PROPOSED ACTION

CHAPTER 2

2.0 PROPOSED ACTION

Entrega proposes to construct and operate a new 328.1-mile-long interstate natural gas transmission system from the proposed Meeker Hub in Rio Blanco County, Colorado, to new interconnections in Sweetwater County, Wyoming, and continuing on to the existing Cheyenne natural gas market hub in Weld County, Colorado. In addition to the pipeline, Entrega would construct 3 compressor stations, 2 meter stations, 22 mainline valves, and other associated facilities. Five additional metering stations would be constructed by other parties in the immediate vicinity of Entrega's proposed facilities to receive natural gas from the EPP. An overview map of the project location and facilities is provided in **figure 2.1-1**. Detailed maps showing the pipeline route and aboveground facilities are in appendix B.

Entrega proposes to construct the project in two phases. Phase 1 (the pipeline phase) would involve construction of the pipeline, meter stations, mainline valves, and pipeline pigging facilities, and would be constructed in two segments. Segment 1 would consist of the 36-inch-diameter portion of the pipeline system between the proposed Meeker Hub and Wamsutter, while Segment 2 would consist of the 42-inch-diameter portion between Wamsutter and the Cheyenne Hub. The three compressor stations would be constructed during Phase 2.

For the pipeline phase, Entrega is proposing an initial Segment 1 in-service date of no later than January 1, 2006. Assuming Segment 1 is completed between the Meeker Hub Compressor Station and Wamsutter prior to January 1, 2006, then Entrega would offer service on that segment on an interim basis. Entrega anticipates that this interim service would commence no earlier than December 2005. Pipeline Segment 2 would be constructed during the 2006 (June to mid-December) construction season. The three compressor stations would be constructed between September 2006 and April 2007.

2.1 Proposed Facilities

2.1.1 Pipeline Facilities

Between the proposed Meeker Hub and Wamsutter, the EPP would consist of 136.3 miles of 36-inch-diameter pipeline, with 86.1 miles in Colorado (Rio Blanco and Moffat Counties) and 50.2 miles in Wyoming (Sweetwater County). The remaining 191.8 miles of pipeline between Wamsutter and the existing Cheyenne Hub would consist of 42-inch-diameter pipeline, with 183.1 miles in Wyoming (Sweetwater, Carbon, Albany, and Laramie Counties) and 8.7 miles in Colorado (Larimer and Weld Counties). The maximum allowable operating pressure (MAOP) of the system would be 1,480 pounds per square inch gauge (psig).

The pipeline would be constructed in primarily Class 1 and Class 2 locations as defined by U.S. Department of Transportation (DOT) regulations at 49 CFR 192. The pipeline would be constructed of high-strength steel pipe (grade X70) with a wall thickness of 0.529 inch for the 36-inch-diameter portion of the pipeline and 0.617 inch for the 42-inch-diameter portion. Entrega is considering the use of a higher grade of pipe (X80), which would allow a reduction of the pipe wall thickness while still meeting federal safety standards. All pipe would be manufactured, constructed, and operated in accordance with applicable local, state, and federal regulations.

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Figure 2.1-1

2.1.2 Compressor Stations and Appurtenant Facilities

Aboveground facilities associated with the EPP would include 7 meter stations (2 meters constructed by Entrega, 5 meters constructed by others), 22 mainline valves, 4 pig launchers, and 4 pig receivers (**table 2.1-1**). Three natural gas-powered turbine compressor stations (Meeker Hub, Bighole, and Wamsutter) would be constructed to enable Entrega to maintain the required pressure for firm gas deliveries and to restore the drop in pressure that would otherwise occur as the gas flows through the pipeline. Between Wamsutter and the Cheyenne Hub the pipeline would be capable of future expansion to 2.0 Bcfd or more, depending on need for east-west capacity or to accommodate the receipt of natural gas produced in nearby areas of Wyoming.

Seven delivery/receipt meter stations and associated laterals would be constructed to interconnect the EPP with other pipeline systems.[1] The proposed laterals are intended to transfer gas to Entrega's pipeline from the delivering company's system and from Entrega's pipeline to the receiving company's system.

At the proposed Meeker Hub Compressor Station, Entrega would construct a receipt lateral to interconnect with EnCana (see section 2.3.3, **figure 2.3-3**) at the proposed Meeker Hub. Entrega would construct and operate the lateral.

At the proposed Wamsutter Compressor Station (MP 135.5), two laterals would connect Entrega's pipeline system with existing interstate natural gas pipeline systems owned by CIG and WIC. About midway along the laterals, the new CIG Frewen Lake and WIC Bitter Creek Meter Stations would be located (see section 2.3.3, **figure 2.3-5**). Entrega proposes to build its laterals up to the metering facilities, while CIG would construct and operate the meters and extend the laterals to interconnections with the CIG and WIC systems. Each meter would be bidirectional and sized to accommodate either receipt or delivery of up to 0.5 Bcfd of natural gas.

At the proposed Cheyenne Hub Metering Station (MP 328.1), four delivery laterals would be constructed to interconnect with three existing interstate pipeline systems (CIG, Cheyenne Plains Gas Pipeline Company [Cheyenne Plains], and Trailblazer Pipeline Company [Trailblazer]) and one existing local distribution company (PSCo) (see section 2.3.3, **figure 2.3-7**). The systems to which Entrega would interconnect via associated metering facilities and the proposed lateral lengths and diameters are summarized in **table 2.1-2**.

2.2 Land Requirements

Table 2.2-1 summarizes the land requirements for the proposed EPP. Entrega proposes to use a 100-foot-wide construction ROW for the majority of the pipeline route and for all receipt and delivery laterals. **Figure 2.2-1** illustrates the typical construction ROW and equipment work locations where the proposed pipeline would not be located near an existing pipeline; **figure 2.2-2** illustrates the proposed construction

[1] A lateral is a short pipeline segment that serves to interconnect one pipeline system with another.

Table 2.1-1
Proposed Facilities Associated with the Entrega Pipeline Project

Facility Name	Milepost[1]	County, State	Map No.[2]
PIPELINE			
Meeker Hub to Wamsutter (36 inches in diameter)	-0.5 – 135.5	Rio Blanco & Moffat Counties, Colorado; Sweetwater County, Wyoming	1 through 7
Wamsutter to Cheyenne Hub (42 inches in diameter)	135.5 – 327.0	Sweetwater, Carbon, Albany, and Laramie Counties, Wyoming; Weld County, Colorado	8 through 17
COMPRESSOR STATIONS			
Meeker Hub Compressor Station (15,400 International Organization of Standardization [ISO] horsepower)	0.0	Rio Blanco County, Colorado	1
Bighole Compressor Station (30,000 ISO horsepower)	76.3	Moffat County, Colorado	4
Wamsutter Compressor Station (20,620 ISO horsepower)	135.5	Sweetwater County, Wyoming	7, 8
DELIVERY AND RECEIPT STATIONS (METER STATIONS)			
Meeker Hub Receipt Station -- EnCana Gathering Services Inc. (interconnect facility sized for receipt of 0.725 to 1.5 Bcfd of natural gas at 1,280 psig)	0.0	Rio Blanco County, Colorado	1
Wamsutter Delivery & Receipt Station – WIC Bitter Creek (interconnect sized for delivery of up to 0.5 Bcfd of natural gas)	135.5	Sweetwater County, Wyoming	7, 8
Wamsutter Delivery & Receipt Station – CIG Frewen Lake (interconnect sized for delivery of up to 0.5 Bcfd of natural gas)	135.5	Sweetwater County, Wyoming	7, 8
Cheyenne Hub -- CIG Delivery Station (interconnect sized for delivery of up to 0.6 Bcfd of natural gas)	327.0	Weld County, Colorado	17
Cheyenne Hub -- Trailblazer Delivery Station (interconnect sized for delivery of up to 0.725 Bcfd of natural gas)	327.0	Weld County, Colorado	17
Cheyenne Hub site -- Cheyenne Plains Delivery Station (interconnect sized for delivery of up to 0.730 Bcfd of natural gas)	327.0	Weld County, Colorado	17
Cheyenne Hub -- Public Service Company of Colorado Delivery Station (interconnect sized for delivery of up to 0.350 Bcfd of natural gas)	327.0	Weld County, Colorado	17
MAINLINE VALVES (MLV)			
MLV #1	0.0	Rio Blanco County, Colorado	1
MLV #2	18.0	Rio Blanco County, Colorado	1
MLV #3	33.2	Moffat County, Colorado	2
MLV #4	50.1	Moffat County, Colorado	3
MLV #5	65.1	Moffat County, Colorado	4
MLV #6	76.3	Moffat County, Colorado	4
MLV #7	83.7	Moffat County, Colorado	5
MLV #8	102.5	Sweetwater County, Wyoming	6
MLV #9	117.8	Sweetwater County, Wyoming	7
MLV #10	135.5	Sweetwater County, Wyoming	7, 8
MLV #11	151.7	Sweetwater County, Wyoming	8
MLV #12	169.6	Carbon County, Wyoming	9
MLV #13	187.2	Carbon County, Wyoming	10
MLV #14	205.1	Carbon County, Wyoming	11
MLV #15	219.8	Carbon County, Wyoming	12
MLV #16	236.9	Carbon County, Wyoming	13
MLV #17	255.4	Albany County, Wyoming	14
MLV #18	273.5	Albany County, Wyoming	15
MLV #19	292.4	Albany County, Wyoming	16
MLV #20	306.2	Laramie County, Wyoming	16
MLV #21	320.5	Weld County, Colorado	17
MLV #22	327.0	Weld County, Colorado	17
PIG LAUNCHERS AND RECEIVERS			
Meeker Hub Launcher	0.0	Rio Blanco County, Colorado	1
Bighole Launcher/Receiver	76.3	Moffat County, Colorado	4
Wamsutter Launcher/Receiver	135.5	Sweetwater County, Wyoming	7, 8
Arlington Launcher/Receiver	236.9	Carbon County, Wyoming	13
Cheyenne Hub Receiver	327.0	Weld County, Colorado	17

[1] All mileposts are based on Entrega's milepost system and are approximate. Note that the proposed EPP begins at MP -0.5 and that the entire project is actually 328.1 miles in length.

[2] All project facilities are presented on the maps located in appendix B.

Table 2.1-2
Proposed Receipt/Delivery Laterals and Meter Stations
Associated with the Entrega Pipeline Project

Station/ Interconnection With	Lateral Length[1] (feet)	Lateral Diameter (inches)	Meter Station Area (feet)	Third-Party Laterals[2] (length/diameter)
Meeker Hub Compressor Station				
EnCana	2,640	36	(within Entrega station site)	--
Wamsutter Compressor Station[3]				
CIG	300	30	300 x 300	375 feet/30-inch-diameter
WIC	300	30		275 feet/30-inch-diameter
Cheyenne Hub Metering Station				
Trailblazer	--	30	(within Entrega station site)	2,100 feet/30-inch-diameter
Cheyenne Plains	1,900	36	300 x 150	1,800 feet/36-inch-diameter
CIG	1,700	30		1,300 feet/24-inch-diameter and 200 feet/30-inch-diameter
PSCo	800	24	100 x 100	600 feet/24-inch-diameter

[1] Laterals constructed between Entrega mainline and delivery metering facilities at Wamsutter and Cheyenne Hub. At the Meeker Hub Compressor Station, a receipt lateral would be constructed between an interconnection with EnCana at the proposed Meeker Hub and a meter within the Entrega station.
[2] Laterals constructed downstream of metering facilities by others.
[3] CIG to construct and operate both CIG and WIC meter stations on same site.

