

NORTH DAKOTA PUBLIC SERVICE COMMISSION

# Amendment of Application Certificate of Corridor Compatibility

---

Bear Paw Energy, LLC  
Garden Creek Natural Gas Liquids Pipeline  
Project

Prepared by E3 Environmental, LLC

October 2011

**TABLE OF CONTENTS**

INTRODUCTION ..... 1

SECTION 1: DESCRIPTION .....2

    1.1 Purpose, Type and Size of Facility .....2

        1.1.1 Length.....2

        1.1.2 Location .....2

    1.2 Project Schedule.....2

        1.2.1 Certificate of Corridor Compatibility .....2

        1.2.2 Route Permit .....2

        1.2.3 Construction Schedule .....2

SECTION 2: STUDIES .....3

    2.1 Corridor .....3

    2.2 Environmental Desktop Analysis .....3

    2.3 Agency Consultations .....3

SECTION 3: NEED FOR FACILITY .....4

    3.1 Analysis of Need Based on Present and Projected Demand, Including System Studies.....4

    3.2 Description of Feasible Alternative Methods of Serving the Need .....4

SECTION 4: LOCATION .....5

    4.1 Corridor .....5

    4.2 Identify and Map Criteria .....5

    4.3 Exclusion Area Inventory and Analysis.....5

    4.4 Avoidance Area Inventory and Analysis .....6

        4.4.1 National Resource Review.....6

    4.5 Factors to be Considered in Evaluating Applications and Designation of Sites, Corridors, and Routes (Section 49-22-09, N.D.C.C.) .....6

        4.5.1 Selection Criteria.....6

    4.6 Policy Criteria.....7

SECTION 5: MITIGATIVE MEASURES .....8

    5.1 Location .....8

    5.2 Construction .....8

    5.3 Operation .....8

SECTION 6: LIST OF PREPARERS.....9

- Appendix A: Engineering Documents
- Appendix B: Project Maps
- Appendix C: Consultations
- Appendix D: Biology Report
- Appendix E: Cultural Resources Report

## **INTRODUCTION**

ONEOK Rockies Midstream, L.L.C., formerly known as Bear Paw Energy, LLC (ONEOK) received the Public Service Commission's (Commission) Findings of Fact, Conclusion of Law and Order (Orders) dated September 7, 2011, in Case No. PU-11-066 approving the Garden Creek Natural Gas Liquid Pipeline Project (GCP). The Commission's Orders approved 250-feet of ONEOK's 1-mile corridor, which was analyzed utilizing various desktop studies and agency consultations as described in the original request for a Certificate of Corridor Compatibility. The proposed Amendment of Application is for a 1,142-foot-long route modification located between MP 43 and 44, a portion of which would be located beyond the limits of the certificated corridor (see Appendix B).

The purpose of the route modification is to resolve an issue which originated from the affected landowner's request to modify the permitted pipeline alignment such that the modified alignment of the GCP would be collocated within an adjacent pipeline corridor.

The entirety of this route modification falls within the original 1-mile corridor. Therefore, the analysis provided in the initial application for the ONEOK Garden Creek NGL Pipeline remains unchanged, and as such, should be referenced for all sections unless otherwise noted.

The information presented in this application is organized according to the format prescribed in the PSC Application Guidelines for a Certificate of Site or Corridor Compatibility, which divides the information into the following five main categories:

SECTION 1: DESCRIPTION

SECTION 2: STUDIES

SECTION 3: NEED FOR FACILITY

SECTION 4: LOCATION

SECTION 5: MITIGATIVE MEASURES

## **SECTION 1: DESCRIPTION**

### **1.1 PURPOSE, TYPE AND SIZE OF FACILITY**

The purpose of the proposed route modification is to allow ONEOK to act upon an affected landowner's request to modify the permitted alignment.

Refer to the GCP application as filed; the proposed amendment will not change the type or size of the facility.

#### **1.1.1 LENGTH**

The proposed GCP route modification is approximately 1,142 feet in total length. The total length of the GCP will remain essentially unchanged and as described in the application as filed.

#### **1.1.2 LOCATION**

The proposed GCP route modification is located between Project MP 43 and 44, in the Northwest quarter of the Northwest quarter of Section 7, Township 147 North, Range 103 West, and the Northeast quarter of the Northeast quarter of Section 12, Township 147 North, Range 104 West in McKenzie County, North Dakota. Please refer to maps provided in Appendix B. The proposed re-route will not modify any other portion of the approved 250-foot Project corridor.

### **1.2 PROJECT SCHEDULE**

#### **1.2.1 CERTIFICATE OF CORRIDOR COMPATIBILITY**

ONEOK seeks an amended Certificate of Corridor Compatibility on or before November 21, 2011.

#### **1.2.2 ROUTE PERMIT**

ONEOK submitted a request for a Route Permit amendment on October 21, 2011. ONEOK seeks the amended Route Permit on or before November 21, 2011.

#### **1.2.3 CONSTRUCTION SCHEDULE**

ONEOK plans to commence construction immediately upon receipt of PSC approval.

## **SECTION 2: STUDIES**

### **2.1 CORRIDOR**

Refer to the GCP application as filed; the corridor analysis encompassed the proposed modification.

### **2.2 ENVIRONMENTAL DESKTOP ANALYSIS**

Refer to the GCP application as filed; the environmental desktop analysis encompassed the proposed modification.

### **2.3 AGENCY CONSULTATIONS**

Refer to the GCP application as filed; the agency consultations encompassed the proposed modification.

**SECTION 3: NEED FOR FACILITY**

**3.1 ANALYSIS OF NEED BASED ON PRESENT AND PROJECTED DEMAND,  
INCLUDING SYSTEM STUDIES**

Refer to the GCP application as filed.

**3.2 DESCRIPTION OF FEASIBLE ALTERNATIVE METHODS OF SERVING THE  
NEED**

Refer to the GCP application as filed.

**SECTION 4: LOCATION**

**4.1 CORRIDOR**

The proposed route modification is approximately 1,142 feet in length and is located between MP 43 and 44, in the Northwest quarter of the Northwest quarter of Section 7, Township 147 North, Range 103 West, and the Northeast quarter of the Northeast quarter of Section 12, Township 147 North, Range 104 West in McKenzie County, North Dakota. The majority of the requested route would be collocated within an existing utility corridor. Please refer to the maps provided in Appendix B.

**4.2 IDENTIFY AND MAP CRITERIA**

The requested route modification has been reviewed for siting criteria; where items related to the siting criteria are identified, their locations are depicted on the maps in Appendix B.

**4.3 EXCLUSION AREA INVENTORY AND ANALYSIS**

There were no Exclusion Areas identified within the corridor of the proposed route modification.

<b>Exclusion Area</b>	<b>Within Corridor</b>
<b>Federal</b>	
National Parks or Memorial Parks	No
Historic Sites, Districts, or Landmarks	No
Natural Landmarks or Monuments	No
Wilderness Areas	No
<b>State</b>	
Historic Sites, Monuments, or Historical Markers	No
Archaeological Sites	No
Parks	No
Nature Preserves	No
<b>County</b>	
Parks	No
Recreation Areas	No
Municipal Parks	No
<b>Other</b>	
Areas Critical to the Life Stages of Threatened and Endangered Animal or Plant Species	No
Areas where Animal or Plant Species that are Unique or Rare to this State would be Irreversibly Damaged	No

#### 4.4 AVOIDANCE AREA INVENTORY AND ANALYSIS

The following summary describes the Avoidance Area criteria analysis for the requested route modification.

<b>Avoidance Area</b>	<b>Within Corridor</b>
<b>National</b>	
Historic Districts	No
Wildlife Areas	No
Wild, Scenic or Recreational Rivers	No
Wildlife Refuges	No
Grasslands	Yes
<b>State</b>	
Wild, Scenic, or Recreational Rivers	No
Game Refuges or Game Management Areas	No
Forests or Forest Management Areas	No
Grasslands	No
<b>Other</b>	
Other Historic Resources not meeting Exclusion Areas criteria	No
Areas of Known Geologic Instability	No
Areas within 500-Feet of a Residence, School, or Place of Business	No
Reservoirs and Municipal Water Supplies	No
Water Sources for Organized Rural Water Districts	No
Irrigated Land (does not apply to underground facilities)	Not Applicable
Areas of Recreational Significance which are not designated as Exclusion Areas	No

##### 4.4.1 NATIONAL RESOURCE REVIEW

The requested route modification includes 337 feet that crosses U.S. Forest Service Lands. Refer to the GCP application and supplemental filings for related documents.

#### 4.5 FACTORS TO BE CONSIDERED IN EVALUATING APPLICATIONS AND DESIGNATION OF SITES, CORRIDORS, AND ROUTES (SECTION 49-22-09, N.D.C.C.)

##### 4.5.1 SELECTION CRITERIA

Refer to the GCP application as filed; the selection criteria analysis encompassed the proposed modification.

#### **4.6 POLICY CRITERIA**

Refer to the GCP application as filed; the policy criteria analysis encompassed the proposed modification. Approximately 1,000 feet of the requested route deviation would be collocated within an existing utility corridor.

## **SECTION 5: MITIGATIVE MEASURES**

### **5.1 LOCATION**

The requested route modification is approximately 1,142 feet in length and is located between MP 43 and 44, in the Northwest quarter of the Northwest quarter of Section 7, Township 147 North, Range 103 West, and the Northeast quarter of the Northeast quarter of Section 12, Township 147 North, Range 104 West in McKenzie County, North Dakota.

### **5.2 CONSTRUCTION**

Construction would commence immediately upon Commission approval.

### **5.3 OPERATION**

Refer to the GCP application as filed; the requested amendment will not modify operations as detailed previously.

## **SECTION 6: LIST OF PREPARERS**

### **Russ Clark, P.E.**

Project Engineer

ONEOK Partners, 100 W. Fifth Street, Tulsa, OK 74103

B.S. Chemical Engineering, Montana State University - Bozeman

Mr. Clark has worked as an engineer in the petroleum and natural gas industries for 10 years. As a process engineer, he has designed and overseen the implementation of several natural gas projects in the past two years. Mr. Clark is a licensed Professional Engineer by examination in the State of Colorado.

### **Judith Cooper, Ph.D.**

Archaeologist/ Principle Investigator

SWCA, Inc., 116 North 4<sup>th</sup> Street, Suite 200, Bismarck, ND 58501

Ph.D. and M.A. Anthropology, Southern Methodist University and B.A. Anthropology, Pennsylvania State University. Dr. Cooper has over ten years of experience in North American archaeology and has worked on field (survey, testing, and recovery) and research projects in the northern Great Plains and Rocky Mountains. Dr. Cooper is experienced in federal and state cultural resources law and regulations, including Section 106 of the National Historic Preservation Act. As the Cultural Resources Lead in the SWCA's Bismarck office, she serves as a member of multi-disciplinary project teams to assure cultural resource concerns are appropriately addressed during the regulatory process.

### **William McCarthy, C.W.B.**

Senior Environmental Compliance Analyst

E3 Environmental, LLC, 817 Vandalia Street, St. Paul, MN 55114

M.S. Wildlife Biology, University of Minnesota – Twin Cities; and B.S. Wildlife Biology, Michigan State University. Mr. McCarthy is an environmental compliance analyst with 15 years of environmental consulting experience working with various energy assets and regulatory agencies. As a compliance analyst he has managed the environmental requirements for facility siting, pipeline routing, federal licensing, and various federal, state and local permits. Mr. McCarthy is a certified wildlife biologist and in this role conducts and coordinates field studies, agency consultations, mitigation and avoidance plans.

**Katie Schmidt, EIT**

Environmental Engineer and Compliance Analyst

E3 Environmental, LLC, 817 Vandalia Street, St. Paul, MN 55114

B.S. Civil Engineering with an emphasis in Environmental Engineering-Iowa State University. Ms. Schmidt has pursued a career focused on regulatory compliance. Her experience includes providing permitting and compliance support associated with maintaining assets for safe and reliable distribution and transmission of energy throughout the continent. Ms. Schmidt has developed a broad working knowledge of NPDES construction stormwater compliance by working with distribution systems located in MN, OK, TX, LA and AR. Ms Schmidt also has extensive experience working with transmission assets involving COE permitting, ESA and SHPO consultations.

NORTH DAKOTA PUBLIC SERVICE COMMISSION

# Amendment of Application Route Permit

---

Bear Paw Energy, LLC  
Garden Creek Natural Gas Liquids Pipeline  
Project

Prepared by E3 Environmental, LLC

October 2011

**TABLE OF CONTENTS**

INTRODUCTION ..... 1

SECTION 1: Type, Size and Design .....2

    1.1 Approximate Length of Facility .....2

    1.2 Location .....2

    1.3 Project Schedule.....2

        1.3.1 Route Permit .....2

        1.3.2 Certificate of Corridor Compatibility .....2

        1.3.3 Construction Schedule .....2

SECTION 2: Studies .....3

    2.1 Pipeline Route .....3

    2.2 Environmental Survey .....3

        2.2.1 Tree/Sapling/Shrub Survey .....3

        2.2.2 Wetland and Waterbodies Survey .....3

            2.2.2.1 Wildlife Inventory .....4

            2.2.2.2 Federally Protected Species Survey .....4

        2.2.3 U.S. Forest Service .....4

        2.2.4 North Dakota Game and Fish Department.....4

        2.2.5 North Dakota Parks and Recreation Department .....4

        2.2.6 North Dakota State Historic Preservation Office.....4

        2.2.7 North Dakota State Lands Department.....5

SECTION 3: Evaluation of the Proposed Route in Regard to Applicable Considerations in Section 49-22-09 and Criteria Established in Section 49-22-05.1.....6

    3.1 Exclusion and Avoidance Areas .....6

    3.2 Avoidance Area Inventory and Analysis .....6

        3.2.1 National Grasslands .....7

    3.3 Factors to be Considered in Evaluating Applications and Designations of Sites, Corridors and Routes (49-22-09) .....7

    3.4 Selection Criteria.....7

    3.5 Policy Criteria.....7

        3.5.1 Location and Design .....7

SECTION 4: Mitigative Measures .....8

    4.1 Location .....8

    4.2 Construction .....8

    4.3 Operation .....8

SECTION 5: Description of Right-Of-Way Preparation and Reclamation Procedures .....9

SECTION 6: Utility’s Easement, Acquisition, Landowner and Easement Compensation Plan .....10

SECTION 7: List of Preparers .....11

## **APPENDICES**

Appendix A: Engineering Documents  
Appendix B: Project Maps  
Appendix C: Consultations  
Appendix D: Natural Resource Report  
Appendix E: Cultural Resources Report

## **INTRODUCTION**

ONEOK Rockies Midstream, L.L.C., formerly known as Bear Paw Energy, LLC, (ONEOK) received the Public Service Commission's (Commission) Findings of Fact, Conclusion of Law and Order (Orders) dated September 7, 2011, in Case No. PU-11-066 approving the Garden Creek Natural Gas Liquid Pipeline Project (GCP). Bear Paw is respectfully requesting and Amendment of this Application to accommodate a route modification. The proposed Amendment of Application is for a 1,142-foot-long route modification located between Project mileposts (MP) 43 and 44, a portion of which would be located beyond the limits of the certificated corridor (see Appendix B). The proposed re-route does not modify the overall length, the destination, or the terminus of the originally certificated pipeline.

