VOLUME I-A – PUBLIC

TL-613 PIPELINE PROJECT

CONCISE ENVIRONMENTAL REPORT FOR 60-DAY FERC PRIOR NOTICE APPLICATION

DOMINION TRANSMISSION, INC.

MARSHALL COUNTY, WEST VIRGINIA

DOCKET NO. CP11-_____-000

Prepared for:

Dominion Transmission, Inc.

URS Corporation
501 Holiday Drive, Suite 300
Pittsburgh, PA 15220

August 2011

TABLE OF CONTENTS

CONCISE ENVIRONMENTAL REPORT
DOMINION TRANSMISSION, INC.
TL-613 PIPELINE PROJECT

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

List of Tables

List of Appendices

TABLE OF CONTENTS

List of Figures

LIST OF ACRONYMS

amsl	above mean sea level
BMP	Best Management Practices
APE	Area of Potential Effect
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CFR	*Code of Federal Regulations*
CWA	Clean Water Act
DTI	Dominion Transmission, Incorporated
E&SCP	Erosion and Sediment Control Plan
EI	Environmental Inspector
FERC	Federal Energy Regulatory Commission
GIS	Geographic Information System
HDD	horizontal directional drilling
LNG	liquid natural gas
MP	milepost
NHPA	National Historic Preservation Act
NPS	National Park Service
NGL	Natural Gas Liquids
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRI	Nationwide Rivers Inventory
NWI	National Wetland Inventory
NWR	National Wildlife Refuge
PCB	Polychlorinated-biphenyls
PEM	Palustrine Emergent
PFO	Palustrine Forested
Plan	FERC's Upland Erosion Control, Revegetation and Maintenance Plan
Procedures	FERC's Wetland and Waterbody Construction and Mitigation Procedures
POW	Palustrine Open-water
Project	DTI TL-613 Pipeline Project
ROW	right-of-way
SHPO	State Historic Preservation Office
SPCC	Spill Prevention, Control, and Countermeasure
SSURGO	Soil Survey Geographic Database
STATSGO2	State Soil Geographic Database

LIST OF ACRONYMS

SWPPP	Storm Water Pollution Prevention Plan
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	U.S. Fish & Wildlife Service
USGS	United States Geological Survey
WVDA	West Virginia Department of Agriculture
WVDCH	West Virginia Division of Culture and History
WVDEP	West Virginia Department of Environmental Protection
WVDHHR	West Virginia Department of Health and Human Resources
WVGES	West Virginia Geological Society

FERC Minimum Filing Requirement Checklist
Resource Report No. 1
General Project Description

Filing Requirement	Location in Report	Comment
☒ Provide a detailed description and location map of the project facilities (Sec. 380.12(c)(1)).	Section 1-2 Figure 1-1	
☒ Describe any nonjurisdictional facilities that would be built in association with the project (Sec. 380.12(c)(2)).	N/A	There are no nonjurisdictional facilities associated with the proposed Project.
☒ Provide current original U.S. Geological Survey (USGS) 7.5-minute series topographic maps with milepost showing the project facilities (Sec. 380.12(c)(3)).	Figure 1-2	
☒ Provide aerial images or photographs or alignment sheets based on these sources with milepost showing the project facilities (Sec. 380.12(c)(3)).	Appendix 1-A	
☒ Provide plot/site plans of compressor stations showing the location of the nearest noise-sensitive areas (NSA) within 1 mile (Sec. 380.12(c)(3,4)).	N/A	There are no compressor stations associated with the proposed Project.
☒ Describe construction and restoration methods (Sec. 380.12(c)(6)).	Section 1-4	
☒ Identify the permits required for construction across surface waters (Sec. 380.12(c)(9)).	Table 1-3	
☒ Provide the names and address of all affected landowners and certify that all affected landowners will be notified as required in Sec. 157.6(d) (Secs. 380.12(c)(10)).	Provided in Volume II – Contains Privileged Information – Do Not Release.	

1.0 INTRODUCTION

This Concise Environmental Report, comprised of Resource Reports 1-13, addresses the requirements pursuant to Section 157.205, 157.208(b) and (c), and 380.12 of the Federal Energy Regulatory Commission's (FERC) regulations for a Blanket Certificate 60-Day Prior Notice Request of Dominion Transmission, Inc. (DTI) for authorization to construct TL-613, an approximately 5.2-mile new, 24-inch diameter, natural gas transmission pipeline and appurtenant facilities. The TL-613 project is located entirely in Marshall County, West Virginia and is hereafter referred to as the Project (Project).

1.1 GENERAL PROJECT DESCRIPTION

Resource Report 1 provides an overview of the proposed Project. Section 1.2 provides an overview of the proposed Project facilities. Section 1.3 describes the land requirements, including workspace requirements. Section 1.4 describes the Erosion and Sedimentation Control Plan (E&SCP), and construction and restoration methods. Section 1.5 addresses operation and maintenance procedures for the Project facilities. Section 1.6 describes future plans for additional facilities or abandonment. Section 1.7 identifies required permits. Section 1.8 describes nonjurisdictional facilities and Section 1.9 provides a list of references used in the preparation of Resource Report 1.

1.2 PROPOSED FACILITIES

The proposed TL-613 pipeline project consists of construction of an approximately 5.2-mile new, 24-inch diameter, natural gas transmission pipeline. Launchers and receivers and valve settings for the TL-613 pipeline will be located at the Burch Ridge Gate Site at milepost (MP) 0.0 and at the Natrium Gate Site at MP 5.2. The proposed Project will parallel DTI's existing permanent right-of-way (ROW) for approximately 74% of the Project route. Table 1-1 summarizes the proposed Project facilities.

Table 1-1
Facilities for the Proposed TL-613 Pipeline Project

Facility Type	Diameter (inches)	Milepost From	Milepost To	Length (miles)
New Pipeline Construction				
TL-613	24	0.0	5.2	5.2
Aboveground Facilities				
Natrium Gate Site (launchers/receivers and valve setting)	NA	5.2	5.2	NA
Burch Ridge Gate Site (launchers/receivers and valve setting)	NA	0.0	0.0	NA

1.2.1 Purpose and Need

Production of natural gas from both conventional and nonconventional shale sources in the Appalachian region is increasing. The rising price of oil and the low price of natural gas have shifted drilling activity in the region from the dry gas to the wet gas areas. These "wet" gas supplies are high in liquids and liquefiable hydrocarbons, which can be extracted for their economic value. As a result of production growth over the last few years, existing processing facilities lack adequate capacity to meet current demand. To meet this demand, an affiliate of DTI, Dominion Natrium, LLC plans to construct a new, nonjurisdictional processing facility in Marshall County, West Virginia ("Natrium Plant") to extract and fractionate the liquid hydrocarbons from the natural gas stream entering the new facility and ultimately marketed along with other natural gas liquids (NGLs). The first phase of construction includes facilities that can process 200 million cubic feet of natural gas per day and fractionate approximately 36,000 barrels of natural gas liquids per day. To further transport residue gas from the outlet of the Natrium Plant, DTI is proposing to construct the proposed TL-613 pipeline to connect the Natrium Plant to its existing dry transmission system and ultimately to downstream markets.

1.2.2 Location Maps, Detailed Route Maps, and Site-Specific Construction Plans

Construction alignment sheets showing the site location and proposed Project route are provided in Appendix 1-A. Typical construction ROW drawings are provided in Appendix 1-B.

1.3 LAND REQUIREMENTS

A summary of temporary and permanent proposed Project land requirements is provided in Table 1-2, Land Requirements for the Proposed TL-613 Pipeline Project. A detailed discussion of land use requirements and respective descriptions is provided in Resource Report 8, Land Use, Recreation, and Aesthetics.

Table 1-2
Land Requirements for the Proposed TL-613 Pipeline Project

Facility	Length (miles)	Total Construction ROW Width (feet)	Permanent ROW Width (feet)	Acres Disturbed During Construction	Acres Permanent Right-of-Way
TL-613 Pipeline	5.20	75.00	50.00	43.91	29.16
Aboveground Facilities (Launchers/Receivers and Valve Settings)	---	---	---	1.02	1.02
Existing Access Roads (four total)	3.49	N/A	N/A	---	0.00
Proposed Access Roads	0.04	30.00	15.00	0.14	0.07
Extra Work Spaces	---	---	---	6.10	---
Pipeyard	---	---	---	4.11	---
Totals	8.73	---	---	55.28	30.25

1.3.1 TL-613 Pipeline

The proposed Project consists of an approximately 5.2-mile new, 24-inch diameter, natural gas transmission pipeline and will use a 75-foot wide construction ROW. The proposed Project will use an existing DTI ROW corridor for approximately 74% of the proposed Project; thereby, minimizing the environmental impact during pipeline construction. A total of 55.28 acres of land will be temporarily disturbed during construction. Figure 1-1, Project Overview Map, depicts the proposed Project pipeline route.

1.3.2 Aboveground Facilities (Launchers/Receivers and Valve Settings)

Aboveground facilities for the proposed Project will consist of launchers/receivers and valve settings at the Burch Ridge Gate site at MP 0.0 and launchers/receivers and valve settings at the Natrium Gate site at MP 5.2. A total of 1.02 acres of land will be temporarily and permanently impacted by the aboveground facilties.

1.3.3 Access Roads (Existing and Proposed)

DTI will use four existing access roads totaling approximately 3.49 miles and one additional 0.04-mile access road, located at MP 2.4, during construction. Approximately 0.14 acres of existing agricultural land will be temporarily disturbed by construction of the temporary access road. Following construction, 0.07 acres of the proposed access road will be returned to its original agricultural use resulting in a permanent, operational impact of 0.07 acres of land.

1.3.4 Extra Work Spaces

Approximately 6.10 acres of land will be temporarily disturbed for use as extra work space during construction of the proposed Project. All 6.10 acres of temporarily disturbed land will be returned to its orginal use following construction, resulting in no permanent impact to extra work space land.

1.3.5 Pipeyard

One pipeyard located at the Burch Ridge Gate will result in temporary disturbance of approximately 4.11 acres of land. No permanent impact will result from operation of the pipeyard.

1.4 CONSTRUCTION PROCEDURES

The following section provides information on DTI's proposed construction procedures, including an E&SCP and a Spill Prevention, Containment, and Countermeasures (SPCC) Plan, and a general plan for construction sequencing for the Project. The E&SCP and SPCC are provided in Appendix 1-D.

1.4.1 General

Erosion and Sedimentation Control Plan

Based on its existing E&SCP, DTI will develop a Project-specific construction Storm Water Pollution Prevention Plan (SWPPP) outlining provisions for minimizing erosion and sedimentation during soil disturbance activities, protecting environmental resources during construction, and restoring the Project area following construction. DTI and its contractors will follow the provisions of this SWPPP during soil disturbance and restoration activities associated with the Project. DTI's E&SCP conforms to the guidelines in FERC's Upland Erosion Control, Revegetation, and Maintenance Plan (*Plan*) and FERC's Wetland and Waterbody Construction and Mitigation Procedures (*Procedures*), as applicable to the Project. There are no proposed deviations from FERC's *Plan* and *Procedures* in DTI's proposed E&SCP.

In addition, DTI has developed and will follow an SPCC Plan, which prescribes the following: fueling and vehicle maintenance measures; use, handling, and storage procedures for specific materials; spill and leak prevention measures; emergency spill response; required spill kit contents; material and waste inventory and disposal procedures; approved disposal sites for specific materials; contractors available for assistance; and a list of emergency contacts.

General Construction Sequencing

The following general construction sequence provides an overview of DTI's planned construction process. Wherever practical, construction activities will occur simultaneously and some steps may not occur in the exact order in which they are listed below.

1) Mobilize and set up pipe storage/contractor yard, including installation of erosion/sedimentation controls, road entrance pads, and proper hazardous material storage.
2) Survey and stake existing pipelines, and limits of construction workspaces. Other utilities will be located to prevent accidental damage during construction.
3) Install entrance pads at all access points from paved roads and install appropriate erosion/sedimentation controls along edge of road where needed to protect adjacent wetlands or water resources.
5) Flag/field mark wetland and waterbody areas.
6) Begin clearing and brushing of the ROW.

7) Install filter fence barriers in areas that are not anticipated to be disturbed by subsequent grading and installation of temporary equipment crossings.
8) Grade the workspace if necessary, including topsoil segregation in active agricultural (cultivated and pasture), residential, and wetland areas.
9) Install timber mats for access roads/equipment crossings at stream crossings.
10) Install timber mats for access roads/equipment stabilization at wetland crossings.
11) Install all required filter fence barriers.
12) Install temporary water bars/slope breakers where required.
13) Excavate pipeline trench in upland areas.
16) String new pipe along ROW.
17) Weld new pipe sections together.
18) Implement Best Management Plans (BMPs) for trench dewatering (if required).
19) Lower pipeline into trench and/or install pipe via horizontal directional drilling (HDD).
20) Install trench plugs.
21) Backfill trench.
22) Restore grade to preconstruction contours and install permanent slope breakers where warranted.
23) Install stream crossings (install sedimentation controls as necessary for retaining temporary spoil piles) and restore/stabilize stream banks.
24) Install wetland crossings.
25) Hydrostatic test the pipeline segments.
26) Apply lime, fertilizer, seed and mulch to all disturbed upland areas, and only the specified wetland seed mix in wetlands.
27) Install erosion control blankets or equivalent on steep slopes.
28) Monitor adequacy of erosion control practices.
29) After permanent stabilization is achieved, remove temporary erosion and sediment controls.

Note: Steps 23 and 24 should be conducted in the order that best suits site and scheduling conditions.

1.4.2 Abandonment and Removal

No abandonment in-place or removal of pipeline is proposed for this Project.

1.4.3 Environmental Inspector Training

DTI will hire a full-time qualified Environmental Inspector (EI) who will be responsible for documenting environmental compliance with FERC's *Plan* and *Procedures*, specifications of the E&SCP and SPCC, all applicable federal, state, and local environmental permits, any specifically required restoration or mitigation measures, and landowner agreements pertaining to environmental issues during construction and restoration of the proposed Project.

1.5 OPERATION AND MAINTENANCE PROCEDURES

After completion of construction and restoration, DTI will maintain the pipeline in accordance with its standard system operating procedures.

1.6 FUTURE PLANS AND ABANDONMENT

The proposed facilities will serve the foreseeable future needs of DTI with regard to the stated purpose of the Project. DTI has no current or foreseeable future plans to construct additional facilities associated with this Project. In addition, DTI does not currently plan to abandon any associated facilities in the near future.

1.7 PERMITS AND APPROVALS

DTI is in the process of identifying, preparing, and submitting all required federal, regional, state, and local permits and approvals for the proposed Project as summarized in Table 1-3. DTI will obtain all necessary permits and approvals prior to commencing construction of the Project. DTI will require its contractor(s) to be familiar with all required permits and approvals, and to comply with all applicable construction and restoration requirements and mitigation measures.

Table 1-3
Required Permits and Approvals for the Proposed TL-613 Pipeline Project

Permit/Consultation	Administering Agency	Status
Federal		
Approval under Blanket Certificate 60-Day Prior Notice Procedures	Federal Energy Regulatory Commission	(Application filed herein)
Endangered Species Act, Section 7 Consultation (Threatened & Endangered Species Clearance)	U.S. Fish and Wildlife Service	Habitat assessment letter sent to USFWS May 4, 2011. A response was received from USFWS on August 3, 2011 indicating that the USFWS has no records of rare, threatened or endangered species in the project. DTI submitted Indiana bat mist netting survey plan to USFWS on July 12, 2011 via email. DTI received USFWS e-mail questions on mist netting survey plan on July 13, 2011. DTI submitted revised mist netting survey plan on July 14, 2011. DTI received concurrence from USFWS on mist netting survey plan on July 15, 2011. A report of the findings of the Indiana Bat mist netting survey was submitted to the USFWS on August 23, 2011. Clearance is pending and is expected by October 1, 2011.
Section 404 of the Clean Water Act – Wetland and WaterbodyCcrossing Permit	U.S. Army Corps of Engineers (USACE), Pittsburgh District	Because the proposed Project does not exceed any of the "Notification" criteria identified in the USACE Public Notice 08-37 for NWP-12, pre-construction notification to

Table 1-3
Required Permits and Approvals for the Proposed TL-613 Pipeline Project

Permit/Consultation	Administering Agency	Status
		the USACE is not required. Construction of the Project will be in accordance with the conditions of NWP-12.
Section 106 of the National Historic Preservation Act,Cultural Resources Consultation	West Virginia Division of Culture and History (WVDCH)	A consultation letter was submitted to on WVDCH August 23, 2011. A response from WVDCH is pending. The Phase I Archaeological Investigation Report is included in Appendix 4-B and has been stamped "Contains Privileged Information – Do Not Release." A report of the findings of the Cultural Resources survey was submitted to the WVDCH on August 23, 2011. Clearance is pending and is expected by October 1, 2011.
State		
Threatened & Endangered Species	West Virginia Department of Natural Resources (WVDNR)	Habitat assessment letter sent to WVDNR May 4, 2011. Received response on June 6, 2011 from WVDNR stating that the WVDNR has no records of rare, threatened or endangered species in the project area. DTI submitted Indiana bat mist netting survey plan to WVDNR on July 12, 2011 via email. URS submitted Scientific Collection Permit Application to WVDNR via email on July 13, 2011. DTI submitted revised mist netting survey plan on July 14, 2011. URS received Scientific Collection Permit on July 19, 2011. A report of the findings of the Indiana Bat mist netting survey was submitted to the WVDNR on August 23, 2011. Clearance is pending and is expected by October 1, 2011.
State Section 401 Water Quality Certification	West Virginia Department of Environmental Protection (WVDEP)	The West Virginia Department of Environmental Protection has issued 401 water quality certifications for NWP-12 given compliance with certain conditions and/or limitations. Because the proposed Project does not exceed any of the "Notification" criteria identified in the USACE Public Notice 08-37 for NWP-12, pre-construction notification to the USACE is not required and therefore coverage under Section 401 is provided by the 401 Water Quality Certification in place for the NWP-12.
Hydrostatic Test Water Discharge Permit	WVDEP	Anticipate submitting application for Hydrostatic Test Water Discharge General Permit prior to April 2012 and will be received prior to DTI performing hydrostatic testing.
Construction Stormwater General Permit	WVDEP	The WVDEP NPDES General Permit for Stormwater Discharge during construction activities exempts land disturbance associated with oil and gas activities in accordance with the Energy Policy Act. An NPDES permit for stomwater discharge is not required for the Project. DTI intends, however, to voluntarily apply for coverage

Table 1-3
Required Permits and Approvals for the Proposed TL-613 Pipeline Project

Permit/Consultation	Administering Agency	Status
		under the General Permit.
Local Agencies		
No environmental permits required	NA	NA

1.7.2 Landowner Notifications

DTI's existing ROW where Project construction activities will occur is in an easement that crosses lands owned by various landowners. DTI is currently consulting with affected landowners and will provide appropriate notifications to all affected landowners prior to the commencement of construction. A list of affected landowners, including abutting landowners, is provided in Appendix 1-D.

1.8 NONJURISDICTIONAL FACILITIES

There are no nonjurisdictional facilities are associated with the proposed Project.

1.9 REFERENCES

Federal Energy Regulatory Commission. Upland Erosion Control, Revegetation, and Maintenance Plan. January 2003.

Federal Energy Regulatory Commission. Wetland and Waterbody Construction and Mitigation Procedures. January 2003.

FERC Minimum Filing Requirement Checklist
Resource Report No. 2
Water Use and Quality

Filing Requirement	Location in Report	Comment
☒ Identify all perennial surface waterbodies crossed by the proposed project and their water quality classification (Sec. 380.12(d)(1)).	Table 2-1	
☒ Identify all waterbody crossings that may have contaminated waters or sediments (Sec. 380.12(d)(1)).	Section 2.3.4	
☒ Identify watershed areas, designated surface water protection areas, and sensitive waterbodies crossed by the proposed project (Sec. 380.12(d)(1)).	Section 2.3.3	
☒ Provide a table (based on NWI maps if delineations have not been done) identifying all wetlands, by milepost and length, crossed by the project (including abandoned pipeline), and the total acreage and acreage of each wetland type that would be affected by construction (Sec. 380.12(d)(1 & 4)).	Table 2-3	
☒ Discuss construction and restoration methods proposed for crossing wetlands, and compare them to staff's Wetland and Waterbody Construction and Mitigation Procedures (Sec. 380.12(d)(2)).	Section 2.4.2	.
☒ Describe the proposed waterbody construction, impact mitigation, and restoration methods to be used to cross surface waters and compare to the staff's Wetland and Waterbody Construction and Mitigation Procedures (Sec. 380.12(d)(2)).	Section 2.3.5 and Section 2.3.6	
☒ Provide original National Wetlands Inventory (NWI) maps or the appropriate state wetland maps, if NWI maps are not available, that show all proposed facilities and include milepost locations for proposed pipeline routes (Sec. 380.12(d)(4)).	Figure 4 of Appendix 2-A	
☒ Identify all U.S. Environmental Protection Agency (EPA) or state- designated aquifers crossed (Sec. 380.12(d)(9)).	Section 2.2.2 and Section 2.2.3	

2.0 INTRODUCTION

This Concise Environmental Report, comprised of Resource Reports 1-13, addresses the requirements pursuant to Section 157.205, 157.208(b) and (c), and 380.12 of the Federal Energy Regulatory Commission's (FERC) regulations for a Blanket Certificate 60-Day Prior Notice Request of Dominion Transmission, Inc. (DTI) for authorization to construct TL-613, an approximately 5.2-mile new, 24-inch diameter, natural gas transmission pipeline and appurtenant facilities. The TL-613 project is located entirely in Marshall County, West Virginia and is hereafter referred to as the Project (Project).

2.1 WATER USE AND QUALITY

Resource Report 2 provides information regarding both surface water and groundwater resources in the vicinity of the Project and construction-related water use. Section 2.2 describes groundwater availability, quality, and current uses. Section 2.3 describes surface water availability, quality, current uses, construction methods in the vicinity of surface waters, and possible uses during construction. Section 2.4 identifies wetland resources traversed by the Project. Section 2.5 provides a list of references used in the preparation of Resource Report 2.

2.2 GROUNDWATER RESOURCES

DTI determined the nature and location of surface waters, springs, wells, groundwater hazards, and point and non-point pollution sources by using publicly available information obtained from: consulting appropriate agencies, performing on-site field environmental surveys in July 2011 and data available through internet resources.

According to the United States Geological Survey (USGS), the Project area is located in the Kanawha Section, Appalachian Highlands Division of the Appalachian Plateaus Physiographic Province in northern West Virginia. The United States Environmental Proection Agency (USEPA) places the Project within the Ohio River Basin Watershed. Within the Ohio River Basin Watershed, the proposed Project will cross the Little Muskingum - Middle Island minor watershed basin.

2.2.1 Water Availability

The geology of the Kanawha Section, Appalachian Highlands Division of the Appalachian Plateaus Physiographic Province is characterized by gently folded- to nearly flat-lying strata that

have been maturely dissected by fluvial erosion. The result is the current landforms of steep valleys with undulating but relatively flat-topped ridges. The proposed Project area is underlain by rocks from the Pennsylvanian and Permian age Dunkard Group, which consists of cyclic sequences (cyclothems) of non-marine sandstone, siltstone, red and gray shale, limestone, and coal. On a regional scale, the rocks that comprise the Pennsylvanian system have little primary porosity and generally depend on facture permeability that includes joints, faults, and bedding planes separations. Individual wells completed within the Pennsylvanian aquifers generally yield between 5 to 400 gpm within West Virginia. Within the consolidated aquifers of the Appalachian Plateaus aquifers, higher well yields are encountered in the upper 150 feet of bedrock and become less as well depth increases (Kosar and Mathes, 2001).

According to information obtained from the USEPA Watershed Quality Assessment website, water quality for the West Virginia - Little Muskingum-Middle Island Watershed is considered to be good.

2.2.2 Sole Source Aquifers

The USEPA defines a sole- or principal-source aquifer as one that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. USEPA guidelines also stipulate that these areas can have no alternative drinking water sources that could physically, legally, or economically supply all those who depend upon the aquifer for drinking water.

According to the USEPA, no sole-source aquifers have been designated in the vicinity of the proposed project in West Virginia.

2.2.3 State-Designated Aquifers

According to the West Virginia Geological and Economic Survey (WVGES) there are no State-designated aquifers in West Virginia.

2.2.4 Groundwater Hazards

A review of the available on-line information provided by the USEPA did not identify any active or historic Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) solid waste or hazardous waste treatment, storage, or disposal facilities within one mile of the proposed Project.

A review of the available on-line information provided by the WVDEP, Division of Land Restoration did not identify any active or historic Voluntary Remediation Program Sites within one mile of the proposed Project.

2.2.5 Project-Related Groundwater Use

Groundwater is not proposed as a water source for construction or operation of the proposed Project.

2.2.6 Public and Private Water Supply Wells

Public water supply wells are regulated by each State and their local health departments. As such, these wells are registered, documented, and monitored by the health department. It is unlikely that there are unregistered public water supply wells that have not been identified; however, affected landowners will be surveyed to identify locations of any known public water wells. Additionally, if any public water wells are identified during title reviews, these will be noted as well. If any public water supply well is identified within 150 feet of the construction footprint of the proposed Project, the wellhead will be clearly flagged as a precaution for construction equipment and activities. To further mitigate the potential for any construction activities to impact the well, the FERC *Plan* and *Procedures* requirements for stormwater-runoff control and control of petroleum and hazardous materials will be implemented. In the event that the well is affected or a significant potential for impact arises, the owner/operator of the well will be notified. DTI will also notify the West Virginia Department of Health and Human Resources (WVDHHR) and/or Marshall County Health Department of the event of or potential for impact, and will implement appropriate mitigation.

Data for private registered wells from the Marshall County, West Virginia Health Department is not readily available; however, no private water wells were identified during environmental field surveys.

2.2.7 Groundwater Impact Mitigation

Construction, operation, and maintenance of the proposed facilities are not expected to have significant or long-term impacts on groundwater resources. Impacts will be minimized or avoided by implementation of the construction practices outlined in the FERC *Plan* and *Procedures*.

2.3 SURFACE WATER RESOURCES

The project lies within the Upper Ohio River Basin. Surface water resources identified in the vicinity of the proposed Project are described below.

