

Biological Assessment South Bend Pipeline

Prepared for:
Bridger Pipeline, LLC



August 2020

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1.0 INTRODUCTION

Bridger Pipeline LLC (Bridger) is proposing to install a crude oil transmission pipeline (Project) in McKenzie County, North Dakota. The pipeline would be 145 miles total in length with 80 miles in North Dakota and 66 miles in Montana. The proposed pipeline would traverse across 19 miles of United States Forest Service (USFS) property land located within the McKenzie Ranger District of the Little Missouri National Grasslands (LMNG). The proposed route utilizes an existing utility corridor to the greatest extent possible, reusing previously disturbed Right-of-Ways (ROW)'S. The route of the proposed project was primarily chosen to parallel Bridger's existing operating pipelines and infrastructure which parallels over 80% of the proposed project route. Site map is located in Figure 1.1.

Bridger contracted with Keitu Engineers & Consultants, Inc. (Keitu) to conduct a biological assessment of the proposed route located on USFS property to satisfy the requirements of the USFS McKenzie Ranger District. Keitu and contractors performed a botany and wildlife survey to determine the extent and/or existence of any threatened and endangered species that may occur within the project area in July through October and January of 2019, April, May, June, and July of 2020. The wildlife and habitat evaluation was conducted within a 1.2 mile *survey area*, 0.6 mile on either side of the proposed route. The construction corridor will be 100-feet wide and this will be known as the *Project Area*. Bridger plans to use modern trench construction methods to install the pipeline. The Dakota skipper (*Hesperia dacotae*) was found during an absence/presence survey. No other federally threatened or endangered species were found during field surveys.

Construction activities from the proposed Project must comply with the following:

- The United States Fish and Wildlife Service (USFWS) Endangered Species Act of 1973
- The Bald and Golden Eagle Protection Act of 1940
- The Migratory Bird Treaty Act of 1918
- The National Environmental Policy Act of 1969
- The Clean Water Act of 1972

The intent of this effort is to ensure that any activity does not jeopardize the occurrence of any federally listed threatened or endangered species and sensitive habitat.

The purpose of this biological assessment within the LMNG is to determine potential impacts to threatened and endangered wildlife and designated critical habitat associated within the study area that could result from the proposed project and associated activities. This determination is based upon evidence gathered during research and field inspection regarding the presence or absence of the species and potential habitat within the project and analysis area. The outcome of the study may prompt development of alternatives and mitigation in consultation with the USFS McKenzie Ranger District and the USFWS.

Determination categories considered for federally listed threatened and endangered species and include the following:

- No effect
- May affect, but not likely to adversely affect.
- May affect, and is likely to adversely affect.

A revised Biological Assessment would be necessary should the following conditions develop subsequent to the filing of this document:

- Additional information reveals action that may affect threatened, endangered, sensitive, or candidate species or designated critical habitat.
- The proposed project is modified and the modifications may affect threatened, endangered, or candidate species or designated critical habitat.

The species list enclosed in Appendix B is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to “request of the Secretary of the Interior information whether any species which is listed may be present in the area of a proposed action.” The species list is provided by the North Dakota Ecological Services Office:

Listed Species

- Northern long-eared Bat (*Myotis septentrionalis*) – Threatened
- Least Tern (*Sterna antillarum*) – Endangered
- Piping Plover (*Charadrius melodus*) – Threatened
- Red Knot (*Caladris canutus rufa*) – Threatened
- Whooping Crane (*Grus americana*) – Endangered
- Pallid Sturgeon (*Scaphirhynchus albus*) – Endangered
- Dakota skipper (*Hesperia dacotae*) – Threatened

Designated Critical Habitat

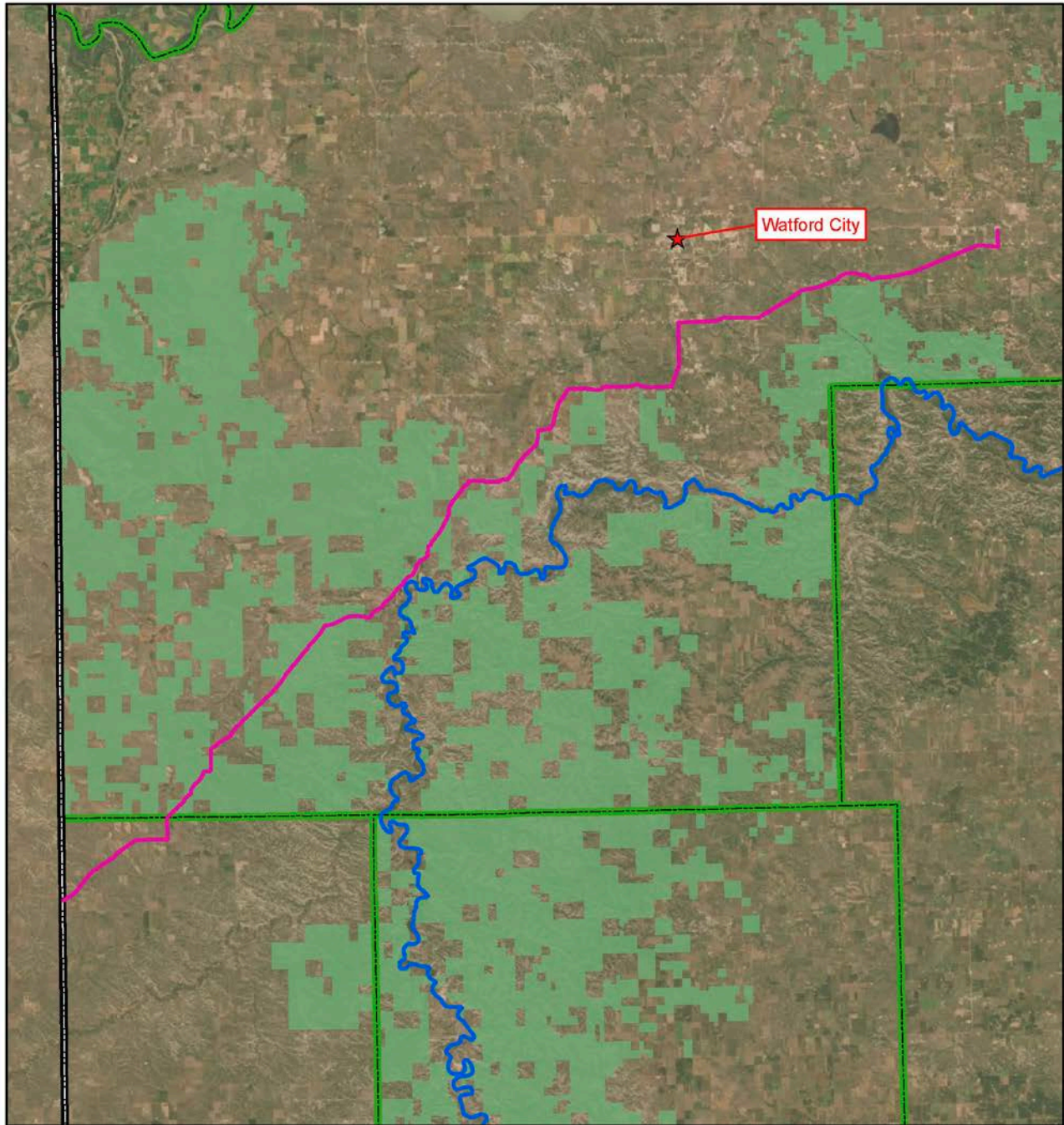
- No Designated Critical Habitat is located within the Study Area or “Action Area” as defined in Section 3.

1.1 MANAGEMENT DIRECTION

This Biological Assessment is prepared in accordance with legal requirements set forth under the National Forest Management Act, the Dakota Prairie Grasslands Land and Resource Management Plan, and Endangered Species Act, Sections 4(b)(2)(16 USC 1533) and 7 (16 USC 1536 (c)), and follows the standards established in 50 CFR Part 402-Interagency Cooperation-Endangered Species Act of 1973, the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.), the Bald and Golden Eagle Protection Act (16 U.S.C. 2342352353), the National Environmental Policy Act (42 U.S. 4321 et seq.), Executive Order 11990 “Protection of Wetlands” and Executive Order 13186 “Responsibilities of Federal Agencies to Protect Migratory Birds.” Biological Assessments are done to determine if the project has potential effects on Federally Endangered Species Act (ESA) listed species. Per direction of the of the USFS 2020 Biological Survey and Reporting Guidelines, Biological Assessments need only to include information about ESA listed species.

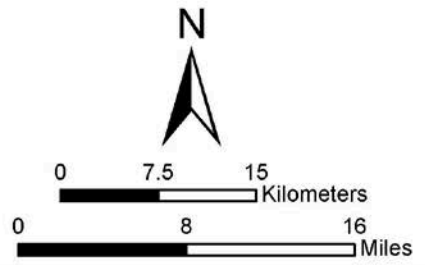
The entire project footprint on USFS lands would occur within Management Area 6.1 – Rangeland with Broad Resource Emphasis. The Dakota Prairie Grasslands Management Plan (USFS 2002) state that “this area is primarily a rangeland ecosystem managed to meet a variety of ecological conditions and human needs. Ecological conditions will be maintained while emphasizing selected biological (grasses and other vegetation) structure and composition that considers the range of natural variability. These lands often display high levels of development, commodity uses, and activity; density of facilities; and evidence of vegetative manipulation.” It directs that landscape fragmentation from road construction would be discouraged, that valid existing rights would be honored when development is proposed, and that management activities that contribute to a loss of ecological integrity will be discouraged. Oil and gas leasing and development would be allowed.

Figure 2.1 Project Overview Map



South Bend Alignment

- ★ Cities
- Proposed Project Centerline
- Little Missouri River
- State Border
- County Boundary
- Forest Service Lands



1.2 OBJECTIVE

An objective of the Dakota Prairie Grasslands (DPG) is to sustain and conserve the resources and ecosystems under their administration. The DPG has organized the lands under its administration into “Management Areas”. These units of land are managed for a particular emphasis. The DPG has identified “Desired Conditions” for each of these areas.

The DPG directs that a Biological Assessment be conducted for the proposed action. This evaluates the potential effects or impacts of the action on listed species, designated critical habitat and determine whether any listed species or designated habitat are likely to be adversely affected or impacted by the proposed action.

2.0 DESCRIPTION OF PROPOSED PROJECT

2.1 SURVEY AREA SUMMARY

Table 2.1 Survey Information	
Company:	Bridger Pipeline, LLC
Company Contact:	Tom Litman – Land Supervisor
Address:	PO Drawer 2360 Casper, WY 82602-2360
Project Type:	Crude transmission pipeline
Legal Description:	See Table 1.2
County:	McKenzie
USGS Quadrangles:	Stock Butte, Red Wing Cree, Burning Mine Butte, Cinnamon Creek, Flat Rock Butte, Trotters SE, Trotters
Date of Field Survey:	Summer & Fall of 2019, Spring & Summer of 2020

Table 2.2 Legal Descriptions on USFS Lands		
Township	Range	Section
148	100	17
148	101	33, 34
147	101	4, 8, 17, 18, 19
147	102	25
146	102	4, 5, 7, 8, 18
146	103	13, 23, 24, 26, 33, 34
145	104	24, 25, 26, 34, 35
145	103	4, 18, 19

2.2 DESCRIPTION OF PROPOSED FACILITY

The Project originates at Eighty Eight Oil Company’s Johnsons Corner terminal located near Johnson’s Corner, North Dakota and runs 142 miles southwest to Bridger’s Sandstone station west of Baker, Montana. The pipeline would interconnect with Bridger’s existing North Dakota facilities at Wilson station, Bicentennial station and their respective crude oil transmission network.

The proposed Project will result in a new crude oil transmission pipeline and would encompass approximately 975 acres, of which, about 229 acres are National Forest System Land. The steel pipe utilized for construction of the Project will meet United States Department of Transportation Department of Transportation regulations, specifically the design criteria outlined in 49 C.F.R. Subpart 195(C). The Project will be constructed per 49 C.F.R. Subpart 195(D). The Project will be operated and maintained per 49 C.F.R. Subpart 195(F).

2.3 PURPOSE OF PROPOSED FACILITY

The purpose of the Project is to transport crude oil produced in western and northwestern North Dakota to the Sandstone station, near Baker, Montana, eventually connecting into existing facilities at the Guernsey, Wyoming market for further marketing and transportation nationally. Currently, pipeline infrastructure is unable to meet the demand for oil and gas export from North Dakota.

The Project will provide needed capacity to transport increased petroleum from western North Dakota where oil production is expected to increase until 2025¹.

The Project will add: (1) additional pipeline shipping capacity in North Dakota; (2) more access to liquid market options for Bridger customers; and (3) a pipeline transportation alternative to trucking or railing crude oil to other shipping points and markets.

2.4 PREFERRED LOCATION

The Project originates at the Johnson's Corner terminal in McKenzie County, and runs 142 miles to Bridger's Sandstone station which is located near Baker, Montana. Approximately 76 miles of pipe will be located in North Dakota with approximately 19 miles on USFS land. The pipeline interconnects with Bridger facilities at Bicentennial station and Wilson station.

A majority of this Project will parallel existing utility corridors and pipelines in order to avoid or minimize potential environmental and human impacts associated with installing a new pipeline. Thirteen miles of the proposed corridor from Bicentennial Station to the Montana border will be adjacent to an existing Belle Fourche Pipeline Company corridor permitted in 1978 which is currently in operation.

Underground pipelines minimize potential impacts on human and animal welfare. Construction of the Project is expected to cause short term disruption to the environment, but will not result in long-term changes to the environment.

The current pipeline route is designed to parallel existing underground utilities and pipelines, and limit impacts to land and waterbodies. A new route is not a preferred alternative to the Project because it would create new environmental impacts.

Other alternatives considered would be closer to, or across major waterbodies and/or would stray from existing utility corridors and previously disturbed lands.

¹ U.S. Energy Information Administration, "U.S. Crude Oil Production to 2025: Updated Projection of Crude Types," available at <https://www.eia.gov/analysis/petroleum/crudetypes/pdf/crudetypes.pdf> (accessed February 28, 2020).

2.5 CONSTRUCTION TIMELINE

Construction is expected to begin 4th quarter 2020, contingent on permit approvals. Construction for the Project is anticipated to last approximately six to eight months after construction begins. Bridger anticipates placing the pipeline in service by the end of 2021 or as soon as construction and testing is complete.

2.6 DESCRIPTION OF ROW PREPARATION AND CONSTRUCTION AND RECLAMATION PROCEDURES

The construction ROW will be cleared, grubbed, and graded to allow for pipeline construction. Soil segregation will be completed to standard operating procedures. All trenching will be performed mechanically with either an excavator or a ditching machine to a depth allowing a minimum of four feet from the top of the pipe to the top of the cover. When rock is present, an excavator with rock teeth will be used. Boring and horizontal directional drilling pipe installation will be performed if crossing under a road, railroad, pipeline/utility, waterbody or other sensitive areas, or areas where trenching is deemed unsafe or impractical. Casing of the pipelines will not be used because it leads to corrosion issues. Typically, the ROW will be continuously cleared of all construction material, uncovered rocks, and compacted areas. Holes and ruts will be filled and graded. Reclamation of the ROW will be completed at the end of the pipeline construction.

2.7 WIDTH OF RIGHT-OF-WAY

The Project's construction ROW is approximately 100 feet wide. Additional temporary work space may be necessary during construction, maintenance, and inspection in areas such as steep slopes, and areas adjacent to streams and road crossings, for safety reasons, and construction activities associated with these features.

Bridger will notify landowners during normal operating modifications or maintenance to the Project that is carried out within the 50-foot permanent ROW of the existing pipeline. The width of the ROW was established based on the need to provide adequate space and line separation for construction and future line maintenance.

2.8 SIZE AND DESIGN

Construction of the Project will involve the installation of 16-inch nominal diameter, steel, API-5L, FBE coated, Grade X-52 ERW Line Pipe with a nominal wall thickness of 0.312 inches. Bore pipe will have a nominal wall thickness of 0.5 inches. The maximum operating pressure (MOP) of the pipeline will be 1,440 pounds of pressure per square inch gauge (psig). Average operating pressure will be 600-800 psig.

Valves will be 16-inch ANSI 600 manufactured in accordance with American Petroleum Institute (API) Standard 6D "API Specification for Steel, Gate, Plug, Ball and Check Valves for Pipeline Service." Valves will be installed pursuant to United States Department of Transportation (US DOT) regulations. The MOP of the valves will be 1,440 psig or greater. The pipeline operates at or near ambient temperature.

The Project is designed and will be operated in a manner that meets or exceeds state and federal engineering, safety and operational design standards.

2.9 ABOVEGROUND FACILITIES

The Project's segments will be buried underground. Surface structures are limited to pipeline markers, rectifier sites, pig launchers and receivers, and block valves. Some small fenced-in enclosures will be installed to house associated power, communication, and control systems to allow valves to be operated remotely.

Initially, two pumps and a launcher will be installed at the existing Johnson's Corner Terminal and two operational pumps, a pig launcher, and receiver will be installed at the existing Bicentennial Station. Both are existing station sites.

The Project will have 19 block valves, eight of which will be located in North Dakota. A pig launcher will be located at Johnson Corner Station and the 19 block valves are located midline. See Appendix A for valve locations.

2.10 TESTING OPERATIONS

The pipeline will be hydro-tested in accordance with the Pipeline and Hazardous Materials Safety Administration part 195 regulations prior to being placed into service. Test operations will occur following construction of the proposed Project.

2.11 TRAINING AND UTILIZATION OF IN-STATE LABOR

During construction, skilled and unskilled labor, both local and non-local, will be employed to construct the pipeline. Bridger, as operator of the Project, has established a comprehensive orientation, technical, safety, emergency, and on-the-job training program that is in compliance with the Operator Qualification rules issued by PHMSA under 49 C.F.R. Part 195. As personnel progress in pipeline operation and maintenance positions, they receive hundreds of hours of formal and on-the-job training. Demonstrations of competence are shown through reviews of job performance, periodic pipeline control system simulations, emergency exercises, welding certification tests, and other functions required to continue safe pipeline operation and maintenance.

2.12 TECHNOLOGY TO BE DEPLOYED/EMPLOYED

The Project will be designed, constructed, maintained, and inspected to the US DOT Pipeline and Hazardous Materials Safety Administration regulations utilizing industry standards and company policies. The system will be controlled and monitored 24 hours a day, 7 days a week, and 365 days a year by trained control room personnel. Additionally, the system will be equipped with a monitoring and alarm system that continuously monitors the flow and pressure of the system and readily signifies anything outside normal operating conditions.

2.13 MONITORING IMPACTS

Any construction-related impacts will be mitigated through the use of best management practices, appropriate construction techniques, and environmental inspection during and following completion of construction. Following construction, a thorough inspection will be performed to ensure restoration efforts were successful. Monitoring and treatment of noxious weeds and/or invasive species will be conducted on an annual basis to ensure a high degree of control and maximize treatment effectiveness.

2.14 POLICIES AND COMMITMENTS TO LIMIT ENVIRONMENTAL IMPACT

Bridger Pipeline LLC and Belle Fourche Pipeline Company are both part of the True companies of Casper, Wyoming. True companies operates pipeline systems in western North Dakota, eastern Montana and Wyoming. The True companies have been family owned and operated since 1948, and now have over 1,000 employees in Wyoming, Colorado, Montana, North Dakota, Utah, Texas, Louisiana, Mississippi, New Mexico, Missouri, Oklahoma and Arizona.

Bridger works to protect the environment, home to its employees and customers. Protection of the environment is an integral element in the conduct of Bridger. Environmental protection efforts will span the entire Project, from planning through construction, and into full operation.

The major causes of pipeline leaks in the United States are corrosion (both internal and external), excavation damage, pipe and weld failure, incorrect operations, or natural causes (e.g. floods or outside force). To prevent these categories of failures, Bridger will improve or maintain the Project to meet or exceed industry and governmental requirements and standards. Specifically the steel pipe meets US DOT Pipeline and Hazardous Material Safety Administration federal codes under 49 CFR Part 195 (referred to hereafter as PHMSA regulations) and follow standards issued by the American Society of Mechanical Engineers, National Association for Corrosion Engineers and API. As a safety factor, the Project is designed to withstand pressures over and above its normal operating pressures and will operate according to codes and regulations. All pipe is inspected and integrity-tested at the factory and transported per the highest technical standards. PHMSA conducts regularly scheduled field inspections of the pipeline facilities during construction and operation to ensure compliance with federal regulatory requirements, including the integrity testing of the pipeline through the use of internal inspection devices.

The pipeline will be subjected to careful testing to verify its integrity and compliance with specifications. The line is subjected to hydrostatic testing per DOT/PHMSA regulations to an accurate and safe maximum allowable operating pressure.

As previously mentioned, the pipeline will be maintained and inspected according to PHMSA regulations, industry codes and prudent pipeline operating techniques and will continue to be examined under the same scrutiny. All of Bridger's mainline liquids pipelines are externally coated to resist corrosion, internally inspected at regular intervals using in-line inspection technology, and equipped with a cathodic-protection system to prevent external corrosion. Bridger's cathodic protection system and internal inspection program were implemented prior to these techniques becoming a regulatory standard.

The Bridger System ROWs are patrolled and inspected by air at least every three weeks but not less than 26 times per year to watch for abnormal conditions or dangerous activities, e.g., unauthorized excavation, along the routes of the lines. Bridger also conducts extensive public education and outreach programs that meet or exceed industry (API Recommended Practice 1162) and PHMSA (49 CFR 195.440) requirements concerning public awareness of pipelines and pipeline-safety matters. All Bridger lines are marked with signage and warnings, per federal regulations, at road and highway crossings, railroad crossings, and other locations to alert the public to the presence of underground lines and to provide information, contact numbers, and emergency data.

Pipeline workers and contractors performing critical tasks are qualified under Occupational Safety and Health Administration safety standards and PHMSA "operator qualification" rules and are subjected to federal drug and alcohol testing requirements. Bridger meets, and often exceeds, these requirements so that human error in construction and operation is minimized.

2.14 MITIGATION MEASURES INCORPORATED INTO THE PROJECT

2.14.1 Construction Housekeeping

Bridger requires its construction contractors to clean up personal litter, bottles, and paper deposited by ROW preparation and construction crews on a daily basis. Waste and scrap produced during construction is always removed and properly disposed of in accordance with applicable regulations prior to the completion of construction.

Bridger will obtain all applicable permits for road crossings. Bridger will also obtain permission from all owners of private roads, including oil lease roads, to cross said roads. Temporary signs will be posted at each crossing as appropriate to alert motorists of construction activity. Improved roads will be bored, minimizing interference with traffic flow caused by construction activities.

2.14.2 Measures to Protect Terrain and Geological Resources

Bridger will restore the area affected by construction to pre-construction contours to the greatest extent practicable. Measures such as slope breakers, erosion control blankets, and re-vegetation may be employed to maintain the stability of slopes along the ROW. No crown of backfill material will be left over the trench in wetlands.

Restoration following construction will be compatible with the safe operation, maintenance, and inspection of the Project.

Fuel and all other hazardous materials will be stored in accordance with the requirements of the contractor's SPCC Plan, if applicable. The SPCC Plan will describe response, containment, and cleanup measures. However, even for small quantities of oil-based liquids, containers and fueled equipment will not be stored within 100 feet of surface water.

2.14.3 Measures to Protect Soils

During construction or maintenance activities, temporary erosion and sedimentation control measures may include installation of silt fence, straw bales, slope breakers, trench breakers, erosion control fabric and mulch, in any areas of the Project deemed susceptible to soil erosion.

2.14.4 Measures to Protect Vegetation and Wildlife

Bridger and its contractors will effectively control or limit the spread of invasive plant species through control treatments and avoiding existing populations where possible. Treatments will be initiated prior to activity to disperse propagules in the area of disturbance. Monitoring and treatment should then be conducted on an annual basis to ensure a high degree of control and maximize treatment effectiveness.

Operation of the pipeline is not anticipated to significantly affect terrestrial wildlife, fisheries resources, or other aquatic species.

Shelter belts and trees will be protected by Bridger to the extent possible in a manner compatible with the safe operation, maintenance, and inspection of the pipeline.

Extensive consultation occurred with staff members from the USFWS beginning in August 2019. Based on the recent results from the last field surveys in the near vicinity of this Project, the following mitigation

measures were developed by previous consultation with the USFWS and will be undertaken by Bridger before and after the construction of the proposed project:

- Where horizontal directional drilling (HDD) i.e. bored crossings underneath habitat is required, design the bore to sufficient additional depth to minimize the risk of a drilling mud “frac out” from occurring.
- Have suitable response equipment/spill trailer on standby for immediate response, should it be required.
- Actively mitigate dust from construction activities.
- A biologist familiar with designated wildlife and sensitive plant species mark the boundaries of potential habitat with visual barriers such as snow fence prior to start of construction activities.

3.0 SITE LOCATION AND DESCRIPTION

3.1 AREA SURVEYED

The study area or “action area” included the wildlife and Dakota skipper habitat search comprised of a minimum 1.2-mile corridor, .6 mile (1km) on either side of the proposed route, for a total of approximately 229 acres on USFS property. The evaluation corridor was narrowed when deemed necessary or appropriate by the terrain. The study area is the 1.2-mile corridor. The construction corridor for the proposed project will be 100-foot-wide. The 1.2-mile study area was determined a necessary width due to Dakota skipper habitat survey guidelines.

McKenzie County is located in western North Dakota in the Missouri Plateau Section of the Great Plains Province. The major drainage is the Little Missouri River. See Table 1.2 for the proposed project location on USFS property. See Figure 1.1 for Site Location Map. The proposed route runs adjacent to roads and existing utilities as much as practicable.

3.2 WATERBODIES

Bridger, through its consultants, conducted a desktop survey using aerial photographs, U.S. Geological Survey (USGS) topographic maps, and the USFWS National Wetland Inventory to identify wetlands within the Project Corridor.

The Project crosses four named creeks and 31 other drainages or unnamed streams according to USGS – National Hydrography Dataset. The table below describes the location of the named creeks within the Project Corridor. See the Mapbook in Appendix A for the location of the wetland and waterbodies.

Creek Name	Width (Feet)
Bowline Creek	12.28
Cedar Creek	8.75
Poker Jim Creek	3.57
North Fork Smith Creek	18.96

Construction of the Project will not result in the permanent drainage or filling of wetlands or waterbodies. Bridger will HDD any waterbodies with standing water and adjacent wetlands in the Project Corridor. Bridger will also HDD waterbodies or treed areas at landowner's request.

3.2.1 WETLAND & WATERBODY IMPACTS

The primary impact of pipeline construction on waterbodies are spill and leaks of contaminants and increased sedimentation into waterways from soil disturbance. The effects of sedimentation can alter the survival, behavior, abundance, diversity and structure of aquatic and species that use wetlands and waterbodies. High levels of sediment can suffocate and kill fish during the egg stage.

3.2.2 WETLAND & WATERBODY IMPACT MITIGATION

During construction or maintenance activities, temporary erosion and sedimentation control measures may include installation of silt fence, straw bales, slope breakers, trench breakers, erosion control fabric and mulch, in any areas of the Project deemed susceptible to soil erosion. Bridger will implement a Stormwater Pollution Prevention Plan and Erosion Control Plan. These documents will be completed prior to construction and will be onsite during the lifetime of construction. These measures will help prevent sediment washing into drainages, creeks, wetlands, and waterbodies.

All equipment maintenance, repairs, and refueling will be performed in upland locations at least 100-feet from all water bodies and wetlands. All equipment will be parked overnight at least 100-feet from a watercourse or wetland. Equipment will not be washed with water draining into wetlands or streams. Spills of fuel and other hazardous materials will be cleaned-up immediately and will be disposed of in accordance with applicable laws and regulations. Each construction and cleanup crew will have on site, sufficient tools and materials to stop leaks including supplies of absorbent and barrier materials that would allow for rapid containment and recovery of spilled materials. These measures will help prevent incidental release of fuel and other hazardous materials from human error or leaks from machinery being released into wetlands.

3.3 DEVELOPMENT ACTIVITIES IN THE ACTION AREA

The entire project footprint on USFS lands occurs within Management Area 6.1 – Rangeland with Broad Resource Emphasis. The Dakota Prairie Grasslands Management Plan (USFS 2002) state that “this area is primarily a rangeland ecosystem managed to meet a variety of ecological conditions and human needs. Ecological conditions will be maintained while emphasizing selected biological (grasses and other vegetation) structure and composition that considers the range of natural variability. These lands often display high levels of development, commodity uses, and activity; density of facilities; and evidence of vegetative manipulation.” It directs that landscape fragmentation from road construction would be discouraged, that valid existing rights would be honored when development is proposed, and that management activities that contribute to a loss of ecological integrity will be discouraged. Oil and gas leasing and development would be allowed.

The Dakota Prairie Grasslands Management Plan includes oil and gas development on USFS lands therefore ongoing mineral activities have been occurring in the past and are expected to occur in the future within the study area. Western North Dakota oil production is expected to increase until 2025 and the capacity is needed to transport increased petroleum production out of the region.

Bridger has consulted with federal, state, and local agencies regarding the Project. As a result of these consultations, Bridger was not made aware of any current or future developments of natural resources in the area that would affect the proposed Project.

4.0 METHODOLOGY

4.1 EXISTING DATA

Investigations were conducted on potential impacts the proposed Project could inflict upon plant and wildlife species and their habitat, including wetland habitats. Information was gathered from a variety of sources to compile the existing conditions of plant and wildlife within the proposed route. Sources included the USFWS list of threatened and endangered species that could occur in North Dakota, USFWS list of threatened and endangered species and designated critical habitat that could occur within the project area, the USFWS Information, Planning, and Conservation System (IPaC) Species List (Appendix B), The DPG rare species Geographic Information Systems (GIS) database, The North Dakota Parks and Recreation Department was consulted requesting historic and potential occurrences of listed species in the analysis area, and the North Dakota Game & Fish. Other information was also obtained from literature reviews, USFWS National Wetlands Inventory (NWI) Data, United States Geological Survey topographic maps, aerial photographs, field surveys, and personal communications with the USFS, McKenzie Ranger District.

Prior to the field work, wildlife and plant characteristics and their habitats were studied to aid in field recognition.

The intent of this effort is to ensure that any activity does not jeopardize the occurrence of any federally listed threatened or endangered species and sensitive habitat.

4.6 FIELD ASSESSMENT

Site conditions (plant and wildlife) were evaluated during on-site visits in Summer-Fall of 2019 and Spring-Summer of 2020 by Karine Finken, Zachary Peterson, Mathew Finken and Samantha Bussman of Keitu. The proposed Project area was walked to examine and determine the occurrence or nonoccurrence of plant and wildlife species.

The surveys were conducted along the proposed pipeline route in McKenzie County, North Dakota. Keitu surveyors conducted a thorough inspection within the 1.2 mile wildlife study area described in Table 2.1.

Field data was recorded with a Trimble GEOXH 6000 Series handheld GPS and photographs were taken throughout the survey corridor.

Analysis within the survey corridor included complete inspection for plant species, wildlife species, habitat components required to support wildlife species, and noxious weeds. Plant species, noxious weeds, and wildlife species were identified in the field and mapped using ESRI GIS. Any unknown species were photographed, documented, and collected if determined to not be sensitive; then later identified using state-wide literature and personal communications. Knowledge of species and species habitat were used to make a justified determination on the potential effects that may occur from the proposed Project.

4.7 INSTALLATION

Bridger will use standard pipeline trenching practices for installation. The installation is expected to put the pipeline in the ground at a minimum depth of 4 feet and impact a surface width of about a 100 foot. After installation, the displaced soil will be returned and seeded with certified weed free native seed mix.

5.0 VEGETATION

Field surveys were conducted to determine the presence or absence of habitat necessary to support wildlife species. The project area was traversed on foot and all-terrain vehicle. All habitats likely to be disturbed by the proposed project were systematically surveyed.

Within the project area, the survey intensity was a vegetation-based complete search. Searches were intensified in areas where plant species that were desirable for wildlife habitat were suspected to occur. In cases where vegetation was more homogeneous, the survey intensity became more intuitively controlled.

Within the project area, prominent plant communities and invasive plant species were mapped and described. A complete species list of the area was compiled during the evaluation. Any unknown species were photographed, documented, and collected if determined to not be sensitive; then later identified using state-wide literature and personal communications. The majority of the species were distinguished based on field recognition.

Field data was recorded with a Trimble GEOXH 6000 Series handheld GPS and photographs were taken throughout the survey corridor.

5.1 VEGETATION COMMUNITIES

The analysis area lies within the Little Missouri Badlands Ecoregion. The project is located within the mixed grass prairie province. The proposed route has a strong component of reclamation grasses and non-native species such as crested wheatgrass and smooth brome with yellow sweet clover as the dominant forb. Over half of the proposed right-of-way appeared to already been previously disturbed by past pipeline installations and/or heavy grazing.

5.1.1 NOXIOUS WEEDS

The proposed Project will generate temporary effects on portions of the terrain through landscape modifications, thus providing a possibility of an introduction of noxious weeds and invasive species. Noxious weeds can out-compete desirable forbs and grasses in pastures, fields, and native grasslands, reducing biodiversity. There were eight noxious or exotic species found in the survey corridor. See Appendix A.

Table 5.1 Noxious/Exotic Forb Species Found		
Scientific Name	Common Name	State/County where Noxious or other Status
<i>Cirsium arvense</i>	Canada Thistle	ND State
<i>Elaeagnus angustifolia</i>	Russian Olive	USFS Exotic
<i>Hyoscyamus niger</i>	Black Henbane	McKenzie
<i>Melilotus officinalis</i>	Yellow Sweet Clover	USFS Exotic
2020 USDA LMNG, 2020 ND Dept. of Agriculture		

Table 5.2 Noxious/Exotic Grass Species Found		
Scientific Name	Common Name	State/County where Noxious or other Status
<i>Agropyron cristatum</i>	Crested Wheatgrass	Non-native invasive
<i>Bromus inermis</i>	Smooth Brome	Non-native invasive

Table 5.2 Noxious/Exotic Grass Species Found		
Scientific Name	Common Name	State/County where Noxious or other Status
<i>Bromus tectorum</i>	Downy Brome / Cheatgrass	Non-native invasive
<i>Poa pratensis</i>	Kentucky bluegrass	Non-native invasive
2020 USDA LMNG, 2020 ND Dept. of Agriculture		

5.1.2 Native Vegetation

Native vegetation was found throughout the survey area. The native species commonly found were, sideoats, blue grama, and fringed sage.

The USDA MLRA Explorer Custom Report for the Rolling Soft Shale Plain of the Northern Great Plains Spring Wheat Region states the area supports natural prairie vegetation characterized by western wheatgrass, needle-and-thread, green needlegrass, blue grama, and threadleaf sedge. Little bluestem and sideoats grama are important species on sloping, shallow soils. Big bluestem and sideoats grama, along with scattered green ash, chokecherry, and western snowberry, are important species in swales. North Facing slopes support Rocky Mountain juniper, green ash, and chokecherry and an understory of little bluestem, porcupinegrass, and needle-and-thread. See Appendix C – Plant Species Identification Checklist.

5.3 DISTURBANCE IN VEGETATION

Vegetation recovery following construction is influenced by the surrounding undisturbed adjacent plant community. If the adjacent plant communities are filled with non-desirable species it can be difficult to establish native plantings along the ROW. Restoration efforts after construction to reseed the ROW are important to establish desired species. Construction and subsequent restoration does provide opportunities for invasive species to establish.

5.2 CORRIDOR DESCRIPTION



Figure 5.1 - displays a stretch of mixed grassland on USFS lands typical of the survey corridor not next to a road.



Figure 5.2 - shows the right-of-way (ROW) of dense grassland with non-native grasses. Crested wheatgrass and smooth brome are the dominant non-native grasses that were found.