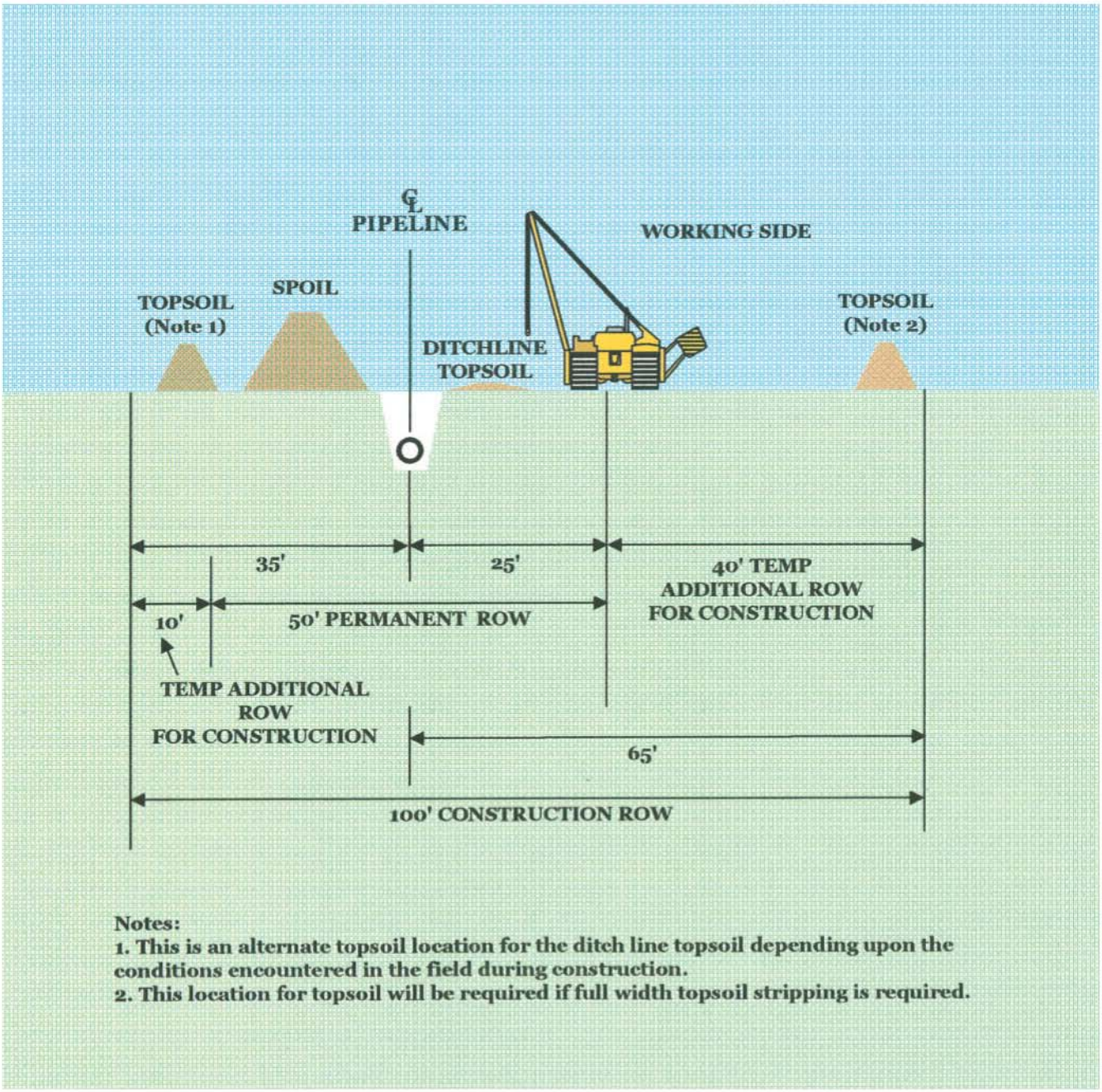
ROW where the pipeline would be located parallel to an existing pipeline. Entrega also has requested that the BLM authorize 50 feet of the construction ROW (centered on the proposed pipeline) to be retained as part of Entrega's permanent easement, which would be permanently maintained (e.g., by periodic clearing) during operation of the new facilities. Entrega has agreed to reduce the construction ROW width to 75 feet in wetlands.

Construction of the EPP would disturb approximately 5,371 acres of land, including the pipeline construction ROW, additional temporary workspace areas, aboveground facility sites, and pipe storage and contractor yards. Of this total, about 4,182 acres would be disturbed by the pipeline construction ROW, 422 acres would be disturbed by additional temporary workspace areas, and 666 acres would be disturbed by pipe storage and contractor yards. Construction of the aboveground facilities would affect an additional 97 acres. Disturbance due to construction of powerlines (5 acres) is considered separately.

Table 2.2-1
Summary of Land Requirements Associated with the Entrega Pipeline Project

Facility	Milepost(s)	Land Affected During Construction (acres)	Land Affected During Operation (acres)
COLORADO			
Pipeline Facilities			
Pipeline ROW[1]	-0.5 to 85.7 318.5 to 327.0	1,224	575
Additional Temporary Workspace Areas	N/A	107	0
Pipe and Contractor Yards	N/A	149	0
Pipeline Facilities Total		*1,480*	*575*
Aboveground Facilities			
Compressor Stations	0.0, and 76.3	52	51
Metering Stations	0.0 (1) 327.0 (4)	0[2]	0[2]
Mainline Valves	Various (see **table 2.1-1**)	0[3]	0[3]
Pig Launchers & Receivers	0.0[4], 76.3[5], and 327.0[6]	0[7]	0[7]
Permanent access roads to aboveground facilities		0	0
Lateral lines		18	9
Aboveground Facilities Total		*69*	*60*
Powerlines		1	1
Colorado Subtotal[8]		*1,549*	*636*
WYOMING			
Pipeline Facilities			
Pipeline ROW[1]	85.7 to 318.5	2,958	1,414
Additional Temporary Workspace Areas	N/A	315	0
Pipe and Contractor Yards	N/A	517	0
Pipeline Facilities Total		*3,790*	*1,414*
Aboveground Facilities			
Compressor Stations	135.5	17	17
Metering Stations	135.5 (2)	4[2]	2[2]
Mainline Valves	Various (see **table 2.1-1**)	0[3]	0[3]
Pig Launchers & Receivers	135.5 and 236.9[9]	3[9]	3
Permanent access roads to aboveground facilities		0	0
Lateral lines		4	2
Aboveground Facilities Total		*28*	*24*
Powerlines		4	<1
Wyoming Subtotal[8]		*3,822*	*1,438*
PROJECT TOTAL[8]		**5,371**	**2,074**

[1] Based on a 100-foot-wide construction ROW, except in wetlands where a 75-foot-wide construction ROW would be used, or in areas requiring extra width for workspace necessitated by site conditions. Operation acreage was estimated based on a 50-foot-wide permanently maintained ROW in all areas.
[2] With the exception of the Cheyenne Hub Metering Station and the CIG-constructed Wamsutter Metering Station, each metering station would be constructed and operated within the area associated with a compressor station.
[3] Each mainline valve would be constructed within the 100-foot-wide construction ROW and operated within the permanently maintained 50-foot-wide ROW, or within the area associated with a meter station or compressor station.
[4] One pig launcher would be constructed at the Meeker Hub Compressor Station at MP 0.0.
[5] One pig launcher and pig receiver would be constructed at the Bighole Compressor Station at MP 76.3.
[6] One pig receiver would be constructed within the Cheyenne Hub Metering Station at MP 327.5.
[7] Each pig launcher and/or pig receiver would be constructed and operated within the compressor or meter station site.
[8] Discrepancies in total acreages are due to rounding.
[9] One pig launcher and one pig receiver would be constructed at each of the following: Wamsutter Compressor Station (MP 135.5) and the Arlington Pigging Station (MP 236.9).

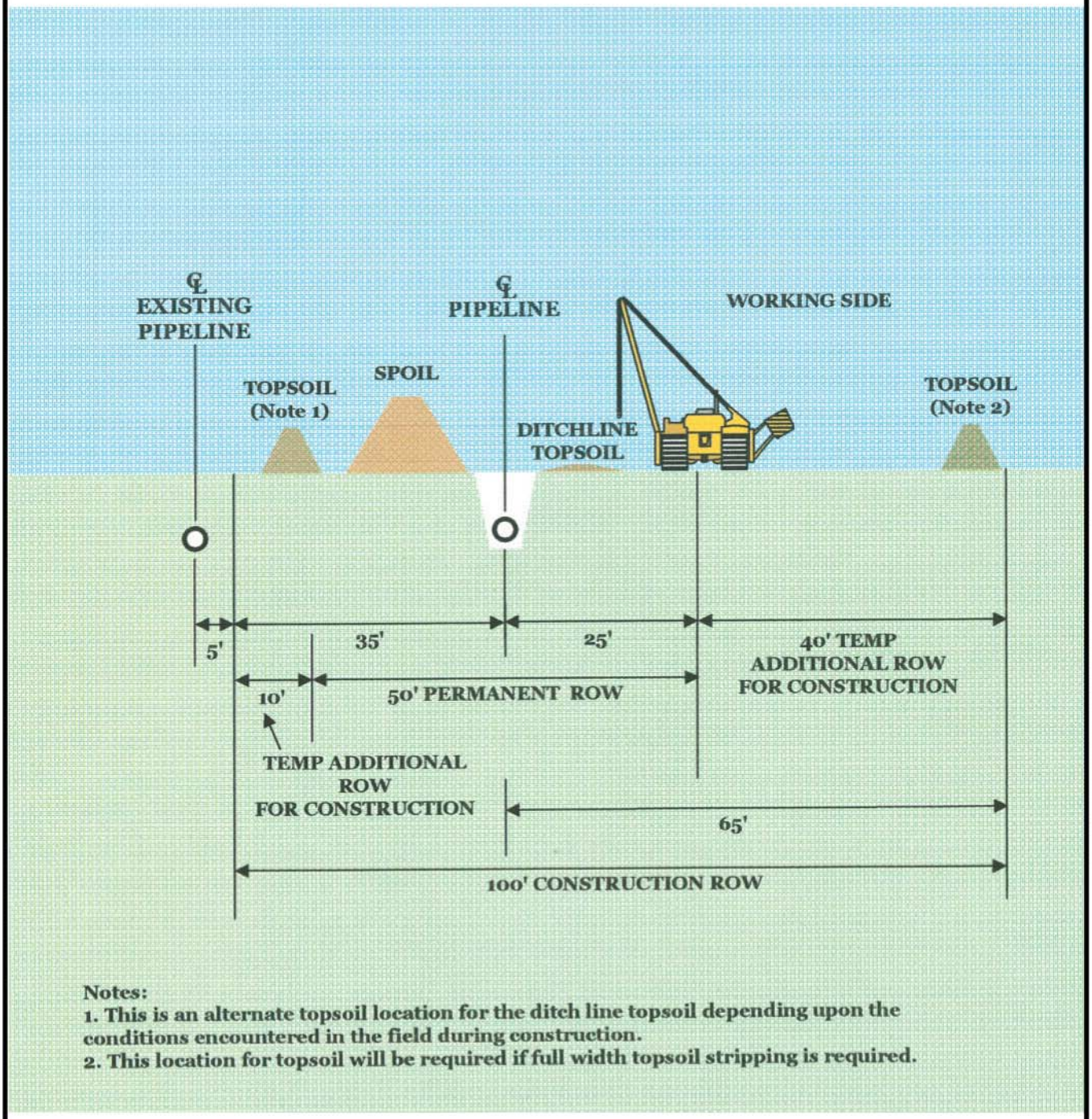


Notes:
1. This is an alternate topsoil location for the ditch line topsoil depending upon the conditions encountered in the field during construction.
2. This location for topsoil will be required if full width topsoil stripping is required.

Entrega Pipeline Project

Figure 2.2-1

Typical Construction ROW



Entrega Pipeline Project

Figure 2.2-2
Typical Construction ROW when Adjacent to Existing Pipeline

These totals do not include the short-term use of about 196 access and haul roads totaling 1,067 miles in length to access the ROW, many of which would require upgrading or maintenance (see section 2.2.4).

Approximately 2,074 acres of the 5,371 acres used for construction would be required for operation of the project. Of this total, about 1,989 acres would be for the pipeline permanent ROW, an additional 84 acres would be for the aboveground facilities and 1 acre for powerlines. The remaining 3,297 acres of land would be restored and allowed to revert to former use.

Approximately 45 percent of the land affected by construction and operation of the EPP would be public lands and 55 percent would be private lands. Of the total public lands, the BLM manages 72 percent, the State of Colorado manages 12 percent, and the State of Wyoming manages 11 percent. Remaining public lands are owned by local municipalities. A detailed description of land ownership is presented in section 3.7.

2.2.1 Pipeline ROW

Approximately 86 percent of the 328.1 miles of the proposed pipeline route is parallel to, and within about 300 feet, of existing pipeline, utility, or road ROWs. About 45.4 miles (14 percent) of the route proposed for construction would be newly created ROW. Where the proposed pipeline route would parallel existing utilities, Entrega's new permanent ROW would be adjacent to the existing permanent ROWs. As proposed, the new pipeline would generally be installed with a 40-foot offset from the nearest existing pipeline or utility centerline.

2.2.2 Additional Temporary Workspace Areas

Entrega proposes to expand the construction ROW to 125 feet in a number of areas to facilitate side-hill construction or to cross deeply incised drainages (**table 2.2-2**). These areas sum to more than 70 miles (more than 21 percent) of the total route.

In addition to the construction ROW, Entrega has identified the types of additional temporary workspace areas that would be required (**table 2.2-3**) and where these sites would be located. These additional temporary workspaces would be needed for areas requiring special construction techniques (e.g., river, wetland, and road crossings; horizontal directional drill entry and exit points; rocky soils) and construction staging areas. Additionally, the construction ROW width would be increased to 125 feet in certain areas to facilitate construction at steep slopes, side-hills, or deeply incised drainages (see **table 2.2.2**). Prior to construction, Entrega would be required to file a complete and updated list of temporary workspace areas with the Secretary of the Commission (Secretary) for review and approval prior to use. Additional temporary workspace areas on federal land would require authorization from the BLM in the form of a temporary use permit.

