO		Chaves	Private
78.14	Unknown Road	Dirt	Open Cut	NO		Chaves	Private
76.67	Unknown Road	Dirt	Open Cut	NO		Chaves	BLM RFO
76.64	Unknown Road	Dirt	Open Cut	NO		Chaves	BLM RFO
76.48	Unknown Road	Gravel/Dirt	Open Cut	YES	S6-CA-76.48	Chaves	BLM RFO
76.16	Unknown Road	Gravel/Dirt	Open Cut	YES	S6-CA-76.16	Chaves	BLM RFO
75.62	Unknown Road	Gravel/Dirt	Open Cut	YES	S6-CA-75.62	Chaves	BLM RFO
75.30	Unknown Road	Dirt	Open Cut	NO		Chaves	BLM RFO
73.06	Cato Road	Gravel/Dirt	Open Cut	YES	S6-CA-73.06	Chaves	BLM RFO
69.75	Field Road	Dirt	Open Cut	NO		Chaves	BLM RFO
46.89	Frier Road (CR-152)	Gravel	Open Cut	YES	S7-CA-46.89	Lea	Private

MP	Name	Surface	Crossing Method	Ingress	Construction Access Name	County	Land Ownership
43.92	Field Road	Gravel	Open Cut	YES	S7-CA-43.92	Lea	Private
43.18	Sartin Road (CR-149)	Gravel	Bore	YES	S7-CA-43.18	Lea	Private
42.47	Sanders Road	Gravel	Open Cut	YES	S7-CA-42.47	Lea	Private
40.98	CR-147	Gravel	Bore	YES	S7-CA-40.98	Lea	Private
39.14	CR-147	Paved	Bore	YES	S7-CA-39.14	Lea	Private
36.34	Field Road	Dirt	Open Cut	YES	S7-CA-36.34	Lea	State
36.01	Field Road	Dirt	Open Cut	NO		Lea	Private
33.71	Kidd Road (CR-109)	Gravel	Open Cut	YES	S7-CA-33.71	Lea	Private
33.55	Hillburn Road (CR-108)	Paved	Bore	YES	S7-CA-33.55	Lea	State
31.93	Hester Road (CR-107)	Gravel	Bore	YES	S7-CA-31.93	Lea	Private
31.10	Reed Road (CR-103)	Paved	Bore	YES	S7-CA-31.10	Lea	Private
30.33	Dickens Road (CR-106)	Gravel	Bore	YES	S7-CA-30.33	Lea	Private
29.84	Six Shooter Road (CR-110)	Paved	Bore	YES	S7-CA-29.84	Lea	Private
28.74	CR-206	Paved	Bore	YES	S7-CA-28.74	Lea	Private
28.64	Field Road	Gravel	Open Cut	YES	S7-CA-28.64	Lea	Private
28.26	E Crockett Road (CR-114)	Paved	Bore	YES	S7-CA-28.26	Lea	Private
27.76	Oil Field Road	Gravel	Open Cut	YES	S7-CA-27.76	Lea	Private
26.05	E. Leman Road (CR-113)	Gravel	Open Cut	YES	S7-CA-26.05	Lea	Private
25.55	Unknown Road	Gravel	Open Cut	YES	S7-CA-25.55	Lea	Private
24.64	US-82	Paved	Bore	YES	S7-CA-24.64	Lea	Private
23.17	Ownes Road (CR-115)	Gravel	Bore	YES	S7-CA-23.17	Lea	Private
22.54	Field Road	Dirt	Open Cut	NO		Lea	Private
22.16	Field Road	Dirt	Open Cut	NO		Lea	Private
21.79	Field Road	Dirt	Open Cut	NO		Lea	State
21.09	Field Road	Dirt	Open Cut	NO		Lea	Private
20.95	Field Road (CR-87)	Gravel	Open Cut	NO		Lea	Private
20.31	Marlee Road (CR-87)	Paved	Bore	YES	S7-CA-20.31	Lea	Private

MP	Name	Surface	Crossing Method	Ingress	Construction Access Name	County	Land Ownership
19.65	Field Road	Dirt	Open Cut	NO		Lea	Private
19.46	Field Road	Dirt	Open Cut	NO		Lea	Private
18.97	Praireview Road (CR-89)	Paved	Bore	YES	S7-CA-18.97	Lea	Private
18.67	SR-83	Paved	Bore	YES	S7-CA-18.67	Lea	State
14.85	Knowles Road	Gravel	Open Cut	YES	S7-CA-14.85	Lea	Private
14.35	Thornhill Road (SR-133)	Paved	Bore	YES	S7-CA-14.35	Lea	Private
* Existing access roads requiring improvements (see Table B-4).							

Table B-4
Existing Access Roads Requiring Improvements

Name	Length (feet)	Width [1] (feet)	Disturbance (acres)	Construction Access Name	Landownership	Improvement Notes
Segment 1						
CA #43	311	25	0.18	S1-CA-413.46	BLM FFO	Portion of access road
CA #19	100	25	0.06	S1-CA-396.05	BIA/Tribal	Portion of access road
CA #14A	2,233	25	1.28	S1-CA-382.21	BLM FFO	All of access road
CA #9	75	25	0.04	S1-CA-374.52	BIA/Tribal	All of access road
Segment 2						
CA #34	2,918	25	1.67	S2-CA-350.19	BLM FFO	Portion of access road [3]
CA #21	1,416	25	0.81	S2-CA-328.70	BLM RPFO	Portion of access road [3]
CA #16	1,008	25	0.58	S2-CA-322.46	BLM RPFO	Portion of access road [3]
CA #14A			0.00	S2-CA-319.30	BLM RPFO	1 waterbody crossing only [2, 3]
CA #11			0.00	S2-CA-309.22	BIA/Tribal	3 waterbody crossings only [2, 3]
CA #10	500	25	0.29	S2-CA-308.06	BIA/Tribal	Portion of access road
CA #9	290	25	0.17	S2-CA-306.48	BLM/Tribal	Portion of access road
CA #8	400	25	0.23	Associated with S2-CA-306.28	Private BLM/Tribal	3 waterbody crossings only [2]
CA #8B	1,907	25	1.09	S2-CA-305.39	Private	All of access road
CA #8A	1,873	25	1.07	S2-CA-305.04	BLM RPFO	All of access road
Segment 3						
CA #8	567	25	0.32	S3-CA-266.71	Private	All of access road
CA #6	5,355	25	3.07	S3-CA-257.84	Private	All of access road
CA #2	2,642	25	1.52	S3-CA-246.48	Private	All of access road
CA #1A	1,337	25	0.77	S3-CA-239.03	Private	Portion of access road
Segment 5						
CA #8	991	25	0.57	S5-CA-174.99	BLM RFO	Portion of access road
CA #4	5,280	25	3.03	S5-CA-150.88	Private	All of access road
CA #2	1,334	25	0.77	S5-CA-149.12	Private	All of access road
Segment 6						
CA #19A	467	25	0.27	S6-CA-105.96	BLM RFO	Portion of access road
CA #18	947	25	0.54	S6-CA-102.95	Private	Portion of access road
CA #17	2,279	25	1.31	S6-CA-101.77	State	All of access road
CA #13	1,450	25	0.83	S6-CA-92.67	Private	All of access road
CA #12	5,820	25	3.34	S6-CA-87.99	Private	All of access road
		Total	**23.81**			

[1] Width is approximate and based on the worst case scenario. Typically, roads would be bladed to a width between 8 and 12 feet.
[2] Waterbody crossing may require a temporary passing structure (i.e., timber mats, rail car, or flume pipe or combination depending on site-specific requirements) to allow construction equipment to cross the feature.
[3] Cultural surveys have not yet been completed for these roads; all other roads have been surveyed (see cultural report for survey results).

Table B-5
Temporary Use Areas Required for WEP III

Segment	Milepost	Dimension (feet)	Purpose	Side of Right-of-Way	Acres	Land Ownership
Segment 1	415.61	50 x 1057	Tie-In	Working	1.52	BLM FFO
Segment 1	415.54	50 x 540	PI	Non-Working	1.33	BLM FFO
Segment 1	413.92	100 x 2311	HDD Pullback	Working	5.09	BLM FFO
Segment 1	413.92	123 x 194	HDD	Non-Working	0.49	BLM FFO
Segment 1	413.92	123 x 194	HDD	Non-Working	0.00	BLM FFO
Segment 1	413.46	140 x 393	HDD, Wetland/Waterbody Crossing	Working	1.25	BLM FFO
Segment 1	413.14	75 x 251	HDD, Wetland/Waterbody Crossing	Non-Working	0.28	BLM FFO
Segment 1	413.14	65 x 370	HDD, Wetland/Waterbody Crossing	Working	0.63	BLM FFO
Segment 1	412.89	25 x 125	Turn Around	Working	0.09	BLM FFO
Segment 1	412.12	25 x 230	PI, Cross-Over	Working	0.12	BLM FFO
Segment 1	412.10	25 x 205	PI, Cross-Over	Non-Working	0.12	BLM FFO
Segment 1	412.10	25 x 205	PI, Cross-Over	Non-Working	0.00	BLM FFO
Segment 1	411.95	50 x 310	Canal Crossing	Working	0.46	BLM FFO
Segment 1	411.95	50 x 310	Canal Crossing	Working	0.00	BLM FFO
Segment 1	411.93	25 x 222	Canal Crossing	Non-Working	0.09	BLM FFO
Segment 1	408.44	50 x 100	Staging	Non-Working	0.12	Private
Segment 1	404.60	75 x 200	Staging	Working	0.34	BLM FFO
Segment 1	400.77	150 x 941	Facility	Working	1.36	BLM FFO
Segment 1	400.77	150 x 941	Facility	Working	0.00	BLM FFO
Segment 1	397.21	25 x 400	Road Crossing (CR 7425)	Working	0.23	BIA/Tribal
Segment 1	395.79	25 x 200	PI, Cross-Over, Road Crossing (US-550)	Working	0.13	BLM FFO
Segment 1	395.68	25 x 225	PI, Road Crossing (US-550)	Non-Working	0.14	BIA/Tribal
Segment 1	395.06	25 x 200	Road Crossing (Indian Service)	Working	0.11	Private
Segment 1	395.00	25 x 200	Road Crossing (Indian Service)	Working	0.11	Private
Segment 1	390.81	65 x 400	Road Crossing (SH-57)	Working	0.57	BLM FFO
Segment 1	390.73	65 x 400	Road Crossing (SH-57)	Working	0.62	BLM FFO
Segment 1	388.43	65 x 200	Staging	Working	0.30	BLM FFO
Segment 1	386.19	65 x 200	Staging	Working	0.30	BLM FFO
Segment 1	382.56	25 x 125	Road Crossing (Indian Service)	Working	0.08	State
Segment 1	382.52	25 x 125	Road Crossing (Indian Service)	Working	0.06	State
Segment 1	382.39	50 x 200	Road Crossing (US-550)	Working	0.23	State
Segment 1	382.39	50 x 200	Road Crossing (US-550)	Working	0.00	State

Segment	Milepost	Dimension (feet)	Purpose	Side of Right-of-Way	Acres	Land Ownership
Segment 1	382.34	50 x 200	Road Crossing (US-550)	Working	0.25	State
Segment 1	379.29	65 x 400	Staging	Working	0.60	BLM FFO
Segment 1	378.27	65 x 200	Staging	Working	0.30	BLM FFO
Segment 1	376.26	65 x 400	Staging	Working	0.60	BLM FFO
Segment 1	375.84	50 x 70	Staging	Non-Working	0.08	BIA/Tribal
Segment 1	375.05	25 x 150	PI, Cross-Over	Non-Working	0.09	BIA/Tribal
Segment 1	371.56	25 x 151	PI	Working	0.08	BIA/Tribal
Segment 1	371.56	25 x 151	PI	Working	0.01	Private
Segment 1	371.29	65 x 266	Access	Working	0.38	Private
Segment 1	370.42	440 x 536	Tie-In	Working	0.26	BIA/Tribal
Segment 1	370.42	440 x 536	Tie-In	Working	0.79	Private
Segment 1	370.42	440 x 536	Tie-In	Working	1.33	BLM FFO
Segment 1	370.42	440 x 536	Tie-In	Working	0.00	BLM FFO
Segment 2	350.21	290 x 314	Tie-In	Working	1.39	BLM FFO
Segment 2	346.60	50 x 200	Road Crossing	Working	0.25	BLM FFO
Segment 2	346.56	50 x 200	Road Crossing	Working	0.21	BLM FFO
Segment 2	346.41	50 x 240	PI, Cross-Over	Working	0.34	BIA/Tribal
Segment 2	346.39	50 x 220	PI, Cross-Over	Non-Working	0.30	BIA/Tribal
Segment 2	340.50	50 x 200	Ingress / Egress, Road Crossing	Working	0.23	BLM RPFO
Segment 2	340.50	50 x 200	Ingress / Egress, Road Crossing	Working	0.00	BLM RPFO
Segment 2	340.22	50 x 200	Staging	Working	0.00	State
Segment 2	340.22	50 x 200	Staging	Working	0.00	State
Segment 2	340.22	50 x 200	Staging	Working	0.25	BLM RPFO
Segment 2	340.22	50 x 200	Staging	Working	0.00	BLM RPFO
Segment 2	336.65	50 x 150	Ingress / Egress, Road Crossing	Working	0.19	BLM RPFO
Segment 2	334.59	50 x 150	Ingress / Egress, Road Crossing (SR-197)	Working	0.18	BLM RPFO
Segment 2	334.55	50 x 150	Ingress / Egress, Road Crossing (SR-197)	Working	0.16	BLM RPFO
Segment 2	332.97	50 x 150	Ingress / Egress, Road Crossing (Torreon Mission)	Working	0.15	BIA/Tribal
Segment 2	332.93	50 x 150	Ingress / Egress, Road Crossing (Torreon Mission)	Working	0.19	BIA/Tribal
Segment 2	331.76	50 x 200	Ingress / Egress, Road Crossing (CR-85)	Working	0.25	BIA/Tribal
Segment 2	331.72	50 x 200	Ingress / Egress, Road Crossing (CR-85)	Working	0.21	BIA/Tribal
Segment 2	328.90	25 x 125	PI, Cross-Over	Working	0.08	BLM RPFO
Segment 2	328.86	25 x 125	PI, Cross-Over	Working	0.08	BLM RPFO
Segment 2	327.82	50 x 100	Ingress / Egress, Staging	Working	0.11	Private

Segment	Milepost	Dimension (feet)	Purpose	Side of Right-of-Way	Acres	Land Ownership
Segment 2	327.57	50 x 200	Ingress / Egress, Parking	Working	0.37	Private
Segment 2	327.32	25 x 100	PI	Working	0.05	BLM RPFO
Segment 2	327.25	25 x 100	PI	Working	0.07	BLM RPFO
Segment 2	324.32	137 x 110	PI, Facility	Non-Working	0.13	BLM RPFO
Segment 2	324.22	69 x 289	Facility	Non-Working	0.46	BLM RPFO
Segment 2	321.20	50 x 400	PI, Cross-Over	Non-Working	0.54	BLM RPFO
Segment 2	321.17	50 x 350	PI, Cross-Over	Non-Working	0.44	BLM RPFO
Segment 2	320.97	66 x 100	Access	Non-Working	0.12	BLM RPFO
Segment 2	320.54	50 x 1500	Wetland/Waterbody Crossing	Working	1.72	BLM RPFO
Segment 2	320.41	16 x 252	HDD	Working	0.05	BLM RPFO
Segment 2	320.13	26 x 203	HDD	Non-Working	0.12	BLM RPFO
Segment 2	320.12	65 x 300	Wetland/Waterbody Crossing	Working	0.45	BLM RPFO
Segment 2	316.74	50 x 300	Staging	Working	0.36	BLM RPFO
Segment 2	313.92	50 x 416	PI, Cross-Over	Non-Working	0.54	BLM RPFO
Segment 2	313.89	50 x 416	PI, Cross-Over	Non-Working	0.53	BLM RPFO
Segment 2	313.61	50 x 425	PI, Cross-Over	Non-Working	0.55	BLM RPFO
Segment 2	313.58	50 x 425	PI, Cross-Over	Non-Working	0.54	BLM RPFO
Segment 2	312.78	50 x 438	PI, Cross-Over	Non-Working	0.56	BIA/Tribal
Segment 2	312.76	50 x 325	PI, Cross-Over	Non-Working	0.45	BIA/Tribal
Segment 2	311.47	70 x 200	Wetland/Waterbody Crossing	Non-Working	0.31	BIA/Tribal
Segment 2	310.07	50 x 150	Staging	Working	0.18	BIA/Tribal
Segment 2	309.45	125 x 200	PI, Steep Slope	Working	0.53	BIA/Tribal
Segment 2	309.23	50 x 200	Access	Working	0.23	BIA/Tribal
Segment 2	309.23	50 x 200	Access	Working	0.00	BIA/Tribal
Segment 2	308.25	50 x 208	Access	Non-Working	0.22	BIA/Tribal
Segment 2	308.20	15 x 377	Staging	Non-Working	0.12	BIA/Tribal
Segment 2	308.20	10 x 348	Staging	Working	0.09	BIA/Tribal
Segment 2	307.93	72 x 78	Access	Non-Working	0.09	BIA/Tribal
Segment 2	307.93	56 x 313	Staging	Working	0.21	BIA/Tribal
Segment 2	307.93	72 x 78	Access	Non-Working	0.00	BIA/Tribal
Segment 2	307.17	50 x 382	PI, Cross-Over	Non-Working	0.50	BIA/Tribal
Segment 2	307.14	50 x 382	PI, Cross-Over	Non-Working	0.50	BIA/Tribal
Segment 2	306.55	50 x 200	Staging	Working	0.23	BIA/Tribal
Segment 2	305.37	50 x 165	PI, Steep Slope	Working	0.21	Private

Segment	Milepost	Dimension (feet)	Purpose	Side of Right-of-Way	Acres	Land Ownership
Segment 2	305.37	50 x 165	PI, Steep Slope	Working	0.02	BLM RPFO
Segment 2	305.33	70 x 198	PI, Steep Slope	Non-Working	0.25	BLM RPFO
Segment 2	305.17	70 x 200	Wetland/Waterbody Crossing	Non-Working	0.28	BLM RPFO
Segment 2	305.04	100 x 178	PI, Change Direction	Non-Working	0.70	State
Segment 2	305.04	100 x 178	PI, Change Direction	Non-Working	0.21	BLM RPFO
Segment 2	301.78	50 x 260	Staging	Non-Working	0.15	Private
Segment 2	301.78	50 x 260	Staging	Non-Working	0.17	BLM RPFO
Segment 2	301.12	100 x 311	HDD Pullback (Alternate Option)	Non-Working	0.53	BIA/Tribal
Segment 2	300.05	50 x 200	Ingress / Egress, Road Crossing (Cabezon)	Working	0.23	BIA/Tribal
Segment 2	299.42	81 x 122	Tie-In	Non-Working	0.18	BIA/Tribal
Segment 2	299.42	81 x 122	Tie-In	Non-Working	0.00	BIA/Tribal
Segment 2	299.41	171 x 301	Staging	Non-Working	1.01	BIA/Tribal
Segment 2	299.41	50 x 200	Tie-In	Working	0.33	BIA/Tribal
Segment 2	299.41	171 x 301	Staging	Non-Working	0.00	BIA/Tribal
Segment 3	270.04	50 x 200	Tie-In	Working	0.29	Private
Segment 3	270.04	50 x 200	Tie-In	Working	0.00	Private
Segment 3	267.31	50 x 400	Ingress / Egress, Road Crossing (La Madera)	Working	0.46	Private
Segment 3	266.32	25 x 200	Steep Slope	Working	0.12	Private
Segment 3	265.93	25 x 200	PI	Working	0.11	State
Segment 3	265.33	50 x 335	PI, Cross-Over	Non-Working	0.44	Private
Segment 3	265.31	50 x 335	PI, Cross-Over	Non-Working	0.44	Private
Segment 3	264.85	50 x 200	Staging	Working	0.23	Private
Segment 3	264.36	25 x 180	Staging	Working	0.10	BLM RPFO
Segment 3	262.98	60 x 100	Parking	Non-Working	0.13	Private
Segment 3	261.69	25 x 615	Road Crossing (SR-14)	Non-Working	0.25	Private
Segment 3	260.59	50 x 200	Staging	Working	0.23	Private
Segment 3	258.93	50 x 320	PI, Cross-Over	Non-Working	0.40	Private
Segment 3	258.90	50 x 350	PI, Cross-Over	Non-Working	0.47	Private
Segment 3	258.32	50 x 344	PI, Cross-Over	Non-Working	0.44	Private
Segment 3	258.30	50 x 345	PI, Cross-Over	Non-Working	0.45	Private
Segment 3	257.84	50 x 100	Ingress / Egress, Parking	Non-Working	0.11	Private
Segment 3	256.16	50 x 400	PI, Cross-Over	Non-Working	0.52	Private
Segment 3	255.52	50 x 200	PI, Cross-Over	Working	0.23	Private
Segment 3	255.48	50 x 468	PI, Cross-Over, Road Crossing (Entranosa)	Non-Working	0.65	Private

Segment	Milepost	Dimension (feet)	Purpose	Side of Right-of-Way	Acres	Land Ownership
Segment 3	255.42	50 x 150	Road Crossing (Entranosa)	Working	0.17	Private
Segment 3	255.42	50 x 150	Road Crossing (Entranosa)	Working	0.00	Private
Segment 3	254.44	25 x 150	Road Crossing (Frost)	Working	0.09	Private
Segment 3	254.40	25 x 170	Road Crossing (Frost)	Working	0.09	Private
Segment 3	252.82	50 x 200	PI, Cross-Over, Road Crossing (Nugent)	Working	0.23	Private
Segment 3	252.78	50 x 175	PI, Cross-Over, Road Crossing (Nugent)	Working	0.26	Private
Segment 3	252.19	50 x 200	Road Crossing (SR-344)	Working	0.23	Private
Segment 3	252.11	50 x 628	Facility	Working	0.96	Private
Segment 3	251.22	60 x 260	Access	Working	0.36	Private
Segment 3	248.46	50 x 230	PI, Cross-Over	Non-Working	0.22	Private
Segment 3	246.48	50 x 150	Road Crossing (Venus)	Working	0.17	Private
Segment 3	245.27	25 x 132	Road Crossing (Dinkle)	Working	0.06	Private
Segment 3	245.27	140 x 133	Road Crossing (Dinkle)	Working	0.20	Private
Segment 3	245.23	25 x 150	Road Crossing (Dinkle)	Working	0.09	Private
Segment 3	245.12	50 x 295	PI, Cross-Over	Non-Working	0.40	Private
Segment 3	245.10	50 x 295	PI, Cross-Over	Non-Working	0.40	Private
Segment 3	242.83	25 x 168	Road Crossing (Martin)	Working	0.09	Private
Segment 3	242.79	25 x 153	Road Crossing (Martin)	Working	0.09	Private
Segment 3	238.44	25 x 150	Road Crossing (SR-41)	Working	0.08	Private
Segment 3	238.39	50 x 150	Road Crossing (SR-41)	Working	0.17	Private
Segment 3	236.18	192 x 750	HDD (I-40), Staging	Non-Working	2.73	Private
Segment 3	236.17	50 x 670	HDD (I-40)	Non-Working	0.79	Private
Segment 3	235.88	100 x 1300	HDD (I-40) Pullback	Working	3.54	Private
Segment 3	235.36	25 x 200	PI, Cross-Over	Working	0.11	Private
Segment 3	235.35	50 x 100	PI, Cross-Over	Non-Working	0.11	Private
Segment 3	234.96	25 x 100	Road Crossing (Martinez)	Working	0.06	Private
Segment 3	234.93	50 x 100	Road Crossing (Martinez)	Working	0.11	Private
Segment 3	233.44	50 x 344	PI, Cross-Over	Non-Working	0.45	State
Segment 3	233.41	50 x 343	PI, Cross-Over	Non-Working	0.45	State
Segment 3	232.62	65 x 150	Road Crossing (Stagecoach)	Working	0.27	Private
Segment 3	232.58	25 x 174	Road Crossing (Stagecoach)	Working	0.09	Private
Segment 3	232.10	50 x 150	Foreign Line Crossing	Working	0.18	Private
Segment 3	229.06	50 x 150	Ingress / Egress, Road Crossing (Unknown)	Working	0.17	Private
Segment 3	225.48	50 x 150	Road Crossing (Unknown)	Working	0.17	Private

Segment	Milepost	Dimension (feet)	Purpose	Side of Right-of-Way	Acres	Land Ownership
Segment 3	223.55	65 x 230	Road Crossing (CR-A080)	Working	0.31	State
Segment 5	175.00	276 x 530	Tie-In	Working	0.14	Private
Segment 5	175.00	276 x 530	Tie-In	Working	1.49	BLM RFO
Segment 5	170.97	50 x 300	Road Crossing (Unknown)	Working	0.34	BLM RFO
Segment 5	168.16	50 x 400	Road Crossings (CR-3Ka & Unknown)	Working	0.00	Private
Segment 5	168.16	50 x 400	Road Crossings (CR-3Ka & Unknown)	Working	0.46	BLM RFO
Segment 5	165.31	50 x 300	Staging	Working	0.34	State
Segment 5	165.31	50 x 300	Staging	Working	0.00	State
Segment 5	163.02	50 x 400	Road Crossing (Fo27)	Working	0.00	Private
Segment 5	163.02	50 x 400	Road Crossing (Fo27)	Working	0.46	State
Segment 5	161.42	50 x 400	Staging	Working	0.34	State
Segment 5	158.57	50 x 300	Staging	Working	0.34	State
Segment 5	157.75	50 x 200	Road Crossing (Fo34)	Working	0.23	Private
Segment 5	156.11	65 x 230	Road Crossing (Unknown)	Working	0.35	Private
Segment 5	153.33	50 x 200	Road Crossing (Fo36)	Working	0.26	Private
Segment 5	150.87	50 x 200	Staging	Working	0.23	Private
Segment 5	149.75	50 x 450	Road Crossing (US-285)	Working	0.24	Private
Segment 5	149.75	50 x 450	Road Crossing (US-285)	Working	0.29	Private
Segment 5	149.62	195 x 285	Road Crossing (US-285)	Working	0.69	Private
Segment 5	146.91	50 x 205	Road Crossing (CR-1-51)	Working	0.21	Private
Segment 5	146.88	50 x 150	Road Crossing (CR-1-51)	Working	0.20	Private
Segment 5	144.76	50 x 200	Road Crossing (CR-1-42)	Working	0.24	Private
Segment 5	144.72	83 x 203	Tie-In, Road Crossing (CR-1-42)	Working	0.54	Private
Segment 6	107.96	300 x 365	Tie-In	Working	1.27	Private
Segment 6	105.84	65 x 425	Wetland/Waterbody Crossing (Pecos River)	Working	0.47	BLM RFO
Segment 6	105.70	50 x 290	HDD	Non-Working	0.33	BLM RFO
Segment 6	105.50	50 x 295	HDD	Non-Working	0.34	Private
Segment 6	105.29	25 x 1644	Wetland/Waterbody Crossing (Pecos River)	Working	0.92	Private
Segment 6	102.70	50 x 148	Road Crossing (CR-1)	Working	0.17	Private
Segment 6	102.70	50 x 148	Road Crossing (CR-1)	Working	0.01	BLM RFO
Segment 6	102.65	50 x 228	Road Crossing (CR-1)	Working	0.02	State
Segment 6	102.65	50 x 228	Road Crossing (CR-1)	Working	0.22	BLM RFO
Segment 6	101.81	50 x 190	Road Crossing (CR-1)	Working	0.19	State
Segment 6	100.48	50 x 150	Wetland/Waterbody Crossing	Working	0.17	BLM RFO

Segment	Milepost	Dimension (feet)	Purpose	Side of Right-of-Way	Acres	Land Ownership
Segment 6	100.25	50 x 450	Wetland/Waterbody Crossing	Working	0.52	BLM RFO
Segment 6	98.09	50 x 150	Staging	Working	0.17	BLM RFO
Segment 6	97.84	50 x 150	PI	Working	0.19	BLM RFO
Segment 6	97.27	50 x 400	Foreign Line Crossing	Working	0.46	Private
Segment 6	95.55	50 x 150	Foreign Line Crossing	Working	0.17	Private
Segment 6	93.24	50 x 150	Road Crossing (CR-2)	Working	0.18	Private
Segment 6	93.20	50 x 170	Road Crossing (CR-2)	Working	0.18	Private
Segment 6	93.01	50 x 168	Road Crossing (US-70)	Working	0.21	Private
Segment 6	92.93	50 x 304	Road Crossing (US-70)	Working	0.38	Private
Segment 6	91.65	50 x 300	RR Crossing	Working	0.34	Private
Segment 6	91.46	50 x 300	RR Crossing	Working	0.34	Private
Segment 6	89.54	50 x 300	Road Crossing (Unknown)	Working	0.34	Private
Segment 6	86.31	50 x 200	Road Crossing (CR-50)	Working	0.24	Private
Segment 6	86.27	50 x 185	Road Crossing (CR-50)	Working	0.19	Private
Segment 6	82.57	50 x 150	Foreign Line Crossing	Working	0.20	Private
Segment 6	81.51	30 x 50	Ingress / Egress	Non-Working	0.03	Private
Segment 6	80.59	65 x 200	Staging	Working	0.30	State
Segment 6	80.54	50 x 690	Facility	Non-Working	0.27	State
Segment 7	46.90	65 x 545	Tie-In	Working	1.31	Private
Segment 7	43.22	50 x 192	Road Crossing (CR-149)	Working	0.20	Private
Segment 7	43.18	50 x 150	Road Crossing (CR-149)	Working	0.20	Private
Segment 7	40.97	50 x 150	Road Crossing (CR-147)	Working	0.20	Private
Segment 7	40.93	50 x 200	Road Crossing (CR-147)	Working	0.20	Private
Segment 7	39.18	50 x 194	Road Crossing (CR-147)	Working	0.20	Private
Segment 7	39.14	50 x 150	Road Crossing (CR-147)	Working	0.20	Private
Segment 7	33.75	50 x 188	Road Crossing (CR-109)	Working	0.19	Private
Segment 7	33.70	50 x 150	Road Crossing (CR-109)	Working	0.20	Private
Segment 7	33.49	50 x 260	Road Crossing (Hillburn)	Working	0.26	State
Segment 7	31.92	50 x 150	Road Crossing (CR-107)	Working	0.21	Private
Segment 7	31.87	50 x 208	Road Crossing (CR-107)	Working	0.21	Private
Segment 7	31.09	50 x 150	Road Crossing (Reed)	Working	0.19	Private
Segment 7	30.33	50 x 150	Road Crossing (CR-106)	Working	0.21	Private
Segment 7	30.28	50 x 208	Road Crossing (CR-106)	Working	0.21	Private
Segment 7	29.87	50 x 175	Road Crossing (Six Shooter)	Working	0.19	Private

Segment	Milepost	Dimension (feet)	Purpose	Side of Right-of-Way	Acres	Land Ownership
Segment 7	28.72	50 x 200	PI, Road Crossing (SH-18)	Working	0.25	Private
Segment 7	28.27	65 x 128	PI, Road Crossing (E. Crockett / CR-114)	Working	0.19	Private
Segment 7	26.08	50 x 200	Road Crossing (CR-113)	Working	0.23	Private
Segment 7	24.66	50 x 150	Road Crossing (US-82)	Working	0.18	Private
Segment 7	24.61	50 x 212	Road Crossing (US-82)	Working	0.23	Private
Segment 7	23.21	50 x 194	Road Crossing (CR-115)	Working	0.20	Private
Segment 7	23.20	50 x 312	Staging	Working	0.32	State
Segment 7	23.17	50 x 150	Road Crossing (CR-115)	Working	0.20	Private
Segment 7	20.35	50 x 192	Road Crossing (Wilkes)	Working	0.20	Private
Segment 7	20.32	50 x 150	Road Crossing (Wilkes)	Working	0.20	Private
Segment 7	18.97	50 x 150	Road Crossing (SH-133)	Working	0.02	Private
Segment 7	18.97	50 x 150	Road Crossing (SH-133)	Working	0.17	State
Segment 7	18.70	50 x 295	Road Crossing (SR-83)	Working	0.38	State
Segment 7	18.62	113 x 120	Road Crossing (SR-83)	Working	0.18	Private
Segment 7	14.33	50 x 156	Tie-In	Working	0.24	Private
				Total Acres	**84.8**	

Table B-6
Wetlands Located along WEP III

Milepost	Wetland	Cowardin Classification	Surface Ownership	County	Impact Avoidance
312.63	Associated with Unnamed Drainage	PEM	Tribal	Sandoval	Outside construction right-of-way
304.92	Associated with an Unnamed Spring	PEM	State	Sandoval	Construction right-of-way modified to avoid wetland
105.62	Associated with Pecos River	PEM	BLM	Chaves	Avoided through HDD

Table B-7
Waterbodies Crossed by WEP III

Waterbody Label	Waterbody Name	Flow[1]	Cowardin Classification[2]	Surface Ownership	County	Milepost	Proposed Crossing Technique
Segment 1							
1_2011_084	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	414.93	Open Cut
1_2011_085	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	414.84	Open Cut
1_2011_086	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	414.35	Open Cut
1_2011_95	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	413.97	Open Cut
1_2011_088	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	413.76	Open Cut
1_2011_089	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	413.56	Open Cut
1_2012_11	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	413.34	HDD
1_2012_22	Cutter Irrigation Canal	Perennial	Other	BLM FFO	San Juan	412.02	HDD
1_2011_081	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	411.45	Open Cut
1_2011_082	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	410.83	Open Cut
1_2011_083	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	410.45	Open Cut
1_2011_072	Unnamed Drainage	Ephemeral	R4SB	Private	San Juan	403.24	Open Cut
1_2011_080	Unnamed Drainage	Ephemeral	R4SB	Tribal	San Juan	396.60	Open Cut
1_2011_079	Unnamed Drainage	Ephemeral	R4SB	Tribal	San Juan	396.55	Open Cut
1_2011_078	Unnamed Drainage	Ephemeral	R4SB	Tribal	San Juan	396.42	Open Cut
1_2011_077	Unnamed Drainage	Ephemeral	R4SB	Tribal	San Juan	396.09	Open Cut
1_2011_076	Unnamed Drainage	Ephemeral	R4SB	Tribal	San Juan	395.96	Open Cut
1_2011_075	Unnamed Drainage	Ephemeral	R4SB	Tribal	San Juan	395.83	Open Cut
1_2011_074	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	395.42	Open Cut
1_2011_073	Unnamed Drainage	Ephemeral	R4SB	Private	San Juan	394.48	Open Cut

Waterbody Label	Waterbody Name	Flow[1]	Cowardin Classification[2]	Surface Ownership	County	Milepost	Proposed Crossing Technique
1_2011_071	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	388.76	Open Cut
1_2011_070	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	388.71	Open Cut
1_2011_067	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	388.19	Open Cut
1_2011_066	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	387.44	Open Cut
1_2011_065	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	387.39	Open Cut
1_2011_064	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	387.24	Open Cut
1_2011_069	Unnamed Drainage	Ephemeral	R4SB	Tribal	San Juan	384.41	Open Cut
1_2011_063	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	378.74	Open Cut
1_2011_062	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	378.63	Open Cut
1_2011_061	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	378.20	Open Cut
1_2011_060	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	378.03	Open Cut
1_2011_059	Unnamed Drainage	Ephemeral	R4SB	BLM FFO	San Juan	377.99	Open Cut
1_2011_058	Unnamed Drainage	Ephemeral	R4SB	Tribal	San Juan	377.72	Open Cut
1_2011_057	Unnamed Drainage	Ephemeral	R4SB	Tribal	San Juan	377.35	Open Cut
1_2011_056	Unnamed Drainage	Ephemeral	R4SB	Tribal	San Juan	376.98	Open Cut
1_2012_124	Unnamed Drainage	Ephemeral	R4SB	Tribal	San Juan	376.77	Open Cut
1_2011_040	Blanco Wash	Ephemeral	R4SB	Tribal	San Juan	375.73	Open Cut
1_2011_039	Blanco Wash	Ephemeral	R4SB	Tribal	San Juan	375.70	Open Cut
1_2011_038	Blanco Wash	Ephemeral	R4SB	Private	Rio Arriba	375.04	Open Cut
1_2011_055	Blanco Wash	Ephemeral	R4SB	Tribal	Rio Arriba	374.57	Open Cut
1_2011_054	Blanco Wash	Ephemeral	R4SB	Tribal	Rio Arriba	374.39	Open Cut
1_2011_053	Blanco Wash	Ephemeral	R4SB	BLM FFO	Rio Arriba	374.29	Open Cut
1_2011_052	Blanco Wash	Ephemeral	R4SB	Tribal	Rio Arriba	374.10	Open Cut
1_2011_050	Blanco Wash	Ephemeral	R4SB	Tribal	Rio Arriba	373.88	Open Cut

Waterbody Label	Waterbody Name	Flow[1]	Cowardin Classification[2]	Surface Ownership	County	Milepost	Proposed Crossing Technique
1_2011_049	Blanco Wash	Ephemeral	R4SB	Tribal	Rio Arriba	373.86	Open Cut
1_2011_048	Unnamed Drainage	Ephemeral	R4SB	Tribal	Rio Arriba	373.71	Open Cut
1_2011_047	Blanco Wash	Ephemeral	R4SB	Tribal	Rio Arriba	373.37	Open Cut
1_2011_046	Blanco Wash	Ephemeral	R4SB	Tribal	Rio Arriba	373.28	Open Cut
1_2011_045	Blanco Wash	Ephemeral	R4SB	BLM FFO	Rio Arriba	372.83	Open Cut
Segment 2							
2_2011_010	Encino Wash	Ephemeral	R4SB	Tribal	McKinley	349.87	Open Cut
2_2011_011	Unnamed Drainage	Ephemeral	R4SB	Tribal	McKinley	349.53	Open Cut
2_2011_012	Encino Wash	Ephemeral	R4SB	Tribal	McKinley	349.46	Open Cut
2_2011_013	Unnamed Drainage	Ephemeral	R4SB	Tribal	McKinley	349.13	Open Cut
2_2011_008	Encino Wash	Ephemeral	R4SB	Tribal	McKinley	348.87	Open Cut
2_2011_009	Encino Wash	Ephemeral	R4SB	Tribal	McKinley	348.44	Open Cut
2_2011_017	Unnamed Drainage	Ephemeral	R4SB	Tribal	McKinley	344.04	Open Cut
2_2011_018	Penistaja Arroyo	Ephemeral	R4SB	BLM RPFO	Sandoval	343.57	Open Cut
2_2012_97	Unnamed Drainage	Ephemeral	R4SB	BLM RPFO	Sandoval	343.17	Open Cut
2_2011_019	Unnamed Drainage	Ephemeral	R4SB	BLM RPFO	Sandoval	343.16	Open Cut
2_2011_020	Unnamed Drainage	Ephemeral	R4SB	BLM RPFO	Sandoval	342.93	Open Cut
2_2012_98	Unnamed Drainage	Ephemeral	R4SB	Tribal	Sandoval	342.64	Open Cut
2_2011_037	Unnamed Drainage	Ephemeral	R4SB	BLM RPFO	Sandoval	341.94	Open Cut
2_2011_028	Unnamed Drainage	Ephemeral	R4SB	BLM RPFO	Sandoval	337.93	Open Cut
2_2011_033	Unnamed Drainage	Ephemeral	R4SB	BLM RPFO	Sandoval	336.29	Open Cut
2_2011_034	Unnamed Drainage	Ephemeral	R4SB	BLM RPFO	Sandoval	335.22	Open Cut
2_2011_024	Unnamed Drainage	Ephemeral	R4SB	BLM RPFO	Sandoval	334.61	Open Cut
2_2011_023	Unnamed Drainage	Ephemeral	R4SB	Tribal	Sandoval	332.79	Open Cut

Waterbody Label	Waterbody Name	Flow[1]	Cowardin Classification[2]	Surface Ownership	County	Milepost	Proposed Crossing Technique
2_2012_99	Piedra Lumbre, Arroyo	Ephemeral	R4SB	Private	Sandoval	327.62	Open Cut
2_2011_035	Unnamed Drainage	Ephemeral	R4SB	BLM RPFO	Sandoval	327.41	Open Cut
2_2011_036	Unnamed Drainage	Ephemeral	R4SB	BLM RPFO	Sandoval	325.47	Open Cut
2_2011_026	Unnamed Drainage	Ephemeral	R4SB	BLM RPFO	Sandoval	325.07	Open Cut
2_2011_027	Unnamed Drainage	Ephemeral	R4SB	BLM RPFO	Sandoval	322.68	Open Cut
2_2012_001	Rio Puerco	Ephemeral	R4SB	BLM RPFO	Sandoval	320.27	HDD
2_2011_002	Unnamed Drainage	Ephemeral	R4SB	BLM RPFO	Sandoval	316.46	Open Cut
2_2011_003	Unnamed Drainage	Ephemeral	R4SB	BLM RPFO	Sandoval	316.28	Open Cut
2_2011_004	Unnamed Drainage	Ephemeral	R4SB	BLM RPFO	Sandoval	313.87	Open Cut
2_2012_101	Unnamed Drainage	Ephemeral	R4SB	BLM RPFO	Sandoval	313.70	Open Cut
2_2011_005	Unnamed Drainage	Ephemeral	R4SB	BLM RPFO	Sandoval	313.67	Open Cut
2_2011_006	Unnamed Drainage	Ephemeral	R4SB	Tribal	Sandoval	313.09	Open Cut
2_2011_007	Unnamed Drainage	Ephemeral	R4SB	Tribal	Sandoval	313.04	Open Cut
2_2012_110	Ojito, Arroyo	Intermittent	R4SB	Tribal	Sandoval	312.52	Open Cut
2_2012_109	Ojito, Arroyo	Intermittent	R4SB	Tribal	Sandoval	312.20	Open Cut
2_2012_108	Ojito, Arroyo	Intermittent	R4SB	Tribal	Sandoval	311.84	Open Cut
2_2012_107	Ojito, Arroyo	Intermittent	R4SB	Tribal	Sandoval	311.50	Open Cut
2_2012_106	Unnamed Drainage	Intermittent	R4SB	Tribal	Sandoval	311.38	Open Cut
2_2012_105	Ojito, Arroyo	Intermittent	R4SB	Tribal	Sandoval	311.12	Open Cut
2_2012_104	Unnamed Drainage	Intermittent	R4SB	Tribal	Sandoval	310.22	Open Cut
2_2012_3	Salado, Rio	Intermittent	R4SB	Tribal	Sandoval	309.00	Road Crossing
2_2012_4	Cuchilla Arroyo	Ephemeral	R4SB	Tribal	Sandoval	309.00	Road Crossing
2_2012_5	Cuchilla Arroyo	Ephemeral	R4SB	Tribal	Sandoval	309.00	Road Crossing
2_2012_6	Cuchilla Arroyo	Ephemeral	R4SB	Tribal	Sandoval	309.00	Road Crossing

Waterbody Label	Waterbody Name	Flow[1]	Cowardin Classification[2]	Surface Ownership	County	Milepost	Proposed Crossing Technique
2_2012_7	Cuchilla Arroyo	Ephemeral	R4SB	Tribal	Sandoval	309.00	Road Crossing
2_2012_8	Salado, Rio	Intermittent	R4SB	Tribal	Sandoval	309.00	Road Crossing
2_2012_9	Cucho, Arroyo	Intermittent	R4SB	Tribal	Sandoval	308.13	Open Cut; Road Crossing
2_2012_123	Cucho, Arroyo	Ephemeral	R4SB	Tribal	Sandoval	307.96	Open Cut
2_2012_102	Querencia Arroyo	Intermittent	R4SB	Private	Sandoval	306.17	Open Cut
2_2012_113	Milpas, Canada de la	Intermittent	R4SB	Private	Sandoval	305.96	Open Cut
2_2012_112	Unnamed Drainage	Intermittent	R4SB	Private	Sandoval	305.52	Open Cut
2_2012_111	Unnamed Drainage	Intermittent	R4SB	BLM RPFO	Sandoval	305.11	Open Cut
2_2012_114	Unnamed Drainage	Intermittent	R4SB	State	Sandoval	304.18	Open Cut
2_2012_14	Piedra Parada, Arroyo	Ephemeral	R4SB	Tribal	Sandoval	299.60	Open Cut
Segment 3							
3_2012_115	Unnamed Drainage	Ephemeral	R4SB	Private	Sandoval	269.79	Open Cut
3_2012_116	Unnamed Drainage	Ephemeral	R4SB	Private	Sandoval	269.42	Open Cut
3_2012_117	Unnamed Drainage	Ephemeral	R4SB	Private	Sandoval	269.09	Open Cut
3_2012_121	Unnamed Drainage	Ephemeral	R4SB	Private	Sandoval	268.82	Open Cut
3_2012_122	Unnamed Drainage	Ephemeral	R4SB	Private	Sandoval	268.72	Open Cut
3_2012_119	Unnamed Drainage	Ephemeral	R4SB	Private	Sandoval	267.82	Open Cut
3_2012_118	Unnamed Drainage	Ephemeral	R4SB	Private	Sandoval	267.58	Open Cut
3_2012Add_7	Unnamed Drainage	Ephemeral	R4SB	Private	Sandoval	266.85	Open Cut
3_2012Add_6	Unnamed Drainage	Ephemeral	R4SB	Private	Sandoval	266.55	Open Cut
3_2012Add_22	San Pedro Creek	Ephemeral	R4SB	Private	Sandoval	266.51	Open Cut
3_2012Add_5	Unnamed Drainage	Ephemeral	R4SB	BLM	Sandoval	264.58	Open Cut
3_2012Add_4	Unnamed Drainage	Ephemeral	R4SB	BLM	Sandoval	264.45	Open Cut
3_2012Add_1	Unnamed Drainage	Ephemeral	R4SB	Private	Sandoval	261.77	Open Cut

Waterbody Label	Waterbody Name	Flow[1]	Cowardin Classification[2]	Surface Ownership	County	Milepost	Proposed Crossing Technique
3_2012_16	Unnamed Drainage	Ephemeral	R4SB	Private	Sandoval	261.74	Open Cut
3_2012Add_2	Unnamed Drainage	Ephemeral	R4SB	Private	Sandoval	261.74	Open Cut
3_2012_17	Unnamed Drainage	Ephemeral	R4SB	Private	Sandoval	261.67	Open Cut
3_2012Add_11	Unnamed Drainage	Ephemeral	R4SB	Private	Sandoval	261.65	Open Cut
3_2012Add_9	Unnamed Drainage	Ephemeral	R4SB	Private	Sandoval	261.40	Open Cut
3_2012Add_12	Unnamed Drainage	Ephemeral	R4SB	Private	Sandoval	260.89	Open Cut
3_2012Add_13	Unnamed Drainage	Ephemeral	R4SB	Private	Bernalillo	260.33	Open Cut
3_2012Add_14	Unnamed Drainage	Ephemeral	R4SB	Private	Bernalillo	260.19	Open Cut
3_2012Add_15	Unnamed Drainage	Ephemeral	R4SB	Private	Bernalillo	259.42	Open Cut
3_2012Add_16	Unnamed Drainage	Ephemeral	R4SB	Private	Bernalillo	259.34	Open Cut
3_2012Add_17	Unnamed Drainage	Ephemeral	R4SB	Private	Bernalillo	259.19	Open Cut
3_2012Add_18	Unnamed Drainage	Ephemeral	R4SB	Private	Bernalillo	259.19	Open Cut
3_2012Add_19	Unnamed Drainage	Ephemeral	R4SB	Private	Bernalillo	258.81	Open Cut
3_2012Add_20	Unnamed Drainage	Ephemeral	R4SB	Private	Bernalillo	257.79	Open Cut
3_2012Add_21	Unnamed Drainage	Ephemeral	R4SB	Private	Santa Fe	257.12	Open Cut
Segment 6							
6_2012_19	Pecos River	Perennial	Other	BLM RFO	Chaves	105.62	HDD
6_2011_004	Unnamed Drainage	Ephemeral	R4SB	BLM RFO	Chaves	104.99	Open Cut
6_2011_096	Unnamed Drainage	Ephemeral	R4SB	Private	Chaves	103.87	Open Cut
6_2011_002	Sand Creek	Ephemeral	R4SB	BLM RFO	Chaves	100.34	Open Cut
6_2011_090	Unnamed Drainage	Ephemeral	R4SB	Private	Chaves	99.14	Open Cut
6_2011_091	Unnamed Drainage	Ephemeral	R4SB	BLM RFO	Chaves	98.79	Open Cut
6_2011_092	Unnamed Drainage	Ephemeral	R4SB	BLM RFO	Chaves	98.61	Open Cut
6_2011_093	Unnamed Drainage	Ephemeral	R4SB	BLM RFO	Chaves	98.57	Open Cut

Waterbody Label	Waterbody Name	Flow[1]	Cowardin Classification[2]	Surface Ownership	County	Milepost	Proposed Crossing Technique
6_2011_094	Unnamed Drainage	Ephemeral	R4SB	BLM RFO	Chaves	98.52	Open Cut
6_2011_095	Unnamed Drainage	Ephemeral	R4SB	BLM RFO	Chaves	98.42	Open Cut
6_2011_102	Unnamed Drainage	Ephemeral	R4SB	BLM RFO	Chaves	98.42	Open Cut
6_2012_5	Unnamed Drainage	Ephemeral	R4SB	BLM RFO	Chaves	75.88	Open Cut

Notes:
[1] Flow is defined by the USACE standard available at: http://www.swl.usace.army.mil/regulatory/definitions.html.
[2] Cowardin et al. 1979.

Appendix C

Transportation Plan

TRANSPORTATION PLAN
MID-AMERICA PIPELINE COMPANY, LLC
WESTERN EXPANSION PROJECT III

SAN JUAN, RIO ARRIBA, SANDOVAL, MCKINLEY, BERNALILLO, SANTA FE, TORRANCE, GUADALUPE, LINCOLN, DE BACA, CHAVES, AND LEA COUNTIES, NEW MEXICO

December 2012

1.0 Purpose

This Transportation Plan addresses traffic and road use associated with construction of the Western Expansion Project III (WEP III or project). The project includes the construction of six natural gas liquids (NGL) loop pipeline segments totaling 233.5 miles. The segments parallel existing pipelines that are owned and operated by MAPL. To access the pipeline construction right-of-way and related facilities, MAPL will utilize a network of existing roads that is shared with other road users.

This document describes the functional classifications and anticipated project use of existing roads; estimates the anticipated traffic levels associate with construction of the project; assesses the need for road improvement, construction and maintenance; identifies road and rail crossing techniques; and discusses special roadway requirements.

2.0 Functional Classification of Roads

Functional classifications for roads describe the roles that individual roads play in facilitating the flow of trips through a transportation network. As defined by the Federal Highway Administration (FHWA), **principal arterials** are roads in rural areas that act as corridors for substantial statewide or interstate travel. Principal arterials are designed to accommodate high volumes of traffic travelling at relatively high speeds and have limited access. **Minor arterial roads** provide interstate and inter-county service by linking population centers with arterial highways. Minor arterials are designed to provide for relatively high overall travel speeds, with minimum interference to through traffic. **Collector roads** are routes on which travel distances tend to be shorter than on arterial roads, regardless of traffic volume, and generally serve intra-county travel. Collector roads collect traffic from local roads to bring all populated areas within a reasonable distance of an arterial road. In rural areas, **local roads** provide access to adjacent land and facilitate travel over relatively short distances as compared to collectors or other higher classifications (FHWA, 1989).

3.0 WEP III Access Roads

A combination of interstates, U.S. highways (US), New Mexico state roads (NM), county roads (CR), BLM roads, and private roads will be used to access the construction right-of-way. US 64 and US 550 are the primary roadways leading to state and county roads that access Segment 1. US 550 also leads to state and county roads accessing Segment 2. Interstate 25 and Interstate 40 connect to roads accessing Segment 3. US 285, US 70 and US 82 connect to roads accessing Segments 5, 6 and 7, respectively. Table 1 lists the primary access routes for each pipeline segment. In addition to these roads, commuting workers and trucks hauling water, equipment and supplies may use other local public and private roads to access the right-of-way.

Table 1
WEP III Access Roads to Right-of-Way

Road	County	Functional Classification	Surface Type
Segment 1			
US 64	San Juan	Principal Arterial	Paved
US 550	San Juan	Principal Arterial	Paved
NM 57	San Juan	Minor Arterial	Paved
County Road (CR) 4980	San Juan	Collector	Gravel
CR 7020	San Juan	Collector	Dirt
CR 7175	San Juan	Collector	Gravel
CR 7225	San Juan	Collector	Gravel
CR 7425	San Juan	Collector	Gravel
CR 7500 Indian Service Route 7023)	San Juan	Collector	Gravel
CR 7592	San Juan	Collector	Chip & Seal

Road	County	Functional Classification	Surface Type
CR 7595	San Juan	Collector	Dirt
CR 7786	San Juan	Collector	Gravel
CR 7800 (Indian Service Route 45)	San Juan	Collector	Paved
CR 7997	San Juan	Collector	Gravel
CR 7998	San Juan	Collector	Gravel
CR 377	Rio Arriba	Collector	Dirt
CR 378	Rio Arriba	Collector	Gravel
Segment 2			
US 550	Sandoval	Principal Arterial	Paved
NM 197	Sandoval	Minor Arterial	Paved
NM 279	Sandoval	Minor Arterial	Paved
Eagle Nest Road	McKinley	Collector	Dirt
Indian Service Route 3	McKinley	Collector	Dirt
Ojo Encino Road	McKinley	Collector	Paved
Cabezon Road	Sandoval	Collector	Gravel
Ridge Rd (Indian Service Route 3)	Sandoval	Collector	Dirt
Torreon Mission Road	Sandoval	Collector	Paved
West Ridge Road	Sandoval	Collector	Dirt
Segment 3			
Interstate 25	Sandoval	Principal Arterial	Paved
Interstate 40	Torrance	Principal Arterial	Paved
NM 14	Sandoval	Minor Arterial	Paved
NM 41	Torrance	Minor Arterial	Paved
NM 344	Santa Fe	Minor Arterial	Paved
NM 472 (Frost Road East)	Santa Fe	Minor Arterial	Paved
CR 3A (Broken Arrow Rd)	Santa Fe	Collector	Gravel
CR 5 (Horton Road)	Santa Fe	Collector	Dirt
CR 8 (Dinkle Road)	Santa Fe	Collector	Paved
CR 14 (Nugent Road)	Santa Fe	Collector	Gravel
CR 17 (Martin Road)	Santa Fe	Collector	Paved
CR 18 (Entranosa Road)	Santa Fe	Collector	Gravel
CR 21 (King Farm Road)	Santa Fe	Collector	Gravel
CR 32 (Valley Irrigation Road)	Torrance	Collector	Dirt
CR A-80	Torrance	Collector	Dirt
CR A-106 (Thompson Road)	Torrance	Collector	Gravel
Segment 5			
US 285	De Baca	Principal Arterial	Paved
CR 3-KA (Jackalope Road)	Guadalupe	Collector	Gravel
CR B-048	Lincoln	Collector	Gravel
CR-3L	Lincoln	Collector	Gravel
CR 1-42	De Baca	Collector	Gravel
CR 1-51	De Baca	Collector	Gravel
Segment 6			
US 70	Chaves	Principal Arterial	Paved
CR 49 (White Lake Ranch Rd)	Chaves	Collector	Gravel
CR 50 (White Lake Ranch Rd)	Chaves	Collector	Gravel
Segment 7			
US 82	Lea	Principal Arterial	Paved
NM 83	Lea	Minor Arterial	Paved
NM 133 (Thornhill Road)	Lea	Minor Arterial	Paved
CR 87	Lea	Collector	Gravel
CR 89 (Prairieview Road)	Lea	Collector	Paved
CR 103 (Reed Road)	Lea	Collector	Paved
CR 106 (Dickens Road)	Lea	Collector	Gravel
CR 107 (Hester Road)	Lea	Collector	Gravel
CR 108 (Hillburn Road)	Lea	Collector	Paved
CR 109 (Kidd Road)	Lea	Collector	Gravel

Road	County	Functional Classification	Surface Type
CR 110 (Six Shooter Road)	Lea	Collector	Paved
CR 113 (East Leman Road)	Lea	Collector	Gravel
CR 114 (East Crockett Road)	Lea	Collector	Paved
CR 115 (Owens Road)	Lea	Collector	Gravel
CR 147	Lea	Collector	Paved/Gravel
CR 149 (Sartin Road)	Lea	Collector	Gravel
CR 152 (Frier Road)	Lea	Collector	Gravel
CR 206	Lea	Collector	Paved

Because the segments will parallel existing pipelines and construction will be complete within 9 months, existing public and private roads connecting to county roads will be used for access to the construction right-of-way. MAPL will determine the condition of identified access roads. Upgrading of existing roads and construction of new roads will only occur after completion of cultural and biological surveys, along with the appropriate State Historic Preservation Office and U.S. Fish and Wildlife Service consultations and approvals. Any other required state and local permits will be secured prior to construction.

4.0 Project Traffic

Traffic associated with pipeline construction will include worker vehicles commuting to and from worksites along the construction right-of-way, trucks hauling pipe to the right-of-way, water trucks (for hydrostatic testing and dust control), and miscellaneous equipment supply and supervisor vehicles. The proposed project will have three construction spreads, with between 50 and 200 workers per spread. Workers will travel to the right-of-way between 7:00am and 8:00am and leave between 5:30pm and 6:30pm. Generally, the Contractor will use a combination of carpooling and buses for transportation to and from the worksites. Between 17 and 67 personal vehicles are expected to travel to worksites daily, with the number of commuting vehicles dependent on the length of spread. Commuting worker traffic is likely to originate in towns near the project, including Farmington (Segment 1); Bernalillo and Rio Rancho (Segment 2); Albuquerque and Moriarity (Segments 3 and 5); Santa Rosa (Segment 5); Roswell (Segment 6); and Lovington (Segment 7). Commuter traffic will travel on roadways listed in Table 1, as well as other local roads.

MAPL intends to store pipe and other equipment at three contractor/pipe storage yards. The Cuba Yard is located near the town of Cuba, approximately 99 miles southeast of Farmington. The San Ysidro Yard is located near the village of San Ysidro, approximately 21 miles north of Rio Rancho; and the Moriarity Yard is located near the town of Moriarity. Approximately two weeks after project initiation, pipe will be delivered to the right-of-way from one of these storage yards (see Table 2). Pipe delivery traffic will include between 8 and 10 truckloads per day from each storage yard for approximately 45 days.

Table 2
WEP III Access to Contractor and Pipe Storage Yards

Contractor/Pipe Storage Yard Location	County	Segment Supplied	Roads Used to Access Right-of-Way Route
Cuba	Sandoval	Segment 1	NM 197
San Ysidro	Sandoval	Segments 1 and 2	US 550
Moriarty	Torrance	Segment 3, 5, 6, and 7	NM 41, CR A-106

Hydrostatic testing is expected to require approximately 78,000 barrels of water per spread. Water used for hydrostatic testing will be hauled from eight uptake locations to 19 testing points located on the loop pipeline segments. Water trucks will travel to the right-of-way access routes on the roads listed in Table 3. Hydrostatic testing is expected to require approximately five days

at each testing location. With three active construction spreads located along the pipeline segments, traffic related to hydrostatic testing would include approximately 7 water truck round-trips per day per construction location.

Water will also be used for dust abatement. The amount of water applied to the right-of-way and unpaved access roads will be determined by precipitation over the 9-month construction period. In the event of no precipitation, the project would use approximately 145,200 barrels of water per spread for dust control activities. Water will be hauled from the withdrawal points shown in Table 3 to the right-of-way access routes in trucks with haulage capacities ranging between 70 and 90 barrels. The maximum water use for dust control would require approximately 8 to 10 water trucks, making 4 to 6 round-trips per day per spread.

Table 3
WEP III Access to Water Sources for Testing and Dust Abatement

Water Source	County	Supply for Segment	Roads Used to Access Right-of-Way Route
NAPI Canal	San Juan	Segment 1, north end of Segment 2	US 550, CR 2010
San Luis/Cabazon MWDA	Sandoval	Segment 2	NM 279
City of Rio Rancho	Sandoval	Segment 2	US 550
Entranosa Water[1]	Bernalillo	Segment 3	NM 306, Frost Road East
City of Moriarty Water Works	Torrance	South end of Segment 3	I-40 Bus Route, Abrahames Ave.
City of Vaughn	Guadalupe	South end of Segment 5	US 285, CR 3K-A
Larranaga Private Well	Guadalupe	North end of Segment 5	CR 3K-A
Pecos River[1]	Chaves	North end of Segment 6	Roosevelt Road
City of Roswell	Chaves	Segment 6	US 285, US 70
Private Bulk Water Supply	Lea	Segment 7	CR 206
[1] Water source for dust abatement only.			

Heavy equipment vehicles used during pipeline construction will be transported to the construction right-of-way at the start of construction activities and remain on-site until construction is complete.

5.0 Roadway Use and Maintenance

Paved roads are not likely to require improvement or maintenance prior to or during project construction. Roads with gravel or dirt surfaces may require maintenance during the construction period due to heavy use. Road improvements such as blading, surface replacement, dust abatement, and spot repairs will be restricted to the existing road footprint. In accordance with roadway passing lane requirements, all construction access roads will utilize a 20-foot width.

MAPL will coordinate with the New Mexico Department of Transportation; the Public Works Departments of Bernalillo, De Baca, San Juan, Sandoval, and Santa Fe counties; the Roads Departments of Lincoln and Rio Arriba counties; and the Road Departments of Chaves, Guadalupe, Lea, and Torrance counties to insure that use and maintenance of state and county roads conforms with issued permits, right-of-way-grants and other state and county requirements. Use and maintenance of any BLM roads used to access the construction right-of-way will comply with standards and guidelines set forth in BLM's *9113 Roads Manual* (1985) and BLM's *Surface Operating Standards and Guidelines for Oil and Gas Development*, also known as the Gold Book (BLM, 2007). Maintenance requirements on private roads used during construction will be specified in the access easement negotiated with the landowner.

6.0 Road Crossings

The roads and railroads that would be crossed by construction of the project are shown in Table 4 (end of document). Little or no disruption of traffic would result at road crossings that are either bored or crossed by HDD. When open cutting a road, at least one lane of traffic would

remain open with detours around construction, plating over the open portion of the trench, or other suitable safety measures.

The construction contractor would be required to post caution signs on affected roads to alert motorists of pipeline construction and warn them of slow traffic. Traffic control measures such as flaggers, warning signs, lights, and barriers would be used during construction to ensure safety and minimize traffic congestion. The construction contractor would use flagmen on paved roads during equipment crossing to ensure safe passage. Mud, soil and debris would be removed from paved roads immediately after equipment has crossed.

7.0 Special Roadway Requirements

Rangeland. If needed, permanent cattle guards or steel gates would be installed across access roads in rangeland areas to:

- avoid safety hazards;
- replace a permanent existing cattle guard damaged by construction activities;
- comply with requirements of the BLM AO;
- provide temporary cattle guards or a metal gate on all fences crossed by temporary roads;
- provide temporary or permanent cattle fencing; and
- allow access by heavy equipment as needed.

Prior to crossing cattle guards, the construction contractor would determine if the cattle guards can support project-related trucks and other equipment. In the event that an existing cattle guard is inadequate, the construction contractor would be responsible for either strengthening the cattle guard or using another access route. Existing cattle guards would be cleaned and maintained to remain effective. Installation of temporary cattle guards that could be required due to construction activities would be coordinated with the appropriate BLM field office.

Residential Areas. In the event that pipeline rerouting would occur near a residential area, traffic disruption would be minimized, noise would be controlled, and dust generation would be minimized to the greatest extend practicable.

Removal of Obstructions. Procedures listed below would be used to clear obstructions to access roads:

- Removing trees, limbs, brush, and other obstructions would be limited to obstructions within 14 feet of vertical clearance above the roadway, or obstructions limiting a driver's sight distance.
- Limbing would be conducted using pruning saws, power saws, nippers, bow saws, or crosscuts. Use of axes for limbing would be prohibited. Limbs would be pruned flush with tree trunks, except for portions of overhanging limbs. Removed material would be scattered in an approved location.

8.0 References

Bureau of Land Management (BLM), 2007. *Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development. The Gold Book.* Fourth Edition.

BLM. 1985. 9113 Roads Manual. June.

Federal Highway Administration (FHWA). 1989. FHWA Functional Classifications Guidelines, available at http://www.fhwa.dot.gov/planning/fcsec2_1.htm

HRL Compliance Solutions, 2011. HRL Compliance Solutions, 2011. *Hydrostatic Best Management Practices Management Plan, Western Expansion Pipeline II.* December.

Table 4
Access Roads and Roads and Railroads Crossed by WEP III

MP	Name	Surface	Crossing Method	Ingress	Construction Access Name	County	Landownership
415.69	CR-4980	Gravel	N/A	Yes	S1-CA-415.69	San Juan	BLM Farmington
415.55	Road 4980	Dirt	Open Cut	Yes	S1-CA-415.55	San Juan	BLM Farmington
415.35	Unknown Road	Dirt	Open Cut	Yes	S1-CA-415.35	San Juan	BLM Farmington
415.29	Unknown Road	Dirt	Open Cut	No		San Juan	BLM Farmington
415.22	Unknown Road	Dirt	Open Cut	Yes	S1-CA-415.22	San Juan	BLM Farmington
415.00	Unknown Road	Dirt	Open Cut	No		San Juan	BLM Farmington
414.76	Unknown Road	Dirt	Open Cut	Yes	S1-CA-414.76	San Juan	BLM Farmington
414.45	Unknown Road	Dirt	Open Cut	Yes	S1-CA-414.45	San Juan	BLM Farmington
414.36	Unknown Road	Dirt	Open Cut	No		San Juan	BLM Farmington
414.30	Unknown Road	Dirt	Open Cut	Yes	S1-CA-414.30	San Juan	BLM Farmington
413.46	Unknown Road	Dirt	Open Cut	Yes	S1-CA-413.46	San Juan	BLM Farmington
413.08	Unknown Road	Dirt	Open Cut	Yes	S1-CA-413.08	San Juan	BLM Farmington
412.89	Unknown Road	Dirt	Open Cut	Yes	S1-CA-412.89	San Juan	BLM Farmington
412.76	Unknown Road	Dirt	Open Cut	Yes	S1-CA-412.76	San Juan	BLM Farmington
412.58	Unknown Road	Dirt	Open Cut	Yes	S1-CA-412.58	San Juan	BLM Farmington
412.47	Unknown Road	Dirt	Open Cut	Yes	S1-CA-412.47	San Juan	BLM Farmington
412.46	Unknown Road	Dirt	Open Cut	Yes	S1-CA-412.46	San Juan	BLM Farmington
412.32	Unknown Road	Dirt	Open Cut	Yes	S1-CA-412.32	San Juan	BLM Farmington
412.30	Unknown Road	Dirt	Open Cut	Yes	S1-CA-412.30	San Juan	BLM Farmington
412.26	Unknown Road	Dirt	Open Cut	Yes	S1-CA-412.26	San Juan	BLM Farmington
412.08	Unknown Road	Dirt	Open Cut	Yes	S1-CA-412.08	San Juan	BLM Farmington
411.51	Unknown Road	Dirt	Open Cut	No		San Juan	BLM Farmington
411.32	Unknown Road	Dirt	Open Cut	Yes	S1-CA-411.32	San Juan	BLM Farmington
411.03	Unknown Road	Dirt	Open Cut	Yes	S1-CA-411.03	San Juan	BLM Farmington
410.71	CR-7020	Dirt	Bore	Yes	S1-CA-410.71	San Juan	BLM Farmington
410.52	Unknown Road	Dirt	Open Cut	No		San Juan	BLM Farmington
410.31	Unknown Road	Dirt	Open Cut	No		San Juan	BLM Farmington
409.58	Unknown Road	Dirt	Open Cut	No		San Juan	BLM Farmington
409.10	Unknown Road	Dirt	Open Cut	No		San Juan	BLM Farmington
408.80	Unknown Road	Gravel	Open Cut	Yes	S1-CA-408.80	San Juan	BLM Farmington
408.44	Unknown Road	Dirt	Open Cut	Yes	S1-CA-408.44	San Juan	Private
408.39	Unknown Road	Dirt	Open Cut	Yes	S1-CA-408.39	San Juan	Private

MP	Name	Surface	Crossing Method	Ingress	Construction Access Name	County	Landownership
408.14	Unknown Road	Dirt	Open Cut	No		San Juan	Private
407.82	Unknown Road	Dirt	Open Cut	No		San Juan	Private
407.44	Unknown Road	Dirt	Open Cut	No		San Juan	Private
407.20	Unknown Road	Dirt	Open Cut	No		San Juan	Private
406.89	Unknown Road	Dirt	Open Cut	Yes	S1-CA-406.89	San Juan	Private
406.35	Unknown Road	Dirt	Open Cut	No		San Juan	Private
406.22	Unknown Road	Dirt	Open Cut	No		San Juan	Private
406.13	Unknown Road	Dirt	Open Cut	No		San Juan	Private
405.96	Unknown Road	Dirt	Open Cut	Yes	S1-CA-405.96	San Juan	BLM Farmington
405.92	Unknown Road	Dirt	Open Cut	No		San Juan	BLM Farmington
404.50	CR-7175	Gravel	HDD	Yes	S1-CA-404.50	San Juan	Private
403.61	CR-7225	Gravel	Bore	Yes	S1-CA-403.61	San Juan	BLM Farmington
402.40	Unknown Road	Dirt	Open Cut	Yes	S1-CA-402.40	San Juan	BLM Farmington
401.70	Unknown Road	Dirt	Open Cut	Yes	S1-CA-401.70	San Juan	BLM Farmington
400.83	Unknown Road	Dirt	Bore	Yes	S1-CA-400.83	San Juan	BLM Farmington
398.58	Unknown Road	Dirt	Open Cut	Yes	S1-CA-398.58	San Juan	BLM Farmington
397.59	Unknown Road	Dirt	Open Cut	Yes	S1-CA-397.59	San Juan	BLM Farmington
397.18	CR-7425	Gravel	Bore	Yes	S1-CA-397.18	San Juan	BIA/Tribal
396.69	Unknown Road	Dirt	Open Cut	No		San Juan	BIA/Tribal
396.55	Unknown Road	Dirt	Open Cut	Yes	S1-CA-396.55	San Juan	BIA/Tribal
396.52	Unknown Road	Dirt	Open Cut	Yes	S1-CA-396.52	San Juan	BIA/Tribal
396.05	Unknown Road	Dirt	N/A	Yes	S1-CA-396.05	San Juan	BIA/Tribal
395.73	US-550	Paved	Bore	No		San Juan	BIA/Tribal
395.04	CR-7500 (Indian Service Route 7023)	Gravel	Open Cut	Yes	S1-CA-395.04	San Juan	Private
394.33	Private Driveway	Dirt	Open Cut	No		San Juan	BIA/Tribal
394.23	Unknown Road	Dirt	Open Cut	No		San Juan	BIA/Tribal
394.08	Unknown Road	Dirt	Open Cut	No		San Juan	BIA/Tribal
393.94	Unknown Road	Dirt	Open Cut	No		San Juan	BIA/Tribal
393.55	Unknown Road	Dirt	Open Cut	No		San Juan	BIA/Tribal
393.51	Unknown Road	Dirt	Open Cut	No		San Juan	BIA/Tribal
393.45	CR-7592	Chip & Seal	Open Cut	Yes	S1-CA-393.45	San Juan	BIA/Tribal
393.32	Unknown Road	Dirt	Open Cut	No		San Juan	BIA/Tribal
393.01	CR-7595	Dirt	Bore	Yes	S1-CA-393.01	San Juan	BLM Farmington
392.41	Unknown Road	Dirt	Open Cut	No		San Juan	BLM Farmington

MP	Name	Surface	Crossing Method	Ingress	Construction Access Name	County	Landownership
391.32	Unknown Road	Dirt	Open Cut	No		San Juan	BLM Farmington
391.24	Unknown Road	Dirt	Open Cut	No		San Juan	BLM Farmington
390.76	SR-57	Gravel	Bore	Yes	S1-CA-390.76	San Juan	BLM Farmington
390.53	Unknown Road	Dirt	Open Cut	No		San Juan	BLM Farmington
390.21	Unknown Road	Dirt	Open Cut	No		San Juan	BLM Farmington
389.39	Unknown Road	Dirt	Open Cut	No		San Juan	Private
389.01	Unknown Road	Dirt	Open Cut	No		San Juan	BLM Farmington
388.96	Unknown Road	Dirt	Open Cut	No		San Juan	BLM Farmington
385.05	Unknown Road	Dirt	Open Cut	No		San Juan	BLM Farmington
384.80	Unknown Road	Dirt	Open Cut	No		San Juan	BLM Farmington
384.29	Unknown Road	Dirt	Open Cut	No		San Juan	BIA/Tribal
384.20	Unknown Road	Dirt	Open Cut	No		San Juan	BIA/Tribal
384.10	Unknown Road	Dirt	Open Cut	No		San Juan	BIA/Tribal
383.76	Unknown Road	Dirt	Open Cut	Yes	S1-CA-383.76	San Juan	BLM Farmington
383.60	CR-7786	Gravel	Open Cut	Yes	S1-CA-383.60	San Juan	BLM Farmington
382.56	CR-7800 (Indian Service Route 45)	Paved	Bore	Yes	S1-CA-382.56	San Juan	State
382.36	US-550	Paved	Bore	Yes	S1-CA-382.36	San Juan	State
382.21	Unknown Road	Dirt	Open Cut	Yes	S1-CA-382.21	San Juan	BLM Farmington
380.20	Unknown Road	Dirt	Open Cut	Yes	S1-CA-380.20	San Juan	BIA/Tribal
376.83	CR-7997	Gravel	Open Cut	Yes	S1-CA-376.83	San Juan	BIA/Tribal
376.15	CR-7998	Gravel	Open Cut	Yes	S1-CA-376.15	San Juan	BLM Farmington
375.84	Unknown Road	Dirt	N/A	Yes	S1-CA-375.84	San Juan	BIA/Tribal
374.93	Unknown Road	Gravel	Open Cut	Yes	S1-CA-374.93	Rio Arriba	BIA/Tribal
374.52	Unknown Road	Dirt	N/A	Yes	S1-CA-374.52	Rio Arriba	BIA/Tribal
374.16	Unknown Road	Dirt	Open Cut	Yes	S1-CA-374.16	Rio Arriba	BIA/Tribal
373.74	Unknown Road	Dirt	Open Cut	Yes	S1-CA-373.74	Rio Arriba	BIA/Tribal
372.74	CR-377	Dirt	Open Cut	Yes	S1-CA-372.74	Rio Arriba	BLM Farmington
372.66	Unknown Road	Gravel	Open Cut	Yes	S1-CA-372.66	Rio Arriba	BLM Farmington
371.95	Unknown Road	Gravel	Open Cut	Yes	S1-CA-371.95	Rio Arriba	Private
371.58	Unknown Road	Dirt	Open Cut	Yes	S1-CA-371.58	Rio Arriba	BIA/Tribal
371.28	Unknown Road	Gravel	Open Cut	Yes	S1-CA-371.28	Rio Arriba	Private
370.40	CR-378	Gravel	N/A	Yes	S1-CA-370.40	Rio Arriba	Private
350.19	Unknown Road	Dirt	Open Cut	Yes	S2-CA-350.19	McKinley	BLM Farmington
347.62	Unknown Road	Dirt	Open Cut	No		McKinley	BLM Farmington

MP	Name	Surface	Crossing Method	Ingress	Construction Access Name	County	Landownership
346.60	Ojo Encino Road	Paved	Bore	Yes	S2-CA-346.60	McKinley	BLM Farmington
346.05	Indian Service Route 475	Dirt	Open Cut	Yes	S2-CA-346.05	McKinley	BIA/Tribal
345.06	Eagle Nest Road	Dirt	Open Cut	Yes	S2-CA-345.06	McKinley	BIA/Tribal
342.37	Unknown Road	Dirt	Open Cut	No		Sandoval	BIA/Tribal
341.90	Unknown Road	Dirt	Open Cut	No		Sandoval	BLM Rio Puerco
341.52	Unknown Road	Dirt	Open Cut	Yes	S2-CA-341.52	Sandoval	BLM Rio Puerco
341.47	Unknown Road	Dirt	Open Cut	Yes	S2-CA-341.47	Sandoval	BLM Rio Puerco
340.52	Unknown Road	Dirt	Open Cut	Yes	S2-CA-340.52	Sandoval	BLM Rio Puerco
339.95	Unknown Road	Dirt	Open Cut	No		Sandoval	State
336.65	Unknown Road	Gravel	Open Cut	Yes	S2-CA-336.65	Sandoval	BLM Rio Puerco
334.58	SR-197	Paved	Bore	Yes	S2-CA-334.58	Sandoval	BLM Rio Puerco
333.63	Unknown Road	Dirt	Open Cut	Yes	S2-CA-333.63	Sandoval	BLM Rio Puerco
332.93	Torreon Mission Road	Paved	Bore	Yes	S2-CA-332.93	Sandoval	BIA/Tribal
332.40	Unknown Road	Gravel	Open Cut	Yes	S2-CA-332.40	Sandoval	BIA/Tribal
331.76	San Louis to Torreon Cut-Off	Paved	Bore	Yes	S2-CA-331.76	Sandoval	BIA/Tribal
331.74	Unknown Road	Dirt	Open Cut	Yes	S2-CA-331.74	Sandoval	BIA/Tribal
331.42	Unknown Road	Gravel	Open Cut	Yes	S2-CA-331.42	Sandoval	BIA/Tribal
331.21	Unknown Road	Dirt	Open Cut	Yes	S2-CA-331.21	Sandoval	BIA/Tribal
330.00	Unknown Road	Gravel	Open Cut	Yes	S2-CA-330.00	Sandoval	BIA/Tribal
329.98	Unknown Road	Dirt	Open Cut	Yes	S2-CA-329.98	Sandoval	BIA/Tribal
329.02	Unknown Road	Dirt	Open Cut	Yes	S2-CA-329.02	Sandoval	BLM Rio Puerco
328.86	Unknown Road	Dirt	N/A	Yes	S2-CA-328.86	Sandoval	BLM Rio Puerco
328.70	Unknown Road	Dirt	N/A	Yes	S2-CA-328.70	Sandoval	BLM Rio Puerco
328.51	Unknown Road	Dirt	N/A	Yes	S2-CA-328.51	Sandoval	Private
328.46	Unknown Road	Dirt	Open Cut	No		Sandoval	Private
327.28	Unknown Road	Dirt	Open Cut	Yes	S2-CA-327.28	Sandoval	BLM Rio Puerco
326.03	Unknown Road	Dirt	Open Cut	Yes	S2-CA-326.03	Sandoval	BLM Rio Puerco
324.64	BLM 1102 Road	Dirt	Open Cut	Yes	S2-CA-324.64	Sandoval	BLM Rio Puerco
324.53	Unknown Road	Gravel	Open Cut	Yes	S2-CA-324.53	Sandoval	BLM Rio Puerco
324.50	Unknown Road	Gravel	Open Cut	Yes	S2-CA-324.50	Sandoval	BLM Rio Puerco
324.34	Unknown Road	Gravel	Open Cut	Yes	S2-CA-324.34	Sandoval	BLM Rio Puerco
323.36	Unknown Road	Dirt	Open Cut	Yes	S2-CA-323.36	Sandoval	BLM Rio Puerco
322.46	Unknown Road	Dirt	Open Cut	Yes	S2-CA-322.46	Sandoval	BLM Rio Puerco
320.96	Unknown Road	Dirt	N/A	Yes	S2-CA-320.96	Sandoval	BLM Rio Puerco

MP	Name	Surface	Crossing Method	Ingress	Construction Access Name	County	Landownership
320.65	SR-279	Gravel	Bore	Yes	S2-CA-320.65	Sandoval	BLM Rio Puerco
319.30	West Ridge Road	Dirt	Open Cut	Yes	S2-CA-319.30	Sandoval	BLM Rio Puerco
312.83	Ridge Road (Indian Service Route 3)	Dirt	Open Cut	Yes	S2-CA-312.83	Sandoval	BIA/Tribal
309.22	Unknown Road	Dirt	Open Cut	Yes	S2-CA-309.22	Sandoval	BIA/Tribal
308.06	Unknown Road	Dirt	HDD	Yes	S2-CA-308.06	Sandoval	BIA/Tribal
306.57	Unknown Road	Dirt	Open Cut	Yes	S2-CA-306.57	Sandoval	BIA/Tribal
306.48	Unknown Road	Dirt	Open Cut	Yes	S2-CA-306.48	Sandoval	BIA/Tribal
306.28	Unknown Road	Dirt	Open Cut	Yes	S2-CA-306.28	Sandoval	Private
305.39	Unknown Road	Dirt	Open Cut	Yes	S2-CA-305.39	Sandoval	Private
305.04	Unknown Road	Dirt	Open Cut	Yes	S2-CA-305.04	Sandoval	BLM Rio Puerco
301.80	Unknown Road	Dirt	N/A	Yes	S2-CA-301.80	Sandoval	BLM Rio Puerco
301.06	Unknown Road	Dirt	Open Cut	Yes	S2-CA-301.06	Sandoval	Private
300.97	Unknown Road	Dirt	Open Cut	Yes	S2-CA-300.97	Sandoval	Private
300.76	Unknown Road	Dirt	Open Cut	Yes	S2-CA-300.76	Sandoval	Private
300.07	Cabazon Road (White Mesa Road)	Gravel	Bore	Yes	S2-CA-300.07	Sandoval	BIA/Tribal
299.81	Unknown Road	Gravel	Open Cut	Yes	S2-CA-299.81	Sandoval	BIA/Tribal
299.65	Unknown Road	Gravel	Open Cut	Yes	S2-CA-299.65	Sandoval	BIA/Tribal
299.43	Unknown Road	Gravel	Open Cut	Yes	S2-CA-299.43	Sandoval	BIA/Tribal
267.32	La Madera Road	Gravel	Open Cut	Yes	S3-CA-267.32	Sandoval	Private
266.71	Unknown Road	Dirt	Open Cut	Yes	S3-CA-266.71	Sandoval	Private
265.34	Dementrio Road	Dirt	Open Cut	Yes	S3-CA-265.34	Sandoval	Private
262.97	Unknown Road	Gravel	Open Cut	Yes	S3-CA-262.97	Sandoval	Private
261.93	Unknown Road	Dirt	Open Cut	Yes	S3-CA-261.93	Sandoval	Private
261.75	Unknown Road	Gravel	Open Cut	Yes	S3-CA-261.75	Sandoval	Private
261.69	SR-14	Paved	Bore	Yes	S3-CA-261.69	Sandoval	Private
260.42	Unknown Road	Dirt	Open Cut	No		Bernalillo	Private
258.81	Unknown Road	Dirt	Open Cut	No		Bernalillo	Private
257.84	Unknown Road	Dirt	N/A	Yes	S3-CA-257.84	Bernalillo	Private
257.02	Entranosa Loop Road	Dirt	Open Cut	No		Bernalillo	Private
256.16	Broken Arrow Road (CR-3A)	Gravel	N/A	Yes	S3-CA-256.16	Santa Fe	Private
255.50	Broken Arrow Road (CR-3A)	Gravel	Bore	Yes	S3-CA-255.50	Santa Fe	Private
255.43	Entranosa Road (CR-18)		Open Cut	Yes	S3-CA-255.43	Santa Fe	Private
254.42	Frost Road East (SR-472)	Paved	Bore	Yes	S3-CA-254.42	Santa Fe	Private
253.10	Horton Road (CR-5)	Dirt	Open Cut	Yes	S3-CA-253.10	Santa Fe	Private

MP	Name	Surface	Crossing Method	Ingress	Construction Access Name	County	Landownership
252.95	Field Road	Gravel	Open Cut	Yes	S3-CA-252.95	Santa Fe	Private
252.79	Nugent Road (CR-14)	Gravel	Bore	Yes	S3-CA-252.79	Santa Fe	Private
252.62	Field Road	Gravel	Open Cut	Yes	S3-CA-252.62	Santa Fe	Private
252.17	SR-344	Paved	Bore	Yes	S3-CA-252.17	Santa Fe	Private
251.22	Ranch Road	Dirt	N/A	Yes	S3-CA-251.22	Santa Fe	Private
246.48	Field Road	Dirt	Open Cut	Yes	S3-CA-246.48	Santa Fe	Private
245.25	Dinkle Road (CR-8)	Paved	Bore	Yes	S3-CA-245.25	Santa Fe	Private
245.11	Field Road	Dirt	Open Cut	No		Santa Fe	Private
242.79	Martin Road (CR-17)	Paved	Bore	Yes	S3-CA-242.79	Santa Fe	Private
241.91	Snow Moon Estates Road	Gravel	Bore	Yes	S3-CA-241.91	Santa Fe	Private
240.78	King Farm Road (CR-21)	Gravel	Bore	Yes	S3-CA-240.78	Santa Fe	State
239.57	Valley Irrigation Road (CR-23)	Gravel	Open Cut	Yes	S3-CA-239.57	Torrance	Private
239.03	Field Road	Dirt	Open Cut	Yes	S3-CA-239.03	Torrance	Private
238.54	Field Road	Dirt	Open Cut	Yes	S3-CA-238.54	Torrance	Private
238.41	SR-41	Paved	Bore	Yes	S3-CA-238.41	Torrance	Private
236.16	Pinto Road	Gravel	N/A	Yes	S3-CA-236.16	Torrance	Private
236.07	Frontage Road	Paved	HDD	No		Torrance	Private
236.04	Central Avenue (RT-66)	Paved	HDD	No		Torrance	Private
235.95	I-40 West	Paved	HDD	No		Torrance	Private
235.93	I-40 East	Paved	HDD	No		Torrance	Private
235.92	Central Avenue (RT-66)	Paved	HDD	No		Torrance	Private
234.95	East Martinez Road	Paved	Bore	Yes	S3-CA-234.95	Torrance	Private
232.88	CR-A112	Dirt	Open Cut	No		Torrance	State
232.62	Stagecoach Road (CR-A-160)	Gravel	Bore	Yes	S3-CA-232.62	Torrance	Private
229.26	Unknown Road	Dirt	Open Cut	No		Torrance	Private
226.81	Unknown Road	Dirt	Open Cut	No		Torrance	Private
225.49	Unknown Road	Dirt	Open Cut	No		Torrance	Private
223.51	CR-A-80	Dirt	Open Cut	Yes	S3-CA-223.51	Torrance	State
187.16	CR-C-71	Gravel	Bore	Yes	S4-CA-187.16	Torrance	Private
186.98	Unknown Road	Dirt	Open Cut	No		Torrance	Private
186.17	Unknown Road	Dirt	Open Cut	No		Torrance	Private
184.20	US-54	Paved	Bore	No		Torrance	Private
184.05	Unknown Road	Dirt	Open Cut	Yes	S4-CA-184.05	Torrance	Private
183.87	Unknown Road	Dirt	Open Cut	No		Torrance	Private

MP	Name	Surface	Crossing Method	Ingress	Construction Access Name	County	Landownership
182.84	Unknown Road	Dirt	Open Cut	No		Torrance	Private
181.98	Unknown Road	Dirt	Open Cut	No		Torrance	Private
181.92	Unknown Road	Dirt	Open Cut	No		Torrance	Private
180.71	Unknown Road	Dirt	Open Cut	No		Guadalupe	Private
174.99	Access Road - Duran Meter Station	Dirt	N/A	Yes	S5-CA-174.99	Guadalupe	BLM Roswell
171.82	Unknown Road	Dirt	Open Cut	No		Guadalupe	BLM Roswell
171.00	Unknown Road	Dirt	Open Cut	Yes	S5-CA-171.00	Guadalupe	BLM Roswell
168.17	Jackalope Road (CR-3KA)	Gravel	Open Cut	Yes	S5-CA-168.17	Guadalupe	BLM Roswell
165.30	Unknown Road	Dirt	Open Cut	Yes	S5-CA-165.30	Lincoln	State
164.76	Unknown Road	Dirt	Open Cut	Yes	S5-CA-164.76	Lincoln	State
163.03	CR-3L	Gravel/Dirt	Open Cut	Yes	S5-CA-163.03	Lincoln	State
157.72	Fo34	Dirt	Open Cut	Yes	S5-CA-157.72	Lincoln	Private
156.10	Unknown Road	Dirt	Open Cut	No		Lincoln	Private
155.77	Unknown Road	Dirt	Open Cut	No		Lincoln	Private
153.33	Red Cliff Road (B048)	Gravel	Bore	Yes	S5-CA-153.33	Lincoln	Private
152.84	Unknown Road	Dirt	Open Cut	No		Lincoln	Private
150.88	Unknown Road	Dirt	Open Cut	Yes	S5-CA-150.88	Lincoln	Private
149.70	US-285	Paved	Bore	No		De Baca	Private
149.67	Unknown Road	Dirt	Open Cut	Yes	S5-CA-149.67	De Baca	Private
149.12	Unknown Road	Dirt	Open Cut	Yes	S5-CA-149.12	De Baca	Private
146.87	CR-1-51	Gravel	Open Cut	Yes	S5-CA-146.87	De Baca	Private
146.04	Unknown Road	Dirt	Open Cut	No		De Baca	Private
144.74	Yeso Creek Road (CR-1-42)	Gravel	Open Cut	Yes	S5-CA-144.74	De Baca	Private
107.91	Unknown Road	Dirt	Open Cut	No		Chaves	Private
106.25	Unknown Road	Dirt	Open Cut	Yes	S6-CA-106.25	Chaves	Private
105.96	Unknown Road	Dirt	Open Cut	Yes	S6-CA-105.96	Chaves	BLM Roswell
104.55	Unknown Road	Dirt	Open Cut	No		Chaves	Private
102.95	Unknown Road	Gravel/Dirt	Open Cut	Yes	S6-CA-102.95	Chaves	Private
102.69	Cloudcraft Road (CR-1)	Gravel/Dirt	Open Cut	Yes	S6-CA-102.69	Chaves	BLM Roswell
101.80	Unknown Road	Dirt	Open Cut	No		Chaves	State
101.77	Aztec Road (CR-1)	Gravel/Dirt	Open Cut	Yes	S6-CA-101.77	Chaves	State
101.32	Unknown Road	Dirt	Open Cut	No		Chaves	Private
100.22	Unknown Road	Gravel/Dirt	Open Cut	Yes	S6-CA-100.22	Chaves	BLM Roswell
99.48	Unknown Road	Gravel/Dirt	Open Cut	Yes	S6-CA-99.48	Chaves	Private

MP	Name	Surface	Crossing Method	Ingress	Construction Access Name	County	Landownership
97.73	Unknown Road	Dirt	Open Cut	No		Chaves	Private
97.28	Unknown Road	Dirt	Open Cut	Yes	S6-CA-97.28	Chaves	Private
93.23	Olive Road (CR-C2)	Gravel	Bore	Yes	S6-CA-93.23	Chaves	Private
92.96	US-70	Paved	Bore	No		Chaves	Private
92.67	Unknown Road	Dirt	Open Cut	Yes	S6-CA-92.67	Chaves	Private
91.55	Santa Fe RR	RR	Bore	No		Chaves	Private
87.99	Unknown Road	Dirt	Open Cut	Yes	S6-CA-87.99	Chaves	Private
86.30	White Lake Ranch Road (CR-50)	Gravel/Dirt	Open Cut	Yes	S6-CA-86.30	Chaves	Private
85.85	White Lake Ranch Road (CR-49)	Gravel/Dirt	Open Cut	Yes	S6-CA-85.85	Chaves	Private
85.00	Unknown Road	Gravel/Dirt	Open Cut	Yes	S6-CA-85.00	Chaves	State
84.34	Unknown Road	Gravel/Dirt	Open Cut	Yes	S6-CA-84.34	Chaves	State
84.17	Unknown Road	Gravel/Dirt	Open Cut	Yes	S6-CA-84.17	Chaves	State
83.65	Unknown Road	Gravel/Dirt	Open Cut	Yes	S6-CA-83.65	Chaves	Private
83.03	Unknown Road	Gravel/Dirt	Open Cut	Yes	S6-CA-83.03	Chaves	Private
82.99	Unknown Road	Gravel/Dirt	Open Cut	Yes	S6-CA-82.99	Chaves	Private
82.57	Unknown Road	Gravel/Dirt	Open Cut	Yes	S6-CA-82.57	Chaves	Private
80.57	Access Road - White Lake Meter Station	Gravel/Dirt	N/A	Yes	S6-CA-80.57	Chaves	State
80.39	Unknown Road	Dirt	Open Cut	No		Chaves	State
80.11	Unknown Road	Dirt	Open Cut	No		Chaves	State
78.44	Unknown Road	Dirt	Open Cut	No		Chaves	Private
78.14	Unknown Road	Dirt	Open Cut	No		Chaves	Private
76.67	Unknown Road	Dirt	Open Cut	No		Chaves	BLM Roswell
76.64	Unknown Road	Dirt	Open Cut	No		Chaves	BLM Roswell
76.48	Unknown Road	Gravel/Dirt	Open Cut	Yes	S6-CA-76.48	Chaves	BLM Roswell
76.16	Unknown Road	Gravel/Dirt	Open Cut	Yes	S6-CA-76.16	Chaves	BLM Roswell
75.62	Unknown Road	Gravel/Dirt	Open Cut	Yes	S6-CA-75.62	Chaves	BLM Roswell
75.30	Unknown Road	Dirt	Open Cut	No		Chaves	BLM Roswell
73.06	Cato Road	Gravel/Dirt	Open Cut	Yes	S6-CA-73.06	Chaves	BLM Roswell
69.75	Field Road	Dirt	Open Cut	No		Chaves	BLM Roswell
46.89	Frier Road (CR-152)	Gravel	Open Cut	Yes	S7-CA-46.89	Lea	Private
43.92	Field Road	Gravel	Open Cut	Yes	S7-CA-43.92	Lea	Private
43.18	Sartin Road (CR-149)	Gravel	Bore	Yes	S7-CA-43.18	Lea	Private
42.47	Sanders Road	Gravel	Open Cut	Yes	S7-CA-42.47	Lea	Private
40.98	CR-147	Gravel	Bore	Yes	S7-CA-40.98	Lea	Private

MP	Name	Surface	Crossing Method	Ingress	Construction Access Name	County	Landownership
39.14	CR-147	Paved	Bore	Yes	S7-CA-39.14	Lea	Private
36.34	Field Road	Dirt	Open Cut	Yes	S7-CA-36.34	Lea	State
36.01	Field Road	Dirt	Open Cut	No		Lea	Private
33.71	Kidd Road (CR-109)	Gravel	Open Cut	Yes	S7-CA-33.71	Lea	Private
33.55	Hillburn Road (CR-108)	Paved	Bore	Yes	S7-CA-33.55	Lea	State
31.93	Hester Road (CR-107)	Gravel	Bore	Yes	S7-CA-31.93	Lea	Private
31.10	Reed Road (CR-103)	Paved	Bore	Yes	S7-CA-31.10	Lea	Private
30.33	Dickens Road (CR-106)	Gravel	Bore	Yes	S7-CA-30.33	Lea	Private
29.84	Six Shooter Road (CR-110)	Paved	Bore	Yes	S7-CA-29.84	Lea	Private
28.74	CR-206	Paved	Bore	Yes	S7-CA-28.74	Lea	Private
28.64	Field Road	Gravel	Open Cut	Yes	S7-CA-28.64	Lea	Private
28.26	E Crockett Road (CR-114)	Paved	Bore	Yes	S7-CA-28.26	Lea	Private
27.76	Oil Field Road	Gravel	Open Cut	Yes	S7-CA-27.76	Lea	Private
26.05	E. Leman Road (CR-113)	Gravel	Open Cut	Yes	S7-CA-26.05	Lea	Private
25.55	Unknown Road	Gravel	Open Cut	Yes	S7-CA-25.55	Lea	Private
24.64	US-82	Paved	Bore	Yes	S7-CA-24.64	Lea	Private
23.17	Ownes Road (CR-115)	Gravel	Bore	Yes	S7-CA-23.17	Lea	Private
22.54	Field Road	Dirt	Open Cut	No		Lea	Private
22.16	Field Road	Dirt	Open Cut	No		Lea	Private
21.79	Field Road	Dirt	Open Cut	No		Lea	State
21.09	Field Road	Dirt	Open Cut	No		Lea	Private
20.95	Field Road (CR-87)	Gravel	Open Cut	No		Lea	Private
20.31	Marlee Road (CR-87)	Paved	Bore	Yes	S7-CA-20.31	Lea	Private
19.65	Field Road	Dirt	Open Cut	No		Lea	Private
19.46	Field Road	Dirt	Open Cut	No		Lea	Private
18.97	Praireview Road (CR-89)	Paved	Bore	Yes	S7-CA-18.97	Lea	Private
18.67	SR-83	Paved	Bore	Yes	S7-CA-18.67	Lea	State
14.85	Knowles Road	Gravel	Open Cut	Yes	S7-CA-14.85	Lea	Private
14.35	Thornhill Road (SR-133)	Paved	Bore	Yes	S7-CA-14.35	Lea	Private

Appendix D

Reclamation and Monitoring Plan

RECLAMATION AND MONITORING PLAN
MID-AMERICA PIPELINE COMPANY, LLC
WESTERN EXPANSION PROJECT III

SAN JUAN, RIO ARRIBA, SANDOVAL, MCKINLEY, BERNALILLO, SANTA FE, TORRANCE, GUADALUPE, LINCOLN, DE BACA, CHAVES, AND LEA COUNTIES, NEW MEXICO

December 2012

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1.0 INTRODUCTION

Revegetation and restoration practices for the Mid-America Pipeline Company, LLC (MAPL) Western Expansion Project III (WEP III) as described in this plan have been developed from coordination with the local Bureau of Land Management (BLM) and Bureau of Indian Affairs (BIA) technical staffs and reclamation stipulations contained in the Plan of Development (POD). MAPL is committed to the use of these practices on the entire project regardless of landownership.

