



Eastern Idaho Electrical Plan

Update 2019

*Draft report prepared by
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Planning Department*

*In cooperation with the
2019 Eastern Idaho Electrical Plan
Community Advisory Committee*

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TABLE OF CONTENTS

Table of Contents	1
List of Figures	2
List of Appendices	2
Glossary	4
Background	6
Mapping Results	8
High Voltage Transmission Lines and Source Substations	8
Preferred Options	9
Area 1: Blackfoot Area	11
Preferred Options	12
Alternative Options	13
Area 2: Pocatello Area	14
Preferred Options	15
Alternative Options	16
Area 3: Arbon Valley and Inkom Areas	18
Preferred Options	19
Alternative Options	19
Area 4: American Falls Area	20
Preferred Options	21
Alternative Options	21
Implementation Plan	22

LIST OF FIGURES

Figure 1. Preferred High Voltage Transmission Lines and Source Substations.....	8
Figure 2. Blackfoot Area.....	11
Figure 3. Pocatello Area	14
Figure 4. Arbon Valley and Inkom Areas.....	18
Figure 5. American Falls Area.....	20
Figure 6. Blue Group Preferred High Voltage Transmission Lines and Source Substations	26
Figure 7. Blue Group Blackfoot Area.....	27
Figure 8. Blue Group Pocatello Area.....	28
Figure 9. Blue Group Arbon Valley and Inkom Areas.....	29
Figure 10. Blue Group American Falls Area	30
Figure 11. Green Group Preferred High Voltage Transmission Lines and Source Substations.....	31
Figure 12. Green Group Blackfoot Area.....	32
Figure 13. Green Group Pocatello Area	33
Figure 14. Green Group Arbon Valley and Inkom Areas.....	34
Figure 15. Blue Group American Falls Area	35
Figure 16.. Red Group Preferred High Voltage Transmission Lines and Source Substations	36
Figure 17. Red Group Blackfoot Area.....	37
Figure 18. Red Group Pocatello Area.....	38
Figure 19. Red Group Arbon Valley and Inkom Areas	39
Figure 20. Red Group American Falls Area	40
Figure 21. Yellow Group Preferred High Voltage Transmission Lines and Source Substations.....	41
Figure 22. Yellow Group Blackfoot Area.....	42
Figure 23. Yellow Group Pocatello Area	43
Figure 24. Yellow Group Arbon Valley and Inkom Areas.....	44
Figure 25. Yellow Group American Falls Area.....	45
Figure 26. Blackfoot Double and Single Circuit Line Routes	46
Figure 27. American Falls Double and Single Circuit Line Routes	47
Figure 28. Arbon Valley and Inkom Double and Single Circuit Line Routes.....	48
Figure 29. Pocatello Double and Single Circuit Line Routes.....	49
Figure 30. Blackfoot New and Existing Line Routes	50
Figure 31. American Falls New and Existing Line Routes	51
Figure 32. Arbon Valley and Inkom New and Existing Line Routes.....	52
Figure 31. Pocatello New and Existing Line Route.....	53

LIST OF APPENDICES

Appendix A

Community Goals and Siting Criteria.....	24
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Appendix B

Group Alternatives.....	26
-------------------------	----

Appendix C

Supplemental Maps.....	46
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GLOSSARY

Buildout—The point at which all available land is developed according to land-use ordinances. Buildout is expected to occur in the distant future, not within a specific timeframe.

Capacity—The maximum amount of power an element of the power system can handle or produce. Measured in megawatts (MW).

Demand—The amount of energy used at one time. Measured in megawatts (MW).

Distribution circuits (12.5 to 34.5 kilovolts [kV])—Electrical circuits used to distribute power from distribution substations to homes and businesses throughout the community.

Distribution substations—Substations that serve local loads, such as homes and businesses throughout the community.

Double circuits—Two transmission circuits sharing the same poles.

Eastern Idaho Electrical Plan (EIEP)—The Regional Electrical Plan for Eastern Idaho, originally completed in 2009 and updated in 2019.

Energy—Amount of power used over time. Measured in kilowatt-hours (kWh).

High-voltage transmission (161 to 500 kV)—Electrical circuits used to transfer large amounts of power long distances.

In-and-out—Two transmission circuits that serve a distribution substation. If one transmission circuit is out of service, the other transmission circuit can serve the substation.

Junction (Jct.)—The location at which a transmission circuit is attached to another transmission circuit.

Kilovolt (kV)—Unit of measurement of voltage. 1 kV = 1,000 volts.

Line—The physical wires and poles that, when connected to other lines and substations, make up an electrical circuit.

Load—Cumulative electrical demand from customers in an area.

Megawatt (MW)—Unit of measurement of power. 1 MW = 1,000,000 watts.

Power—The rate at which work is performed. Measured in megawatts (MW).

Regional electrical plan—Together with local jurisdictions and customers, Idaho Power creates regional electrical plans to determine preferred locations for future substations and transmission lines to meet customers' energy needs.

Reliability—The degree to which customers can depend on electrical service. Key metrics of reliability include how often power outages occur, how long the outages last and how many customers are affected.

Source substation—Converts high-voltage transmission lines (161-kV and above) to lower voltages (46 kV to 138 kV). Acts as a power source for distribution substations.

Substations—Substations transform one voltage to another and protect and control power lines. Substations include transformers, circuit breakers, switches, support structures and large metallic pipes, called bus, to connect the components.

Transmission (46 kV to 138 kV)—Electrical circuits used to transfer power from source substations to distribution substations and between distribution substations.

Voltage—The pressure that moves a current of electricity. Measured in kilovolts (kV) for power lines. 1 kV = 1,000 volts.

BACKGROUND

In 2009, Idaho Power developed the Eastern Idaho Electrical Plan (Original Plan) with the help of a community advisory committee (Original Committee) made up of community representatives. The Original Plan identified infrastructure improvements and additions to address anticipated growth and provide reliable power far into the future. It provided a strategy to serve the electrical needs of Idaho Power's customers in a region made up of Bingham, Bannock, Power and Oneida counties. The Original Plan provided preferred locations for future substations and transmission line routes recommended by the Original Committee.

In 2019, Idaho Power performed a technical analysis of Eastern Idaho's electrical system and determined that 10 new distribution substations, five new source substations, and connecting transmission lines would be needed to serve anticipated buildout loads.

Another community advisory committee (the Committee) was formed. Idaho Power asked community members and representatives from environmental agencies, various government divisions and jurisdictions, tribal nations and small and large businesses to help update the Original Plan. A complete list of the [committee members](#) can be found following the cover page of this report. The members provided broad and diverse knowledge that added important insight to the electrical planning process.

The Committee started its work on the Eastern Idaho Electrical Plan Update (the Plan) in September 2019. Meetings were held monthly through January 2020. A final meeting occurred in March 2020. Through these meetings, the Committee was introduced to electrical power concepts and Idaho Power's electrical system. The Committee then reviewed and updated the Community Goals and Siting Criteria from the Original Plan. A list of the updated Community Goals and Siting Criteria can be found in [Appendix A](#). The following items were out of the scope of the Plan:

- Distribution circuits
- Transmission lines outside the Plan area
- 500-kilovolt (kV) transmission lines associated with the Gateway West project, which has its own process: idahopower.com/energy/planning/project-news/gateway-west/

To facilitate the Plan's development, the study area was divided into the following sub-areas:

- 161-kV and Higher Transmission Lines and Source Substations
- Area 1: Blackfoot Area
- Area 2: Pocatello Area
- Area 3: Arbon Valley and Inkom Areas
- Area 4: American Falls Area

The Committee broke into four groups to develop recommendations for the location of future transmission lines and substations. The results of each group's efforts can be found in [Appendix B](#).

The Committee used the recommendations from all four groups to develop a preferred option for each new substation location and transmission line route. These options will be part of Idaho

Power's long-range plan and will be built only as required by growth. The Committee also developed alternative options in case preferred options are not feasible at the time of construction. If the preferred option is not feasible and an alternative is not provided or is not feasible, Idaho Power will use the Community Goals and Siting Criteria to select the best location. Details and maps of the preferred and alternative options are in the [Mapping Results](#) section of this document.

The maps included in the Mapping Results section of this document show proposed new transmission lines and substations. Supplemental maps showing additional features of transmission lines, such as double-circuited routes and proposed routes that follow existing transmission routes, can be found in [Appendix C](#).

For more information on Idaho Power's process for updating electrical plans, review the Electrical Plan Update Process document on the Idaho Power website or use the following link:
idahopower.com/energy/planning/regional-electric-plans/

Questions about the electrical planning process or the results of the Eastern Idaho Electrical Plan (EIEP) Update 2019 can be directed to the Eastern Regional Planning Engineer at 208-236-7750.

MAPPING RESULTS

High Voltage Transmission Lines and Source Substations

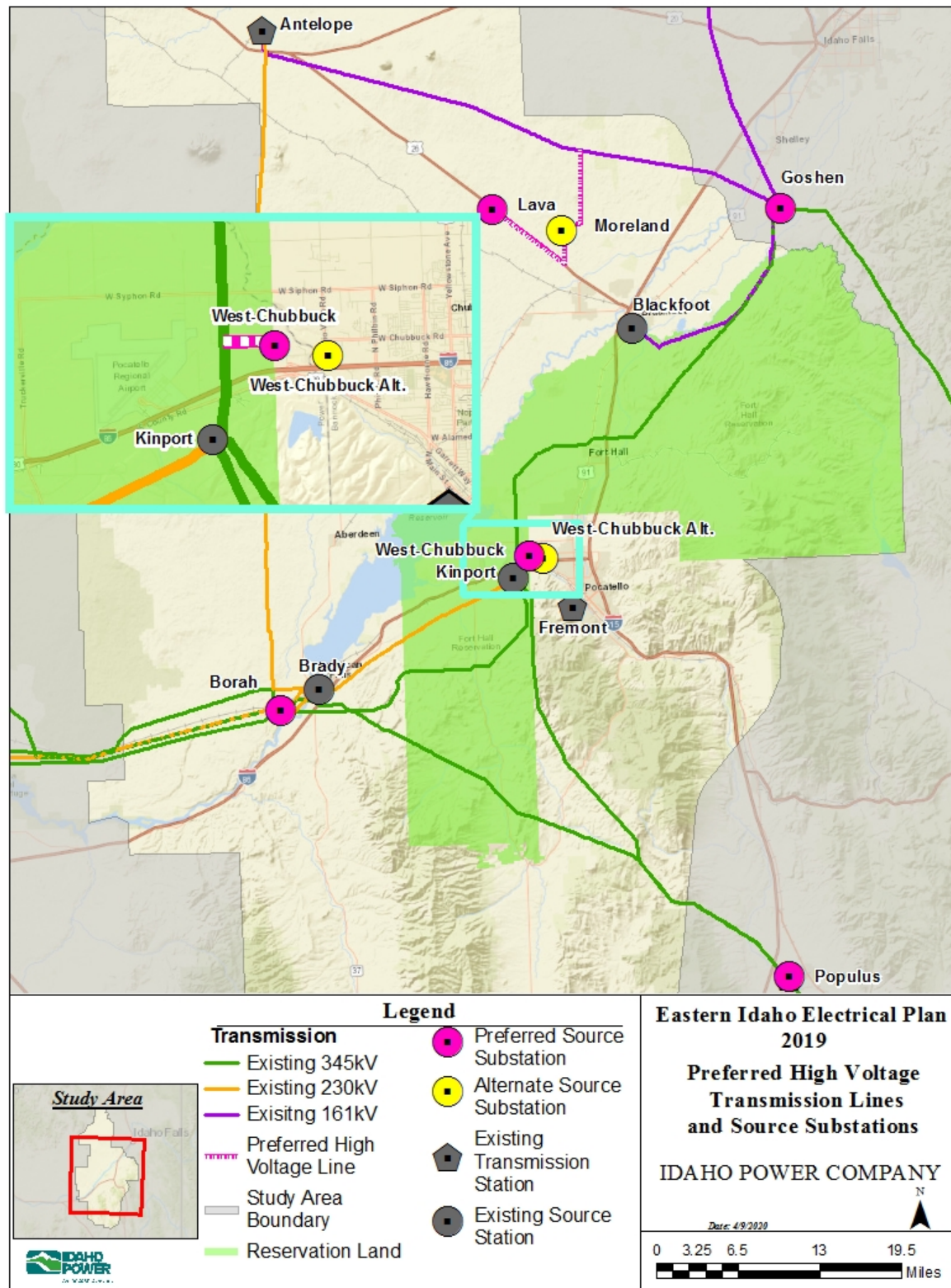


Figure 1. Preferred High Voltage Transmission Lines and Source Substations

Preferred Options

The Committee chose preferred locations for five new source substations and the connecting transmission line routes in Eastern Idaho.

Preferred Source Substation Locations

Goshen Source

The Committee opted to co-locate the Goshen source substation with the existing Goshen transmission station, northeast of the city of Blackfoot.

Borah Source

The Committee opted to co-locate the Borah source substation with the existing Borah transmission station, east of the city of American Falls.

Populus Source

The Committee opted to co-locate the Populus source substation with the existing Populus transmission station, west of the city of Downey.

West Chubbuck Source

The Committee opted to locate the West Chubbuck source substation along Tank Farm Road, north of the fuel tanks and the gravel pit.

Lava Source

The Committee opted to co-locate the Lava source substation with the existing Lava distribution substation, at the intersection of Highway 26 and N 1400 W, northwest of the city of Blackfoot.

Preferred High-Voltage Transmission Line Routes

West Chubbuck Source to Kinport/Goshen 345-kV transmission line

Build a double-circuit 345-kV transmission line west from the location of the source substation to the existing 345-kV transmission line.

Lava Source to Antelope/Goshen 161-kV transmission line

Build a 161-kV transmission line connecting the Lava Source to the Antelope/Goshen transmission line. The line will run southeast of Lava substation along Highway 26, turning north on N 850 W, east on W 700 N and north on N 700 W, continuing north to the intersection with the existing 161-kV transmission line.

Alternative Source Substation locations

West Chubbuck Source

The Committee identified an alternative site for the West Chubbuck source substation to be located north of the wastewater treatment plant on Rio Vista Road.

Lava Source

The Committee identified an alternative site for the Lava source substation to be co-located with the existing Moreland distribution substation at the corner of N 850 W and W 650 N, northwest of the city of Blackfoot.

Alternative High-Voltage Transmission Line Routes

Lava Source to Antelope/Goshen 161-kV transmission line

The Committee's alternate location is along the preferred 161-kV transmission line route. If the alternate location is chosen, the line route will follow the preferred line route between Moreland substation and the Antelope/Goshen 161-kV transmission line.

West Chubbuck Alternative Source to Kinport/Goshen 345-kV transmission line

The Committee's alternate line route is along the proposed 138-kV line connecting future Sub 9 and Sub 10. The alternate 345-kV line would follow this proposed line route to the location of Sub 10, then follow the preferred 345-kV line route to the intersection with the Kinport/Goshen transmission line.

Area 1: Blackfoot Area

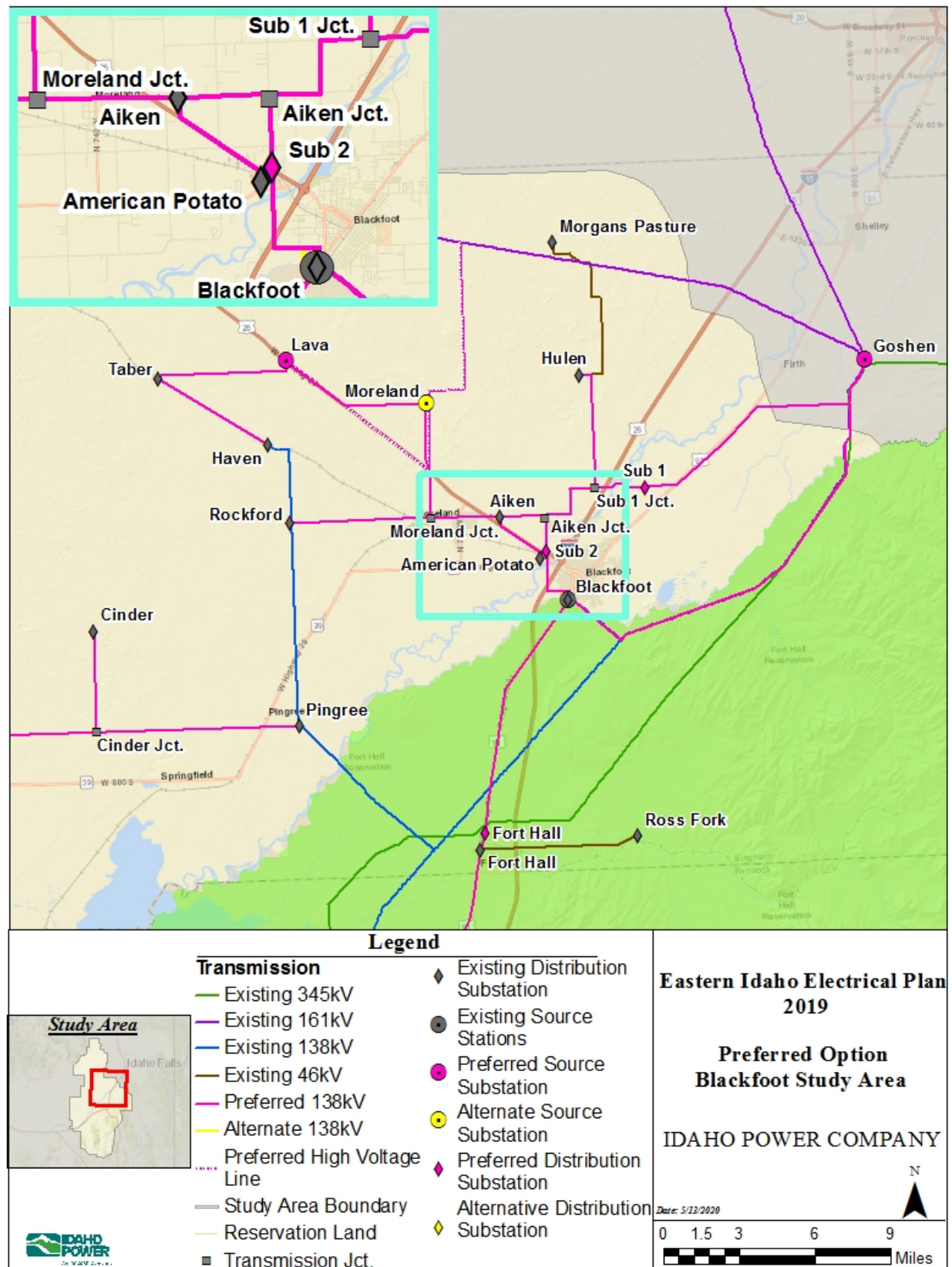


Figure 2. Blackfoot Area

Preferred Options

In the Blackfoot Study Area, the Committee selected preferred locations for three new substations and the connecting 138-kV line routes.