2.2.3 Pipe Storage and Contractor Yards

Off-ROW extra workspace areas that would be used during the construction phase of the project include pipe storage yards and contractor yards. Entrega proposes to use eight pipe storage yards, six contractor

Table 2.2-2
Areas Requiring Greater Right-of-Way Width

Begin MP	End MP	Length (miles)	Right-of-Way Width (feet)	Feature
6.1	7.2	1.1	125	Steep Hill
11.5	11.7	0.2	125	Steep Hill/Side Slopes
11.9	12.5	0.6	125	Steep Hill
12.9	13.2	0.3	125	Crossing/Set up for Steep Hill
13.9	14.6	0.7	125	Slopes/Side Slopes
15.4	16.0	0.6	125	Slopes/Side Slopes
16.3	17.1	0.8	125	Slopes/Side Slopes
19.7	20.2	0.5	125	Slopes/Side Slopes
20.4	21.2	0.8	125	Slopes/Side Slopes
25.3	25.9	0.6	125	Slopes and Deep Washes
26.1	26.5	0.4	125	Slopes and Deep Washes
27.5	28.1	0.6	125	Slopes and Deep Washes
29.7	30.3	0.6	125	Deep Washes
33.2	37.7	4.5	125	Slopes/Side Slopes
38.0	39.9	1.9	125	Slopes/Side Slopes/Ridge
48.5	49.8	1.3	125	Sand Dunes
52.0	56.6	4.6	125	Slopes/Side Slopes/Washes
83.3	93.2	9.9	125	Slopes/Side Slopes/Creeks/Washes
94.1	100.8	6.7	125	Slopes/Side Slopes/Creeks/Washes
116.0	117.9	1.9	125	Slopes/Side Slopes
119.3	122.2	2.9	125	Slopes/Side Slopes
143.9	144.2	0.3	125	Slopes/Side Slopes
145.6	145.9	0.3	125	Slopes/Side Slopes
174.5	174.8	0.3	125	Slopes/Side Slopes
196.9	197.6	0.7	125	Slopes and Deep Washes
204.5	207.5	3.0	125	Slopes/Side Slopes/Creeks/Drainages
213.5	219.0	5.5	125	Slopes/Side Slopes/Creeks/Drainages
223.0	225.0	2.0	125	Slopes/Side Slopes
226.0	230.0	4.0	125	Slopes/Side Slopes/Creeks/Drainages
233.6	233.7	0.1	125	Point of intersection
235.5	236.0	0.5	125	Slopes/Side Slopes
289.5	291.7	2.2	125	Slopes/Side Slopes
296.6	300.0	3.4	125	Soils/Slopes/Side Slopes/Drainages
306.2	306.3	0.1	125	Change of ROW side
312.0	317.0	5.0	125	Slopes/Side Slopes/Drainages
320.5	322.1	1.6	125	Slopes/Side Slopes

Table 2.2-3
Dimensions and Acreage of Typical Additional Temporary Workspace Areas

Feature	Dimensions[1] (length by width in feet at each side of crossing)	Acreage[1]
Full ROW topsoil stripping	Length of area x 25	Varies
Steep hill or side slopes	Length of area x area dependent upon hill and/or side slope grade	Varies
Spread mobilization/demobilization and staging	300 x 150[2]	1.0
Foreign pipeline crossovers	L-shaped	Varies
Open-cut roads	125 x 50[3]	0.1
Bored highways and railroads	175 x 50[4]	0.2
Open-cut waterbodies <50 feet wide	300 x 50[5]	0.3
Open-cut waterbodies >50 feet wide	300 x 100[6]	0.7
Directionally drilled waterbodies and wetlands	300 x 100 plus the length of the drill[7]	+0.7

[1] Dimensions and acreage are for each workspace; some crossings would require workspace on both sides of the feature.
[2] Space also could consist of one 200-foot by 150-foot area (0.7 acre) if turn around is required.
[3] Space could consist of up to four 125-foot by 50-foot areas. Space dimension is the minimum that would be required; actual dimensions could increase depending upon the individual crossing.
[4] Space could consist of up to four 175-foot by 50-foot areas. Space dimension is the minimum that would be required; actual dimensions could increase depending upon the individual crossing.
[5] Space could consist of up to four 300-foot by 50-foot areas. Space dimension is the minimum that would be required; actual dimensions would increase depending upon the individual crossing.
[6] Space could consist of up to four 300-foot by 100-foot areas. Space dimension is the minimum that would be required; crossing lengths greater than 100 feet would require that the workspace length increase depending upon the individual crossing.
[7] Space could consist of up to four 300-foot (plus length between drill entry and exit point to accommodate pipe lay-down area) by 100-foot areas.

yards, and four rail yards during construction (**table 2.2-4**). To the extent practical, Entrega proposes to use existing commercial/industrial sites or sites that previously have been used for construction. Existing public or private roads would be used to access each yard. Pipe storage yards, contractor yards, and rail yards would be used on a temporary basis and would be restored upon completion of construction. The locations of the pipe storage yards and contractor yards are shown in the topographic maps presented in appendix D.

2.2.4 Access Roads

Entrega would use preexisting roads to provide access to most of the construction ROW. Entrega plans to use 196 existing roads on a temporary basis to transport personnel, equipment, vehicles (including high clearance vehicles and heavy trucks), and materials to the proposed project work areas, with a total disturbance of approximately 1,067 miles. Eighty-four existing roads would be used in Colorado and 112 existing roads would be used in Wyoming; some roads used are in both states.

Entrega has indicated that it would need to improve and maintain about 98 of the proposed 196 temporary access roads needed to access the work areas. Class A (paved) roads and many Class B (gravel) roads may not require improvement or maintenance prior to or during construction unless the road base deteriorated or became unsafe or impassable. All of the Class C (two-track and dirt) roads would probably require some level of improvement to support construction equipment, vehicles and ongoing maintenance during the construction period, especially when rain occurs and travel over the roads degrades their condition. Road improvements such as blading and filling would be restricted to the existing road footprint

Table 2.2-4
Locations and Acreage of Pipe Storage Yards, Contractor Yards, and Rail Sidings

State/ Yard Name	Status	Legal Description	Acreage	Land Use
Colorado				
Meeker Pipe Yard	New Yard	Sections 5&6, T1N, R96W	40.5	Rangeland
Meeker Contractor Yard	New Yard	Section 18, T1N, R93W	10.0	Existing Site
Maybell Pipe Yard	New Yard	Section 2, T6N, R95W	29.0	Existing Site
Craig Pipe Yard	New Yard	Sections 2&3, T6N, R91W	51.6	Existing Site
Craig Contractor Yard	New Yard	Section 1, T6N, R91W	14.5	Existing Site
Craig Rail Siding (Empire)	New Yard	Sections 29&30, T6N, R91W	3.4	Existing Site
Wyoming				
Baggs Pipe Yard	New Yard	Section 28, T13N, R91W	20.0	Existing Site
Creston Contractor Yard	New Yard	Section 15, T20N, R92W	10.8	Rangeland (5.4) / Existing Site
Wamsutter Pipe Yard	New Yard	Section 15, T20N, R94W	58.7	Rangeland
Thayer Rail Siding	New Yard	Sections 27&28, T20N, R102W	19.7	Existing Site
Walcott Pipe Yards	New Yards	Section 35, T21N, R84W	25.2 and 28.9	Rangeland
Walcott WYCO Rail Siding (also referred to as the Walcott Missouri Pacific Rail Siding)	New Yard	Sections 25, 36, and 31, T21N, R84W	41.9	Rangeland
Walcott UPRR Rail Siding	New Yard	Section 26, T21N, R84W	9.0	Existing Site
Rawlins Contractor Yard 1	Previously Filed with FERC	Section 23, T21N, R88W	57.1	Rangeland
Rawlins Contractor Yard 2	Previously Filed with FERC	Section 21, T21N, R87W	13.3	Existing Site
Laramie Pipe Yard	Previously Filed with FERC	Section 29, T16N, R73W	19.3	Existing Site
Laramie Contractor Yard	Previously Filed with FERC	Section 29, T16N, R73W	12.9	Existing Site
Cheyenne Pipe Yard & Equipment Storage	Previously Filed - New Location w/in Original Area	Sections 27&34, T13N, R67W Section 3, T12N, R67W	2 small pieces w/in 199.8 acres previously surveyed	Existing Site

(i.e., the road may not be widened) wherever possible where there is evidence that the road was previously graded. Entrega also has proposed that where there is no evidence of previous grading or if the road required widening, road maintenance would only be allowed after completing biological and cultural resources surveys, and completing appropriate consultations with the State Historic Preservation Office

(SHPO) and FWS. In all cases, roads would be used and maintained only with permission of the landowner or land management agency.

As a part of its permanent aboveground facilities, Entrega also would construct short, permanent access roads from public roads to the proposed compressor stations, metering stations, and mainline valves. Entrega expects all of these roads to be contained within the permanent ROW, therefore no area was included in disturbance estimates. The resulting estimate of acres of disturbance is discussed in the Aboveground Facility discussion (section 2.2.5). Prior to construction, Entrega would finalize proposed permanent access roads along with any additional temporary access roads and submit them to the Secretary for review and approval. At a minimum, construction of new access roads would require completion of cultural resources and biological surveys, along with the appropriate SHPO and FWS consultations and approvals. Other state and local permits also may be required prior to construction. In the future, maintenance of newly created access roads would be the responsibility of Entrega, with ownership over the road remaining with the affected land management agency or private landowner. Any permanent access roads on federal land would be considered an ancillary facility to the ROW and added to any grant from the BLM.

2.2.5 Aboveground Facilities

Entrega proposes to use a total of about 97 acres of land for construction of aboveground facilities and 84 acres during operation, including compressor stations, metering stations, mainline valves, and pig launchers and receivers.

During Phase 2, Entrega would construct three new compressor stations: the Meeker Hub Compressor Station, the Bighole Compressor Station, and the Wamsutter Compressor Station (**table 2.1-1**). Each station would consist of a compressor building, utility building, and parking area for station personnel. In addition, each would contain compressors, gas filtration/separation equipment, and at least one generator. With the exception of the Bighole Compressor Station, stations would operate on locally purchased power for electricity for lights and heating in the buildings and would be fully automated for unmanned operation. Each station would house natural gas turbine compressors. Remote start/stop, set point controls, unit monitoring equipment, and station information would be installed at each location. Pipeline entering and exiting the compressor facilities would be below grade as practicable, but would come above ground prior to entering and exiting the compressor buildings.

Although seven meter stations would be constructed along the proposed pipeline route, only two would be built by Entrega. Metering facilities constructed by Entrega would be located within the proposed Meeker Hub Compressor Station and adjacent to the proposed Cheyenne Hub Metering Station on a 100-foot-square parcel (for deliveries to PSCo). Near Entrega's proposed Wamsutter Compressor Station, two meter stations (CIG Frewen Lake and WIC Bitter Creek) would be constructed by CIG on a new 300-foot-square site for deliveries from Entrega to the CIG and WIC systems. Three other meter stations would be constructed either on or in the immediate vicinity of Entrega's Cheyenne Hub Metering Station for deliveries from Entrega to the systems of CIG, Cheyenne Plains, and Trailblazer. The CIG and Cheyenne Plains metering facilities would be constructed by CIG on a new 300-foot by 150-foot parcel, while the Trailblazer meter would be constructed by Kinder Morgan within Entrega's Cheyenne Hub station. The meter stations

would include pressure regulating, heating, sampling, chromatography, tube switching, and electronic gas measurement equipment.

Entrega would construct 22 mainline valves along the proposed route (**table 2.1-1**). Seventeen of the mainline valves would be constructed in a 40-foot-wide by 60-foot-long site located within the 100-foot-wide pipeline construction ROW and would operate within the 50-foot-wide permanently maintained ROW. The remaining five mainline valves would be constructed and operated within the proposed compressor stations. The spacing intervals between the mainline valves would be approximately every 15 to 20 miles, in accordance with current DOT class locations.

Pig launchers and/or receivers would be constructed and operated completely within the boundaries of the compressor stations, Arlington Pigging Station, and at the Cheyenne Hub Metering Station (**table 2.1-1**). Launchers and receivers would allow the pipeline to accommodate a high-resolution internal line inspection tool.

2.3 Construction Procedures

At a minimum, the proposed facilities would be designed, constructed, tested, and operated in accordance with all applicable requirements included in the DOT regulations in 49 CFR 192, *Transportation of Natural Gas and Other Gas by Pipeline: Minimum Federal Safety Standards*, and other applicable federal and state regulations. These regulations are intended to ensure adequate protection for the public and to prevent natural gas pipeline accidents and failures. Among other design standards, Part 192 specifies pipeline material and qualification, minimum design requirements, and protection from internal, external, and atmospheric corrosion.

To reduce construction impact, Entrega would implement its project-specific Upland Erosion Control, Revegetation, and Maintenance Plan (Entrega's Plan) in upland areas (see appendix E) and its project-specific Wetland and Waterbody Construction and Mitigation Procedures (Entrega's Procedures) for construction across wetlands and waterbodies (appendix F). Entrega's Plan and Procedures are based on the mitigation measures contained in our Upland Erosion Control, Revegetation, and Maintenance Plan and Wetland and Waterbody Construction and Mitigation Procedures. Our review indicates that the few differences between Entrega's Plan and Procedures and our Plan and Procedures are minor, generally reflect the arid western climate, and do not compromise the effectiveness of the proposed mitigation or the protection of the resources. Therefore, we believe that Entrega's Plan and Procedures would provide a level of environmental protection that is equivalent to the measures contained in our Plan and Procedures.