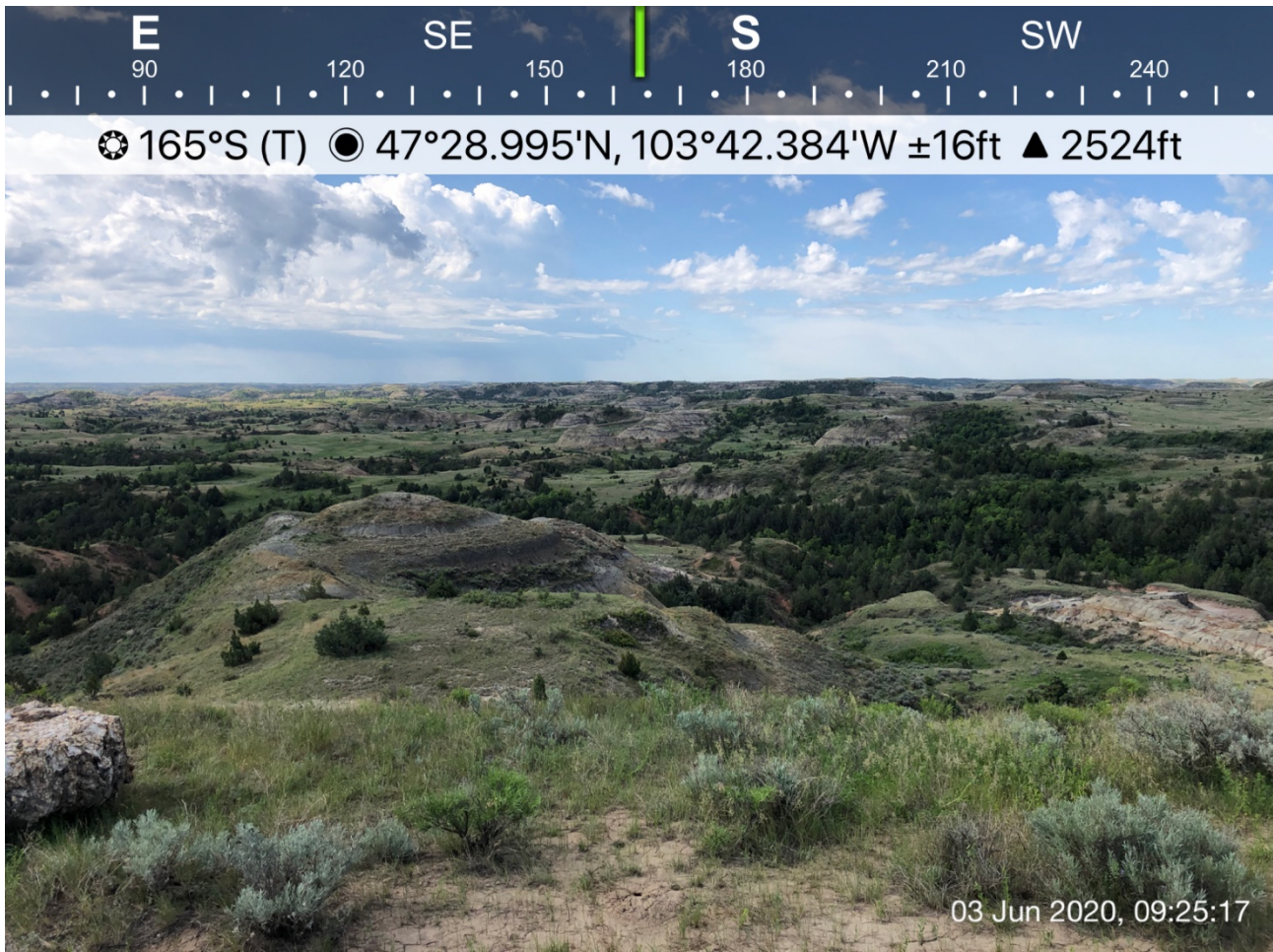


Figure 5.3 - shows typical hilly terrain with native species on the hill tops with wooded drainages/hillsides on USFS lands.

6.0 WILDLIFE

Field surveys were conducted to determine the presence or absence of wildlife and habitats to support wildlife. Habitats within and near the immediate area of the proposed activities were evaluated. Surveys were conducted on foot and all-terrain vehicle. Observations were aided by binoculars. Aerial photographs and historical records were used prior to field survey to assess potential for wildlife species and habitat to support wildlife.

The USDA MLRA Explorer Custom Report for the Rolling Soft Shale Plain of the Northern Great Plains Spring Wheat Region states the area supports mule deer, white-tailed deer, antelope, coyote, prairie dog, jackrabbit, reptiles, amphibians, sharp-tailed grouse, hawks, turkeys, and grassland birds of various species.

6.1 FEDERALLY LISTED T&E WILDLIFE SPECIES EFFECTS DETERMINATION

The following are federally listed Wildlife Threatened and Endangered Species listed from the USFWS Information and Planning Consultation tool for the proposed project area.

TABLE 6.1 FEDERALLY LISTED T&E WILDLIFE SPECIES EFFECTS DETERMINATION				
Species	No Effect	May Affect, Not Likely to Adversely Affect	May Affect, Likely to Adversely Affect	Beneficial Effect
Endangered Species				
Interior Least Tern		X		
Pallid Sturgeon	X			
Whooping Crane		X		
Threatened Species				
Dakota Skipper		X		
Northern Long-eared Bat		X		
Piping Plover		X		
Red Knot		X		
Information provided by the USFWS IPaC 2019				

6.1.1 Interior Least Tern

The interior least tern prefers to nest in sparsely vegetated sandbars and sandy islands. During breeding season, approximately 100 pairs are found along the Missouri and Yellowstone River. The interior least tern population winters along the Gulf of Mexico and the Caribbean Islands. Breeding season for this species is from May through August and high nesting potential occurring from June to mid-July. The Yellowstone River is 20 miles northwest of the project and the Missouri River is 12.5 miles to the east. Interior least tern detections are distributed over 11 counties in North Dakota. Records of interior least tern in interior McKenzie County are rare. Nests are identified by their scratched out bowl shaped depressions in barren sand. No interior least terns or active nesting sites were observed during the field survey.

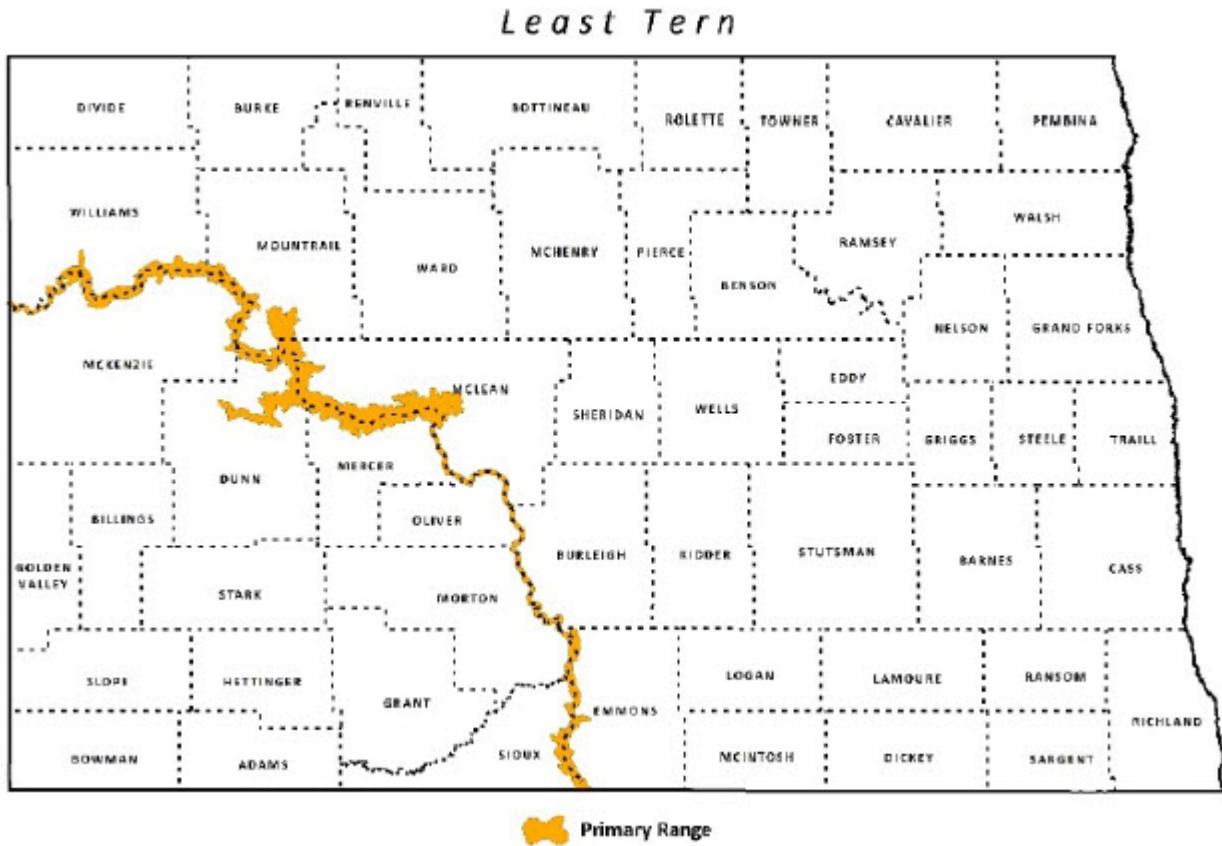
The numbers and distribution of interior least terns have steadily increased. They currently number approximately 18,000 total birds with an estimate of approximately 100 breeding pairs in North Dakota.

The primary reason for ESA designation was the alteration of the natural Missouri River stream flow from dam construction and river channelization. The damming and channelization has destroyed or degraded sandbar habitat and altered food source populations. Other threats to the interior least tern is encroachment of woody vegetation onto sandbar nesting habitat and recreationists destroying nests.

Direct impacts may happen if construction timing occurs during migration season. Bridger is HDDing all wetlands with water present, riparian areas, streams and creeks. Despite Bridger's commitment to minimize impacts to wetlands, noise from construction could create a direct impact to adjacent wetlands. The chance for construction impacts are minimal due to the inconsistent stopover habitat in western North Dakota and the species nesting habitat on major river systems. Indirect contact could occur through chemical spill, such as fuel or hydraulic fluid for equipment used in construction, and excess erosion; debris and/or chemicals may work their way downslope into the wetlands, impacting potential interior least tern stopover habitat. Human activity may disturb interior least terns if they use the area for stopover habitat.

The nearest Designated Critical Habitat is approximately 12.5 miles east of the Project. No interior least terns or active nesting sites were observed during the field surveys. The proposed corridor does not contain suitable sandbar, and gravel shoreline nesting areas and the project does not occur along the Missouri or Yellowstone Rivers; therefore, the proposed Project corridor does not support the appropriate nesting habitat for this species. Effects from the proposed project are expected to be insignificant, or discountable for the lack of habitat within the action area and conservation measures Bridger will put in place. The proposed Project may effect, unlikely to adversely affect the least tern or their critical habitat.

6.1.1.a Interior Least Tern Distribution



Provided by the North Dakota Game & Fish

6.1.1.b Interior Least Tern Conservation Measures

All equipment maintenance, repairs, and refueling will be performed in upland locations at least 100-feet from all water bodies and wetlands. All equipment will be parked overnight at least 100-feet from a watercourse or wetland. Equipment will not be washed with water draining into wetlands or streams. Spills of fuel and other hazardous materials will be cleaned-up immediately and will be disposed of in accordance with applicable laws and regulations. Each construction and cleanup crew will have on site, sufficient tools and materials to stop leaks including supplies of absorbent and barrier materials that would allow for rapid containment and recovery of spilled materials. In the case of an incidental release the shortest length of flow would be 14.5-miles to the Missouri River. These measures will help prevent incidental release of fuel and other hazardous materials from human error or leaks from machinery being released into wetlands.

6.1.2 Pallid Sturgeon

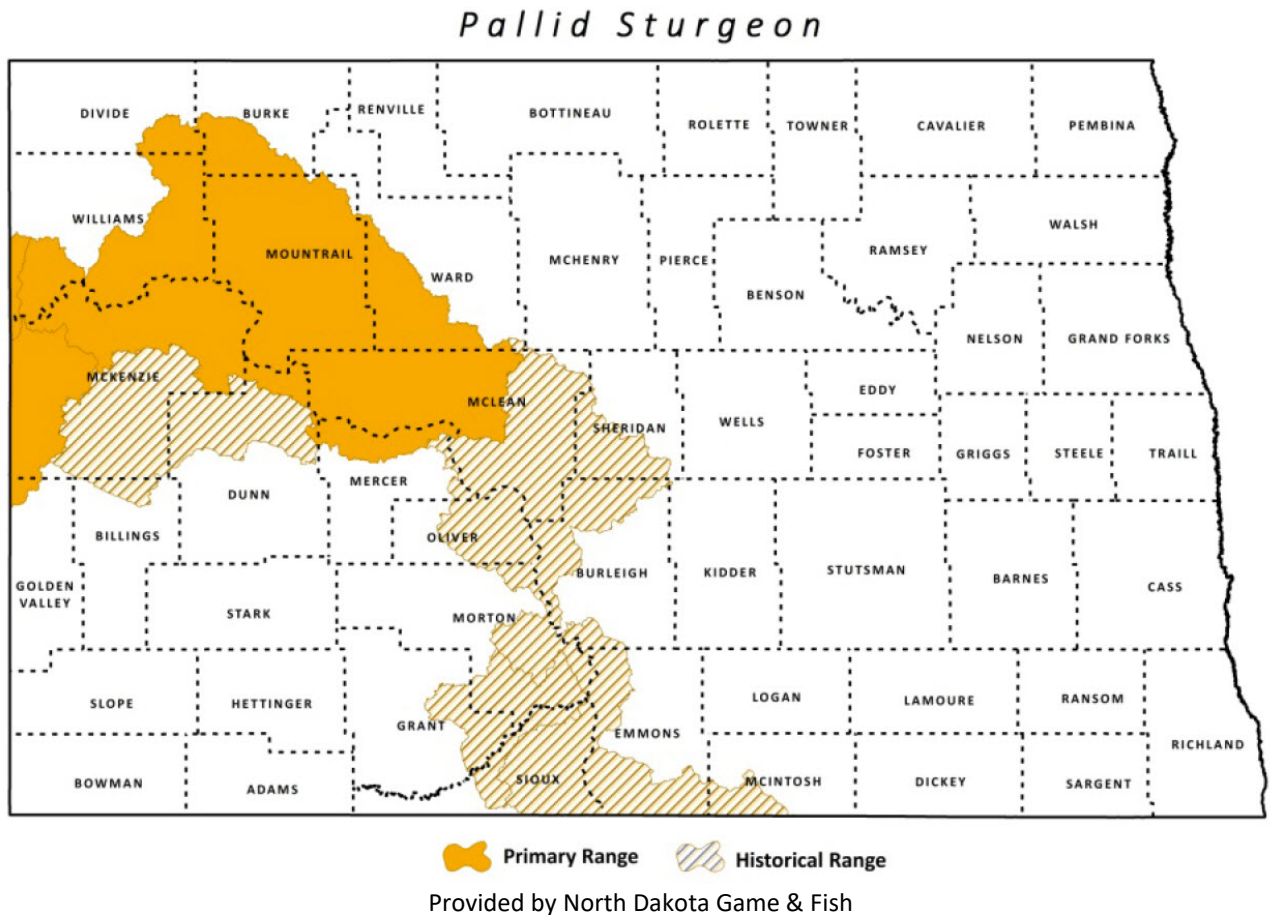
Pallid sturgeons inhabit the bottoms of large, shallow, silty rivers with sand and gravel bars of the Missouri and Yellowstone Rivers in North Dakota. Pallid sturgeon detections are distributed over 11 counties in North Dakota. The proposed project does not cross any waterbodies. The Yellowstone River is 20 miles to northwest of the project and the Missouri River is 12.5 miles to the east. No pallid sturgeons were observed during the survey. The Study Area does not encompass the Missouri and/or Yellowstone Rivers or shallow rivers with sand or gravel bars, to provide suitable habitat for this species.

The primary reason for ESA designation was the alteration of the natural Missouri River stream flow from dam construction and river channelization. Dams have created fragmentation of the population. The managed water releases from impoundments in the Missouri River System have additionally impacted the pallid sturgeon. Flows are managed to be reduced in the spring and then increased later in the summer. This is the opposite of historical river flows which has impacted reproduction, larval fish rearing, and food supplies.

An estimated 1,600 to 5,750 in wild pallid sturgeon exist in the United State with 125 in North Dakota. (The Pallid Sturgeon Recovery Program, 2020). Supplemental hatchery-reared pallid sturgeon stock is occurring throughout the Missouri River and Mississippi River.

At this time there is no designated critical habitat for the pallid sturgeon. The proposed Project will have no effect on pallid sturgeons.

6.1.2.a Pallid Sturgeon Distribution



6.1.2.b Pallid Sturgeon Conservation Measures

All equipment maintenance, repairs, and refueling will be performed in upland locations at least 100-feet from all water bodies. All equipment will be parked overnight at least 100-feet from a watercourse. Equipment will not be washed with water draining into streams. Spills of fuel and other hazardous materials will be cleaned-up immediately and will be disposed of in accordance with applicable laws and regulations. Each construction and cleanup crew will have on site, sufficient tools and materials to stop leaks including supplies of absorbent and barrier materials that would allow for rapid containment and recovery of spilled materials. In the case of an incidental release the shortest length of flow would be 14.5-miles to the Missouri

River. These measures will help prevent incidental release of fuel and other hazardous materials from human error or leaks from machinery being released into a watercourse that could discharge into the Missouri River.

6.1.3 Whooping Crane

The whooping crane migrates through the west central counties of North Dakota during the spring months of April through May and the fall months September through October. Primary breeding grounds are located at Wood Buffalo National Park in Canada's Northwest Territories and migrate to Aransas National Wildlife Refuge in Texas. Whooping crane detections are distributed over all 53 counties in North Dakota. Whooping cranes prefer shallow wetlands, such as prairie potholes, associated with cattails, bulrushes, and sedges and feed in cultivated fields. No whooping cranes were observed during the field survey. Cultivated land does exist within the survey corridor; however, wetland habitat is sparse.

They currently number approximately 826 total birds with 159 in captivity. The Wood-Buffalo/Aransas Flock that migrates through North Dakota has a population of 504 as of February 2020 (USFWS, 2020).

The Yellowstone River is 20 miles northwest of the project and the Missouri River is 12.5 miles to the east. Suitable feeding wetland habitat is not present in the analysis area. Records of whooping crane stopovers in interior McKenzie County are rare. The whooping crane population that migrates through the state is slightly over 200, therefore, foraging and roosting stops during migration is unlikely to occur within the proposed Project area. No whooping cranes were seen in the survey.

Conversion of prairie betting habitat for agriculture during pioneer settlement times, along with unregulated shooting in the late 19th and early 20th century resulted in the decline of the species. Other threats to the whooping crane include accidental shootings and power line collisions. Power line collisions have accounted for most of the mortalities in the last 50 years.

Direct impacts may happen if construction timing occurs during migration season. Bridger is HDDing all wetlands with water present, riparian areas, streams and creeks. Despite Bridger's commitment to minimize impacts to wetlands, noise from construction could create a direct impact to adjacent wetlands. Cultivated fields are located within the construction ROW and will be temporarily disturbed. The chance for construction impacts are minimal due to the inconsistent stopover habitat in western North Dakota (eBird, 2020). Indirect contact could occur through chemical spill, such as fuel or hydraulic fluid for equipment used in construction, and excess erosion; debris and/or chemicals may work their way downslope into the wetlands, impacting potential whooping crane stopover habitat. Human activity may disturb whooping cranes if they use the area for stopover habitat.

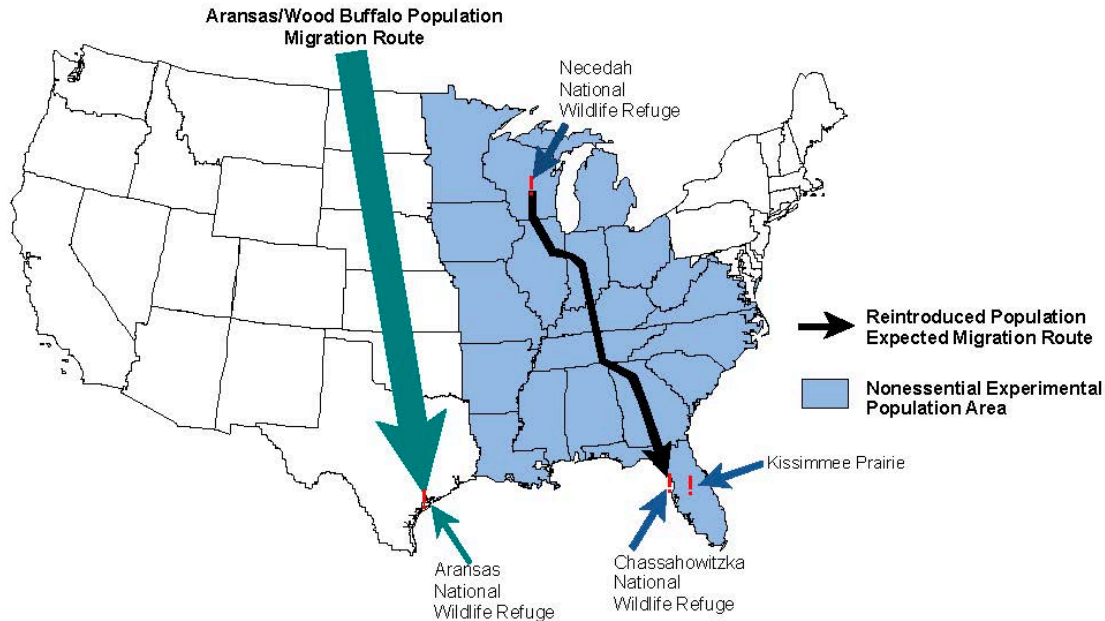
There is no designated critical habitat for the whooping crane in North Dakota. The project distance from and lack of intersect with suitable wetland habitat and the rarity of the whooping crane historical sightings indicate that the proposed project may affect, not likely to adversely effect the species.

6.1.3.a Whooping Crane Distribution



U.S. Fish & Wildlife Service

Whooping Crane Migration Routes and Nonessential Experimental Population Area



6.1.3.b Whooping Crane Conservation Measures

All equipment maintenance, repairs, and refueling will be performed in upland locations at least 100-feet from all water bodies and wetlands. All equipment will be parked overnight at least 100-feet from a watercourse or wetland. Equipment will not be washed with water draining into wetlands or streams. Spills of fuel and other hazardous materials will be cleaned-up immediately and will be disposed of in accordance with applicable laws and regulations. Each construction and cleanup crew will have on site, sufficient tools and materials to stop leaks including supplies of absorbent and barrier materials that would allow for rapid containment and recovery of spilled materials. These measures will help prevent incidental release of fuel and other hazardous materials from human error or leaks from machinery being released into wetlands.

6.1.4 Dakota Skipper

In North Dakota, Dakota skippers can be found within two general habitat types classified by the USFWS, "Type A" and "Type B". Type A consists of low-lying, wet-mesic prairie with little topographic relief that occurs on near-shore glacial lake deposits. Type A habitat does not exist within the Survey Area. Type B habitat for the Dakota skipper typically supports a high diversity and abundance of native forbs in rolling dry prairies. These two types of native prairie habitat are important for the Dakota skipper because they provide valuable nectar sources through native forbs and are difficult to re-establish once degraded or disturbed. The Dakota skipper in western North Dakota inhabits native prairie on rolling terrain over gravelly glacial moraine dominated by little bluestem, as well as big bluestem, needlegrasses, or porcupine grasses. Dakota skipper detections are distributed over six counties in North Dakota.

Dakota skippers are known to occur in the study area with the nearest observation of the species .29-mile from the proposed centerline. The nearest Designated Critical Habitat is approximately 20 miles north of the Project located in McKenzie County. Dakota skippers absence/presence surveys were conducted by USFWS permitted surveyors for North Dakota in June and July of 2020. One female Dakota skipper was observed during these surveys. The survey area does provide bluestem/needlegrass/coneflower habitat (Type B) in native prairielands mostly located on hill sides and hill tops, and areas that have avoided major previous disturbance. Evidence of active cattle grazing was observed throughout the majority of the survey area. The species that do occur are sparse and well outside of the Project Area. Type B habitat plant species that were found within the survey corridor was prairie sagewort, purple coneflower, prairie smoke, little bluestem and Indiangrass. A conservative estimate of 8% of the construction ROW is contains Type B habitat. The proposed route utilizes an existing utility corridor to the greatest extent possible, reusing previously disturbed ROWS. The route of the proposed project was primarily chosen to parallel Bridger's existing operating pipelines and infrastructure which parallels over 80% of the proposed project route. Additionally, the proposed route was located as much as practicable to existing roads for easy access to the ROW. Bridger is committed to reducing the construction footprint as much as practicable to minimize impacts to prairie grassland.

The loss of native prairie and the degradation of remaining patches of habitat have led to the listing of the Dakota skipper. The primary cause for loss of native prairie is conversion from high quality habitats to agriculture or human development. Other threats to the Dakota skipper include ecological succession of native prairie to brush or trees, invasive species, pesticides, and land management regimes that are performed in a way the negatively affects the species habitat.

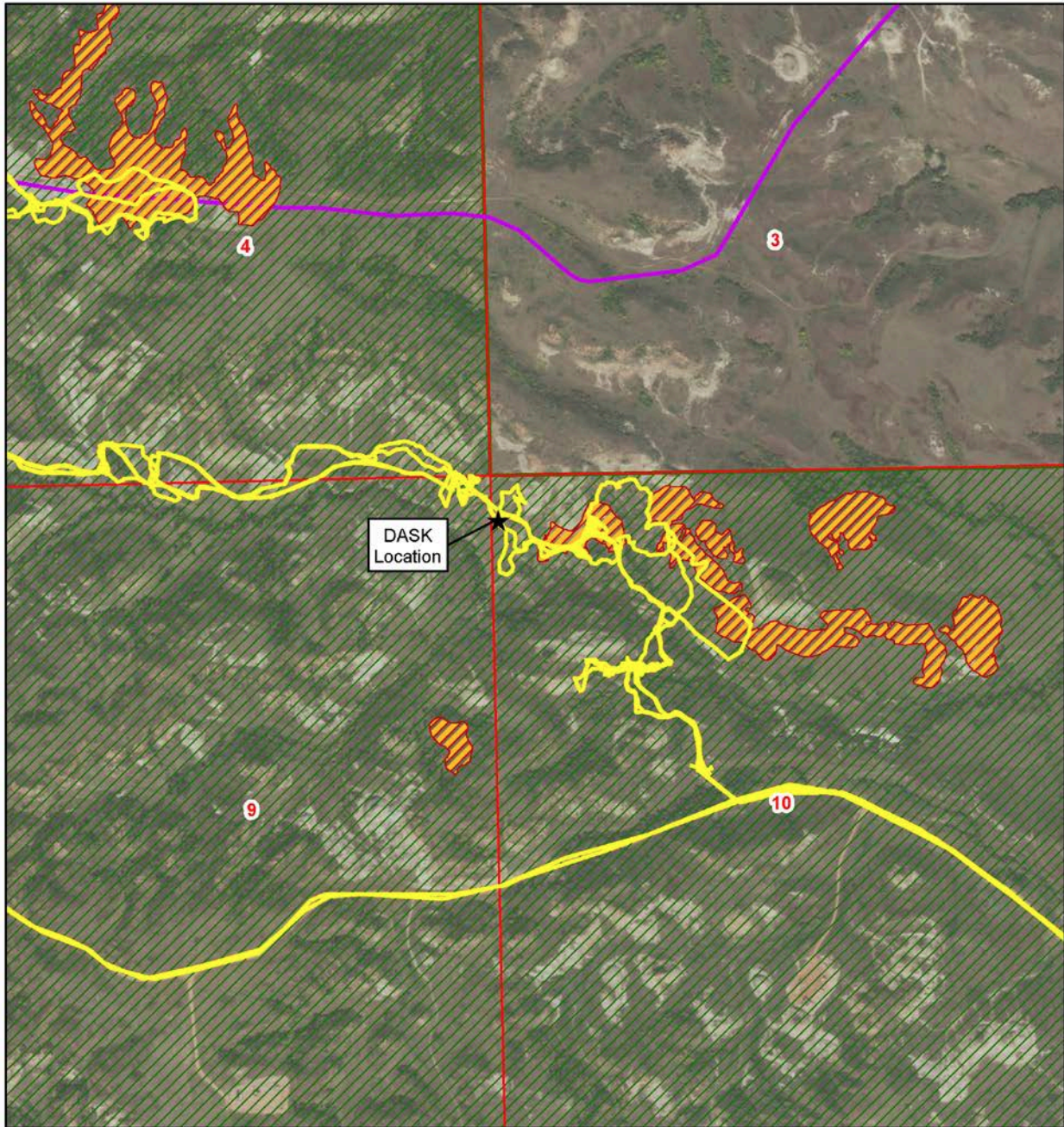
Direct impacts may happen if construction timing occurs during flight season during late-June until Mid-July near suitable habitat. Despite Bridger's commitment to minimize impacts to Type B habitats, noise and traffic from construction could create a direct impact. Indirect impacts could occur through chemical spill, such as fuel or hydraulic fluid for equipment used in construction. Species that the Dakota skipper may utilize that could exist in non-Type B habitats (such as degraded native prairie) would be disturbed within the 100-foot-wide construction corridor. The risk of construction introducing noxious weeds to the ROW exists and could eventually outcompete native prairie species.

Due to Bridger committing to reducing the construction footprint, utilizing already disturbed terrain, and location within marginally suitable habitat in the construction corridor, the proposed project may effect, not likely to adversely affect the Dakota skipper or its habitat.






6.1.4.a Dakota Skipper Conservation Measures

Results from the presence/absence survey identified areas where the Dakota skipper is present. Bridger will avoid construction within 1km of areas identified as occupied by the Dakota skipper between June 12 – July 15. Prior to construction Bridger will have a biologist identify and flag the Type B habitat locations for construction minimization and avoidance. Type B habitat was identified using the 2020 Biological Survey and Reporting Guidelines by the McKenzie Ranger District & Medora Ranger District, Dakota Prairie Grasslands, USFS as reference. Bridger will minimize the construction corridor near and in areas of Type B habitat. Dust mitigation during the life of the construction will occur.

6.1.4.b Dakota Skipper Location on USFS Lands



Dakota Skipper Survey

- | | | | |
|---|-------------------------|---|------------------------|
| ★ | Dakota Skipper Location |  | Potential DASK Habitat |
|  | Tracks |  | Section Boundary |
|  | Proposed Pipeline |  | USFS Lands |



T. 146N, R. 102W, Sec. 10
McKenzie County,
North Dakota



6.1.5 Northern Long-eared Bat

The northern long-eared bat is currently listed by the USFWS as threatened in North Dakota. On April 2, 2015, the USFWS published the final listing in the Federal Register with an effective date of May 4, 2015. The USFWS listed the northern long-eared bat as threatened and chose to exercise the option of issuing an interim 4(d) rule to allow for more flexible implementation of the ESA. The 4(d) rule reduces ESA conflicts by allowing some activities that do not harm the species to continue while focusing efforts on threats that make a difference in the species' recovery.

This bat species occupies a wide range of rocky and forested habitats. Summer day roosts include abandoned buildings, bridges, hollow trees, stumps, and under loose bark, and rock fissures. There are no known hibernacula for the northern long-eared bat in North Dakota, due to either no suitable hibernacula present or a lack of survey effort. Suitable winter habitat for northern long-eared bats consist of caves and abandoned mines which do neither occur in the Action Area. However, nearby trees and rocky outcrops can act as suitable summer day roosts. Typically, trees greater than 3-inches in diameter at breast height are preferred for roosting. Wooded areas are preferred locations to roost in the summer and the northern long-eared bat has been documented in the Turtle Mountains, and the riparian corridors of the Little Missouri and Missouri rivers. The Little Missouri River is .13-miles from the proposed centerline. As with many other bat species, northern long-eared bats migrate between their winter hibernacula and summer habitat. Know migratory distance can vary greatly between 5 and 168 miles. Northern long-eared bat detections are distributed over all 53 counties in North Dakota (USFWS, 2020).

The northern long-eared bat was once a relatively common species. However since the appearance of white-nose syndrome (WNS), populations of the northern long-eared bat has declined by nearly 99% throughout much of its core range. WNS is a fungus that causes mortality in hibernating bats but is not a direct health risk for humans. As the disease continues to spread westward further declines are being documented. On May 6, 2019 within the boundary of the Knife River Indian Villages National Historic Site, WNS fungus was detected on one little brown bat (*Myotis lucifugus*) as the first documented finding in North Dakota. While the one bat tested positive for the fungus it does not confirm if the bat has WNS disease.

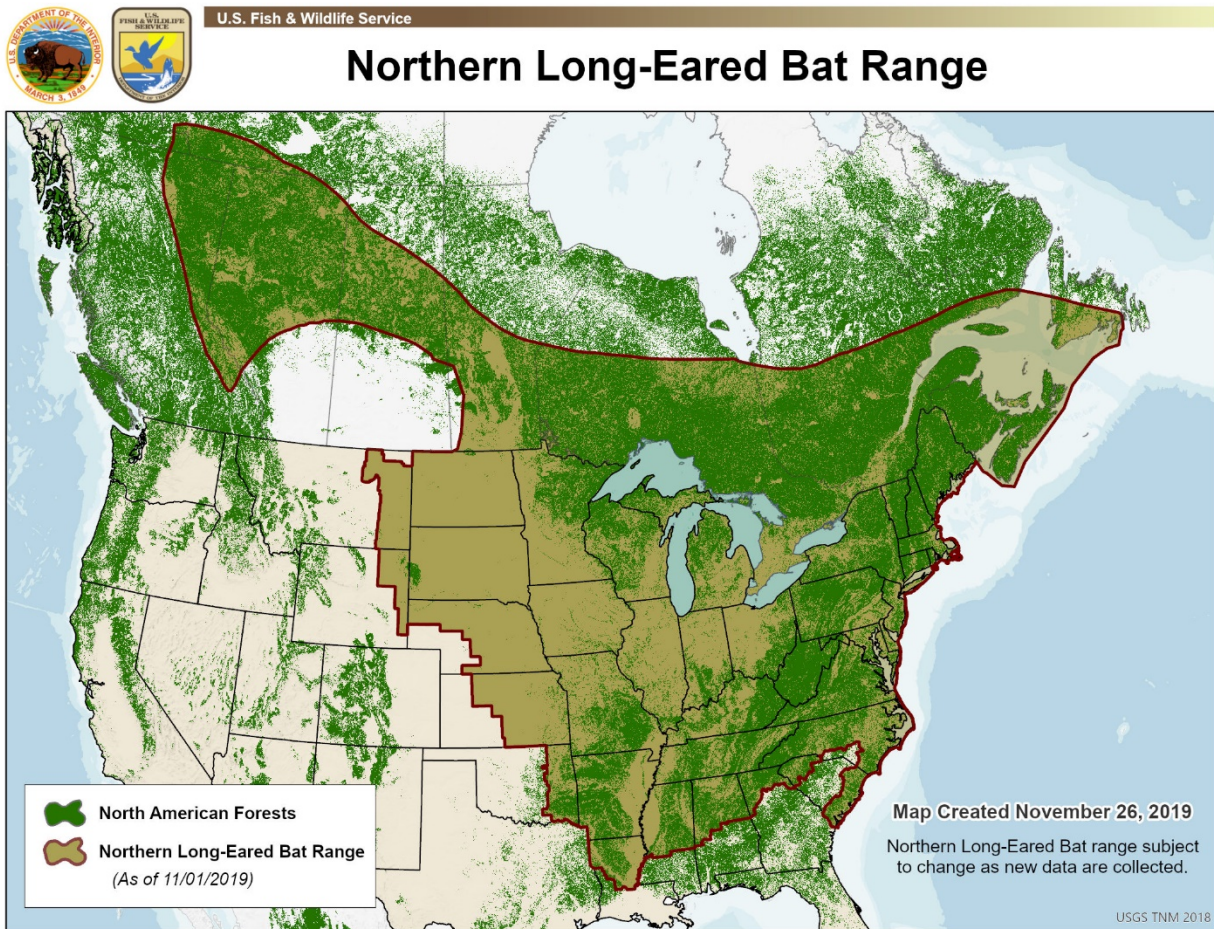
Suitable winter habitat for northern long-eared bats does not occur in the project area. Suitable summer day roost habitat may occur near the study area in nearby trees and rocky outcrops. The Project will not remove trees in the riparian areas near the Little Missouri River. A map of trees found in construction corridor 3-inches and larger in diameter at breast height can be found in Appendix A.

A severe and immediate threat to the long-term outlook of this species is WNS. WNS is responsible for the unprecedented mortality rates observed in the northeastern United States. It is estimated 5.7 – 6.7 million bats of different species have died due to WNS. Other threats to the northern long-eared bat include modification to hibernacula, human disturbance during hibernation, wind-energy development, and loss of suitable summer roost habitat.

Direct impacts may happen if construction timing occurs during maternal roosting season between June 1 and July 31. Removal of large woody vegetation that may be roosting habitat will be avoided when possible and where removal is needed it will not exceed 50-feet. Noise from construction could create a direct impact to adjacent trees that may host roosting bats. Construction will occur only during daylight hours and therefore, is unlikely to impact foraging activity during evenings and nighttime. The chance for construction impacts are minimal due to lack of consistent roosting populations recorded in McKenzie County. No bats were observed during the survey.