1.1 Plan Purpose

The purpose of the plan is to describe prescribed methods for topsoil replacement, seeding, erosion control measures, and monitoring reclamation success. This plan is applicable to the construction of the right-of-way, improved access roads, temporary use areas, and Contractor laydown and pipe yards along the route and will be applied throughout the project regardless of landownership.

1.2 Plan Goals and Objectives

The short-term goals of reclamation are to control erosion and sedimentation, and to minimize impact to adjacent land uses. Properly executed construction practices, optimum scheduling, and timely construction will mitigate short-term impacts. Long-term goals include erosion and sedimentation control, protection of water resources and soils, and a return to pre-existing land uses and vegetative cover. The long-term goals will be met through implementation of this Reclamation Plan. Monitoring during the construction and operational phases will ensure that goals are achieved.

2.0 RECLAMATION PROCESS

The following sections outline the sequential steps for reclamation of the right-of-way after the pipeline has been installed and the trench backfilled. The same procedures will be applied to the reclamation of ancillary areas (temporary use areas, improved access roads, and laydown areas).

2.1 Grading

Final grading and installation of erosion control measures will be completed after the trench is backfilled. Erosion control measures are identified in the Stormwater Management Plan (see Appendix E). Erosion and sedimentation control practices (installation of structures, revegetation, and maintenance practices) will be implemented to minimize the potential for soil erosion or sedimentation of streams and to restore the right-of-way and any other disturbed areas. Final grading will be completed within 10 days of construction completion (including the installation of permanent erosion control measures in the areas of steep slopes only), weather permitting. Construction debris will be removed from the right-of-way and the right-of-way will be graded so that the soil is left in proper condition for planting. The right-of-way on off-road sections will be graded to preconstruction contours, as practical, with a small crown of soil left over the ditch to compensate for settling, but not to interfere with natural drainage, as approved by the environmental monitor. Where topsoil has been segregated, the topsoil will be spread back along the right-of-way in an even layer.

Best management practices will be implemented to control erosion. Any soil conservation feature (such as terraces, rip-rapped channels, grassed waterways, etc.), which are damaged by construction, will be restored, as nearly as possible, to their pre-construction condition. After backfilling the trench, slope breakers (water bars) will be constructed at approximately the following intervals:

% Slope	Water Bar Intervals - Feet
Less than 1	400
1-5	300
5-15	200
15-25	100

Temporary slope breakers (water bars/terraces) will be installed as necessary (at the environmental inspector's discretion) diagonally across the right-of-way on slopes to control erosion by reducing and shortening the length and concentration of runoff according (see figure in in Appendix D). These slope breakers will divert water to a well-vegetated area. If a vegetated area is not available, erosion control barriers will be installed to filter the runoff at the outlet of the slope breakers and off of the construction right-of-way. Silt fence, hay/straw bales, or sandbags may be used in place of temporary slope breakers at the discretion of the environmental monitor.

2.2 Topsoil Replacement

Topsoil will be salvaged and segregated from trench spoil materials to prevent mixing in all non-forested areas on BLM-managed lands to facilitate revegetation of the construction right-of-way after construction is complete. If topographic constraints prevent topsoil salvaging, those areas will be identified prior to construction for BLM approval. On BLM-managed lands, all available topsoil up to a depth of 6 inches will be removed from the trenchline and working side of the right-of-way and will be stored on the non-working side of the right-of-way and segregated from the trench spoil. Topsoiling will not occur where a brush-hog is used to preserve habitat within the right-of-way. Topsoil will not be used to pad the trench or construct trench breakers.

In areas where the construction right-of-way crosses ephemeral drainages, the drainages will not be blocked with topsoil or subsoil piles. Topsoil and subsoil will be placed on the banks of the drainages. Gaps will be left periodically in the topsoil and subsoil piles to avoid ponding and excess diversion of natural runoff during storm events.

Topsoil will be stockpiled in separate piles from other soil horizons with stable slopes and be positioned to minimize exposure to wind and water erosion as described in Appendix E. Topsoil piles stored for long periods of time will be seeded to provide cover to reduce erosion, provide competition for weed species, and to maintain viability of the soil fungi and microbe communities. After construction, the stockpiled topsoil will be uniformly spread. Replacement of topsoil will occur just prior to reseeding to prevent early germination and establishment of highly competitive annual weeds.

2.3 Seedbed Preparation

After final grading the Contractor will scarify, till, or harrow the seedbed to a depth of 3 to 4 inches to enhance germination of vegetation. Those sites where this method is not practical (e.g., steep slopes, rocky areas, etc.) will be dozer-tracked perpendicular to the slope or otherwise left with adequate roughness following topsoil placement to provide microsites for seed germination, and to reduce soil movement.

2.4 Fertilization

The environmental monitor, coordinating as appropriate with the local NRCS, land-managing agency, or landowner, will determine the specific revegetation requirements. The right-of-way will be limed, fertilized, seeded, and mulched as necessary. Recommended soil pH modifier and fertilizer will be incorporated into the top 2 inches of soil as soon as possible after application.

2.5 Vegetation

The following seeding mixtures, seeding rates, seeding methods, and scheduling of reclamation activities have been compiled in coordination with local jurisdictional agencies and through experience gained on previous pipeline projects within the area.

2.5.1 Species Selection

Selection of plant species for vegetation is primarily based on plant community composition and soil types, as well as establishment potential, growth characteristics, soil stabilizing qualities, palatability to wildlife and livestock, commercial availability, post-construction land use objectives, and agency recommendations. Seed will be purchased from a certified seed source in accordance with pure-live-seed specifications for seed mixtures and will be weed-free. Seeds will be used within 12 months of testing to assure seed viability. Table 1 provides the seed mixtures proposed for WEP III.

Table 1
Seed Mixtures for WEP III

Scientific Name	**Common Name and Variety**	**Pounds per Acre of PLS**
BLM Farmington Field Office >10 Inches Precipitation		
Agropyron smithii	Western wheatgrass - Arriba	2.5
Oryzopsis hymenoides	Indian ricegrass – Paloma	3.0
Bouteloua gracilis	Blue grama	0.1
Purshia tridentate	Antelope bitterbrush	1.0
Atriplex canescens	Fourwing saltbush	0.25
Agropyron trichophorum	Pubescent wheatgrass - Luna	2.0
Agropyron intermedium	Intermediate wheatgrass - Oahe	2.0
Sanguisorba minor	Small burnet - Delar	1.0
BLM Farmington Field Office <10 Inches Precipitation		
Agropyron smithii	Western wheatgrass - Arriba	4.0
Oryzopsis hymenoides	Indian ricegrass – Paloma	2.5
Bouteloua gracilis	Blue grama - Hatheta	1.5
Purshia tridentate	Antelope bitterbrush	0.1
Atriplex canescens	Fourwing saltbush	0.25
Agropyron trichophorum	Pubescent wheatgrass - Luna	2.0
Sanguisorba minor	Small burnet - Delar	1.0
BLM Farmington Field Office Native Seed Mix >10 Inches Precipitation		
Agropyron smithii	Western wheatgrass - Arriba	4.0
Oryzopsis hymenoides	Indian ricegrass – Paloma	1.5
Bouteloua gracilis	Blue grama – Hachita	1.0
Purshia tridentate	Antelope bitterbrush	1.5
Atriplex canescens	Fourwing saltbush	0.5
BLM Farmington Field Office Native Seed Mix <10 Inches Precipitation		

Scientific Name	**Common Name and Variety**	**Pounds per Acre of PLS**
Agropyron smithii	Western wheatgrass - Arriba	4.0
Oryzopsis hymenoides	Indian ricegrass – Paloma	2.5
Bouteloua gracilis	Blue grama – Hachita	1.5
Purshia tridentate	Antelope bitterbrush	0.1
Atriplex canescens	Fourwing saltbush	0.25
BLM Desert Grassland and Great Basin Desert Scrub		
Ceratoides lanata	Winterfat	1.0
Atriplex canescens	Four-wing Saltbrush	0.5
Sporabolus cryptandrus	Sand dropseed	0.5
Oryzopsis hymenoides	Indian ricegrass – Paloma	4.0
Himlaria jamesii	Galletta	2.0
Bouteloua gracilis	Blue grama – Lovington	2.0
Linum lewisii	Blue flax	0.25
Aster bigelovii	Purple Aster	0.25
Agropyron smithii	Western wheatgrass	3.0
BLM Rio Puerco Field Office Grasslands		
Sporobolus airoides	Alkali sacaton – Salado	0.2
Agropyron smithii	Western wheatgrass – Arriba	4.3
Himlaria jamesii	Galleta – Viva	2.2
Bouteloua gracilis	Blue grama – Lovington	0.6
Sphaeralcea coccinea	Scarlet globemallow	0.4
Linum lewisii	Blue flax – Appar	1.6
Secale spp	Annual rye – Gulf	8.0
BLM Rio Puerco Field Office Pinyon-Juniper		
Bromus marginatus	Mountain Brome – Bromar	3.8
Agropyron smithii	Western wheatgrass – Arriba	4.3
Himlaria jamesii	Galleta – Viva	2.0
Bouteloua gracilis	Blue grama – Lovington	0.6
Vicia americana	American vetch	0.4
Penstemon strictus	Rocky Mt. Penstemon - Bandera	0.6
Secale spp	Annual rye – Gule	8.0
BLM Roswell Field Office - Guadalupe and Lincoln Counties Loamy CP-3		
Bouteloua gracilis	Blue grama, var. Lovington	4.0
Bouteloua curtipendula	Sideoats grama, var. Vaughn or El Reno	1.0
Agropyron smithii	Western Wheatgrass	0.5
Panicum obtusum	Vine mesquite	1.0
Schizachryium scoparium	Little bluestem	1.0
Gaillardia aristata	Indian blanketflower	0.5
Sphaeralcea ambigua or S. coccinea	Desert or Scarlet Globemallow	1.0
BLM Roswell Field Office - Guadalupe and Lincoln Counties Shallow CP-3		
Bouteloua eriopoda	Black grama,var. Nogal	1.0
Bouteloua gracilis	Blue grama, var. Lovington	2.0
Bouteloua curtipendula	Sideoats grama, var. Vaughn or El Reno	4.0
Agropyron smithii	Western Wheatgrass	0.5
Sphaeralcea ambigua or S. coccinea	Desert or Scarlet Globemallow	1.0
Eriogonum spp.	Buckwheat	1.0
BLM Roswell Field Office - Chaves County Gravely SD-3		
Bouteloua gracilis	Blue grama,	1.5
Bouteloua curtipendula	Sideoats grama	1.5

Scientific Name	**Common Name and Variety**	**Pounds per Acre of PLS**
Sporabolus cryptandrus	Sand dropseed	0.5
Setaria macrostachya	Plains bristlegrass	2.5
Panicum obtusum	Vine mesquite	1.5
Sphaeralcea ambigua or S. coccinea	Desert or Scarlet Globemallow	1.0
Croton spp. Or Zinnia grandiflora	Croton or Desert Zinnia	0.5
BLM Roswell Field Office - Shallow Sand SD-3		
Bouteloua eriopoda or Bouteloua gracilis	Black grama or Blue grama	3.0
Bouteloua curtipendula	Sideoats grama	2.0
Sporabolus cryptandrus, or S. flexousus, or S. contractus	Sand dropseed or Mesa dropseed, or Spike dropseed	1.5
Sphaeralcea ambigua or S. coccinea	Desert or Scarlet Globemallow	1.0
Croton spp.	Croton	1.0
BLM Roswell Field Office - Bottomland SD-3		
Sprobolus giganteus or S. airoides	Giant sacaton or Alakali sacaton	3.75
Panicum obtusum	Vine mesquite	0.5
Distichlis stricta	Indian saltgrass	1.0
Setaria macrostachya	Plains bristlegrass	0.75
Atriplex canescens	Fourwing saltbush	0.25
Echinacea purpurea	Prairie coneflower	0.50
Helianthus annuus	Annual sunflower	0.50
BLM Roswell Field Office - Sandy Plains CP-2/Sandy Hills CP-2		
Andropogon hallii	Sand Bluestem	0.5
Schizachyrium scoparium	Little bluestem	0.5
Bouteloua curtipendula	Sideoats gramma	1.5
Sporabolus cryptandrus,	Sand dropseed	0.5
Sporabolus flexousus	Spike dropseed	0.5
Sporabolus contractus	Mesa dropseed,	0.5
Setaria macrostachya	Plains bristlegrass	2.0
Sphaeralcea ambigua or S. coccinea	Desert or Scarlet Globemallow	0.5
Eriogonum spp.	Buckwheat	1.5
BLM Roswell Field Office - Sandy Loam CP-2		
Bouteloua gracilis	Blue grama, var. Lovington	2.0
Bouteloua curtipendula	Sideoats grama, var. Vaughn or El Reno	3.0
Sporabolus cryptandrus,	Sand dropseed	0.25
Setaria macrostachya	Plains bristlegrass	2.0
Sphaeralcea ambigua or S. coccinea	Desert or Scarlet Globemallow	0.75
Eriogonum spp.	Buckwheat	1.0

2.5.2 Vegetation Mixtures and Rates

The basic seed mixtures and seeding rates will be based on agency stipulations and private landowner approvals. Where agencies provide specific seed mixes for specific locations along the right-of-way, the information will be directly incorporated into the seeding specifications. Where agencies have provided seed mixes for specific soils and/or vegetation types, seed mixes will be incorporated into the seeding specifications following a review of the soils and vegetation encountered along the right-of-way. In some instances, seed mixtures may need to

be modified as a result of limited species availability, poor seed quality, or site conditions. These modifications will be based on site-specific conditions and requirements. Modifications will only be undertaken with the concurrence of the landowner or jurisdictional agency.

2.5.3 Seeding Method

The seed will be uniformly applied and covered 0.5 to 1 inch deep, depending on seed size. A seed drill equipped with cultipacker is preferred, but broadcast or hydro seeding can be used at double the recommended seeding rates. Where broadcast seeding is used, the seedbed will be firmed with a cultipacker, roller, or similar method after seeding. Areas that are seeded after the recommended seeding date should be mulched if permitted.

2.6 Rock Handling

Rocks will not be permanently windrowed along the edge of the right-of-way. Rocks that were cleared from the right-of-way during construction will be randomly placed back on the right-of-way to approximate the density of surface rock on adjacent lands. Rock excavated during construction will be: 1) used for rip-rap at stream crossings; 2) buried on the right-of-way during recontouring; 3) used to construct barricades to prevent unauthorized use of the right-of-way; or 4) used to reform sandstone cliffs. Rocks will not be distributed on cultivated lands.

2.7 Vegetative Debris

Trees and other vegetation will not be permanently windrowed along the edge of the right-of-way. Trees of sufficient size will be salvaged by contractors for firewood. The remaining woody and non-woody vegetation will be randomly scattered over the right-of-way and temporary use areas and walked in with equipment (dozers) or chipped, if necessary.

2.8 Fencing

All damaged livestock fences will be repaired to the landowner's satisfaction. All existing improvements, such as fences and gates, will be maintained and repaired to meet or exceed the pre-construction condition.

2.9 Aboveground Facilities

Following construction, all aboveground facilities (e.g., block valves) will be painted to blend with the natural surroundings or the same color as existing facilities. A reflective material may be used to reduce hazards that may occur when structures are near roads. Otherwise, non-glare, non-reflective, non-chalking paint will be used. Basic color selections and applicable uses will be coordinated with the jurisdictional agencies. General guidelines for color selection are presented below:

- Federal Jumper Green (595a-34127) color will be used on aboveground facilities in areas that are predominately vegetated by trees (e.g., pinyon pine, juniper, and ponderosa pine).

- Munsell Soil Slate Gray Color (5Y 6/1) will be used on aboveground facilities in areas that are predominately vegetated by sagebrush.

- Munsell Soil Carlsbad Canyon Brown Color (2.5Y 6/2) will be used on aboveground facilities in areas that are predominately vegetated by grass, in areas that are mostly not vegetated, or in areas dominated by rock outcrops.

- Munsell Soil Color Desert Brown (10YR 6/3) will be used on aboveground facilities in area that are predominately not vegetated.

2.10 Cleanup

Following completion of reclamation, all trash, debris, and other solid wastes will be removed from the right-of-way, temporary use areas, and auxiliary facilities. All material will be disposed of in the appropriate manner in existing authorized sanitary landfills. No solid waste will be buried along the right-of-way. After final cleanup, the area will be inspected by the environmental monitor, landowner, or agency representative to verify that pre-construction commitments for project are satisfied.

3.0 RECLAMATION SCHEDULE

Vegetation activities will be determined in part by construction schedules and seasonal climatic conditions. Seeding and planting will be coordinated with other reclamation activities to occur as soon after seedbed preparation as possible. The Contractor's goal will be complete reclamation during the construction period prior to winter. If weather conditions preclude revegetation of some areas during or immediately after the construction period, these areas will be revegetated as soon as access allows. These are general guidelines and may be revised based on seasonal climatic conditions, on-site conditions, and concurrence with the jurisdictional agencies.

4.0 POST-CONSTRUCTION MANAGEMENT

4.1 Monitoring and Maintenance

The year following construction and restoration, reclamation measures will be monitored and restoration success evaluated by a qualified third-party specialist approved by the BLM or applicable agency. Monitoring is necessary to periodically evaluate recovery status of restored areas, identify the need for additional remediation, and to make a final determination regarding restoration success. This section describes monitoring protocols and revegetation performance criteria that will be utilized along the pipeline.

The main objectives of monitoring are to:

- Assess the effectiveness of temporary and permanent erosion control structures (i.e., slope breakers) to ensure the stability of the right-of-way, and to ensure that runoff is controlled naturally with the erosion control structures in place, with no accelerated erosion or wash-outs. Monitoring will focus on qualitative visual observations of the critical areas of the highly erodible soils combined with steeper slopes, banks of stream crossings, and washes. Specific sites where remedial work may be needed will be identified. Monitoring to identify any areas of significant or new erosion or other third-party damage is an element of routine aerial surveillance along the new pipeline loop segments and existing right-of-way, and will extend during the life of the project. It is anticipated that any active erosion problems, other than those caused by disturbance by

other parties, would be apparent during the first two years following reclamation or after the first major storm or run-off event;

- Monitor and assess the success of the seeding and planting efforts beginning during the first growing season in 2014;
- Monitor and assess potential invasion of targeted invasive, non-native weeds in accordance with the Weed Management Plan;
- Monitor and identify other disturbances to the right-of-way that may hinder reclamation success, such as excessive grazing or unauthorized off-highway vehicle use; and
- Identify where other vegetation control may be needed. Note that with the exception of invasive, non-native weed control, vegetative maintenance, including mowing of nonagricultural lands or large sapling or tree removal, is not anticipated. MAPL will selectively remove large brush or trees on the permanent right-of-way to facilitate surveillance and inspection.

Monitoring Method. The Point Intercept or similar method will be used to estimate reclamation success. Comparison transects would extend both onto and off the right-of-way at locations representative of the right-of-way and selected in cooperation with jurisdictional agency personnel. Transects would be at least 100 feet in length. Monitoring would take place as nearly as possible to the same time of the year for consistency.

4.2 Evaluating Reclamation Success

Revegetation Performance Criteria. Beyond evaluating the effectiveness of the reclamation effort for erosion control purposes, criteria to evaluate revegetation success are based on a number of site-specific considerations, including soil and site capabilities and form, composition and general condition of the adjacent plant communities, and general land use (most importantly, grazing practices and pre-existing populations of invasive, non-native weeds in adjacent areas). The parameters to evaluate revegetation success include composition, distribution, density and percent cover, and assigned values. Such parameters will vary based on these site conditions.

Evaluations of revegetation success beyond basic right-of-way stability would begin during the second growing season (in 2015). Providing vegetation that is 80 percent of the natural existing vegetation (basal ground cover) is the goal of revegetation efforts. First-year evaluations would focus on initial seedling establishment and distribution, with approximately 3% cover of desirable species distributed over at least 80% of the disturbed area without any accelerated erosion. A general evaluation of the right-of-way will be conducted by a MAPL specialist (probably contracted) using specific site observations at selected areas representative of the terrain features and seed mixtures utilized.

Evaluations will be conducted in successive growing seasons as plant cover increases in the ranges of 10%, 20%, 30%, and 40% in the following years.

Remedial Action and Maintenance. MAPL's main emphasis will be to address all active erosion problems as soon as practical. Additional erosion control work will be performed by applying the same basic techniques identified in this Plan of Development based on site-specific conditions. Temporary erosion control structures such as straw bale sediment barriers or silt

fences will be removed the year after they are installed where the sites are deemed stable and revegetation has developed in accordance with reclamation success criteria.

Reseeding or replanting efforts, including supplemental mulching and livestock grazing control, may occur in agreement with jurisdictional agencies or landowners where monitoring during the second growing season determines a revegetation failure, particularly where accompanied by observed increases in water or wind erosion.

Invasive, non-native weed control also is included in maintenance and will be performed in accordance with the Weed Management Plan (see Appendix G) in cooperation with jurisdictional representatives.

During monitoring, the success parameters (cover, density, and richness of perennial vegetation) are estimated at each site. Other site characteristics that are monitored in addition to the success parameters include soil erosion, natural recruitment of native plant species, reproduction, exotic plant species abundance, animal use, and pattern of established vegetation (i.e., presence of large interspaces). Lack of erosion at a site provides evidence that soils have been adequately stabilized, while natural recruitment and/or reproduction indicate that important functional processes are in place that initiate regeneration, such as pollination and seed dispersal. Exotic species potentially compete with native perennial species and relatively high abundance can have negative effects on site conditions. Evidence of animal use is used as an indicator that habitat conditions are being restored. Pattern of established vegetation helps to determine whether large bare areas are indicative of site conditions or simply a result of the patchiness of surrounding vegetation.

Reporting. MAPL will document the observations of reclamation and revegetation success following the field inspections and sampling and will provide summary reports to jurisdictional agencies. Areas that require remedial action also will be identified by milepost and will include a description of additional erosion control or reclamation work that must be performed. MAPL will further consult with jurisdictional agencies to complete the remedial plans based on site-specific conditions. A report would be submitted within three months of the identification of these conditions and the implications of corrective actions. Areas where control applications for invasive, non-native weeds are required also would be reported.

Photography will also be used to help document the status of recovery at all sites. Photo points will be established and photographs will be taken prior to disturbance, when restoration efforts are completed, and during each monitoring visit.

Appendix E

Stormwater Management Plan

STORMWATER MANAGEMENT PLAN
(SWMP)
FOR THE WESTERN EXPANSION PIPELINE
PROJECT,
STATE OF NEW MEXICO

Mid-America Pipeline LLC
1100 Louisiana St.
Houston, Texas 77002

January 2013

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Acronyms and Abbreviations

BMP	best management practices
CFR	Code of Federal Regulations
CI	Construction Inspector
CM	Construction Manager
EM	Environmental Monitor
EPA	U.S. Environmental Protection Agency
ERC	Emergency Response Contractor
MSDS	material safety data sheet
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
PEM	palustrine emergent
PSS	palustrine scrub-shrub
PEM	palustrine forested
PLS	Pure Live Seed
PPE	personal protective equipment
RCRA	Resource Conservation and Recovery Act
ROW	right-of-way
SWMP	Storm Water Management Plan
SWPPP	Stormwater Pollution Prevention Plan
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey

1.0 INTRODUCTION

As of June 12, 2006, the National Pollutant Discharge Elimination System ("NPDES") Stormwater General Permit is not required for certain stormwater discharges from field activities or operations, including construction, associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities, and are exempt from NPDES permit requirement (40 Code of Federal Regulations ["CFR"] Part 122). This Stormwater Management Plan ("SWMP") has been developed by Mid-America Pipeline Company (MAPL), to replace the Stormwater Pollution Prevention Plan ("SWPPP") formerly required by the U.S. Environmental Protection Agency ("EPA"), Region 6, NPDES Stormwater Construction General Permit. This SWMP is being implemented to voluntarily apply best management practices ("BMP"). Therefore, this SWMP has been developed based on the guidelines outlined in the NPDES General Permit.

The primary purpose of the SWMP is to minimize the impacts of construction operations on stormwater runoff. Personnel engaging in construction activities that could potentially affect erosion, sedimentation, or stormwater pollution shall follow this plan. **MAPL and contractors shall complete and sign the certifications found in Section 8. MAPL and contractors shall also modify and update the construction alignment sheets as described in this SWMP.**

The plan includes description of:

- Potential pollutant sources
- Management practices to control pollutants
- Inspection requirements
- Record keeping requirements

2.0 SITE DESCRIPTION

2.1 PROJECT NAME AND LOCATION

Project Name: Western Expansion Pipeline Project.

Project Location: The proposed project begins in San Juan County and extends approximately 245 miles to the southeast to its terminus in Lea County. The proposed project is within San Juan, Rio Arriba, McKinley, Sandoval, Santa Fe, Bernalillo, Torrance, Guadalupe, Lincoln, De Baca, Chaves and Lea Counties, New Mexico.

2.2 DESCRIPTION OF THE CONSTRUCTION ACTIVITY

The new pipeline will be installed parallel and adjacent to existing pipeline rights-of-way ("ROW") for approximately 99 percent of the proposed pipeline route. MAPL proposes to construct the pipeline on either the east side or the west side of the existing pipelines depending on site-specific conditions, including but not limited to engineering constraints, environmentally-sensitive areas, or for landowner or safety reasons. MAPL is proposing to install the new pipeline within an approximate 125-foot construction ROW. Approximately 50 feet of the construction ROW will be maintained as permanent easement, and approximately 75 feet of the construction ROW will be temporary easement. The temporary easement will be allowed to revert back to its original land-use following construction. MAPL proposes to construct the project from June 2013 to February 2014. The restoration of the Right-of-Way will take considerably longer.

2.3 SEQUENCE OF MAJOR SOIL DISTURBING EVENTS

The following represents a typical sequence of major soil-disturbing events during the proposed Western Expansion Pipeline Project:

- Installation of stabilized construction entrances and surface water (including wetlands) protection BMP's.
- Clearing of the Project area as necessary. This may include clearing of brush and trees that have encroached into the ROW, in areas adjacent to the ROW needed for soil storage, and/or in areas needed for access to particular construction sites within the Project area.
- Installation of additional BMP's for erosion and stormwater management, as needed.
- Installation/removal of valve setting, sidetap, etc., as necessary.
- Pipe stringing, bending, welding, and testing.
- Excavate ditch (backhoes will be used to excavate the ditch to the required depth).
- Install pipe in ditch.
- Tie-in – The sections will be welded together in the ditch.
- Test pipe as necessary.
- Backfill the ditch line (spoil will be used to cover the pipe).
- Purge and pack – Gas will be used to displace the air. Gas will be introduced to reach the operating pressure.

- Perform cleanup and stabilization – This phase will begin after backfilling and will continue throughout the remainder of the construction. This phase will include minor grading to level small areas, and revegetation (if applicable). Project areas to be stabilized by vegetation will be seeded and mulched in accordance with landowner requirements or recommendations from the local soil conservation authorities.

- Remove temporary erosion/sediment controls when other construction activity is completed and final stabilization is achieved.

2.4 SITE AREA

Approximately 2,800 acres will be disturbed by project construction. The site area for the proposed project is determined by multiplying the linear distance of the pipeline by the combined width of the permanent and temporary workspace and converting from square feet to acres.

2.5 RUNOFF COEFFICIENT

The runoff coefficient is the fraction of rainfall that can become runoff. The weighted average pre-construction runoff coefficient for unimproved land ranges from 0.1 to 0.4. Construction will result in only a negligible area of impervious surfaces (e.g., aboveground valves, etc.), and the pre-construction grade will be essentially unchanged. The post-construction runoff coefficient of the project area will be approximately 0.25.

2.6 HYDROGEOLOGY AND CLIMATE

2.6.1 Hydrology

The proposed project is located within San Juan, Rio Arriba, McKinley, Sandoval, Santa Fe, Bernalillo, Torrance, Guadalupe, Lincoln, De Baca, Chaves and Lea Counties, New Mexico, within several watersheds including the Blanco Canyon, Chaco, Upper San Juan, Arroyo Chico, Jemez, Rio Puerco, Rio Granda-Santa Fe, Western Estancia, Upper Pecos, Long Arroyo and Monument-Seminole Draws watersheds.

2.6.2 Soils

The proposed project crosses San Juan, Rio Arriba, McKinley, Sandoval, Santa Fe, Bernalillo, Torrance, Guadalupe, Lincoln, De Baca, Chaves and Lea Counties and many different soil associations. Please refer to the Bureau of Land Management (BLM) Environmental Assessment (EA) and the U.S. Army Corps of Engineers (USACE) pre-construction notice (PCN) for area specific soil properties.

2.6.3 Climate

Based on the natural grade of the ROW, the soil types, and the climate, most stormwater can be expected to evaporate, infiltrate into the soil, or drain into nearby streams. The quality of water discharges from the site that could reach waterbodies will be maintained by vegetation and engineering controls. Specific climate data was not provided because the project traverses numerous climate unique areas.

2.7 GENERAL LOCATION AND SITE MAPS

A general location map of the project is provided in Attachment A of this SWMP. The map shows a general project location within the State of New Mexico. For more specific site specific figures, please refer to the Issued for Construction (IFC) alignment sheets. Pre-construction topography will be restored at completion of the Project. The maps provide the following information:

- Project alignment
- Location of main existing electric generation and pipeline compressor facilities
- Drainage patterns evidenced by topographic elevations (drainage goes toward the creeks)
- Topographic elevations of the alignment
- The approximate areas of ground disturbance during construction (ROW and temporary work spaces)

The Contractor, Environmental Monitor ("EM"), and/or Construction Inspector ("CI") are responsible for updating the construction alignment sheets as necessary during construction to maintain compliance with this SWMP. The construction alignment sheets should be modified to show placement of structural and non-structural controls in accordance with criteria identified in this SWMP. The Contractor, EI, and/or CI are responsible for adding the following to the Project area alignment sheets:

- Stormwater controls (update the maps as control type and location are determined, based on MAPL's construction standards, Corps of Engineers requirements, and wetland survey results)
- Any additional areas of soil disturbance (including additional access, etc.)
- Locations of off-site material, waste, borrow, or equipment storage areas
- Any water discharge points into surface waters (including expected stormwater discharge locations and hydrostatic test discharge locations)

2.8 DISCHARGE FROM INDUSTRIAL ACTIVITIES

The following non-stormwater discharges may occur during construction:

- Water for dust suppression as necessary
- Drilling fluid (disposed of on private land farm areas that are not wetlands)
- Test water from hydrostatic testing (permitted separately)

There will be no other water discharges, including stormwater, associated with industrial activities other than those associated with the construction activities mentioned above.

2.9 RECEIVING WATERS

Please see the list of jurisdictional waterbodies crossed in the table provided in Attachment F. Please refer to the BLM EA and the USACE PCN for additional information on potential impacts.

Potential adverse effects on receiving waters due to pipeline construction are possible due to increased erosion and sediment delivery to these waters. The USACE regulatory program, as well as other federal and state programs, requires avoidance and minimization of these possible impacts. Adherence to these requirements will assure that significant adverse impacts to these resources will not occur.

2.10 PERMIT REQUIREMENTS

As of June 12, 2006, the NPDES Stormwater General Permit is not required for certain stormwater discharges from field activities or operations, including construction, associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities, and are exempt from NPDES permit requirement (40 CFR Part 122).

2.11 WETLAND IMPACTS

No impacts to wetlands are anticipated associated with this project.

Impacts to wetlands have been avoided to the maximum extent possible. In the unlikely event that impacts to palustrine emergent ("PEM") wetlands and palustrine scrub-shrub ("PSS") wetlands occur, they would be temporary in nature, and the site will be returned to preconstruction contours and allowed to revegetate naturally. Proper controls will be installed to ensure that stormwater runoff does not affect any adjacent wetland areas. Please refer to the segment-specific wetland delineation reports or the IFC alignment sheets for locations of the wetlands.

Impacts to palustrine forested ("PFO") wetlands have minimized to the maximum extent possible. In the unlikely event that impacts to PFO wetlands occur, they would be temporary in nature, and the site will be

returned to preconstruction contours and allowed to revegetate naturally. Proper controls will be installed to ensure that stormwater runoff does not affect adjacent PFO wetlands. Please refer to the wetland delineation report and the IFC alignment sheets for locations of PFO wetlands.

Please refer to the BLM EA and the USACE PCN for additional information on wetlands within the vicinity of the project.

2.12 ENDANGERED OR THREATENED SPECIES

Please refer to the BLM EA and the USACE PCN for additional information on potential impacts to sensitive species.

2.13 NATIONAL REGISTER OF HISTORIC PLACES

Field investigations for cultural resources were conducted from June 2013 until February 2014. Prior to conducting cultural resources fieldwork, UNM conducted a records search for State Archaeological Landmarks, official State Historical Markers, properties listed on or eligible for the National Register of Historic Places ("NRHP"). Please refer to the BLM EA and the USACE PCN for detailed information on potential impacts to sensitive cultural resources.

2.14 IDENTIFICATION OF POTENTIAL POLLUTANTS DURING CONSTRUCTION ACTIVITIES

The construction activities at the site might produce pollutants that could cause stormwater pollution. Portions of each Project area will be cleared and graded, and the pipeline trench will be excavated. These activities, including any necessary removal of grass, rocks, trees, and other ground cover currently present at the site, increase the potential for some erosion. In addition, construction will require the use of standard construction materials. These will include concrete, paints, diesel, gasoline, solvents, fertilizers, lubricants, engine and hydraulic oil, ethylene glycol, and drilling fluids that may adversely impact the stormwater runoff from the construction site (see Attachment B). The activities that have a limited potential to pollute the stormwater include:

- Releases from construction equipment
- Releases from material storage
- Releases of construction debris

In the event of rainfall during construction, the main concern is erosion. Efforts will be made to minimize grading activities to those absolutely needed and to minimize the areas of disturbance. If precautions outlined in this plan are followed, impacts to runoff water should be minimal.

3.0 POSTING OF PROJECT NOTICE

Pursuant to 40 CFR Part 122, stormwater discharges from field activities or operations, including construction, associated with oil and gas exploration, production, processing, treatment operations, or transmission facilities, are exempt from NPDES permit requirements. Therefore, posting a Project Notice Form at the site of construction activities is not required. However, a copy of this SWMP should be kept on-site for reference and to ensure that BMP's are properly utilized as they may be conditional of additional permitting requirements.

4.0 CONTROLS

This plan section describes controls used to prevent or control stormwater pollution. MAPL has standard BMP's, including specifications for BMP design and condition. MAPL's BMP's are based on the current best accepted practices endorsed by American Gas Association, Gas Research Institute, Association of Pipeline Contractors, EPA, and USACE. Attachment D contains diagrams showing typical installation of MAPL's BMP's.

The Project's EI's are responsible for determining the schedule and placement of BMP's in accordance with criteria identified in this SWMP. This plan will be updated by the Contractor, EI, and/or CI to identify the location and schedule of planned or installed controls as the need for these controls is determined. Controls should be sighted on the alignment sheets and copies with the controls marked should be kept as part of the SWMP (see Attachment E).

4.1 EROSION AND SEDIMENT CONTROLS

4.1.1 Short- and Long-Term Goals and Criteria (as applicable)

(a) The construction phase erosion and sediment controls are designed to retain sediment on-site to the extent practicable.

(b) Control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections or other information indicate that a control has been used inappropriately or incorrectly, the control shall be replaced or modified as needed.

(c) If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize off-site impact (e.g., fugitive sediment in street could be washed into storm sewers by the next rain and/or pose a safety hazard to users of public streets).

(d) Sediment must be removed from sediment traps when capacity has been reduced by 50 percent.

(e) Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

(f) Off-site material storage areas (also including overburden and stockpiles of dirt, borrow areas, etc.) used solely by the permitted Project are considered a part of the Project.

4.1.2 Temporary Erosion Control Measures

The following temporary erosion and sediment controls will be utilized as necessary:

Temporary Slope Breakers: Temporary slope breakers (water bars/terraces) will be installed as necessary (at the EI's discretion) diagonally across the ROW on slopes to control erosion by reducing and shortening the length and concentration of runoff according to the figure provided in Attachment D. These breakers will divert water to a well-vegetated area. If a vegetated area is not available, erosion control barriers will be installed to filter the runoff at the outlet of the slope breakers and off of the construction ROW. Silt fence, hay/straw bales, or sandbags may be used in place of temporary slope breakers at the discretion of the EI.

Natural vegetation acts as an effective filter medium for silt removal from surface runoff. Its use as a sediment barrier results in less disturbance to the land than other methods. In areas where natural vegetation is not present or does not constitute a suitable barrier, temporary sediment and/or erosion control barriers will be installed. Temporary sediment barriers, typically hay/straw bale filters or silt fences, dissipate the energy of flowing water to allow settlement of sediment from surface water runoff.

Silt Fence/Hay/Straw Bales: Silt fences and hay/straw bales will be installed in accordance with figures provided in Attachment D. The silt fences and/or hay/straw bales will be installed as necessary to prevent erosion and sedimentation runoff from stormwater discharges. These measures will remain in place until permanent revegetation measures have been judged successful. Silt fence and hay bale structures are also used to control erosion and sedimentation for hydrostatic test water discharges. Bale filters are effective for small rills that can be spanned by one or two bales. Bales are constructed of hay (or straw) that is securely bound to form a berm, which is held in place by two stakes driven through each bale. The first stake is driven at an angle toward previously positioned bale, and the second stake is driven perpendicular to ground surface. The bindings of the bales will be horizontal. Filter fabric fences (silt fences) perform the same function as hay bale berms, but have the advantage of ease of installation, versatility, and light weight.

A silt fence is a geotextile fabric with fence posts spaced no more than 10 feet apart. Both silt fences and hay/straw bales will be installed according to the manufacturer's instructions where site conditions allow. Otherwise, the silt fence will be imbedded a minimum of 4 inches, where two sections are joined and overlapped a minimum of 6 inches. Accumulated sediment will be removed regularly and the fence

inspected to ensure the bottom of the fence remains imbedded in the ground. A sufficient stockpile of silt fence will be maintained on-site for emergency use.

Hay bales may be left in place. These barriers are required after the initial disturbance of the soil and will be installed at the following locations:

- At the outlet of a temporary slope breaker when vegetation is not enough to control erosion
- Along banks of waterbodies between the graded ROW and waterbody after clearing
- Downslope of any stockpiled soil in the vicinity of waterbodies and wetlands
- At the base of slopes adjacent to road crossings where vegetation has been disturbed
- At sideslope and downslope boundaries of the construction where runoff is not otherwise directed by temporary slope breakers
- In the ROW at boundaries between wetlands and adjacent disturbed upland areas to prevent flow of sediment into the wetland where runoff is not otherwise directed by a temporary slope breaker
- At the edge of the ROW to prevent siltation of ponds, wetlands, or other waterbeds adjacent to the downslope of the ROW or as necessary to contain spoil and sediment within the ROW
- For hydrostatic test water discharges, the water should be released directly into the silt fence/hay bale structures

4.1.3 Stabilization Practices

The stabilization measures of the pipeline ROW incorporate permanent erosion and sedimentation measures. However, in the event that final restoration cannot occur, temporary erosion and sedimentation control measures will be employed as specified by MAPL until the weather is suitable for final cleanup. Specific measures for permanent restoration/revegetation (stabilization), such as revegetation with certain species, are contained in the applicable permits or landowner agreements.

4.1.3.1 Upland Areas

Temporary Stabilization:

- These measures shall be initiated as soon as practicable in portions of the ROW where construction activities have temporarily or permanently ceased. Where the initiation of stabilization measures by the 14th day is precluded by weather, stabilization measures will be initiated as soon as machinery is able to access the ROW. If activities resume within 21 days

from when the activities ceased, stabilization measures do not have to be initiated by the 14th day following cessation of the activity.

- In the event that construction is completed more than 30 days before the seeding season for perennial vegetation, areas adjacent to waterbodies will be mulched with 3 tons/acre of straw, or its equivalent, for a minimum of 100 feet on either side of the waterbody.

- Temporary plantings may be fertilized as deemed necessary by the Construction Manager ("CM") and/or EI. Where possible, lime and fertilizer will be incorporated into the top 2 inches of soil.

- Temporary sediment barriers may be removed from an area when that area is successfully revegetated (i.e., if the ROW surface condition is similar to adjacent undisturbed lands).

Permanent Stabilization:

- Erosion and sedimentation control practices (installation of structures, revegetation, and maintenance practices) will be implemented to minimize the potential for soil erosion or sedimentation of streams and to restore the ROW and any other disturbance areas. Final grading will be completed within 10 days of construction completion (including the installation of permanent erosion control measures in the areas of steep slopes only), weather permitting. Construction debris will be removed from ROW and the ROW will be graded so that the soil is left in proper condition for planting

- The ROW on off-road sections will be graded to preconstruction contours, as practical, with a small crown of soil left over the ditch to compensate for settling, but not to interfere with natural drainage, as approved by the CM, EI, and/or CI

- Where topsoil has been segregated, the topsoil will be spread back along the ROW in an even layer

- Fences that were cut and replaced by gaps during construction will be repaired to at least the equivalent preconstruction activities

- Permanent slope breakers will be constructed after final grading and prior to seeding in accordance with the figures provided in Attachment D to replace temporary barriers at pedestrian, trail, road, waterbody, and wetland crossings

4.1.3.2 Revegetation and Seeding

Final revegetation standards that will be used by MAPL for stabilization of the ROW will be determined through discussions with the individual state and local agencies and through the permit process.

The EI, coordinating as appropriate with the local NRCS and/or landowner, will determine the specific revegetation requirements. The ROW will be limed, fertilized, seeded, and mulched as necessary. Recommended soil pH modifier and fertilizer will be incorporated into the top 2 inches of soil as soon as possible after application.

The ROW will be seeded after final grading in accordance with recommended seeding dates, weather and soil conditions permitting.

Turf, ornamental shrubs, and other landscaping materials will be restored in accordance with landowner agreements. Selection is based on adaptation of plants to the soils and climate, ease of establishment, suitability for specific use, longevity or ability to re-seed, maintenance required, aesthetic values, and landowner agreement. Personnel familiar with local horticultural and turf establishment practices must perform the restoration work.

Where broadcast or hydro seeding is to be done, the seedbed will be scarified as necessary to ensure sites for seeds to lodge and germinate.

Where hand broadcast seeding is used, the seed will be applied at one-half the rate in each of two separate passes.

The seedbed will be prepared to a depth of 3 to 4 inches using appropriate equipment to provide a firm, smooth seedbed free of debris.

The Project area should be seeded as deemed appropriate by the CM and/or EI. If seeding cannot be done soon after final grading, temporary erosion and sediment controls will be used and seeding of permanent cover will be done at the beginning of the next seeding season. Meanwhile, temporary stabilization measures will be implemented as appropriate.

Slopes steeper than 3:1 will be seeded immediately after final grading in accordance with recommended seeding dates, weather permitting.

Seed will be purchased in accordance with the Pure Live Seed ("PLS") specifications for seed mixes and used within 12 months of testing.

Legume seed will be treated with an inoculant specific to the species. The manufacturer's recommended inoculant rates will be used.

The seed will be uniformly applied and covered 0.5 to 1 inch deep, depending on seed size. A seed drill equipped with cultipacker is preferred, but broadcast or hydro seeding can be used at double the recommended seeding rates. Where broadcast seeding is used, the seedbed will be firmed with a cultipacker, roller, or similar method after seeding.

Other alternative seed mixes specifically requested by the landowner or land-managing agency may be used.

Areas that are seeded after the recommended seeding date should be mulched if permitted.

4.1.3.3 Wetland Restoration

This Project, as currently proposed, involves minor temporary impacts to wetlands. Any waterbody/ wetland impacts proposed other than those already permitted for this Project may require additional permitting. Please consult with appropriate MAPL environmental personnel prior to initiating such impacts.

MAPL's approach to wetland mitigation and restoration involves a combination of impact minimization during construction, substrate and hydrology restoration, and vegetation establishments involving successful natural processes as a key component.

The construction workspace for the proposed project has been designed to avoid impacts to forested wetlands. In scrub-shrub wetlands, trees and brush will be cut and/or ground to ground level, leaving the stumps and root systems intact to the maximum extent practicable.

During the restoration phase, segregated topsoil will be replaced over the trench line and wetland contours and drainage patterns will be restored to approximate original condition. Surface rocks and boulders that had been windrowed during the construction phase will be distributed in a natural pre-construction configuration in the temporary work areas. Following restoration of the substrate, wetlands will typically be seeded with annual ryegrass.

Re-establishment of forest and shrub vegetation in forested wetlands will be performed using a combination of plantings and natural succession processes, **where necessary**. The species to be included in the supplemental replanting plan will be based on those identified to be naturally colonizing and succeeding in the site and as per recommendations by the U.S. Fish and Wildlife Service and Corps of Engineers.

4.1.3.4 Riparian Areas

MAPL will minimize the amount of tree clearing to the maximum extent practicable while still allowing for safe construction of the pipeline within riparian areas. Trees and brush will be cut at ground level, leaving the stumps and root systems intact to the maximum extent practicable to mitigate impacts to riparian areas and promote revegetation success. Based on evaluation by the CM and EI, some selected trees at the edges of the workspace may be retained to help minimize impacts. Trees and brush that have to be removed will be cut and/or ground at ground level to the extent practicable, leaving stumps and root systems in place, thus potentially promoting resprouting. Stumps over the trenchline and in the area of the equipment crossing will require removal.

Following installation of the pipeline, stream banks and riparian areas will be re-contoured and stabilized. Banks will typically be stabilized with a herbaceous mixture and erosion control fabric such as jute netting. Rock riprap may be used to stabilize particularly erosive or unstable areas at the recommendation/approval of the state agencies and by the USACE.

4.1.4 Other Surface Applications

(a) Mulch:

After seeding, mulch may be applied as determined necessary by the EI at a rate of approximately 2 tons/acre on the entire ROW except wetlands, lawns, agricultural crop areas, and areas where hydromulch is used. Mulching before seeding may be done if construction or restoration activity is interrupted for an extended period, such as when seeding cannot be completed due to seeding period restrictions. Except for site-specific locations that may be encountered during construction, mulch before seeding if final cleanup (including final grading and installation of permanent erosion controls in the areas of steep slopes) is not completed in an area within approximately 10 days after construction completion.

If mulching occurs before seeding, the Contractor shall increase mulch application on slopes within 100 feet of waterbodies and wetlands to a rate of 3 tons/acre. Up to 1 ton/acre of wood chips may be added to mulch if areas are top-dressed with 11 pounds/acre available nitrogen (at least 50 percent of which is slow release).

If a mulch blower is used, the strands will not be shredded less than 8 inches in length to allow anchoring. The mulch will be anchored immediately after placing to minimize loss by wind and water. When anchoring by mechanical means, the Contractor shall use a mulch-anchoring tool to properly crimp the mulch to a depth of 2 to 3 inches.

When anchoring with liquid mulch binders, the Contractor shall use the rates recommended by the manufacturer. The Contractor shall not use liquid mulch binders within 100 feet of wetland or waterbodies.

(b) Matting/Netting:

Matting or netting consists of jute, wood excelsior, or similar materials, and will be installed by the Contractor to anchor mulch and stabilize the surface of the soil during the critical period of vegetative establishment, where directed by the EI.

Matting or netting will be applied to critical, sensitive areas (i.e., steep slopes, banks of waterbodies, bar ditches, etc.) as specified by the EI. On waterbody banks, the matting or netting will be installed at the time of the final bank re-contouring. In the event that erosion control fabric is not readily available, MAPL will temporarily use mulch anchored via crimping (or some other

means) or hydromulch until the erosion control fabric material becomes available. Matting or netting will be anchored with pegs or staples as recommended by the manufacturer.

4.2 STORMWATER MANAGEMENT

Stormwater management will be controlled through stormwater flow attenuation, velocity dissipation devices, and water filtration. MAPL's construction procedures describe the criteria for placement and use of stormwater control methods/devices. The EI will have the authority to determine the location of these controls.

If herbicides or pesticides are to be used for vegetation maintenance, the applications of those substances will be in accordance with applicable landowner and land management or state agency specifications. MAPL will not use herbicides or pesticides in or within 100 feet of any waterbody except as specified by the appropriate land management or state agency.

4.3 OTHER CONTROLS

4.3.1 Waste Materials

(a) Trash, litter, and debris will be collected for off-site disposal; it will not be discarded along the ROW. Refuse will be disposed of according to state and local regulations.

(b) Solid waste that contains (or at any time contained) oil, grease, solvents, or other petroleum product, falls within the scope of the oil and hazardous substances control, cleanup, and disposal procedures of Sections 4.9 and 4.10 of the Contractor Safety Manual (see Attachment G). This material shall be segregated for handling and disposal as hazardous waste under the provisions of the plan.

(c) A list of construction and waste material expected to be stored on-site is provided in Attachment B.

4.3.2 Offsite Vehicle Tracking

(a) A stabilized construction entrance will be used, if appropriate, to reduce vehicle tracking of soil and sediments. Access to the ROW will normally be from existing public roads. Attempt to locate roadway crossings/access points to ensure that safe and accessible conditions exist throughout the construction phase. Use of 50-foot-long crushed stone access pads, sweeping, culvert installation, matting, and other forms of rutting protection may be used subject to local permit conditions. Periodic sweeping and scraping will remove sediment tracked onto public roads. If crushed stone access pads are used in active agricultural areas, the stone will be placed on a synthetic fabric to facilitate later removal.

(b) The stabilized construction entrances will be installed before clearing and grading. Once other construction activities permanently cease in an area, that area will be stabilized by reseeding and/or

mulching as needed. Once revegetation has been judged successful, temporary erosion/sediment control structures will be removed.

5.0 MAINTENANCE

Erosion and sediment control measures and other protective measures identified in this SWMP must be maintained in effective operating condition. Identify stormwater control devices that are not operating properly; maintenance shall be performed before the next anticipated storm event, or as necessary to maintain the continued effectiveness of stormwater controls. If maintenance prior to the next anticipated storm event is impractical, maintenance must be scheduled and accomplished as soon as practicable. Temporary sediment barriers will remain in place until permanent revegetation measures have been judged successful.

6.0 INSPECTIONS

The EI will inspect disturbed areas of the construction site that have not been finally stabilized (including areas used for storage of materials that are exposed to precipitation, staging areas, temporary contractor yards, access roads, structural control measures, and locations where vehicles enter or exit the site). The construction site should be considered stabilized when construction activity ceases and a uniform vegetative cover (see below) has been established. Areas that are not revegetated should be considered to have achieved final stabilization when they have a permanent cover that will prevent erosion of soil by wind or water. At that time, activity under this plan, including inspections, will cease. Inspections shall be conducted as follows:

- Conduct **regular/routine inspections and following any storm event of 0.25 inch or greater**, except those portions of the site that have been finally or temporarily stabilized, which will be conducted every 21 days. Inspections should continue until disturbed areas are completely stabilized (for areas to be revegetated, this means that perennial vegetation cover reached a uniform cover of at least 70 percent of the preconstruction cover).

- **Inspect control measures** regularly in areas of active construction or equipment operation on a weekly basis in areas with no construction, and within 24 hours of the end of a storm event that is 0.25 inch of rainfall or greater. Control measures will be maintained in good working order; if repair is necessary, it should be initiated within 24 hours of report (see above).

- **Inspect disturbed areas** for evidence of or potential for pollutants entering the drainage system. Sediment from silt fences should be removed regularly and the fence inspected to ensure that the bottom of the fence remains imbedded in ground. Damaged hay/straw bales will be replaced with new bales as necessary.

- **Inspect material storage areas** where materials are exposed to precipitation for evidence of potential for pollutants entering the drainage system.

- **Inspect vehicle entrances** for evidence of off-site sediment tracking.

- **Inspect discharge points**, if accessible, to determine if erosion control measures are effective in preventing significant impacts to receiving waters. If these points are inaccessible, inspectors should inspect nearby downstream locations.

- **Inspect vegetation** after the first and second growing season after seeding to determine the success of revegetation. Wetland revegetation is considered successful if at least 80 percent of the total cover is native species and the level of diversity of the native species present after construction is at least 50 percent of the level originally found in the wetland. Restoration shall be considered successful if the ROW surface condition is similar to adjacent undisturbed lands.

- **Complete an inspection report** of each inspection. Inspection forms and form instructions provided in Attachment C provide additional guidance.

See Section 8 for additional detail on requirements for construction activity and inspection documentation and record keeping.

7.0 PLAN MODIFICATION

This plan may need to be modified and/or updated based on information and experience gathered during actual construction activities (e.g., add and document controls, include or modify BMP's designed to correct problems, etc.). If changes to the design, construction, or maintenance that can have significant effect on the potential for discharging pollutants in stormwater at the site occur, this plan should be modified accordingly by the Contractor, EI, and/or CI. In addition, if the plan proves to be ineffective in controlling pollutants, any necessary modifications should be made by the Contractor, EI, and/or CI.

8.0 STORMWATER MANAGEMENT PLAN ACKNOWLEDGEMENT

8.1 MAPL'S ACKNOWLEDGEMENT

I acknowledge that this document and its attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Signed: _____ Date: _____

Print Name: _____

Title: _____

Company: Mid-America Pipeline Company LLC

8.2 CONTRACTOR'S/SUBCONTRACTOR'S ACKNOWLEDGEMENT

I acknowledge that I understand the terms and conditions of this Stormwater Management Plan that identifies MAPL's voluntary implementation of the BMP's to manage stormwater discharges associated with industrial activity from the construction site.

Signed: _____ Date: _____

Print Name: _____

Title: _____

Company: _____

I acknowledge that I understand the terms and conditions of this Stormwater Management Plan that identifies MAPL's voluntary implementation of the BMP's to manage stormwater discharges associated with industrial activity from the construction site.

Signed: _____ Date: _____

Print Name: _____

Title: _____

Company: _____

I acknowledge that I understand the terms and conditions of this Stormwater Management Plan that identifies MAPL's voluntary implementation of the BMP's to manage stormwater discharges associated with industrial activity from the construction site.

Signed: _____ Date: _____

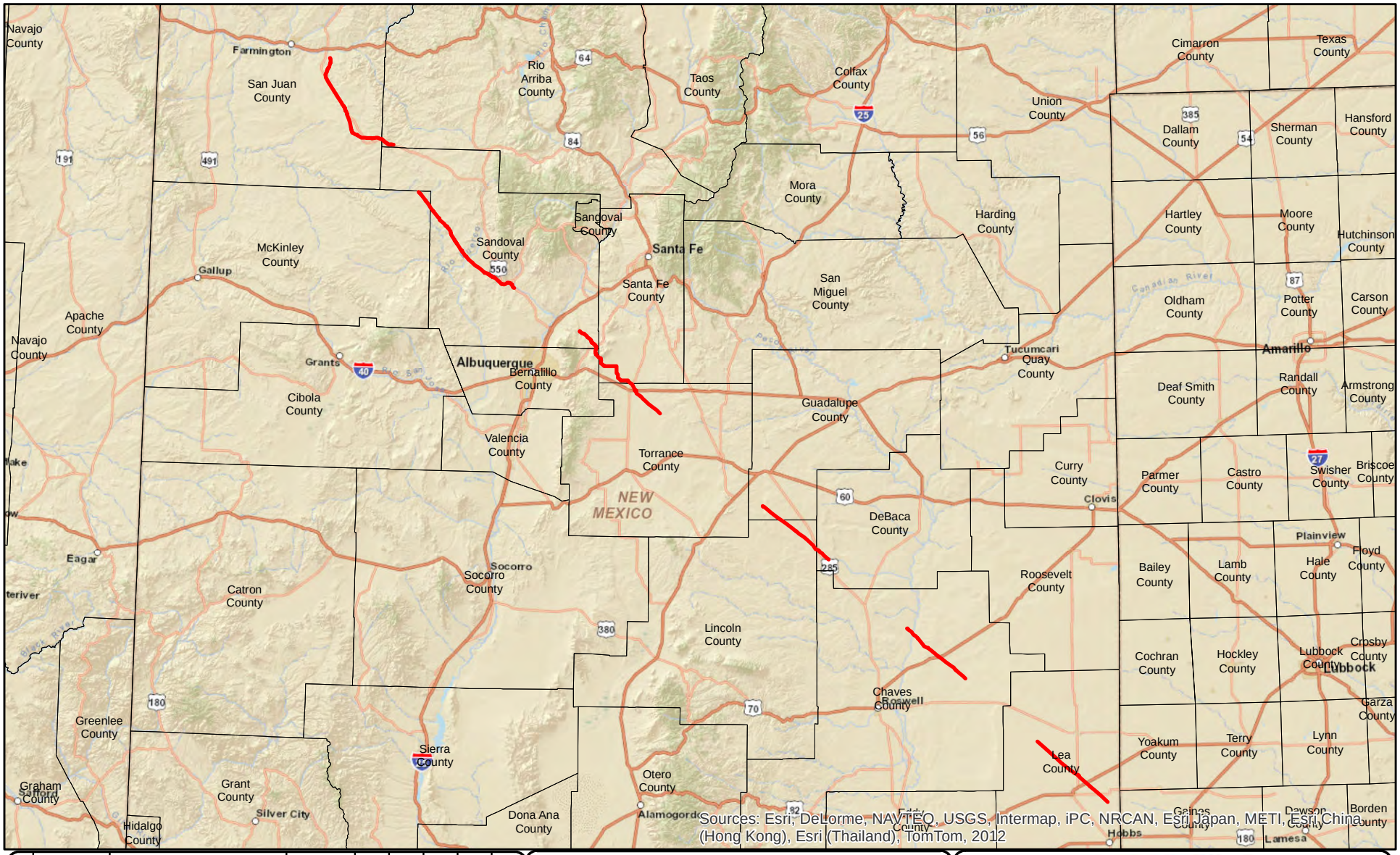
Print Name: _____

Title: _____

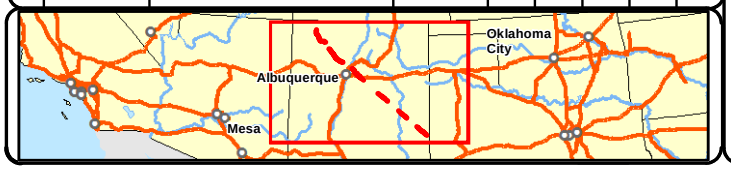
Company: _____

ATTACHMENT A

Project Location Map



REV No	DATE	REVISION	PROJECT CODE	DRAFT BY	DRAFT CHK	DESIGN BY	DESIGN CHK	PROJ MGR
A	10-31-2012	ISSUED FOR INFORMATION		RR	CB	RR	CB	CB
B	11-15-2012	ISSUED FOR INFORMATION		RR	CB	RR	CB	CB
C	01-08-2013	ISSUED FOR INFORMATION		RR	CB	RR	CB	CB



Legend

Proposed Pipeline Route

County

0 25 50
Miles

N

EDGE ENGINEERING & SCIENCE

WESTERN EXPANSION PIPELINE PROJECT

PROJECT LOCATION MAP
WESTERN EXPANSION PIPELINE PROJECT
ENTERPRISE PRODUCTS OPERATING LLC

SCALE	DRAWING No	REV
1 inch = 49 miles		C

Path: P:\PROJECTS\Enterprise\WEP\GIS\MXD\Project Location Map.mxd

ATTACHMENT B

CONSTRUCTION MATERIALS AND WASTES/REPORTABLE RELEASES

TYPICAL FUEL, LUBRICANTS, AND HAZARDOUS MATERIALS

Product	Typical Quantity (gallons)	Method of Storage (gallons)	Storage Location
Diesel fuel	5,000-10,000	Tank or tankers	Contractor yard warehouse
Gasoline	5,000-10,000	Tank or tankers, 5-gallon containers, vehicle tanks	Contractor yard warehouse
Engine oil	<100	Bulk storage or retail packaging	Contractor yard warehouse
Transmission drive train oil	<50	Retail packaging on service trucks	Contractor yard warehouse, service trucks
Hydraulic oil	<100	Bulk storage or retail packaging	Contractor yard warehouse, service trucks
Gear oil	<50	Retail packaging on service trucks	Contractor yard warehouse, service trucks
Lubricant grease	<25	Tubes stored in paper cases	Contractor yard warehouse, service trucks
Ethylene glycol	<100	Bulk storage or retail packaging	Contractor yard warehouse, service trucks
Propylene glycol	<100	Bulk storage or retail packaging	Contractor yard warehouse, service trucks
Power steering fluid	<50	Retail packaging on service trucks	Contractor yard warehouse, service trucks
Brake fluid	<50	Retail packaging on service trucks	Contractor yard warehouse, service trucks
Propane	25-100	Pressurized tanks	Contractor yard warehouse, service trucks.

Reportable Releases – New Mexico

RELEASE NOTIFICATION:

The person operating or controlling either the release or the location of the release shall notify the division of unauthorized release occurring during the drilling, producing, storing, disposing, injecting, transporting, servicing or processing of oil, gases, produced water, condensate or oil field waste including regulated NORM, or other oil field related chemicals, contaminants or mixture of the chemicals or contaminants, in accordance with the requirements of 19.15.29 NMAC.

The person operating or controlling either the release or the location of the release shall notify the division in accordance with 19.15.29 NMAC with respect to a release from a facility of oil or other water contaminant, in such quantity as may with reasonable probability be detrimental to water or exceed the standards in Subsections A and B or C of 19.15.30.9 NMAC.

[19.15.29.8 NMAC - Rp, 19.15.3.116 NMAC, 12/1/08]

REPORTING REQUIREMENTS:

The person operating or controlling either the release or the location of the release shall provide notification of releases in 19.15.29.8 NMAC as follows.

The person shall report a major release by giving both immediate verbal notice and timely written notice pursuant to Subsections A and B of 19.15.29.10 NMAC.

The person shall report a minor release by giving timely written notice pursuant to Subsection B of 19.15.29.10 NMAC.

[19.15.29.9 NMAC - Rp, 19.15.3.116 NMAC, 12/1/08]

CONTENTS OF NOTIFICATION:

The person operating or controlling either the release or the location of the release shall provide immediate verbal notification within 24 hours of discovery to the division district office for the area within which the release takes place. In addition, the person shall provide immediate verbal notification of a release of a volume that may with reasonable probability be detrimental to water or exceed the standards in Subsections A and B or C of 19.15.30.9 NMAC to the division's environmental bureau chief. The notification shall provide the information required on form C-141.

The person operating or controlling either the release or the location of the release shall provide timely written notification within 15 days to the division district office for the area within which the release occurs by completing and filing form C-141. In addition, the person shall provide timely written notification of a release of a volume that may with reasonable probability be detrimental to water or exceed the standards in Subsections A and B or C of 19.15.30.9 NMAC to the division's environmental bureau chief within 15 days after the release is discovered. The written notification shall verify the prior verbal notification and provide appropriate additions or corrections to the information contained in the prior verbal notification.

[19.15.29.10 NMAC - Rp, 19.15.3.116 NMAC, 12/1/08]

CORRECTIVE ACTION:

The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC.

[19.15.29.11 NMAC - Rp, 19.15.3.116 NMAC, 12/1/08]

HISTORY of 19.15.29 NMAC:

History of Repealed Material: 19.15.3 NMAC, Drilling (filed 10/29/2001) repealed 12/1/08.

NMAC History:

That applicable portion of 19.15.3 NMAC, Drilling (Section 116) (filed 10/29/2001) was replaced by 19.15.29 NMAC, Release Notification, effective 12/1/08.

Reportable Releases – Federal

Using the Reportable Quantities Table

The following table lists the various substances and the Reportable Quantities specified for each by the U.S. Environmental Protection Agency. Many states also rely on the EPA standards in their own versions of the Emergency Planning and Community Right-to-Know Act – refer to the state Reportable Quantities table.

The headings in the table are:

Hazardous Substance: This is the common name for the substance.

CASRN: Refers to the Chemical Abstracts Service Registry Numbers for each hazardous substance.

Regulatory Synonyms: Other names by which each hazardous substance is identified in other statutes and their implementing regulations appear in this column.

Code: Indicates the statutory source for designating each substance as a CERCLA hazardous substance.

1 Indicates that the statutory source is Section 311(b)(4) of the Clean Water Act.
2 Indicates that the source is Section 307(a) of the Clean Water Act.
3 Indicates that the source is Section 112 of the Clean Water Act.
4 Indicates that the source is Section 3001 of the Resource Conservation and Recovery Act.
EHS indicates an Extremely Hazardous Substance.

RCRA Waste Number: Provides the waste identification numbers assigned to the various substances by RCRA regulations.

Category: List the code letters X, A, B, C, and D that are associated with reportable quantities of 1, 10, 100, 1,000, and 5,000 pounds, respectively.

RQ – Pounds (Kg): Provides the final reportable quantity adjusted for each hazardous substance in pounds and kilograms. These numbers designate the amount that has to be released to trigger reporting requirements.

Other notations appear in the Table:

† Indicates the statutory source as defined in Codes 1, 2, 3, or 4 above.

†† No reporting of release of this hazardous substance is required if the diameter of the pieces of the solid metal released is equal to or exceeds 100 micrometers (0.004 inch).

††† The RQ for asbestos is limited to friable forms of asbestos (e.g., eroded, crumbling, damaged, etc.)

§ The adjusted **RQ**s for Radionuclides may be found in Attachment B to 40 CFR 302.4.

** Indicates that no **RQ** is being assigned to the generic or broad class.

Note: If there are questions about the current **RQ**s, contact RCRA/Superfund Hotline at (800) 424-9346; in Washington, D.C., area at (703) 920-9810.

Hazardous Substance[1]	CASRN	Regulatory Synonyms	Codes	RCRA Waste #	Category	RQ-Pounds (Kg)
Acetone	67641	2-Propanone	4	U002	D	5000 (2270)
Aroclor 1016	12674112	POLYCHLORINATED BIPHENYLS (PCBs)	1,2,3		X	1 (0.454)
Aroclor 1221	11104282		1,2,3			
Aroclor 1232	11141165		1,2,3			
Aroclor 1242	53469219		1,2,3			
Aroclor 1248	12672296		1.2.3			
Aroclor 1254	11097691		1.2.3			
Aroclor 1280	11096825		1,2,3			
Asbestos †††	1332214		2,3		X	1 (0.454)
Benzene	71432		1,2,3,4	U109	A	10 (4.54)
2-Butanone	78933	Methyl ethyl ketone (MEK)	3,4	U159	D	5000 (2270)
Calcium Hypochlorite	7778543		1		A	10 (4.54)
Chlorine	7782505		1,3		A	10 (4.54)
Diethanolamine	111422		3		B	100 (45.4)
Ethane, 1,2-dichloro-	107062	Ethylene dichloride 1,2-Dichloroethane	1,2,3,4	U077	B	100 (45.4)
Ethane, 1,1,1-trichloro-	71556	Methyl chloroform 1,1,1-Trichloroethane	2,3,4	U226	C	1000 (454)
Ethane, 1,1,2-trichloro-	79005	1,1,2-Trichloroethane	2,3,4	U227	B	100 (45.4)
Ethene, 1,1-dichloro-	75354	Vinylidene chloride 1.1-Dichloroethylene	1,2,3,4	U078	B	100 (45.4)
Ethene, 1,2-dichloro-(E)	156605	1,2-Dichloroethylene Tetrachloroethane Tetrachloroethylene	2,4	U079	C	1000 (454)
Ethene, trichloro-	79016	Trichloroethene Trichloroethylene	1,2,3,4	U228	B	100 (45.4)
Ethylbenzene	100414		1,2,3		C	1000 (454)
Ethylene glycol	107211		3		D	5000 (2270)
Hexane	110543		3		D	5000 (2270)
Hydrogen sulfide	7783064	Hydrogen sulfide (H2S)	1,4	U135	B	100 (45.4)
Hydrogen sulfide H2S	7783064	Hydrogen sulfide	1,4	U135	B	100 (45.4)
Lead ††	7439921		2		A	10 (4.54)
LEAD AND COMPOUNDS	N.A.		2,3			**
Mercury	7439976		2,3,4	U151	X	1 (0.454)
MERCURY AND COMPOUNDS	N.A.		2,3			**
Methane, dichloro-	75092	Methylene chloride	2,3,4	U080	C	1000 (454)
Methane, tetrachloro	56235	Carbon tetrachloride	1,2,3,4	U211	A	10 (4.54)
Methanol	67561	Methyl alcohol	3,4	U154	D	5000 (2270)
Methyl chloroform	71556	Ethane,1,1,1-trichloro- 1,1,1-Trichloroethae	2,3,4	U226	C	1000 (454)
Methyl ethyl ketone (MEK)	78933	2-Butanone	3,4	U159	D	5000 (2270)

Hazardous Substance[1]	CASRN	Regulatory Synonyms	Codes	RCRA Waste #	Category	RQ-Pounds (Kg)
Methyl ethyl ketone (MEK)	78933	Louisiana	3,4	U159	D	1000 (454)
Methylmercaptan	74931	Methanethiol/ Thiomethanol	1,4	U153	B	100 (45.4)
Methylmercaptan	74931	Louisiana	1,4	U153		1000 (454)
PCBs	1336363	Aroclors/Polychlorinated biphenyls	1,2,3		X	1 (0.454)
Pyridine	110861		4	U196	C	1000 (454)
RADIONUCLIDES	N.A.		3			§
SELENIUM AND COMPOUNDS	N.A.		2,3			**
Sodium hydroxide	1310732		1		C	1000 (454)
Sodium hydrochlorite	7681529 10022705		1		B	100 (45.4)
Sulfur dioxide	7446095				EHS	500 (227)
Tetrachloroethene	127184	Ethene, tetrachloro- Perchloroethylene Tetrachloroethylene	2,3,4	U210	B	100 (45.4)
Toluene	108883	Benzene, methyl-	1,2,3,4	U220	C	1000 (454)
1,1,1-Trichloroethane	71556	Ethane, 1,1,1-trichloro- Methyl chloroform	2,3,4	U226	C	1000 (454)
1,1,2-Trichloroethane	79005	Ethane, 1,1,2-trichloro-	2,3,4	U227	B	100 (45.4)
Unlisted Hazardous Wastes Characteristics of Corrosivity	N.A.		4	D002	B	100 (45.4)
Unlisted Hazardous Wastes Characteristics:	N.A.		4			
Unlisted Hazardous Wastes Characteristic of Ignitability (D001)	N.A.		4	D001	B	100 (45.4)
Unlisted Hazardous Wastes Characteristic of Reactivity (D003)	N.A.		4	D003	B	100 (45.4)
Characteristics of Toxicity: Arsenic (D004)	N.A.		4	D004	X	1 (0.454)
Barium (D005)	N.A.		4	D005	C	1000 (454)
Benzene (D018)	N.A.		1,2,3,4	D018	A	10 (4.54)
Cadmium (D006)	N.A.		4	D006	A	10 (4.54)
Chromium (D007)	N.A.		4	D007	A	10 (4.54)
Lead (D008)	N.A.		4	D008	A	10 (4.54)
Mercury (D009)	N.A.		4	D009	X	1 (0.454)
Methyl ethyl ketone (D035)	N.A.		4	D035	D	5000 (2270)
Selenium (D010)	N.A.		4	D010	A	10 (4.54)
Tetrachloroethylene (D039)	N.A.		2,4	D039	B	100 (45.4)

Hazardous Substance[1]	CASRN	Regulatory Synonyms	Codes	RCRA Waste #	Category	RQ-Pounds (Kg)
Trichloroethylene (D040)	N.A.		1,2,4	D040	B	100 (45.4)
Vanadium oxide V205	1314621	Vanadium pentoxide	1,4	P120	C	1000 (454)
Vanadium pentoxide	1314621	Vanadium oxide V205	1,4	P120	C	1000 (454)
Xylene	1330207	Benzene, dimethyl - Xylene (mixed), Xylenes (isomers and mixture)	1,3,4	U239	B	100 (45.5)
m-Xylene	108383	Benzene, m-dimethyl-	3		C	1000 (454)
o-Xylene	95476	Benzene, o-dimethyl-	3		C	1000 (454)
p-Xylene	106423	Benzene, p-dimethyl-	3		B	100 (45.4)
Zinc††	7440666		2		C	1000 (454)
ZINC AND COMPOUNDS	N.A.		2			**
F001 The following spent halogenated solvents used in degreasing; spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents (CERCLA list) or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.			4	F001	A	10 (4.54)
(a) Tetrachloroethylene	127184		2,4	U210	B	100 (45.4)
(b) Trichloroethylene	79016		1,2,4	U228	B	100 (45.4)
(c) Methylene chloride	75092		2,4	U080	C	1000 (454)
(d) 1,1,1-Trichloroethane	71556		2,4	U226	C	1000 (454)
(e) Carbon tetrachloride	56235		1,2,4	U211	A	10 (4.54)
(f) Chlorinated fluorocarbons	N.A.				D	5000 (2270)

Hazardous Substance[1]	CASRN	Regulatory Synonyms	Codes	RCRA Waste #	Category	RQ-Pounds (Kg)
F002 The following spent halogenated solvents; spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.			4	F001	A	10 (4.54)
(a) Tetrachloroethylene	127184		2,4	U210	B	100 (45.4)
(b) Methylene chloride	75092		2,4	U080	C	1000 (454)
(c) Trichloroethylene	79016		1,2,4	U228	B	100 (45.4)
(d) 1,1,1-Trichloroethane	71556		2,4	U226	C	1000 (454)
(e) Chlorobenzene	108907		1,2,4	U037	B	100 (45.4)
(f) 1,1,2-Trichloro-1,2,2-	76131				D	5000 (2270)
(g) o-Dischlorobenzene	95501		1,2,4	U070	B	100 (45.4)
(h) Trichloroflouromethane	75694		4	U121	D	5000 (2270)
(i) 1,1,2-Thrichloroethane	79005		2,4	U227	B	100 (45.4)
F003 The following spent non-halogenated solvents and the still bottoms from the recovery of these solvents:	[ql]		4	F003	B	100 (45.4)
(a) Xylene	1330207				C	1000 (454)
(b) Acetone	67641				D	5000 (2270)
(c) Ethyl acetate	141786				D	5000 (2270)
(d) Ethylbenzene	100414				C	1000 (454)
(e) Ethyl ether	60297		4	F003	B	100 (45.4)
(f) Methyl isobutyl ketone	108101				D	5000 (2270)
(g) n-Butyl alcohol	71363				D	5000 (2270)
(h) Cyclohexanone	108941				D	5000 (2270)
(i) Methanol	67561				D	5000 (2270)

1. The above list has been formulated to address products/constituents that are commonly used at pipeline facilities. The complete CERCLA list contains many more substances.

ATTACHMENT C

INSPECTION FORMS AND INSTRUCTIONS

MAPL WESTERN EXPANSION PIPELINE PROJECT
INSPECTION AND MAINTENANCE REPORT

TO BE COMPLETED EVERY 21 DAYS OR WITHIN 24 HOURS OF A RAINFALL EVENT OF 0.25 INCH OR MORE OR AFTER A SNOW MELT EVENT THAT CAUSES SURFACE EROSION

Signature of Inspector: _____
Printed Name of Inspector: _____
Date: _____

Days Since Last Rainfall: _____ Amount of rainfall: _____ Inches

NOTE: Inspection documents are to be maintained for a minimum of 3 years.

Earth Dikes

Is the dike stabilized? _____
_____
_____

Is there evidence of washout or over-topping? _____
_____
_____

If water is present in the drainage ports, does it:
- Have a sheen on it? _____
- Have an acceptable TDS? _____
- Show excessive turbidity? _____

Maintenance required for Earthen Dike: _____
_____
_____

To be performed by:_____ On or before: _____

NOTE: Modifications to control measures **must** be made no more than 7 days after the inspection.

MAPL WESTERN EXPANSION PIPELINE PROJECT
INSPECTION AND MAINTENANCE REPORT

TO BE COMPLETED EVERY 21 DAYS OR WITHIN 24 HOURS OF A RAINFALL EVENT OF 0.25 INCH OR MORE OR AFTER A SNOW MELT EVENT THAT CAUSES SURFACE EROSION

Roads and Locations Where Vehicles Enter or Exit the Construction Site

Are sediment traps or barriers along road construction zones preventing runoff into adjacent wetlands, lakes, etc.? _____
_____
_____

At locations where construction equipment exits onto paved roads, are the existing best management practices successfully minimizing off site tracking of sediments? _____
_____
_____

Maintenance Required: _____
_____
_____

To be performed by: _____ On or before: _____

NOTE: Modifications to control measures **must** be made no more than 7 days after the inspection.

MAPL WESTERN EXPANSION PIPELINE PROJECT
INSPECTION AND MAINTENANCE REPORT

TO BE COMPLETED EVERY 21 DAYS OR WITHIN 24 HOURS OF A RAINFALL EVENT OF 0.25 INCH OR MORE OR AFTER A SNOW MELT EVENT THAT CAUSES SURFACE EROSION

Straw Bale and Filter Fence Barriers

Do the barriers have tears or holes in them? _____
Are there any missing barriers? _____
Are the barriers properly aligned? _____
Where sediment has reached one-third the height of the barrier, has it been removed? _____
Have straw bales with excessive sediment saturation been replaced? _____
Maintenance required for barriers: _____
_____
_____

To be performed by: _____ On or before: _____

SWMP Upgrades:

If any deficiencies in pollution control structures or procedures were identified above, have those deficiencies been corrected and the Storm Water Management Plan modified, if appropriate? Explain.
_____
_____
_____
_____
_____

NOTE: Modifications to control measures **must** be made no more than 7 days after the inspection.

MAPL WESTERN EXPANSION PIPELINE PROJECT
INSPECTION AND MAINTENANCE REPORT

TO BE COMPLETED EVERY 21 DAYS OR WITHIN 24 HOURS OF A RAINFALL EVENT OF 0.25 INCH OR MORE OR AFTER A SNOW MELT EVENT THAT CAUSES SURFACE EROSION

General

Have there been any uncontrolled releases of mud or muddy water or measurable quantities of sediment found off site? _____ Yes _____No

If Yes, describe measures taken to clean up fugitive sediment: _____
_____
_____
_____
_____
_____
_____

If Yes, describe measures taken to prevent a future occurrence: _____
_____
_____
_____
_____
_____
_____

MAPL WESTERN EXPANSION PIPELINE PROJECT
STORM WATER MANAGEMENT PLAN

INSPECTION AND MAINTENANCE REPORT
TO BE COMPLETED EVERY 21 DAYS AND WITHIN 24 HOURS OF A RAINFALL EVENT
OF 0.25 INCHES OR MORE OR AFTER A SNOW MELT THAT CAUSES SURFACE EROSION

Location	Diversion Structure	Sediment Trap	Date Excavated	Date Filled	Date Dressed	Signs of Erosion	Stabilized?	Ground Covered?	Date of Inspection

NOTE: If signs of erosion become apparent, stabilize by backfilling and leveling and use of mulch, sod, seeding, or other means of preventing further erosion.

Date: _____ Inspector's Name (Print and Initial) _____

MAPL WESTERN EXPANSION PIPELINE PROJECT
STORM WATER MANAGEMENT PLAN
INSPECTION AND MAINTENANCE REPORT

Maintenance required for:

_____
_____
_____

To be performed by: _____ On or before: _____

NOTE: Modifications to control measures **must** be made no more than 7 days after the inspection.

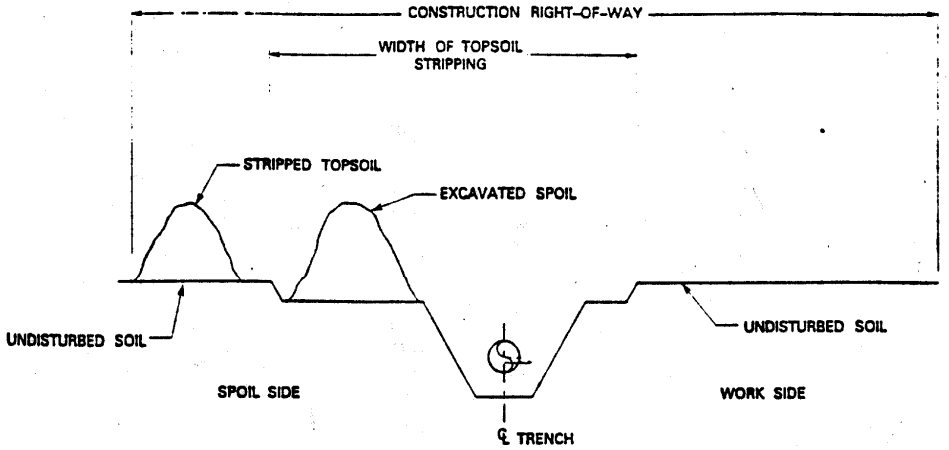
NOTE: Inspection documents are to be retained for a minimum of 3 years.