2.3.1 Existing Resources

Twenty-seven streams, three ephemeral, four intermittent, and 20 perennial, are located within the proposed Project construction ROW. Twenty-four of the identified streams are tributaries to North Fork Creek, Dry Run, Coon Run, and the Ohio River, while the remaining three streams crossed are not tributaries, but the streams themselves (North Fork Creek, Coon Run, and Sims Run). According to the WVDEP, Water Resources, Title 47CSR2, Requirements Governing Water Quality Standards, all twenty-seven of the streams crossed by the proposed Project are classified as B1 – Warm Water Fishery Streams. Table 2-1 summarizes the twenty-seven streams by milepost, crossing method, and temporary and permanent impacts in feet.

Table 2-1
Waterbodies Crossed by the Proposed TL-613 Pipeline Project[1]

	Waterbody Number	Waterbody Type	Waterbody Name	Beginning Milepost	Length Within Temporary ROW (feet)	Length Within Permanent ROW (feet)	Crossing Method[2]	Width (feet)
1	S-CRE-001	Intermittent	Tributary to North Fork Creek	0.1	109.3	26.6	Dam/Pump or Flume	4
2	S-CRE-002	Ephemeral	Tributary to North Fork Creek	0.1	108.2	-	Dam/Pump or Flume	4
3	S-CRE-003	Perennial	Tributary to North Fork Creek	0.1	58.5	51.7	Dam/Pump or Flume	8
4	S-CRE-006	Perennial	North Fork Creek	0.3	53.1	57.8	Dam/Pump or Flume	8
5	S-CRE-007	Perennial	Tributary to North Fork Creek	0.3	192.7	94.9	Dam/Pump or Flume	5
6	S-CRE-009	Ephemeral	Tributary to Dry Run Creek	0.6	49.8	77.0	Dam/Pump or Flume	2
7	S-CRE-010	Perennial	Tributary to Dry Run Creek	0.6	58.3	-	Dam/Pump or Flume	2
8	S-CRE-011	Intermittent	Tributary to Dry Run Creek	0.7	46.8	78.6	Dam/Pump or Flume	3
9	S-CRE-012	Perennial	Tributary to Dry Run Creek	0.9	41.2	51.7	Dam/Pump or Flume	8
10	S-CRE-013	Perennial	Tributary to Dry Run Creek	1.1	45.7	63.4	Dam/Pump or Flume	8
11	S-CRE-014	Perennial	Tributary to Dry Run Creek	1.1	33.6	50.0	Dam/Pump or Flume	8
12	S-CRE-015	Perennial	Tributary to Dry Run Creek	1.3	41.7	51.5	Dam/Pump or Flume	4
13	S-CRE-017	Perennial	Tributary to Coon Run Creek	1.8	-	56.1*	HDD	10
14	S-CRE-018	Perennial	Coon Run Creek	1.9	214.2*	664.8*	HDD	18
15	S-CRE-019	Perennial	Tributary to Coon Run Creek	1.9	27.6*	55.0*	HDD	8

Table 2-1
Waterbodies Crossed by the Proposed TL-613 Pipeline Project[1]

	Waterbody Number	Waterbody Type	Waterbody Name	Beginning Milepost	Length Within Temporary ROW (feet)	Length Within Permanent ROW (feet)	Crossing Method[2]	Width (feet)
16	S-CRE-020	Perennial	Tributary to Coon Run Creek	2.5	73.2*	95.4*	HDD	12
17	S-CRE-020	Perennial	Tributary to Coon Run Creek	2.5	257.0	-	Dam/Pump or Flume	12
18	S-CRE-022	Perennial	Tributary to Coon Run Creek	2.5	-	92.0*	HDD	2
19	S-CRE-023	Perennial	Tributary to Coon Run Creek	2.5	44.6*	55.4*	HDD	8
20	S-CRE-024	Perennial	Tributary to Coon Run Creek	2.8	42.2	73.6	Dam/Pump or Flume	4
21	S-CRE-058	Perennial	Sims Run Creek	3.9	44.2	55.3	Dam/Pump or Flume	25
22	S-CRE-059	Ephemeral	Tributary to Sims Run Creek	3.9	193.6	-	Dam/Pump or Flume	5
23	S-CRE-031	Intermittent	Tributary to Ohio River	4.9	-	57.2	Dam/Pump or Flume	5
24	S-CRE-032	Perennial	Tributary to Ohio River	4.9	14.2	70.5	Dam/Pump or Flume	2
25	S-CRE-034	Intermittent	Tributary to Ohio River	4.9	-	12.0	Dam/Pump or Flume	5
26	S-CRE-029	Perennial	Tributary to Ohio River	5.0	41.6	52.0	Dam/Pump or Flume	6
27	S-CRE-030	Perennial	Tributary to Ohio River	5.0	89.4	66.1	Dam/Pump or Flume	4

Notes:
[1] B1 – Warm Water Fishery Streams, WVDEP, Title 47CSR2, Requirements Governing Water Quality Standards, 2008.
[2] Streams that are dry at the time of construction will be open-cut.
* These crossings will be accomplished via horizontal directional drilling; therefore, there will be no encroachment to the stream.

2.3.2 Sensitive Surface Waters

According to the USEPA, none of the 27 streams crossed by the proposed Project is classified as a sensitive surface water resource.

2.3.3 Public Watershed Areas

The proposed Project is located in one major watershed, the Ohio River Basin Watershed. Within the Ohio River Basin Watershed, the proposed Project will cross the Little Muskingum - Middle Island minor watershed basin.

2.3.4 Contaminated Waters or Sediments

According to the USEPA Watershed Quality Assessment database, there are no impaired surface waters or sediments in the vicinity of the proposed Project. There are no designated surface water protection areas or sensitive water bodies crossed by the proposed Project.

2.3.5 Waterbody Construction Procedures

The following stream crossing methods are options that DTI will consider for the crossing of waterbodies along the proposed Project as appropriate based on field conditions.

Horizontal Directional Drilling

Horizontal directional drilling (HDD) is a method that allows for trenchless construction across an area by pre-drilling a hole below the depth of a conventional pipeline lay and then pulling the pipeline through the pre-drilled borehole. HDD will be used by DTI at certain locations to avoid direct impacts to sensitive areas, such as waterbodies, and/or to avoid areas with difficult constructability issues. HDD has been in use since the 1970s as a means to install pipelines across rivers and at shore approaches to eliminate pipeline exposure from erosion and scour and eliminate impacts to water quality from construction activities within the waterbody. Pipelines up to 60 inches in diameter have been successfully installed using this method.

The primary advantage of HDD is that there is minimal planned disturbance of the surface between the entry and exit points of the HDD (limited to the temporary deployment of telemetry cable and water pipe), provided there is reasonable access to the entry and exit points for the drilling rig and fluids handling equipment. Table 2-1 identifies the waterbodies crossed by the proposed Project for which HDD will be employed.

Wet/Open-Cut Crossing Method

The open-cut crossing method is typically used to cross waterbodies greater than 30 feet wide and waterbodies less than 30 feet wide, if they are not designated coldwater or other significant fisheries. In addition, if any stream is dry or has no perceptible flow at the time of construction, an open-cut crossing method will likely be used. For open-cut crossings, a backhoe, clam dredge, dragline, or similar equipment will be used for trench excavation. As a rule, the completion of all construction activities should not exceed 24 hours at minor stream crossings and 48 hours at intermediate stream crossings. The pipe will be welded together in the staging areas and then carried or floated along the ROW into place. If the streambed is composed of unconsolidated material, the pipe will be pulled into place. In rock-bottomed streams, the pipe will be floated or lifted across, and then lowered into place. After the pipe is lowered into the

trench, previously excavated material will be returned to the trench line for backfill, streambeds will be restored to their former elevations and grades, and all stream banks will be restored and stabilized with erosion controls.

Dry Stream Crossing Methods

Dry stream crossing methods consist of either the Flume or the Dam & Pump crossing method, and the selection will be determined in the field at the time of crossing by the contractor and DTI's Environmental Inspector. The method selected will be that which provides the least disturbance and most expedient crossing to minimize overall impact. These methods are described in more detail below.

Flume Stream Crossing Method

A flumed crossing involves measures that direct the stream flow through a culvert or flume across the trench line work area. This allows for the trenching, pipe installation, and initial restoration to occur in dry conditions, under the flume set-up, while maintaining continuous downstream flow. Soil characteristics must be very stable and stream flow should be low to moderate for this method to be used successfully and safely. The flume pipe must be long enough to account for the possibility of the trench widening unexpectedly during the excavation (due to sloughing). An effective seal (using materials such as sand bags) must be created around the flume(s) so that water will not penetrate the work zone or possibly wash out the in-stream dam on both the inlet and outlet end. Once in place, the flumes should not be removed until the pipeline has been installed and the streambed and banks have been restored.

Dam & Pump Crossing Method

This method may be used in situations where pumps are able to adequately capture and transfer water around the work area, and there are no concerns about sensitive species passage. The dam and pump crossing method ensures that downstream flow is maintained, while keeping the work zone dry. Dams, often constructed of sand bags, on the upstream and downstream sides of the work zone function to keep the work zone dry during pipe installation. Potential impacts to aquatic species and water quality are minimized or avoided by screening the pump intake and using an energy dissipater to prevent streambed scour at the pump discharge location.

2.3.6 Construction and Operation Impacts

Construction of the proposed Project across waterbodies will result in minor, short-term impacts. These impacts will occur as a result of in-stream construction activities or construction on slopes

adjacent to stream channels. These activities will result in a temporary localized increase in turbidity levels and downstream sediment deposition. Sedimentation and turbidity may occur as a result of instream construction, trench dewatering, and soil erosion along the construction ROW. In slack or slowly moving waters, increases in suspended sediment may increase the biochemical oxygen demand and reduce levels of dissolved oxygen in localized areas during construction. Motile organisms may avoid these areas, but sessile and planktonic organisms may be temporarily affected. Suspended sediments will also alter the chemical and physical characteristics of the water column (e.g., color and clarity) on a short-term basis; however, no foreign sediments will be introduced as all dredged or fill material will consist of on-site sediments.

To limit the time required for construction of a stream crossing, the ROW will be prepared on either side of the stream prior to the construction of the actual crossing. Where construction will be through wooded stream banks, care will be taken to preserve as many existing trees as possible. Stream crossings will be perpendicular to the flow, to the extent practical. If necessary, the pipe used for stream crossings and in floodplains will be weighted to prevent flotation. The pipe will be welded together in the staging areas and then carried or floated along the ROW into place. If the streambed is composed of unconsolidated material, the pipe will be pulled into place. In rock-bottomed streams, the pipe will be floated or lifted across and then lowered into place. After the pipe is lowered into the trench, previously excavated material will be returned to the trench line for backfill. Stream flow will be maintained at all waterbody crossings, and no alteration of the stream's capacity is anticipated as a result of pipeline construction. At small streams encountered along the ROW, a backhoe, clam dredge, dragline, or similar equipment will be used for trench excavation. As a rule, the completion of all construction activities should not exceed 24 hours at minor stream crossings (<10 feet wide) and 48 hours at intermediate stream crossings (between 10 and 30 feet wide).

After the completion of construction, streambeds will be restored to their former elevations and grades. Spoil, debris, pilings, cofferdams, construction materials, and any other obstructions resulting from or used during construction of the pipeline will be removed to prevent interference with normal water flow and use. Any excavated material not used as backfill will be disposed of in a manner and at locations satisfactory to the agencies having jurisdiction. Following grading, all stream banks will be restored to prevent subsequent erosion, in accordance with permit requirements.

2.3.7 Hydrostatic Test Water

The new pipeline will be hydrostatically tested before being placed into service. A total of approximately 650,000-gallons of water will be required for the testing and will be obtained from

the Ohio River or, alternatively, from potable water supplies, transported by truck to the Project area.

Following completion of hydrostatic testing, the water will be discharged into an energy dissipation device, and directed into a temporary filter basin constructed of silt fence and/or straw bales, located in well-vegetated areas. The energy dissipation device will reduce the velocity of the discharged water, reducing the potential for erosion and sedimentation. The discharged water will be detained for a short period in the filter basin, and then will filter through the straw bales, flow overland through a well-vegetated upland area, and will eventually reach the intended waterbody. DTI will obtain a WV/NPDES Hydrostatic Test Water (New Pipeline) General Permit from the WVDEP and will comply with the associated conditions/performance requirements for the discharge of the hydrostatic test water after completion of the test.

As a result of DTI's adherence to these procedures, no adverse impacts to waterbodies are anticipated from hydrostatic test water discharge activities.

2.3.8 Construction Permits

Federal Clean Water Act (CWA) Section 404 authorization from the U.S. Army Corps of Engineers (USACE) will be required for dredge and fill activities associated with construction in wetlands and waterbodies that are jurisdictional Waters of the United States. Based on review of relevant regulations and conversations with the USACE Pittsburgh District, the Project is eligible for coverage under Nationwide Permit No. 12 (NWP-12). Because the proposed Project does not exceed any of the "Notification" criteria identified in the USACE Public Notice 08-37 for NWP-12, pre-construction notification to the USACE is not required. Construction of the Project will be in accordance with the conditions of NWP-12.

The West Virginia Department of Environmental Protection has issued 401 water quality certifications for NWP-12 given compliance with certain conditions and/or limitations. Because the proposed Project does not exceed any of the "Notification" criteria identified in the USACE Public Notice 08-37 for NWP-12, coverage under Section 401 is provided by the 401 Water Quality Certification in place for the NWP-12.

The WVDEP NPDES General Permit for Stormwater Discharge during construction activities exempts land disturbance associated with oil and gas activities in accordance with the Energy Policy Act. An NPDES permit for stomwater discharge is not required for the Project. DTI intends, however, to voluntarily apply for coverage under the general permit.

2.4 WETLAND RESOURCES

Information in this section is based on the results of a wetland delineation survey of the proposed Project area conducted in July 2011. Wetland delineation methodology was based on the USACE 1987 Wetland Delineation Manual (USACE, 1987). A summary of the findings of the wetland delineation survey is provided in the Wetland Delineation Report provided in Appendix 3-A.

2.4.1 Existing Resources

Five wetlands were identified within the proposed construction ROW during the field survey. Of the five wetlands identified, four are are palustrine emergent (PEM) wetlands, and one is a palustrine open water (POW). No palustrine forested (PFO) wetlands were identified within the proposed Project construction corridor. No wetlands will be impacted by use of the proposed access roads or pipe storage/contractor yard.

Table 2-3 lists the wetlands crossed by the proposed Project. None of the wetlands crossed by the Project are mapped on USFWS National Wetlands Inventory (NWI) maps. NWI maps for the proposed Project area are provided in Appendix 2-B of this report.

Table 2-3
Wetlands Crossed by the Proposed TL-613 Pipeline Project

Wetland Field ID Name	Wetland Type	Approximate Mile Post	Approximate Length Crossed by Centerline (Feet)	Total Wetland Area Within the Temporary ROW (Acres)	Total Wetland Area Within the Permanent ROW (Acres)	Total Construction Workspace Wetland Impacts (Acres)
W-CRE-001	PEM	0.7	27	---	0.03	0.03
W-CRE-002	PEM	1.1	30	---	0.02	0.02
W-CRE-004	PEM	2.4	NC	---	<0.01	<0.01
W-CRE-005	PEM	2.5	110	---	0.12[1]	0.12[1]
W-CRE-007	POW	5	NC	<0.01	---	0.01
Total			**167**	**0.01**	**0.06[2]**	**0.07[2]**

Notes:
NC=Not crossed by the Centerline
[1] Wetland will not be impacted due to selection of HDD construction.
[2] Totals do not include acreage for wetland W-CRE-005 due to selection of HDD construction.

2.4.2 Construction and Operation Impacts and Mitigation

A total of four wetlands will be affected during construction of the pipeline. The total acreage affected during construction will be 0.07 acres, including 0.06 acres of wetland within DTI's existing Permanent ROW, and 0.01 acres within areas proposed for temporary ROW. During

construction, all wetland areas will be conserved to the extent practicable. Following construction, all disturbed wetlands will be restored resulting in no permanent loss of wetlands as a result of the proposed Project. Wetlands in the permanent ROW will continue to be maintained as part of DTI's annual vegetation maintenance. No forested wetlands will be affected by the Project; therefore, no long-term wetland impacts (due to conversion of cover type) will occur.

The following sections describe DTI's wetland construction and restoration measures, which are consistent with FERC's *Procedures*.

Construction in Wetlands with Unsaturated Soils

The construction technique used to cross wetlands with stable, unsaturated soils at the time of construction will be similar to those used in dry upland areas. Soils may be dry and stable enough to support equipment without additional timber mat equipment support, and pipe may be strung along the ROW on skids through the wetland. Vegetation will be cut just above ground-level, leaving root systems in place. Grading (where required) will be minimized to ensure safe operation of construction equipment to facilitate regrowth of existing root systems after construction. Wetland topsoil will be segregated from subsoil in the trench line area and stored in separate piles while the trench is open. The segregated soils will be backfilled in the proper order, with topsoil on top, and the preconstruction surface contours will be restored. Trench breakers will be placed in the trench at the base of slopes near the wetland boundaries prior to backfilling to prevent draining of the wetland along the trench line. No upland soil or fill material will be backfilled or imported into the wetland. The wetland will be seeded with annual ryegrass to quickly establish a short-lived vegetative cover, allowing the wetland's native seed and rhizomes (contained in the topsoil) to reestablish dominance over time. No lime, fertilizer, or mulch will be applied in wetlands.

Construction in Wetlands with Saturated Soils

In wetlands with wet, saturated soils at time of construction, topsoil will be segregated over the trench line if possible. Construction in saturated wetland areas may involve either the "drag section" or the "push/pull" technique.

The drag section technique involves equipment carrying a prefabricated section of pipe into the wetland for placement into the excavated trench, if soil conditions permit. This technique requires the installation of equipment support, such as timber mats, along the working side of the trench to provide a stable work surface and minimize soil disturbance and rutting. Clean-up

and restoration procedures will be similar to those previously described for wetlands with unsaturated soils with the additional step of removing the timber mat support from the wetland.

The push/pull technique is one that is generally used only in wetlands with standing water or soils that are saturated to the surface. The trench may be excavated using either a backhoe (working on equipment support in the wetland) or a dragline or clamshell dredge (working either in the wetland or from the edge of the wetland, depending on wetland size and extent of soil saturation). A prefabricated pipe is pushed from the edge of the wetland and/or pulled (e.g., with a winch) from the opposite bank of the wetland into the excavated trench. Floats may be attached to the pipe to give it positive buoyancy, allowing it to be "floated" into place over the excavated trench. Once the pipe is positioned, these floats will be removed and the pipe will settle to the bottom of the trench and the trench will then be backfilled. The push/pull technique enables the pipeline to be installed with minimal equipment operating in the wetland.

Mitigation Procedures

The proposed construction procedures are designed to ensure that potential impacts to wetlands are minimized to the fullest extent practicable. DTI will implement wetland crossing procedures and wetland protection measures outlined in FERC's *Procedures*, to further minimize impacts to wetlands crossed by the proposed Project.

Temporary construction impacts in wetlands may include loss of herbaceous or shrub vegetation (no forested wetlands will be affected by the Project); wildlife habitat disruption; soil disturbance associated with grading, trenching, and stump removal; sedimentation and turbidity increases; and hydrological profile changes. To minimize vegetation disturbance, DTI has reduced the width of temporary workspace where possible in wetlands. Disturbance will be further minimized by restricting equipment access in sensitive wetlands to machinery needed for actual pipeline installation, and by limiting the number of crossings. To minimize impacts to wetlands, DTI will implement erosion and sediment control measures to prevent soils disturbed by construction activities from leaving the construction area and entering wetlands, including implementing spill prevention and response procedures to avoid impacts from refueling of equipment and fuel storage within the vicinity of wetlands.

Confining stump removal in wetlands to the trench line (unless safety or access considerations require stump removal) will minimize soil disturbance and retain sources for resprouting and regrowth of wetland vegetation. Erosion control techniques, including deployment of silt fences, slope breakers, trench plugs, riprapping, terracing, netting, restoration, and revegetation will be used in upland areas to restrict sediment runoff into adjacent wetlands.

Preconstruction wetland conditions in the temporary ROW will be restored to the extent possible to promote revegetation by natural succession. Topsoil segregation in unsaturated wetlands will preserve the native seed source, which will facilitate regrowth of herbaceous vegetation once pipeline installation is complete. In addition, wetlands will be restored and allowed to revert to naturally indigenous vegetation. The revegetation process will be monitored periodically. If excessive erosion occurs, these areas will be stabilized and revegetated.

2.5 REFERENCES

Kosar, Mark D., and Mathes, Melvin V. U.S. Geological Survey, 2001. Aquifer-Characteristics Data for West Virginia, USGS Water Resources Investigations Report 01-4036.

United States Army Corps of Engineers (USACE). 1987. Wetlands Research Program Technical Report Y-87-1: Wetland Delineation Manual.

United States Environmental Protection Agency (USEPA). Watersheds. Website: http://cfpub.epa.gov/surf/locate /zip_search.cfm?value=26055. Accessed July 18, 2011.

USEPA. Sole Source Aquifers. Website: http://www.epa.gov/reg3wapd/presentations/ssa/index.htm. Accessed July 18, 2011.

USEPA. Superfund Sites in West Virginia. Website: http://www.epa.gov/reg3hwmd/super/wv.htm. Accessed July 27, 2011.

USEPA. Watershed Assessment, Watershed Impaired Waters Report, West Virginia, Little Muskingum-Middle Island Watershed. Website: http://iaspub.epa.gov/tmdl_waters10/attains_watershed.control?p_huc=05030201&p_state=WV&p_cycle=&p_report_type=T. Accessed July 18, 2011.

United States Geological Survey (USGS). A Tapestry of Time and Terrain: The Union of Two Maps – Geology and Topography and Physiographic Regions of the Lower 48 United States. http://tapestry.usgs.gov/physiogr/physio.html. 2004. Accessed July 23, 2011.

West Virginia Department of Environmental Protection (WVDEP). Integrated Water Quality Monitoring and Assessment Report – Incl. Impaired Streams. Website: http://www.dep.wv.gov/WWE/watershed/IR/Pages/303d_305b.aspx#2010. Accessed July 20, 2011.

WVDEP. Division of Land Restoration, Office of Environmental Remediation, Voluntary Program, Remediation Sites. Website: http://apps.dep.wv.gov/oer/p_list4.cfm. Accessed July 26, 2011.

WVDEP. Water Resources, Title 47CSR2, Requirements Governing Water Quality Standards. Website: http://www.dep.wv.gov/WWE/Programs/wqs/Pages/default.aspx. Accessed July 27, 2011.

West Virginia Geological and Economic Survey (WVGES). Personal communication between Ms. Jackie Verbka of URS and Mr. Ken Ashton, Geologist for the WVGES on August 23, 2011.

FERC Minimum Filing Requirement Checklist
Resource Report No. 3
Fish, Wildlife, and Vegetation

Filing Requirement	Location in Report	Comment
☒ Classify the fishery type of each surface waterbody that would be crossed, including fisheries of special concern (Sec. 380.12(e)(1)).	Table 2-1 and Section 3.2.1	
☒ Describe terrestrial and wetland wildlife and habitats that would be affected by the project (Sec. 380.12(e)(2)).	Table 3-1	
☒ Describe the major vegetative cover types that would be crossed and provide the acreage of each vegetative cover type that would be affected by construction (Sec. 380.12(e)(3)).	Table 3-1	
☒ Describe the effects of construction and operation procedures on the fishery resources and proposed mitigation measures (Sec. 380.12(e)(4)).	Section 3.2.1 and Section 3.2.2	
☒ Evaluate the potential for short-term, long-term, and permanent impact on the wildlife resources and state-listed endangered or threatened species caused by construction and operation of the project and proposed mitigation measures (Sec. 380.12(e)(4)).	Section 3.5	
☒ Identify all federally listed or proposed endangered or threatened species that potentially occur in the vicinity of the project and discuss the results of the consultations with other agencies. Include survey reports as specified in Sec. 380.12(e) (5).	Section 3.5	
☒ Identify all federally listed essential fish habitat (EFH) that potentially occurs in the vicinity of the project and the results of abbreviated consultations with NMFS, and any resulting EFH assessments (Sec. 380.12(e)(6))	N/A	No federally listed essential fish habitat (EFH) occurs within the proposed Project construction corridor.
☒ Describe any significant biological resources that would be affected. Describe impact and any mitigation proposed to avoid or minimize that impact (Secs. 380.12(e)(4 & 7)).	Section 3.5.2	

3.0 INTRODUCTION

This Concise Environmental Report, comprised of Resource Reports 1-13, addresses the requirements pursuant to Section 157.205, 157.208(b) and (c), and 380.12 of the Federal Energy Regulatory Commission's (FERC) regulations for a Blanket Certificate 60-Day Prior Notice Request of Dominion Transmission, Inc. (DTI) for authorization to construct TL-613, an approximately 5.2-mile new, 24-inch diameter, natural gas transmission pipeline and appurtenant facilities. The TL-613 project is located entirely in Marshall County, West Virginia and is hereafter referred to as the Project (Project).

3.1 VEGETATION AND WILDLIFE

Resource Report 3 describes the existing fish, vegetation, and wildlife resources located in the vicinity of the proposed Project. Section 3.2 describes fishery resources in the Project area. Section 3.3 describes the vegetation types located in the Project area. Section 3.4 describes wildlife species and habitat located in the Project area. Section 3.5 identifies threatened and endangered species that have been identified in the Project area. Section 3.6 provides a list of references used in the preparation of Resource Report 3.

3.2 FISHERIES

Fisheries habitats in the vicinity of the proposed Project were identified based on field surveys conducted in July 2011 and supplemented by information obtained by reviewing available on-line resources.

3.2.1 Existing Resources

Based on the results of the field survey and review of available on-line resources, no major fisheries are anticipated to be traversed by the proposed Project. All twenty-seven of the streams identified in the vicinity of the proposed Project are identified to be B1 – Warm Water Fishery Streams, according to the WVDEP, Title 47 CSR2, Requirements Governing Water Quality Standards, 2008.