Additional mitigation is contained in Entrega's Construction, Mitigation, and Reclamation Plan (appendix G), developed in consultation with the BLM. In this plan, Entrega has identified seven vegetation communities (Colorado-3, Wyoming-4) crossed by the pipeline. Entrega's Plan describes reclamation techniques and procedures, including specifics of seedbed preparation, seed mixtures and rates, preventing the spread of noxious weeds, seeding methods, mulching rates, success criteria, and monitoring and reporting requirements. This plan also addresses mitigation and restoration of sensitive locations including habitat for federally listed threatened or endangered species and vegetation communities of special concern or value, areas containing sensitive cultural resources, and visually sensitive areas. Entrega's topsoil segregation

program would be an important mitigation element especially in arid habitats where vegetation is notably sensitive to disturbance, and revegetation would be a slow process.

In addition to its Plan and Procedures, Entrega has prepared several specific plans that include measures to mitigate for potential impacts. For example, Entrega's Weed Management Plan (appendix H) includes site-specific measures that would be implemented to control noxious weeds, including the use of cleaned, weed-free equipment; the installation and use of wash stations to remove seeds and other propagules from equipment prior to the beginning of construction of the project and at county lines prior and during construction; and the use of certified weed-free straw/hay bales to control erosion. Details of the Weed Management Plan including important committed mitigation measures are discussed in section 3.2.

Entrega also would implement its Spill Prevention, Control, and Countermeasure (SPCC) Plan to avoid or minimize the potential for harmful spills and leaks during construction. Entrega's SPCC Plan describes spill prevention practices, emergency response procedures, emergency and personnel protection equipment, release notification procedures, and cleanup procedures. The SPCC Plan is discussed further in the context of different resources (e.g., sections 3.2, 3.3, and 3.5)

Additional resource and issue-specific plans, including Entrega's Typical Incised Bank Stabilization Restoration Plan (appendix I), Site-Specific Waterbody Crossing Plans (appendix J), and Site-Specific Construction and Revegetation Plan for Riparian Woodland Communities (Riparian Woodland Plan, see appendix K) also would provide engineering design specifications and key mitigation to limit, to the maximum extent practicable, environmental impact from construction in and adjacent to waterbodies crossed by the EPP. Where riparian woodlands are encountered, mitigation implemented during construction would be coupled with specific restoration measures to return the woodlands to near-preconstruction conditions as quickly as possible.

Entrega also has prepared an Emergency Response Plan (ERP) to identify it's emergency personnel and the logical sequence of actions, which should be taken in the event of an emergency involving the Entrega system facilities during construction of the EPP. The ERP includes identification and notification of local first responders along the Entrega route. Prior to construction, Entrega intends to meet with the local first responders in each county and provide them with a work schedule showing the approximate timing of construction crews in each county, the expected location of the construction crews under the proposed construction schedule, and contact information for the construction contractor's emergency and safety personnel that would be at the various construction sites. Further, Entrega would provide to the local first responders contact information for its own safety and inspection personnel at the various construction sites. Once the pipeline is constructed and pipeline operations commence, the ERP will be finalized so that it meets the federal safety requirements (49 CFR 192.615). The current preliminary version of the ERP establishes written emergency shut down procedures, communication coordination, and clean-up responsibilities in the event of a gas pipeline emergency or a natural disaster.

All of Entrega's mitigation plans discussed above are important components of its POD. The POD is a document required by the BLM prior to issuance of the ROD. If the project were approved, the POD would be appended to the ROW grant issued by the BLM and would serve as a project resource manual. The BLM and Entrega are currently in the process of finalizing the POD, which will include all of the measures that are

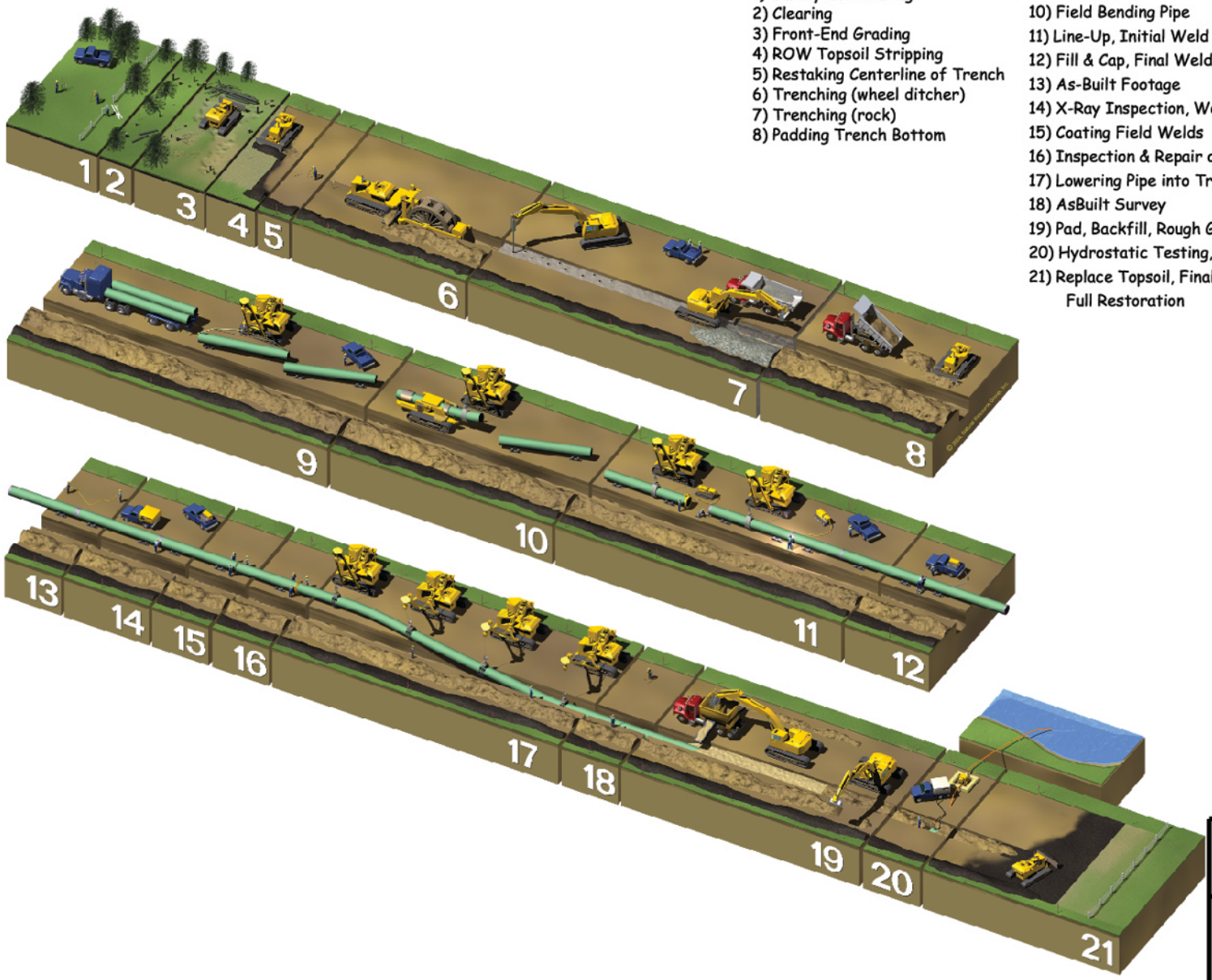
described in this EIS as well as additional site-specific stipulations that are determined to be necessary on federal lands. Any additional site-specific measures included in the POD would not contradict the mitigation measures of this EIS.

It is our intent that the mitigation and other measures contained in the POD not be limited to federal lands alone, but considered the general construction plan applicable to all lands disturbed by the EPP. This approach would enable construction to proceed with a single set of "rules," irrespective of the ownership status (federal versus non-federal) of the land being crossed. Where needed, site-specific measures required by the BLM would apply only to areas administered by a particular FO, or perhaps to all federal lands. On private lands, this plan may be modified slightly to accommodate specific landowner requests/preferences. For example, while Entrega proposes to strip and segregate topsoil from the ditch line only where surface conditions allow, a private landowner may request the topsoil on their property be stripped from a larger portion of the ROW (or even the full ROW). Another example is illustrated by a condition frequently attached to FERC certificates which states (in abbreviated form) that the FERC staff must review and provide written approval for all route realignments *except for* minor field realignments per landowner needs and requirements that do not affect other landowners or sensitive environmental areas (see recommendation 5 in section 5.5).

2.3.1 General Pipeline Construction Procedures

Before starting construction, Entrega would finalize engineering surveys of the ROW centerline and extra workspaces, and complete land or easement acquisition on private and state land. On federal land, Entrega would need to obtain a ROW grant from the BLM. Overland pipeline construction generally proceeds as a moving assembly line as shown in **figure 2.3-1** and as summarized below. Entrega currently plans to construct the pipeline in two segments. Entrega plans to construct the portion of the line located between the Meeker Hub and Wamsutter Compressor Stations (Segment 1) with one main pipeline spread, starting in Wamsutter (MP 135.6) and proceeding southerly for at least 79 miles (to MP 56.6). The remaining 57 miles of Segment 1 is complicated by terrain (slopes, side slopes, wetlands), larger road crossings, more waterbody crossings, pipeline crossings, and changing sides of the corridor, so Enterga plans to use a series of smaller spreads constructed simultaneously for this portion of Segment 1. Because of the location of Entrega's pipeline relative to existing pipelines/utilities in the I-80 utility corridor, Entrega intends to construct Segment 2 with two main pipeline spreads of roughly the same length working in a general easterly direction from MPs 135.6 and 237. Separate crews would be used for construction of the aboveground facilities.

Standard pipeline construction is composed of specific activities including survey and staking of the ROW, clearing and grading, trenching, pipe stringing, bending, welding, lowering-in, backfilling, hydrostatic testing, and cleanup. In addition to standard pipeline construction methods, Entrega would use special construction techniques where warranted by site-specific conditions. These special techniques would be used when constructing across rugged terrain, waterbodies, wetlands, paved roads, highways, and railroads (section 2.3.2).



Entrega Pipeline Project

Figure 2.3-1

Typical Pipeline Construction Sequence

Survey and Staking

The first step of construction would involve marking the limits of the approved work area (i.e., the construction ROW boundaries, additional temporary workspace areas) and flagging the location of approved access roads and foreign utility lines. Wetland boundaries and other environmentally sensitive areas also would be marked or fenced for protection at this time. Before the pipeline trench is excavated, a survey crew would stake the centerline of the proposed trench. Entrega would notify landowners at least 5 days prior to the initiation of staking and surveying on their property.

Clearing and Grading

Before clearing and grading activities were conducted, landowner fences would be braced and cut, and temporary gates and fences would be installed to contain livestock, if present. A clearing crew would follow the fence crew and would clear the work area of vegetation and obstacles (e.g., trees, logs, brush, rocks). Temporary erosion control measures such as silt fences or straw bales would be installed prior to vegetation removal along wetlands and riparian areas. Grading would be conducted where necessary to provide a reasonably level work surface. Where the ground is relatively flat and does not require grading, rootstock would be left in the ground. More extensive grading would be required in steep side-slopes or vertical areas and where necessary to prevent excessive bending of the pipeline. Temporary erosion controls (e.g., silt fencing or straw bales) would be installed prior to vegetation removal adjacent to wetlands and riparian areas.

Trenching

The trench would be excavated to a depth that provides sufficient cover over the pipeline after backfilling. Typically, the trench would be about 6 to 7 feet deep depending on the pipeline diameter and DOT class location. This would allow for the required 30 to 36 inches of cover.[2] The trench would be about 4 to 6 feet wide in stable soils. Additional cover for the pipeline would be provided at road and waterbody crossings, while less cover is required in rock.

When rock or rocky formations were encountered, tractor-mounted mechanical rippers or rock trenchers would be used for fracturing the rock prior to excavation. In areas where mechanical equipment could not break up or loosen the bedrock, blasting would be required (section 2.3.2). Excavated rock would be used to backfill the trench to the top of the existing bedrock profile.

Unless otherwise requested by the landowner, topsoil would generally be separated from subsoil only over the trench itself. Separated topsoil would be stored on the near side of the trench and in a pile separate from subsoil (which would be stored on the far side of the trench) to allow for proper restoration of the soil during the backfilling process (see **figure 2.2-1**). Depending upon conditions encountered in the field during

[2] The DOT requires buried pipelines to be covered by a minimum of 30 inches of soil in all Class 1 locations. The majority of the proposed route crosses land designated as Class 1, defined as having 10 or fewer buildings intended for human occupancy within 220 yards of the pipeline per mile. In more populated areas and beneath public road drainage ditches and railroad crossings, the minimum cover is 36 inches of soil. In consolidated rock, the minimum cover requirement is 18 inches in Class 1 locations and 24 inches in more populated areas and beneath public road drainage ditches and railroad crossings.

construction, topsoil separated from subsoil over the trench may be stored on the far side of the trench as an alternate topsoil location (see **figure 2.2-1**). In areas where the ROW would be graded to provide a level working surface and where there was a need to separate topsoil from subsoil, the ROW would be graded to collect topsoil before any subsoil was disturbed. Topsoil separated from subsoil under conditions where the entire ROW is to be stripped would be stored on the working side of the ROW as shown in **figure 2.2-1**. Again, topsoil would be piled such that the mixing of subsoil and topsoil would not occur. Topsoil will not be stripped from areas where subsoil would be stored to maintain the integrity of the natural soil horizons and preserve rootstock. Gaps would be left between the spoil piles to prevent storm water runoff from backing up or flooding. Topsoil would be returned to its original horizon after subsoil was backfilled in the trench.