At this time there is no designated critical habitat for the northern long-eared bat. Due to the low likelihood of occurrence in the Project Area, timing restrictions, and HDDing specified areas, the proposed project may effect, not likely to adversely affect the northern long-eared bat.

6.1.5.a Northern Long-eared Bat Distribution



6.1.5.b Northern Long-eared Bat Conservation Measures

Substantial drainages, creeks, and riparian areas will be bored using HDD technology within the Project ROW. Bridger has committed to avoiding removal of trees 3-inches and larger between June 1 and July 31 during the maternal roosting season. Removal of large woody vegetation that could potentially be roosting habitat will be avoided when possible and where removal is needed it will not exceed 50-feet. Additionally, Bridger will provide replacement trees on a two-to-one basis for the landowner in an alternate location in the same region. This practice creates sustainable plantings that will provide long-term benefit to the wildlife and environment.

6.1.6 Piping Plover

The piping plover is a small shore bird that inhabits barren sand and gravel shorelines of lakes and rivers and avoids dense vegetation. The breeding season is from late April to early August in areas in North Dakota that include the shores of the Missouri and Yellowstone Rivers and the prairie wetlands in the Missouri Coteau. Piping plovers summer in the northern plains, and winter in the Gulf of Mexico. They rarely stop during

migration and may travel from breeding to wintering grounds in as little as one nonstop flight (Audubon, 2020). More than three-fourths of piping plovers in North Dakota nest on prairie alkali lakes, while the remaining are found along the Missouri River. Piping Plover Designated Critical Habitat consists of prairie alkali wetlands and surrounding shoreline; river channels and associated sandbars and islands; reservoirs and inland lakes and their sparsely vegetated shorelines, peninsulas and islands (USFWS, 1995). Piping plover detections are distributed over 25 counties in North Dakota.

The primary reason for ESA designation was the alteration of the natural Missouri River stream flow from dam construction and river channelization. The damming and channelization has destroyed or degraded sandbar habitat and altered food source populations. Other threats to the piping plover is encroachment of woody vegetation onto sandbar nesting habitat, wet cycles leading to high water levels in nesting lakes, and recreationists destroying nests.

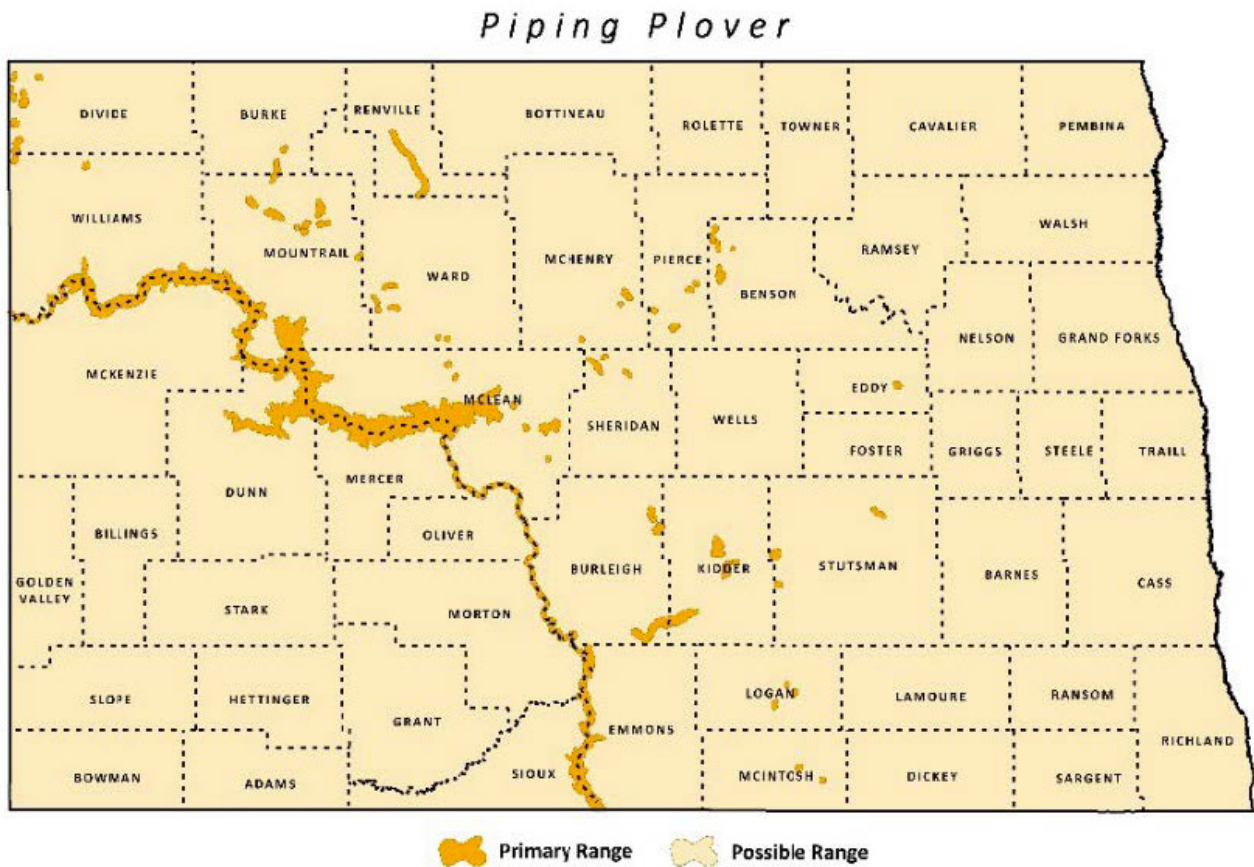
Direct impacts may happen if construction timing occurs during migration season. Bridger is HDDing all wetlands with water present, riparian areas, streams and creeks. Despite Bridger's commitment to minimize impacts to wetlands, noise from construction could create a direct impact to adjacent wetlands. The chance for construction impacts are minimal due to the inconsistent stopover habitat in western North Dakota and the species nesting habitat on major river systems. Indirect contact could occur through chemical spill, such as fuel or hydraulic fluid for equipment used in construction, and excess erosion; debris and/or chemicals may work their way downslope into the wetlands, impacting potential piping plover stopover habitat. Human activity may disturb piping plovers if they use the area for stopover habitat.

The nearest Designated Critical Habitat is approximately 12.5 miles east of the Project. No piping plovers or active nesting sites were observed during the field surveys. The Yellowstone River is 20 miles to the northwest of the project and the Missouri River is 12.5 miles to the east. The proposed corridor does not contain suitable sandbar, and gravel shoreline nesting areas and the project does not occur along the Missouri or Yellowstone Rivers; therefore, the proposed Project corridor does not support the appropriate nesting habitat for this species. Records of piping plovers in interior McKenzie County are rare. The proposed Project may effect, unlikely to adversely affect the piping plovers or their critical habitat.

6.1.6.a Piping Plover Conservation Measures

All equipment maintenance, repairs, and refueling will be performed in upland locations at least 100-feet from all water bodies and wetlands. All equipment will be parked overnight at least 100-feet from a watercourse or wetland. Equipment will not be washed with water draining into wetlands or streams. Spills of fuel and other hazardous materials will be cleaned-up immediately and will be disposed of in accordance with applicable laws and regulations. Each construction and cleanup crew will have on site, sufficient tools and materials to stop leaks including supplies of absorbent and barrier materials that would allow for rapid containment and recovery of spilled materials. In the case of an incidental release the shortest length of flow would be 14.5-miles to the Missouri River. These measures will help prevent incidental release of fuel and other hazardous materials from human error or leaks from machinery being released into wetlands.

6.1.6.b Piping Plover Distribution



Provided by the North Dakota Game & Fish

6.1.7 Red Knot

The rufa red knot utilizes North Dakota as migration stopover in the spring and fall. Migration occurs over long distances annually between its breeding ground in the Canadian Arctic and several wintering regions, including the southeast United States, the northeast Gulf of Mexico, northern Brazil, and Tierra del Fuego at the southern tip of South America. The Yellowstone River is 20 miles to the northwest of the project and the Missouri River is 12.5 miles to the east. Red knot detections are distributed over 25 counties in North Dakota (USFWS, 2020). In North America, the red knot is commonly found along sandy, gravel, or cobble beaches, tidal mudflats, salt marshes, shallow coastal impoundments and lagoons, peat banks. The primary food items for the red knot in non-breeding habitats include blue mussels, juvenile mussels, clams, snails, polychaete worms, insect larvae, and crustaceans.

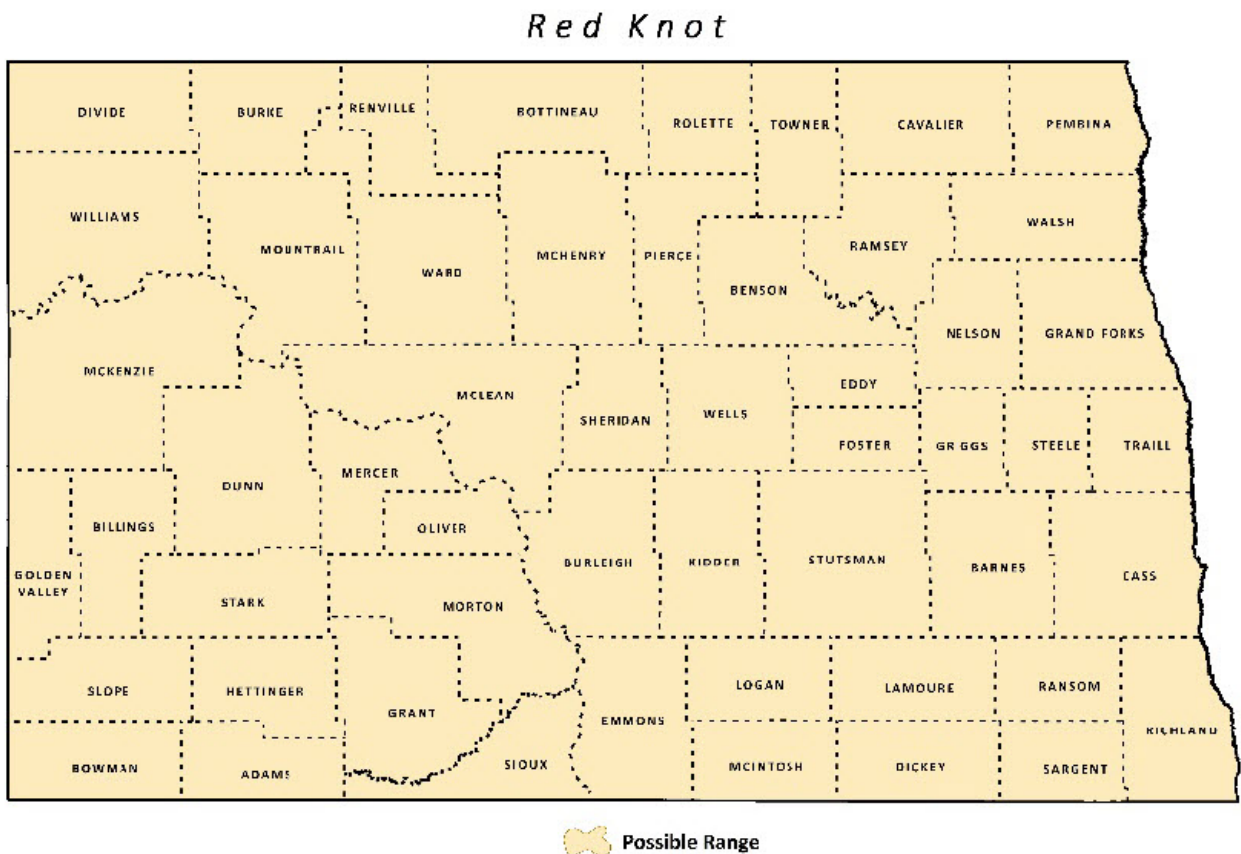
Red knots migration is sporadic and uncommon but the potential exists that they may use wetlands found in the action area for stopover habitat. Potential stopovers for Red Knot are few, small, and distant with no known records in McKenzie County (eBird 2020). There are no recorded sites that are used consistently as stop over habitat. (eBird 2020).

The red knot was listed for protection under the ESA due to several threats. Loss of habitat has occurred across its range due to sea-level rise, shoreline projects, and Arctic warming. Food availability has reduced due to habitat loss and asynchronies and increased predation in their breeding grounds. The population is currently on the decline.

Direct impacts may happen if construction timing occurs during migration season. Bridger is HDDing all wetlands with water present, riparian areas, streams and creeks. Despite Bridger’s commitment to minimize impacts to wetlands, noise from construction could create a direct impact to adjacent wetlands. The chance for construction impacts are minimal due to the inconsistent stopover habitat in western North Dakota. Indirect contact could occur through chemical spill, such as fuel or hydraulic fluid for equipment used in construction, and excess erosion; debris and/or chemicals may work their way downslope into the wetlands, impacting red knot habitat. Human activity may disturb red knots. The red knot nests in the Canadian arctic, therefore no impact will be made to nesting locations. No red knots were observed during the survey.

No designated critical habitat has been proposed at this time. In view of the absence of historic observations of red knots in McKenzie County, the project limitations, the proposed project may affect, not likely to adversely effect the red knot.

6.1.7.a Red Knot Distribution



Provided by the North Dakota Game & Fish

6.1.7.b Red Knot General Conservation Measures

All equipment maintenance, repairs, and refueling will be performed in upland locations at least 100-feet from all water bodies and wetlands. All equipment will be parked overnight at least 100-feet from a watercourse or wetland. Equipment will not be washed with water draining into wetlands or streams. Spills of fuel and other hazardous materials will be cleaned-up immediately and will be disposed of in accordance with applicable laws and regulations. Each construction and cleanup crew will have on site, sufficient tools and materials to stop leaks including supplies of absorbent and barrier materials that would allow for rapid containment and recovery of spilled materials. These buffers would be maintained during the lifetime of

construction. These measures will help prevent incidental release of fuel and other hazardous materials from human error or leaks from machinery being released into wetlands.

Regionally, the greatest impacts to wildlife (past, present or future) can be associated with agricultural development. Agricultural land use replaced the existing natural diversity with the monoculture row crops. The practice has also introduced noxious weeds, soil pests, and other exotics, which all had significant cumulative impacts on regional wildlife. Relative to the habitat and land use impacts associated with past agricultural activities, the proposed Project impacts (as well as those associated with the oil and gas industry on a regional basis) would be nominal. This is due to the short duration and small scale of the proposed Project relative to the regional landscape and the large scale of agricultural activities in the region.

7.0 CUMULATIVE EFFECTS

The Project would not permanently alter the character of the available habitats as most of the Project-related impacts will be temporary and minimal. Possible temporary, short-term impacts on wildlife as a result of the Project include the displacement of some mobile individuals to similar, adjacent habitats during construction activities. When analyzed on a regional basis, these impacts do not change significantly in magnitude when compared to the current and historic impacts previously imposed upon the regional wildlife by agricultural and oil and gas development. Further habitat fragmentation as a result of the proposed Project or other oil and gas developments in the region would be negligible and is not anticipated to significantly contribute to cumulative effects on wildlife.

The Proposed Action would result in approximately 229 acres of new disturbance. Vegetation resources in the area, including native prairie, and grassland are likely to be impacted by additional energy development or new agriculture. Indirect impacts to native vegetation may occur due to soil loss, soil compaction, and increased encroachment of unmanaged invasive and noxious weed species. Continued oil and gas development within the region could result in the loss and further fragmentation of native mixed-grass prairie habitat. The proposed Project's incremental contribution to cumulative effects of habitat fragmentation and habitat loss would not be substantial.

8.0 SUMMARY

Implementation of best management practices during construction activities will assist in minimizing disturbance to any plant or wildlife species inhabiting the area. Bridger will implement a wide variety of mitigation measures as described in this Biological Assessment that will reduce the risk of adversely affecting any ESA species. Due to avoidance and mitigation efforts in planning, construction, and maintenance, Bridger is seeking determination concurrence on the following species:

Endangered

- Least Tern – **May Affect, Not Likely to Adversely Affect**
- Whooping Crane – **May Affect, Not Likely to Adversely Affect**
- Pallid Sturgeon – **No Effect**

Threatened

- Red Knot – **May Affect, Not Likely to Adversely Affect**
- Dakota skipper – **May Affect, Not Likely to Adversely Affect**
- Piping Plover – **May Affect, Not Likely to Adversely Affect**
- Northern long-eared Bat – **May Affect, Not Likely to Adversely Affect**

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10.0 PROJECT CONTACTS MADE

Bridger is in the process of applying for other project related permits therefore initial agency notifications were required by those respective permitting agencies.

Table 6 Agency Notifications		
Agencies Contacted	Form of Initial Contact	Date of Contact
US Army Corps of Engineers	Multi-Agency Meeting	8/2019
ND Parks and Recreation	Mailed Letter	9/30/2019
ND Game and Fish Department	Multi-Agency Meeting	8/2019
Lake Ilo National Wildlife Refuge	Mailed Letter	9/30/2019 12/16/2019
U.S. Fish and Wildlife Service	Multi-Agency Meeting	8/2019
McKenzie County Planning Department	Mailed Letter	10/15/2019
McKenzie County Commission	Mailed Letter	9/30/2019 12/16/2019
Golden Valley County Planning Department	Mailed Letter	9/27/2019 12/16/2019
Golden Valley County Commission	Mailed Letter	9/27/2019 12/16/2019
Minot Air Force Base - Cable Affairs	Email	10/8/2019
NDIC Pipeline Authority	Mailed Letter	9/30/2019 12/16/2019
ND State Water Commission	Mailed Letter	9/30/2019
ND Department of Env. Quality	Mailed Letter	9/30/2019 12/16/2019
ND DOT Dickinson District	Mailed Letter	9/30/2019 12/16/2019
ND DOT Williston District	Mailed Letter	9/30/2019 12/16/2019
ND Department of Trust Lands	Mailed Letter	9/27/2019
ND Soil Conservation Committee	Mailed Letter	9/30/2019 12/16/2019
ND Department of Agriculture	Mailed Letter	9/30/2019 12/16/2019
USFS McKenzie Ranger District	Email	7/2019
McKenzie County Weed Board	Mailed Letter	9/27/2019 12/16/2019
ND Geological Survey	Mailed Letter	9/27/2019
Golden Valley County Weed Board	Mailed Letter	9/27/2019 12/16/2019
Grail Township	Mailed Letter	3/05/2020
ND State Historic Preservation Office	Contacted by Beaver Creek Archaeology, Inc.	

11.0 LIST OF PREPARERS

The qualifications of the personnel who contributed to the consolidated application are as follows:

(1) Tad True, Vice President – Bridger Pipeline Company

Degree: Bachelor of Business Administration, University of Notre Dame
Experience: 14-year experience in petroleum transportation field

(2) Robert Stamp, Commercial/Engineering Supervisor – Bridger Pipeline Company

Degree: Bachelor of Mechanical Engineering, Valparaiso University
Experience: 29-year experience in petroleum transportation field as well as regulatory affairs and compliance.
Professional License
Registered Professional Engineer: Wyoming and Colorado

(3) Bob Dundas, Environmental Coordinator – Bridger Pipeline Company

Degrees: Bachelor of Science – Geology, Utah State University
Experience: 30-plus years' experience in petroleum transportation as well as regulatory affairs, permitting and compliance.
Professional License
Registered Professional Geologist: Wyoming

(4) Ken Dockweiler, Director – Land, Government, and Compliance - Bridger Pipeline Company

Experience: 29-year experience in petroleum transportation field with 18 years focused in regulatory affairs and compliance.

(5) Kathleen Spilman, Managing Director – Keitu Engineers & Consultants, Inc.

Degrees: Bachelor of Science - Chemical Engineering, University of North Dakota Masters in Management, University of Mary
Experience: 40-year experience in petroleum refining and fuels transportation field as well as regulatory affairs and compliance.
Professional License
Registered Professional Engineer: North Dakota, Montana

(6) Karine Finken, Project Manager — Keitu Engineers & Consultants, Inc.

Degree: Bachelor of Science – Natural Resource Management, University of Minnesota - Crookston
Experience: 8-year experience in natural resource management

(7) Jaimee Antognazzi, Operations Manager - Keitu Engineers & Consultants, Inc.

Degree: Bachelor of Science – Environmental Health, Dickinson State University

Experience: 12 years' experience in regulatory affairs and compliance.
Professional Certification: Certified Safety Professional

Biological Assessment Appendices

Appendix A: Project Route Maps

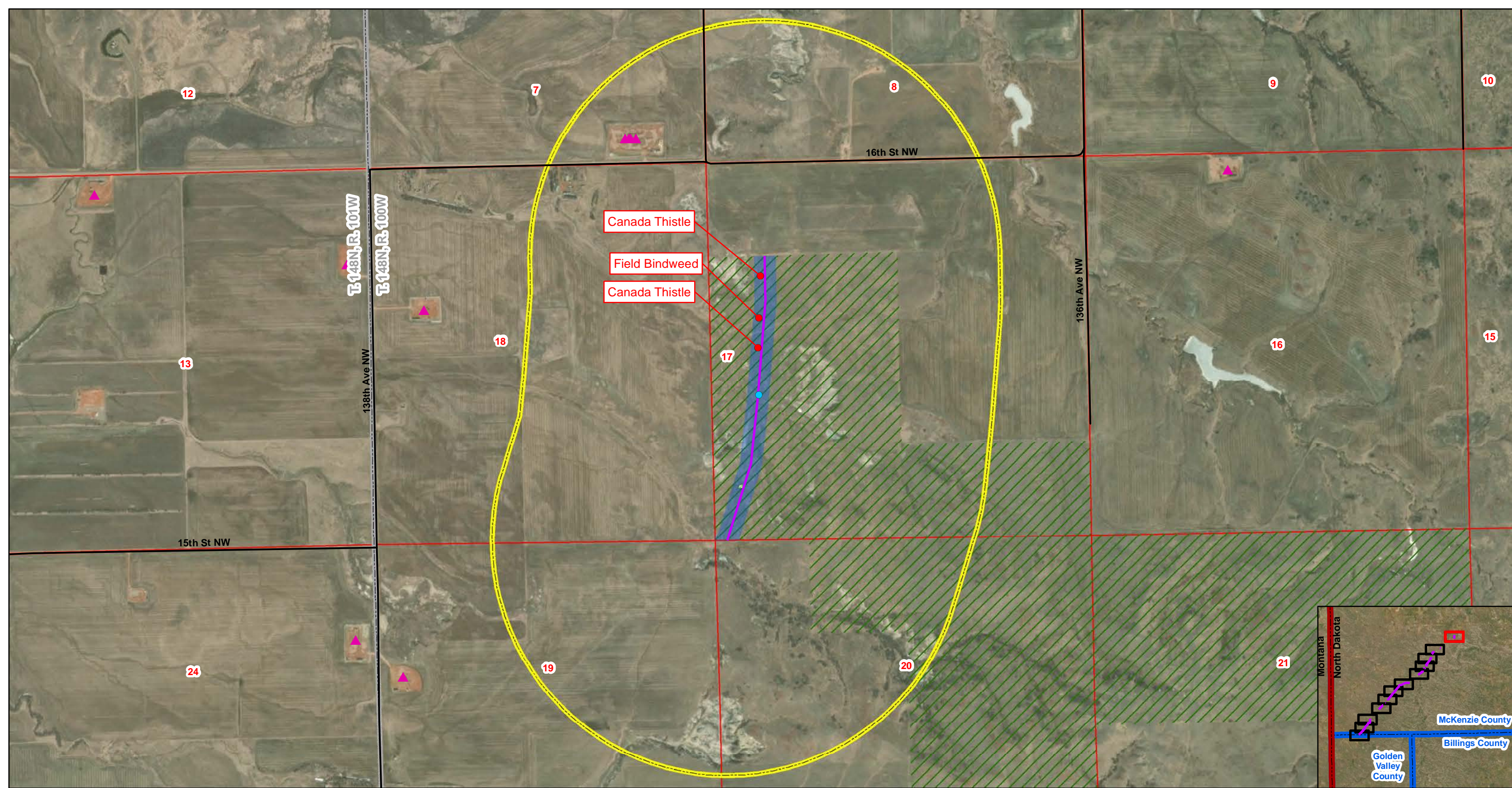
- A.1: Aerial Mapbook
- A.2: Topographic Mapbook
- A.3: Type B Habitats Mapbook

Appendix B: Information for Planning and Consultation List

Appendix C: Field Survey Identification Plant Species List

Appendix D: Dakota Skipper Report

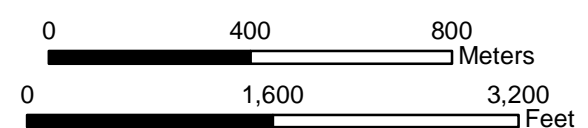
Appendix A – Project Route Maps

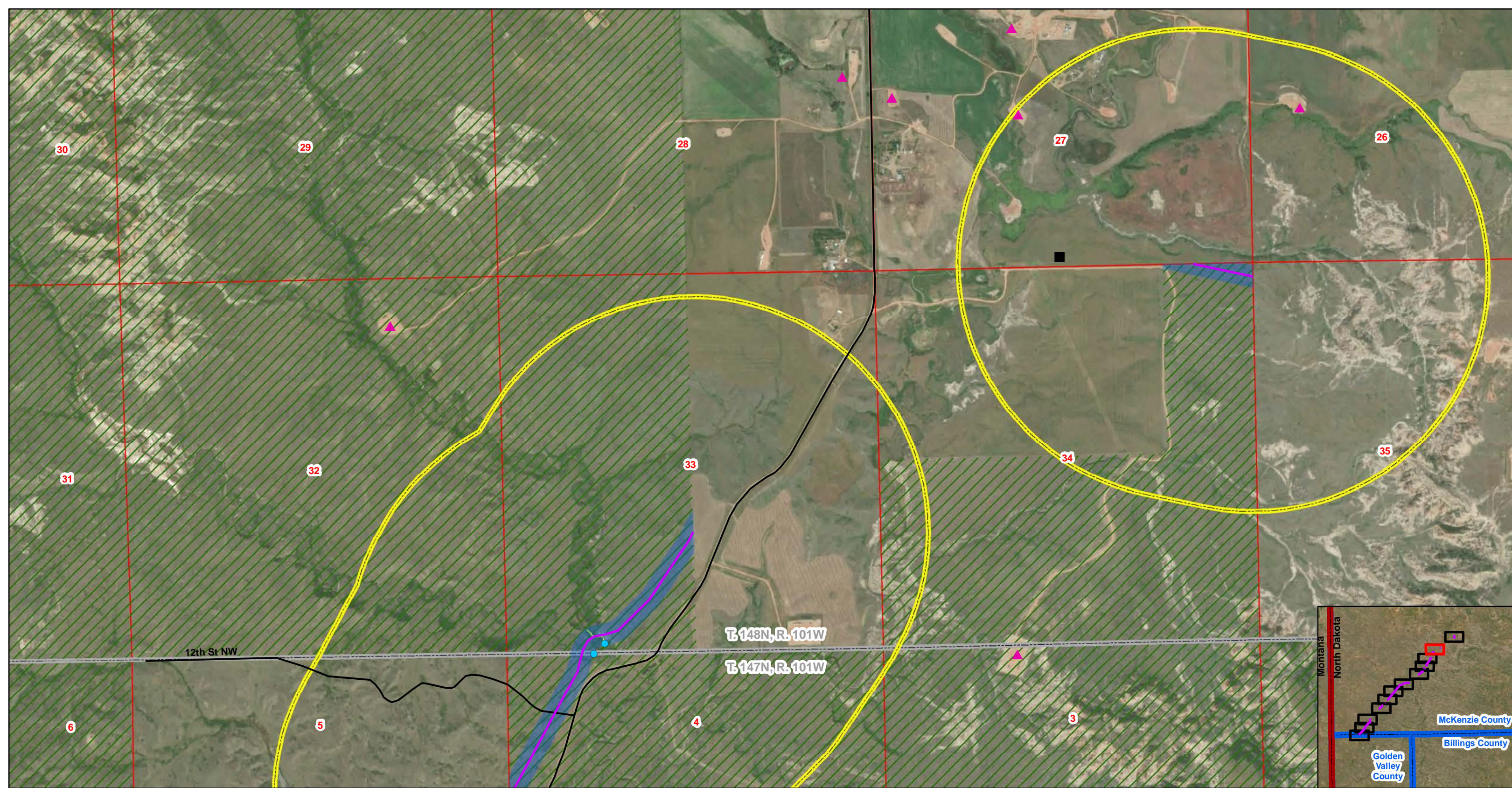


South Bend Pipeline

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| ■ Block Valves | 🐸 Northern Leopard Frog | — Named Streams | ▭ 1km DASK Study Area | ▭ Township/Range Boundary |
| ● Noxious Weeds | ⊗ Grouse Lek | — Highway | ▭ Prairie Dog Town | ▭ USFS Lands |
| ● Wetland | 🦅 Raptor Nest | — Roads | ▭ Woody Vegetation | ▭ Section Boundary |

Figure: A.1
Page 1 of 12
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McKenzie County, North Dakota





South Bend Pipeline

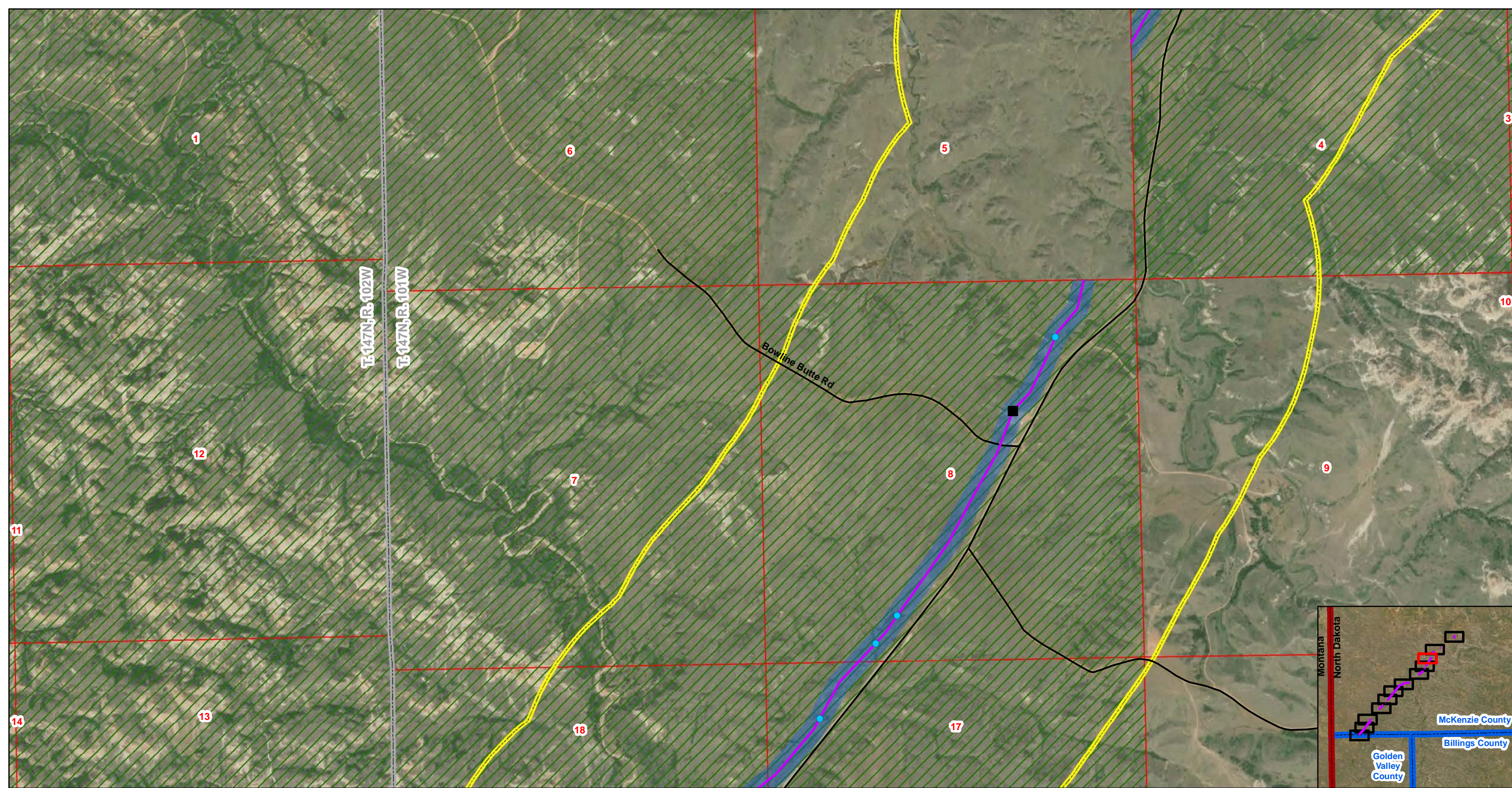
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Figure: A.1
Page 2 of 12
T. 148N, R. 101W and T. 147N, R. 101W
McKenzie County, North Dakota

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North Dakota
 McKenzie County
 Golden Valley County
 Billings County