The proposed GCP route modification is located between Project MP 43 and 44, in the Northwest quarter of the Northwest quarter of Section 7, Township 147 North, Range 103 West, and the Northeast quarter of the Northeast quarter of Section 12, Township 147 North, Range 104 West in McKenzie County, North Dakota.

The purpose of the route modification is to resolve an issue which originated from the affected landowner's request to modify the permitted pipeline alignment such that the modified alignment of the GCP would be collocated within an adjacent pipeline corridor.

The information presented in this application is organized according to the format prescribed in the PSC Application Guidelines for a Certificate of Site or Corridor Compatibility, which divides the information into the following categories:

SECTION 1: TYPE, SIZE AND DESIGN

SECTION 2: STUDIES

SECTION 3: EVALUATION OF THE PROPOSED ROUTE IN REGARD TO APPLICABLE CONSIDERATIONS IN SECTION 49-22-09 AND CRITERIA ESTABLISHED IN SECTION 49-22-05.1

SECTION 4: MITIGATIVE MEASURES

SECTION 5: DESCRIPTION OF RIGHT-OF-WAY PREPARATION AND RECLAMATION PROCEDURES

SECTION 6: UTILITY'S EASEMENT ACQUISITION, LANDOWNER NOTIFICATION, AND EASEMENT COMPENSATION PLAN

SECTION 7: LIST OF PREPARERS

## **SECTION 1: TYPE, SIZE AND DESIGN**

Refer to the GCP application as filed; the proposed amendment will not change the type, size or design of the facility.

### **1.1 APPROXIMATE LENGTH OF FACILITY**

The proposed GCP is approximately 63.2 miles in total length, of which approximately 54.2 miles are located in North Dakota. The requested route modification is 1,142 feet in length and is located between MP 43 and 44.

### **1.2 LOCATION**

The proposed GCP route modification is located between Project MP 43 and 44, in the Northwest quarter of the Northwest quarter of Section 7, Township 147 North, Range 103 West, and the Northeast quarter of the Northeast quarter of Section 12, Township 147 North, Range 104 West in McKenzie County, North Dakota. Please refer to maps provided in Appendix B.

### **1.3 PROJECT SCHEDULE**

#### **1.3.1 ROUTE PERMIT**

Bear Paw seeks an amended Route Permit on or before November 21, 2011.

#### **1.3.2 CERTIFICATE OF CORRIDOR COMPATIBILITY**

Bear Paw submitted a request for an Amendment of Application for its Corridor Certificate on October 21, 2011. Bear Paw seeks the amended Corridor Certificate on or before November 21, 2011.

#### **1.3.3 CONSTRUCTION SCHEDULE**

Bear Paw plans to commence construction immediately upon receipt of PSC approval.

## **SECTION 2: STUDIES**

### **2.1 PIPELINE ROUTE**

The requested route modification represents a minor route deviation, departing from the original alignment by approximately 200 feet, and would be aligned with and within an existing utility corridor.

Bear Paw commissioned field studies along the entire length of the modified route that were conducted by trained natural and cultural resource specialists. The environmental survey corridor is a 250-foot wide corridor centered upon the modified route alignment. The purpose of these field studies was to definitively identify any potential resource issues (e.g., wetlands, waterbodies, protected species, critical habitats, or cultural resources) that may intersect the proposed pipeline alignment and to collect the baseline field data necessary to prescribe alternative routing or mitigation to minimize environmental impacts.

The natural resource field surveys were conducted April 20<sup>th</sup> through the 28<sup>th</sup> and on May 17<sup>th</sup>, 18<sup>th</sup>, and 27<sup>th</sup>, 2011. These surveys encompass both the original route and the modified route.

Additional cultural resource surveys were conducted on September 30 and October 5, 2011 to supplement this request of amendment of application.

The results of these field surveys are discussed in the following sections. The full Natural Resources and Wetland Determination Report (Natural Resource Report) and the Class I and Class III Cultural Resource Inventory Report can be found in Appendices D and E respectively.

### **2.2 ENVIRONMENTAL SURVEY**

All field surveys for the re-route were conducted based upon a minimum 250-foot wide corridor, centered upon the requested modified alignment.

#### **2.2.1 TREE/SAPLING/SHRUB SURVEY**

Field studies to inventory the trees and shrubs along the requested route modification were conducted and the results of this effort can be found in Appendix D.

#### **2.2.2 WETLAND AND WATERBODIES SURVEY**

The modified route includes no wetlands and one (1) waterbody crossing. This waterbody was to be crossed by GCP's original alignment. The waterbody is an unnamed perennial stream, approximately 15 feet wide. Bear Paw's preferred mitigation for waterbody crossing is a low impact (e.g.; horizontal directional drill) crossing technique to avoid direct impacts associated with pipeline construction. To

facilitate the most efficient means of pipeline construction, Bear Paw will install temporary bridges at select locations to accommodate full equipment access to the right of way during construction. In the event that a low impact crossing cannot be completed, Bear Paw will employ an alternative that may involve direct impacts (e.g.; open cut); the alternative will be determined on site as site conditions require. Bear Paw shall implement best management practices during construction to minimize and avoid direct impacts to these the sensitive features. See Section 4 for mitigation measures and Appendix D for the complete Natural Resource Field Report.

#### **2.2.2.1 WILDLIFE INVENTORY**

Refer to the GCP application as filed; no changes have resulted from the requested route modification.

#### **2.2.2.2 FEDERALLY PROTECTED SPECIES SURVEY**

Refer to the GCP application as filed; no changes have resulted from the requested route modification.

#### **2.2.3 U.S. FOREST SERVICE**

The modified route will cross approximately 337 feet of U.S. Forest Service (FS) land. Refer to the GCP application as filed; no changes have resulted from the requested route modification.

#### **2.2.4 NORTH DAKOTA GAME AND FISH DEPARTMENT**

Refer to the GCP application as filed; no changes have resulted from the requested route modification.

#### **2.2.5 NORTH DAKOTA PARKS AND RECREATION DEPARTMENT**

Refer to the GCP application as filed; no changes have resulted from the requested route modification.

#### **2.2.6 NORTH DAKOTA STATE HISTORIC PRESERVATION OFFICE**

Bear Paw commissioned SWCA, Inc. (SWCA) to conduct a Class I Cultural Resource Inventory of the Corridor. This was completed on November 17<sup>th</sup> and 18<sup>th</sup>, 2010, January 18<sup>th</sup>, 2011 and June 2<sup>nd</sup>, 2011. The results of this inventory have been previously reported in the GCP application; refer to the GCP application as filed; no changes have resulted from the requested route modification.

SWCA also conducted a Class III Cultural Resource Inventory of the modified route. This was completed on September 30<sup>th</sup> and October 5<sup>th</sup>, 2011. The inventory recorded two (2) new isolated finds. On October 12, 2011, the North Dakota State Historic Preservation Office concluded that these materials are not eligible for listing in the National Register of Historic Places (NRHP), and issued a “No Historic Properties Affected” and “No Significant Sites Affected” determination of the modified route.

Please refer to Appendix C for comprehensive documentation of agency consultations and Appendix E for the complete survey report.

**2.2.7 NORTH DAKOTA STATE LANDS DEPARTMENT**

Refer to the GCP application as filed; no changes have resulted from the requested route modification.

**SECTION 3: EVALUATION OF THE PROPOSED ROUTE IN REGARD TO APPLICABLE CONSIDERATIONS IN SECTION 49-22-09 AND CRITERIA ESTABLISHED IN SECTION 49-22-05.1**

**3.1 EXCLUSION AND AVOIDANCE AREAS**

The modified route does not cross any exclusion areas.

<b>Exclusion Area</b>	<b>Along Proposed Route</b>
<b>Federal</b>	
National Parks or Memorial Parks	No
Historic Sites or Landmarks	No
Natural Landmarks or Monuments	No
Wilderness Areas	No
<b>State</b>	
Historic Sites, Monuments, or Historical Markers	No
Archaeological Sites	No
Parks	No
Nature Preserves	No
<b>County</b>	
Parks	No
Recreation Areas	No
Municipal Parks	No
<b>Other</b>	
Areas Critical to the Life Stages of Threatened and Endangered Animal or Plant Species	No
Areas where Animal or Plant Species that are Unique or Rare to this State would be Irreversibly Damaged	No

**3.2 AVOIDANCE AREA INVENTORY AND ANALYSIS**

Refer to the GCP application as filed; the modified does not substantively change the initial analysis.

<b>Avoidance Area</b>	<b>Within Route</b>
<b>National</b>	
Historic Districts	No
Wildlife Areas	No
Wild, Scenic or Recreational Rivers	No
Wildlife Refuges	No
Grasslands	Yes
<b>State</b>	
Wild, Scenic, or Recreational Rivers	No

<b>Avoidance Area</b>	<b>Within Route</b>
Game Refuges or Game Management Areas	No
Forests or Forest Management Areas	No
Grasslands	No
<b>Other</b>	
Other Historic Resources not meeting Exclusion Areas criteria	No
Areas of Known Geologic Instability	No
Areas within 500-Feet of a Residence, School, or Place of Business	No
Reservoirs and Municipal Water Supplies	No
Water Sources for Organized Rural Water Districts	No
Irrigated Land (does not apply to underground facilities)	NA
Areas of Recreational Significance which are not designated as Exclusion Areas	No

### **3.2.1 NATIONAL GRASSLANDS**

The modified route will cross approximately 337 feet of FS land. Refer to the GCP application as filed; no changes have resulted from the requested route modification.

### **3.3 FACTORS TO BE CONSIDERED IN EVALUATING APPLICATIONS AND DESIGNATIONS OF SITES, CORRIDORS AND ROUTES (49-22-09)**

Refer to the GCP application as filed; no changes have resulted from the requested route modification.

### **3.4 SELECTION CRITERIA**

Refer to the GCP application as filed; no changes have resulted from the requested route modification.

### **3.5 POLICY CRITERIA**

Refer to the GCP application as filed; no changes have resulted from the requested route modification.

#### **3.5.1 LOCATION AND DESIGN**

The requested route modification represents a minor route deviation, departing from the original alignment by approximately 200 feet, and would be aligned with and within an existing utility corridor. Refer to the GCP application as filed; the modified route does not substantively change the initial analysis.

## **SECTION 4: MITIGATIVE MEASURES**

### **4.1 LOCATION**

The location of the proposed route modification has been suggested by the affected landowner such that the modified alignment of the GCP would be collocated within an adjacent pipeline corridor. Bear Paw has commissioned field surveys of the modified route to assess the environmental resources that may be impacted as well as to confirm that the modified alignment conforms to the siting requirements established by the state of North Dakota.

**Trees and shrubs:** A tree and shrub inventory was completed for the modified route and any changes shall be incorporated into Bear Paw's original GCP mitigation plan.

**Wetlands and waterbodies:** There are no wetlands crossed by the modified route. One (1) waterbody will be crossed by the revised route. Bear Paw will use a low impact crossing technique (HDD) to minimize any impacts to this feature that might be associated with pipeline construction.

**Migratory Bird Treaty Act** Refer to the GCP application as filed; no changes have resulted from the requested route modification.

**Cultural Resources:** Based upon Class I and Class III Cultural Resource Inventories conducted for the modified route there are no cultural resources that require mitigative measures.

### **4.2 CONSTRUCTION**

Refer to the GCP application as filed; no changes have resulted from the requested route modification.

### **4.3 OPERATION**

Refer to the GCP application as filed; no changes have resulted from the requested route modification.

**SECTION 5: DESCRIPTION OF RIGHT-OF-WAY PREPARATION AND  
RECLAMATION PROCEDURES**

Refer to the GCP application as filed; no changes have resulted from the requested route modification.

**SECTION 6: UTILITY'S EASEMENT, ACQUISITION, LANDOWNER AND EASEMENT  
COMPENSATION PLAN**

The request for route modification has been prepared to address an affected landowner's request. Refer to the GCP application as filed; there is no change to easement acquisition, landowner notification and/or compensation plans.

## **SECTION 7: LIST OF PREPARERS**

### **Russ Clark, P.E.**

Project Engineer

ONEOK Partners, 100 W. Fifth Street, Tulsa, OK 74103

B.S. Chemical Engineering, Montana State University - Bozeman

Mr. Clark has worked as an engineer in the petroleum and natural gas industries for 10 years. As a process engineer, he has designed and overseen the implementation of several natural gas projects in the past two years. Mr. Clark is a licensed Professional Engineer by examination in the State of Colorado.