Preferred Substation Locations

Distribution Substation 1 (Sub 1)

To be located north of the intersection of Cottonwood and the Corbett Slough Canal.

Distribution Substation 2 (Sub 2)

To be located northeast of the intersection of N 400 W and Highway 26. This location currently has a small amount of apparatus equipment, but is not a full substation.

Fort Hall Substation (FTHL)

When Fort Hall Substation is upgraded, it will be relocated north of the existing site. The new preferred location will be near the intersection of Cattle Trail Road and Highway 91, north of Widowville road.

Preferred 138-kV Transmission Line Routes

Goshen Source to Sub 1

Build a new 138-kV line following the existing 161-kV line south out of Goshen to E 600 N. Build a new single-circuit 138-kV line west from Goshen on E 600 N, then south on Highway 91 to Sub 1.

- *Uses an existing transmission line route*

Goshen Source to Blackfoot Source

Repurpose the existing 161-kV line south out of Goshen to Blackfoot Substation. This line will be operated at 138-kV in the future.

- *Uses an existing transmission line route*

Sub 1 to Sub 1 Jct. to Hulen Substation

From Sub 1, build new single-circuit 138-kV line west, skirting around as many fields as possible. Cross the river at the intersection of N 150 W and Archery Range Road, continuing straight west across Interstate 15, to the intersection of N 200 W and W 300 N. From this new Sub 1 Jct. to Hulen Substation, upgrade the existing 46-kV line to a 138-kV line.

- *Uses an existing transmission line route*

Sub 1 Jct. to Aiken Jct. to Aiken Substation

Upgrade the existing 46-kV line to 138 kV west from Sub 1 Jct. along W 300 N, then south on N 300 W, then west along W 200 N to Aiken Substation.

- *Uses an existing transmission line route*

Blackfoot Source to Sub 2 to Aiken Substation

Build a new double-circuit 138-kV line north out of Blackfoot Substation along Camas Street, then turn west on Riverton Road. Follow the existing 46-kV line route, crossing Interstate 15 and the Snake River, to Highway 39. One new 138-kV line will continue north to Sub 2, following the existing 46-kV route. The other new 138-kV line will turn west on Highway 39,

then turn north following the existing 46-kV line route to American Potato Substation, then continue along that same line route to Aiken Substation.

- *Uses an existing transmission line route*

Sub 2 to Aikn Jct.

Upgrade the existing 46-kV line to 138 kV along N 400 W.

- *Uses an existing transmission line route*

Aiken Substation to Moreland Jct. to Rockford Substation

Upgrade the existing 46-kV line to 138 kV along W 200 N.

- *Uses an existing transmission line route*

Moreland Jct. to Moreland Substation

Upgrade the existing 46-kV line to 138 kV. To maintain reliability, the 138-kV and 161-kV lines in this section can't be a double circuit. They must be built as two single-circuit lines.

- *Uses an existing transmission line route*

Moreland Substation to Lava Substation

Build a new 138-kV single-circuit line west out of Moreland Substation along W 650 N to Highway 26. Build a new 138-kV line as a double circuit with the proposed 161-kV line northwest along Highway 26 to Lava Substation.

Lava Substation to Taber Substation

Upgrade the existing 46-kV line to 138 kV along W 800 N and 1900 Road W.

- *Uses an existing transmission line route*

Taber Substation to Haven Substation

Build a new 138-kV single-circuit line southeast along West Taber Road to Haven Substation.

Blackfoot Source to Fort Hall Substation to Tyhee Substation

Upgrade the existing 46-kV line to 138 kV along Highway 91 to Fort Hall Substation and to Tyhee Substation.

- *Uses an existing transmission line route*

Pingree Substation to Cinder Jct. to Cinder Substation

Upgrade the existing 46-kV line to 138 kV along W 600 S from Pingree Substation to Cinder Jct. then north from Cinder Jct. to Cinder Substation.

- *Uses an existing transmission line route in a desert area*

Alternative Options

Blackfoot Source to Sub 2

Build a new double-circuit 138-kV line out of Blackfoot substation, following the existing 46-kV line route west then north behind the housing developments to Riverton road.

- *Uses an existing transmission line route*

Area 2: Pocatello Area

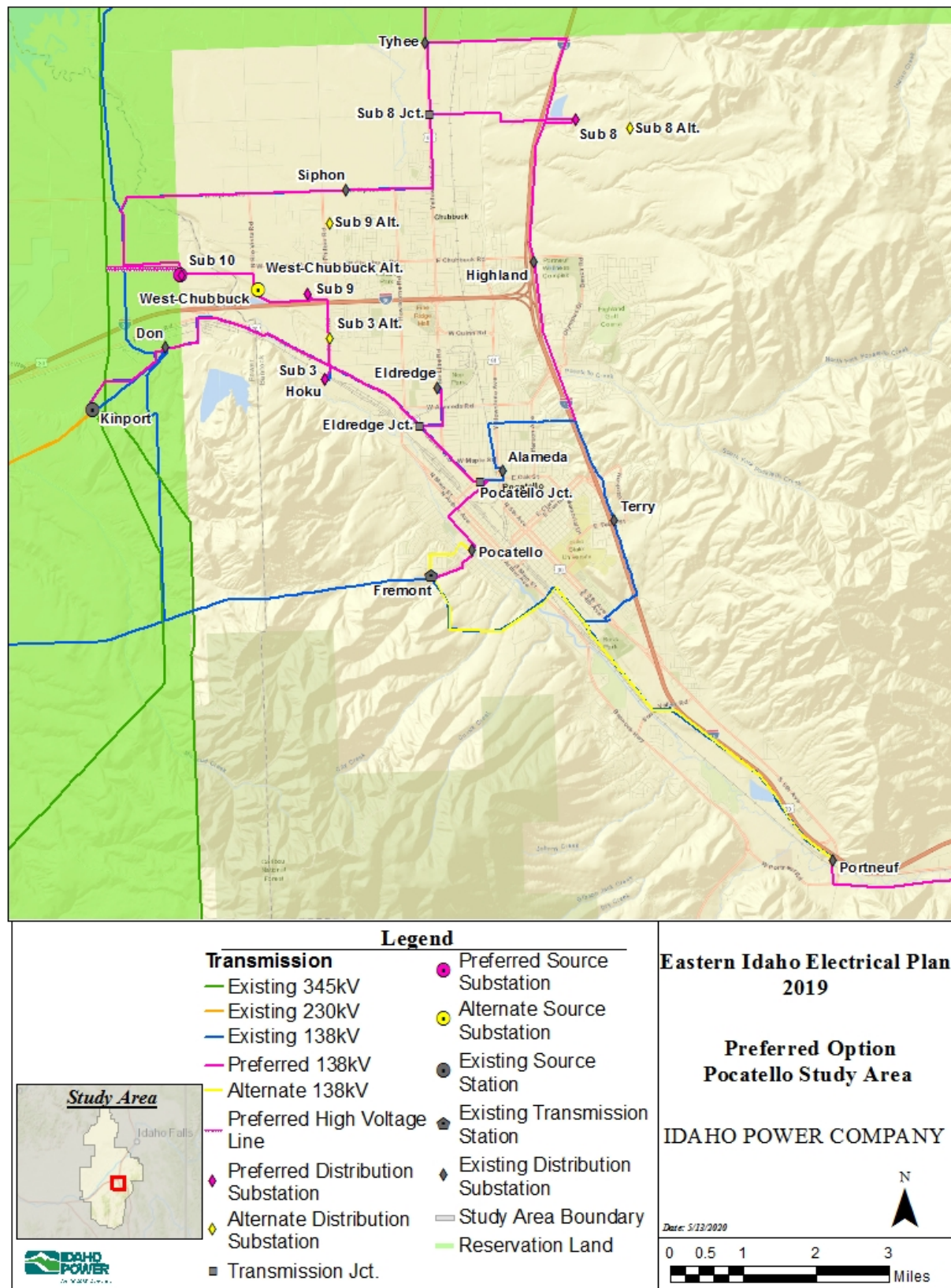


Figure 3. Pocatello Area

Preferred Options

In the Pocatello Study Area, the Committee selected preferred locations for four new distribution substations and the connecting 138-kV transmission line routes.

Preferred Substation Locations

Distribution Substation 3 (Sub 3)

Co-locate with the existing Hoku Substation location.

Distribution Substation 8 (Sub 8)

To be located just east of the Simplot settling ponds, near the intersection of Interstate 15 and W 2 ½ Mile Road.

Distribution Substation 9 (Sub 9)

To be located in the gravel pit north of Highway 86 and west of North Philbin Road.

Distribution Substation 10 (Sub 10)

Co-locate with the proposed West Chubbuck Source Substation.

Preferred 138-kV Transmission Line Routes

Tyhee Substation to Sub 8

Build a new single-circuit 138-kV line west out of Tyhee Substation along Reservation Road crossing Hiline Road. Continue east on Paintbrush Lane crossing Interstate 15. Turn south on the east side of the interstate. Continue to the south side of the Simplot settling ponds then east to Sub 8. There will be three 138-kV lines between Sub 8 and the interstate on the south side of the settling ponds.

Sub 8 to Highland Substation

Build a 138-kV line east from Sub 8 along the south side of the Simplot settling ponds to the east side of the interstate. Turn south and continue along the interstate to Highland Substation.

Highland Substation to existing 138-kV Siphon-Terry-Alameda Transmission Line

Build a 138-kV line south out of Highland substation along the east side of the interstate to the existing 138-kV Siphon-Terry-Alameda line.

Sub 8 Jct to Sub 8

Build a new 138-kV line east from Sub 8 Jct. at the intersection of Yellowstone Ave and W Tyhee Road. The line will head east along Tyhee Road, crossing Hiline Road, following the ravine across Interstate 15, then heading east to Sub 8.

- *Avoids residential areas and will connect transmission systems on the east and west sides of the interstate*

Tyhee Substation to Sub 8 Jct. to Siphon Substation

Build a double-circuit 138-kV line south from Tyhee Substation along Highway 91 to the Sub 8 Jct. Continue south along Highway 91, turning west on W Siphon Road to Siphon Substation.

- *Uses an existing transmission line route*

Siphon Substation to Sub 10/West Chubbuck Source

Build a new 138-kV line as a double circuit with the existing 138-kV line west from Siphon Substation along W Siphon Road, turning south where the existing line heads south near the intersection with University Road. Continue to the future intersection of the preferred 345-kV line, then turn east to Sub 10/West Chubbuck Source.

- *Uses an existing transmission line route*

Sub 10/West Chubbuck Source to Sub 9

Build a new 138-kV line directly east from Sub 10/West Chubbuck Source, crossing the river to North Rio Vista Road, turning south on Rio Vista Road and continuing to the north side of Interstate 86, then heading east to Sub 9.

Sub 9 to Hoku Substation

Build a new 138-kV line east out of Sub 9 to Philbin Road, continuing south on Philbin Road, crossing Interstate 86 and continuing to the intersection with the existing 138-kV line. Follow the 138-kV line route to Hoku Substation.

Kinport Source to Donn Substation

Build a new 138-kV line as a double circuit with the existing Kinport to Siphon 138-kV line route. Turn east and continue to Donn Substation.

- *Uses an existing transmission line route*

Donn Substation to Eldredge Substation Jct. to Pocatello Jct.

Build a new 138-kV line as a double circuit with the existing 138-kV line along Highway 30 to Eldredge Jct. then on to Pocatello Jct.

- *Uses an existing transmission line route and increases reliability by connecting the transmission systems on the north and south sides of the Pocatello area*

Eldredge Jct. to Eldredge Substation

Upgrade the existing 46-kV line to 138 kV as a double circuit with the existing 138-kV line from Eldredge Jct. east along W Cedar Street, then north along Pole Line Road to Eldredge Substation.

- *Uses an existing transmission line route*

Pocatello Jct. to Pocatello Substation

Upgrade the existing 46-kV line to 138 kV, heading southwest from Pocatello Jct. on East Day Street, turning southeast following the existing 46-kV line in the alley between Hayes and Grant, and continuing to Pocatello Substation.

- *Uses an existing transmission line route*

Pocatello Substation to Fremont Station

Upgrade the existing 46-kV line to 138 kV, southwest out of Pocatello Substation along West Wyeth Street and West Fremont Street to Fremont Station.

- *Uses an existing transmission line route that is shorter than other existing line routes*

Alternative Options

The Committee selected alternative options for three future substations.

Sub 3 Alternative

To be located on the northeast section of Quinn and Philbin. If the northeast section is unavailable, any other part of this intersection will work.

Sub 8 Alternative

To be located near the southern exit of the gun range.

Sub 9 Alternative

To be located just off Philbin Road, north of the canal that runs along the Church Lateral.

The Committee also selected alternative line routes for the following transmission line sections.

Pocatello Substation to Fremont Station

Upgrade the existing 46-kV line to 138 kV, northwest out of Pocatello Substation, which runs along Rocky Point Road and north of Fremont Park, continuing south to Fremont Station.

- *Uses an existing transmission line route*

Fremont Station to Portneuf Substation

Build a new 138-kV line as a double circuit with the existing 138-kV line route from Fremont Station to Portneuf Substation. This line will be required if the Populus to Sub 4 line isn't built.

- *Uses an existing transmission line route*

The map displays the proposed Interstate 15 corridor through the Snake River Valley. The route is highlighted in pink and yellow, showing the path from Portneuf in the north to Populus in the south. Key locations and features include:

- Portneuf:** The northern terminus of the proposed route.
- Sub 4 and Sub 4 Alt.:** Two proposed alignments near Portneuf, marked with yellow diamonds.
- McCammon:** A town located along the proposed route.
- Armo:** A town located to the east of the proposed route.
- Populus:** The southern terminus of the proposed route, marked with a pink circle.
- Sub 5 and Sub 5 Alt.:** Two proposed alignments near Populus, marked with yellow diamonds.
- Sub 5 Jct.:** A junction point near Populus, marked with a pink square.
- Arbon Valley Hwy:** A road running parallel to the proposed route near Arbon.
- Arbon:** A town located to the west of the proposed route.
- Snake River Valley:** The geographical area through which the route is proposed.
- Topography:** The map shows the rugged terrain of the Snake River Valley, with various shades of green and brown indicating different elevations and land use.
- Infrastructure:** Existing roads, including Highway 15 and Highway 30, are shown in grey. The proposed route is shown in pink and yellow.



Preferred Options

In the Arbon Valley and Inkom areas, the Committee proposed preferred locations for two new distribution substations and the connecting 138-kV transmission line routes.

Preferred Substation Locations

Distribution Substation 4 (Sub 4)

To be located on W Portneuf Road, northeast of the intersection with North Indian Creek Road, and southwest of North Marsh Creek Road.

Distribution Substation 5 (Sub 5)

To be located at the intersection of Arbon Valley Highway and Lindley Road.

Preferred 138-kV Transmission Line Routes

Portneuf Substation to Sub 4

Rebuild the existing inactive 46-kV line to 138 kV along West Portneuf Road.

- *Uses an existing transmission line route*

Sub 4 to Populus Station

Follow old Highway 91 where possible with a new 138-kV line from Sub 4 to Populus Station.

Sub 5 Jct. to Sub 5

Build a new double-circuit 138-kV line east from Sub 5 Jct. on Church Road, then north on Arbon Valley Highway to Lindley Road.

Alternative Options

The Committee selected alternative options for two future substations:

Distribution Substation 4 (Sub 4)

To be located on Marsh Creek road near the cement plant.

Distribution Substation 5 (Sub 5)

To be located at the intersection of Arbon Valley Highway and the existing 138-kV line.