South Bend Pipeline

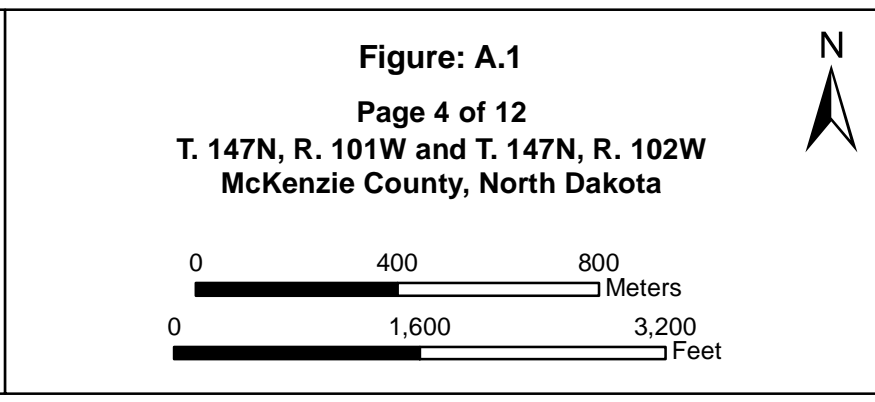
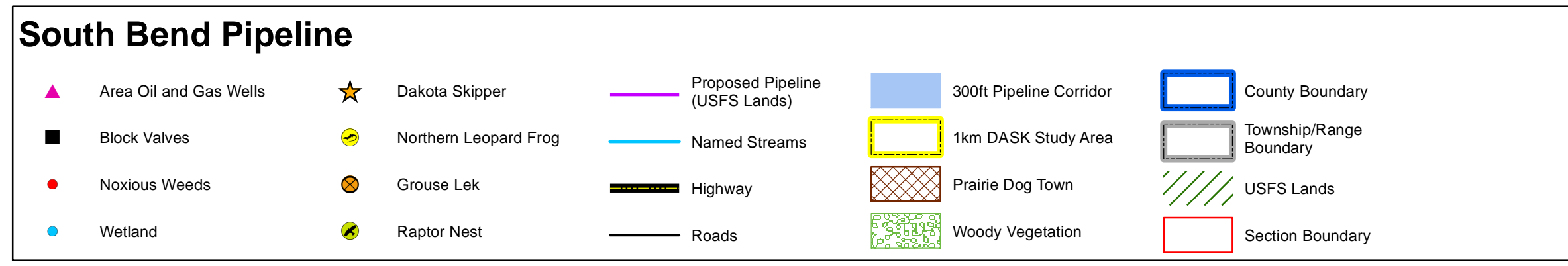
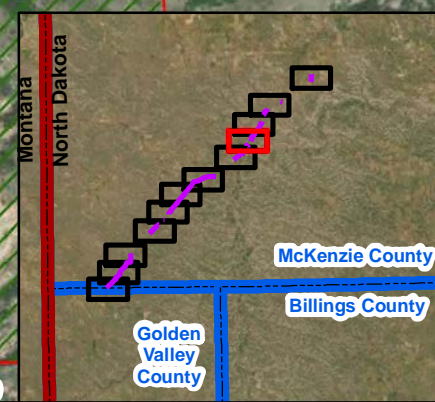
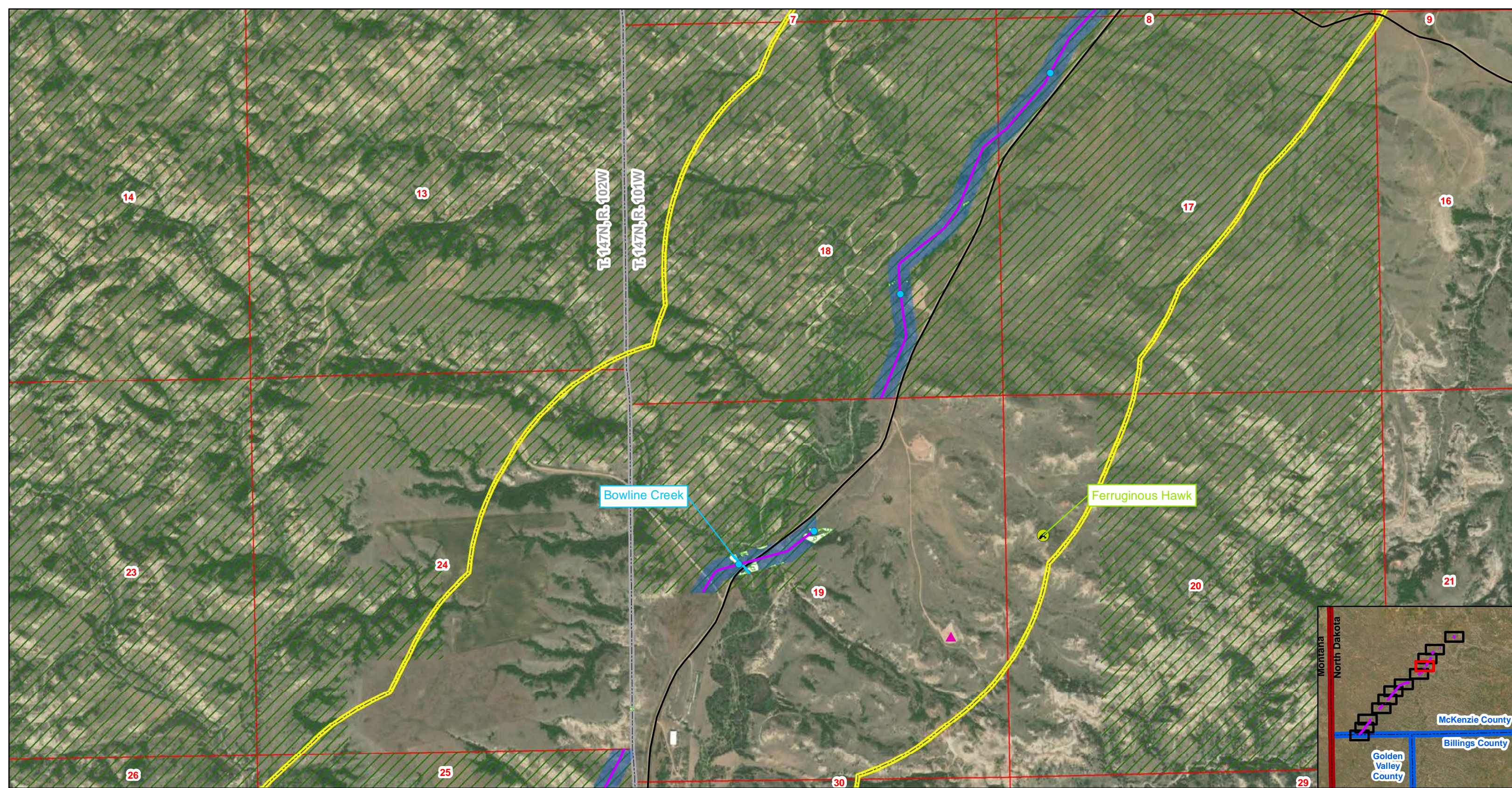
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North Dakota
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 Golden Valley County
 Billings County
 McKenzie County





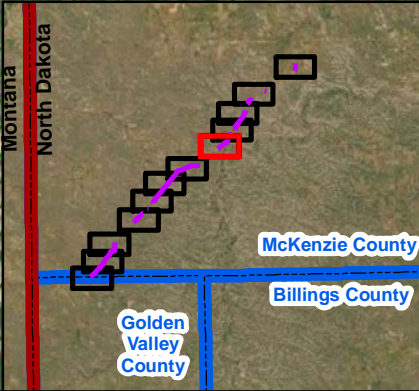
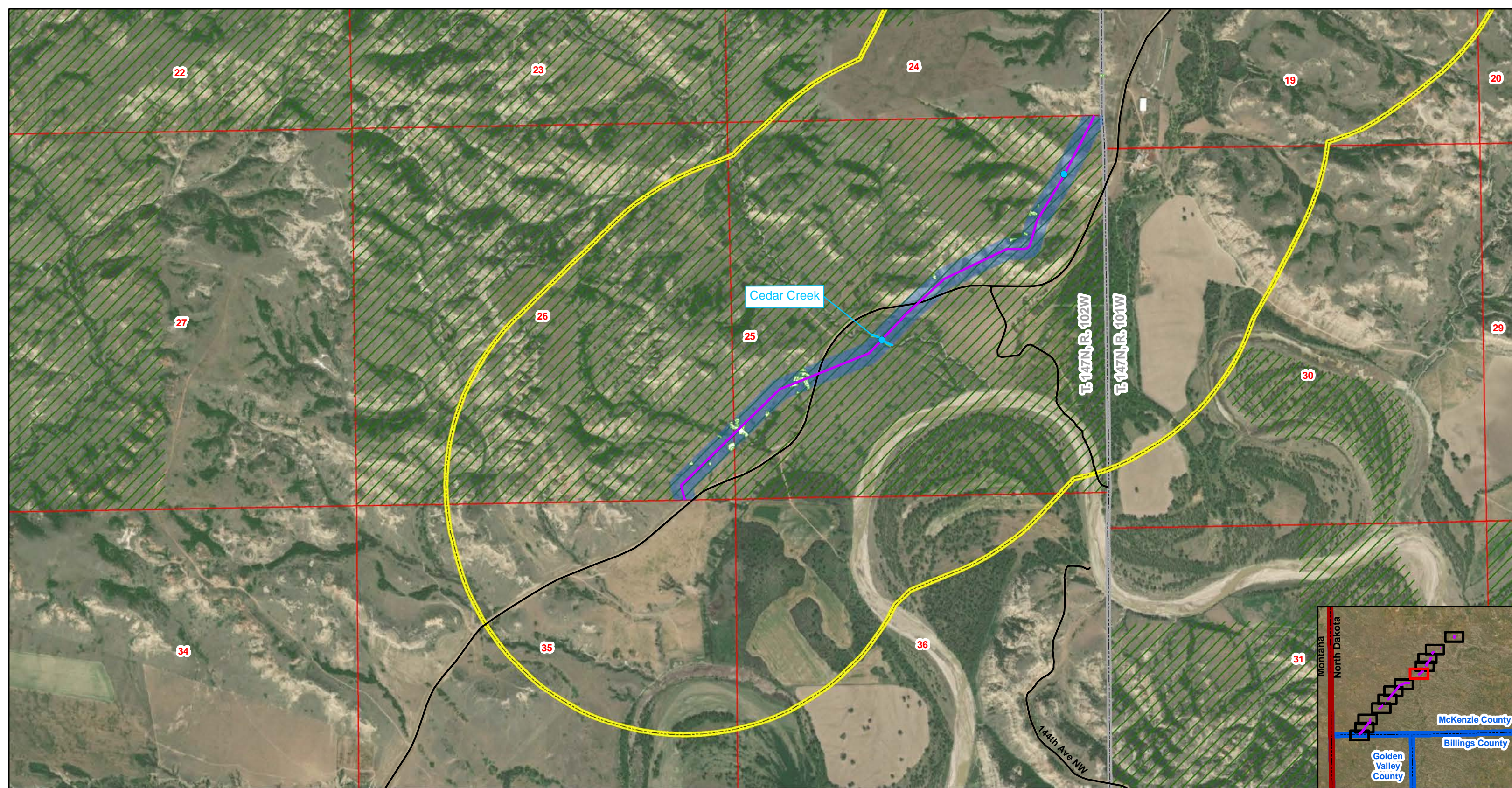
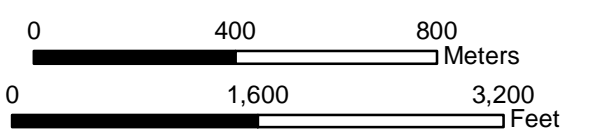


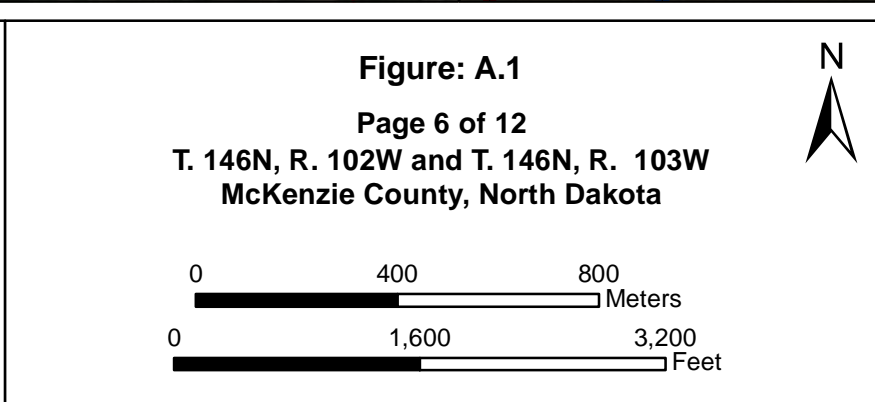
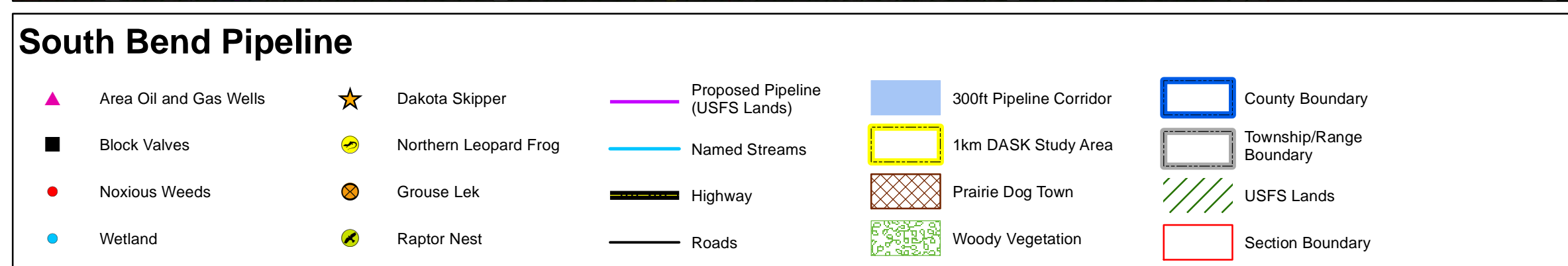
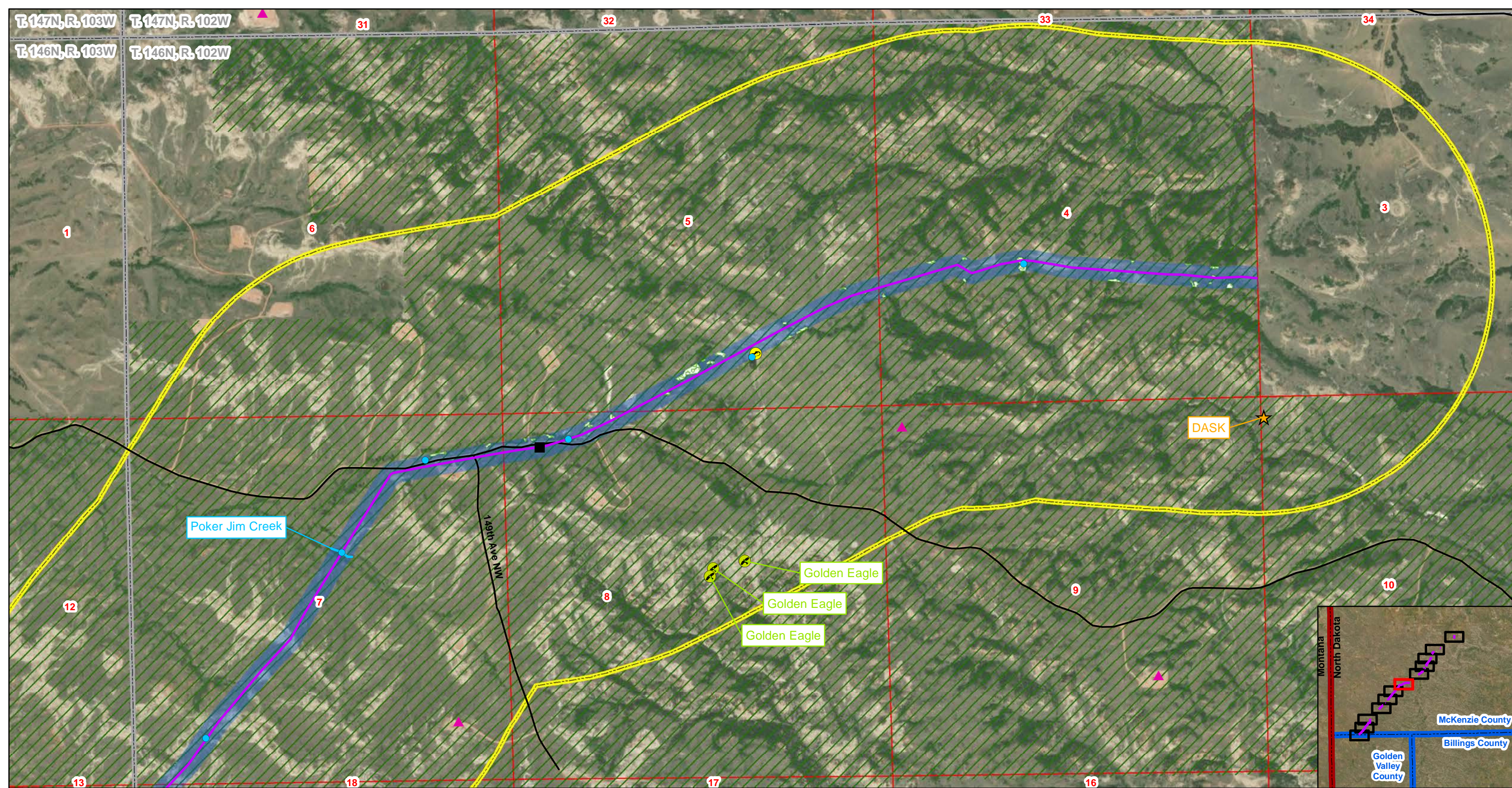
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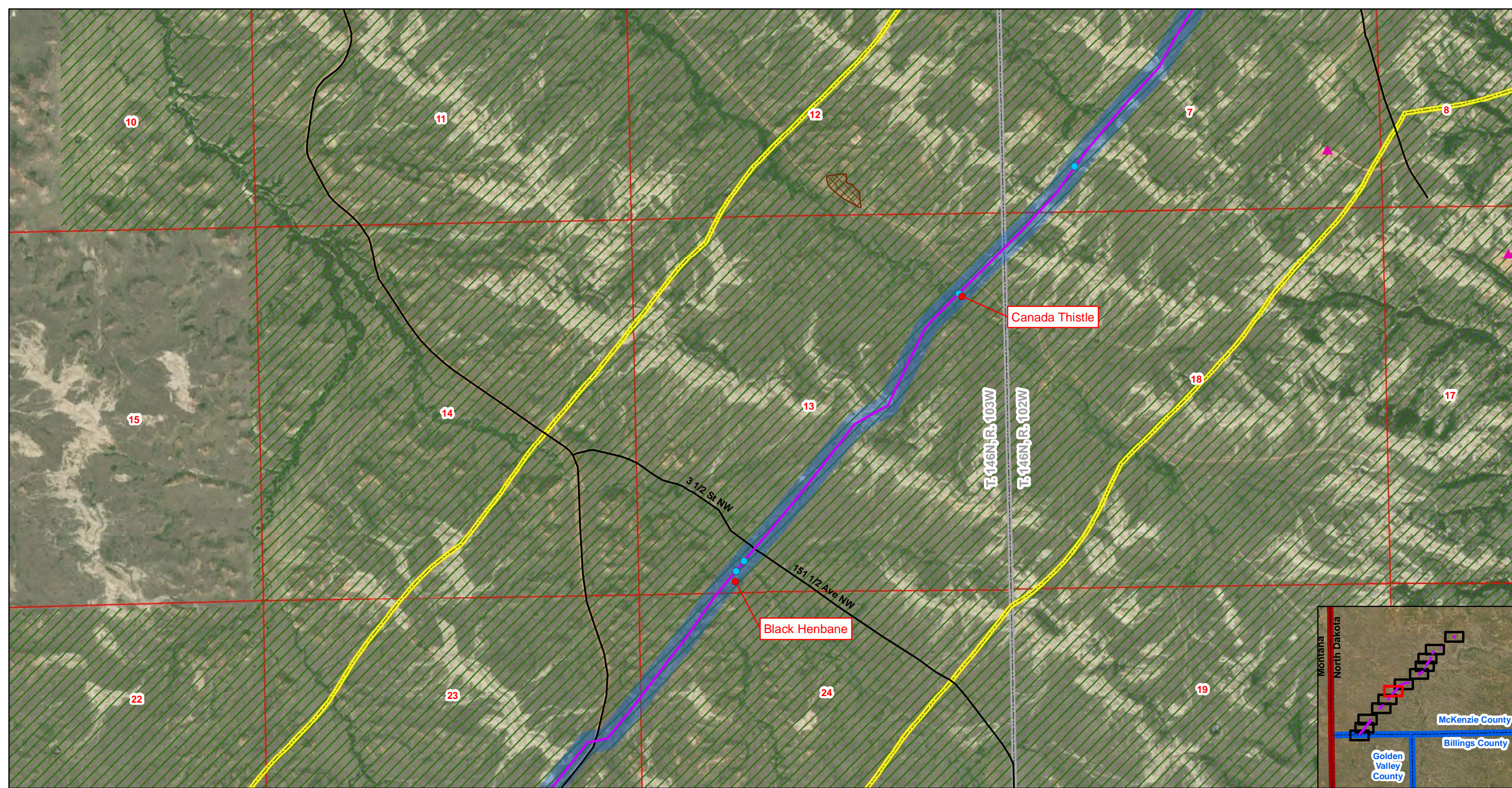
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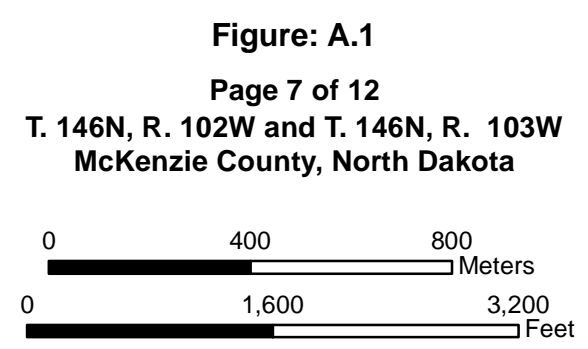
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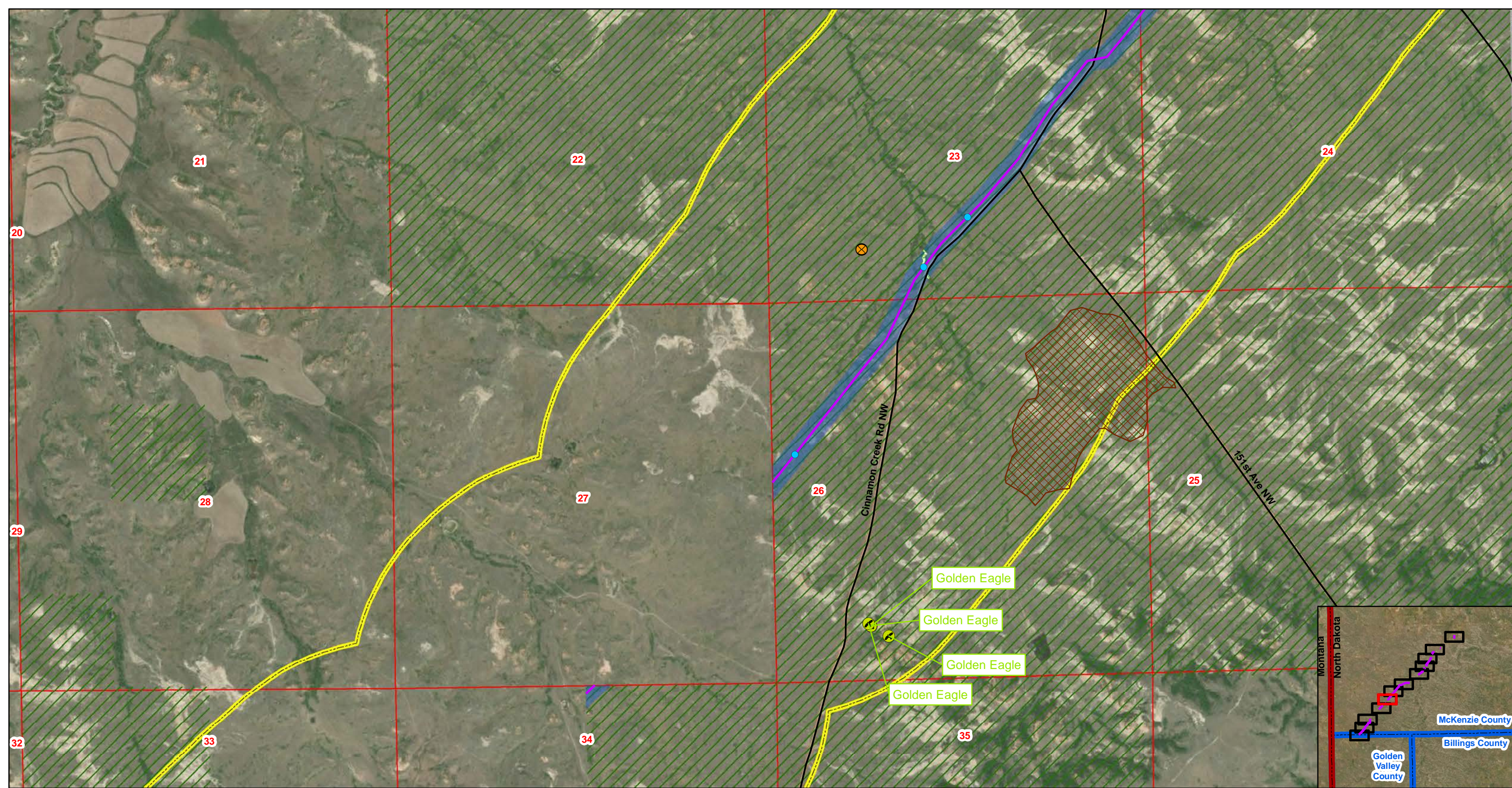




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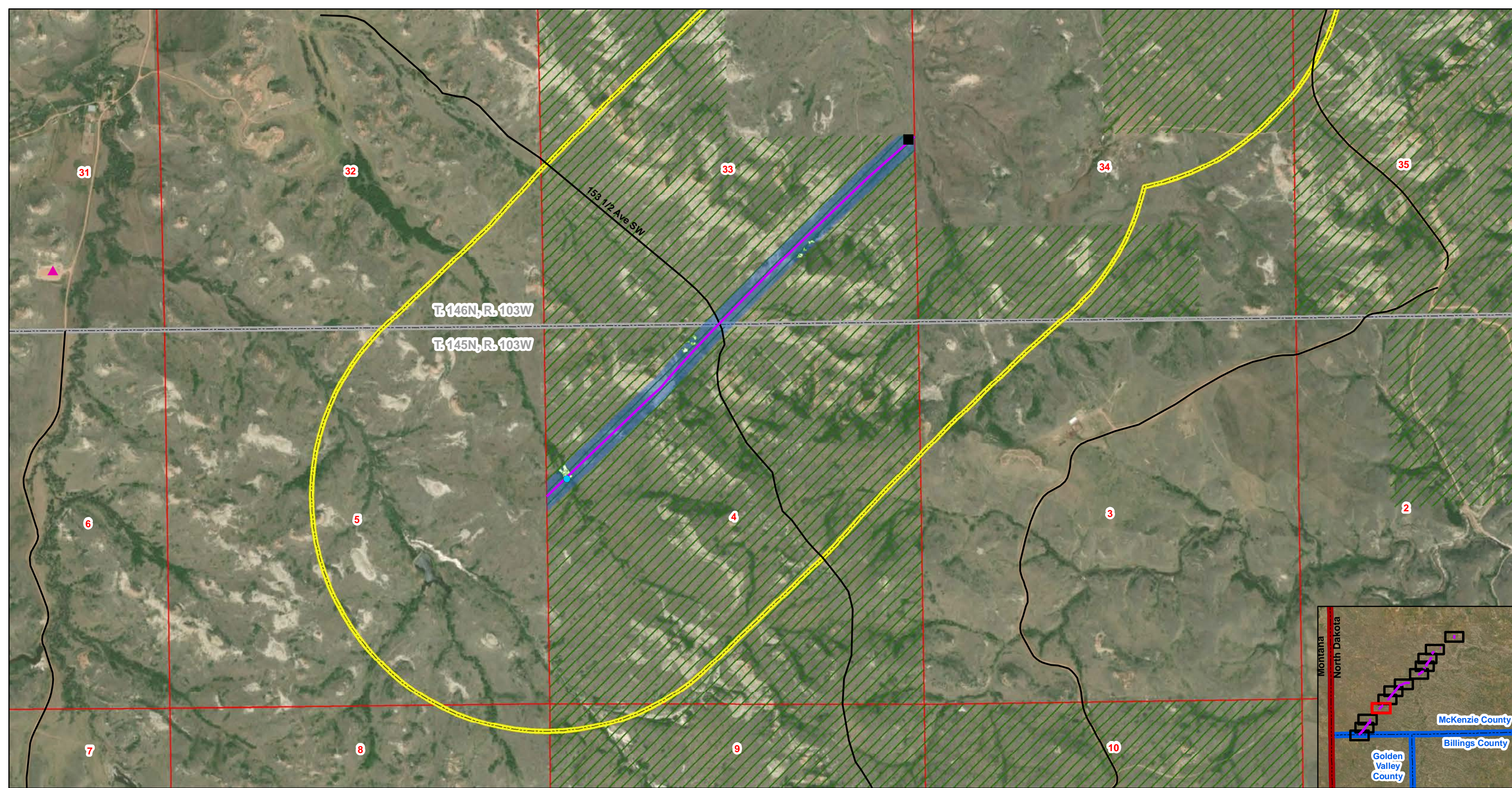
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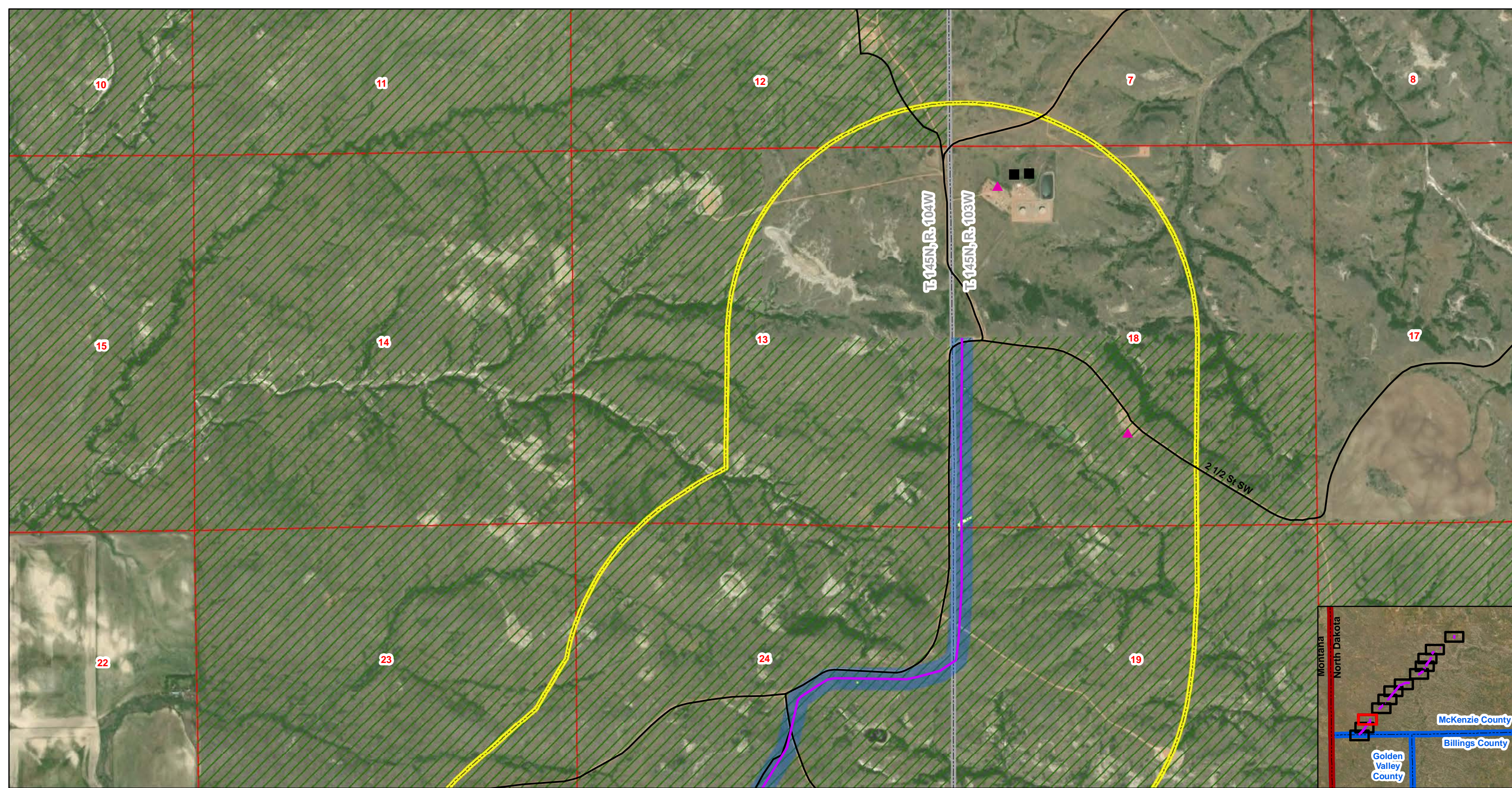
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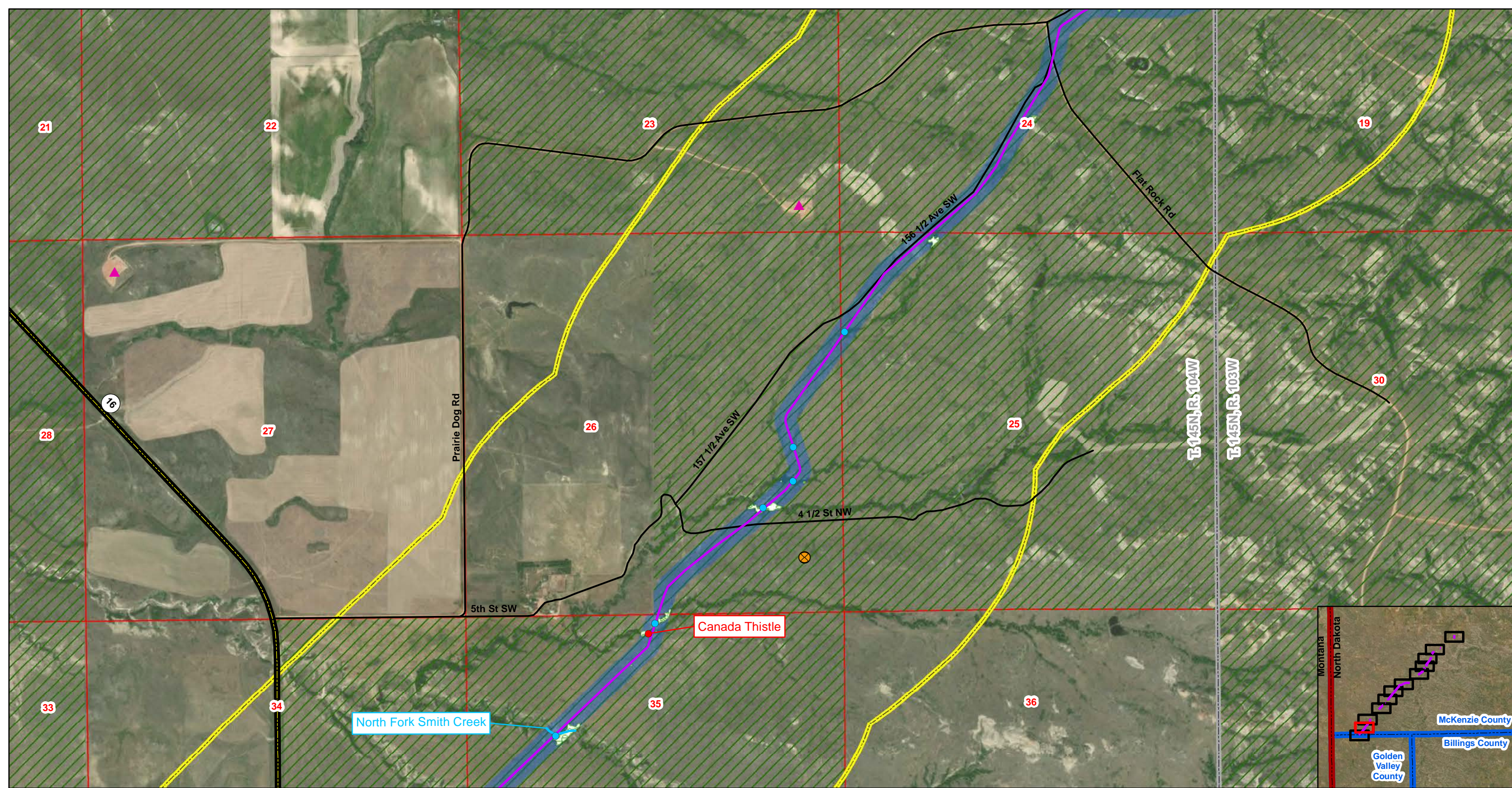
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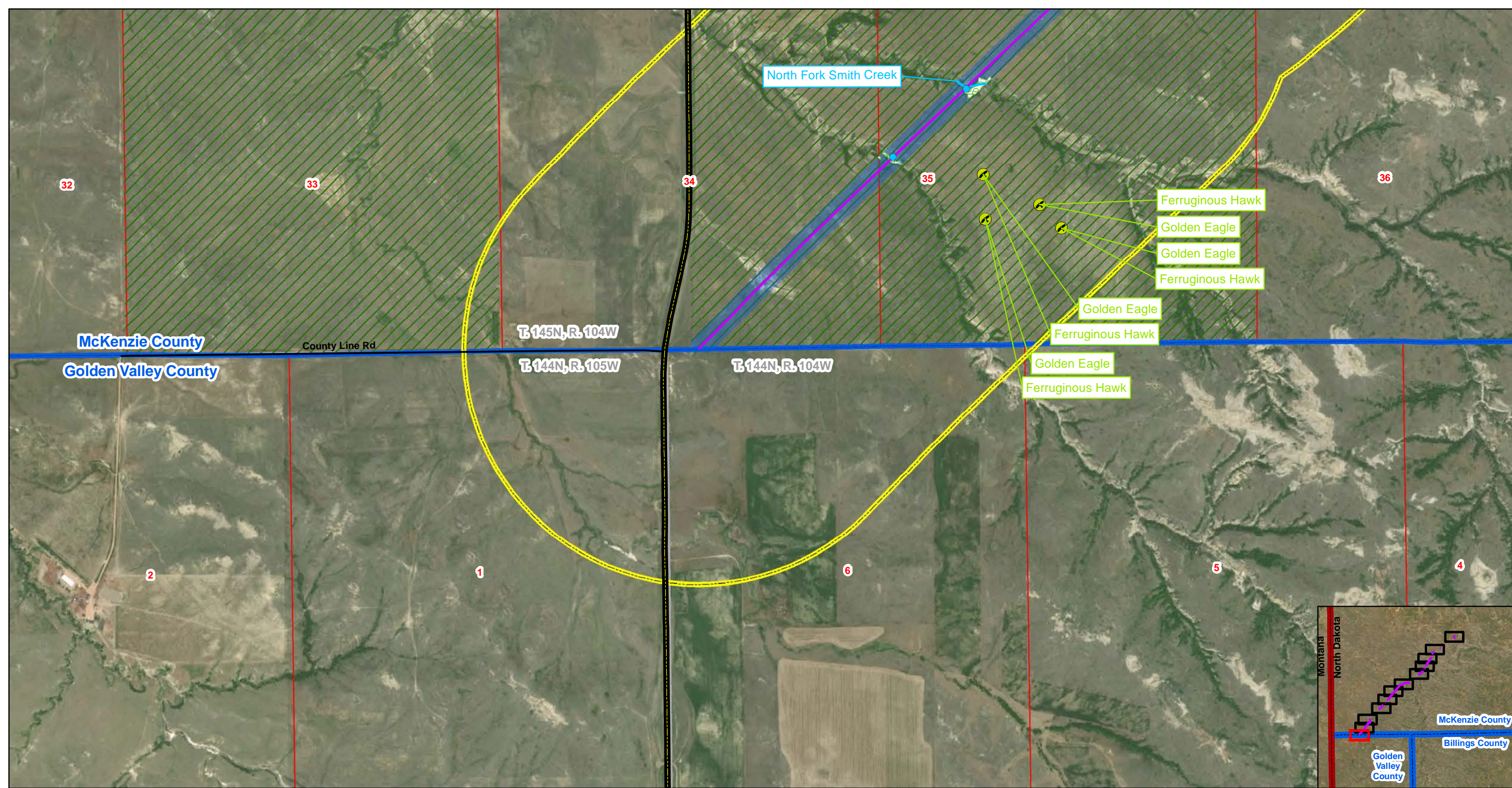
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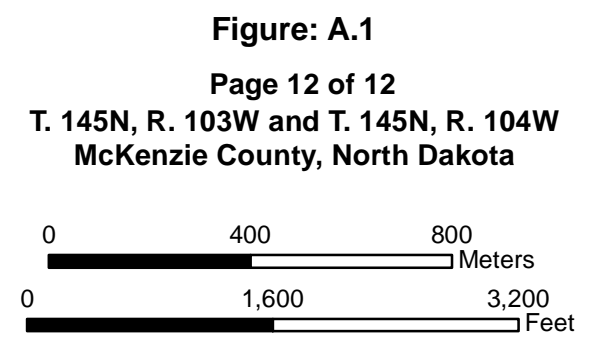
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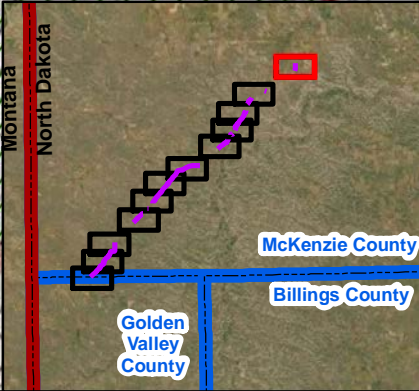
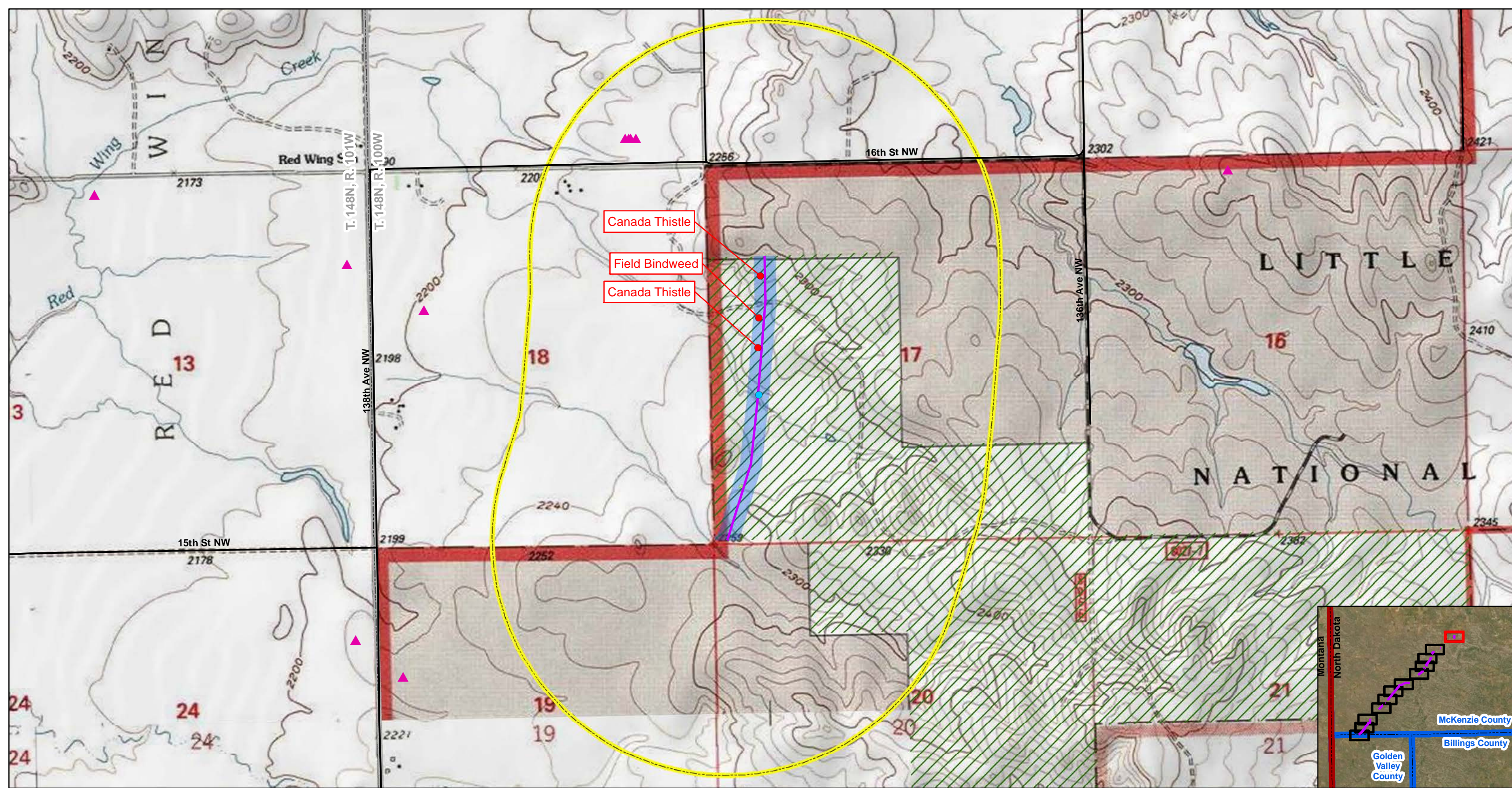