### **Judith Cooper. Ph.D.**

Archaeologist/ Principle Investigator

SWCA, Inc., 116 North 4<sup>th</sup> Street, Suite 200, Bismarck, ND 58501

Ph.D. and M.A. Anthropology, Southern Methodist University and B.A. Anthropology, Pennsylvania State University. Dr. Cooper has over ten years of experience in North American archaeology and has worked on field (survey, testing, and recovery) and research projects in the northern Great Plains and Rocky Mountains. Dr. Cooper is experienced in federal and state cultural resources law and regulations, including Section 106 of the National Historic Preservation Act. As the Cultural Resources Lead in the SWCA's Bismarck office, she serves as a member of multi-disciplinary project teams to assure cultural resource concerns are appropriately addressed during the regulatory process.

### **William McCarthy, C.W.B.**

Senior Environmental Compliance Analyst

E3 Environmental, LLC, 817 Vandalia Street, St. Paul, MN 55114

M.S. Wildlife Biology, University of Minnesota – Twin Cities; and B.S. Wildlife Biology, Michigan State University. Mr. McCarthy is an environmental compliance analyst with 15 years of environmental consulting experience working with various energy assets and regulatory agencies. As a compliance analyst he has managed the environmental requirements for facility siting, pipeline routing, federal licensing, and various federal, state and local permits. Mr. McCarthy is a certified wildlife biologist and in this role conducts and coordinates field studies, agency consultations, mitigation and avoidance plans.

**Katie Schmidt, EIT**

Environmental Engineer and Compliance Analyst

E3 Environmental, LLC, 817 Vandalia Street, St. Paul, MN 55114

B.S. Civil Engineering with an emphasis in Environmental Engineering-Iowa State University. Ms. Schmidt has pursued a career focused on regulatory compliance. Her experience includes providing permitting and compliance support associated with maintaining assets for safe and reliable distribution and transmission of energy throughout the continent. Ms. Schmidt has developed a broad working knowledge of NPDES construction stormwater compliance by working with distribution systems located in MN, OK, TX, LA and AR. Ms Schmidt also has extensive experience working with transmission assets involving COE permitting, ESA and SHPO consultations.

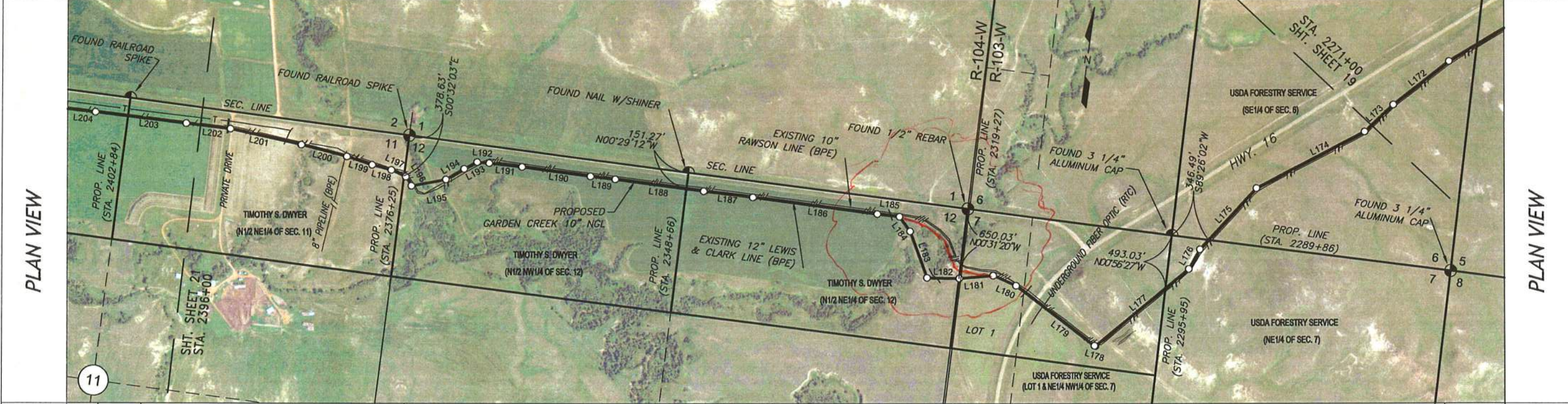
# **Appendix A**

---

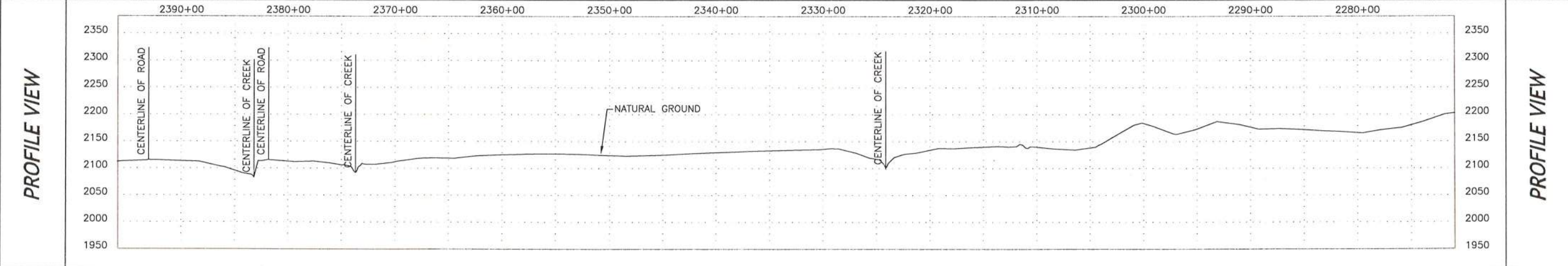
## Engineering Documents

# GARDEN CREEK 10" NGL McKENZIE COUNTY, NORTH DAKOTA

<b>OWNERSHIP</b>		TIMOTHY S. DWYER (N1/2 NE1/4 OF SEC. 11) T147N-R104W	TIMOTHY S. DWYER (N1/2 NW1/4 OF SEC. 12) T147N-R104W	TIMOTHY S. DWYER (N1/2 NE1/4 OF SEC. 12) T147N-R104W	USDA FORESTRY SERVICE (LOT 1 & NE1/4 NW1/4 OF SEC. 7) T147N-R103W	USDA FORESTRY SERVICE (NE1/4 OF SEC. 7) T147N-R103W	USDA FORESTRY SERVICE (SE1/4 OF SEC. 6) T147N-R103W		<b>OWNERSHIP</b>
LENGTH (FT.)	2396+00	1975.47	2758.71	2936.51	2332.16	608.74	1866.41	2271+00	LENGTH (FT.)
LENGTH (RODS)		119.73	167.19	178.09	141.34	36.89	114.33		LENGTH (RODS)



<b>TERRAIN</b>	CULTIVATION	GRASS	CULTIVATION	GRASS	ROAD	GRASS		<b>TERRAIN</b>
<b>STATIONING</b>	2396+00 MATCH LINE 2394+79 ENTER CULTIVATION EXIT GRASS AREA 2394+75 TREELINE 2393+98 UNDERGROUND ELECTRIC 2393+37 UNDERGROUND ELECTRIC 2393+17 P.I. < 5°26'00" LT. 2393+13 EDGE OF ROAD 2393+06 CENTERLINE OF PRIVATE RD 2393+00 EDGE OF ROAD 2392+81 BARBED WIRE FENCE (3-WIRE) 2396+30 P.I. < 1°54'08" LT. 2393+21 CENTERLINE OF CREEK 2392+43 BARBED WIRE FENCE (6 WIRE) 2381+89 P.I. < 3°57'10" LT. 2381+69 EDGE OF ROAD 2381+84 CENTERLINE OF PRIVATE RD 2381+78 EDGE OF ROAD 2379+40 P.I. < 5°31'52" RT. 2377+56 P.I. < 9°59'37" LT. 2376+25 PROPERTY LINE 2376+07 P.I. < 33°17'05" RT. 2375+07 P.I. < 68°16'09" RT. 2374+88 NATURAL GAS PIPELINE (BPE) 2374+77 NATURAL GAS PIPELINE (BPE) 2374+76 NATURAL GAS PIPELINE (BPE) 2373+69 CENTERLINE OF CREEK 2371+79 P.I. < 19°29'15" RT. 2370+30 ENTER GRASS AREA EXIT CULTIVATION 2369+81 P.I. < 2°32'15" LT. 2368+44 P.I. < 32°12'29" LT. 2368+13 NATURAL GAS PIPELINE (BPE) 2367+89 NATURAL GAS PIPELINE (BPE) 2367+82 NATURAL GAS PIPELINE (BPE) 2367+30 P.I. < 1°37'28" LT.  2364+20 P.I. < 1°04'51" LT. 2357+73 P.I. < 0°51'14" RT. 2355+42 P.I. < 0°54'07" LT.  2348+66 PROPERTY LINE 2347+02 P.I. < 0°30'37" RT.  2342+40 P.I. < 0°27'24" LT. 2330+64 P.I. < 0°53'41" RT. 2329+37 OVERHEAD POWER LINE (5 WIRE) 2328+55 P.I. < 47°12'42" LT.  2328+30 ENTER CULTIVATION EXIT GRASS AREA 2326+87 P.I. < 16°05'52" LT. 2324+15 CENTERLINE OF CREEK 2322+28 P.I. < 88°51'24" RT. 2321+85 UNDERGROUND ELECTRIC 2319+27 PROPERTY LINE 2319+25 P.I. < 5°50'16" RT. 2319+25 BARBED WIRE FENCE (4-WIRE) 2316+07 P.I. < 28°19'16" LT. 2313+75 P.I. < 13°26'21" LT. 2312+65 UNDERGROUND ELECTRIC 2312+49 BARBED WIRE FENCE (4-WIRE) WIRE & ENTER GRASS AREA EXIT ROADWAY 2311+63 EDGE OF ROAD 2311+48 CENTERLINE OF HWY 16 2311+33 EDGE OF ROAD 2310+88 UNDERGROUND FIBER OPTIC  2310+46 BARBED WIRE FENCE (4-WIRE) WIRE & ENTER ROADWAY EXIT GRASS AREA  2304+50 P.I. < 19°36'24" RT. 2304+40 P.I. < 56°41'40" RT.  2304+25 NATURAL GAS PIPELINE (BPE) 2304+01 NATURAL GAS PIPELINE (BPE)  2296+85 PROPERTY LINE 2293+13 P.I. < 20°53'56" RT. 2291+05 P.I. < 13°27'28" LT. 2289+86 PROPERTY LINE  2283+27 P.I. < 19°31'46" LT. 2271+87 P.I. < 15°46'53" RT.  2271+00 MATCH LINE						<b>STATIONING</b>	



Prepared by:  
**Golden Field Services, Inc.**  
(918) 610-0014

REVISIONS		DESCRIPTION
REV.	DATE	
1	08/03/11	ADD SPREAD BREAK

Scale: 1" = 1000'  
Drawn By: MM  
Checked By: CN  
Approved By: CN  
DWG NO.: GRASSLANDS

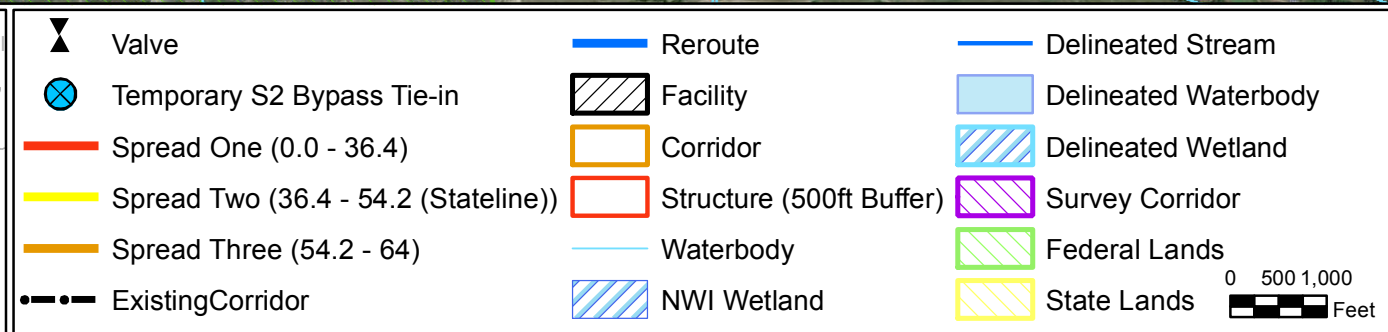
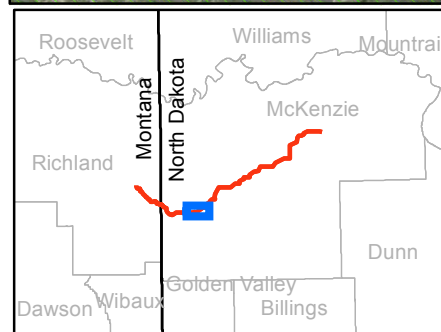
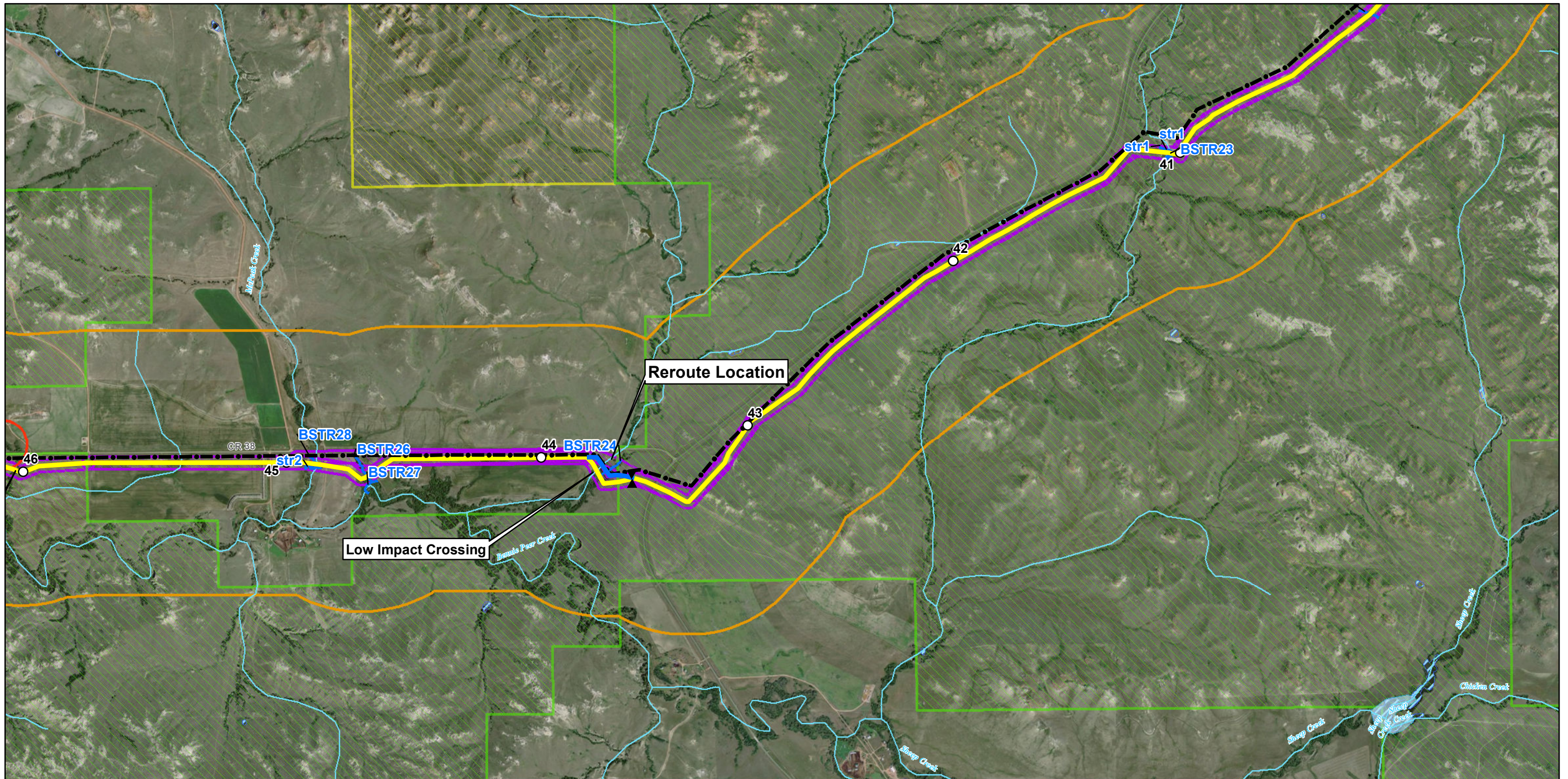
GARDEN CREEK  
10" NGL  
SHEET 20 OF 31