In areas where rangeland is used for grazing and livestock could not be temporarily relocated by the landowner, construction activities could potentially hinder the movement of livestock across those allotments. Wildlife accustomed to freely moving through the area in search of food and water could also be hindered by construction activities. To minimize impact on livestock and wildlife movements during construction, Entrega would install soft plugs (areas where the trench is excavated and replaced with minimal compaction) to allow livestock and wildlife to safely cross the open trench. Soft plugs would be constructed with a ramp on each side to enable animals that fell into the trench an avenue of escape. To allow for safe passage, soft plugs would be constructed at 1-mile intervals and where the trench is intersected by known livestock or wildlife trails.

Pipe Stringing, Bending, and Welding

Prior to or following trenching, sections of externally coated pipe up to 80 feet long (also referred to as “joints”) would be transported by truck over public road networks and along authorized private access roads to the ROW and placed or “strung” along the trench in a continuous line.

After the pipe sections were strung along the trench and before joints were welded together, individual sections of the pipe would be bent where necessary to allow for uniform fit of the pipeline with the varying contours of the bottom of the trench. A track-mounted, hydraulic pipe-bending machine would shape the pipe to conform to the contours of the terrain. Where multiple or complex bends were required in a section of pipe, that section of the pipeline would be bent at the factory.

After the pipe sections were bent, the joints would be welded together into long strings and placed on temporary supports. The pipeline joints would be lined up and held in position until securely joined by welding. One hundred percent of the welds would undergo radiographic inspection (X-ray), as outlined in 49 CFR 192. Welds that do not meet established specifications would be repaired or removed. Once the welds were approved, a protective epoxy coating would be applied to the welded joints. The pipeline would then be electronically inspected or “jeeped” for faults or voids in the epoxy coating, and visually inspected for any faults, scratches, or other coating defects. Damage to the coating would be repaired before the pipeline was lowered into the trench.

Gaps every mile in the strung pipe string and a corresponding soft plug would be installed to allow passage to livestock and wildlife. Prior to lowering-in of the pipe into the trench, multiple sections of pipeline may be

welded together above the ditch to create welded lengths of pipe that may be greater than 1 mile in length. These sections of pipeline will be lowered into the ditch no later than 7 days after they are joined.

Lowering-in and Backfilling

Before the pipeline is lowered in, the trench would be inspected to be sure it is free of livestock or wildlife, as well as rocks and other debris that could damage the pipe or protective coating. In areas where water had accumulated, dewatering could be necessary to inspect the bottom of the trench. The pipeline then would be lowered into the trench. On sloped terrain, trench breakers (stacked sand bags or foam) would be installed in the trench at specified intervals to prevent subsurface water movement along the pipeline. The trench would then be backfilled using the excavated material. In rocky areas, the pipeline would be protected with a rock shield (fabric or screen that is wrapped around the pipe to protect the pipe and its coating from damage by rocks, stones, and roots). Alternatively, the trench bottom would be filled with padding material (e.g., finer grain sand, soil, or gravel) to protect the pipeline. No topsoil would be used as padding material.

Hydrostatic Testing

The pipeline would be hydrostatically tested in 14 sections to ensure the system was capable of withstanding the operating pressure for which it was designed (see appendix M, Hydrostatic Test Plan). This process involves isolating the pipe segment with test manifolds, filling the line with water, pressurizing the section to a pressure commensurate with the MAOP and class location, and then maintaining that pressure for a period of 8 hours. The hydrostatic test would be conducted in accordance with Title 49 CFR Part 192. Entrega proposes to obtain water for hydrostatic testing from surface water sources through specific agreements with landowners and in accordance with federal, state, and local regulations. The pipeline would be hydrostatically tested after backfilling and all construction work that would directly affect the pipe has been completed. If leaks are found, they would be repaired and the section of pipe retested until specifications were met. Water used for the testing would then be transferred to another pipe section for subsequent hydrostatic testing or the water would be tested to ensure compliance with the National Pollution Discharge Elimination System (NPDES) discharge permit requirements, treated if necessary, and discharged. Hydrostatic testing is discussed further in sections 3.3.2, 3.5.1, 3.6.1, and 3.6.4.

Final Tie-in

Following successful hydrostatic testing, test manifolds would be removed and the final pipeline tie-ins would be made and inspected.

Commissioning

After final tie-ins are complete and inspected, the pipeline would be cleaned and dried using mechanical tools (pigs) that are moved through the pipeline with pressurized, dry air. The pipeline would be dried to minimize the potential for internal corrosion. Once the pipe has dried sufficiently, pipeline commissioning would commence. Commissioning involves activities to verify that equipment has been properly installed and is working, the controls and communications systems are functional, and that the pipeline is ready for

service. In the final step, the pipeline is prepared for service by purging the line of air and loading the line with natural gas.

Cleanup and Restoration

During cleanup, construction debris on the ROW would be disposed of and work areas would be final graded. Preconstruction contours would be restored as closely as possible. Segregated topsoil would be spread over the surface of the ROW and permanent erosion controls would be installed. After backfilling, final cleanup would begin as soon as weather and site conditions permit. Every reasonable effort would be made to complete final cleanup (including final grading and installation of erosion control devices) within 20 days after backfilling the trench (10 days in residential areas). Construction debris would be cleaned up and taken to a disposal facility.

After permanent erosion control devices are installed and final grading has occurred, all disturbed work areas would be seeded as soon as possible. Seeding is intended to stabilize the soil, revegetate areas disturbed by construction, and, depending upon land use, restore native flora. Timing of the reseeding efforts would depend upon weather and soil conditions and would be subject to the prescribed dates and seed mixes specified by the landowner, land-managing agency, or Natural Resource Conservation Service (NRCS) recommendations.

With landowner approval, Entrega would restrict access along the ROW using gates, boulders, or other barriers to minimize unauthorized access by all-terrain vehicles. Pipeline markers would be installed at fence, road, and railroad crossings and other locations (as required by 49 CFR 192) to show the location of the pipeline. Markers would identify the owner of the pipeline and convey emergency information. Special markers providing information and guidance to aerial patrol pilots also would be installed.

2.3.2 Special Construction Procedures

In addition to standard pipeline construction methods, Entrega would use special construction techniques where warranted by site-specific conditions. These special techniques would be used when constructing across paved roads, highways, railroads, steep terrain, waterbodies, wetlands, and when blasting through rock. These are described below.

Road, Highway, and Railroad Crossings

Entrega has prepared a Traffic and Transportation Management Plan (TTMP) as part of its POD. The TTMP identifies mitigation to reduce potential impacts of project-related road use and construction activity and plans for maintenance or moderate upgrading of existing access roads. Construction across paved roads, highways, and railroads would be in accordance with the requirements of Entrega's road and railroad crossing permits and approvals obtained by Entrega. In general, major paved roads, highways, and railroads would be crossed by boring beneath the road or railroad. Boring requires the excavation of a pit on each side of the feature, the placement of boring equipment in the pit, then boring a hole under the road at least equal to the diameter of the pipe. Once the hole was bored, a prefabricated pipe section would be pushed through the borehole. For long crossings, sections could be welded onto the pipe string just before

being pushed through the borehole. Boring would result in minimal or no disruption to traffic at road, highway, or railroad crossings. Each boring would be expected to take 2 to 10 days.

Most smaller, unpaved roads and driveways would be crossed using the open-cut method where permitted by local authorities or private owners. The open-cut method would require temporary closure of the road to traffic and establishment of detours. If no reasonable detour is feasible, at least one lane of traffic would be kept open, except during brief periods when it is essential to close the road to install the pipeline. Most open-cut road crossings would be completed and the road resurfaced in 1 or 2 days. Entrega would take measures, such as posting signs at open-cut road crossings, to ensure safety and minimize traffic disruptions.

Steep Terrain

Additional grading may be required in areas where the proposed pipeline route would cross steep slopes. Steep slopes often need to be graded down to a gentler slope to accommodate pipe-bending limitations. In such areas, the slopes would be cut away, and after the pipeline is installed, reconstructed to their original contours during restoration.

In areas where the proposed pipeline route crosses laterally along the side of a slope, cut and fill grading may be required to obtain a safe, flat work terrace. Topsoil would be stripped from the entire ROW and stockpiled prior to cut and fill grading on steep terrain. Generally, on steep side-slopes, soil from the high side of the ROW would be excavated and moved to the low side of the ROW to create a safe and level work terrace. After the pipeline is installed, the soil from the low side of the ROW would be returned to the high side, and the slope's original contours would be restored. Topsoil from the stockpile would be spread over the surface, erosion control features installed, and seeding implemented.

In steep terrain, temporary sediment barriers such as silt fence and certified weed-free straw bales would be installed during clearing to prevent the movement of disturbed soil off the ROW. Temporary slope breakers consisting of mounded and compacted soil would be installed across the ROW during grading, and permanent slope breakers would be installed during cleanup. Following construction, seed would be applied to steep slopes, and the ROW would be mulched with certified weed-free hay or non-brittle straw or covered with erosion control fabric. Entrega would use mulching materials approved by the BLM on the portion of the route that is under its jurisdiction. Sediment barriers would be maintained across the ROW until permanent vegetation is established.

Waterbody Crossings

A total of 43 perennial waterbodies would be crossed by the proposed EPP. Some of these waterbodies would be crossed multiple times. Perennial waterbodies would be crossed using one of four techniques: the open-cut method (Entrega's preferred method), horizontal directional drill (HDD) method, flume method, or dam-and-pump method as described below.

If a waterbody was flowing at the time of construction, Entrega's preferred crossing method would be to use an open-cut. The open-cut method involves trenching through the waterbody while water continues to flow

through the construction work area. Pipe segments for the crossing would be fabricated adjacent to the waterbody. Backhoes generally operating from one or both banks would excavate the trench within the streambed. In wider rivers, in-stream operation of equipment may be necessary. Trench plugs (stacked, compacted sand bags) would be placed to prevent the flow of water into the upland portions of the trench. Trench spoil excavated from the streambed would be generally placed at least 10 feet away from the water's edge. Sediment barriers would be installed where necessary to control sediment and to prevent excavated spoil from entering the water. After the trench is dug, the prefabricated pipeline segment would be carried, pushed, or pulled across the waterbody and positioned in the trench. The trench would then be backfilled with native material or with imported material if required by applicable permits. Following backfilling, the banks would be restored and stabilized.

At the White and Yampa Rivers in northwestern Colorado, Entrega would avoid conflicts with endangered fish by using the HDD method of construction to cross the rivers. The HDD method involves drilling a pilot hole under the waterbody and banks, then enlarging the hole through successive reamings until the hole is large enough to accommodate a prefabricated segment of pipe. Throughout the process of drilling and enlarging the hole, a slurry made of non-toxic fluids, such as naturally occurring bentonite and water, would be circulated through the drilling tools to lubricate the drill bit, remove drill cuttings, and hold the hole open. This slurry is referred to as drilling mud. Pipe sections long enough to span the entire crossing would be staged and welded along the construction work area on the opposite side of the waterbody and then pulled through the drilled hole. Ideally, use of the HDD method results in no impact on the banks, bed, or water quality of the waterbody being crossed. **Figure 2.3-2** shows a conceptual HDD waterbody crossing.

While the flume and dam-and-pump methods also could be considered as alternative crossing methods, Entrega has not proposed to use either. The flume crossing method involves diverting the flow of water across the trenching area through one or more flume pipes placed in the waterbody. The dam-and-pump method is similar to the flume method except that pumps and hoses would be used instead of flumes to move water around the construction work area. In both methods, trenching, pipe installation, and backfilling are done with the streambed in a relatively dry condition while water flow is maintained for all but a short reach of the waterbody at the actual crossing. Once backfilling is completed, the flume or pump hoses are removed and the streambanks restored and stabilized.

The project also would cross approximately 306 intermittent waterbodies. If these intermittent waterbodies are dry at the time of crossing, Entrega proposes to use conventional upland cross-country construction techniques. If an intermittent waterbody is flowing when crossed, Entrega would install the pipeline using one of the waterbody crossing methods discussed above. When crossing waterbodies, Entrega would adhere to the guidelines outlined in Entrega's Plan and Procedures (appendices E and F) and the requirements of its waterbody crossing permits. For major waterbodies (greater than 100 feet wide), Entrega has prepared site-specific crossing plans (appendix J).