The Committee also selected an alternative line route for the following transmission line section:

Sub 4 to Populus

Follow the existing 345-kV lines west out of Populus Station to Interstate 15, continue north on the east side of Interstate 15 to old Highway 91, continue north on Highway 91 to Highway 30. Continue north along railroad tracks near Indian Rock State Park. Continue along railroad tracks, crossing Interstate 15 to Sub 4.

Area 4: American Falls Area

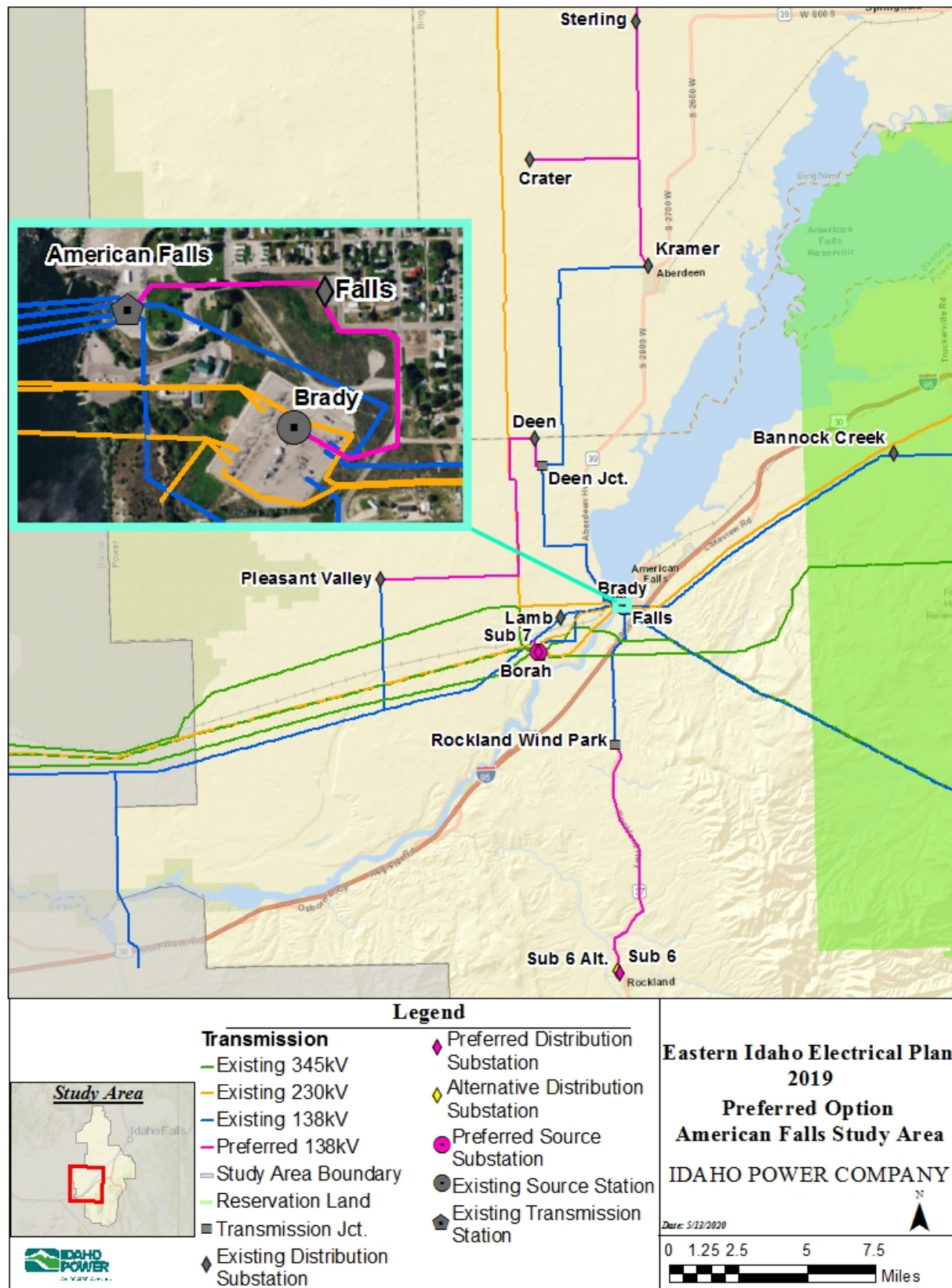


Figure 5. American Falls Area

Preferred Options

In the American Falls Area, the Committee proposed preferred locations for two new distribution substations and the connecting 138-kV transmission line routes.

Preferred Substation Locations

Distribution Substation 6 (Sub 6)

To be located north of Rockland Highway, across from the intersection with North Willow Street.

Distribution Substation 7 (Sub 7)

To be co-located with Borah Source Substation.

Preferred 138-kV Transmission Line Routes

Rockland Wind Park to Rockland/Sub 6

Build a new 138-kV line south along Rockland Highway from Rockland Wind Park to Sub 6.

American Falls Station to Falls Substation to Brady Source

Upgrade the existing 46-kV line to 138 kV, starting at American Falls Station, to Falls Substation, to Brady Source.

- *Uses an existing transmission line route*

Borah Source to existing Lamb/Pleasant Valley 138-kV line

Build a new 138-kV line following the 230-kV line route northwest out of Borah Substation to the existing Lamb/Pleasant Valley 138-kV line.

- *Uses an existing transmission line route*

Pleasant Valley Substation to Deen Substation to Deen Jct.

Build a new 138-kV line east from Pleasant Valley Substation on South Pleasant Valley Road to the existing 230-kV line. Build the 138-kV line as a double circuit with the existing 230-kV line going north from Pleasant Valley Road to W 2300 S, then turn east on W 2300 S to Deen Substation. Upgrade the existing 46-kV line south out of Deen Substation along Deen Sub Road, turning east on N Pleasant Valley Road to the existing American Falls Transmission Station/Kramer 138-kV line.

- *Uses an existing transmission line route*

Kramer Substation to Sterling Substation to Cinder Jct.

Upgrade the existing 46-kV line to 138 kV from Kramer Substation to Sterling Substation to Cinder Jct., including the transmission line that serves Crater Substation.

- *Uses an existing transmission line route*

Alternative Options

The Committee selected an alternate for one future substation and no alternate line routes.

Distribution Substation 6 (Sub 6)

To be located near the intersection of Cemetery Road and Rockland Highway.

IMPLEMENTATION PLAN

The Committee recommended infrastructure improvements to the Idaho Power system to serve the anticipated load in Eastern Idaho at buildout. Not all the infrastructure improvements proposed by the Committee are needed in the near term. Instead, they will be constructed over time based on load growth, reliability needs and transmission line/transformer capacity. Based on Idaho Power's load forecasts in 2019, the following infrastructure improvements are anticipated in the following time period:

0–10 Years (2020–2029)

- Upgrade Lava Substation to a source substation (See Figure 1).
- Build a new double-circuit 138-kV transmission line from Blackfoot Source to near Sub 2 and American Potato Substation (See Figure 2).
- Build a new 138-kV Fort Hall Substation (See Figure 2).
- Install a new transformer at Hoku Substation, Sub 3, to serve local load (See Figure 3).
- Build a new substation in North East Bannock County, Sub 8 (See Figure 3).
- Build a new substation in Arbon Valley, Sub 5 (See Figure 4).

The preferred options for future substation locations and transmission line routes identified in the Plan will be the first solutions investigated for implementation when required by growth. Individual projects resulting from the Plan might require jurisdictional approval, which often includes an open, public siting process. Facilities identified in this plan will be preferred but are subject to change due to land availability, community and customer preference, and needs discovered during the development phase. During the development phase, permitting and siting typically takes 12 to 18 months. Depending on the project, construction can take an additional 6 to 12 months. The process can include the following steps:

- Pre-application meeting with jurisdiction to identify the project need and location(s).
- Public meetings—outreach and open houses with customers, landowners and stakeholders.
 - If multiple options exist, they can be vetted here to establish a site preference.
- Permit application—development and submission by Idaho Power for consideration and review by jurisdictional planning staff.
- Public Hearing—permit consideration and decision by the jurisdictional hearing body.
 - Idaho Power presents the application, identifying need, location and site improvements.
 - Public opportunity to provide information toward the decision (testimony).
 - Hearing body decision to approve, approve with conditions or deny application.

Idaho Power believes public engagement during the siting and permitting of facilities is an important part of the planning process. We appreciate communities' willingness to participate in developing the best possible solutions to continue serving customers. We encourage the inclusion of details from this Plan in city and county comprehensive plans. This will inform communities about future utility facilities during their planning process.

Idaho Power sincerely thanks members of the Committee for their participation and Idaho Central Credit Union for providing facilities to accommodate the process. The Plan will facilitate the public siting process for improvements to serve eastern Idaho.

Appendix A

Community Goals and Siting Criteria

As a first step in determining the feasibility of individual line routes and substation locations, the Community Advisory Committee created community goals and siting criteria to guide their choices for line route and substation location alternatives. The goals and criteria on the following lists are **not** weighted or prioritized.

Community Goals

- Use methods and resources that preserve our competitive edge of affordable energy today and in the future.
- Foster and maintain positive relationships with communities, including tribes, as plans are developed. Ensure sufficient outreach.
- Plan, design, site and develop facilities with consideration for potential impacts to all aspects of the environment — physical, social, cultural, historical, biological, economic, etc.
- Preserve agricultural land operations.
- Provide adequate capacity to serve loads reliably.
- Ensure enough infrastructure is available and provide redundancy near industrial corridors/clusters (developed and potential industrial sites).
- Choose the most appropriate technologies to cost-effectively balance reliability, aesthetics, sustainability and efficiency.
- Design system flexibly to accommodate unexpected future scenarios.
- Consider impacts and costs due to siting on public vs. private vs. tribal lands.
- Balance and prioritize siting criteria based on the area (e.g., reliability may not be as critical as aesthetics in historical districts).

Siting Criteria

- Use existing infrastructure and corridors when possible.
- Avoid or mitigate compromising viewsheds, including sky lines and scenic highways.
- Site facilities to take advantage of clean energy opportunities when feasible.
- Avoid residential areas if possible.
- Site infrastructure to take advantage of and provide reliability to developed and potential industrial areas.
- Avoid disruptions of agricultural operations (e.g., crossing pivot circles with transmission lines).

- Avoid or mitigate impacts to sensitive or critically listed habitats (bird areas, migration corridors, wetlands, cottonwood corridors, etc.)
- Provide in-and-out transmission service to distribution substations to enhance reliability where feasible.
- Avoid water sources, developed greenway and gathering areas such as parks.
- Minimize river crossings.

Appendix B

Group Alternatives

BLUE GROUP MAPPING RESULTS

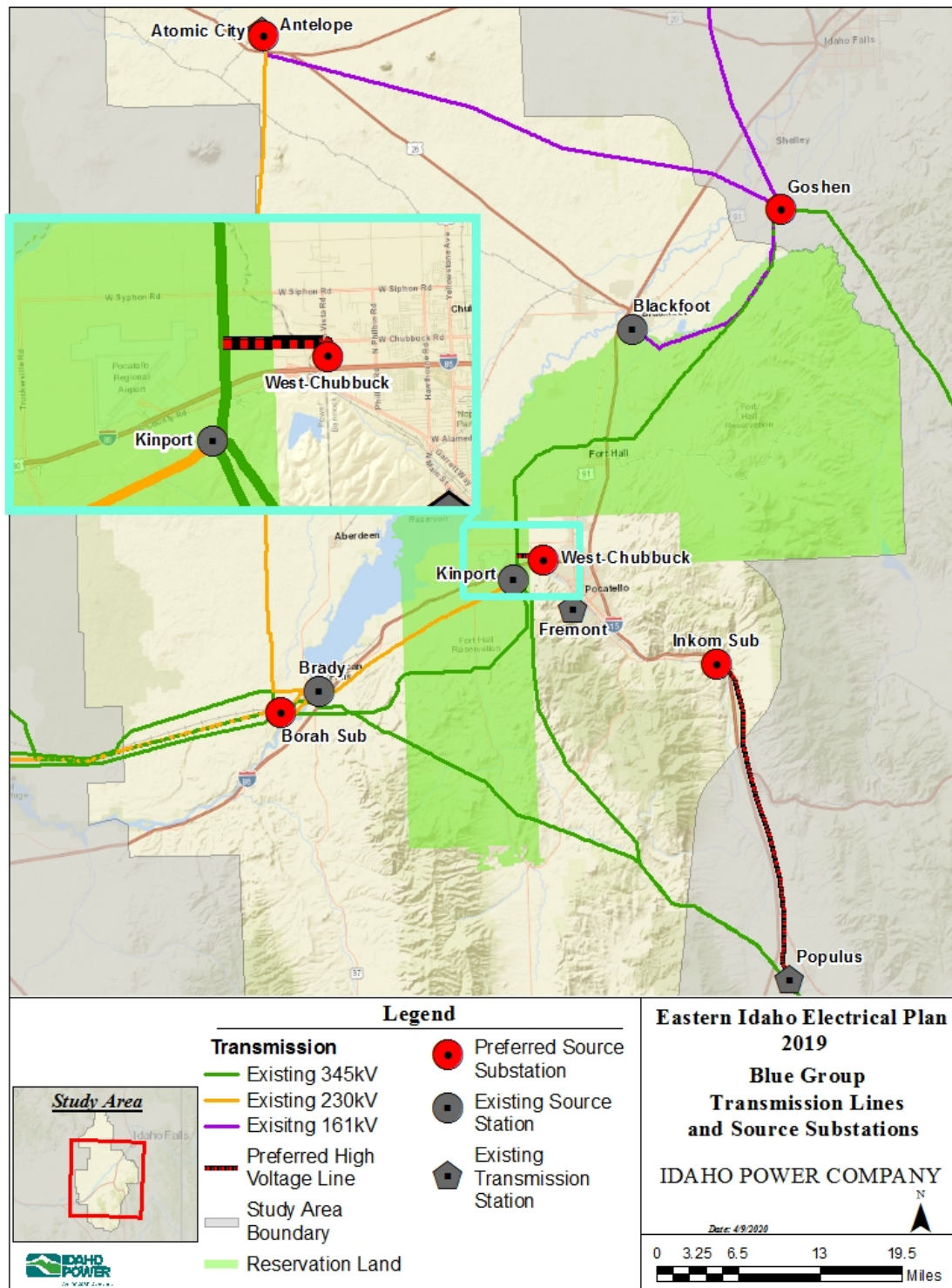


Figure 6. Blue Group Preferred High Voltage Transmission Lines and Source Substations