NOTE: Check flowline trenches for the following:

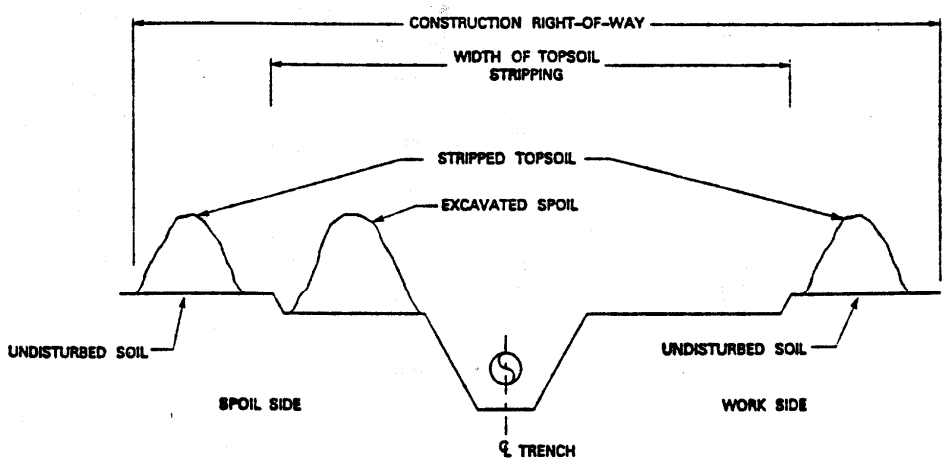
- ✓ **Settlement below natural grade**
- ✓ **Washouts of spoil along excavated trenches**
- ✓ **Muddy/contaminated rainwater**
- ✓ **Placement of spoil upslope of trench**

ATTACHMENT D

BEST MANAGEMENT PRACTICES FIGURES



DITCH PLUS SPOILSIDE TOPSOIL SEGREGATION

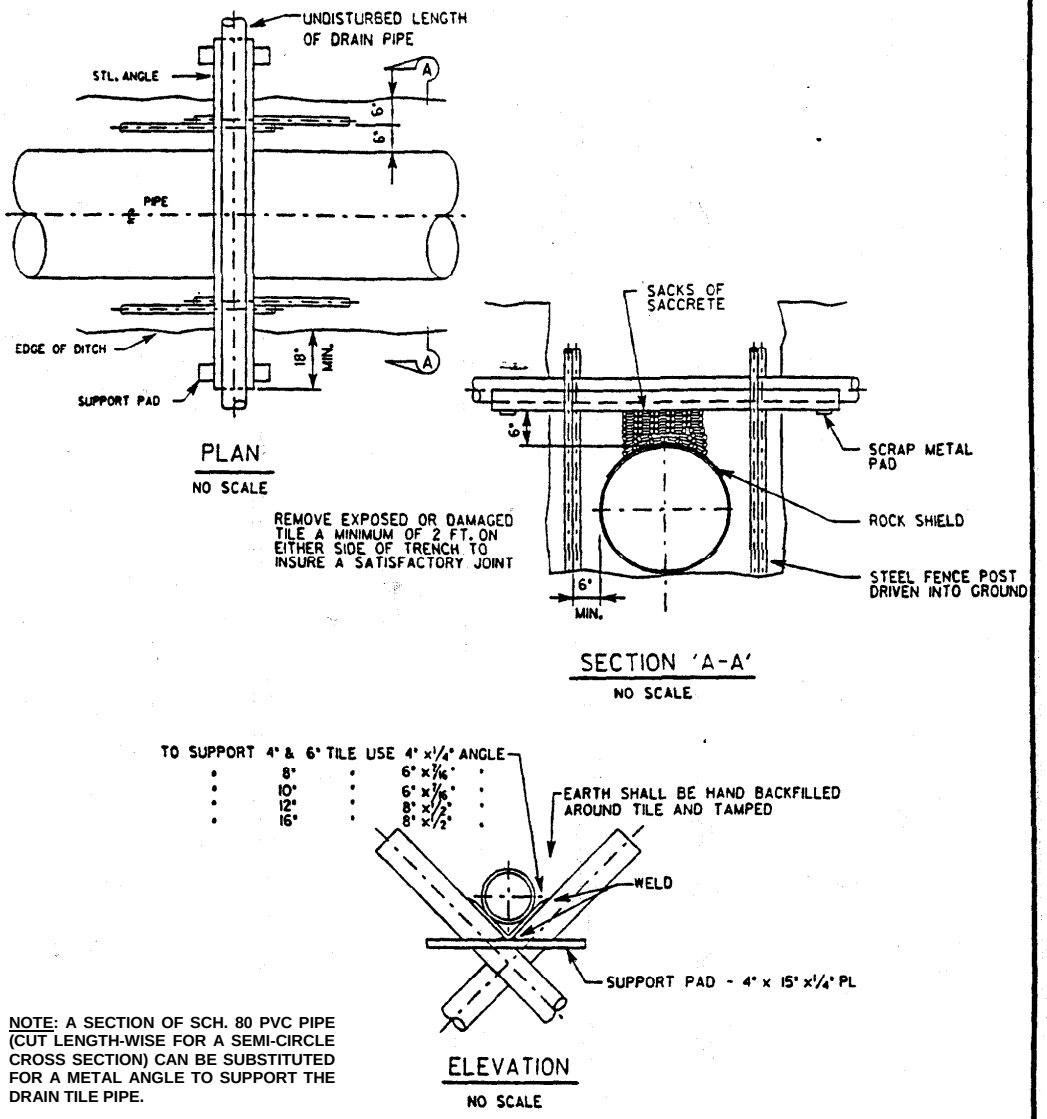


FULL RIGHT-OF-WAY TOPSOIL STRIPPING

FIGURE 1. ROW TOPSOIL SEGREGATION TECHNIQUES

NOTE : TOPSOIL MAY BE STORED IN LOCATIONS AS SHOWN ABOVE OR AT OTHER LOCATIONS WITHIN THE CONSTRUCTION ROW.

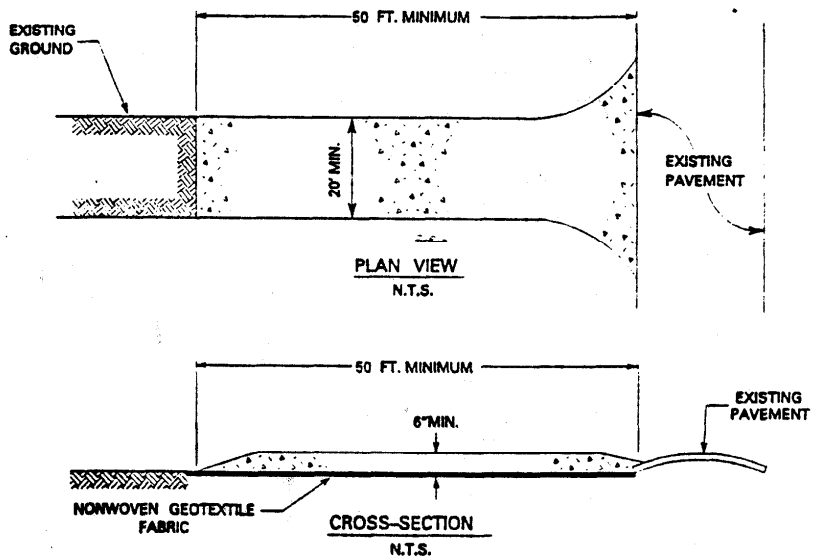
rwm063.dgn



NOTE: A SECTION OF SCH. 80 PVC PIPE (CUT LENGTH-WISE FOR A SEMI-CIRCLE CROSS SECTION) CAN BE SUBSTITUTED FOR A METAL ANGLE TO SUPPORT THE DRAIN TILE PIPE.

ESE5024.DGN

FIGURE 2. DRAIN TILE REPAIR PROCEDURES



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 6" - 8" CRUSHED STONE
2. LENGTH - FIFTY (50) FOOT MINIMUM.
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWENTY (20) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. NONWOVEN GEOTEXTILE FABRIC - SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARED CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM SHALL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED.

FIGURE 3. ROCK ACCESS PAD

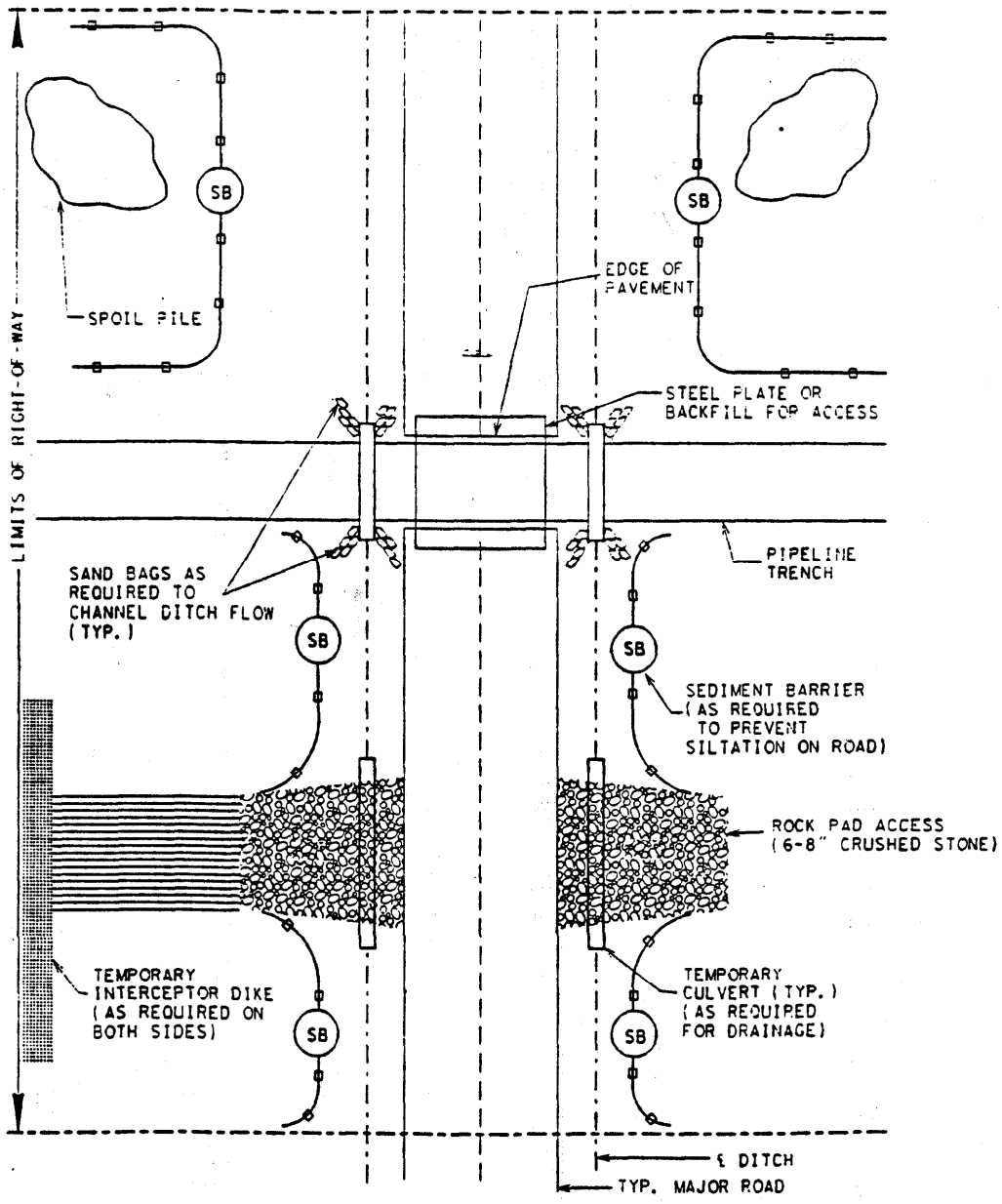
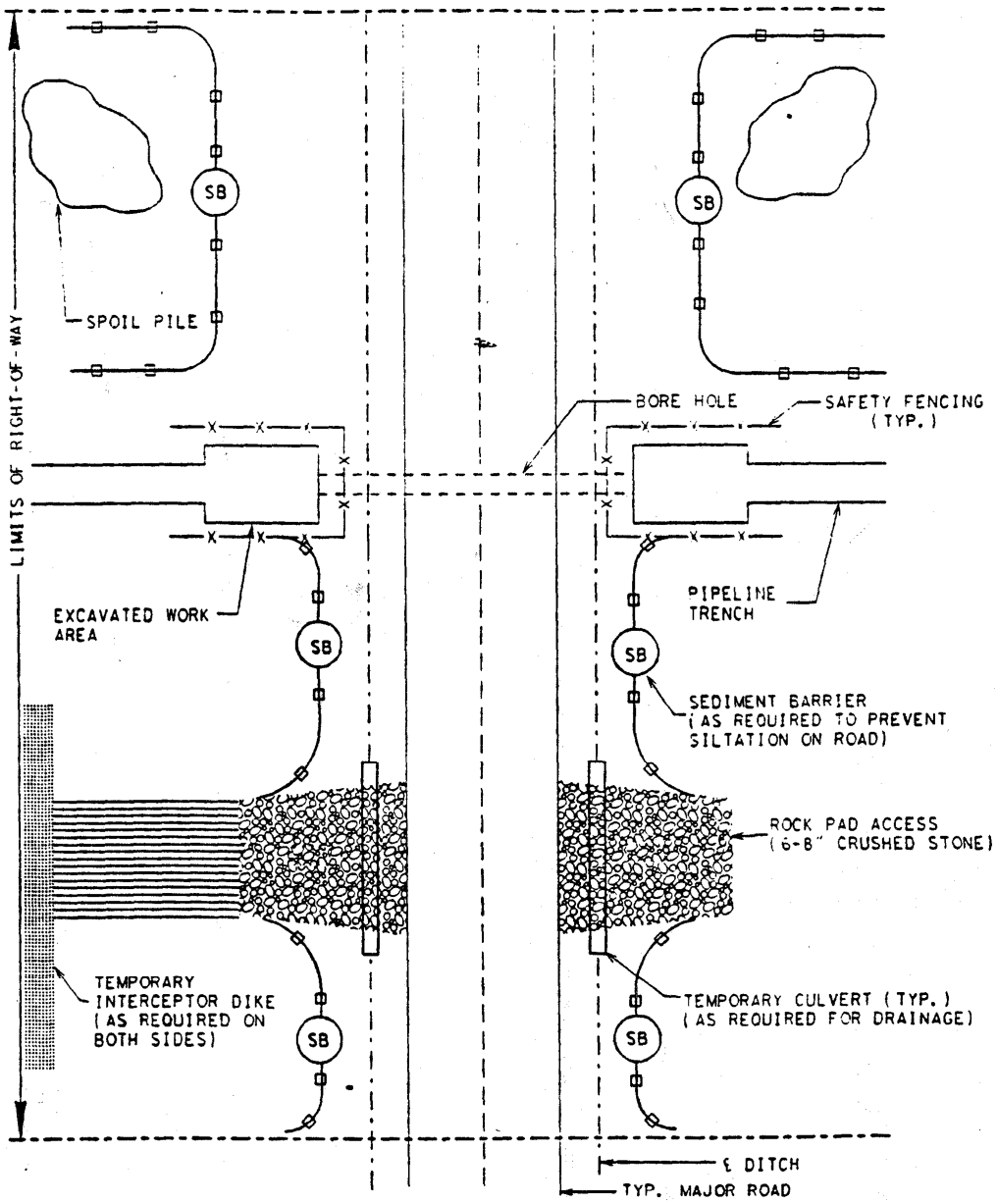


FIGURE 4. TYPICAL PAVED ROAD CROSSING CONTROL MEASURES (OPEN CUT)



ESE5012.DGN

FIGURE 5. TYPICAL PAVED ROAD CROSSING CONTROL MEASURES (BORED)

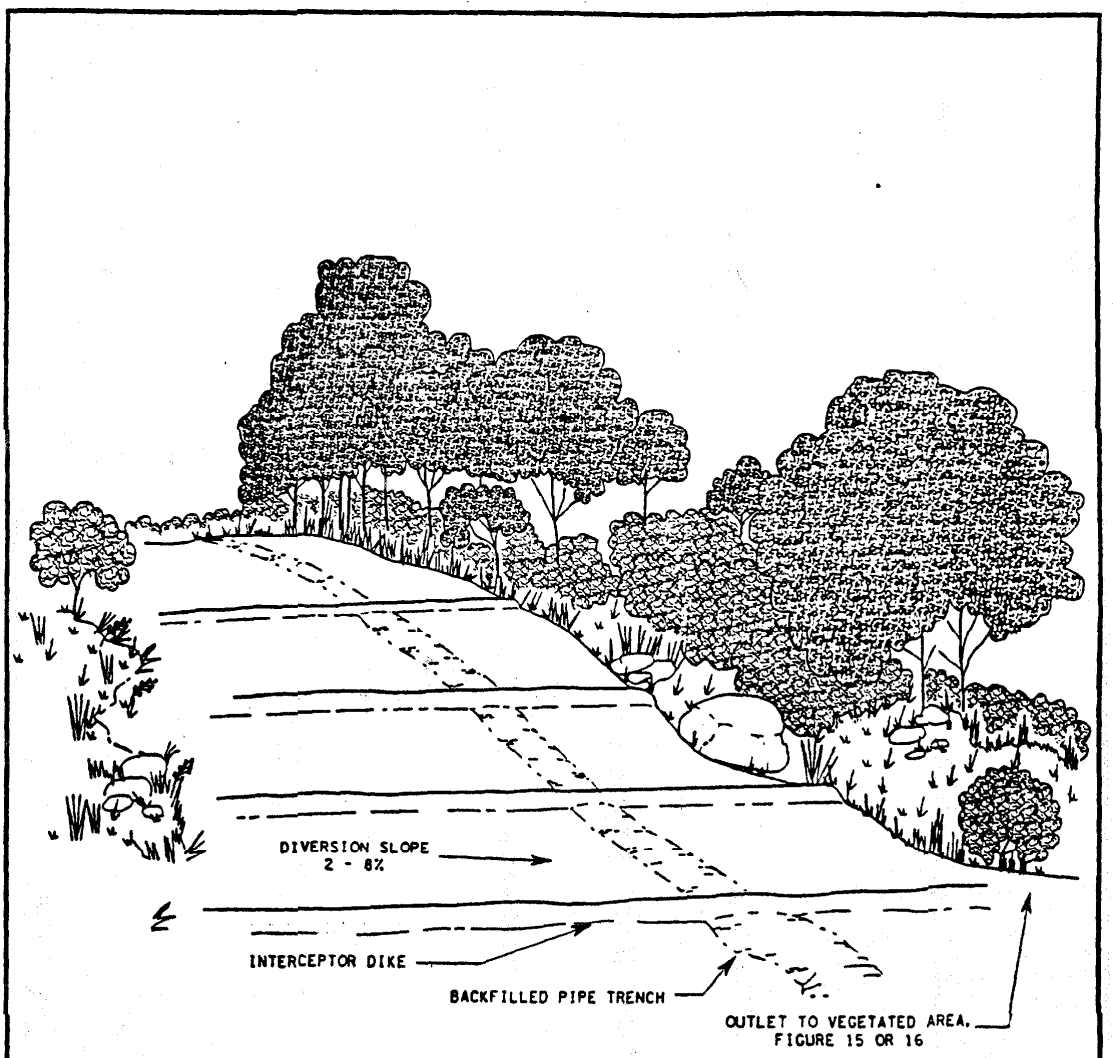
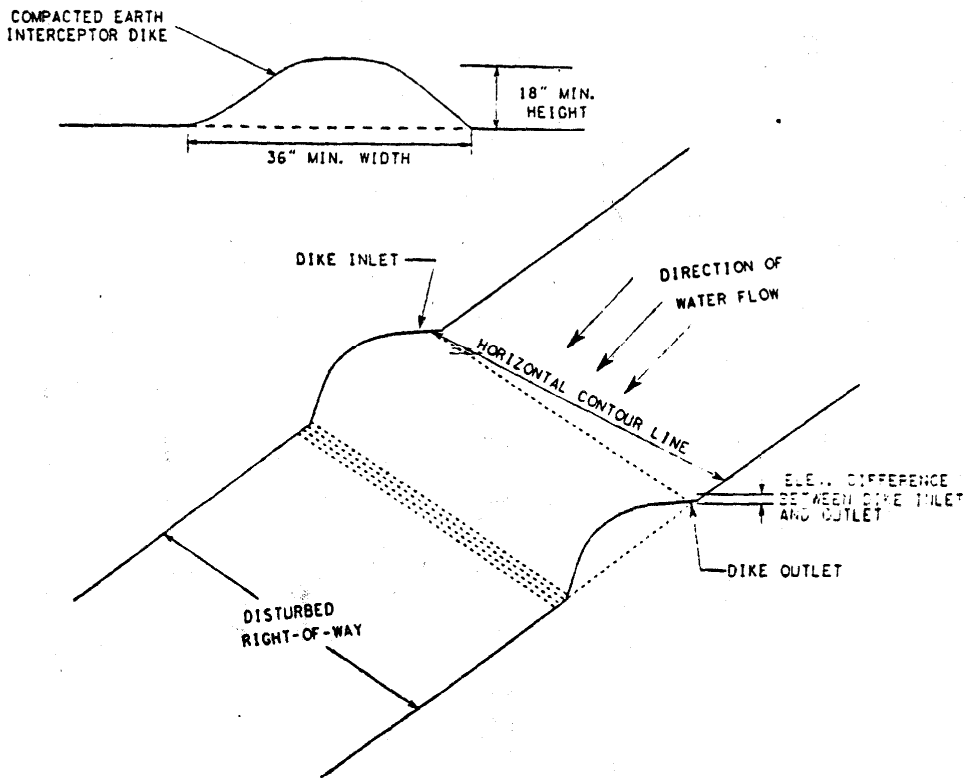


FIGURE 6. INTERCEPTOR DIKE

ESE5001.DGN

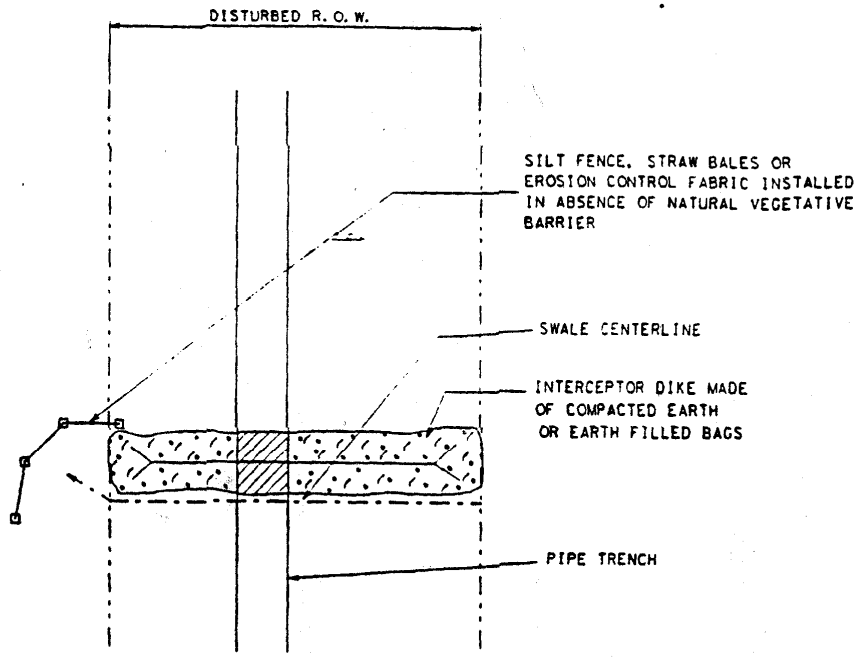


WATER SHALL BE DIVERTED OFF THE DISTRUBED RIGHT-OF-WAY AT AN OUTSLOPE OF 2 - 6% BY CONSTRUCTING DIKES ACCORDING TO THE FOLLOWING PROCEDURE:

1. AT THE PROPOSED INTERCEPTOR DIKE LOCATION ESTABLISH A HORIZONTAL CONTOUR LINE (USING A POCKET TRANSIT OR HAND HELD LEVEL) WHICH EXTENDS COMPLETELY ACROSS THE DISTURBED R.O.W.. THIS LINE WILL ALWAYS BE PERPENDICULAR TO THE DIRECTION OF WATER FLOW AND SHOULD PARALLEL THE THE CONTOURS SHOWN ON THE PLAN DRAWINGS.
2. DETERMINE WHICH SIDE OF THE R.O.W. IS BEST SUITED FOR THE DIKE OUTLET (EVALUATE LOCAL TOPO., ECT.) AND DEVIATE DIKE AWAY FROM THE HORIZONTAL CONTOUR LINE SLIGHTY DOWNWARD TOWARD THE SELECTED OUTLET SIDE MAINTAINING A 2% SLOPE AS PER THE CHART AT RIGHT.
3. THE DISCHARGE FROM THE OUTLET WILL BE LOCATED SUCH THAT DIVERTED WATER WILL NOT FLOW BACK ONTO THE DISTURBED RIGHT-OF-WAY.

ESE5003.DGN

FIGURE 7. INTERCEPTOR DIKE INSTALLATION DETAIL



NOTES:

1. SEDIMENT BARRIERS OR EROSION CONTROL FABRIC WILL BE INSTALLED WHEN THERE IS INSUFFICIENT VEGETATIVE COVER OR WHEN ADDITIONAL PROTECTION IS REQUIRED DUE TO WATERBODIES AND WETLANDS.

2. HIGH VELOCITY EROSION CONTROL FABRIC SHALL BE INSTALLED ON THE SWALE SIDE OF PERMANENT INTERCEPTOR DIKES AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.

ESE5005.DGN

FIGURE 8. INTERCEPTOR DIKE OUTLET STABILIZATION DETAIL

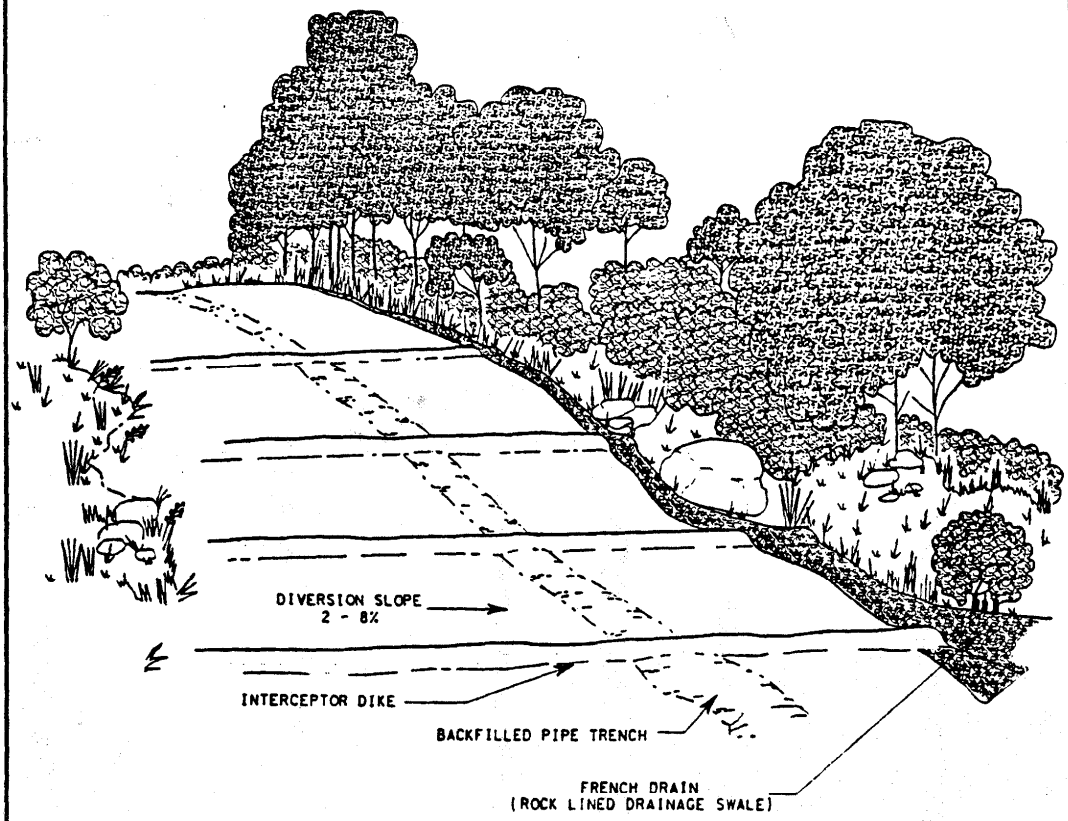
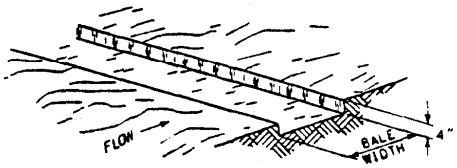


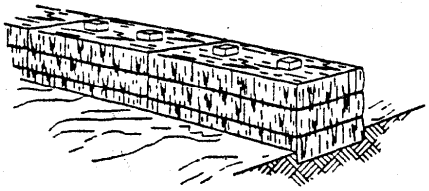
FIGURE 9. FRENCH DRAIN INSTALLATION

ESE5002.DGN

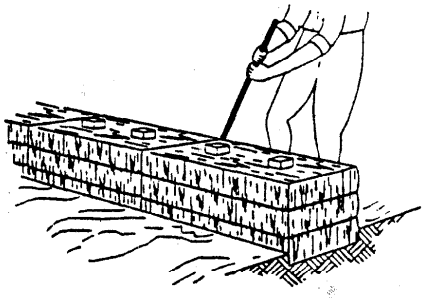
ILLUSTRATION OF INSTALLATION STEPS



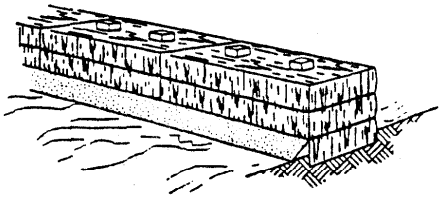
1. EXCAVATE THE TRENCH.



2. PLACE AND STAKE STRAW BALES.



3. WEDGE LOOSE STAW BETWEEN BALES.



4. BACKFILL AND COMPACT THE EXCAVATED SOIL (ANCHOR TOE)

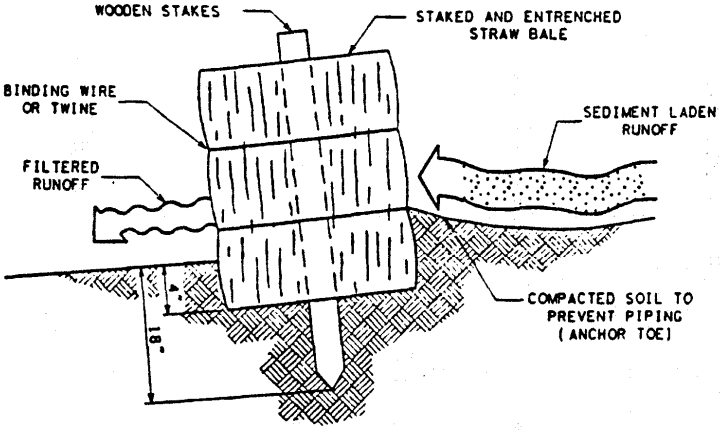
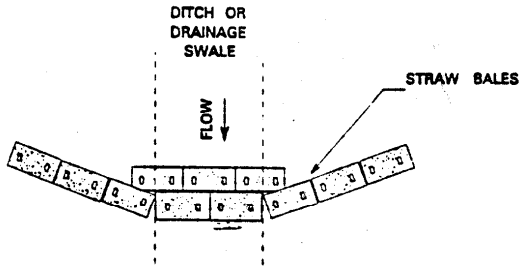
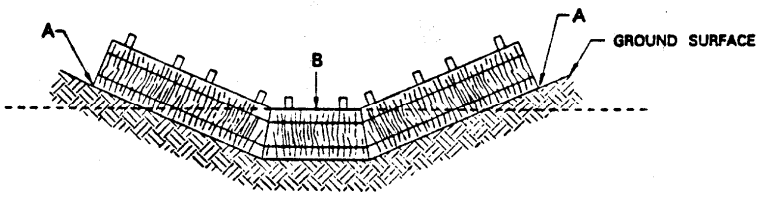


FIGURE 10. STRAW BALE INSTALLATION DETAILS

ESE5008.DGN



PLAN VIEW
N.T.S.



POINTS A SHALL BE HIGHER THAN POINT B

CROSS-SECTION
N.T.S.

FIGURE 11. PROPER PLACEMENT OF STRAW BALE BARRIER CHECK DAM IN DRAINAGE WAY

A discussion of check dam construction and maintenance is provided on the following page of this attachment.

CHECK DAMS

Description:

A check dam is a small temporary dam constructed across a swale, gully or drainage way. Check dams are intended to reduce gully erosion. They are primarily temporary grade stabilization structures that can be used until drainage ways or upstream disturbed slopes are permanently stabilized. Check dams reduce flow velocities, trap and store larger – size sediment and provide stabilized hydraulic drops.

Applicability:

This BMP is installed in drainage ways. The drainage ways may not be perennial streams. It is intended for intermittent flow (from storm water) drainage ways. The drainage area should be less than 2 acres.

Construction:

- Maximum spacing between the dams. The toe of the upstream dam should be at the same elevation as the top of the downstream dam
- Rock dams shall be constructed of 2 – 15 inch rock
- The spillway (center of the check dam) should be 6 inches lower than the outer edges.
- Extend the abutments 18 inches into the channel bank

Operation, Inspection & Maintenance

- Repair defects promptly to maintain proper functioning of the dam
- Remove sediment from behind the dams periodically. (Should be checked after each storm). If sediment has accumulated to a height greater than one-third the height of the dam, it should be removed. The removed sediment should be taken to an area where it will not contribute further to sedimentation of the spillway and be permanently stabilized.
- Remove check dams and other materials after the stabilization is complete.
- Inspect at least once every 14 calendar days, before anticipated storm events (or series of storm events such as intermittent showers over one or more days) expected to cause significant runoff and within 24 hours of a storm event of greater than 0.5 inches rainfall.

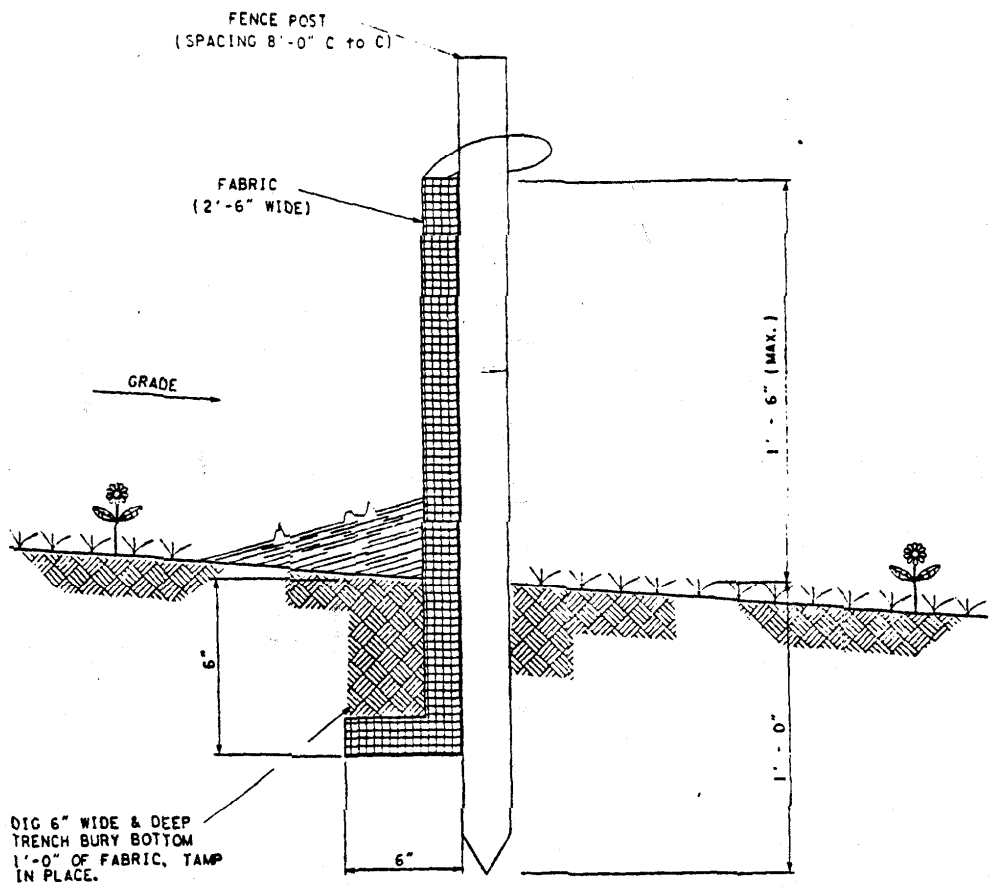
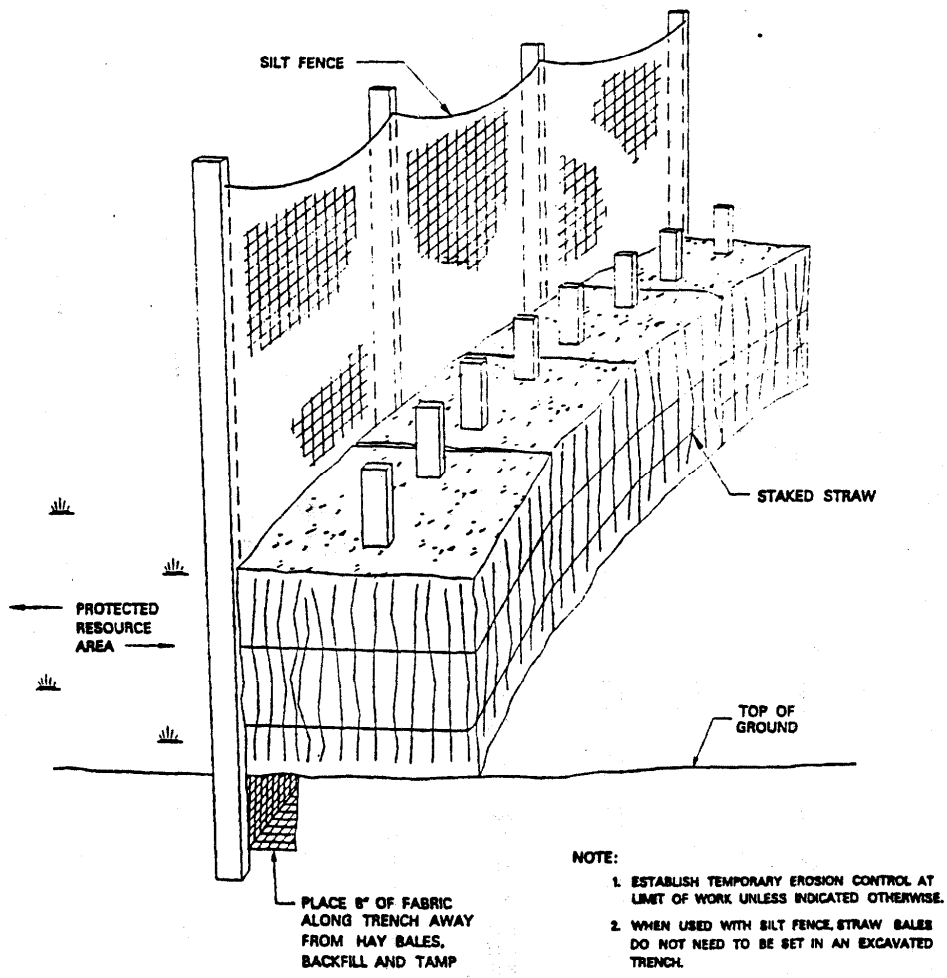


FIGURE 12. SILT FENCE INSTALLATION DETAILS

ESE5007.DGN



NOTE:

1. ESTABLISH TEMPORARY EROSION CONTROL AT LIMIT OF WORK UNLESS INDICATED OTHERWISE.
2. WHEN USED WITH SILT FENCE, STRAW BALES DO NOT NEED TO BE SET IN AN EXCAVATED TRENCH.

N.T.S.

FIGURE 13. STRAW BALE AND SILT FENCE EROSION CONTROL

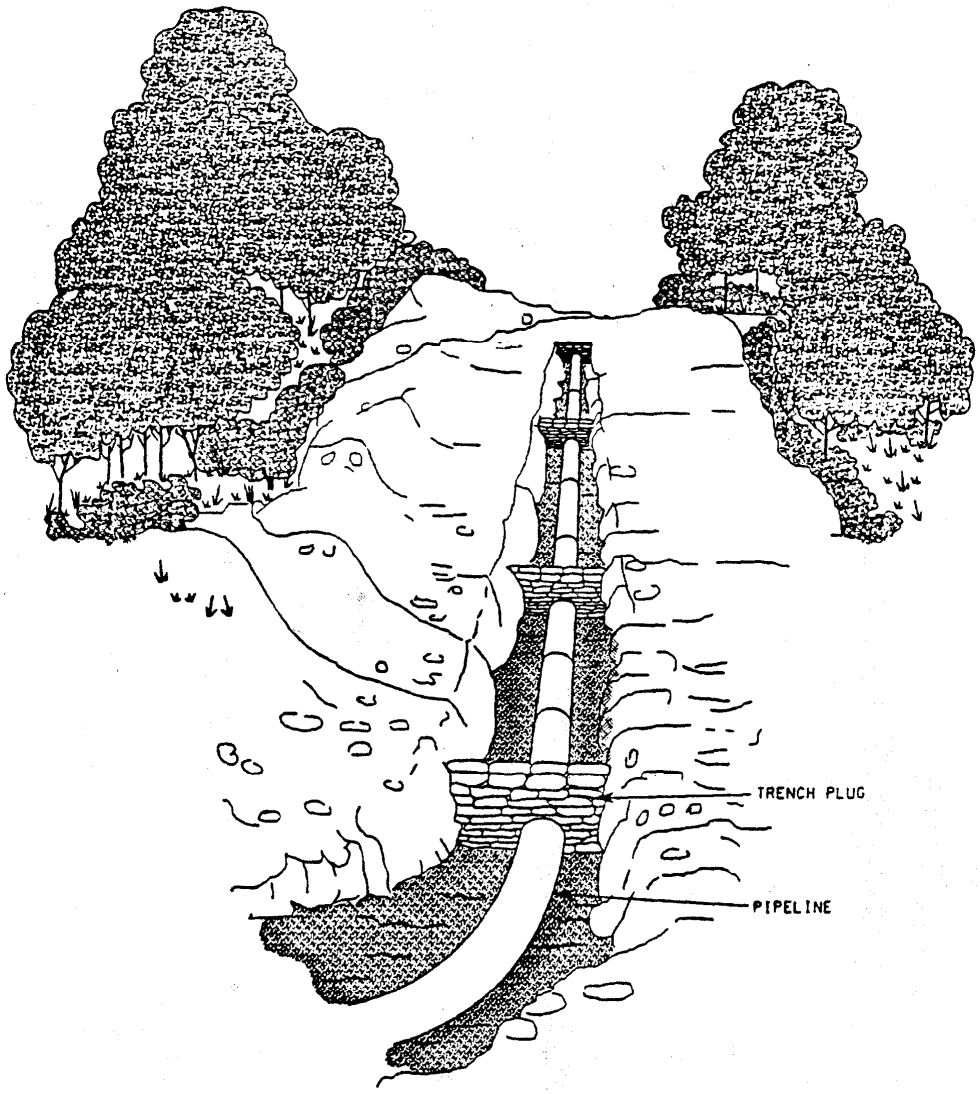
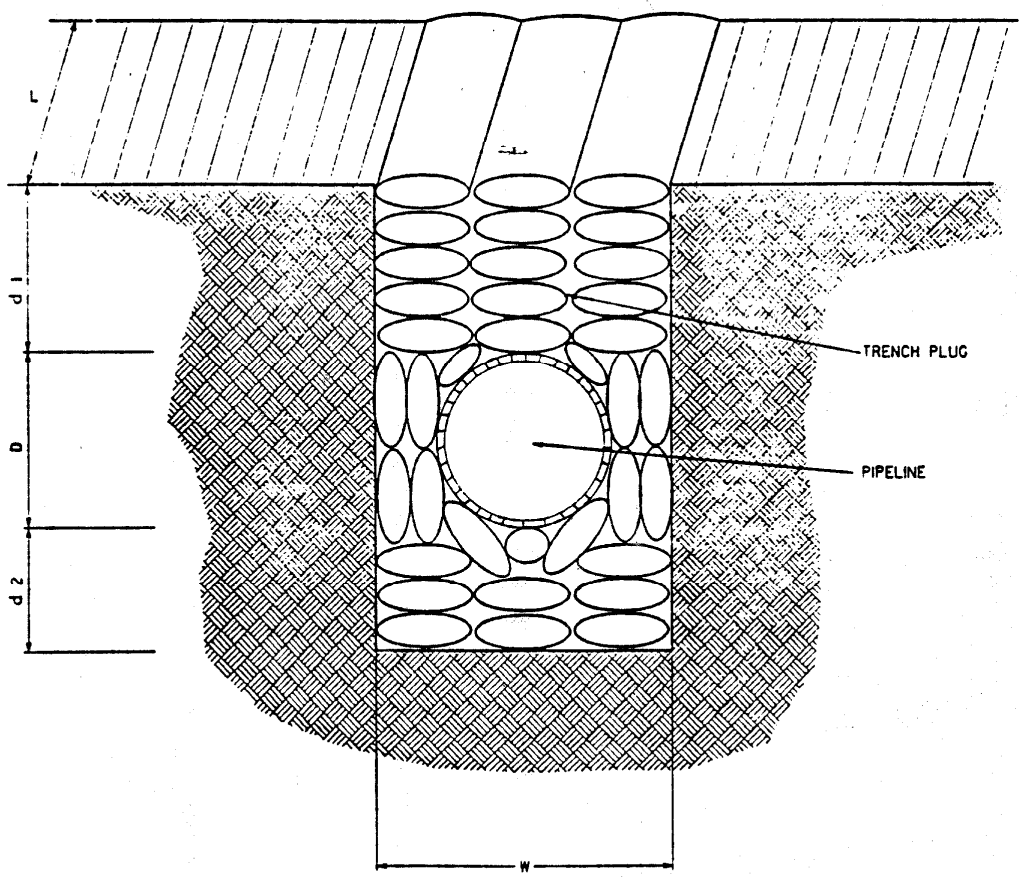


FIGURE 14. TRENCH PLUGS

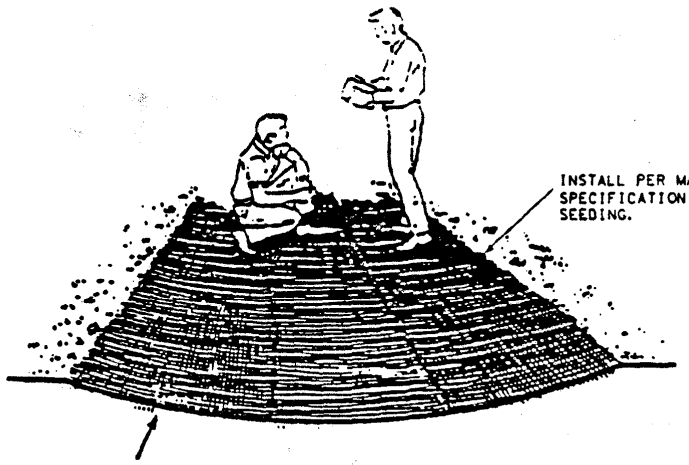
ESE5009.DGN



D = PIPE DIAMETER
d1 = AS SPECIFIED
d2 = APPROXIMATELY 6 INCHES
W = D + 2 to 4 FEET
L = APPROXIMATELY 18 - 24 INCHES

ESE5010.DGN

FIGURE 15. TRENCH PLUG DETAIL



ESE5021.DGN

FIGURE 16. EROSION CONTROL FABRIC INSTALLATION

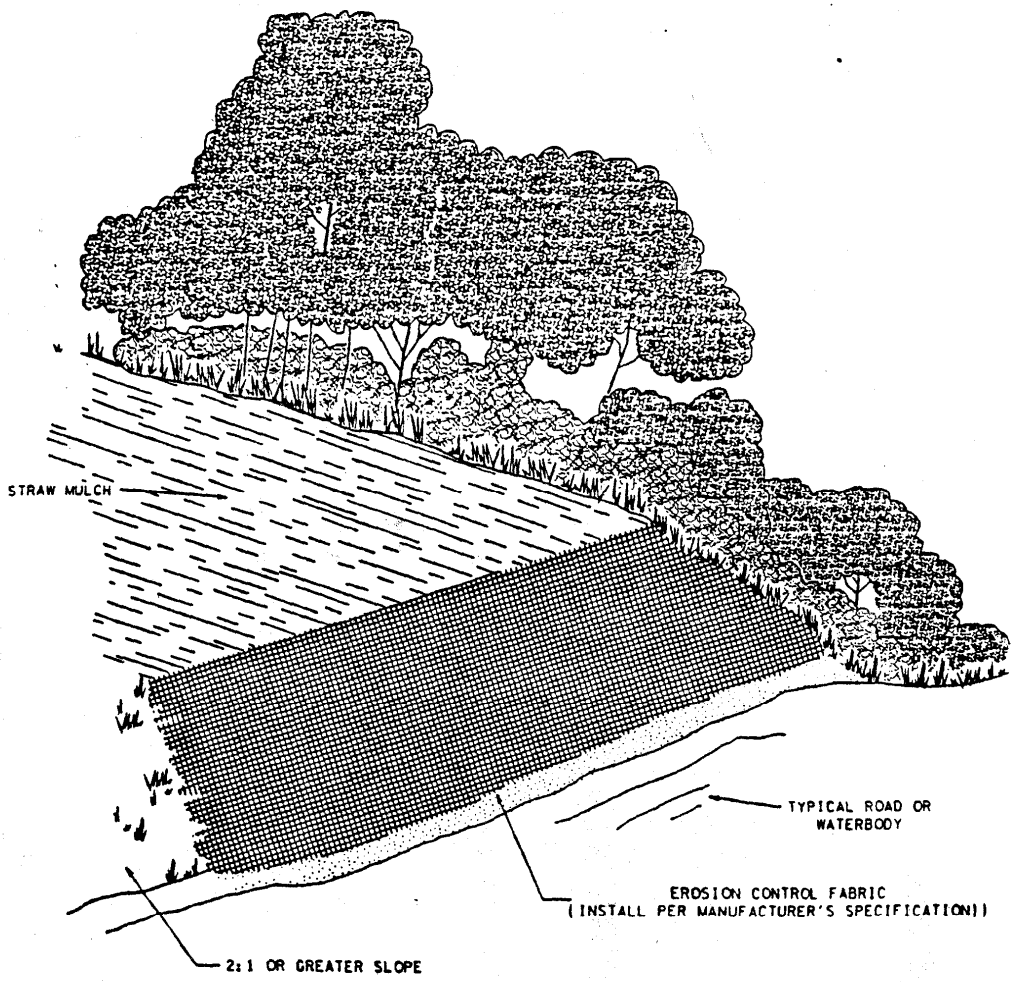
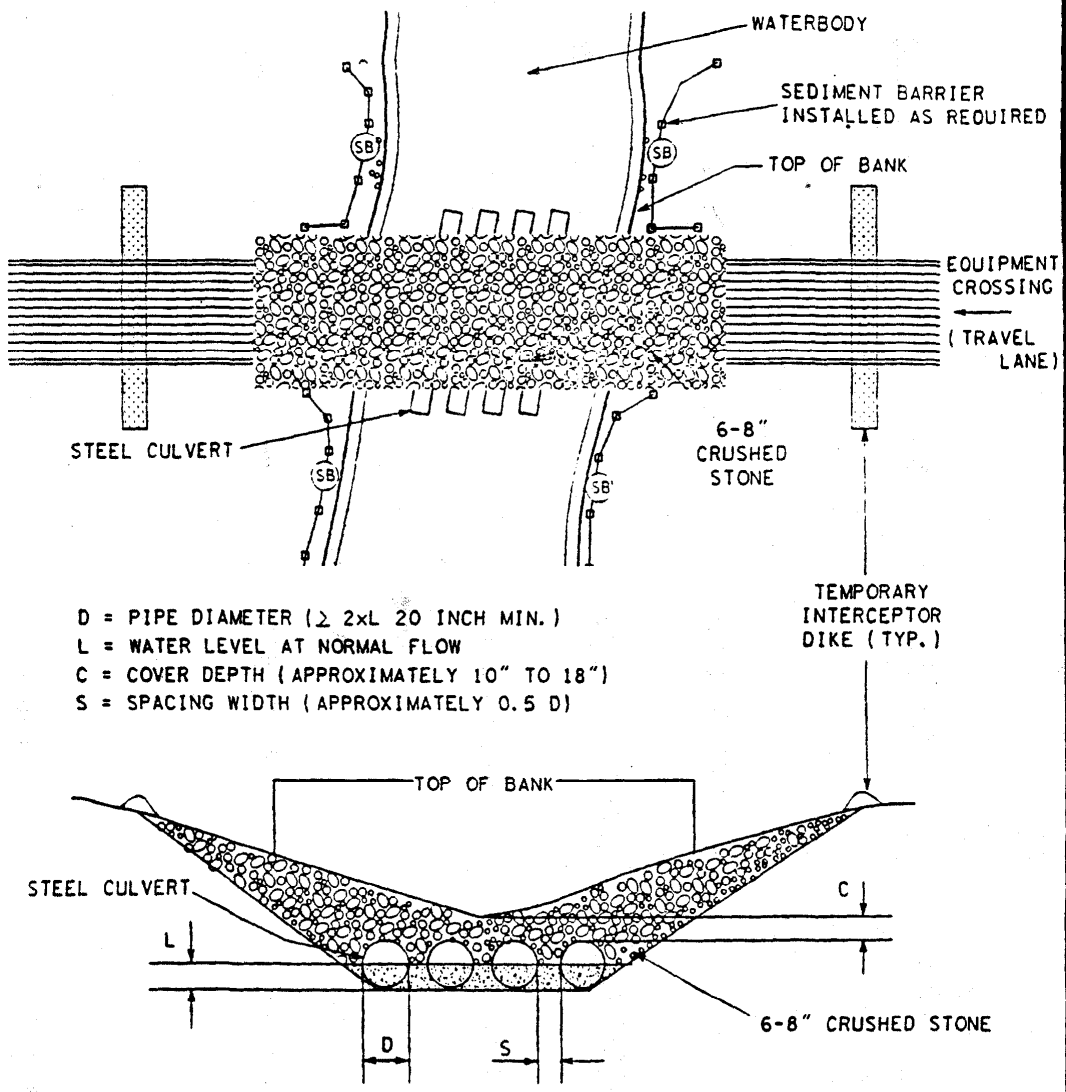


FIGURE 17. EROSION CONTROL FABRIC FOR PROTECTION ON STEEP SLOPES

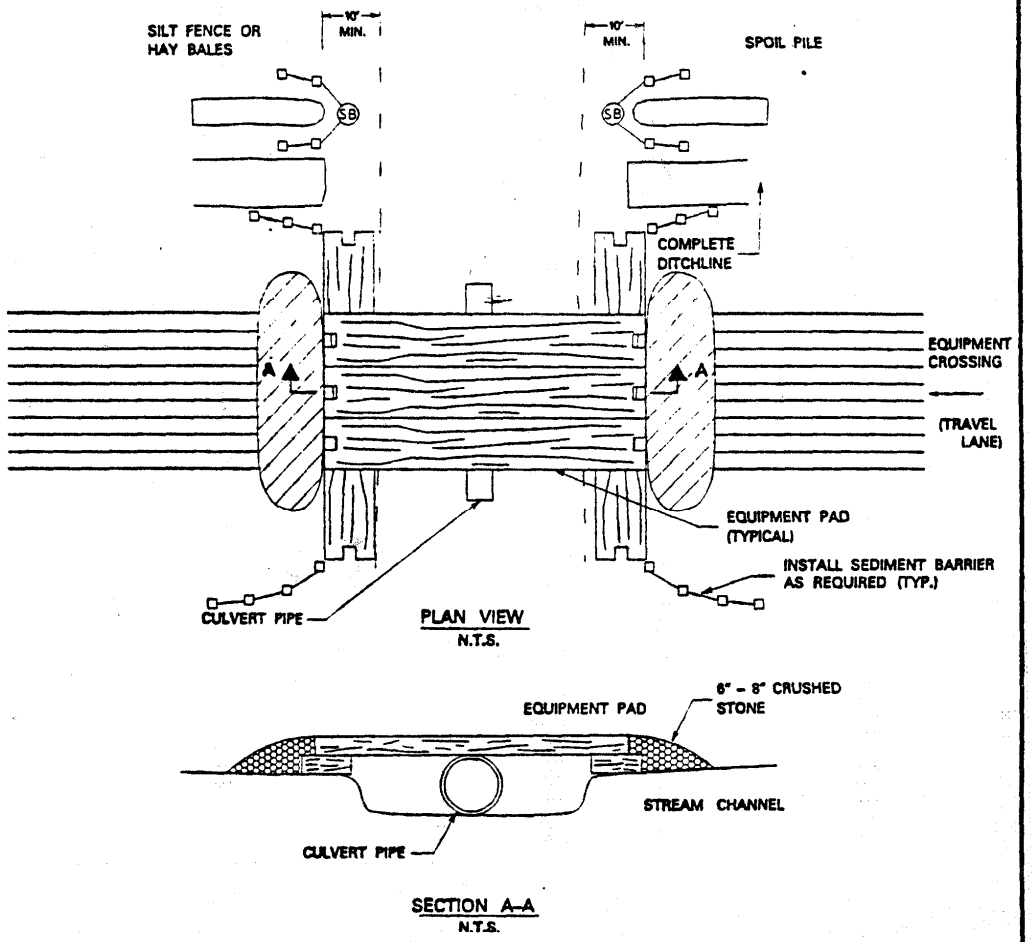
ESE0020.DGN



NOTE: USE AS MANY CULVERTS AS REQUIRED TO SPAN ENTIRE STREAM BED WITH PIPES SPACED ONE-HALF (1/2) THEIR DIAMETER APART.

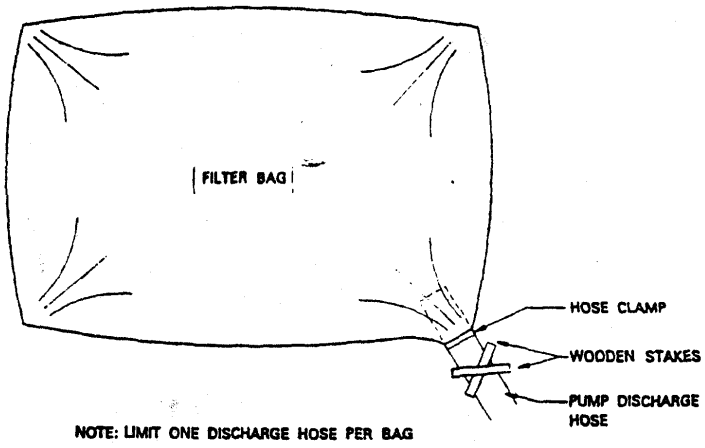
ESES018.DGN

FIGURE 18. CULVERT WITH CRUSHED STONE BRIDGE

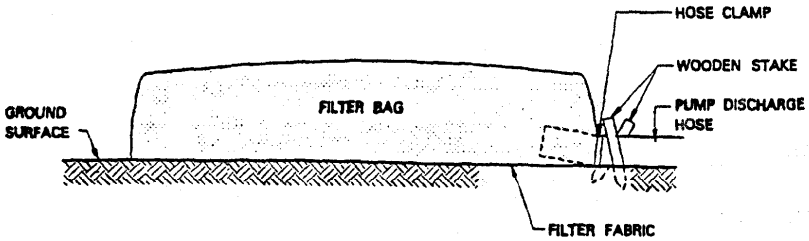


NOTES:
1. CULVERT PIPE UTILIZED IF ADDITIONAL SUPPORT IS REQUIRED.
2. ADDITIONAL PADS CAN BE PUT SIDE BY SIDE IF EXTRA WIDTH IS REQUIRED.
3. EQUIPMENT PAD TYPICALLY CONSTRUCTED OF HARDWOOD; MUST ACCOMMODATE THE LARGEST EQUIPMENT USED.
4. 6"- 8" CRUSHED STONE SHALL BE USED AT ENTRANCE TO THE EQUIPMENT PADS (IF NECESSARY).

FIGURE 19. TEMPORARY ACCESS BRIDGE

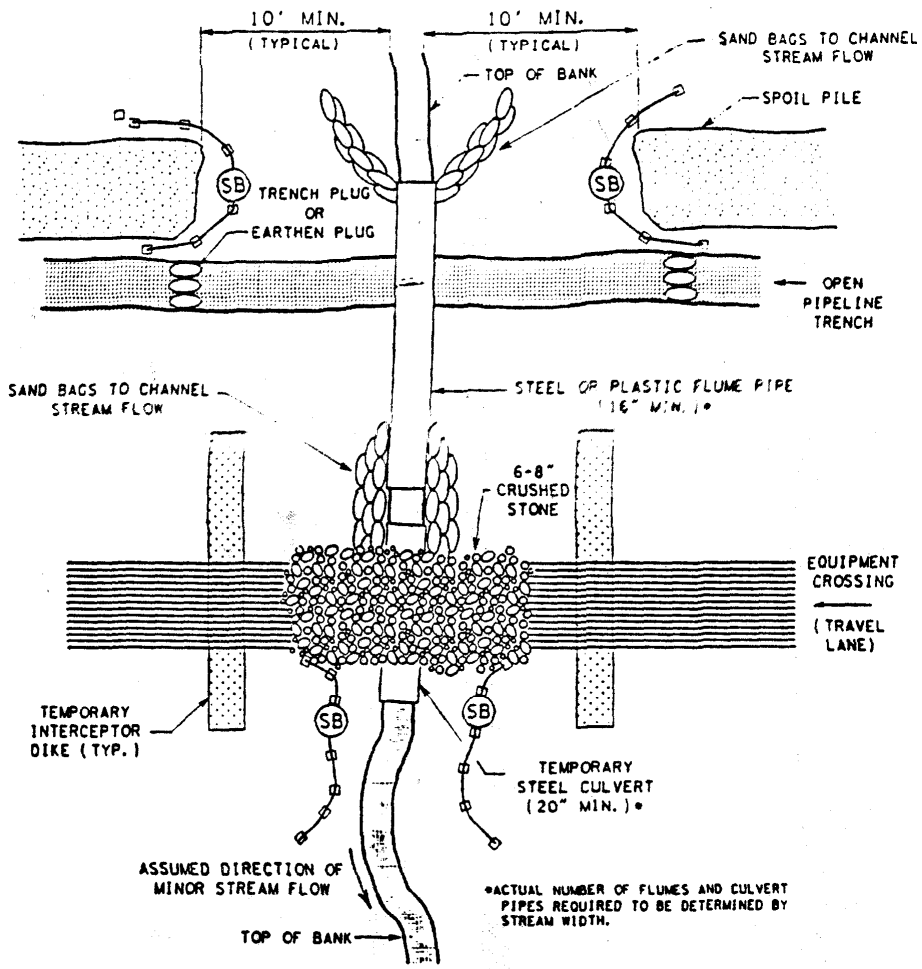


PLAN VIEW
N.T.S.



CROSS-SECTION
N.T.S.

FIGURE 20. FILTER BAG

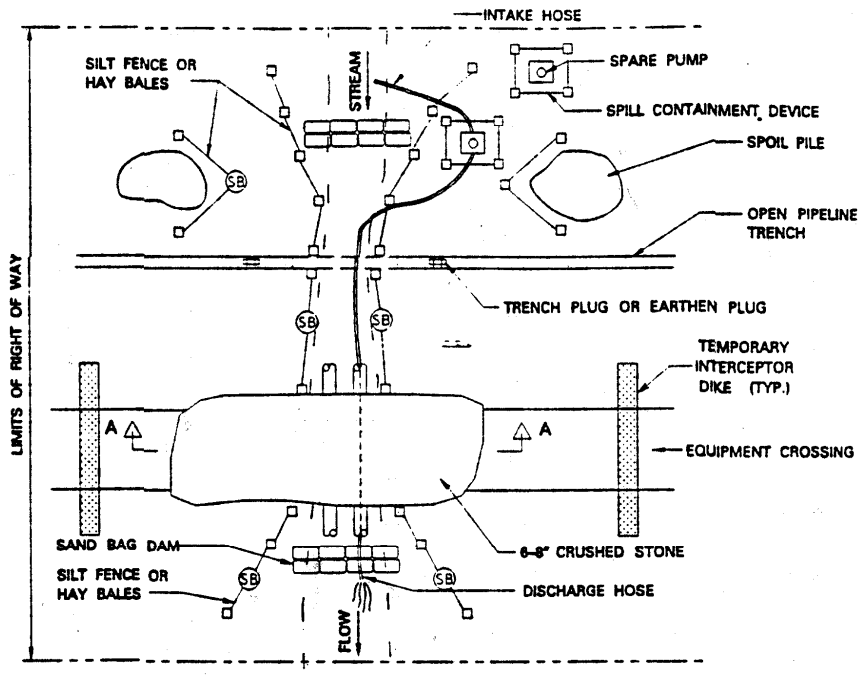


NOTE:

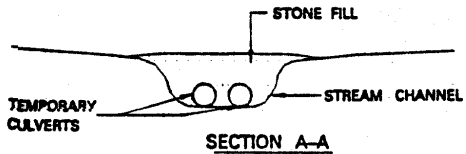
1. (SB) TEMPORARY SEDIMENT BARRIER OF SILT FENCE AND/OR STRAW BALES

ESE5016.DGN

FIGURE 21. TYPICAL MINOR WATERBODY CROSSING CONTROL MEASURES



PLAN VIEW
N.T.S.



SECTION A–A
N.T.S.

NOTES:

1. EXCAVATE ACROSS STREAM CHANNEL FOLLOWING WATER RE-ROUTING.
2. LOWER PIPE UNDER HOSE AND BACKFILL.
3. MONITOR PUMPS AT ALL TIMES DURING STREAM CROSSING PROCEDURE.
4. NUMBER OF CULVERTS WILL VARY DEPENDING ON SITE CONDITIONS.

FIGURE 22. TYPICAL DAM AND PUMP STREAM CROSSING

ATTACHMENT E

ALIGNMENT SHEETS

Alignment sheets to be added before construction begins.

ATTACHMENT F

POTENTIAL JURISDICTIONAL FEATURES CROSSED BY PROJECT

Wetlands Located along WEP III

Milepost	Wetland	Cowardin Classification	Surface Ownership	County	Impact Avoidance
312.63	Associated with Unnamed Drainage	PEM	Tribal	Sandoval	Outside construction right-of-way
304.92	Associated with an Unnamed Spring	PEM	State	Sandoval	Construction right-of-way modified to avoid wetland
105.62	Associated with Pecos River	PEM	BLM	Chaves	Avoided through HDD

Waterbodies Crossed by WEP III

Waterbody Name	Flow[1]	County
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Cutter Irrigation Canal	Perennial	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan

Waterbody Name	Flow[1]	County
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
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Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Unnamed Drainage	Ephemeral	San Juan
Blanco Wash	Ephemeral	San Juan
Blanco Wash	Ephemeral	San Juan
Blanco Wash	Ephemeral	Rio Arriba
Blanco Wash	Ephemeral	Rio Arriba
Blanco Wash	Ephemeral	Rio Arriba
Blanco Wash	Ephemeral	Rio Arriba
Blanco Wash	Ephemeral	Rio Arriba
Blanco Wash	Ephemeral	Rio Arriba
Blanco Wash	Ephemeral	Rio Arriba
Unnamed Drainage	Ephemeral	Rio Arriba
Blanco Wash	Ephemeral	Rio Arriba

Waterbody Name	Flow[1]	County
Blanco Wash	Ephemeral	Rio Arriba
Blanco Wash	Ephemeral	Rio Arriba
Encino Wash	Ephemeral	McKinley
Unnamed Drainage	Ephemeral	McKinley
Encino Wash	Ephemeral	McKinley
Unnamed Drainage	Ephemeral	McKinley
Encino Wash	Ephemeral	McKinley
Encino Wash	Ephemeral	McKinley
Unnamed Drainage	Ephemeral	McKinley
Penistaja Arroyo	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Piedra Lumbre, Arroyo	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval

Waterbody Name	Flow[1]	County
Unnamed Drainage	Ephemeral	Sandoval
Rio Puerco	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Ojito, Arroyo	Intermittent	Sandoval
Ojito, Arroyo	Intermittent	Sandoval
Ojito, Arroyo	Intermittent	Sandoval
Ojito, Arroyo	Intermittent	Sandoval
Unnamed Drainage	Intermittent	Sandoval
Ojito, Arroyo	Intermittent	Sandoval
Unnamed Drainage	Intermittent	Sandoval
Salado, Rio	Intermittent	Sandoval
Cuchilla Arroyo	Ephemeral	Sandoval
Cuchilla Arroyo	Ephemeral	Sandoval
Cuchilla Arroyo	Ephemeral	Sandoval
Cuchilla Arroyo	Ephemeral	Sandoval
Salado, Rio	Intermittent	Sandoval
Cucho, Arroyo	Intermittent	Sandoval
Cucho, Arroyo	Ephemeral	Sandoval

Waterbody Name	Flow[1]	County
Querencia Arroyo	Intermittent	Sandoval
Milpas, Canada de la	Intermittent	Sandoval
Unnamed Drainage	Intermittent	Sandoval
Unnamed Drainage	Intermittent	Sandoval
Unnamed Drainage	Intermittent	Sandoval
Piedra Parada, Arroyo	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
San Pedro Creek	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Sandoval

Waterbody Name	Flow[1]	County
Unnamed Drainage	Ephemeral	Sandoval
Unnamed Drainage	Ephemeral	Bernalillo
Unnamed Drainage	Ephemeral	Bernalillo
Unnamed Drainage	Ephemeral	Bernalillo
Unnamed Drainage	Ephemeral	Bernalillo
Unnamed Drainage	Ephemeral	Bernalillo
Unnamed Drainage	Ephemeral	Bernalillo
Unnamed Drainage	Ephemeral	Bernalillo
Unnamed Drainage	Ephemeral	Bernalillo
Unnamed Drainage	Ephemeral	Santa Fe
Pecos River	Perennial	Chaves
Unnamed Drainage	Ephemeral	Chaves
Unnamed Drainage	Ephemeral	Chaves
Sand Creek	Ephemeral	Chaves
Unnamed Drainage	Ephemeral	Chaves
Unnamed Drainage	Ephemeral	Chaves
Unnamed Drainage	Ephemeral	Chaves
Unnamed Drainage	Ephemeral	Chaves
Unnamed Drainage	Ephemeral	Chaves
Unnamed Drainage	Ephemeral	Chaves
Unnamed Drainage	Ephemeral	Chaves
Unnamed Drainage	Ephemeral	Chaves

Notes:
[1] Flow is defined by the USACE standard available at: http://www.swl.usace.army.mil/regulatory/definitions.html.

ATTACHMENT G

CONTRACTOR SAFETY MANUAL

Contractor Safety Manual

Onshore and Offshore

This edition supersedes all previous editions.

Introduction

Dear Contractor:

Enterprise Products is committed to protecting the Health and Safety of its employees, contractors and the general public, and protecting the environment in the communities in which we operate. It is our expectation that all Enterprise employees and contractors work in a safe manner by recognizing and identifying hazards at the work place and taking steps to minimize or eliminate these hazards. We are asking everyone to make that commitment to protect individuals and the environment. In the balance of this manual, Company will be inserted instead of using Enterprise Products; Dixie Pipeline Company, Duncan Energy Partners, L.P. and its parent and subsidiaries.

This ***Contractor Safety Manual*** contains policies and procedures applicable to all contractors and employees regarding environmental, health, and safety responsibilities on Company premises and for work performed for the Company.

The guidelines are not intended to replace a contractor's own safety program, nor do they represent a summary all occupational and environmental regulations governing construction safety. However, Company contractors should review with their employees the sections of this manual that are appropriate to the work to be performed.

The policies and procedures set forth in this document are in addition to all applicable federal, state, and local governmental standards and codes, industry standards and codes, and the contractor's own safety program.

If work is occurring at a Company operating facility, that facility's safety standard shall be determined and followed. In addition, if work is being conducted on a DOT asset and is deemed to be a Covered Task, the Contractor must have operator qualified (OQ) personnel perform the task.

Thank you for your continued commitment to and implementation of our cooperative Contractor Safety Program. Your continued safety is our primary goal!

Sincerely yours,

Kevin Bodenhamer
Vice President, Environmental, Health, Safety & Training

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Section 1 - General Safety Philosophy and Expectations

1.1 General Requirements

1. Any Contractor who provides a service to any of the Enterprise Products family of companies is required to have a valid Master Service Agreement (MSA). Approval for any MSA is required by each of the following groups:
    a. Contracts Administration
    b. Safety Department
    c. Risk Management
    d. Compliance Department (Drug & Alcohol)
    e. Legal Department

2. All Contractors are required to participate in the Company's Contractor Safety Evaluation Program. Each Contractor will subscribe to ***ISN Software Corporation (ISNetworld)***. Each contractor shall:
    a. Complete the Management System Questionnaire (MSQ)
    b. List the services they will be providing Enterprise Products.
    c. Submit their OSHA 300 forms and Experience Modifier Rates (EMRs) for the previous 3-years.
    d. Provide copies of their Health and Safety Programs (H&S) for the services provided.
    e. Provide employee training records for the above mentioned H&S programs

3. This Contractor Safety Manual ("Safety Manual") is offered by the Company as a supplement to the Contractor's own safety program applicable to the work covered by its contract.
    a. Under no circumstances does this Safety Manual relieve the Contractor of safety responsibilities for its employees and protection of the environment.
    b. The Contractor is accountable for establishing and maintaining a self-administered comprehensive safety program in performing work for the Company.

4. The Company requires each contractor to comply with all applicable governmental statutes, standards and regulations and the Company's safety procedures and practices while performing work in any Company owned or operated facility.
    a. The Contractor will protect all personnel including contractor employees, the Company employees, other contractor and subcontractor employees, general public and property against any adverse effects of the work it is performing.
    b. The Contractor will be responsible for enforcing among its employees all rules, regulations, and instructions regarding the prevention of fires and accidents, use of drugs and alcohol, signs, advertisements, boundaries of working areas, smoking, housekeeping, and other general requirements outlined in this Safety Manual.

5. The Contractor will communicate to all personnel that explosives, or weapons are <u>strictly forbidden</u> at, upon or within Company operational facilities.

6. Violation of and/or refusal to comply with any of the requirements set forth in this Safety Manual may result in termination of contractor's right to proceed with its contract.
    - Any work delay due to violation of safety requirements shall be at the Contractor's expense.

7. The Company reserves the right to establish additional safety requirements appropriate or necessary to assure the safety of all persons and property.

8. The contractor will be notified of any changes and/or new safety requirements that may impact its work performance.

1.2 Definitions

Where used in this Safety Manual, the words listed below shall have the meanings indicated:

Company: ENTERPRISE Products, LLC; Dixie Pipeline Company, Duncan Energy Partners, L.P. and its parent and subsidiaries.

Contractor: The entity contracted to provide services for Company.

Facility(s) Company's property including offshore platforms, terminals (tanks farms & truck loading), marine terminals/docks, plants, and pipeline systems (i.e. valve stations, compressor stations, ROW, etc).

1.3 Anti-Drug & Alcohol Program

1. The Contractor is responsible for a Drug and Alcohol Program (Non-DOT and possibly DOT). The Contractor will ensure the following:
    a. Review and inform its personnel of the program;
    b. Administer and enforce their independent program;
    c. Require their sub-contractors to be in compliance with a similar program; and
    d. Provide documentation of D&A compliance as requested.

2. Non-DOT D&A requirements - The contract agreement requires that all Contractors and their sub-contractors have a current negative drug screen (within one year of date of service). National Compliance Management Services (NCMS) will audit the Non-DOT drug and alcohol testing program.

3. DOT regulated contractors - Contractors and their sub-contractors providing DOT regulated services will be in compliance with all state and federal regulations.
    a. All pipeline regulated (PHMSA) contractors and sub-contractor drug and alcohol programs will be audited for compliance by NCMS.
    b. DOT contractors are also required to comply with the Non-DOT drug and alcohol program requirements according to contract agreement.

4. National Compliance Management Services (NCMS)
    a. All Contractor companies providing services to EPCO are required to participate in the NCMS drug and alcohol auditing program.

b. NCMS will provide the Contractor with a packet containing the drug and alcohol program requirements.
c. Contractors then submit the documentation to NCMS to be audited.
d. NCMS will audit both programs according to the Company requirements and will notify the Company and *ISNetworld* as to their status with a Satisfactory or Non-Satisfactory rating.
e. Register On-Line with NCMS to keep employee lists of employees and negative drug screen dates current for the duration of the contract agreement

5. Prohibitions and Consequences - The consumption, use, manufacture, cultivation, dispensation, possession, distribution, promotion, provision, purchase, sale, transportation, concealment, transfer or storage of unauthorized, prohibited, illegal or controlled substances and/or substance-related paraphernalia and/or the misuse of other chemical substances or prescription or over-the-counter medications while performing work at a Company facility is ***strictly prohibited***.
   a. Any unauthorized, prohibited, illegal, or controlled substances found on Company property shall be turned over to appropriate law enforcement authorities.
   b. Alcohol - Unauthorized possession or consumption of any beverage, mixture, or preparation containing alcohol.
   c. All individuals in violation of the drug and alcohol prohibitions will be removed from Company property and will be subject to drug and alcohol testing under Enterprise and Contractor company requirements.

6. The Company reserves the right to require unannounced wall-to-wall drug and/or alcohol tests to all contractor and sub-contractor employees working at Company facility.

7. The Company will monitor and periodically audit the contractor to ensure compliance. This audit could include:
   a. **Spot Check** - Contractor employees may be requested to provide information for a random "Spot Check" for drug and alcohol compliance. The information requested for the Spot Check would include:
      i. The contract employee's name;
      ii. The last 4-digits of their social security number; and
      iii. The date of the last negative drug screen.

   b. **On-Site Roster** - A roster of all contractor personnel will be made available to the Company representative. The data to be provided on Contractor letterhead would include:
      i. The contract employee's name;
      ii. The last 4-digits of their social security number; and
      iii. The date of the last negative drug screen.
   c. Any Contract employee without a negative drug screen (within a twelve month window) will be removed from the Company property.

1.4 Assessments and Inspections

1. An inspection of all contractor work sites may be made each day (or as often as practical) by a Company representative (e.g. Safety, Environmental, Operations).

2. OSHA, appropriate environmental regulations, and other applicable construction safety standards will be the guide for this inspection, and variances shall be reported to the responsible Company representative.

3. In addition, observations and Field Environmental, Health, and Safety (EH&S) Audits may be made of work practices to determine compliance with EH&S requirements.
   - Field EH&S Audits may be conducted by Company EH&S Representatives or 3rd party consultants.

NOTE	The Company's project manager, operations management and Director of Safety or Field Environmental will be notified by the Contractor immediately upon receipt of any notice or occurrence of any inspection by any governmental agency or official (i.e., MMS, DOT, US Coast Guard, OSHA, EPA, etc.).

1.5 Communications

1. Verbal Communication - A daily briefing should be conducted between the Contractor's on-site supervisor and Company's on-site representative to discuss work progress, any changed safety/environmental conditions, and any safety/environmental related matters experienced by the Contractor in the course of performing its work.
   a. The Contractor's supervisor is responsible to communicate any pertinent information to the Contractor's work force.

2. Bilingual Communications - To ensure safe work conditions, it is essential that verbal communications between Company representatives and Contractor personnel be clear and free from misinterpretation.
   a. Any Contractor personnel who do not speak or understand English shall be provided bilingual supervision by the Contractor.
   b. It shall be the responsibility of the bilingual supervisor to instruct all non English-speaking Contractor personnel in the applicable safety rules and work procedures contained in this Safety Manual and any hazards inherent in the work area and/or adjacent areas.
   c. In the event of an accident or emergency, the bilingual supervisor shall be present to convey safety instructions and emergency response procedures from Company representatives as the incident warrants. If the bilingual supervisor leaves the work site for whatever reason, the job must shut down until he/she returns.

3. Radio Communication - Before any contractor can bring radios into a company facility, they must show FCC license, frequency/programming information approved by Communications and/or Safety Department.

4. It is the Company's procedure that electrical devices (Cell phones, pagers, two-way radios, laptop computer, camera, etc.) will not be taken into a Class 1, Division 1 or Class 1, Division 2 areas.

5. All Company field locations utilize one or a combination of the following processes to ensure compliance with this procedure:
    a. Provide all equipment taken into classified area be an "intrinsically safe" or explosion proof (cell phone or 2-way radio) to operator's and technician's to assure quality communications; **or**
    b. A ***Work Permit*** with LEL monitoring will be required and issued for electrical testing equipment or electrical devices that are not certified as explosion-proof or intrinsically safe and are used in a classified area.

1.6 Contractor Employee Health Conditions

1. It is the Contractor's responsibility to assure its personnel are physically fit to perform the assigned work tasks.

2. Contractor personnel will not be allowed to operate motorized equipment while using prescription or over-the-counter medication that could cause impaired functions.

1.7 Employee Control

1. **Safety Orientation** – Each Contractor employee (including supervision) will participate in a Contractor safety orientation and a site-specific safety orientation.
    a. The general safety orientation (annually) format may include a video or verbal presentation.
    b. Site-specific safety orientation is a verbal presentation which will include but not be limited to the following:
        i. Alarm system,
        ii. Assembly points,
        iii. Abnormal operating conditions,
        iv. Process hazards, etc.

2. Safety orientations are valid for one (1) year period and allow a contractor employee to access the original or another Company facility to provide services within that period.
    a. All contractor personnel will be given a card to document successful completion of the orientation.
    b. A Hard Hat sticker is normally issued for "visual verification" that the employee has successfully completed the safety orientation.
    c. At various locations a Proximity card will be issued to Contractor's to gain access to the facility.

3. Contractor personnel are to remain in their assigned work area where the work is being performed and will not wander around the facility or into other operating areas.
    a. At the beginning of each job, Contractor personnel will be instructed in where to seek protection from adverse weather conditions, upset or emergency operating conditions, or other work-delay activities.
    b. A Company representative will identify the facility's assembly area, should an incident occur that requires evacuation of the work area.
    c. The use of Company telephones for outside calls is prohibited.

1.8 Housekeeping

1. Contractor personnel are responsible for housekeeping in their specific work area.
    a. Each work area will be kept clean and orderly at all times.
    b. At the close of each workday, the Contractor will clean and restore any adjacent areas that have been adversely affected by its work activities and shall leave the premises clean as far as its work is concerned.
    c. The Contractor will furnish and maintain rubbish containers, with lids and remove all rubbish from the work-site unless specified differently in its contract.
    d. The job is complete only when the area has been cleaned and excess materials have been returned to their designated location.

2. The Company may remove rubbish at the Contractor's expense if the Contractor fails or refuses to do so.
    a. The Contractor will be given notice prior to removal of rubbish or similar materials.
    b. Nothing will be purposely dumped or disposed of into the water. Violation of this requirement may result in civil penalties.

1.9 Insurance Requirements

1. It is the Contractor's responsibility to ensure that the Risk Management department has a current copy the Contractor's certificate of insurance.

2. If the new certificate has not been received by the policy(s) expiration date, the Company's contract management system will notify the Contractor of the deficiency.
    - This e-mail will be sent to the Contractor's representative listed in ISNetworld.

3. New certificates should be e-mailed to LCasanova@eprod.com.

1.10 Operator Qualification

1. All contractors and subcontractors will be in compliance with the company Operator Qualification program plan when performing Covered Tasks on DOT jurisdictional pipelines.
    - The Company's Operator Qualification program plan and Covered Task List (Appendix A) can be found at www.ISNetworld.com.

2. Documentation:
    a. Contractors and Sub-Contractors will submit to the Company up to date employee qualification documentation through ISNetworld (www.isnetworld.com).
    b. Documentation is required prior to being allowed to perform a Covered Task.
    c. Contractors and Sub-Contractors are required to have on site, a copy of the qualified individual(s) ISNetworld OQ report.
    d. The Contractor is responsible for ensuring that the OQ report is current and correct.

3. Contractor Suspension:

a. The Company reserves the right to suspend any Contractor or Sub-Contractor employee from performing any work that is deemed covered per our plan.
b. In the event that a Contractor or Sub-Contractor employee is suspended from performing a Company covered task, he/she will have the task suspended in the ISNetworld system.
c. Individuals suspended will not be allowed to perform the task for the Company until the suspension is removed.

1.11 Pre-Planning and Pre-Construction

1. For new construction, major projects, or at the discretion of the Project Manager, the Contractor will develop all or specific parts of the following project specific documents and submit to the Company for approval:
   a. Environmental, Health, and Safety (EH&S) Management Plan
   b. Critical Lift Plan(s)
   c. Waste Management Plan (WMP)
   d. Spill Response Plan (SRP)
   e. Emergency Response Plan (ERP)
   f. Facility Siting Plan (Portable building placement)

2. Pre-Bid Meeting - A pre-bid meeting will be scheduled for each project requiring Contractor employees to perform work associated with, adjacent to and/or within the perimeter of an active (on-line) process unit or platform, underground storage facility, product handling terminal, and dock facility or pipeline.
   a. This meeting will allow discussion of any job-specific safety requirements and any safety-related questions regarding the job and/or required practices and procedures.
   b. This meeting should include discussion from ground breaking to final clean-up.

3. Pre-Construction Meeting - A pre-construction meeting will be conducted before actual construction begins.
   a. This meeting will cover the scope and sequence of the project, review safety requirements, and introduction of the participants/contactors (i.e., Contractor: site supervision & safety representative, Company local management, inspector(s), project engineer(s), environmental representative, and safety representative).
   b. This documented meeting will also serve to satisfy any issues that have not been fully addressed previously.

4. Contractor Safety Manual - Each Contractor company will be provided a copy of this Safety Manual for the purpose of providing the Contractor's own orientation for its personnel to review and discuss the practices, procedures and other information contained in this Safety Manual.

1.12 Process Safety Management

1. Process Safety Management (PSM) is the application of management systems to the identification, understanding and control of process hazards to prevent process-related incidents and injuries.

2. PSM is a system that assures protection of people and assets from catastrophic incidents that may result from unplanned or unexpected deviations in process conditions.

3. The PSM system incorporates a combination of policies, procedures and practices that include the following elements:

Employee Participation	**Process Safety Information**	**Process Hazard Analysis**
Operations Procedures	**Training**	**Contractors**
Pre-startup Safety Review	**Mechanical Integrity**	**Hot Work Permits**
Management of Change	**Incident Investigation**	**Trade Secrets**
Compliance Auditing	**Emergency Planning & Response**	

4. Contractors working in PSM facilities are expected to comply with all applicable provisions of the OSHA Process Safety Management regulation.

5. The Contractors performance will be evaluated by the Company through periodic PSM auditing.

6. The Contractor will ensure <u>any portable building(s)</u> prior to being brought onto a Company facility complies with the Company's Facility Siting policy.

7. Information relating to Company Process Hazard Analysis (PHA) and Process Safety Information (PSI) are available for Contractor review by contacting the Company representative.
    a. At times, certain Contractors may be called upon to participate and provide their expertise in Process Hazard Analysis (PHA's).
    b. This participation is mandatory, if requested.

6. The Contractor will ensure that each employee is trained in the work practices necessary to safely perform his/her job and documented within ISNetworld's Training Database.

7. It is the Contractor's responsibility to advise the Company representative of any abnormal or unsafe condition.

1.13 Safety Meetings

1. All "Tool Box" or similar type safety meetings with Contractor personnel will be conducted <u>daily</u> "on-site" by the Contractor's supervision to review hazards of the work and requirements for safe work performance.

2. Near misses should be discussed and posted on bulletin board where available.

3. The Company, at its discretion, may require joint safety meetings to be held for the purpose of discussing any pertinent hazard(s) of the work being performed.

4. The Contractor will maintain a written documentation of all safety meetings to include date, names of attendees, and subject materials covered.
    - Documentation will be made available to Company representative upon request.

1.14 Security Requirements

Security Requirements (Facility & Contractor)

1. When entering a Company facility, each Contractor employee, vehicle, and contents are subject to search. To enter the facility, each Contractor employee must:
    a. Have valid photo identification (e.g. State Issued Drivers License, Passport, Government Agency ID, TWIC card, or ISNetworld badge);
    b. Sign in and out of the facility;
    c. Know the name of the Company representative to be visited; and
    d. Have a clear explanation of the purpose for visiting the facility.