3.2.2 Construction and Operation Impacts to Fisheries

No significant fisheries will be traversed by the proposed Project; therefore, no impacts to significant fisheries are anticipated as a result of construction or operation of the proposed Project.

3.3 VEGETATION

Terrestrial habitats in the vicinity of the proposed Project were identified based on field surveys conducted in July 2011 and supplemented by reviewing available on-line resources. The major upland vegetation types that occur in the Project area are forested, agricultural, and open land, as presented in Table 3-1. Five wetlands were observed during the field survey within the ROW of the proposed Project. Four of the five wetlands were identified are PEM wetlands and one wetland was identified as a POW. No PFO wetlands were identified within the proposed Project route.

Table 3-1
Summary of Vegetated and Non-Vegetated Habitats within the Construction Corridor (Acres)
for the Proposed TL-613 Pipeline Project

	Agricultural Land		Upland Forest Land		Wetlands		Open Water/Streams		Existing ROW		Totals	
	Temp ROW (acres)	Perm ROW (acres)	Temp ROW (acres)	Perm (ROW) (acres)	Temp ROW (acres)	Perm ROW (acres)	Temp ROW (acres)	Perm ROW (acres)	Temp ROW (acres)	Perm ROW (acres)	Temp ROW (acres)	Perm ROW (acres)
Pipeline												
TL-613	1.80	2.03	11.96	16.05	0.01	0.06	0.14	0.12	0.84	10.90	**14.75**	**29.16**
Pipeline Subtotal	**1.80**	**2.03**	**11.96**	**16.05**	**0.01**	**0.06**	**0.14**	**0.12**	**0.84**	**10.90**	14.75	29.16
Aboveground Facilities												
Natrium Gate Site	0.00	0.39	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.50**
Burch Ridge Gate Site	0.00	0.40	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.52**
Aboveground Facilities Subtotal	**0.00**	**0.79**	**0.00**	**0.23**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	0.00	1.02
Extra Work Spacess, Pipeyard, and Access Roads												
Extra Work Spaces	1.27	0.00	3.03	0.00	0.00	0.00	0.01	0.00	1.79	0.00	6.10	0.00
Pipeyard	2.05	0.00	2.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.11	0.00
Proposed Access Roads	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.07
Extra Work Spacess, Pipeyard, and Access Roads Subtotal	**3.39**	**0.07**	**5.09**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**1.79**	**0.00**	10.28	0.07
Project Totals	**5.19**	**2.89**	**17.05**	**16.28**	**0.01**	**0.06**	**0.15**	**0.12**	**2.63**	**10.90**	25.03	30.25

3.3.1 Existing Resources

Communities that provide habitat to potential occurrences of protected wildlife and plant species (rare, threatened, and endangered [RTE] species) are discussed in Section 3.5.

According to the USEPA, the entire project area falls within the boundaries of the Western Allegheny Plateau Ecoregion. Within the Western Allegheny Plateau Ecoregion, portions of the Permian Hills and Monongahela Transition Zone level IV ecoregions are also crossed. The proposed project area also lies within the Eastern Broadleaf Forest (Oceanic) Province, as described by Bailey (1995).

The Western Allegheny Plateau Ecoregion and Eastern Broadleaf Forest (Oceanic) Province include areas with diverse topography on the Appalachian plateau. The Appalachian Plateau is composed of sedimentary formations beneath the hilly and mountainous landforms that are found in the region. The continental climatic regime of this area ensures a strong annual temperature cycle, with cold winters and warm summers. Average annual temperatures range from 40º to 60ºF. Year-round precipitation averages from 35 to 60 inches per year. Vegetation is characterized by a temperate deciduous forest dominated by tall broadleaf trees. Forest vegetation is divided into three major associations: mixed mesophytic, Appalachian oak, and pine-oak. Dominant species include American beech, tulip poplar, basswood, sugar maple, buckeye, red oak, white oak, and eastern hemlock (Bailey, 1995). The land use and land cover is a mosaic of forests, urban-suburban industrial activity, general farms, dairy and livestock farms, pastures, coal mines, oil-gas fields, and urban and industrial activities which are commonly found in valleys along the major rivers (Woods et al., 1999).

Within the State of West Virginia, in Marshall County, the proposed Project route passes through the Permian Hills level IV ecoregion. The Permian Hills ecoregion ranges from an elevation of 575 to 1,600 feet, and is dominated by a hilly landscape (Woods et al., 1999). Forested land remains prevalent in this ecoregion, since most of the land is too steep to be farmed. The potential natural vegetation of this area includes Appalachian Oak Forest (dominated by white and red oaks), or Mixed Mesophytic Forest (categorized in Resource Report 8 as Upland Forest Land). This area is already highly fragmented from existing natural gas gathering and transmission infrastructure and existing wildlife species distribution reflects this fragmentation. The small additional fragmentation will not change the local species mix.

3.3.2 Construction and Operation Impacts to Vegetation

A total of 25.03 acres of land will be temporarily disturbed and a total of 30.25 acres of land will be permanently disturbed for a Project total of 55.28 acres of disturbed land. Following completion of the Project, DTI will restore all temporarily disturbed areas. The vegetation types affected by construction will be restored and allowed to revert to their preconstruction cover type.

3.4 WILDLIFE

Wildlife species within the proposed Project area are typical of the Western Allegheny Plateau Ecoregion and the Eastern Broadleaf Forest (Oceanic) Province, as described by USEPA (2003) and Bailey (1995). This region is described as having a moderate and mildly humid climate; dense and diverse forest cover; high human density; and diverse populations of mammals, birds, fish, reptiles, and amphibians. Typical wildlife species found in the proposed Project area vary by the habitat types crossed. The predominant habitat along the proposed Project route includes Appalachian Oak Forest, with industrial activities located in river valleys (Woods et al., 1999).

3.4.1 Existing Resources

Common game species that occur in the proposed Project area include upland game species, furbearers, and migratory game species. Whitetail deer, Eastern wild turkey, and rabbit are the most common upland game species. The habitat along the proposed Project routes has minimal habitat for migratory birds. No comments were provided regarding potential impacts to game species.

According to the U. S. Fish and Wildlife Service, National Wildlife Refuge website, there are no national wildlife refuges in the vicinity of the proposed Project.

According to the West Virginia Department of Natural Resources website, there are no West Virgnia Wildlife Management Areas in the vicinity of the proposed Project.

3.4.2 Construction and Operation Impacts to Wildlife

The acreage of impacts to wildlife habitat by vegetation cover type is presented in Table 3-1. Both short- and long-term impacts to wildlife resources and habitat will result from the construction and operation of the Project. These impacts generally include vegetation removal, ground disturbance, increased human activity and noise levels, and operational maintenance. In general, the Project's access roads, work areas, and staging area will overlap existing ROWs, and therefore the impacts are somewhat reduced by the previous disturbed character of the habitats and the generally fragmented nature of the regional landuse.

Permanent impacts to wildlife due to construction, operation and maintenance are expected to be minor. The adults of mammals, birds, and some reptiles are mobile enough to avoid mortality during construction of the Project. Young animals and less mobile species may suffer

direct loss during construction of the Project in all areas where construction equipment will be used or stored. DTI will implement construction and mitigation procedures described in their E&SCP, which is consistent with FERC's *Plan* and *Procedures*. These procedures address provisions for erosion and sediment control, habitat alteration and restoration, seeding requirements, and timber and slash disposal.

3.5 RARE, THREATENED, AND ENDANGERED SPECIES

DTI contacted the WVDNR and the USFWS to identify threatened and endangered species within the proposed Project corridor. In a June 6, 2011 letter to DTI, the WVDNR reported that there are no known records of any RTE species or sensitive habitats within the proposed Project area. The USFWS indicated that the project area is within the range of the federally-endangered Indiana bat (*Myotis sodalis*) and that no other federally-listed species were noted as potentially being located in the proposed Project area.

3.5.1 Existing Resources

The USFWS reported that the entire proposed Project area is within the range of the federally listed endangered Indiana bat. Indiana bats hibernate in caves and abandoned mines in the winter months. They reproduce and forage in relatively undisturbed forested areas associated with water resources during the spring and summer. Young are raised in nursery colony roosts in trees, typically near drainageways in undeveloped areas. Indiana bats utilize a variety of upland, wetland, and riparian habitats, and usually roost in dead or living trees with exfoliating bark of dead or living trees, such as shagbark hickory, black birch, red oak, white oak, and sugar maple.

The USFWS indicated that land-clearing activities, especially of forested areas, could adversely affect Indiana bats by killing, injuring, or harassing roosting bats, and by removing or reducing the quality of foraging and roosting habitat. Additionally, if any natural caves or abandoned mines were impacted during construction, it would be possible for hibernating or roosting bats to become trapped inside during activities such as land clearing, grading, fill disposal, or road construction. The USFWS stated that even if bats were absent from mines or caves at the time of closure, they might be adversely affected by finding closed hibernacula upon returning in the fall to hibernate. This would force them to expend energy looking for other suitable hibernacula during a time when it is crucial that they store up sufficient fat reserves for hibernation. Bats are at an increased risk of mortality when they enter hibernation without sufficient fat reserves, or are unable to locate a cave/mine with the suite of conditions (e.g., temperature, humidity, air flow) necessary for successful hibernation.

A Study Plan for the Indiana Bat (*Myotis sodalis*) Mist Netting Survey was submitted to the USFWS for review and concurrence. In a letter dated July 15, 2011, the USFWS provided concurrence to the study plan. Field work was completed on July 28, 2011. No Indiana Bats were captured during the mist netting study nor were any portals identified in the proposed Project ROW. A report of the findings of the mist-netting was submitted to the USFWS and WVDNR on August 23, 2011. Clearance is pending and is expected by October 1, 2011. A copy of the report is provided in Appendix 3-A.

3.5.2 Construction and Operation Impacts to Threatened and Endangered Species

No impacts to the Indiana Bat or its habitat are anticipated as a result of the construction and operation of the proposed Project.

3.6 REFERENCES

Bailey, R.G. 1995. Description of the Ecoregions of the United States. 2d ed. rev. and expanded (1st ed. 1980). Misc. Publ. No. 1391 (rev.), Washington, DC: USDA Forest Service. 108 pp. with separate map at 1:7,500,000.

U. S. Fish and Wildlife Service, National Wildlife Refuge website, http://www.fws.gov/refuges/refugeLocatorMaps/WestVirginia.html. Accessed July 26, 2011.

United States Environmental Protection Agency. 2003. Level III and IV Ecoregions of EPA Region 3. ftp://ftp.epa.gov/wed/ecoregions/reg3/reg3_eco_pg.pdf. Accessed July 29, 2011.

West Virginia Department of Natural Resources website, http://www.wvdnr.gov/Hunting/D1WMAareas.shtm#5d1. Accessed July 26, 2011.

Woods, A.J., J.M. Omernik, and D.D. Brown. 1999. Level III and IV Ecoregions of Delaware, Maryland, Pennsylvania, Virginia, and West Virginia. U.S. Environmental Protection Agency, Corvalis, Oregon, USA.

FERC Minimum Filing Requirement Checklist
Resource Report No. 4
Cultural Resources

Filing Requirement	Location in Report	Comment
See Sec. 380.14 and "OEP's Guidelines for Reporting on Cultural Resources Investigations" for further guidance.		
☒ Initial cultural resources consultation and documentation, and documentation of consultation with Native Americans. (Sec. 380.12(f)(1)(i) & (2)).	Appendix 1-C	
☒ Overview/Survey Report(s). (Sec. 380.12(f)(1)(ii) & (2)).	Appendix 4-A (Volume II)	

4.0 INTRODUCTION

This Concise Environmental Report, comprised of Resource Reports 1-13, addresses the requirements pursuant to Section 157.205, 157.208(b) and (c), and 380.12 of the Federal Energy Regulatory Commission's (FERC) regulations for a Blanket Certificate 60-Day Prior Notice Request of Dominion Transmission, Inc. (DTI) for authorization to construct TL-613, an approximately 5.2-mile new, 24-inch diameter, natural gas transmission pipeline and appurtenant facilities. The TL-613 project is located entirely in Marshall County, West Virginia and is hereafter referred to as the Project (Project).

4.1 CULTURAL RESOURCES

Resource Report 4 presents a summary of the consultation and surveys conducted for the Project under Section 106 of the National Historic Preservation Act (NHPA) (16 United States Code [USC] § 470f) and regulations promulgated there under (36 Code of Federal Regulations [CFR] 800). Section 4.2 describes the status of agency review and comment for the Project. Correspondence documenting consultation with the State Historic Preservation Officer (SHPO) and Native American Tribes is included in Appendix 1-C. Section 4.3 defines the Area of Potential Effect (APE) and details the results of cultural resource investigations conducted for the Project. The Phase I Archaeological Investigation Report for the proposed Project is provided in Appendix 4-A (Volume II). Section 4.4 describes the procedures to be followed if unanticipated cultural resources are discovered during construction of the Project. A copy of the Unanticipated Discovery Plan (UDP) is provided as Appendix 4-B. Section 4.5 provides a list of references used in the preparation of Resource Report 4.

4.2 AGENCY CONSULTATION

4.2.1 State and Federal Agencies

DTI submitted a letter initiating consultation dated July 27, 2011 to the West Virginia Division of Culture and History (WVDCH), which serves as the State Historic Preservation Officer for West Virginia. The letter described the proposed pipeline construction project and the results of site file research and other background research conducted for the Project. The letter also proposed a methodology for archaeological survey in compliance with West Virginia's Guidelines for Phase I, II, and III Archaeological Investigations and Technical Report Preparation. A response to the consultation letter from WVDCH is pending and is expected to be received by October 1, 2011.

4.2.2 Native American Consultation

Letters of consultation inviting participation in the FERC filing process were distributed on August 19, 2011 to the 19 Native American Tribes identified by Ms. Lora Lamarre of the WVDCH as having interest in the proposed Project area of West Virginia.

4.3 STATUS OF CULTURAL RESOURCES INVESTIGATIONS

4.3.1 Archaeological Resources

The APE for archaeological investigations is defined as a 200-foot wide corridor extending 100 feet to either side of the centerline. This corridor encompasses all areas of potential ground disturbance for pipeline construction and maintenance.

In accordance with West Virginia guidelines, records housed in the WVDCH site files were examined in order to identify recorded archaeological sites within and near the APE; to review previous archaeological surveys in the general vicinity; and to identify recorded aboveground historic structures within or near the APE. Background research was conducted for a study area extending one mile from the proposed pipeline centerline. The National Register of Historic Places (NRHP) files at the WVDCH were also examined. An examination of historic maps and atlases was conducted to provide the locations of historic buildings that are no longer extant. In addition, an examination was made of previous Cultural Resource Management (CRM)-related reports that were completed in the vicinity of the proposed APE. The file search revealed that no archaeological sites or no previous surveys were recorded within the APE for the proposed pipeline construction.

A Phase I archaeological survey was completed within the APE in accordance with West Virginia guidelines. A pedestrian walkover of the entire APE was conducted. The pipeline corridor traverses mostly steep slopes, some of which have been disturbed by previous pipeline construction. No rock overhangs or aboveground historic features were identified in the walkover survey.

Terrain with slopes of less than 20% was investigated using shovel test excavation. Three archaeological sites were identified on the footslope at the western end of the APE and are summarized in Table 4-1. Permanent state resource identification numbers are pending and are expected to be received by October 1, 2011.

Table 4-1
Archaeological Resources Identified Within the Project APE for the Proposed TL-613 Pipeline Project

Field Site #	Distance from Pipeline Centerline	Depositional Context	Description	Recommended NHRP Status	Treatment
Site 2	53 feet	Plow zone	Late eighteenth - early nineteenth century domestic site	Potentially eligible	Avoidance - reduction of ROW
Site 3	0 feet	Plow zone	Late nineteenth - early twentieth century domestic site	Not eligible	NA
Site 7	0 feet	Plow zone	Low-density prehistoric site, age unknown	Not eligible	NA

Sites 3 and 7 are recommended as not eligible for the NRHP. Site 2 may be eligible for the National Register. The site will be avoided by a reduction of the pipeline ROW to 50 feet to the north of the centerline. A copy of the report of the Phase I archaeological investigations is included in Volume II and is identified is noted "Contains Privileged Information – Do Not Release".

4.3.2 Aboveground Historic Resources

The proposed pipeline ROW crosses a property along Proctor Road at MP 0.6 that includes historic aboveground resources consisting of a 1910 farmhouse, two sheds, a small concrete block wellhouse, a hay barn, and a tractor garage. The tractor garage is located immediately to the north of the ROW, while the other buildings are located further to the north of the tractor garage. None of the buildings will be directly impacted by the proposed Project. The pipeline will have no effect on the historic resources since the property lacks the significance and integrity to be potentially eligible for the National Register of Historic Places. A West Virginia Historic Property Form is appended to the Phase I archaeological survey report.

4.4 UNANTICIPATED DISCOVERY PLAN

DTI has prepared a UDP (provided in Appendix 4-B) that is designed to address procedures to be followed if previously unidentified cultural resources, including archaeological sites and artifacts and human remains, are encountered during construction of the Project. If such cultural resources are discovered or uncovered during construction, the appropriate DTI Construction Utility Inspector, Chief Inspector, and EI will be notified immediately. Furthermore, activities in the area of the discovery will be halted. The Chief and/or EI will promptly notify the appropriate DTI personnel. DTI will then notify its archaeological consulting firm, as well as

FERC and WVDCH. Archaeologists will survey the discovery area to delineate boundaries and determine the nature of the discovery. FERC and WVDCH will be consulted for further guidance on additional investigations that may be necessary. If human remains are uncovered, the county or local coroner and Sheriff also will be notified. The proposed Project does not cross any federally-owned or managed lands; therefore, compliance with the regulations of the Native American Graves Protection and Repatriation Act published in the Federal Register in 1995 is not formally required for the proposed Project. DTI recognizes that the current Native American Tribes and groups in the region are historically documented occupants of the general proposed Project vicinity and has contacted the appropriate stakeholeders via mail to assess their interest as consulting parties to the proposed Project. DTI proposes the following procedures in the event that human remains are inadvertently discovered during construction of the proposed Project.

Because human remains have the potential to be culturally associated with Native American Tribes or groups currently or formerly occupying the proposed Project area, the above procedures will be modified as follows: DTI personnel will notify FERC immediately by telephone and follow up with written confirmation. In consultation with FERC and WVDCH, measures will be taken to stabilize and protect the human remains and any associated artifacts and features until the appropriate Native American Tribes or groups can be contacted and a mitigation plan can be prepared. Following any such additional investigations that are necessary to address unanticipated cultural resource discoveries, DTI personnel will approve the reinstatement of construction activities in the discovery area after receiving written notification to proceed by FERC, and after coordination with WVDCH and any appropriate Native American Tribes or groups.

4.5 REFERENCES

West Virginia Division of Culture and History. Cultural Resources Site Files, Charleston, WV. Accessed May 10 and 11, 2011.

FERC Minimum Filing Requirement Checklist Resource Report No. 5 Socioeconomics			
Filing Requirement		**Location in Report**	**Comment**
☒	For major aboveground facilities and major pipeline projects that require an EIS, describe existing socioeconomic conditions within the project area (Sec. 380.12(g)(1)).	N/A	The proposed Project is considered to be small and will not require an EIS.
☒	For major aboveground facilities, quantify impact on employment, housing, local government services, local tax revenues, transportation, and other relevant factors within the project area (Sec. 380.12(g)(2- 6)).	N/A	There are no major aboveground facilities associated with the proposed Project.

5.0 INTRODUCTION

This Concise Environmental Report, comprised of Resource Reports 1-13, addresses the requirements pursuant to Section 157.205, 157.208(b) and (c), and 380.12 of the Federal Energy Regulatory Commission's (FERC) regulations for a Blanket Certificate 60-Day Prior Notice Request of Dominion Transmission, Inc. (DTI) for authorization to construct TL-613, an approximately 5.2-mile new, 24-inch diameter, natural gas transmission pipeline and appurtenant facilities. The TL-613 project is located entirely in Marshall County, West Virginia and is hereafter referred to as the Project (Project).

5.1 SOCIOECONOMICS

In accordance with FERC guidance provided in 18 CFR Part 380.12(c), Resource Report 5 is not required because the proposed Project does not involve construction of major aboveground facilities. Launchers/receivers and valve settings to be constructed at MP 0.0 and 5.2 are within the proposed Project ROW and will occupy a total of 1.02 temporary and permanent acres.

In addition, the proposed Project will not require the addition of any permanent staff thereby resulting in no long-term impact on the population of Marshall County, West Virginia. There will be no disproportionately high or adverse environmental or human health impacts to low-income or minority populations because the proposed Project is located within private property in a rural area within DTI's lease, and there are no low income or minority populations in the area. There will be a minor short-term beneficial impact on the local economy due to the presence of two crews during construction, each consisting of approximately 30 people. The crews will stay in nearby hotels and purchase food from local restaurants and grocery stores.

5.1 REFERENCES

None.

FERC Minimum Filing Requirement Checklist
Resource Report No. 6
Geological Resources

Filing Requirement	Location in Report	Comment
Minimum Requirements		
☒ Identify the location (by milepost) of mineral resources and any planned or active surface mines crossed by the proposed facilities. (Sec. 380.12(h)(1 & 2)). Describe hazards to the facilities from mining activities, including subsidence, blasting, slumping or landsliding, or other ground failure.	N/A	There are no actively mined mineral resources or active or planned surface mines crossed by the proposed Project.
☒ Identify any geologic hazards to the proposed facilities. (Sec. 380.12(h)(2)). For the offshore this information is needed on a mile-by-mile basis and will require completion of geophysical and other surveys before filing.	Section 6.4	The proposed Project does not include offshore areas.
☒ Discuss the need for and locations where blasting may be necessary in order to construct the proposed facilities. (Sec. 380.12(h)(3))	Section 6.2	
☒ For LNG projects in seismic areas, the materials required by "Data Requirements for the Seismic Review of LNG Facilities" NBSIR84-2833. (Sec. 380.12(h)(5))	N/A	There is no LNG component to the proposed Project.
☒ For underground storage facilities, how drilling activity by others within or adjacent to the facilities would be monitored, and how old wells would be located and monitored within the facility boundaries. (Sec. 380.12(h)(6))	N/A	There are no underground storage facilities associated with the proposed Project.

6.0 INTRODUCTION

This Concise Environmental Report, comprised of Resource Reports 1-13, addresses the requirements pursuant to Section 157.205, 157.208(b) and (c), and 380.12 of the Federal Energy Regulatory Commission's (FERC) regulations for a Blanket Certificate 60-Day Prior Notice Request of Dominion Transmission, Inc. (DTI) for authorization to construct TL-613, an approximately 5.2-mile new, 24-inch diameter, natural gas transmission pipeline and appurtenant facilities. The TL-613 project is located entirely in Marshall County, West Virginia and is hereafter referred to as the Project (Project).

6.1 GEOLOGIC RESOURCES

Resource Report 6 describes the geologic resources that exist in the vicinity of the proposed Project in Marshall County, West Virginia, and discusses potential impacts of the proposed Project on those resources. Section 6.2 describes the geological formations and stratographic units traversed by the proposed Project. Section 6.3 discusses blasting for the proposed Project. Section 6.4 lists the mineral resources of economic value in the vicinity of the proposed Project. Section 6.5 describes geological hazards, surface and subterranean, that may occur near the proposed Project. Section 6.6 describes paleontological resources in the vicinity of the proposed Project. Section 6.7 provides a list of references used in preparing Resource Report 6.

6.2 GEOLOGIC SETTING

The proposed Project area is located in the Kanawha Section, Appalachian Highlands Division of the Appalachian Plateaus Physiographic Province in northern West Virginia (USGS, 2004). The Appalachian Plateau Province covers the western portion of Pennsylvania and most of West Virginia, and underlies the entire proposed Project area. The oldest rocks are located in the eastern fold sequences and range in age from late Ordovician through the Mississippian, while younger deposits of the Pennsylvanian and Permian are located in the western side of the section. Pennsylvanian and Permian strata directly underlie the proposed Project area. Quaternary alluvium derived from erosion of bedrock is also present in the project along the stream valleys.

The Kanawha Section is characterized by gently folded- to nearly flat-lying strata that have been maturely dissected by fluvial erosion. The result is the current landforms of steep valleys with undulating but relatively flat-topped ridges. According to the 7.5–minute Franklin, WVUSGS topographical map, surface elevation of the Project ranges from approximately 700 feet near the Ohio River to 1,400 feet above mean sea level (amsl) at ridge tops.

The proposed Project area is underlain by rocks from the Pennsylvanian and Permian age Dunkard Group, which consists of cyclic sequences (cyclothems) of non-marine sandstone, siltstone, red and gray shale, limestone, and coal.

During the Permian Period, the Appalachian Orogeny occurred with folding and thrust faulting of the deposited strata. Several synclines (folds where the limbs are higher than the folds' axis) and anticlines (folds where the limbs are lower than the folds' axis) formed as a result of the deformation caused by this orogney's tectonic pressures. The axial trace of the Prospect Syncline, which trends northeast-southwest, bisects the proposed Project area. The axial trace of the New Martinsville Anticline is about one mile south of the proposed pipeline's end. The general structure of the rocks includes a gentle regional dip (less than three degrees) to the southwest that is overlain by these northeast-southwest trending structural folds in the rock (Cardwell et al., 1968).

6.3 BLASTING

Blasting for grade or trench excavation will be considered only after all other reasonable means of excavation have been evaluated and determined to be unlikely to achieve the required results. DTI may specify locations where consolidated rock will be removed by approved mechanical equipment such as rock trenching machines, rock saws, hydraulic rams, or jack hammers, instead of blasting. In areas where controlled blasting techniques become necessary during construction, monitoring and mitigation (if necessary) will be conducted in accordance with DTI's Blasting Procedures Guidance Document, included as Appendix 6-A.

6.4 MINERAL RESOURCES

No actively mined mineral resources were observed in or adjacent to the proposed Project ROW during environmental surveys for the proposed Project. Additionally, review of the proposed Project area was conducted using the WVGES interactive map and West Virginia Department of Environmental Protection Geographic Information System (GIS) data (2011), which showed no mineral resources within 0.25 mile of the proposed Project area. Several oil and gas wells were determined to be located within a 5-mile radius of the proposed Project.