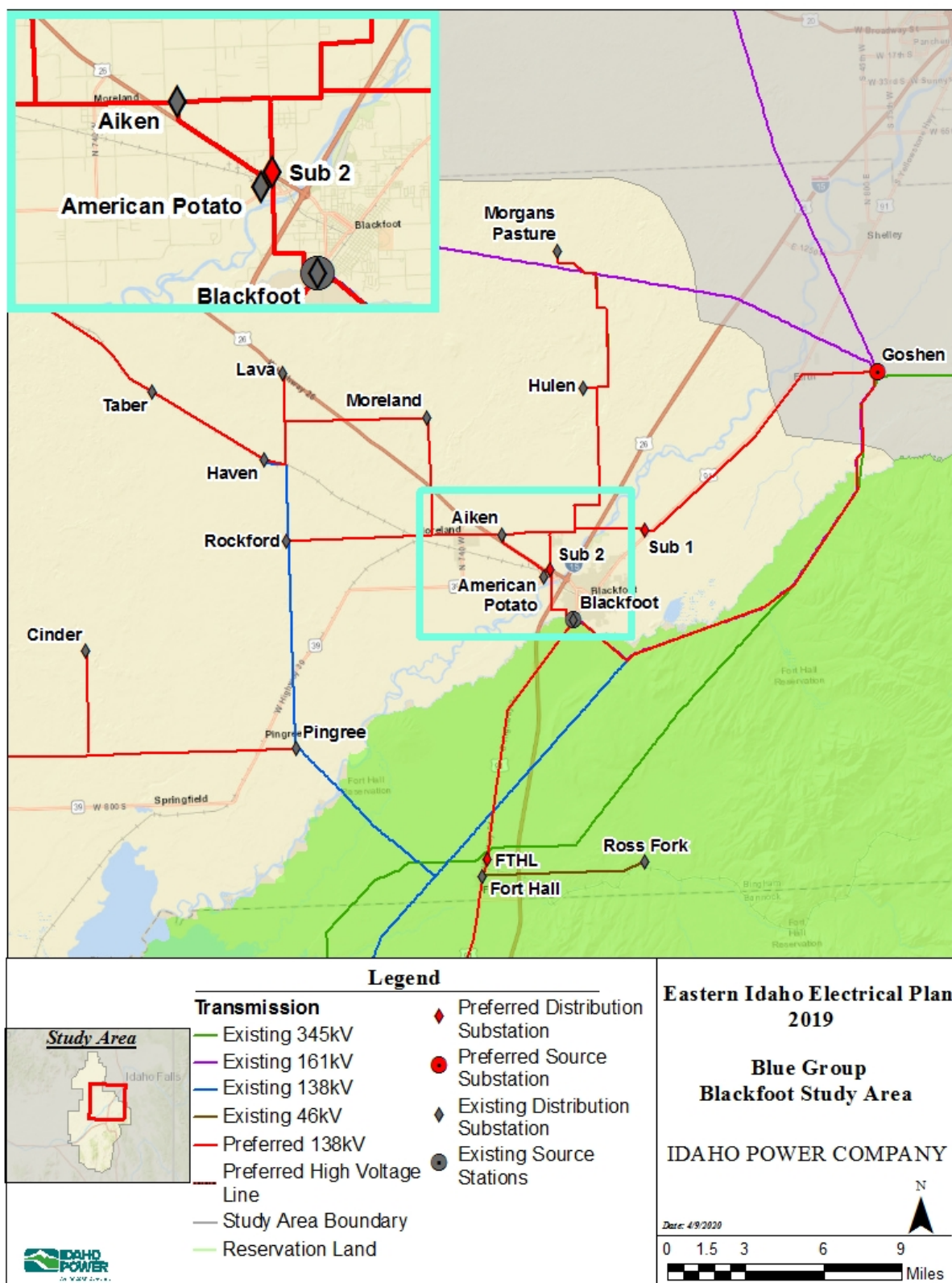


Figure 7. Blue Group Blackfoot Area

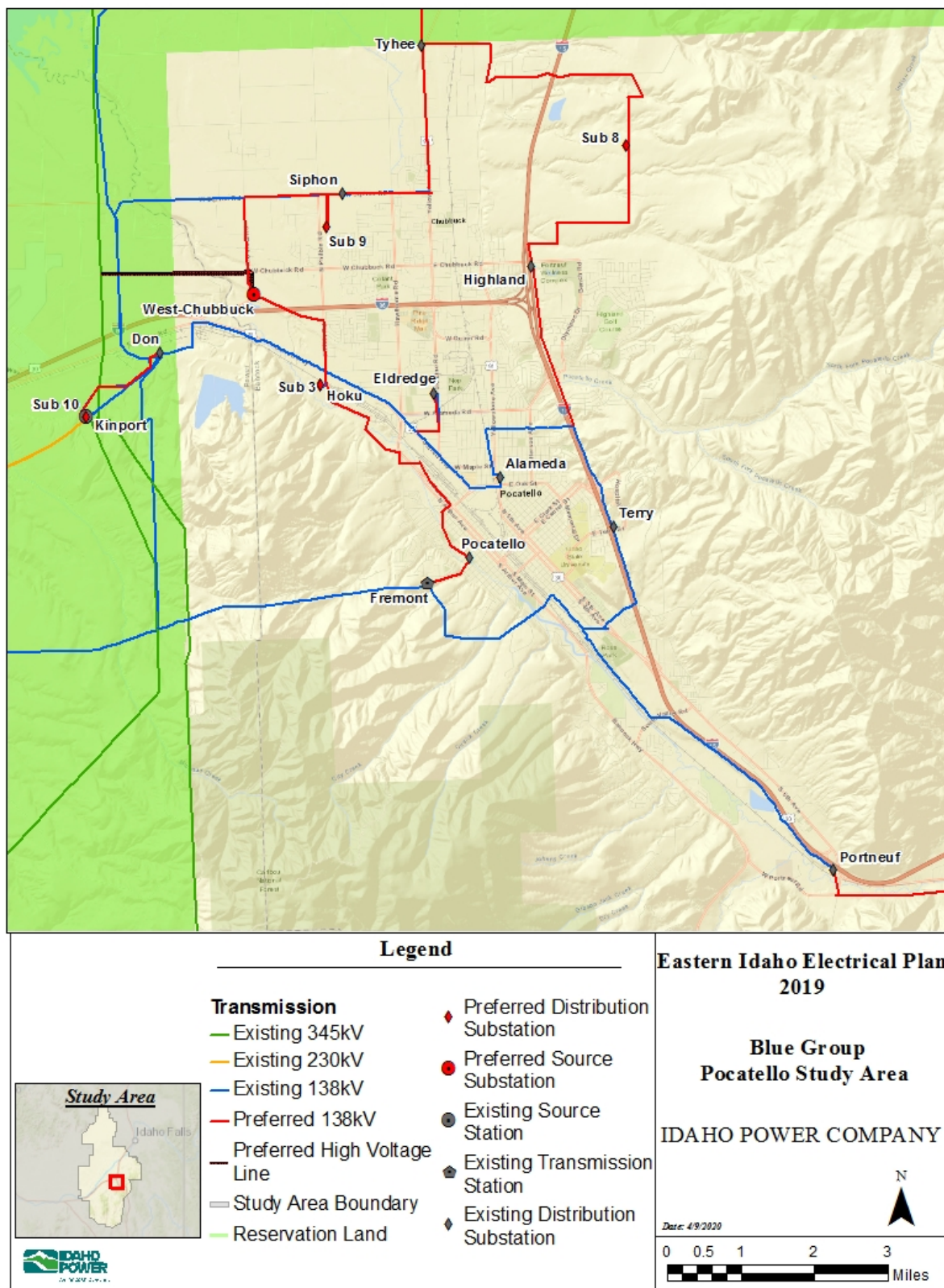


Figure 8. Blue Group Pocatello Area

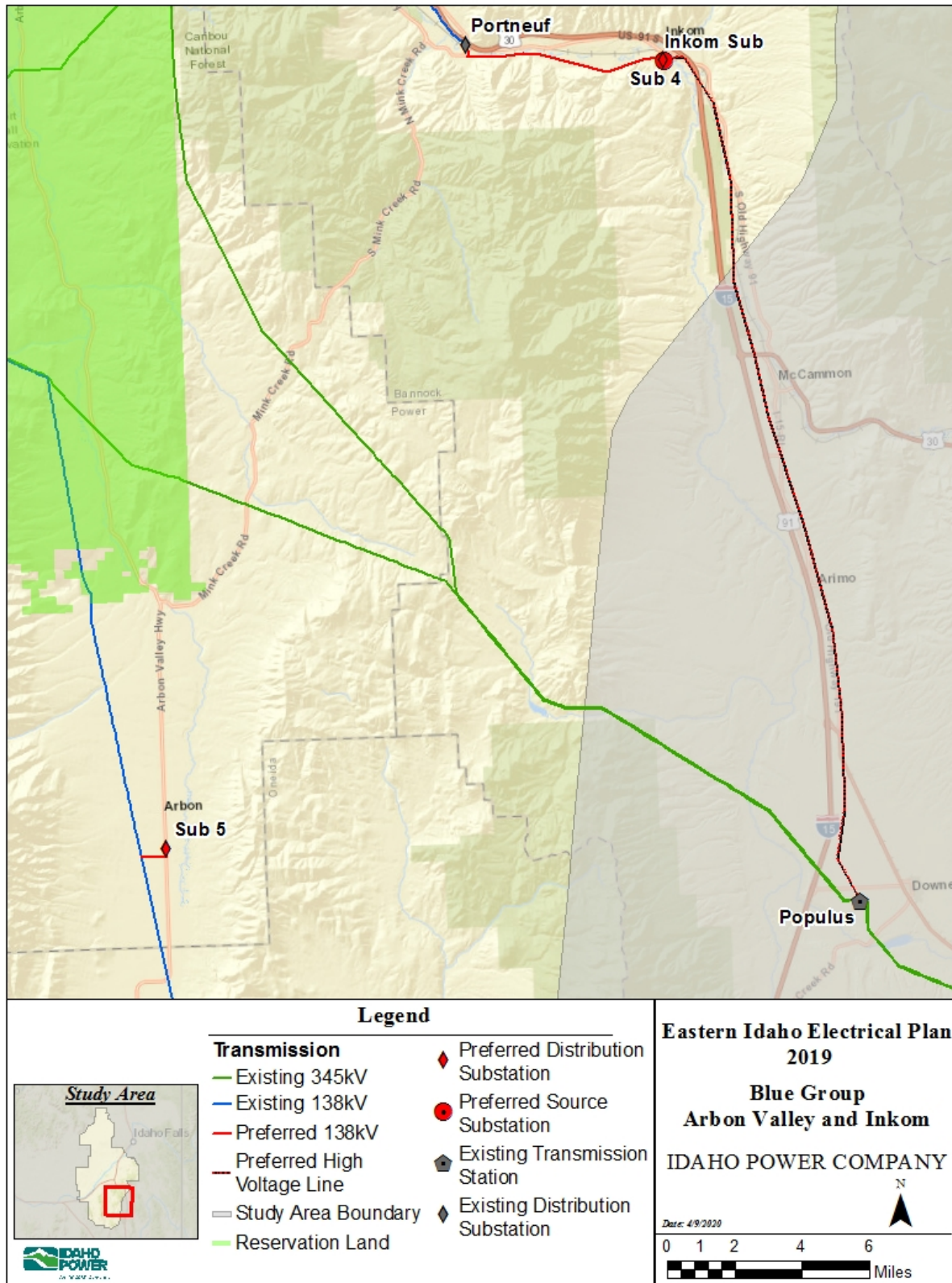


Figure 9. Blue Group Arbon Valley and Inkom Areas

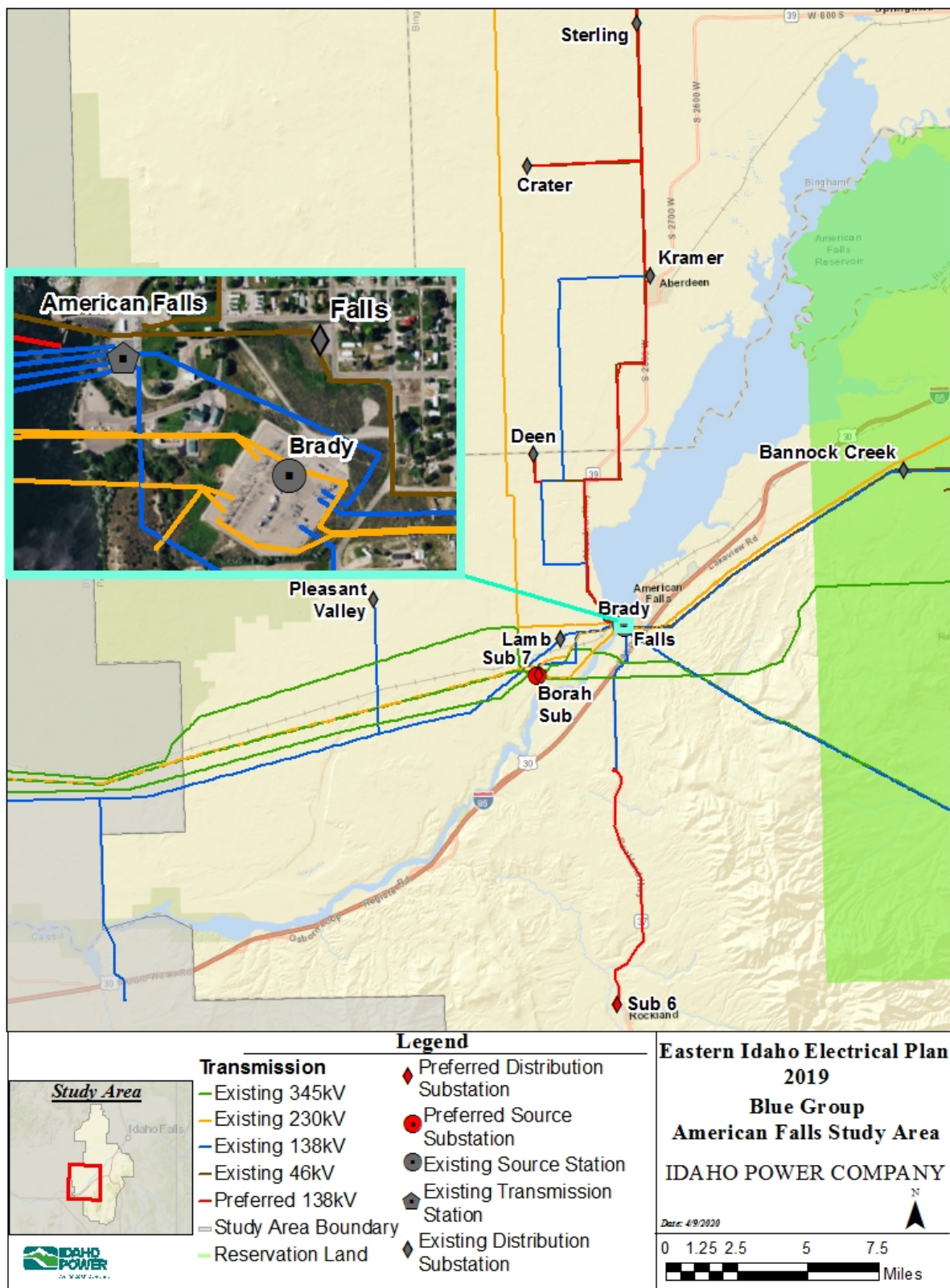


Figure 10. Blue Group American Falls Area

GREEN GROUP MAPPING RESULTS

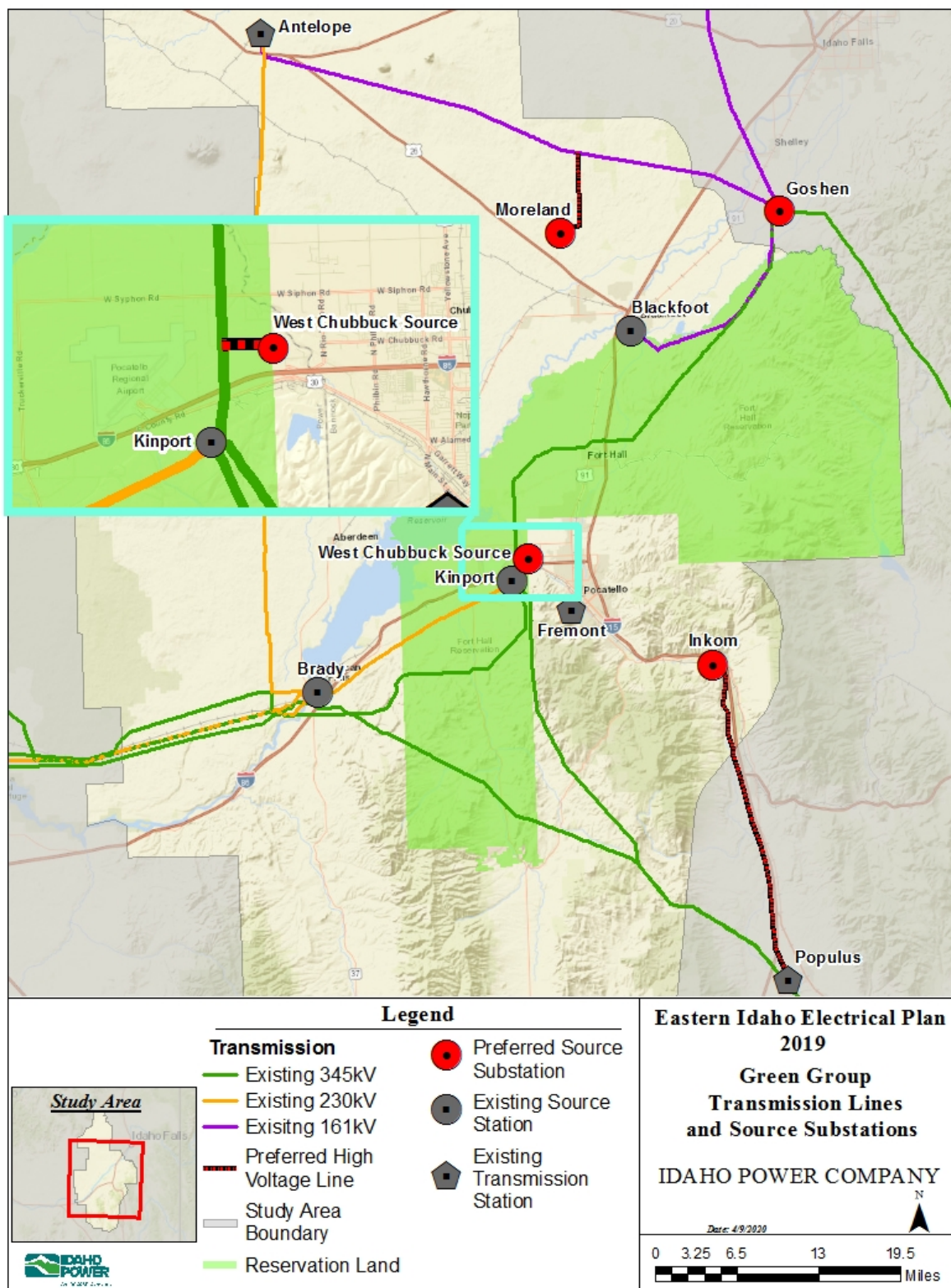


Figure 11. Green Group Preferred High Voltage Transmission Lines and Source Substations