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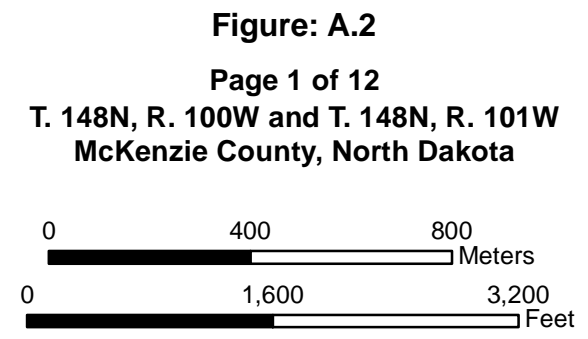
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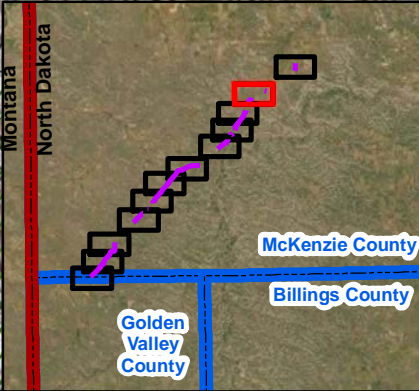
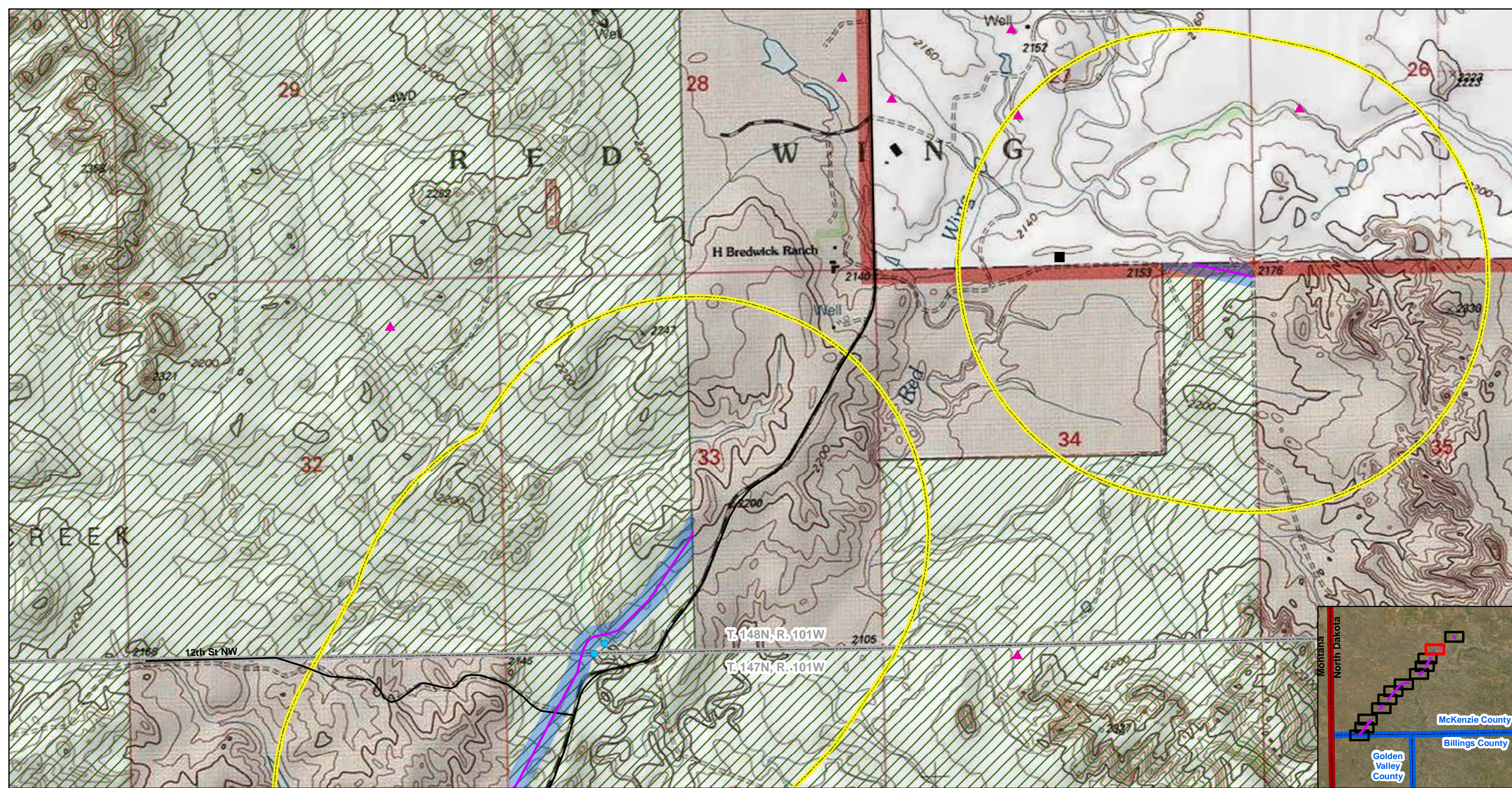




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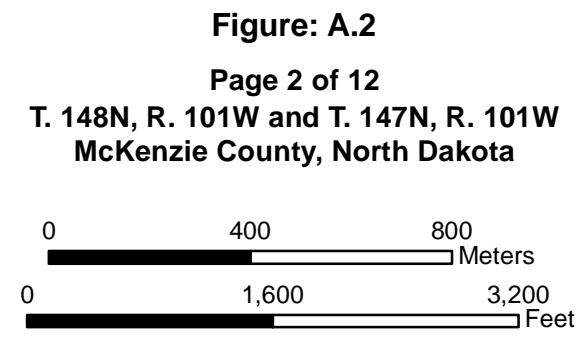
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- ⚡ Raptor Nest
- Proposed Pipeline (USFS Lands)
- Named Streams
- Highway
- Roads
- 300ft Pipeline Corridor
- 1km DASK Study Area
- ▨ Prairie Dog Town
- ▨ Woody Vegetation
- ▨ USFS Lands
- Township/Range Boundary
- County Boundary

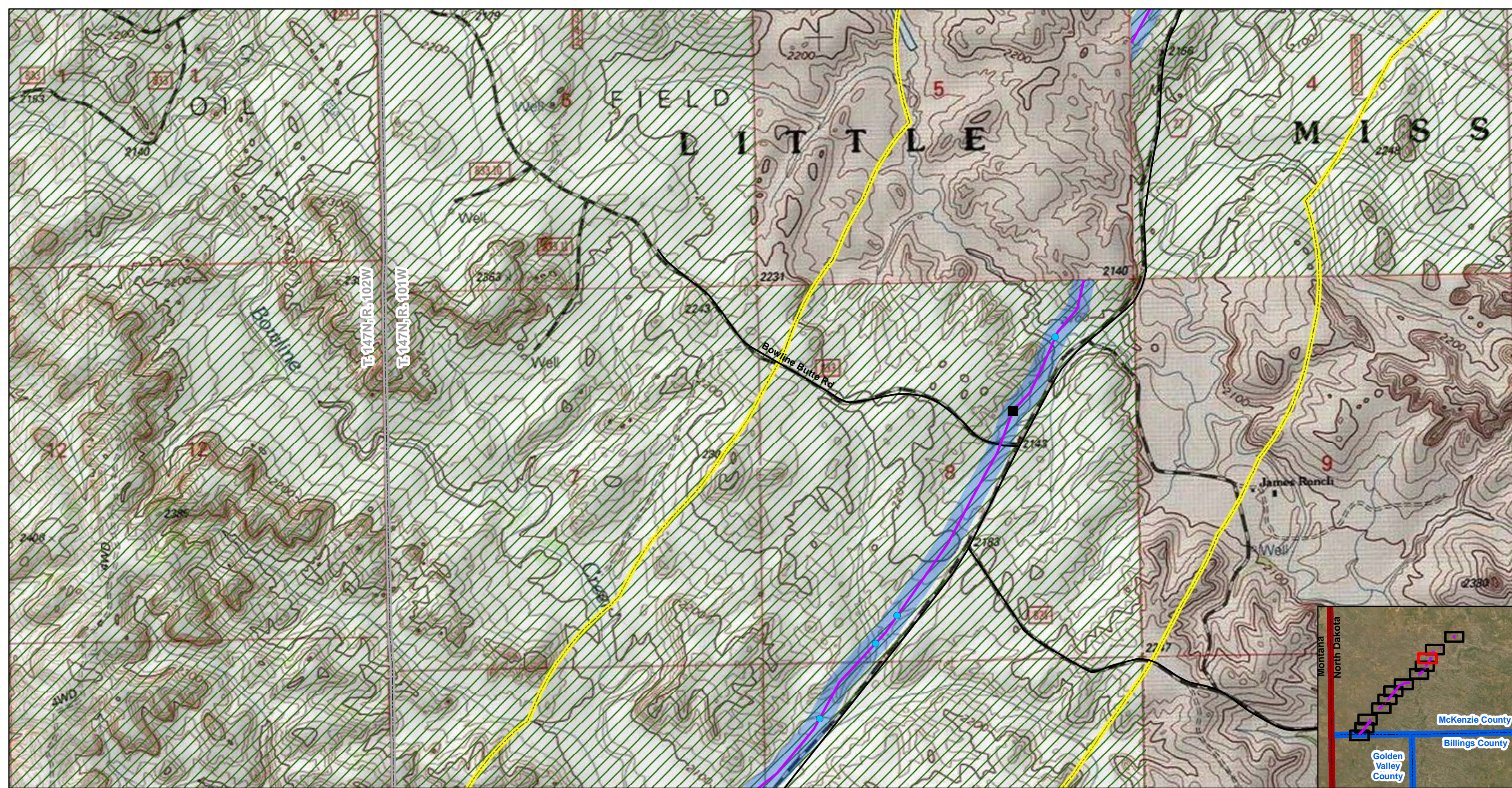




South Bend Pipeline

- | | | | | |
|--------------------------|-------------------------|----------------------------------|---------------------------|---------------------------|
| ▲ Area Oil and Gas Wells | ★ Dakota Skipper | — Proposed Pipeline (USFS Lands) | ■ 300ft Pipeline Corridor | ▨ USFS Lands |
| ■ Block Valves | 🐸 Northern Leopard Frog | — Named Streams | □ 1km DASK Study Area | ▭ Township/Range Boundary |
| ● Noxious Weeds | 🦅 Grouse Lek | — Highway | ▨ Prairie Dog Town | ▭ County Boundary |
| ● Wetland | 🦅 Raptor Nest | — Roads | ▨ Woody Vegetation | |

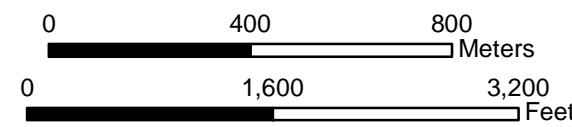


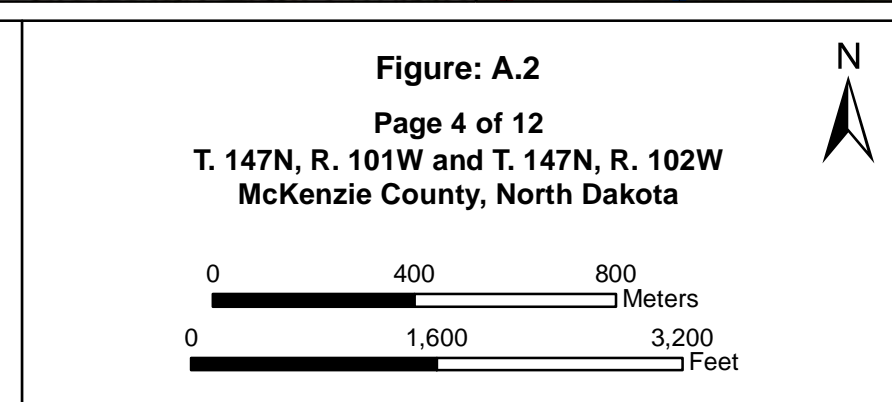
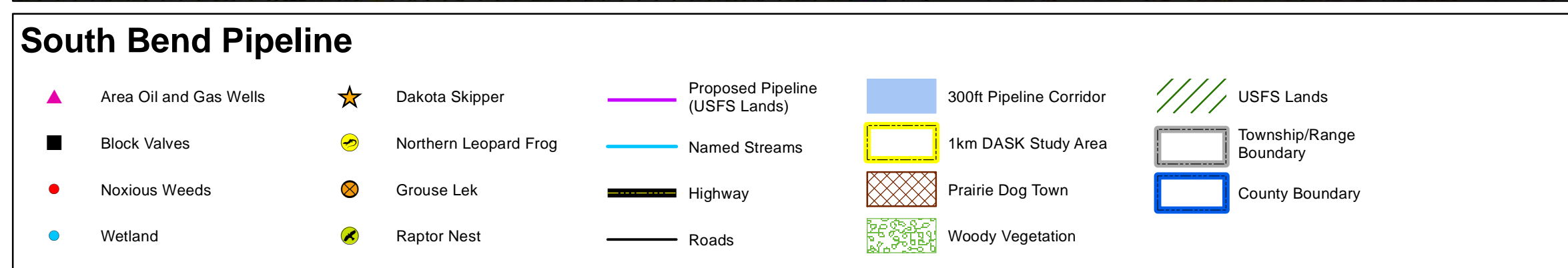
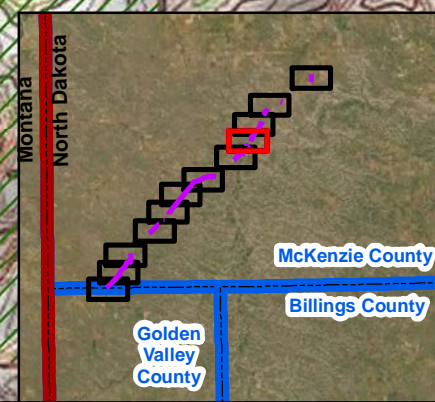
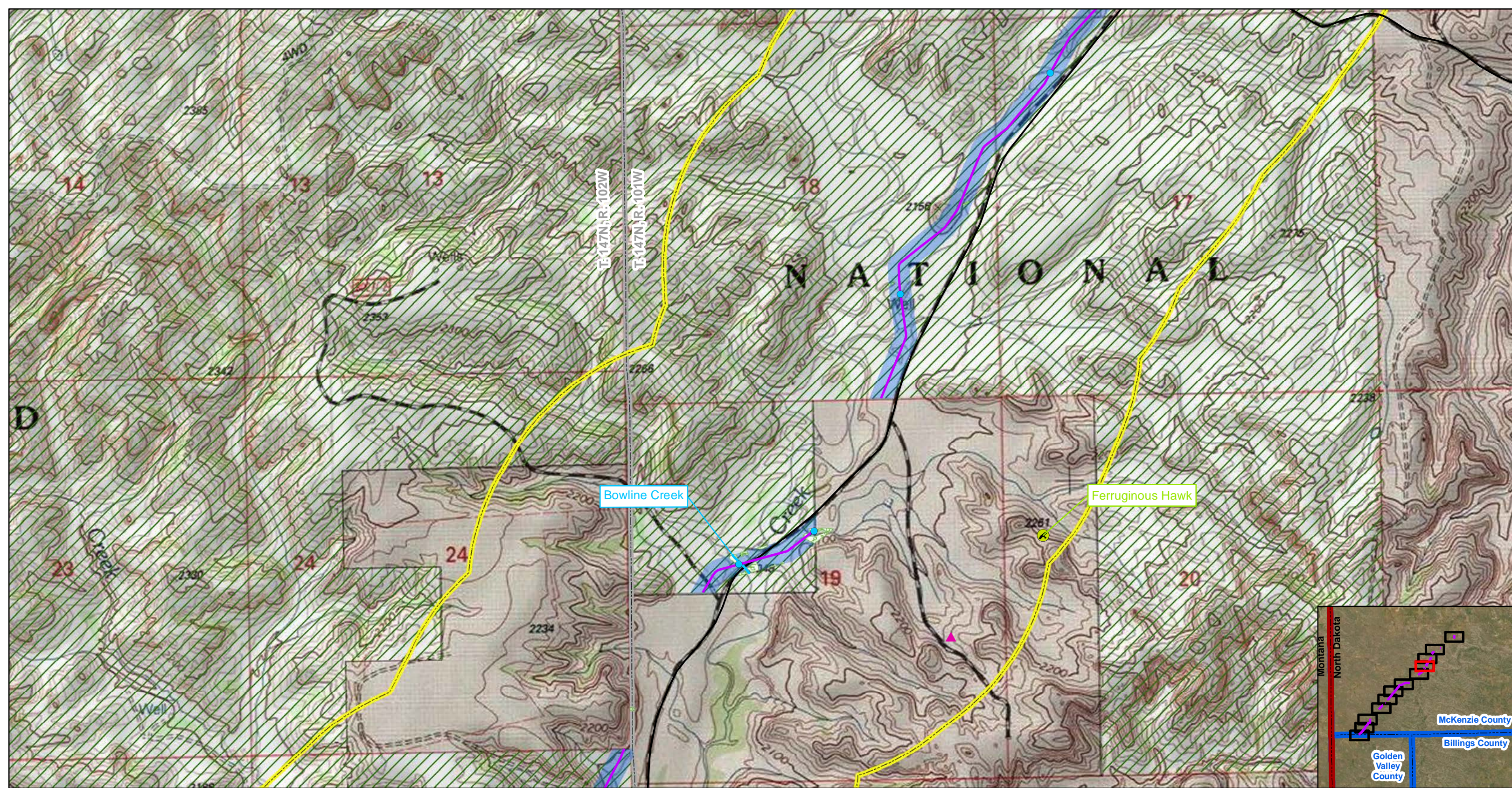


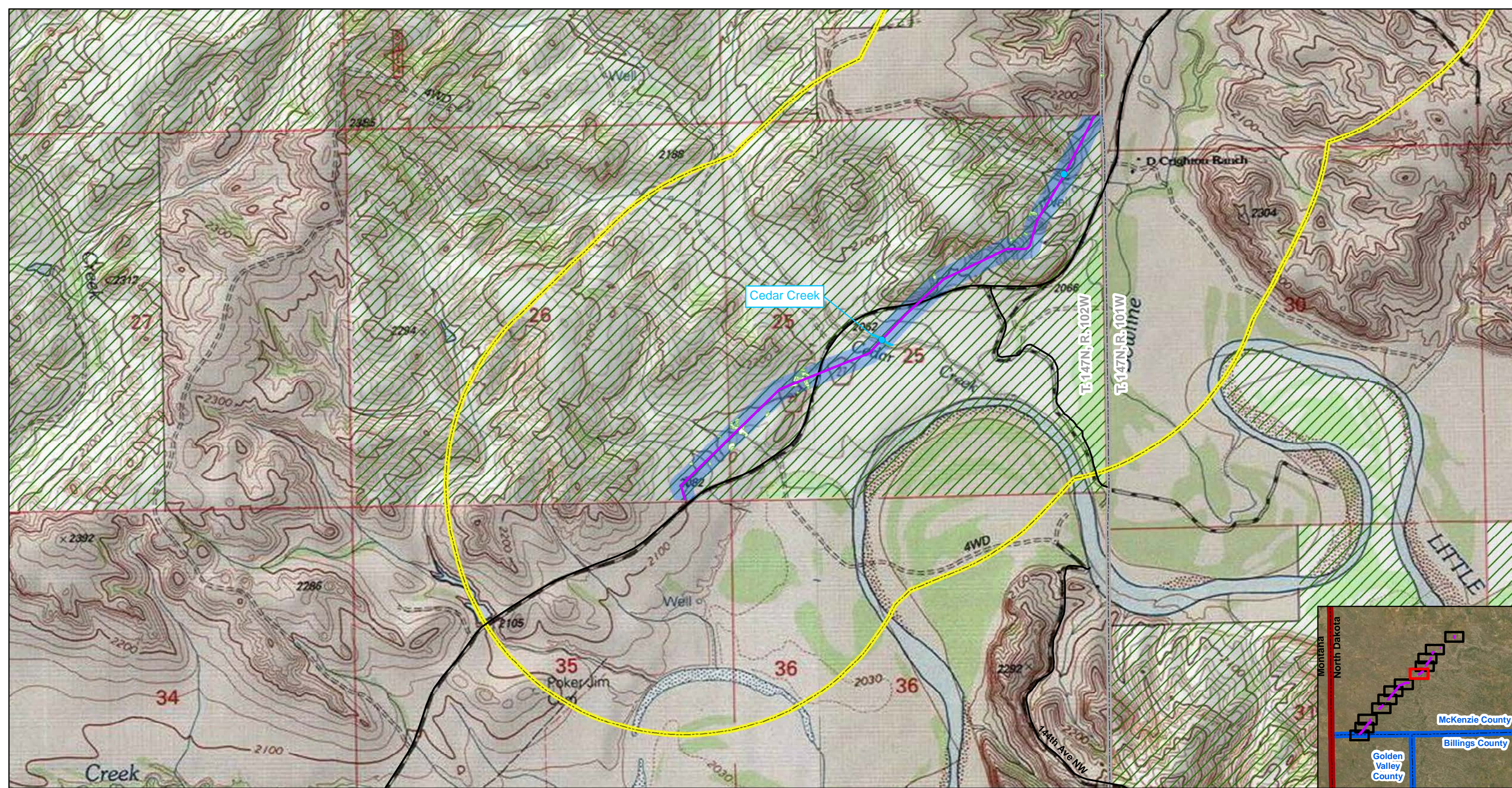
South Bend Pipeline

- | | | | | |
|------------------------|-----------------------|--------------------------------|-------------------------|-------------------------|
| Area Oil and Gas Wells | Dakota Skipper | Proposed Pipeline (USFS Lands) | 300ft Pipeline Corridor | USFS Lands |
| Block Valves | Northern Leopard Frog | Named Streams | 1km DASK Study Area | Township/Range Boundary |
| Noxious Weeds | Grouse Lek | Highway | Prairie Dog Town | County Boundary |
| Wetland | Raptor Nest | Roads | Woody Vegetation | |

Figure: A.2
 Page 3 of 12
 T. 147N, R. 101W and T. 147N, R. 102W
 McKenzie County, North Dakota



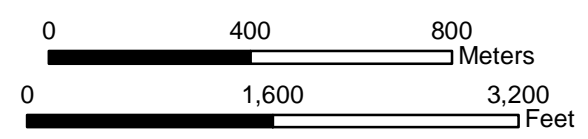


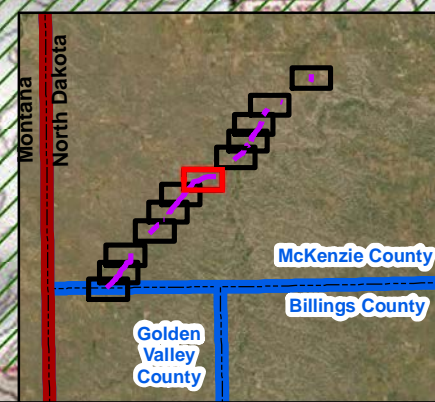
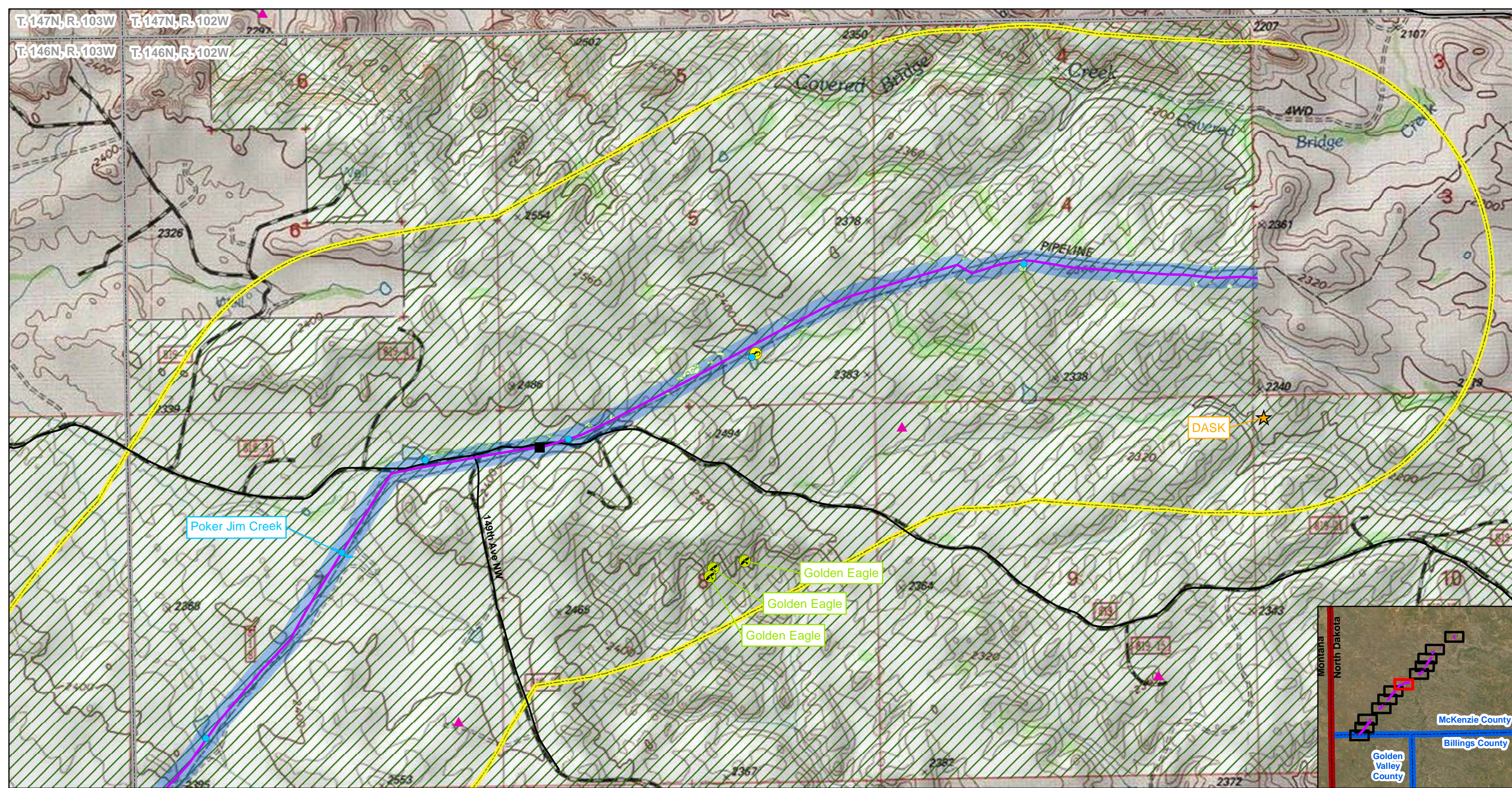


South Bend Pipeline

- | | | | | |
|--------------------------|-------------------------|----------------------------------|---------------------------|---------------------------|
| ▲ Area Oil and Gas Wells | ★ Dakota Skipper | — Proposed Pipeline (USFS Lands) | ■ 300ft Pipeline Corridor | ▨ USFS Lands |
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| ● Noxious Weeds | ⊗ Grouse Lek | — Highway | ▨ Prairie Dog Town | ▭ County Boundary |
| ● Wetland | 🦅 Raptor Nest | — Roads | ▨ Woody Vegetation | |

Figure: A.2
Page 5 of 12
T. 147N, R. 101W and T. 147N, R. 102W
McKenzie County, North Dakota





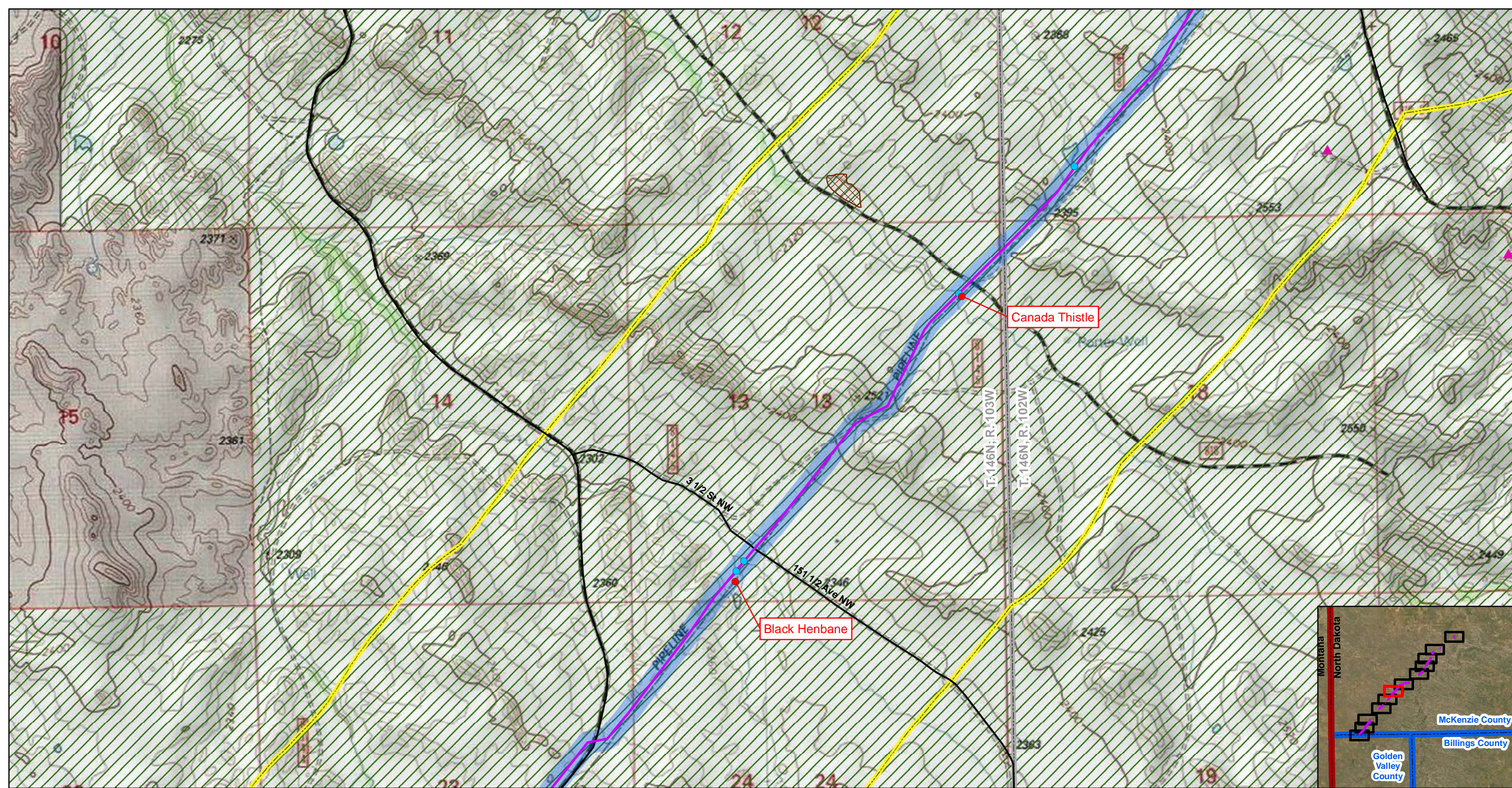
South Bend Pipeline

- | | | | | |
|--------------------------|-------------------------|----------------------------------|---------------------------|---------------------------|
| ▲ Area Oil and Gas Wells | ★ Dakota Skipper | — Proposed Pipeline (USFS Lands) | ■ 300ft Pipeline Corridor | ▨ USFS Lands |
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| ● Wetland | 🦅 Raptor Nest | — Roads | ▨ Woody Vegetation | |