2. Contractor employees may be required to review security requirements and complete certain security paperwork before being allowed to enter Company facilities.
    - Each Contractor will <u>comply with all security requirements or be subject to removal from Company facility/location.</u>

3. <u>Searches and Inspections</u> - The Company may, at any time, conduct unannounced searches and inspections of contractor personnel and/or property that may include, but not limited to: wallets, purses, lockers, baggage, offices, desks, tool boxes, lunch boxes, packages, clothing and vehicles.
    a. Anyone who refuses to submit their persons or property to search; inspection or testing will be removed from and denied future admission to Company facility.
    b. No equipment, tools or other materials will be removed from the Company facility without proper authorization and a Material Pass (where applicable) being issued by an authorized Company representative.

4. A Facility Security Plan has been implemented at each Company facility that prescribes the security measures based on National and/or local threat levels.
    - Depending on the nature of the threat, Contractors may see a heightened law enforcement presence at the facility.

5. Restricted Areas will be designated by signs at the facility or the entire facility may be designated as a Restricted Area.
    - These Restricted Areas require a higher level of protection and only authorized Contractor employees may be allowed access.

6. Security Awareness is paramount for anyone entering a Company facility. Awareness should include, at a minimum:
    a. Being observant while on the facility and reporting any suspicious or dangerous substances, activities or devices.
    b. No photographing or filming of the facility unless authorized. <u>Report any unauthorized filming or photography immediately</u>.
    c. Being aware of any individuals who appear to be agitated or nervous.

d. Reporting anyone who is wearing unusual layers of clothing or appears to be concealing something.
e. Not allowing someone to use you to gain access to the facility or restricted area.
f. Not lending anyone your facility ID.

Security Requirements (Marine Facility)

1. **Transportation Worker Identification Credential (TWIC)** - Any Contractor entering a Company regulated facility is subject to measures required under Maritime Transportation Security Act of 2002 and U.S. Coast Guard and international port security regulations.
    a. The Company encourages each Contract company secure an individual TWIC for each employee entering a Company marine facility.
    b. Unescorted access to secured areas of the facility/location requires a TWIC.
    c. Escort Span of Control - Contractor supervision shall ensure that at least one (1) employee in each working crew (1-5) can produce a current TWIC upon request of a Company Representative.
    d. The Company will not provide escorts.
    e. TWIC escort:
        i. Any Contractor acting as an escort shall be trained under the US Coast Guard requirements listed in 33 CFR 104.225, 105.215, or 106.220 (Security training for all other vessel/facility/OCS facility personnel).
        ii. An approved Contractor with a TWIC will not need an escort.
        iii. Anyone without a TWIC must have a continuous side-by-side escort.
        iv. A side-by-side escort is defined as “continuous physical proximity to and visual contact with the escorted individual(s).

2. Maritime ports and facilities have a similar system to the Department of Homeland Security’s threat advisory system (HSAS). The Maritime Security (MARSEC) Levels are set at one of three (3) levels similar to the color coded HSAS threat advisory system.
    a. MARSEC Level 1 is equivalent to HSAS Alert Levels Green, Blue and Yellow. It is the baseline for marine security.
    b. MARSEC Level 2 is equivalent to HSAS Level Orange. At MARSEC Level 2, additional security measures above what is provided at MARSEC Level 1 shall be instituted.
    c. MARSEC Level 3 is the highest threat level and equivalent to HSAS Level Red, which signifies a probable or imminent threat. Facility operations may be suspended in whole or in part at MARSEC Level 3.

3. The current MARSEC Level will be posted on signs at access points or other common locations within the facility.
    a. Elevations in the MARSEC Levels must be taken seriously.
    b. The Assigned Company Representative or Facility Security Officer will make sure that the threat level is communicated throughout the facility.
    c. At heightened MARSEC levels, the Assigned Company Representative or Facility Security Officer will inform facility Contractor employees about threats, stress reporting procedures and the need for increased awareness.

Security Requirements (Offshore)

1. Company offshore facilities are required to have a security plan under 33 Code of Federal Regulations Part 101.405. The Company's plan is consistent with the US Coast Guard Maritime Security (MARSEC) which is consistent with the Homeland Security Advisory System (HSAS) and includes the requirement for unescorted personnel to obtain TWIC.

2. Escort Span of Control - Contractor supervision will ensure that at least one (1) employee in each working crew (1-5) can produce a current TWIC upon request of a Company Representative.

3. Identification System for Visitors & Contractors
    a. No visitors or Contractor personnel may access the platform without prior notice and arrangements.
    b. The tail number of the helicopter must be reported to the dispatcher when making final arrangements for the visitor or Contractor to visit the platform.
    c. Visitors and Contractor personnel must have a legitimate reason to access the platform.
    d. All visitors and Contractor personnel must produce a TWIC and sign the log book on the mess deck.
    e. Visitors and Contractor personnel will be issued a numbered ID badge.
    f. All visitors and Contractor personnel will be given a safety orientation.
    g. Random inspections of personal effects and baggage may occur for both inbound and outbound employees, visitors, and Contractor personnel.

1.15 Vehicle Control

1. Only contractor-owned or leased vehicles with insurance in accordance with Company requirements will be allowed entry into a Company facility/location.
    - Personal vehicles of contractor personnel will not be permitted to enter a Company facility.

2. A certificate of insurance for Contractor-owned or leased vehicles and all other required coverage will be approved and maintained by the Company Corporate Risk Department.

3. All unattended vehicles within a Company facility/location (inside fenced areas) will be left with the ignition key inside, so they may be moved or used in the event of an emergency.

4. Contractor owned/leased vehicles will be permitted entry into a Company facility for the following purposes only:
    a. To deliver tools and personnel to the job site.
    b. To transport material from a storage and/or lay down area to job site.
    c. To deliver other motorized or heavy equipment essential to the performance of the contract (i.e., cranes, dozers, etc).

5. Contractor personnel are not permitted to drive Company vehicles without prior to approval of Company representative.

6. Designated parking lots or areas for Contractor personal vehicles will be provided.
    a. The Company assumes no responsibility for loss or damage to vehicles in these parking lots.
    b. Vehicles left 24 hours without the Company's approval are subject to being towed away at the owner's expense.

7. Contractors driving in Company facilities shall not exceed posted speed limit.

Section 2 – Incident Reporting and Management

2.1 – Incident Notification

1. Contractors are required to report all work related injuries (no matter how minor), collisions, fires, spills and/or near misses immediately to the Company representative.

2. Contractor emergency incidents with the potential to affect the environment, equipment, or harm the public or site employees must be reported immediately to local supervision or assigned designee to ensure an appropriate response level is initiated either on a local and/or corporate level.

3. What to Report - Report the fact that an incident has occurred, the circumstances surrounding the incident including;
    a. Who was involved,
    b. What occurred,
    c. When – date/time,
    d. Where it happened,
    e. Assessment/status of conditions, and
    f. Action being initiated at the time.

2.2 – Injury/Illness, Vehicle Collision & Near Miss – Handling & Reporting

1. Accident Reports - Contractor will report to Company representative in writing as soon as practicable or within 48-hours, all incidents or occurrences resulting in bodily injury, including death, or damage to or destruction of property arising out of or during the course of performance of any Agreement and, upon request, shall furnish Company with copies of all reports made by Contractor to Contractor's insurer or to others of such accidents and occurrences.

2. Incident investigation reports will be submitted to the Company upon completion.

3. The contractor will maintain a log of recordable injuries and/or illnesses.
    a. This log will be kept up-to-date in accordance with applicable regulations.
    b. The log will be available for review by the Company representative or Safety Department upon request.

Section 3 – Safety Procedures & Programs

3.1 Abrasive Blasting

1. The Contractor will ensure the Company Work Permit is obtained and completed prior to each job where applicable.

2. The Contractor will ensure the blast cleaning nozzle is equipped with an operating valve which must be held open manually.

3. The Contractor will ensure the abrasive blasting equipment and the object being blast cleaned is grounded to eliminate static electricity.

4. The Contractor will ensure appropriate respiratory protection is worn during the blasting operation.

5. Ensure breathing air satisfies Grade D breathing air specifications and provide documentation upon request.

3.2 Chain, Sling, and Hoisting Equipment

1. Contractor personnel who will be using chains, hoists, hooks, slings or other rigging equipment notify the appropriate Company representative and obtain a permit prior to beginning work when applicable.

2. The Contractor will ensure the chains, hoists, hooks, slings or other rigging equipment are inspected prior to use in accordance with the manufacturer's recommendations.
    - All lifting devices (chains, slings, wire rope, etc.) shall have legible tags in place and must be verified prior to lift.

3. All equipment inspections will be made available upon request by a Company representative prior to making any lift.

3.3 Compressed Gas Cylinders

1. The Contractor will ensure cylinders used at Company facilities/locations are handled, stored and maintained in accordance with Department of Transportation (DOT) 49 CFR Part 178 and OSHA 29 CFR Part 1910.253 – "Oxygen-fuel gas welding and cutting".

2. Where cylinders must be handled by a crane or derrick, carry them in a cradle or suitable platform and take extreme care that they are not dropped or bumped.
    - Do not use slings.

3. The Contractor will not use a cylinder of compressed gas without a pressure reducing regulator attached to the cylinder valve, except where cylinders are attached to a manifold, in which case the regulator should be attached to the manifold header.

4. The Contractor will use regulators and pressure gauges only with gases for which they are designed and intended.

5. The Contractor will use back-flow check valves on oxygen and acetylene lines.

6. The Contractor will never use oxygen as a substitute for compressed air in pneumatic tools, in oil preheating burners, to start internal combustion engines, or to dust clothing.

7. The Contractor will ensure cylinders are stored in secured upright position with a protective cap on, in a safe, dry, well-ventilated place prepared and reserved for the purpose.
    a. Flammable and combustible substances, such as oil and volatile liquids, should not be stored in the same area.
    b. Do not store cylinders near elevators, gangways, stairwells, or other places where they can be knocked down or damaged.

8. The Contractor will ensure empty cylinders are store in a designated area, with valves closed, protective caps on and marked EMPTY or MT.

9. The Contractor will ensure oxygen and acetylene carts are equipped with a steel barrier at least 5-feet high and have a ½ hour fire resistance rating.

10. The Contractor will ensure oxygen cylinders are stored at least 20 feet (6 m) from cylinders containing flammable gases or the location of other highly combustible materials.
    - If closer than 20 ft, cylinders will be separated by a fire-resistive partition at least 5 ft (1.5 m) high and that has a fire-resistance rating of at least 30 minutes.

3.4 Electrical Safety

1. The Contractor will ensure the implementation of all electrical safety requirements in accordance with OSHA's 29 CFR 1910 Subpart S and 1926 Subpart K; National Electric Safety Code (NEC); National Association of Corrosion Engineers (NACE) Standard RP-01-77; and US DOT Parts 192 and 195 as applicable.

2. Only <u>Qualified</u> Contractor employees wearing appropriate personal protective equipment may work in the area where there are live parts at 50 volts or more.
    a. Refer to NFPA 70E - Table 130.7© (10) Protective Clothing and Personal Protective Equipment (PPE) Matrix.
    b. Qualified person: One familiar with the construction and operation of equipment and the hazards involved, per 29 CFR 1910.399 and 1926.449.

3. Two (2) people will be on site when working on or around exposed energized equipment above 600 volts; of which one of the employees has been trained in CPR/First Aid and rescue in the event a person is in contact with a live conductor.

4. Before beginning any work that requires activities that will place the Contractor employees in close proximity to exposed energized electrical parts, the electrical

equipment shall be isolated, locked/tagged/tried, tested, and grounded or otherwise determined to be de-energized or the area of work shall be isolated and insulated.

- The decision to isolate and insulate will be made by the Contractor and approved by the Company Representative.

5. The Contractor will ensure GFCI's are used when using cord connected portable power tools or other cord connected equipment.

6. Contractor will ensure cord connected portable power tools, extension cords, and other cord connected equipment is inspected for safety on a regular basis.

3.5 Energy Isolation (Lockout/Tagout)

1. The Contractor shall ensure compliance with OSHA 29 CFR, Part 1910.147 - "Control of Hazardous Energy" and Company policy.

2. A *Principal Authorized Employee* can be utilized when a group (i.e. contractor, crew, craft, department, etc.) is involved in servicing/maintenance as follows:
   5. Will verify that all equipment is properly locked & tagged out as per the ***"Isolation/Blind List"***.
   6. Will verify that isolation and de-energization of the machine or equipment has been accomplished.
   7. Once verification is complete, initial next to his/her name as well as next to each employee's name that is being verified for on the ***"Isolation/Blind List"***.
   a. Will apply his/her personal lock and tag to the lock box or job board.

3. Each *Authorized Employee* (Company or Contractor) prior to performing servicing and/or maintenance on the equipment or system will:
   a. Verify that all job locks and tags have been placed, by the *Primary Authorized Employee*, on all isolation points per the Isolation/Blind List, unless a *Principal Authorized Employee* has been utilized.
   b. Verify that isolation and de-energization of the machine or equipment has been accomplished, unless a *Principal Authorized Employee* has been utilized.
   c. Verify the job lock key is secured in the lock box or on the job board.
   d. Attach his/her personal lock and tag on the lock box or job board.
   a. Place his/her initials and date in Section E of the ***"Isolation/Blind List"*** to verify that his/her personal lock and tag has been installed on the lock box or job board.

4. The Contractor will provide personal locks (individually keyed) and tags (w/ employee name & date) to be placed on the Company's group lock box or job board.

5. The Contractor will notify the *Primary Authorized Employee* that the lock(s) has (have) been removed before the Contractor leaves the jobsite.

6. The Contractor will obtain authorization from the *Primary Authorized Employee* in order to remove a lock that was previously installed by a Contractor employee that has left the job site.

7. The Contractor will ensure all contractor personnel are trained in hazardous energy control and provide documentation upon request.

3.6 Excavation & Trenching

1. The Contractor will ensure compliance with OSHA 29 CFR Part 1926, Subpart P - Excavations.

2. The Contractor will, prior to each excavation and trenching job, ensure the Company Work Permit is obtained and completed and any potential hazards associated with the excavation are communicated with all Contractor employees.

3. The Contractor will ensure all surface obstructions that could create a hazard to Contractor workers are removed or supported.

4. Prior to any excavation it is the Contractor's responsibility to conduct the local One-Call system notification, advise them of the proposed work, and ask to identify the location of the utility underground installations.

5. The Contractor will ensure prior to excavation that a Registered Professional Engineer has reviewed and approved any excavation which is 20 feet or deeper.

6. The Contractor will designate a *Competent Person* who shall have and be able to demonstrate the following: Training, experience, and knowledge of soil analysis; use of protective systems; and requirements of 29 CFR Part 1926, Subpart P.
    - The Contractor's *Competent Person* certificate of training will be completed, retained and available for review by a Company representative upon request.

7. A Contractor *Competent Person* will conduct; document a daily inspection prior to the start of work and as needed throughout the shift.

8. The Contractor will ensure walkways or bridges with standard guardrails are provided when people or equipment are required or permitted to cross over excavations.
    - Walkways or bridges will be constructed in accordance with a design by a Contractor *Competent Person*.

9. The Contractor *Competent Person* will ensure that an approved means of ingress and egress is located in trench excavations that are 4 feet or more in depth and will require no more than 25 feet of lateral travel by workers as required by 29 CFR 1926.651(c).

10. When excavating pipeline(s) for any type of foreign pipeline crossing, maintenance or inspection activity, the excavation is done parallel to the existing pipeline(s).
    a. Digging perpendicular to the pipeline is **prohibited** until the line is exposed.
    b. All excavation work is suspended if any unidentified line is discovered.
    c. Authorization to resume excavation is given by the Company representative.

11. The Contractor will ensure each excavation equipment operator provide, upon request, documentation the operator is qualified and/or trained to operate the equipment.

12. Mechanical excavation equipment used to remove material surrounding a pipeline will maintain an 18" buffer between the excavation equipment and the circumference of the pipeline(s). (N*ote: some states may require an additional buffer, verified through State One-Call system*)

13. The Contractor will ensure excavated soil/spoils or equipment that could pose a hazard by falling or rolling into the excavation must be stored, positioned or placed at a minimum two (2) feet from the edge of the excavation.

14. The Contractor will erect and maintain, as required by OSHA standards, temporary barricades around ditches and excavations.

15. In excavations where water is accumulated or water is accumulating, the Contractor will ensure adequate precautions which can vary with each situation but may include:
    a. Special support or shield systems to protect from cave-ins,
    b. Water removal to control the level of accumulating water, or
    c. Use of a safety harness and lifeline.

16. No track-hoe with a hydraulic excavator will be allowed to be used on any project or excavation job with quick-connect couplers unless the excavator has been retrofitted to allow the safety pin to be manually inserted behind the front and/or rear lever of the coupler assembly.

17. When soil conditions permit, all backhoe buckets used by contractors for excavation near existing facilities or equipment must have a safety bar across the "teeth" to prevent line snagging that may cause damage to line and/or coatings.

18. All personnel involved in the excavation will remain clear of the hole while digging is being done.
    a. The bucket must be clear of the hole before personnel re-enter for probing purposes.
    b. The bucket remains rolled and clear of pipeline(s) when swinging over exposed pipeline(s).

19. During excavation operations, the Contractor will provide support systems sufficient to ensure the stability of adjoining buildings, walls, or other structures.

20. The Contractor will ensure that adequate protection is provided from loose rock or soil that could pose a hazard by falling or rolling from an excavation face.

21. The Contractor will ensure each Contractor employee in an excavation is protected from cave-ins by an adequate protective system, except when:
    a. The slopes and configurations of sloping and benching systems are selected and constructed in accordance with one of the options described in 29 CFR 1926.652(b).
    b. Design of support systems, shield systems, and other protective systems are in accordance with one of the options described in 29 CFR 1926.652(c).

3.7 Fall Protection

1. The Contractor will ensure that fall protection systems (i.e., guardrail, safety net, or personal fall-arrest) provided or installed by the Contractor meet the criteria and practices listed in OSHA 29 CFR 1926, Subpart M - Fall Protection.

2. Contractor will develop a rescue plan per 1926.502(d)(20) and ANSI Z359.4-2007 "Safety Requirements for Assisted-Rescue and Self-Rescue Systems, Sub-Systems and Components".

3. Standard protection against falls is achieved when adequate safeguards are in place including compliance with a 100% tie-off rule when work is to be performed from unprotected scaffolds in man lifts, aerial platforms and personnel baskets.

4. All Contractor personnel will wear an approved full-body harness with dual lanyards, when working at a height of **6 feet to the heal or more** and engaged in any of the following:
    a. A walking/working surface, with an unprotected side or edge;
    b. A walking/working surface, where leading edges are under construction, and is not engaged in the leading edge work;
    c. A hoist area must be protected at all times;
    d. Personnel shall be protected from falling through holes in walking/working surfaces;
    e. On portable or extension ladders;
    f. On ramps, runways, and other walkways shall be protected; **or**
    g. At the edge of a pit, well, shaft, or any similar excavation.

5. Contractor will ensure full body harnesses are worn and used according to the manufacturer's recommendations.

6. The Contractor will ensure personal fall-arrest systems are inspected prior to each use for wear, damage, and other deterioration.
    - Defective components shall be tagged "Do Not Use," and immediately taken out of service.

3.8 Heavy Motorized Equipment (Cranes, Industrial Lift Trucks, etc.)

1. The Contractor is responsible for properly inspecting all motorized equipment in accordance with OSHA or other applicable standards.

2. This inspection will include all cables, wire rope, slings, chokers, braking devices, hydraulic cylinders, and other mechanical devices of the equipment.

3. The Contractor's inspection forms will be completed, retained, and be available for review by the Company representative upon request.

4. All heavy crane lifts, provided by third party contractors, (i.e. columns, towers, vessels, and tanks) require weight calculations, lift equipment capacity verification.

a. The lift contractor will develop a lift plan; provide a copy to the Company representative for review and approval prior to any heavy lift.
b. All bridles, slings, and other devices used in making heavy lifts will be inspected and certified by a registered professional engineer for proper condition and sizing for safely handling the determined load.
c. All lift loads will be secured and guided with a tag line.
d. No "makeshift" or field-fabricated type lifting device or clamp will be used in place of manufactured devices/equipment.

5. Cranes will not be put in position, relocated, or removed from the facility without prior approval of an assigned Company representative.

6. All personnel will be kept clear from walking or passing under the boom and the loads being transported by a crane or hoisting device by a flagman.

7. Any load moved by a cherry picker or other motorized equipment will be secured by a tag line.

8. All Man-Lift Baskets will be test lifted and positioned to the desired work area with a test weight before any person is lifted.
   - This test shall be documented.

9. Precautions need to be taken when operating equipment near overhead utility lines.
   - Any overhead wire is considered to be energized until proven de-energized.

10. Powered Industrial Truck - Forklift
    a. Contractors will ensure only qualified Operators operate powered industrial trucks in accordance with manufacturer design and operating specifications.
    b. Modifications to any part of the Powered Industrial Truck are prohibited without written authorization of the manufacturer.
    c. Persons are not permitted to ride on powered industrial trucks except for the driver.
    d. Operators are required to wear a seat belt while the truck is being operated.

Equipment Operator Qualification

The Contractor will provide proof of operator training and qualification of all contractor personnel operating motorized equipment such as cranes, and industrial lift truck.

3.9 Ladder Safety

1. Ladders purchased and used on Company facilities will be of a design recognized by OSHA 29 CFR 1926.1053 – “Ladders”.

2. The Contractor will ensure portable metal ladders are not used in any area where there is an **electrical apparatus**.
   - Only ladders made from non-conductive materials, such as fiberglass, should be used.

3. Ladders will be secured (tied-off) while in use.

4. Ladders will not be stored in a manner that will block emergency exits or routine walking paths.

3.10 Permit-Required Confined Space

1. The Contractor will ensure implementation of all Permit Required Confined Space Entry requirements in accordance with OSHA's 29 CFR 1910.146 Permit Required Confined Spaces.

2. The Contractor Entry Supervisor and the Company representative will prepare the Work Permit.

3. The Company representative will be informed of the permit required confined space program that the Contractor will follow.
    - The Contractor's program must be at least as protective as this guideline.

4. The Contractor will ensure the coordination of entry operations with the Company when both Company personnel and the Contractor employees are working in or near permit required confined spaces.

5. The Contractor will ensure all confined spaces, both permit required confined space and non-permit required confined space, are tested for oxygen content, flammability, and potential toxic air contaminants.

6. The Company representative is immediately informed of any hazards found or created in permit required confined spaces.

7. The Contractor will participate in a Company debriefing at the conclusion of the entry operations regarding the permit required confined space program and any hazards found or created in permit required confined spaces during entry operations.

8. The Contractor will ensure retrieval systems are used when an entrant is in the "permit required confined space".

9. The Contractor is responsible for the selection of a rescue team or emergency service to provide rescue from any permit required confined space.

10. The Company will allow rescue service access to the permit required spaces so the service can develop space-specific rescue plans.
    - The Company representative will coordinate joint practice rescue operations with the rescue service, where applicable.

Important: If an injured entrant is exposed to a substance for which a Material Safety Data Sheet (MSDS) is required to be kept, that MSDS shall be made available to the medical facility treating the exposed entrant.

11. Ground fault protection will be provided for all electrical tools used inside vessels, tanks, and columns.

12. Only 12-volt lighting or approved hand lights that are intrinsically safe or explosion proof (i.e., FM, UL, MSHA) will be used on confined space work.
    - The Company representative and/or safety representative will approve any exception.

3.11 Personal Protective Equipment

1. As required by OSHA (29 CFR 1910.132), Hazard Assessments have been conducted for the industrial work environment at each Company facility.

2. Based on these assessments, the Company has adopted a <u>mandatory</u> Personal Protective Equipment Program.

3. The proper selection and use of the following listed Personal Protective Equipment (PPE) and clothing is the responsibility of the Contractor and its personnel.
    a. These items will be obtained prior to reporting to perform the scheduled work.
    b. The contractor is responsible for insuring compliance with these requirements.

Normal Work Clothing

1. All Contractor personnel whose work activities/assignments are in any process related operating unit, terminal, storage area or pipeline system or facility (each a “FRC Area”) are required to wear long-sleeved Flame Retardant Clothing (FRC).
    a. Any type of fire resistant fabric may be used in the Contractor’s FRC.
    b. This FRC requirement includes welders.
    c. Contractor office personnel shall wear FRC when within a FRC Area.
    d. Each person shall remain completely clothed while in a FRC Area.
    e. Sleeves shall not be rolled up above the elbow; shirts must be properly buttoned to the neckline; shirt-tail tucked inside the pants and/or coveralls zipped/buttoned covering 85% of the chest area.
        i. <u>EXEMPTIONS for Welders Only</u>:
            1. Shirt-tails are NOT required to be tucked into pants.
            2. Welding CAPS are NOT required to be made of a FRC fabric.
    f. Contractor personnel whose work assignments are not in FRC Areas shall wear clothing suitable for work in a typical industrial environment.
    g. Contractor employees must avoid wearing jewelry (rings, necklaces, watches, bracelets, and earrings) around moving and/or energized equipment that could create a work hazard to the employee or contribute to an accident.
    h. <u>Tank top, body or athletic shirts are not allowed</u>.

NOTE	***EXCEPTION:*** **A "new construction" area containing <u>No Hydrocarbons</u> shall not be deemed to be a FRC Area, and Contractor personnel in such an area are not required to wear FRC. However, when hydrocarbons are introduced into the process area and/or pipeline system and the area becomes a FRC Area, start-up crews shall be required to wear FRC during commissioning. The Safety Department must approve before work begins.**

2. It is the responsibility of the Contractor to inform his personnel that the Company is in the business of production, storage and distribution of various highly flammable liquefied petroleum gases, natural gas, crude oil, and other flammables that present the risk of flash fires should a leak/spill occur and ignite.
    - This risk necessitates the wearing of FRC for the protection of the Contractor employee, should an incident occur in his or her assigned work area.

3. The Contractor is responsible for determining any additional specialized protective clothing and/or equipment employees may need or that may be required to perform the job task/work to be done.

Eye and Face Protection

1. Safety glasses are required at all times except in control rooms, vehicles and offices.

2. Eye and/or face protection (i.e. face shields &/or chemical goggles) will be worn during grinding, chipping, buffing, chemical handling, welding, cutting, and other operations where hazardous liquids or steel, wood, or dust particles are likely to be present.

3. Welder helpers will wear clear lens protection and face shield when chipping or grinding and shaded lens when there is probability of flash burn of the eyes.

4. Equipment will conform to ANSI Z89.1 (latest edition) American National Standard for Occupational and Educational Eye and Face Protection.

Head Protection

1. Wearing of hard hats is mandatory at all times except inside control rooms, office buildings and vehicles.

2. Hard hats will be worn as instructed by the manufacturers.

3. Head protection will conform to ANSI 89.1 Standard.

Foot Protection

1. Safety-toe footwear with anti-slip soles including a well-defined heel is mandatory and will be worn by all personnel in company work and field locations.

2. The wearing of cloth shoes, thongs, sneakers, sandals, house slippers, jogging shoes, or other non-work type footwear is prohibited.

3. Contractor office personnel may wear street type shoes but will be required to wear safety footwear when their work activities require them to enter a process related area or other field location.

4. All Safety footwear will meet ASTM F2413 - 05 “Standard Specification for Performance Requirements for Foot Protection”.

Hearing Protection

1. The Contractor will ensure that their employees wear hearing protection whenever the work assignment exposes them to high noise levels areas identified by the Company.

2. Hearing protection will conform to ANSI S3.19 Standard.

Roadway Work Zones

1. Contractor personnel in field operations are sometimes required to set up work zones near public roadways.
    a. Drivers are to position their vehicles as far off the road as possible before setting up the work zone.
    b. These work zones will be established in accordance with applicable local, state, and federal regulations.

2. Work zones will include setting up cones and warning signs, proper communications systems and flagging signals, Class I reflective worker’s vests and warning lights on vehicles.

3.12 Safe Work Practices in Classified Areas

1. **Electronic/Electrical Devices** - Contractor will ensure all electrical equipment used in areas of concentrated flammable vapors, liquids, or gases; shall be approved or designated as "intrinsically safe" for these locations in accordance with OSHA 29 CFR 1910.307 and the National Electrical Code.

2. **Motorized Vehicles & Equipment** - Motorized vehicles and equipment (diesel, gasoline, LPG, electric) will not be operated inside of classified areas unless:
    - A Company Work Permit must be issued for every entry of any vehicle or equipment into a classified area.

3.13 Scaffolding

1. The Contractor will ensure all scaffolding be built/constructed under the direction of a “Competent Person” as defined in OSHA 29 CFR 1926, Subpart L - Scaffolds.

2. During construction of scaffolding the Contractor will ensure that fall protection is worn by each employee and shall ensure 100% tie-off.

3. Scaffolds above 4 feet and having restricted work area will also have toe-boards and approved railings.

4. The Contractor will provide overhead protection from falling objects using protective netting or other adequate means of protection to all personnel working on or near the erected scaffolding.

5. Fire blankets or other approved barrier material will be provided on all overhead scaffolding when welding or burning activities are to be performed.

6. Prior to use, scaffold will be inspected and documented by the Contractor "Competent Person" to ensure compliance.

3.14 Work Permit System

1. The contractor's supervisory representative shall obtain daily, for each contractor work location, the required safety permits.

2. No work will be started until the Company representative has issued the required permit(s) for the following work activities:

    a. **General Work**: Applies to any type of "Cold" job task/work activities.

    b. **Hot Work:** Applies to work activities that produce a potential source of ignition from flame, spark or heat in a classified area or on equipment containing or thought to contain hydrocarbons or chemicals that could result in employee exposure.

    c. **Confined Space Entry:** Applies to any entry into any enclosed vessel, vessel skirt, tank, manhole, bin, hopper, vault, pit, duct, tunnel, pipeline, pipe or pipe opening, excavation or any other such confined space where there is a possibility of hazardous mists, fumes, vapors or dusts accumulating, oxygen deficient atmospheric conditions or restricted means of entry and egress or other recognized hazards

3. Permits issued for Hot Tap/Stopple work and/or cutting/welding on in-service underground/underwater hydrocarbon, gas or flammable liquid pipelines require a Qualified Company project-engineering inspector or other representative of the Company Engineering Department to be on the job site while work is being performed.
    a. A Company representative will be present to issue the required permit.
    b. Additional signatures may be required at specific locations/facilities to meet site-specific procedures.
    c. Contact the local Company representative prior to work commencing for details of specific requirements/procedures applicable at the facility/location.

NOTE	**In recognition of the potential risk associated with cutting any underground line, it is imperative that the Company's *GUIDELINES AND PROCEDURES FOR CUTTING UNDERGROUND LINES* be followed. The project engineering inspector or designee shall be responsible for initiating this procedure.**

4. The Contractor is responsible to assure compliance with all safety precautionary measures and instructions contained in a safety permit.
    a. Contractor's supervisors are required to co-sign each permit to assure a clear understanding of the conditions of the specific permit.
    b. The crew "Lead Person" is required to co-sign each Confined Space Entry Permit to assure a clear understanding of the specific conditions required for the specified entry.

5. Before a permit is issued to the Contractor, all electrically operated process equipment involved will be disconnected from its power source and properly locked and tagged ("LO/TO") by Company operations personnel.

6. Any fire protection equipment, personnel designated to serve as ***"Fire Watch"***, and any other precautionary requirements will be stipulated on the permit.
    a. Contractor will provide any fire suppression equipment (i.e., fire extinguisher, etc.) needed by the designated ***"Fire Watch"*** per section 5.2 of this manual.
    b. The Contractor will provide the manpower necessary to meet all conditions of the permit.
    c. The Company, at its discretion, may elect to provide the ***"Fire Watch"*** in critical operations areas.

7. The designated ***"Fire Watch"*** will carefully follow instructions as set forth by the Company Safety Department and/or supervision and shall not leave the job unprotected.
    a. During a Hot Work operation, the ***"Fire Watch"*** will not support any other work activity.
    b. The ***"Fire Watch"*** will be fully instructed and trained by the Contractor on the proper use and limitations of fire extinguishers.
    c. If the Contractor fails to provide satisfactory and adequate ***"Fire Watch"***, the Company reserves the right to provide satisfactory and adequate ***"Fire Watch"*** at the Contractor's expense.
    d. The ***"Fire Watch"*** will remain at the site of the hot work for a period of 30 minutes after all hot work has stopped.

NOTE	**Fireproof or other fire-resistant protective curtains or barriers to contain metal slag and sparks will be provided if necessary to protect personnel and/or reduce the risk of fire. Barriers will cover all floor drains or sewers during burning or welding activities. Barricades will be provided below any elevated burning or welding activities.**

8. Every Hot Work Permit will be determined by the Company's representative as to the need to re-check or re-sniff periodically for flammable gases/vapors while the task or work activity is being performed as well as upon request of anyone involved in the Hot Work.
    a. The results of each check will be recorded in the place provided on the permit (both copies).
    b. The Company representative will determine the specific time of these re-checks.

Posting of Permit

1. Each permit will be made in duplicate.
    a. The copy will be given to the maintenance/contract employee who requested the permit or will be doing the work.
    b. The original will remain with the Company representative.

2. The copy will be displayed in close proximity to the work being performed.

Duration of Permit

1. A permit is only valid for the period specified.

2. The Company representative will request an estimated time frame the work activities will take for the Contractors to complete the job.

3. The Company representative will consider the work activities involved, equipment involved, equipment being repaired or serviced, time-frame involvement and conditions adjacent to the work site in determining the length of time a permit shall be issued and the frequency to perform periodic atmospheric monitoring if determined necessary.

4. Permits may be written to extend from one shift to another provided the oncoming shift is completely advised of the work being done.

5. It will be the responsibility of oncoming operations personnel to check the jobs underway and initial the existing permit and/or issue a new permit as soon as practical.

6. The Company representative of the oncoming shift will assume full responsibility for each permit presently in effect.

7. No permit issued within a 24-hour period can be extended beyond the next normal workday.
    - All existing permits will be re-issued at the beginning of each workday.

8. If work is stopped, the permit is “voided” and a new permit must be initiated or the existing permit must be initialed by the Company representative indicating that the work area is safe and the work activities can be resumed.

9. The Contractor copy of the work permit will be turned in, at the conclusion of work not to exceed 24-hours, to the Company representative.

Section 4 – Industrial Hygiene Procedures & Programs

4.1 Asbestos

1. The Contractor should be aware that pipe coatings, gaskets, transite panels, pipe insulation, and similar materials may contain asbestos.
    - These materials are presumed to contain asbestos unless tested by laboratory analysis or unless engineering/maintenance records positively document otherwise.

2. The Contractor will notify (in writing) the appropriate governmental agency or officials as required by federal, state, or local regulations, and shall obtain any permits required.
    - A copy of all notifications will be provided to the Company representative prior to commencement of any removal or surface preparation operations.

3. Without prior approval of Company representative, it is the Contractor's responsibility to ensure that no asbestos containing articles are installed or used at any Company facility or job site.
    - Contractor is responsible for verifying the existence of asbestos containing material or products supplied by the Contractor prior to conducting work.

4. All Contractors who perform any work, including maintenance and repair operation where there is exposure to asbestos will comply with 29 CFR 1926.101 & 1910.1001 as it relates to their scope of work.

5. All Contractors are required to have a written Compliance Program that meets the minimum content requirements specified in 29 CFR 1926.1101 and 1910.1001.

4.2 Benzene

1. Contractor employees should always position themselves upwind of any opening in the pipeline system (i.e., gauge hatch, sample ports, pipeline tie-ins, flipping blinds, etc.).
    - Avoid handling rags used to wipe down gauging tape, wet gloves, etc.

2. Contractor employees should use neoprene or nitrile butyl rubber (NBR) gloves to prevent skin contact with a benzene containing product.
    a. At a minimum, polyvinyl alcohol coated protective clothing (coveralls) should be used in conjunction with gloves where the work presents the potential for skin contact due to splashing.
    b. Viton, Viton butyl rubber, Tychem or polyvinyl alcohol gloves worn under leather gloves are better protection.

3. The Contractor should ensure benzene levels are periodically checked and tasks being performed are evaluated to assure proper Contractor personal protective equipment (PPE) is in place.
    a. Provide the results to your assigned Company representative.

b. Use direct-reading devices to measure the level of benzene and determine the level of respiratory protection if needed.
c. Results of all reading should be provided to your assigned Company representative.

4. The Contractor will ensure OSHA-required exposure data has been obtained and appropriate personnel were notified as to the results.
   - This data includes the following: initial, periodic, and additional monitoring as required per 29 CFR 1910.1028

5. The Contractor will provide Contractor employees with appropriate respirators for the type of potential hazard and shall ensure each employee is trained to use them.

4.3 Bloodborne Pathogens

Any Contractor employees who provide medical care or voluntarily administer first aid on Company property will follow a written Bloodborne Pathogens Exposure Control Plan in accordance with 29 CFR 1910.1030.

4.4 Hazard Communication

1. The Company has established a written Hazard Communication Program in compliance with the OSHA Hazard Communication Standard (29 CFR 1910.1200).

2. This program is applicable to all contractor personnel while on Company facilities.

Precautionary Measures

1. As part of the Company Hazard Communications Program, contractor personnel will be informed during the site-specific safety orientation of any hazardous materials located in the Contractor's immediate work area, the associated hazards involved and the applicable safety practices and precautionary measures established to prevent/protect against exposure.

2. Specific instructions will be given as to the emergency actions Contractor employees are to take should a major spill occur (i.e., emergency reporting procedures and alarms, evacuation routes, designated assembly areas, etc.).

Material Safety Data Sheets (MSDS)

1. Material Safety Data Sheets are maintained and accessible on the company-computerized network for review of pertinent data relative to each material in the work area.

2. Copies of these MSDS are also available through the Company Safety Department or Company representative upon request.

3. Contractors should refer to the MSDS if any question arises regarding these chemicals/substances.

4. Any hazardous materials brought into the facility will be accompanied by a MSDS.
    - The hazardous materials must be essential to performing the contractor's work and shall be approved by the Company Safety Department or Company representative.

Labeling System

In recognition of the importance of hazard identification and awareness, most storage and in-process tanks are labeled to identify product/chemical content, and these labels correlate with the Material Safety Data Sheets maintained on the computer network.

a. However, it is not feasible to label all process related equipment; therefore, contractor should contact operations personnel to determine contents of any un-labeled piping and vessels and associated appurtenances within the immediate work area.
b. No unlabeled drums or containers will be allowed into the facility.

4.5 Lead

The Contractor will ensure compliance with any and all federal, state, and local laws, regulations and ordinances covering lead work. Specifically, Contractors shall comply with requirements of the OSHA 29 CFR, 1926.62 and 1910.1025, DOT Title 49 CFR Part 171; Part 172; Part 173, Subparts A, B, and F; and Parts 177 as applicable.

4.6 Mercury

1. Some Company facilities may have a potential exposure to mercury.
    - The type of mercury most likely to be encountered is elemental mercury, also known as quicksilver, metallic mercury or instrument grade mercury.

2. Contractor employees will comply with the facility Industrial Hygiene Plan.

3. Personal Protective Equipment (PPE) minimum requirements to protect against mercury exposure will include the following:

    Eyes: Wear appropriate chemical safety goggles as described by OSHA"S eye and face protection regulations in 29 CFR 1910.133 when mercury levels exceed 0.03 mg/m3.

    Skin: Wear appropriate protective gloves (e.g. butyl rubber, natural rubber, neoprene rubber, nitrile rubber) under leather gloves to prevent skin exposure when mercury levels exceed 0.001 mg/m3.

    Clothing: Wear appropriate protective clothing (e.g. Tychem coveralls and overboots) to prevent skin exposure when mercury levels exceed 0.003 mg/m3.

    Respirators: A respiratory protection program that meets OSHA's 1910.134 and ANSI Z88.2 requirements.

4.7 Naturally Occurring Radioactive Material (NORM)

1. The Company will only utilize a Contractor who is qualified to specifically handle NORM or NORM-contaminated material, are informed of the potential risk, have the proper License (as may be required by specific states) and are qualified to perform the job.

2. The Company will ensure the Contractor is aware when maintenance activities on NORM-contaminated equipment are in progress and that only authorized personnel may enter restricted areas during the maintenance activities.

3. The Contractor will ensure that proper personal protective equipment (PPE) is worn for any job/task being performed on NORM-contaminated equipment or suspected NORM-contaminated equipment. Refer to PPE guidelines below.

4. The Contractor will ensure that Contractor personnel are trained and aware of the potential NORM hazards and those proper precautions are taken if results of any monitoring event indicate that radiation levels are at or greater than 50 µR/hr (external), 150 cpm (internal) or 150 pCi/g of scale and/or sludge.

Personal Protective Equipment Guidelines

Risk of Inhalation, Ingestion or Contact	Recommended PPE (see Note 1 below)	Examples of Typical Activities
LOW (< 50 µR/hr – external survey) (<150 cpm – internal survey) Minimal risk of inhalation, ingestion or contact	Gloves if contacting NORM	* Survey work with little or no direct contact. * Handling equipment or pipe with internal contamination. * Handling closed waste containers.
MEDIUM (> 50 µR/hr & < 100 µR/hr – external survey) (> 150 cpm & < 250 cpm – internal survey) Anticipate contact with NORM-contaminated materials but minimal risk or inhalation.	Protective clothing (i.e., DuPont Tempro – or equivalent), slickers, boots, gloves (latex rubber or neoprene), hood or scull cap, safety glasses, face shields in wet environments. The ends of the sleeves, pant legs and gloves shall be taped.	* Putting wet NORM contaminated materials into containers. * Removal of wet NORM sludge during vessel or tank clean-out. * Internal surveys of vessels or tanks. * Removal of loose NORM scale or sludge from equipment prior to maintenance or repairs.

HIGH (>100 μR/hr – external survey) (> 250 cpm – internal survey) (>150 pCi/g of scale/sludge) Anticipate contact with NORM-contaminated materials with a potential of contaminated materials becoming airborne.	Protective clothing, respiratory equipment. **(See Note 2 below)**	* Work on surfaces contaminated with NORM that would involve chipping, scraping, sanding, abrasive blasting, grinding, drilling, polishing, cutting or welding. * Work with dry NORM scale or dust that is likely to become airborne.

4.8 Respiratory Protection Equipment

1. The Company representative will notify the Contractor's supervisory representative of any known potential respiratory exposure prior to the job/task begins.
    a. The Contractor will provide the proper protective equipment for its employees including safety procedures, practices, and training applicable to its usage.
    b. Appropriate respiratory protection will be worn (where applicable) during but not limited to the following work activities (i.e. abrasive blasting, benzene, lead, mercury, NORM and asbestos abatement).
    c. Equipment will conform to ANSI Z88.2 Standard.
    d. Upon request, Breathing Air certification documentation shall be presented.

2. The Contractor will ensure each employee is trained in the proper use of respiratory protective devices and provide training documentation to the Company representative upon request.

3. The Contractor will assure each of its employees has been properly fit-tested in accordance with the OSHA 1910.134 Standard when working in facilities/locations.

4.9 Waste Handling - General Requirements

1. The Contractor will be responsible for the proper containment, handling, and disposal of any waste generated as a result of its work in any Company facility or work site.

2. **"Waste"** is defined as any chemical or petroleum waste or the residue of any oily substance contained in "empty" containers; wastewater, soil, sludge, used absorbent materials, air emissions, asbestos and paint removal wastes (abrasive blast residue).

3. If the Contractor is found to be in violation of these requirements, they will be subject to termination from the job at the discretion of the Company.

4. In addition, the Contractors' future eligibility for work within any other Company facility/location will be subject to a special review by the Environmental Department or Company management.

4.10 Waste Generation - Disposal

1. Under no circumstances will any petroleum or chemical waste be intentionally discharged onto the ground by the contractor.
    - Contractor shall ensure that a sufficient number of appropriate containers are on hand to contain wastes generated as a result of its work.

2. Under no circumstances will the contractor discharge any hydrocarbon or chemical emissions to the air from any vessel, pipeline, or any other equipment.
    - Exceptions to this requirement are dust emissions from catalyst bed and product treater change-outs conducted under controlled conditions.

3. Under no circumstances will any petroleum or chemical waste be placed in any ditch, dumpster, tank, or any other container belonging to the Company by contractor without the prior written approval of a Company representative responsible for the work activities.

4. All petroleum or chemical waste generated by the contractor's vehicles or equipment will be collected and properly disposed of by the contractor.
    - Prior to beginning work and from time to time as necessary during the course of the work, the Contractor will notify the Company Field Environmental Department as to the types of waste, the planned method of collection, and the planned method of disposal anticipated in connection with its work.

5. The Contractor will notify the Company representative of any petroleum or chemical waste observed being generated or released from equipment belonging to the Company in the course of the work, in order that such waste can be collected for disposal in a manner approved by the Company Field Environmental Department.
    - <u>This approval shall be in writing</u>.

6. The Contractor will immediately notify the Company representative of any inadvertent petroleum or chemical spills to the ground or any hydrocarbon or chemical releases to the air.
    - In addition, the contractor shall be responsible for the cleanup and disposal of any liquid/solid spills and all associated cost involved.

7. Paint and asbestos removal waste must be characterized before disposal.
    - Contact the Company Environmental Department before disposing of this type waste.

NOTE	**No variance from these requirements will be permitted without prior review and written approval by the Company Operations, Environmental, and Safety Departments.**

Section 5 – Emergency Preparedness

5.1 Emergency Reporting and Alarms

Emergency Alarms

1. Company facilities/locations have a designated emergency evacuation alarm or alarm system.

2. If an alarm is activated at a facility, all Contractor personnel will stop their work, shutdown equipment, and report to their designated assembly/muster area.

3. Upon arrival at the assembly/muster area, Contractors need to immediately account for their employees and report to the Company representative in charge.

4. Never re-enter a facility/location after an evacuation unless the Company representative has given the all clear to return to work.

5. Prior to returning to work, the Contractor should report to the Company representative and request approval to continue work (i.e. update permits).
    - All permits are voided after any emergency or event and must be re-issued.

Fire Emergencies

1. If the Contractor discovers a fire, they will notify the Company representative immediately.

2. If Contractors have been trained in fire extinguisher use and the attempt would not jeopardize personal safety, Contractors may attempt to extinguish a fire in their work area in its incipient stage.

3. If the fire is too large or if attempts to extinguish it fail, Contractors should warn others in the area and evacuate the danger area to an upwind assembly/muster area.

4. Immediately notify the assigned the Company representative of the situation.

NOTE	Contractor personnel will not be expected to perform duties relating directly to controlling the fire but may be called upon to provide support services (hauling equipment, assisting injured person, etc.).

Flammable Gas/Liquids Releases

1. Upon notification of a major release of flammable vapors, Contractors should immediately shut down all sources of ignition under their control.

2. All personnel will immediately evacuate the danger area to an upwind assembly/muster area.

3. Immediately notify the assigned Company representative of the situation.

4. Continue monitoring the wind direction and stay upwind at all times.
    - All flammable gas/liquid releases will be assumed to contain toxic gas.

5. Do not re-enter the danger area until the emergency is under control and the assigned Company representative provides clearance to re-enter.

5.2 Fire Protection & Prevention

Buildings and/or Trailers

1. All Contractor equipment will be used and stored in a safe manner.

2. All Contractor buildings and/or trailers will be identified with signs, equipped with necessary fire extinguishers, and equipped with locks to prevent theft.

3. The Contractor will ensure <u>any portable building(s)</u> prior to being brought onto a Company facility complies with the Company's Facility Siting policy.

4. Any temporary building and/or trailer will be properly tied down to protect against high winds and have proper steps, landings and handrails.

Fire Extinguishers

1. The Contractor will inspect and maintain a fire extinguisher(s) (per NFPA 10 guidelines).

2. The Contractor will provide fire extinguishers for each temporary office, tool room, or storage room.

3. The Contractor will provide a fire extinguisher at each welding and/or cutting job-site.

4. The minimum size of the extinguishers will be 20 lb. dry chemical.

5. The Company's fire extinguishers will **NOT** be used for any contractor work activities.

Flammable Liquids

1. All flammable liquids used by the Contractor in any Company facility/location will be stored in approved and labeled metal safety cans.

2. Containers/tanks for bulk storage of flammable liquids will be in accordance with OSHA regulations.

3. Containers will be clearly marked as to the contents and "No Smoking" signs posted in the adjacent area.

4. A 20 lb. (minimum) dry chemical fire extinguisher will be provided at all bulk storage containers where flammable liquids are dispensed.

5. All Flammable bulk containers will have flame arrester type vents and self-closing discharge outlets.

6. Proper grounding and/or bonding will be provided in accordance to OSHA standards.

7. All bulk storage containers will be placed in adequate secondary containment.

8. Drip pans will be provided for any oil dispensing drums used by the Contractor.

Notification of Intent

The Contractor will obtain prior approval from the Company Safety Department for any work which entails:

a. Shutting off water or fire mains,
b. Blocking a roadway so that firefighting equipment cannot pass,
c. Blocking access to fire equipment or hydrant(s), and/or
d. Blocking of, removal of, or changes to any exit or fire escape.

Open Flame Equipment

1. All open flame equipment will meet the American National Standard "Safety in Welding and Cutting" and applicable OSHA, NFPA, and state standards.

2. The storage and/or transportation of any associated cylinders will be in accordance with OSHA regulations.

Smoking Regulations

1. Smoking is <u>prohibited</u> in all operating areas, buildings, and offices.

2. Smoking is allowed <u>only</u> in designated areas.

3. All smoking pens/areas will have at least one (1) 20 lb. ABC fire extinguisher furnished by the Contractor.

4. Contract employees upon approval may use existing Company smoke pens if located within the contractor employee's designated work area.

5.3 Medical Treatment & First Aid Services

1. The Contractor will ensure "site-specific" Emergency contact information is available while on Company locations.
   - The Contractor will ensure an adequate means of transporting an employee to medical facilities is readily available.

2. The Contractor will ensure an adequate number of Contractor employees are trained in first aid, CPR (cardiopulmonary resuscitation) and basic Bloodborne Pathogens while at Company facilities/locations.
   - All trained personnel will possess a current (First Aid/CPR) certificate(s).

3. The Contractor will ensure adequate number of first aid and burn kits are provided and inspected to ascertain the adequacy and physical condition of the kit contents.

4. Equipment will conform to OSHA 29 CFR 1910.151 and 1926.50.

Section 6 – Operations and Maintenance

6.1 Accessibility: Buildings, Roadways, & Fire Protection Equipment.

1. All buildings, roadways, and operating areas at Company facilities and work sites will be maintained in an accessible condition at all times to personnel and equipment.

2. No roadway will be blocked without advising and obtaining approval from the Company Safety Department or Company representative.

6.2 Barricades

1. The Contractor will erect and maintain temporary barricades, warning signs and flashing lights as required by federal, state and local roadway regulations around ditches and excavations within the roadway right-of-way.

2. The Contractor will erect and maintain, as required by OSHA standards, temporary barricades around ditches and excavations, stair wells, and other shafts or openings in floors, roofs, and walls and at access levels to temporary stairs or ladders.

3. The Contractor will ensure all openings in floors on new work or in existing operating floors shall be planked solid with 2-inch material that is tied down in accordance with state and federal laws.

4. No barricades will be removed or altered without the approval of the Company representative.

6.3 Facility Fences

1. The Contractor will obtain authorization from the Company representative to:
    a. Place any equipment immediately adjacent to any part of a Company facility or work site fence (inside or outside),
    b. Make an opening in the fence,
    c. Excavate under or near the fence line, <u>and/or</u>
    d. In any way impair security afforded by the fence.

2. Any temporary removal of plant or other work site fencing will not be left unattended.
    - If the work is to be extended beyond daylight hours, the Contractor will replace the fence or make arrangements with the Company to have a guard posted at the opening until the gap is closed if determined necessary by the Company representative.

6.4 Material Handling & Structure Loading

1. The contractor will not load nor permit to be loaded any part of a permanent or temporary structure with a weight that will endanger its integrity or personnel.

2. Maximum load capacity will be determined prior to setting materials or equipment on any temporary elevated structure or platform.

6.5 Preparation of Pipeline Equipment and Systems for Maintenance and Repair

1. The Contractor will verify all permits have been issued and all precautionary measures indicated on the permit have been implemented.

2. The Contractor will locate/position all support equipment capable of being an ignition source (i.e. engine driven compressors, welding machines, light plants and other motorized equipment) a minimum of 50 ft from work areas as well as upwind and at a higher elevation when possible.

3. The Contractor will verify and provide documentation upon request, that any hose provided by them and used for de-pressuring purposes is designed to handle the pressure of the pipeline system, the variable temperature expected and compatibility with the product involved.

4. The Contractor will ensure all welding on pipeline systems or line segments is in accordance to Company Engineering Specifications applicable to the type and thickness of the pipe involved.

5. The Contractor will ensure all stopple and hot tap fittings (TOR) welded on the pipeline segment shall be inspected and tested in accordance with the applicable Company Engineering Standards.

6. The Contractor will ensure all the barrel of the hot tap and stopple machines are vented or flared through an approved high-pressure hose or other approved means at a safe distance from the work site.

7. The Contractor performing the hot-tap and stopple work will “sweep” the line with the stopple plug to remove any metal shavings/cuttings that may be laying in the bottom of the line, inspect the seal cup for any cuts/damage before the final setting of the stopple.

8. Contractor employees involved in performing the hot tap and stopple setting will be required to remain at the immediate work site until the line segment is de-pressured and verified that the stopple is properly set.

9. The Contractor will ensure all motorized equipment or other potential ignition sources are shut down prior to cutting and/or opening equipment and/or line segment to the atmosphere.

10. There are different types and sizes of flares used for flaring vapor and for flaring liquids.

- The flare must be designed to handle the type of flaring to be performed.
- In addition, the person handling the flaring must be knowledgeable of the job task being done and properly trained in the operation of the flare being used.

11. All venting of hydrocarbons will be done through fixed or mobile flares/vents.

12. Atmospheric venting of hydrocarbons and the practice of opening equipment/piping to the atmosphere to allow “weathering” of liquid hydrocarbons should be avoided.

13. The Contractor will connect/Install a “Jumper Cable” on each side of the cut point to protect against the risk of arcing between the separated sections of piping once the pipeline is cut.
    - In some cases the Company may need to shut the rectifier off to the cathodic protection system.

14. Contractor will use non-sparking tools when there is the risk of hydrocarbons being present and/or released.

15. Contractor will ensure all portable flammable and toxic detection instruments have been calibrated and are functioning properly.
    - Frequent “checks” should be made to ensure there is no accumulation of hydrocarbons and/or toxic materials. In some cases, it may be best to perform continuous monitoring.

16. When depressurizing NGL pig barrels, it is preferable to vent through a vent stack that is connected on the bottom section of the trap barrel.
    a. This venting may be vented to a suitable elevated vent stack or a fixed/mobile flare.
    b. The addition of nitrogen, introduced to the top of the pig barrel will assist in moving most, if not all of the free liquids through the vent system.
    c. Once the vent system produces nitrogen, the nitrogen supply can be removed and the barrel can be depressurized, monitoring the release of the nitrogen to not displace needed oxygen supplies of personnel working nearby.
    d. After depressurization is complete, open all vent stacks, plugs and safety screws.

17. Before opening the pig barrel closure, observe the size and location of the environmental concrete or other containment to make sure all free liquids that may remain in the pig barrel can be contained when the closure is opened.
    a. If a bottom drain is available on the pig barrel, it is preferred to remove plugs or blinds to check for free liquids.
    b. Prepare for the possibility of toxic contaminates, such as Benzene and NORM with proper PPE.

18. Contractor personnel must use extreme caution when opening pig barrel closures.
    a. Make sure no vehicles, equipment and most importantly, no personnel are in the “LINE OF FIRE”, in front of the closure door.
    b. Be sure to open the closure slowly, the pig barrel may still contain free liquids.

c. Remove any pipeline debris into an approved sealable steel drum; recover the pigging device with a **non-sparking** tool.
d. Check the closure seal ("O-ring") and replace the closure door.
e. Poly type pigs and pipeline debris may contain Pyrophoric Iron Sulfide along with various NGL products and condensate which are highly flammable.
f. Place these materials in sealable containment drums which the Company will have on site,

19. After the closure has been checked for proper alignment and tightened, close bottom drains, replace safety screws and all non essential vents, leave open vents that will be required to adequately purge the pig barrel.
    a. Operations personnel will purge the barrel using the by-pass (kicker) line or if available an equalization line.
    b. Close and cap all vents, and once the pig barrel has re-pressurized, check for leaks.

20. Inspection and Atmospheric Monitoring - The Contractor will verify the line or equipment has been properly decommissioned, locked and/or tagged out by a Company representative.

21. The Contractor will verify the following steps, of checking/monitoring the equipment, work area, and/or for various potential hazards are examined:
    a. The oxygen content. A reading of less than 19.5% or above 23.5% indicates potential hazards.
    b. The possibility of flammable vapors. Approval from Company representative and continuous monitoring is required if the LEL is detectable (between 0 and 10% LEL).
    c. **NO** hot work is allowed unless a reading of 10% LEL or less is achieved in the work area.
    d. The existence of any remaining toxic or corrosive material – such as hydrogen sulfide, benzene, ammonia, mercury, or NORM.

6.6 Roadways, Walkways and Railroad Sidings

1. The Contractor will maintain all roadways, walkways, and railroad sidings in a safe, passable condition during the progress of the job.

2. Contractor personnel in field operations are sometimes required to set up work zones near public roadways.
    a. Drivers are to position their vehicles as far off the road as possible before setting up the work zone.
    b. These work zones will be established in accordance with applicable local, state, and federal regulations.

3. These precautions typically include setting up cones and warning signs, proper communications systems and flagging signals, reflective worker's vests and warning lights on vehicles.

4. All Contractor work and equipment will maintain a minimum clearance of 8 1/2 feet from the centerline of all railroad sidings.

6.7 Safe Operation of Vacuum Trucks

1. Contractor personnel will comply with applicable standards pertaining to the safe operation of vacuum trucks. This is accomplished through the use of appropriate management controls, engineering controls, employee training, personal protective equipment, and recordkeeping which are recommended practices addressed in:

   API RP 2219 – "Safe Operation of Vacuum Trucks in Petroleum Service".

NOTE	**Before beginning operations, the Company representative and vacuum truck operator will ensure any required Work Permit (e.g. Hot Work) has been obtained and the inspection of vacuum truck, equipment and loading/off-loading sites has been completed prior to operation to assure safe operations. Remember: LOTO procedures should always be considered.**

2. Conductive and Non-Conductive Hose - Contractor personnel will assure the vacuum truck operators use the proper hose (e.g. conductive or non-conductive) for the job being performed.

3. Bonding and Grounding - The complete vacuum transfer system will be grounded (earthed) to dissipate stray currents to earth and also bonded so that there is a continuous conductive path from the vacuum truck through the hose and nozzle to the tank or source container.

NOTE	**Under no circumstances should the ground wire on a piece of electrical equipment be used as a ground connection for a vacuum truck. It could introduce hazardous stray current due to electrical faults or system grounds.**

4. Vacuum Exhaust Venting and Vapor Recovery
   a. When flammable, combustible or toxic liquids are transferred by vacuum pumps, product vapors may be discharged into the atmosphere in full concentration through unrestricted exhausts or in lesser amounts if filtered or separated prior to exhaust. A number of methods can be used to safely vent vacuum exhaust vapors.
   b. In order to prevent ignition from occurring, an analysis should be conducted prior to each specific use of a vapor recovery system to determine the potential hazards.

6.8 Speed Limit

1. Contractor personnel will observe the posted speed limit within the fenced facility, drive carefully, and always be on the alert for pedestrians who have the right-of-way.

2. Contractor's vehicles are prohibited from entering internal process roadways unless authorized by the Company representative.

3. Contractor personnel will secure a permit from the Company representative to drive any vehicle or other motorized equipment upon any roadway or alleyway within a process unit.

6.9 Tripping Hazards

1. The Contractor will not permit any tripping hazards to be put in passageways, aisles, stairways, or other accessible entrances/exits.

2. If work requires intrusion into these areas, then these areas will be barricaded and/or flagged to identify these hazards.

6.10 Utilities (Electric Line, Power, Water and Fuel)

1. The Contractor will not make up connections, either temporary or permanent, to any electrical power, water, air, nitrogen, or fuel lines without specific approval of the Company representative at the operating area where work is being performed.

2. Hose and hose couplings, electrical cords and equipment will be compatible with Company standards.

3. Adaptors for conversion purposes are prohibited.

4. Any approved temporary connections to any air, water or nitrogen source requires the installation of a check valve at the discharge source.

5. The Contractor will discuss the specific utility needs with the Company representative to determine location & type of connection that will be needed and/or required to perform the work activity.

Section 7 – Water/Dock/Platform Operations

7.1 General Safety Requirements

Personal Floatation Devices (PDF)

1. All Contractor personnel will wear a US Coast Guard approved Type I PFD, Type II PFD (life jackets) or USCG Type V PDF (work vest) when:
    a. Working outside a handrail or location without handrail protection over/near water;
    b. While on the dock/boat deck;
    c. Loading or unloading cargo from any boat, barge or other waterborne structure;
    d. Operating any watercraft alone or riding in any open/semi-open watercraft;
    e. While riding in the escape capsule,
    f. During personnel transfer by personnel basket or swing rope over open water, or
    g. At any point below the Cellar Deck.

2. While working on a platform, Contractor personnel will be informed and/or shown where the Type I PFD's are stored.

3. All PFD's will be worn snugly fitted and securely fastened.

4. The following items should be attached to a Type I PFD's:
    a. Reflective tape
    b. Cayulame light
    c. Whistle

Boat Safety

This section describes the general requirements for boating safety. This section does not attempt to address all precautions applicable in offshore boating situations. The captain may provide a briefing before departure and can answer additional questions.
Procedures:

1. To be able to ride on a Company boat, Contractor representative must request authorization from the local management.
    - Contractor will be asked to provide a list of its personnel to be transported and their identification.

2. The captain is in complete charge of the boat, passengers, loading/unloading procedures, storage of luggage and cargo, seating arrangements, transportation of ice chests, and smoking restrictions.
    - The captain has complete authority to refuse passage to anyone.

NOTE	
	• No smoking or open flame is allowed outside of cabin/quarters, without issuance of a Hot Work Permit. • The Captain may authorize smoking in front of the wheelhouse.

3. Provide the captain with all information requested at the time of boarding.
    a. This may include: employee's name, company affiliation, destination, and materials.
    b. Baggage and packages are subject to search.

4. Transferring from/to boat and offshore structures in open water is potentially hazardous.
    a. A PDF or Work Vest Life Jacket must be worn, snugly fitted, and securely fastened during personnel transfer by personnel basket or swing rope.
    b. When using a swing rope, no gloves should be worn.

7.2 Diving Responsibilities

Diving Contractor

1. The diving Contractor will be in compliance with the following:
    a. Federal regulations and standards,
    b. Association of Diving Contractors (ADC) consensus standards
    c. Company's Contractor Safety Manual
    d. Its own policies, standards and procedures

2. The diving Contractor will notify Company representative if it does not comply with any of the requirements listed above.

3. The diving Contractor will ensure that it participates in compiling risk assessments to avoid or plan for all reasonably foreseeable emergencies, and to provide for sufficient and suitable plant and equipment, personnel training and exercises for each diving site.

4. The diving Contractor will ensure their staff is competent to carry out the tasks required for which they have been contracted.

5. The diving Contractor will appoint the diving supervisor to supervise the work site diving operation and shall provide written documentation to Company representative of this appointment prior to the start of any diving operations.

6. The diving contractor will provide input to Company for a post-diving project review.

Diving Supervisor

1. The Contractor's designated diving supervisor will supervise the diving operation at the work site.

2. The Contractor's designated diving supervisor will ensure that all risk-reducing measures and audit non-conformances have been closed-out prior to diving operations commencing.

3. The Contractor's designated diving supervisor will ensure that the diver is physically fit to perform the work at hand prior to the start of any dive.

4. The Contractor's designated diving supervisor will notify the Company representative that diving operations will be/are underway.

5. The Contractor's designated diving supervisor will maintain close and open liaison with Company representative and its diving consultant company on diving matters.

6. The Contractor's designated diving supervisor will openly report all accidents and incidents to the Company representative as soon as reasonably possible.

7. The Contractor's designated diving supervisor will openly report all accidents and incidents to the Company representative as soon as reasonably possible.

7.3 Diving Vessels and Remotely Operated Vehicles

1. Divers and remotely operated vehicles (ROV's) may be working in the water at the same time. There may be times when an ROV may be used to monitor the diver if necessary.

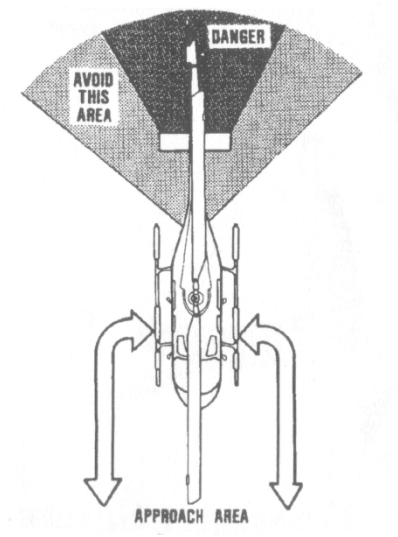
2. The diver, diving supervisor, ROV pilot, ROV supervisor, vessel master and rig/platform supervisor must:
    a. Establish a clear chain of command (all ROV operations must be coordinated through the diving supervisor and vessel master),
    b. Establish hard-wired audio and visual communications between the ROV control and dive control centers
    c. Provide ROV thruster guards when working with divers, and
    d. Ensure ground fault protection is in place, tested, and will be monitored through diving operations.

7.4 Helicopter Safety

This section describes the general requirements for helicopter safety. This section does not attempt to address all precautions applicable in offshore helicopter situations. The pilot provides a preflight briefing on the specific helicopter and can answer any additional questions for the flight offshore.

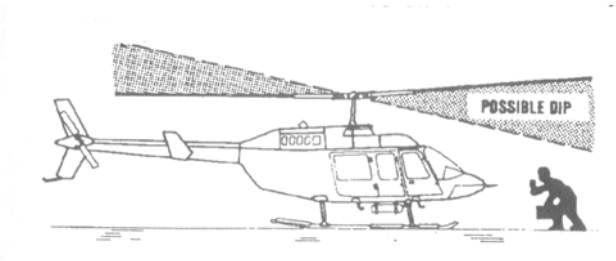
1. To be able to ride on a Company provided helicopter, the Contractor representative must request authorization from the local management. The Contractor will be asked to provide a list of its personnel and their identification.
2. Contractor personnel must check in at the designated location with a Company representative. Contractors must provide identification and all baggage is subject to search.
3. Provide information for the passenger manifest. Declare any magnetic or hazardous materials.
4. When boarding or disembarking observe the following:
    a. Turn off cellular phones and/or pagers.
    b. Keep clear of the landing zone or helipad until the helicopter has landed.
    c. On offshore structures, passengers will not stand on the heliport until the pilot has given the signal that the aircraft has safely landed and it is ready to be safely approached and boarded by passengers.

d. Under NO circumstances may a passenger or any personnel walk under the tail rotor or tail boom of the helicopter. See example 1.



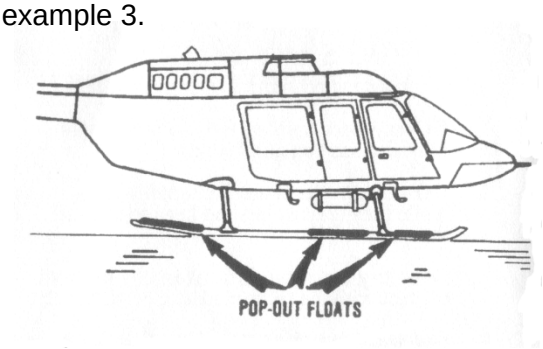
EXAMPLE 1

e. Do not touch the exterior of the helicopter except its door handles.
f. Bend over when approaching or departing the helicopter. Beware of the large main rotor. See example 2.



EXAMPLE 2

g. Keep a firm grip on hand-carried articles when approaching or leaving the helicopter. See example 3.



EXAMPLE 3

h. Enter aircraft using only the steps provided. Take care not to damage floats or skids.
i. Instructions from the pilot must be followed. The pilot will provide passengers with a complete safety briefing, including use of the life vests before every flight.

5. At all times observe the following:
   a. Never throw anything out of the helicopter. This can cause damage to the rotor systems.
   b. Do not distract the pilot with unnecessary conversation or actions.
   c. Wear hearing protection during helicopter flights, including while boarding and disembarking if the helicopter is operating.

6. During specific helicopter operations, observe the following:
   a. During refueling operations:
      i. The pilot may have passengers leave the aircraft.
      ii. The helicopter shall be grounded.
      iii. Only the pilot or trained personnel will refuel the helicopter.
   b. Helicopters will not land on offshore structures that are operating under radio silence.
   c. All cargo will be secured in the baggage compartment of the aircraft or tied down before takeoff.
   d. Never carry blasting caps and blasting agents with dynamite in the aircraft at the same time. When carrying any explosive substance, be sure it is in a proper container with authorized labels.
   e. Do not operate cranes when a helicopter is landing at the location. The crane operator should secure the load, boom down, when possible, then exit the crane cab and signal the pilot that the crane is secure.
   f. Hardhats/baseball caps shall not be worn to or from the helicopter to assure unimpeded vision.

7.5 Transfer of Personnel

This section describes the general requirements for safely transferring from a boat to the platform. This section does not attempt to address all precautions applicable to all situations.

Transfer by personnel basket:

1. Put on a PDF Life Jacket or Work Vest.

2. Position yourself on the deck of the boat out from under the basket as directed by the captain.

3. The basket will be lowered onto the deck of the boat from the structure or platform.

4. When the basket is on the boat deck, luggage is to be placed in the bottom center of the personnel basket.

5. Place one foot on the outside rim of the basket and grasp the basket ropes securely with both hands.

6. Keep your knees bent or flexed, and be prepared for the unexpected moves, particularly in rough seas.

7. As the basket is lifted off the boat deck, step onto the outside rim of the basket with the other foot.

8. Do not lean in or out, but instead stand straight.

NOTE	**Only personnel and their personal luggage will be transferred on the personnel basket.**

Transfer by rope swing:

1. Use your own personal judgment before you use the swing rope.

2. Put on a Work Vest Life Jacket. No gloves should be worn.

3. Face where the boat is bumping against the offshore structure, if seas allow the boat to bump the structure, or where boat is at a safe position as determined by the boat captain.

4. Have both hands and arms free, catch the knotted rope when the boat is at the top of a swell and swing to the structure by pushing off from the boat with your feet.

5. Do not let the swing rope get between your legs. Always keep your feet and legs clear of the structure's landing.

NOTE	**Do not carry luggage while transferring by swing rope or wear gloves while transferring.**

6. In the event that a person falls into the water, immediately inform the boat captain by shouting "MAN OVERBOARD" and keep in visual contact with the person in the water. Assist in the rescue as directed by the captain.

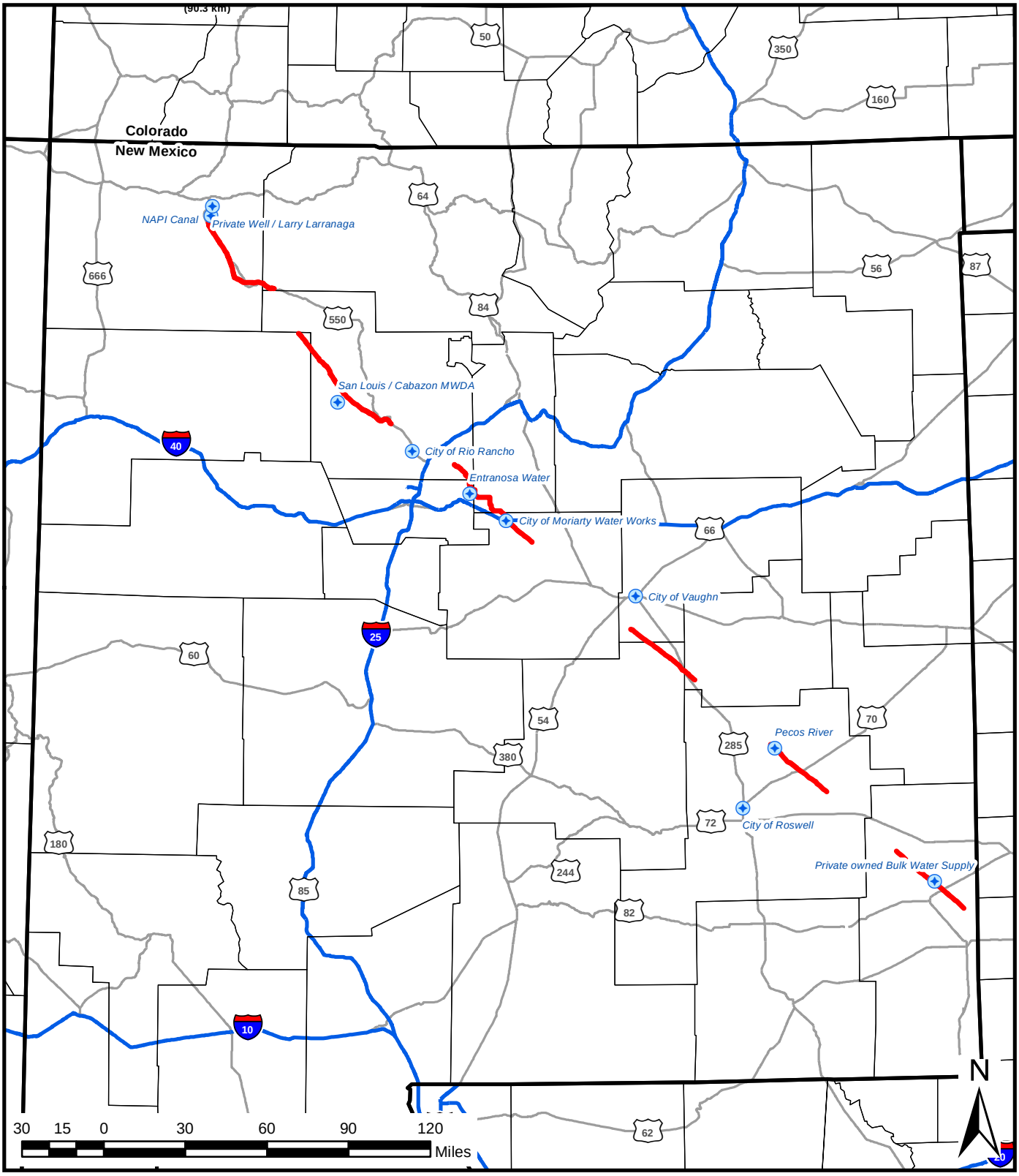
Appendix F

Hydrostatic Test Discharge and Source Locations

Enterprise Products Partners L.P.

Water Sources (Testing / Dust Abatement)
Western Expansion Project III

Identification	***County***	***Supply for Segment***	***Location***		***Required Volume (Acre Ft.)***
NAPI Canal		Segment 1 and North end of Segment 2	36°36'47.05"N	107°58'08.02"W	16
San Louis / Cabazon MWDA		Segment 2	35°37'54.64"N	107° 07'11.48"W	16
City of Rio Rancho		Segment 2	35°22'17.34"N	106°38'06.20"W	4
Entranosa Water		Segment 3 (Dust abatment only)	35° 08'51.23"N	106°15'39.77"W	7
City of Moriarty Water Works		South end of Segment 3	35° 00'14.27"N	106° 01'23.36"W	10
City of Vaughn		South end of Segment 5	34°35'40.69"N	105°11'25.92"W	6
Private Well / Larry Larranaga		North end of Segment 5	36°39'51.42"N	107°57'40.47"W	5
Pecos River		North end of Segment 6 (Dust abatment only)	33°46'29.33"N	104°18'41.82"W	4
City of Roswell		Segment 6	33°27'38.28"N	104°31'24.72"W	6
Private owned Bulk Water Supply		Segment 7	33° 02'46.43"N	103°19'5.03"W	12



Legend

- Hydrostatic Test Water Source
- Proposed Centerline
- states
- counties_us
- Limited Access
- Highway

1/7/2013

MID-AMERICA PIPELINE

Hydrostatic Test Water Sources in Relation to the WEP III Project

Enterprise Products Partners L.P.

Hydrostatic Test and Discharge Locations
Western Expansion Project III
(see Appendix A for maps showing locations)

Segment 1	Surface Owner	Heritage MP	Test Section Length	Test Section Line Fill (Gal)	Discharge Volumes	Lattitude (DMMSS)	Longitude (DMMSS)
Lybrook Pump Station / Begin Section 1-1	Private	370.4			20,000	36°13'57.05"N	107°32'43.84"W
Segment 1-1			24,283	234,235			
End Section 1-1 / Begin Section 1-2	BIA	374.9			20,000	36°15'21.64"N	107°36'53.54"W
Segment 1-2			75,643	729,652			
End Section 1-2 / Begin Section 1-3	Private	389.4			170,000	36°19'31.25"N	107°49'13.82"W
Segment 1-3			60,756	586,051			
End Section 1-3 / Begin Section 1-4	BLM	400.3			150,000	36°28'14.69"N	107°54'27.65"W
Segment 1-4			47,851	461,566			
End Section 1-4 / Begin Section 1-5	BLM	409.7			250,000	36°34'59.61"N	107°59'05.05"W
Segment 1-5			11,586	111,754			
End Section 1-5 / Begin Section 1-6	BLM	411.9			250,000	36°36'42.99"N	107°58'14.33"W
Segment 1-6			20,916	201,753			
End Section 6	BLM	415.2			250,000	36°39'51.42"N	107°57'40.47"W
				2,325,011			

Segment 2		Heritage MP	Test Section Length	Test Section Line Fill (Gal)		Lattitude (DMMSS)	Longitude (DMMSS)
San Ysidro	Private	299.4			470,000	35°31'02.76"N	106°46'21.27"W
Bluff	ZIA	309.3			470,000	35°34'17.62"N	106°54'26.06"W
Begin Section 2B-1	ZIA	312.8			350,000	35°35'37.53"N	106°57'37.89"W
Segment 2B-1			24,971	240,872			
End Section 2B-1 /Begin Section 2B-2	BLM	317.5			350,000	35°38'02.33"N	107° 01'34.13"W
Segment 2B-2			35,801	345,340			
End Section 2B-2 / San Luis Station	BLM	324.3			350,000	35°42'15.78"N	107° 06'21.80"W
Torreon Mission	BLM	332.9			480,000	35°48'32.40"N	107°11'06.17"W
Begin Section 2A-1	BLM	341.5			480,000	35°53'55.02"N	107°17'10.39"W
Segment 2A-1			46,160	445,257			
End Section 2A-1	BLM	350.2			480,000	35°59'45.84"N	107°22'54.98"W
				1,535,685			

Segment 3		Heritage MP	Test Section Length	Test Section Line Fill (Gal)		Lattitude (DMMSS)	Longitude (DMMSS)
Estancia Pump Station	State of New Mexico	223.5			680,000	34°53'21.26"N	105°51'28.85"W
Begin Section 3B-1 / Block Vlave 236.2	Private	236.2			20,000	35° 00'31.18"N	106°00'55.11"W
Segment 3B-1			83,573	806,143			
Begin Section 3A-1 / End Section 3B-1 / Edgewood	Private	252.2			830,000	35° 07'37.34"N	106°11'28.28"W
Segment 3A-1			54,731	827,468			
End Section 3A-1 / Begin Section 3A-2	Private	262.2			20,000	35°14'01.87"N	106°15'50.06"W
Segment 3A-2			41,141	622,010			
End Section 3A-2	Private	270			20,000	35°18'13.76"N	106°21'41.86"W
				2,255,621			

Segment 5		Heritage MP	Test Section Length	Test Section Line Fill (Gal)		Lattitude (DMMSS)	Longitude (DMMSS)
Begin Section 5-1 / Block Valve	Private	144.7			20,000	34° 08'53.13"N	104°49'06.96"W
Segment 5-1			68,933	664,930			
End Section 5-1 / Begin Section 5-2	Sate of New Mexico	157.7			670,000	34°16'18.62"N	104°59'09.60"W
Segment 5-2			39,900	384,875			
End Section 5-2 / Begin Section 5-3	State of New Mexico	165.3			670,000	34°20'19.58"N	105° 05'25.85"W
Segment 5-3			50,735	489,387			
End Section 5-3 / Duran Station	BLM	175			20,000	34°25'17.49"N	105°13'27.39"W
				1,539,192			

Segment 6		Heritage MP	Test Section Length	Test Section Line Fill (Gal)		Lattitude (DMMSS)	Longitude (DMMSS)
White Lakes Pump Station	State of New Mexico	80.5			675,000	33°32'20.53"N	103°59'17.95"W
Begin Section 1 / Block Valve	Private	93.3			20,000	33°39'18.33"N	104° 09'18.30"W
Segment 6-1			45,032	434,379			
End Section 6-1 / Begin Section 6-2	Sate of New Mexico	101.8			440,000	33°44'05.12"N	104°15'55.80"W
Segment 6-2			32,501	313,500			
End Test Section 6-2 / Block Valve	Private	107.9			20,000	33°47'47.80"N	104°20'26.17"W
				747,879			

Segment 7		Heritage MP	Test Section Length	Test Section Line Fill (Gal)		Lattitude (DMMSS)	Longitude (DMMSS)
Co Rd 133	Private	14.5			20,000	32°53'59.21"N	103° 08'14.70"W
Begin Section 7-1 / Block Valve	State of New Mexico	21.2			355,000	32°58'03.46"N	103°13'25.15"W
Segment 7-1			67,250	648,690			
End Section 7-1 / Begin Section 7-2 / Block Valve	Private	33.7			680,000	33° 05'3.89"N	103°23'13.16"W
Segment 7-2			69,747	672,781			
End Section 7-2 / Block Valve	Private	46.9			680,000	33°12'48.82"N	103°33'17.78"W

Appendix G

Weed Management Plan

WEED MANAGEMENT PLAN
MID-AMERICA PIPELINE COMPANY, LLC
WESTERN EXPANSION PROJECT III

SAN JUAN, RIO ARRIBA, SANDOVAL, MCKINLEY, BERNALILLO, SANTA FE, TORRANCE, GUADALUPE, LINCOLN, DE BACA, CHAVES, AND LEA COUNTIES, NEW MEXICO

December 2012

1.0 Introduction

This report provides a comprehensive weed plan specific to the Western Expansion Project III (WEP III), as well as discussion and recommendations for weed species listed and found along the project alignment. This weed management plan is intended for implementation on all portions of the project that are not presently covered under a similar plan prepared by the management agency or entity responsible for those lands. If an existing weed management plan is in place, then the requirements set forth in that plan will be implemented.

Noxious weed surveys were conducted along the proposed project during the summer of 2011. Terrain, soils, and vegetation communities in the project area are discussed in the WEP III Biological Survey Report (Ecosphere, 2012), which was prepared by Ecosphere Environmental Services. Survey findings and locations of noxious weeds are described in the WEP III Biological Survey Report and are also provided in this report (see Attachment A). Additionally, this report provides recommendations for the management of noxious weeds found along the proposed pipeline.

2.0 Noxious Weeds

Noxious weeds are plants that are not native to an area. Most noxious weed species were introduced from Europe or Asia, either accidentally or as ornamentals that have escaped. Once these non-natives are established in a new environment they tend to spread quickly because the insects, diseases, and animals that normally control them are absent. Noxious weeds are spread by man, animals, water, and wind. Prime locations for the establishment of noxious weeds include: roadsides, sites cleared for construction, areas that are overused by animals or humans, wetlands, and riparian corridors. Subsequent to soil disturbances, vegetation communities can be susceptible to infestations of invasive or exotic weed species. Vegetation removal and soil disturbance during construction can create optimal conditions for the establishment of invasive non-native species. Construction equipment traveling from weed infested areas into weed-free areas can disperse noxious or invasive weed seeds and propagates, resulting in the establishment of these weeds in previously weed-free areas.

The Noxious Weeds Management Act (NMDA, 1998) directs the New Mexico Department of Agriculture to develop a noxious weed list for the state, identify methods of control for designated species, and educate the public about noxious weeds.

2.1 Observations

The State of New Mexico list includes 45 species designated as noxious plant species (NMDA, 2009). The BIA Navajo Region lists 18 species as noxious weeds. The BLM maintains a list of 25 invasive and non-native plant species of concern for the state (BLM, 2003). These species and their designations are listed in Table 1. Noxious weed observations along WEP III are presented in Table 2.

Each of these agencies classifies these species differently with varying management policies. The State of New Mexico has four noxious weed class designations; A, B, C, and a Watch List. Class A species are described as species not currently documented or with limited distribution in the state, with the highest priority to control new and existing infestations (NMDA, 2009). State listed Class B weeds are non-native species that are presently limited to portions of the state (NMDA, 2009). These species are designated for control in regions where they are not yet widespread. Preventing infestations in these areas is a high priority. In areas where the species is already abundant, control is decided at the local level, and containment is the primary goal. Class C noxious weeds are wide-spread in the state. Management decisions for these species are determined at the local level, based on feasibility of control and level of infestation (NMDA, 2009).

The BLM class designations are: A, B, and C. Class A species are identified as non-native with limited or no distribution. Eradication and prevention of infestation of these species is of the highest priority. Class B species are described as non-native plants that have been found in limited areas of the planning area, and containment and prevention are priorities. The Class C designation is defined as non-native plants currently widespread throughout the management area and "long-term programs" to control the species are encouraged (BLM, 2003).

The BIA Navajo Region groups the listed weeds into three management classifications. Class A weeds are potential invaders not yet found on the Navajo Nation. Class B species are new invaders and management is required. Class C species are established and wide spread. For Class C species, management is limited to awareness.

Table 1
Invasive, Noxious, and Non-Native Plant Species Listed by State of New Mexico, BLM, and BIA

Common Name	Scientific Name	NM State Class	BLM/FFO Class	BIA Class
Alfombrilla	*Drymaria arenariodes*	A		
Black henbane	*Hyoscyamus niger*	A	B	
Camelthorn	*Alhagi psuedalhagi*	A	A	B
Canada thistle	*Cirsium arvense*	A	B	B
Dalmation toadflax	*Linaria dalmatica*	A	A	A
Diffuse knapweed	*Centaurea diffusa*	A	A	B
Dyer's woad	*Isatis tinctoria*	A	A	
Eurasian watermilfoil	*Myriophyllum spicatum*	A		
Giant salvinia	*Salvinia molesta*	A		
Hoary cress	*Cardaria spp.*	A	C	B
Hydrilla	*Hydrilla verticllata*	A		
Leafy spurge	*Euphorbia esula*	A	B	A
Oxeye daisy	*Leucanthemum vulgare*	A		
Parrotfeather	*Myriophyllum aquaticum*	A		
Purple loosestrife	*Lythrum salicaria*	A	A	
Purple starthistle	*Centaurea calcitrapa*	A		
Ravenna grass	*Saccharum ravennae*	A		
Scotch thistle	*Onopordum acanthium*	A	B	B
Spotted knapweed	*Centaurea biebersteinii*	A	A	B
Yellow starthistle	*Centaurea solstitialis*	A	A	A
African rue	*Peganum harmala*	B	A	
Chicory	*Cichorium intybus*	B		B
Halogeton[1]	*Halogeton glomeratus*	B		B
Malta starthistle	*Centaurea melitensis*	B	A	
Musk thistle	*Carduus nutans*	B	C	B
Perennial pepperweed or Tall whitetop	*Lepidium latifolium*	B	A	
Russian knapweed[2]	*Acroptilon repens*	B	C	B
Poison hemlock	*Conium maculatum*	B		
Teasel	*Dipsacus fullonum*	B		
Tree of heaven	*Ailanthus altissima*	B		
Bull thistle	*Cirsium vulgare*	C	C	B
Cheatgrass	*Bromus tectorum*	C		
Jointed goatgrass	*Aegilops cylindrica*	C	B	B
field bindweed	*Convolvulus arvensis*	C		
Russian olive	*Elaeagnus angustifolia*	C	C	
Saltcedar[2]	*Tamarix spp.*	C	C	C
Siberian elm	*Ulmus pumila*	C		

Common Name	Scientific Name	NM State Class	BLM/FFO Class	BIA Class
Crimson fountaingrass	*Pennisetum setaceum*	WL		
Giant cane	*Arundo donax*	WL		
Meadow knapweed	*Centaurea pratensis*	WL		
Pampas grass	*Cortaderia sellonana*	WL		
Quackgrass	*Elytrigia repens*	WL		
Sahara mustard	*Brassica tournefortii*	WL		
Spiny cocklebur	*Xanthium spinosum*	WL		B
Wall rocket	*Diplotaxis tenuifolia*	WL		
Sand bur	*Cenchrus longispinus*			B

[1] Proposed for removal from BIA list.
[2] Priority for control on BIA list.