Additional temporary workspace areas would be required on both sides of all waterbodies to stage construction, fabricate the pipeline, and store materials. These workspaces would be located at least 50 feet away from the water's edge, except where the adjacent upland consists of actively cultivated or rotated cropland or other disturbed land. Before construction, temporary bridges (e.g., clean rock fill over culverts, timber mats supported by flumes, railcar flatbeds, flexi-float apparatus) would be installed across all

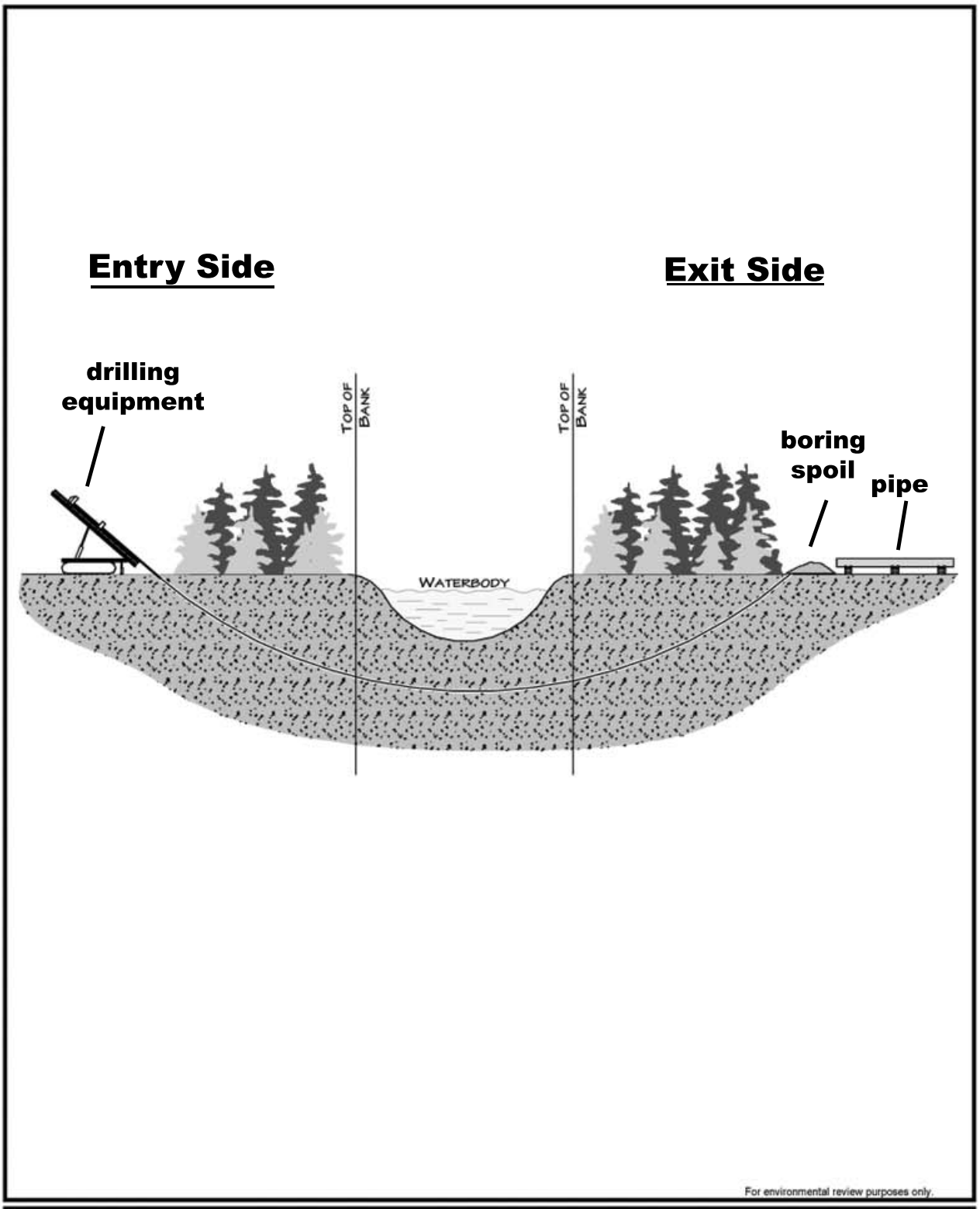


Figure 2.3-2
Entrega Pipeline Project
Conceptual Horizontal Directionally Drilled Waterbody Crossing

perennial waterbodies to allow construction equipment to cross. Construction equipment would be required to use the bridges, except the clearing crew who would be allowed one pass through the waterbodies before the bridges were installed.

Clearing adjacent to waterbodies would involve the removal of vegetation from the construction ROW and additional temporary workspace areas. If no herbaceous strip exists, sediment barriers would be installed at the top of the streambank. Initial grading of the herbaceous strip would be limited to the extent needed to create a safe approach to the waterbody and to install bridges. To minimize impacts on riparian woodlands, Entrega has prepared a Riparian Woodland Plan (appendix K). In riparian woodlands, Entrega would reduce the construction ROW to 75 feet in width. The plan identifies measures to relocate temporary workspace areas away from riparian woodlands, avoid the removal of trees located within the construction area to the maximum extent possible, and revegetate riparian areas with a diversity of species and at densities that will encourage revegetation to preconstruction conditions.

During clearing, sediment barriers would be installed and maintained across the ROW adjacent to waterbodies and within additional temporary workspace areas to minimize the potential for sediment runoff. Silt fence and/or certified weed-free straw bales located across the working side of the ROW would be removed during the day when vehicle traffic is present and would be replaced each night. Alternatively, drivable berms could be installed and maintained across the ROW in lieu of silt fence and/or straw bales.

In general, equipment refueling and lubricating at waterbodies would take place in upland areas that are 100 feet or more from the edges of the water. When circumstances dictate that equipment refueling and lubricating would be necessary in or near waterbodies, Entrega would follow its SPCC Plan to address the handling of fuel and other hazardous materials.

After the pipeline is installed beneath the waterbody using one of the methods described above, restoration would begin. Waterbody banks would be restored to preconstruction contours or to a stable angle of repose. Rock riprap or gabion baskets (rock enclosed in wire bins) would be installed as necessary on steep waterbody banks in accordance with permit requirements. More stable banks would be seeded with native grasses and mulched or covered with erosion control fabric. Waterbody banks would be temporarily stabilized within 24 hours of completing in-stream construction. Sediment barriers, such as silt fence and/or certified weed-free straw bales or drivable berms would be maintained across the ROW at all waterbody approaches until permanent vegetation was established. Temporary equipment bridges would be removed following construction.

Wetland Crossings

Based on wetland delineation (WEST 2005) map data, the proposed pipeline route would cross 189 wetlands, 56 in Colorado and 133 in Wyoming. Pipeline construction across wetlands would be similar to typical conventional upland cross-country construction procedures, with several modifications and limitations to reduce the potential for pipeline construction to affect wetland hydrology and soil structure. To minimize impacts to the environment, Entrega would cross wetlands using the procedures outlined in Entrega's Procedures (appendix F).

Entrega would use a 75-foot-wide construction ROW through wetlands. Additional temporary workspace areas would be required on both sides of wetlands to stage construction, fabricate the pipeline, and store materials. These additional temporary workspace areas would be located in upland areas a minimum of 50 feet from the wetland edge.

Construction equipment working in wetlands would be limited to that essential for ROW clearing, excavating the trench, fabricating and installing the pipeline, backfilling the trench, and restoring the ROW. In areas where there is no reasonable access to the ROW except through wetlands, non-essential equipment would be allowed to travel through wetlands only if the ground was firm enough or had been stabilized to avoid rutting. Otherwise, non-essential equipment would be allowed to travel through wetlands only once.

Clearing of vegetation in wetlands would be limited to trees and shrubs, which would be cut flush with the surface of the ground and removed from the wetland. To avoid excessive disruption of wetland soils and the native seed and rootstock within the wetland soils, stump removal, grading, topsoil segregation, and excavation would be limited to the area immediately over the trenchline. A limited amount of stump removal and grading could be conducted in other areas if dictated by safety-related concerns. Topsoil segregation over the trenchline would only occur if the wetland soils were not saturated at the time of construction.

During clearing, sediment barriers, such as silt fence and certified weed-free staked straw bales, would be installed and maintained adjacent to wetlands and within additional temporary workspace areas as necessary to minimize the potential for sediment runoff. Sediment barriers would be installed across the full width of the construction ROW at the base of slopes adjacent to wetland boundaries. Silt fence and/or certified weed-free straw bales installed across the working side of the ROW would be removed during the day when vehicle traffic was present and would be replaced each night. Alternatively, drivable berms could be installed and maintained across the ROW in lieu of silt fence or certified weed-free straw bales. Sediment barriers also would be installed within wetlands along the edge of the ROW, where necessary, to minimize the potential for sediment to run off the construction ROW and into wetland areas outside the work area.

The method of pipeline construction used in wetlands would depend largely on the stability of the soils at the time of construction. If wetland soils are not excessively saturated at the time of construction and can support construction equipment on equipment mats, timber riprap, or straw mats, construction would occur in a manner similar to conventional upland cross-country construction techniques. In unsaturated wetlands, topsoil from the trenchline would be stripped and stored separately from subsoil. Topsoil segregation generally would not be possible in saturated soils.

Where wetland soils were saturated and/or inundated, the pipeline could be installed using the push-pull technique. The push-pull technique would involve stringing and welding the pipeline outside of the wetland and excavating and backfilling the trench using a backhoe supported by equipment mats or timber riprap. The prefabricated pipeline would be installed in the wetland by equipping it with buoys and pushing or pulling it across the water-filled trench. After the pipeline is floated into place, the floats would be removed and the pipeline would sink into place. Most pipe installed in saturated wetlands would be coated with concrete or equipped with set-on weights to provide negative buoyancy.

Because little or no grading would occur in wetlands, restoration of contours would be accomplished during backfilling. Prior to backfilling, trench breakers would be installed where necessary to prevent the subsurface drainage of water from wetlands. Where topsoil has been segregated from subsoil, the subsoil would be backfilled first, followed by the topsoil. Topsoil would be replaced to the original ground level leaving no crown over the trenchline. In some areas where wetlands overlie rocky soils, the pipe would be padded with rock-free soil or sand before backfilling with native bedrock and soil. Equipment mats, timber riprap, gravel fill, geotextile fabric, and/or certified weed-free straw mats would be removed from wetlands following backfilling.

Where wetlands are located at the base of slopes, permanent slope breakers would be constructed across the ROW in upland areas adjacent to the wetland boundary. Temporary sediment barriers would be installed where necessary until revegetation of adjacent upland areas was successful. Once revegetation is successful, sediment barriers would be removed from the ROW and disposed of properly.

In wetlands where no standing water is present, the construction ROW would be seeded in accordance with the recommendations of the local soil conservation authorities or land management agency. Lime, mulch, and fertilizer would not be used in wetlands.

Blasting

Entrega has stated that limited blasting might be required in areas where competent shallow bedrock or boulders were encountered that could not be removed by conventional excavation methods. If blasting were required to clear the ROW and to fracture the ditch, strict safety precautions would be followed. Entrega would exercise extreme care to avoid damage to underground structures, cables, conduits, pipelines, and underground watercourses or springs. To protect property or livestock, Entrega would provide adequate notice to adjacent landowners or tenants in advance of blasting. To protect nesting birds from potential impacts from blasting during the breeding season, Entrega would consult with the FWS to develop mitigation measures to avoid or mitigate impacts. Blasting activity would be performed during daylight hours and in compliance with federal, state, and local codes and ordinances and manufacturers' prescribed safety procedures and industry practices.

Residential Construction

Entrega identified only one residence located within 50 feet of the proposed construction ROW. This residence is located at MP 304.7 and is currently vacant. Entrega intends to acquire and have the structure removed prior to construction, thereby avoiding construction constraints at this location.

Fences and Grazing

Fences would be crossed or paralleled by the construction ROW. Entrega would contact grazing lessees prior to crossing any fence on public lands or any fence between public and private land, and would offer the lessee the opportunity to be present when the fence is cut so that the lessees can be satisfied that the fence is adequately braced and secured. The grazing permitees would be contacted prior to the start of construction and reclamation on their allotments. Before cutting the wires for pipeline construction, each

fence crossed by the ROW would be braced and secured to prevent the slacking of the wire. To prevent the passage of livestock, the opening in the fenceline would be temporarily closed when construction crews left the area. If gaps in natural barriers used for livestock control were created by the pipeline construction, the gaps would be fenced according to the landowners or land management agency requirements. Whenever possible, a minimum of 10 feet of undisturbed area will be maintained where the pipeline parallels a fenceline.

All existing improvements, such as fences, gates, irrigation ditches, cattle guards, and reservoirs would be maintained during construction and repaired to pre-construction conditions or better. If pipelines transporting water for livestock and wildlife were damaged by construction activities, Entrega would repair the pipelines to the landowner or land management agency specifications. If needed, Entrega has committed to providing an emergency source of potable water.

2.3.3 Aboveground Facility Construction Procedures

Construction activities at each of the three compressor stations would follow a standard sequence of activities: clearing and grading, installing foundations for the compressor and control buildings, and erecting the structures to house the compressors and associated facilities. A mainline valve would be required at each station. In addition, a pipeline pig launcher and/or pig receiver facility would be installed at each of the compressor stations. Construction activities and the storage of building materials would be confined to the compressor station construction sites. **Figures 2.3-3** through **2.3-7** illustrate the locations of the proposed compressor, pigging, and metering stations in relation to surrounding topography and land uses.

The sites for the compressor stations would be cleared of vegetation and graded as necessary to create a level surface for the movement of construction vehicles and to prepare the area for the building foundations. Foundations would be constructed for the buildings, and soil would be stripped from the area of the building foundations.