6.4.1 Sand, Gravel, and Crushed Stone

No known sand, gravel, or crushed stone resources were reported to be within the proposed Project area.

6.4.2 Oil and Gas

Although no wells were identified within 0.25 miles of the Project, oil and gas well drilling – including drilling for Marcellus Shale reserves – is prevalent in the area. Because all proposed Project facilities are surficial, the impacts on oil and gas resource recovery will be minimal. Pipeline construction activities will be coordinated with oil and gas producers to avoid any adverse impacts on production and transportation of oil and gas. According to well logs in Marshall County, the Marcellus shale is generally encountered about 7,000 feet below ground surface (bgs) and is mapped at 25 feet to 50 feet thick in the Project area.

6.4.3 Coal

No active or inactive surface or deep mines were reported by WVDEP to be within the proposed Project area.

6.4.4 Impacts to Mineral Resources

There are no reported mineral resources within 0.25 mile of the proposed Project area.

6.5 GEOLOGIC HAZARDS

As described in the following sections, landslides and slope movement are the only known geologic hazards in the vicinity of the proposed Project. No other geologic hazards, including active faults, soil liquefaction, ground failure, and volcanism, have been identified in the proposed Project area.

6.5.1 Earthquakes and Active Faults

A review of the proposed Project area was based on the USGS Earthquake Hazard Program, Earthquake Probability Mapping, which generates maps showing the probability of earthquakes within a specified radius of any location. Maps were generated to show the probability of an earthquake occurring within the next 50 years within 100 miles of the Project area. On a scale of 0.00 (the lowest probability of earthquake) to 1.00 (the highest probability of earthquake), all pipeline replacement section locations are within the lowest range of 0.00 to 0.01.

Also, a review of the USGS Earthquake Hazard Program, National Seismic Hazard Maps showing earthquake ground motions for various probability levels across the United States, revealed the proposed Project is located in an area with the lowest seismic hazard class rating

(USGS, 2011b). In addition, no known Quaternary faults (i.e., faults that are found at the Earth's surface and are younger than 1.6 million years) have been found in West Virginia (USGS, 2011b). Therefore, based on this review, the probability of major movement or damage to the proposed Project facilities as a result of seismic activity is considered to be low.

6.5.2 Soil Liquefaction

Liquefaction is a phenomenon in which saturated, cohesionless soils, such as fine sands and silts from the Holocene Age, temporarily lose their strength and liquefy when subjected to forces such as intense and prolonged ground shaking. The conditions required to pose a risk of soil liquefaction are not present in the vicinity of the proposed Project, as soil particle size varies in the proposed Project area (Natural Resources Conservation Service [NRCS], 2011) and the potential for tectonic activity is extremely low. Therefore, the potential for soil liquefaction to present a geologic hazard in the vicinity of the proposed Project is very low.

6.5.3 Landslide/Slope Movement

A landslide is the down slope movement of earth materials under the force of gravity due to natural or manmade causes. The proposed Project traverses over steep inclines or beneath steep slopes could induce mass movements of land. Review of the Project area was based on the USGS Preliminary Landslide Overview Map of the Conterminous United States (USGS, 2011c). All locations within the Project traverse an area of high landslide incidence. More than 15% of this area is estimated to have had underlying rock or earth material involved in landslide incidences (USGS, 2011c). Landslides occur primarily in colluvial (loose) soil and within old landslide debris located on steep slopes. There are red shale layers of bedrock located within the proposed Project area that are a known cause of many landslides in the area. The proposed route and construction activities were chosen to minimize potential land subsidence. Additionally, the Project parallels an existing pipeline constructed and currently in service without a subsidence incident.

Rockfalls are a potential hazard below bedrock outcroppings at or near the top of steep slopes associated with the cliff-forming sandstones of the Dunkard group. These outcrops may be weathered by wind or rainfall and become loosened, leading to a violent cascade downhill, often triggering a larger landslide. However, rock outcroppings are minimal in the Project area and rockfall hazard potential is low along the proposed Project route.

Implementing the construction procedures, such as burial of the pipeline below the potential landslide depth, if feasible, and/or the use of drainage controls, application of erosion control

techniques such as the use of trench breakers, diversion terracing, prompt restoration and re-vegetation, will minimize the potential for landslide and rockfall hazards. Slopes will not be undercut and runoff will be routed away from excavations to prevent excessive loading of the overburden relative to the underlying strata. Implementing the FERC Plan and Procedures will minimize the potential for slope failure and erosion.

6.5.4 Ground Failure

Review of the Project site locations was based on the USGS, National Atlas of the United States of America: Karst, Engineering Aspects Map Layer (USGS, 2010d). The Project is not located in area where any karst features exist. In addition, field surveys did not identify any evidence suggesting the presence of karst features in the Project area. Ground failure as a result of karst conditions is not likely in the Project area.

Ground subsidence could form from underground mining and longwall mining activities, as well as surface mining activities. The Project is not located in an area in which extensive underground mining or historical mine subsidence have occurred. Accordingly, the potential for ground failure to present a geologic hazard to the proposed Project is considered to be very low.

6.5.5 Volcanism

There is no active volcanism or igneous thermal activity in the vicinity of the proposed Project. Accordingly, the potential for volcanism to present a geologic hazard is considered to be extremely low.

6.6 PALEONTOLOGY

Although no known paleontological resources occur in the vicinity of the proposed Project, the route will cross Pennsylvanian and Permian sedimentary rock deposits that may contain various marine and terrestrial fossils. Because the proposed Project area generally parallels an existing pipeline where significant paleontological resources were not identified, significant paleontological resources are not anticipated.

6.7 REFERENCES

Cardwell, D.H., Erwin, R.B., and Woodward, H.P., 1968 (slightly revised 1986), Geologic Map of West Virginia: West Virginia Geological and Economic Survey (WVGES), Map 1, East Sheet, scale 1:250,000. http://wvgis.wvu.edu/data/dataset.php?action=search&ID=43. Accessed July 23, 2011.

West Virginia Department of Environmental Protection (WVDEP), Division of Mining and Reclamation Permit Maps, Mining Maps and Mineral Database. Accessed July 2011.

Natural Resources Conservation Service (NRCS). 2011. USDA Soil DataMart NRCS (Marshall County, West Virginia). http://soildatamart.nrcs.usda.gov/. Accessed July 2011.

National Geophysical Data Center (NOAA) Volcanic Database – 2011.

West Virginia Geological and Economic Survey (WVGES 2011a). WV Marcellus Wells Completed, Attribute Table. Website: http://www.wvgs.wvnet.edu/www/datastat/Marcellus/Downloads/WVMarcellusWells_Completed_04142011.csv. Accessed July 24, 2011.

West Virginia Geological and Economic Survey (WVGES 2011b). Marcellus Shale in West Virginia Map. Website: http://ims.wvgs.wvnet.edu/mar2/ viewer.htm. Accessed July 24, 201.

West Virginia Geological and Economic Survey WVGES - Oil and Gas Wells of West Virginia, http://ims.wvgs.wvnet.edu/WVOG/viewer.htm. Accessed July 23, 2011.

United States Geological Survey (USGS). A Tapestry of Time and Terrain: The Union of Two Maps – Geology and Topography and Physiographic Regions of the Lower 48 United States. Website: http://tapestry.usgs.gov/physiogr/physio.html. 2004. Accessed July 23, 2011.

USGS 7.5-minute Topographic Series Quadrangle Maps, New Martinsville, West Virginia (176, photorevised from 1960) and Powhatan Point, Ohio (1984, photorevised from 1960). ESRI USA Topographic Maps Service (2009).

USGS 2011a. Earthquake Probability Mapping 2009 PSHA Model. Wesbsite: https://geohazards. usgs. gov/eqprob/2009/index.php. Accessed July 23, 2011.

USGS 2011b. 2008 United States National Seismic Hazard Maps http://earthquake.usgs.gov/hazards/products/conterminous/2008/maps/ceus/ceus.2pc50.pga.jpg, and http://earthquake.usgs.gov/hazards/qfaults/nodata.php. Accessed July 23, 2011.

USGS 2011c. Landslide Overview Map of the Conterminous United States Open-File Report 97-289. Website: http://landslides.usgs.gov/learning/nationalmap/. Accessed July 23, 2011.

USGS. 2011d. The National Atlas of the United States of America: Karst, Engineering Aspects Map Layer. Website: http://www.nationalatlas.gov/natlas/Natlasstart.asp. Accessed July 23, 2011.

FERC Minimum Filing Requirement Checklist
Resource Report No. 7
Soils

Filing Requirement	Location in Report	Comment
☒ Identify, describe, and group by milepost the soils affected by the proposed pipeline and aboveground facilities. (Sec. 380.12(i)(1)). List the soil associations by milepost and describe their characteristics.	Table 7-1	
☒ For aboveground facilities that would occupy sites over 5 acres, determine the acreage of Prime Farmland soils that would be affected by construction and operation. (Sec. 380.12(i)(2)). List the soil series, describe their characteristics and percentages within the site; indicate the on-site percentage of each series that would be permanently affected and indicate which series are considered "prime or unique farmland."	N/A	The proposed Project does not include aboveground facilities that would occupy sites greater than five acres.
☒ Describe, by milepost, potential impacts on soils (Sec. 380.12(i)(3,4)).	Table 7-2	
☒ Identify proposed mitigation to minimize impact on soils, and compare with the staff's Upland Erosion Control, Revegetation, and Maintenance Plan (Sec. 380.12(i)(5)). Identify any measures of the Plan that are deemed unnecessary, technically infeasible, or unsuitable and describe alternative measures that will ensure an equal or greater level of protection.	Section 7.1.2	

7.0 INTRODUCTION

This Concise Environmental Report, comprised of Resource Reports 1-13, addresses the requirements pursuant to Section 157.205, 157.208(b) and (c), and 380.12 of the Federal Energy Regulatory Commission's (FERC) regulations for a Blanket Certificate 60-Day Prior Notice Request of Dominion Transmission, Inc. (DTI) for authorization to construct TL-613, an approximately 5.2-mile new, 24-inch diameter, natural gas transmission pipeline and appurtenant facilities. The TL-613 project is located entirely in Marshall County, West Virginia and is hereafter referred to as the Project (Project).

7.1 SOILS

Resource Report 7 identifies and describes the soil resources in Marshall County, West Virginia crossed by the proposed Project and which could potentially be affected by the proposed Project. A description of each soil traversed by the proposed Project and soil limitations is provided in Section 7.2. Section 7.3 provides a list of references used in preparing Resource Report 7.

7.2 EXISTING ENVIRONMENT

Based on review and interpretation of information provided by the United States Department of Agriculture (USDA), NRCS State Soil Geographic Database (STATSGO2), the Project traverses a total of 10 soil series. Table 7-1 summarizes each soil series, distance crossed, and soil limitations.

Table 7-1
Soils Traversed by the Proposed TL-613 Pipeline Project

							Limitations			
Soils Map Unit	Soil Name	Hydric	Prime Farmland	Topsoil Depth (inches)	Depth to Restrictive Feature (inches)	Drainage Class	Frequency of Flooding	Potential Compaction Prone	Erosion Hazard (off road/trail)	Erosion Hazard (on road/trail)
BrB	Brookside silt loam, 3 to 8 percent slopes	No	No	0-11	20-40 Lithic bed rock	Moderately Well Drained	None	Moderate	Slight	Moderate
BrC	Brookside silt loam, 8 to 15 percent slopes	No	No	0-11	20-40 Lithic bed rock	Moderately Well Drained	None	Moderate	Moderate	Severe

Table 7-1
Soils Traversed by the Proposed TL-613 Pipeline Project

							Limitations			
Soils Map Unit	Soil Name	Hydric	Prime Farmland	Topsoil Depth (inches)	Depth to Restrictive Feature (inches)	Drainage Class	Frequency of Flooding	Potential Compaction Prone	Erosion Hazard (off road/trail)	Erosion Hazard (on road/trail)
BrD	Brookside silt loam, 15 to 25 percent slopes	No	No	0-12	20-40 Lithic bed rock	Moderately Well Drained	None	Moderate	Moderate	Severe
BrE	Brookside silt loam, 25 to 35 percent slopes	No	No	0-13	20-40 Lithic bed rock	Moderately Well Drained	None	Moderate	Severe	Severe
CpC	Culleoka-Dormont-Peabody complex, 8 to 15 percent slopes	No	No	0-10	20-40 Lithic bed rock	Moderately Well Drained to Well Drained	None	Moderate	Slight	Severe
CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes	No	No	0-11	20-40 Lithic bed rock	Moderately Well Drained to Well Drained	None	Moderate	Moderate	Severe
CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes	No	No	0-12	20-40 Lithic bed rock	Moderately Well Drained to Well Drained	None	Moderate	Moderate	Severe
CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony	No	No	0-10	20-40 Lithic bed rock	Moderately Well Drained to Well Drained	None	Moderate	Severe	Severe
LaC	Lakin loamy sand, 3 to 15 percent slopes	No	No	0-7	--	Excessively Well Drained	None	High	Slight	Moderate
SeA	Senecaville silt loam, 0 to 3 percent slopes, occasionally flooded	No	Yes	0-6	--	Well Drained	Occasional	High	Slight	Slight

7.2.1 Soil Limitations

Soil limitations may include severe erosion potential, high compaction potential, potential to introduce rock into the soil due to shallow depth to bedrock, and poor revegetation potential. DTI will segregate and conserve topsoil during construction through active agricultural and pasture areas. Following final grading, DTI will assure that soils are not compacted, and if mitigation is needed, DTI will decompact all affected areas. DTI will implement additional measures to minimize or avoid significant adverse effects of the proposed Project on soils, as discussed below in Section 7.2.2.

7.2.2 Construction and Operation Impacts and Mitigation

A total of approximately 10.35 acres of soil will be temporarily disturbed within the proposed pipeline construction workspace. The primary impact from construction will include grading and excavation disturbances to soils in these areas and the potential erosion hazard created by exposing bare soil. Table 7-2 describes, by milepost, the soils crossed by the proposed Project. Construction of the proposed Project will result in minor, short-term impacts to soils. DTI will implement erosion and sedimentation control measures consistent with FERC's *Plan* to minimize impacts to soils. In addition, DTI will implement best management practices for erosion control, restoration, revegetation, and periodic monitoring. Topsoil segregation and conservation measures are prescribed in agricultural and pasture lands, along with rock removal, erosion control, and restoration. Construction also may result in compaction of soils from construction equipment in the work area, possible intermixing of topsoil and subsoil, loss of organic matter, deterioration of soil structure, and soil settling or slumping. Soil compaction can lead to increased runoff and adversely affect agricultural crop production. Overall impacts to soils affected by the proposed Project will be minimized through the use of these measures, and by the restoration and revegetation of work areas along pipeline ROW. In addition to fertilizing and seeding, DTI will apply lime to the soils, which tends to reduce the soil acidity and thus promote vegetation regrowth. No significant difficulties with revegetation are anticipated in the proposed Project area. Following completion of construction, DTI will periodically monitor revegetation to ensure successful restoration of the work areas and stabilization of soils disturbed during construction.

Table 7-2
Pipeline Route Soils by Milepost for the Proposed TL-613 Pipeline Project

Begin MP	End MP	Map Unit Symbol	Soil Map Unit
0.0	0.0	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
0.0	0.0	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
0.0	0.0	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
0.0	0.1	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony

Table 7-2
Pipeline Route Soils by Milepost for the Proposed TL-613 Pipeline Project

Begin MP	End MP	Map Unit Symbol	Soil Map Unit
0.2	0.2	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
0.2	0.4	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony
0.4	0.4	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
0.4	0.5	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
0.5	0.5	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony
0.5	0.5	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
0.6	0.6	CpC	Culleoka-Dormont-Peabody complex, 8 to 15 percent slopes
0.6	0.6	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
0.6	0.6	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
0.6	0.7	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony
0.7	0.7	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
0.7	0.8	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony
0.8	0.8	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
0.8	0.9	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony
0.9	0.9	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
0.9	1.0	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
1.0	1.0	CpC	Culleoka-Dormont-Peabody complex, 8 to 15 percent slopes
1.0	1.1	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony
1.1	1.2	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
1.2	1.2	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
1.2	1.2	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
1.3	1.3	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony
1.3	1.3	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
1.3	1.6	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
1.4	1.4	CpC	Culleoka-Dormont-Peabody complex, 8 to 15 percent slopes
1.5	1.6	CpC	Culleoka-Dormont-Peabody complex, 8 to 15 percent slopes
1.6	1.7	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
1.7	1.8	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
1.8	1.8	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony
2.0	2.1	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony
2.1	2.2	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
2.2	2.2	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony
2.2	2.2	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
2.2	2.3	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
2.3	2.3	CpC	Culleoka-Dormont-Peabody complex, 8 to 15 percent slopes
2.3	2.5	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
2.4	2.4	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony

Table 7-2
Pipeline Route Soils by Milepost for the Proposed TL-613 Pipeline Project

Begin MP	End MP	Map Unit Symbol	Soil Map Unit
2.6	2.6	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony
2.6	2.6	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
2.6	2.6	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony
2.6	2.7	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
2.7	2.7	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
2.7	2.7	CpC	Culleoka-Dormont-Peabody complex, 8 to 15 percent slopes
2.7	2.7	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
2.7	2.8	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony
2.8	2.8	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
2.8	2.8	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
2.8	2.8	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
2.8	2.8	BrE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
2.8	2.9	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony
2.9	2.9	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
2.9	3.0	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
3.0	3.0	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony
3.0	3.1	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
3.1	3.2	CpC	Culleoka-Dormont-Peabody complex, 8 to 15 percent slopes
3.1	3.3	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
3.4	3.4	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony
3.4	3.4	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
3.4	3.4	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
3.4	3.5	CpC	Culleoka-Dormont-Peabody complex, 8 to 15 percent slopes
3.4	3.5	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
3.5	3.6	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
3.6	3.6	CpC	Culleoka-Dormont-Peabody complex, 8 to 15 percent slopes
3.6	3.6	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
3.6	3.7	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
3.6	3.7	CpC	Culleoka-Dormont-Peabody complex, 8 to 15 percent slopes
3.7	3.8	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony
3.8	3.8	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
3.8	4.0	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony
4.0	4.0	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
4.0	4.1	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony
4.1	4.2	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
4.1	4.3	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony
4.3	4.4	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes

Table 7-2
Pipeline Route Soils by Milepost for the Proposed TL-613 Pipeline Project

Begin MP	End MP	Map Unit Symbol	Soil Map Unit
4.4	4.4	CpC	Culleoka-Dormont-Peabody complex, 8 to 15 percent slopes
4.4	4.5	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
4.5	4.6	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
4.6	4.6	CpC	Culleoka-Dormont-Peabody complex, 8 to 15 percent slopes
4.6	4.6	CpD	Culleoka-Dormont-Peabody complex, 15 to 25 percent slopes
4.6	4.8	CrF	Culleoka-Dormont-Peabody complex, 35 to 65 percent slopes, very stony
4.8	4.8	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
4.8	4.8	BrE	Brookside silt loam, 25 to 35 percent slopes
4.8	4.9	BrD	Brookside silt loam, 15 to 25 percent slopes
4.9	4.9	CpE	Culleoka-Dormont-Peabody complex, 25 to 35 percent slopes
4.9	5.0	BrE	Brookside silt loam, 25 to 35 percent slopes
5.0	5.0	BrD	Brookside silt loam, 15 to 25 percent slopes
5.0	5.1	LaC	Lakin loamy sand, 3 to 15 percent slopes
5.1	5.2	SeA	Senecaville silt loam, 0 to 3 percent slopes, occasionally flooded
5.1	5.2	BrB	Brookside silt loam, 3 to 8 percent slopes
5.2	5.2	BrC	Brookside silt loam, 8 to 15 percent slopes
5.2	5.2	BrB	Brookside silt loam, 3 to 8 percent slopes

7.3 REFERENCES

United States Department of Agriculture, Natural Resources Conservation Service, Soil Data Mart. http://soils.usda.gov/survey/geography/statsgo2/. 2006. Accessed July 22, 2011.

FERC Filing Content Checklist
Resource Report 8
Land Use, Recreation, and Aesthetics

Minimum Requirement	Location in Report	Comment

☒ Classify and quantify land use affected by: (Sec. 380.12(j)(1))
o Pipeline construction and permanent rights-of-way (Sec. 380.12(j)(1));
o Extra work/staging areas (Sec. 380.12(j)(1));
o Access roads (Sec. 380.12(j)(1));
o Pipe and contractor yards (Sec. 380.12(j)(1)); and
o Aboveground facilities (Sec. 380.12(j)(1)).
For aboveground facilities provide the acreage affected by construction and operation, acreage leased or purchased, and describe the use of the land not required for operation (Sec. 380.12(j)(1)).
	Table 8-1
	and
	Table 8-2	

☒ Identify by milepost all locations where the pipeline right-of- way would at least partially coincide with existing right-of-way, where it would be adjacent to existing rights-of-way, and where it would be outside of existing right-of-way (Sec. 380.12(j)(1)).	Table 8-4	
☒ Provide detailed typical construction right-of-way cross-section diagrams showing information such as widths and relative locations of existing rights-of-way, new permanent right-of-way, and temporary construction right-of-way (Sec. 380.12(j)(1)).	Appendix 1-B	
☒ Summarize the total acreage of land affected by construction and operation of the project (Sec. 380.12(j)(1)).	Table 8.2	
☒ Identify by milepost all planned residential or commercial/ business development and the time frame for construction (Sec. 380.12(j)(3)). Identify all planned development crossed within 0.25 mile of proposed facilities.	Section 8.3.2	
☒ Identify by milepost special land uses (e.g., sugar maple stands, specialty crops, natural areas, national and state forests, conservation land) (Sec. 380.12(j)(4)).	N/A	There are no special land uses crossed by the proposed Project.

FERC Filing Content Checklist
Resource Report 8
Land Use, Recreation, and Aesthetics

Minimum Requirement	Location in Report	Comment
☒ Identify by beginning milepost and length of crossing all land administered by federal, state, or local agencies, or private conservation organizations (Sec. 380.12(j)(4)).	N/A	There are no lands to be crossed by the proposed Project that are administered by federal, state, or local agencies, or private conservation organizations.
☒ Identify by milepost all natural, recreational, or scenic areas, and all registered natural landmarks crossed by the project. Identify areas within 0.25 mile of any proposed facility (Sec. 380.12(j)(4 & 6)).	N/A	There are no natural, recreational or scenic areas, or registered natural landmarks crossed by the proposed Project.
☒ Identify all facilities that would be within designated coastal zone management areas. Provide a consistency determination or evidence that a request for a consistency determination has been filed with the appropriate state agency ((Sec. 380.12(j)(4 & 7)).	N/A	There are no designated coastal zone management areas in the proposed Project area.
☒ Identify by milepost all residences that would be within 50 feet of the construction right-of-way or extra work area (Sec. 380.12(j)(5)).	N/A	There are no residences located within 50 feet of the proposed Project construction ROW.
☒ Identify all designated or proposed candidate National or State Wild and Scenic Rivers crossed by the project (Sec. 380.12(j)(6)).	N/A	There are no designated or proposed candidate National or State Wild and Scenic Rivers crossed by the proposed Project.
☒ Describe any measures to visually screen aboveground facilities, such as compressor stations (Sec. 380.12(j)(11)).	N/A	No significant aboveground facilities, such as compressor stations, are associated with the proposed Project.
☒ Demonstrate that applications for rights-of-way or other proposed land use will be filed with federal land-managing agencies with jurisdiction over land that would be affected by the project (Sec. 380.12(j)(12)).	N/A	There are no federally managed lands associated with the proposed Project.

8.0 INTRODUCTION

This Concise Environmental Report, comprised of Resource Reports 1-13, addresses the requirements pursuant to Section 157.205, 157.208(b) and (c), and 380.12 of the Federal Energy Regulatory Commission's (FERC) regulations for a Blanket Certificate 60-Day Prior Notice Request of Dominion Transmission, Inc. (DTI) for authorization to construct TL-613, an approximately 5.2-mile new, 24-inch diameter, natural gas transmission pipeline and appurtenant facilities. The TL-613 project is located entirely in Marshall County, West Virginia and is hereafter referred to as the Project (Project).

8.1 LAND USE, RECREATION, AND AESTHETICS

Resource Report 8 identifies the land use in the proposed Project area and addresses impacts and mitigation during construction and operation. Section 8.2 characterizes current land uses affected by the Project and quantifies approximate impacts by each land use type. Section 8.3 provides information on residential areas, both existing and planned. Section 8.4 identifies special use areas, including public lands, conservation areas, and designated recreation areas. Section 8.5 identifies prime farmland in the proposed Project area. Section 8.6 addresses coastal zone management areas. Section 8.7 discussed visual resources. Section 8.8 detailes construction and operation impacts and mitigation. Section 8.9 provides provides a list of references used in preparing Resource Report 8.

8.2 LAND USE

The proposed Project is located entirely in Marshall County, West Virginia. Characterization of land use was identified based on field environmental surveys conducted in July 2011, interpretation of recent aerial photography of the proposed Project area, and review of publicly available information. The proposed Project area land uses consists mainly of forestland, agricultural land, wetlands, and water. Classification of land use types was prepared in conjunction with information presented in Chapter 3 (Vegetation and Wildlife). A 75-foot-wide construction corridor will be used for the safe construction of the 24-inch diameter pipeline in the proposed Project corridor and to limit total impacts to the environment.

Operational/permanent ROW width will be 50 feet. Adequate workspace provides for a safe work site and promotes effective implementation of FERC's *Plan*. Land uses crossed by the proposed Project ROW were tabulated by land use category and are expressed in terms of miles and land use percentages in Table 8-1.