Table 2
Location of Identified Non-Native or Invasive Plant Species within the Survey Area

Species	Segment	Location (MP)
Bull thistle (*Cirsium vulgare*)	7	17, 28
Halogeton (*Halogeton glomeratus*)	1	376, 378, 388
	2	325-327, 329-332, 335-338, 340, 343-350
Musk thistle (*Carduus nutans*)	1	377, 394
Russian knapweed (*Acroptilon repens*)	1	378, 390, 394, 403, 411
	2	320
Russian olive (*Elaeagnus angustifolia*)	2	308, 342
	3	269, 308
	6	106
Saltcedar (*Tamarix spp*.)	1	301, 305, 375-378, 411, 413
	2	302-308, 312, 325, 326, 332, 335, 338,
	3	233, 262, 264, 267, 268-269,
	6	105
Scotch thistle (*Onopordum acanthium*)	7	31
Siberian elm (*Ulmus pumila*)	2	269
	3	255, 261, 264, 265, 266, 267- 269
Spotted knapweed (*Centaurea biebersteinii*)	3	253, 255
	7	17
Spiny cocklebur (*Xanthium spinosum*)	7	19, 21

2.2 Integrated Weed Management

Control of invasive species is a difficult task and requires intensive ongoing control measures. Care must be taken to prevent damage to desirable plant species during treatments to avoid further infestations by other pioneer invaders. Weed management is best achieved through a variety of methods over a long period of time including: inventory (surveys), direct treatments, prevention through best management practices, monitoring of treatment efficacy, and subsequent detection efforts. Weed management is often primarily to control existing species and to prevent further infestations (existing and new species) rather than eradication. After successful and effective management, decreases in infestation size and density can be expected, and after several years of successful management practices, eradication is sometimes possible.

2.3 Prevention of Noxious Weed Infestations

Prevention is the most effective, efficient, and long-term strategy in the management of noxious and invasive species. Preventing invasions by new plant species and quickly detecting invasions that occur allows for immediate eradication measures to be implemented. The following preventative measures will be used to prevent the spread of invasive, non-native weeds along the right-of-way:

- All contractor vehicles and equipment will arrive at the work site clean and weed free. Prior to being allowed access to the right-of-way, MAPL's environmental monitor will ensure that vehicles and equipment are free of soil and debris capable of transporting invasive, non-native weed seeds, roots, or rhizomes.
- The right-of-way will be inspected for invasive, non-native weeds by the environmental monitor prior to vegetation clearing. Any infestations will be recorded for reference in clearing and for post-construction monitoring.
- In areas where infestations have been identified or invasive, non-native weeds noted in the field, the contractor will stockpile cleared vegetation and salvaged topsoil adjacent to the area from which they are stripped to eliminate the transport of soil born invasive, non-native weed seeds, roots, or rhizomes. During reclamation the contractor will return topsoil and vegetative material from infestation sites to the areas from which they were stripped.
- The contractor will dedicate one piece of heavy equipment for clearing, topsoil salvage, and topsoil redistribution in areas of known infestations. The contractor will use compressed air to remove seeds, roots, and rhizomes from the equipment prior to transport from the site. This will minimize the potential transport of invasive, non-native weeds to other areas of the project.
- The contractor will implement the reclamation of disturbed lands immediately following construction as outlined in the Plan of Development. Continuing revegetation efforts will ensure adequate vegetative cover to prevent the establishment of invasive, non-native weeds.
- The contractor will not apply fertilizer to reclaimed areas unless directed to by the property owner, environmental monitor, or jurisdictional agency as fertilizer can enhance the growth of invasive, non-native weeds. Procedures for application of fertilizer will be identified where needed.
- The contractor will ensure that straw bales used on the project for sediment barrier installations or mulch distribution are certified weed free. Fiber bales made from aspen shreds may be used in lieu of or in conjunction with weed-free straw bales.
- Equipment will not be sprayed with pre-emergent chemicals as a preventative measure as these chemicals target a wide range of vegetation, which may affect the success of revegetation efforts.
- Field wash stations will not be used as a preventative measure as they have not proven to be an effective means of weed control. In order for a wash station to be effective, high pressure steam cleaners and controlled drainage are essential. These criteria can not be met in the field. As a result, field wash stations run the risk of creating conditions favorable to seed germination (e.g., presence of seeds or rhizomes, presence of disturbed soils, water from uncontrolled drainage).

- Follow up long-term monitoring is also an important preventative measure. Weed monitoring will be conducted annually for five years following construction activities to ensure that invasive, non-native and invasive species do not get a foothold along the right-of-way.

2.4 Treatment and Control of Noxious Weed Infestations

Control methods for the listed noxious weed species found in the project area are described in Table 3.

Table 3
Control Methods for the Listed Noxious Weed Species Found in the Project Area

Species	Type*	Control Methods
Bull thistle *Cirsium vulgare*	B	• Weevils and gall flies, grazing by goats and horses, hand grubbing, tillage or herbicides in rosette stage, repeated mowing at bolting stage.
Halogeton *Halogeton glomeratus*	A	• Mechanical tillage followed by reseeding • Use drought tolerant species for re-vegetation
Russian knapweed *Acroptilon repens*	P	• Prevention and early detection are essential; large infestations are extremely difficult to control • Prevention and maintenance of a healthy plant community are the best management methods • Herbicides are effective Reseeding disturbed sites with fast growing grasses, herbicide in fall (Curtail recommended) • Allelopathic.
Russian olive *Elaeagnus angustifolia*	P	• Prevention and early detection are the most effective control methods • Mowing saplings and cutting or removing mature trees are all effective controls if repeated often • Herbicides are somewhat effective
Saltcedar *Tamarix spp*.	P	• Burning is not recommended • Repeated flooding of bottomlands to prevent seedling establishment • Hand pulling seedlings • Spray herbicides on basal portion of stems of young, smooth barked plants; cut larger plants and treat cut stumps within 30 minutes with concentrated herbicide plus an adjuvant (remove all stems from site after cutting - they will re-sprout if in contact with soil) • Shade intolerant - promote growth of native riparian species that will shade out the tamarisk • Beetles and mealy bug biological controls
Scotch thistle *Onopordum acanthium*	A	• Physical removal before seed production is effective for small infestations • Minimizing open areas and establishing competitive plants, especially perennial grasses, can discourage invasion • Herbicides are effective
Siberian elm *Ulmus pumila*	P	• Physical removal is effective for seedlings or small trees • Girding is effective for mature trees if performed properly • Herbicides are effective
Spiny cocklebur *Xanthium spinosum*	A	• Manual removal is effective, especially before burs develop • DO NOT cut and leave the plants with immature burs on the site because they can still develop viable seed • Some herbicides are effective
Spotted knapweed *Centaurea biebersteinii*	B/P	• Biennial/short-live perennial; herbicides at rosette stage, seed head flies.
* Type: A = annual; B = biennial; P = perennial		

2.5 Recommended Treatment Strategies

It is important to know whether the target is an annual, biennial, or perennial to select strategies for effective control and eradication. Treatment strategies are different depending on plant type and are summarized in Tables 4 and 5. Herbicides should not always be the first treatment of choice when other methods can be effectively employed.

Table 4
Treatment Strategies for Annual and Biennial Noxious Weeds

Annuals and Biennials - Target: prevent seed production
1) Hand grubbing (pulling), hoeing, tillage, cultivation in rosette stage and before flowering or seed maturity.
2) Chop roots below soil level.
3) Herbicide treatment in rosette or bolting stage, before flowering.
4) Mow biennials after bolting stage and before seed set; mowing annuals may not prevent the plants from flowering.
Source: Sirota, 2004

Table 5
Treatment Strategies for Perennials

Perennials - Target: Deplete nutrient reserves in root system, prevent seed production
1) Allow plants to expend as much energy from root system as possible; do not treat when first emerging in spring but allow to grow to bud/bloom stage.
2) Herbicide treatment at bud to bloom stage or in the fall. In the fall plants draw nutrients into the roots for winter storage. Herbicides will be drawn down to the roots more efficiently at this time. If the weed patch has been there a long time, another season of seed production is not as important as getting the herbicide into the root system. Spraying in the fall will kill the following year's shoots, which are being formed on the roots at this time.
3) Mowing usually is not recommended because the plants will flower anyway; seed production may be reduced, however. Many studies have shown that mowing perennials and spraying the regrowth is not as effective as spraying without mowing. Effect of mowing is species dependent so know what weed you are working with and consult the experts.
4) Tillage may or may not be effective. Most perennial roots can sprout from pieces only one half to one inch long. Clean machinery thoroughly before leaving the weed patch.
5) Hand pulling is generally not recommended for perennial species unless you know the plants are seedlings and not established plants. Hand pulling can be effective on small patches but is very labor intensive because it must be done repeatedly.
Source: Sirota, 2004

Some weeds, particularly annuals and biennials, can develop resistance to herbicides. The ability to quickly develop immunity to herbicides, especially when they are used incorrectly, makes it imperative to use the proper chemicals at the correct time in the specified concentration. Most misuse is centered on excessive application either in concentration or frequency. This results in mostly top kill and an immune phenotype.

Construction: The following best management practices will be implemented during construction to aid in prevention efforts:

- Topsoil, where present, will be segregated from deeper soils and replaced as topsoil on the final grade, a process known as live topsoil handling;
- In all cases temporary disturbance will be kept to an absolute minimum;
- Equipment and materials handling will be done on established sites to reduce area and extent of soil compaction;

- Disturbances will be reseeded at the appropriate time and with the recommended mix as outlined in the Reclamation Plan (see Appendix D to the POD);
- Topsoil stockpiles will be seeded with non-invasive sterile hybrid grasses if stored longer than one growing season;
- Prior to delivery to the site, equipment will be cleaned of soils remaining from previous construction sites which may be contaminated with noxious weeds;
- If working in sites with weed-seed contaminated soil, equipment will be cleaned of potentially seed-bearing soils and vegetative debris prior to moving to uncontaminated terrain.

In areas with slopes greater than three percent, imprinting of the seedbed is recommended. Imprinting can be in the form of dozer tracks or furrows perpendicular to the direction of slope. When utilizing hydro-seeding followed by mulching, imprinting will be done prior to seeding unless the mulch is to be crimped into the soil surface. If broadcast seeding and harrowing, imprinting will be done as part of the harrowing. Furrowing can be done by several methods, the most simple of which is to drill seed perpendicular to the direction of slope in a prepared bed. Other simple imprinting methods include deep hand raking and harrowing, always perpendicular to the direction of slope.

Herbicides: Annual and biennial weeds are best controlled at the pre-bud stage after germination, or in the spring of the second year. Several of the species identified in the survey are susceptible to commercially available herbicides. Selective herbicides are recommended to minimize damage to desirable grass species.

Professionals or landowners using herbicides must use the concentration specified on the label of the container in hand. Herbicides generally do not work better at higher concentrations. Most herbicide failures are related to incomplete control caused by high concentrations killing top growth before the active ingredient can be transported to the roots through the nutrient translocation process. Most herbicide applications should use a surfactant, if directed on the herbicide label, or other adjuvant as called for on the herbicide label. A certified commercial applicator is a good choice for herbicide control efforts. Restricted herbicides require a state licensed applicator. An applicator has the full range of knowledge, skills, equipment, and experience desired when dealing with noxious weeds. Certified commercial applicators will decide which herbicide to use, as approved by the landowner or land-managing agency, and at what concentration according to label directions.

Mechanical: Small isolated infestations of weed species can often be controlled with cutting and digging by hand. For dense, or more extensive infestations, mechanical treatments can be useful in combination with chemical control. Effectiveness of mechanical control can often be increased by severing the root just below the crown. Weeds that easily resprout from rootstocks, such as Canada thistle and Russian knapweed, may increase, rather than decrease, if mechanical control is the only method used.

Alternative Methods: An alternative method to assist revegetation, particularly where there is poor or destroyed topsoil, is the application of vesicular-arbuscular mycorrhizal fungi, typically referred to as AMF. These fungi, mostly of the genus *Glomus*, are symbiotic with about 80 percent of all vegetation. Endo-mycorrhizal fungi are associated mostly with grasses and forbs and could be helpful during reclamation. In symbiosis, the fungi increase water and nutrient transfer capacity of the host root system by as much as several orders of magnitude (Barrow and McCaslin, 1995).

Over-the-counter commercial AMF products, which are better adapted to coating seeds when reseeding and treating roots of live seedling trees and shrubs at time of planting, come in powder -form and are available from many different sources. Some also come in granular form

to be spread with seed from a broadcast spreader. The best AMF products should contain more than one species.

Compacted soils respond well to fossilized humic substances and by-products called humates. These humates, including humic and fulvic acids and humin, were formed from pre-historic plant and animal deposits and work especially well on compacted soils when applied as directed.

Monitoring: Areas where noxious weed infestations are identified and treated will be inspected to ensure that control methods are working to reduce and suppress the identified infestation. The sites will be monitored until the infestations are eliminated or reduced to acceptable levels.

3.0 Revegetation and Reclamation

A Reclamation Plan has been prepared for this project (see Appendix D to the POD).

4.0 References

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Attachment A
Noxious Weed Locations along WEP III

Segment	Noxious Weed*	UTM X	UTM Y	Surface Ownership	County Name	Comments
1	ACRE	246619	4024560	BLM	San Juan	
1	ACRE	247525	4020810	BLM	San Juan	50-ft diameter habitat
1	ACRE	244908	4030070	Tribal	San Juan	
1	ACRE	237318	4043490	Private	San Juan	Bindweed
1	ACRE	233657	4054380	BLM	San Juan	
1	ACRE	246608	4024560	BLM	San Juan	
1	ACRE	237947	4042520	BLM	San Juan	
1	ACRE	234362	4048130	Private	San Juan	
1	ACRE	234268	4048220	Private	San Juan	
1	CANU	261659	4016780	Tribal	San Juan	Found In wash.
1	CANU	262190	4016670	Tribal	San Juan	
1	CANU	262105	4016750	Tribal	San Juan	ID not certain.
1	CANU	244548	4031180	Tribal	San Juan	
1	CEBI	389824	3887850	Private	Santa Fe	
1	HAGL	264070	4016150	Tribal	San Juan	
1	HAGL	260246	4016500	BLM	San Juan	
1	HAGL	260168	4016480	BLM	San Juan	End Halogeton population
1	HAGL	247131	4022190	BLM	San Juan	
1	TASP	265484	4015090	Tribal	Rio Arriba	
1	TASP	264823	4015790	Tribal	Rio Arriba	On edge of wash\ Wash is along edge of row
1	TASP	265490	4015100	Tribal	Rio Arriba	
1	TASP	261126	4016770	Tribal	San Juan	5 trees.
1	TASP	261089	4016730	Tribal	San Juan	
1	TASP	263115	4016320	BLM	San Juan	Tamarisk in dry stockpond
1	TASP	262194	4016700	Tribal	San Juan	
1	TASP	261064	4016680	Tribal	San Juan	Throughout wash
1	TASP	260288	4016530	BLM	San Juan	
1	TASP	233639	4054390	BLM	San Juan	In river bed
1	TASP	235299	4058050	BLM	San Juan	30-ft population along edge of wash
1	TASP	235256	4057930	BLM	San Juan	
2	ACRE	313196	3948390	BLM	Sandoval	Widespread
2	ELAN	328968	3937230	Tribal	Sandoval	
2	ELAN	328981	3937230	Tribal	Sandoval	
2	ELAN	329006	3937220	Tribal	Sandoval	
2	ELAN	293248	3975710	BLM	Sandoval	Tamarisk

Segment	Noxious Weed*	UTM X	UTM Y	Surface Ownership	County Name	Comments
2	HAGL	287114	3983970	BLM	McKinley	
2	HAGL	286555	3984770	Tribal	McKinley	
2	HAGL	285610	3985790	BLM	McKinley	
2	HAGL	286111	3985280	Tribal	McKinley	End Halogeton population
2	HAGL	286463	3984820	Tribal	McKinley	BNW
2	HAGL	286588	3984660	Tribal	McKinley	
2	HAGL	288934	3981750	BLM	McKinley	Begin Survey
2	HAGL	289019	3981640	BLM	McKinley	Begin Halogeton population
2	HAGL	289051	3981600	Tribal	McKinley	End Halogeton population
2	HAGL	289254	3981380	Tribal	McKinley	Begin Halogeton population
2	HAGL	289249	3981340	Tribal	McKinley	End Halogeton population
2	HAGL	289280	3981280	Tribal	McKinley	Smapp population
2	HAGL	289563	3980930	Tribal	McKinley	Begin Halogeton population
2	HAGL	289830	3980550	Tribal	McKinley	End Halogeton population
2	HAGL	290601	3979480	Tribal	McKinley	
2	HAGL	290613	3979460	Tribal	McKinley	
2	HAGL	290765	3979250	Tribal	McKinley	
2	HAGL	290901	3979060	Tribal	McKinley	
2	HAGL	290897	3979050	Tribal	McKinley	
2	HAGL	291117	3978740	Tribal	McKinley	
2	HAGL	291132	3978720	Tribal	McKinley	
2	HAGL	291173	3978670	Tribal	McKinley	
2	HAGL	291204	3978620	Tribal	McKinley	
2	HAGL	291329	3978440	Tribal	McKinley	20-ft diameter
2	HAGL	291363	3978380	Tribal	McKinley	
2	HAGL	291387	3978330	BLM	McKinley	
2	HAGL	291709	3977890	BLM	McKinley	
2	HAGL	285759	3985770	Tribal	McKinley	
2	HAGL	285843	3985680	Tribal	McKinley	
2	HAGL	291843	3977650	BLM	Sandoval	
2	HAGL	291961	3977460	BLM	Sandoval	
2	HAGL	292150	3977150	BLM	Sandoval	Begin Halogeton population
2	HAGL	292233	3977020	BLM	Sandoval	End Halogeton population
2	HAGL	295201	3973180	State	Sandoval	
2	HAGL	303075	3964180	Tribal	Sandoval	Begin Halogeton population

Segment	Noxious Weed*	UTM X	UTM Y	Surface Ownership	County Name	Comments
2	HAGL	305651	3958910	BLM	Sandoval	Begin Halogeton population
2	HAGL	305385	3959260	BLM	Sandoval	End Halogeton population
2	HAGL	305280	3959380	BLM	Sandoval	
2	HAGL	303870	3961710	Tribal	Sandoval	Begin Halogeton population
2	HAGL	303833	3961750	Tribal	Sandoval	End Halogeton population
2	HAGL	303550	3962420	Tribal	Sandoval	
2	HAGL	303537	3962660	Tribal	Sandoval	Begin Halogeton population
2	HAGL	308671	3954080	BLM	Sandoval	
2	HAGL	308689	3954040	BLM	Sandoval	Begin Halogeton population
2	HAGL	308721	3953980	BLM	Sandoval	End Halogeton population
2	HAGL	296837	3971370	BLM	Sandoval	Begin Halogeton population
2	HAGL	296880	3971340	BLM	Sandoval	End Halogeton population
2	HAGL	297042	3971020	BLM	Sandoval	Begin Halogeton population
2	HAGL	297049	3970940	BLM	Sandoval	End Halogeton population
2	HAGL	297097	3970490	BLM	Sandoval	Begin Halogeton population, Pdog Holes
2	HAGL	297118	3970450	BLM	Sandoval	End Halogeton population
2	HAGL	297253	3970250	BLM	Sandoval	Begin Halogeton population
2	HAGL	297293	3970170	BLM	Sandoval	End Halogeton population
2	HAGL	298216	3969380	BLM	Sandoval	Halogeton population
2	HAGL	298531	3969130	BLM	Sandoval	
2	HAGL	298586	3969090	BLM	Sandoval	Begin Halogeton population
2	HAGL	298618	3969070	BLM	Sandoval	End Halogeton population
2	HAGL	298756	3968960	BLM	Sandoval	Begin Halogeton population
2	HAGL	298891	3968860	BLM	Sandoval	End Halogeton population
2	HAGL	298961	3968810	BLM	Sandoval	Begin Halogeton population
2	HAGL	299351	3968510	BLM	Sandoval	End Halogeton population
2	HAGL	299409	3968460	BLM	Sandoval	Halogeton population

Segment	Noxious Weed*	UTM X	UTM Y	Surface Ownership	County Name	Comments
2	HAGL	299450	3968440	BLM	Sandoval	Begin Halogeton population
2	HAGL	299710	3968180	BLM	Sandoval	End Halogeton population
2	HAGL	299512	3968080	BLM	Sandoval	Halogeton population
2	HAGL	299863	3967950	BLM	Sandoval	Halogeton population
2	HAGL	304785	3960280	Tribal	Sandoval	30-ft diameter habitat
2	HAGL	304610	3960570	Tribal	Sandoval	
2	HAGL	304486	3960780	Tribal	Sandoval	
2	HAGL	304381	3960940	Tribal	Sandoval	
2	HAGL	304308	3961030	Tribal	Sandoval	
2	HAGL	304245	3961170	Tribal	Sandoval	
2	HAGL	304218	3961220	Tribal	Sandoval	Along row in disturbed habitat
2	HAGL	306954	3957020	BLM	Sandoval	
2	HAGL	307230	3956480	BLM	Sandoval	
2	HAGL	307289	3956370	State	Sandoval	
2	HAGL	307376	3956220	State	Sandoval	
2	HAGL	307776	3955500	BLM	Sandoval	
2	HAGL	292056	3977320	BLM	Sandoval	
2	HAGL	292137	3977210	BLM	Sandoval	
2	HAGL	300449	3967100	BLM	Sandoval	
2	HAGL	309952	3952390	BLM	Sandoval	Dense patch
2	HAGL	304812	3960250	Tribal	Sandoval	
2	HAGL	304722	3960410	Tribal	Sandoval	
2	HAGL	307440	3956070	State	Sandoval	
2	HAGL	293197	3975820	BLM	Sandoval	Sand dune\ sand sage, red three-awn, sand verbena
2	TASP	329086	3937170	Tribal	Sandoval	Southern point of tamarisk.
2	TASP	328694	3937440	Tribal	Sandoval	Population runs south along drainage.
2	TASP	324293	3939990	Tribal	Sandoval	Throughout wash bottom.
2	TASP	338089	3933790	Private	Sandoval	
2	TASP	336580	3934800	BLM	Sandoval	
2	TASP	335911	3934810	BLM	Sandoval	
2	TASP	334713	3934430	BLM	Sandoval	Population starts here. End point set at west end of the polygon.

Segment	Noxious Weed*	UTM X	UTM Y	Surface Ownership	County Name	Comments
2	TASP	334550	3934300	BLM	Sandoval	End point for tamarisk
2	TASP	332606	3934160	State	Sandoval	
2	TASP	332135	3934090	BLM	Sandoval	Plant Dead.
2	TASP	331183	3935060	Private	Sandoval	Also patch to Northeast along drainage.
2	TASP	303416	3963470	Tribal	Sandoval	5 Large Tamarisk
2	TASP	296750	3971430	BLM	Sandoval	
2	TASP	296801	3971460	BLM	Sandoval	
2	TASP	296782	3971430	BLM	Sandoval	
2	TASP	300107	3967450	BLM	Sandoval	Population alongside channel
2	TASP	307625	3955690	BLM	Sandoval	
2	TASP	308470	3954450	BLM	Sandoval	
2	TASP	337484	3934636	Private	Sandoval	10+ individuals
2	TASP	337437	3934661	Private	Sandoval	Individual
2	TASP	337447	3934678	Private	Sandoval	Individual
2	TASP	337444	3934698	Private	Sandoval	One Individual
2	TASP	337444	3934745	Private	Sandoval	Individual
2	TASP	337309	3934765	Private	Sandoval	18 Individuals
2	TASP	337288	3934724	Private	Sandoval	Individual
2	TASP	337280	3934697	Private	Sandoval	Individual
2	TASP	337286	3934646	Private	Sandoval	Individual
2	TASP	337393	3934571	Private	Sandoval	Individual
2	XASP	337448	3934745	Private	Sandoval	
3	ELAN	378055	3906290	Private	Sandoval	
3	TASP	377330	3906530	Private	Sandoval	
3	TASP	377325	3906520	Private	Sandoval	
3	TASP	378539	3906280	Private	Sandoval	
3	TASP	377732	3906330	Private	Sandoval	Dying
3	TASP	378029	3906300	Private	Sandoval	4 small
3	TASP	377940	3906310	Private	Sandoval	
3	TASP	385188	3898962	Private	Sandoval	5 small
3	TASP	382897	3901248	Private	Sandoval	
3	TASP	382896	3901240	Private	Sandoval	2 individuals
3	TASP	382909	3901253	Private	Sandoval	
3	TASP	380572	3904248	Private	Sandoval	Large thick stand
3	TASP	380555	3904187	Private	Sandoval	All along bank
3	TASP	409923	3871230	State	Torrance	
3	TASP	408242	3872840	Private	Torrance	Tamarisk to the east 1.5 miles long,

Segment	Noxious Weed*	UTM X	UTM Y	Surface Ownership	County Name	Comments
						raptor habitat, nesting
3	ULPU	376912	3906890	Private	Sandoval	
3	ULPU	376958	3906840	Private	Sandoval	
3	ULPU	377274	3906490	Private	Sandoval	
3	ULPU	377281	3906470	Private	Sandoval	
3	ULPU	379605	3905360	Private	Sandoval	
3	ULPU	379438	3905500	Private	Sandoval	
3	ULPU	379428	3905490	Private	Sandoval	
3	ULPU	379402	3905460	Private	Sandoval	
3	ULPU	379400	3905450	Private	Sandoval	
3	ULPU	377695	3906370	Private	Sandoval	
3	ULPU	383014	3900968	Private	Sandoval	
3	ULPU	382912	3901243	Private	Sandoval	
3	ULPU	382929	3901242	Private	Sandoval	2 individuals
3	ULPU	382936	3901250	Private	Sandoval	1 large
3	ULPU	382874	3901363	Private	Sandoval	
3	ULPU	382818	3901643	BLM	Sandoval	
3	ULPU	382780	3901959	BLM	Sandoval	6 individuals
3	ULPU	382801	3901984	BLM	Sandoval	7 individuals along wash
3	ULPU	382737	3902120	BLM	Sandoval	
3	ULPU	382714	3902190	BLM	Sandoval	2 individuals
3	ULPU	382710	3902215	BLM	Sandoval	
3	ULPU	382706	3902231	BLM	Sandoval	2 small individuals
3	ULPU	382689	3902239	BLM	Sandoval	
3	ULPU	382700	3902262	BLM	Sandoval	5 individuals
3	ULPU	382644	3902394	Private	Sandoval	1 large 1 small
3	ULPU	382663	3902394	Private	Sandoval	1 individual
3	ULPU	382657	3902382	Private	Sandoval	1 individual
3	ULPU	382660	3902411	Private	Sandoval	1 individual
3	ULPU	382614	3902447	Private	Sandoval	
3	ULPU	382580	3902469	Private	Sandoval	
3	ULPU	382558	3902496	Private	Sandoval	
3	ULPU	381228	3903600	State	Sandoval	
3	ULPU	381226	3903616	State	Sandoval	10 individuals
3	ULPU	381197	3903640	State	Sandoval	4 individuals
3	ULPU	381168	3903665	State	Sandoval	14 individuals on northern slope
3	ULPU	381113	3903713	State	Sandoval	Numerous individuals along right-of-way

Segment	Noxious Weed*	UTM X	UTM Y	Surface Ownership	County Name	Comments
3	ULPU	381047	3903763	State	Sandoval	8 individuals
3	ULPU	380838	3903974	Private	Sandoval	
3	ULPU	380580	3904241	Private	Sandoval	4 large individuals
3	ULPU	380247	3904609	Private	Sandoval	
3	ULPU	380247	3904648	Private	Sandoval	2 large 1 small
3	ULPU	385737	3898324	Private	Sandoval	3 large individuals
3	ULPU	388278	3889679	Private	Santa Fe	
3	ULPU	388300	3889616	Private	Santa Fe	
6	ELAN	563743	3737430	BLM	Chaves	2 small Russian olive
6	TASP	564740	3736180	Private	Chaves	Numerous tamarisk along line\ start
6	TASP	564659	3736230	Private	Chaves	Numerous tamarisk along line
6	TASP	564396	3736540	BLM	Chaves	Tamarix end/ but continues on other sd of wash
7	CEBI	671406	3644439	State	Lea	
7	CIVU	671530	3644317	State	Lea	
7	CIVU	670595	3645188	Private	Lea	
7	CIVU	658271	3655958	Private	Lea	
7	ONAC	654644	3658590	Private	Lea	
7	ONAC	654069	3659020	Private	Lea	Throughout row
7	XASP	669038	3646520	State	Lea	
7	XASP	666117	3648990	Private	Lea	scattered throughout line

*HAGL - Halogeton
CANU - Musk thistle
ACRE - Russian knapweed
ELAN - Russian olive
TASP - Saltcedar
ONAC - Scotch thistle
ULPU - Siberian elm
XASP – Spiny cocklebur
CEBI – Spotted knapweed
CIVU – Bull thistle

Appendix H

Biological Resources Protection Plan

BIOLOGICAL RESOURCES PROTECTION PLAN
MID-AMERICA PIPELINE COMPANY, LLC
WESTERN EXPANSION PROJECT III

SAN JUAN, RIO ARRIBA, SANDOVAL, MCKINLEY, BERNALILLO, SANTA FE, TORRANCE, GUADALUPE, LINCOLN, DE BACA, CHAVES, AND LEA COUNTIES, NEW MEXICO

December 2012

1.0. Introduction

This Biological Resources Protection Plan (Plan) describes measures to be taken by Mid-America Pipeline Company, LLC (MAPL) and its contractor (Contractor) to avoid or minimize adverse effects to biological resources during construction, operation, and maintenance activities of the Western Expansion Project III (WEP III). Measures identified in this Plan apply to work within the project areas defined as the construction right-of-way, temporary use areas, access roads, and other areas used during construction of the project. MAPL and Contractor personnel are to be thoroughly familiar with this Plan and its contents prior to initiating construction on the project.

2.0. Purpose

This Plan was developed as the implementing document for relevant mitigation measures for construction. It identifies protection measures that would be implemented to avoid and reduce short- and long-term effects to biological resource habitats and populations within and adjacent to the construction disturbance. Due to additional raptor (including burrowing owl) surveys scheduled prior to construction, construction timing restrictions and proposed conservation measures are subject to revision, based on the results of the surveys.

3.0. Responsibilities

3.1. MAPL

MAPL is responsible for meeting the goals and objectives of this Plan and for monitoring construction activities to ensure that the Contractor applies the measures and complies with the natural resources construction constraints. MAPL is responsible for pre-construction surveys to determine status of 2011 and 2012 documented raptor nests (including burrowing owl), marking sensitive areas identified in 2011 and 2012 surveys, and applying appropriate buffer areas recommended by the agencies.

3.2. Contractor

The Contractor is responsible for adhering to biological resource construction timing restrictions described below.

4.0. Project Design Features and Protection Measures

In order to avoid long-term effects to key wildlife species, protection measures have been developed in consideration of the requirements of the respective Bureau of Land Management (BLM) field offices.

4.1. Seasonal Limitations and Buffer Zones

There are a number of seasonal timing limitations and required buffer zones for sensitive resources identified as active within the project area. A seasonal timing limitation is defined as the time of year when no surface disturbing activities are allowed in a particular sensitive area. These timing limitations are also referred to as seasonal closures or construction constraints. Buffer zones are areas surrounding a sensitive location (e.g., raptor nest, owl burrow, kit fox den) where seasonal timing and spatial limitations would apply. Timing limitations may occur for

the following species that could be potentially affected by the project, if active nests are located prior to construction:

- raptor nests, including burrowing owl, prairie falcon, and Swainson's hawk
- breeding migratory birds, BLM Sensitive Species and/or Birds of Conservation Concern

4.2. Pre-construction Surveys

MAPL conducted surveys for biological resources along the proposed project alignment in 2011 and 2012 for all lands where permission was granted. Species-specific, follow-up surveys were also conducted in 2012 for species and habitat identified in 2011. Surveys identified threatened, endangered, and sensitive plant and animal potential and occupied habitat, as well as noxious weed locations (Ecosphere, 2012). MAPL will conduct additional surveys prior to construction to determine status of raptor nests (including burrowing owls) documented within the project area.

5.0. General Protection Measures

In addition to site-specific seasonal timing limitations and buffer zones identified below, MAPL will comply with the following plant and wildlife protection measures:

- Respective BLM field offices will be notified in the event of emergency maintenance;
- Construction will not proceed in restricted areas until final clearance is obtained by the applicable federal and state agencies. This restriction applies to raptors and listed plants;
- Employees will not be allowed to carry firearms while on the job or riding in company vehicles;
- Speed limit and caution signs will be posted, to the extent allowed by surface owners, federal and state regulations, local government, and land use policies, as appropriate;
- All employees will receive environmental awareness training during orientation to address native wildlife, sensitivity to various kinds of impacts, consequences of poaching, information about federal and state wildlife laws, licensing and residency requirements, and outdoor recreation opportunities.

6.0. Aquatic Protection Measures

To minimize adverse effects at drainage crossings with water present, MAPL will comply with the following aquatic wildlife protection measures:

- Implement the measures described in the stormwater management plan to minimize the potential for spills of fuel and/or other hazardous materials to reach drainages;
- Construct the project when stream flows are low or absent to minimize sedimentation and turbidity during the crossing of drainages;
- Utilize equipment bridges and mats to minimize compaction of soils and subsequent erosion of stream banks and runoff of sediment into drainages caused by heavy equipment;
- Avoid applying herbicides within 100 feet of drainages.

7.0. Migratory Bird Protection Measures

MAPL will comply with the following migratory bird protection measures on federal and non-federal lands:

- Avoid vegetation removal during the migratory bird nesting period where nests are identified, generally May 15 to July 15.

Potential migratory bird nests identified during the 2011 field surveys will be surveyed prior to construction to determine status (see Table 1).

Table 1
Potential Migratory Bird Nests Identified during 2011 Field Surveys for WEP III

Species	Segment	MP	Notes
Unidentified nest	7	25.0	Old wire nest
Unidentified nest	7	27.7	Old wire nest
Unidentified nest	7	29.0	Old wire nest
Unidentified nest	5	166.3	Stick nest in tree
Unidentified nest	5	165.3	Stick nest in tree
Mountain Plover (habitat)	2	338.7	No previous recordings of mountain plover in the area

Preconstruction surveys are required for mountain plover if construction is scheduled within the nesting season (April 1-July 31). Occupied habitat will not be disturbed during this time.

8.0. Raptor Protection Measures

MAPL will comply with the following raptor protection measures on federal and nonfederal lands:

All BLM Field Offices:

- Revisit nests documented in the project area (Ecosphere, 2012) prior to construction activities to assess nesting activity.
- Avoid surface disturbing activities within 0.3 mile (50 meters for burrowing owls) of an identified, active raptor nest during the seasonal timing limitations listed below (see Table 3) or until fledging and dispersal of the young.

The BLM IM No. NM-200-2008-001 *Special Management Species Policy 2008 Update* (BLM, 2008) provides special management guidance for burrowing owl, which includes the following:

- Prairie dog towns will be considered designated potential habitat for burrowing owls.
- Proposed project activities will seasonally avoid negative impacts and disturbance to burrowing owls.
- A preconstruction survey for burrowing owls is required for proposed projects scheduled to be constructed within designated potential habitat during the nesting season of April 1 to July 31.
- Occupied burrowing owl nests will not be disturbed within a 50-meter (165 feet) radius from April 1 to August 15. After August 15, any project that will cause destruction of the nest burrow can only begin after confirmation that the nest burrow is no longer occupied.

On the Navajo Nation:

- No activity within 0.4 km (1/4 mile) of active nest burrow between March 1 and August 15.
- No habitat alteration year-round within 0.4 km (1/8 mile) of nest site.

The following locations would be surveyed in the spring for presence/absence of sensitive species. The Potential Buffer would only be applied if the site is found to be active and would be applied in addition to seasonal closures presented in Table 3.

Table 2
Locations Requiring Surveys before Initiation of Construction

Species	Segment	MP	MP/Potential Buffer	Notes
Unidentified nest	7	17.6	17.27 to 17.93	
Unidentified nest	7	22.6	22.27 to 22.93	
Unidentified nest	7	23.3	22.97 to 23.63	
Burrowing owl	7	30.2	50 meters	Active 2011 and 2012
Swainson's hawk nest	7	33.8	33.47 to 34.13	Active 2012
Unidentified nest	7	36.1	35.77 to 36.43	
Unidentified nest	6	89	88.67 to 89.33	
Unidentified nest	6	92.6	92.27 to 92.93	
Unidentified nest	6	94.3	93.97 to 94.63	
Swainson's hawk nest	6	97.4	97.07 to 97.73	Active 2012
Prairie falcon nest	6	98.7	98.5 to 98.9	1/4 mile NE of ROW
Potential Nest Trees	6	104.6	104.3 to 106	Pecos River
Raptor cliff nesting habitat	2	301.3		No nest sites identified in 2012
Raptor cliff nesting habitat	2	307.8		No nest sites identified in 2012
Burrowing owl	2	336.6	50 meters	Adult seen in 2012
Active/Potential Habitat	2	347.6	347.6 to 348.8	Several active burrows
Raptor cliff nesting habitat			370 to 367	No nest sites identified in 2012
Burrowing owl	1		378.38 to 379.46	Inactive 2012
Burrowing owl	1	380.4		Inactive 2012
Burrowing owl	1	390.3		Inactive 2012
Burrowing owl	1		392.05 to 392.3	Potential habitat
Burrowing owl	1	398.8		Potential habitat
Burrowing owl	1		401.76 to 401.85	Active 2012
Historic Golden Eagle Nest	1	413.6		Not active in 2011 or 2012

Table 3
BLM-Recommended Spatial Buffers and Nesting Seasonal Buffers for Raptors with Potential to Occur within the Project Area [1]

Common Name	Seasonal Nesting Stipulations	Spatial Buffer Around Nest Site (miles)
Golden eagle[1]	February 1 to June 30	0.3[2]
Burrowing owl[3]	April1 to August 15	50 meters
Peregrine falcon[1]	March 1 to June 30	0.3
Prairie falcon[1]	March 1 to June 30	0.3
Ferruginous hawk[1]	March 1 to June 30	0.3

Source: Romin and Muck, 2002; BLM, 2011.
[1] Habitat present but nests were not observed in project area during 2011.
[2] FFO may release the Proposed Action Feb.1-June 30 if FFO determines that the young of the year have fledged and left the area, or that surveys have conclusively determined the nest is not active.
[3] After August 15, any project that will cause destruction of the nest burrow can only begin after confirmation that the nest burrow is no longer occupied.

Active prairie dog locations will be surveyed for presence of burrowing owls prior to construction. There are no current protections for prairie dogs apart from protection granted from burrowing owl occupation in active prairie dog towns.

Table 4
Active Prairie Dog Populations on WEP III that Will Be Surveyed for Burrowing Owl Activity Prior to Construction

Species	Segment	MP/Potential Buffer	Notes from 2011 and 2012 Field Surveys
Black-tailed Prairie Dog	7	29.8 to 30.4	No burrowing owls detected
	7	31.8 to 32.4	
	7	43.1 to 43.3	
Gunnison's Prairie Dog	2	314.2 to 314.9	
	2	315.5 to 316.18	
	2	318.5 to 320.2	
	2	335.6 to 337.5	
	1	390.65 to 390.75	
	1	393.53 to 393.82	
	1	393.92 to 394.08	
	1	396.18 to 396.4	
	1	398.18 to 398.8	
	1	399.06	
	1	399.4	
	1	399.72 to 399.85	
	1	400.83 to 403.1	
	1	406.63 to 406.77	
	1	415.2 to 414.48	

9.0. Mammal Protection Measures

Kit Fox. Kit fox is a Navajo Nation candidate species (Group 4). No kit fox were observed during the 2011 and 2012 biological surveys. If fox dens were to be located during prairie dog and burrowing owl burrow surveys, then the following stipulations would be enacted:

Recommendations and Agency Stipulations

- On the Navajo Nation, no activity year-round within 60 meters of occupied habitat that could result in the destruction of burrows and take of individuals.

Swift and Red Fox. If swift or red fox dens are discovered, project activities would cease until the young have been reared.

Gunnison and Black-tailed Prairie Dogs. Gunnison's and black-tailed prairie dog populations were documented within the project area. There are no direct prairie dog management guidelines currently proposed by the BLM. The BLM manages Gunnison's prairie dogs indirectly, mainly through the burrowing owl special status species management policy. This policy includes pre-construction surveys for burrowing owls, timing restrictions, and avoidance measures.

Recommendations and Agency Stipulations

- The Roswell Field Office stipulates that surface disturbance will not be allowed within identified black-tailed prairie dog towns.

10.0. Threatened, Endangered, and Sensitive Plant Protection Measures

The following measures will be applied to minimize or avoid effects to special status plants documented or with potential to occur within the project area.

Aztec Gilia Recommendations and Agency Stipulations

In 2001, the BLM/FFO implemented formal management, which includes:

- pre-construction surveys in potential habitat,
- fencing and monitoring during construction activities within close proximity to individuals or populations,
- stockpiling the top 6 inches of soil in potential habitat prior to construction activities and redistribution of topsoil during reclamation, and
- avoidance of individual plants and populations.

On the Navajo Nation, the Navajo Nation Division of Fish and Wildlife (NNDFW) requires:

- A 200-foot buffer to avoid disturbance; may be more or less depending on size and nature of the project.

Brack's Hardwall Cactus Recommendations and Agency Stipulations

Current BLM/FFO management for Brack's hardwall cactus requires:

- transplanting where appropriate,
- stripping the top 6 inches of topsoil, stock piling separately, and re-spreading during reclamation.
- an onsite biological monitor for mitigation and/or construction.

On the Navajo Nation, the NNDFW requires:

- a 200-foot buffer to avoid disturbance; may be more or less depending on size and nature of the project.

Given the number of Brack's hardwall cacti within the proposed project alignment, a mitigation and monitoring plan is being developed (Ecosphere, 2012). The plan will include transplanting some number of the cacti into monitoring plots that will be monitored for a minimum of 5 years. Because the populations are located on tribal and state lands, specific management decisions are still being considered by the BLM FFO, Navajo Nation, and New Mexico State Land Office, which will be included in the monitoring and mitigation plan.

11.0. Discovery During Construction

If a species of concern is discovered during construction that was not discovered during preconstruction surveys, the respective BLM field office will be notified immediately and the necessary protection measures will be implemented.

12.0. References

BLM. 2008. Special status species management. Instruction Memorandum No. NM-200-2008-001. Bureau of Land Management, Farmington Field Office, Farmington, New Mexico.

Ecosphere Environmental Services (Ecosphere). 2012. WEP III Biological Baseline Report. December. p. 116.

Appendix I

Cultural Monitoring and Discovery Plan

CULTURAL MONITORING AND DISCOVERY PLAN
MID-AMERICA PIPELINE COMPANY, LLC
WESTERN EXPANSION PROJECT III

SAN JUAN, RIO ARRIBA, SANDOVAL, MCKINLEY, BERNALILLO, SANTA FE, TORRANCE, GUADALUPE, LINCOLN, DE BACA, CHAVES, AND LEA COUNTIES, NEW MEXICO

December 2012

1.0. Introduction

This Plan attempts to accommodate possible events and discoveries that cannot be fully anticipated by thorough survey and "off-site" testing. It is probable that cultural resources, beyond those documented by the survey and testing efforts, exist along the project right-of-way. This Plan presents a set of procedures and methods to be implemented to protect previously identified cultural resources, as well as deal with unidentified cultural resources that may be identified once construction has begun.

The procedures presented in this Plan are designed to provide general guidelines for monitoring and discovery situations. In general, the Plan provides for frequent and rapid consultation with several federal, state, and Native American offices. High levels of involvement by the federal, state, Native Americans, SHPOs, and MAPL will be essential to the successful completion of the Project. The specifics of this Plan should be considered general and flexible. Specific modifications to this Plan will be incorporated in response to written notification from the consulting parties.

2.0. Monitoring Definitions

Monitoring may be defined as the inspection of ground disturbing construction activities by cultural resource professionals in a safe manner which avoids potential injury or accident, in order to locate and document subsurface cultural deposits. Safety is always the primary concern while performing this task, and it should always be conducted according to the safety standards and measures implemented for the construction phase of the Project.

Ground disturbance related to pipeline installation in most areas of the right-of-way are of two fundamental types. Cultural resource monitoring efforts will be compatible with these activities. The first type of activity is preparation, which consists of brush clearing, mechanical blading, and various other means of readying the construction right-of-way for pipeline installation. The second type of activity is trenching, which in most places is accomplished with ditching machines. Backhoe trenches are ordinarily substituted at drainage crossings, and rock saws may be employed in areas of shallow bedrock. Major stream crossings and highways will be crossed using horizontal directional drill or conventional bore.

Construction preparation and trench monitoring are to be conducted in areas where monitoring is required by the BLM and/or cooperating agencies. All monitoring will be conducted by experienced and permitted archaeologists. The intent is to find sites buried in shallow contexts as they are first exposed and to temporarily suspend construction in the immediate site area before irreparable damage is done. Trench monitoring does not have to be conducted while trenching is occurring; and, in fact, there is no practical means of doing so. The trenching machines cannot be viewed in close quarters, and they produce so much dust that sites exposed in the trench walls cannot be immediately seen. Therefore, trenches will be walked and inspected after the trenching machinery has cleared the area.

As a general guideline, pipeline segments recommended for monitoring may exhibit one or more of the following characteristics: (1) cultural materials are known to occur in the immediate vicinity, generally within 100 feet of planned disturbance; (2) a significant permanent or ephemeral water source is present (e.g., springs and playas); (3) deep sedimentation occurs that may have obscured sites, as in a valley floor, and cultural materials are known to occur in the general area although not necessarily in the immediate vicinity of the right-of-way; or (4) eolian sand (dune) deposits are present. Segments not recommended for monitoring include those with little or no

archaeological materials based on survey evidence, areas far removed from water sources, areas with shallow or disturbed soils, areas previously excavated, and areas exhibiting exposed bedrock.

3.0. Preconstruction Preparation

Before construction begins, a team of monitors will visit each of the sites documented by the cultural resources survey and determined eligible to the National Register of Historic Places (NRHP) or found significant for other reasons, such as recent burials, areas of traditional religious concerns, etc. The monitors and the construction contractor will erect temporary protective fencing at previously agreed upon locations along the project area according to where the site or other cultural location was mapped by the survey. Sites that lie within the cultural survey buffer zone but outside the right-of-way will be fenced along the outside edge of the right-of-way. Sites that lie within or extend within the right-of-way but that can be avoided will be fenced on their interior facing side to remove them from construction related activity. Exact fence locations and configurations will be consistent with right-of-way grant stipulations and the recommendation of the consulting parties that have jurisdiction over specific lands.

Fence locations will be marked by the archaeological monitors using special colored flagging tape. The fence will be constructed by the construction contractors. The fence will, at a minimum, be a single strand of smooth fence wire strung between a series of metal t-posts. Signs reading "RESTRICTED AREA" will be posted on these fences.

3.1. Monitoring Known Sites to Be Avoided

Throughout the course of construction (including blading, trenching, pipe laying, and reseeding), a monitor will visit each of the fenced locations. All initial blading and trenching within 100 feet of any known historic property or other significant site will be monitored. Periodic visits after initial blading and trenching will be made as long as construction activities are present in the area. Each location will be revisited again when construction, including reseeding, is completed. Monitoring at each of the locations will include checking on the condition of the fence and examining the surface of the site for vehicle tracks, footprints, and signs of vandalism. Monitors will also check any additional sites that may have been noted by the survey but located off of the survey area. Damage to any monitored site will be reported to the BLM, SHPO, MAPL, and the appropriate consulting party.

In cases where restricted areas have been entered, the monitor will first take action to avoid increasing any impacts. For example, if vehicles are within the restricted area, the least damaging route out of the area will be used to remove the vehicles to an appropriate place within the right-of-way. The monitor will notify the construction supervisor of the violation and will also instruct the construction supervisor to cease any additional activity that may affect the resource. The monitor will have until the end of the workday to assess any damage to the site. If the monitor determines that the effects to the site are minimal and have not affected the integrity of the site (for example, if a truck has crossed the site but not disturbed any artifact concentration or feature), they will so notify the construction supervisor and review the steps necessary to avoid intrusions unto the site. The monitor will also document the problem and its resolution in the periodic monitoring report (see Reporting Procedures for Monitoring below).

If the damage is more significant (e.g., an ash stain feature has been disturbed), the monitor will notify the project director or their representative by the end of the day. In most cases, this communication will be by phone and in the evening. The BLM, SHPO, MAPL, and the appropriate consulting party archaeologists will be contacted the following workday, unless field conditions permit more immediate notification or specific notification procedures can be implemented with

individual agencies. In cases where any of the appropriate consulting parties or his/her representative is not available, messages will be left with the party. In cases where messages cannot be left at the party (e.g., holidays, weekends), follow-up calls will be made on the next regular workday.

Following initial notification, a short written assessment and recommendation will be submitted to the project director or their representative for review. If the project director agrees with the assessment, he/she will send it, along with a salvage recommendation, to the relevant consulting party, the BLM, SHPO, and MAPL. In these cases, concurrence on the recommendation or the development of an agreed-upon salvage plan will be requested within 5 working days.

In some cases, the recommendation of the project director may include immediate stabilization of a disturbed site with additional assessment and data recovery to take place at a later time. The recommendations for these cases will clearly state the need for any immediate work, as well as work that can be postponed. The recommendations will include a request for rapid concurrence. Stabilization and recovery efforts will be conducted with the concurrence of the BLM, SHPO, and the appropriate consulting party.

3.2. Previously Unidentified Cultural Resources (Discoveries)

Buried sites, features, and isolated occurrences are anticipated along the construction corridor. Construction monitoring efforts will be directed at the discovery of buried sites or manifestations. This monitoring effort will have two primary goals. First, training of contractors, particularly construction supervisors, will focus on the types and materials that might be uncovered, as well as the contractual and legal responsibility to stop work and notify a monitor if buried stains, features, or other manifestations are encountered during construction. Such training, including review of the projects overall monitoring program, will be conducted by the archaeological contractor prior to construction via video film, classroom presentation, and handouts. Second, spot-checking by monitors will help provide assurance that the objectives of the training effort are being met.

Due to logistical constraints, most of the construction activities (blading, trenching, pipe laying, and reseeding) cannot be directly and continuously monitored. Some reliance will be placed on notification by the construction crew if buried materials are encountered. Periodic examination by the monitors will help ensure that buried sites, if encountered, are not being ignored by construction personnel. Monitoring will place emphasis on initial blading and trenching activities, since these are the most likely to encounter buried resources.

Direct close inspection of construction activities will focus on areas deemed most likely to contain buried deposits. In addition to these archeology sensitive areas, geomorphic environments thought to have high potential for buried deposits will be closely monitored. Monitoring in all cases will be responsive to Right-of-Way Grant stipulations imposed by the appropriate consulting party.

Direct monitoring will involve visual inspection of soils/sediments in bladed areas and trenches exposed by construction. Inspection will concentrate on identifying the presence of buried artifacts, faunal materials, and cultural features. All monitors will be experienced and permitted archaeologists.

Periodic inspection will include direct monitoring of construction activities, as well as inspection of disturbed bladed and trenched areas. Periodic inspection will also include examination of access routes for equipment used in construction.

4.0. Discovery Procedures

In the event that an unidentified cultural resource is discovered by construction workers or the monitors, the following actions will be initiated:

A. All construction activities will be redirected to an area approximately 100 feet away from the point of discovery.

B. The monitor will be called in to assess the discovery if they are not already in the immediate area.

C. The monitor will immediately assess the discovered resource. This assessment will include:

   1) The nature of the discovery, including the number and kinds of artifacts exposed, as well as the presence/absence of features. This assessment may include screening of deposits already excavated as a result of construction.

   2) The spatial extent of the discovery using auger and shovel tests, as well as cleaning trench profiles or bladed areas.

   3) The nature of deposition, including any exposed stratigraphy. Monitors will have the option of expanding a bladed or trenched area in order to establish the characteristics of a buried resource.

   4) The monitor will, as needed, stabilize the disturbed remains to prevent further degradation (e.g., cover exposed hearths with plastic and soil).

The following criteria will be used as a guide in making field judgments regarding the status of discovered resources. Cultural manifestations meeting any of the four criteria will be considered sites and require the stoppage of adjacent (within 100 feet) construction activity until eligibility determinations, salvage excavation efforts, or other mitigate efforts can be established and carried out. Discoveries not meeting any of the criteria will not require any further work and construction may proceed.

Discovery site definition criteria are:

1) Evidence exists for the presence of a habitation structure within the right-of-way.

2) Two or more of the following attributes are present:

   a. Two or more classes of artifact are represented (e.g., chipped stone, ceramics, faunal remains, and trade beads).

   b. Ten or more artifacts of the same class (lithics and ceramics) are represented from subsurface contexts.

   c. Recognizable activity areas or features such as cache pits or hearths are exposed.

   d. Deposits where datable samples from cultural contexts can be recovered. Other meaningful samples (such as pollen or flotation samples) could also be recovered from

cultural contexts.

e. Identifiable faunal remains are present.

3) Human remains and any associated funerary items are present.

4) Evidence exists that the site has particular cultural or religious significance to a local Native American group or other community.

Newly discovered sites or previously unidentified components to previously known sites will be recorded in a manner that is fully consistent with methods used throughout the inventory phase of the project. Recording will include completion of site forms or site form updates, site mapping, plotting of site location on the appropriate U.S. Geological Survey quadrangle, site and feature photography; and, if necessary, selective collection of threatened or unique artifacts.

As part of the recording process, the archaeological contractor will make recommendations as to NRHP eligibility. Each site will be evaluated as eligible, not eligible, or lacking sufficient indicators to permit an eligibility recommendation. Sites discovered during construction are temporarily assumed to be eligible for the NRHP; this assumption is made to ensure that construction activities cease immediately upon discovery. Routinely, decisions among the appropriate consulting parties on eligibility will need to be made subsequent to discovery and recording and may necessitate test excavations. Decisions as to the necessity of testing in such cases will be made in consultation with the appropriate consulting parties.

If a discovered resource is considered a site or a component of a previously recorded site (by meeting any of the above criteria), they will be categorized as one of three size types. Treatment, including any excavation, will be based generally on how large the site is. Excavation will occur only after discovery documentation and a salvage plan has been received by the BLM, SHPO, and the appropriate consulting parties, and approval is granted. MAPL will coordinate securing landowner permission to proceed on sites on private lands.

Excavation efforts at all sites encountered during construction will be designed to obtain information compatible with the data requirements presented in the research design. Excavation efforts at sites encountered during construction will be conducted in the same manner as data recovery efforts. The objective of this treatment will be to recover data appropriate to the questions posed by the research design:

1) Small sites are those identified resources meeting Discovery Criterion 2 only and are less than 5-square meters in aeral extent. These sites could include cache pits, bell-shaped pits, and storage cysts, buried hearths, and buried chipping stations. These sites will be excavated in their entirety by either the monitoring crew or an emergency excavation crew.

2) Medium-sized sites are those identified as significant under Discovery Criterion 2 only, with areal extent between 5- and 20-square meters. Excavation of these sites will involve obtaining samples sufficient to estimate the range of variability present in the archeological record. Sampling will include excavation of 1 x 1 meter or 50 x 50 centimeter test pits through the cultural deposit, as well as possible auger or shovel tests and trench examination. Once sampling is completed, the discovered site will be carefully dismantled through controlled grading or trenching. Artifacts, samples, or other materials recovered will be collected and provenience to within 50 centimeters by reference to mapped units or a fixed site datum located outside of the right-of-way.

3) Large sites are those meeting Discovery Criterion 1 or 2 with areal extent greater than 20-square meters. If structures are present, they will be excavated in their entirety. If structures are not present, the site will be sampled in a manner similar to medium size sites but at a higher percentage of recovery.

4) If the discovered resource meets Discovery Criterion 4 (evidence exists for particular cultural or religious significance), construction will be halted. Construction will continue after the BLM, SHPO, MAPL, and any other appropriate consulting party have reached agreement on acceptable actions.

Treatment of Human Remains (Discovery Criterion 3)

The treatment of unmarked human remains is governed by federal, Tribal, and state law depending on the location and nature of the situation.

A) State of New Mexico and New Mexico private lands: The discovery and treatment of unmarked human remains on State of New Mexico and private lands is handled under the aegis of the New Mexico State Burial Act (1989). Regulations to ensure proper excavation and disposition of human remains are described in HPD Rule 89-1. An annual permit for the excavation of human remains will be submitted by the archaeological contractor to the SHPO. Upon discovery of human remains, the Office of the Medical Investigator (MI) and the SHPO must be notified; the BLM and, if appropriate, New Mexico State Land Office will be notified as well. If the remains are determined not to be under the jurisdiction of the MI, they can be excavated by a professional archaeologist assuming that an active permit is in hand, and after notification of intent to excavate has been submitted to the SHPO. If the unmarked burial is believed to be that of a Native American, the determination and notification of potentially concerned parties will be made through the SHPO by the New Mexico Office of Indian Affairs. If the remains are not believed to be Native American, the responsibility for identification of potential living relatives will fall to the archaeological contractor. Final treatment and disposition of the remains and any associated funerary objects is made through the approval of a plan submitted to the SHPO and approved by the SHPO and any other involved parties.

B) BLM lands: If unmarked human remains are found on BLM lands, the BLM and SHPO will be notified by the archaeological contractor. The BLM will subsequently notify appropriate Tribal groups according to the provision of the Native American Graves Protection and Repatriation Act to determine treatment and disposition measures. Once a proper course of action has been agreed upon, the archaeological contractor will be so notified by the BLM.

C) Indian lands: If unmarked human remains are found on Indian lands, the BLM, BIA, SHPO, and the appropriate Native American Tribe or Pueblo will be notified by the archaeological contractor. Once a proper course of action has been agreed upon, the archaeological contractor will be so notified by the BLM.

Reporting Procedures for Monitoring

Weekly or biweekly (reflecting a 6-day field session or duration that best fits the construction work schedule) monitoring reports will be submitted by the project director to the BLM, SHPO, MAPL and the appropriate consulting parties. The monitoring reports will be organized by construction spreads in order to facilitate distribution to appropriate parties.

These reports will specify the sites fenced during the reporting period, the sites checked during the period, and will fully document any impacts to known sites. This includes steps taken to avoid additional impacts, suggested mitigation measures, and the status of any salvage excavation.

Reports of significant impacts to known resources will be reported to the BLM, SHPO, MAPL, and the appropriate consulting party. The notification will be made within 24 hours of the discovery or by the next closest following workday. Most of these notifications will be by phone with normal follow-up occurring as part of the periodic monitoring report. In those cases where encroachments on known sites do not involve significant impacts, the monitor will take steps to prevent additional impacts and complete a report. These reports will be included in the report from the monitoring crew to the project director and in the regular reports to the consulting parties.

Included in these reports will be a general description of the areas directly monitored and spot checked, including distance along the right-of-way, and descriptions of any sites or isolated occurrences discovered through construction, including a site form and field recommendations of appropriate treatment alternatives.

Sites discovered during construction will be reported to the BLM, SHPO, MAPL, and the appropriate consulting party archeologist within 24 hours of discovery and preliminary evaluation (mapping, auguring, test pits, and/or trench wall examination). Salvage efforts at small, and medium-sized sites will begin within 2-working days of approval by the BLM, SHPO, and the appropriate consulting party. In cases where the sites discovered can be protected from ongoing construction, salvage efforts may be postponed.

Notification of discovered sites will include notification by phone within 24 hours of the discovery. The procedure for follow-up documentation will include evaluation documentation provided as part of the monitoring report to the Project Inspector, as well as the regular report to the consulting parties.

Salvage excavation efforts or other treatments that are needed to facilitate construction activities necessitate the use of a short report to facilitate resumption of construction on a site-by-site basis.

Information to be included in each report will consist of the following: site number, location, brief description, inclusive dates of fieldwork, name(s) of supervisory personnel, brief description of techniques employed (e.g., number, configuration, and depth of excavation units), brief description of results, and management recommendation. Each short report will be forwarded to the BLM, SHPO, and appropriate consulting party for review and approval within 48 hours of completion of fieldwork.

The results of the monitoring, including all excavation or other treatment, will be included in the final report for the project.

Appendix J

Unanticipated Discovery Plan for Paleontological Resources

UNANTICIPATED DISCOVERY PLAN
FOR PALEONTOLOGICAL RESOURCES
MID-AMERICA PIPELINE COMPANY, LLC
WESTERN EXPANSION PROJECT III

SAN JUAN, RIO ARRIBA, SANDOVAL, MCKINLEY, BERNALILLO, SANTA FE, TORRANCE, GUADALUPE, LINCOLN, DE BACA, CHAVES, AND LEA COUNTIES, NEW MEXICO

December 2012

1.0 Introduction

According to the Paleontological Resources Preservation Act, paleontological resources must be managed and protected on public lands according to scientific principles and expertise. Federal guidelines further stipulate that appropriate plans be developed for the inventory, monitoring, and scientific and educational use of any paleontological resources on public lands. In addition, the Federal Land Policy and Management Act (FLPMA) and the National Environmental Policy Act (NEPA) require that scientifically significant paleontological resources on Bureau of Land Management-administered lands be managed and preserved.

According to federal guidelines, a significant paleontological resource is defined as fossil remains that are considered to be of scientific interest. This definition includes most vertebrate fossil remains, fossil track ways and trace fossils and rare or unusual invertebrate or plant fossils. A paleontological resource is considered to be of scientific importance if it a) is of a rare or previously unknown species, b) is of high quality and/or well preserved, c) preserves a previously undocumented anatomical characteristic or other feature, d) provides new information relevant to the history of life on Earth, or e) has identifiable educational and/or recreational value. Paleontological resources that are considered to not have paleontological significance include fossil material that a) lacks appropriate geologic provenance or context, b) lacks physical integrity due to decay and/or natural erosion, and/or c) are overly redundant (e.g., abundant in the geologic record) or are otherwise not of value for scientific research.

Vertebrate fossils include the remains of vertebrate, such as bones, scales, osteoderms (“scutes”), as well as trace fossils, such as skin impressions, burrows, footprints and track ways, tail drag marks, coprolites (feces), gastroliths (“stomach stones”) and/or any other physical evidence of past vertebrate life or activities.

This unanticipated discovery plan (henceforth referred to as “the Plan”) provides a list of appropriate procedures for use in the event that paleontological resources are discovered during construction of the Mid-America Pipeline Company, LLC (MAPL) Western Expansion Project III (WEP III). The Plan will be followed during all phases of construction of the project.

2.0 Construction Methods

Construction of WEP III will begin with clearing of vegetation and removal and salvage of topsoil along the segment routes. Following segregation of topsoil, the remainder of the right-of-way will be mechanically graded to a working surface using heavy equipment. Construction activity and ground disturbance will be limited to the approved, staked areas. Once preparation of the construction right-of-way is complete, trenching machines, backhoes and hand excavation will be used to prepare the pipeline trench itself. The majority of the excavation will be performed with trenching machines, but in areas where the terrain precludes the use of the larger trenching machines, backhoes will be utilized. Where existing utilities (such as existing pipeline and telephone or fiber optic lines) must be undercut, hand excavation will be used. In the case of existing roadways, ditches, other restrictive manmade features and/or natural topographic features, boring machinery will be used in place of surface cutting equipment.

3.0 Preconstruction Training

To facilitate protection of paleontological resources prior to the beginning of construction, monitoring areas will be identified by milepost. During those times when a qualified paleontologist will not be present during construction activities, MAPL and contractor personnel will be responsible for identifying unanticipated, potentially scientifically significant paleontological resources. As such, prior to the commencement of construction, MAPL will provide appropriate training to contractor personnel concerning the nature of fossil resources and the appropriate procedures to be followed in the event of the discovery of unanticipated paleontological resources. This training will also emphasize the sensitive nature of fossil resources and implement a strict policy prohibiting the collection of any paleontological resources.

4.0 Unanticipated Discovery of Paleontological Resources

4.1 Paleontological Support During Construction

A qualified paleontologist will monitor excavation activities and/or spot check after excavation along especially sensitive segments of the proposed project. Sensitive segments are those parts of the project that are known or suspected to be underlain by the following geologic units which will be impacted by excavation:

- Ogallala Formation and younger Quaternary sediments
- San Jose Formation
- Nacimiento Formation
- Ojo Alamo Sandstone
- Fruitland-Kirtland Formations
- Pictured Cliffs Sandstone
- Lewis Shale
- Cliffhouse Sandstone
- Menefee Formation
- Point Lookout Sandstone
- Mancos Shale
- Dakota Sandstone
- Morrison Formation
- Chinle Group

Spot Checks: During spot checking of the excavation, a qualified paleontologist will visually inspect specific trench spoil piles after excavation in areas that reveal bedrock of any of the above geologic units.

Spot check inspection involves a drive along the disturbed right-of-way trench along most of its extent in order to determine areas of spoil piles that contain fresh bedrock that is of interest and that were not anticipated. Fresh bedrock fragments in spoil piles will be visually inspected for evidence of scientifically significant fossil material. Areas where the spoil piles do not contain fresh bedrock need not be examined.

Spot checks are conducted for efficiency so that large stretches of the trench may be inspected at one time in areas where a full-time presence of a paleontological monitor may not be warranted. If the pace of excavation and burial of pipe precludes spot checking, or if spot checking reveals the presence of scientifically significant fossil resources, then spot checking will be immediately replaced with full time monitoring of excavations. The paleontologist working with the construction crews will have the authority to adjust spot checking and/or monitoring as warranted by the excavation situation and any potential discoveries of fossil material.

Monitoring: Monitoring of the ground disturbance associated with construction shall be conducting during excavation where trenching is almost certain to encounter bedrock of the geologic units listed above. If any paleontological resources are discovered, they will most likely be isolated bones or teeth, invertebrate material and impressions of invertebrates and fossilized plant material and impressions. There is always the chance that substantial articulate remains of vertebrate fossils (including mammals, dinosaurs and/or marine reptiles) may be encountered during excavations in areas underlain by the fossil-bearing geologic units listed above. In addition, well preserved and potentially rare invertebrate and/or plant fossils may be encountered.

4.2 Procedures at Time of Discovery of Unanticipated Paleontological Resources

If unanticipated scientifically significant paleontological resources are discovered during construction, all construction-related activity will immediately cease within 100 feet in all directions of the discovery. The discovery will be immediately reported to the MAPL construction supervisor responsible for protection of environmental resources. The MAPL construction supervisor will immediately report the discovery to the certified paleontologist if the paleontologist was not already present. The paleontologist will examine and record the discovery and evaluate the significance of the material to determine if mitigation in the form of collection and curation is applicable. All ground-disturbing activities within 100 feet of the discovery will not resume until the appropriate agencies (MAPL, BLM, private landowners where applicable, New Mexico Museum of Natural History and Science) have agreed that construction may resume. Agencies involved in the decision may inform the paleontologist of the decision to resume construction by telephone with follow-up documentation by mail or email. Agency contacts are listed at the end of this plan.

4.3 Recording Procedures for Unanticipated Paleontological Resources

All paleontological materials of scientific significance that are discovered during construction will be recorded using methods consistent with modern professional paleontology standards. Upon discovery of a scientifically significant paleontological resource, the paleontologist(s) will identify as much as possible the horizontal and vertical extent of the fossil material as it is exposed in the trench. Scientifically significant fossil vertebrate material will be collected and curated into an approved federal repository (New Mexico Museum of Natural History and Science, Albuquerque). Collection methods may entail wrapping the specimen in paper towels and packing in a ziplock bag for smaller specimens or for larger specimens, may involve plaster jacketing of large blocks of fossil material and rock. Standard paleontological data for the locality will be recorded and includes the lithology of the unit bearing the fossil material, the unit's stratigraphic position, GPS (global positioning system) coordinates for the locality and any other relevant geologic information. The locality (localities) will be plotted on the appropriate US Geological Survey 7.5' quadrangle and will be photo documented. All of this information will be recorded on the standard paleontological locality forms (BLM form H-8270-3rev, NMMNHS Paleontology Locality Form). The MAPL construction supervisor should report any potential vertebrate fossils encountered during work to the monitoring paleontologist immediately.

4.4 Emergency Salvage of Paleontological Resources

Unstable earth conditions in trenches and along hillslopes, as well as other unforeseen natural or work-related events may endanger paleontological resources discovered during construction of WEP III. If paleontological resources are in imminent danger of destruction, MAPL will, without delay, apply appropriate methods to preserve as much of the fossil material and related locality information as possible. Salvage activities will follow standard paleontological methods (outlined above) as much as possible, but human safety concerns or the immediacy of the threat to the paleontological resource may require less exact methods of excavation and/or protection, and can include rapid shovel excavation or use of backhoes of other equipment to remove the fossil material.

4.5 Final Report for Unanticipated Paleontological Resources

A final technical report will be prepared upon completion of the paleontological monitoring program and this report will contain the results of work that was conducted during the course of excavation for the pipeline. The report will include an accession list and final disposition of any fossil material collected, listed by locality. The report will also include a discussion of the scientific significance of the specimens and the geologic and evolutionary context of the fossils and their localities. A confidential appendix will be provided that contains copies of locality maps and standard locality data sheets for each locality where specimens were discovered and collected. Copies of the final report will be filed with the BLM and the acting federal repository, the New Mexico Museum of Natural History and Science (Albuquerque).

5.0 Contacts for Unanticipated Paleontological Discoveries

MAPL

Jack L. McDowell
Supervisor, Land
Enterprise Products
614 Reilly Ave.
Farmington, NM 87401
O# 505.599.2146
C# 505.592.9183
jlmcdowell@eprod.com

BLM Regional Paleontologist

Philip Gensler
New Mexico State Office
P.O. Box 27115
310 Dinosaur Trail
Santa Fe, NM 87502
phone: 505-954-2172
fax: 505-954-2136
pgensler@blm.gov

BLM Farmington Field Office

Sherrie Landon
6251 College Blvd. Suite A
Farmington, NM 87402
Phone: (505) 564-7707
Email: slandon@blm.gov

BLM Rio Puerco Field Office

Calvin Parson
435 Montano Road, NE
Albuquerque, NM 87107-4935
Phone: (505) 761- 8771
Email: cparson@blm.gov

BLM Roswell Field Office

John Simitz, Geologist
2909 W. Second Street
Roswell, NM 88201-2019
Phone: (575) 627-0288
Email: jsimitz@blm.gov

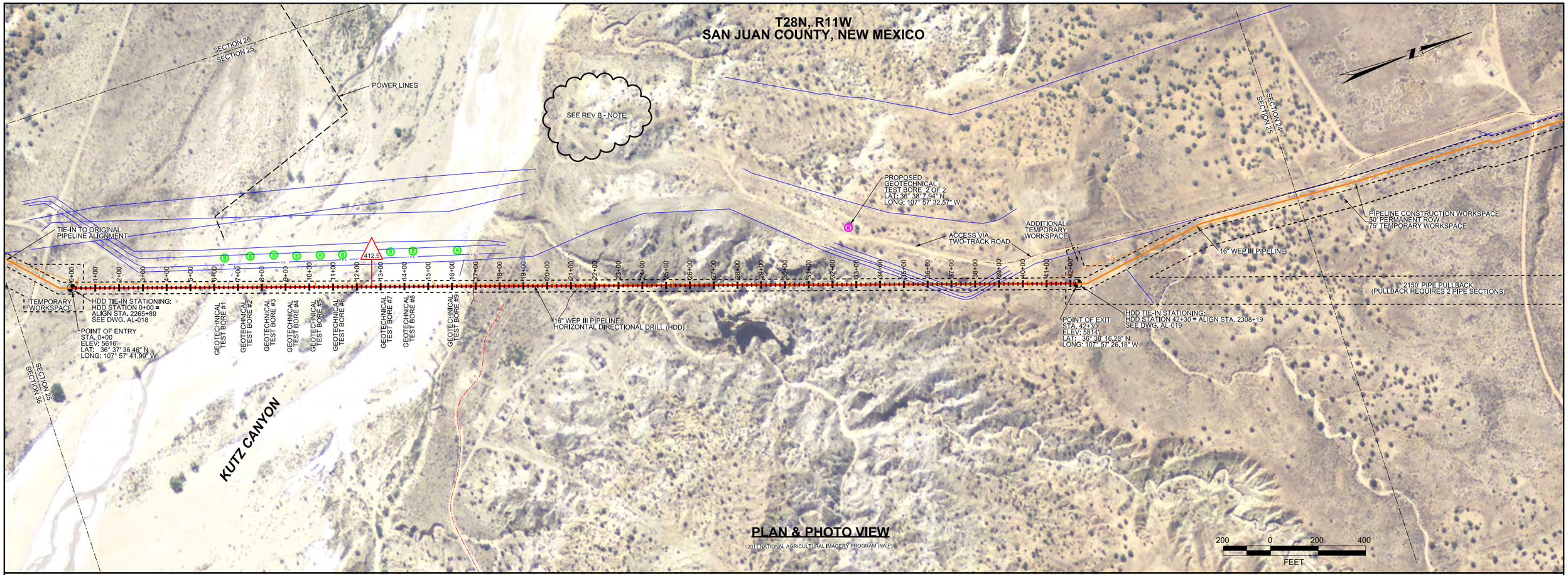
BLM Carlsbad Field Office
Jim Renn, Archeologist
620 East Green St.
Carlsbad, NM 88220
Phone: (575) 234-2236
Email: jrenn@blm.gov

NM Museum of Natural History and Science
Dr. Spencer G. Lucas
1801 Mountain Road N. W.
Albuquerque, New Mexico 87104-1375
Phone: 505-841-2873
Email: spencer.lucas@state.nm.us

Appendix K

HDD Drawings

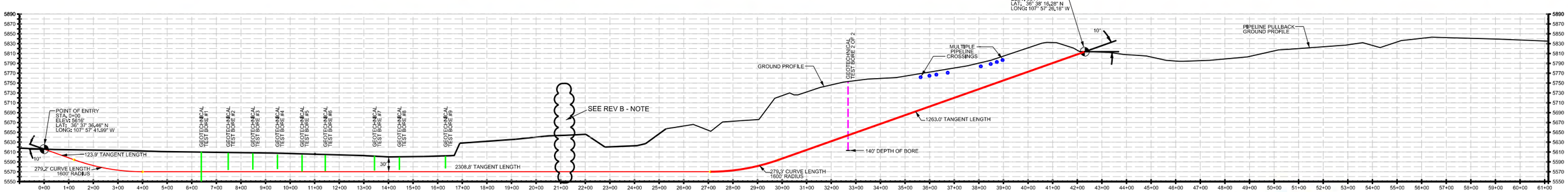
T28N, R11W
SAN JUAN COUNTY, NEW MEXICO

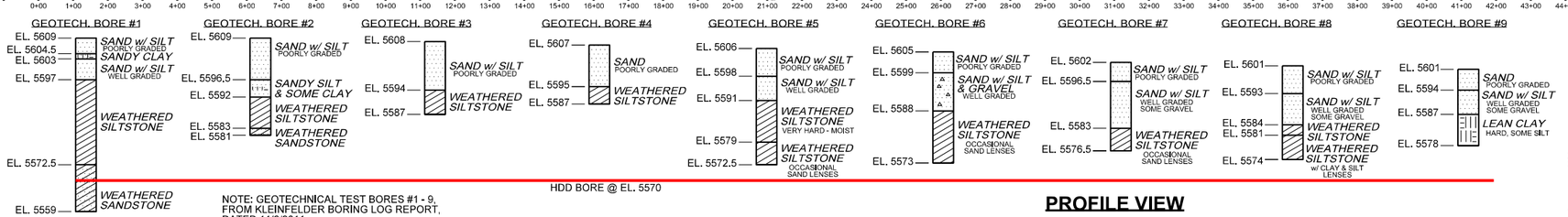


PLAN & PHOTO VIEW

2011 NATIONAL AGRICULTURAL IMAGERY PROGRAM (NAIP)

TOTAL HORIZONTAL DISTANCE = 4230 FT
TOTAL PIPE LENGTH = 4254.2 FT





NOTE: GEOTECHNICAL TEST BORES #1 - 9, FROM KLEINFELDER BORING LOG REPORT, DATED 11/9/2011

PROFILE VIEW

New Mexico 811

D-SIZE SCALE
VERTICAL : 1"= 100'
HORIZONTAL : 1"=200'

PRELIMINARY FOR GEOTECH INVESTIGATION

NOTES

1. ALL COORDINATES SHOWN ARE GEOGRAPHIC COORDINATES, NAD83 DATUM. ALL ELEVATIONS ARE BASED ON USGS TOPOGRAPHIC DEM - 10 METER ACCURACY.
2. STATIONING IS BASED ON HORIZONTAL DISTANCES.
3. ROONEY ENGINEERING, INC. AND ENTERPRISE PRODUCTS ARE NOT RESPONSIBLE FOR LOCATION OF FOREIGN UTILITIES SHOWN IN PLOT PLAN OR PROFILE. THE INFORMATION SHOWN HEREON IS FURNISHED WITHOUT LIABILITY ON THE PART OF ROONEY ENGINEERING, INC. AND ENTERPRISE PRODUCTS, FOR ANY DAMAGES RESULTING FROM ERRORS OR OMISSIONS THEREIN.
4. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES.
5. CONTACT ONE CALL NEW MEXICO AT 811.

GROUND PROFILE
ROW / WORKSPACE
HDD DRILL PATH
WEP III PIPELINE
WEP III PIPELINE SURVEY
EXISTING PIPELINES
POWER LINES
SECTION LINES

MATERIAL SUMMARY

ITEM	DESCRIPTION	QTY.

REFERENCE DRAWINGS

DWG	DESCRIPTION

CROSSING LEGEND

NOTES

REV	DESCRIPTION	BY	DATE	APP.
B	REMOVED TEST BORE 1 OF 2 FROM SCOPE	KR	10/16/12	ZB
A	PRELIMINARY	KR	05/30/12	MM

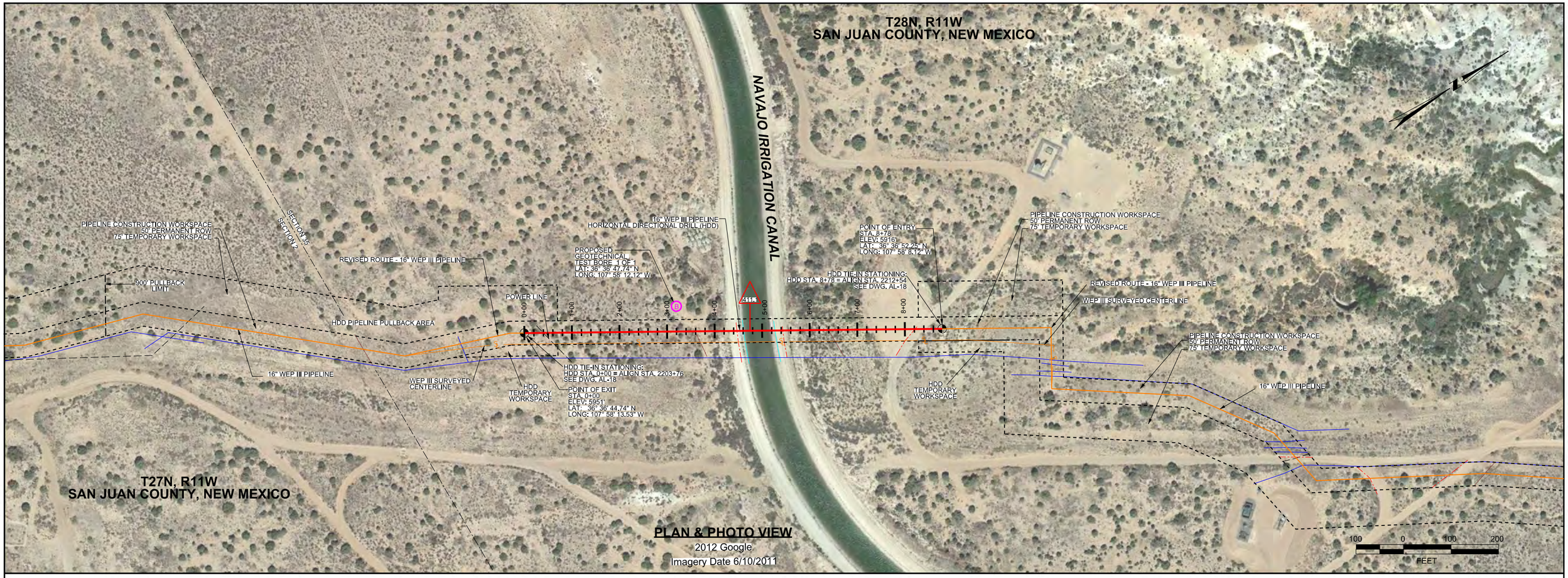
ENGINEERING RECORD
DRAWN
CHECKED
CLIENT
PROJECT MGMT.
PROCESS
MECHANICAL
PIPING
STRUCTURAL
ELECTRICAL
I & C

Enterprise Products Partners L.P.

Rooney Engineering, Inc.
12201 E. Arapahoe Road, Suite C-10
Centennial, Colorado 80112
(303) 792-5911

ENTERPRISE PRODUCTS PARTNERS, L.P.
PROPOSED HDD
KUTZ CANYON - OPTION
WESTERN EXPANSION PROJECT PHASE III
SAN JUAN COUNTY, NEW MEXICO

SCALE: NO SCALE | DRAWING: 02862-PIPL-2001B | REV: B

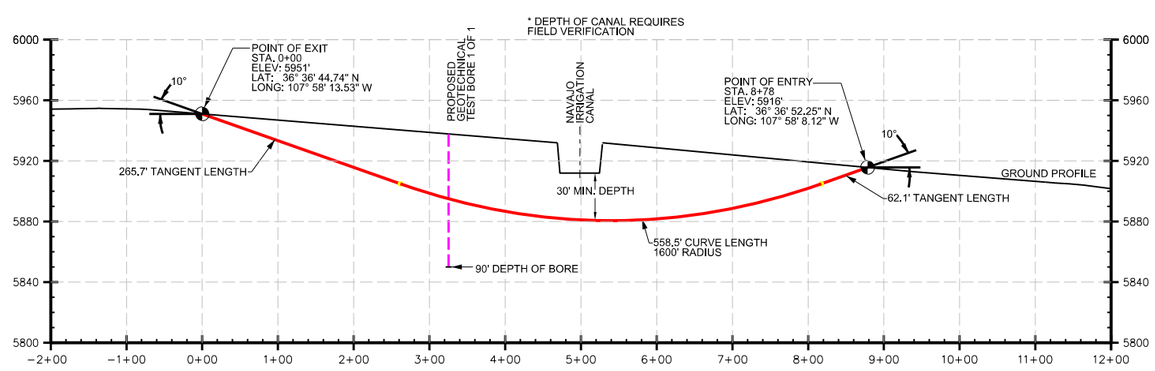


PLAN & PHOTO VIEW

2012 Google
Imagery Date 6/10/2011

PRELIMINARY FOR GEOTECH INVESTIGATION

TOTAL HORIZONTAL DISTANCE = 878 FT
TOTAL PIPE LENGTH = 886.3 FT



PROFILE VIEW

D-SIZE SCALE
VERTICAL : 1"= 50'
HORIZONTAL : 1"=100'

New Mexico 811

NOTES

1. ALL COORDINATES SHOWN ARE GEOGRAPHIC COORDINATES, NAD83 DATUM. ALL ELEVATIONS ARE BASED ON USGS TOPOGRAPHIC DEM - 10 METER ACCURACY.
2. STATIONING IS BASED ON HORIZONTAL DISTANCES.
3. ROONEY ENGINEERING, INC. AND ENTERPRISE PRODUCTS ARE NOT RESPONSIBLE FOR LOCATION OF FOREIGN UTILITIES SHOWN IN PLOT PLAN OR PROFILE. THE INFORMATION SHOWN HEREON IS FURNISHED WITHOUT LIABILITY ON THE PART OF ROONEY ENGINEERING, INC. AND ENTERPRISE PRODUCTS, FOR ANY DAMAGES RESULTING FROM ERRORS OR OMISSIONS THEREIN.
4. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES.
5. CONTACT ONE CALL NEW MEXICO AT 811.

- GROUND PROFILE
- ROW / WORKSPACE
- HDD DRILL PATH
- WEP III PIPELINE
- WEP III PIPELINE SURVEY
- EXISTING PIPELINES
- SECTION LINES

MATERIAL SUMMARY		
ITEM	DESCRIPTION	QTY.

REFERENCE DRAWINGS	
DWG	DESCRIPTION

CROSSING LEGEND

NOTES

REV	DESCRIPTION	BY	DATE	APP.
B	REVISED PER CLIENT COMMENTS	KR	05/24/12	MM
A	PRELIMINARY	KR	05/09/12	MM

ENGINEERING RECORD		
DRAWN		
CHECKED		
CLIENT		
PROJECT MGMT.		
PROCESS		
MECHANICAL		
PIPING		
STRUCTURAL		
ELECTRICAL		
I & C		

Enterprise Products Partners L.P.

Rooney Engineering, Inc.
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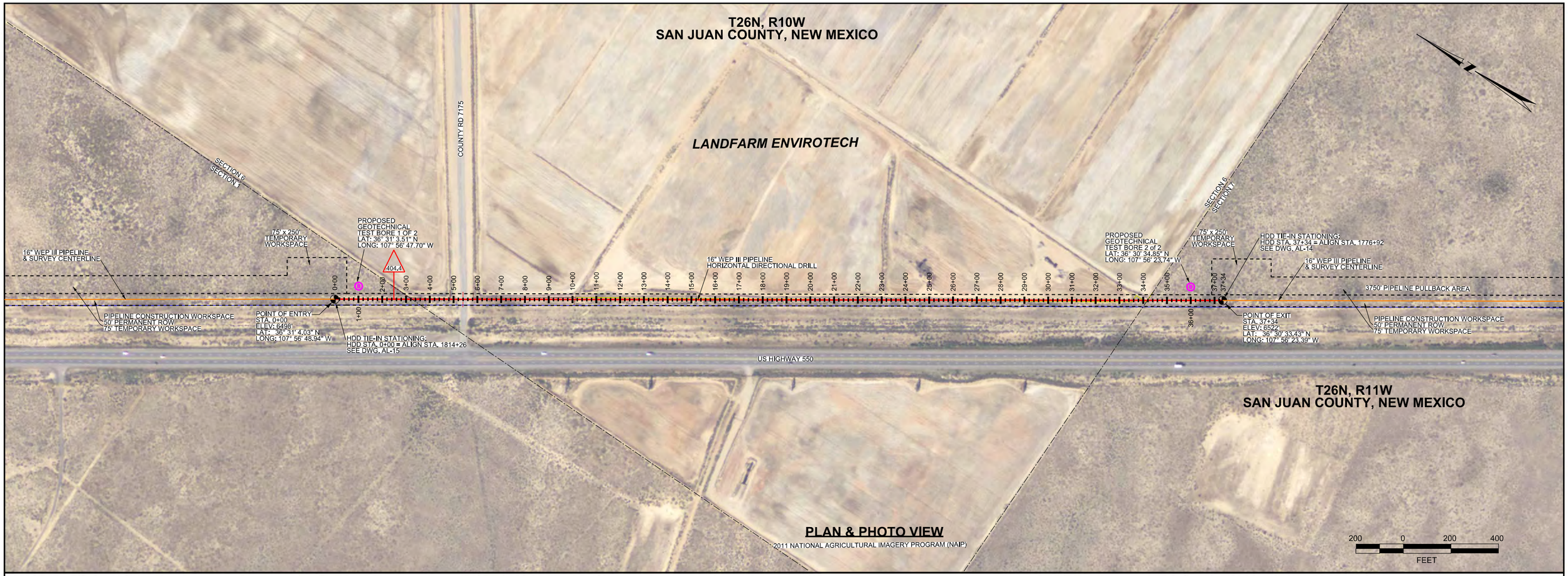
Centennial, Colorado 80112
(303) 792-5911

ENTERPRISE PRODUCTS PARTNERS, L.P.

PROPOSED HDD
NAVAJO IRRIGATION CANAL

WESTERN EXPANSION PROJECT PHASE III
SAN JUAN COUNTY, NEW MEXICO

SCALE: NO SCALE | DRAWING: 02862-PIPL-2002 | REV: B

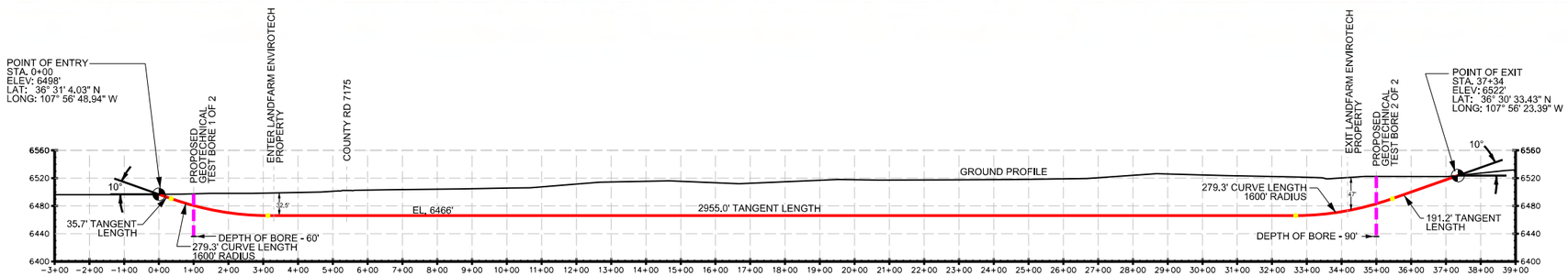


PLAN & PHOTO VIEW

2011 NATIONAL AGRICULTURAL IMAGERY PROGRAM (NAIP)

PRELIMINARY FOR GEOTECH INVESTIGATION

TOTAL HORIZONTAL DISTANCE = 3734 FT
TOTAL PIPE LENGTH = 3740.5 FT



New Mexico 811

NOTES

1. ALL COORDINATES SHOWN ARE GEOGRAPHIC COORDINATES, NAD83 DATUM. ALL ELEVATIONS ARE BASED ON USGS TOPOGRAPHIC DEM - 10 METER ACCURACY.
2. STATIONING IS BASED ON HORIZONTAL DISTANCES.
3. ROONEY ENGINEERING, INC. AND ENTERPRISE PRODUCTS ARE NOT RESPONSIBLE FOR LOCATION OF FOREIGN UTILITIES SHOWN IN PLOT PLAN OR PROFILE. THE INFORMATION SHOWN HEREON IS FURNISHED WITHOUT LIABILITY ON THE PART OF ROONEY ENGINEERING, INC. AND ENTERPRISE PRODUCTS, FOR ANY DAMAGES RESULTING FROM ERRORS OR OMISSIONS THEREIN.
4. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES.
5. CONTACT ONE CALL NEW MEXICO AT 811.