Each compressor station would include two buildings: one utility building and one compressor building. The utility building would include control equipment to filter, measure, and regulate fuel gas. The compressor building at each station would house the compressors. The compressor building would be acoustically treated to attenuate sound. The natural gas piping, both above and below ground, would be installed and pressure-tested using methods similar to those used for the main pipeline. After testing is successfully completed, the piping would be tied in to the main pipeline. Piping installed below grade would be coated for corrosion protection prior to backfilling. In addition, all below grade facilities would be protected by a cathodic protection system. Before being put into service, compressors, controls, and safety devices would be checked and tested to ensure proper system operation and activation of safety mechanisms.

Each compressor station would require electricity and telephone facilities, which would be obtained from local services (except for Bighole, which would generate its own power). **Table 2.3-1** summarizes electrical power and distribution lines requirements.

After the completion of startup and testing, the compressor station sites would be graded and landscaped. A permanent security fence would be installed around each compressor station site. Because each of the

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Table 2.3-1
Summary of Electrical Power Supply Requirements for Compressor and Meter Stations

Station	Utility	Phase 1 Service Description	Phase 2 Service Description
Meeker Hub Compressor Station	White River Electric Association	One span with 300 yards of 3-phase 25-kV line and single-phase transformation	Single-phase transformer would be replaced by three-phase transformer
Bighole Compressor Station	Not applicable	No work required in Phase 1	Entrega would install power generation at facility since nearest powerline is 18 miles away
Wamsutter Compressor Station	Pacific Power-Rawlins District	1 mile of 3-phase 34.5-kV line and single-phase transformation	Single-phase transformer would be replaced by three-phase transformer
Cheyenne Hub Metering Station	Poudre Valley Electric Association	0.25 mile of single-phase 7.2-kV line and single-phase transformation	No work required in Phase 2

compressor station sites would be located in remote, undeveloped areas and/or adjacent to existing commercial/industrial facilities, the station buildings would be designed to be consistent as possible with the character of the surrounding land uses. Landscaping for the compressor station sites would be implemented in the spring or summer of 2007 after completion of construction activities.

Where metering facilities and pig launchers and/or receivers are collocated with compressor stations, the metering and pigging facilities would be located entirely within the compressor station sites. Construction activities would include clearing, grading, trenching, installing piping, erecting buildings, fencing the facilities, cleanup, and restoration. The four meter stations at the Cheyenne Hub Metering Station would operate on locally provided power (**table 2.3-1**).

Mainline valve construction would be concurrent with the construction of the pipeline with valves installed at spacings as required by the DOT (49 CFR 192). Where practical, mainline valves would be typically located near public roads to allow year-round access. Permanent access roads or approaches would be constructed within the permanent ROW to each mainline valve site.

The construction of pig launchers and receivers would be concurrent with the construction of the metering stations and mainline valves. Activities such as clearing, grading, trenching, and clean-up and restoration would occur simultaneously with construction activities associated with the pipeline and compressor stations.

2.3.4 Corrosion Protection and Detection Systems

An external coating would be applied to the pipeline and all buried facilities to protect against corrosion. Cathodic protection would be provided by an impressed current. Entrega would utilize an internal coating on

the pipeline to reduce the effect of the pipe roughness on the flow of gas. This internal coating would improve transportation efficiency, reduce potential for internal pipe corrosion prior to installation, and reduce the amount of iron oxide introduced into the hydrostatic test water.

2.4 Construction Workforce and Schedule

Entrega proposes to begin construction in late summer 2005. The proposed construction period for Segment 1 of Phase 1 (the 36-inch-diameter pipeline, mainline valves, and associated pigging and metering facilities between the Meeker Hub and Wamsutter) would last 6 months. Entrega proposes to complete Segment 1 construction and begin service by January 1, 2006. Segment 2 of Phase 1 (the 42-inch-diameter pipeline, mainline valves, and associated pigging and metering facilities between Wamsutter and the Cheyenne Hub) would be constructed in 2006. Entrega would construct the three compressor stations (Phase 2) beginning in September 2006. Entrega intends to have Phase 2 in-service by April 2007.

Entrega anticipates a peak workforce of approximately 1,000 to 1,100 construction personnel during the summer and fall of 2005 while the Meeker Hub-to-Wamsutter pipeline Segment 1 facilities are constructed. In 2006, the workforce will peak from about 1,300 to 1,600 workers during construction of the Wamsutter-to-Cheyenne Hub pipeline Segment 2 facilities and during construction of the compressor stations during Phase 2.

Construction personnel would consist of Entrega employees, contractor employees, construction inspection staff, and environmental inspection staff. Entrega is planning to build the pipeline using four spreads. Construction activity for Segment 1 would occur simultaneously by Spreads 1 and 2 in 2005. Segment 2 construction would occur simultaneously by Spreads 3 and 4 in 2006. Entrega anticipates between 425 and 550 construction and inspection personnel associated with each spread. In addition, seven metering stations will be built, one at the Meeker Hub, two near Wamsutter and four at the Cheyenne Hub. Construction of the metering stations would require 50 to 75 workers for a relatively short period. Entrega anticipates about 100 individuals across the project to be involved in material transportation and unloading. Construction of each compressor station during Phase 2 would require approximately 125 to 175 additional workers.

During construction, personnel would work during daylight hours, 6 to 7 days per week depending on schedule constraints. **Table 2.4-1** outlines Entrega's proposed construction schedule and workforce requirements by spread for the proposed project.

Entrega, through its construction contractors and subcontractors, would attempt to hire temporary construction staff from the local population. At peak workforce, Entrega anticipates that up to about 20 percent of the total construction workforce could be hired locally (currently residing in Colorado or Wyoming). The remaining portion of the workforce (80 percent or more) would include non-local personnel. Based on the specialized nature of the position, environmental inspection staff would most likely consist entirely of non-local employees.

Table 2.4-1
Pipeline Construction Workforce and Proposed Schedule

Phase/Spread	Associated Aboveground Facilities	Begin MP	End MP	Estimated Workforce	Proposed Schedule	County and State
Phase 1						
1	Meeker Hub metering facilities	-0.5	51.0	475 to 550	July to December 31, 2005	Rio Blanco and Moffat, Colorado
2	Wamsutter metering facilities	51.0	136.0	425 to 475	July to December 31, 2005	Moffat, Colorado; Sweetwater, Wyoming
3	N/A	135.5	231.0	475 to 550	June to December 15, 2006	Sweetwater and Carbon, Wyoming
4	Arlington Pigging Station; Cheyenne Hub Metering Station	231.0	327.0	475 to 550	June to December 15, 2006	Carbon, Albany, and Laramie, Wyoming; Larimer and Weld, Colorado
Phase 2						
	Compressor Stations (Meeker Hub, Bighole, and Wamsutter)	0.0, 76.3, and 135.5		300 to 400	September 2006 to April 2007	Rio Blanco and Moffat, Colorado; Sweetwater, Wyoming

Only work vehicles would be allowed on the construction ROW or additional temporary workspace areas during construction. Equipment operators would drive a company-owned or personal pick-up truck to the construction site. Parking would be limited to the construction ROW, additional temporary workspace areas, or along existing authorized access roads. Adjacent ROWs would not be used for parking. Construction workers would not be permitted to travel cross-country on public lands during construction of the project.

2.5 Environmental Inspection, Compliance Monitoring, and Post-Approval Variances

2.5.1 Environmental Inspection

Under the NGA, the FERC may impose conditions on any Certificate it grants for the EPP. These conditions could include additional requirements and mitigation measures recommended in this EIS to minimize the environmental impact that would result from the construction and operation of the project (see chapters 4.0 and 5.0). We will recommend that these additional requirements and mitigation measures (bold type in the text) be included as specific conditions to any approving Certificate issued for the EPP. We will also recommend that Entrega be required to implement the mitigation measures that it has proposed as part of the project unless specifically modified by other Certificate conditions (see recommendation 1 in section 5.5).

In accordance with the MLA, the BLM would require Entrega to furnish a bond, or other security, to ensure that Entrega would comply with the terms and conditions of the BLM's ROW grant. While there would be some jurisdictional differences between the FERC's and the BLM's requirements, the environmental inspection and compliance monitoring programs for the EPP would address requirements placed on the project by the federal and other agencies.

Entrega proposes to assign at least two environmental inspectors (EIs) to each construction spread. The EIs would likely be hired from a qualified third-party contractor. The responsibilities of the EIs are outlined in section II of Entrega's Plan (see appendix E) and would include ensuring that the Certificate and environmental conditions attached to other permits and authorizations are met. During the construction phase, Entrega's EIs would inspect all construction and mitigation activities to ensure compliance with the requirements of environmental plans, permits, and conditions. EIs may also oversee cultural resource monitors and/or biological monitors that may be required to monitor and evaluate construction impacts on resources as specified in this EIS.

The lengths of Entrega's construction spreads range from 90.5 to 100 miles on Segment 2 to 57 to 79 miles on Segment 1 (although the 57-mile-long interval on Segment 1 would actually be a series of smaller spreads focusing on difficult terrain, river crossings, etc., and constructing simultaneously). We believe that more than two EIs would be necessary to adequately inspect all construction and mitigation activities and perform the other duties outlined above. Therefore, **we recommend that Entrega employ a team of EIs (i.e., 3 or more) on each construction spread. The EIs shall be:**

- **responsible for monitoring and ensuring compliance with all mitigation measures required by this Order and other grants, permits, certificates, or other authorizing documents;**
- **responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract and any other authorizing document;**
- **empowered to order correction of acts that violate the environmental conditions of this Order, and any other authorizing document;**
- **a full-time position, separate from all other activity inspectors;**
- **responsible for documenting compliance with the environmental conditions of this Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and**
- **responsible for maintaining status reports.**

Entrega has committed to hiring EIs who are sufficiently qualified to evaluate construction impacts on fish and wildlife resources when biological monitors are not present. These qualifications would include knowledge of the ecology of the particular species that may be observed within the project area.

Inspectors from the FERC and BLM also would conduct field inspections during construction. Other federal and state agencies may also conduct oversight of inspection to the extent determined necessary by the individual agency.

After construction is completed, the FERC and BLM would continue to conduct oversight inspection and monitoring. If it is determined that any of the proposed monitoring timeframes are not adequate to assess

the success of restoration, Entrega would be required to extend its post-construction monitoring programs. The BLM would retain Entrega's bond or other security until the BLM is satisfied with Entrega's reclamation efforts.

2.5.2 Compliance Monitoring

The BLM has indicated that it intends to require a separate compliance monitoring program to evaluate Entrega's environmental inspection program during construction and insure compliance with the terms and conditions of the BLM ROW grant. We believe that a joint third-party independent Environmental Compliance Monitoring and Reporting Program (ECMR Program) would provide a number of benefits, both to the agencies themselves and to Entrega, as well. The overall objective of an ECMR Program would be twofold: to assess environmental compliance during construction in order to achieve a high level of environmental compliance throughout the project, and to assist the FERC and BLM staffs in screening and processing variance requests during construction.

The joint ECMR Program would involve the use of full-time third-party compliance monitors representing both agencies at each construction spread to monitor compliance with project mitigation measures and requirements throughout construction. These monitors would provide continuous feedback on compliance issues to both agencies, as well as to Entrega's personnel, and track and document progress of construction by the preparation and submittal of reports to the FERC and BLM staffs on a regular and timely basis.

2.5.3 Post-Approval Variance Process

Surface disturbance locations and acreages identified in this EIS are anticipated to be sufficient for the construction and operation (including maintenance) of the project and all ancillary improvements. However, route realignments and other project refinements often continue past the project review phase and into the construction phase. As a result, work area locations and disturbed acreages documented in the EIS often change after project approval. These changes frequently involve minor route realignments or moving approved temporary workspace, adding new temporary workspace, and adding access routes to work areas and associated temporary use areas. This section describes the procedure used for assessing impact on workspace areas outside those evaluated in this EIS and for approving their use.

Subsequent to project approval, when work areas outside those evaluated in this EIS are found to be needed, additional inventory and evaluation would be performed to ensure that impact on biological, cultural, and other resources would be avoided or minimized to the maximum extent practicable. New workspace location and survey results would be documented and forwarded to the FERC (and the BLM, as applicable) in the form of a "variance request;" one of the two federal agencies would take the lead on reviewing the request, depending on the ownership status of the subject land.[3] Appropriate agency consultations/approvals would be conducted/obtained prior to approval of the variance. At the conclusion of the project, as-built drawings would be provided to the FERC and BLM.

[3] Recommendation 5 in section 5.5 illustrates our approach to considering variance requests subsequent to project authorization.

2.6 Operation and Maintenance

Entrega would operate and maintain the project facilities in accordance with the DOT regulations in 49 CFR 192 and other applicable federal and state regulations. Operation and maintenance of the pipeline system would, in most cases, be accomplished by Entrega personnel. Entrega estimates that operation of the pipeline would require 8 to 10 additional employees. Operation of the pipeline would require access along the pipeline ROW by Entrega personnel. While Entrega would make an effort to notify landowners prior to entering private property, landowner notification is not required for entry along the ROW, particularly in emergency situations.

2.6.1 ROW Monitoring and Maintenance

In order to maintain accessibility of the ROW and to accommodate pipeline integrity surveys, vegetation along the pipeline ROW would be periodically cleared over the pipeline. In most areas, the ROW would be maintained in an herbaceous state. Large trees would be removed from the permanent ROW. Entrega would use only mechanical mowing or cutting along its ROW for normal vegetation maintenance.