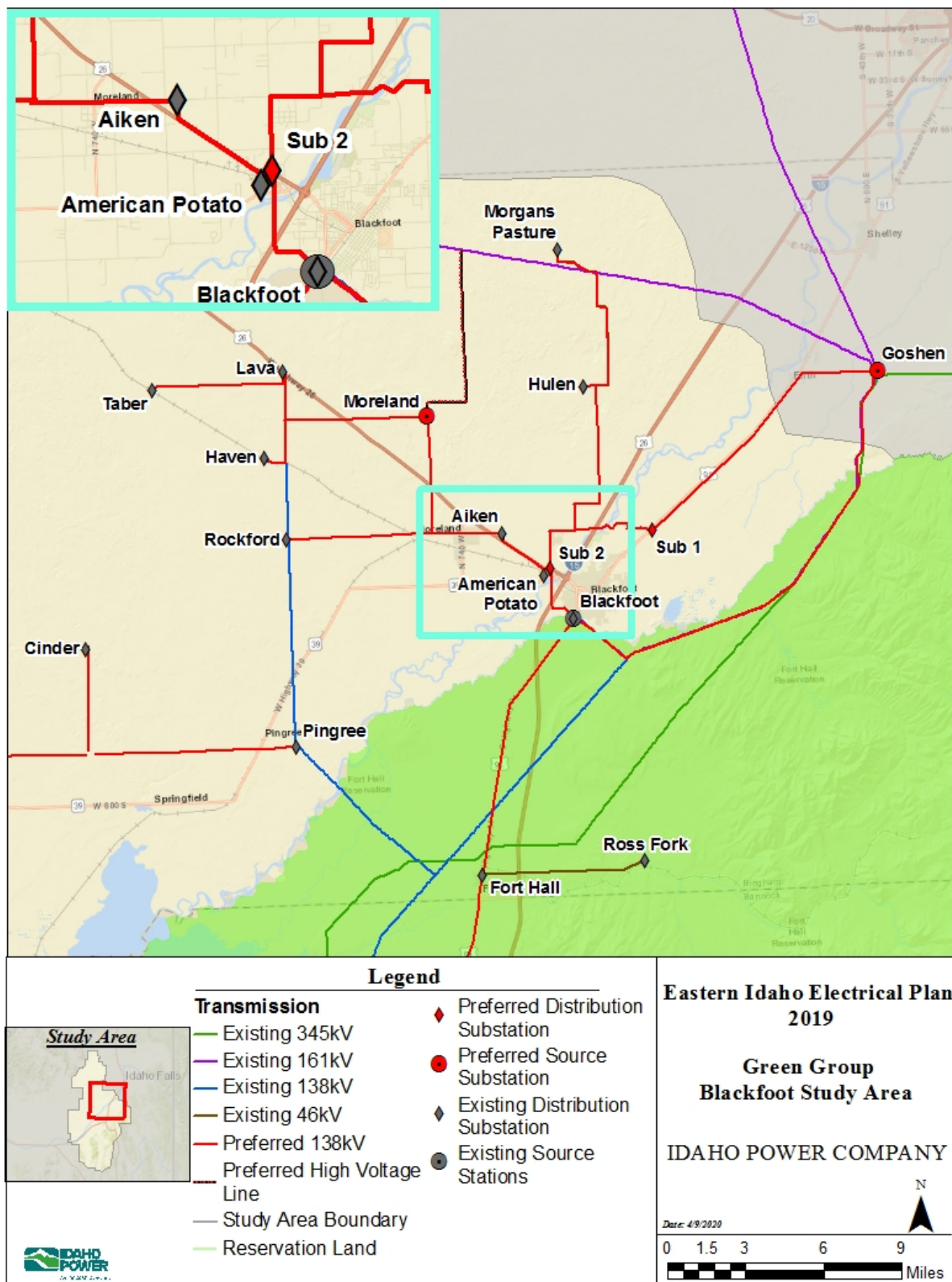


Figure 12. Green Group Blackfoot Area

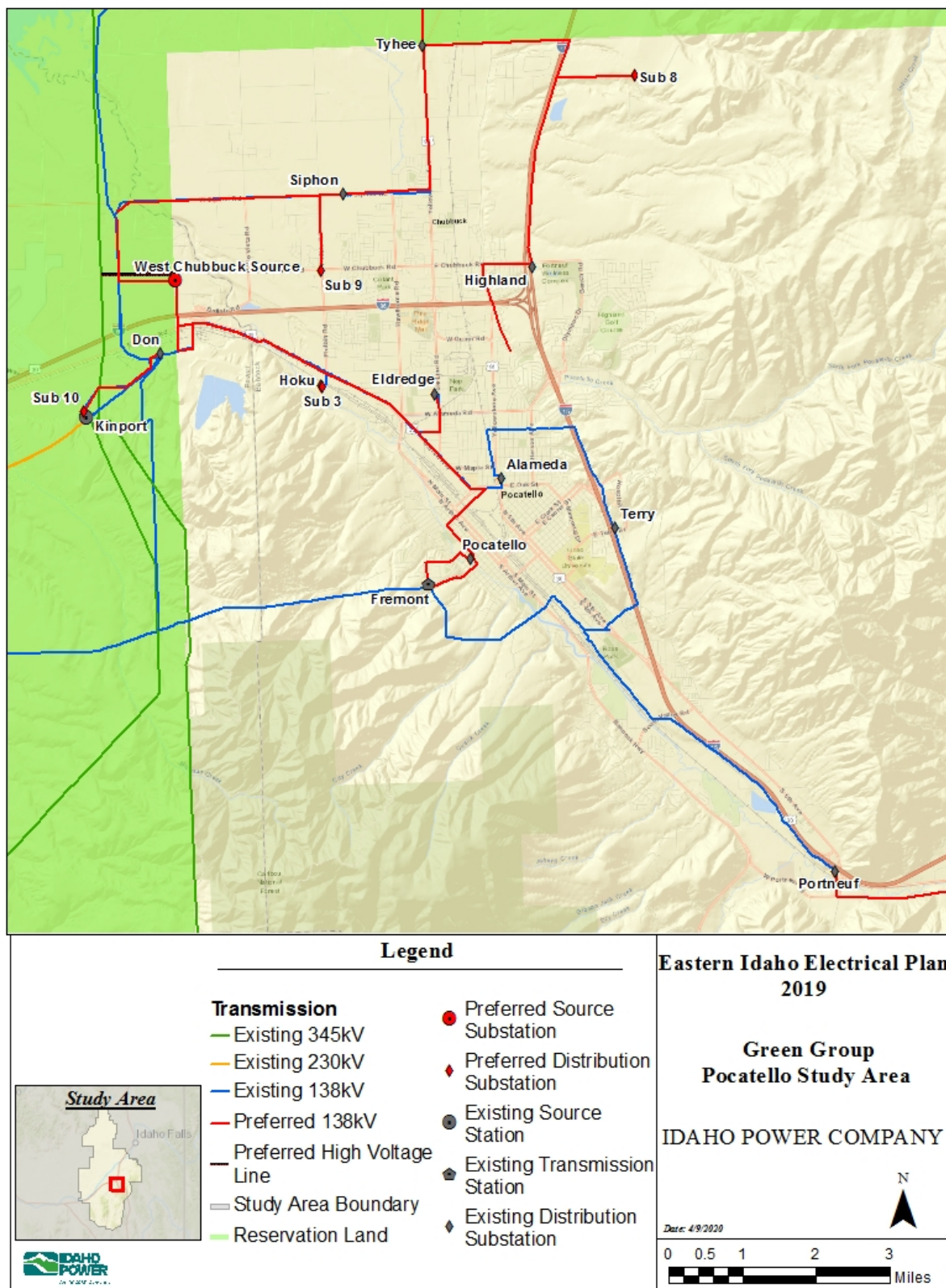


Figure 13. Green Group Pocatello Area

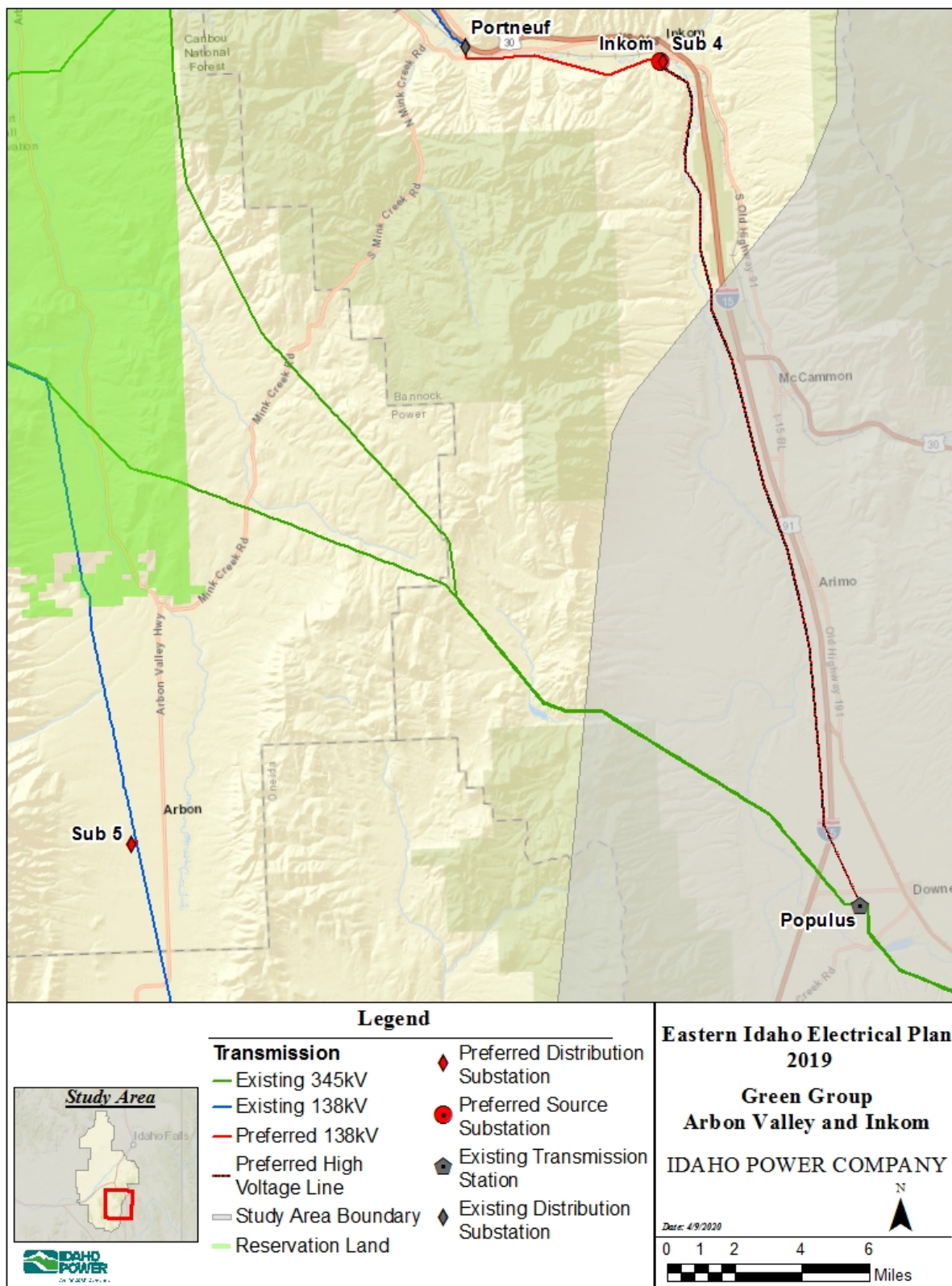


Figure 14. Green Group Arbon Valley and Inkom Areas

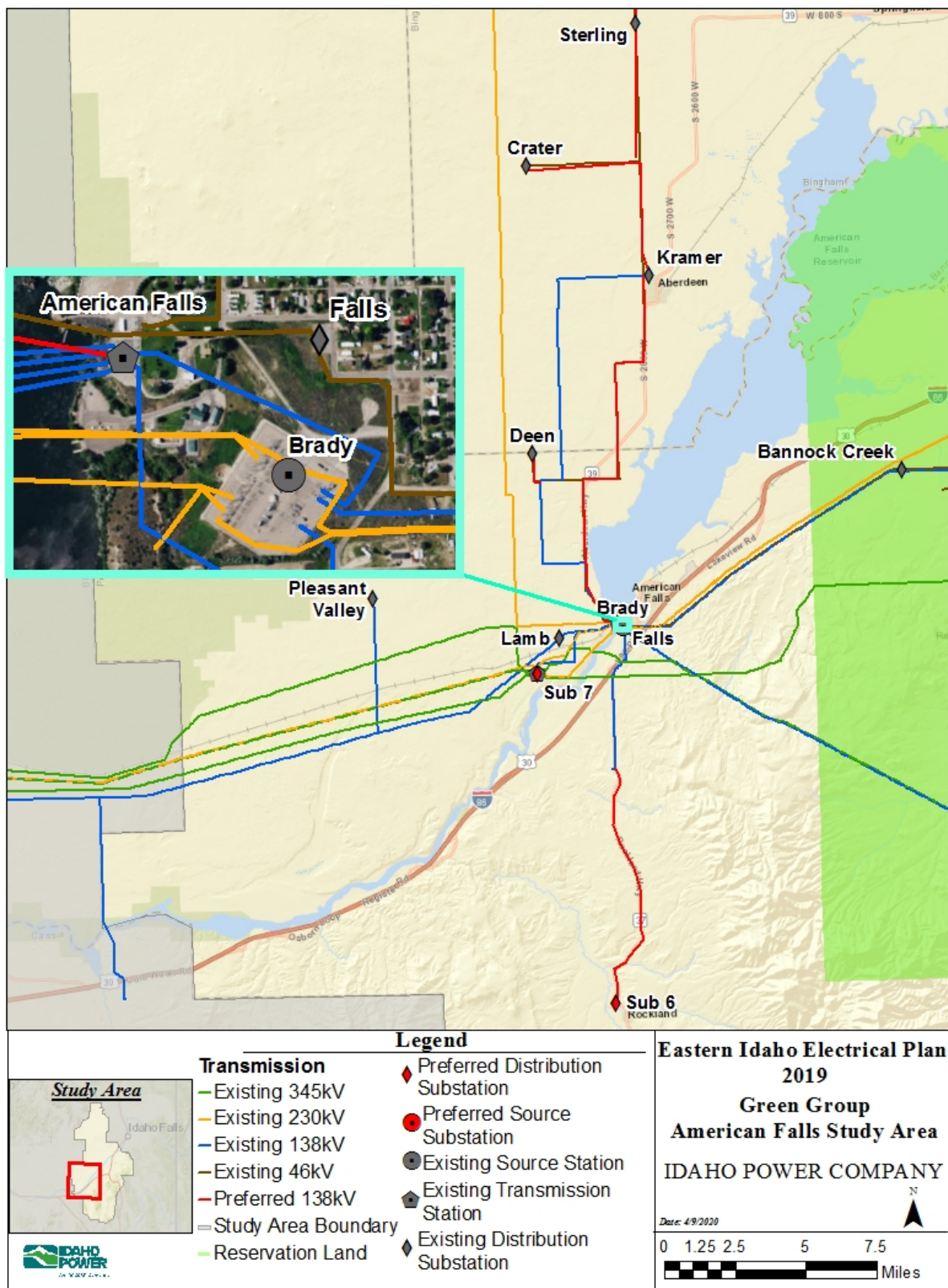


Figure 15. Blue Group American Falls Area

RED GROUP MAPPING RESULTS

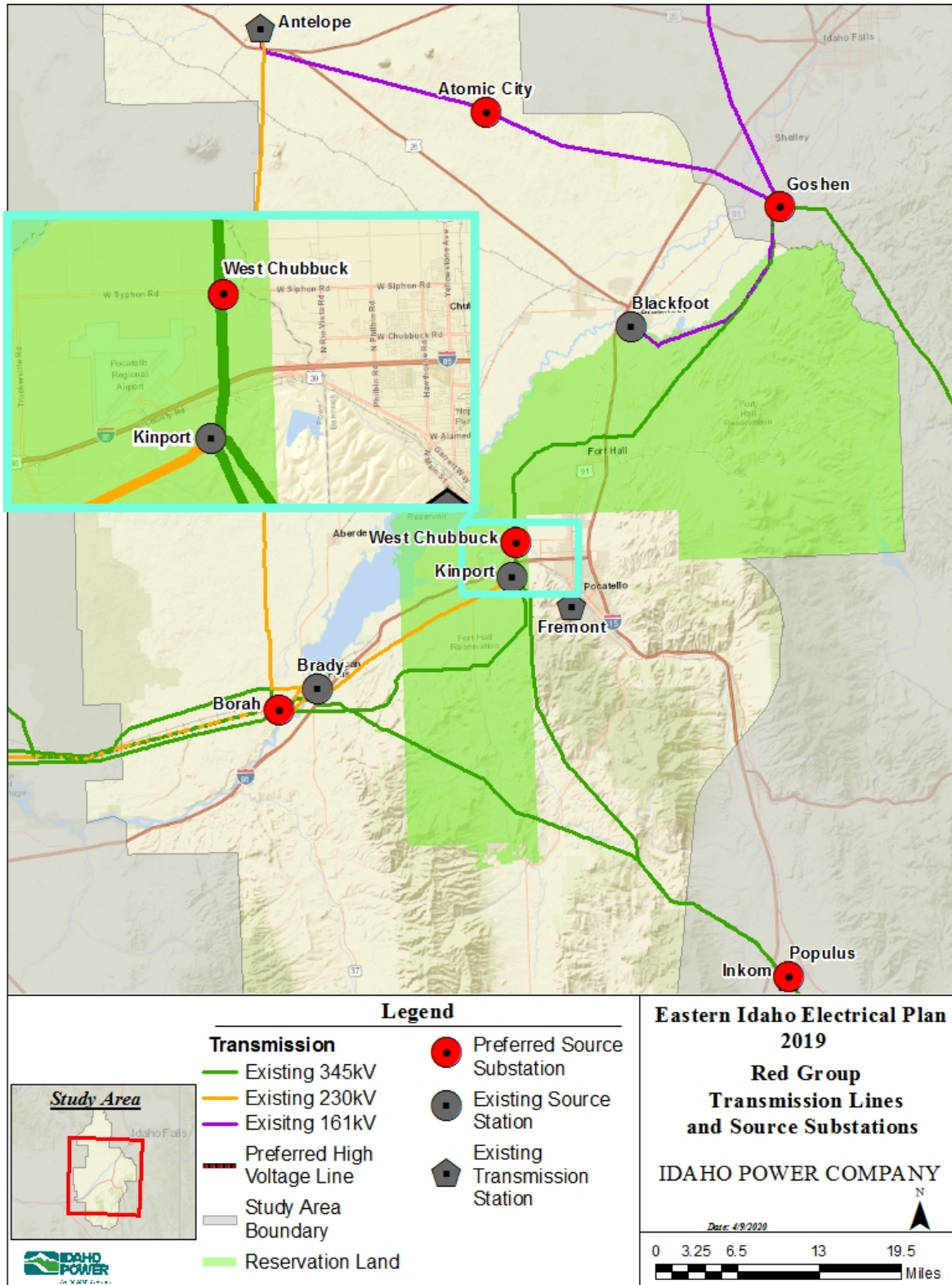


Figure 16.. Red Group Preferred High Voltage Transmission Lines and Source Substations