PROFILE VIEW

D-SIZE SCALE
VERTICAL : 1"= 100'
HORIZONTAL : 1"=200'

- GROUND PROFILE
- ROW / WORKSPACE
- HDD DRILL PATH
- WEP III PIPELINE
- EXISTING PIPELINES
- SECTION LINES

MATERIAL SUMMARY		
ITEM	DESCRIPTION	QTY.

REFERENCE DRAWINGS	
DWG	DESCRIPTION

CROSSING LEGEND

NOTES

REV	DESCRIPTION	BY	DATE	APP.
B	REVISED PER CLIENT COMMENTS	KR	05/24/12	MM
A	PRELIMINARY	KR	05/10/12	MM

ENGINEERING RECORD		
DRAWN		
CHECKED		
CLIENT		
PROJECT MGMT.		
PROCESS		
MECHANICAL		
PIPING		
STRUCTURAL		
ELECTRICAL		
I & C		

Enterprise Products Partners L.P.

Rooney Engineering, Inc.
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Centennial, Colorado 80112
(303) 792-5911

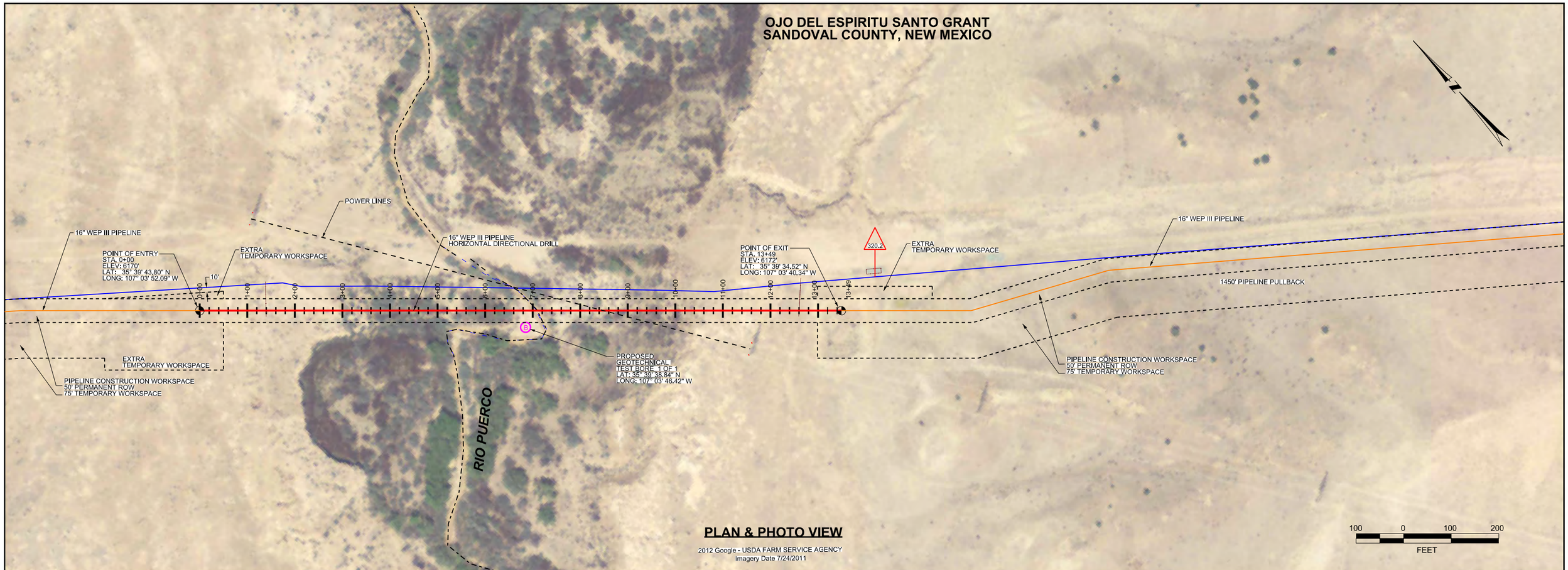
ENTERPRISE PRODUCTS PARTNERS, L.P.

PROPOSED HDD
LANDFARM ENVIROTECH

WESTERN EXPANSION PROJECT PHASE III
SAN JUAN COUNTY, NEW MEXICO

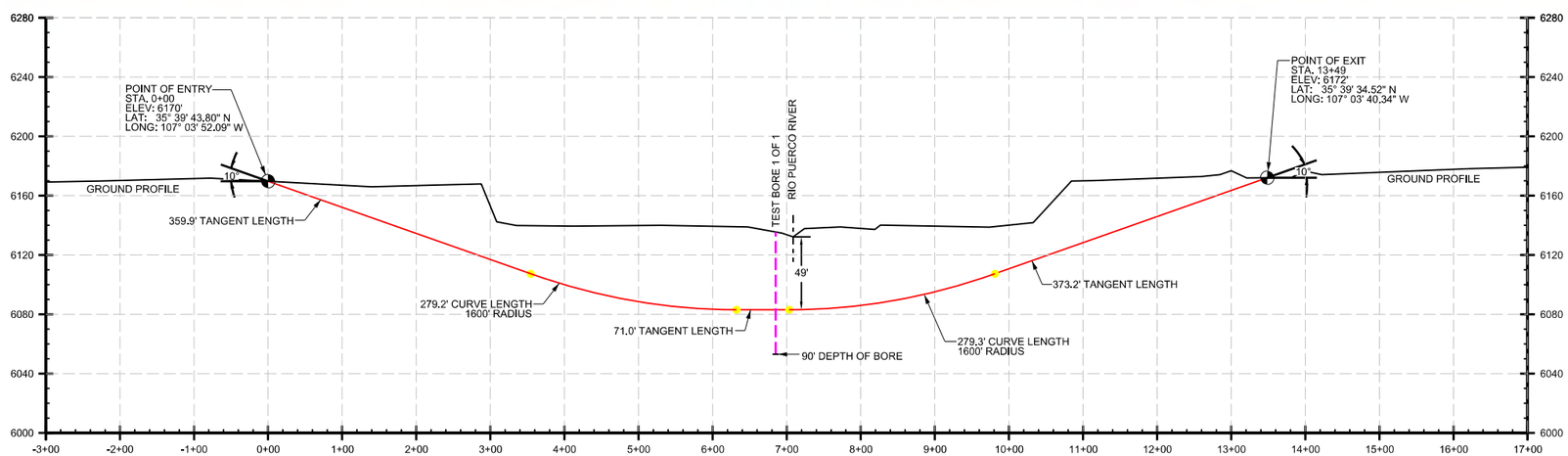
SCALE: NO SCALE | DRAWING: 02862-PIPL-2003 | REV: B

OJO DEL ESPIRITU SANTO GRANT
SANDOVAL COUNTY, NEW MEXICO



PLAN & PHOTO VIEW

2012 Google - USDA FARM SERVICE AGENCY
Imagery Date 7/24/2011



PROFILE VIEW

D-SIZE SCALE
VERTICAL : 1"= 50'
HORIZONTAL : 1"=100'

TOTAL HORIZONTAL DISTANCE = 1349 FT
TOTAL PIPE LENGTH = 1362.7 FT

PRELIMINARY FOR GEOTECH INVESTIGATION

New Mexico 811

NOTES

1. ALL COORDINATES SHOWN ARE GEOGRAPHIC COORDINATES, NAD83 DATUM. ALL ELEVATIONS ARE BASED ON USGS TOPOGRAPHIC DEM - 10 METER ACCURACY.
2. STATIONING IS BASED ON HORIZONTAL DISTANCES.
3. ROONEY ENGINEERING, INC. AND ENTERPRISE PRODUCTS ARE NOT RESPONSIBLE FOR LOCATION OF FOREIGN UTILITIES SHOWN IN PLOT PLAN OR PROFILE. THE INFORMATION SHOWN HEREON IS FURNISHED WITHOUT LIABILITY ON THE PART OF ROONEY ENGINEERING, INC. AND ENTERPRISE PRODUCTS, FOR ANY DAMAGES RESULTING FROM ERRORS OR OMISSIONS THEREIN.
4. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES.
5. CONTACT ONE CALL NEW MEXICO AT 811.

- GROUND PROFILE
- ROW / WORKSPACE
- HDD DRILL PATH
- WEP III PIPELINE
- EXISTING PIPELINES
- POWER LINES
- RIVER FLOW LINE

MATERIAL SUMMARY		
ITEM	DESCRIPTION	QTY.

REFERENCE DRAWINGS	
DWG	DESCRIPTION

CROSSING LEGEND

NOTES

REV	DESCRIPTION	BY	DATE	APP.
B	REVISED PER CLIENT COMMENTS	KR	05/24/12	MM
A	PRELIMINARY	KR	05/22/12	MM

ENGINEERING RECORD		
DRAWN		
CHECKED		
CLIENT		
PROJECT MGMT.		
PROCESS		
MECHANICAL		
PIPING		
STRUCTURAL		
ELECTRICAL		
I & C		

Enterprise Products Partners L.P.

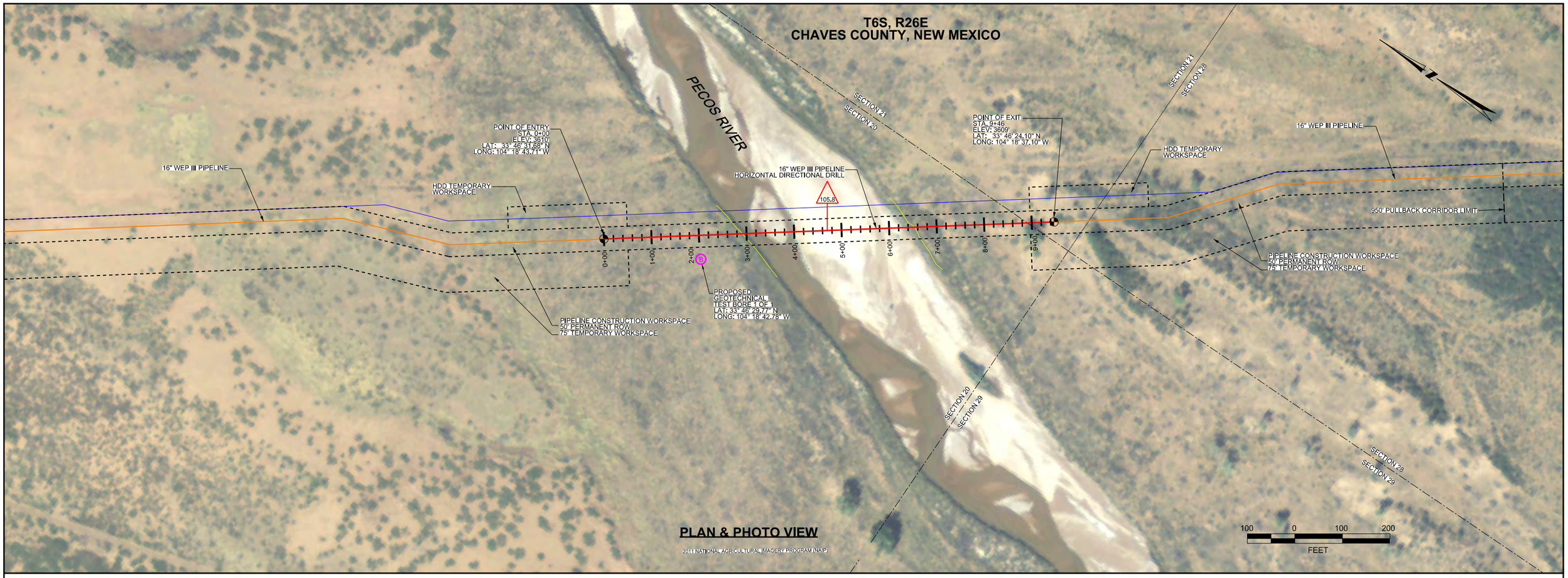
Rooney Engineering, Inc.
12201 E. Arapahoe Road, Suite C-10
Centennial, Colorado 80112
(303) 792-5911

ENTERPRISE PRODUCTS PARTNERS, L.P.

PROPOSED HDD
RIO PUERCO

WESTERN EXPANSION PROJECT PHASE III
SANDOVAL COUNTY, NEW MEXICO

SCALE: AS NOTED | DRAWING: 02862-PIPL-2004 | REV: B



PLAN & PHOTO VIEW

2011 NATIONAL AGRICULTURAL IMAGERY PROGRAM (NAIP)

PRELIMINARY FOR GEOTECH INVESTIGATION

New Mexico 811

NOTES

1. ALL COORDINATES SHOWN ARE GEOGRAPHIC COORDINATES, NAD83 DATUM. ALL ELEVATIONS ARE BASED ON USGS TOPOGRAPHIC DEM - 10 METER ACCURACY.
2. STATIONING IS BASED ON HORIZONTAL DISTANCES.
3. ROONEY ENGINEERING, INC. AND ENTERPRISE PRODUCTS ARE NOT RESPONSIBLE FOR LOCATION OF FOREIGN UTILITIES SHOWN IN PLOT PLAN OR PROFILE. THE INFORMATION SHOWN HEREON IS FURNISHED WITHOUT LIABILITY ON THE PART OF ROONEY ENGINEERING, INC. AND ENTERPRISE PRODUCTS, FOR ANY DAMAGES RESULTING FROM ERRORS OR OMISSIONS THEREIN.
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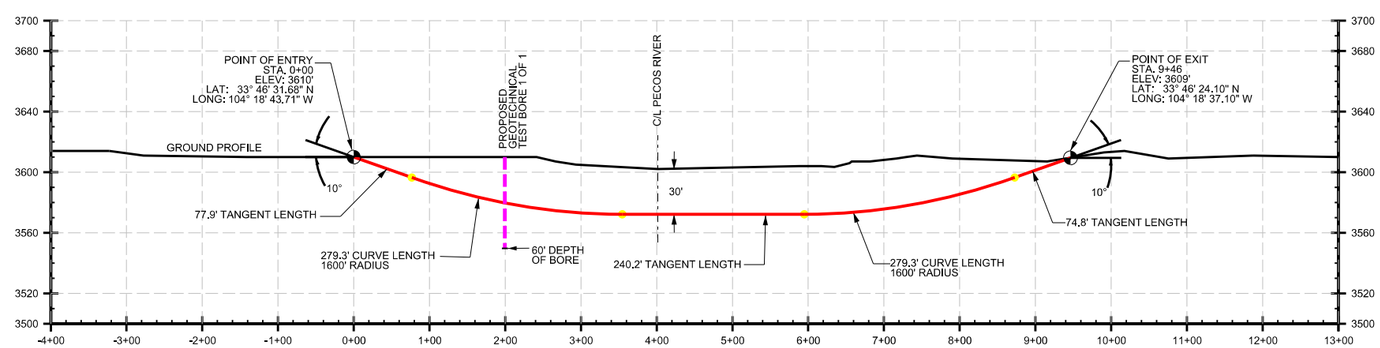

TOTAL HORIZONTAL DISTANCE = 946 FT
TOTAL PIPE LENGTH = 951.5 FT

PROFILE VIEW

D-SIZE SCALE
VERTICAL : 1"= 50'
HORIZONTAL : 1"=100'

- GROUND PROFILE
- ROW / WORKSPACE
- HDD DRILL PATH
- WEP III PIPELINE
- EXISTING PIPELINES
- SECTION LINES

MATERIAL SUMMARY		
ITEM	DESCRIPTION	QTY.

REFERENCE DRAWINGS	
DWG	DESCRIPTION

CROSSING LEGEND

NOTES

REV	DESCRIPTION	BY	DATE	APP.
B	REVISED PER CLIENT COMMENTS	KR	05/24/12	MM
A	PRELIMINARY	KR	05/03/12	MM

ENGINEERING RECORD	
DRAWN	
CHECKED	
CLIENT	
PROJECT MGMT.	
PROCESS	
MECHANICAL	
PIPING	
STRUCTURAL	
ELECTRICAL	
I & C	

Enterprise Products Partners L.P.

Rooney Engineering, Inc.
12201 E. Arapahoe Road, Suite C-10
Centennial, Colorado 80112
(303) 792-5911

ENTERPRISE PRODUCTS PARTNERS, L.P.

PROPOSED HDD
PECOS RIVER

WESTERN EXPANSION PROJECT PHASE III
CHAVES COUNTY, NEW MEXICO

SCALE: NO SCALE | DRAWING: 02862-PIPL-2008 | REV: B

Appendix L

Emergency Response Plan

ENTERPRISE EMERGENCY RESPONSE PLAN

FARMINGTON AREA
WEST NGL P/L & FRAC. AREA
WESTERN NGL PIPELINES REGION

ENTERPRISE PRODUCTS COMPANY

IN CASE OF EMERGENCY OR AN UNCONTROLLED RELEASE
CONTACT OUR CONTROL CENTER

1-800-546-3482 (MAPL)
1-800-331-3032 (Rockies System)

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AREAS COVERED BY THIS PLAN

This Emergency Response Plan will cover the Enterprise Products Company assets located in the following counties, facilities, and stations.

WEST NGL PIPELINE & FRACTIONATOR AREA – FARMINGTON AREA ROB NORTH, AREA SUPERVISOR	
COLORADO	
COUNTY	**FACILITY/STATION**
Dolores County	Dove Creek Pump Station
LaPlata County	Ignacio Pump Station
Motezuma County	Dolores Pump Station
San Miguel County	
NEW MEXICO	
COUNTY	**FACILITY/STATION**
Bernalillo County	
Chaves County	Mesa Pump Station White Lakes Pump Station
De Baca County	
Guadalupe County	Duran Pump Station
Lea County	Caprock Pump Station
Lincoln County	
McKinley County	
Rio Arriba County	Lybrook Pump Station
San Juan County	Huerfano Pump Station Kutz Pump Station Kutz Truck Unloading Facility
Sandoval County	San Luis Pump Station San Ysidro Pump Station
Santa Fe County	Edgewood Pump Station
Torrance County	Estancia Pump Station

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1. CONTACT NUMBERS

1.1 ENTERPRISE PRODUCTS COMPANY CONTACT INFORMATION

	Office	Cell Phone
Enterprise Products MAPL Emergency Number	800-546-3482	
Pipeline Control - Rockies System	800-331-3032	
Regional Manager – West NGL P/L & Frac. Charles Carter	713-387-7507	713-203-3811
Area Supervisor Rob North	505-599-2895	505-486-0713
Maintenance Coordinator Chuck Lee	505-599-2896	505-793-0007
Maintenance Specialist/Planner/Scheduler Jeff Archuleta	505-599-2897	505-320-3370
Safety / PSM Coordinator Dennis Holland	505-599-2500	505-330-1945
Safety / PSM Coordinator Victor Crawford	505-599-2264	505-592-9185
Environmental James Lieb	505-599-2159	505-360-8776
Region Engineer Jill Peterson	713-381-7506	575-631-4686
Risk Management Scott Toth	713-880-6673	713 503-5212
Pipeline Compliance Nhan Truong	713-381-2493	281-455-4439
Public Relations Rick Rainey	713-381-3635	713-259-9214
Director of Corporate Security Mike Derrick	713-381-6623	713-829-3007

1.1.1 FACILITY / STATION CONTACT AND LOCATION INFORMATION

FACILITY/STATION	PHONE - LOCATION - COORDINATES
COLORADO	
Dolores County - Dove Creek Pump Station	Enterprise Products Co. GPS Coordinates: N 37.836833 W 108.959
LaPlata County - Ignacio Pump Station	Enterprise Products Co. GPS Coordinates: N 37.138783 W 107.786611
Motezuma County - Dolores Pump Station	Enterprise Products Co. GPS Coordinates: N 37.418333 W 108.433667
NEW MEXICO	
Chaves County - Mesa Pump Station	Enterprise Products Co. GPS Coordinates: N 33.964067 W 104.581833
Chaves County - White Lakes Pump Station	Enterprise Products Co. GPS Coordinates: N 33.5392 W 103.987889
Guadalupe County Duran Pump Station	Enterprise Products Co. GPS Coordinates: N 34.421967 W 105.224389
Lea County Caprock Pump Station	Enterprise Products Co. GPS Coordinates: N 33.256433 W 103.609833
Rio Arriba County Lybrook Pump Station	Enterprise Products Co. GPS Coordinates: N 36.23245 W 107.546333
San Juan County Huerfano Pump Station	Enterprise Products Co. GPS Coordinates: N 36.471617 W 107.908528
San Juan County Kutz Truck Terminal	Enterprise Products Co. GPS Coordinates: N 36.682867 W 107.9805
San Juan County Kutz Pump Station	Enterprise Products Co. GPS Coordinates: N 36.6647 W 107.960944
Sandoval County San Luis Pump Station	Enterprise Products Co. GPS Coordinates: N 35.705017 W 107.106517

1.1.1 FACILITY / STATION CONTACT AND LOCATION INFORMATION (CONT.)

FACILITY/STATION	Phone - Location - Directions
NEW MEXICO	
Sandoval County San Ysidro Pump Station	Enterprise Products Co. GPS Coordinates: N 35.520167 W 106.772444
Santa Fe County Edgewood Pump Station	Enterprise Products Co. GPS Coordinates: N 35.127033 W 106.191083
Torrance County Estancia Pump Station	Enterprise Products Co. GPS Coordinates: N 34.888583 W 105.857667

1.2 FEDERAL AGENCIES

COLORADO	
Environmental Protection Agency Natl. Response Ctr. National Spill Reporting	800-424-8802 202-267-1322 (fax)
Environmental Protection Agency (EPA) Region 8	800-227-8917 (Region States Only) 303-312-6312 (Denver, CO)
Pipeline Hazardous Materials Safety Administration (PHMSA) Office of Pipeline Safety, Lakewood CO (DOT)	202-366-4595 (Washington, DC) 720-963-3160 (Western Region) 303-969-5150
Federal Aviation Administration	866-835-5322 (Public Info Line) 425-227-1389 (NW Mountain Region)
NEW MEXICO	
Environmental Protection Agency Natl. Response Ctr. National Spill Reporting	800-424-8802 202-267-1322 (fax)
Environmental Protection Agency (EPA) Region 6	866-372-7745 (24 hr) 800-887-6063
Pipeline Hazardous Materials Safety Administration	202-366-4595 (Washington, DC) 713-272-5100 (SW Region)
Federal Aviation Administration	866-835-5322 (Public Info Line) 817-222-5006 (SW Region)

1.3 STATE AGENCIES

COLORADO	
Colorodo Department of Natural Resources – Oil and Gas Conservation Commission	303-894-2100
Colorado Department of Public Health and Environment – Hazardous Materials and Waste Management Division	877-518-5608
Colorado Department Transportation – Hazardous Waste Program	303-512-5524
Colorado State Patrol	303-239-4501
Dept. of the Interior, Bureau of Land Management, San Juan Publics Land Office, Durango, CO	970-247-4874
Colorado Emergency Manager	720-852-6600
NEW MEXICO	
New Mexico Dept. of Homeland Security & Emergency Management	505-476-9600 505-476-9635
New Mexico Department of Public Safety – Headquarters	505-827-3370 505-827-3394
New Mexico Environment Department	800-219-6157 505-827-2855
New Mexico State Fire Marshall	1-800-244-6702 505-476-0173
New Mexico Energy, Minerals and Natural Resources Department	505-476-3200

1.4 LOCAL MUNICIPAL CONTACTS

Dolores County – CO		
Name/Organization	**Address**	**Phone**
Community Health Clinic	P.O. Box 576 Dove Creek, CO 81324	970-677-2291
Dolores County 911 Call Center	P.O. Box 505 Dove Creek, CO 81324	970-677-2257
Dove Creek Volunteer Fire Department	118 S. Main, P.O. Box 474 Dove Creek, CO 81324	970-677-2500
Pleasant View Fire Department	409 N. Main Pleasant View, CO 81331	970-739-6060
Upper Pine River Fire Department	515 Sower Dr. Bayfield, CO 81122	970-884-9508
Dolores County Sheriff's Department	P.O. Box 505 Dove Creek, CO 81324	970-677-2257
Dolores County Emergency Management	P.O. Box 502 Dove Creek, CO 81324	970-739-5654 970-677-2500
Dolores County LEPC	P.O. Box 502 Dove Creek, CO 81324	970-739-5654 970-677-2500
LaPlata County – CO		
Name/Organization	**Address**	**Phone**
Merci Regional Medical Center	P.O. Box 219 Durango, CO 81301	970-247-4311
La Plata County 911 Call Center	949 E. 2nd Ave Durango, CO 81301	970-385-2900
Durango Fire & Rescue	142 Sheppard Dr. Durango, CO 81303	970-382-6000
Upper Pine River Fire Department	515 Sower Dr. Bayfield, CO 81122	970-884-9508
LaPlata County Sheriff's Department	742 Turner Dr. Durango, CO 81303	970-247-1157
Durango Police Department	990 E. 2nd Ave Durango, CO 81301	970-385-2900
LaPlata County Emergency Management	742 Turner Dr. Durango, CO 81303	970-382-7026
LaPlata County LEPC	742 Turner Dr. Durango, CO 81303	970-382-7026

1.4 LOCAL MUNICIPAL CONTACTS (cont.)

Montezuma County – CO		
Name/Organization	**Address**	**Phone**
Southwest Memorial Hospital	1311 N. Mildred Rd. Cortez, CO 81321	970-565-6666
Cortez Police Department/911 Call Center	608 N. Park St. Cortez, CO 81321	970-565-8441
Cortez Fire Protection District	23 N. Washington St. Cortez, CO 81321	970-565-3157 970-560-3262
Pleasant View Fire Department	P.O. Box 291 Pleasant View, CO 81331	970-562-4399
Upper Pine River Fire Department	515 Sower Dr. Bayfield, CO 81122	970-884-9508
Montezuma County Sheriff's Department	730 E. Driscoll Cortez, CO 81321	970-565-8452
Cortez Police Department	608 N. Park St. Cortez, CO 81321	970-565-8441
Montezuma County Emergency Management	730 E. Driscoll Cortez, CO 81321	970-565-8452 970-759-1734 (cell)
Southwest Region (Montezuma County) LEPC	142 Sheppard Dr. Durango, CO 81303	970-382-6007
San Miguel County – CO		
Name/Organization	**Address**	**Phone**
Telluride Medical Center	P.O. Box 1229 Telluride, CO 81435	970-728-3848
San Miguel County Sheriff's Department/ 911 Call Center	684 63 L Rd. Telluride, CO 81435	970-728-1911 970-252-4014 (E Group)
Telluride Fire Protection District	P.O. Box 1645 Telluride, CO 81435	970-728-3801
San Miguel County Sheriff's Department	684 63 L Rd. Telluride, CO 81435	970-728-1911
Telluride Marshal's Department	P.O. Box Telluride, CO 81435	970-728-3818
San Miguel County Emergency Management	684 63 L Rd. Telluride, CO 81435	970-728-9546
San Miguel County LEPC	684 63 L Rd. Telluride, CO 81435	970-728-9546

1.4 LOCAL MUNICIPAL CONTACTS (cont.)

Bernalillo County – NM		
Name/Organization	**Address**	**Phone**
Lovelace Medical Center	601 Dr Martin Luther King Jr Dr. Albuquerque, NM 87102	505-727-8000
Bernalillo County 911 Call Center	Bernalillo County, 10th Fl. One Civic Plaza NW Albuquerque, NM 87107	505-798-7000
Bernalillo County Fire & Rescue – EMS Division	Bernalillo County, 10th Fl. One Civic Plaza NW Albuquerque, NM 87107	505-468-1310 505-462-9751
Edgewood Volunteer Fire Department	6840 2nd St. NW, P.O. Box 787 Edgewood, NM 87015	505-281-4697
Bernalillo County Sheriff's Department	25 E. Frontage Rd. Albuquerque, NM 87102	505-468-7100
Albuquerque Police Department	400 Roma NW Albuquerque, NM 87102	505-242-2677
Bernalillo County Emergency Management	6840 2nd St. NW., Ste 100 Albuquerque, NM 87107	505-468-1307 505-462-9751
Bernalillo County LEPC	6840 2nd St. NW. Albuquerque, NM 87176	505-844-4418
Federal Bureau of Investigation	P.O. Box 35067 Albuquerque, NM 87107	505-889-1300 505-224-2000
Poison Control Center	NMPDIC, MSCOP 508, 1 University of NM Albuquerque, NM 87131	505-272-2222 800-432-6866
Chaves County – NM		
Name/Organization	**Address**	**Phone**
Eastern New Mexico Medical Center	405 W. Country Club Rd. Roswell, NM 88201	575-622-8170
Chaves County 911 Call Center	1 St. Mary's Place Roswell, NM 88203	575-624-7590
Roswell Fire Department	200 S. Richardson Roswell, NM 88203	575-624-6800
Chaves County Sheriff's Department	1 St. Mary's Place Roswell, NM 88203	575-624-6500

1.4 LOCAL MUNICIPAL CONTACTS (cont.)

Chaves County – NM		
Name/Organization	**Address**	**Phone**
Roswell Police Department	P.O. Box 1994 Roswell, NM 88202	575-624-6770
Chaves County Emergency Management	P.O. Box 1994 Roswell, NM 88202	575-624-6770
Chaves County LEPC	P.O. Box 1994 Roswell, NM 88202	575-624-6770
Federal Bureau of Investigation	4200 Luecking Park Ave NE. P.O. Box 35067 Albuquerque, NM 87107	505-889-1300 505-224-2000
De Baca County – NM		
Name/Organization	**Address**	**Phone**
Guadalupe County Hospital	117 Camino Devida Santa Rosa, NM 88435	575-472-3417
De Baca County 911 Call Center	P.O. Box 927 Ft. Sumner, NM 88119	575-355-2405 575-355-7433
Valley Fire Department	101 Pecan Ft. Sumner, NM 88119	575-355-7702
De Baca County Sheriff's Department	P.O. Box 927 Ft. Sumner, NM 88119	575-355-2405 575-355-7433
New Mexico State Police	1916 Old Hwy 66 Edgewood, NM 87015	505-281-1060 505-281-0724
De Baca Emergency Management	P.O. Box 628 Ft. Sumner, NM 88119	575-355-2405 575-355-2601
Federal Bureau of Investigation	4200 Luecking Park Ave NE. Albuquerque, NM 87107	505-889-1300 505-224-2000
De Baca LEPC	P.O. Box 628 Ft. Sumner, NM 88119	575-355-2405 575-355-2601

1.4 LOCAL MUNICIPAL CONTACTS (cont.)

Guadalupe County – NM		
Name/Organization	**Address**	**Phone**
Guadalupe County Hospital	117 Camino Devida, #100 Santa Rosa, NM 88435	575-472-3417
Guadalupe 911 Call Center	244 4th St. Santa Rosa, NM 88435	575-472-3605
Vaughn Fire Department	P.O. Box 278 Vaughn, NM 88353	575- 584-2204
Guadalupe County Sheriff's Department	565 River Rd. Santa Rosa, NM 88435	575-472-3711
New Mexico State Police	1916 Old Hwy 66 Edgewood, NM 87015	505-281-1060 505-281-0724
Vaughn Police Department	P.O. Box 278 Vaughn, NM 88353	575- 584-2204
Guadalupe County Emergency Management	565 River Rd. Santa Rosa, NM 88435	575-472-1241
Guadalupe CountyLEPC	565 River Rd. Santa Rosa, NM 88435	575-472-1241
Federal Bureau of Investigation	4200 Luecking Park Ave NE. P.O. Box 35067 Albuquerque, NM 87107	505-889-1300 505-224-2000
Poison Control Center	NMPDIC, MSCOP 508, 1 University of NM Albuquerque, NM 87131	505-272-2222 800-432-6866
Lea County – NM		
Name/Organization	**Address**	**Phone**
Nor-Lea General Hospital	1600 N. Main Ave Lovington, NM 88260	575-396-6611
Lea County 911 Call Center	1417 S. Commercial Lovington, NM 88260	575-396-3611
Hobbs Fire Department	301 E. White St. Hobbs, NM 88240	575-397-9308
Tatum Fire Department	P.O. Box 828 12 N. Ave. A Tatum, NM 88267	575-398-2154 575-398-5556

1.4 LOCAL MUNICIPAL CONTACTS (cont.)

Lea County – NM		
Name/Organization	**Address**	**Phone**
Hobbs Police Department	300 N. Turner Hobbs, NM 88240	575-397-9284
New Mexico State Police	4207 W. 2nd St. Roswell, NM 88201	575-622-7200
Lea County Emergency Management	100 N. Main St., Ste 4 Lovington, NM 88260	575-396-8600 x 2307
Lea County LEPC	100 N. Main St., Ste 4 Lovington, NM 88260	575-396-8600 x 2307
Lincoln County – NM		
Name/Organization	**Address**	**Phone**
Lincoln County Medical Center	211 Sudderth P.O. Box 800 Ruidoso, NM 88355	575-257-8200
Lincoln County 911 Call Center	P.O. Box 278 Carrizozo, NM 88301	575-648-2342 800-687-2419
Vaughn Fire Department	P.O. Box 278 Vaughn, NM 88353	575- 584-2204
Lincoln County Sheriff's Department	P.O. Box 278 Carrizozo, NM 88301	575-648-2342 800-687-2419
Vaughn Police Department	P.O. Box 278 Vaughn, NM 88353	575- 584-2204
Lincoln County Emergency Management	111 Copper Ridge Rd. Angus, NM 88316	575-336-8600
Lincoln County LEPC	105 Kansas City Rd. Ruidoso, NM 88345	505-648-2341
McKinley County – NM		
Name/Organization	**Address**	**Phone**
Gallup Indian Medical Center	P.O. Box 1337 Gallup, NM 871305	505-722-1000
McKinley County 911 Call Center	300 B. West Nizhoni Gallup, NM 87301	505-863-1410
McKinley County Sheriff's Department	300 B. West Nizhoni Gallup, NM 87301	505-863-1410

1.4 LOCAL MUNICIPAL CONTACTS (cont.)

McKinley County – NM		
Name/Organization	**Address**	**Phone**
Gallup Police Department	300 A. West Nizhoni Gallup, NM 87301	505-863-9365
McKinley County Emergency Management	300 B. Nizhoni Blvd Gallup, NM 87301	505-863-1410
McKinley County LEPC	300 B. Nizhoni Blvd Gallup, NM 87301	505-863-1410
Federal Bureau of Investigation	4200 Luecking Park Ave NE. Albuquerque, NM 87107	505-889-1300 505-224-2000
Poison Control Center	NMPDIC, MSCOP 508, 1 University of NM Albuquerque, NM 87131	505-272-2222 800-432-6866
Rio Arriba County – NM		
Name/Organization	**Address**	**Phone**
Espanola Hospital	1010 Spruce St. Espanola, NM 87532	505-753-7111
Rio Arriba County 911 Call Center	1122 Industrial Park Rd. Espanola, NM 87532	505-753-3320
Rio Arriba County Fire Marshal's Office	P.O. Box 1839 Espanola, NM 87532	505-747-6367 505-747-5330
Velarde Fire Department	16 CR 50 Velarde, NM 87582	505-753-3320 505-852-4715
Rio Arriba County Sheriff's Department	1122 Industrial Park Rd. Espanola, NM 87532	505-753-3329
Espanola Police Department	411 N. Paseo Espanola, NM 87532	505-747-6000
Rio Arriba County Emergency Management	1122 Industrial Park Rd. Espanola, NM 87532	505-747-1941
Rio Arriba County LEPC	1122 Industrial Park Rd. Espanola, NM 87532	505-747-1941

1.4 LOCAL MUNICIPAL CONTACTS (cont.)

San Juan County – NM		
Name/Organization	**Address**	**Phone**
Northern Navajo Medical Center	P.O. Box 160 Shiprock, NM 87420	505-368-6001
San Juan Regional Medical Ctr	801 W. Maple Farmington, NM 87401	505-325-5011
San Juan County 911 Call Center	207 S. Oliver St. Aztec, NM 87410	505-334-6622 505-334-6000
Aztec Fire Department	201 W. Chaco St. Aztec, NM 87410	505-334-7720
Bloomfield Fire Department	P.O. Box 1839, 911 N. 1st St. Bloomfield, NM 87413	505-632-6363
Cedar Hill Volunteer Fire Dept	4 Rd. 2343 Aztec, NM 87410	505-334-3345 505-334-6622
Center Point Volunteer Fire Dept	16 Rd. 2755 Aztec, NM 87410	505-334-8021 505-334-6622
Farmington Fire Department	301 N. Auburn Ave. Farmington, NM 87401	505- 599-1430
Hart Valley Fire Department	100 CR 3100 Aztec, NM 87410	505-334-3789 505-334-6622
San Juan County Fire Department	209 S. Oliver Dr. Aztec, NM 87410	505-334-1180
Sullivan Rd. Fire Department	305 CR 4990 Bloomfield, NM 87413	505-632-1610 505-334-6622
Valley Fire Department	P.O. Box 529 Kirtland, NM 87417	505-598-5311 505-334-6622
San Juan County Sheriff's Department	211 S. Oliver Dr. Aztec, NM 87410	505-334-6107?
Aztec Police Department	201 W. Chaco St. Aztec, NM 87410	505-334-7620
Bloomfield Police Department	P.O. Box 1839711 Ruth Ln. Bloomfield, NM 87413	505-632-6311
Farmington Police Department	900 Municipal Dr. Farmington, NM 87401	505-599-1070
New Mexico State Police	1916 Old Hwy 66 Edgewood, NM 87015	505-325-7547 505-281-1060 505-281-0724
San Juan County Emergency Management	209 S. Oliver Dr. Aztec, NM 87410	505-334-1180
San Juan County LEPC	209 S. Oliver Dr. Aztec, NM 87410	505-334-1180

1.4 LOCAL MUNICIPAL CONTACTS (cont.)

Sandoval County – NM		
Name/Organization	**Address**	**Phone**
Los Alamos Medical Center	3917 West Rd. Los Alamos, NM 87544	505-662-4201
Sandoval County 911 Call Center	314 Melissa Rd., P.O. Box 40 Bernalillo, NM 87004	505-867-0245
Sandoval County Fire Department	314 Melissa Rd., P.O. Box 40 Bernalillo, NM 87004	505-867-0245
Sandoval County Sheriff's Department	P.O. Box 5219, 1500 Idalia Rd. NE Bernalillo, NM 87004	505- 867-7525
Bernalillo Police Department	739 Camino Del Pueblo Bernalillo, NM 87004	505-891-7226 505-771-5877
Zia Pueblo-Cel Gachupin Natural Resources Manager	135 Capitaol Square Dr. Zia Pueblo, NM 87053-6013	505-867-3304 (o) 505-328-7928 (c)
Santa Ana Pueblo – Harry Betz Chief of Police	02 Dove Road Santa Ana Pueblo, NM 87004	505-771-6730 (o) 505-366-7354 (c)
Pueblo of Santa Ana Police Department	02 Dove Rd Santa Ana Pueblo, NM 87004	505-771-6730
Sandoval County Emergency Management	P.O. Box 40 Bernalillo, NM 87004	505- 867-2045
Sandoval County LEPC	P.O. Box 40 Bernalillo, NM 87004	505- 867-2045
Federal Bureau of Investigation	4200 Luecking Park Ave NE Albuquerque, NM 87107	505-889-1300 505-224-2000
Santa Fe County – NM		
Name/Organization	**Address**	**Phone**
Christus St. Vincent Regional Medical Center	P.O. Box 2107, 455 St. Michaels Dr. Santa Fe, NM 87505	505-983-3361
Santa Fe County EMS	35 Camino Justicia Santa Fe, NM 87508	505-992-3070
Santa Fe County 911 Call Center	35 Camino Justicia Santa Fe, NM 87508	505-428-3710 505-992-3096
Edgewood Volunteer Fire Department	25 E. Frontage Rd. Edgewood, NM 87015	505-281-4697
Santa Fe County Sheriff's Department	35 Camino Justicia Santa Fe, NM 87508	505-986-2400

1.4 LOCAL MUNICIPAL CONTACTS (cont.)

Santa Fe County – NM		
Name/Organization	**Address**	**Phone**
Santa Fe Police Department	200 Lincoln Ave, P.O. Box 909 Santa Fe, NM 87504	505-955-5033
Santa Fe County Emergency Management	35 Camino Justicia Santa Fe, NM 87508	505-992-3072
Santa Fe County LEPC	35 Camino Justicia Santa Fe, NM 87508	505-992-3072
Federal Bureau of Investigation	4200 Luecking Park Ave NE Albuquerque, NM 87107	505-889-1300 505-224-2000
Poison Control Center	NMPDIC, MSCOP 508, 1 University of NM Albuquerque, NM 87131	505-272-2222 800-432-6866
Torrance County – NM		
Name/Organization	**Address**	**Phone**
Cibola General Hospital	1016 E. Roosevelt Ave Grants, NM 87020	505-287-4446
Torrance County 911 Call Center	P.O. Box 449 McIntosh, NM 87023	505-384-2705
Moriarty Fire Department & EMS	P.O. Box 130 Moriarty, NM 87035	505-832-4301
Torrance County Fire Department	P.O. Box 449 McIntosh, NM 87032	505-384-2705
Torrance County Sheriff's Department	205 9th St. Estancia, NM 87016	505- 246-4773
Estancia Police Department	P.O. Box 303 Estancia, NM 87016	505-384-4282
Torrance County Emergency Management	P.O. Box 48 McIntosh, NM 87023	505-246-4748
Torrance County LEPC	P.O. Box 48 McIntosh, NM 87023	505-246-4748
Federal Bureau of Investigation	4200 Luecking Park Ave NE Albuquerque, NM 87107	505-889-1300 505-224-2000
Poison Control Center	NMPDIC, MSCOP 508, 1 University of NM Albuquerque, NM 87131	505-272-2222 800-432-6866

2. DEFINITIONS AND ACRONYMS

- **Assembly Area** – (Muster Point, Rally Point) The predetermined safe location to which all persons evacuate in an emergency.
- **Contamination Reduction Zone** – Warm Zone, The area between the Exclusion Zone and the Support Zone. This zone contains the personnel decontamination station. This zone may require a lesser degree of personnel protection than the Exclusion Zone. This separates the contaminated area from the clean area and acts as a buffer to reduce contamination of the "clean" area.
- **Control Zones** – One of the three hazardous substance/material incident zones; Support Zone, Contamination Reduction Zone, and Exclusion Zone.
- **CPR** – Cardiopulmonary resuscitation is a combination of rescue breathing and chest compressions delivered to victims thought to be in cardiac arrest.
- **Crosswind** – The direction perpendicular to the wind direction.
- **Essential Operating Personnel** – Personnel employed by Enterprise that are assigned essential operating duties.
- **EH&S – Environmental, Health and Safety**
- **EOC** – Emergency Operations Center: The physical location in which the coordination of information and resources to support the Incident Command activities normally takes place.
- **Employee** – Personnel employed directly by Enterprise Products Company.
- **Enterprise** – Enterprise Products Company.
- **ERG** (Department of Transportation Emergency Response Guidebook) – A reference book written in plain language, to guide emergency responders in their initial actions at the incident scene.
- **ESD** – Emergency Shutdown Device.
- **Evacuation Route** – The predetermined path taken by personnel during an emergency evacuation to an Assembly Area.
- **Exclusion Zone** – Hot Zone, The area immediately around a spill or release where contamination does or could occur. The innermost of the three zones of a hazardous substance/material incident. Special protection is required for all personnel while in this zone.
- **Facility** – The area covered by this Plan which is within an Enterprise company process operating area, office, storage area, pipeline right of way, or other company property.
- **FSC** – Finance Section Chief – The FSC manages financial responsibilities relating to an emergency event. Part of the ICS structure. A member of the General Staff.
- **HAZWOPER** – Hazardous Waste Operations and Emergency Response. The OSHA regulation that covers safety and health issues at hazardous waste sites, as well as response to chemical incidents. 29 CFR 1910.120.
- **HVL** – Highly Volatile Liquid – A hazardous liquid which will form a vapor cloud when released to the atmosphere and which has a vapor pressure exceeding 40 psia at 100° F (49CFR195).
- **IC** – Incident Command/ Commander – The individual within the ICS responsible for all incident activities, including the development of strategies and tactics and the ordering and release of resources. The IC has overall authority and responsibility for conducting incident operations and is responsible for the management of all incident operations at the incident site.

2. Definitions and Acronyms (cont.)

- **ICP** – Incident Command Post – the management area used by Incident Command during an emergency incident.
- **ICS** – Incident Command System, A standardized on-scene emergency management concept specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries. Part of the NIMS system.
- **LEPC** – Local Emergency Planning Committee: A committee appointed by the state emergency response commission, as required by SARA Title III, to formulate a comprehensive emergency plan for its jurisdiction.
- **LNO** – Liaison Officer – The LNO is the point of contact for outside agencies during an emergency incident. Part of the ICS structure. A member of the Command Staff.
- **LSC** – Logistics Section Chief – Provides resources during an emergency incident. Part of the ICS structure. A member of the General Staff.
- **Mutual Aid** – Reciprocal assistance by emergency services under a prearranged plan.
- **NIMS** – National Incident Management System: Provides a systematic, proactive approach guiding government agencies at all levels, the private sector, and nongovernmental organizations to work seamlessly to prepare for, prevent, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, in order to reduce the loss of life or property and harm the environment.
- **O&M Manual** – Enterprise Procedures Manual for Pipeline Operations, Maintenance, and Emergencies.
- **Operations Control Center** (OCC) *Control room* -- an operations center staffed by personnel charged with the responsibility for remotely monitoring and controlling a pipeline facility.
- **OSC** – Operations Section Chief – The OSC provides and enacts tactics in order to achieve operational goals during an emergency incident. Part of the ICS structure. A member of the General Staff.
- **OSRO** – Oil Spill Removal Organization
- **PIO** – Public Information Officer – The PIO is the designated conduit for information flow to the public during an emergency incident. Part of the ICS structure. A member of the Command Staff.
- **PSC** – Planning Section Chief – The PSC provides information gathering, evaluation, and dissemination during an emergency incident. Part of the ICS structure. A member of the General Staff.
- **PPE** – Personal Protective Equipment
- **SO** – Safety Officer – The SO is responsible for ensuring personnel safety during an emergency incident. Part of the ICS structure. A member of the Command Staff.
- **SOP** – Standard Operating Procedures

2. Definitions and Acronyms (cont.)

- **Support Zone** – (Cold Zone) – The "clean" area outside of the contamination control line. In this area, equipment and personnel are not expected to become contaminated. Special protective clothing may not be required. This is the area where resources are assembled to support the hazardous substances/materials release operations.
- **UC** – Unified Command – An ICS application used when more than one agency has incident jurisdiction or when incidents cross political jurisdictions.
- **UN / NA Number** (United Nations / North America) – The 4-digit number assigned to a hazardous material, which is used to identify and cross-reference products in the transportation mode. Used to reference products in the ERG.
- **Upwind** – in the direction of where the wind is coming from.

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3. EMERGENCY RESPONSE PLAN

3.1 EXECUTIVE SUMMARY

Enterprise Products Company operates a pipeline and/or facility in the areas shown on **page iii** of this plan.

This Emergency Response Plan is to assist in planning and responding to a suspected or actual emergency involving the company's pipeline or facility in the areas shown on **page iii** of this plan. This Emergency Response Plan is also the Emergency Action Plan.

The safety of employees, contractors, visitors, responding personnel and the surrounding population is critical in every emergency response. Generally, the products contained in the pipeline or facility are highly volatile when released. With this in mind, it is critical for emergency responders to train their personnel on the proper response to a suspected or actual emergency.

In the event of an emergency, the Facility Control Room or Pipeline Control will close any automated valves and local personnel will close manual valves as needed to mitigate a release.

Enterprise employees are required to be trained on the Emergency Response Plan. Each employee should be familiar with the plan and their duties under the plan. Employees who need more information about the plan or an explanation of their duties under the plan should first contact their immediate supervisor. The employees may also contact the Area Supervisor, Facility Manager or Area Safety/PSM Coordinator identified by name and job title in **Section 1.1** of this Emergency Response Plan.

Enterprise shall provide a copy of this Emergency Response Plan to the applicable agencies listed below:

- 911 Call Center
- Fire Department
- Police Department
- Sheriff Department
- LEPC
- Office of Emergency Management
- State Police

Enterprise requests that Municipal Emergency Responders review the contents of the Emergency Response Plan. If the Municipal Emergency Response Agency or Department has a question, requires clarification, or needs additional information pertaining to this plan, they should contact the Enterprise Area Supervisor, Facility Manager or Area Safety/PSM Coordinator identified in **Section 1.1** of this Emergency Response Plan.

Municipal Emergency Responders are encouraged to contact the local facility to assist in pre-planning and department meetings. Enterprise may meet with Municipal Emergency Responders during Pipeline Association Meetings, LEPC Meetings, facility visits and drills.

This document is "controlled" with an effective date and revision number in the header. As revisions or updates are received please destroy prior plans.

3.2 PLAN ACTIVATION

Any operational or maintenance activity defined as abnormal in the Enterprise Procedures Manual for Pipeline Operations, Maintenance, and Emergencies (O&M Manual) requires immediate attention as an emergency condition may develop.

This plan recognizes that the following types of on-site emergencies may occur, and as such, the emergency response plan shall be implemented.

- Medical Emergencies
- Small Release or Spill
- Large Release or Spill
- Fire
- Security or Bomb Threat
- Natural Disasters
  - Flooding
  - Tornadoes
  - Hurricanes
  - Extreme Winter Weather (Ice/Snow)
  - Earthquakes and Subsidence

Refer to **Section 6**, Incident Types of this Emergency Response Plan, for actions to be taken in response to each incident type.

3.3 HAZARD RECOGNITION, PREVENTION, AND TRAINING

3.3.1 Potential Hazards

The products that may be present in these Enterprise facilities or pipelines are listed in the **Table 1**, "*Potential Products*" below.

These products may be highly flammable and combustible products; the vapors of which may form explosive mixtures in the air. Corrosive materials may also be onsite to treat these products. Extreme caution should always be used in any emergency response dealing with these products and materials.

Please consult with Enterprise personnel for hazard information regarding specific products or materials, and refer to:

- Material Safety Data Sheets (MSDS) – Available upon request from Enterprise Personnel
- DOT Emergency Response Guide Book (ERG)
- NIOSH Pocket Guide
- Other appropriate informational material

Table 1 – Potential Products

POTENTIAL PRODUCTS			
COLORADO – NEW MEXICO			
Product Name	**ERG No.**	**UN No.**	**Potential Locations**
Petroleum Gases, Liquefied	115	1075	All piping including underground and above ground.

3.3.2 Training

Emergency Response Plan (ERP)

Facility personnel have been trained and receive continuing training to recognize an emergency situation. This is accomplished through monthly safety meetings, computer based training, and participating in table-top emergency response drills which simulate potential facility emergency situations.

The Objective of the training is to create awareness and enhance the skills required to develop, implement, maintain, and execute this Emergency Response Plan.

Enterprise Management Personnel will review this Emergency Response Plan with each employee covered by the Plan at the following times:

- Upon initial development of the Plan
- Upon initial employment of the employee
- When an employee's responsibilities or designated actions under the Plan change
- When the Plan is revised.

Evacuation Wardens

Supervisors must be trained as evacuation wardens to assist in a safe and orderly evacuation of other employees as described in **Section 3.5.2** of this plan.

- The employees selected or who volunteer to serve as wardens should be trained in the complete workplace layout and the various alternative escape routes from the workplace.
- All wardens and fellow employees should be made aware of handicapped employees who may need extra assistance, such as using the buddy system, and of hazardous areas to be avoided during emergencies.
- The Supervisor shall forward documentation of all training to the Training Department. Training records shall be maintained by the Training Department.

3.3.3 Drills and Exercises

3.3.3.1 Drills

- A drill is a coordinated, supervised exercise activity, normally used to test a single specific operation or function.
- The objective of a drill is to practice and perfect one part of the plan.
- The goal of drills should be to hone the skills of team members so they are able to promptly and effectively carry out assigned tasks.
- Drills should be conducted in conjunction with the overall training and exercise program.
- Drills impart and reinforce knowledge of procedures, facilities, systems, and equipment and enhance the skills needed to operate or use systems and equipment.
- Some local laws, ordinances, codes, and standards also require drills – typically, evacuation drills.
- Each manned facility shall have an evacuation drill on no less than an annual basis.

3.3.3.2 Tabletop Exercises

- Tabletop Exercises involve a facilitated group analysis of an emergency situation.
- Tabletop exercises are designed for a group to conduct a situation analysis; develop an incident action plan using existing policies and procedures; and anticipate and identify solutions for problems that are encountered.
- Tabletop exercises provide an excellent opportunity for interaction with outside public agencies. Each group can become acquainted and better understand each other's roles and responsibilities.

3.3.3.3 Documentation

- All drills and exercises shall be documented on the Emergency Response or Drill Critique form (**EPCO Safety Form SF13**).

3.3.3.4 Credit for Drills/Exercises

- May be taken for actual events so long as a critique is held to review and document (**EPCO Safety Form SF13**) the response actions taken in the actual event.

3.4 RESPONSE CAPABILITIES

It is Enterprise's intention to provide the following guidance for facility personnel to respond in accordance with their level of training, ability, procedures and personal protective equipment. At no time should any employee or contractor/visitor subject themselves or others to unnecessary risk nor act outside of their level of training, ability, procedures or personal protective equipment. In the event of a fire, explosion, product release or spill, the local emergency responders shall be notified to respond and control the emergency incident.

3.5 EMERGENCY RESPONSE ACTIONS

This Enterprise Emergency Response Plan (ERP) begins with safe and immediate actions in direct response to the onset or discovery of an emergency.

These include: notification, evacuation, and site security coordination with any emergency response agency as members of the National Incident Management System (NIMS) Incident Command System (ICS). The plan also includes the actions to be taken after containment of the emergency, such as restoration of service and post-emergency reviews.

– QUICK REFERENCE GUIDE –

Notify

- Supervisor
- Facility or Pipeline Control at:

  1-800-546-3482 (Enterprise Products MAPL)

  1-800-331-3032 (Pipeline Control-Rockies System)
- Additional Agencies as warranted by incident

Evacuate

- Determine Wind Direction -- Stay upwind/crosswind
- Exit through the nearest gate not affected by the emergency & proceed to the primary Assembly Area. If the primary Assembly Area is unattainable, report to the secondary Assembly Area.
- Assemble at a safe distance
- *Do Not* leave the Assembly Area unless directed to do so or if the area is in danger
- Report to your supervisor (or Designee)
- Assist local authorities in public evacuation as directed
- Secure the incident site perimeter as directed

Respond

- Utilize NIMS to implement ICS
- *Do Not Enter* the area until the atmosphere has been verified to be safe by using a calibrated atmospheric monitor.
- *Do Not* exceed the limits of your training
- Use the proper Level of PPE

Follow-up

- Incident Critique
- Initiate Facility Repairs
- Remediation/Site Clean-Up

3.5.1 NOTIFY

Upon discovery or confirmed report of an emergency call:

- FACILITY OR PIPELINE CONTROL AT:
  1-800-546-3482 (Enterprise Products MAPL)
  1-800-331-3032 (Pipeline Control-Rockies System)
- The Area Manager or Terminal Supervisor and Safety Coordinator

Provide as much information about the emergency as time and conditions allow (e.g., product involved, size of release, wind direction, fire, etc.). Employees refer to the Incident Notification Protocol located in the "*Enterprise Safety Policies Manual*" **Section 2.1** for additional information.

IMPORTANT:

The Facility or Pipeline Controller will contact the local emergency response agencies and the appropriate Enterprise personnel. The Controller will also begin shut down procedures as warranted.

Additional contact with regulatory agencies will be completed per Incident Notification Protocol located in the "Enterprise Safety Policies Manual" Section 2.1.

3.5.1.1 Emergency Incident Levels

The Enterprise Safety Manual, **Section 2.1** Incident Notification, identifies the Emergency Incident Levels.

3.5.1.2 Methods of Communication

Once in a safe location -- notify employees and other personnel to evacuate. Methods of notification include:

- Evacuation Alarm System
- Company Radios
- Verbal Notification
- Land-Line Telephones
- Cellular Telephones
- Alarms

3.5.1.3 Alarms

The primary warning methods used for the areas and facilities identified on **page iii** of this plan are described below:

All Pipeline Right of Ways

- Hazmat Material Release or Spill – Verbal or Vehicle Horn or Air Horn
- Fire – Verbal or Vehicle Horn or Air Horn
- Medical Emergencies – Verbal or Vehicle Horn or Air Horn
- Severe Weather – Verbal or Vehicle Horn or Air Horn
- All Clear – Verbal or Vehicle Horn or Air Horn

3.5.1.3 Alarms (cont.)

Table 2 – Alarms

COUNTY	FACILITY/STATION	ALARM TYPE (see legend below)	METHOD OR SOUND
COLORADO			
Dolores County	Dove Creek Pump Station	A, B, C, D, E, F	SCADA Communications Cell Phones
Motezuma County	Dolores Pump Station	A, B, C, D, E, F	SCADA Communications Cell Phones
LaPlata County	Ignacio Pump Station	A, B, C, D, E, F	SCADA Communications Cell Phones
NEW MEXICO			
Chaves County	Mesa Pump Station	A, B, C, D, E, F	SCADA Communications Cell Phones
Chaves County	White Lakes Pump Station	A, B, C, D, E, F	SCADA Communications Cell Phones
Guadalupe County	Duran Pump Station	A, B, C, D, E, F	SCADA Communications Cell Phones
Lea County	Caprock Pump Station	A, B, C, D, E, F	SCADA Communications Cell Phones
Rio Arriba County	Lybrook Pump Station	A, B, C, D, E, F	SCADA Communications Cell Phones
San Juan County	Huerfano Pump Station	A, B, C, D, E, F	SCADA Communications Cell Phones
San Juan County	Kutz Truck Terminal	A, B, C, D, E, F	SCADA Communications Cell Phones
San Juan County	Kutz Pump Station	A, B, C, D, E, F	SCADA Communications Cell Phones
Sandoval County	San Luis Pump Station	A, B, C, D, E, F	SCADA Communications Cell Phones
Sandoval County	San Ysidro Pump Station	A, B, C, D, E, F	SCADA Communications Cell Phones
Santa Fe County	Edgewood Pump Station	A, B, C, D, E, F	SCADA Communications Cell Phones

A. Hazmat Material Release or Spill
B. Fire
C. Medical Emergencies
D. Severe Weather
E. All Clear
F. Evacuate Building

3.5.1.4 Aviation Restriction

If an emergency incident at an Enterprise Facility or Pipeline presents a dangerous situation for aircraft, the FAA Operation Center shall be notified by calling the applicable FAA number listed in **Section 1.2** of this plan.

Provide the FAA with the following information:

- Location of area involved
- Reason for request

After the emergency is cleared, call the FAA office and tell them that the temporary flight restriction can be lifted.

3.5.2 EVACUATE

Once an alarm has been sounded or notice of an emergency is given, all personnel should:

- Determine the wind direction
- Proceed to a predetermined "Assembly Area" according to the evacuation route map in "**Appendix A**" of this Emergency Response Plan.
- Personnel should use the safest evacuation route and "Assembly Area" that is upwind or crosswind and uphill from the emergency.
- Never use a route that will pass through a gas or vapor cloud or other emergency area.

Evacuation Wardens

- Supervisors are designated as Evacuation Wardens to assist in a safe and orderly evacuation of other employees.
- Supervisors may assign the task of Evacuation Warden to other employees. If this is done the employee must be properly trained as described in **Section 3.3.2** of this plan. Employees covered by this plan must be made aware of this assignment.
- An adequate number of employees should be available at all times during working hours to act as Evacuation Wardens so that employees can be swiftly moved from the danger location to the safe areas. Generally, one Warden for each twenty employees in the workplace should be able to provide adequate guidance and instruction at the time of a fire emergency.
- Before leaving, Wardens should check rooms and other enclosed spaces in the workplace for employees who may be trapped or otherwise unable to evacuate the area, so long as it is safe to do so.
- After the desired degree of evacuation is completed, the Wardens should be able to account for or otherwise verify that all employees are in the safe area.

- In order to account for all personnel, the supervisor or other senior employee at each "Assembly Area" will document the names of all personnel present at the "Assembly Area(s)" using the Evacuation Assembly Area Accountability form (**EPCO Safety Form SF51**). If personnel are missing, the absence will be noted on the accountability document. Missing personnel, number of evacuated personnel, condition, and location will be communicated immediately to the:
  - Incident Commander, and
  - Facility or Pipeline Control and
  - The Manager.

3.5.2.1 Contractors, Third Party Personnel, and Visitors

Contractors, Third Party Personnel, and Visitors will receive site orientation prior to being allowed in a process area. During this training the Contractors, Third Party Personnel, and Visitors will be informed of Alarm Methods, Evacuation Routes and Assembly Areas.

Contractors, Third Party Personnel, and Visitors shall comply with all notices of evacuation and follow the procedures described above in **Section 3.5.2** "EVACUATE" of this Emergency Response Plan.

3.5.2.2 Special Needs

Employees who require special assistance in order to evacuate to a safe zone must inform their supervisor prior to reporting to the worksite. The supervisor will insure provisions are in place to provide the assistance needed.

Contractors, Third Party Personnel, and Visitors who require special assistance in order to evacuate to a safe zone must inform their Enterprise sponsor, or contact, prior to reporting to the worksite. The supervisor will insure provisions are in place to provide the needed assistance.

3.5.2.3 Essential Operating Personnel

Some Essential Operating Personnel may delay evacuation until critical functions have been performed. These functions DO NOT take precedence over the safety of an employee. If an employee feels they are in danger, they should evacuate immediately.

Essential Personnel are identified as:

- Employees of Enterprise Products Company
- Designated as such by their Supervisor
- Assigned to such duties as on-shift operator or technician.

The Essential Operating Personnel may perform such tasks as:

- Valve closures
- Shutdown of equipment
- Depressurize equipment
- Activation of fixed fire protection equipment

In order to perform these tasks, the Essential Operating Personnel must:

- Never enter a gas or vapor cloud or any other immediately dangerous area.
- Be trained in the operation of and assigned to the area involved in the emergency.
- Have the appropriate level of HAZWOPER training, per **29 CFR 1910.120**, for the type of work to be performed.
- Use the appropriate level of Personal Protective Equipment (PPE).
- Evacuate the area if directed to do so by their Supervisor or Emergency Personnel.

Essential Operating Personnel must:

- Be acting under direction of their supervisor.
- Follow the appropriate Operating Procedures for the task to be performed.
- Maintain communications with their supervisor or control room.

3.5.3 RESPOND

3.5.3.1 Incident Command System

Enterprise recognizes and utilizes the National Incident Management System (NIMS) for their Incident Command System (ICS). The ICS shall be used to manage an emergency incident. It can be used equally well for both small and large situations. The system has considerable internal flexibility. It can grow or shrink to meet differing needs.

The Incident Commander (IC) is the person in charge of the incident and must be fully qualified to handle the situation.

Emergency Responders shall operate within their Standard Operating Procedures (SOP's). Enterprise personnel may have to assume the role of IC until a more qualified official arrives on the scene to take command.

- Employees will immediately implement the ICS for all emergencies.
- As Public response agencies arrive on the scene, a multi-agency coordination system or Unified Command (UC) may be established.
- Employees may: provide security to the emergency location, assist with the evacuation of civilian personnel, and establish emergency road-blocks or other safety measures until local authorities arrive to assume these responsibilities.

Incident Command Organization

In the event of an emergency, the Facility Incident Command Organization will assume control of the incident. The Facility Incident Command Organization will be comprised of Enterprise personnel from the Facility until such time as they are relieved by local agencies. The Team includes the Enterprise personnel listed in **Section 1.1** of this plan and knowledgeable Facility Staff as appropriate. The structure of the Facility Incident Command Organization can be established and expanded depending upon the changing conditions of the emergency incident.

During the emergency response, one person will be in command and act as the on-site IC. The IC position can be assigned to any one of the designated Facility Incident Command Organization Members, depending on the situation. However either the Facility's Area Manager or the Region Manager will typically hold this position.

Figure 1 presents a chart showing the basic Incident Command Structure.

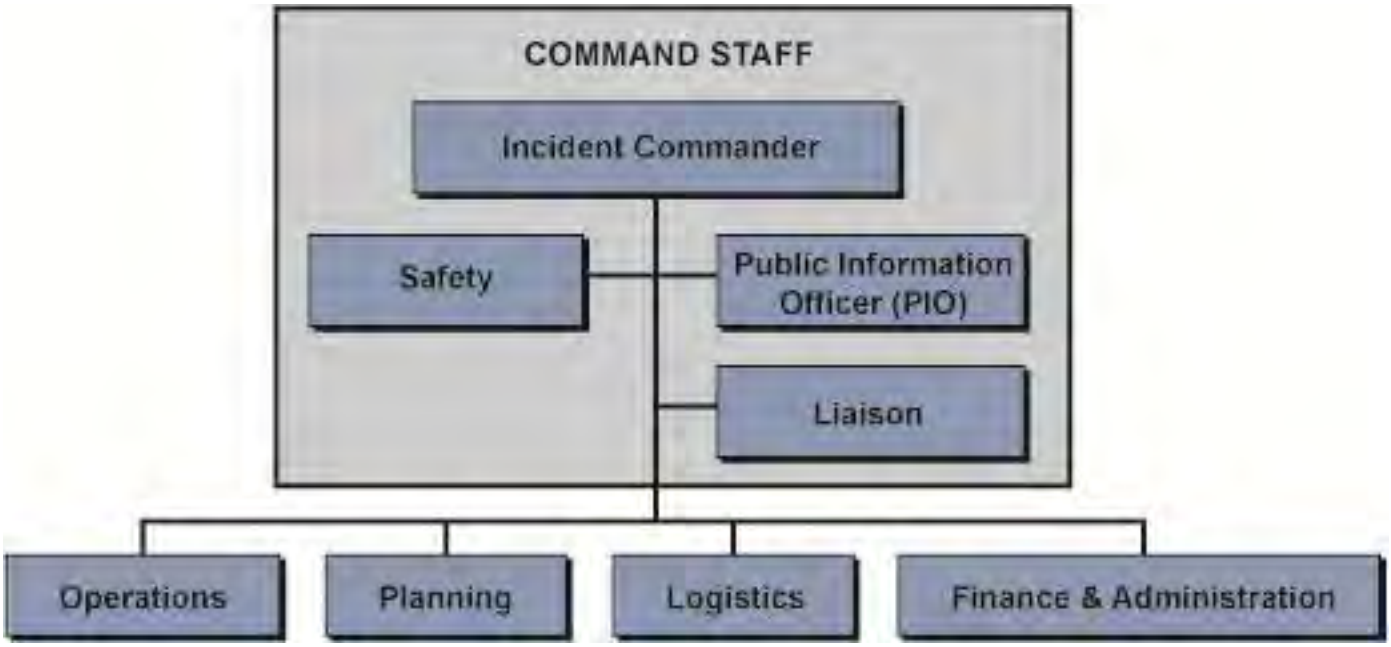

Figure 1 – Incident Command System Structure

Note: The Facility Incident Command Organization will consist of the Enterprise personnel identified in Section 1.1, of this Emergency Response Plan, depending upon incident conditions

ICS Command Positions:

- **Incident Commander (IC)** - It is the responsibility of the IC to immediately assess the character, source, amount, and extent of the emergency, as well as the possible hazards to human health and the environment that may result from any emergency situation. The IC shall ensure that adequate safety measures are in place.

  The IC shall ensure emergency notifications are made to the appropriate local emergency response authorities, regulatory authorities, and Enterprise personnel. The IC will be responsible for assessing the situation, determining an appropriate course of action for controlling the incident, monitoring the Plan's effectiveness, and continually modifying the Plan to meet the objectives of the emergency response. The IC is responsible for establishing the command structure, objectives, priorities, and developing strategies. The IC will approve and authorize the implementation of the Emergency Response Site Safety and Action Plan (**EPCO Form SF49**). Once the incident is controlled, the IC will ensure the area is safe before termination of the incident.

- **Safety Officer (SO)** – The SO function is to develop and recommend measures for assuring personnel safety and to assess and/or anticipate hazardous and unsafe situations. The SO has authority to stop and prevent any unsafe acts. The SO will establish Control Zones and will develop the Site Safety Plan portion of the Emergency Response Site Safety and Action Plan (**EPCO Form SF49**). The SO determines the level of PPE to be used in each of the Control Zones. Only one primary SO will be assigned for each incident. The SO may have assistants as necessary.

- **Public Information Officer (PIO)** – The PIO is responsible for developing and releasing information about the incident to the news media, to incident personnel, and to other appropriate agencies and organizations. Only one primary PIO will be assigned for each incident. The PIO may have assistants as necessary. The PIO must obtain IC approval of media releases. The PIO will obtain media information that may be useful to incident planning and advise command on issues and concerns.

- **Liaison Officer (LNO)** – Incidents that are multi-jurisdictional, or have several agencies involved, may require the establishment of the LNO position on the Command Staff. Only one primary LNO will be assigned for each incident. The LNO is assigned to be the contact for assisting and/or cooperating Agency Representatives. The LNO is responsible for keeping assisting agencies aware of incident status.

- **Operations Section Chief (OSC)** – The OSC is responsible for the management of all tactical operations directly applicable to the primary mission. The OSC shall ensure that adequate safety measures are in place. The OSC evaluates and requests sufficient resources to accomplish operational objectives. The OSC implements the Emergency Response Site Safety and Action Plan (**EPCO Form SF49**). Once implemented, the OSC evaluates on-scene operations and makes adjustments to organization, tactics, and resources as necessary. The OSC is responsible for keeping the IC informed on any changes as well as current conditions of the operation.

- **Planning Section Chief (PSC)** – The PSC is responsible for the collection, evaluation, dissemination and use of incident information and maintaining status of assigned resources. Information is needed to understand the current situation; predict the probable course of incident events; prepare strategies and plans; and to submit required incident status reports. The PSC is responsible for supervising the preparation of the Emergency Response Site Safety and Action Plan (**EPCO Form SF49**), for the approval by the IC. The PSC is responsible for compiling and displaying incident status information and maintaining incident documents.

- **Logistics Section Chief (LSC)** – The LSC is responsible for providing facilities, services, and materials in support of the incident. The LSC reviews the proposed tactics to determine the ability to provide resources and logistical support. The LSC advises command and other section Chiefs on resource availability to support incident needs; coordinates and process requests for additional resources; and advises on current capabilities.

- **Finance Section Chief (FSC)** – The FSC is responsible for all financial, administrative and cost analysis aspects of the incident.

ICS Command Locations and Organizations:

- **Incident Command Post (ICP)** – The ICP is the field location at which the primary tactical-level, on-scene incident command functions are performed. The ICP is located near the scene of the emergency where the initial ICS is managed. The ICP is the "field office" with access to communications, information, and both technical and administrative support. It is not necessary for the ICP to be within view of the actual incident site. It must always be in a safe area and well outside of the Control Zones.

- **Emergency Operations Center (EOC)** – The EOC is established at the request of the IC to aid in administration of the incident. The EOC is the location and organization in which Site Management provides support for IC operational needs. The EOC must keep abreast of IC operational status and requests. The EOC must communicate the status of resources and the ability to fulfill operational requests to the IC.

- **Unified Command (UC)** – UC is an expansion of the ICS organization. To be a member of the UC you must have authority and jurisdiction. UC members may also include agencies, organizations or private industries bringing large amounts tactical and support resources to the table. The need for UC is brought about when an incident impacts the jurisdictional or functional responsibility of more than one agency or company. The UC links the responding organizations to the incident and provides a forum for these agencies to make consensus decisions. Under UC, the various jurisdictions and/or agencies and non-government responders may blend together throughout the organization to create an integrated response team.

Additional Enterprise Staff Involvement:

- **Region EH&S Coordinators** – Will monitor and assess hazardous and unsafe situations, enforce measures for assuring personnel safety and will determine and complete all environmental reporting requirements.

- **Knowledgeable Facility Staff** – The IC will be assisted by Facility Operators, and Area Technicians, as appropriate, in the control of the incident.

3.5.3.2 Limits of Action

Personnel may take action, as directed by the IC, as long as it does not exceed their level of HAZWOPER training, as required by **29 CFR 1910.120(q)**.

- First Responder Awareness Level:
  - Individuals who are likely to witness or discover a release
  - Trained to NOTIFY the proper authorities of the release
  - TAKE NO ACTION BEYOND NOTIFICATION
  - Shall have received initial training equal to the first responders awareness level and have the competencies outlined in **29 CFR 1910.120(q)(6)(i)[A-F]**
  - Shall receive annual refresher training as outlined in **29 CFR 1910.120(q)(8)**

- First Responder Operations Level:
  - Individuals who respond to releases or potential releases as part of the initial response to the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release.
  - Are trained to respond in a DEFENSIVE fashion WITHOUT ACTUALLY TRYING TO STOP THE RELEASE
  - Function to contain the release from a safe distance, keep it from spreading and prevent exposures
  - Have received eight hours of HAZWOPER training with annual refresher
  - Shall have received 8 hours of initial training equal to the first responders operations level and have the competencies outlined in **29 CFR 1910.120(q)(6)(ii)[A-F]** in addition to those competencies listed for the awareness level.
  - Shall receive annual refresher training as outlined in **29 CFR 1910.120(q)(8)**

- First Responder Technician Level:
  - Individuals who respond to releases or potential releases for the purpose of **STOPPING THE RELEASE**
  - May approach the point of release, in order to plug, patch or otherwise stop the release
  - Shall have received 24 hours of initial training equal to the first responders operations level and have the competencies outlined in **29 CFR 1910.120(q)(6)(iii)[A-I]**
  - Shall receive annual refresher training as outlined in **29 CFR 1910.120(q)(8)**

3.5.3.3 Response and Mitigation Technologies

Life safety and the protection of personnel and the public are the first priority.

The Incident Commander will make the final determination of which type of mitigating technology will be used in the emergency, along with consultation from Enterprise Operations and Safety personnel.

3.5.3.4 Control Zones

The control zones will be set by the Incident Commander (IC) and the Safety Officer (SO). In determination of control zones, the SO shall ensure a buddy system is used and maintained at all times, with appropriate back-up. When determining control zones for releases or spills, appropriate atmospheric monitoring devices and methods will be utilized as described in **Section 3.5.3.8** of this plan.

Personnel evaluating the site must don appropriate PPE until concentrations of contaminates and hazards have been fully evaluated. An Emergency Response Site Safety and Action Plan (**EPCO Form SF49**) shall be completed and communicated to personnel prior to taking any action.

- **Exclusion Zone (Hot Zone)** – The area immediately around a spill or release where contamination does or could occur. The innermost of the three zones of a hazardous substance/material incident. Special protection is required for all personnel while in this zone. The outer edge of the Exclusion Zone (Hot Zone) will be areas with identified atmospheric levels between 0 and 10% LEL, but not greater. Areas with identified atmospheric monitoring levels of greater than 10% LEL or Toxic gases in excess of the Permissible Exposure Limit (PEL) or oxygen enriched, or oxygen deficient atmospheres will be included within the boundaries of the Exclusion Zone (Hot Zone).
- **Contamination Reduction Zone (Warm Zone)** – The area between the Exclusion Zone and the Support Zone. This zone contains the personnel decontamination station. This zone may require a lesser degree of personnel protection than the Exclusion Zone. This separates the contaminated area from the clean area and acts as a buffer to reduce contamination of the "clean" area.
- **Support Zone (Cold Zone)** – The "clean" area outside of the contamination control line. In this area, equipment and personnel are not expected to become contaminated. Special protective clothing may not be required. This is the area where resources are assembled to support the hazardous substances/materials release operations.

Every effort should be made with the resources available to restrict entry of anyone into the Controlled Zones other than emergency responders authorized by the IC. Entry into and from the Contamination Reduction Zone or Exclusion Zone shall be documented and shall occur by designated routes.

3.5.3.5 Decontamination

Decontamination is the process of removing or neutralizing contaminants that have accumulated on personnel or equipment.

While involved in a small release clean-up, personnel will follow sound decontamination procedures utilizing decontamination equipment staged in designated areas.

- Decontamination procedures shall be established prior to entering the Exclusion Zone.
- The ability to decontaminate shall be in place prior to entering the Exclusion Zone.
- The method of decontamination shall be determined by the SO according to the nature of the contaminant.
- The Environmental representative shall determine the method of disposal used for contaminates.

3.5.3.6 Emergency Equipment and Supplies

Employees have access to various safety and emergency equipment provided by the company. Only employees trained in the proper use of these items will be permitted to use them.

The Emergency Supplies can be found in:

- Company warehouses and store rooms identified for such use
- Some company vehicles
- Various designated locations around the facilities

Emergency Supplies may include:

- Fire extinguishers, ear protection, chemical goggles, rubber gloves, respirators, SCBA's, portable eye wash, hazardous & toxic gas monitors, ropes, safety harness, ladder, stretcher, first aid kit, generator, portable lights, wind socks, and air movers.

Emergency Shutdown Device (ESD)

- Emergency Shutdown Device/Buttons (ESD buttons) may be located in the facility. ESD buttons will shut down critical operations. They may also activate evacuation alarms, if applicable.

3.5.3.7 First Aid

Enterprise employees who respond to an emergency as part of this Emergency Response Plan are trained in basic first aid and CPR. Employees may provide first aid for injured personnel until public emergency medical services arrive.

Additional information is available in the "*Enterprise Safety Policies Manual*" **Section 5.5**.

First Aid Kits are located in:

- Company Control Rooms
- Company Warehouses
- Company Vehicles
- Other various locations within the facilities

3.5.3.8 Monitoring Devices

1. Vapor Dispersion Table and Modeling

a. The Initial Response Distances identified in **Table 3** are provided as a theoretical guideline to assist employees in the initial determination of the hazardous area.

- The distances shown in this table provide the employee with the theoretical size of the hazardous area.
- These distances may be used along with guidelines in **Section 3.5.3.8 (2)**, in determining the safe location to initiate atmospheric monitoring.
- The actual hazardous area must be verified in the field using atmospheric monitors as described in this section.
- Cautious Approach, detailed in **Section 3.5.3.8 (2)**, must be used because field variables may cause the hazardous area to differ from the theoretical distances provided in **Table 3**.
- Variables provided in this table are pipe size, product type, and wind speed.
- This table assumes worst case leak size. The leak opening is calculated using the pipe size. Example: For a 6 inch pipe a 6 inch leak opening is calculated.
- This table assumes worst case pressure of 1,440 psig
- The temperature of 70 degrees Fahrenheit is used in these calculations.
- For downwind distances –
  - Choose the appropriate pipe size, and
  - Choose the appropriate product, and
  - Choose the appropriate wind speed, then
  - The resulting distance is the theoretical downwind distance of the hazardous area.
- For upwind distances:
  - Choose the appropriate pipe size, and
  - Choose the appropriate product, and
  - Use the 0 mph wind speed, then
  - The resulting distance is the theoretical upwind distance of the hazardous area.
- Information from **Table 3** can be used in **Figure 2** to provide a theoretical plan of the hazardous area.

b. Vapor Dispersion Modeling is a tool that may be used, when determined within the Unified Command Structure by the Incident Commander and Safety Officer to be appropriate. If used, the air modeling will be performed by a local responding agency or a Hazmat contractor.

- Vapor Dispersion Modeling provides the employee with the theoretical size of the hazardous area.
- These distances may be used along with guidelines in **Section 3.5.3.8 (2)**, in determining the safe location to initiate atmospheric monitoring.

- The actual hazardous area must be verified in the field using atmospheric monitors as described in this section.
- Cautious Approach, detailed in **Section 3.5.3.8 (2)**, must be used because field variables may cause the hazardous area to differ from the theoretical distances provided in Vapor Dispersion Modeling.
- Variables commonly used in Vapor Dispersion Modeling include product type, pressure, and leak size.
- The product type can be obtained from the pipeline controller.
- The pressure can be estimated by the pipeline controller, and may be verifiable if a local pressure gauge is available.
- The leak size will typically have to be estimated with guidance from field personnel.

Figure 2 – Precautionary Zone

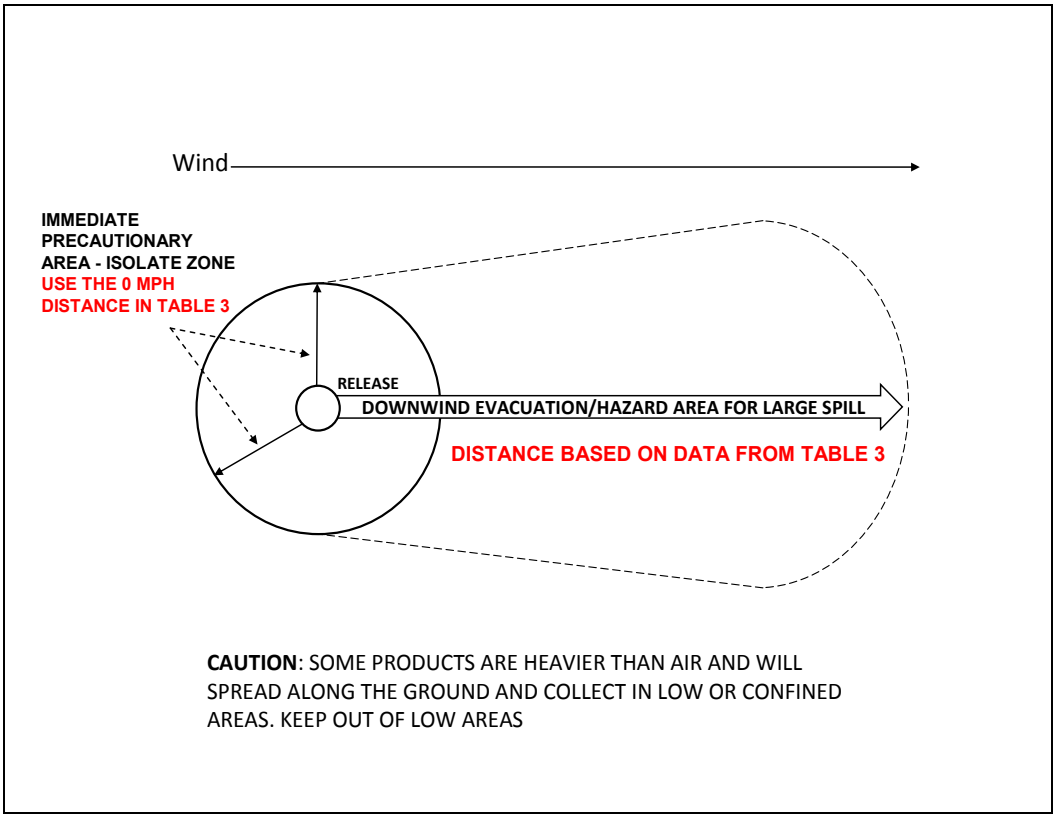

Table 3 – Dispersion Distance Table

6-inch Release Size					
Wind Speed (MPH)	Dispersion Distance to 10% LEL (ft)				
	0	3	5	10	15
Ethane	2,900	5,000	7,400	8,500	4,600
Propane	2,400	3,600	6,400	7,900	4,400
Propylene	2,400	3,600	6,400	7,900	4,400
Butane	2,000	3,000	5,300	7,000	3,800

8-inch Release Size					
Wind Speed (MPH)	Dispersion Distance to 10% LEL (ft)				
	0	3	5	10	15
Ethane	3,500	5,700	8,800	10,400	5,900
Propane	2,900	4,300	7,500	9,900	5,800
Propylene	2,900	4,300	7,500	9,900	5,800
Butane	2,400	3,300	6,100	8,500	4,900

10-inch Release Size					
Wind Speed (MPH)	Dispersion Distance to 10% LEL (ft)				
	0	3	5	10	15
Ethane	4,000	6,200	10,200	12,100	7,700
Propane	3,600	4,400	8,400	11,400	7,200
Propylene	3,700	4,400	8,400	11,400	7,200
Butane	2,700	3,700	6,800	9,900	6,100

12-inch Release Size					
Wind Speed (MPH)	Dispersion Distance to 10% LEL (ft)				
	0	3	5	10	15
Ethane	4,600	6,700	11,200	14,100	9,200
Propane	4,100	4,800	9,300	13,000	8,800
Propylene	4,100	4,800	9,300	13,000	8,800
Butane	3,000	4,000	7,500	11,300	7,300

2. Cautious Approach of Hazardous Area and Determination of the Safe Area to initiate Atmospheric Monitoring

a. Follow preparation provided in **Section 3.5.3.8 (3)** of this plan.

b. Based on the reported magnitude of the leak, the following resources will be used to determine the initial distance to begin atmospheric monitoring.

> ***Note: In the absence of specific details regarding the leak, or when the leak is known to be catastrophic, use the initial response distances in Table 3 (most conservative data).***

c. Initial Response Distances in **Table 3** as a resource.
   - Follow guidance in **Section 3.5.3.8 (1a)**

d. Emergency Response Guidebook (ERG) as a resource.
   - When determining the initial area to be monitored, the Department of Transportation Emergency Response Guidebook (ERG) may be used as appropriate to supplement known information.
     - The ERG provides initial evacuation distances.
     - These distances may be used along with other information in determining the safe location to initiate atmospheric monitoring.
   - Pipeline Transportation is referenced in the "White Pages" section of the ERG (page 24-25) and provides direction in pipeline incidents.

e. Vapor Dispersion Modeling as a resources.
   - Follow guidance in **Section 3.5.3.8 (1b)**

f. Direction of Scene Approach
   - Initial approach should always be with caution, and whenever possible or feasible from the direction:
     - Upwind or crosswind of the spill or release area
     - Uphill of the spill or release area.

g. Constantly be aware of any indications of a pipeline failure or release:
   - Visible Clues: such as fire, gas cloud, blowing gas, blowing dirt, ice ball, pooling or running liquid
   - Audible Clues: such as hissing, roaring, or other sounds of relieving pressure
   - Odor Clues: such as any hydrocarbon, odorant, or other unusual odor
   - Other Unusual Indications of hazardous materials present
     - Defoliation
     - Biological indications
   - In the event indications are present:
     - Begin atmospheric monitoring for hazardous atmospheres or imminently dangerous conditions, to confirm if hazardous atmospheres exist.

h. In the event there are no indications of a release, consider the following conditions when determining when and where to initiate atmospheric monitoring for hazardous conditions:

- Product characteristics
  - Products that are lighter than air will rise in the atmosphere.
    Example – Natural Gas, Methane
  - Products that are heavier than air will lay close to the ground and follow terrain features
    Example – Propane, Butane
- Magnitude of spill or release
  - Increased release of product from the pipe will result in both larger hazardous area and evacuation distances
- Duration of spill or release
  - Increased release or leak time may also result in both larger hazardous area and evacuation distances
- Weather
  - Weather conditions such as ambient temperatures below freezing may increase the dispersion distances shown in **Table 3**.
- Wind direction and speed
  - The vapor cloud and hazardous area will move in the direction of the wind
  - Increased wind speeds will increase the spread of the hazardous area in the direction of the wind
  - Low or no winds may result in vapor dispersion more equally in all directions
- Terrain
  - Heavier than air products and flowing liquids will follow terrain features in a downward slope.
  - The vapor cloud and flowing liquids may move downhill, following; washes, creeks, streams, and other low areas
- Culverts
  - If present, heavier than air vapors and flowing liquids may enter storm culverts or open manholes
- Low areas
  - Heavier than air vapors and flowing liquids may collect in low lying areas
- Below grade
  - Heavier than air products and flowing liquids may collect in areas below grade

i. Additional Distance should be considered:
   - When approach must be made from downwind
   - When there are low or no winds
   - When ambient weather conditions are below freezing
   - In larger volume leaks or releases
   - In longer duration leaks or releases

j. The **DO NOT**'s of atmospheric monitoring:
   - DO NOT ever enter, walk into, or drive into a vapor cloud or puddle of liquid
   - DO NOT initiate gas detection in an enclosed area
   - DO NOT initiate gas detection in an area where there is an odor
   - DO NOT park over a manhole or storm drain
   - DO NOT approach the scene with any ignition source until the Hot Zone has been established (e.g. cell phone, camera, vehicle, other)

3. Preparation of Atmospheric Monitors

a. Atmospheric monitoring devices will have current calibrations and bump test in accordance with manufacturer's recommendations.

b. The user will be trained in the operation of the atmospheric monitoring device.

c. Manufacturer's recommendations for the operation of atmospheric monitoring devices shall be followed.

d. Start the instrument in an area known to be a good atmosphere and free of hydrocarbons. The instrument shall be "zeroed" (if needed) in this area in accordance to manufacturer's recommendations.