Prepared for:  
**BEAR PAW ENERGY**  
A SUBSIDIARY OF ONEOK PARTNERS

# **Appendix B**

---


## Project Maps





**E EXPERTS**

Enhancing Execution  
with Experience

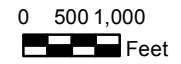


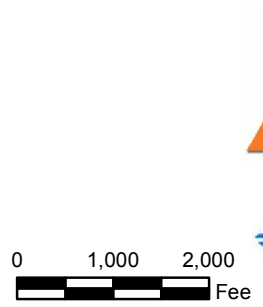
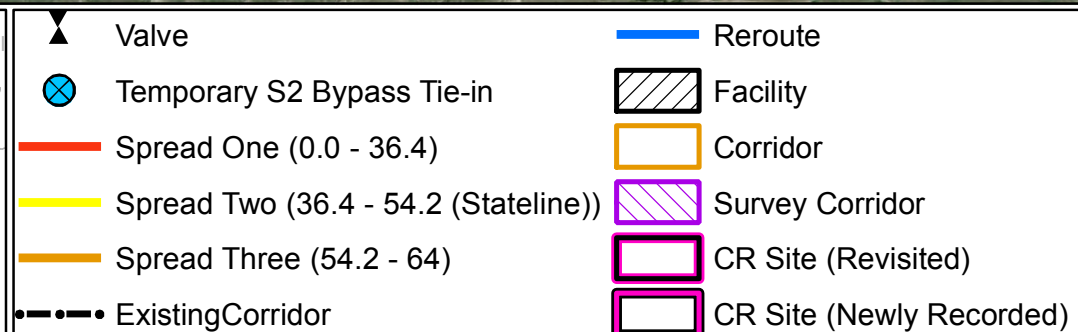
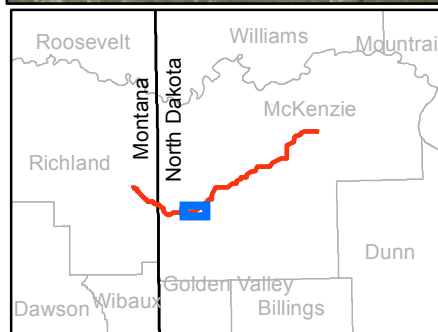
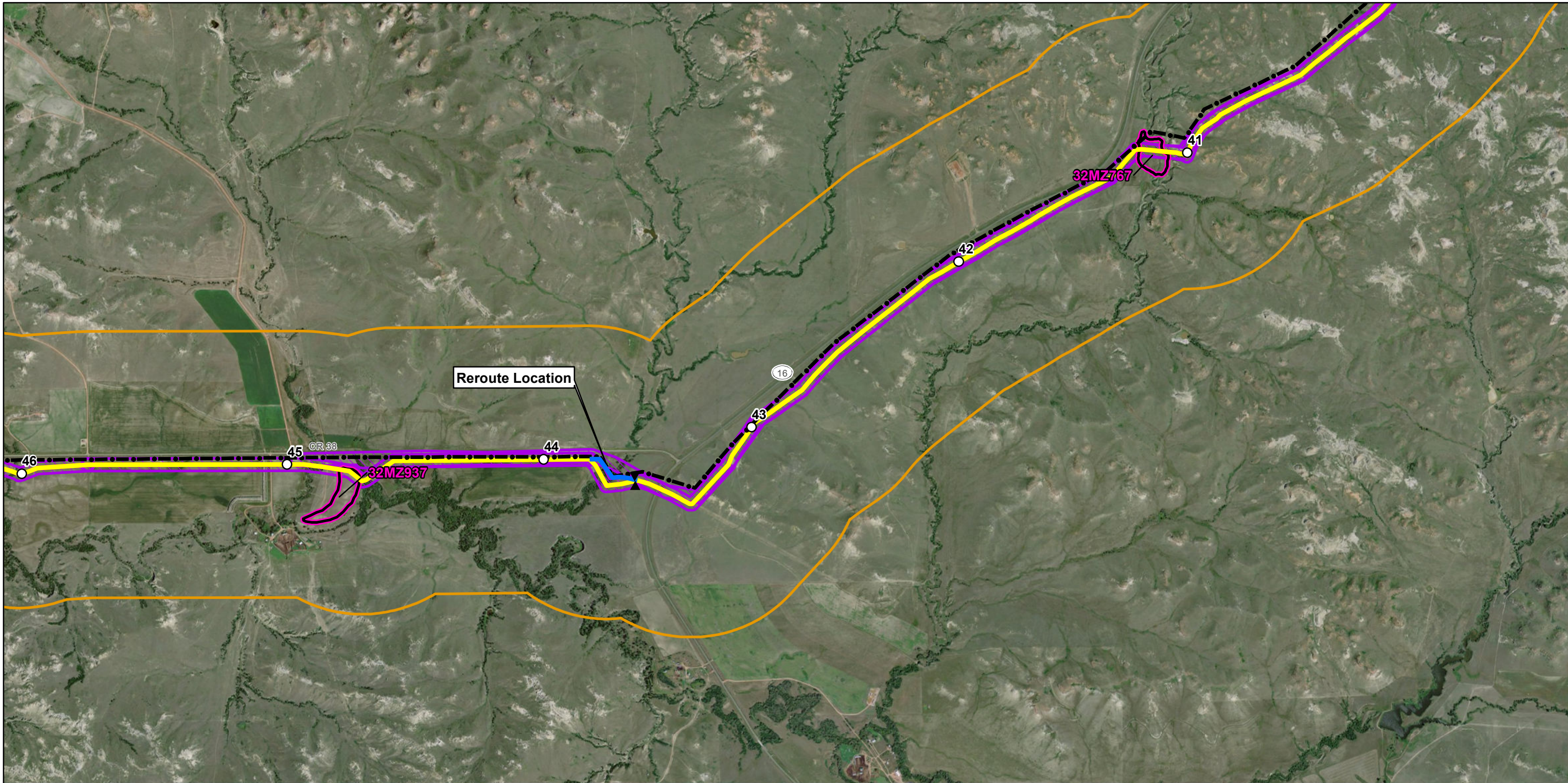
**ONEOK**  
ROCKIES MIDSTREAM

A SUBSIDIARY OF ONEOK PARTNERS

**Figure SC-11**  
**Garden Creek NGL**  
**Proposed Pipeline**

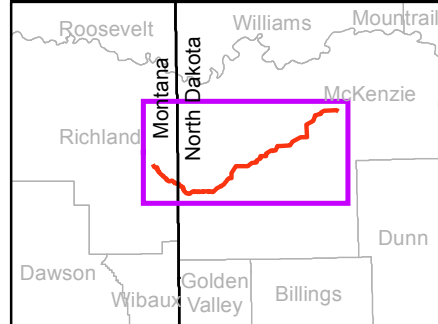
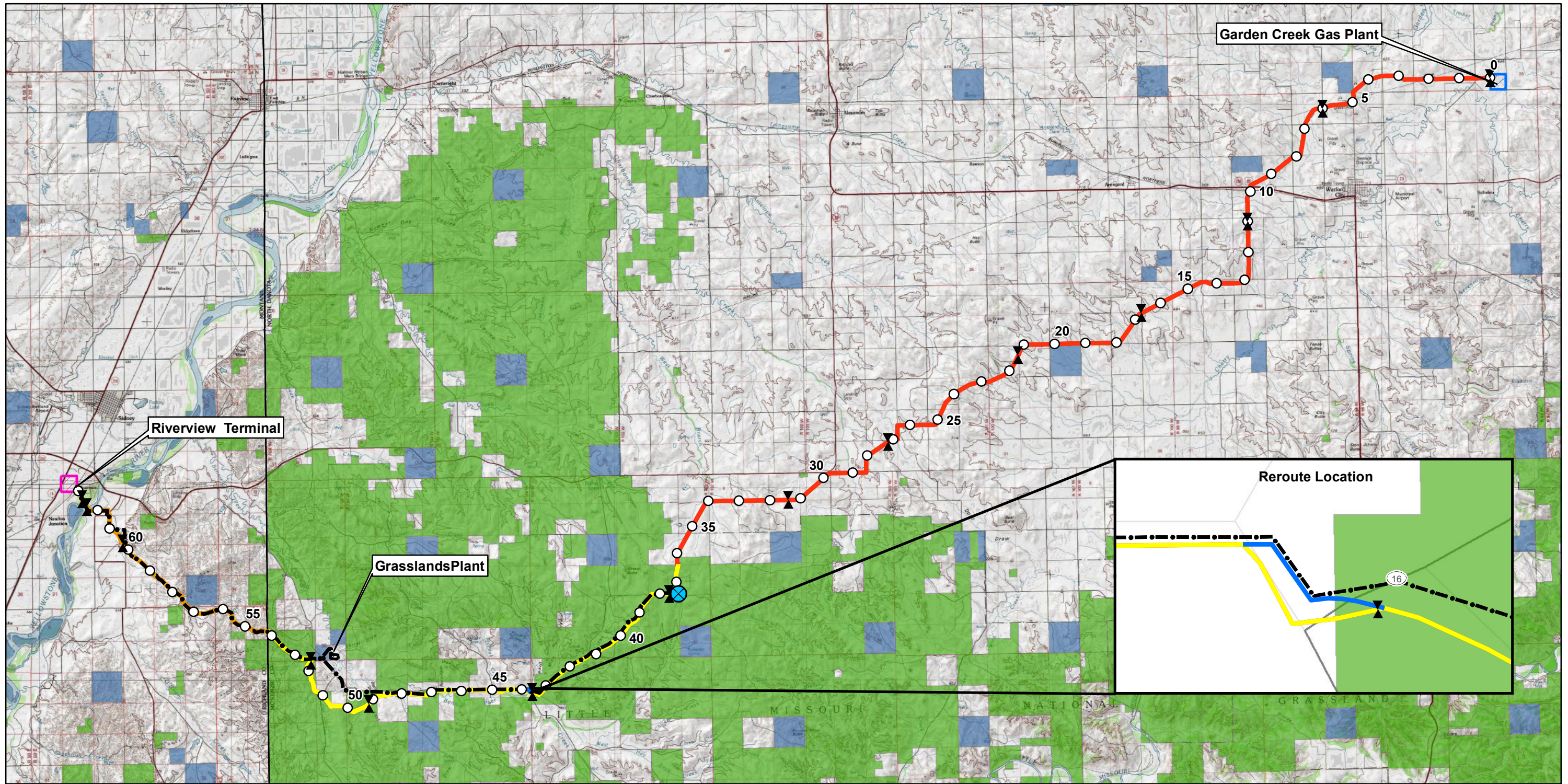
**Siting Criteria**





**Figure SC-CR-11**  
**Garden Creek NGL**  
**Proposed Pipeline**


**Siting Criteria**



▲ Valve	⊗ Temporary S2 Bypass Tie-in	▨ Grasslands Plant
○ Milepost	— Reroute	▨ Garden Creek Gas Plant
— Spread One (0.0 - 36.4)	— Existing Corridor	▨ Riverview Terminal
— Spread Two (36.4 - 54.2 (Stateline))	■ Federal Land	
— Spread Three (54.2 - 64)	■ State Land	