Figure: A.2
 Page 6 of 12
 T. 146N, R. 102W and T. 146N, R. 103W
 McKenzie County, North Dakota

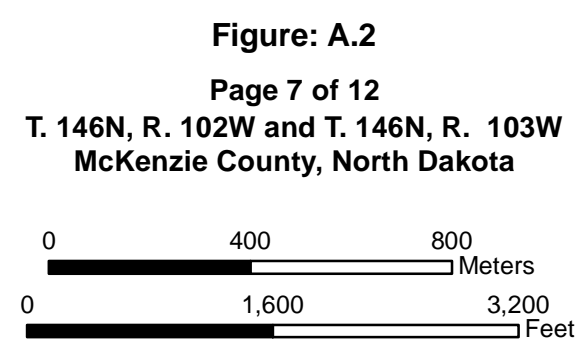
0 400 800 Meters
 0 1,600 3,200 Feet

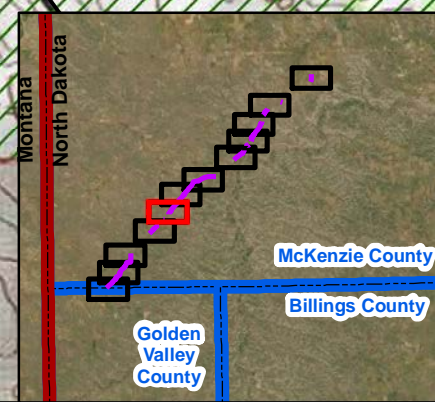
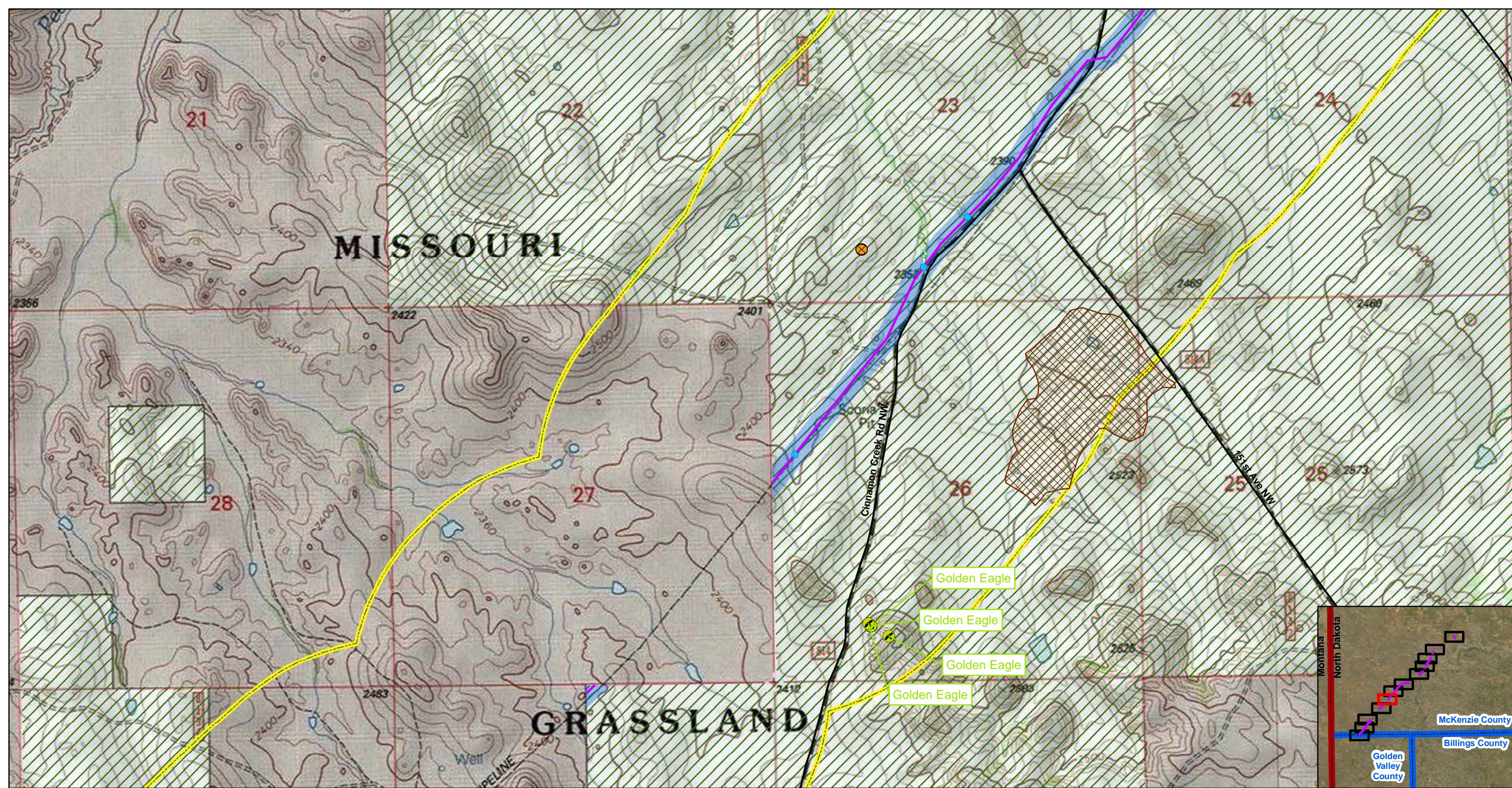




South Bend Pipeline

- | | | | | |
|--------------------------|-------------------------|----------------------------------|---------------------------|---------------------------|
| ▲ Area Oil and Gas Wells | ★ Dakota Skipper | — Proposed Pipeline (USFS Lands) | ■ 300ft Pipeline Corridor | ▨ USFS Lands |
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| ● Wetland | 🦅 Raptor Nest | — Roads | ▭ Woody Vegetation | |





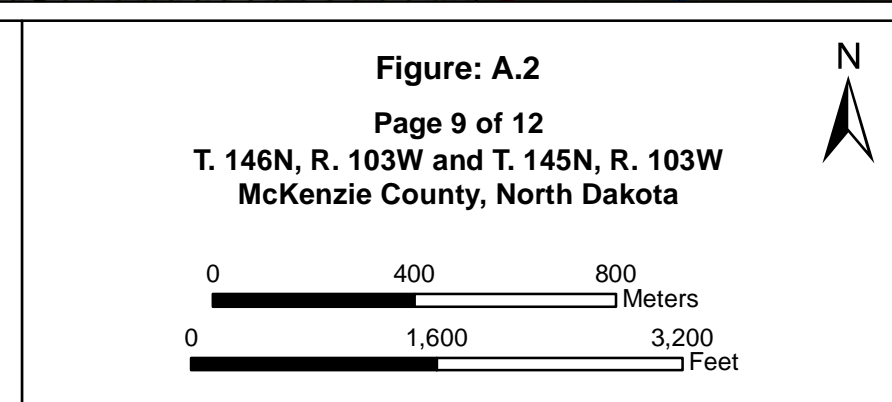
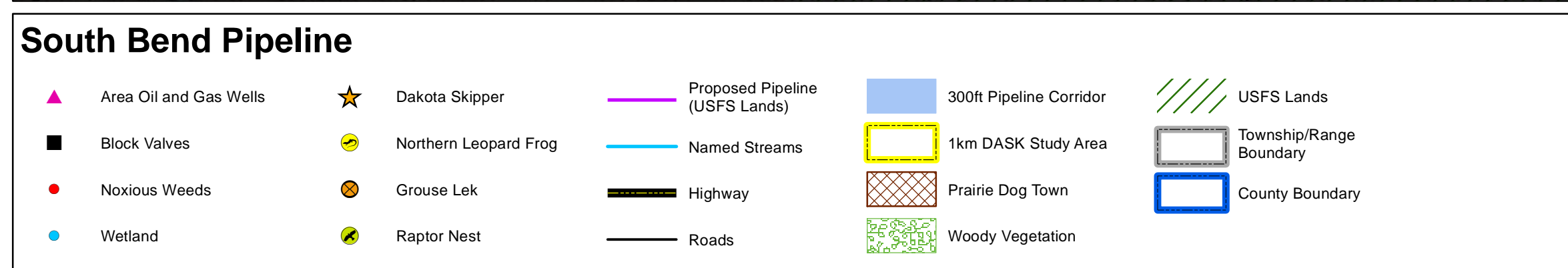
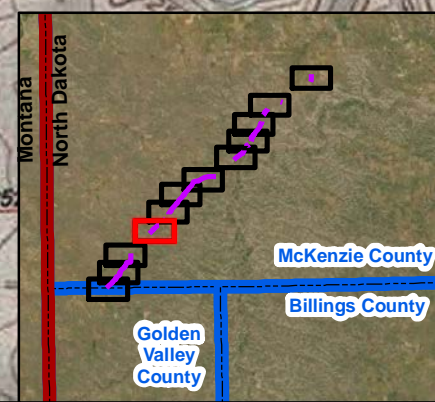
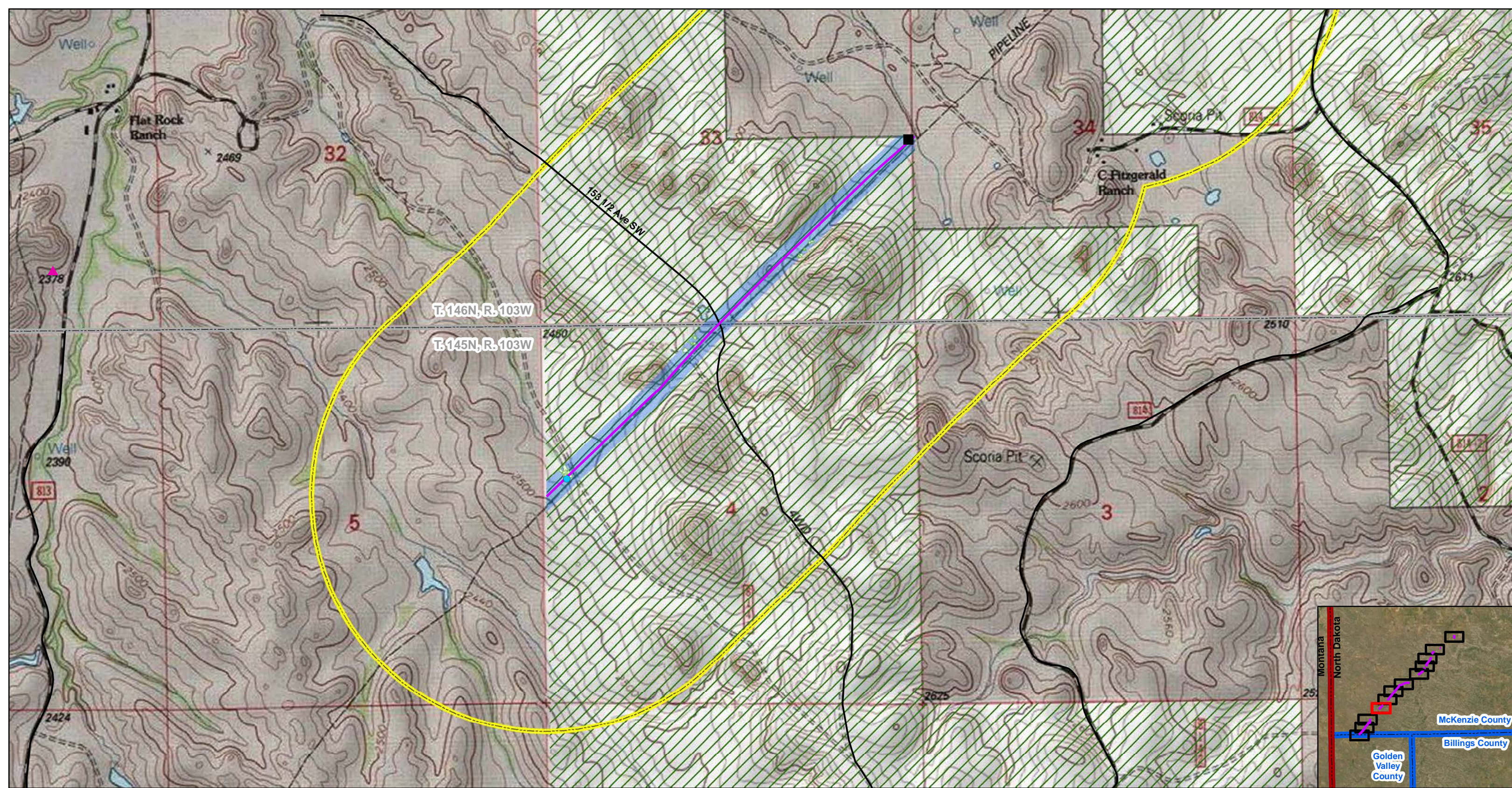
South Bend Pipeline

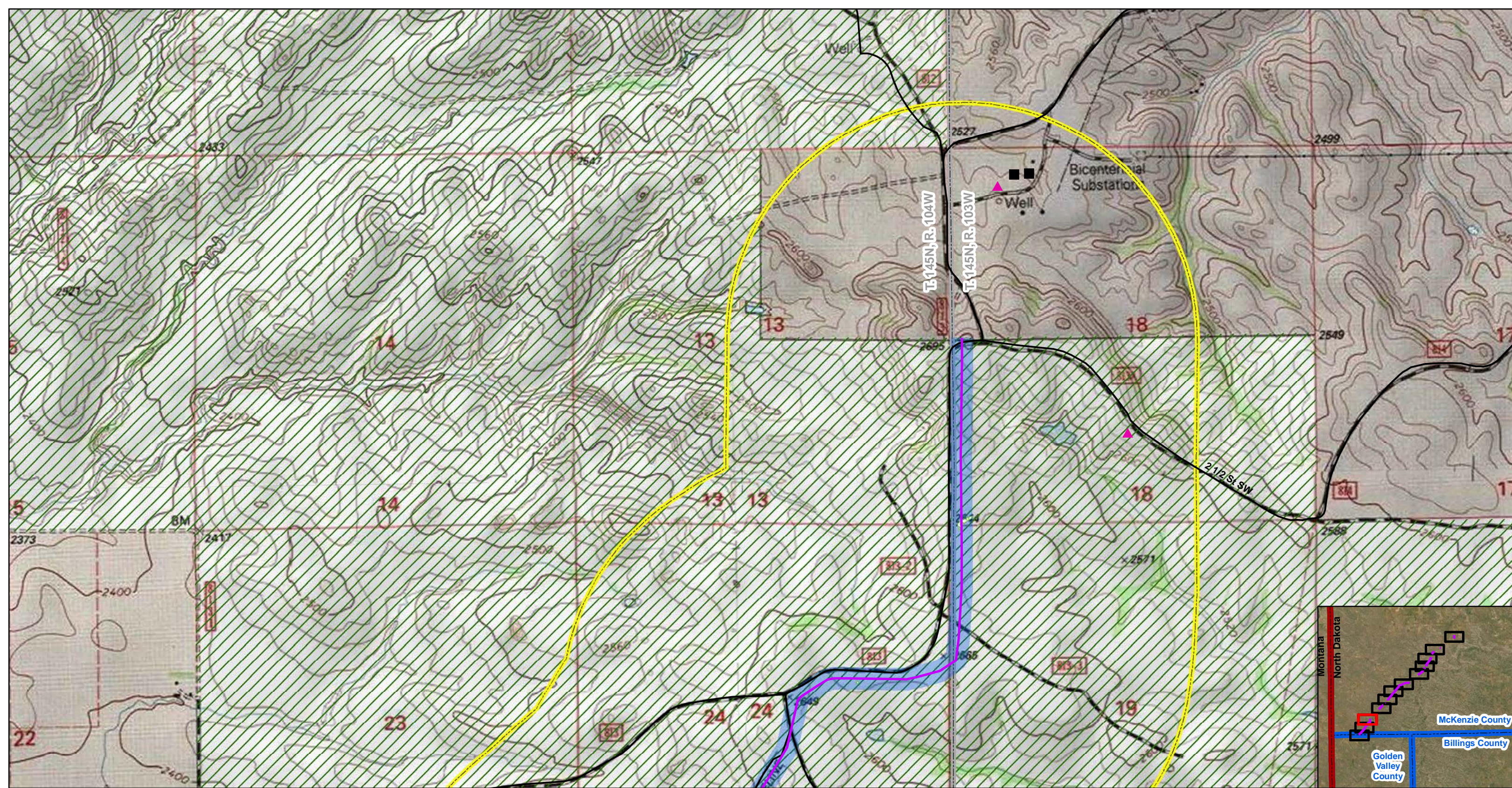
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|--------------------------|-------------------------|----------------------------------|---------------------------|---------------------------|
| ▲ Area Oil and Gas Wells | ★ Dakota Skipper | — Proposed Pipeline (USFS Lands) | ■ 300ft Pipeline Corridor | ▨ USFS Lands |
| ■ Block Valves | 🐸 Northern Leopard Frog | — Named Streams | ▭ 1km DASK Study Area | ▭ Township/Range Boundary |
| ● Noxious Weeds | ⊗ Grouse Lek | — Highway | ▭ Prairie Dog Town | ▭ County Boundary |
| ● Wetland | 🦅 Raptor Nest | — Roads | ▭ Woody Vegetation | |

Figure: A.2
Page 8 of 12
T. 146N, R. 103W
McKenzie County, North Dakota

0 400 800 Meters
 0 1,600 3,200 Feet

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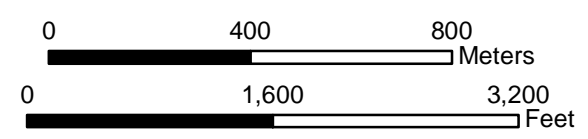


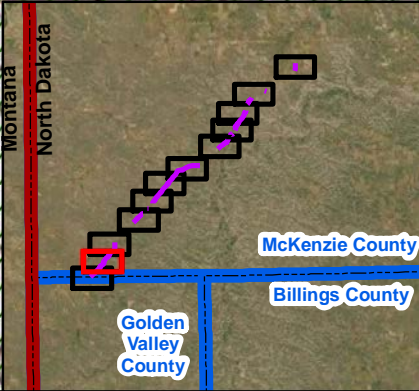
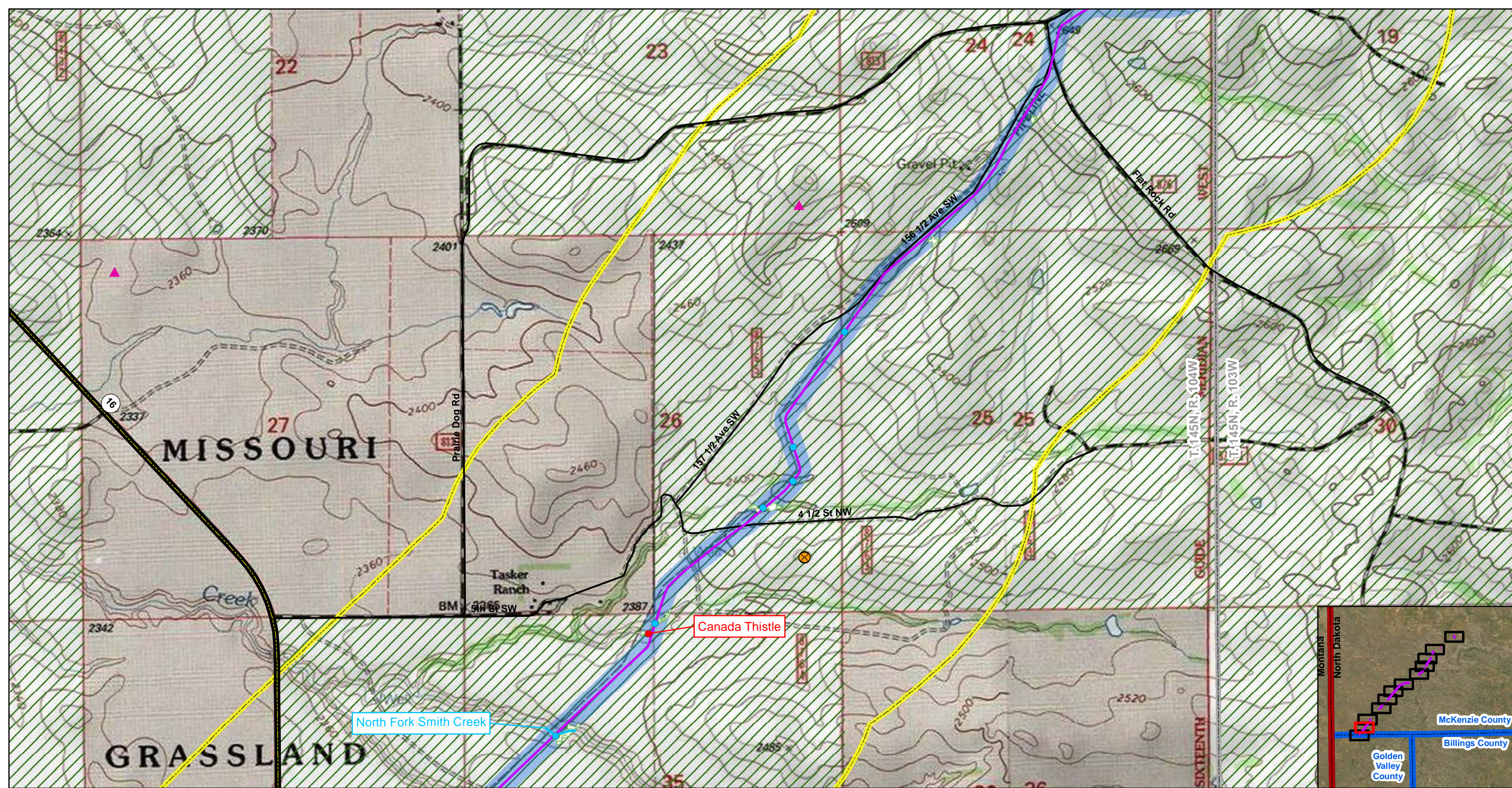


South Bend Pipeline

- | | | | | |
|--------------------------|-------------------------|----------------------------------|---------------------------|---------------------------|
| ▲ Area Oil and Gas Wells | ★ Dakota Skipper | — Proposed Pipeline (USFS Lands) | ■ 300ft Pipeline Corridor | ▨ USFS Lands |
| ■ Block Valves | 🐸 Northern Leopard Frog | — Named Streams | ▭ 1km DASK Study Area | ▭ Township/Range Boundary |
| ● Noxious Weeds | ⊗ Grouse Lek | — Highway | ▨ Prairie Dog Town | ▭ County Boundary |
| ● Wetland | 🦅 Raptor Nest | — Roads | ▨ Woody Vegetation | |

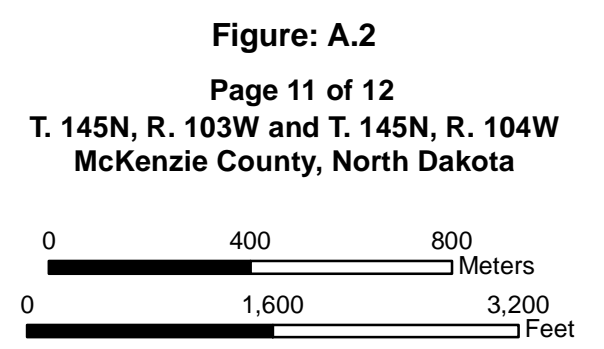
Figure: A.2
Page 10 of 12
T. 145N, R. 103W and T. 145N, R. 104W
McKenzie County, North Dakota

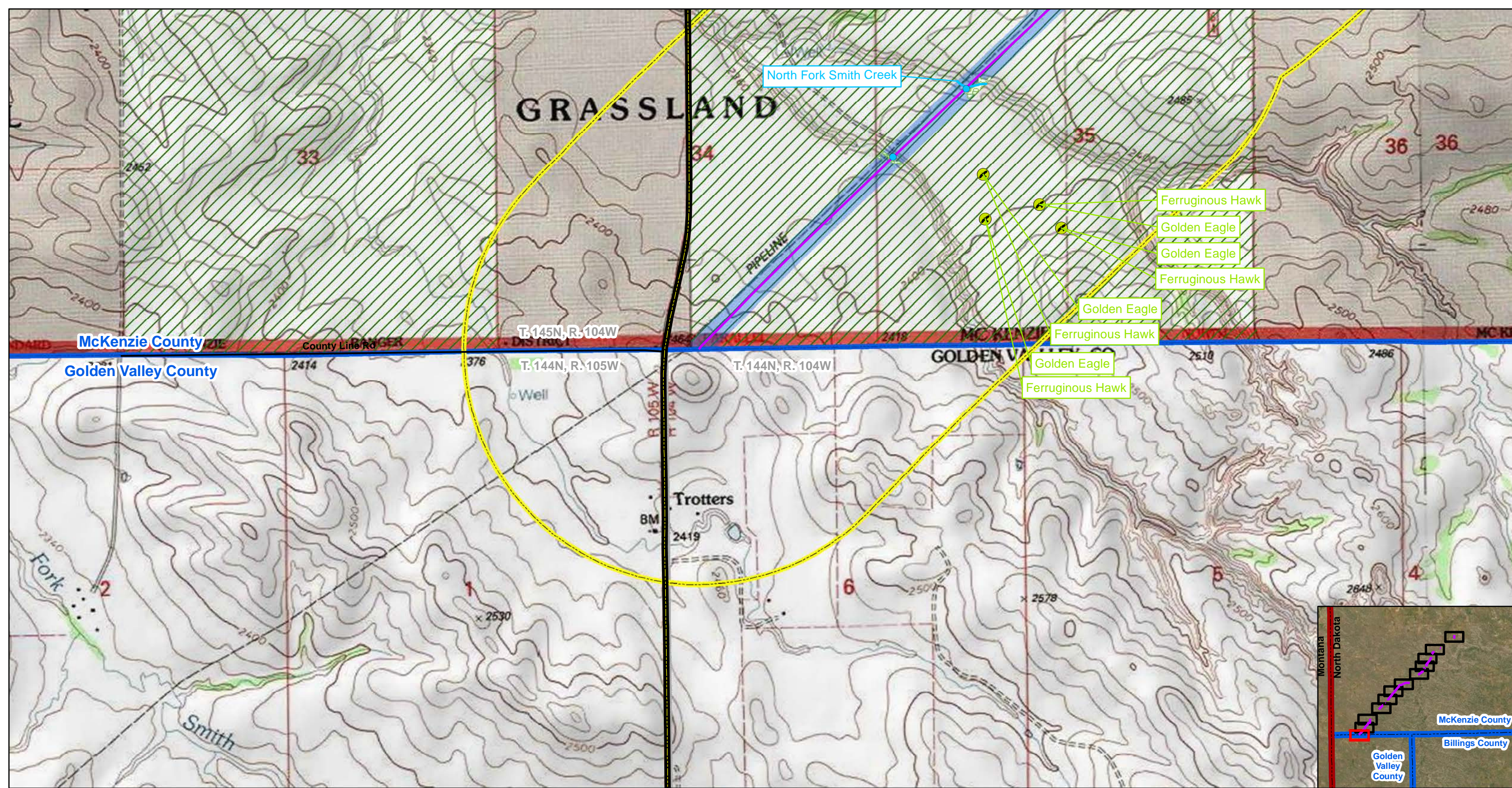




South Bend Pipeline

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|--------------------------|-------------------------|----------------------------------|---------------------------|---------------------------|
| ▲ Area Oil and Gas Wells | ★ Dakota Skipper | — Proposed Pipeline (USFS Lands) | ■ 300ft Pipeline Corridor | ▨ USFS Lands |
| ■ Block Valves | 🐸 Northern Leopard Frog | — Named Streams | ▭ 1km DASK Study Area | ▭ Township/Range Boundary |
| ● Noxious Weeds | ⊗ Grouse Lek | — Highway | ▨ Prairie Dog Town | ▭ County Boundary |
| ● Wetland | 🦅 Raptor Nest | — Roads | ▨ Woody Vegetation | |

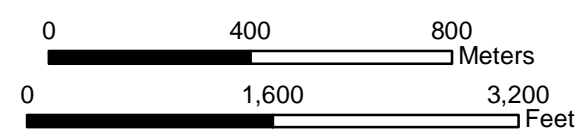


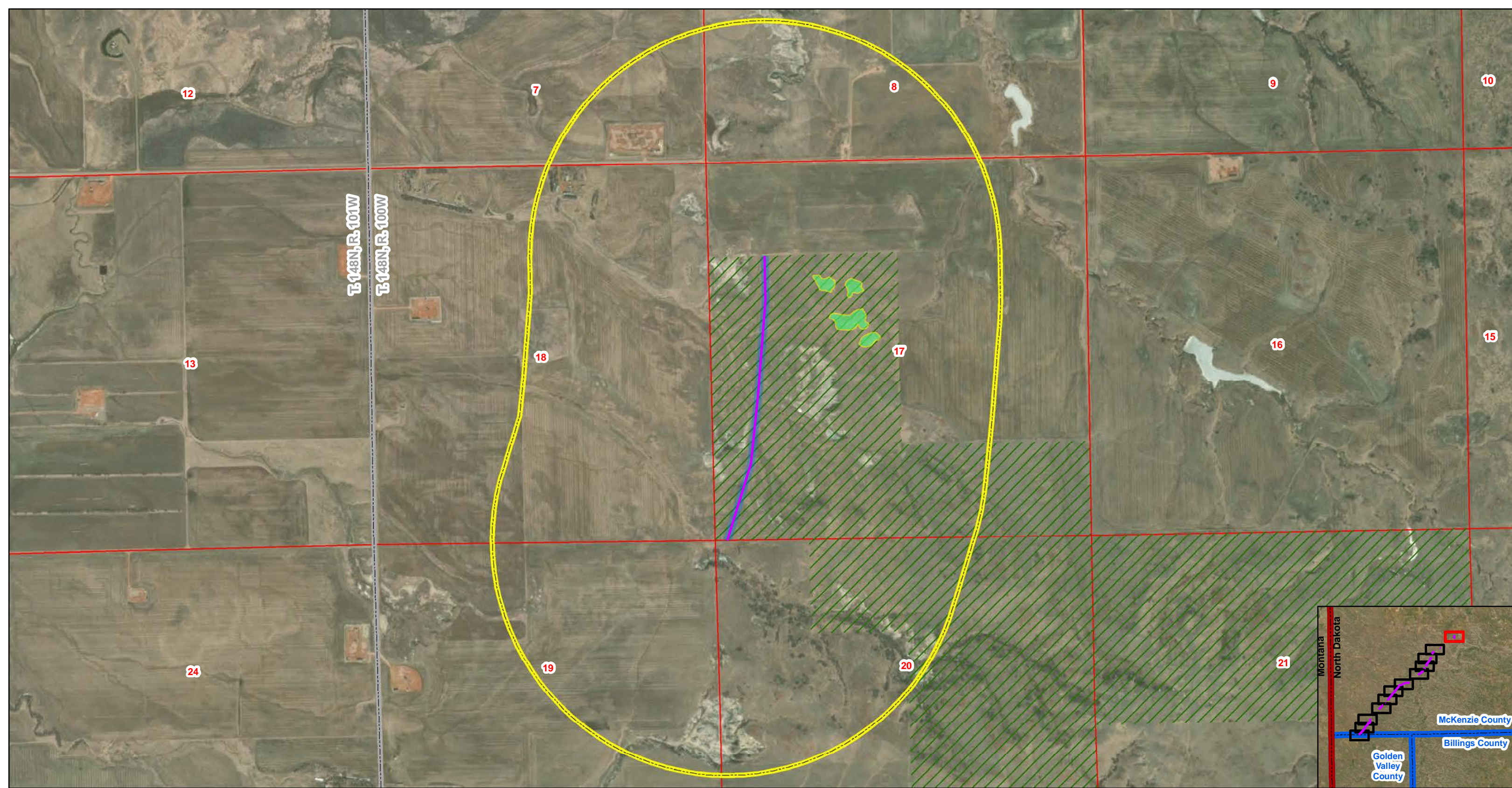


South Bend Pipeline

- | | | | | |
|--------------------------|-------------------------|----------------------------------|---------------------------|---------------------------|
| ▲ Area Oil and Gas Wells | ★ Dakota Skipper | — Proposed Pipeline (USFS Lands) | ■ 300ft Pipeline Corridor | ▨ USFS Lands |
| ■ Block Valves | 🐸 Northern Leopard Frog | — Named Streams | □ 1km DASK Study Area | ▭ Township/Range Boundary |
| ● Noxious Weeds | ⊗ Grouse Lek | — Highway | ▨ Prairie Dog Town | ▭ County Boundary |
| ● Wetland | 🦅 Raptor Nest | — Roads | ▨ Woody Vegetation | |

Figure: A.2
 Page 12 of 12
 T. 145N, R. 103W and T. 145N, R. 104W
 McKenzie County, North Dakota





South Bend Pipeline




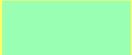






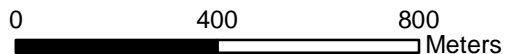
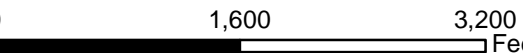
-  Proposed Pipeline (USFS Lands)
-  100ft Construction Corridor
-  1km DASK Study Area
-  Type B Habitat
-  USFS Lands
-  ND State Land
-  Township/Range Boundary
-  Section Boundary
-  County Boundary

Figure: A.3
 Page 1 of 12
 T. 148N, R. 100W and T. 148N, R. 101W
 McKenzie County, North Dakota