Table 8-1
Summary of Land Uses Crossed (miles) for the Proposed TL-613 Pipeline Project

	Agricultural Land		Forested Land		Water		Wetlands		Existing ROW		Total
	Miles	%	Miles	%	Miles	%	Miles	%	Miles	%	
TL-613	1.75	33.65	3.24	62.31	0.12	2.31	0.04	0.77	0.05	0.96	**5.20**
TOTAL	**1.75**	**33.65**	**3.24**	**62.31**	**0.12**	**2.31**	**0.04**	**0.77**	**0.05**	**0.96**	**5.20**

Land uses affected by construction and operation of the proposed Project are expressed in terms of acres in Table 8-2. The acreage shown for construction impacts includes all areas that will be disturbed, including both temporary (construction) and permanent (operational) impacts. Impacts to temporary ROW areas are considered to be short-term impacts. Although most temporary ROW areas will recover within the first year, some construction impacts within temporary ROW for land uses will take several years to recover. Where practicable, lands disturbed by the proposed Project construction will be returned to their previous land use, except for where access roads are requested by landowners or needed for operations, and where safety requires a change in land use (e.g., maintaining a clear ROW in a previously forested area).

Table 8-2
Acreage Affected By Construction and Operation (Acres) for the Proposed TL-613 Pipeline Project

	Agricultural Land		Upland Forest Land		Wetlands		Open Water/Streams		Existing ROW		Totals	
	Temp ROW (acres)	Perm ROW (acres)	Temp ROW (acres)	Perm ROW (acres)	Temp ROW (acres)	Perm ROW (acres)	Temp ROW (acres)	Perm ROW (acres)	Temp ROW (acres)	Perm ROW (acres)	Temp ROW (acres)	Perm ROW (acres)
Pipeline												
TL-613	1.80	2.03	11.96	16.05	0.01	0.06	0.14	0.12	0.84	10.90	**14.75**	**29.16**
Pipeline Subtotal	**1.80**	**2.03**	**11.96**	**16.05**	**0.01**	**0.06**	**0.14**	**0.12**	**0.84**	**10.90**	**14.75**	**29.16**
Aboveground Facilities												
Natrium Gate Site	0.00	0.39	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.50**
Birch Ridge Gate Site	0.00	0.40	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.52**
Aboveground Facilities Subtotal	**0.00**	**0.79**	**0.00**	**0.23**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.02**
Extra Work Spacess, Pipeyard, and Access Roads												
Extra Work Spaces	1.27	0.00	3.03	0.00	0.00	0.00	0.01	0.00	1.79	0.00	6.10	0.00
Pipeyard	2.05	0.00	2.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.11	0.00
Proposed Access Roads	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.07
Extra Work Spacess, Pipeyard, and Access Roads Subtotal	**3.39**	**0.07**	**5.09**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**1.79**	**0.00**	**10.28**	**0.07**
Project Totals	**5.19**	**2.89**	**17.05**	**16.28**	**0.01**	**0.06**	**0.15**	**0.12**	**2.63**	**10.90**	**25.03**	**30.25**

8.2.1 Support Sites (Access Roads and Pipe/Contractor Yard)

DTI plans to use four existing access roads, one additional access road, and one 4.11-acre pipeyard. Table 8-3 summarizes the existing four access roads and one proposed, their length in feet, and location by milepost.

Table 8-3
Access Roads Proposed for Use During Construction for the Proposed TL-613 Pipeline Project

Length (feet)	MP	Land/Use/Description
1,543	0.0	Existing gravel road
200	2.4	Proposed Access Road
2,484	3.3	Existing paved road
2,401	4.4	Existing gravel road
12,055	4.7	Existing gravel road

The proposed Project will use an existing DTI ROW corridor to minimize the fragmentation of forested habitat during pipeline construction and will parallel the ROW for a total of 3.7 miles, approximately 74% of the proposed route. Table 8-4 summarizes by milepost all locations where the pipeline right-of- way would at least partially coincide with existing right-of-way, where it would be adjacent to existing rights-of-way, and where it would be outside of existing right-of-way.

Table 8-4
Existing Rights-of-Way for the Proposed TL-613 Pipeline Project

	Beginning Milepost	Ending Milepost
Partially Coincides with Existing ROW	0.0	3.7
	4.4	4.6
Outside of Existing ROW	3.7	4.4
	4.6	5.2

Approximately 6.10 acres of land will be temporarily disturbed for use as extra work space during construction of the proposed Project. All 6.10 acres of temporarily disturbed land will be returned to its orginal use following construction, resulting in no permanent impact to extra work space land. Table 8-5 describes by MP and acres the extra works spaces associated with the proposed Project.

Table 8-5
Extra Work Spaces

Milepost	Total Acres	Existing Land Use(s)
0.0	0.52	Agricultural / Forest
0.1	0.10	Right-of-Way
0.1	0.06	Right-of-Way
0.1	0.06	Right-of-Way
0.2	0.06	Forest
0.3	0.06	Forest
0.3	0.06	Right-of-Way
0.4	0.06	Right-of-Way
0.6	0.06	Agricultural
0.6	0.05	Forest
0.6	0.06	Agricultural
0.7	0.06	Right-of-Way
0.7	0.06	Right-of-Way
0.7	0.06	Forest
0.8	0.06	Right-of-Way
0.8	0.06	Forest
0.8	0.06	Forest
0.9	0.06	Right-of-Way
0.9	0.06	Forest
0.9	0.06	Right-of-Way
1.0	0.06	Right-of-Way
1.1	0.06	Forest
1.1	0.04	Right-of-Way
1.1	0.06	Right-of-Way
1.1	0.06	Forest
1.2	0.06	Right-of-Way
1.3	0.06	Right-of-Way
1.3	0.19	Forest
1.3	0.08	Forest
1.6	0.06	Right-of-Way
1.6	0.06	Right-of-Way
1.7	0.22	Forest
1.7	0.22	Right-of-Way / Forest
2.0	0.22	Forest
2.0	0.27	Right-of-Way / Forest

Table 8-5
Extra Work Spaces

Milepost	Total Acres	Existing Land Use(s)
2.4	0.23	Forest
2.4	0.29	Right-of-Way / Forest
2.5	0.14	Right-of-Way / Forest
2.5	0.23	Forest
2.6	0.23	Right-of-Way / Forest
2.8	0.06	Forest
2.8	0.06	Right-of-Way
2.8	0.06	Right-of-Way
2.9	0.06	Forest
3.7	0.13	Forest
3.9	0.06	Forest
3.9	0.06	Forest
3.9	0.06	Forest
4.6	0.07	Agricultural
4.6	0.07	Forest
4.8	0.06	Agricultural
4.8	0.06	Agricultural
5.1	0.06	Forest
5.1	0.06	Forest
5.1	0.06	Forest
5.2	0.14	Agricultural
5.2	0.04	Agricultural
5.2	0.50	Agricultural / Forest
TOTAL	**6.10**	

8.3 RESIDENTIAL AREAS

8.3.1 Existing Residences

There are no residential dwellings or associated structures located within 50 feet of the Project ROW.

8.3.2 Planned Residential Areas

According to the Marshall County Planning Commission, there are no planned residential developments within 50 feet of the Project ROW.

8.4 PUBLIC LAND, RECREATION, AND OTHER DESIGNATED AREAS

The review of the proposed Project area for public land, recreation areas and other special uses was based on the July 2011 field survey and a review of state and federal websites. Public land, recreation, and other designated areas, including special use areas, are defined as:

- lands administered by federal, state, county, or local agencies, or private conservation organizations;
- lands, including trails, used for designated recreational purposes;
- land of local historical or cultural significance;
- land used for landfills, hazardous waste sites, quarries, mines, and other special uses;
- sugar maple stands, specialty crops, national and state forests and parks,
- national scenic rivers, state scenic rivers, natural areas, and designated scenic areas, or roads; and,
- designated Coastal Zone Management Areas.

According to the National Park Service (NPS) website, there are no National Parks, Scenic Rivers, or National Trails, Wilderness Areas, or Natural or Scenic Areas located in the vicinity of the proposed Project.

According to the West Virginia Department of Agriculture, Division of Forestry, there are no State Parks located in the vicinity of the proposed Project.

The NPS Nationwide Rivers Inventory (NRI) reports no rivers of “outstandingly remarkable” value to be located within the proposed Project area.

The National Wildlife Refuge (NWR) system reports no wildlife refuges within 0.25 mile of the proposed Project.

Unique, sensitive, or significant wildlife habitats are discussed in Resource Report 3, Fish, Wildlife, and Vegetation.

There are no major and/or sensitive waterbodies crossed by the proposed Project. Major and sensitive waterbodies are discussed in Resource Report 2, Water Use and Quality.

8.5 PRIME FARMLAND

Prime farmland soils were identified based on information obtained from the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Soil Survey Geographic Database (SSURGO). An approximately 0.01-acre portion of soil crossed is considered to be Prime Farmland and is included in the Upland Forest land use category. The 0.01-acre portion of Prime Farmland is located at milepost (MP) 5.

8.6 COASTAL ZONE MANAGEMENT AREAS

There are no Coastal Zone Management Areas located in the vicinity of the proposed Project. Therefore, no request for a Coastal Zone Consistency Determination is required.

8.7 VISUAL RESOURCES

As noted in Section 8.4, no designated scenic or visually sensitive land uses or resources were identified to be located in the vicinity of the proposed Project. Visual impacts will be temporary and will consist of disturbed areas and construction vehicles in the proposed Project area. Upon Project completion, all disturbed areas will be revegetated and the visual setting will be returned to previous conditions. The only aboveground visual evidence of the pipeline will be the launcher/receiver sites.

8.8 CONSTRUCTION AND OPERATION IMPACTS AND MITIGATION

8.8.1 Upland Forest

The proposed Project design minimizes impacts to large forested tracts by routing the pipeline parallel to existing utility corridors and avoiding large forested tracts of land, wherever practicable. The primary impact of construction on upland forest land will be the removal of trees and shrubs from the construction workspace. Following construction, the permanent ROW will be maintained by mowing a 50-foot corridor centered over the pipeline. Land within the 50-foot corridor will be converted from upland forest to ROW maintained in a non-forested condition.

Upland forest areas will be reseeded in accordance with FERC's *Plan*, agency requirements associated with applicable permits, and landowner agreements. The rate of forest re-establishment in the non-maintained corridor would depend upon the type of vegetation, length of growing season, and natural fertility of the soils. Early successional species should begin colonizing the ROW within a few years of construction, followed gradually by the establishment of later successional species.

8.8.2 Forest/Woodland

The Project will not cross managed forest land; therefore, all forest land impacted by construction of the project will follow the mitigation procedure for construction in upland forests, Section 8.8.1.

8.8.3 Wetlands

The primary impact of construction in wetlands will be the removal of trees, shrubs, and emergent vegetation from the construction workspace. Wetlands would be temporarily disturbed during grading, trenching, and backfilling. After final construction cleanup, these areas will be reseeded in accordance with DTI proposed Project-specific mitigation plans, agency requirements associated with applicable permits, and landowner agreements.

Resource Report 2 describes the overall approach to wetland mitigation and summarizes the regulatory agency requirements for wetland mitigation.

See Resource Report 2 (Section 2.4) for additional information on wetland construction requirements proposed by DTI to minimize wetland impacts.

8.8.4 Open Water

Pipeline construction across waterbodies could result in both short- and long-term impacts, if not properly mitigated. In order to minimize impacts associated with sedimentation and turbidity during open-cut waterbody crossings, and the other potential impacts discussed in Resource Report 2. See Appendix 1-B in Resource Report 1 for a depiction of typical construction techniques.

The use of heavy equipment to complete pipeline installation in the vicinity of or across waterbodies may increase the potential for accidental releases of fuels, lubricants, and coolants to surface waters. The accidental release of these materials could adversely affect aquatic species, and contaminate public water supplies that rely upon surface water intakes located downstream of the waterbody crossing. To mitigate these potential impacts, the proposed Project will use HDD, Dam & Pump, and Flumed crossings for all water bodies not dry at the time of crossing. In addition, construction equipment, vehicles, hazardous materials, chemicals, fuels lubricating oils, and petroleum products would not be parked, stored, or serviced within a 100-foot radius of any waterbody. DTI will install signs along the ROW to identify such areas.

The SPCC Plan describes preventive measures such as personnel training, equipment inspection, and refueling procedures to reduce the likelihood of spills. It also includes mitigation measures, such as containment and cleanup, to minimize potential impacts if a spill occurs. DTI will minimize the potential impacts of spills of hazardous materials by adhering to this Project-specific SPCC Plan, which will be available in the field during construction. DTI will follow the SPCC Plan to minimize and mitigate potential erosion-related impacts on surface waters.

Further discussions of water quality impacts and mitigation for open water are included in Resource Report 2.

8.8.5 Open Land

The primary impact on open land during construction would include loss of grazing capacity for the duration of the construction period and until grasses and other herbaceous vegetation could re-establish the following year. Following construction, the majority of grassland or other open land uses would continue within the permanent, operational ROW. Because the ROW could be used for grazing following construction, any loss of grazing capacity would be a short-term impact.

After final construction cleanup, these areas would be reseeded in accordance with DTI's proposed Project-specific mitigation plans, agency requirements associated with applicable permits, and landowner agreements.

DTI would implement mitigation measures described in the *Plan* in order to minimize the potential effects of construction on grazing lands and compensate landowners or tenants for loss of grazing land and damages caused by construction activities.

8.9 REFERENCES

National Park Service. http://www.nps.gov/applications/parksearch/state.cfm?st=wv. Accessed July 26, 2011.

National Park Service, Nationwide Rivers Inventory. http://www.nps.gov/ncrc/programs/rtca/nri/states/wv.html. Accessed July 25, 2011.

West Virginia Department of Agriculture, Division of Forestry. http://www.wvforestry.com/stateforest.cfm?menucall=state. Accessed July 25, 2011.

West Virginia Division of Natural Resources. http://www.wvdnr.gov/Fishing/Fishing.shtm. Accessed July 28, 2011.

United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Soil Survey Geographic Database (SSURGO). 2011.

United States Environmental Protection Agency, Mid-Atlantic Superfund. http://www.epa.gov/reg3hwmd/super/wv.htm. Accessed July 20, 2011.

United States Fish & Wildlife Service, National Wildlife Refuge System. http://www.fws.gov/refuges/ refugeLocatorMaps/WestVirginia.html. Accessed July 25, 2011.

FERC Filing Content Checklist
Resource Report 9
Air and Noise Quality

Minimum Requirements	Location in Report	Comment
☒ Describe existing air quality in the vicinity of the project. (Sec. 380.12(k)(1)).	N/A	
☒ Quantify the existing noise levels (day-night sound level (Ldn) and other applicable noise parameters) at noise-sensitive areas and at other areas covered by relevant state and local noise ordinances. (Sec. 380.12(k)(2)). • If new compressor station sites are proposed, measure or estimate the existing ambient sound environment based on current land uses and activities. • For existing compressor stations (operated at full load), include the results of a sound level survey at the site property line and nearby noise-sensitive areas. • Include a plot plan that identifies the locations and durations of noise measurements. • All surveys must identify the time of day, weather conditions, wind speed and direction, engine load, and other noise sources present during each measurement.	N/A	
☒ Quantify existing and proposed emissions of compressor equipment, plus construction emissions, including nitrogen oxides (NOx) and carbon monoxide (CO), and the basis for these calculations. Summarize anticipated air quality impacts for the project. (Sec. 380.12(k)(3)).	N/A	
☒ Describe the existing compressor units at each station where new, additional, or modified compressor units are proposed, including the manufacturer, model number, and hp of the compressor units. For proposed new, additional, or modified compressor units include the hp, type, and energy source. (Sec. 380.12(k)(4)).	N/A	
☒ Identify any nearby noise-sensitive area by distance and direction from the proposed compressor unit building/enclosure (Sec. 380.12(k)(4)).	N/A	

FERC Filing Content Checklist
Resource Report 9
Air and Noise Quality

Minimum Requirements	Location in Report	Comment
☒ Identify any applicable state or local noise regulations. (Sec. 380.12(k)(4)). Specify how the facility will meet the regulations.	N/A	
☒ Calculate the noise impact at noise-sensitive areas of the proposed compressor unit modifications or additions, specifying how the impact was calculated, including manufacturer's data and proposed noise control equipment (Sec. 380.12(k)(4)).	N/A	

9.0 INTRODUCTION

This Concise Environmental Report, comprised of Resource Reports 1-13, addresses the requirements pursuant to Section 157.205, 157.208(b) and (c), and 380.12 of the Federal Energy Regulatory Commission's (FERC) regulations for a Blanket Certificate 60-Day Prior Notice Request of Dominion Transmission, Inc. (DTI) for authorization to construct TL-613, an approximately 5.2-mile new, 24-inch diameter, natural gas transmission pipeline and appurtenant facilities. The TL-613 project is located entirely in Marshall County, West Virginia and is hereafter referred to as the Project (Project).

9.1 AIR AND NOISE RESOURCES

Compressor facilities at new or existing Stations are not part of this Project; therefore, Resource Report 9 is not required. Air quality and noise impacts resulting from the proposed Project are anticipated to be neglibile to minor, and temporary, limited to the period of construction activities. No long-term changes in ambient noise levels or air quality are anticipated following completion of active construction and restoration work.

9.2 AIR QUALITY

Short-term impacts to air quality will result from dust from disturbed areas generated by windy conditions and by vehicles and construction equipment used to build the pipeline, described in Resource Report 1. Given the rural setting of the proposed route, short-term impacts are expected to be minimal.

9.3 NOISE

Short-term impacts to noise will result from vehicles and construction equipment used to build the pipeline, described in Resource Report 1. HDD drilling activities, if required, will be planned to be limited to daytime hours. If HDD drilling becomes necessary during nighttime hours (10:00 PM to 7:00 AM), noise monitoring will be conducted to document that the nighttime noise level does not exceed 55 dBA at the nearest noise-sensitive area. If nighttime noise levels exceed 55 dBA, then noise curtains will be deployed.

9.4 REFERENCES

None.

FERC Minimum Filing Requirement Checklist Resource Report No. 10 Alternatives		
Filing Requirement	**Location in Report**	**Comment**
☒ Address the "no action" alternative (Sec. 380.12(l)(1)).	Section 10.1	
☒ For large projects, address the effect of energy conservation or energy alternatives to the project (Sec. 380.12(l)(1)).	N/A	The proposed Project is considered to be a small project.
☒ Identify system alternatives considered during the identification of the project and provide the rationale for rejecting each alternative (Sec. 380.12(l)(1)).	Section 10.2	
☒ Identify major and minor route alternatives considered to avoid impact on sensitive environmental areas (e.g., wetlands, parks, or residences) and provide sufficient comparative data to justify the selection of the proposed route (Sec. 380.12(l)(2)(ii)).	Section 10.4	
☒ Identify alternative sites considered for the location of major new aboveground facilities and provide sufficient comparative data to justify the selection of the proposed site (Sec. 380.12(l)(2)(ii)).	N/A	The proposed Project does not include major aboveground facilties.

10.0 INTRODUCTION

This Concise Environmental Report, comprised of Resource Reports 1-13, addresses the requirements pursuant to Section 157.205, 157.208(b) and (c), and 380.12 of the Federal Energy Regulatory Commission's (FERC) regulations for a Blanket Certificate 60-Day Prior Notice Request of Dominion Transmission, Inc. (DTI) for authorization to construct TL-613, an approximately 5.2-mile new, 24-inch diameter, natural gas transmission pipeline and appurtenant facilities. The TL-613 project is located entirely in Marshall County, West Virginia and is hereafter referred to as the Project (Project).

10.1 ALTERNATIVES

Resource Report 10 discusses alternatives to the proposed Project. Section 10.2 describes the no-action alternative. System alternatives are discussed in Section 10.3, and Section 10.4 discusses alternative energy sources. Lastly, Section 10.5 discusses alternative locations for the Project.

10.2 NO-ACTION ALTERNATIVE

The No-Action Alternative would avoid the short-term, minor environmental impacts associated with the proposed Project.

Production of natural gas from both conventional and nonconventional shale sources in the Appalachian region is increasing. The rising price of oil and the low price of natural gas have shifted drilling activity in the region from the dry gas to the wet gas areas. These "wet" gas supplies are high in liquids and liquefiable hydrocarbons, which can be extracted for their economic value. As a result of production growth over the last few years, existing processing facilities lack adequate capacity to meet current demand. To meet this demand, Dominion Natrium, LLC plans to construct a new, nonjurisdictional processing facility in Marshall County, West Virginia ("Natrium Plant") to extract and fractionate the liquid hydrocarbons from the natural gas stream entering the new facility and ultimately marketed along with other natural gas liquids (NGLs). The first phase of construction includes facilities that can process 200 million cubic feet of natural gas per day and fractionate approximately 36,000 barrels of natural gas liquids per day. To further transport residue gas from the outlet of the Natrium Plant, DTI is proposing to construct the proposed TL-613 pipeline to connect the Natrium Plant to its existing dry transmission system and ultimately to downstream markets.

Implementing the No-Action Alternative would not allow the objectives listed above to be met.

10.3 SYSTEM ALTERNATIVES

DTI did not consider any system alternatives to the proposed Project due to a lack of existing alternative infrastructure.

10.4 ALTERNATIVE ENERGY SOURCES

The No Action alternative would likely require the use of other energy sources to meet the portion of the growing demand that would not be met by the Project. Alternate energy sources could include fossil fuels (i.e., fuel oil and coal), hydropower, nuclear, wind, municipal solid wastes, wood and other biomass, and solar.

Natural gas has many attributes that make its use more attractive than other fossil fuel sources. Overall, natural gas is the most readily available, dependable, economically viable, and environmentally acceptable fuel for residential, commercial, and industrial markets. Natural gas is a much cleaner burning fuel than other fossil fuels, such as coal or oil, and emits lesser amounts of particulate matter, greenhouse gases, and other pollutants. Because energy demand is projected to increase (EIA, 2010), it is unlikely that the use of natural gas could be easily or cost-effectively replaced by other energy sources in the near term.

Nuclear power is not considered to be viable as an alternative energy source to natural gas in the near term. While existing nuclear power plants are expected to continue operating through 2035, the EIA predicts that the total share of generation from nuclear plants would fall from 20 percent in 2008 to 17 percent in 2035 (EIA, 2010). Because of the prohibitive costs associated with development of new nuclear facilities, it is unlikely that new nuclear power plants would be sited and developed to serve the targeted markets within a timeframe that would meet the specific Project objectives.

Hydropower is also not considered to be viable as an alternative energy source to natural gas in the near term. Although West Virginia has undeveloped hydropower potential, development of hydropower sites has its own set of environmental impacts that are associated with creation of the dam and reservoir, and alteration of the river and surrounding ecosystem. Although efficiency upgrades at existing hydropower facilities are expected to produce incremental additions of electric power in the coming years, environmental concerns are likely to limit conventional hydropower production. Therefore, it is unlikely that new and/or significant sources of hydropower would be a reliable alternative to the proposed Project.

Renewable energy sources are expected to play an increasingly prominent role in meeting United States energy demands in the coming years. Federal, state, and local incentives and continuing research will likely contribute to an increase in the availability and cost effectiveness of sources such as wind, solar, tidal, geothermal, and biomass. Despite the growing support for renewable energy, significant long-term investment, as well as advances in technology and development, is necessary before these sources could potentially offset a substantial portion of the projected national energy demand. Therefore, renewable energy sources will not provide sufficient energy supplies in the near future to eliminate the need for the Project.

10.5 ALTERNATIVE ROUTES

Alternative routes to the proposed Project were evaluated conceptually and would require the pipeline to deviate from its current route paralleling the existing TL-377 right-of-way. Any deviations from paralleling the existing right-of-way would require DTI to construct through a new separate greenway and negate the environmental benefits of a collocated right-of-way. The proposed parallel route provides a direct route from the nonjurisdictional extraction plant to the required end point for the Project. Deviating from this direct route could result in the need for a lengthier pipeline to be constructed. This could result in the disturbance of a larger area during construction and higher costs for construction. Disturbance of a larger area may potentially in increased environmental impact. Based on these issues, it was determined that alternative routes did not provide feasible alternatives to the proposed parallel route.

10.6 REFERENCES

None.

FERC Filing Content Checklist Resource Report 11 Reliability and Safety		
Filing Requirement	**Location in Report**	**Comment**
☒ Describe how the project facilities would be designed, constructed, operated, and maintained to minimize potential hazard to the public from the failure of project components as a result of accidents or natural catastrophes (§ 380.12(m))	N/A	The proposed Project does not involve a new or recommissioned LNG facility; therefore, Resource Report 11 is not required.

11.0 INTRODUCTION

This Concise Environmental Report, comprised of Resource Reports 1-13, addresses the requirements pursuant to Section 157.205, 157.208(b) and (c), and 380.12 of the Federal Energy Regulatory Commission's (FERC) regulations for a Blanket Certificate 60-Day Prior Notice Request of Dominion Transmission, Inc. (DTI) for authorization to construct TL-613, an approximately 5.2-mile new, 24-inch diameter, natural gas transmission pipeline and appurtenant facilities. The TL-613 project is located entirely in Marshall County, West Virginia and is hereafter referred to as the Project (Project).

11.1 RELIABILILTY AND SAFETY

The proposed project does not include a new or recommissioned LNG facility; therefore, in accordance with FERC guidance provided in 18 CFR Part 380.12(m), Resource Report 11 addressing reliability and safety of new or recommissioned LNG facilities is not required.

The Project facilities in this application will be constructed and operated consistent with sound engineering practices and all applicable safety standards, including United States Department of Transportation (USDOT) Minimum Federal Safety Standards specified 49 CFR Part 192.

11.2 REFERENCES

None.

FERC Minimum Filing Requirement Checklist
Resource Report No. 12
PCB Contamination

Filing Requirement	Location in Report	Comment
☒ For projects involving the replacement or abandonment of facilities determined to have PCBs, provide a statement that activities would comply with an approved EPA disposal permit or with the requirements of the TSCA. (Sec. 380.12(n)(1)).	N/A	The proposed Project does not involve the replacement or abandonment of facilities known to be contaminated with PCBs.
☒ For compressor station modifications on sites that have been determined to have soils contaminated with PCBs, describe the status of remediation efforts completed to date. (Sec. 380.12(n)(2)).	N/A	The proposed Project does not include compressor station modifications.

12.0 PCB CONTAMINATION

The proposed Project does not involve any facilities known to have been contaminated with polychlorinated-biphenyls (PCBs); therefore, Resource Report 12 is not required.

12.1 REFERENCES

None.

FERC Minimum Filing Requirement Checklist Resource Report No. 13 Additional Information Related to LNG Plants		
Filing Requirement	**Location in Report**	**Comment**
☒ Provide all the listed detailed engineering materials. (§ 380.12(o))	N/A	The proposed Project does not include LNG facilities.