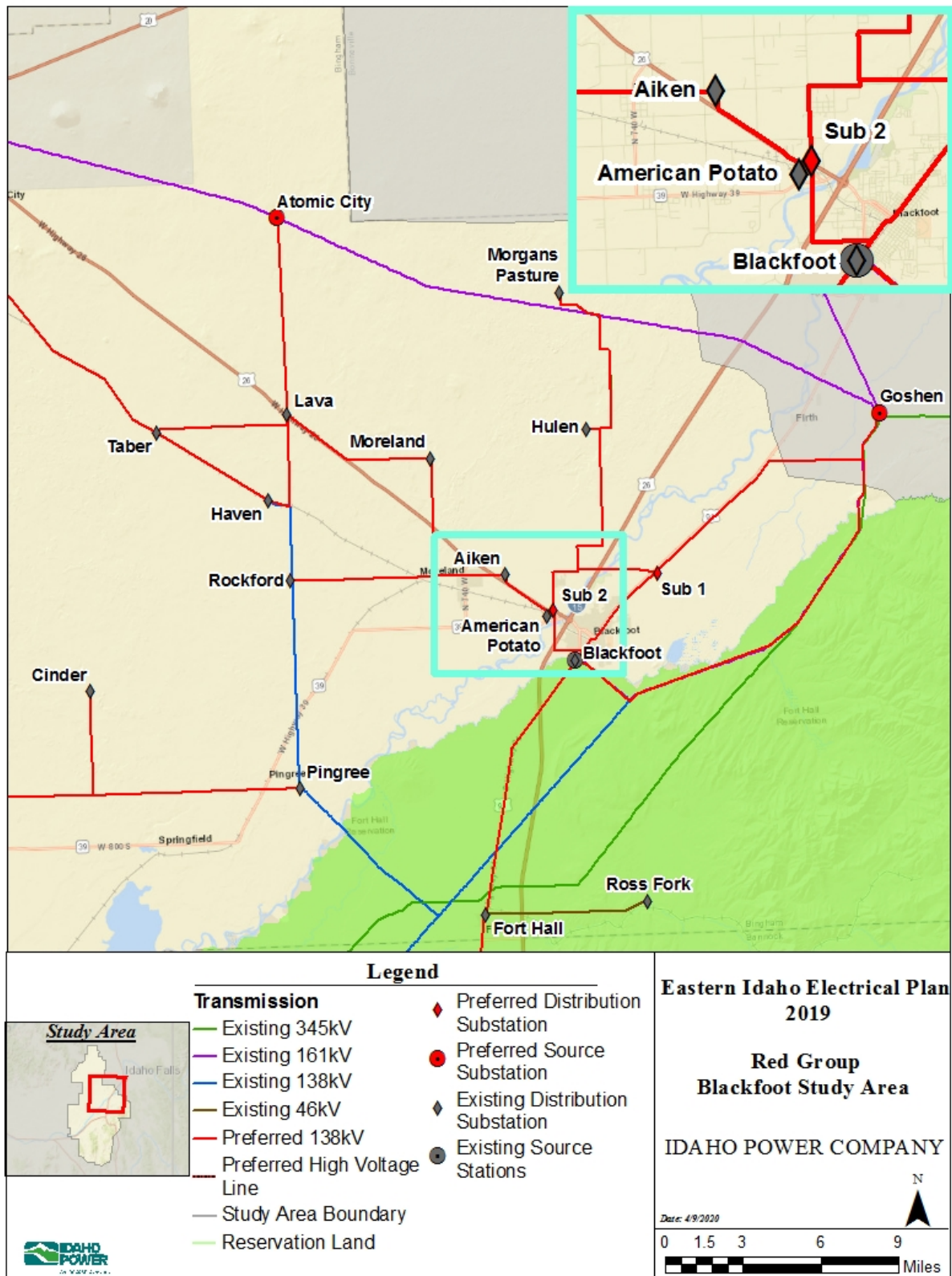


Figure 17. Red Group Blackfoot Area

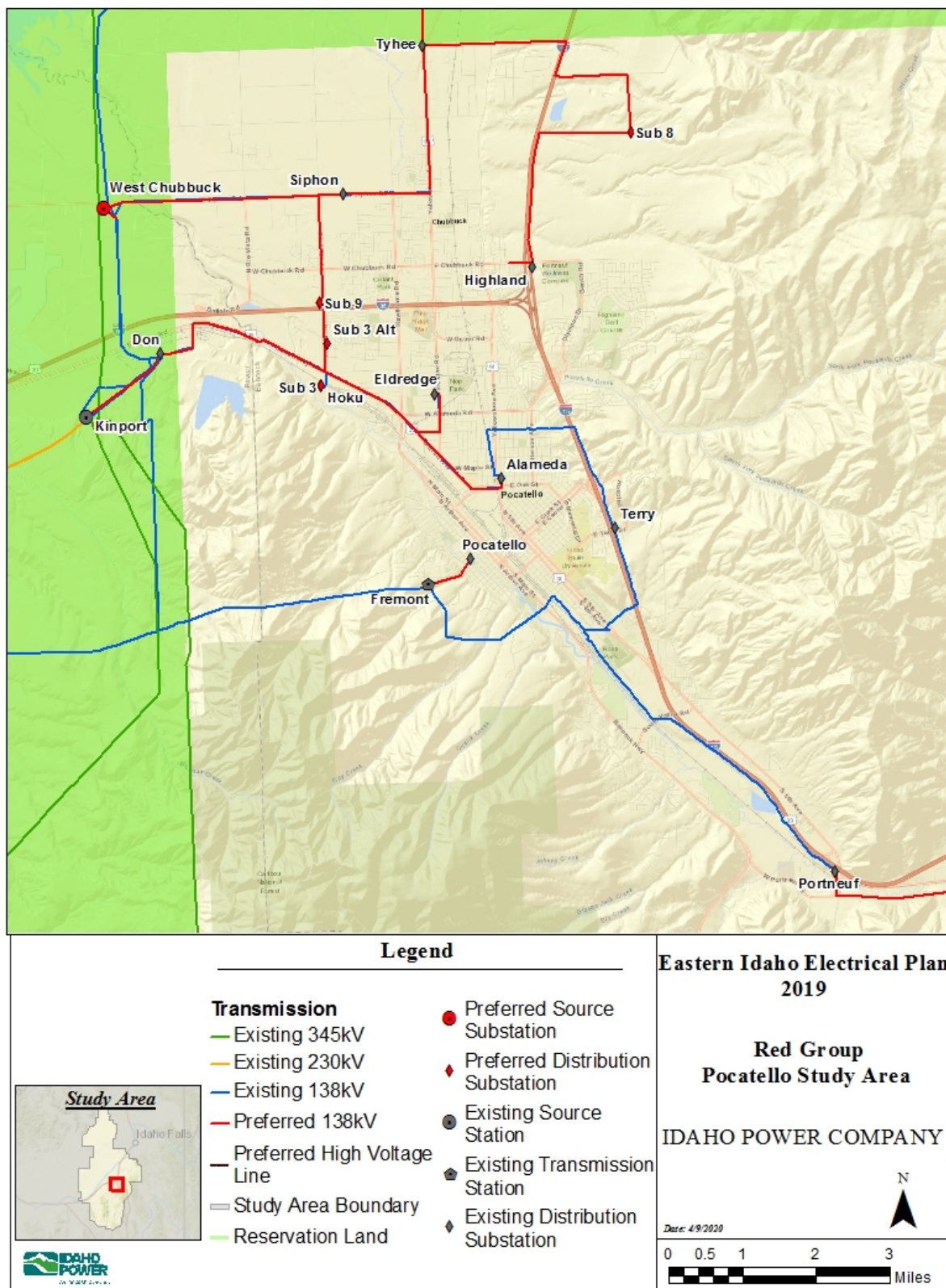


Figure 18. Red Group Pocatello Area

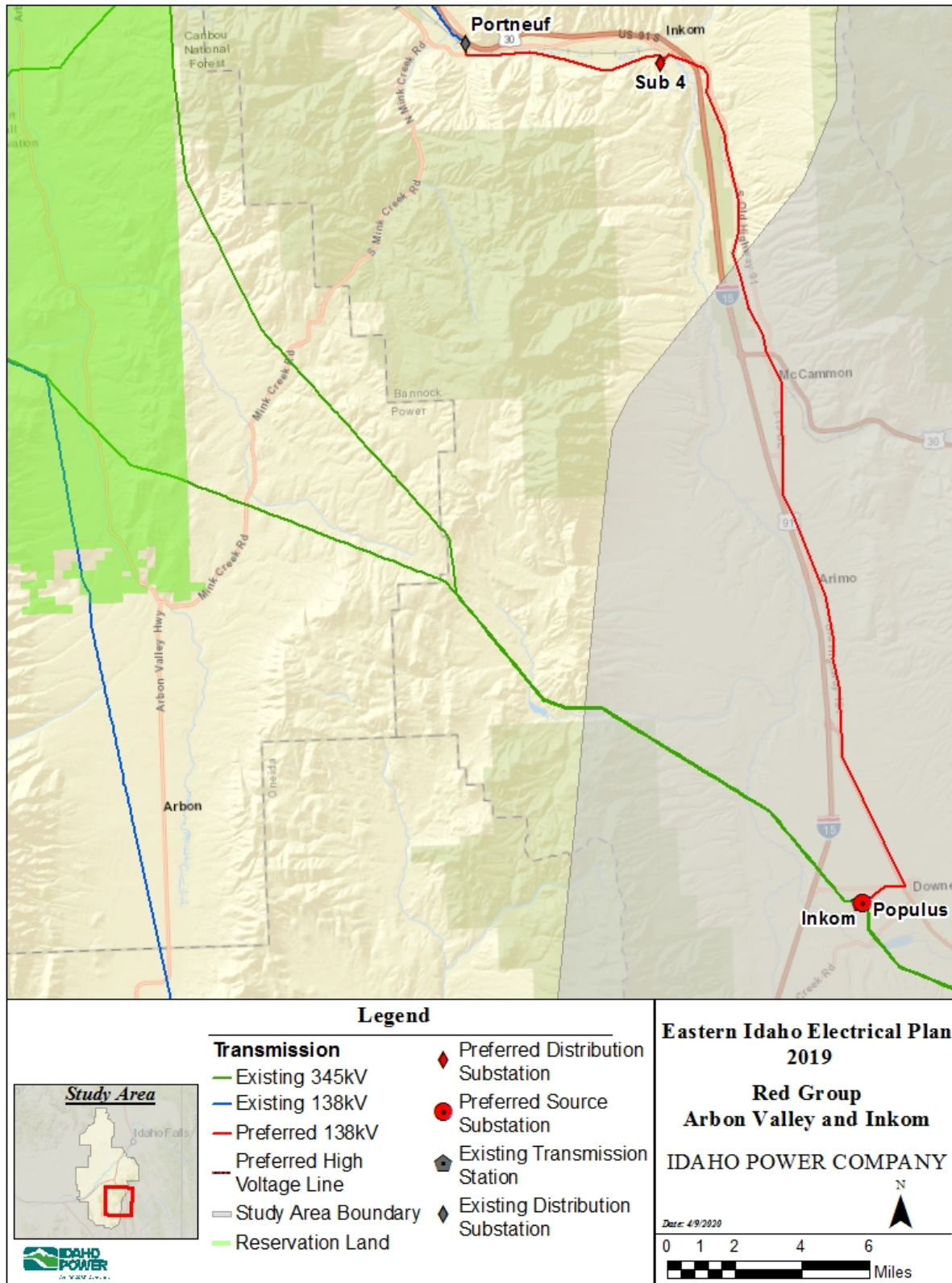


Figure 19. Red Group Arbon Valley and Inkom Areas

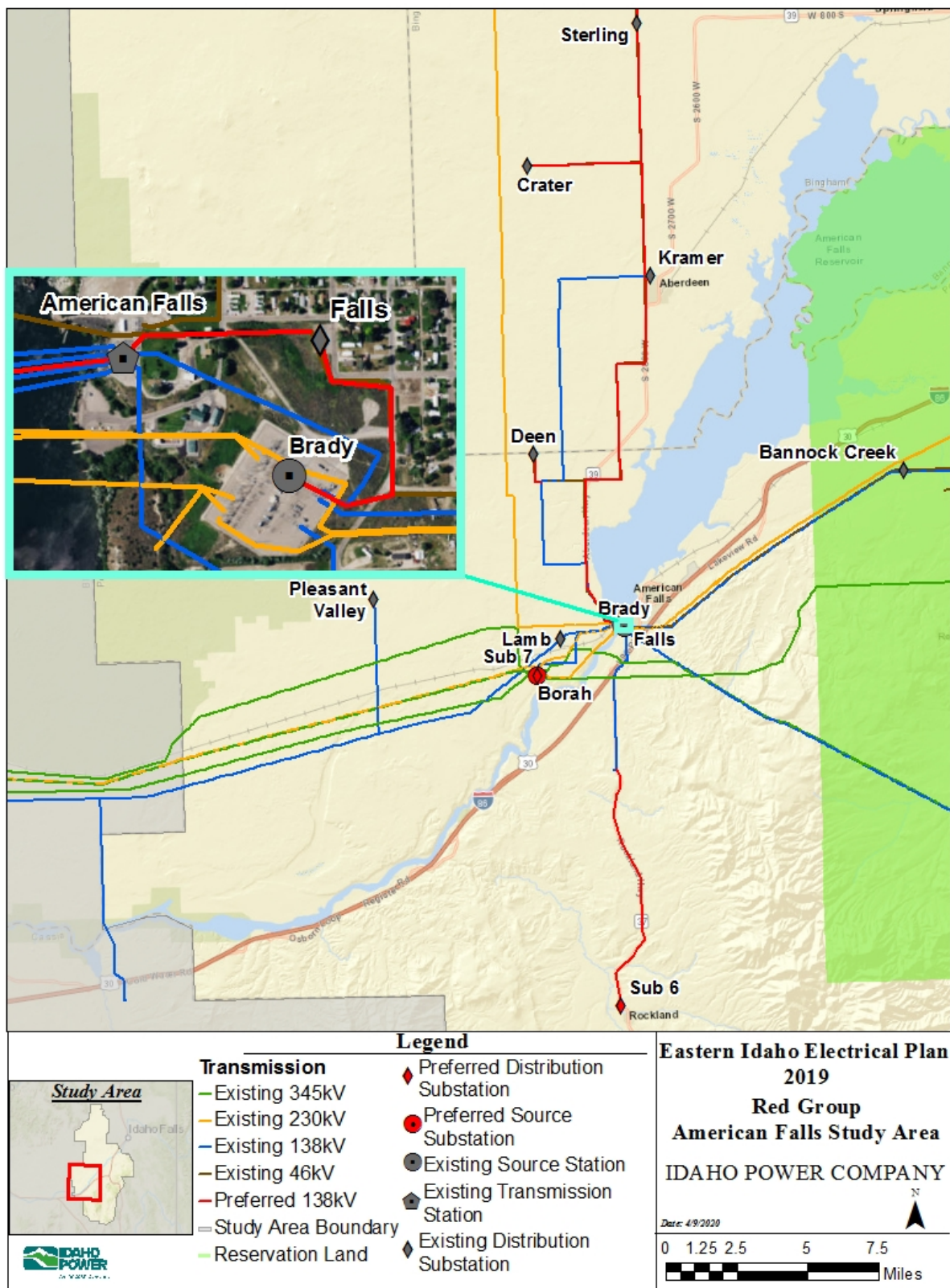


Figure 20. Red Group American Falls Area

YELLOW GROUP MAPPING RESULTS

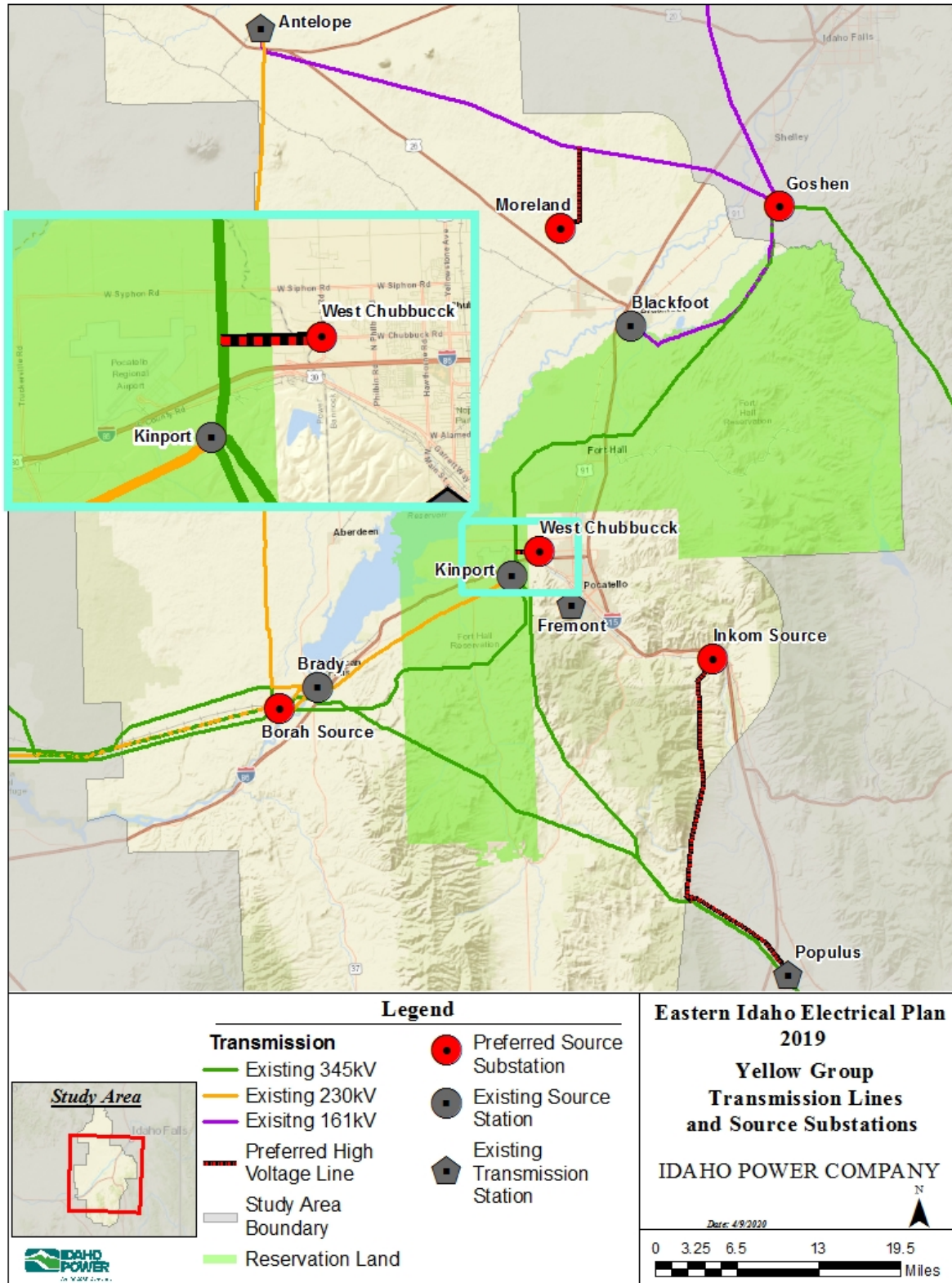


Figure 21. Yellow Group Preferred High Voltage Transmission Lines and Source Substations