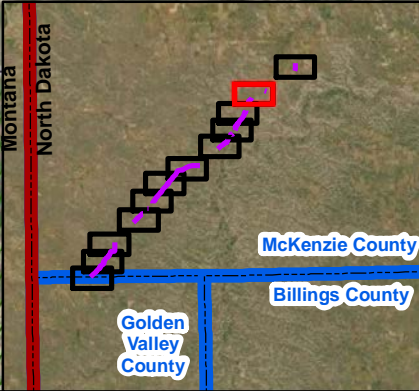
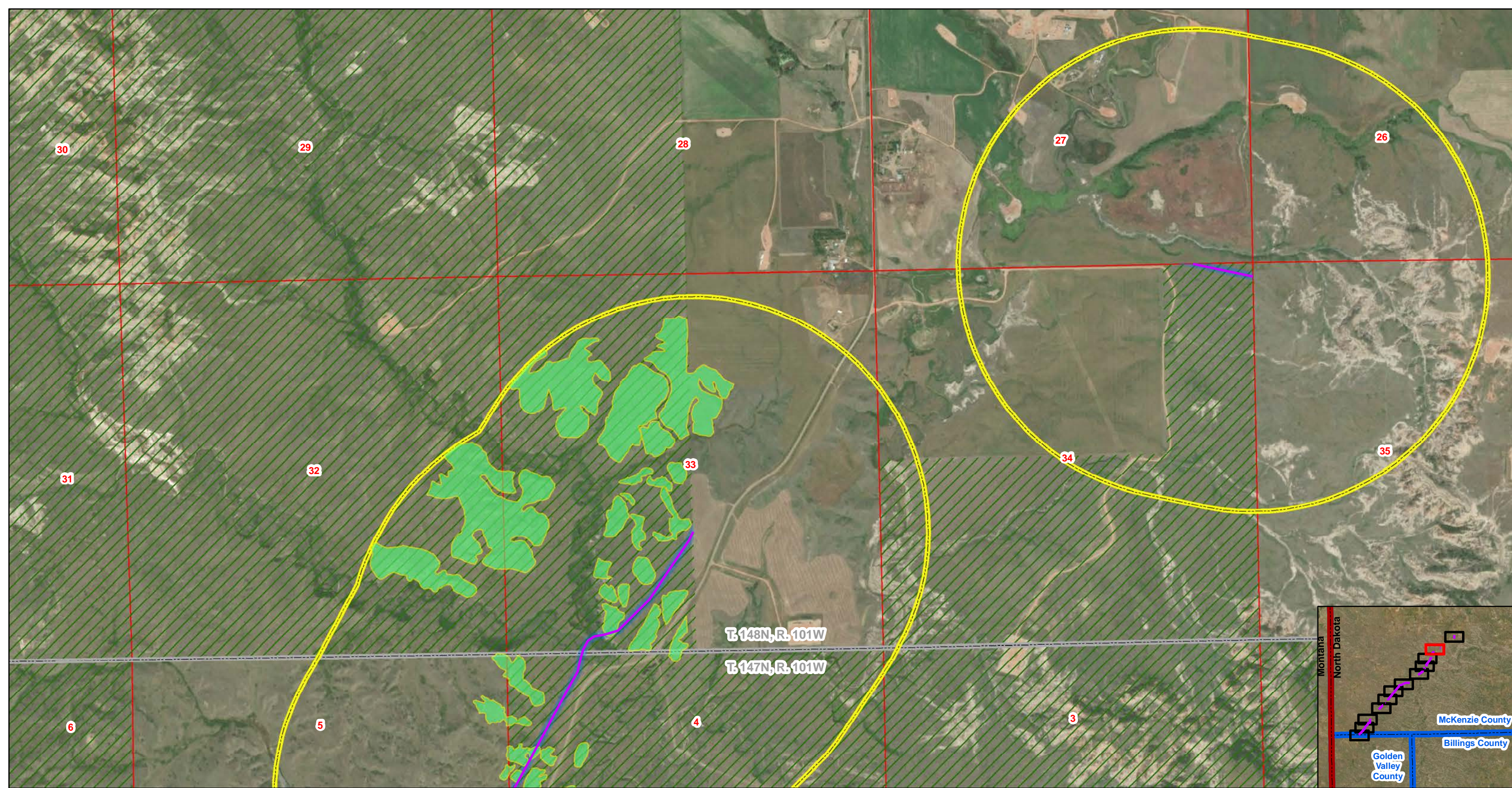




0 400 800 Meters



0 1,600 3,200 Feet



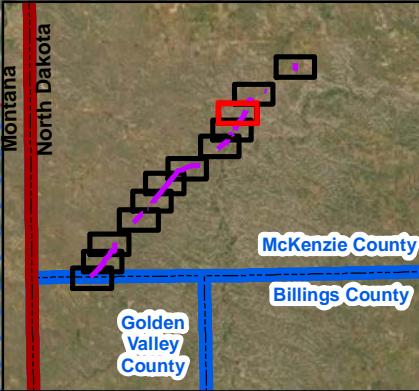
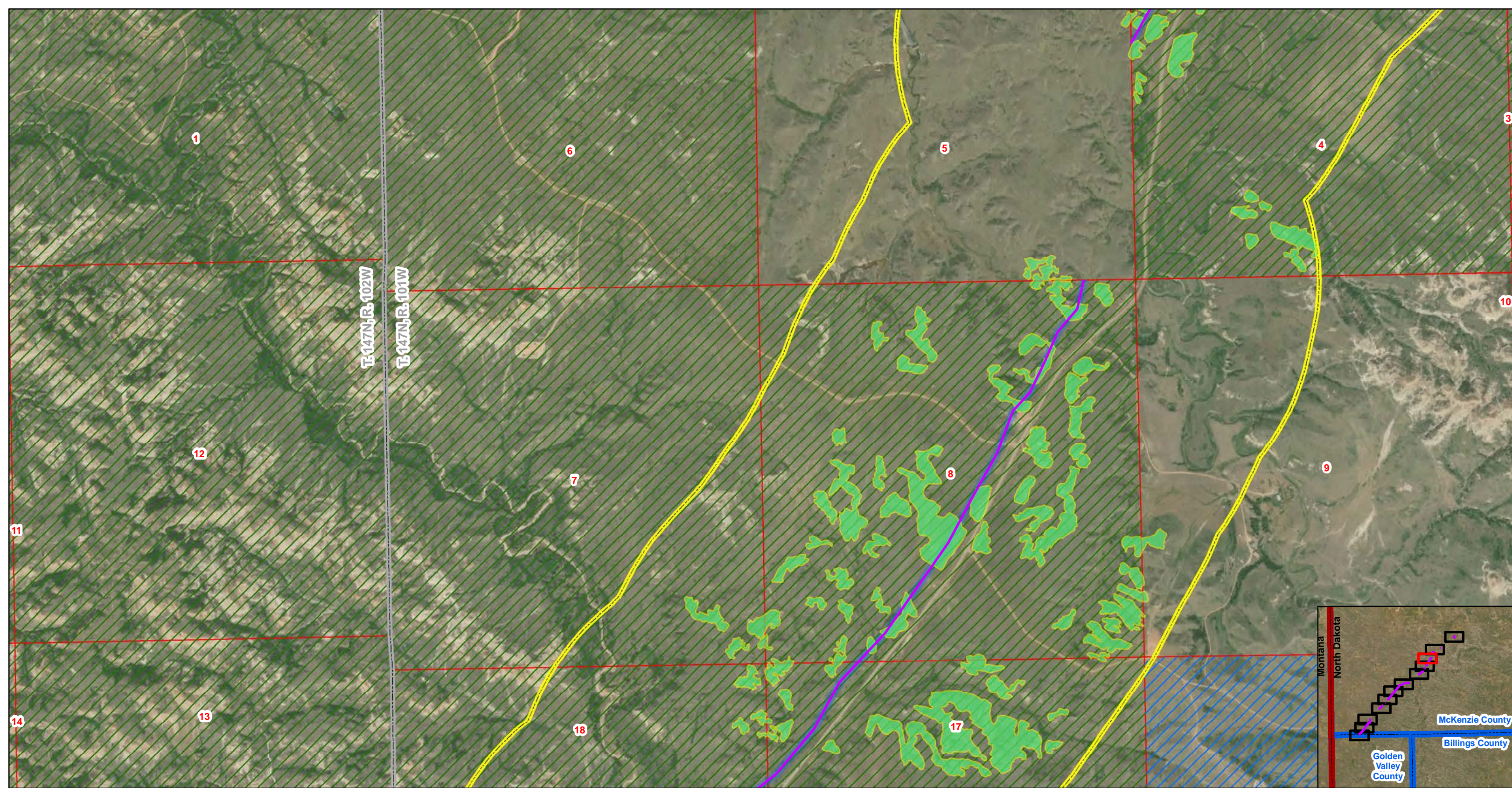
South Bend Pipeline

- Proposed Pipeline (USFS Lands)
- 100ft Construction Corridor
- 1km DASK Study Area
- Type B Habitat
- USFS Lands
- ND State Land
- Township/Range Boundary
- Section Boundary
- County Boundary

Figure: A.3
 Page 2 of 12
 T. 148N, R. 101W and T. 147N, R. 101W
 McKenzie County, North Dakota

0 400 800 Meters
 0 1,600 3,200 Feet





South Bend Pipeline



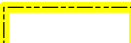
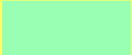


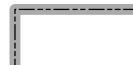

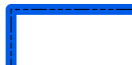
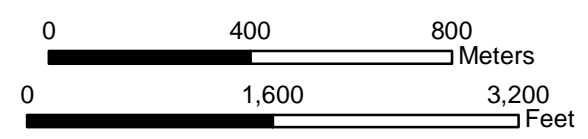
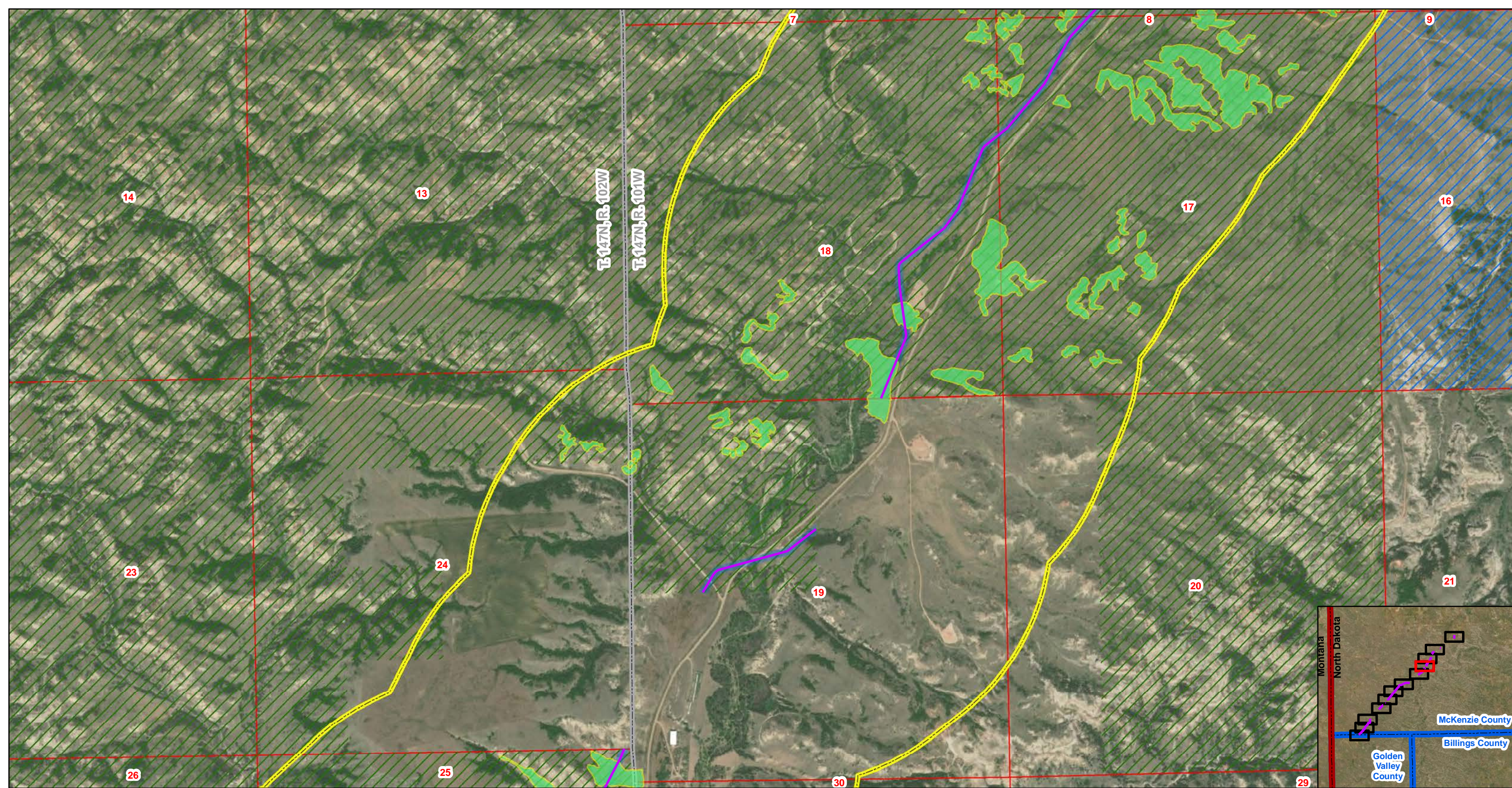
-  Proposed Pipeline (USFS Lands)
-  100ft Construction Corridor
-  1km DASK Study Area
-  Type B Habitat
-  USFS Lands
-  ND State Land
-  Township/Range Boundary
-  Section Boundary
-  County Boundary

Figure: A.3
 Page 3 of 12
 T. 147N, R. 101W and T. 147N, R. 102W
 McKenzie County, North Dakota





South Bend Pipeline



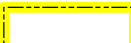
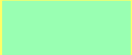


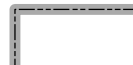

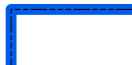

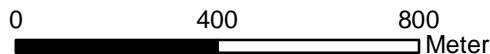

-  Proposed Pipeline (USFS Lands)
-  100ft Construction Corridor
-  1km DASK Study Area
-  Type B Habitat
-  USFS Lands
-  ND State Land
-  Township/Range Boundary
-  Section Boundary
-  County Boundary

Figure: A.3
 Page 4 of 12
T. 147N, R. 101W and T. 147N, R. 102W
McKenzie County, North Dakota

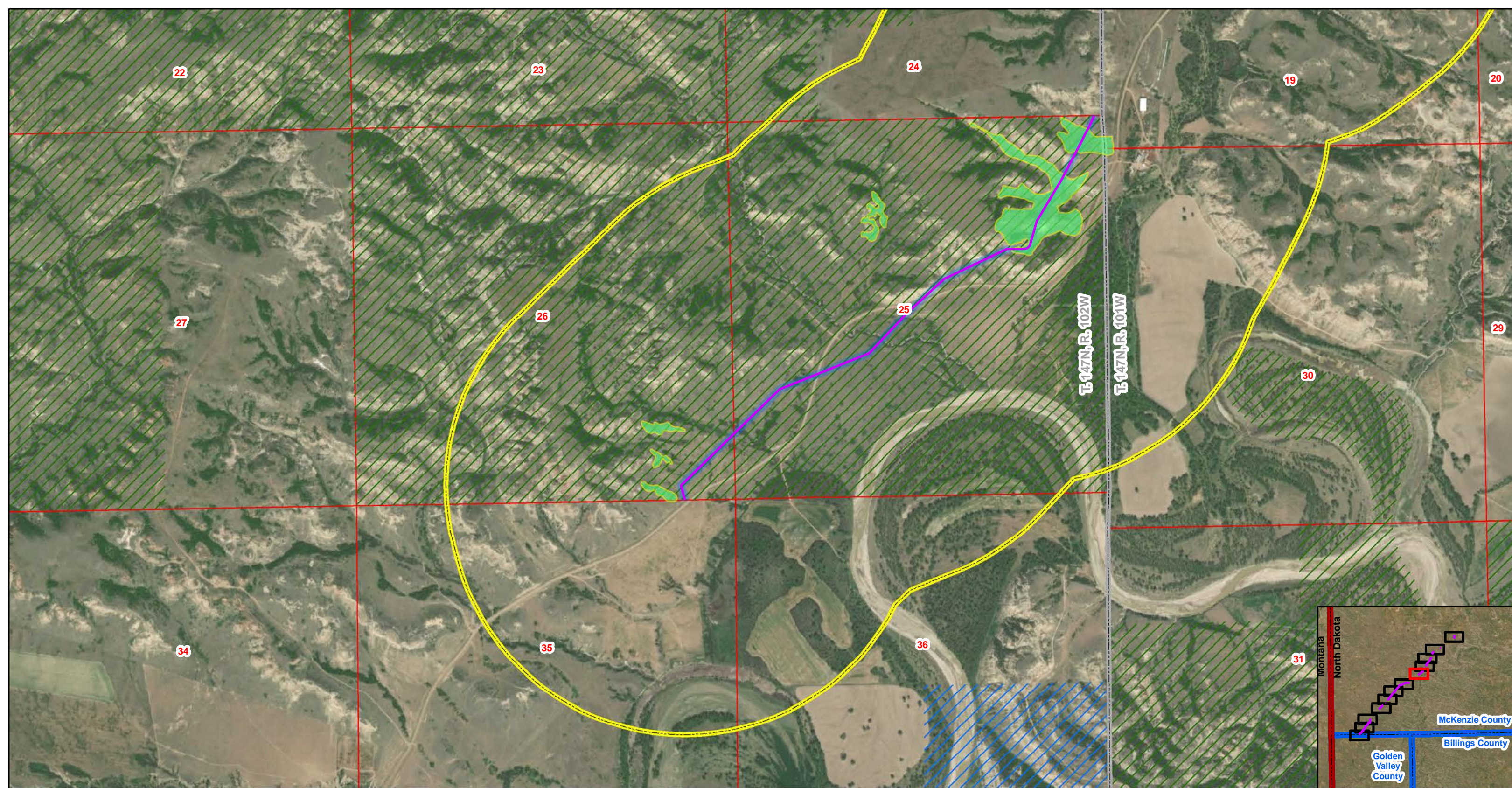




0 400 800 Meters




0 1,600 3,200 Feet

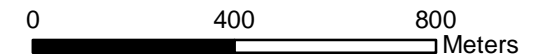



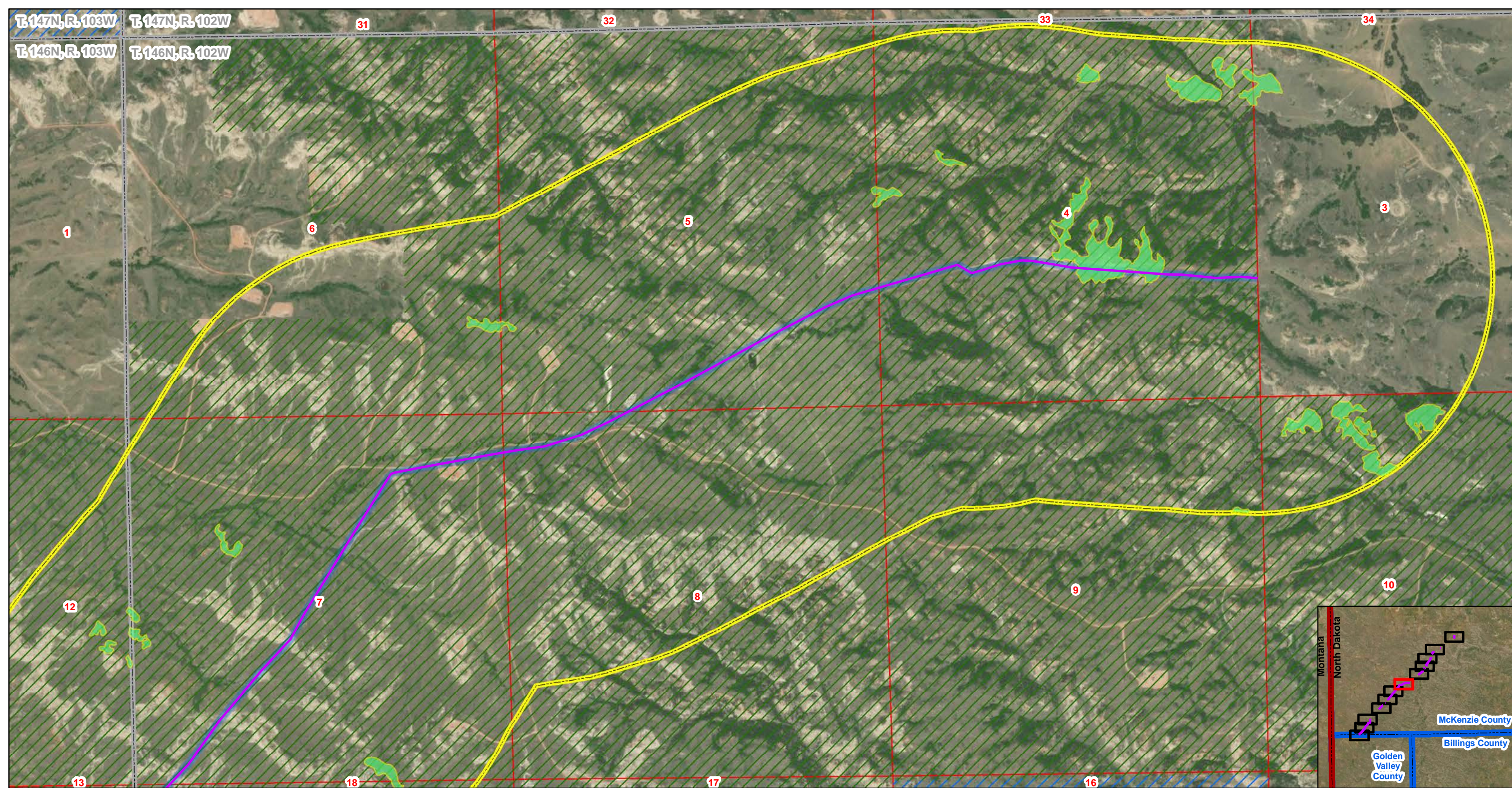
South Bend Pipeline

- Proposed Pipeline (USFS Lands)
- 100ft Construction Corridor
- 1km DASK Study Area
- Type B Habitat
- USFS Lands
- ND State Land
- Township/Range Boundary
- Section Boundary
- County Boundary

Figure: A.3
 Page 5 of 12
T. 147N, R. 101W and T. 147N, R. 102W
McKenzie County, North Dakota







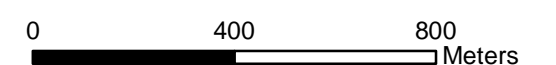



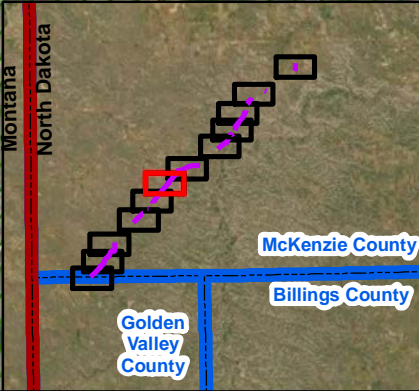
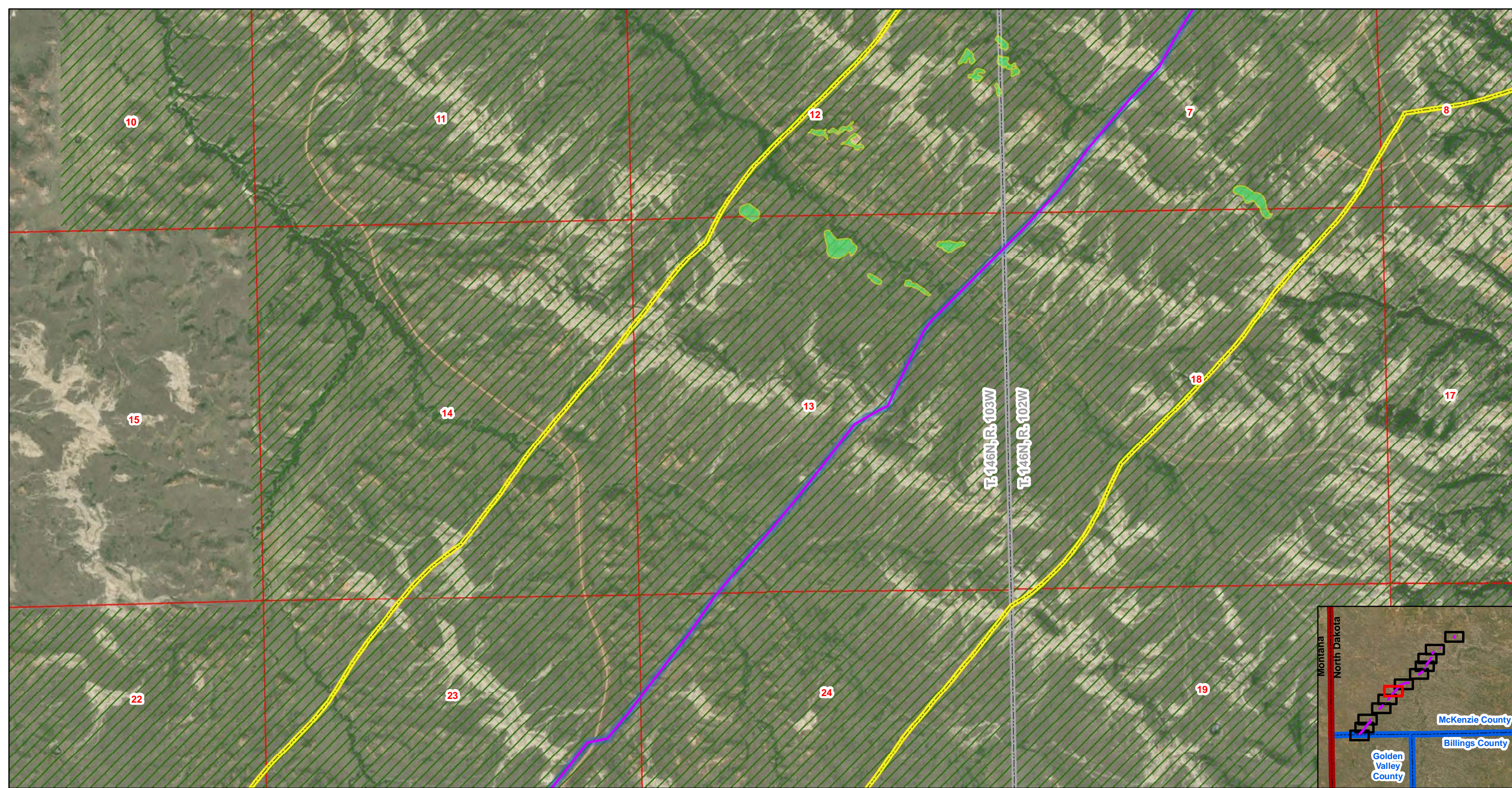
South Bend Pipeline

- Proposed Pipeline (USFS Lands)
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- 1km DASK Study Area
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- USFS Lands
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- Township/Range Boundary
- Section Boundary
- County Boundary

Figure: A.3
 Page 6 of 12
 T. 146N, R. 102W and T. 146N, R. 103W
 McKenzie County, North Dakota



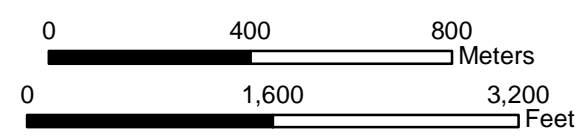



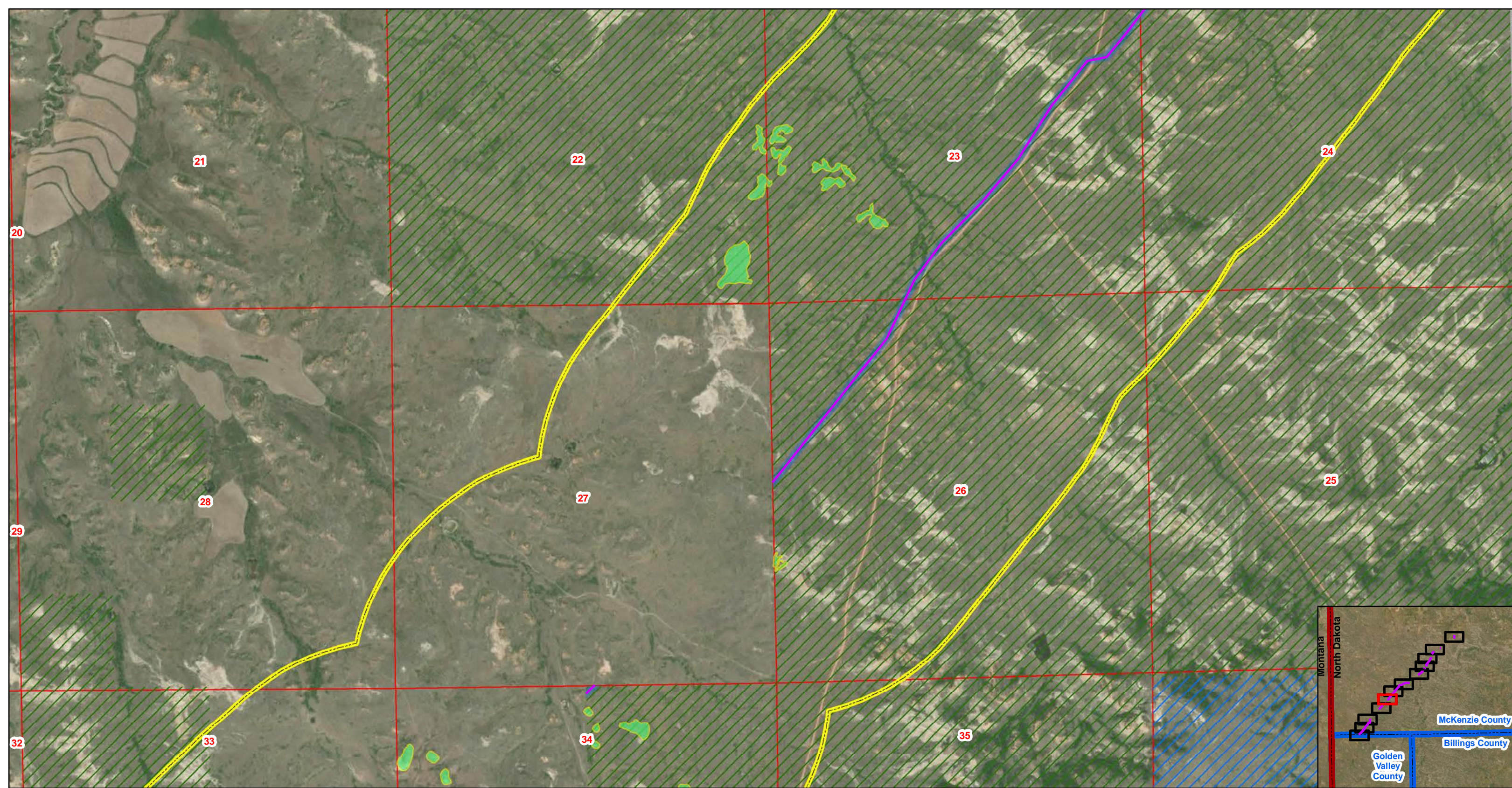


South Bend Pipeline

- Proposed Pipeline (USFS Lands)
- 100ft Construction Corridor
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- Type B Habitat
- USFS Lands
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- Township/Range Boundary
- Section Boundary
- County Boundary

Figure: A.3
 Page 7 of 12
 T. 146N, R. 102W and T. 146N, R. 103W
 McKenzie County, North Dakota




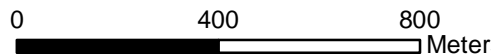



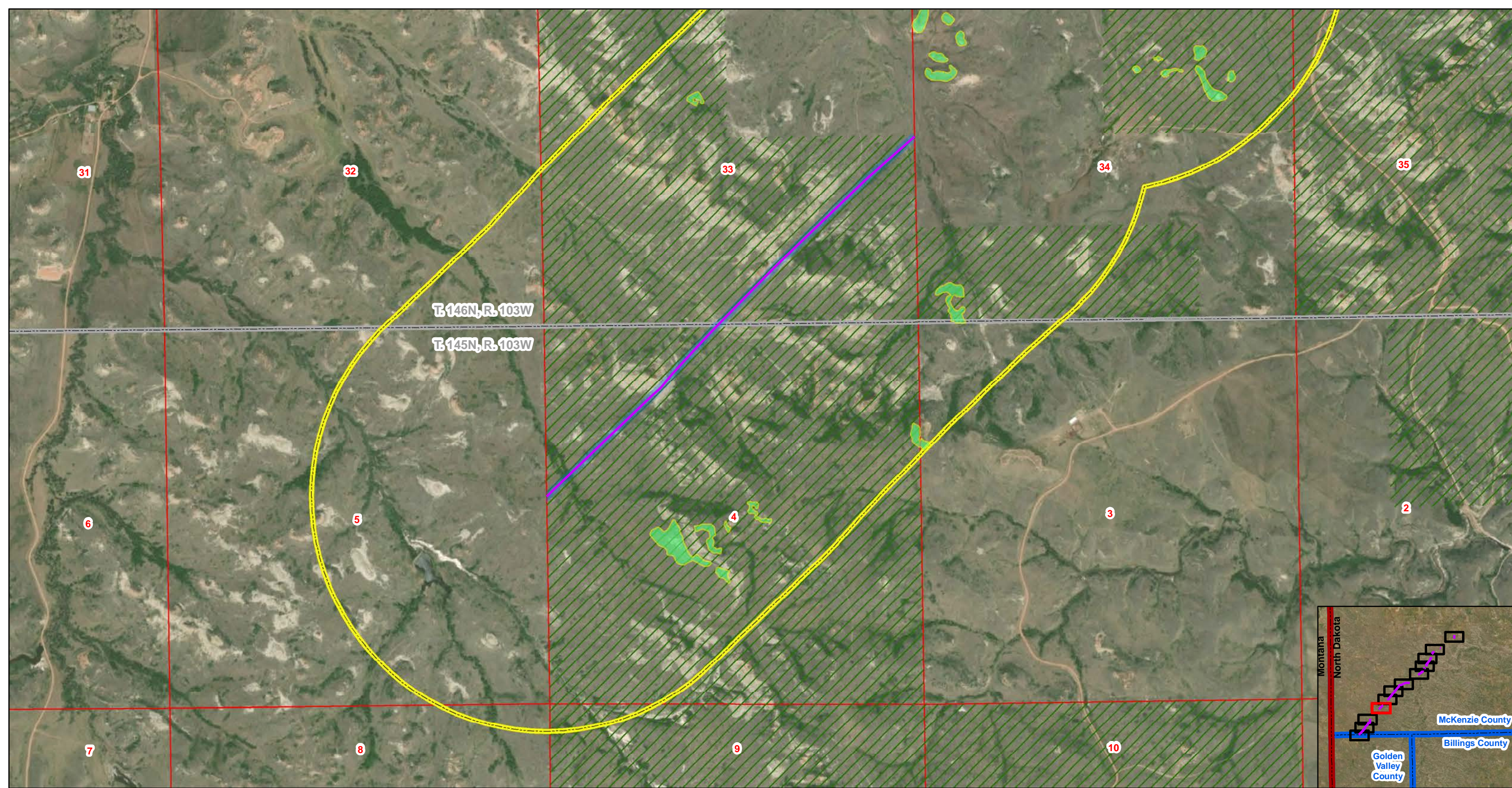
South Bend Pipeline

- Proposed Pipeline (USFS Lands)
- 100ft Construction Corridor
- 1km DASK Study Area
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- USFS Lands
- ND State Land
- Township/Range Boundary
- Section Boundary
- County Boundary

Figure: A.3
 Page 8 of 12
 T. 146N, R. 103W
McKenzie County, North Dakota







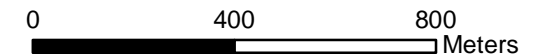
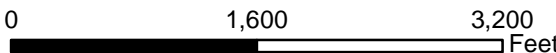


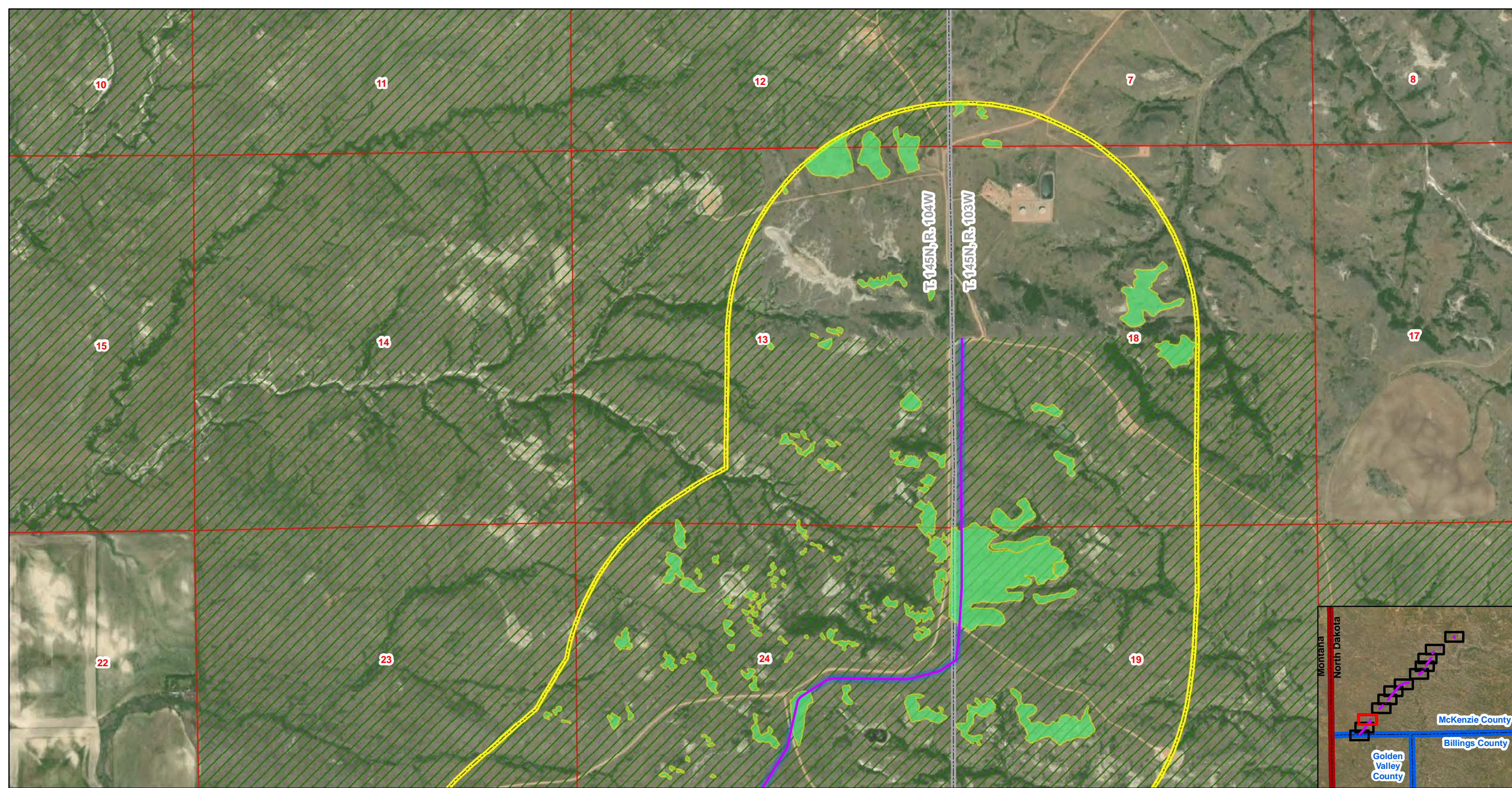
South Bend Pipeline

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- County Boundary

Figure: A.3
 Page 9 of 12
T. 146N, R. 103W and T. 145N, R. 103W
McKenzie County, North Dakota