13.0 ADDITIONAL INFORMATION RELATED TO LNG PLANTS

Resource Report 13 is required for construction of new liquefied natural gas (LNG) facilities or the recommissioning of existing LNG facilities. The DTI TL-613 Pipeline Project does not include a new or modified LNG facility; therefore, in accordance with the FERC guidance provided in 18 CFR §380.12(o), Resource Report 13 addressing additional information related to LNG facilities is not required for this Project.

13.1 REFERENCES

None.

Appendices

Appendix 1-A

Construction Alignment Sheets (Attached Separately)

Appendix 1-B

Typical Construction Right-of-Way Drawings

Appendix 1-C

Agency Correspondence

Agency Correspondence for DTI's Appalachian Gateway Project in Reference to the 4.11-acre Pipeyard at MP 0.0

Appendix 1-D

Landowner Line List

(Attached Separately in Volume II - Privileged)

Appendix 1-E

Erosion and Sediment Control Plan and Procedures

(Including Spill Prevention and Countermeasure Control Plan)

Appendix 2-A

Wetland Report

Appendix 3-A

Mist-Net Report for Indiana Bat (Myotis Sodalis)

Appendix 4-A

Phase I Archaeological Investigation Report

(Attached Separately in Volume II – Privileged)

Appendix 4-B

Unanticipated Discovery Plan

Appendix 6-A

Blasting Plan

Figure 1-1

Project Overview Map

N
W E
S

TL-613 Milepost

TL-613 Centerline

3,000 1,500 0 3,000 Feet

Topo Map Source: ESRI USA Topographic Maps service. U.S.G.S. Digital Raster Graphics, 2009 Powhatan Point and New Martinsville Quads

URS

Natrium Pipeline

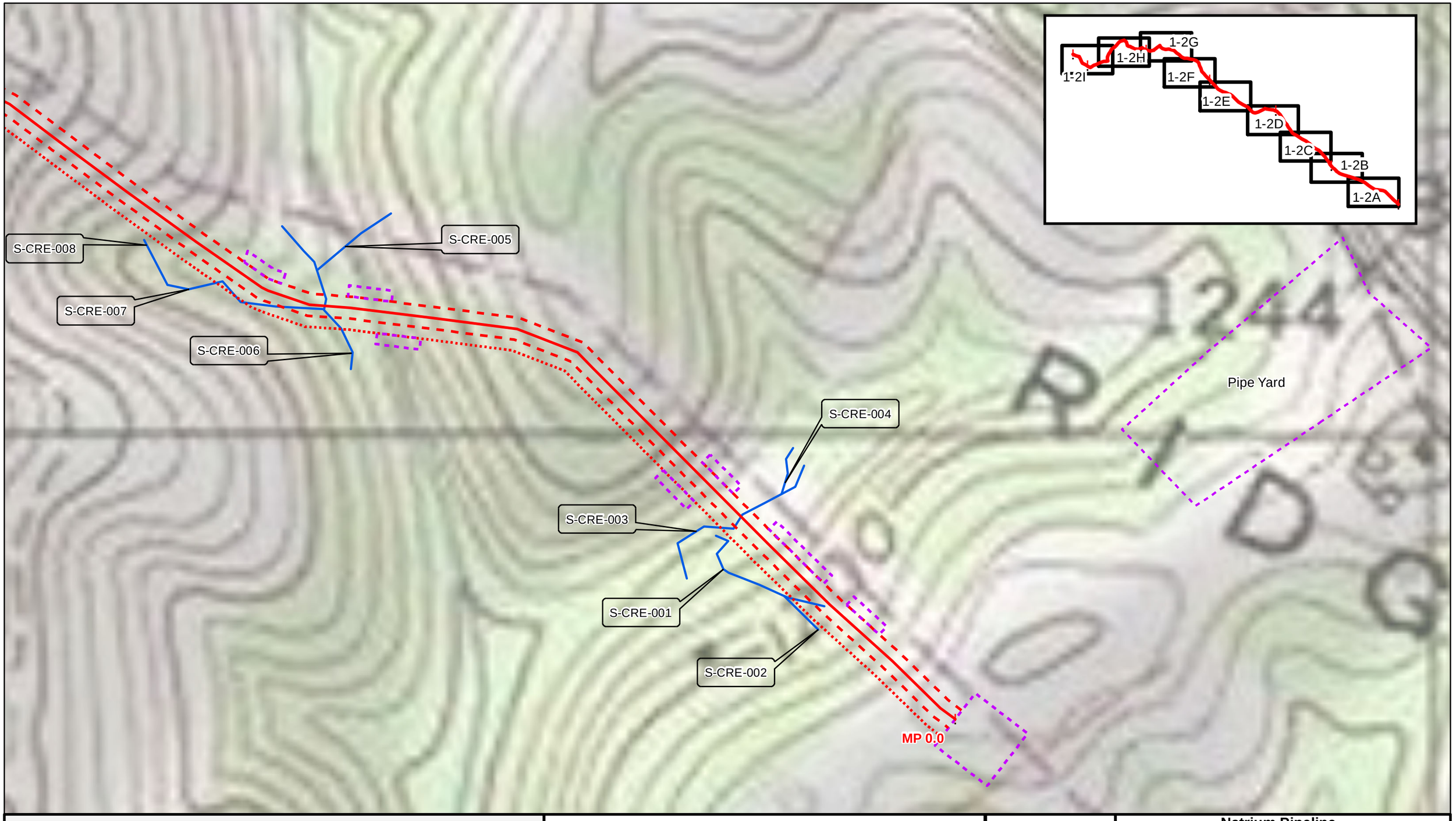
Project Location Map

Date: 7-22-2011

Figure 1

Figure 1-2

USGS Maps



TL-613 Milepost
TL-613 Extra Workspace
TL-613 Permanent ROW
TL-613 Temporary ROW
TL-613 Centerline
Streams
Wetlands

0 50 100 200 300 400 Feet

Topo Map Source: ESRI USA Topographic Maps service.
U.S.G.S. Digital Raster Graphics, 2009

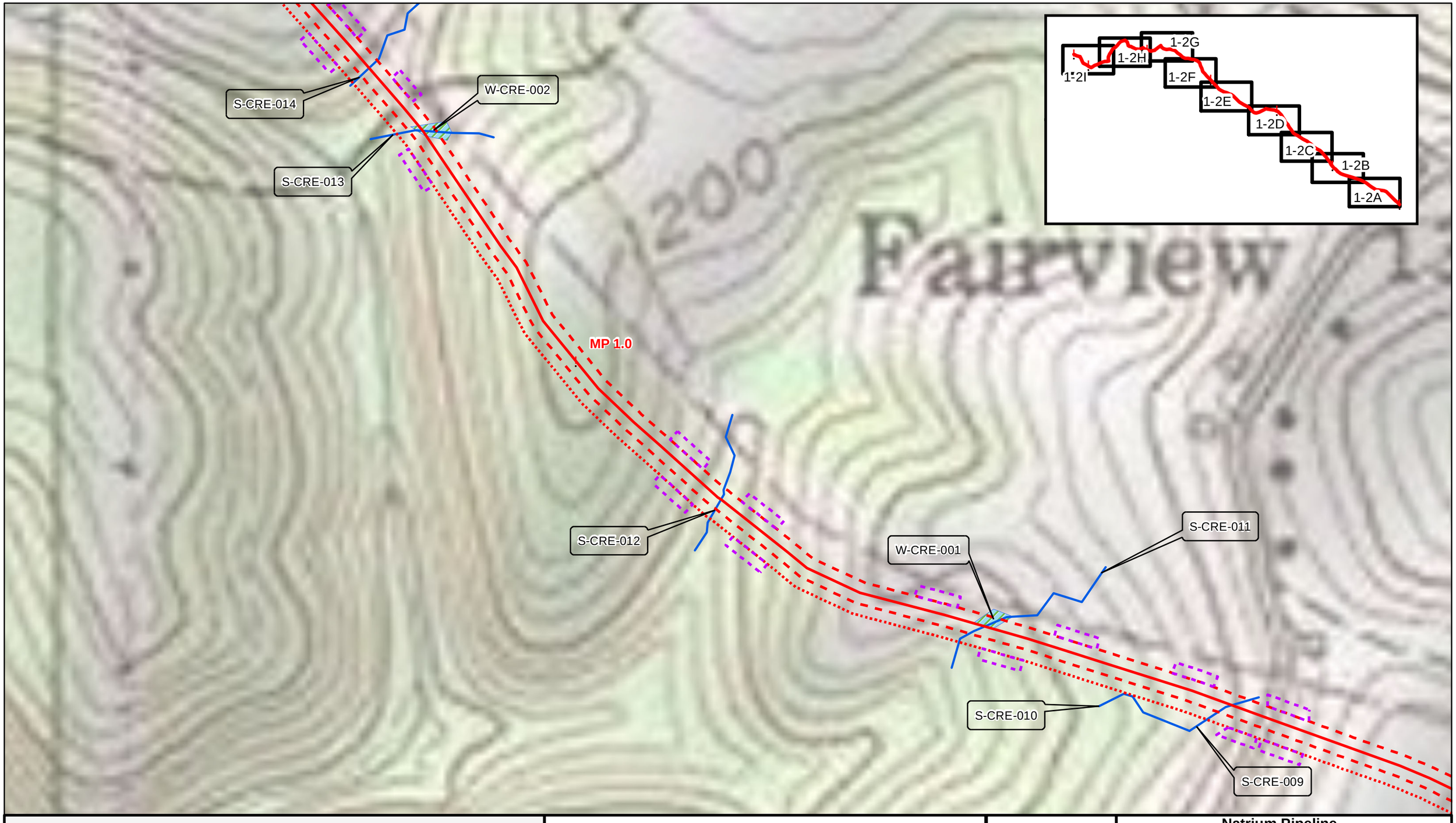
URS

Natrium Pipeline

TL-613
Wetland and Waterbody Map

Date: 8-18-2011

Figure 1-2A



TL-613 Milepost
TL-613 Extra Workspace
TL-613 Permanent ROW
TL-613 Temporary ROW
TL-613 Centerline
Streams
Wetlands

0 50 100 200 300 400 Feet

Topo Map Source: ESRI USA Topographic Maps service.
U.S.G.S. Digital Raster Graphics, 2009

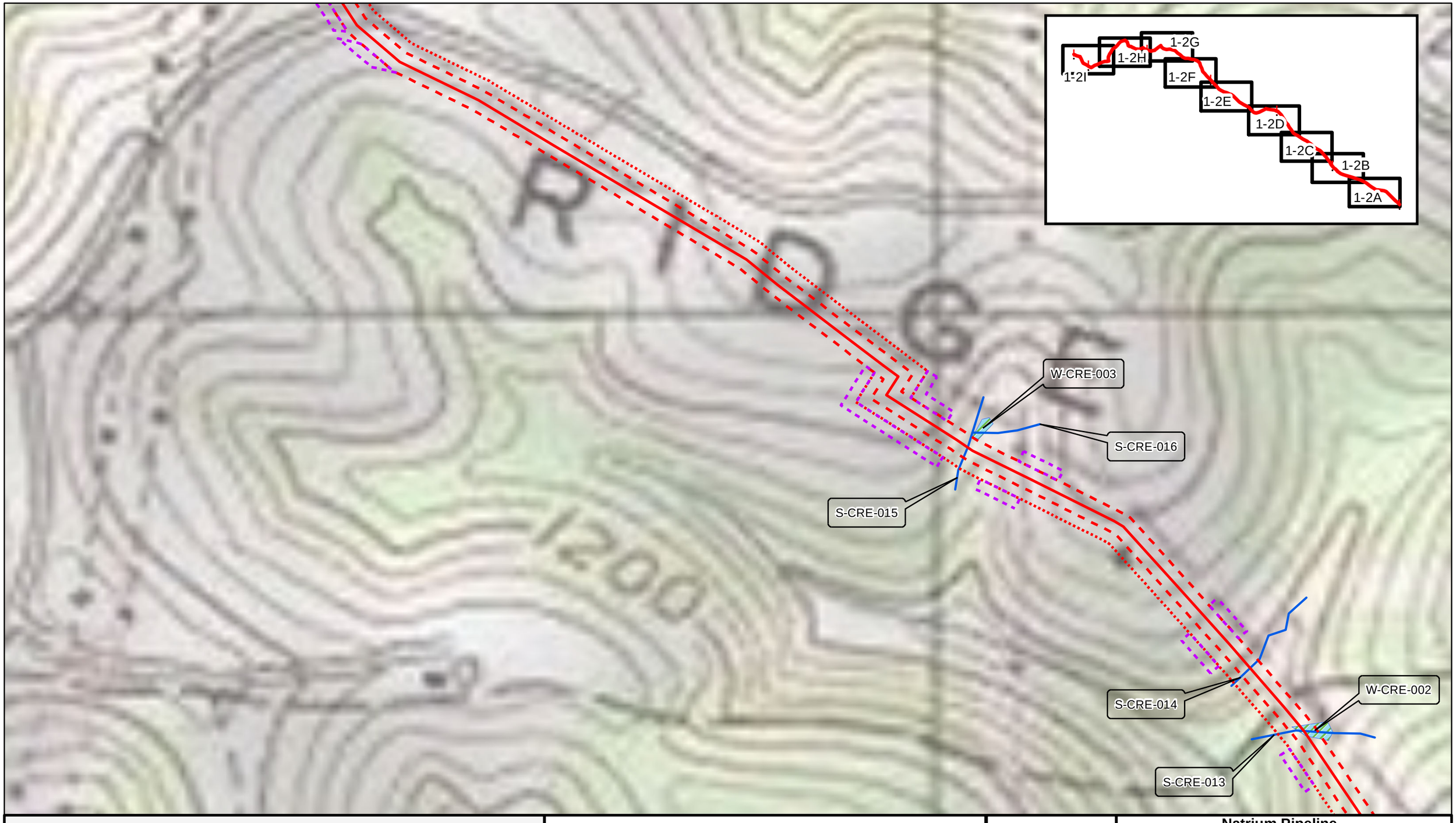
URS

Natrium Pipeline

TL-613
Wetland and Waterbody Map

Date: 8-18-2011

Figure 1-2B



! TL-613 Milepost
TL-613 Extra Workspace
TL-613 Permanent ROW
TL-613 Temporary ROW
TL-613 Centerline
Streams
Wetlands

0 50 100 200 300 400 Feet

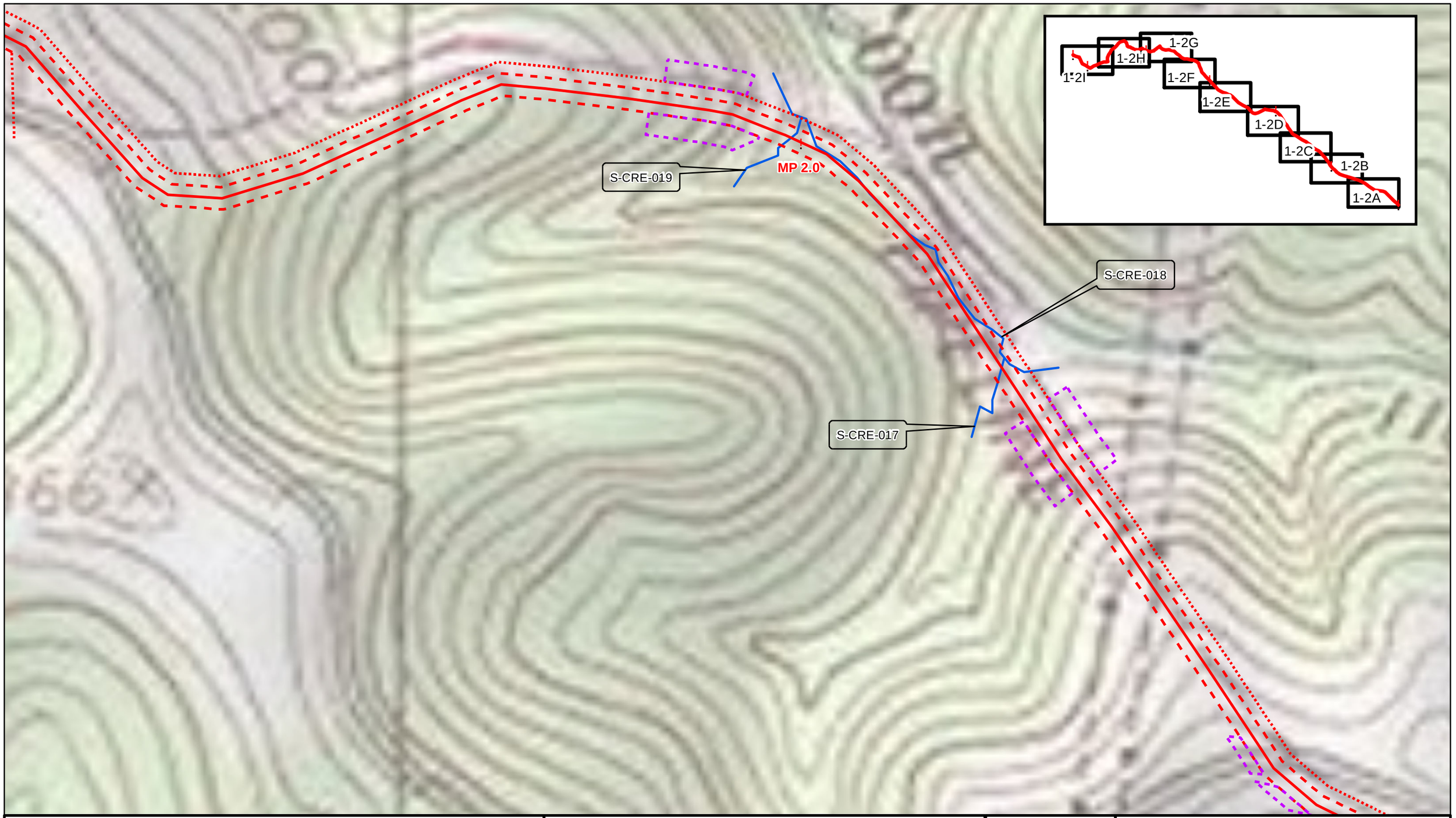
Topo Map Source: ESRI USA Topographic Maps service.
U.S.G.S. Digital Raster Graphics, 2009

URS

Natrium Pipeline

TL-613
Wetland and Waterbody Map

Date: 8-18-2011 | Figure 1-2C



TL-613 Milepost
TL-613 Extra Workspace
TL-613 Permanent ROW
TL-613 Temporary ROW
TL-613 Centerline
Streams
Wetlands

0 50 100 200 300 400 Feet

Topo Map Source: ESRI USA Topographic Maps service.
U.S.G.S. Digital Raster Graphics, 2009

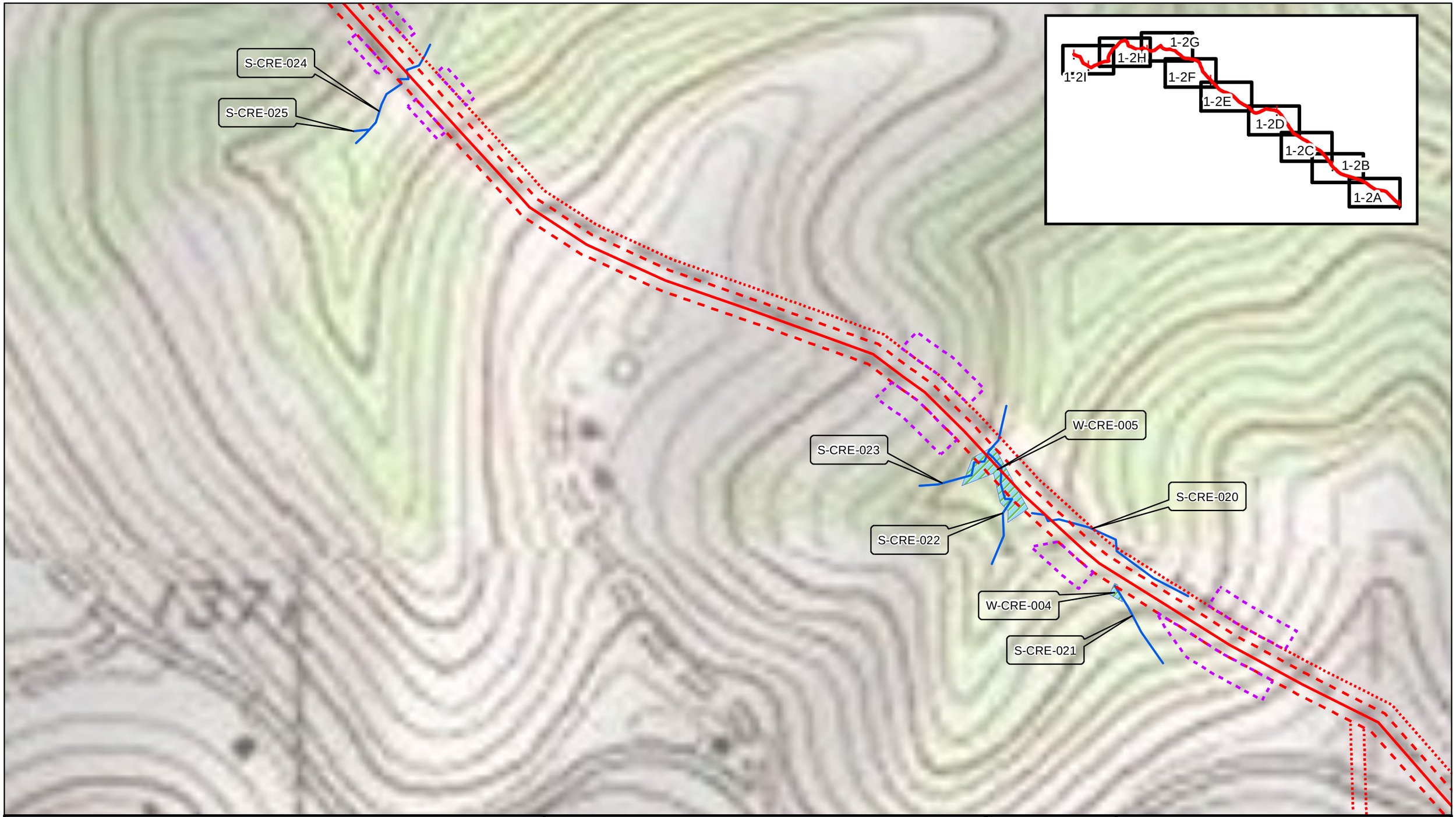
URS

Natrium Pipeline

TL-613
Wetland and Waterbody Map

Date: 8-18-2011

Figure 1-2D



TL-613 Milepost
TL-613 Extra Workspace
TL-613 Permanent ROW
TL-613 Temporary ROW
TL-613 Centerline
Streams
Wetlands

0 50 100 200 300 400 Feet

Topo Map Source: ESRI USA Topographic Maps service.
U.S.G.S. Digital Raster Graphics, 2009

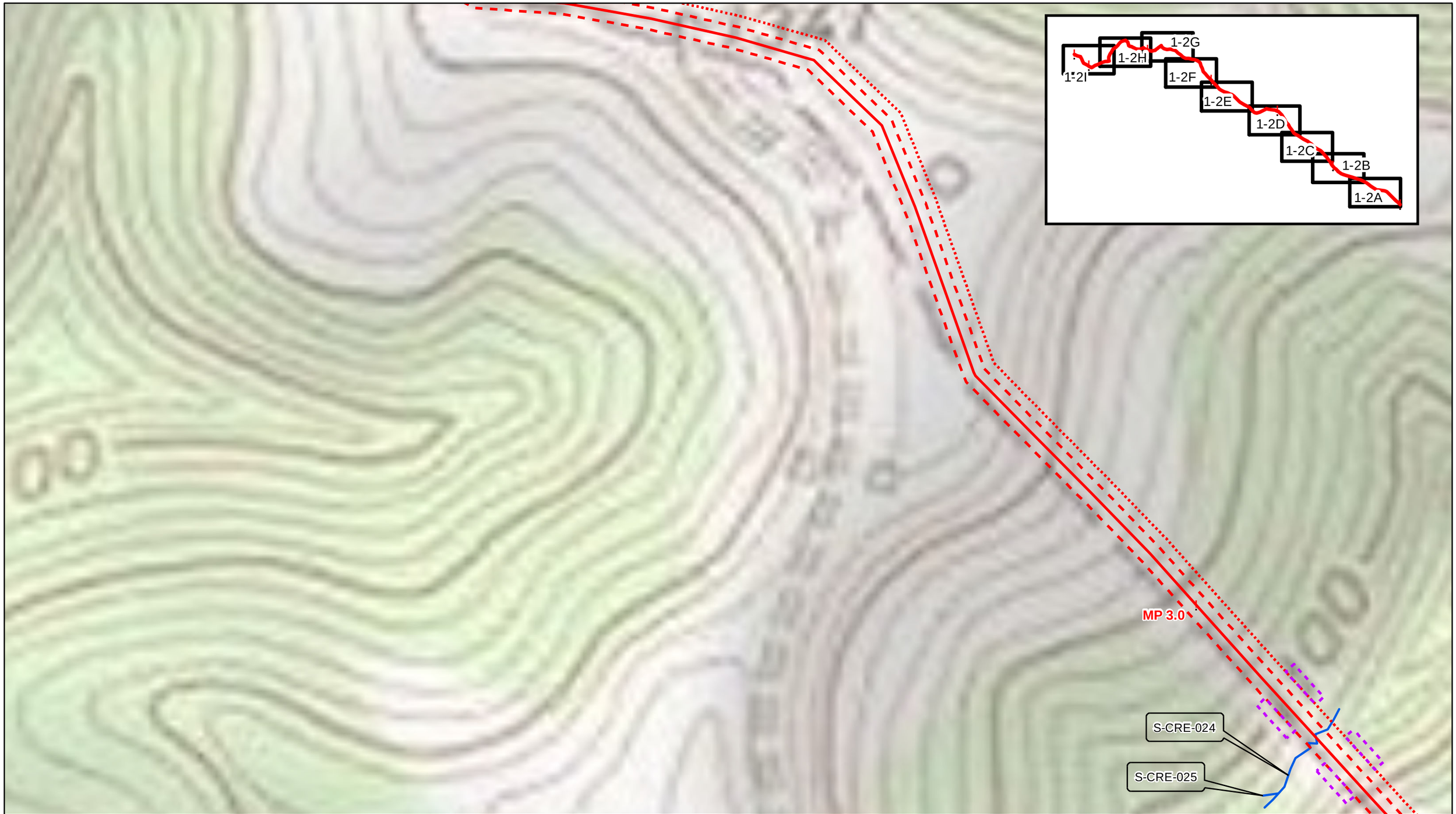
URS

Natrium Pipeline

TL-613
Wetland and Waterbody Map

Date: 8-18-2011

Figure 1-2E



! TL-613 Milepost
TL-613 Extra Workspace
TL-613 Permanent ROW
TL-613 Temporary ROW
TL-613 Centerline
Streams
Wetlands