Noxious weeds and invasive plant monitoring and control activities would occur during routine ROW monitoring and maintenance activities. Noxious weeds discovered within the ROW would be controlled according to the measures specified in the Weed Management Plan (see appendix H).

In the future, pipeline integrity surveys and vegetation maintenance could identify areas on the ROW where permanent erosion control devices need to be repaired or additional erosion control devices may be needed. If problem areas were evident, erosion control devices would be repaired or installed as necessary and the ROW would be stabilized to prevent future degradation.

In the vicinity of waterbodies, wetlands, and upland areas, Entrega would adhere to the operation and maintenance procedures described in Entrega's Plan and Procedures (appendices E and F). Entrega also has committed to adhere to the maintenance commitments made in its POD and appendices for the BLM. Operation and maintenance procedures, including record keeping, would be performed in accordance with the DOT requirements.

2.6.2 Pipeline Integrity

Entrega's pipeline facilities would be operated and maintained in accordance with the federal safety standards (49 CFR 192). Operation and maintenance of the EPP facilities would be performed by or at the direction of Entrega. The pipeline would be inspected periodically from the air and on foot as operating conditions permit, but no less frequently than as required by 49 CFR 192. These surveillance activities would provide information on possible encroachments and nearby construction activities, erosion, exposed pipe, and other potential concerns that may affect the safety and operation of the pipeline. Evidence of population changes would be monitored and class locations changed as necessary. Mainline valves also would be inspected annually and the results documented.

2.7 Future Plans and Abandonment

Entrega notes that the EPP would be capable of transporting up to 2.0 Bcfd between Wamsutter and the Cheyenne Hub Metering Station by installing about 11,000 horsepower of additional compression at the Wamsutter Compressor Station and about 14,000 horsepower at a new Arlington Compressor Station (adjacent to the site of the proposed Arlington Pigging Station). Even greater volumes could be transported between Meeker and the Cheyenne Hub Metering Station by installing more horsepower at proposed compressor station sites and at new station sites along the system. However, Entrega has no plans to expand the system or increase its capacity at the present time. If, in Entrega's judgment, future market demands warrant expansion of the EPP, Entrega would file an appropriate application with the FERC at that time.

Properly maintained, the proposed pipeline is expected to operate for 50 or more years. If and when Entrega abandons any of the proposed facilities, the abandonment would be subject to separate approvals by the FERC, the BLM, and other land managing agencies. The FERC review would be conducted under section 7(b) of the NGA. On federal lands, the BLM would require Entrega to submit an abandonment plan at least 90 days prior to anticipated abandonment. Entrega has no plans for abandonment of the pipeline system.

The FERC typically allows a buried pipeline that has reached the end of its service life to be internally cleaned, purged of natural gas, isolated from interconnections with other pipelines, and sealed without removing the pipe from underground. We believe that this approach generally minimizes surface disturbance and other potential environmental impact. The aboveground pipeline at compressor and meter stations would be completely removed, including all related aboveground equipment and foundations, and the station sites restored to as near original condition as possible. The disposition of pipeline facilities on federal lands would depend on decisions made in the abandonment plan discussed above.

Upon abandonment of the pipeline, in part or in whole, the ROWs associated with the abandoned facilities would normally be returned to the landowners/land management agencies according to the specific easement agreements between the landowners/land managing agencies. However, on federal lands, the pipeline ROW could be used for other utility ROW (e.g., fiber optic lines) depending upon future decisions made by the BLM.

2.8 Permits, Approvals, and Regulatory Requirements

As federal agencies, the FERC, BLM, and FWS are required to comply with a number of regulatory statutes, including, but not limited to, the NEPA, the ESA, and the National Historic Preservation Act of 1966 (NHPA). In addition, the BLM will review the proposed project and facilities and make a determination whether or not the project would conform with its own statutory requirements and regulatory frameworks. Because the BLM administers federally owned lands, it has additional permitting requirements under other rules and regulations, such as the Federal Land Policy and Management Act, Archaeological Resources Protection Act (ARPA), and/or Native American Graves Protection and Repatriation Act.

Federal, state, or local agencies that have permit, approval, or consultation authority for portions of the proposed project are identified in **table 2.8-1**. The Commission states in its orders that applicants should cooperate with state and local agencies. However, any state or local permits issued with respect to jurisdictional facilities must be consistent with the conditions of any Certificate the Commission may issue. Although the Commission encourages cooperation between interstate pipelines and local authorities, this does not mean that state and local agencies, through application of state and local laws, may prohibit or unreasonably delay the construction or operation of facilities approved by the Commission.

Section 7 of the ESA, as amended, states that any project authorized, funded, or conducted by any federal agencies (e.g., the Commission) should not "…jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined…to be critical…" [16 USC § 1536(a)(2)(1988)]. The Commission, or the applicant as a non-federal party, is required to consult with the FWS to determine whether any federally listed or proposed endangered or threatened species or their designated critical habitat occur in the vicinity of the proposed project. If, upon review of existing data, the Commission determines that these species or habitats may be affected by the proposed project, the Commission is required to prepare a Biological Assessment (BA) to identify the nature and extent of adverse impact, and to recommend mitigation measures that would avoid the habitat and/or species or that would reduce potential impact to acceptable levels. If, however, the Commission determines that no federally listed or proposed endangered or threatened species or their designated critical habitat would be affected by the proposed project, no further action is necessary. We are requesting that the FWS consider this EIS as our BA for the proposed project. See section 3.6 of this EIS for the status of this review.

The BLM would prepare a ROD to authorize an additional pipeline within new or existing corridors through BLM-administered lands in Colorado and Wyoming. As discussed above, the BLM would adopt this EIS per 40 CFR 1506.3 to meet its responsibilities under NEPA in considering Entrega's application for a ROW grant. Under Section 185(f) of the MLA, the BLM has the authority to issue the ROW grant for all affected federal lands.

Section 106 of the NHPA, as amended, requires the FERC to take into account the effects of its undertakings on historic properties and to afford the ACHP an opportunity to comment. Historic properties are prehistoric or historic districts, sites, buildings, structures, objects, or properties of traditional religious or cultural importance, which are listed or eligible for listing on the National Register of Historic Places (NRHP). The Commission is using the services of Entrega, as an applicant, to prepare information, analyses, and recommendations necessary to comply with Section 106, according to the ACHP's regulations at 36 CFR 800.

Entrega must comply with Sections 401, 402, and 404 of the CWA. Water quality certification (Section 401) has been delegated to the jurisdiction of individual state agencies, with review by the U.S. Environmental Protection Agency (EPA). Water used for hydrostatic testing that is point-source discharged into waterbodies would require a NPDES permit issued by the state with EPA oversight.

The COE has responsibility for determining compliance with all regulatory requirements associated with Section 401 of the CWA. Entrega intends to submit its Section 404 permit applications to the appropriate COE District offices in 2005.

Ambient air quality is protected by federal regulations under the Clean Air Act (CAA). These regulations include compliance under the New Source Performance Standards (NSPS) and the requirements for the Prevention of Significant Deterioration (PSD). The federal permitting process for the CAA has been delegated to individual state agencies. Although applications are reviewed by both states and the EPA, the states would determine the need for NSPS or a PSD permit.

Table 2.8-1
Major Permits, Approvals, and Consultations for the Entrega Pipeline Project

Agency	Permit or Consultation/Authority	Agency Action
FEDERAL		
Advisory Council on Historic Preservation (ACHP)	Section 106, National Historic Preservation Act (NHPA)	Provide comments on the proposed undertaking, as necessary.
Federal Energy Regulatory Commission (FERC)	Certificate of Public Convenience and Necessity (Natural Gas Act)	Determine whether the construction and operation of the proposed project is in the public interest. Consider issuance of a certificate.
U.S. Department of Commerce		
National Oceanic and Atmospheric Administration	National Ocean Service's National Geodetic Survey	Consider approval of relocations of geodetic control monuments disturbed by the project.
U.S. Department of Defense		
Corps of Engineers (COE) - Sacramento and Omaha Districts	Section 404, CWA Individual Permit (Stream and Wetland Crossings)	Consider issuance of Section 404 individual permits for the placement of dredge or fill material in waters of the U.S., including wetlands.
	Section 404, Clean Water Act (CWA) Nationwide Permit	Consider issuance of Section 404 nationwide permits, as applicable.
U.S. Department of Interior		
Bureau of Land Management (BLM)	Archaeological Resources Protection Act (ARPA) Permit	Consider issuance of cultural resource use permit to excavate or remove cultural resources on federal lands.
	Paleontological Resources Use Permit	Consider issuance of paleontological permit to excavate or remove significant paleontological resources on public lands.
	ROW Grant and Temporary Use Permit under Section 28 (Mineral Leasing Act [MLA])	Consider approval of ROW grant and temporary use permits for the portions of the project that would encroach on federal lands.
	Plan of Development (POD)	Consider approval of Entrega's detailed plan for construction, operation, and maintenance.
	Notice to Proceed	Following issuance of a ROW grant and approval of Entrega's POD, consider the issuance of a Notice to Proceed with project development and mitigation activities.
Fish and Wildlife Service (FWS)	Endangered Species Act (ESA), Section 7 Consultation, Biological Opinion	Consider lead agency finding of an impact on federally listed or proposed species. Provide Biological Opinion if the project is likely to adversely affect federally listed or proposed species or their habitats.

Table 2.8-1 (Continued)

Agency	Permit or Consultation/Authority	Agency Action
	Fish and Wildlife Coordination Act	Provide comments to prevent the loss of and damage to wildlife resources.
U.S. Department of Transportation (DOT)		
Federal Highway Administration	Encroachment Permit	Consider issuance of permits for the crossing of federally funded highways.
U.S. Department of Treasury		
Bureau of Alcohol, Tobacco, and Firearms	Explosive User's Permit	Consider issuance of a permit to purchase, store, and use explosives for site preparation during pipeline construction.
U.S. Environmental Protection Agency (EPA), Region VIII	Section 401, CWA, Water Quality Certification	In conjunction with states, consider the issuance of water use and crossing permits.
	Section 402, CWA, National Pollutant Discharge Elimination System (NPDES)	In conjunction with states, review and issue NPDES permit for the discharge of hydrostatic test water.
	Section 404, CWA	Review CWA, Section 404 applications for wetlands dredge-and-fill applications for the COE with 404 veto power for wetland permits issued by the COE.
	Stormwater Discharge Permit	In conjunction with states, review and issue stormwater permit for activities associated with pipeline and aboveground facilities construction.
COLORADO		
Colorado Historical Society	Consultation under Section 106, NHPA	Review and comment on activities potentially affecting cultural resources.
Department of Natural Resources		
Division of Water Resources	Section 401, CWA, Water Quality Certification	Consider issuance of a permit for stream and wetland crossings.
	NPDES Temporary Discharge Permit	Consider issuance of a permit regulating hydrostatic test water discharge, and construction dewatering to waters of the state.
	NPDES Stormwater Discharge Permit	Consider the issuance of a permit regulating discharge of stormwater from the construction work area.
Division of Wildlife	Consultation	Review and comment on activities potentially affecting wildlife, particularly state-listed species and potential impacts to state lands.
Department of Public Health and Environment		
Air Quality Control Division	Permit to construct	Consider issuance of a permit to construct facilities with the potential for air emissions.

Table 2.8-1 (Continued)

Agency	Permit or Consultation/Authority	Agency Action
	Permit to operate	Consider issuance of a permit to operate facilities with the potential for air emissions.
Department of Transportation	Encroachment Permits	Consider issuance of permits for encroachment on state highways.
State Land	ROW Permit	Consider issuance of a permit to construct pipeline facilities on state lands.
County Road Departments	Encroachment Permits	Consider issuance of permits for encroachment on county roads.
WYOMING		
Department of Environmental Quality		
Air Quality Division	Permit to construct	Consider issuance of a permit to construct facilities with the potential for air emissions.
	Permit to operate	Consider issuance of a permit to operate facilities with the potential for air emissions.
Water Quality Division	Section 401, CWA, Water Quality Certification	Consider issuance of a permit for stream and wetland crossings.
	NPDES Temporary Discharge Permit	Consider issuance of a permit regulating hydrostatic test water discharge, and construction dewatering to waters of the state.
	NPDES Stormwater Discharge Permit	Consider issuance of a permit regulating discharge of stormwater from the construction work area.
	Water Appropriation Permit	Consider issuance of a permit for water appropriations for hydrostatic test water.
Department of Transportation	Encroachment permits	Consider issuance of permits for encroachment on state highways.
Game and Fish Department	Special Use Permits	Consider issuance of permits for activities on Wildlife Habitat Management Areas (WHMAs) in Wyoming.
Game and Fish Department	Consultation	Review and comment on activities potentially affecting wildlife, particularly state-listed species and potential impacts to state lands.
State Historic Preservation Office	Consultation under Section 106, NHPA	Review and comment on activities potentially affecting cultural resources.
State Lands and Investments	Grant of Easement – Non-roadway	Consider issuance of a permit to construct pipeline facilities on state lands.
County Road Departments	Encroachment Permits	Consider issuance of permits for encroachment on county roads.