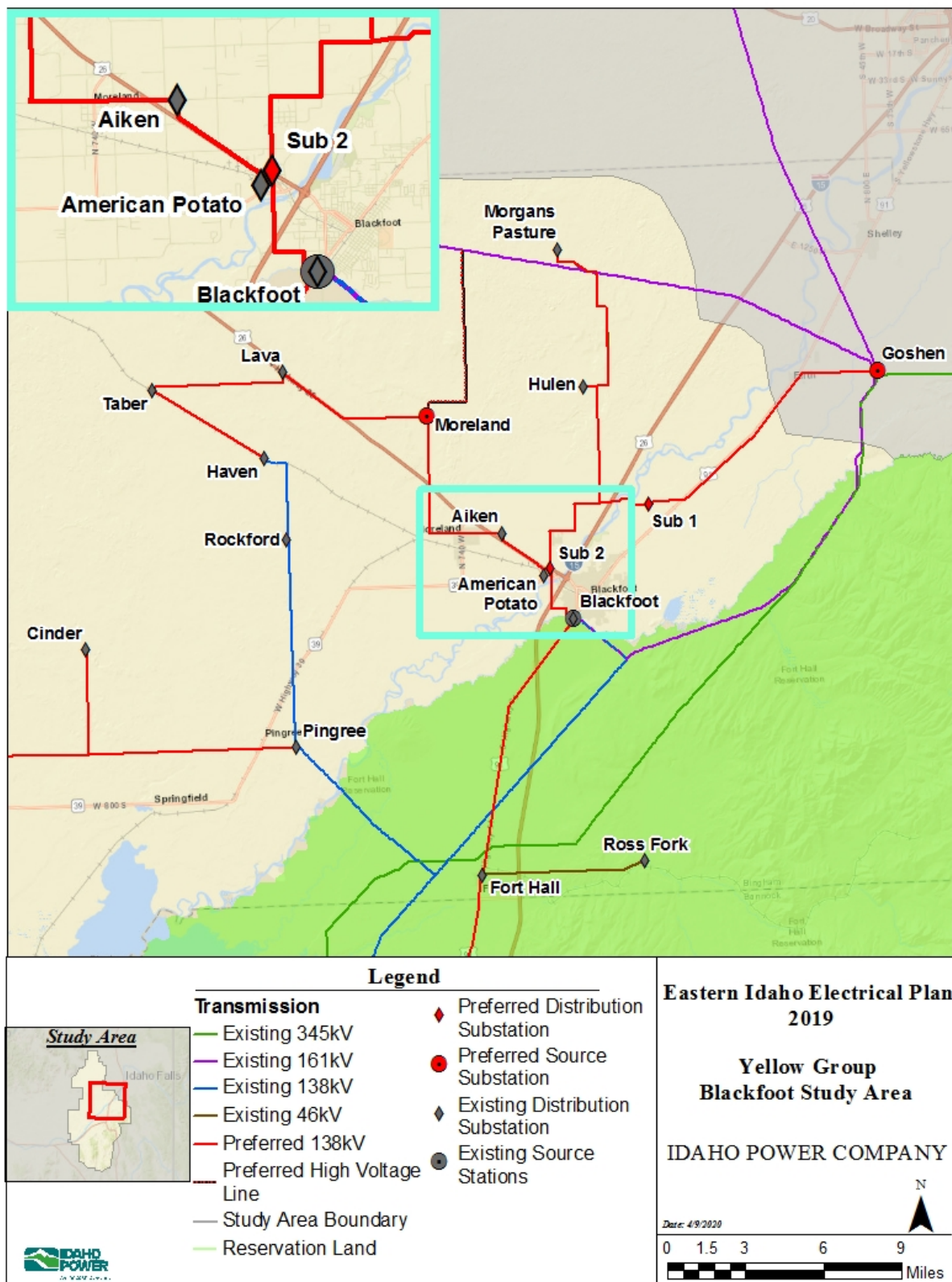


Figure 22. Yellow Group Blackfoot Area

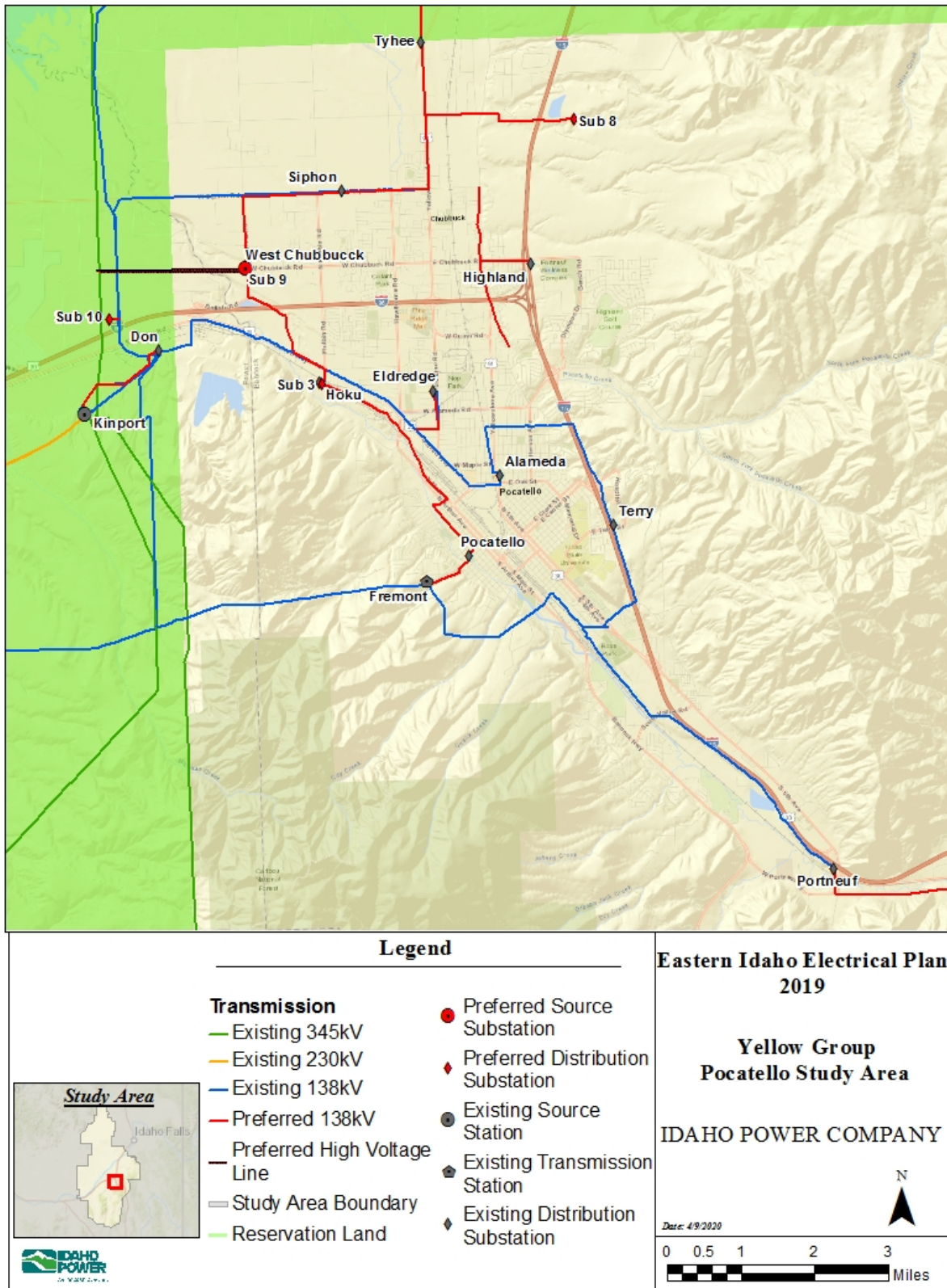


Figure 23. Yellow Group Pocatello Area

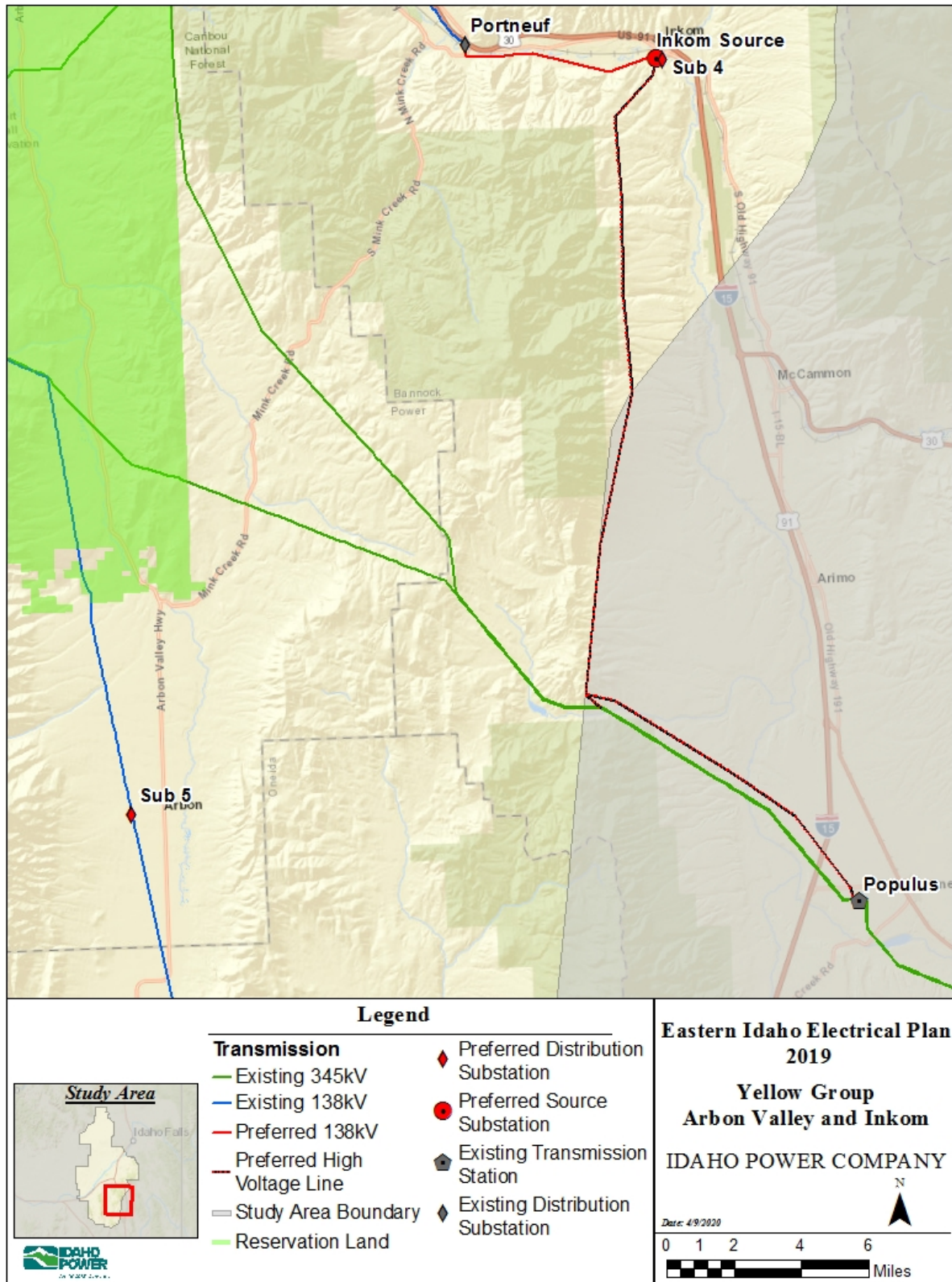


Figure 24. Yellow Group Arbon Valley and Inkom Areas

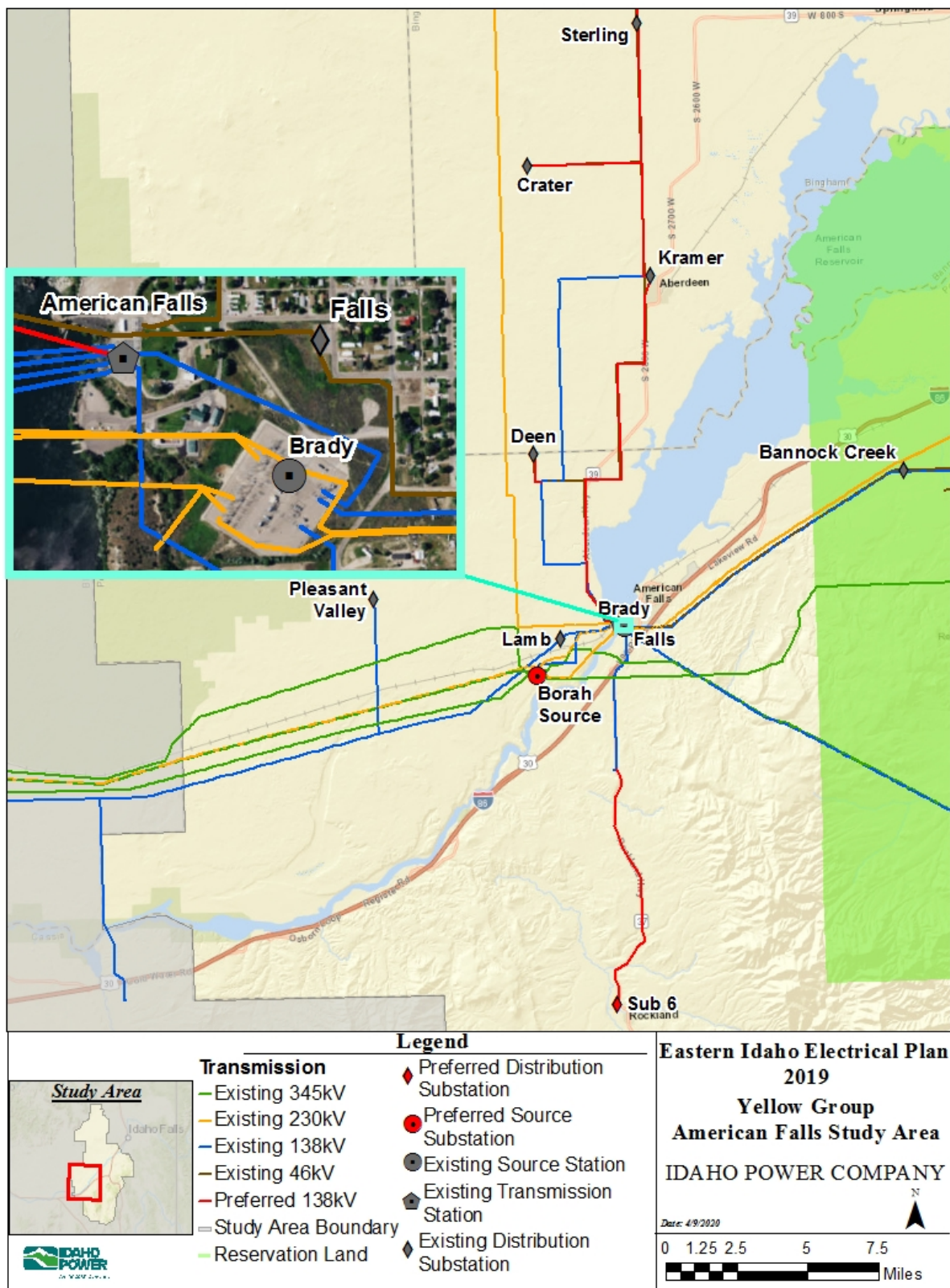


Figure 25. Yellow Group American Falls Area

Appendix C

Supplemental Maps

DOUBLE AND SINGLE CIRCUIT LINE ROUTES