0 50 100 200 300 400 Feet

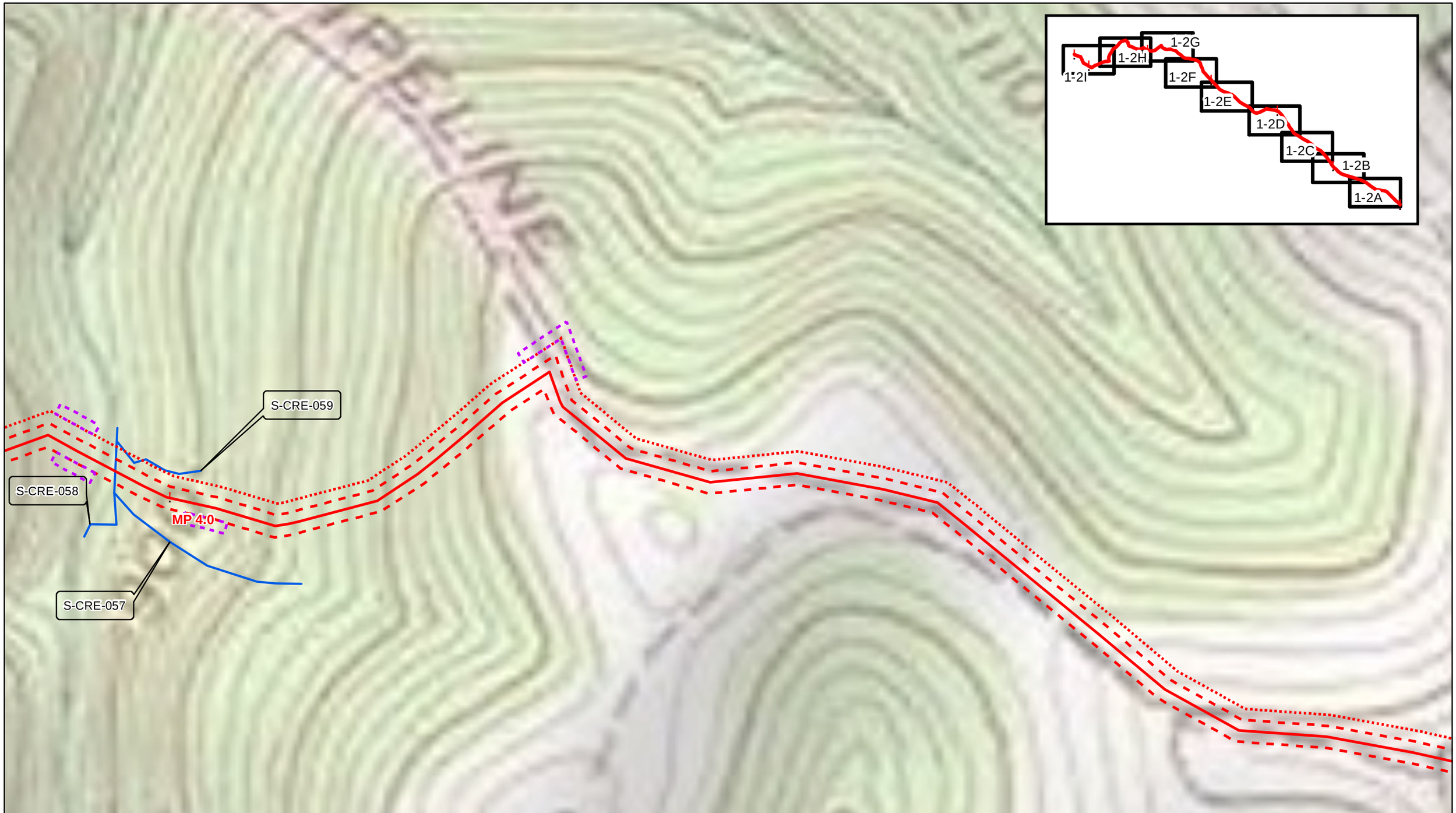
Topo Map Source: ESRI USA Topographic Maps service.
U.S.G.S. Digital Raster Graphics, 2009

URS

Natrium Pipeline

TL-613
Wetland and Waterbody Map

Date: 8-18-2011 | Figure 1-2F



TL-613 Milepost
TL-613 Extra Workspace
TL-613 Permanent ROW
TL-613 Temporary ROW
TL-613 Centerline
Streams
Wetlands

0 50 100 200 300 400 Feet

Topo Map Source: ESRI USA Topographic Maps service.
U.S.G.S. Digital Raster Graphics, 2009

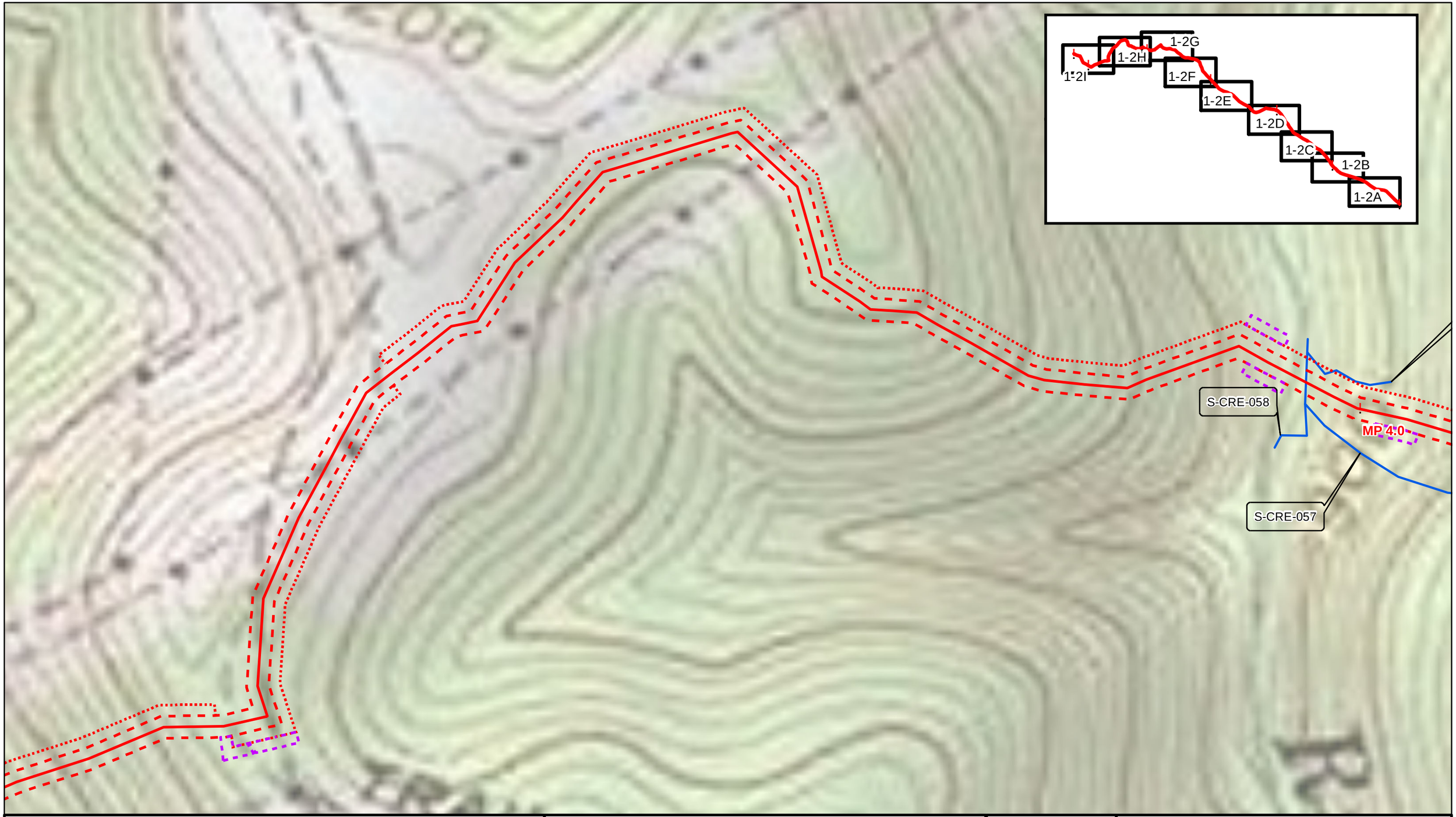
URS

Natrium Pipeline

TL-613
Wetland and Waterbody Map

Date: 8-18-2011

Figure 1-2G



! TL-613 Milepost
TL-613 Extra Workspace
TL-613 Permanent ROW
TL-613 Temporary ROW
TL-613 Centerline
Streams
Wetlands

0 50 100 200 300 400 Feet

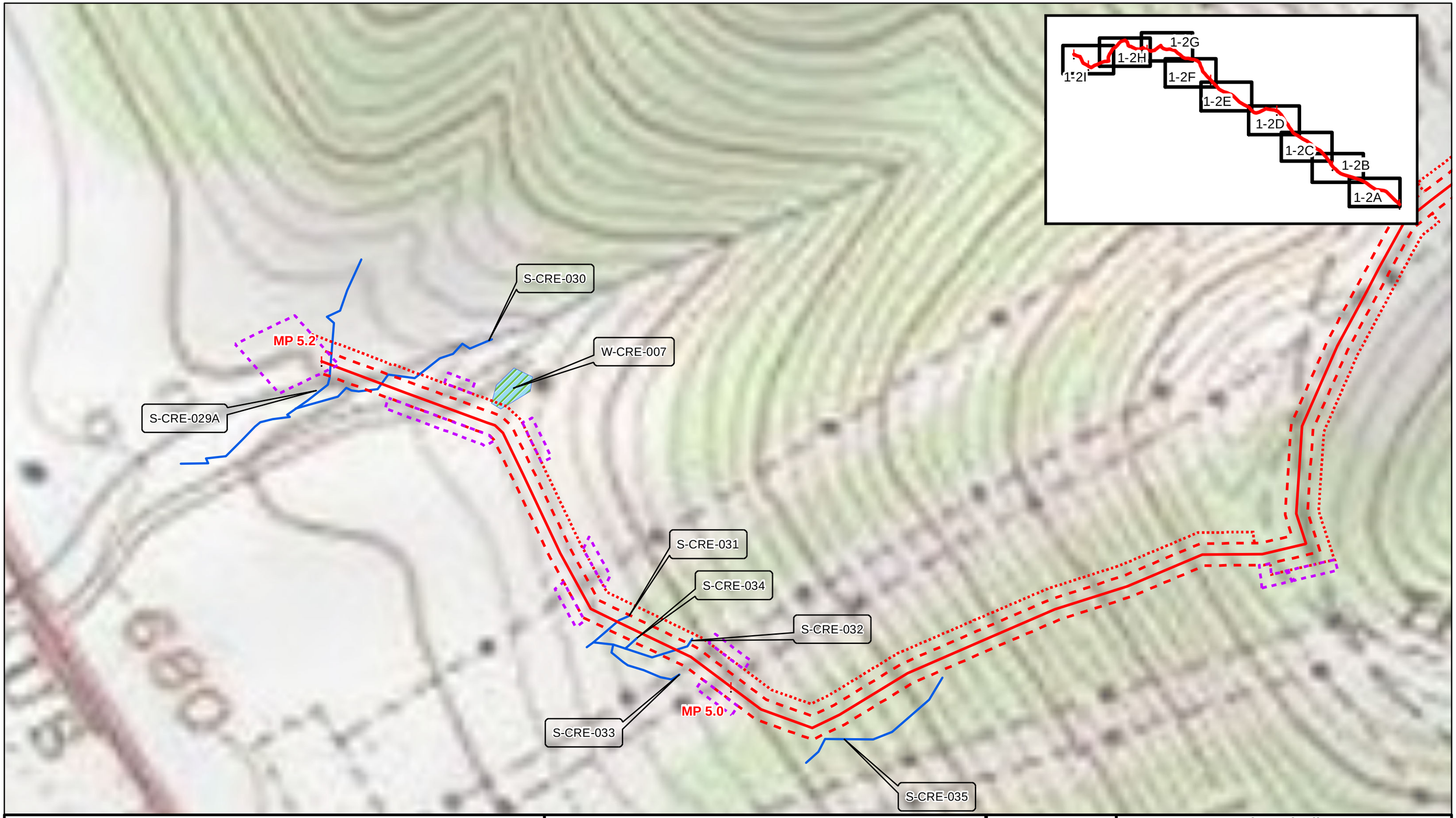
Topo Map Source: ESRI USA Topographic Maps service.
U.S.G.S. Digital Raster Graphics, 2009

URS

Natrium Pipeline

TL-613
Wetland and Waterbody Map

Date: 8-18-2011 | Figure 1-2H



! TL-613 Milepost
TL-613 Extra Workspace
TL-613 Permanent ROW
TL-613 Temporary ROW
TL-613 Centerline
Streams
Wetlands

0 50 100 200 300 400 Feet

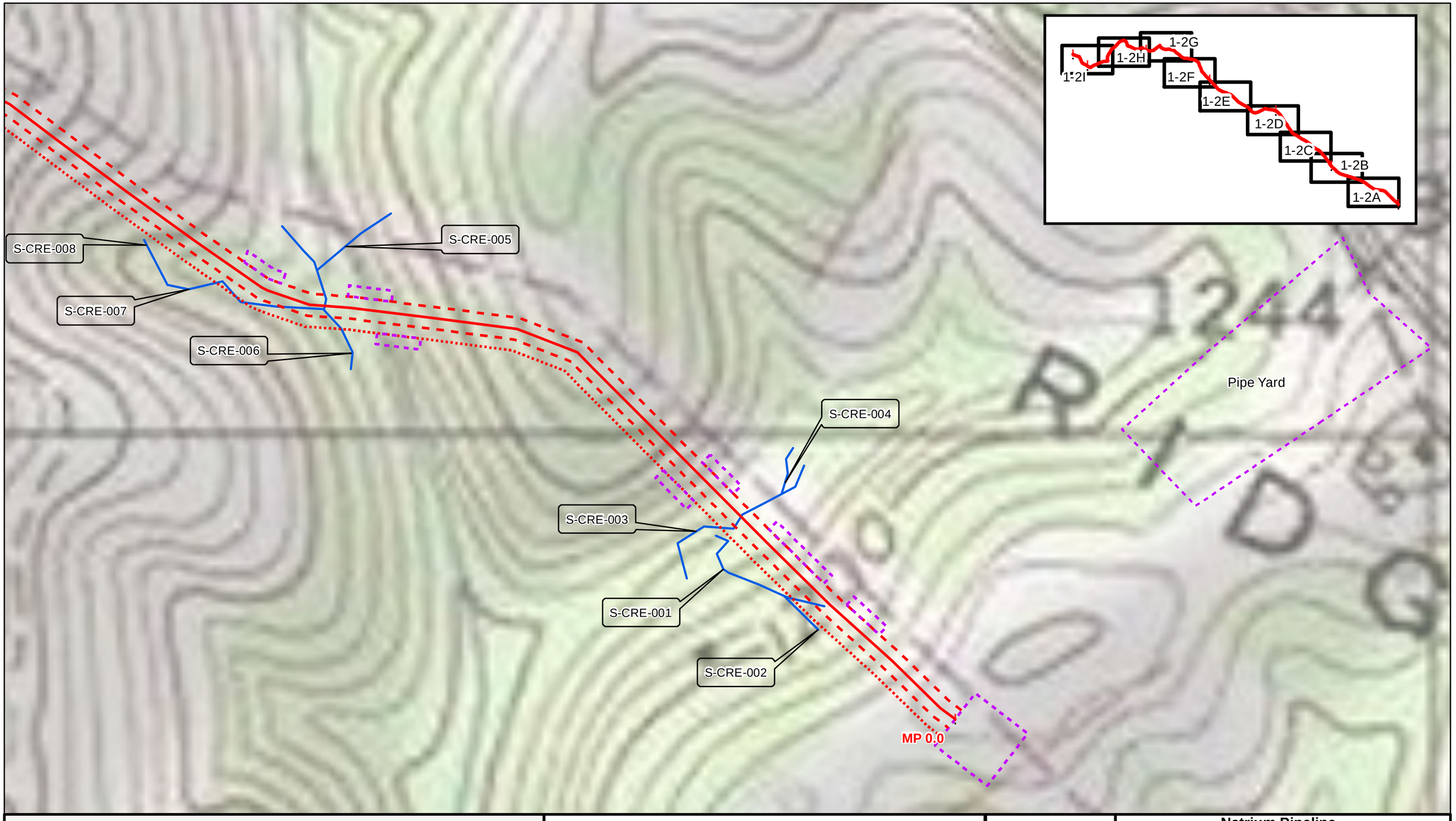
Topo Map Source: ESRI USA Topographic Maps service.
U.S.G.S. Digital Raster Graphics, 2009

URS

Natrium Pipeline

TL-613
Wetland and Waterbody Map

Date: 8-18-2011 | Figure 1-2I



TL-613 Milepost
TL-613 Extra Workspace
TL-613 Permanent ROW
TL-613 Temporary ROW
TL-613 Centerline
Streams
Wetlands

0 50 100 200 300 400 Feet

Topo Map Source: ESRI USA Topographic Maps service.
U.S.G.S. Digital Raster Graphics, 2009

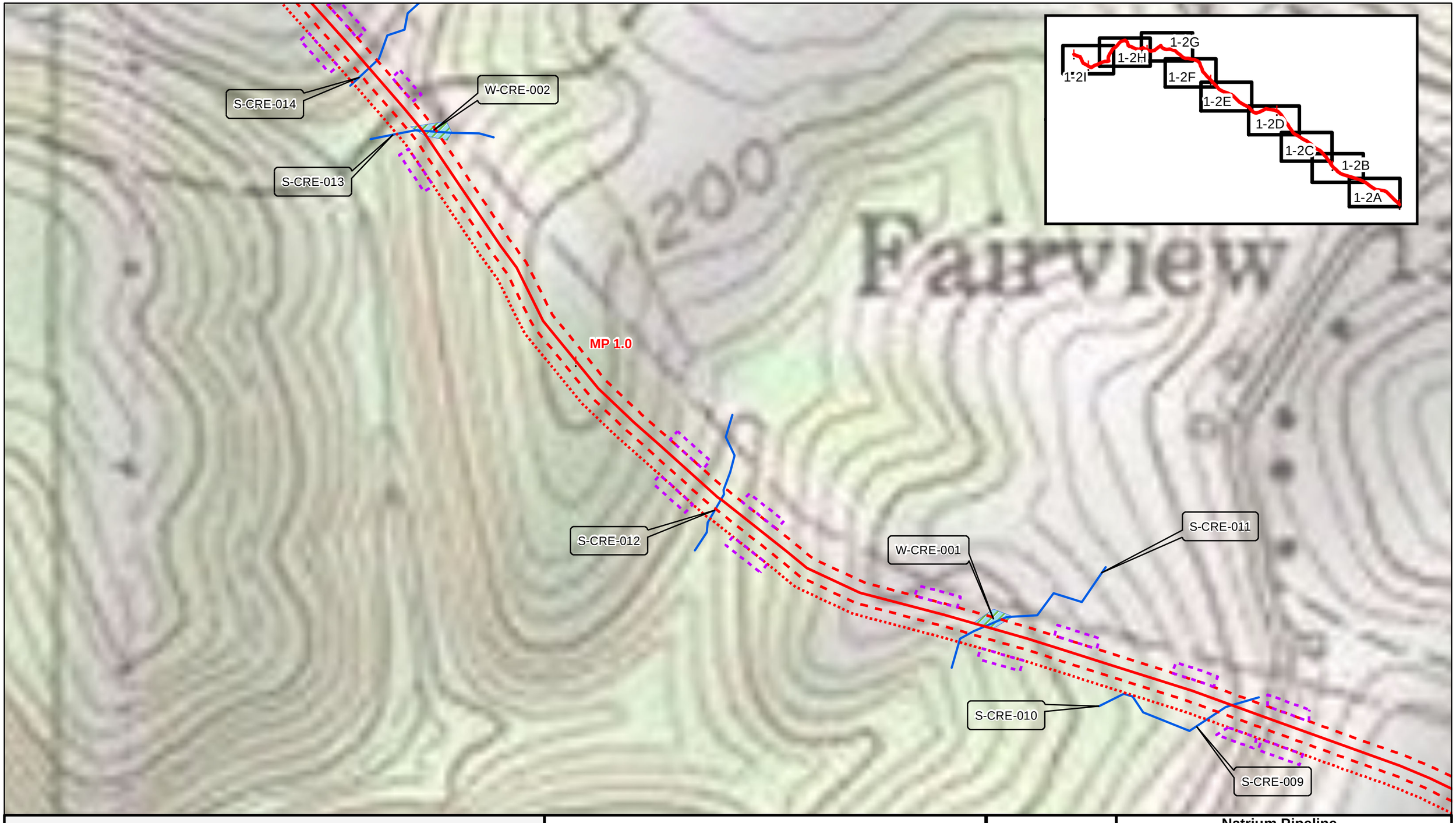
URS

Natrium Pipeline

TL-613
Wetland and Waterbody Map

Date: 8-18-2011

Figure 1-2A



TL-613 Milepost
TL-613 Extra Workspace
TL-613 Permanent ROW
TL-613 Temporary ROW
TL-613 Centerline
Streams
Wetlands

0 50 100 200 300 400 Feet

Topo Map Source: ESRI USA Topographic Maps service.
U.S.G.S. Digital Raster Graphics, 2009

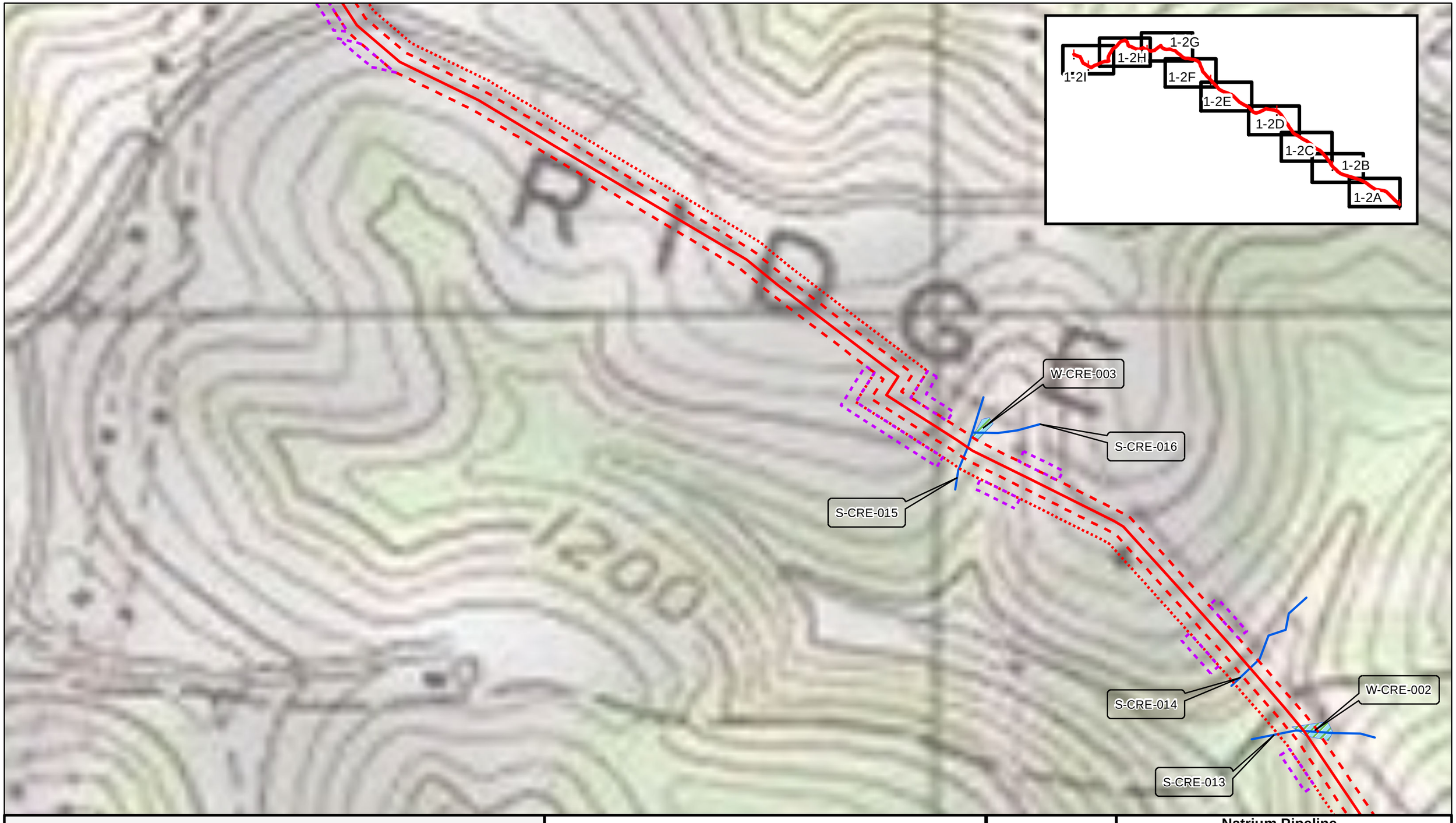
URS

Natrium Pipeline

TL-613
Wetland and Waterbody Map

Date: 8-18-2011

Figure 1-2B



! TL-613 Milepost
TL-613 Extra Workspace
TL-613 Permanent ROW
TL-613 Temporary ROW
TL-613 Centerline
Streams
Wetlands