4. Guidelines for using Atmospheric Monitoring Devices to Determine Hazardous Area

The SO will ensure that proper monitoring devices for such gases as Oxygen, Combustible Gases, and Toxic Gases are used during the emergency response and remediation to evaluate atmospheric conditions.

Action Level Readings are:

- Oxygen Sensor – Less than 19.5% or more than 23.5%
- LEL Sensor – Any monitor reading above 10% LEL
- Toxic Sensor – Any monitor reading above the PEL

a. Follow preparation provided in **Section 3.5.3.8 (3)** of this plan

b. Observe the atmospheric monitoring devices' readings while slowly approaching, with caution, the suspected hazardous area from the direction described in **Section 3.5.3.8 (2)** of this plan.

c. When the atmospheric monitoring device displays an Action Level Reading (described above), back-up approximately 10'(or until the meter readings decrease) and identify that location as one point on the perimeter of the "Exclusion Zone (Hot Zone)."

d. Proceed with caution in a clockwise, or counter-clockwise, fashion around the suspected perimeter of the Hazardous Area.

e. Repeat the above steps until a reading is obtained that provides the next known point on the perimeter of the Hazardous Area.

f. Identify each location as a point on the perimeter of the "Exclusion Zone (Hot Zone)"

g. Continue with caution around the suspected Hazardous Area until the circumference of the Hazardous Area is identified by receiving readings on the atmospheric monitoring device.

h. Once the perimeter of the "Exclusion Zone (Hot Zone)" has been determined, it must be continuously monitored from the "Contamination Reduction Zone (Warm Zone)" to identify any changes.

i. A log will be maintained to record area atmospheric monitoring.

j. The points identified using the atmospheric monitoring device will be utilized to assist in representing the "Exclusion Zone (Hot Zone)" on a map of the area.

3.5.3.9 Safe Work Practices

The IC and SO will be responsible for ensuring that safety measures are taken in all work practices. An Emergency Response Site Safety and Action Plan (**EPCO Form SF49**) shall be completed and communicated to personnel prior to taking any action.

3.5.3.10 Personal Protective Equipment (PPE)

Proper PPE for response activities will be determined by the SO and IC on a case-by-case basis. Only employees properly trained in the use of a piece of equipment will be permitted to use it during an emergency response.

The minimum level of PPE within a process operating area or pipeline right of way shall be Level 1 Protection as described in the "*Enterprise Safety Policies Manual*" **Section 3.9**.

- Fire Retardant Clothing
- Safety Toe Shoes
- Hard Hat
- Safety Glasses or Chemical Goggles

IMPORTANT:

Enterprise employees shall not perform any task in response to an emergency that exceeds their current level of HAZWOPER training, per 29 CFR 1910.12(q).

Refer to Section 3.5.3.2 of this Emergency Response Plan for further information.

3.5.3.11 Contractors

Enterprise has qualified contractors available to perform and aid in Emergency Response containment, support functions, and remediation activities on an as needed basis.

The Area Coordinator of Maintenance will provide qualified contractors in response to an emergency.

The Primary contractors that will be used for Emergency Response support for this area are listed below.

Areas that are required to have available Oil Spill Removal Organization (OSRO) shall include these contractors below and identify them as such.

EMERGENCY CONTRACTORS		
Contractor	**Number**	**OSRO (Y/N)**
Holloman Construction Odessa, TX	1-800-521-2461 432-553-8486 (cell)	NO
Sunland Construction	505-333-6114 505-320-0909 (cell)	NO

3.5.4 FOLLOW-UP (Post Emergency Response Operations)

Post emergency repairs/cleanup begins when the IC of the initial emergency response declares the site to be safe to perform such activities. Enterprise personnel and/or contractors will assist or perform repairs as safely and promptly as possible.

NOTE: In a large release or release involving a waterway one area may be declared by the IC as under control with no safety or health hazard and begin Post Emergency Response Operations; however another affected area may still be operating as an emergency under the ICS. The IC must clearly define the boundaries between the two areas.

NOTE: Field employees will coordinate with Facility or Pipeline Control to restore operation. Pre-startup safety inspections will be conducted prior to returning affected processes back to service.

After repairs have been made, Enterprise personnel will coordinate with the Safety and Environmental departments to conduct or assist in the proper remediation and cleanup activities.

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4. POST-INCIDENT INVESTIGATION

An incident investigation will be conducted according to the investigation guidelines contained in the Incident Investigation section of "*Enterprise Safety Policies Manual*" **Section 2.4**.

In addition to the extent possible Enterprise will meet with involved agencies to conduct a post incident critique utilizing the Emergency Response or Drill Critique form **(EPCO Safety Form SF13)**.

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5. EMERGENCY INCIDENT OPERATING GUIDELINES

Enterprise has adopted fifteen (15) standard Emergency Incident Operating Guidelines for response to emergency incidents.

1. ***Notification*** – The Pipeline or Facility Controller is notified first and he/she will then contact local emergency response agencies and local employees for assistance.
2. ***Safely Evacuate or Respond*** – Upwind, uphill and upgrade of the incident.
3. ***Isolate and Deny Access/Entry*** – Do not allow anyone to enter or access the hazard area by using banner tape, vehicles, or emergency response personnel unless directed to do so by the IC.
4. ***Command*** – Initiate ICS and appoint a SO; initiate perimeter control.
5. ***Identification of Hazards*** – Identify the hazards involved in the emergency.
6. ***Assessment/Action Plan*** – A written Emergency Response Site Safety and Action Plan (**EPCO Form SF49**) must be developed and communicated to the entire response team through a field briefing.
7. ***Protective Equipment*** – Select PPE, establish control zones, and perform continuous air monitoring.
8. ***Control*** – Eliminate ignition sources and consider confinement/containment options.
9. ***Protective Actions*** – Evacuation/shelter-in-place options establish and maintain adequate safety zones for the duration of the incident.
10. ***Decontamination*** – Establish and provide an adequate level of decontamination.
11. ***Disposal*** – Ensure appropriate disposal of all recovered product(s) and contaminated soils.
12. ***Termination*** – Emergency phase closure, equipment status evaluation, personnel debriefing and assignments for post incident analysis.
13. ***Medical*** – Document exposures to personnel; give field medical evaluations to exposed personnel and recommendations for further medical attention.
14. ***Evaluation*** – Complete a post-incident analysis within 48 hours with all available personnel involved.
15. ***Documentation*** – All necessary emergency phase documentation is gathered and secured.

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6. INCIDENT TYPES

6.1 Summary of Incident Types

1. Medical Emergencies
2. Product Release or Spill
   - Small Release or Spill
   - Large Release or Spill
3. Fire
4. Security or Bomb Threat
5. Natural Disasters
   - Flooding
   - Tornadoes
   - Hurricanes
   - Extreme Winter Weather (Ice/Snow)
   - Earthquakes or Subsidence

6.2 Medical

1. Immediately call (**911**) for public emergency medical services
2. Immediately notify the Supervisor, Safety or Control Room
3. Activate the Incident Command System -- Follow directions of Incident Commander
4. Follow the Enterprise Notification Protocol; refer to "*Enterprise Safety Policies Manual*" **Section 2.1**
5. Use "Universal Precautions" for blood borne pathogens and infectious materials
6. Only provide the level of aid to which you are trained and qualified
7. Do not move the patient unless the current location is threatened with imminent danger
8. If Rescue is required -- Complete an Emergency Response Site Safety and Action Plan (**EPCO Form SF49**) and communicate to personnel prior to any action, update as information or conditions change
9. Terminate the incident when told to do so by the Incident Commander
10. Dispose of material according to direction from the MSDS and the Environmental Department and the Enterprise Industrial Hygienist
11. Perform a Post Incident Critique (**EPCO Safety Form SF13**)
12. Perform an Incident Investigation

6.3 Small Product Release or Spill

Note: It is generally considered that a Small Release is defined as a release or spill of less than 5 barrels of a "Highly Volatile Liquid." (For more details see DOT ERG and 49 CFR 195.5)

This can be dependent upon the type of material and should be confirmed through the Environmental Department as to the characteristics of the material as well as the "Reportable Quantity" for the specific released material.

1. Immediately Notify Supervisor, Safety or Control Room.
2. Activate the Incident Command System -- Follow directions of Incident Commander.
3. Follow the Enterprise Notification Protocol; refer to "*Enterprise Safety Policies Manual*" **Section 2.1.**
4. Determine the wind direction.
5. Respond from upwind or crosswind and upgrade to the scene of the Incident.
6. Enterprise employees shall not perform any task in response to an emergency that exceeds their current level of training per **29 CFR 1910.120** and **Section 3.5.3.2** of this Emergency Response Plan.
7. Use monitors to check for hazardous atmosphere.
8. Identify source of release or spill and material type.
9. Determine if release or spill may be treated as a "Small Release" according to the MSDS exposure limits and other information.
10. Safely stop source of release or spill.
11. Contain material released.
12. Dispose of material according to direction from the MSDS and the Environmental Dept.
13. Terminate the incident when told to do so by the Incident Commander.
14. Perform a Post Incident Critique (**EPCO Safety Form SF13**).
15. Perform an Incident Investigation.

6.4 Large Product Release or Spill

Note: It is generally considered that a Large Release is defined as a release or spill of 5 barrels, or more, of a "Highly Volatile Liquid;" or any product or chemical with characteristics that create immediate safety/health hazards or will migrate off-site. (For more details see DOT ERG and 49 CFR 195.5)

This can be dependent upon the type of material and should be confirmed through the Environmental Department as to the characteristics of the material as well as the "Reportable Quantity" for the specific released material.

1. Immediately Notify Supervisor, Safety or Control Room.
2. Activate the appropriate facility alarm system to initiate evacuation.
3. Utilize the Department of Transportation Emergency Response Guidebook (ERG), as appropriate, to supplement known information during the initial response phase in determining the initial evacuation area.
4. Activate the Incident Command System -- Follow directions of Incident Commander.
5. Follow the Enterprise Notification Protocol; refer to "*Enterprise Safety Policies Manual*" **Section 2.1.**
6. Call for outside assistance and notify public agencies as needed.
7. Obtain care for any injured personnel – see Medical **Section 6.2** of this plan**.**
8. Ensure that all personnel are accounted for and identify if any personnel are missing. Use the Evacuation Assembly Area Accountability form **(EPCO Safety Form SF51)**.
9. Activate Emergency Shut Down (ESD) and close remote valves as needed.
10. Attempt to identify source, magnitude, and duration of release or spill and material type, from a safe distance.
11. Determine the wind direction and speed as well as the slope of the terrain.
12. Complete Emergency Response Site Safety and Action Plan (**EPCO Form SF49**) communicate to personnel prior to any action, update as information or conditions change.
13. Complete a Job Plan to outline required tasks needed to control and perform maintenance on the equipment or pipeline as needed.
14. Enterprise EHS&T Safety Policies, Enterprise Procedures Manual for Pipeline Maintenance and Emergencies (O&M Manual) and Equipment Maintenance Procedures will be followed.
15. Establish Control Zones using monitoring devices as described in **Section 3.5.3.4** of this plan.
16. Restrict access according to established Control Zones.
17. Enterprise employees shall not perform any task in response to an emergency that exceeds their current level of training per **29 CFR 1910.120(q)** and **Section 3.5.3.2** of this Emergency Response Plan.
18. Comply with PPE requirements established by the Safety Officer.
19. Use the "Buddy System" along with proper back-up.

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6.4 Large Product Release or Spill (cont.)

20. Never enter a gas or vapor cloud or any other immediately dangerous area.
21. The trained Emergency Responders will attempt to contain the release.
22. The trained Emergency Responders will attempt to stop the release.
23. Terminate the incident when told to do so by the Incident Commander.
24. Sound the All-clear as directed to do so by the Incident Commander.
25. Perform a Post Incident Critique (**EPCO Safety Form SF13**).
26. Dispose of any hazardous material according to direction from the MSDS and the Environmental Department.
27. Remediate the area.
28. Perform an Incident Investigation.

6.5 Fire

1. Immediately Notify Supervisor, Safety or Control Room.
2. Activate the appropriate facility alarm system to initiate evacuation.
3. Activate the Incident Command System -- Follow directions of Incident Commander.
4. Follow the Enterprise Notification Protocol; refer to "*Enterprise Safety Policies Manual*" **Section 2.1.**
5. Call for outside assistance and notify public agencies as needed.
6. Obtain care for any injured personnel – see Medical **Section 6.2.**
7. Ensure that all personnel are accounted for and identify if any personnel are missing. Use the Evacuation Assembly Area Accountability form **(EPCO Safety Form SF51)**.
8. Activate Emergency Shut Down (ESD) and close remote valves as needed.
9. Activate fixed firewater systems if applicable (e.g., deluge systems, fire monitors)
10. Attempt to identify source of fuel and material type from a safe distance.
11. Determine the wind direction.
12. Complete Emergency Response Site Safety and Action Plan **(EPCO Form SF49)** communicate to personnel prior to any action, update as information or conditions change.
13. Complete a Job Plan to outline required tasks needed to control and perform maintenance on the equipment or pipeline – as needed.
14. Enterprise EHS&T Safety Policies, Enterprise Procedures Manual for Pipeline Maintenance and Emergencies (O&M Manual) and Equipment Maintenance Procedures will be followed.
15. Establish Control Zones using monitoring devices.
16. Restrict access according to established Control Zones.
17. Enterprise employees shall not perform any task in response to an emergency that exceeds their current level of training per **29 CFR 1910.120(q)** and **Section 3.5.3.2** of this plan.
18. Comply with PPE requirements established by the Safety Officer.
19. Use the "Buddy System" along with proper back-up.
20. Never enter an immediately dangerous area.
21. The trained Emergency Responders will attempt to contain the fire.
22. The trained Emergency Responders will attempt to protect the exposures.
23. The trained Emergency Responders will attempt to stop the fuel source.
24. The trained Emergency Responders will attempt to extinguish the fire.
25. Terminate the incident when told to do so by the Incident Commander.
26. Sound the All-clear as directed to do so by the Incident Commander.
27. Perform a Post Incident Critique **(EPCO Safety Form SF13).**
28. Dispose of any hazardous material according to direction from the MSDS and the Environmental Department.
29. Remediate the area as needed.
30. Perform an Incident Investigation.

6.6 Security or Bomb Threat

1. Immediately Notify Supervisor, Safety or Control Room.
2. Activate the Incident Command System -- Follow directions of Incident Commander.
3. Follow the Enterprise Notification Protocol; refer to "*Enterprise Safety Policies Manual*" **Section 2.1.**
4. Refer to the Facility Security Plan.
5. Call for outside assistance and notify public agencies as needed.
6. Activate the appropriate facility alarm system to initiate evacuation if appropriate.
7. Ensure that all personnel are accounted for and identify if any personnel are missing. Use the Evacuation Assembly Area Accountability form **(EPCO Safety Form SF51)**.
8. Activate Emergency Shut Down (ESD) as needed.
9. Complete Emergency Response Site Safety and Action Plan **(EPCO Form SF49)** communicate to personnel prior to any action, update as information or conditions change.
10. Establish Control Zones as appropriate.
11. Restrict access according to established Control Zones.
12. Terminate the incident when told to do so by the Incident Commander.
13. Sound the All-clear as directed to do so by the Incident Commander.
14. Perform a Post Incident Critique **(EPCO Safety Form SF13).**
15. Perform an Incident Investigation.

6.7 Natural Disasters

6.7.1 Flooding

1. Immediately Notify Supervisor, Safety or Control Room.
2. Activate the Incident Command System -- Follow directions of Incident Commander.
3. Continuously monitor local news reports.
4. Take preliminary actions to secure the facility prior to flooding and evacuation.
5. Consider having sandbags brought to sites that could be affected by the flooding.
6. Consider obtaining portable pumps and hoses.
7. Consider removing product from underground storage tanks (sumps and separators) and replace with water to prevent them from floating out of the ground.
8. Keep at least a normal bottom in all above ground tankage, more if possible.
9. Close all valves on products and additive storage tanks.
10. Anchor all bulk additive tanks, fuel barrels, empty drums, and propane tanks.
11. Back up computer files.
12. Remove assets such as files, computers and spare parts.
13. Shut off high voltage power and natural gas lines.
14. Prior to evacuation, know where all of the employees will be residing and obtain phone numbers so that they can be contacted if additional emergencies occur.
15. Follow the Enterprise Notification Protocol; refer to "*Enterprise Safety Policies Manual*" **Section 2.1**, when flooding is imminent.
16. Activate the appropriate facility alarm system to initiate evacuation if appropriate.
17. Ensure that all personnel are accounted for and identify if any personnel are missing. Use the Evacuation Assembly Area Accountability form **(EPCO Safety Form SF51)**.
18. Activate Emergency Shut Down (ESD) as needed.
19. Complete Emergency Response Site Safety and Action Plan **(EPCO Form SF49)** communicate to personnel prior to any action, update as information or conditions change.
20. Establish Control Zones as appropriate.
21. Restrict access according to established Control Zones.
22. Terminate the incident when told to do so by the Incident Commander.
23. Sound the All-clear as directed to do so by the Incident Commander.
24. Perform a Post Incident Critique **(EPCO Safety Form SF13).**

6.7.2 Tornadoes

1. Immediately Notify Supervisor, Safety or Control Room.
2. Activate the Incident Command System -- Follow directions of Incident Commander.
3. Follow the Enterprise Notification Protocol; refer to "*Enterprise Safety Policies Manual*" **Section 2.1**.
4. Continuously monitor local news reports.
5. Look for funnel formations on the ground or in the clouds and listen for a roar that sounds like a jet aircraft or rail traffic.
6. Activate the appropriate facility alarm system to initiate evacuation if appropriate.
7. Take shelter. Have location personnel report to the designated area.
8. Ensure that all personnel are accounted for and identify if any personnel are missing. Use the Evacuation Assembly Area Accountability form **(EPCO Safety Form SF51)**.
9. Activate Emergency Shut Down (ESD) as needed.
10. Complete Emergency Response Site Safety and Action Plan **(EPCO Form SF49)** communicate to personnel prior to any action, update as information or conditions change.
11. Establish Control Zones as appropriate.
12. Restrict access according to established Control Zones.
13. Terminate the incident when told to do so by the Incident Commander.
14. Sound the All-clear as directed to do so by the Incident Commander.
15. Perform a Post Incident Critique **(EPCO Safety Form SF13).**

The shelter area that is recommended for the facilities is the facility control room. The shelter area that is recommended for the pipeline right of way is a ditch or low lying area.

6.7.3 Hurricanes

1. Review the area Hurricane Plan prior to June 1st.
2. Monitor local news reports.
3. Follow the procedures and precautions set forth in the area Hurricane Plan.
4. Immediately Notify Supervisor, Safety or Control Room.
5. Activate the Incident Command System -- Follow directions of Incident Commander.
6. Take preliminary actions to secure the facility prior to high winds, flooding and evacuation.
7. Consider having sandbags brought to sites that could be affected by the flooding.
8. Consider obtaining ride out supplies such as food, generators, portable pumps and hoses.
9. Consider removing product from underground storage tanks (sumps and separators) and replace with water to prevent them from floating out of the ground.
10. Keep at least a normal bottom in all above ground tankage, more if possible.
11. Close all valves on products and additive storage tanks.
12. Anchor all bulk additive tanks, fuel barrels, empty drums, and propane tanks.
13. Back up computer files.
14. Remove assets such as files, computers and spare parts.
15. Shut off high voltage power and natural gas lines.
16. Prior to evacuation, know where all of the employees will be residing and obtain phone numbers so that they can be contacted if additional emergencies occur.
17. Follow the Enterprise Notification Protocol; refer to "*Enterprise Safety Policies Manual*" **Section 2.1**, when storm is imminent.
18. Activate the appropriate facility alarm system to initiate evacuation if appropriate.
19. Ensure that all personnel are accounted for and identify if any personnel are missing. Use the Evacuation Assembly Area Accountability form **(EPCO Safety Form SF51)**.
20. Activate Emergency Shut Down (ESD) as needed.
21. Complete Emergency Response Site Safety and Action Plan **(EPCO Form SF49)** communicate to personnel prior to any action, update as information or conditions change.
22. Establish Control Zones as appropriate.
23. Restrict access according to established Control Zones.
24. Terminate the incident when told to do so by the Incident Commander.
25. Sound the All-clear as directed to do so by the Incident Commander.
26. Perform a Post Incident Critique **(EPCO Safety Form SF13).**

The shelter area that is recommended for the facilities is the facility control room, which should have an appropriate wind rating. The shelter area that is recommended for the pipeline right of way is a ditch or low lying area.

6.7.4 Extreme Winter (Ice/Snow)

1. Prepare the facility prior to onset of winter with an adequate supply of fresh water, snow removal equipment, generators, and other items considered necessary.
2. Monitor local news reports.
3. If there is a blizzard or ice storm imminent, communicate this information to all personnel.
4. Immediately Notify Supervisor, Safety or Control Room.
5. Follow the Enterprise Notification Protocol; refer to "*Enterprise Safety Policies Manual*" **Section 2.1**, when storm is imminent.
6. Take preliminary actions to secure the facility prior to inclement weather and possible evacuation.
7. Activate the Incident Command System -- Follow directions of Incident Commander.
8. Complete Emergency Response Site Safety and Action Plan **(EPCO Form SF49)** communicate to personnel prior to any action, update as information or conditions change.
9. Ensure that all personnel are accounted for and identify if any personnel are missing. Use the Evacuation Assembly Area Accountability form **(EPCO Safety Form SF51)**.
10. Terminate the incident when told to do so by the Incident Commander.
11. Perform a Post Incident Critique **(EPCO Safety Form SF13).**

6.7.5 Earthquakes or Subsidence

1. Prior to an event, know the gathering locations and contact persons for each of the buildings.
2. During an event -- remain calm.
3. Immediately Notify Supervisor, Safety or Control Room.
4. Activate the Incident Command System -- Follow directions of Incident Commander.
5. Follow the Enterprise Notification Protocol; refer to "*Enterprise Safety Policies Manual*" **Section 2.1**.
6. Continuously monitor local news reports.
7. Call for outside assistance and notify public agencies as needed.
8. Activate the appropriate facility alarm system to initiate evacuation if appropriate.
9. Have location personnel report to the designated assembly area.
10. Ensure that all personnel are accounted for and identify if any personnel are missing. Use the Evacuation Assembly Area Accountability form **(EPCO Safety Form SF51)**.
11. Use the stairs, if applicable, to evacuate to a place of safety outdoors.
12. Move away from buildings, utility poles, and other structures that could fall.
13. Always avoid power or utility lines, as they may be energized.
14. If you must remain indoors, seek refuge in a doorway or under a desk or table.
15. Stay away from glass windows, shelves, and heavy equipment.
16. If in an automobile, stop in the safest place available, preferably away from power lines and trees. Stay in the vehicle, as it offers shelter.
17. Activate Emergency Shut Down (ESD) as needed.
18. Complete Emergency Response Site Safety and Action Plan **(EPCO Form SF49)** communicate to personnel prior to any action, update as information or conditions change.
19. Establish Control Zones as appropriate.
20. Restrict access according to established Control Zones.
21. Terminate the incident when told to do so by the Incident Commander.
22. Sound the All-clear as directed to do so by the Incident Commander.
23. Perform a Post Incident Critique **(EPCO Safety Form SF13).**

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7. PIPELINE RIGHT OF WAY WARNING SIGNS

***Note**: These signs are used for illustration purposes only and may have different wording, phone numbers, and company information than actual signs in the field.*

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8. MEDIA

Should you encounter a business-related emergency involving company assets, personnel or contractors, please contact:

Rick Rainey
Director, Public Relations
Office: (713) 381-3635
Cell: (713) 259-9214

Note: The notification of the Public Relations Department is in addition to the standard protocol for contacting your designated representative under the company's emergency response plan.

In certain situations, it may be necessary to respond to the media prior to the arrival or availability of the public relations team. The information below will provide you with some guidance:

DO	DO NOT
• Identify yourself as the designated spokesperson	• **Don't** speculate on cause of the incident
• Confirm occurrence of an incident and that the company is addressing the situation	• **Don't** provide names or medical conditions of injured
• Provide only basic facts of the incident – reading a statement is ok; provide nothing in writing	• **Don't** estimate damages
• Be truthful	• **Don't** assume responsibility, wait until company's involvement is determined
• Express compassion for those affected by the incident	• **Don't** go "off the record" – be aware that images and sound are being recorded even though a camera or microphone may not be visible
• Address media as a group if possible, rather than conducting individual interviews	• **Don't** allow unrestricted access to the scene, utilize law enforcement to control access
• End interviews promptly after providing facts	• **Don't** guess if you don't know the answer; offer to find out and follow-up later
• Provide a safe and secure area for briefing reporters; assure media that information will be provided as it becomes available	

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9. ACKNOWLEDGEMENT AND COMPLIANCE

ACKNOWLEDGMENT

This Emergency Response Plan has been developed to work in conjunction with existing emergency plans developed by federal, state and local authorities. To further coordinate, this plan is presented to the Local Emergency Planning Committees or other Local Emergency Agencies on an annual basis (refer to this Emergency Response Plan for more information). The local Safety Department Representative will be responsible for ensuring this Emergency Response Plan is distributed to the appropriate agencies.

COMPLIANCE

This Plan is both the Emergency Response Plan and the Emergency Action Plan for this facility and complies with all required elements.

This Emergency Response Plan complies with the requirements for Emergency Plans from **49 CFR** of the Department of Transportation and **29 CFR Part 1910** of the Occupational Safety and Health Administration to protect the health and safety of Company employees.

PLAN INTEGRITY AND REVIEW

The Facility Supervisor and/or Safety/PSM Coordinator for each location will ensure that this Emergency Response Plan is reviewed and updated as needed, but at least annually, not to exceed 15 months.

For additional Emergency Response Plan information contact the Safety/PSM Coordinator.

Dennis Holland - Safety/PSM Coordinator

(505) 599-2500 (office)

(505) 330-1945 (cell)

Victor Crawford - Safety/PSM Coordinator

(505) 599-2264 (office)

(505) 592-9185 (cell)

9.1. Cross Reference

9.1.1 29 CFR 1910.38 "Emergency Action Plans"

1910.38			Plan Location
a		Employer must have an Emergency Action Plan	Enterprise ERP Sec 3.1 Paragraph 2 Sec 9 Compliance
b		Must be in writing	Enterprise ERP
c		Minimum Elements	
	1	Procedures for reporting a fire or other emergency	Sec 3.5.1 Notify Sec 6.5 Fire Sec 6.2 - 6.7 Other Emergencies
	2	Procedures for emergency evacuation, including type of evacuation and exit route assignments	Sec 3.5.2 Evacuate Sec 5 Emergency Guideline 2 App A Facility Maps App B Building Map
	3	Procedures to be followed by employees who remain to operate critical plant operations before they evacuate	Sec 3.5.2.2 Essential Personnel
	4	Procedures to account for all employees after evacuation	Sec 3.5.2 (5-7) Evacuate
	5	Procedures to be followed by employees performing rescue or medical duties	Sec 3.5.3.7 First Aid *Enterprise Safety Policy Manual* Sec 5.5
	6	The name or job title of every employee who may be contacted by employees who need more information about the plan or an explanation of their duties under the plan	Sec 1.1 Enterprise Info Sec 3.1 Training
d		Employee Alarm System. An employer must have and maintain an employee alarm system. The employee alarm system must use a distinctive signal for each purpose and comply with the requirements of 1910.165	Sec 3.5.1.2 Alarms
e		Training. An Employer must designate and train employees to assist in a safe and orderly evacuation of other employees	Sec 3.3.2 Training Sec. 3.5.2 Evacuation
f		Review of Emergency Action Plan. An employer must review the Emergency Action Plan with each employee covered by the plan	Sec 3.3.2 Training
	1	When the plan is developed or the employee is assigned initially to a job	Sec 3.3.2 Training
	2	When the employee's responsibilities under the plan change	Sec 3.3.2 Training
	3	When the plan is changed	Sec 3.3.2 Training

9.1.2 29 CFR 1910.119 (n) "Emergency Planning and Response"

1910.119(n)			Plan Location
n		The employer shall establish and implement an emergency action plan for the entire plant in accordance with the provisions of 20 CFR 1910.38. In addition, the emergency action plan shall include procedures for handling small releases.	Enterprise ERP Sec 6.3 Small Product Release or Spill
13		1910.119 Appendix C (13) Emergency Preparedness	
1	P1	Each employer must address actions employees are to take when there is an unwanted release of highly hazardous chemicals	Sec 3.4 Response Capabilities Sec 3.5 Emergency Response Actions Sec 3.5.2.2 Essential Operating Personnel Sec 3.5.3.2 Limits of Actions
	P2	Employers at a minimum must have an emergency action plan which will facilitate the prompt evacuation of employees due to an unwanted release of a highly hazardous chemical.	Sec 3.5.2 Evacuate
	P2	This means that the employer will have a plan that will be activated by an alarm system to alert employees when to evacuate and that employees who are physically impaired, will have the necessary support and assistance to get them to the safe zone as well.	Sec 3.5.1.2 Alarms Sec 3.5.2.2 Special Needs
	P3	Unwanted incidental releases of highly hazardous chemicals in the process area must be addressed by the employer as to what actions employees are to take.	Sec 6.3 Small Product Release or Spill
	P6	It is important to have a backup communications network in case of power failure or one communication means fails	Sec 3.5.1.1 Method of communication

9.1.3 29 CFR 1910.120 (q) "Emergency Response to Hazardous Substances Releases"

1910.120(q)			Plan Location
1		***Emergency response plan.*** An emergency response plan shall be developed and implemented to handle anticipated emergencies. ..	Enterprise ERP
2	2	***Elements of an emergency response plan*** …	
	i	Pre-emergency planning and coordination with outside parties.	Sec 3.1 Emergency Responders
	ii	Personnel roles, lines of authority, training, and communication.	Sec 3.5 Emergency Response Actions Sec 3.5.3.1 Incident Command System Sec 3.3.2 Training Sec 3.5.1.1 Method of Communication
	iii	Emergency recognition and prevention.	Sec 3.3 Hazard Prevention, Recognition
	iv	Safe distances and places of refuge.	App B Building Map
	v	Site security and control.	Sec 3.5.3.4 Control Zones Sec 5 Isolate and deny access
	vi	Evacuation routes and procedures.	Sec 3.5.2 Evacuate App A Facility Maps App B Building Map
	vii	Decontamination.	Sec 3.5.3.5 Decontamination
	viii	Emergency medical treatment and first aid.	Sec 3.5.3.7 First Aid
	ix	Emergency alerting and response procedures.	Sec 3.5.1.2 Alarms
	x	Critique of response and follow-up.	Sec 3.5.4 Follow up Sec 4 Critique
	xi	PPE and emergency equipment.	Sec 3.5.3.10 PPE
3		Procedures for handling emergency response.	
	i	The senior emergency response official responding to an emergency shall become the individual in charge of a site-specific (ICS).	Sec 3.5.3.1 Incident Command System
	ii	The individual in charge of the ICS shall identify, to the extent possible, all hazardous substances or conditions present and shall address as appropriate site analysis, use of engineering controls, maximum exposure limits, hazardous substance handling procedures, and use of any new technologies.	Sec 3.5.3.1 Incident Command System Sec 3.5.3.3 Response Technologies
	iii	Based on the hazardous substances and/or conditions present, the individual in charge of the ICS shall implement appropriate emergency operations, and assure that the personal protective equipment worn is appropriate…	Sec 3.5.3.1 Incident Command System Sec 3.5.3.10 PPE
	vii	The individual in charge of the ICS shall designate a safety officer…	Sec 3.5.3.1 Incident Command System
	viii	When activities are judged by the safety officer to be an IDLH and/or to involve an imminent danger condition, the safety officer shall have the authority to alter, suspend, or terminate those activities…	Sec 3.5.3.1 Incident Command System
	ix	After emergency operations have terminated, the individual in charge of the ICS shall implement appropriate decontamination procedures.	Sec 3.5.3.1 Incident Command System Sec 3.5.3.5 Decontamination
6		***Training.*** Training shall be based on the duties and function …	Sec 3.3.2 Training
	i	***First responder awareness level…***	Sec 3.5.3.2 Limits of Actions
	ii	***First responder operations level…***	Sec 3.5.3.2 Limits of Actions
	iii	***Hazardous materials technician…***	Sec 3.5.3.2 Limits of Actions
8		Refresher training.	Sec 3.5.3.2 Limits of Actions

9.1.4 49 CFR 195.402 (e) "Procedures Manual for Emergencies"

195.402(e)			Plan Location
e		Emergencies. The manual required by paragraph (a) of this section must include procedures for the following to provide safety when an emergency condition occurs:	
	1	Receiving, identifying, and classifying notices of events which need immediate response by the operator or notice to fire, police, or other appropriate public officials and communicating this information to appropriate operator personnel for corrective action.	Sec 1 Contact Numbers Sec 3.3 Hazard Prevention, Recognition - ERG Sec 3.5.3.1 Incident Command System Sec 3.5.1 Notify
	2	Prompt and effective response to a notice of each type emergency, including fire or explosion occurring near or directly involving a pipeline facility, accidental release of hazardous liquid or carbon dioxide from a pipeline facility, operational failure causing a hazardous condition, and natural disaster affecting pipeline facilities.	Sec 6 Incident Types
	3	Having personnel, equipment, instruments, tools, and material available as needed at the scene of an emergency.	Sec 3.5.3.11 Contractors
	4	Taking necessary action, such as emergency shutdown or pressure reduction, to minimize the volume of hazardous liquid or carbon dioxide that is released from any section of a pipeline system in the event of a failure.	Sec 3.1 Paragraph 4
	5	Control of released hazardous liquid or carbon dioxide at an accident scene to minimize the hazards, including possible intentional ignition in the cases of flammable highly volatile liquid.	Sec 3 Emergency Response Plan Sec 5 Emergency Guideline 8 - Control
	6	Minimization of public exposure to injury and probability of accidental ignition by assisting with evacuation of residents and assisting with halting traffic on roads and railroads in the affected area, or taking other appropriate action.	Sec 3.3 Hazard Prevention, Recognition – ERG Sec 3.5.3.4 Control Zones – Site Safety and Action Plan Sec 5 Emergency Guideline Sec 6 Incident Types
	7	Notifying fire, police, and other appropriate public officials of hazardous liquid or carbon dioxide pipeline emergencies and coordinating with them preplanned and actual responses during an emergency, including additional precautions necessary for an emergency involving a pipeline system transporting a highly volatile liquid.	Sec 3.3 Hazard Prevention, Recognition – ERG Sec 3.3.1 Potential Hazards Sec 3.3.3 Drills and Exercises Sec 5 Emergency Guideline Sec 6 Incident Types
	8	In the case of failure of a pipeline system transporting a highly volatile liquid, use of appropriate instruments to assess the extent and coverage of the vapor cloud and determine the hazardous areas.	Sec 3.3 Hazard Prevention, Recognition – ERG Sec 3.5.3.4 Control Zones Sec 3.5.3.8 Monitoring Devices Sec 5 Emergency Guideline Sec 6 Incident Types
	9	Providing for a post accident review of employee activities to determine whether the procedures were effective in each emergency and taking corrective action where deficiencies are found.	Sec 4 Critique Sec 5 Emergency Guideline Sec 6 Incident Types

9.1.5 49 CFR 192.615 "Emergency Plans"

192.615			Plan Location
a		Each operator shall establish written procedures to minimize the hazard resulting from a gas pipeline emergency. At a minimum, the procedures must provide for the following:	Enterprise ERP
	1	Receiving, identifying, and classifying notices of events which require immediate response by the operator.	Sec 3.3 Hazard Prevention, Recognition - ERG Sec 3.5.3.1 Incident Command System
	2	Establishing and maintaining adequate means of communication with appropriate fire, police, and other public officials.	Sec 1 Contact Numbers Sec 3.5.1 Notify
	3	Prompt and effective response to a notice of each type of emergency, including the following:	Sec 6 Incident Types
		(i) Gas detected inside or near a building.	Sec 3.3 Hazard Prevention, Recognition – ERG Sec 3.5.3.4 Control Zones Sec 3.5.3.8 Monitoring Devices Sec 5 Emergency Guideline Sec 6 Incident Types
		(ii) Fire located near or directly involving a pipeline facility.	Sec 3.3 Hazard Prevention, Recognition – ERG Sec 3.5.3.4 Control Zones – Site Safety and Action Plan Sec 5 Emergency Guideline Sec 6 Incident Types
		(iii) Explosion occurring near or directly involving a pipeline facility.	Sec 3.3 Hazard Prevention, Recognition – ERG Sec 3.5.3.4 Control Zones – Site Safety and Action Plan Sec 5 Emergency Guideline Sec 6 Incident Types
		(iv) Natural disaster.	Sec 6.7 Natural Disasters
	4	The availability of personnel, equipment, tools, and materials, as needed at the scene of an emergency.	Sec 3.5.3.11 Contractors
	5	Actions directed toward protecting people first and then property.	Sec 3.3 Hazard Prevention, Recognition – ERG Sec 3.5.3.4 Control Zones – Site Safety and Action Plan Sec 5 Emergency Guideline Sec 6 Incident Types
	6	Emergency shutdown and pressure reduction in any section of the operator's pipeline system necessary to minimize hazards to life or property.	Sec 3.1 Paragraph 4
	7	Making safe any actual or potential hazard to life or property.	Sec 5 Emergency Guideline
	8	Notifying appropriate fire, police, and other public officials of gas pipeline emergencies and coordinating with them both planned responses and actual responses during an emergency.	Sec 1 Contact Numbers Sec 3.5.1 Notify Sec 3.5.3.1 Incident Command System
	9	Safely restoring any service outage.	Sec 3.5.3.11 Contractors
	10	Beginning action under §192.617, if applicable, as soon after the end of the emergency as possible.	Sec 4 Critique Sec 5 Emergency Guideline Sec 6 Incident Types

10. ANNUAL REVIEW AND DOCUMENT CHANGE LOG

Date	Reviewer	Change Location	Brief Description of Change
07/2010	B Steed	Section 6.7.1	Removed Item 9 - Underground Storage Caverns
01/2011	B Steed	All Pages	Header & Footer Changed
01/2011	B Steed	Section 2	Additional Definitions & Acronyms Added
01/2011	B Steed	Section 3.1	Where to Go for Questions Added
01/2011	B Steed	Section 3.3	Inserted Table for Products List
01/2011	B Steed	Section 3.3.2	Evacuation Wardens Information Added
01/2011	B Steed	Section 3.5.2	Evacuation Wardens Information Added
01/2011	B Steed	Section 3.5.2.2	Special Needs Information Added
01/2011	B Steed	Section 3.5.3.4 Section 3.5.3.8	Details on Atmospheric Monitoring Added
01/2011	B Steed	Section 3.5.3.11	OSRO Information Added
01/2011	B Steed	Section 6.7.5	Added Subsidence
01/2011	B Steed	Section 9	Review Not to Exceed 15 Months
01/2011	B Steed	Section 9.1	Regulatory Cross References
01/2011	B Steed	Section 11	Explain Use for Municipal Responders
12/7/2011	B Steed	Section 3.5	Evac – Do not leave **unless** directed or **if** danger
12/7/2011	B Steed	Section 3.5.2	4th bullet – so long as it is safe to do so
12/7/2011	B Steed	Section 3.5.3.4	Protective clothing **may** not **be** required
12/7/2011	B Steed	Section 3.1	Plan Distribution – removed PSM sites only
12/7/2011	B Steed	Section 3.5.1	Reference to Incident Levels
12/7/2011	B Steed	Section 3.5.3.8	Included levels for low and high O2
12/7/2011	B Steed	Section 6.3	Up to 5 barrels
12/7/2011	B Steed	Section 6.4	5 barrels or more
12/7/2011	B Steed	Section 6.7.3	Deleted 11 – Special for Underground Stg Shelters should have wind rating
12/7/2011	B Steed	Section 9.1.5	49 CFR 192.615
12/7/2011	B Steed	Section 11	Removed “reviewed and understand”
12/7/2011	B Steed	Appendix D	Forms, 13, 49 to 51, 58, 59
12/7/2011	B Steed	Annual Review	Complete
7/2012	D Holland	Section 1.1	Updated Contact Information
7/2012	D Holland	Section 1.1.1	Updated GPS Coordinates
7/2012	D Holland	Section 1.4	Updated Local Municipal Contacts
7/2012	D Holland	Section 3.3.1	Updated Potential Products Table
7/2012	D Holland	Appendices	Inserted Updated Maps & Forms

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11. ACKNOWLEDGEMENT OF RECEIPT

This form is for the purpose of documenting the distribution of this plan to outside First Responder Agencies and Departments.

ACKNOWLEDGEMENT OF RECEIPT

EMERGENCY RESPONSE PLAN

Please Read:
By signing below I am acknowledging that I have received the Emergency Response & Action Plan provided by Enterprise Products Company.

Date:	
Print Name:	
Print Title:	
Organization:	
Contact Person:	
Mailing Address:	
City:	
County:	
State:	
Zip:	
Emergency Phone Number (10 digit):	
Phone Number:	
Fax Number:	
E-Mail:	
Signature:	

Return Request:

After you complete this form, please return it to our office in the enclosed self-addressed, stamped envelope. This will help us maintain our records and the Emergency Response Database.

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APPENDIX A – FACILITY EVACUATION MAPS

The attached maps illustrate the facility evacuation routes.

Dove Creek Pump Station - Dolores County, CO A-3
Ignacio Pump Station, Laplata County, CO A-3
Dolores Pump Station - Montezuma County, CO A-3
Mesa Pump Station - Chaves County, NM A-3
White Lakes Pump Station - Chaves County, NM A-3
Duran Pump Station - Guadalupe County, NM A-3
Caprock Pump Station - Lea County, NM A-3
Lybrook Pump Station - Rio Arriba, NM A-3
Huerfano Pump Station - San Juan County, NM A-3
Kutz Pump Station - San Juan County, NM A-3
Kurtz Truck Unloading Facility - San Juan County, NM A-3
San Luis Pump Station - Sandoval County, NM A-3
San Ysidro Pump Station - Sandoval County, NM A-3
Edgewood Pump Station - Santa Fe County, NM A-3
Estancia Pump Station - Torrance County, NM A-3

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Maps are in process.

Dove Creek Pump Station - Dolores County, CO
Ignacio Pump Station, LaPlata County, CO
Dolores Pump Station – Montezuma County, CO
Mesa Pump Station - Chaves County, NM
White Lakes Pump Station - Chaves County, NM
Duran Pump Station - Guadalupe County, NM
Caprock Pump Station - Lea County, NM
Lybrook Pump Station - Rio Arriba, NM
Huerfano Pump Station - San Juan County, NM
Kutz Pump Station - San Juan County, NM
Kurtz Truck Unloading Facility - San Juan County, NM
San Luis Pump Station - Sandoval County, NM
San Ysidro Pump Station - Sandoval County, NM
Edgewood Pump Station - Santa Fe County, NM
Estancia Pump Station - Torrance County, NM

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APPENDIX B – BUILDING EVACUATION MAPS

See facility for evacuation maps.

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APPENDIX C – PIPELINE STRIP MAPS

The attached maps illustrate the pipeline strip maps.

Dolores County, CO - Pipeline Strip Map C-3
LaPlata County, CO - Pipeline Strip Map C-4
Montezuma County, CO - Pipeline Strip Map C-5
San Miguel County, CO - Pipeline Strip Map C-6
Bernalillo County, NM - Pipeline Strip Map C-7
Chaves County, NM - Pipeline Strip Map C-8
De Baca County, NM - Pipeline Strip Map C-9
Guadalupe County, NM - Pipeline Strip Map C-10
Lea County, NM - Pipeline Strip Map C-11
Lincoln County, NM - Pipeline Strip Map C-12
McKinley County, NM - Pipeline Strip Map C-13
Rio Arriba County, NM - Pipeline Strip Map C-14
San Juan County, NM - Pipeline Strip Map C-15
Sandoval County, NM - Pipeline Strip Map C-16
Santa Fe County, NM - Pipeline Strip Map C-17
Torrance County, NM - Pipeline Strip Map C-18

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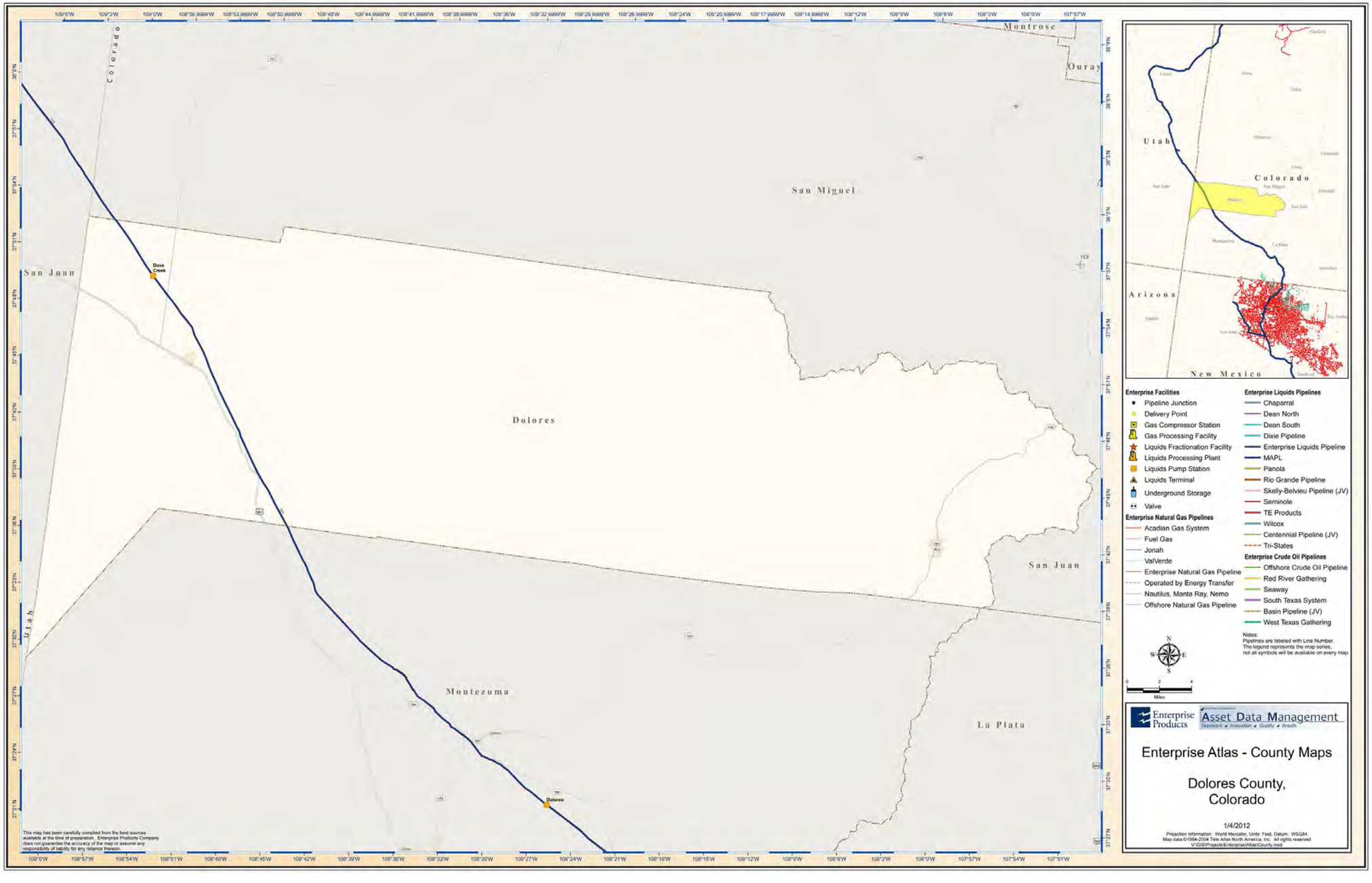
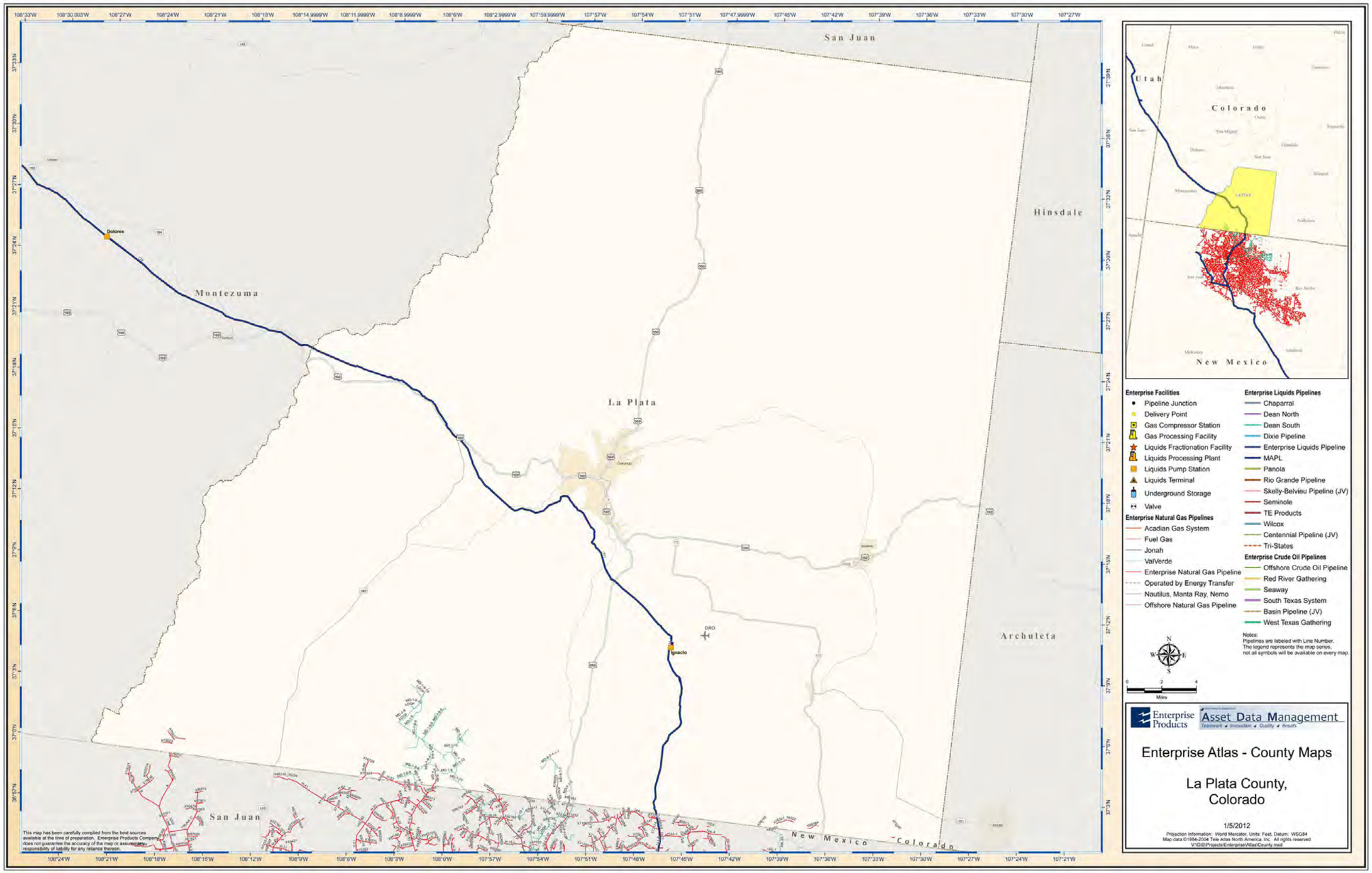
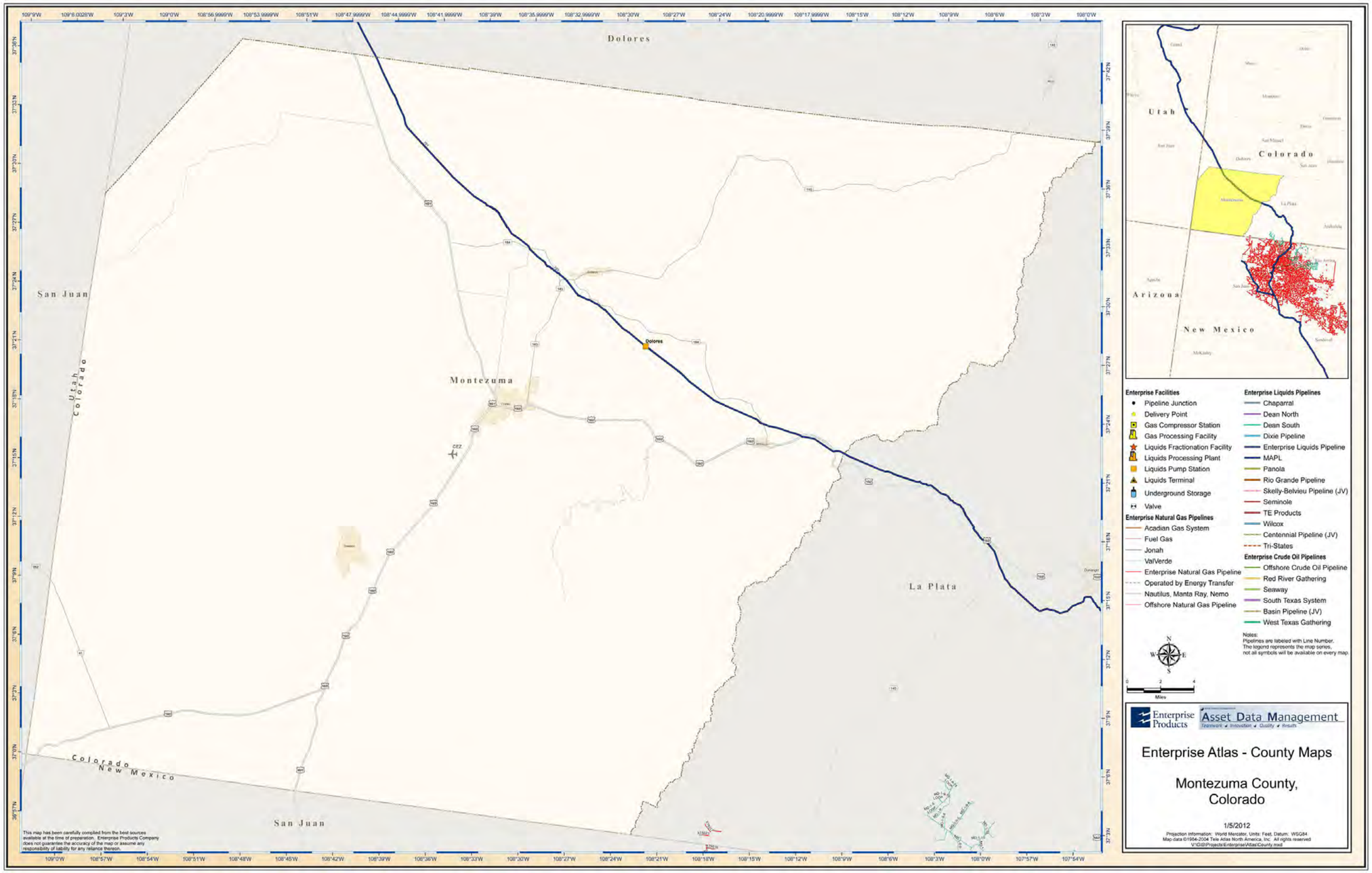
APPENDIX C (cont.) – Dolores County, CO - Pipeline Strip Map



APPENDIX C (cont.) – LaPlata County, CO - Pipeline Strip Map



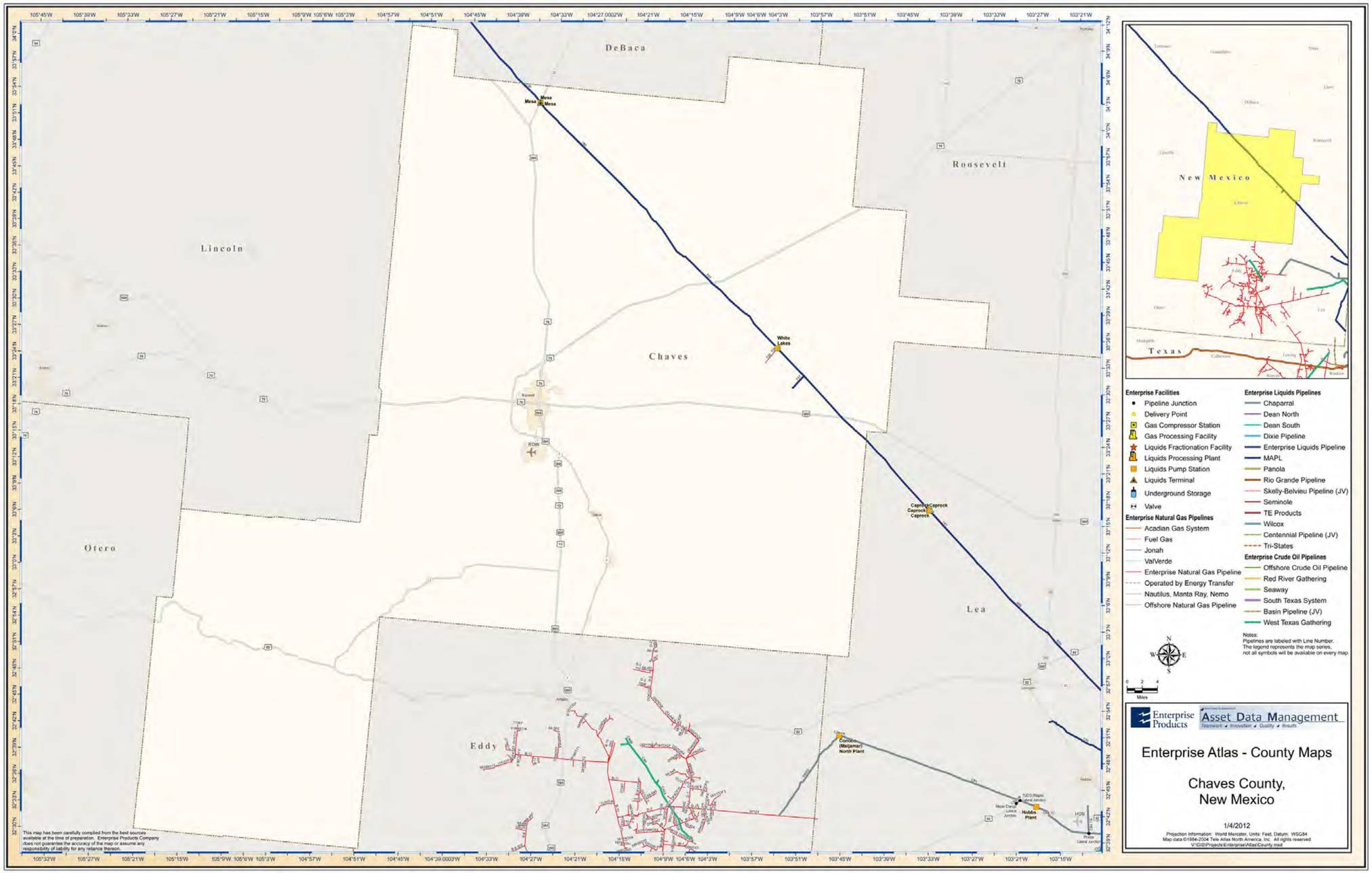
APPENDIX C (cont.) – Montezuma County, CO - Pipeline Strip Map



APPENDIX C (cont.) – San Miguel County, CO - Pipeline Strip Map

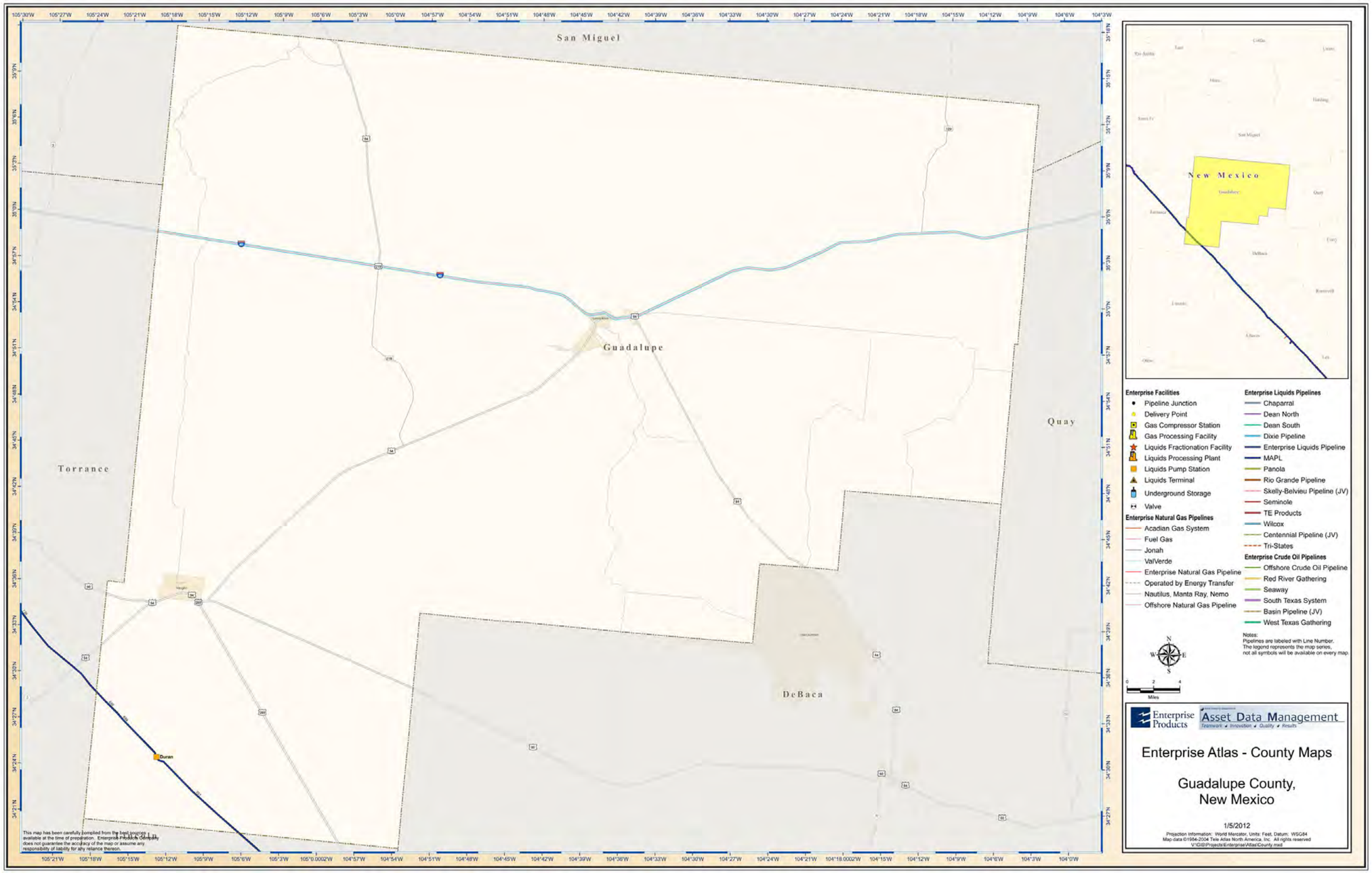
APPENDIX C (cont.) – Bernalillo County, NM - Pipeline Strip Map

APPENDIX C (cont.) – Chaves County, NM - Pipeline Strip Map

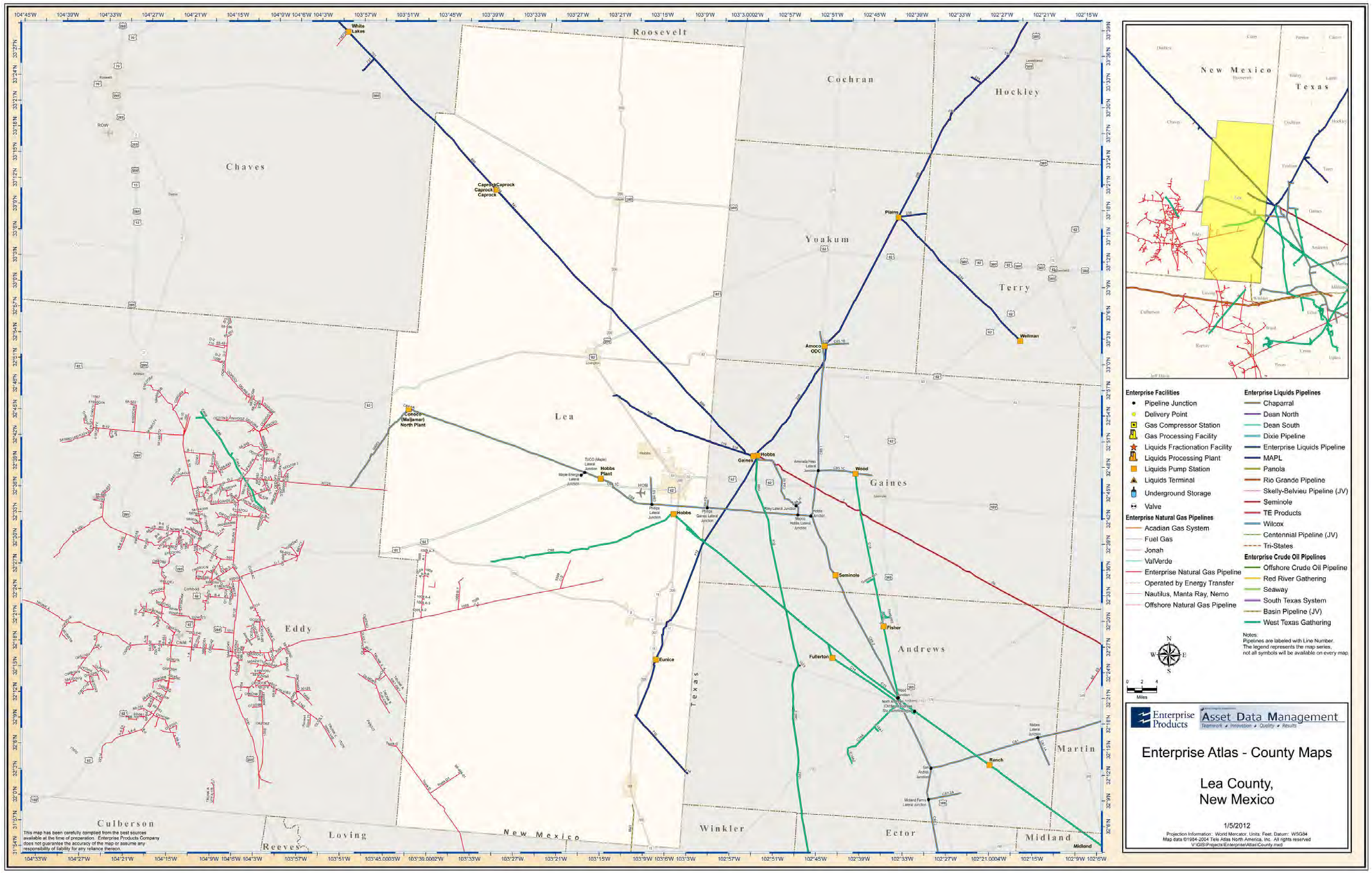


APPENDIX C (cont.) – De Baca County, NM - Pipeline Strip Map

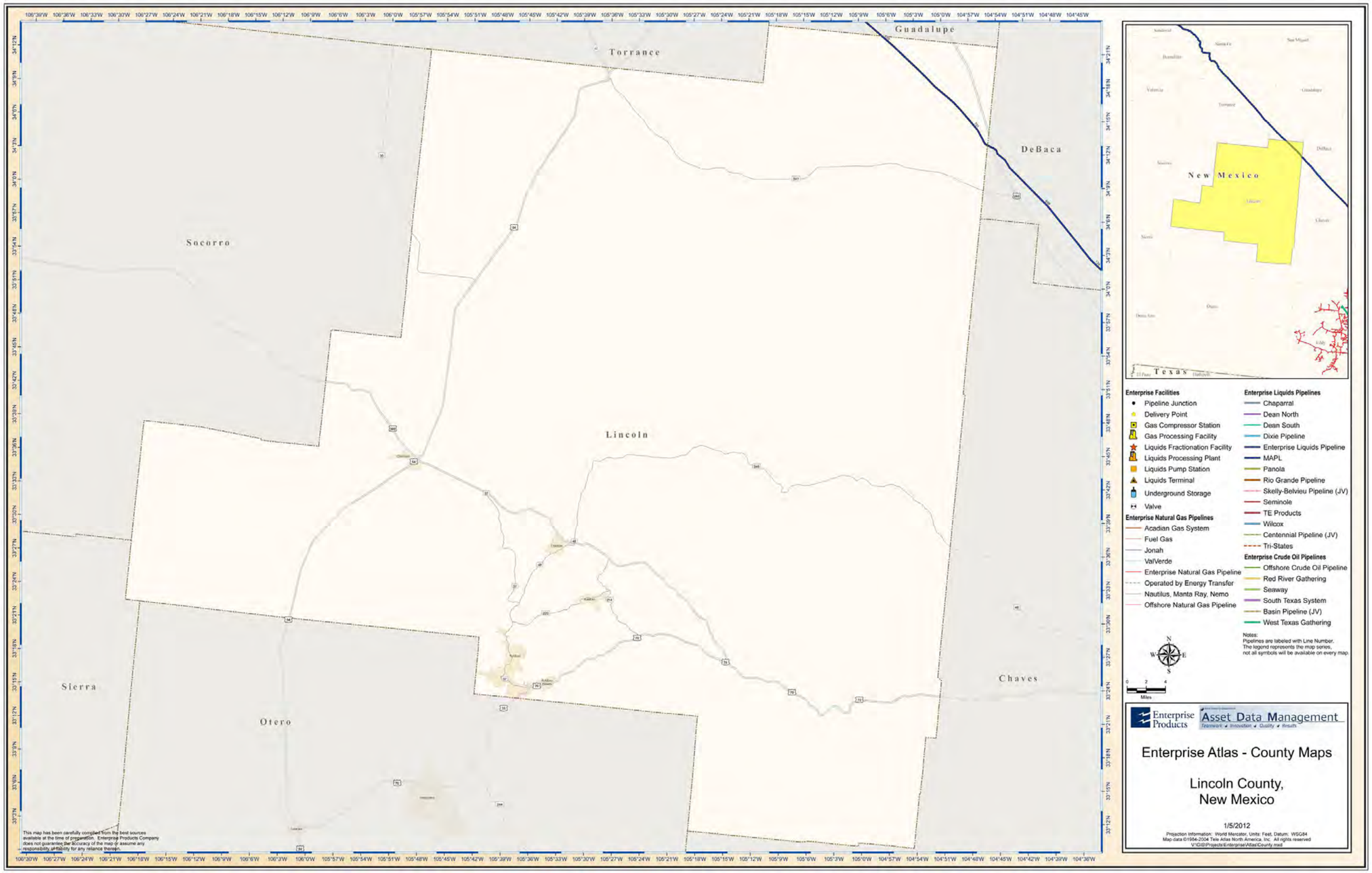
APPENDIX C (cont.) – Guadalupe County, NM - Pipeline Strip Map



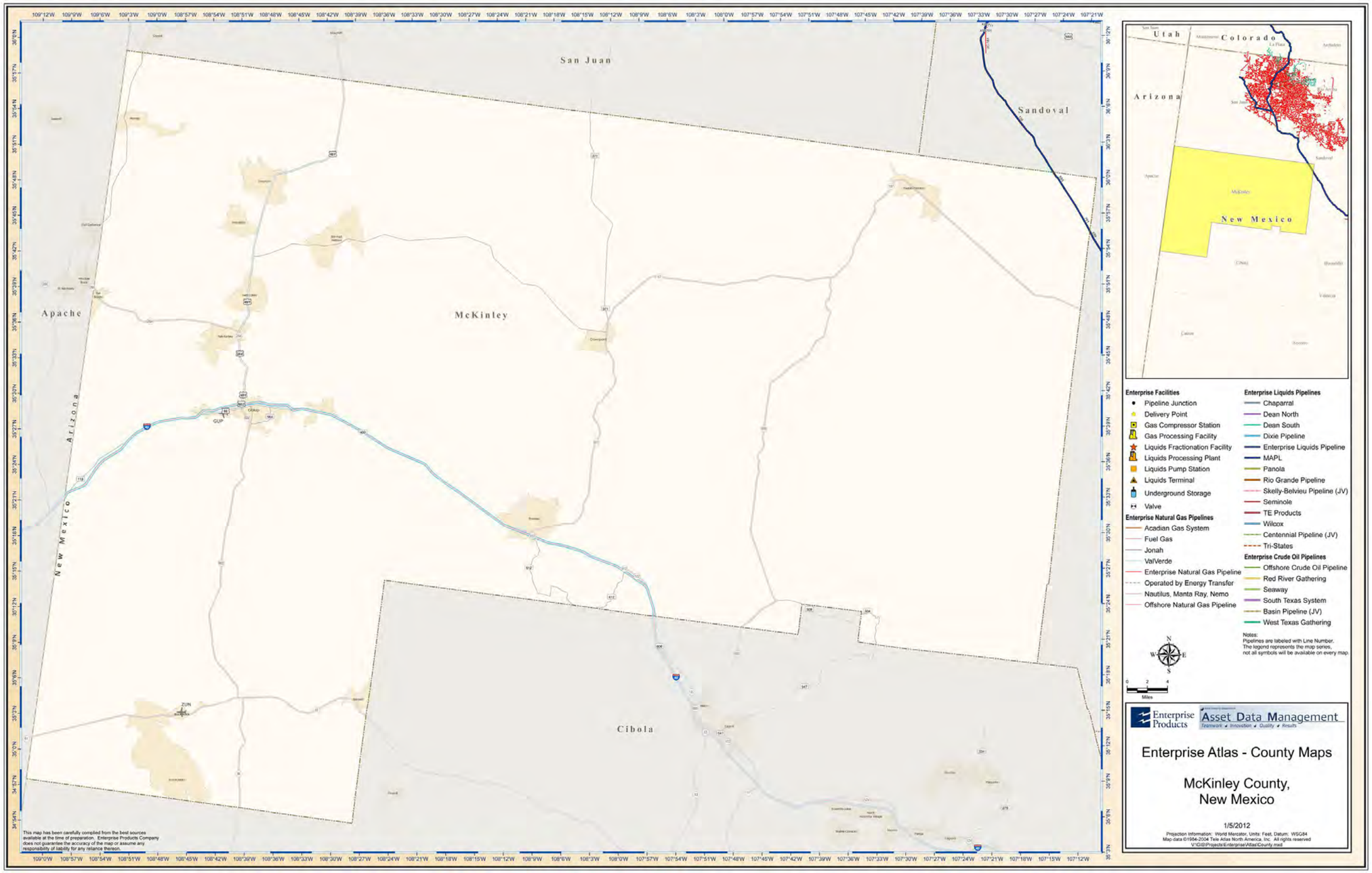
APPENDIX C (cont.) – Lea County, NM - Pipeline Strip Map



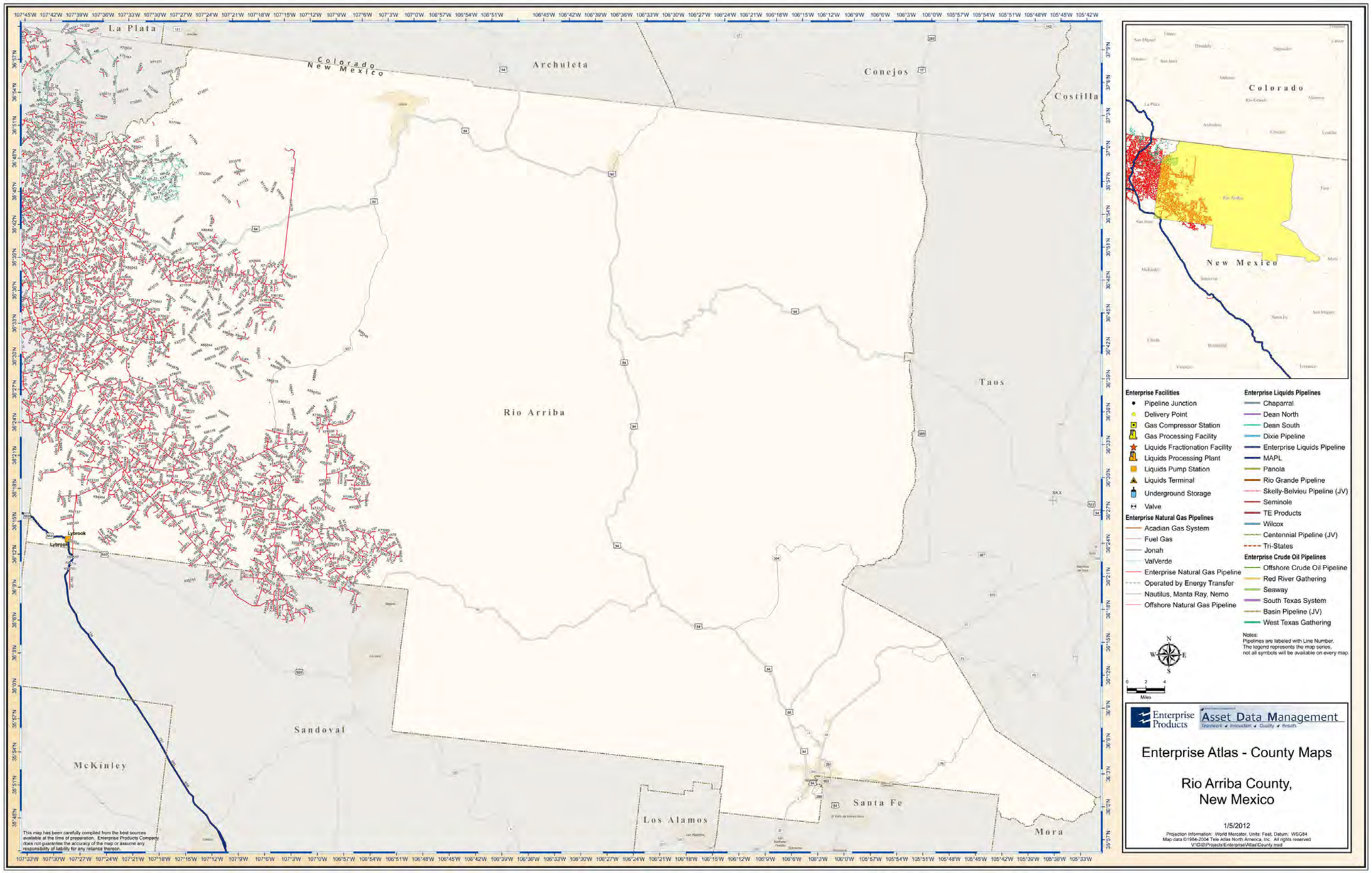
APPENDIX C (cont.) – Lincoln County, NM - Pipeline Strip Map



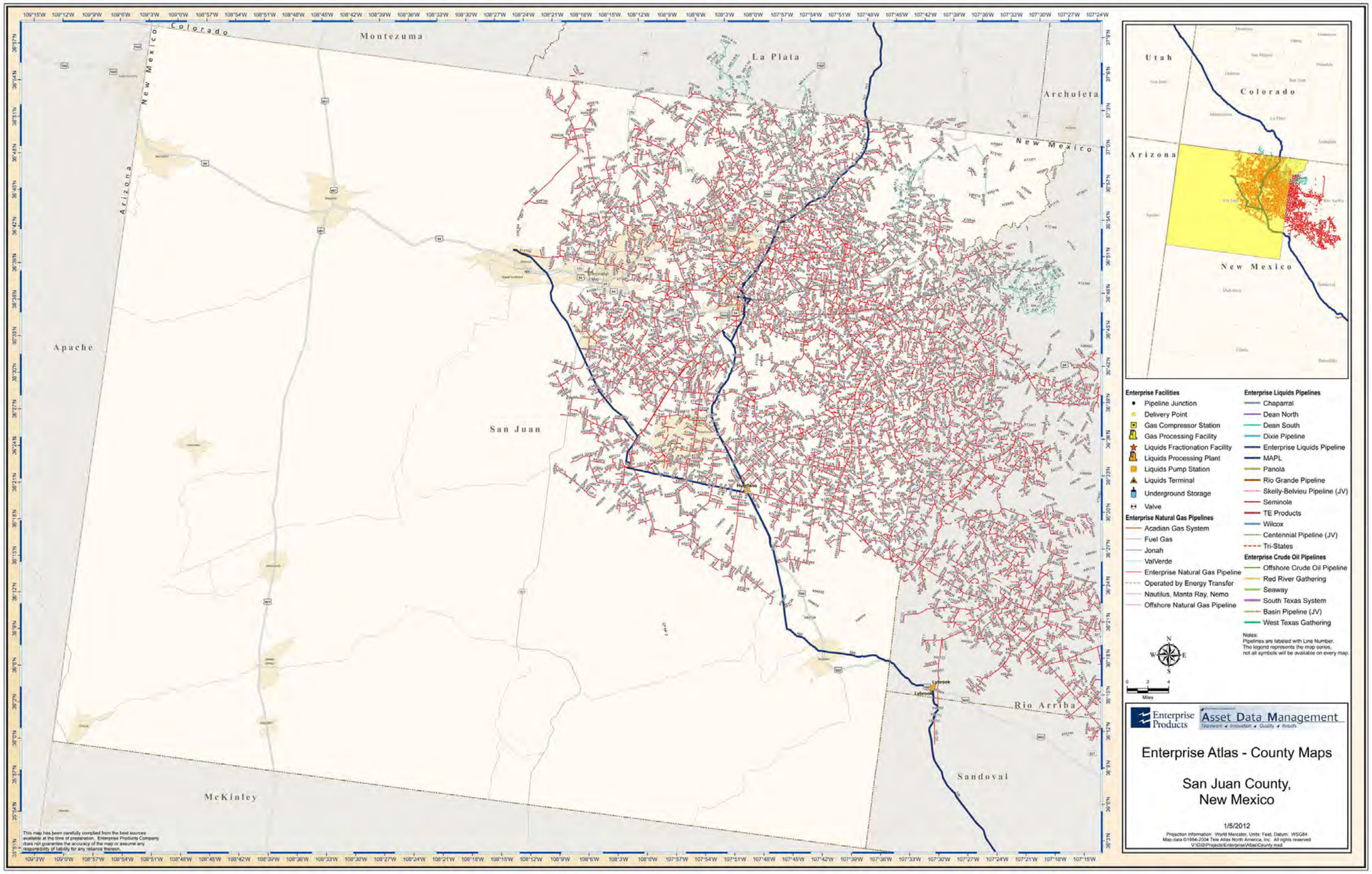
APPENDIX C (cont.) – McKinley County, NM - Pipeline Strip Map



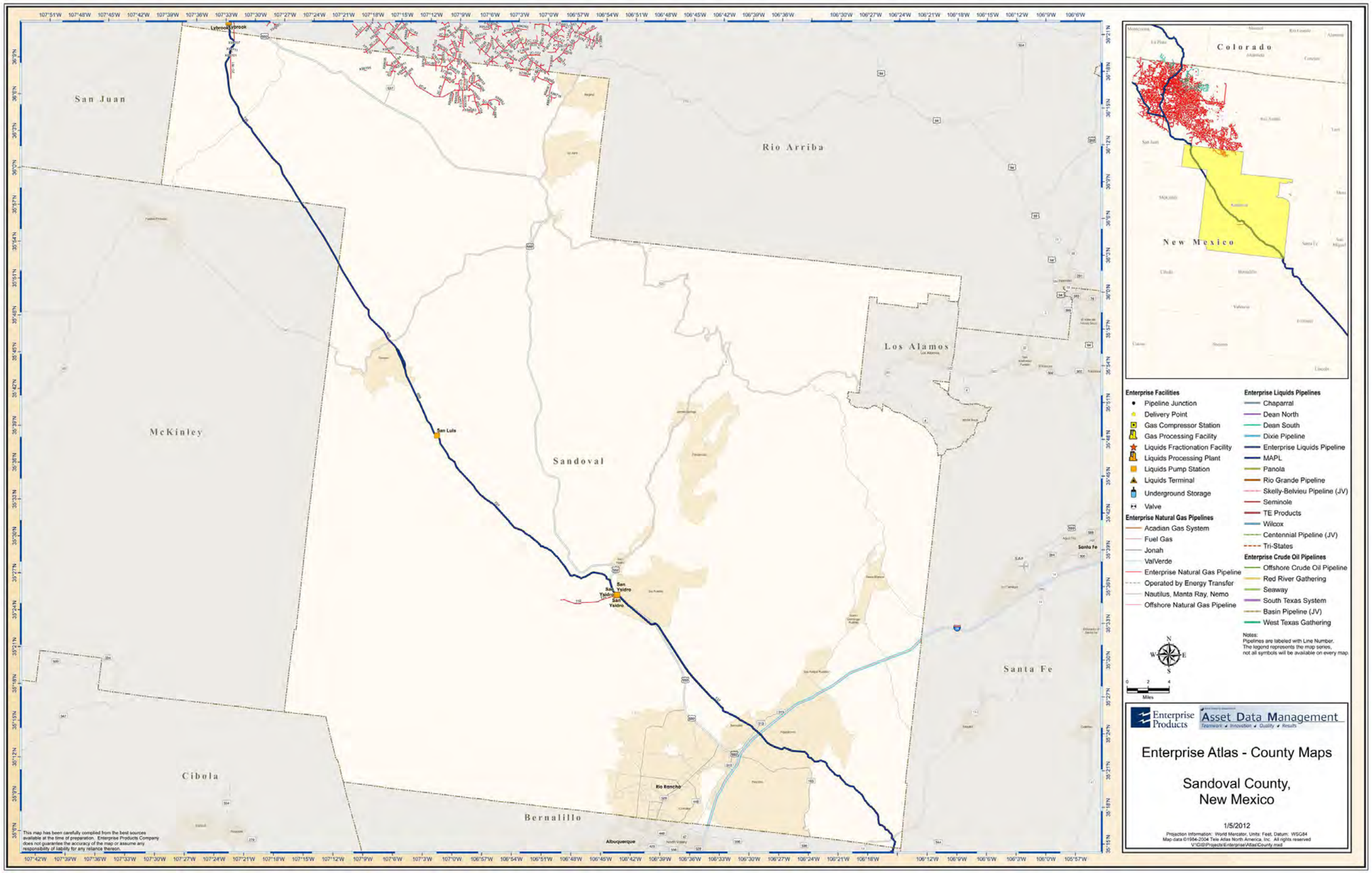
APPENDIX C (cont.) – Rio Arriba County, NM - Pipeline Strip Map



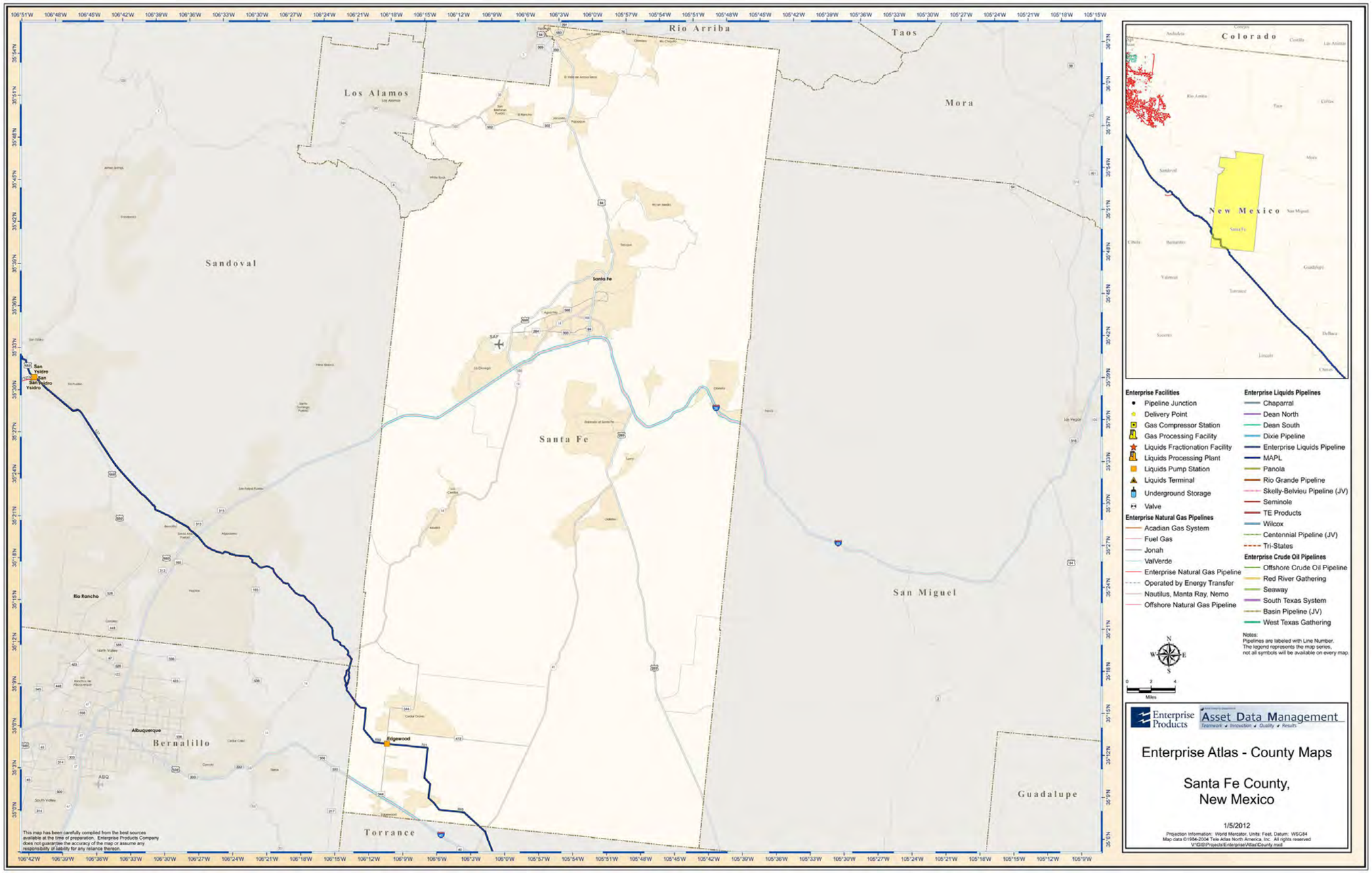
APPENDIX C (cont.) – San Juan County, NM - Pipeline Strip Map