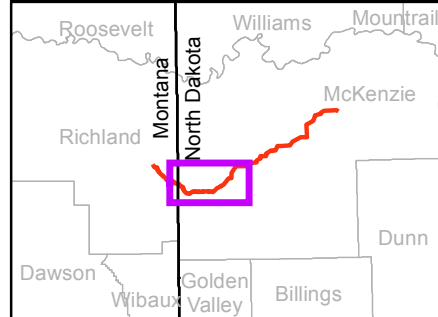
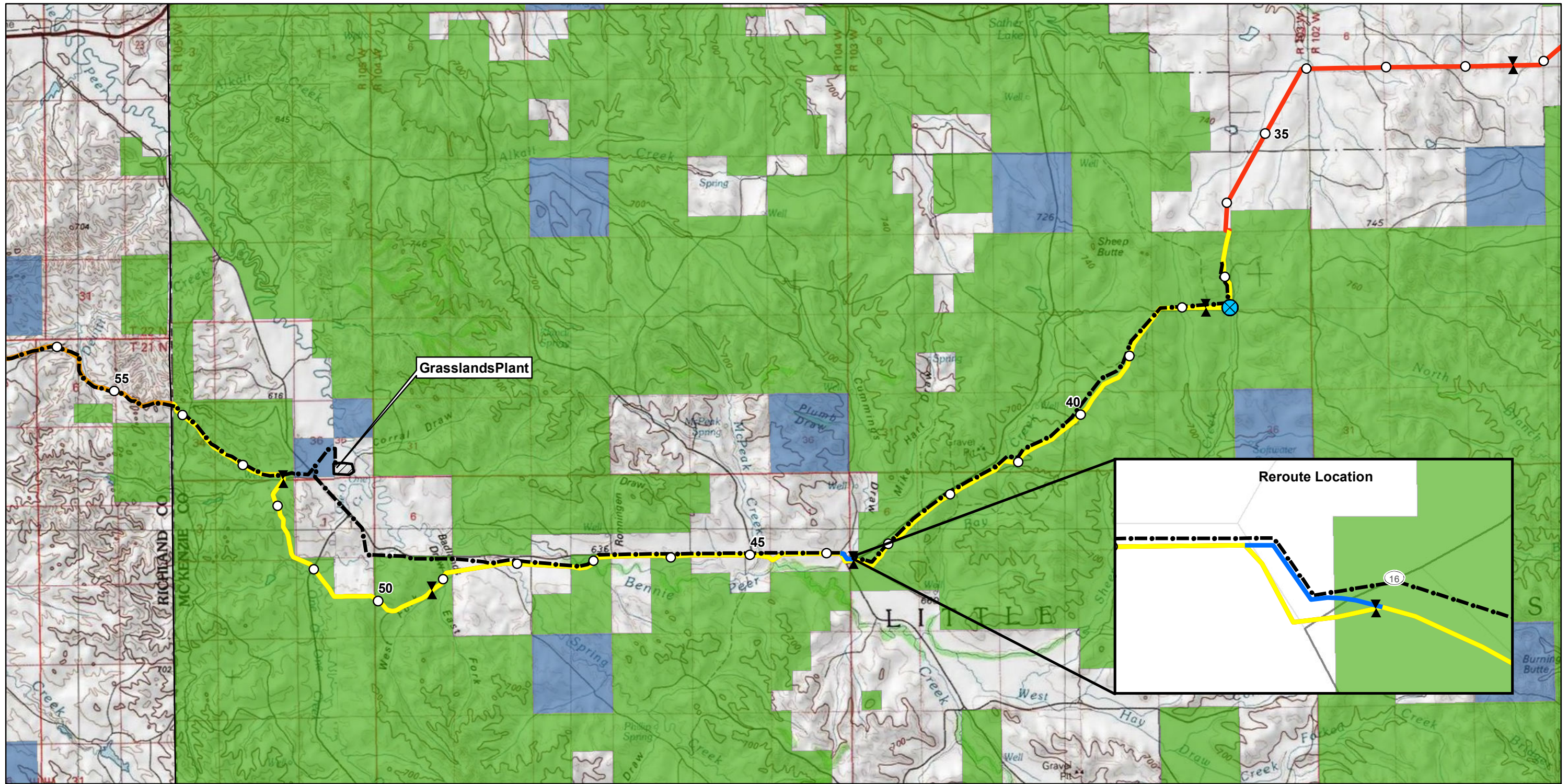
Source: USGS 7.5 Minute Quadrangle Maps and ESRI.

0 1.5 3 Miles



**ONEOK**  
ROCKIES MIDSTREAM  
A SUBSIDIARY OF ONEOK PARTNERS

**Figure M1**  
**Garden Creek NGL**  
**Proposed Pipeline**  
**Overview Map**



▲ Valve	⊗ Temporary S2 Bypass Tie-in
○ Milepost	— Reroute
— Spread One (0.0 - 36.4)	--- Existing Corridor
— Spread Two (36.4 - 54.2 (Stateline))	▨ Grasslands Plant
— Spread Three (54.2 - 64)	■ Federal Land
	■ State Land

Source: USGS 7.5 Minute Quadrangle Maps and ESRI.

0 1.5 3 Mile

**Figure M3**  
**Garden Creek NGL**  
**Proposed Pipeline**  
**Spread 2**

# **Appendix C**

---

## Consultations



**STATE  
HISTORICAL  
SOCIETY  
OF NORTH DAKOTA**

Jack Dalrymple  
*Governor of North Dakota*

**North Dakota  
State Historical Board**

Gereld Gerntholz  
*Valley City - President*

Calvin Grinnell  
*New Town - Vice  
President*

A. Ruric Todd III  
*Jamestown - Secretary*

Albert I. Berger  
*Grand Forks*

Richard Kloubec  
*Fargo*

Diane K. Larson  
*Bismarck*

Chester E. Nelson, Jr.  
*Bismarck*

Sara Otte Coleman  
*Director  
Tourism Division*

Kelly Schmidt  
*State Treasurer*

Alvin A. Jaeger  
*Secretary of State*

Mark Zimmerman  
*Director  
Parks and Recreation  
Department*

Francis Ziegler  
*Director  
Department of  
Transportation*

Merlan E. Paaverud, Jr.  
*Director*

*Accredited by the  
American Association  
of Museum since 1986*

October 12, 2011

Judith R. Cooper  
Principal Investigator  
SWCA Environmental Consultants  
116 North 4<sup>th</sup> Street, Suite 200  
Bismarck, North Dakota 58501

**NDSHPO REF.: 11-1786b PSC Bear Paw Energy Natural Gas Liquids Addendum 2 Cultural Resources Class I and Class III Inventory Report, McKenzie County, North Dakota [T151N R98W Section 31; 147N R104W Section 12]**

Dear Judy:

We have received and reviewed correspondence and project document:  
**11-1786b PSC Bear Paw Energy Natural Gas Liquids Addendum 2: "Addendum 2 to the Class I and Class III Cultural Resource Inventory of the Bear Paw Energy Natural Gas Liquids Garden Creek Pipeline, Private Lands, McKenzie County, North Dakota"** by Stephanie Lehort, Carolyn Riordan, and Judith R. Cooper (SWCA Report Number, 11-279 Addendum, October 2011) and find it acceptable.

We concur that 32 MZx1157 and 32MZx1158 are not significant and are not eligible for listing in the National Register of Historic places. Also, we concur with a **"No Historic Properties Affected"** and **"No Significant Sites Affected"** determination provided the project areas are as located and described in the report.

If you have questions please contact either Paul Picha at [ppicha@nd.gov](mailto:ppicha@nd.gov) or (701) 328-3574 or Susan Quinnell at [squinnell@nd.gov](mailto:squinnell@nd.gov) or (701) 328-3576.

Sincerely,

Merlan E. Paaverud, Jr.  
State Historic Preservation Officer (North Dakota)  
and  
Director, State Historical Society of North Dakota

c: Patrick Fahn, North Dakota Public Service Commission



Bismarck Office  
116 North 4th Street, Suite 200  
Bismarck, North Dakota 58501  
Tel 701.258.6622 Fax 701.258.5957  
www.swca.com

October 10, 2011

Paul R. Picha, Chief Archeologist  
State Historical Society of North Dakota  
Archeology & Historic Preservation Division  
612 East Boulevard Avenue  
Bismarck, ND 58505-0830

**RE: Addendum 2 to the Class I and Class III Cultural Resource Inventory of the Bear Paw Energy Natural Gas Liquids Garden Creek Pipeline, Private Lands, McKenzie County, North Dakota**

Dear Mr. Picha:

Enclosed is a report entitled *Addendum 2 to the Class I and Class III Cultural Resource Inventory of the Bear Paw Energy Natural Gas Liquids Garden Creek Pipeline, Private Lands, McKenzie County, North Dakota*. This report documents the cultural resource inventory of two reroutes of the Bear Paw Energy, LLC (Bear Paw) Garden Creek Pipeline, performed by SWCA Environmental Consultants (SWCA), on behalf of E3 Environmental (E3). E3 is assisting Bear Paw with their application to the North Dakota Public Service Commission (NDPSC). A previous report entitled *A Class I and Class III Cultural Resources Inventory of the Bear Paw Energy Natural Gas Liquids Garden Creek Pipeline, Private Lands, McKenzie County, North Dakota (ND SHPO REF:11-1786)*, was submitted to the State Historical Society of North Dakota (SHSND) on June 22, 2011. The SHSND concurred with SWCA's findings in a letter dated July 7, 2011. Additionally, another reroute addendum was submitted for this project on September 28, 2011; SHSND concurred with the findings on that same day.

The goal of the Class III reroute inventory was to survey areas in which two pipeline reroutes could be placed. The cultural resource reroute inventory is required as part of Bear Paw's permit application to the NDPSC. Two isolated finds (32MZX1157 and 32MZX1158) were identified during the 53.4-acre reroute survey. Both are recommended not eligible for the National Register of Historic Places and no further work is needed.

Please notify SWCA of the results of your review. Thank you in advance for your time.

Sincerely,

A handwritten signature in black ink, appearing to read "Judith R. Cooper". The signature is fluid and cursive, written over a white background.

Judith R. Cooper, Ph.D.  
Cultural Resources Lead/Principal Investigator

Cc: William McCarthy, E3 Environmental

## **Appendix D**

---

### Natural Resource Report



Sound Science. Creative Solutions.

Bismarck Office  
116 N. 4<sup>th</sup> Street, Suite 200  
Bismarck, North Dakota 58501  
Tel 701.258.6622; Fax 701.258.5957  
www.swca.com

October 21, 2011

E3 Environmental, LLC  
Attn: Mr. Bill McCarthy  
Case Number: PU-11-066

**RE: Natural Resources Survey of the Dwyer Property for the Proposed Garden Creek Natural Gas Liquids Pipeline**

Dear Mr. McCarthy,

SWCA Environmental Consultants (SWCA) completed a wetland determination and natural resources assessment of the proposed Garden Creek Natural Gas Liquids Pipeline alignment (pipeline) between April 20-28, 2011 and on May 17, 18, and 27, 2011 (original survey). During the original survey (April 28, 2011), ecologists inventoried a portion of the alignment, located in the NE 1/4 Section 12, Township (T) 147 North (N), Range (R) 104 West (W) and NW ¼ Section 7 T147N, R103W, McKenzie County, North Dakota, herein referred to as the Dwyer reroute. Though the Dwyer reroute was inventoried during the original survey, SWCA'S assessment was not included in the original natural resource report (Burckhardt and Oakes, 2011) because the pipeline was not proposed to cross the property. Recently, the pipeline was adjusted so that, as currently proposed, it traverses the Dwyer property. As such, E3 Environmental, on behalf of Bear Paw Energy, LLC, requested SWCA develop this natural resources report to detail the methods used to inventory the Dwyer reroute and the results of the natural resources survey.

## **METHODS**

### Wetland Determination

SWCA conducted determinations in accordance with guidelines presented in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0)* (U.S. Army Corps of Engineers 2010). For an area to be considered a wetland, it must exhibit three criteria: the presence of hydric soils, wetland hydrology, and a vegetative community comprised of greater than 50% hydrophytes. In general, SWCA designated an area as a wetland if it displayed one primary or two secondary indicators of wetland hydrology and the vegetative community was dominated by hydrophytes.

### Waterbodies

Waterbodies (i.e., ponds, creeks, streams, rivers) were identified by the presence of an ordinary high water mark (OHWM). Common identifiable indicators of an OHWM include open water or

evidence of a clear, natural line visible on the bank; shelving; changes in soil characteristics; the destruction of terrestrial vegetation; the presence of litter and debris; and watermarks on structures that are inundated during normal high water conditions. The OHWM typically represents the potential limits of the USACE jurisdiction. Please note that the USACE has full discretion in determining the jurisdictional status of referenced wetlands and waterbodies.

SWCA classified streams as perennial, intermittent, or ephemeral based on field observations. During a typical year, a perennial stream contains flowing water year-round and the water table is located above the stream bed. Groundwater is the primary water source for stream flow while precipitation runoff is supplemental. Ecologists classified streams that showed significant flow during the field survey or were named or designated as solid blue lines on the U.S. Geological Society topographic maps as perennial.

An intermittent stream has flowing water for only portions of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

#### Tree/Sapling/Shrub Count

SWCA ecologists determined the total number of trees, saplings, and shrubs present within the survey area. Additionally, ecologists taxonomically identified all species observed within the survey area to species level. The boundary of all forested upland and shrubland habitat was geographically referenced using a Trimble GeoXT series handheld GPS unit.

#### Wildlife including Threatened and Endangered Species

Information regarding the presence of threatened or endangered species, which may occur within the survey area, was obtained from the U.S. Fish and Wildlife Service (USFWS) list of threatened and endangered species by North Dakota county (USFWS 2011). This document does not represent a comprehensive survey, but rather acknowledges the past and/or current presence of listed species. The lack of discovery of threatened or endangered species does not signify their non-existence within the area, but only that no primary or secondary indications of these species were recorded.

SWCA completed a cursory survey for all listed species potentially impacted by construction activities within the survey area. A line-of-sight survey for wildlife was also conducted for a distance of approximately 0.5 mile with the aid of binoculars. Unique wildlife habitats were closely inspected on foot. Additionally, SWCA characterized suitable threatened and endangered species habitat encountered during the field survey.