0 50 100 200 300 400 Feet

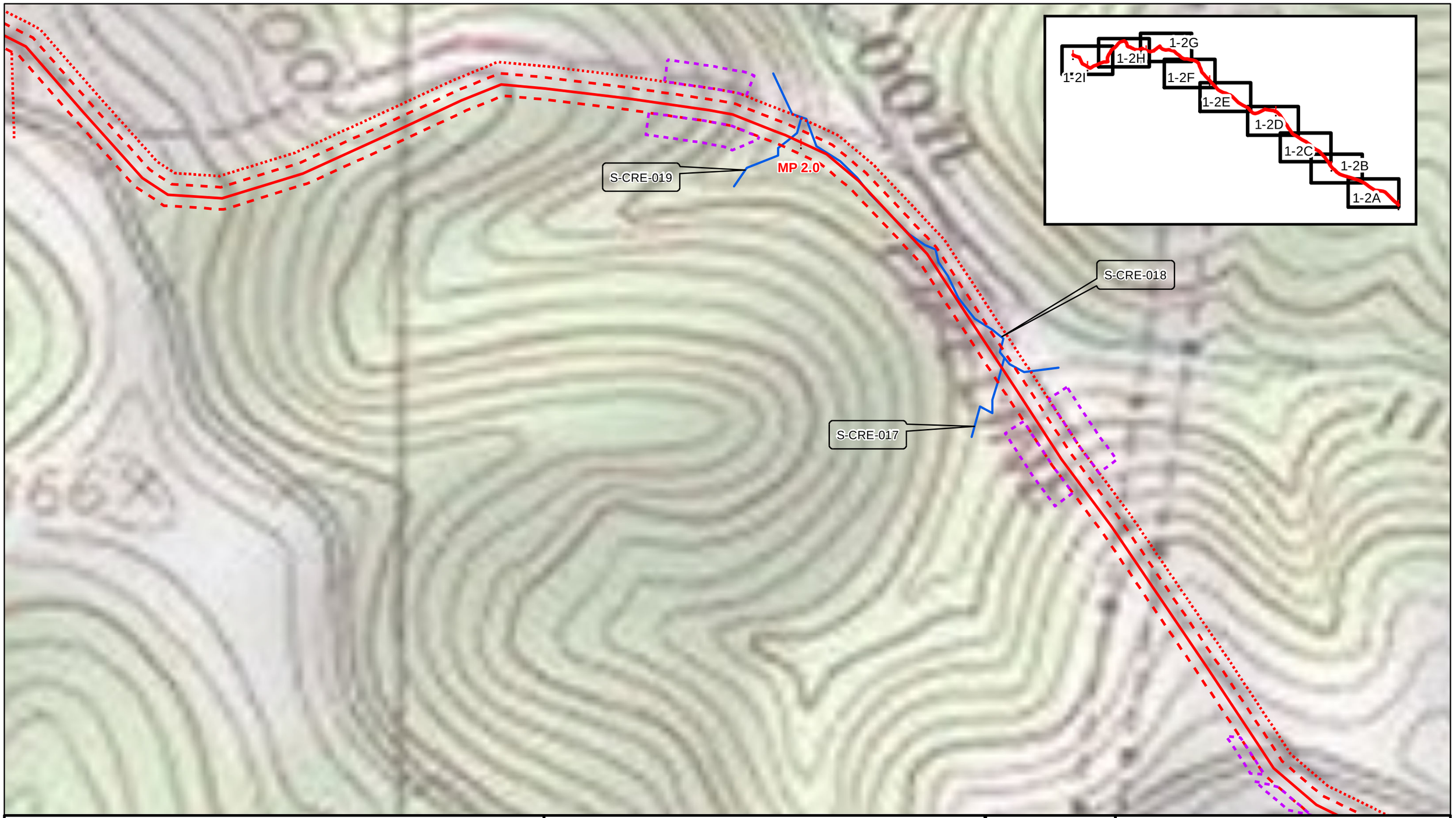
Topo Map Source: ESRI USA Topographic Maps service.
U.S.G.S. Digital Raster Graphics, 2009

URS

Natrium Pipeline

TL-613
Wetland and Waterbody Map

Date: 8-18-2011 | Figure 1-2C



TL-613 Milepost
TL-613 Extra Workspace
TL-613 Permanent ROW
TL-613 Temporary ROW
TL-613 Centerline
Streams
Wetlands

0 50 100 200 300 400 Feet

Topo Map Source: ESRI USA Topographic Maps service.
U.S.G.S. Digital Raster Graphics, 2009

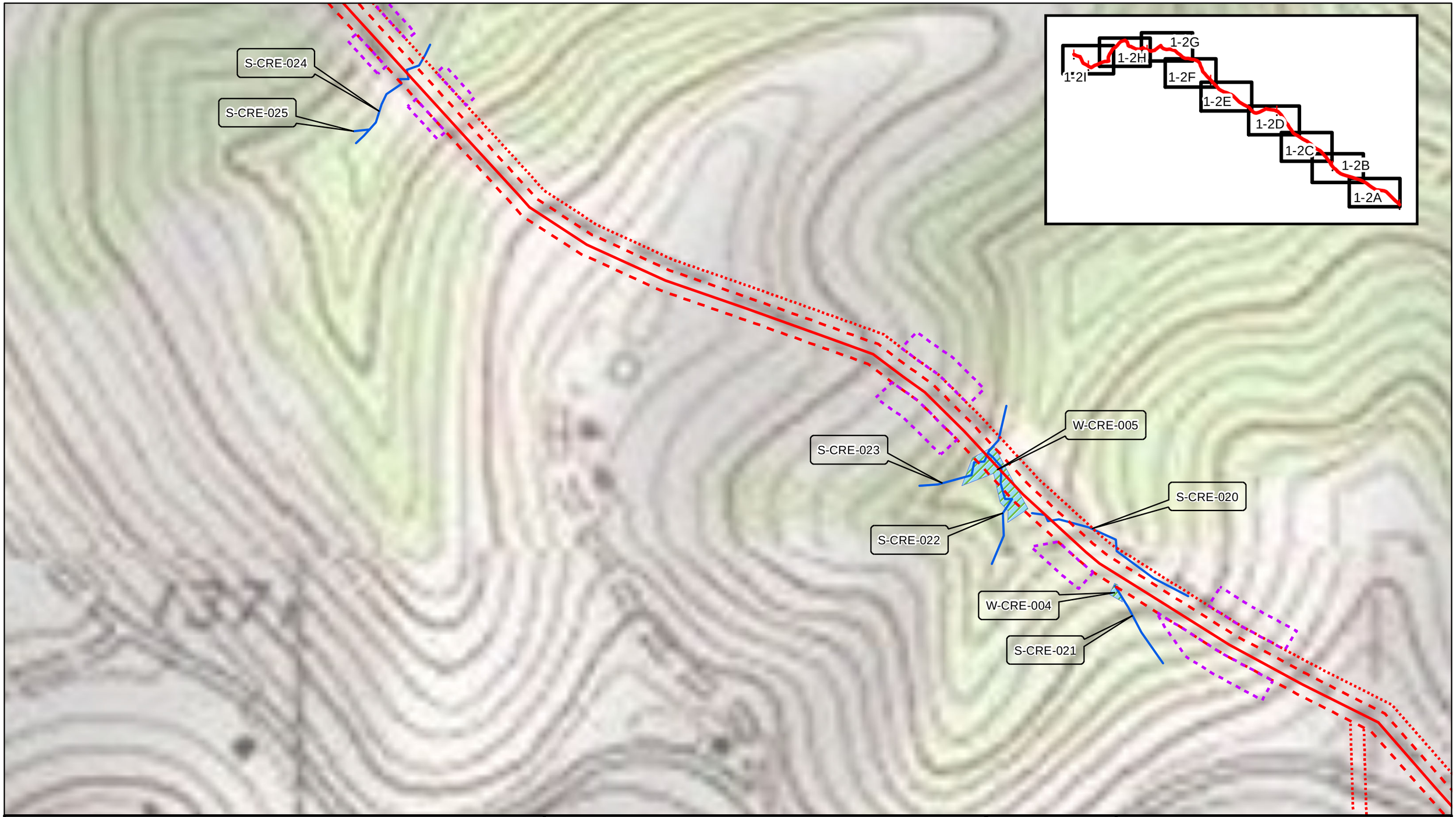
URS

Natrium Pipeline

TL-613
Wetland and Waterbody Map

Date: 8-18-2011

Figure 1-2D



TL-613 Milepost
TL-613 Extra Workspace
TL-613 Permanent ROW
TL-613 Temporary ROW
TL-613 Centerline
Streams
Wetlands

0 50 100 200 300 400 Feet

Topo Map Source: ESRI USA Topographic Maps service.
U.S.G.S. Digital Raster Graphics, 2009

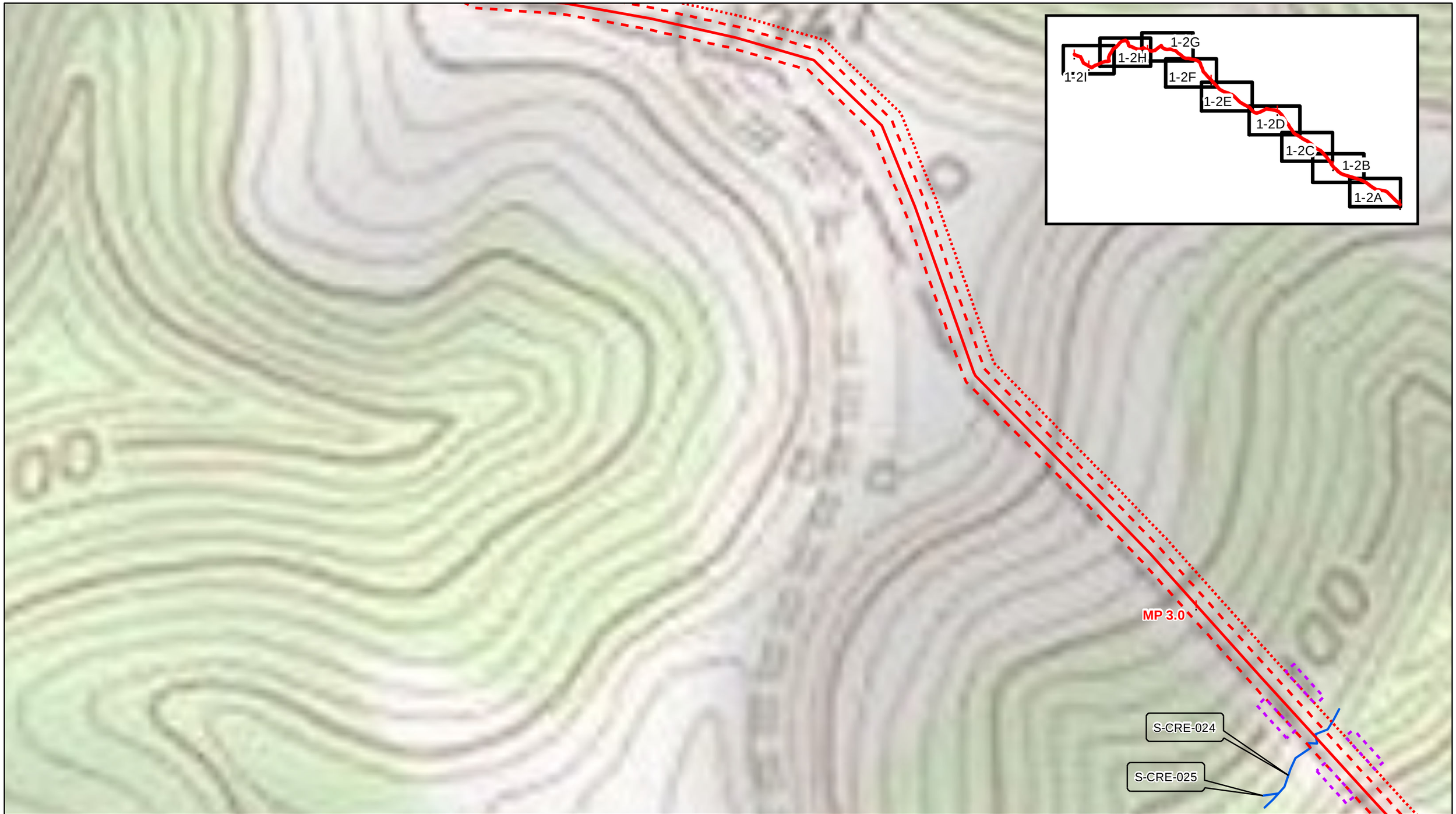
URS

Natrium Pipeline

TL-613
Wetland and Waterbody Map

Date: 8-18-2011

Figure 1-2E



! TL-613 Milepost
TL-613 Extra Workspace
TL-613 Permanent ROW
TL-613 Temporary ROW
TL-613 Centerline
Streams
Wetlands

0 50 100 200 300 400 Feet

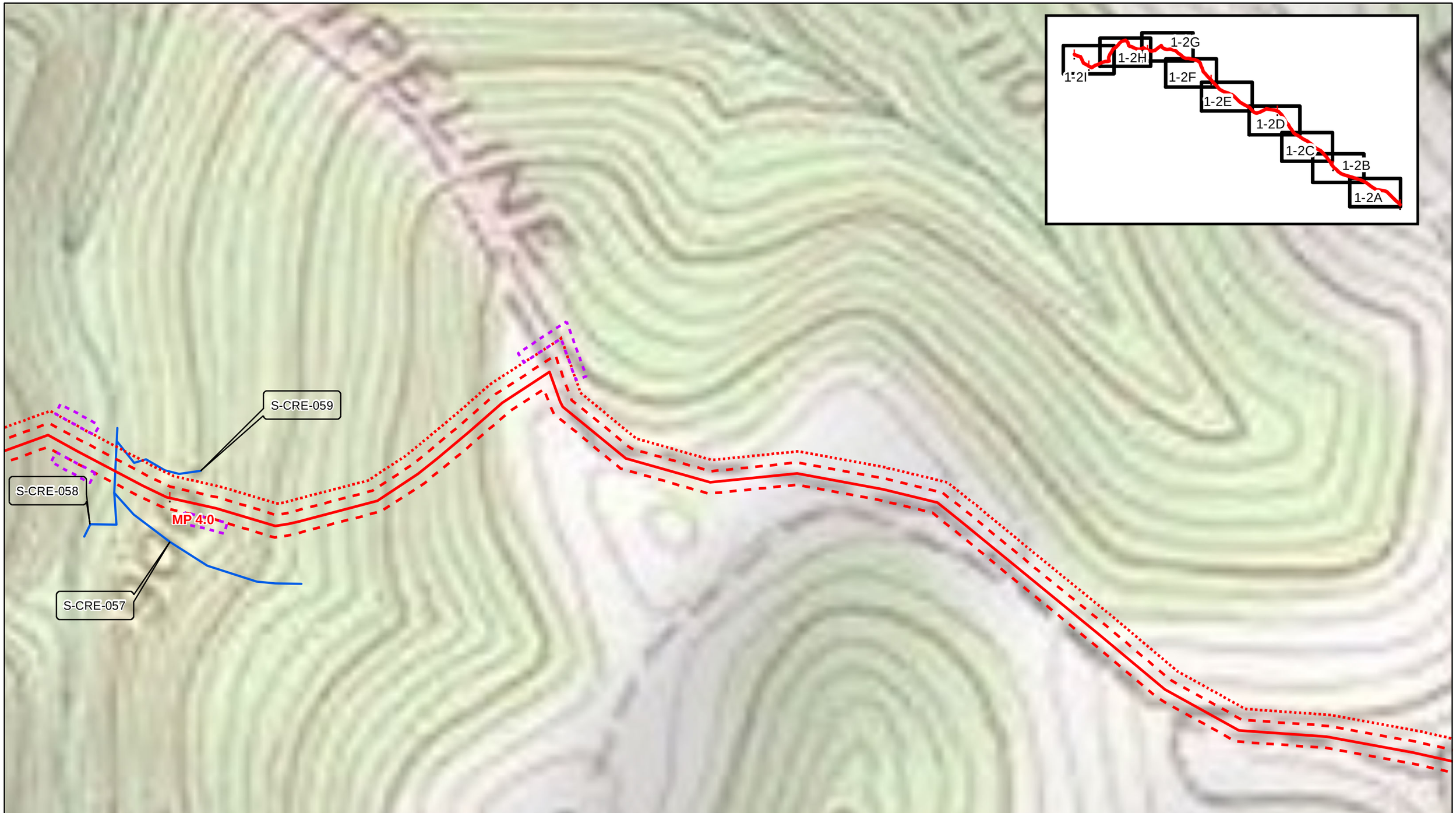
Topo Map Source: ESRI USA Topographic Maps service.
U.S.G.S. Digital Raster Graphics, 2009

URS

Natrium Pipeline

TL-613
Wetland and Waterbody Map

Date: 8-18-2011 | Figure 1-2F



TL-613 Milepost
TL-613 Extra Workspace
TL-613 Permanent ROW
TL-613 Temporary ROW
TL-613 Centerline
Streams
Wetlands

0 50 100 200 300 400 Feet

Topo Map Source: ESRI USA Topographic Maps service.
U.S.G.S. Digital Raster Graphics, 2009

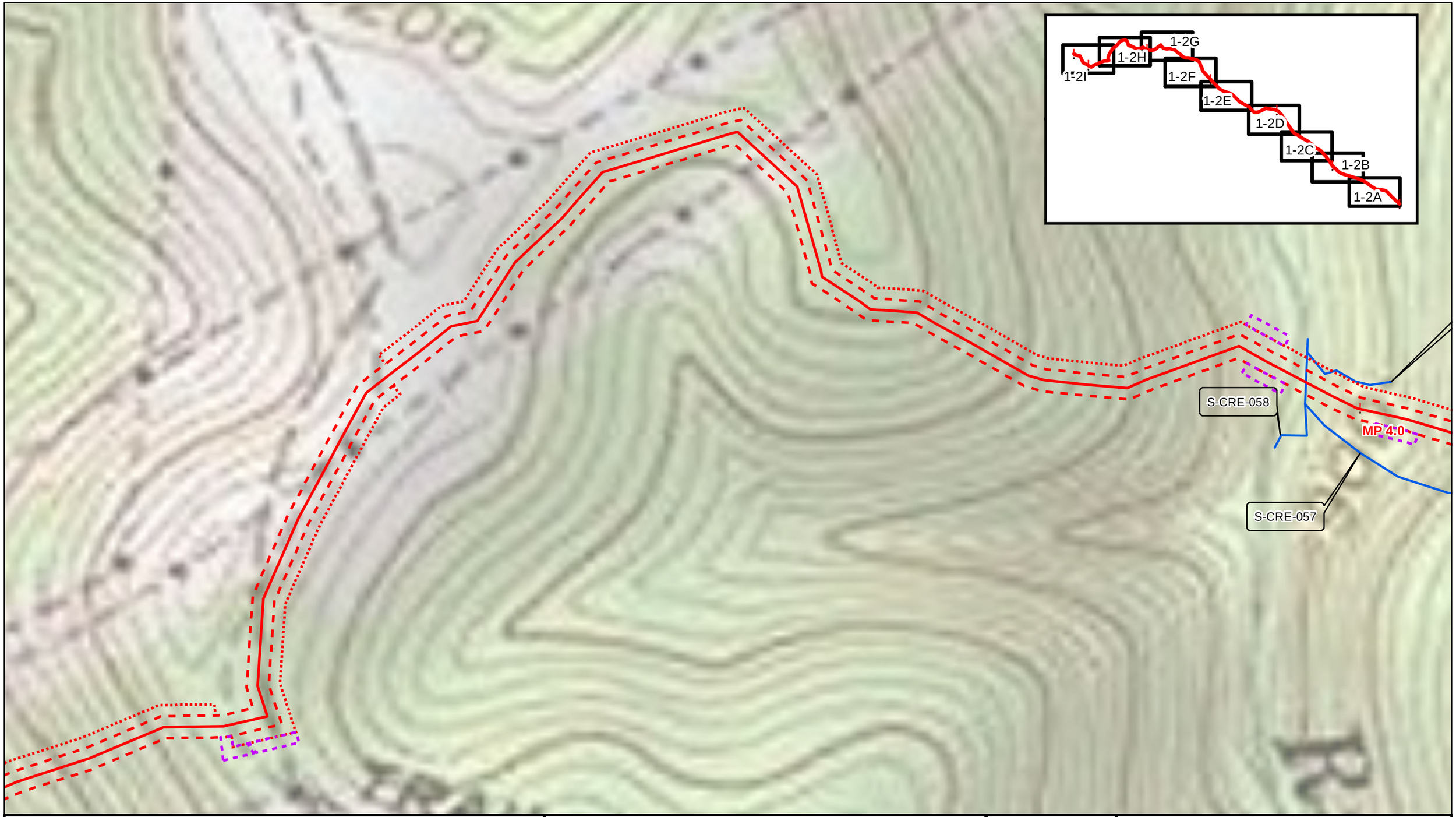
URS

Natrium Pipeline

TL-613
Wetland and Waterbody Map

Date: 8-18-2011

Figure 1-2G



! TL-613 Milepost
TL-613 Extra Workspace
TL-613 Permanent ROW
TL-613 Temporary ROW
TL-613 Centerline
Streams
Wetlands

0 50 100 200 300 400 Feet

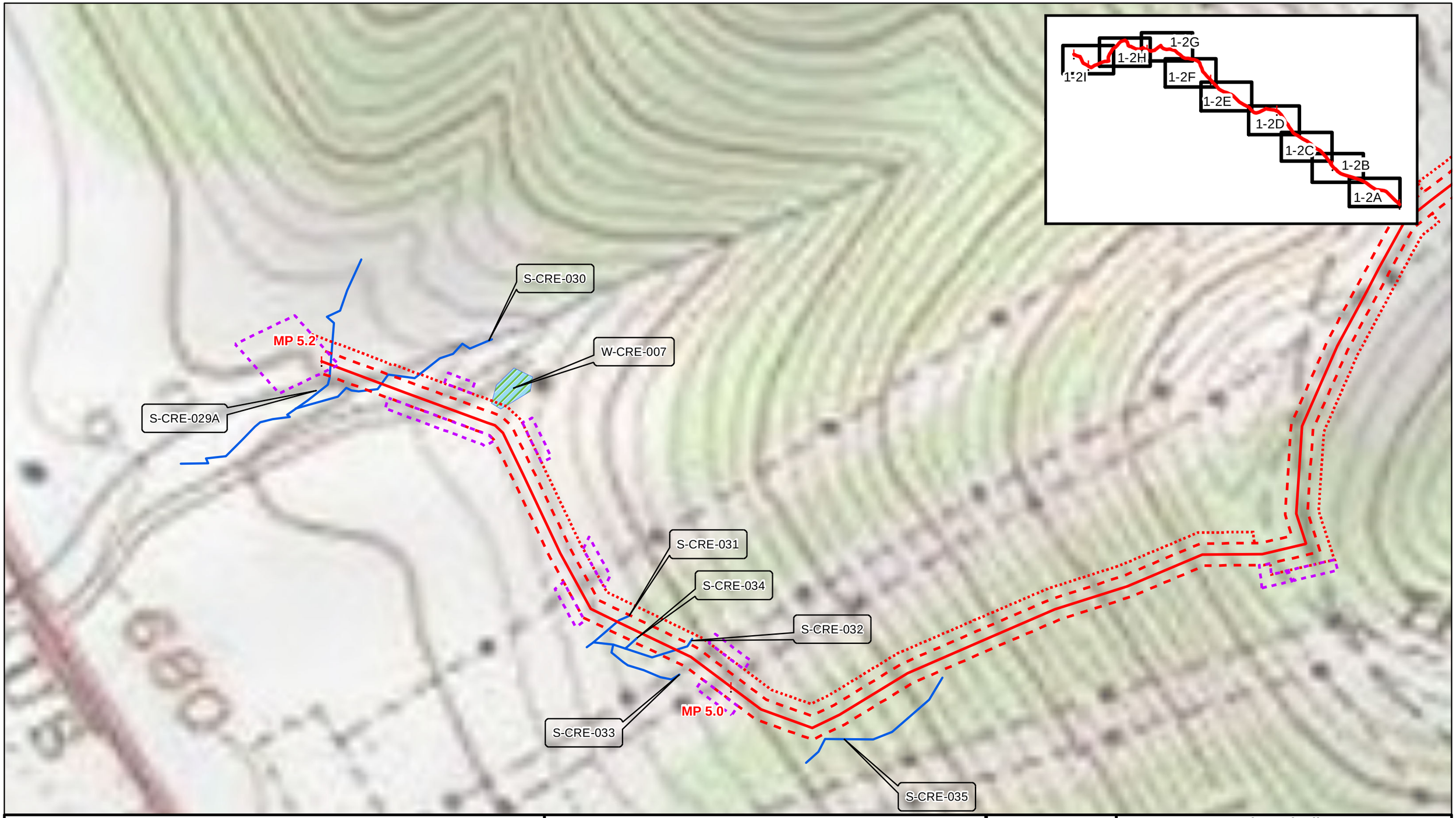
Topo Map Source: ESRI USA Topographic Maps service.
U.S.G.S. Digital Raster Graphics, 2009

URS

Natrium Pipeline

TL-613
Wetland and Waterbody Map

Date: 8-18-2011 | Figure 1-2H



! TL-613 Milepost
TL-613 Extra Workspace
TL-613 Permanent ROW
TL-613 Temporary ROW
TL-613 Centerline
Streams
Wetlands

0 50 100 200 300 400 Feet

Topo Map Source: ESRI USA Topographic Maps service.
U.S.G.S. Digital Raster Graphics, 2009

URS

Natrium Pipeline

TL-613
Wetland and Waterbody Map

Date: 8-18-2011 | Figure 1-2I

Figure 10-1

TL-613 and TL-613 Alternate Overview Map

Legend

- TL-613 Milepost
- TL-613 Alternate Milepost
- TL-613 Centerline
- TL-613 Alternate Centerline

0 800 1,600 3,200 4,800 6,400 Feet

Topo Map Source: ESRI USA Topographic Maps service.
U.S.G.S. Digital Raster Graphics, 2009

URS

Natrium Pipeline

TL-613 and TL-613 Alternate Overview Map

Date: 8-2-2011