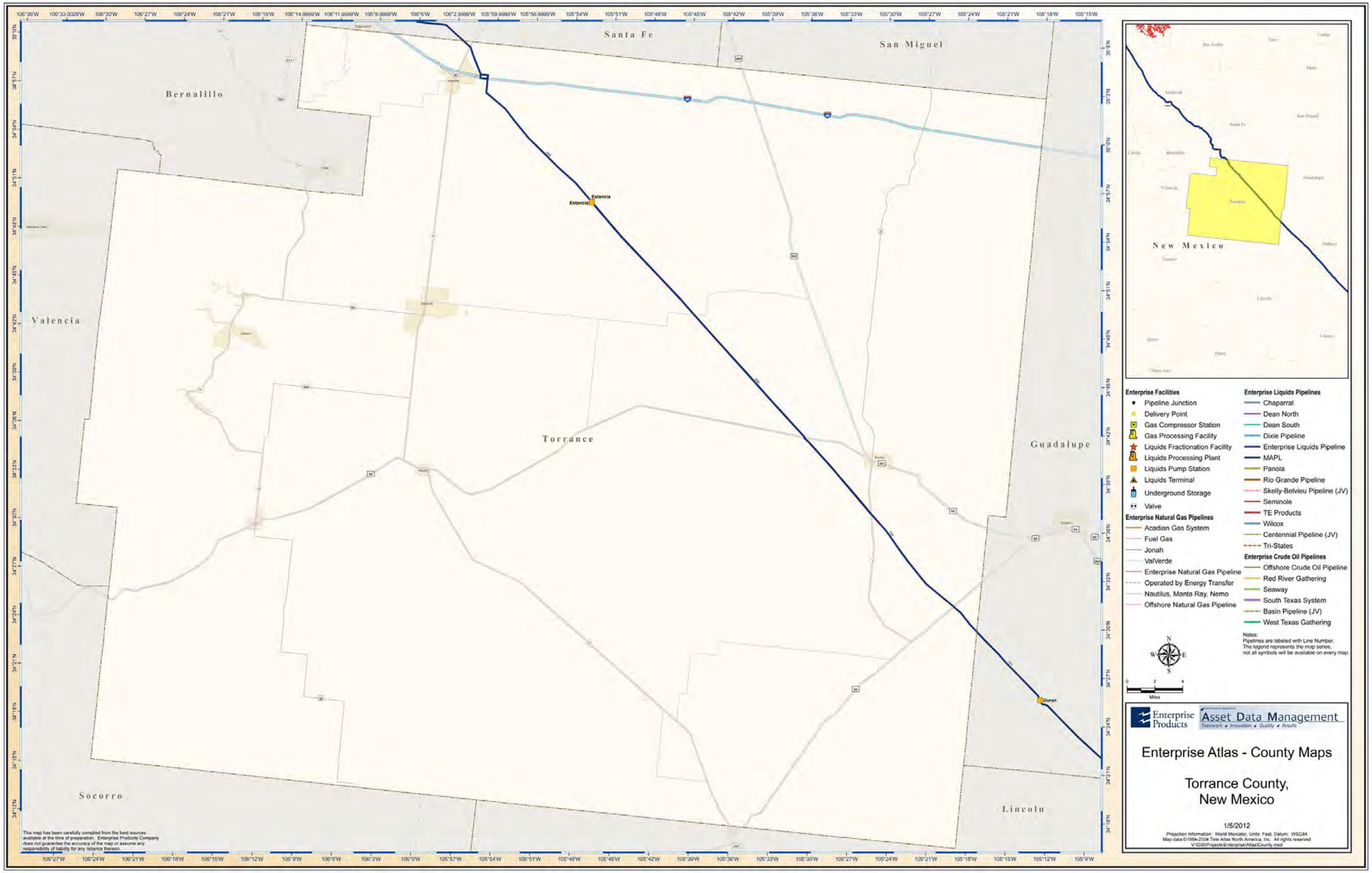
APPENDIX C (cont.) – Sandoval County, NM - Pipeline Strip Map



APPENDIX C (cont.) – Santa Fe County, NM - Pipeline Strip Map



APPENDIX C (cont.) – Torrance County, NM - Pipeline Strip Map



APPENDIX D – FORMS

The Following Enterprise Forms are attached:

- EPCO Form SF49 – Emergency Response Site Safety and Action Plan
- EPCO Form SF51 – Evacuation Assembly Area Accountability
- EPCO Form SF50 – Emergency Response Personnel Roster
- EPCO Form SF52 – Emergency Response Staging Form
- EPCO Form SF53 – Emergency Response Incident Log
- EPCO Form SF54 – Emergency Response General Message
- EPCO Form SF58 – Emergency Response ICS Organization Chart
- EPCO Form SF59 – Emergency Response Scene Map Sketch
- EPCO Form SF13 – Emergency Response Incident or Drill Critique

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Enterprise Products	Safety Policies Manual	Form Number: SF49
	Category: Safety Forms	Revision Date: 01/20/2011

Emergency Response Site Safety and Action Plan

1.	**Description Section**			
	Location :			
	Date:		**Time:**	
	Type of Incident			
	☐ **Medical**	☐ **Hazmat Liquid Spill**	☐ **Fire**	☐ **Weather**
	☐ **Rescue**	☐ **Hazmat Gas Release**	☐ **Security**	**Other:**
	Description of Incident			
	Hazardous Materials Involved			
2.	**Accountability Section**			
	Accountability Established for Responders?	YES ☐	NO ☐	
	Area Evacuated?	YES ☐	NO ☐	
	Are All Evacuees Accounted For?	YES ☐	NO ☐	If no, describe
3.	**Command Section**			
	Location of Command Post:			
	Incident Commander:			
	Safety Officer:			
	EOC Activated:	YES ☐	NO ☐	If yes, location:
4.	**Agencies Section**			
	Agencies Involved (Include name of representative)			
5.	**Communications Section**			
	Methods used:	Radio Channel:	Phone Number:	Other:
6.	**Access Zones Section**			
	Is Site Secure?	YES ☐	NO ☐	
	Exclusion (Hot) Zone Description:			
	Exclusion (Hot) Zone PPE:	Level 1 ☐	Level 2 ☐	Level 3 ☐ Other:
	Contamination Reduction (Warm) Zone Description:			
	Contamination Reduction (Warm) Zone PPE:	Level 1 ☐	Level 2 ☐	Level 3 ☐ Other:
	Method of Decontamination Used:			
	Support (Cold) Zone Description:			
	Support (Cold) Zone PPE:	Level 1 ☐	Other:	
	Area Monitoring Provided:	YES ☐	NO ☐	Area Monitoring Described:

7.	**Emergency Procedures Section**	
	Review of Alarm and Emergency Evacuation by Responders: YES ☐ NO ☐ Method of Recall Used:	
	Nearest Hospital/Clinic:	Phone:
	Nearest Fire Department:	Phone:
	Nearest Police Department:	Phone:
8.	**Actions Section**	
	Defensive Actions Taken:	
	Offensive Actions Taken:	
9.	**Objectives Section**	
	Objectives Description:	
	List Potential Exposures:	
10.	**Assets Section**	
	Is Mutual Aid Involved? YES ☐ NO ☐	
	List Fixed Equipment:	
	List Mobile Equipment:	
11.	**Rehab Section**	
	Location of Rehab:	
	Method of Rehab:	
12.	**Safety Message for Specified Operational Period:**	
	Incident Commander/Preparer (Name/Signature):	
	Safety Officer (Name/Signature):	

NIMS ICS-201 / 202 / 205 / 206 / 208 / 215 / 215A Compatible

Evacuation Assembly Area Accountability

Incident Date :		Incident Time:
Incident Name:		
Assembly Location:		

Name	Company	Contact Phone Number

Preparer (Name):

NOTE: Upon Completion – Attach to "Emergency Response Critique Form"

Enterprise Products	Safety Policies Manual	Form Number: SF50
	Category: Safety Forms	Revision Date: 09/25/2009

Emergency Response Personnel Roster

Incident Date :			***Incident Time:***	
Incident Name:				
Roster Location:	***EOC:*** ☐	***ICP:*** ☐	***Operations:*** ☐	Staging: ☐	***Other:***

Name	Duty	Time In	Time Out

Preparer (Name):

NOTE: Upon Completion – Attach to "Emergency Response Critique Form"

NIMS ICS-203 / 211 Compatible

Emergency Response Staging Form

Incident Date :		***Incident Time:***
Incident Name:		
Staging Location:		

Company	**Number Of People**	**Equipment**	**Time In**	**Time Out**

Preparer (Name):

NOTE: Upon Completion – Attach to "Emergency Response Critique Form"

NIMS ICS-211 Compatible

Emergency Response Incident Log

Incident Date :		Incident Time:			
Incident Name:					
Log Location:	EOC: ☐	ICP: ☐	Operations: ☐	Staging: ☐	Other:

Time:	Major Events

Preparer (Name):

NOTE: Upon Completion – Attach to "Emergency Response Critique Form"

NIMS ICS-214 Compatible

Enterprise Products	Safety Policies Manual	Form Number: SF54
	Category: Safety Forms	Revision Date: 09/25/2008

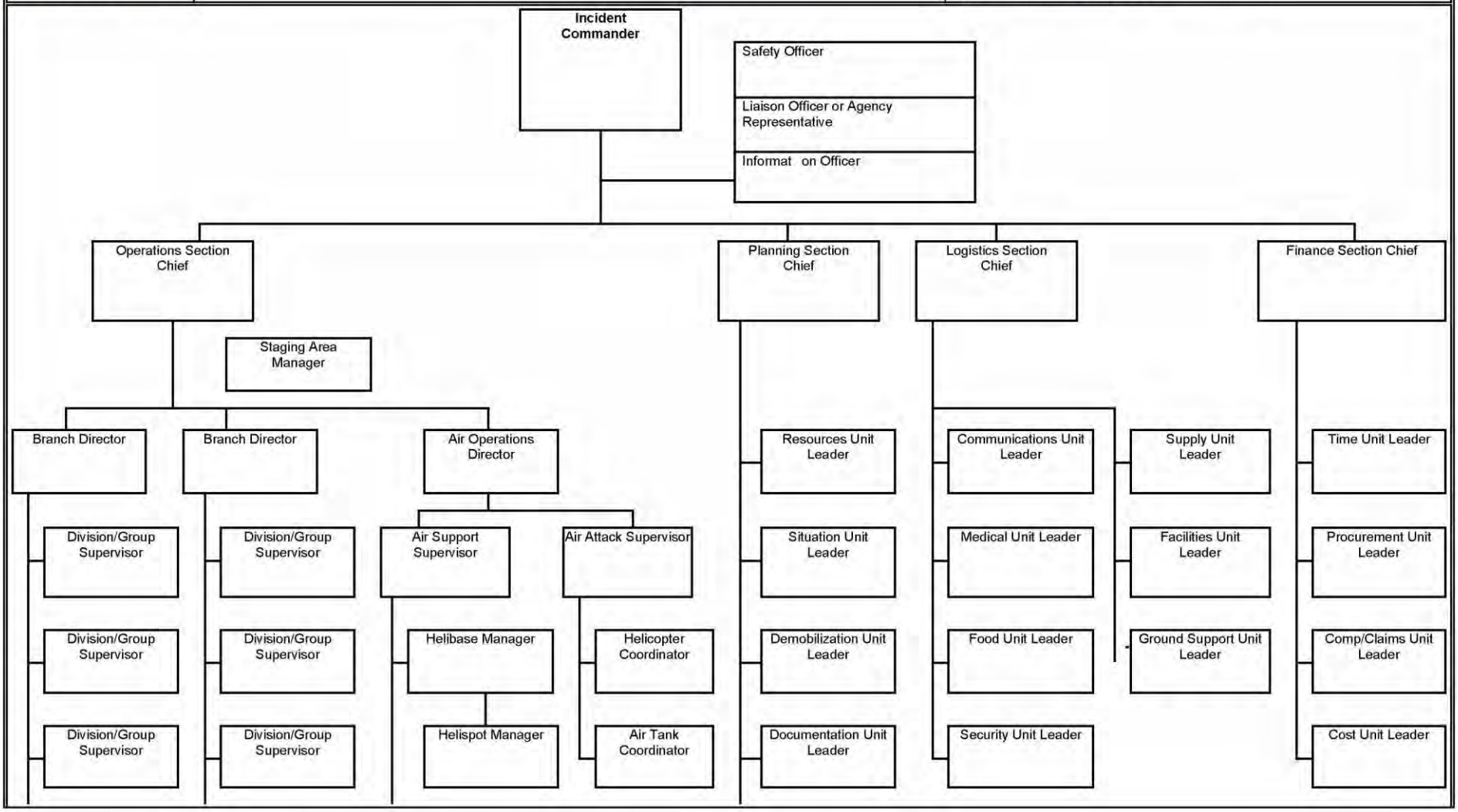
Emergency Response General Message

To :		***Position:***	
From:		***Position:***	
Subject:		***Date:***	**Time:**
Message:			
Name / Signature:		***Position:***	
Reply:			
Date:	**Time:**	***Signature / Position:***	
NOTE: Upon Completion – Attach to "Emergency Response Critique Form"			

NIMS ICS-213 Compatible

Emergency Response - ICS 207 Organization Chart

Location or Name:		*Operational Period: From to*



Emergency Scene Map / Sketch

Location or Name:		*Operational Period: From*	*to*

Wind Direction: _____
Wind Speed: _____
Temp: _____
Conditions: _____

Enterprise Products	Safety Policies Manual	Policy Number: SF13
	Safety Forms	Revision Date: 03/30/2012

Emergency Response Incident or Drill Critique

Incident Location :					
Incident Date:		**Incident Start Time:**		**Incident Finish Time:**	
Critique Date:		**Critique Start Time:**			

1.	**Type of Event**				
	☐ Exercise/Drill or ☐ Incident				
2.	**Type of Exercise/Drill**	☐ N/A			
	☐ Notification	☐ Announced		☐ Unannounced	☐ Deployment
	☐ Tabletop	☐ Full Scale		☐ Functional	Other:
3.	**Frequency of Exercise/Drill**	☐ N/A			
	☐ Quarter	☐ 1st	☐ 2nd	☐ 3rd	☐ 4th
	☐ Annual Drill	☐ Semi-Annual Drill			
4.	**PREP Core Components Exercised**	☐ N/A			
	1. ☐ Notifications	6. ☐ Containment		11. ☐ Transportation	
	2. ☐ Staff Mobilization	7. ☐ Recovery		12. ☐ Personnel Support	
	3. ☐ Incident Command	8. ☐ Protection		13. ☐ Equipment Maintenance & Support	
	4. ☐ Source Control	9. ☐ Disposal		14. ☐ Procurement	
	5. ☐ Assessment	10. ☐ Communications		15. ☐ Documentation	
5.	**Type of Incident**				
	☐ Medical	☐ Hazmat Liquid	☐ Fire Spill	☐ Weather	
	☐ Rescue	☐ Hazmat Gas Release	☐ Security	Other:	
6.	**Explanation of Incident:**				
7.	**Explanation of Actions Taken:**				
8.	**Positive Points**				
9.	**Points to Improve on**				

Emergency Response Incident or Drill Critique

10.	Critique of Standard Operating Guidelines:			
a)	**Notification** – Were notification procedures followed and adequate?	☐ Yes	☐ No	☐ N/A
	Response Technique Utilized and Corrective Actions:			
b)	**Safely Respond** – Was the scene approached properly?	☐ Yes	☐ No	☐ N/A
	Response Technique Utilized and Corrective Actions:			
c)	**Accountability** – Where all personnel accounted for?	☐ Yes	☐ No	☐ N/A
	Response Technique Utilized and Corrective Actions:			
d)	**Isolate and Deny Entry** – Were zones, corridors, and evacuation routes used properly?	☐ Yes	☐ No	☐ N/A
	Response Technique Utilized and Corrective Actions:			
e)	**Command** – Was Incident Command established and used properly?	☐ Yes	☐ No	☐ N/A
	Response Technique Utilized and Corrective Actions:			
f)	**Identification of Hazards** – Were hazards identified in an appropriate time and manner?	☐ Yes	☐ No	☐ N/A
	Response Technique Utilized and Corrective Actions:			
g)	**Assessment/Action Plan** – Was written action plan developed and followed?	☐ Yes	☐ No	☐ N/A
	Response Technique Utilized and Corrective Actions:			
h)	**Protective Equipment** – Was PPE identified and air monitoring performed?	☐ Yes	☐ No	☐ N/A
	Response Technique Utilized and Corrective Actions:			
i)	**Control** – Were ignition sources eliminated? Was confinement/containment performed?	☐ Yes	☐ No	☐ N/A
	Response Technique Utilized and Corrective Actions:			
j)	**Protective Actions** – Was Evacuation/Shelter-in-place used? Were Zones maintained?	☐ Yes	☐ No	☐ N/A
	Response Technique Utilized and Corrective Actions:			
k)	**Decontamination** – Was decontamination conducted appropriately?	☐ Yes	☐ No	☐ N/A
	Response Technique Utilized and Corrective Actions:			
l)	**Disposal** – Was waste material(s) disposed of properly?	☐ Yes	☐ No	☐ N/A
	Response Technique Utilized and Corrective Actions:			
m)	**Termination** – Was the incident terminated at the appropriate time, and all de-briefed?	☐ Yes	☐ No	☐ N/A
	Response Technique Utilized and Corrective Actions:			
n)	**Medical** – Was medical and/or first aid available and used properly?	☐ Yes	☐ No	☐ N/A
	Response Technique Utilized and Corrective Actions:			
o)	**Documentation** – Was all documentation gathered?	☐ Yes	☐ No	☐ N/A

Emergency Response Incident or Drill Critique

11.	Attachments to this Report
	☐ SF49 – Emergency Response Site Safety and Action Plan
	☐ SF51 – Evacuation Assembly Area Accountability
	☐ SF50 – Emergency Response Personnel Roster
	☐ SF52 – Emergency Response Staging Form
	☐ SF53 – Emergency Response Incident Log
	☐ SF54 – Emergency Response General Message
	☐ SF58 – Emergency Response ICS Organization Chart
	☐ SF59 – Emergency Response Scene Map Sketch
	Other:

Incident Commander/Preparer:	Date:

NIMS ICS-224 / 225 Compatible

Emergency Response Incident or Drill Critique

Sign In Sheet

Location:		Date:	
Facilitator:			

Print Name	Agency Name	Address	City, State, Zip	Phone Number	Email	Signature

Appendix M

Pipeline Safety Plan

PIPELINE SAFETY PLAN
MID-AMERICA PIPELINE COMPANY, LLC
WESTERN EXPANSION PROJECT III

SAN JUAN, RIO ARRIBA, SANDOVAL, MCKINLEY, BERNALILLO, SANTA FE, TORRANCE, GUADALUPE, LINCOLN, DE BACA, CHAVES, AND LEA COUNTIES, NEW MEXICO

December 2012

MAPL incorporates several safety measures into its operating procedures to ensure that its pipelines function in a manner that is protective of human health and the environment. Proper inspection, maintenance, and employee training are critical to safe and reliable pipeline operations. MAPL maintains a policy manual specifying the procedures to follow for routine and emergency operation and maintenance activities. The manual details safety precautions and training requirements, and establishes inspection schedules for instruments, valves, pressure control and relief devices, cathodic protection systems, and other system elements. All personnel working on pipeline systems are routinely tested to assure appropriate knowledge and skill for each task required.

MAPL employees participate in conducting facility hazard assessments, inspecting and auditing facilities and processes, reviewing and updating safety practices and procedures, incident investigations, and other safety related activities. In addition, MAPL develops an Emergency Response Plan for each facility to contain, control and mitigate the various types of emergency situations that could occur at a pipeline location.

MAPL's standards for safe operating and maintenance procedures meet or exceed good business practices, industry standards, and federal, state and local regulations. The components of MAPL's pipeline safety program that supplement safe operating and maintenance procedures are described below.

Cathodic Protection System. Cathodic protection reduces and controls external pipeline corrosion by applying small chemical charges to the pipe in order to inhibit the electrochemical reactions that cause corrosion. As part of the cathodic protection system, regular testing is conducted and compared against pre-existing conditions, industry standards, and regulatory requirements to assure satisfactory performance of the entire system.

Depth of Cover. Federal regulations establish minimum depth of cover requirements, which determine how deep a pipeline is buried as measured from ground surface to pipe top. Minimum depth of cover requirements vary by terrain and anticipated use of the right-of-way. MAPL meets or exceeds minimum depth of cover standards during pipeline construction.

Hydrostatic Testing. Hydrostatic testing is conducted to ensure the integrity of newly installed pipeline segments. Testing procedures include filling new pipeline looping segments with water and pressurizing them to 90 to 95 percent of the Specified Minimum Yield Strength (SMYS) while monitoring pressure and temperature inside the pipeline to verify system integrity.

One Call System. To prevent third-party pipeline damage, operators of pipelines and other underground facilities participate in state-specific utility notification centers, which provide a "one-call" communication link between excavators and underground facilities. Excavators call the One Call Center prior to excavating and provide specific information about the location of upcoming excavation. The One Call Center then alerts all underground utilities and pipeline operators in the affected area. For impacted pipelines, MAPL's policy is to be on-site during excavation to ensure that its pipeline is safely uncovered and back-filled properly after excavation is completed. MAPL distributes One Call and other safety information to landowners and residents in its areas of operation.

- In New Mexico, One Call services are provided at 811 or 1-800-321-2537.

Public Education and Damage Prevention Programs. MAPL has several public education programs that promote pipeline safety. These initiatives include community outreach programs

that keep landowners informed of the pipelines that cross their property, comprehensive public awareness programs that address pipeline safety issues, and annual meetings with excavators and emergency responders to provide updated information specific to individual pipeline locations.

Radiographic Inspection. New pipeline girth welds, which join the ends of pipeline sections, are inspected radiographically to ensure that no defects exist. Defective welds are repaired and re-radiographed.

Right-of Way Marking. MAPL uses markers to alert the public and potential excavators to the existence and location of its pipelines. WEP III will be located parallel to two existing pipelines owned and operated by MAPL that are currently marked. Aboveground marker signs display a warning message, the product transported, contact information, and a 24-hour emergency phone number.

Right-of-Way Monitoring. MAPL conducts routine inspections of its pipelines and aerially inspects pipeline rights-of-ways at approximate two-week intervals. MAPL provides right-of-way access for long-term third-party environmental monitoring, which occurs for 5 years after acceptance of final pipeline reclamation.

Smart Pigs. A smart pig is an electronic instrument that is transported by the fluid through a pipeline. Smart pigs clean the inside of the pipeline and detect irregularities such as internal and external corrosion, changes in wall thickness, dents, gouges, and pipe deformities. Detected irregularities are repaired to comply with applicable regulations and industry standards.

Supervisory Control and Data Acquisition (SCADA). MAPL uses SCADA to obtain current and comprehensive information on key operating aspects of pipeline systems, including operating pressures and the status of pumping equipment and remotely operated valves. SCADA remotely collects data from satellite communication units located along the pipeline 24 hours a day. SCADA data are used to detect changes in flow rate or pressure that indicate potential leaks. In the event of such a change, SCADA alerts the MAPL controller so that actions can be initiated to mitigate potential hazardous conditions.

Valve Spacing. Valves are used to restrict the flow of natural gas through a pipeline in the event of a potentially hazardous incident. Block valves isolate pipeline segments and divert its flow, and check valves prevent reverse flow in the pipeline. In compliance with regulations and industry standards, MAPL installs the appropriate valve type in accessible locations at all pump stations and storage tank areas, on each side of water crossings greater than 100 feet wide, and at mainline locations and takeoff points that are determined to minimize the impacts of an accidental discharge. In addition to these specified locations, valves are installed at approximate 10 mile intervals along the pipeline.

Causes of Accidents

Between 1992 and 2011, 10,266 hazardous incidents involving all pipeline systems across the United States were reported to the Pipeline and Hazardous Materials Safety Administration (see Table 1). During this time, 26 percent of all pipeline incidents were caused by material/welding/equipment failures, 20 percent were caused by excavation damage (primarily third party), 18 percent were caused by corrosion, 14 percent were caused by natural force and

other outside force damage, and 7 percent were caused by incorrect operation. Other, unspecified, causes accounted for 16 percent of reported incidents.

Table 1
All Reported Incident Details for National Pipeline Systems, 1992 – 2011[1]

Cause of Incident	Number of Incidents, 1992-2011	Percent of Total Incidents	Fatalities	Injuries	Property Damage (million $s)	Percent of Property Damage
Corrosion	1,841	17.9%	24	86	$559.5	10.0%
External Corrosion	*797*	*7.7%*	*10*	*69*	*$329.0*	*5.9%*
Internal Corrosion	*753*	*7.3%*	*13*	*6*	*$222.2*	*4.0%*
Unspecified Corrosion	*291*	*2.8%*	*1*	*11*	*$8.3*	*0.1%*
Excavation Damage	2,023	19.7%	148	532	$452.1	8.1%
Incorrect Operation	694	6.7%	18	173	$123.9	2.2%
Material/Welding/Equipment Failure	2.632	25.6%	18	155	$1,050.5	18.9%
Natural Force Damage[2]	697	6.7%	18	81	$1,631.2	29.4%
Other Outside Force Damage[3]	728	7.0%	33	104	$267.8	4.8%
All Other Causes[4]	1,651	16.0%	122	428	$1,458.6	26.3%
Total	10,266	100.0%	381	1,559	$5,543.6	100.0%

[1] Source: U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration (2012).
[2] Natural force damage includes earth movement, heavy rains and floods, temperature, high winds, and other natural causes.
[3] Other outside force damage includes vehicles not engaged in excavation, previous mechanical damage, and other outside force damage.
[4] Damage from all other causes includes miscellaneous, unknown and unspecified causes.

Reference:

U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration. 2012. Pipeline incident data accessed at http://primis.phmsa.dot.gov/comm/reports/safety/PSI.html.

Appendix N

Blasting Plan

BLASTING PLAN
MID-AMERICA PIPELINE COMPANY, LLC
WESTERN EXPANSION PROJECT III

SAN JUAN, RIO ARRIBA, SANDOVAL, MCKINLEY, BERNALILLO, SANTA FE, TORRANCE, GUADALUPE, LINCOLN, DE BACA, CHAVES, AND LEA COUNTIES, NEW MEXICO

December 2012

1.0 PURPOSE

MAPL does not plan to blast due to the proximity of existing pipelines; however, should blasting be necessary this blasting plan will be followed.

The purpose of this Blasting Plan is to provide guidelines for the safe use and storage of blasting materials on the Mid-America Pipeline Company (MAPL) Western Expansion Project III (WEP III). This blasting plan is intended to insure safety of personnel and nearby facilities. This blasting plan does not relieve any pipeline contractor (Contractor) of the responsibility for developing site-specific blasting plans. **A site-specific blasting plan must be prepared by the Contractor and submitted to MAPL for review prior to any blasting.**

2.0 GENERAL

Blasting-related operations including obtaining, transporting, storing, handling, loading, detonating, and disposing of blasting material, drilling, and ground-motion monitoring shall comply with applicable federal, state, and local regulations, permit conditions and the construction contract.

Blasting for grade or trench excavation shall be utilized only after all other reasonable means of excavation have been used and are unsuccessful in achieving the required results. MAPL may specify locations (foreign line crossings, near-by structures, etc.) where consolidated rock shall be removed by approved mechanical equipment such as rock-trenching machines, rock saws, hydraulic rams, or jack hammers in lieu of blasting.

Before blasting, a site-specific blasting plan must be submitted to MAPL for approval. The MAPL engineering department will analyze the data to determine the combined stress level of each affected pipeline and will make recommendations and/or forward approval to MAPL project managers before blasting may commence.

Drilling and blasting shall be done with a MAPL Inspector present. The MAPL Inspector's approval is required to proceed prior to each blast. Approval does not relieve Contractor from responsibility or liability.

3.0 QUALIFICATIONS OF BLASTING CONTRACTOR

Blasting operations shall be conducted by or under the direct and constant supervision of experienced personnel legally licensed and certified to perform such activity in the jurisdiction where blasting occurs. Contractor shall provide MAPL with evidence of experience and such licenses and permits prior to any blasting activities.

4.0 PRE-BLASTING REQUIREMENTS

Contractor shall place all necessary "one calls" 72 hours prior to construction or as required by one-call system(s). Any costs incurred resulting from failure to comply with this Specification shall be at Contractor expense. Contractor shall be responsible for protection of existing underground facilities. Before performing any right-of-way work, Contractor shall verify with MAPL that all property owners have been notified of impending construction.

Contractor shall acquire all required federal, state, and local permits relating to transportation, storage, handling, loading, and detonation of explosives.

Contractor shall furnish a site-specific Blasting Plan to MAPL at least five working days prior to any proposed blasting-related activity and shall obtain MAPL approval in writing prior to drilling. Any changes to the Blasting Plan that could increase the particle velocity or ground movement shall require prior written approval by MAPL.

5.0 SITE-SPECIFIC BLASTING PLANS

The Site-Specific Blasting Plan provided by the Contractor shall include the following:

- Explosive type, product name and size, weight per unit, and density;
- Delay type, sequence, and delay (ms);
- Initiation method (detonating cord, blasting cap, or safety fuse);
- Stemming material and tamping method;
- Hole depth, diameter, and pattern;
- Explosive depth, distribution, and maximum weight per delay;
- Number of holes per delay;
- Distance and orientation to nearest aboveground structure;
- Distance and orientation to nearest underground structure, including pipeline;
- Procedures for storing, handling, transporting, loading, and firing explosives, fire prevention, inspections after each blast, misfires, flyrock and noise prevention, stray current accidental-detonation prevention, signs and flagmen, warning signals prior to each blast, notification prior to blasting, and disposal of waste blasting material;
- Seismograph company, names, equipment and sensor location;
- Copies of all required federal, state, and local permits;
- Blaster's name, company, copy of license, and statement of qualifications;
- Magazine type and locations for explosives and detonating caps;
- Typical rock type and geology structure (solid, layered, or fractured);
- Pipeline location (MP and Stationing).

Approval of the Blasting Plan by MAPL does not limit or reduce Contractor responsibility for safety, damages, compliance with permits and regulations and the accuracy and adequacy of the plan for obtaining adequate rock breakage.

Restrictions on Blasting Methods/Techniques (to be considered when developing the Blasting Plan):

- The blasting agent Ammonium Nitrate and Fuel Oil (ANFO) shall not be allowed.
- The frequency caused by the detonation of the explosive charge shall not drop below a frequency of 25 Hz.
- The minimum time delay between the detonation of charges shall not be less than 25 milliseconds.
- There will be no more than one shot/delay
- Explosive cords shall not be used without written permission of the land management agency. The agency may specify conditions under which such explosives may be used, precautions to be taken, and similar measures.
- Contractor may select and use any commercial explosives and explosive agents available consistent with the conditions of the Blasting Plan except as noted above (ANFO).

6.0 MONITORING OF BLASTING

Contractor shall provide seismograph equipment to measure the peak particle velocity (PPV) of all blasts in the vertical, horizontal, and longitudinal directions. Seismic monitoring can only be discontinued if a) the blasting schedule and blasting performance consistently produce PPVs at the pipeline that are lower than the maximum allowable limit and b) MAPL representative authorizes.

Contractor shall measure the peak particle velocity at the adjacent pipeline; at any water wells, potable springs, and at any above ground structure within 150 feet of the blasting.

Contractor shall complete a Blasting Log Record immediately after each blast and submit a copy to MAPL representative.

7.0 LIMITS ON PEAK PARTICLE VELOCITY

Contractor is limited to a peak particle velocity of 4 inches/sec measured adjacent to an underground pipeline, unless MAPL approves otherwise.

For any aboveground structure (including water wells), the PPV shall not exceed 2 inches/sec.

For all above ground facilities within 150 feet of the blasting, Contractor shall provide additional seismograph equipment to determine the PPV at the aboveground facility.

If the measured peak particle velocity at an existing pipeline or other structure exceeds the above limits, Contractor shall stop blasting activities immediately and notify MAPL. The Blasting Plan must be modified to reduce the peak particle velocity prior to any further blasting.

8.0 SAFETY

8.1 Protection of Aboveground and Underground Structures

Contractor must exercise control to prevent damage to aboveground and underground structures including buildings, pipelines, utilities, springs, and water wells.

If blasting occurs within 150 feet of identified water well or potable springs, water flow performance and water quality testing will be conducted before blasting. If the water well is damaged, the well owner will either be compensated for damages or a new well will be provided.

If blasting occurs within 150 feet of any aboveground structures, Contractor and MAPL will inspect structures before and after blasting. In the unlikely event that damage occurs to an aboveground structure, the owner will be compensated.

Damage claims resulting from blasting shall be Contractor's responsibility.

Blasting is not allowed within 10 feet of an existing pipeline unless authorized by MAPL.

Holes shall not be re-drilled which have contained explosive material. Holes shall not be drilled where danger exists of intersecting another hole containing explosive material.

Blasting mats or padding shall be used on all shots where necessary to prevent scattering of loose rock onto adjacent property and to prevent damage to nearby structures and overhead utilities.

Blasting shall not begin until occupants of nearby buildings, stores, residences, places of business, places of public gathering, and farmers have been notified by Contractor sufficiently in advance to protect personnel, property, and livestock. Contractor shall notify all such occupants at least 72 hours prior to blasting.

Blasting in or near environmentally sensitive areas such as streams and wildlife areas may include additional restrictions as described in Right-of-Way and Permit Stipulations.

8.2 Protection of Personnel

Only authorized, qualified, and experienced personnel shall handle explosives.

Smoking, firearms, matches, open flames, and heat-and-spark-producing devices shall be prohibited in or near explosive magazines or while explosives are being handled, transported, or used. No explosive material shall be located where they may be exposed to flame, excessive heat, sparks, or impact.

A code of blasting signals shall be established and posted in conspicuous places. Employees shall learn and use this code.

Contractor shall use every reasonable precaution including, but not limited to, visual and audible warning signals, warning signs, flag person, and barricades to ensure personnel safety.

Warning signs, with lettering a minimum of 4-inches in height on a contrasting background will be erected and maintained at all approaches to the blast area.

Flaggers will be stationed on all roadways passing within 1,000 feet of the blast area to stop all traffic during blasting operations

All personnel not involved in the actual detonation shall stand back at least 1,000 feet and workers involved in the actual detonation shall stand back at least 650 feet from the time the blast signal is given until the “ALL CLEAR” has been sounded.

An audible blasting signal (air horn or siren) shall be sounded 5 minutes before and after each blast.

Blasting operations shall be conducted during daylight hours.

No loaded holed shall be left unattended or unprotected. No explosives or blasting agent shall be abandoned. No loaded holes shall be left overnight.

In the case of a misfire, the blaster shall provide proper safeguards for personnel until the misfire has been re-blasted or safely removed.

MAPL employs electrical cathodic protection on the existing pipeline, and fault currents may be present any where along the pipeline.

If MAPL employs two-way radios for communication between vehicles and office facilities, Contractor shall advise MAPL of any need to cease use of such equipment during blasting activities.

All loading and blasting activity shall cease and personnel in and around the blast area will retreat to a position of safety, during the approach and progress of an electrical storm irrespective of the type of explosives or initiation system used. This is a major safety precaution and will always be observed. All explosive materials, all electrical initiation systems, and all non-electric initiation systems are susceptible to premature initiation by lightning.

No drilling may commence near a previous blast area until such blast area has been inspected to verify the absence of misfires. If a misfire occurs adjacent to a hole to be drilled, the misfire is

cleared by the blaster using whatever techniques are called for by the situation prior to commencement of drilling. Should a misfire occur at some distance from the drilling area, drilling may be stopped while clearing preparations are underway. When the misfire is to be cleared by reshooting, drilling will be shutdown and personnel evacuated to a place of safety prior to detonation.

All transportation of explosives will be in accordance with applicable federal, state and local laws and regulations. Any vehicle used to transport explosives shall be in proper working condition and equipped with tight wooden or non-sparking metal floor and sides. If explosives are carried in an open-bodied truck, they will be covered with a waterproof and flame-resistant tarpaulin. Wiring will be fully insulated to prevent short-circuiting, and at least two (2) fire extinguishes will be carried. The truck will be plainly marked as to its cargo so that the public may be adequately warned. Metal, flammable or corrosive substances will not be transported in the same vehicle with explosives. There will be no smoking, and unauthorized or unnecessary personnel will not be allowed in the vehicle. Loading and unloading of explosives will be done carefully by competent, qualified personnel.

No sparking metal tools will be used to open kegs or wooden cases of explosives. Metallic slitters will be used to open fiberboard cases, provided the metallic slitter does not come in contact with the metallic fasteners of the case. There will be no smoking, no matches, no open lights, or other fire or flame nearby while handling or using explosives. Explosives will not be placed where they are subject to flame, excessive heat, sparks or impact. Partial cases or packages of explosives will be reclosed after use. No explosives will be carried in the pockets or clothing of personnel. The wires of an electric blasting cap shall not be tampered with in any way. Wires will not be uncoiled. The use of electric blasting caps will not be permitted during dust storms or near any other source of large charges of static electricity. Uncoiling of the wires or use of electric caps will not be permitted near radio-frequency transmitters. The firing circuit will be completely insulated from the ground or other conductors.

No electric wires or cables of any kind will be permitted near electric blasting caps or other explosives except at the time and for the purpose of firing the blast. All electric-blasting caps, either singly or when connected in a series circuit, will be tested using a blasting galvanometer specifically designed for the purpose. Electric blasting caps made by more than one manufacturer, or electric blasting caps made by the same manufacturer, will not be used in the same circuit unless approved by the manufacturer. No attempt will be made to fire a circuit of electric blasting caps with less than the minimum current specified by the manufacturer. All wires to be connected will be bright and clean. All electric blasting cap wires will be short-circuited until ready to fire.

No blast will be fired without a positive signal from the person in charge. This person will have made certain that all surplus explosives are in a safe place; all persons, vehicles, and/or boats are at a safe distance; and adequate warning has been given. Adequate warning of a blast will consist of but not be limited to the following:

- Notification of day and time given to BLM/FS, railroads, highway departments, city engineer, etc. Notification must be given at least 72 hours prior to blasting.
- Notification of homeowners nearby.
- Stopping vehicular and/or pedestrian traffic near the blast site.
- Signal given by an air horn, whistle or similar device using standard warning signals.

Only authorized and necessary personnel will be present where explosives are being handled or used. Condition of the hole will be checked with a wooden tamping pole prior to loading. Surplus explosives will not be stacked near working areas during loading. Detonating fans will

be cut from spool before loading the balance of charge into the hole. No explosives will be forced into a bore hole past an obstruction. Loading will be done by a blaster holding a valid license or by personnel under his direct supervision.

8.3 Protection of Threatened and Endangered Species

If necessary, a qualified biologist will survey the proposed blasting zone identified by the pipeline contractor immediately in advance of any drilling or blasting. After completion of blasting and removal of rock/spoil, active burrow entrances will be checked to ensure that they are open and the animals released. Burrow system of threatened or endangered species will be permanently staked and flagged. After completion of blasting and removal of rock/spoil active burrow entrances will be checked to ensure that they are open.

9.0 IN-WATER BLASTING

It is not anticipated that any underwater blasting will be required for WEP III. However, in the event blasting were required, the following would be the minimum requirements for in-water blasting. The pipeline contractor shall develop a detailed blast plan for in-water blasting. If in-water blasting is required, all applicable parts of non-water blasting shall apply.

Blast holes will be held open by some device, such as wooden plugs, sleeves, casings extending above the water surface, or other suitable methods submitted to and approved by MAPL. All holes to be shot at the same time will be loaded immediately prior to blasting. Loading will be by means of a non-sparking metal loading tube or similar device. Water resistant electric blasting caps will be used except at power line locations.

Explosives used under water will have water proof paper shells or otherwise be protected from the effects of water. Type of explosive, size of charges, sequence of firing, etc. will be selected to minimize shock wave stresses on aquatic life adjacent to the blasting area.

All appropriate resource agency notifications will be made.

10.0 STORAGE REQUIREMENTS

Explosive materials will not be stored on federal lands without prior written permission from the Bureau of Land Management and the Bureau of Indian Affairs for Indian Trust Lands. Copies of this permission shall be posted on each magazine and a copy given to the MAPL site manager.

All explosives, blasting agents, and initiation devices shall be stored in locked magazines that have been located, constructed, approved, and licensed in accordance with local, state, and federal regulations. Magazines shall be dry, well ventilated, reasonably cool (painting of the exterior with a reflective color) bullet and fire resistant and kept clean.

Initiation devices shall not be stored in the same box, container or magazine with other explosives. Explosives, blasting agents or initiation devices shall not be stored in wet or damp areas; near oil, gasoline, cleaning solvents; near sources of heat radiators, steam pipes, stoves, etc. No metal or metal tools shall be stored in the magazine. There shall be no smoking, matches, open lights, or other fire or flame inside or within 50 feet of storage magazines or explosive materials. The loading and unloading of explosive materials into or out of the magazine shall be done in a business-like manner with no loitering, horseplay, or prank-playing.

Magazines shall be kept locked at all times unless explosives are being delivered or removed by authorized personnel. Admittance shall be restricted to the magazine keeper, blasting

supervisor, or licensed blaster. Magazine construction shall meet the requirements of ATF P5400.7 “Explosives Law and Regulations” (Bureau of Alcohol Tobacco and Fire Arms) and be in accordance with local, state, or federal regulations and the Blasters Handbook.

Accurate and current records shall be kept of the explosive material inventory to ensure that oldest stocks are utilized first, satisfy regulatory requirements and for immediate notification of any loss or theft. Magazine records shall reflect the quantity of explosions removed, the amount returned, and the net quantity used at the blasting site.

When explosive materials are taken from the storage magazine they shall be kept in the original containers until used. Small quantities of explosive materials may be placed in day boxes, powder chests or detonator boxes. Any explosive material not used at the blast site shall be returned to the storage magazine and replaced in the original container as soon as possible.

Magazine location shall be in accordance with local, state, or federal regulations. Where no regulations apply, magazines shall be located in accordance with the latest edition of the 175th anniversary edition of the Blaster’s Handbook and ATF P5400-7 “Explosives Law and Regulations” (Bureau of Alcohol, Tobacco and Fire Arms).

Magazines shall be marked in minimum 3-inch high letters with the words “DANGER - EXPLOSIVES” prominently displayed on all sides and roof.

11.0 GENERAL BLASTING PROCEDURE

The following lists of steps will be performed in all cases. These steps represent a minimum requirement and give a general order to the blasting procedure:

- A safety meeting will be held prior to any blasting activities. Everyone who is involved with the blasting in any form must attend. Safety rules and signaling should be reviewed.
- Warning signs should be erected.
- Lightning detectors should be set up.
- Drilled holes should be measured accurately for depth and location.
- Seismic equipment should be set-up to measure velocities near the pipeline and any structures 150 feet or less from blast.
- Distances to any nearby structure (aboveground or below ground) suspected of being less than 300 feet from the blast shall be measured.
- Clear the blasting affected zone.
- Give the warning signal.
- Give the blast signal.
- Detonate the blast.
- After blaster has checked for misfires and given the “ALL CLEAR” signal, inspectors will inspect any aboveground or underground facilities for damage.
- Complete a Blasting Log Record.

Appendix O

Fire Prevention and Suppression Plan

FIRE PREVENTION AND SUPPRESSION PLAN
MID-AMERICA PIPELINE COMPANY, LLC
WESTERN EXPANSION PROJECT III

SAN JUAN, RIO ARRIBA, SANDOVAL, MCKINLEY, BERNALILLO, SANTA FE, TORRANCE, GUADALUPE, LINCOLN, DE BACA, CHAVES, AND LEA COUNTIES, NEW MEXICO

December 2012

1.0 INTRODUCTION

This Fire Prevention and Suppression Plan (Plan) identifies measures to be taken by Mid-America Pipeline Company, LLC (MAPL) and its contractor(s) (Contractor) to ensure that fire prevention and suppression techniques are carried out in accordance with federal, state, and local regulations and to provide measures that will be followed in order to avoid fire and ensure public safety. Measures identified in this Plan apply to work within the project area defined as the construction right-of-way, access roads, temporary use areas, and other areas used during construction of the project. MAPL and Contractor personnel will be thoroughly familiar with this Plan and its contents prior to initiating construction.

The risk of fire danger during pipeline construction is related to smoking, refueling activities, operating vehicles and other equipment off roadways, welding activities, and the use of flammable liquids. During pipeline operation, risk of fire is primarily from unauthorized entry onto the right-of-way. During maintenance, risk of fire is from smoking, use of flammable liquids, operation of vehicles, and pipeline maintenance activities that require welding.

This Plan establishes standards and practices that minimize the risk of fire danger and, in case of fire, provide for immediate suppression.

2.0 OBJECTIVE

The objective of this Plan is to minimize or eliminate potential wildfires within the project area created by construction machinery or personnel, and to implement aggressive action for all wildfires that could result from the construction of the project. This Plan ensures increased commitments of fire protection equipment, fire watch/monitoring efforts, and personnel from MAPL during high fire risk periods.

3.0 RESPONSIBILITIES AND COORDINATION

MAPL and the Contractor are responsible for providing necessary fire-fighting equipment on the project site to their respective employees and operating under the requirements of this Plan. MAPL's Environmental Monitor will consult with appropriate BLM personnel regarding potential fire hazard conditions or possible changes in prevention methods.

Prior to construction, MAPL will contact the appropriate authorities to establish communications, obtain permits (if applicable), and/or fulfill other obligations as directed by county fire control authorities. In addition to the above, it will be the responsibility of MAPL's Environmental Monitor and other MAPL personnel to:

- Ensure prevention, detection, pre-suppression, and suppression activities are in accordance with this Plan and federal, state and county laws, ordinances, and regulations pertaining to fire.
- Comply with all federal, state and local laws, ordinances, and regulations that pertain to the prevention, pre-suppression, and suppression of fires.
- If observed, report all wildfires outside of the project area to the nearest fire dispatch.
- Accompany agency representatives on fire tool and equipment inspections and take corrective action upon notification of any fire protection requirements that are not in compliance.
- Stop work or reduce construction activities or operations that pose fire hazard until the

appropriate measures have been implemented.

- Ensure that required tools and equipment are kept in serviceable condition and be immediately available for fire suppression at all times. The fire prevention and suppression measures described in this Plan will be in effect from April 1st until snow fall. These dates may change by advance written notice from fire control authorities.
- Increase the level of fire monitoring, install additional fire prevention equipment, or stop work, if necessary, and if extreme danger is present, MAPL will coordinate with federal and state fire management personnel during periods of high fire or severe fire conditions to ensure that permit stipulations are being met and appropriate preventative measures are in place during all construction related activities.
- Initiate and implement all fire control activities during construction until relieved by professional fire suppression crews, if necessary. Actions will not be taken that may endanger employee safety. The Contractor will not attempt to suppress fires that cannot be safely contained with fire control personnel.
- Ensure that Contractors have a Field Safety Officer (FSO) in place. The FSO will report directly to MAPL's Environmental Monitor. In addition, the FSO will accompany MAPL's Environmental Monitor on fire inspections of the project.

Additional responsibilities include:

- Conducting weekly inspections during the fire season of tools, equipment, and first aid kits.
- Conducting regular inspections of flammable fuels and explosives storage and handling areas.
- Posting "No Smoking" and "Designated Smoking Area" signs at appropriate locations within the project area.
- Providing initial response support in the event of a fire in the project area and supervising fire suppression activities until relieved by BLM personnel.
- Providing written blasting schedules to all monitors, inspectors, and BLM personnel, if blasting is necessary.
- Monitoring construction site areas where activities may present fire safety issues.

4.0 NOTIFICATION PROCEDURES

Construction personnel will report all fires, whether extinguished or uncontrolled, to MAPL's Environmental Monitor. If the fire is uncontrolled, the Contractor will call the applicable fire dispatch of the Southwest Coordination Center (see Table 1). Information regarding the location of the fire, property ownership, and closest access roads should be provided to the dispatch office. If a reported fire is controlled, but not extinguished, the Contractor will call to notify the nearest fire suppression agency to alert them of the situation.

Table 1
Wildland Fire Report Contacts

Southwest Area Zones	Phone Number	Contact/Office Location
Taos Zone	575.758.6208	Taos Interagency Dispatch Center. Taos, NM
Northern Arizona Zone	928.526.0600	Flagstaff Interagency Dispatch Center. Flagstaff, AZ NM
Albuquerque Zone	505.346.2660	Albuquerque Interagency Dispatch Center. Albuquerque, NM
Pecos Zone	575.437.2286	Alamogordo Interagency Dispatch Center. Alamogordo, NM

5.0 EMERGENCY FIRE PROTOCOLS DURING FIRE SEASON

Fire restrictions are typically set on a daily basis by the local federal land-managing agency. Certain activities such as blasting, welding, or grinding may be restricted during periods of high fire danger. Fire restriction level and required preventive measures are listed below:

No Fire Restrictions

- Normal Fires Precautions

Stage I Fire Restrictions

- Building, maintaining, attending, or using a fire, campfire, coal or wood burning stove, any type of charcoal fueled broiler or open fire of any type in undeveloped areas.
- Smoking, except within an enclosed vehicle or building, in a developed recreation site or while stopped in an area at least 3 feet in diameter that is barren or cleared of all flammable vegetation.
- Using explosive material: (i.e. fireworks, blasting caps or any incendiary device which may result in the ignition of flammable material).
- Welding, or operating acetylene or other similar torch with open flame.
- Operating or using an internal combustion engine without a spark arresting device properly installed, maintained and in effective working order.

Stage I Fire Restrictions with “Red Flag Warning”

- All machine treatment of slash, skidding, yarding, blasting, welding, metal cutting, offloading on the ROW are subject to BLM requirements.
- No smoking or warming/cooking fires are permitted.
- Power saws shut down from 9:00 AM to 8:00 PM MST.
- Hauling trucking must stay on the ROW or surfaced roads after 2:00 PM MST.
- Utilization of additional personnel, equipment and prevention measures.

Stage II Fire Restrictions

- Shutdown of all construction activities except operations on mineral soil, road excavation, watering, grading, trench excavation, padding, backfilling, and clean up.
- For other activities, such as blasting and welding, MAPL's Environmental Monitor will consult appropriate BLM personnel.

The Contractor's FSO will contact the BLM daily during construction no later than 9:00 AM local time to determine if there is a change in the fire restrictions. The FSO will notify MAPL of the restriction notices and changes.

6.0 FIRE PREVENTION MEASURES

6.1 PRE-CONSTRUCTION AND CONSTRUCTION

Methods and procedures that will be implemented prior to and during the construction period to minimize the risk of fire are described below.

6.1.1 Training

The Contractor will train personnel about the measures to take in the event of a fire and will inform each construction crew member of fire dangers, locations of extinguishers and equipment, and individual responsibilities for fire prevention and suppression. Smoking and fire rules will also be discussed with the Contractor and field personnel during the safety training program.

6.1.2 Smoking

Smoking is prohibited except inside a building, vehicle, or while in an area of at least 3 feet in diameter that is barren or cleared of flammable materials. Burning tobacco and matches will be extinguished before discarding. Smoking will also be prohibited while operating equipment or vehicles, except in enclosed cabs or vehicles (36 CFR 261.52(d)).

6.1.3 Spark Arresters and Mufflers

During construction, operation, and maintenance of the construction right-of-way, Contractor and MAPL equipment operating with an internal combustion engine will be equipped with federally approved spark arresters. Spark arresters are not required on trucks, buses, and passenger vehicles (excluding motorcycles) that are equipped with an unaltered muffler or on diesel engines equipped with a turbocharger

Passenger carrying vehicles, pickups, and medium and large highway trucks (80,000 Gross Vehicle Weight) will be equipped with a factory designed muffler system that is specified for the make and model of the respective vehicle/truck or with a muffler system that is equivalent to or exceeds factory specifications. Exhaust systems will be properly installed and continually maintained in serviceable condition.

6.1.4 Parking, Vehicle Operation and Storage Areas

In no case will motorized equipment, including worker transportation vehicles, be driven or parked outside of the designated and approved construction workspace. Equipment parking areas, the construction right-of-way, temporary use areas, and small stationary engine sites, where permitted, will be cleared of flammable material.

Gasoline, oil, grease, and other highly flammable material will be stored either in a separate building, at a site where debris is cleared within a 25-foot radius or in a specially designed fuel truck or tank within a truck. Storage buildings or sites will be a minimum distance of 50 feet from other structures. Storage buildings will be adequately posted to warn of the flammables and to prohibit smoking in or around the building. Glass containers will not be used to store gasoline or other flammables. OSHA-approved containers will be used to store and transport gasoline and other flammables.

6.1.5 Equipment

While in use, each internal combustion engine including tractors, trucks, yarders, loaders, welders, generators, stationary engines, or comparable powered equipment will be provided with at least the following:

- One fire extinguisher, at least 5# ABC with an Underwriters Laboratory (UL) rating of 3A - 40BC, or greater.
- One shovel, sharp, size O or larger, round-pointed with an overall length of at least 48 inches.

Extinguishers and shovels will be mounted so as to be readily available from the ground. Tools will be maintained in a serviceable condition.

6.1.6 Road Closures

The Contractor will notify the appropriate fire suppression agency of the scheduled closures prior to the open-cut crossing of a road. If required, the Contractor will construct a bypass prior to the open-cut installation of a road crossing, unless a convenient detour can be established on existing approved roads or within approved work limits. Bypasses will be clearly marked by the Contractor. During road closures, the Contractor will designate one person who knows the bypass to direct traffic. The Contractor will minimize to the extent possible, the duration of road closures.

6.1.7 Refueling

Fuel trucks will have a large fire extinguisher charged with the appropriate chemical to control electrical and gas fires. The extinguisher will be a minimum size 35-pound capacity with 40 BC or higher rating.

6.1.8 Burning

Burning slash, brush, stumps, trash, or other project debris will not take place on the project. No campfires, lunch fires, or warming fires will occur within the construction right-of-way.

6.1.9 Welding and Blasting

One 5-gallon backpack pump will be required with each welding unit in addition to the standard fire equipment required in welding vehicles.

If blasting is necessary, explosives will be stored in a locked box marked "Explosives." Powder and blasting caps will be stored in separate boxes.

6.1.10 Monitoring

MAPL's Environmental Monitor will inspect the construction workspace and the Contractor's operations for compliance with provisions of this Plan.

6.2 PIPELINE OPERATION AND MAINTENANCE

During pipeline operation, the risk of fire danger is minimal. The primary causes of fire on the right-of-way result from unauthorized entry by individuals utilizing the right-of-way for recreational purposes and from fires started outside of the right-of-way. In the latter case, the right-of-way can be used by authorities as a potential fire break. During maintenance operations, MAPL or the Contractor will provide basic fire-fighting equipment including fire extinguishers and shovels as described in Section 6.1.5. Maintenance crews will also carry list of fire suppression contacts as described in Table 1.

7.0 FIRE PREVENTION REQUIREMENTS FOR CONSTRUCTION EQUIPMENT

MAPL and its Contractors will submit a list of all fire prevention and control equipment proposed for use on the project to appropriate BLM personnel who may inspect all equipment prior to construction. Equipment will be regularly inspected during construction.

7.1 VEHICLES

All man hauls, trucks, tractors, pickup trucks, and personnel vehicles will be equipped with one 5-lb. minimum dry chemical fire extinguisher and one shovel.

7.2 SPARK ARRESTERS

All construction related vehicles, stationary and mobile will be equipped with spark arresters that meet or exceed minimum federal and state requirements. Spark arresters will be regularly maintained and repaired when necessary. If required, fuels used in material staging yards will be equipped with spark arresters.

7.3 GASOLINE-POWERED SAWS

Chainsaws will be outfitted with arresters/mufflers that contain 0.023-inch mesh, stainless steel screens. Chainsaw operators will have a fire extinguisher and shovel available for use at all times. Saw refueling will take place at least 10 feet from the work areas and fuel must be stored in approved containers.

7.4 WARNING DEVICES

Torches, fuses, highway flares, or other devices with an open flame will not be used during fire season. MAPL will use electric or battery-operated warning devices on within the project area.

Appendix P

Spill Prevention, Control and Countermeasures Plan

SPILL PREVENTION, CONTROL AND COUNTERMEASURES PLAN
MID-AMERICA PIPELINE COMPANY, LLC
WESTERN EXPANSION PROJECT III

SAN JUAN, RIO ARRIBA, SANDOVAL, MCKINLEY, BERNALILLO, SANTA FE, TORRANCE, GUADALUPE, LINCOLN, DE BACA, CHAVES, AND LEA COUNTIES, NEW MEXICO

December 2012

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1.0 PIPELINE CONSTRUCTION – MAPL WESTERN EXPANSION PROJECT III

Hazardous material used in the construction of this project would consist primarily of fuel and other petroleum products necessary for the operation of the construction equipment. Fuel trucks will transport this material to the project from various commercial sources in New Mexico on an as-needed basis.

The types of petroleum products that would be transported by fuel trucks are as follows:

- Diesel
- Waste Oil
- Motor Oil
- Gasoline
- Hydraulic Oil
- Antifreeze
- 90 wt. Oil
- Gear Grease
- Solvent

The pipeline contractor generally is responsible for the implementation of all oil and hazardous spill control procedures. During the course of construction, a company inspector will be on hand to ensure that the following guidelines and measures are adhered to in the event of a spill and for the prevention of spills:

All spills occurring on land, regardless of quantity, would immediately be reported to the MAPL inspector and would be cleaned up within 24 hours. All spills occurring in watercourses, including intermittent and ephemeral streams, would be followed by an immediate report to the MAPL inspector. Following the report, clean-up would be prompt. Should a spill occur that requires a report to the Local emergency management authority, or the State or Federal response authorities, the necessary report would be made by MAPL.

All waste materials, including contaminated soil, would be properly disposed of in accordance with Federal, State, and Local regulations, using the appropriate identification and hazard markings, as required by the Hazard Communication program and DOT Hazardous Materials regulations. Wastes or unused materials will not be buried, dumped, or discharged on the right-of-way.

All equipment staging areas shall be located at least 100 feet away from all water courses and wetland areas. The re-fueling of construction equipment shall take place at least 100 feet away from stream banks. If vehicles/equipment require maintenance on the right-of-way, the contractor shall install drip pans or other suitable containment devices to collect all vehicle fluids. *All waste fluids would be removed from the site and disposed of properly.*

1.1 Control of Non-sediment Pollutants

Potential pollutants other than the sediment associated with typical construction activities include petroleum fuels and lubricants and other solid wastes. General guidelines can be implemented to prevent these potential pollutants from leaving the construction site. The

following general guidelines will be used during construction activities for the control of pollutants other than sediment.

- MAPL and/or MAPL contractors will attempt to buy and use only what is needed. Leftovers will be stored, reused, given away, recycled or disposed of safely.
- All labels will be read and directions will be followed.
- Products will be kept in original, well-labeled containers. If the product must be transferred to smaller containers, spills will be avoided by the use of the proper size of funnel. All containers will have the proper labels.
- Labels may fall off with weathering. If necessary, labels will be covered with transparent tape. A metal tag will be affixed or a stencil and spray paint will be used if the containers need to be re-labeled.
- Chemical substances will not be mixed.
- Chemicals will only be used in well-ventilated areas. Protective gloves, eye-wear, respirators and other devices will be utilized if and when there is a need to protect skin, eyes, nose and/or mouth.
- Corrosive liquids will be kept away from flammable liquids.
- All of a product will be used prior to the disposal of its container.
- Spills will be covered with absorbent material. Used absorbent material will be disposed of according to current regulations.
- Erosion control and sediment control techniques will be implemented to prevent hazardous materials from migrating off-site.

1.2 Equipment Storage, Cleaning, and Maintenance Practices

Construction equipment will be stored and maintained along the pipeline right-of-way within the construction segment of the pipeline. Routine maintenance will be limited to the fueling and lubricating of equipment. Drip pads will be used during routine fueling and maintenance to contain spills or leaks. If a significant volume of hydraulic oil or fuel is lost during routine maintenance or fueling, a catch basin will be constructed with soil berms that are double-lined with 6-mil plastic sheeting, to prevent soil contamination. This waste product will then be contained and removed from the right-of-way.

All major cleaning and repair of equipment will be conducted away from the pipeline right-of-way. If major equipment maintenance is required, the equipment will be transported off-site by the contractor to a facility capable of supporting these activities. To control the transportation of noxious weeds to unaffected areas, the tracks of the equipment may be cleaned with water on the pipeline right-of-way.

1.3 Storage and Handling of Petroleum Products

The proposed maintenance and safe storage practices will reduce the chance that petroleum products may contaminate the construction site. Pollutants from the petroleum products used during construction activities adhere easily to soil particles and other surfaces. Proposed soil erosion and sediment control practices will be effective in the retention and prevention of leaks or spills. Oil and oily wastes such as crankcase oil, cans, rags, lubricants and paper dropped in oils will be collected in the proper receptacles and disposed of or recycled. Waste oil for recycling will not be mixed *with* degreasers, solvents, antifreeze, or brake fluids. Additional

sources of petroleum pollutants are leaky vehicles. A routine inspection will be conducted on a daily basis to identify leaks.

There will be a need to store petroleum products at the directional drill crossings and possibly at bored crossing locations. The following guidelines for storing petroleum products will be used.

- Products will be stored in staging areas and covered with tarps where possible.
- The storage area will be lined with a double layer of 6-mil sheeting.
- A berm will be created around the perimeter of the storage areas.
- Capacity of the bermed areas will be approximately 10 percent greater than the largest container.
- All products will be clearly labeled.
- Tanks will be kept off the ground.
- Lids on drummed material will be securely fastened.
- Emergency response procedures will be posted. Persons trained in the handling of spills will be on call at all times.
- Materials for cleaning up spills will be kept on site and will be readily available. Spills will be cleaned up immediately and the contaminated material will be properly stored on site until it can be disposed of in accordance with regulations.
- All storage areas, dumpsters or other storage facilities will be monitored for leaks on a regular basis, and repaired when necessary. Workers will receive weekly reviews of the proper storage and handling procedures for hazardous materials during subcontractor or safety meetings.

1.4 Solid Waste Handling and Disposal

The removal of trees and shrubs during land clearing of the right-of-way will generate solid waste. Any useful material will be salvaged and recycled. The removal of trees will be selective to conserve soil and reduce wood wastes. Indiscriminate removal of trees and other beneficial vegetation will be avoided.

Other wastes include wood and paper from packaging and building materials, and sanitary wastes. Food containers such as beverage cans, coffee cups, lunch-wrapping paper, plastic, cigarette packages, leftover food, and aluminum foil will be collected in designated trash receptacles and disposed of at State Permitted landfills. Frequent garbage removal will help maintain a clean construction site. Waste containers will be labeled and located in a designated area. Lids will be kept closed at all times. Sanitary facilities will be convenient and well maintained.

2.0 DISCHARGES OR SPILL OF OIL OR HAZARDOUS SUBSTANCES

2.1 Preventing, Controlling, and Reporting

This section will establish the policy and procedure for preventing, controlling, and reporting a spill or a discharge of oil or hazardous substances into the environment. The policies will be in accordance with Company practices and Federal, State, and Local requirements, including Title 40 of the Code of Federal Regulations -Part 112 (Oil Pollution Prevention).

2.2 Purpose and Scope

The spill prevention and control requirements in this Policy and Procedure are federally mandated guidelines for oil pollution prevention. The Company policy is to apply these standards, where appropriate, to facilities containing hazardous substances.

2.3 General

All MAPL facilities that could discharge or spill oil or hazardous substances that may affect natural resources or present an imminent and substantial danger to the public health or welfare including, but not limited to, fish, shellfish, wildlife, shorelines, and beaches, are subject to the provisions contained herein.

Hazardous Substance, for the purposes of this procedure, is defined as any chemical or material that has or would have a Material Safety Data Sheet (MSDS.) Hazardous substances are further defined in the following environmental statutes:

- Section 101 (N) and Section 102 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA);
- Section 307(a) and Section 311 (b)(2)(A) of the Clean Water Act;
- Section 300 1 of the Solid Waste Act (excluding items suspended by Congress)
- Section 112 of the Clean Air Act.
- Section 7 of the Toxic Substance Control Act

The term, "hazardous substance," does not include petroleum, including crude oil or any fraction thereof, which is not otherwise specifically listed or designated as a hazardous substance in the first sentence of this paragraph. The term also excludes natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas) from its definition.

Oil, for the purpose of *this* document, means oil of any kind or in any form, including but not limited to, petroleum fuel oil, mixed products, sludge, oil refuse and oil mixed with wastes other than dredged spoil (earth and rock). LPG (propane, butane, ethane) is not considered to be oil.

Facilities that could discharge or spill oil or hazardous substances into a watercourse must comply with the required federal, state, or local laws and regulations. A discharge includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying or dumping. A watercourse is any perennial or intermittent river, stream, gully, wash, lake, or standing body of water capable of collecting or transporting an oil or hazardous substance.

2.4 Facilities Subject to Provisions

Facilities that are subject to the requirements stated in this policy are as follows:

a. Non- Transportation-Related Facilities

1. Storage or drip tanks and other above ground containers (excluding pressurized or in line process vessels) having a capacity in excess of 660 gallons or more for multiple containers.*

2. Underground storage facilities having a total capacity in excess of 42,000 gallons.

*No permanent facilities of this capacity are located on the MAPL Western Expansion Project.

b. Transportation-Related Facilities

1. All vehicles, pipeline facilities, loading/unloading facilities and other mobile facilities that transport oil or hazardous substances.

2 Construction Related Activity. This is not a normal operating procedure on the MAPL System in the Western Expansion Project area.

Facilities subject to paragraph 3.A.1 shall have a site specific Spill Prevention Control and Countermeasure Plan (SPCC Plan) that identifies all facilities that are subject to 40 CFR 112. The plan would also identify all hazardous substance storage vessels at the facility and the spill prevention measures for discharge or spill control.

2.5 Area Personnel Responsibilities

The Area Manager in Farmington, New Mexico is responsible for spill prevention. These duties include, but are not limited to the following:

- The instruction of personnel in the operation and maintenance of equipment to ensure the prevention of the discharge of oil.
- The organization and implementation of briefings in sufficient intervals to ensure that operating personnel have an adequate understanding of the Spill Plan at that facility. Briefings would highlight and describe known discharges or spills, and recently developed precautionary measures.
- Each individual facility would be inspected, at least annually, by the District Manager or designee to determine the potential for discharges or spills of oil or hazardous substances. These inspection reports must be retained for three years.

All facilities that have the potential for discharging or spilling oil or hazardous substances into a watercourse are required to have the following preventative measures:

- Examination of all tanks, valves and fittings, at least annually, to determine any maintenance requirements. The Area Manager will evaluate monitoring requirements for tank levels to prevent tank overflow.
- All tank batteries will, as far as practical, have a secondary means of containment for the entire contents of the largest single tank, plus sufficient freeboard in the containment facility to allow for precipitation.
- A system will be implemented to carefully monitor and inspect all tanks, to prevent accidental spills or discharges into watercourses. This includes regular inspection to detect faulty systems. Line valves and liquid pipelines will be monitored regularly for leaks in order to reduce the chances of blowouts.
- Any field drainage ditches, road ditches, or pumps will be inspected at regularly scheduled intervals for the accumulation of liquid hydrocarbons or other hazardous

substances that may have escaped from small leaks. Any such accumulations will be removed.

2.6 Bulk Storage Tanks

A tank would not be used for storage of oil or hazardous substances, unless the material and construction of the tank, along with the conditions of storage (such as pressure and temperature) are compatible with the material stored.

Leaks that are sufficiently large enough to cause oil or other hazardous substances to accumulate in diked areas due to loss from tank seams, gaskets and bolts will be promptly corrected.

Mobile or portable oil, or hazardous substance storage tanks will be positioned or located to prevent the contents from reaching a watercourse. The mobile facilities will be located so their support structures would not be undermined by periodic flooding or washout.

2.7 Facility Drainage

When necessary, provisions will be made for drainage from diked storage facilities in areas with high precipitation levels. Drainage from diked areas will be restrained by valves or other means to prevent a discharge or spill. Diked areas will be emptied by pumps or ejectors that are manually activated. Valves used for the drainage of diked areas will be designed for manual operation.

Rain water may be drained from diked areas, providing that the water drained does not contain oil or hazardous substances that may cause a harmful discharge. Drain valves must be closed following drainage of diked areas.

The principal technique for containing discharges or spills is the use of dikes that are constructed wherever regulated quantities of oil or hazardous substances have the potential to reach a watercourse.

The construction of dikes must meet the following requirements:

- Capacity must be at least equivalent to the storage capacity of the largest tank of the battery. A sufficient freeboard must be supplied to allow for precipitation or displacement by foreign materials.
- Small dikes for temporary containment will be constructed at valves if leaks of oil or hazardous substances develop.
- Any dike three feet or higher will have a minimum cross section of two feet at the top. Other means of containment or spill control include. but are not limited to:

    a. Beams or retaining walls.
    b. Curbing.
    c. Culverts, gutters or other drainage systems.
    d. Weirs, booms or other barriers.
    e. Spill diversion ponds or retention ponds.
    f Sorbent materials.

2.8 Transfer Operations, Pumping, and In-Plant Process.

Valves and pipelines that are above ground will be examined regularly by operating personnel to determine whether there are significant leaks from flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, valve locks and metal surfaces.

3.0 SPILL RESPONSE PROCEDURES

3.1 Personnel Response Procedures

3.1.1 Any Employee

Upon noticing a discharge or spill of an oil or hazardous substance in any quantity, the employee will initiate immediate containment procedures and notify Tulsa Dispatch and the Area Manager. Said employee will provide the following information:

a. Name of company facility and/or location of facility and nature of discharge or spill.
b. Description and quantity of substance discharged.
c. Name, title, and telephone number of person who initially reported the discharge or spill) and person reporting to Tulsa Dispatch.
d. Action taken or being taken to mitigate and correct discharge or spill.
e. Water bodies or streams involved.
f. Time and duration of discharge or spill.
g. Outside involvement during discharge or spill (public, government agencies etc.).

NOTE: Refer to Attachment A for containment procedures.

3.1.2 Tulsa Dispatch

Dispatch will immediately advise the responsible District Manager and Environmental Services department by telephone about the incident, including any incident reported by persons not employed by the Company.

NOTE: If Tulsa Dispatch is contacted by a person not employed with the Company the necessary information is obtained as indicated in 3.1.1, and the District Manager and Environmental Services department will be immediately contacted to expedite containment, reporting, and clean-up procedures on the discharge or spill.

3.1.3 Area Manager has the following responsibilities:

1. Coordination of the containment and clean-up of a discharge or spill.
2. If the discharge or spill is too large for Company personnel to contain, he/she will contact the qualified local contractors for assistance (see Attachment B.)
3. To advise Environmental Services by telephone if emergency containment or clean-up assistance is required from a state agency or a response team.

3.1.4 Environmental Services is responsible for the following:

1. Contacting the Legal Department (and Right-of-Way Department, if appropriate) and assessing report requirements of state and federal agencies regarding a discharge or spill.
2. Making appropriate contacts with state and federal agencies if necessary.
3. If the spill is significant, the Environmental Specialist will be dispatched to the scene by environmental services to oversee cleanup and reporting responsibilities.

3.2 Written Notification

District Manager - Tulsa, will provide the following services:

1. Completion of a written description of the incident as soon as possible after initial notification has been given. The description would include the following:

    a. Time and date of discharge or spill
    b. Facility name and/or spill location
    c. Type of material spilled
    d. Quantity of material spilled
    e. Area affected
    f. Cause of spill
    g. Special circumstances
    h. Corrective measures taken
    i. Description of repairs made
    j. Measures taken to prevent recurrence

2. Forwards the completed report to Environmental Services and a copy to Legal departments. Retains copy for future reference;

NOTE: Environmental Services, in coordination with the Legal Department, will submit written reports to government agencies.

ATTACHMENT A
Discharge or Spill Containment Procedures & Materials

Type of Facility Where the Discharge or Spill Occurs	Containment Procedures	Material Used for Containment
A. Vehicle	1. Contains discharge or spill by ditching, covering surface with dirt, construction of earthen berms on permitted right-of-way, applying sorbents or burning. 2. Immediate notification to the Compliance and Safety Department, and if there is any imminent danger to local residents, immediate notification to the highway patrol or local police officials. 3. If burning is required, approval must be obtained from the appropriate state agencies for air quality control before burning. 4. If right-of-way activity that has not been approved by permit is required, approval will be obtained from a BLM Authorized Officer.	1. Straw 2. Loose Earth 3. Oil Sorbent 4. Wood Chips 5. Sorb Oil Chips 6. Sorb Oil Swabs 7. Sorb Oil Mats
B. Bulk Storage Tanks or any Other Facilities	1. Discharge or spin will be contained by ditching, covering, applying sorbents, constructing an earthen dam, or burning. 2. If burning is required, approval must be obtained from the appropriate state air quality control government agency before proceeding. 3. If right-of-way activity is required that has not been approved by a permit, approval will be obtained from a BLM Authorized Officer.	

**Note: Any vehicle carrying any hazardous or toxic substance will carry a shovel or other ditching device to contain a spill. If the vehicle has sufficient room, sorbent materials should also be carried.

ATTACHMENT B
Contractors Available for Discharge or Spill Containment

Contractor Name	Address	Telephone

Appendix Q

Drilling Contingency Plan

DRILLING CONTINGENCY PLAN
MID-AMERICA PIPELINE COMPANY, LLC
WESTERN EXPANSION PROJECT III

SAN JUAN, RIO ARRIBA, SANDOVAL, MCKINLEY, BERNALILLO, SANTA FE, TORRANCE, GUADALUPE, LINCOLN, DE BACA, CHAVES, AND LEA COUNTIES, NEW MEXICO

December 2012

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Attachment A Material Safety Data Sheet

1.0 INTRODUCTION

As part of the Western Expansion Project III, MAPL will utilize the horizontal directional drilling (HDD) process to drill underneath the Rio Puerco and Pecos rivers and the Navajo Irrigation Canal as well as Kutz Canyon and Landfarm Environmental. The purpose of this document is to:

- Eliminate or minimize adverse effects from directional drilling fluid seepage.
- Provide procedures for properly responding to a pipe lodging and separation.

2.0 DIRECTIONAL DRILLING METHOD

2.1 Temporary Use Areas

Temporary use areas (TUAs) for the directional drilled crossings will be required on both the entry side (rig side) and the exit side (pipe side) of the rivers. The entry and exit sides of the drill require temporary use areas of various sizes. The entry side contains the majority of the equipment required to complete the crossing. The exit side is primarily used for removing and adding joints of drill pipe as entry side rig progresses through or pulls out of the borehole. The crossing pipe will be welded and stored on the exit side until it is pulled into the completed borehole. Typically there are two pits on the entry side: the entry pit and the cutting settlement pit. On the exit side there is typically one or two pits. The pit sizes vary considerably from job to job; however, an average size would be 20 feet long by 10 to 20 feet wide by 5 to 10 feet deep. Project specifications require working pits to be lined with an impervious flexible membrane.

2.2 Drilling Fluid and Drilling Fluid System

The directional drilling process involves a drilling fluid made up primarily of water and clay. The primary purposes of this drilling fluid are to remove the cuttings from the borehole, to stabilize the borehole and to act as a coolant and lubricant during the drilling process. The water and clay drilling fluid consists of 1 to 5 percent active clays and from 0 to 40 percent inert solids with the rest being water. The primary active clay component is bentonite. Bentonite is a naturally occurring, non-hazardous clay product.

The directional drilling operation involves the continuous flow of drilling fluid to lubricate the drill stem and cutters, carry away cuttings, and assist in maintaining hole integrity. The drilling fluid is first prepared in mixing tanks with both new and clean recycled drilling fluid. The fluid is pumped at 100 to 1000 gpm rates through the center of the drill pipe to the cutters. Return flow is through the annulus created between the wall of the boring and drill pipe. The cuttings are then carried back to the entry pit which will lined by an impervious flexible membrane. Once in the entry pit, the fluid moves into the cutting settlement pit to be pumped to the fluid processing equipment. Shaker screens, desanders, desilters and centrifuges remove increasingly fine cuttings from the drilling fluid. The cleaned and recycled fluid is returned to the mixing tank and pumps for reuse in the borehole. The volume of cuttings per crossing will vary, and the cuttings will most likely be placed in a company approved landfill.

2.3 Pilot Hole

Directional drilling installation within clay, silt, sand, and gravel materials are typically accomplished using conventional drilling and hole reaming methods. The pilot hole drilling will involve a non-rotating-small-diameter (2 to 4 inch) drill pipe thrusting a jetting assembly or motorized drilling bit (5 to 9 inch) along the designed drill path. A larger diameter drill pipe (6 to 10 inch diameter) is utilized as a wash pipe for the small drill stem. As the pilot hole drilling progresses, the wash pipe is rotated and thrust concentrically over the drill stem. The use of the wash pipe facilitates movement of the small drill stem and allows retrieval of the drilling and guidance systems for maintenance purposes without substantial collapse of drilled pilot hole. The bentonite based drilling fluid is continually pumped downhole through the drill stem to power the drill motor, remove cuttings, and lubricate the working assemblies.

2.4 Reaming Operation

Once the pilot hole is completed, the drill stem is withdrawn leaving only the wash pipe within the drilled hole. Depending upon the type of pipe it may be necessary to replace the wash pipe, with high strength drill pipe before continuing with hole reaming activities. To enlarge the pilot hole, specialized cutters and reamers are attached to the drill pipe. The drilling rig then rotates the reaming assembly with the drill pipe and guides the reamers along the drilled path. The bentonite, drilling fluid is pumped continuously as the reamers are rotated toward the exit side to remove the cutaway material. One or more passes will be done to reach the full size opening.

2.5 Pull Back Operation

When the appropriate reaming passes are completed, the prefabricated pull section is attached to the drill pipe by means of a swivel assembly. A cutter or reamer is usually placed between the drill pipe and the swivel. As the crossing pipeline section is pulled into the reamed hole by the drill rig, the reamer is rotated with the drill pipe, and drilling fluid is pumped continuously to evacuate cuttings and lubricate the pull section.

3.0 DRILLING FLUID SEEPAGE

3.1 Prevention

Directional drilling installation presents a remote potential for waterway disturbance through drilling fluid seepage. Drilling fluid seepage can be caused by pressurization of the drill hole beyond the containment capability of the overburden soil material. This potential can be substantially reduced by providing adequate depth of cover for the installation.

3.1.1 Suitable Material and Adequate Overburden

In the planning for the river crossings, prevention of drilling fluid seepage has been a primary consideration in determining the profile of each crossing. The primary factors in selecting the pipeline crossing profile are the type of soil material and the depth of cover material. Cohesive soils, such as clays, are considered ideal material for horizontal drilling. The second factor to be considered in developing a profile is adequate overburden material. A minimum depth of cover

of 15 feet in competent soils should be maintained to provide a margin of safety against drilling fluid seepage.

3.1.2 Pipeline Geometry

The geometry of the pipeline profile can also affect the potential for drilling fluid seepage. In a profile which forces the pipe to make compound or tight radii turns, downhole pressures can build up, thereby increasing the potential for drilling fluid seepage. The profiles for the river crossings on the MAPL Western Expansion Project III avoid this potential as they are designed to be very smooth and gradual vertical curves. In addition, all horizontal curves have been eliminated. Therefore, the potential for pressure buildup caused by pipeline geometry has been minimized.

3.1.3 Responsibility of Drilling Contractor

The drilling contractor is responsible for execution of the directional drilling operation, including actions for detecting and controlling drilling fluid seepage. MAPL will closely supervise the progress and actions of the drilling contractor.

3.2 Detection

Detection of a drilling fluid seepage includes identifying those conditions which may indicate a loss of pressure containment within the drill hole, thereby creating the potential for a drilling fluid seepage. It also will include those visible signs that surface seepage has occurred.

Directional drilling is a technically advanced process. The detection of drilling fluid seepage prior to it occurring is highly dependent upon the skills and experience of the drilling crew. Each drilling situation is unique in that the behavior of the subsurface material is highly variable and difficult to predict. There is no in-hole monitoring equipment that can detect drilling fluid seepage. It is a combination of factors which must be properly interpreted that may indicate conditions which can have the potential of causing drilling fluid seepage.

A seep occurs when there is a failure to maintain pressure in the hole. The most obvious signs of a drilling fluid seepage are surface seepage or loss of circulation of the drilling fluid. One of the functions of the drilling fluid is to seal the hole to maintain the downhole pressure. The loss of returning drilling fluid is a sign that pressure is not being contained in the drillhole and seepage is occurring outside of the hole. If there is a reduction in the quantity of drilling fluid returning to the drilling site (loss of circulation), this could be a warning sign. However, some loss of drilling fluid is also normal in the drilling process. There can be times in the drilling process that a loose sand or gravel layer is encountered. Both of these occurrences will require additional drilling fluids to fill in the voids. Consequently, drilling fluid loss in and of itself is not an indication of a potential seepage condition. It is a loss of drilling fluid in combination with other factors which may indicate a potential seepage condition. For example, it there is a loss of drilling fluid and the return cuttings do not show a large quantity of gravel, then this could indicate a loss of containment pressure within the hole.

The detection of a potential seep prior to it actually occurring is dependent upon the skill and experience of the drilling crew. MAPL will use a firm(s) specializing in directional drilling to perform the proposed HDD crossings.

3.3 Corrective Action

Once surface seepage of drilling fluid is detected, the drilling crew will take immediate corrective action. The only pressure causing the surface seepage to occur is the pressure from the drilling fluid pumps. Therefore, the most direct corrective action is to stop the rig pumps. By stopping the pumps, the pressure in the hole will quickly bleed off. With no pressure in the hole, the surface seepage will stop. Stopping the pumps will be done as soon as surface seepage is detected. Once seepage is detected and, with the immediate stopping of the mud pumps, there will be minimal disturbance to surface sediment. As mentioned previously, there will be very little pressure to disturb surface sediment because of the distance that the drilling fluid must travel to reach the surface. The composition of the drilling fluid is primarily water and bentonite clay.

There is a greater potential for drilling fluid seepage at the entry and exit locations of each crossing. In the contingency planning for the pipeline crossing, drilling fluid seepage at the entry and exit locations has been considered, and preventative actions have been developed. The entry and exit locations on all directionally drilled crossings have dry land segments where drilling fluid seepage can be easily detected and contained. To isolate and contain potential drilling fluid seepage at each of the drill sites, there can be a berm around the entire drilling site area. Hay bales or silt screen can also be part of the berm on the water side of the drilling area. To contain and control drilling fluid seepage on the land area, there will be earth moving equipment, portable pumps, sand, and hay bales available at each of the drilling sites. Any drilling fluid seepage will first be contained and isolated using dirt berms, hay bales or silt screens. It will then be immediately cleaned up from the area and hauled to one of the storage pits at the closest drilling site

3.4 Follow-up

If drilling fluid seepage should occur, the drilling operation will be stopped. After the drilling fluid seepage has been contained and disposed of, the drilling contractor and MAPL will make every effort to determine why the seepage occurred. Once MAPL has determined the cause of the seepage, measures will be developed to control the factors causing the seepage and to minimize chance of recurrence. In no case will MAPL resume drilling operation until it has determined the cause of the drilling fluid seepage and instituted preventative measures.

In some cases, the corrective measure may involve reaming the hole, or a determination that the existing hole encountered a void which could be bypassed with a slight change in the profile. In other cases, it may be determined that the existing hole encountered a zone of unsatisfactory soil material and the hole will have to be abandoned. If the hole is abandoned, it can be filled with drilling cement.

3.5 Response Equipment

From the day-to-day operation and maintenance routine, the drilling personnel will be aware of what materials are critical during a drilling fluid seepage and have these items on hand. Since drilling fluid seepage can be easily controlled on land where it has the greatest potential of occurring, containment items will be stored within the drilling sites, such as lumber for temporary shoring, sand, portable pumps, hand tools and hay bales. The drilling contractor will also have heavy equipment such as backhoes which can be utilized to control and clean up drilling fluid seepage. The drilling contractor will also have a boat which can be utilized if any seepage should occur in the river. The boat will also allow easy access from one side of the river to the other.

ATTACHMENT A
MATERIAL SAFETY DATA SHEET

Section 1 Product Identification (Typical material)

Manufacturers Name:	PARCHEM, Inc., P. 0. Box 2216, Laurel, MS 39440
Telephone Number:	(601) 649-1500
Chemical Name and Synonyms:	Hydrous Silicate of Alumina/Wyoming Sodium Bentonite

Section 2 Hazardous Ingredients

Material or Component:	Free crystalline Silica
Percent:	1-8
Hazard Data:	Chronic exposure over the TL V may result in silicosis or other respiratory ailments.

Section 3 Physical Data

Boiling Point (F):	Not applicable
Specific Gravity {H20=1):	2.6
Vapor Pressure (mm Hg):	Not applicable
Vapor Density (Air=l):	Not applicable
Evaporation Rate:	Not applicable
Solubility in Water:	Negligible
Appearance and Odor:	Yellow , blue, brown, gray granules or powder. Earthy odor.
Density @ 20 C:	Uncompacted: 62 #/cubic foot

Hazardous Materials Identification

	Degree of Hazard
1 Health Hazard	4 = Extreme
0 Flammability	3 = High
0 Reactivity	2 = Moderate
	1 = Slight
	0 = Insignificant

Section 4 Fire and Explosion Data

Flash Point:	Not applicable
Flammable Limits:	Non Flammable

Section 5 Health Hazard Data

Threshold Limit Value:	Use TL V formula for crystalline free Silica. OSHA permissible exposure limit 4 mg/m^3 . Total dust, 1.5 mg/M3 respirable dust. Sodium Bentonite Cas. #1302-78-9 Free Silica Cas. #12808-60-7

Effects of Overexposure:	Chronic exposure over TL V may result in silicosis or other respiratory ailments.
Carcinogenicity:	Crystalline Silica/ Alpha Quartz has been listed by the IARC as 2A Carcinogens.

IARC, 1987, concludes that there is limited evidence to suggest that overexposure to crystalline silica (through inhalation) may be carcinogenic to humans.

Skin:	Potential irritant
Eye:	Potential irritant
Inhalation	Irritation to lung, nose and throat

Emergency First Aid Procedures:

Eyes: Flush with water
Skin: Wash with soap and water
If inhaled and effects occur, move to fresh air.

Section 6 Reactivity Data

Conditions Contributing to Instability:	Stable
Incomparability:	None
Hazardous Decomposition Products:	Stable
Hazardous Polymerization:	Will not occur

Section 7 Spill or Leak Procedures

Steps to take if material is released or spilled:	If contaminated, sweep up or collect and reuse product
Waste Disposal Method:	Can be disposed of in approved landfill
Neutralizing Chemicals	Not Applicable

Section 8 Special Protection Information

Respiratory Protection:	Use NIOSH approved dust respirators, with approval TC-21 C-:XX:X
Ventilation:	Sufficient to keep dust levels below the TLV for crystalline silica
Protective Gloves:	General duty work gloves
Eye Protection:	If high dust conditions exist, tight fitting goggles are recommended.
Other protective equipment:	Eyewash

Section 9 Special Precautions

Precautions to be Taken in Handling and Storing: Store out of the weather.

	Product becomes slippery when wet. Avoid contact water in walkways
Other Precautions:	None

Taken From PARCHEM, INC. Specifications Data

Date: January 1994