SWCA ecologists noted all wildlife observed during the field survey. Wildlife sightings can involve primary observations (i.e., actual sighting of an animal) or secondary observations (i.e., observation of scat, tracks, or fur deposits).

### Mapping

The location of all natural resource features were geographically recorded using a Trimble GeoXT GPS unit. The aforementioned GPS unit is capable of recording geographic data with sub-meter accuracy. SWCA used Universal Transverse Mercator Zone 13N as the projected coordinate system and North American Datum 1983 as the datum. ArcGIS v9.3 (ESRI Redlands, California) was used to analyze collected features, calculate areas, and generate the maps. Please note that all data collected using the GPS unit, and displayed on the attached maps, are for review purposes only and do not represent a professional civil survey.

## RESULTS

### Wetlands/ Waterbodies

According to National Weather Service (NWS) preliminary climatological data for Williston, North Dakota, 8.25 inches of precipitation was recorded from 18 April through 15 June, 2011 (Table 1). This amount is 4.95 inches above normal for this time period. Based on this departure from normal rainfall, the possibility of abnormal evidence of wetland hydrology was anticipated during the field survey and any extraordinary conditions were identified in the field.

**Table 1. Monthly Recorded Rainfall at NWS Williston, ND.**

Month	2011 Recorded Precipitation (inches)	Normal Precipitation (inches)	Difference (inches)
April 20-30, 2011	1.94	0.35	1.59
May 2011	5.28	1.88	3.40
June 1-20, 2011	1.73	1.77	-0.04
<b>Total</b>	<b>4.69</b>	<b>3.89</b>	<b>4.95</b>

Source: National Oceanic and Atmospheric Administration 2011

In total, SWCA identified one intermittent waterbody within the survey area (Figure 1). No wetlands were observed within the survey area.



**Figure 1. Representative view of intermittent waterbody located within the survey area**

#### Woody Vegetation and Noxious Weeds

SWCA ecologists recorded one forested upland habitat area (NRBWW66). This area was comprised of Russian olive (*Elaeagnus angustifolia*; 59 individuals), eastern cottonwood (*Populus deltoides*; 19 individuals), and American elm (*Ulmus americana*; 37 individuals). No state or county listed noxious weeds were observed within the survey area.

#### Wildlife including Threatened and Endangered Species

No common, or threatened and endangered species were observed within the survey area. In general, the survey area may act as suitable migratory bird, including raptor, nesting habitat.

### **CONCLUSIONS**

On April 28, 2011, SWCA completed a natural resources survey of the proposed Dwyer reroute located in the NE 1/4 Section 12, Township (T) 147 North (N), Range (R) 104 West (W) and the NW ¼ Section 7 T147N, R103W, McKenzie County, North Dakota.

- SWCA ecologists did not observe any wetlands within the survey area.
- SWCA ecologists recorded one intermittent waterbody within the survey area.
- One forested upland area, containing approximately 115 individuals, was recorded during the reroute survey.

Mr. Bill McCarthy  
October 2011  
Page 5

Please contact Mike Cook at 701-258-6622 or [mcook@swca.com](mailto:mcook@swca.com) should you have any further questions regarding the information gathered during SWCA's field survey.

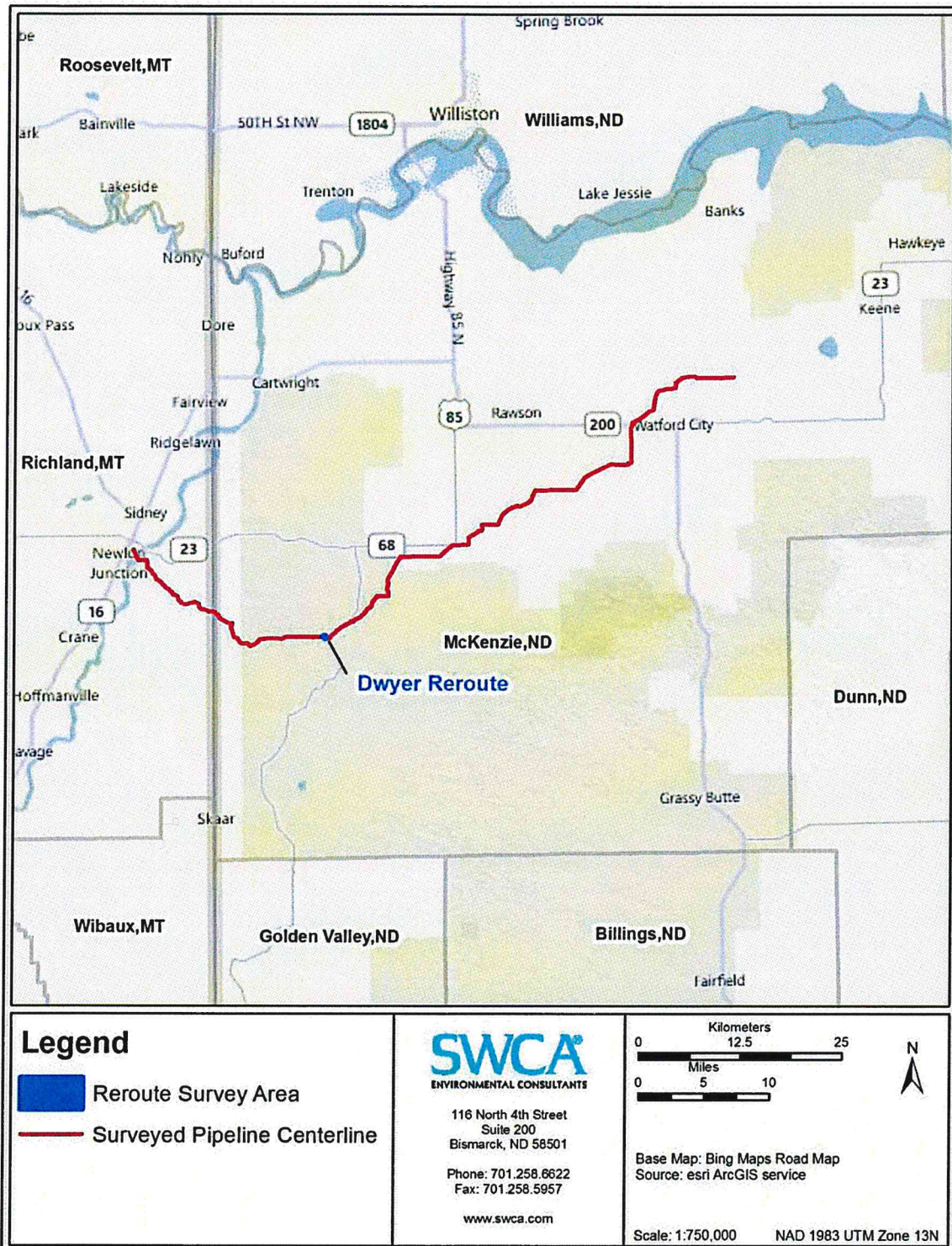
Sincerely,

Pete Christensen  
Ecologist  
Bismarck Natural Resources  
SWCA Environmental Consultants

Attachments: Site Layout Maps








#### REFERENCES

- Burckhardt, Laura and Claudia Oakes. 2011. *Natural Resources and Wetland Determination Report for the Garden Creek NGL Pipeline, McKenzie County, North Dakota*. SWCA Environmental Consultants. Bismarck, North Dakota.
- National Oceanic and Atmospheric Administration. 2011. Bismarck, North Dakota Observed Weather Reports. Available at: <http://www.weather.gov/climate/index.php?wfo=bis>. Accessed on June 21, 2011.
- SWCA Environmental Consultants. 2011. *Biological Assessment and Evaluation for Wildlife Species and Sensitive Plant Species for the Garden Creek NGL Pipeline, McKenzie County, North Dakota*. Prepared for Bear Paw Energy, LLC, and the U.S. Forest Service, McKenzie Ranger District by SWCA Environmental Consultants. Bismarck, North Dakota.
- U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0)*. Edited by J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-30. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center.
- U.S. Fish and Wildlife Survey. 2011. County occurrence of endangered, threatened, and candidate species and designated critical habitat in North Dakota. Available at: [http://www.fws.gov/northdakotafieldoffice/county\\_list.htm](http://www.fws.gov/northdakotafieldoffice/county_list.htm). Accessed June 14, 2011.





**Legend**

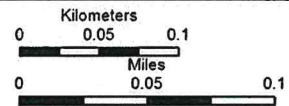
-  Dwyer Reroute
-  Dwyer Reroute Survey Area
-  Stream
-  Woody Vegetation
-  Surveyed Pipeline Centerline
-  Survey Area (Burckhardt and Oakes 2011)
-  USFS Survey Area (SWCA 2011)



116 North 4th Street  
Suite 200  
Bismarck, ND 58501

Phone: 701.258.6622  
Fax: 701.258.5957

[www.swca.com](http://www.swca.com)



Base Map: NAIP 1-meter Aerial Imagery  
Source: ND GIS Hub  
Quadrangle: Sheep Creek, (1975)  
Township 147N & Range 104W  
McKenzie County, North Dakota



Scale: 1:3,500 NAD 1983 UTM Zone 13N

# **Appendix E**

---

## Cultural Resource Report

**Addendum 2 to the Class I and  
Class III Cultural Resources  
Inventory of the Bear Paw Energy  
Natural Gas Liquids Garden  
Creek Pipeline, Private Lands,  
McKenzie County, North Dakota**

Prepared for

**E3 Environmental, LLC**

Prepared by

**SWCA Environmental Consultants**

October 2011

**Addendum 2 to the Class I and Class III Cultural Resource Inventory of  
the Bear Paw Energy Natural Gas Liquids Garden Creek Pipeline,  
Private Lands, McKenzie County, North Dakota**

Submitted to:

**State Historical Society of North Dakota**

Prepared for:

**E3 Environmental, LLC  
817 Vandalia Street  
St. Paul, Minnesota 55114**

Prepared by:

**Stephanie Lechert, Carolyn Riordan, and Judith R. Cooper**

Principal Investigator:

**Judith R. Cooper**

**SWCA Environmental Consultants  
116 North 4<sup>th</sup> Street, Suite 200  
Bismarck, North Dakota 58501**

Addendum to SWCA Cultural Resource Report Number 11-279

October 10, 2011

## **ABSTRACT**

This report is an addendum to the Class I and Class III report for the cultural resource inventory of the Bear Paw Energy Natural Gas Liquids Garden Creek Pipeline, Private Lands, McKenzie County, North Dakota (Riordan et al. 2011) and outlines the results of a Class III cultural resource inventory conducted by SWCA Environmental Consultants (SWCA) on September 30 and October 5, 2011, on behalf of E3 Environmental, LLC (E3), for two proposed reroutes of the Bear Paw Energy, LLC (Bear Paw) Garden Creek Natural Gas Liquids Pipeline (Garden Creek). The northern survey area consists of 48.47 acres to accommodate a second pipeline reroute around a newly planted shelterbelt due to landowner request (refer to Lechert and Cooper [2011] for the results of a previous reroute survey around the same shelterbelt). The northern reroute inventory area is located in McKenzie County, North Dakota, near the town of Watford City, on privately owned lands in Section 31 of Township (T) 151 North (N), Range (R) 98 West (W). The southern survey area consists of 4.93 acres to accommodate a pipeline reroute due to landowner request. The southern reroute inventory area is located in McKenzie County, North Dakota, 31.32 miles southwest of Watford City, North Dakota, on privately owned lands in Section 12 of T147N, R104W.

The jurisdictional agency presiding over the construction of the Garden Creek pipeline is the North Dakota Public Service Commission. E3 is assisting Bear Paw with their application to the North Dakota Public Service Commission for a certificate of corridor compatibility and route permit for the project. E3 retained SWCA to complete a Class I and Class III cultural resource inventory for the project.

The goal of the Class III inventory for the proposed northern reroute was to survey an area in which a pipeline reroute could be placed in order to avoid a newly planted shelterbelt. As a result, the 48.47-acre survey area is irregularly shaped and combines both block and linear inventory areas to allow Bear Paw additional work space, as needed. The goal of the inventory for the proposed southern reroute was to survey an area in which a pipeline reroute could be placed due to a landowner request. For the southern reroute, the survey area is irregularly shaped and covers 4.93 acres. In total, 53.4 additional acres were inventoried for the pipeline reroute project.

The proposed pipeline reroute would be constructed within a 95-foot-wide temporary construction right-of-way. All proposed construction activities would remain within the inventoried areas.

Two cultural resources were newly recorded during the course of the inventory: one is a prehistoric isolated chipped stone find (32MZX1157) and one is an isolated historic find (32MZX1158). Both 32MZX1157 and 32MZX1158 are recommended not eligible for nomination to the National Register of Historic Places. Therefore, it is recommended that the project be granted a determination of *No Historic Properties Affected* and *No Significant Sites Affected* and clearance to proceed as planned.

This page intentionally left blank.

TABLE OF CONTENTS

	<u>Page</u>
ABSTRACT .....	II
INTRODUCTION .....	1
PROJECT SETTING AND BACKGROUND .....	7
BACKGROUND RESEARCH .....	7
FIELDWORK METHODS .....	7
INVENTORY RESULTS AND RECOMMENDATIONS.....	7
ISOLATED FINDS .....	8
32MZX1157.....	8
32MZX1158.....	8
CONCLUSIONS .....	11
REFERENCES CITED .....	12

APPENDICES

- A. North Dakota Site Forms (Detached)
- B. Resource Location Maps

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1. Project area overview map.....	2
2. Project area map showing northern reroute inventory area. ....	3
3. Project area aerial map showing northern reroute inventory area. ....	4
4. Project area showing southern reroute inventory area. ....	5
5. Project area aerial map of southern reroute inventory area. ....	6
6. View of northern reroute area from southeastern edge of survey block, construction equipment located within existing pipeline corridor in background, facing northwest.....	9
7. View of northern reroute area from northwest corner of survey block, 125th Avenue NW in background, facing southeast.....	9
8. View of southern reroute area from southeast corner of survey, McKenzie County 38 and existing well pad in background, facing north-northwest. ....	10
9. View of southern reroute area looking toward northern half of survey area, McKenzie County 38 and recently bladed corridor in background, facing northwest.....	10

This page intentionally left blank.