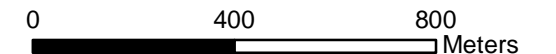
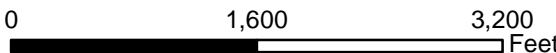


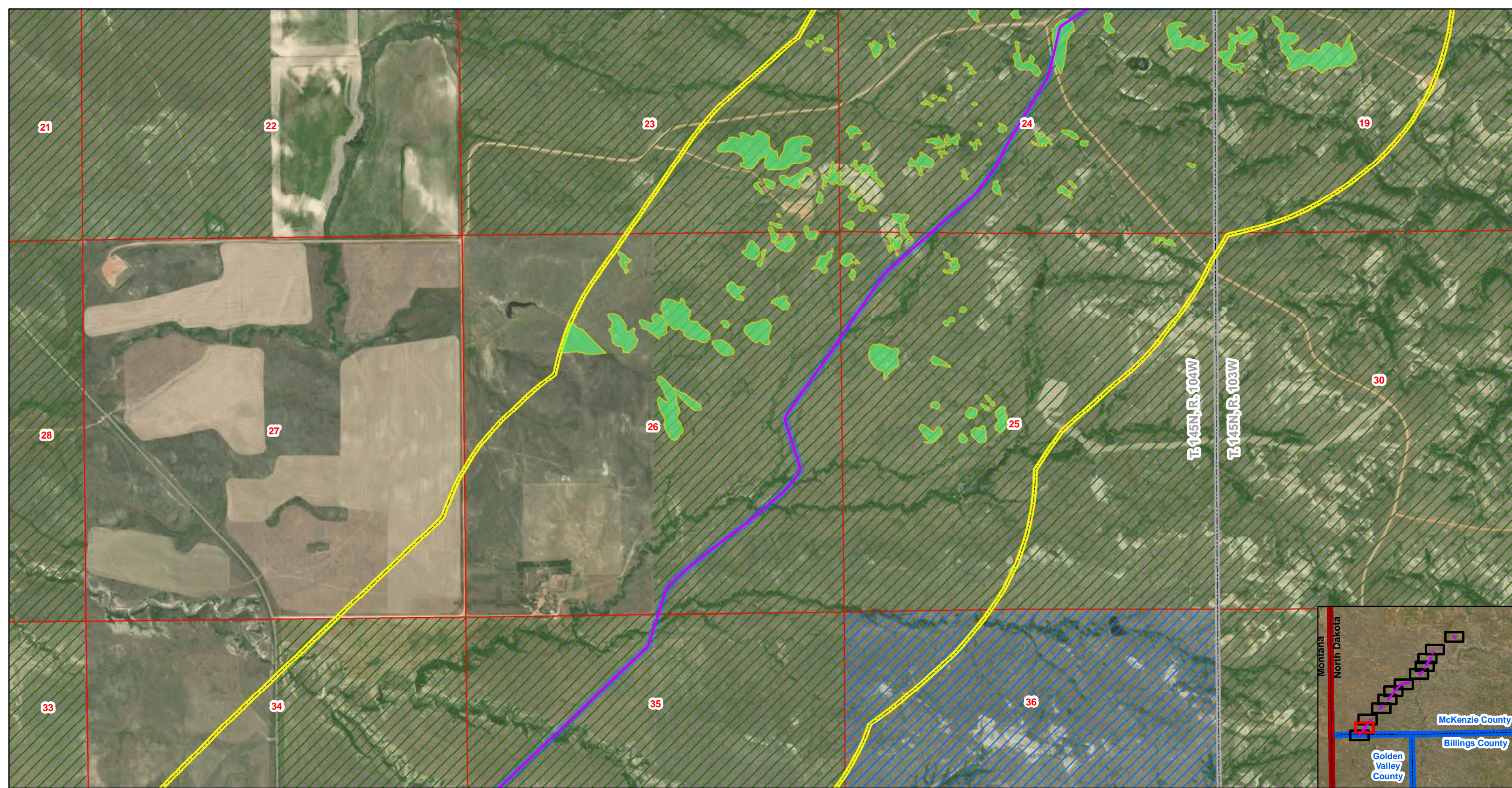
South Bend Pipeline

- Proposed Pipeline (USFS Lands)
- 100ft Construction Corridor
- 1km DASK Study Area
- Type B Habitat
- USFS Lands
- ND State Land
- Township/Range Boundary
- Section Boundary
- County Boundary

Figure: A.3
 Page 10 of 12
T. 145N, R. 103W and T. 145N, R. 104W
McKenzie County, North Dakota







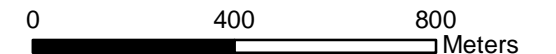
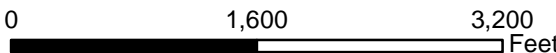


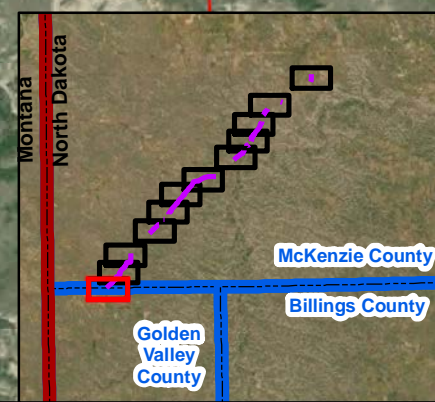
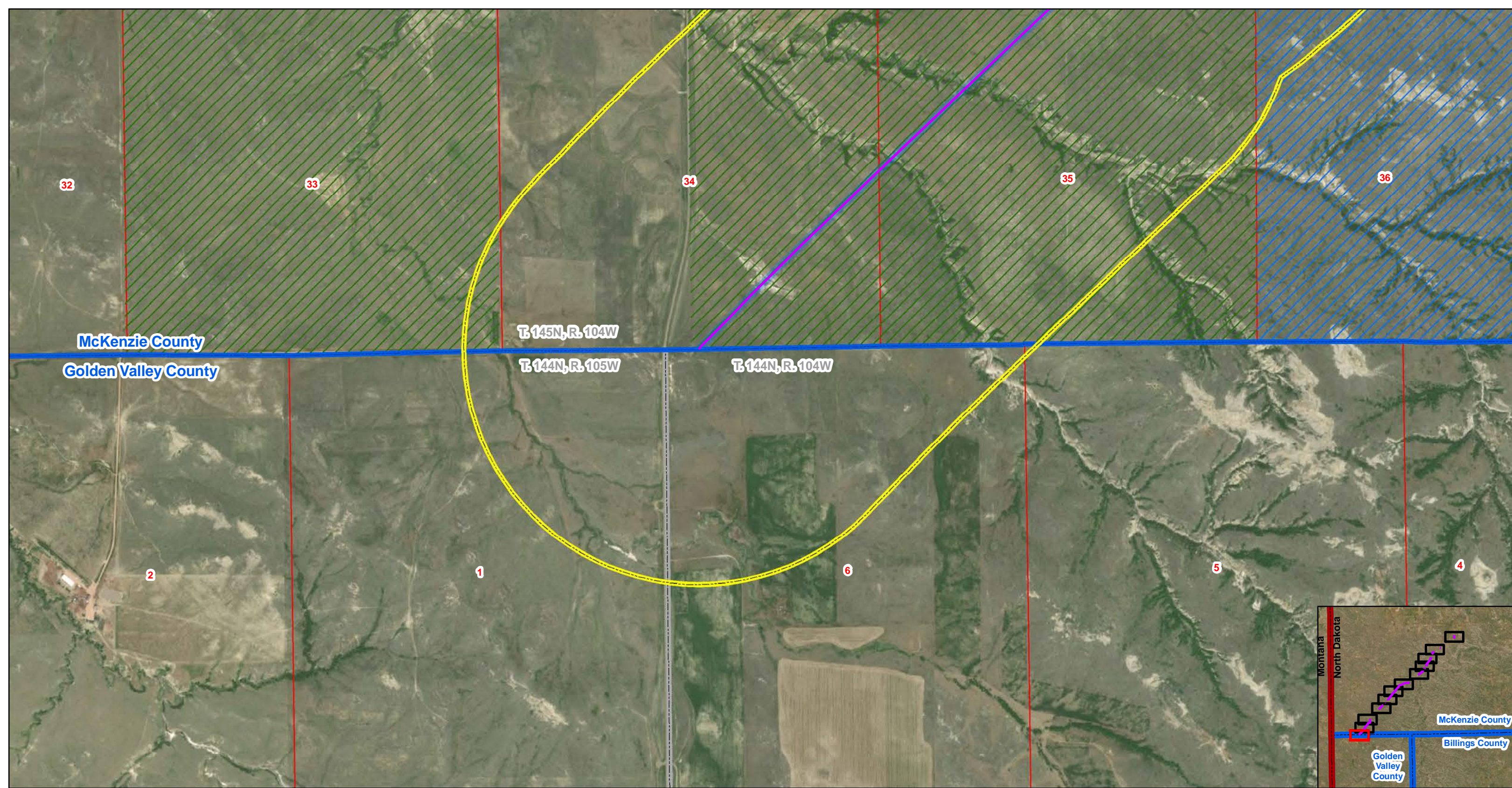
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Figure: A.3
 Page 11 of 12
T. 145N, R. 103W and T. 145N, R. 104W
McKenzie County, North Dakota







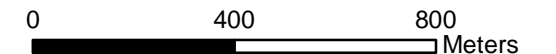
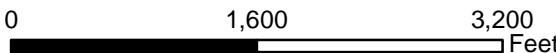


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Figure: A.3
 Page 12 of 12
T. 145N, R. 103W and T. 145N, R. 104W
McKenzie County, North Dakota



Appendix B – Information for Planning and Consultation
List



United States Department of the Interior



FISH AND WILDLIFE SERVICE
North Dakota Ecological Services Field Office
3425 Miriam Avenue

Bismarck, ND 58501-7926

Phone: (701) 250-4481 Fax: (701) 355-8513

[http://www.fws.gov/northdakotafieldoffice/endspecies/
endangered_species.htm](http://www.fws.gov/northdakotafieldoffice/endspecies/endangered_species.htm)

In Reply Refer To:

June 17, 2020

Consultation Code: 06E15000-2020-SLI-0350

Event Code: 06E15000-2020-E-01180

Project Name: South Bend Pipeline V01

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

North Dakota Ecological Services Field Office

3425 Miriam Avenue

Bismarck, ND 58501-7926

(701) 250-4481

Project Summary

Consultation Code: 06E15000-2020-SLI-0350

Event Code: 06E15000-2020-E-01180

Project Name: South Bend Pipeline V01

Project Type: OIL OR GAS

Project Description: Bridger Pipeline, LLC (Bridger) is proposing to install a crude oil transmission pipeline (Project) in McKenzie County, North Dakota. The pipeline would be 145 miles total in length with 80 miles in North Dakota and 66 miles in Montana. The proposed pipeline would traverse on 19 miles on United States Forest Service (USFS) property land on the McKenzie Ranger District of the Little Missouri National Grasslands (LMNG). The proposed route utilizes an existing utility corridor to the greatest extent possible, reusing previously disturbed Right-of-Ways (ROW)'S. The route of the proposed project was primarily chosen to parallel Bridger's existing operating pipelines and infrastructure which parallels over 80% of the proposed project route

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/47.53139503897673N103.60951949163444W>



Counties: Golden Valley, ND | McKenzie, ND

Endangered Species Act Species

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
<p>Least Tern <i>Sterna antillarum</i> Population: interior pop. No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8505</p>	Endangered
<p>Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039</p>	Threatened
<p>Red Knot <i>Calidris canutus rufa</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1864</p>	Threatened
<p>Whooping Crane <i>Grus americana</i> Population: Wherever found, except where listed as an experimental population There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/758</p>	Endangered

Fishes

NAME	STATUS
<p>Pallid Sturgeon <i>Scaphirhynchus albus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7162</p>	Endangered

Insects

NAME	STATUS
<p>Dakota Skipper <i>Hesperia dacotae</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1028</p>	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Appendix C – Field Survey Identification Plant Species List

Appendix C
Plant Species – Identification Checklist

Common Name	Scientific Name	Notes
Alfalfa	<i>Medicago sativa</i>	
American Elm	<i>Ulmus americana</i>	
American Licorice	<i>Glycyrrhiza lepidota</i>	
American Plum	<i>Prunus americana</i>	
American Vetch	<i>Vicia americana</i> Muhl. Ex Willd.	
Anemone	<i>Anemone patens</i>	
Annual Sunflower	<i>Helianthis annuus</i>	
Aromatic Aster	<i>Symphyotrichum oblongifolium</i>	
Ball Cactus	<i>Escobaria vivipara</i>	
Bastard Toadflax	<i>Comandra umbellata</i>	
Big Bluestem	<i>Andropogon gerardii</i>	
Big Sage	<i>Artemisia tridentata</i>	
Black-eyed Susan	<i>Rudbeckia hirta</i>	
Black Henbane	<i>Hyoscyamus niger</i>	County Noxious
Black Medick	<i>Medicago lupulina</i>	
Blue-eyed Grass	<i>Sisyrinchium mucronatum</i>	
Blue Flax	<i>Linum lewisii</i>	
Blue Grama	<i>Bouteloua gracilis</i>	
Blue Lettuce	<i>Lactuca biennis</i>	
Breadroot	<i>Psoralea esculenta</i>	
Brittle Prickly Pear	<i>Opuntia fragilis</i>	
Buffaloberry Silver	<i>Shepherdia argentea</i>	
Buffalo Currant	<i>Ribes aureum</i>	
Buffalobur	<i>Solanum rostratum</i>	
Bull Thistle	<i>Cirsium vulgare</i>	
Bur Dock	<i>Arctium minus</i>	County Noxious
Bur Oak	<i>Quercus macrocarpa</i>	
Canada Thistle	<i>Cirsium arvense</i>	Noxious Species
Cattail	<i>Typha glauca</i>	
Cheatgrass	<i>Bromus tectorum</i>	LMNG Invasive Species
Chokecherry	<i>Prunus virginiana</i>	
Cinquefoil	<i>Potentilla recta</i>	
Clustered Broomrape	<i>Orobanche fasciculata</i>	
Common Goldenrod	<i>Solidago canadensis</i>	
Common Juniper	<i>Juniperus scopulorum</i>	
Common Vetch	<i>Vicia sativa</i>	
Common Yarrow	<i>Achillea millefolium</i>	
Cottonwood	<i>Populus deltoides</i>	
Creeping Juniper	<i>Juniperus horizontalis</i>	
Crested Wheatgrass	<i>Agropyron cristatum</i>	LMNG Invasive Species
Curlycup Gumweed	<i>Grindelia squarrosa</i>	
Dandelion	<i>Taraxacum officinale</i>	
Dwarf Sagebrush	<i>Artemisia cana</i>	

Appendix C
Plant Species – Identification Checklist

Common Name	Scientific Name	Notes
Eastern Red Cedar	<i>Juniperus virginiana</i>	
Fiddleleaf Hawksbear	<i>Crepis runcinata</i>	
Field Bindweed	<i>Convolvulus arvensis</i>	
Field Pussytoes	<i>Antennaria neglecta</i>	
Fleabane	<i>Erigeron annuus</i>	
Flodman's Thistle	<i>Cirsium flodmanii</i>	
Foxtail	<i>Hordeum jubatum</i>	
Fringed Sagebrush	<i>Artemisia frigida</i>	
Goatsbear	<i>Tragopogon dubius</i>	
Green Ash	<i>Fraxinus pennsylvanica</i>	
Green Needle Grass	<i>Nassella viridula</i>	
Gumbo Lily	<i>Oenothera cespitosa</i>	
Harebell	<i>Campanula rotundifolia</i>	
Hawthorn	<i>Crataegus arnoldiana</i>	
Horsetail	<i>Equisetum arvense</i>	
Indian Breadroot	<i>Psoralea esculenta</i>	
Indian Grass	<i>Sorghastrum nutans</i>	
Intermediate Wheatgrass	<i>Thinopyrum intermedium</i>	
Iron Sneezeweed	<i>Helenium autumnale</i>	
Junegrass	<i>Koeleria macrantha</i>	
Kentucky Bluegrass	<i>Poa pratensis</i>	LMNG Invasive Species
Kochia	<i>Kochia scoparia</i>	
Leadplant	<i>Amorpha canescens</i>	
Little Bluestem	<i>Schizachyrium scoparium</i>	
Locoweed	<i>Oxytropis lambertii</i>	
Musk Thistle	<i>Carduus nutans</i>	
Needle and Thread Grass	<i>Hesperostipa comata</i>	
Owl Clover	<i>Orthocarpus luteus</i>	
Pasque Flower	<i>Pulsatilla patens</i>	
Pennycress	<i>Thlaspi arvense</i>	
Pincushion Cactus	<i>Corypantha vivipara</i>	
Ponderosa Pine	<i>Pinus ponderosa</i>	
Prairie Coneflower	<i>Ratibida columnifera</i>	
Prairie Rose	<i>Rosa arkansana</i>	
Prairie Smoke	<i>Geum triflorum</i>	
Prickly Pear Cactus	<i>Opuntia polyacantha</i>	
Porcupine Grass	<i>Hesperostipa spartea</i>	
Purple Coneflower	<i>Echinacea purpurea</i>	
Purple Prairie Clover	<i>Dalea purpurea</i>	
Ragweed	<i>Ambrosia artemisiifolia</i>	
Reed Canarygrass	<i>Phalaris arundinacea</i>	
Rillscale	<i>Atriplex suckleyi</i>	
Rubber Rabbitbrush	<i>Ericameria nauseosa</i>	

Appendix C
Plant Species – Identification Checklist

Common Name	Scientific Name	Notes
Russian Olive	<i>Elaeagnus angustifolia</i>	LMNG Exotic Species
Scarlet Guara	<i>Oenothera suffrutescens</i>	
Scarlet Globemallow	<i>Sphaeralcea coccinea</i>	
Showy Milkweed	<i>Asclepias speciosa</i>	
Sideoats Grama	<i>Bouteloua curtipendula</i>	
Silver Buffaloberry	<i>Shepherdia argentea</i>	
Silverleaf Scurfpea	<i>Pediomelum argophyllum</i>	
Skeletonweed	<i>Lygodesmia juncea</i>	
Skunkbrush Sumac	<i>Rhus trilobata</i>	
Slimpod Venus Looking Glass	<i>Triodanis pemptocarpa</i>	
Smooth Brome	<i>Bromus inermis</i>	LMNG Invasive Species
Snowberry	<i>Symphoricarpos albus</i>	
Sow Thistle	<i>Sonchus arvensis</i>	
Standing Milkvetch	<i>Astragalus adsurgens</i>	
Stiff Goldenrod	<i>Solidago rigida</i>	
Stiff Sunflower	<i>Helianthus pauciflorus</i>	
Stinging Nettle	<i>Urtica dioica</i>	
Switchgrass	<i>Panicum virgatum</i>	
Two Grooved Poison Vetch	<i>Astragalus bisulcatus</i>	
Western Sagebrush	<i>Artemisia tridentata</i>	
Western Wallflower	<i>Erysimum capitatum</i>	
Western Wheatgrass	<i>Pascopyrum smithii</i>	
White Milkwort	<i>Polygala alba</i>	
White Penstemon	<i>Penstemon albidus</i>	
White Prairie Aster	<i>Symphyotrichum falcatum</i>	
White Prairie Clover	<i>Dalea candida</i>	
White Sage	<i>Artemisia ludoviciana</i>	
Whorled Milkweed	<i>Asclepias verticillata</i>	
Wild Bergamont	<i>Mondarda fistulosa</i>	
Wild Flax	<i>Linum lewisii</i>	
Wormwood	<i>Artemisia absinthium</i>	LMNG Invasive Species
Yarrow	<i>Achillea millefolium</i>	
Yellow Sweetclover	<i>Melilotus officinalis</i>	LMNG Exotic Species
Yellow Wild Buckwheat	<i>Eriogonum flavum</i>	
Yucca	<i>Yucca glauca</i>	

Appendix D – Dakota Skipper Survey 2020

Dakota Skipper, *Hesperia dacotae*, Presence/Absence Survey 2020

Report Prepared for:

Keitu Engineers & Consultants, Inc.

1403 27th St N.

Mandan, ND 58554

Bridger Pipeline LLC Project North Dakota

Report Prepared by:

Jim Reiser & Jameson T (JT) Reiser

Scope of Work

Bridger Pipeline LLC has proposed the construction of a 142 mile long, 16 inch nominal diameter crude oil pipeline through McKenzie and Golden Valley Counties in North Dakota and Fallon and Wibaux Counties in Montana. This South Bend Pipeline Project will extend from Bridger's existing terminal at Jonson's Corner, North Dakota to its existing Sandstone Station located 8.5 miles west of Baker, Montana.

Approximately 27 miles of the route passes through the Little Missouri National Grasslands managed by the US Forest Service McKenzie Ranger District located in Watford City, ND. A field presence/absence survey was to be conducted for the federally threatened Dakota Skipper (DASK), *Hesperia dacotae* during the 2020 flight season of the adult skipper. This would occur within one kilometer of all expected potential surface impacts on US Forest Service (USFS) land per their request in support of the Environmental Assessment study associated with its permit-to-construct application process.

Historical information for DASK

The Dakota Skipper (DASK) was listed as threatened by the Fish and Wildlife Service in the fall of 2014 (*Federal Register*, Final Rule Oct. 24, 2014). Historical records of this species ranged from northeast Illinois to southern Saskatchewan. However, today it may be limited to single populations in Minnesota and South Dakota, several locations in western North Dakota, and a few sites in southern Saskatchewan. DASK is believed to be extirpated from Illinois, Iowa, and eastern Minnesota.

DASK Habitat Types

DASK typically occurs in one of two habitat types; Type A or Type B Habitat, in North Dakota.

Type A Habitat consists of low lying, wet-mesic prairie with little topographic relief that occurs on near-shore glacial deposits. (Royer, 2008).

Our surveys in McKenzie County North Dakota took place on Type B Habitat (Royer, 2008) (Photo 1-3). This habitat type dominates the river valleys and the Missouri Coteau on the western edge of DASK's known range. This rolling terrain over gravelly glacial moraine deposits is dominated by known DASK larval food plants, including little bluestem (*Schizachyrium scoparium*), big bluestem (*Andropogon gerardii*), and needle or porcupine grasses (*Hesperostipa spp.*). The favored DASK nectar source, purple coneflower (*Echinacea angustifolia*), is plentiful in the region. Gray head coneflower (*Ratibida columnifera*), black-eyed Susan (*Rudbeckia hirta*),

blanket flower (*Gaillardia aristata*), and native thistle (*Cirsium sp.*) are abundant and additionally serve as nectar sources for many Lepidoptera species here.

Survey Methodology

The surveys were carried out on foot by Jim and JT Reiser. We carried Garmin eTrex 20xt GPS units set to record our respective positions every 10 seconds for later analysis. Additionally, a Trimble GeoExplorer 6000 (provided by Keitu) was used to assist us in staying within the predetermined parameters of the survey; 1 kilometer on either side of centerline of the proposed pipeline's path. Surveyors recorded all butterflies encountered during surveys (Table 2). Surveys began at or after the onset of butterfly activity each day, when temperatures were above 70°F. Surveys continued until activity began to decline due to increased cloud cover, increased winds, a significant drop in temperature or complete coverage of appropriate habitats was achieved. Date, temperature, cloud cover, constant and gusting wind speed and direction, and coneflower ray extension stage were recorded at the beginning and end of each survey (Table 1). Marrone (2002) reports the single flight of the Dakota skipper peaks from late June to mid-July, with occurrence dates extending from June 26-July 21. The surveys in McKenzie County North Dakota took place from June 28-July 3, 2020. The area received 3"-6" of rain June 30th, thus no surveys were conducted that day. Fellow investigators, Selby, Gockman, and Krych (pers. comm.) had all recorded the presence of Dakota skippers by June 26th at other known DASK sites so our survey dates were well within the expected flight period of DASK for 2020.

Results

Pre-survey habitat/vegetation assessments were performed by Keitu biologists several weeks prior to the initiation of DASK surveys. Their emphasis was locating and mapping, from the ground and aerially, high quality stands of little bluestem, the primary larval host of DASK in the region. This information, coupled with our on-site search for large stands of purple coneflower in those same areas, proved extremely useful in discovering a lone DASK (Figure 1a, Figure 1b).

Discussion

The current status of DASK in the Little Missouri National Grasslands is uncertain. Recent surveys by the authors and others (Selby and Gockman) have yielded a single DASK individual. Two of its congeners, the Ottoe Skipper, *Hesperia ottoe* and Pahaska Skipper, *Hesperia pahaska* have been encountered more frequently, with the Ottoe Skipper being quite common in the area. Both species require similar larval food plants and adult nectar sources and Type B Habitat as well.

DASK's dispersal range, reportedly <1 kilometer, prevents it from repopulating in the event of habitat loss or extreme climatic events. However, two key factors, soils unsuitable for agriculture and steep topography, have allowed remnant native prairie habitats to persist, thus DASK remains here, albeit tenuously.

As the oil, gas, and wind energy industries continue to expand onto the Grasslands, and elsewhere in North Dakota, future DASK surveys are warranted to protect this fragile Lepidoptera species in the rugged wilderness of its western range.

Tables/Figures

Table 1. Site Climate Conditions

Date	Temperature (°F)	Wind Speed (mph)/Direction	Cloud Cover	Coneflower Stage	DASK Presence
6/28/20	75-81	10-20/N	Partly Cloudy	Unopen-Fully Open	No
6/29/20	74-88	10-20/NE	Partly/Mostly Sunny	Unopen-Fully Open	No
7/1/20	70-81	10/SW	Mostly Sunny	½ Open-Fully Open	Yes
7/2/20	82-87	5-10/NW	Mostly Sunny	½ Open-Fully Open	No
7/3/20	80-91	10-20/SE	Mostly Sunny	Mostly Open	No

Table 2. Lepidoptera Species List

Family Name	Scientific name
Hesperiidae	<i>Hesperia dacotae</i>
	<i>Hesperia ottoe</i>
	<i>Hesperia pahaska</i>
	<i>Oarisma garita</i>
	<i>Polites origines</i>
	<i>Polites themistocles</i>
	<i>Anatrytone logan</i>
	<i>Epargyreus clarus</i>
	<i>Pyrgus communis</i>
	<i>Erynnis sp.</i>
	<i>Megathymus streckeri</i>
Papilionidae	<i>Papilio multicaudata</i>
Pieridae	<i>Pontia protodice</i>
	<i>Colias eurytheme</i>
	<i>Colias philodice</i>
Lycaenidae	<i>Satyrrium calanus</i>
	<i>Strymon melinus</i>
	<i>Glaucopsyche lygdamus</i>
	<i>Plebejus melissa</i>
Nymphalidae	<i>Euptoieta claudia</i>
	<i>Speyeria aphrodite</i>
	<i>Speyeria idalia</i>
	<i>Speyeria edwardsii</i>
	<i>Polygonia progne</i>
	<i>Vanessa cardui</i>
	<i>Vanessa atalanta</i>
	<i>Limenitis archippus</i>
	<i>Limenitis weidemeyerii</i>
	<i>Coenonympha tullia</i>
	<i>Cercyonis pegala</i>
	<i>Danaus plexippus</i>

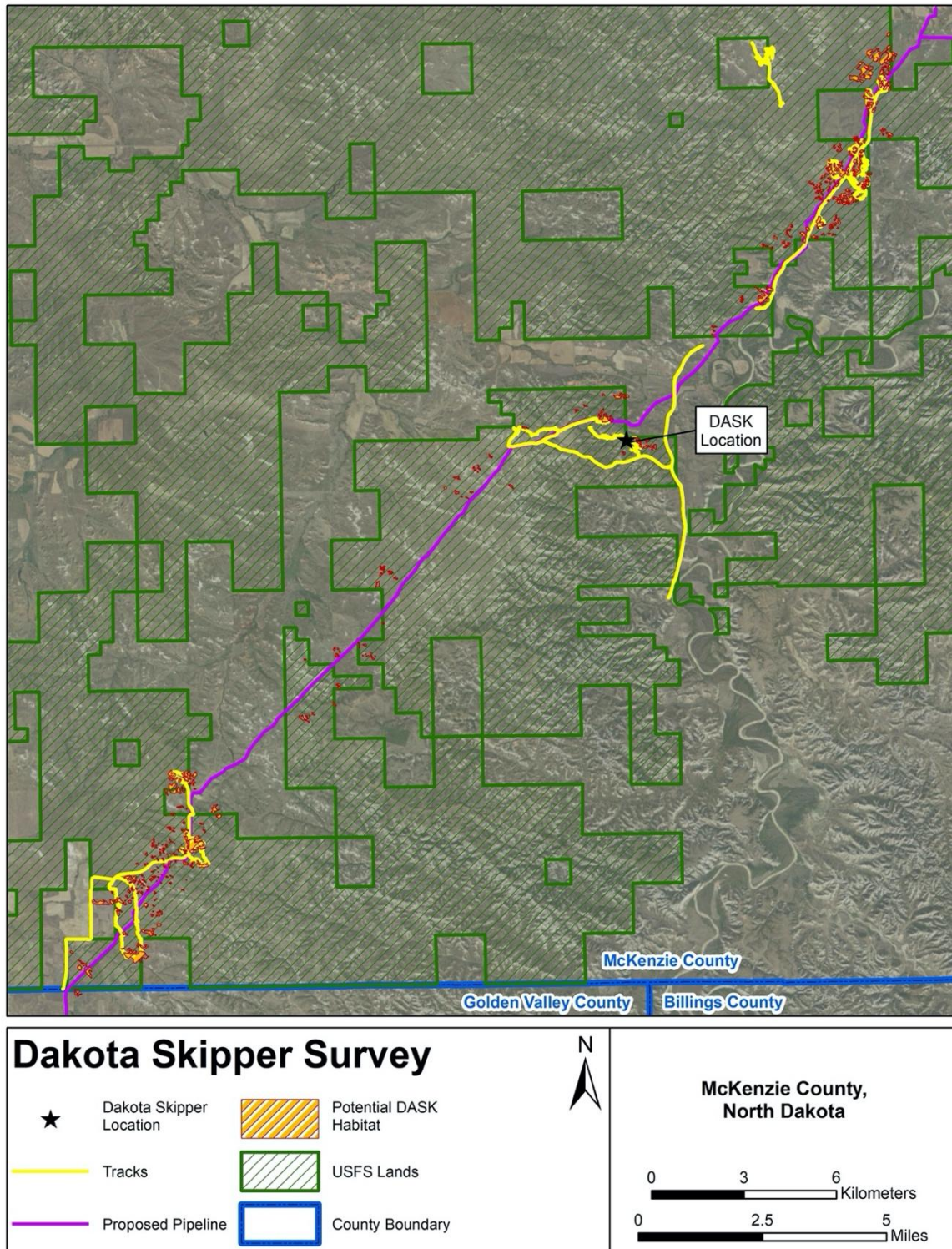


Figure 1a. Overview area of the Little Missouri National Grasslands surveyed for DASK during the 2020 flight season.

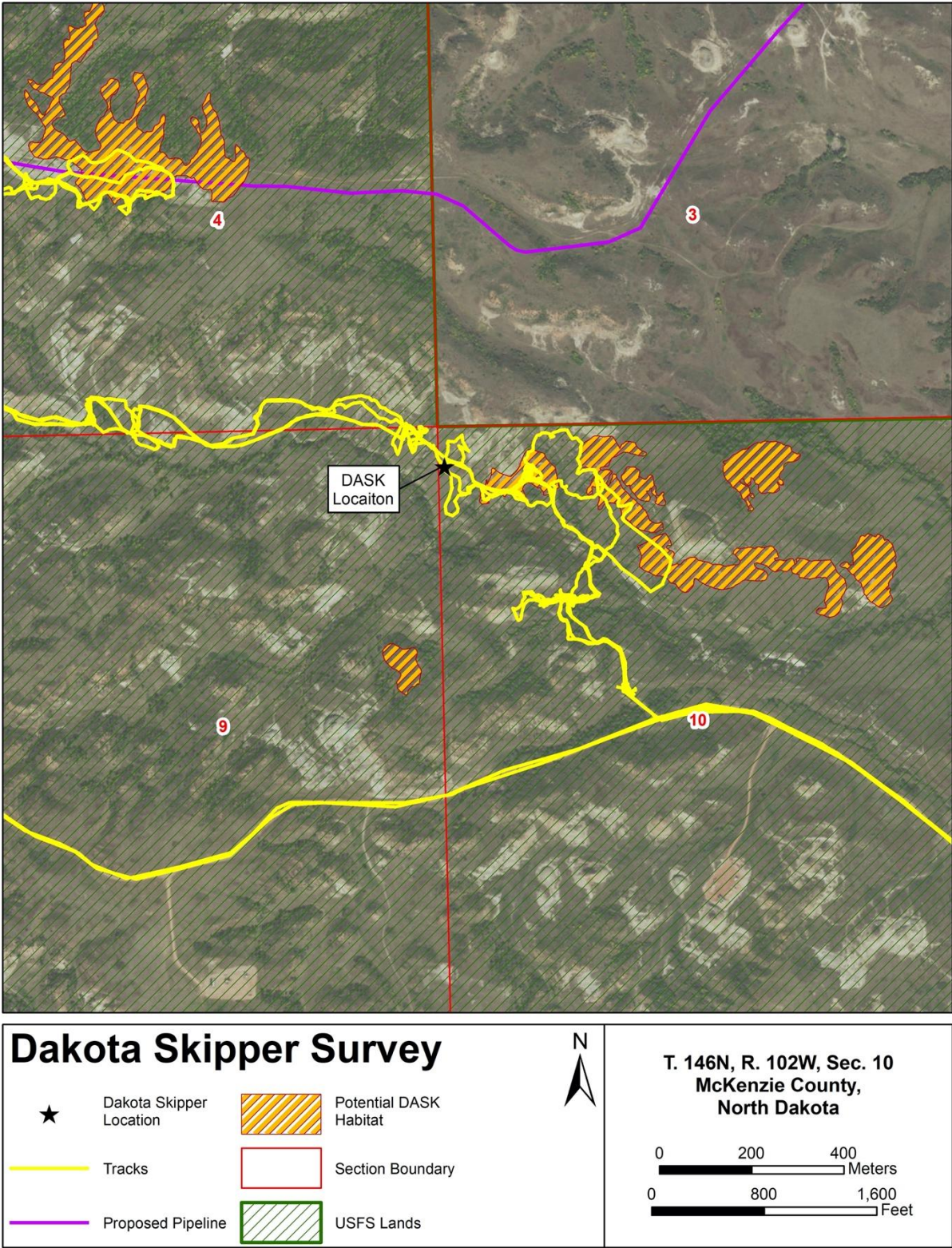


Figure 1b. Location of the discovered female DASK and surrounding habitat.

Photos



Photo 1. Bridger Pipeline LLC - South Bend Pipeline; DASK Type B Habitat in western North Dakota.



Photo 2. Bridger Pipeline LLC - South Bend Pipeline; DASK Type B Habitat in western North Dakota.



Photo 3. Bridger Pipeline LLC - South Bend Pipeline; DASK Type B Habitat in western North Dakota.

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