## **INTRODUCTION**

This addendum report outlines the results of a Class III cultural resource inventory conducted by SWCA Environmental Consultants (SWCA) September 30 and October 5, 2011, on behalf of E3 Environmental, LLC (E3), for the proposed Bear Paw Energy, LLC (Bear Paw) Garden Creek Natural Gas Liquids Pipeline (Garden Creek) two proposed pipeline reroutes. The goal of the Class III inventory was to survey two areas in which pipeline reroutes could be placed. The jurisdictional agency presiding over the construction of the Garden Creek pipeline is the North Dakota Public Service Commission (NDPSC). E3 is assisting Bear Paw with their application to the NDPSC for a certificate of corridor compatibility and route permit for the project. E3 retained SWCA to complete a Class I and Class III cultural resource inventory for the project.

For the pipeline project, 1,309.08 acres were previously inventoried on private lands in North Dakota (Riordan et al. 2011; Lechert and Cooper 2011). The northern reroute inventory area is located in McKenzie County, North Dakota, near the town of Watford City, on privately owned lands (Figure 1). The northern inventoried area is situated on the Watford City, North Dakota (1980), U.S. Geological Survey (USGS) topographic quadrangle. The southern reroute inventory area is located in McKenzie County, North Dakota, 31.32 miles southwest of Watford City, North Dakota, on privately owned lands. The southern inventoried area is situated on the Sheep Creek, North Dakota (1975), USGS topographic quadrangle.

The Class III inventory for the proposed northern reroute includes an irregularly shaped 48.47-acre survey area to the east and south of a newly planted shelterbelt (Figures 2 and 3) located in Section 31 of Township (T) 151 North (N), Range (R) 98 West (W). The inventory for the proposed southern reroute includes a 4.93-acre, irregularly shaped survey area located in Section 12, T147N, R104W (Figures 4 and 5). In total, 53.4 additional acres were inventoried for the two proposed reroutes.

The proposed pipeline reroutes would be constructed within a 95-foot-wide temporary construction right-of-way (ROW). All proposed construction activities would remain within the inventoried area.

For the cultural resource investigation, Judith Cooper served as Principal Investigator. Fieldwork was performed by Stephanie Lechert and Adam Leroy (permitted archaeologists within the State of North Dakota). All field notes and photographs are on file at SWCA's Bismarck, North Dakota, office under project number 17173.

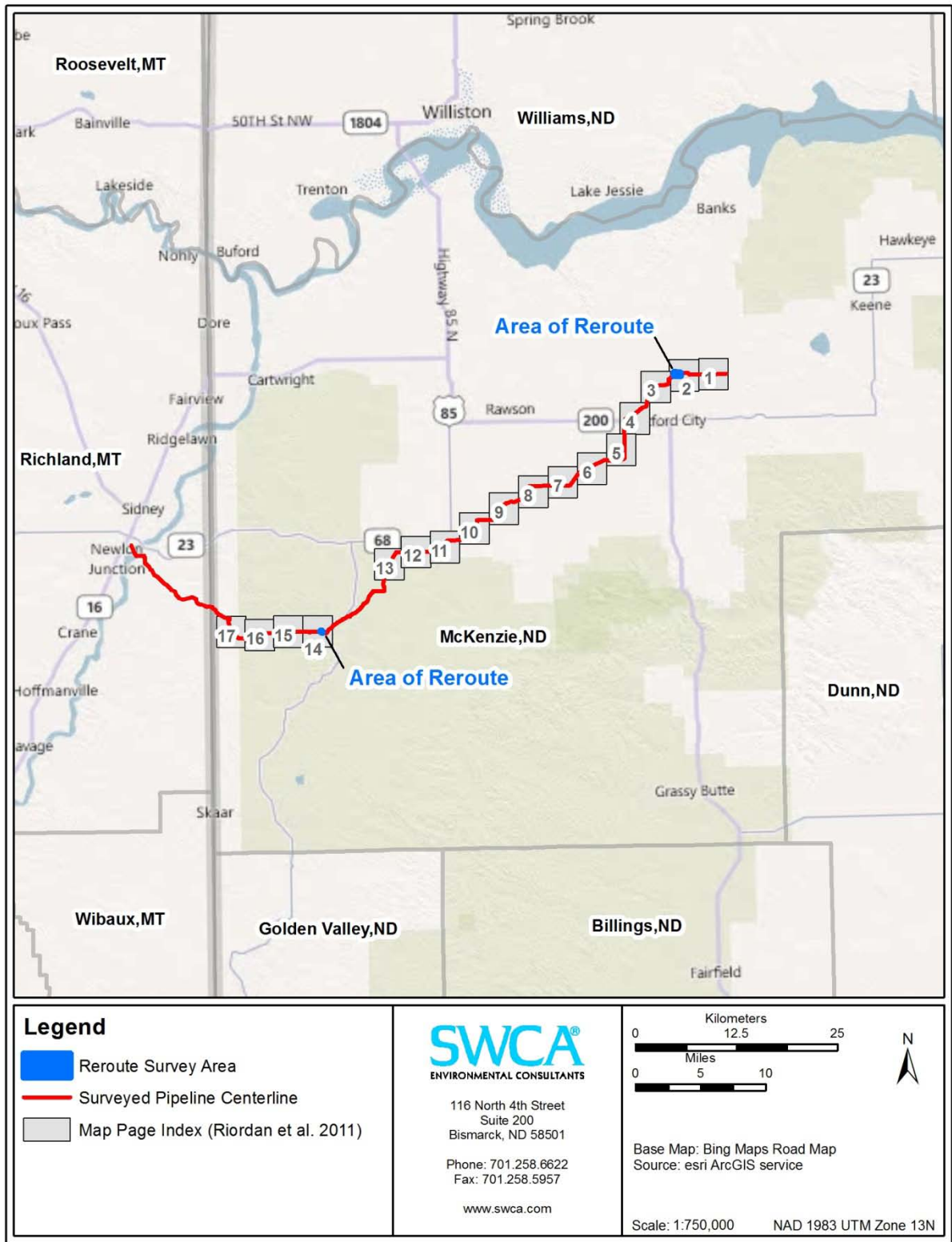


Figure 1. Project area overview map.

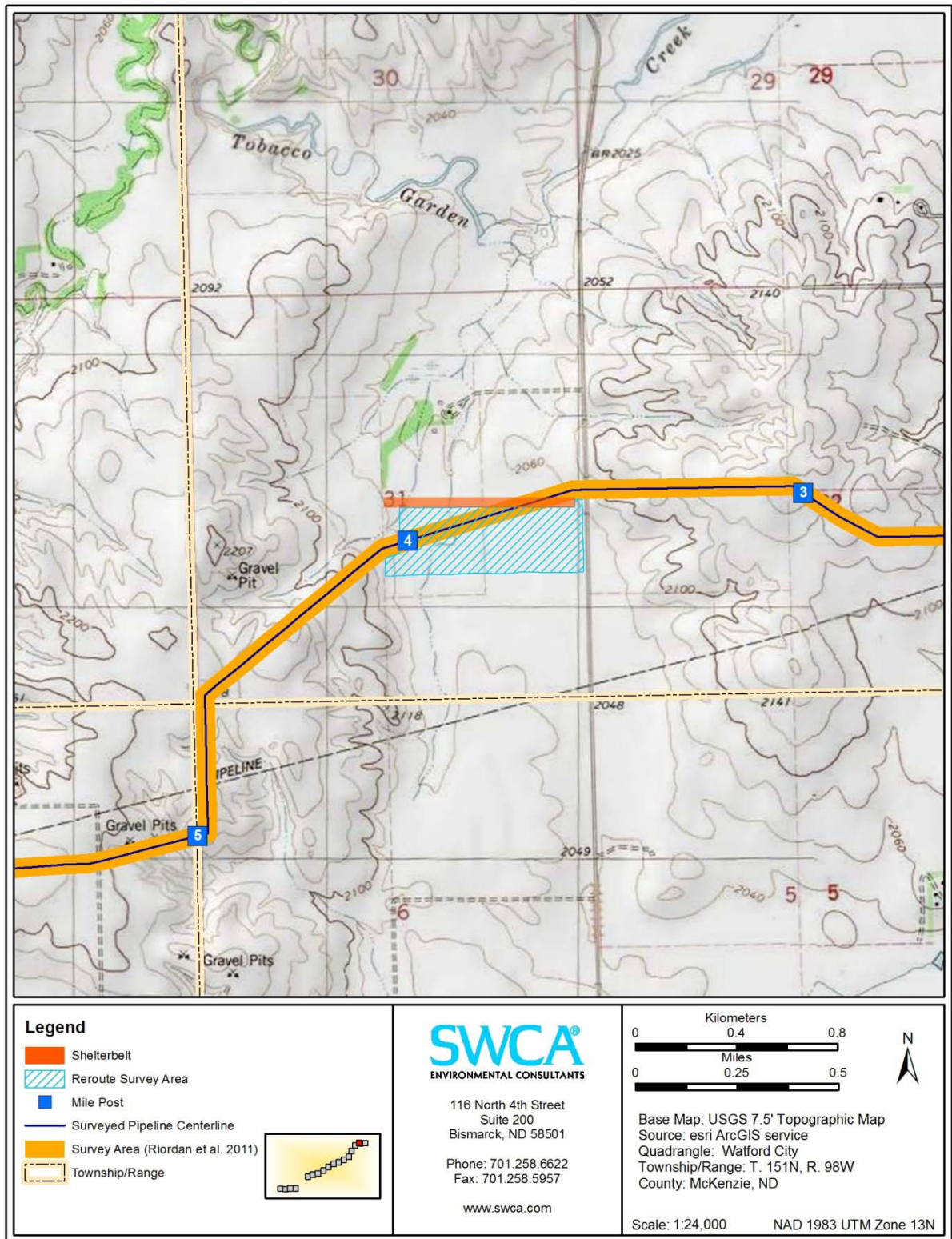


Figure 2. Project area map showing northern reroute inventory area.

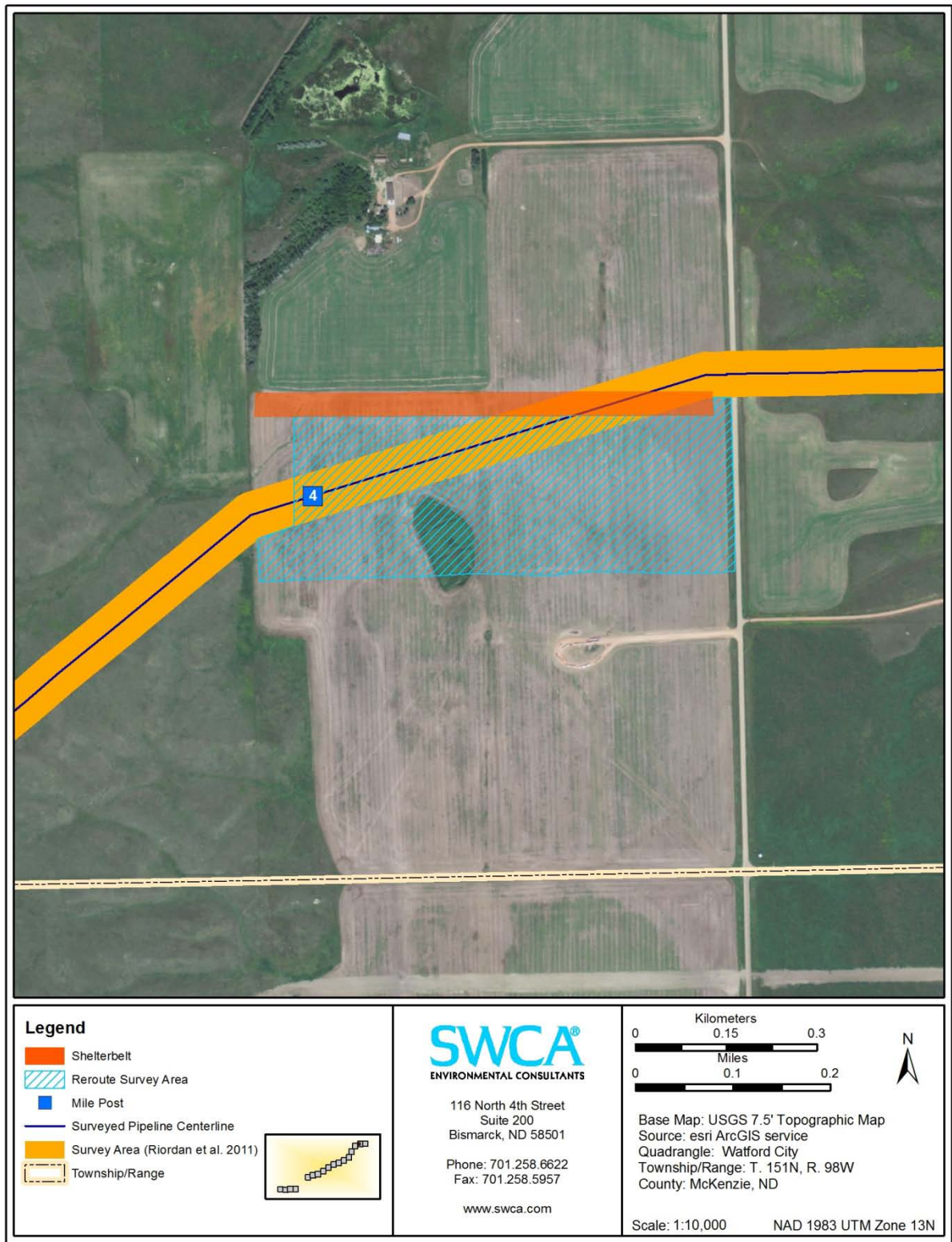


Figure 3. Project area aerial map showing northern reroute inventory area.

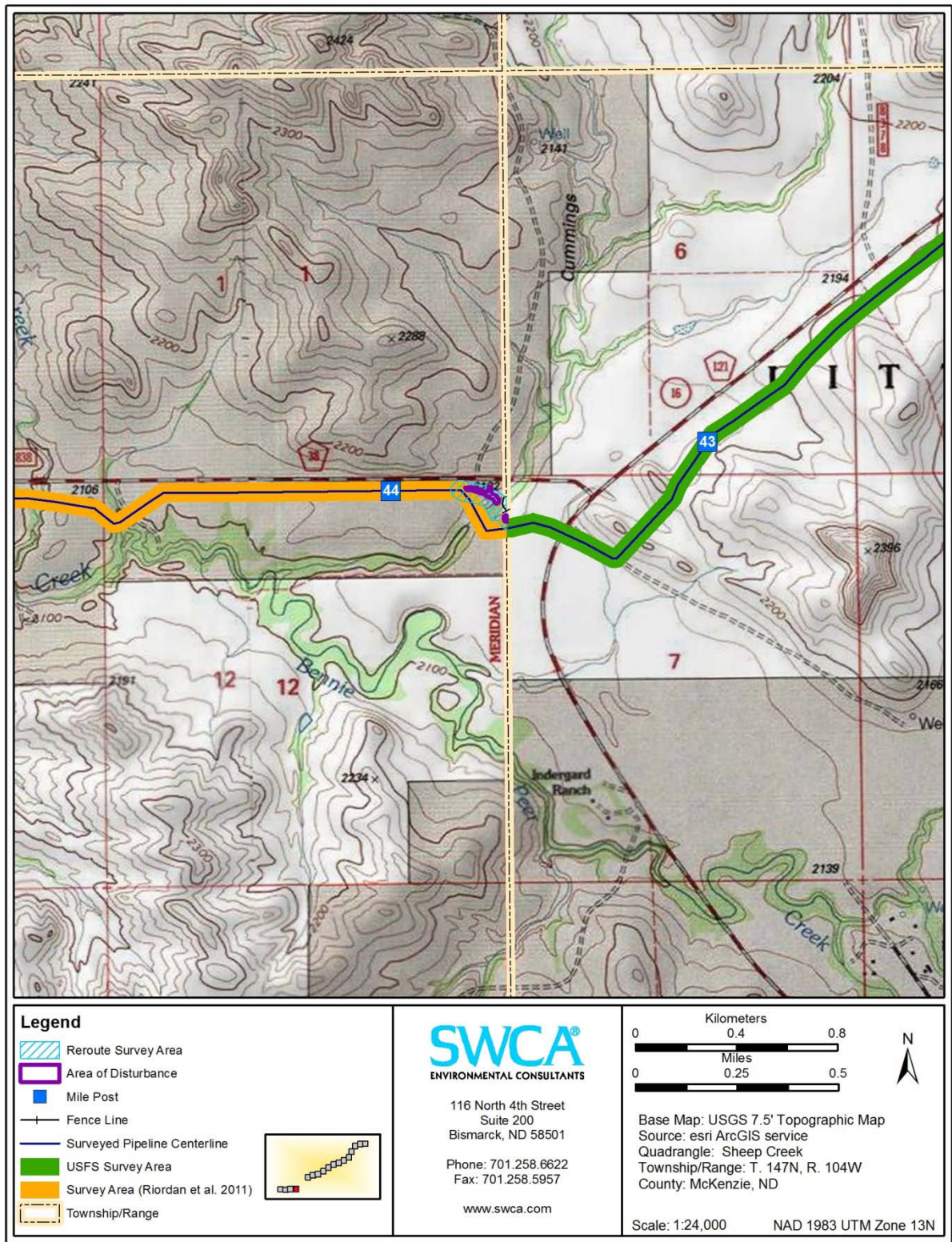


Figure 4. Project area showing southern reroute inventory area.

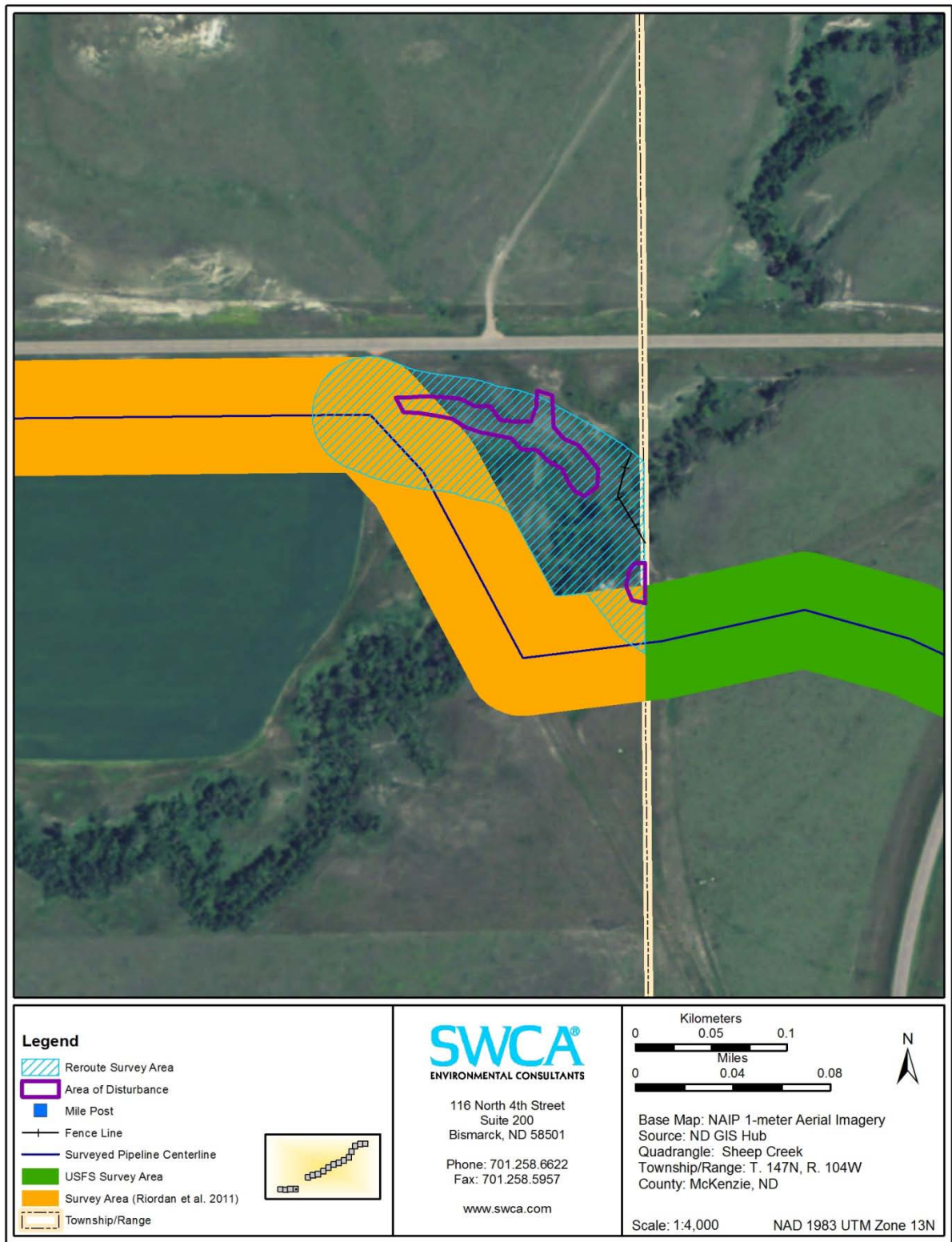


Figure 5. Project area aerial map of southern reroute inventory area.

## **PROJECT SETTING AND BACKGROUND**

The project setting, including discussions of the topography, climate, hydrology, geology, soils, and flora and fauna; environmental constraints; and cultural and historic overview are described in the original Class I and Class III report (Riordan et al. 2011).

## **BACKGROUND RESEARCH**

As part of the initial phase of this investigation, SWCA conducted a background search of archaeological and historical literature and records for the project area and surrounding 1-mile area. Researchers searched relevant records holdings at the State Historical Society of North Dakota and other available sources for information regarding previously recorded historic and prehistoric sites located within the project area. Background research was conducted on November 17 and 18, 2010, and January 18, 2011. The results of this search are detailed in Riordan et al. (2011). No previously recorded sites are located within the reroute survey areas.

## **FIELDWORK METHODS**

The both survey areas consist of irregularly shaped block survey areas. Inventory was conducted by means of pedestrian transects spaced at no more than 15 meters (m). No subsurface testing was conducted. For a detailed discussion of the project survey methods, refer to Riordan et al. (2011).

## **INVENTORY RESULTS AND RECOMMENDATIONS**

SWCA performed a Class III inventory of the two proposed reroutes on September 30 and October 5, 2011. The proposed northern reroute travels through harvested agricultural fields dominated by tall grasses, forbs, and corn. Bare ground visibility was approximately 50 percent (Figures 6 and 7). Soils throughout the project area consist of dark brown silty loam formed through residual and colluvial processes. Impacts to the project area include agricultural activities, pipeline construction, tree planting, and vehicle traffic. No cultural resources were newly recorded by SWCA archaeologists during the course of the northern reroute inventory and no previously recorded cultural resources are located within the northern reroute survey area.

The proposed southern reroute travels through a drainage in upland grasslands dominated by tall grasses, forbs, deciduous trees and shrubs, and wheat (Figure 8). The pipeline scar from the Lewis and Clark pipeline is visible within the survey area (Figure 9). Bare ground visibility varied between less than 5 percent, with visibility between 80 to 100 percent in disturbance areas. Impacts to the southern reroute inventory area include cattle grazing, previous pipeline construction activities, and erosion. Two isolated finds (32MZX1157 and 32MZX1158) were newly recorded during the inventory and are discussed below. 32MZX1157 is an isolated chipped stone find, while 32MZX1158 is an isolated historic find. North Dakota site and isolated find forms for each resource are detached in Appendix A. The locations of all resources are depicted on maps in Appendix B.

## **ISOLATED FINDS**

### **32MZX1157**

32MZX1157 is a prehistoric lithic isolated find consisting of a single gray porcellanite tertiary flake found in the middle of the Lewis and Clark pipeline scar on a southeastern facing slope overlooking a drainage. McKenzie County Road 38 and an accompanying east/west-trending fence line is 46 m to the north. The flake measures 31 by 28 by 8 mm. Vegetation consists of wheat grass and tall and short prairie grasses allowing for less than 5 percent bare ground surface visibility overall; however, bare ground surface visibility ranges from 80 to 100 percent in the pipeline scar. Surface sediments are a dark gray brown clay loam deposited through colluvial, aeolian, and residual processes.

32MZX1157 is recommended not eligible for listing in the NRHP. By definition, isolated finds are considered to lack the historical integrity to be determined eligible for nomination to the NRHP. Therefore, no further work is recommended for this resource.

### **32MZX1158**

32MZX1158 is an historic isolate consisting of two shards of curved clear glass found in the middle of the Lewis and Clark pipeline scar on an east-southeastern facing slope overlooking a drainage. McKenzie County Road 38 and an accompanying east/west-trending fence line are 171 feet to the north. The shards fit together and therefore derive from a single glass fragment. Vegetation consists of wheat grass and tall and short prairie grasses allowing for less than 5 percent bare ground surface visibility overall; however, bare ground surface visibility ranges from 80 to 100 percent in the pipeline scar. Surface sediments are a dark gray brown clay loam deposited through colluvial, aeolian, and residual processes.

32MZX1157 is recommended not eligible for listing in the NRHP. By definition, isolated finds are considered to lack the historical integrity to be determined eligible for nomination to the NRHP. Therefore, no further work is recommended for this resource.



Figure 6. View of northern reroute area from southeastern edge of survey block, construction equipment located within existing pipeline corridor in background, facing northwest.



Figure 7. View of northern reroute area from northwest corner of survey block, 125th Avenue NW in background, facing southeast.



Figure 8. View of southern reroute area from southeast corner of survey, McKenzie County 38 and existing well pad in background, facing north-northwest.



Figure 9. View of southern reroute area looking toward northern half of survey area, McKenzie County 38 and recently bladed corridor in background, facing northwest.

## **CONCLUSIONS**

On September 26 and October 5, 2011, SWCA conducted a Class III inventory for the two proposed Garden Creek pipeline reroutes. The goal of the Class III inventory was to survey two separate areas in which a pipeline reroutes could be placed. The project area is located on privately owned lands in Section 31, T151N, R98W and Section 12 of T147N, R104W, in McKenzie County, North Dakota. In total, 53.4 additional acres were inventoried for the reroutes. All proposed construction activities would remain within the inventoried area.

Two cultural resources were newly recorded during the course of the inventory: one is a prehistoric isolated chipped stone find (32MZX1157) and one is an isolated historic find (32MZX1158). Both 32MZX1157 and 32MZX1158 are recommended not eligible for nomination to the National Register of Historic Places. Therefore, it is recommended that the project be granted a determination of *No Historic Properties Affected* and *No Significant Sites Affected* and clearance to proceed as planned.

## **REFERENCES CITED**

Lechert, Stephanie and Judith R. Cooper

2011 *Addendum to the Class I and Class III Cultural Resource Inventory of the Bear Paw Energy Natural Gas Liquids Garden Creek Pipeline, Private Lands, McKenzie County, North Dakota*. Prepared by SWCA Environmental Consultants for E3 Environmental, LLC, St. Paul, MN.

Riordan, Carolyn, Judith R. Cooper, Stephanie Lechert, and Scott A. Slessman

2011 *A Class I and Class III Cultural Resources Inventory of the Bear Paw Energy Natural Gas Liquids Garden Creek Pipeline, Private Lands, McKenzie County, North Dakota*. Prepared by SWCA Environmental Consultants for E3 Environmental, LLC, St. Paul, MN.

**APPENDIX A  
(DETACHED)**

**North Dakota Site Forms**



**APPENDIX B**  
**Resource Location Map**

Addendum II to the Class I and Class III Cultural Resource Inventory of the Bear Paw Energy Natural Gas Liquids Garden Creek Pipeline, Private Lands, McKenzie County, North Dakota