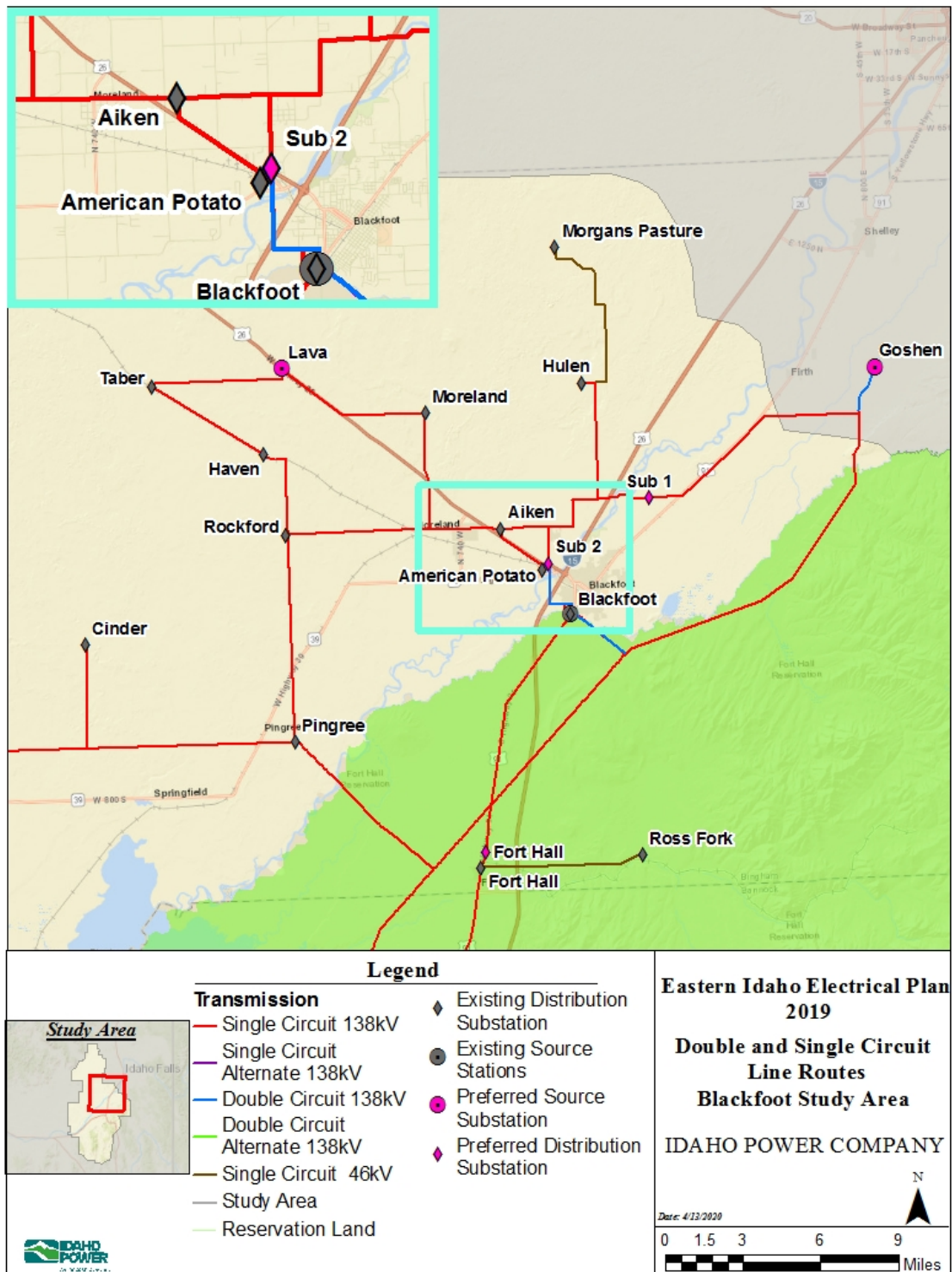


Figure 266. Blackfoot Double and Single Circuit Line Routes

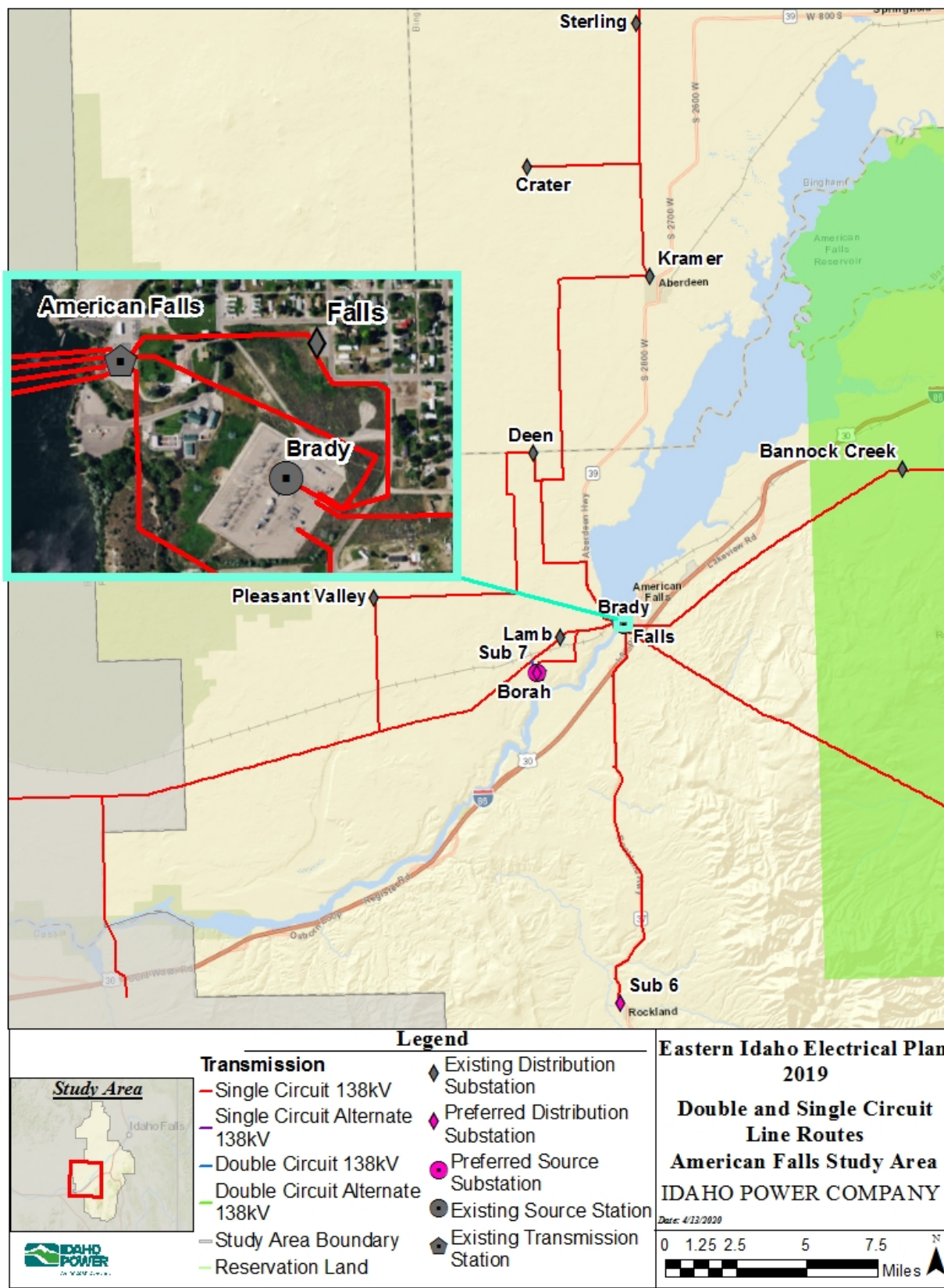


Figure 27. American Falls Double and Single Circuit Line Routes

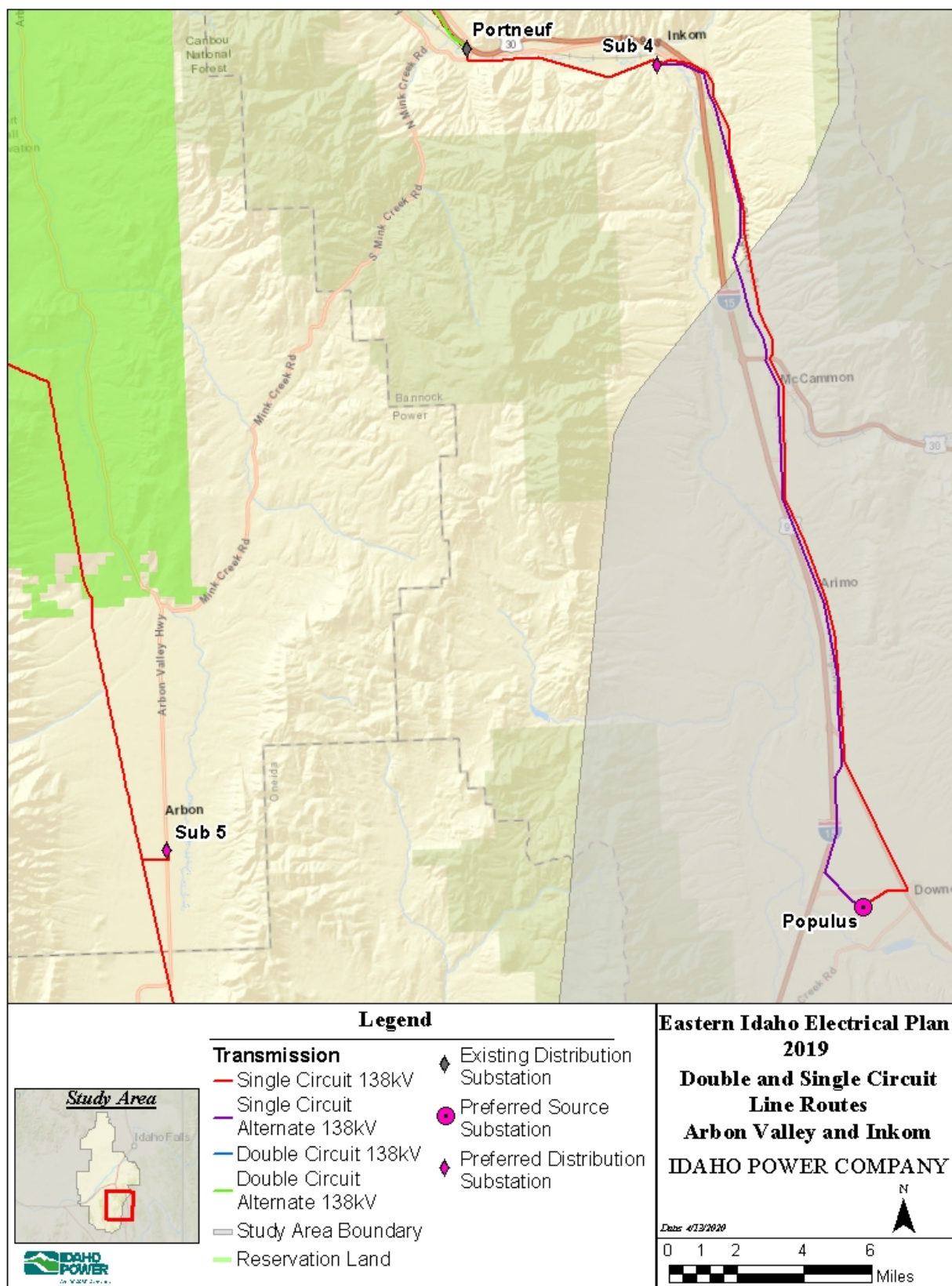


Figure 28. Arbon Valley and Inkom Double and Single Circuit Line Routes

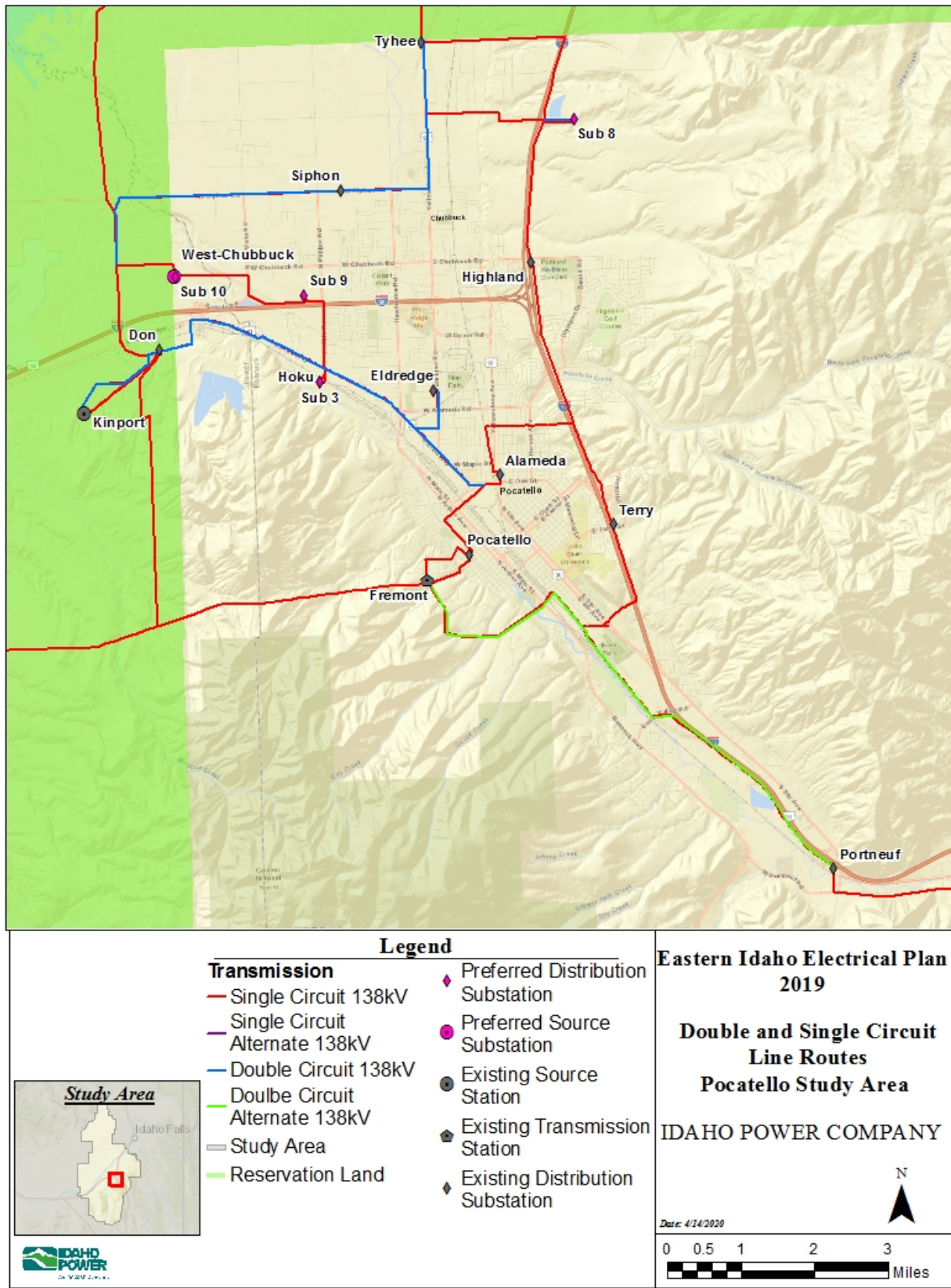


Figure 29. Pocatello Double and Single Circuit Line Routes

NEW AND EXISTING LINE ROUTES

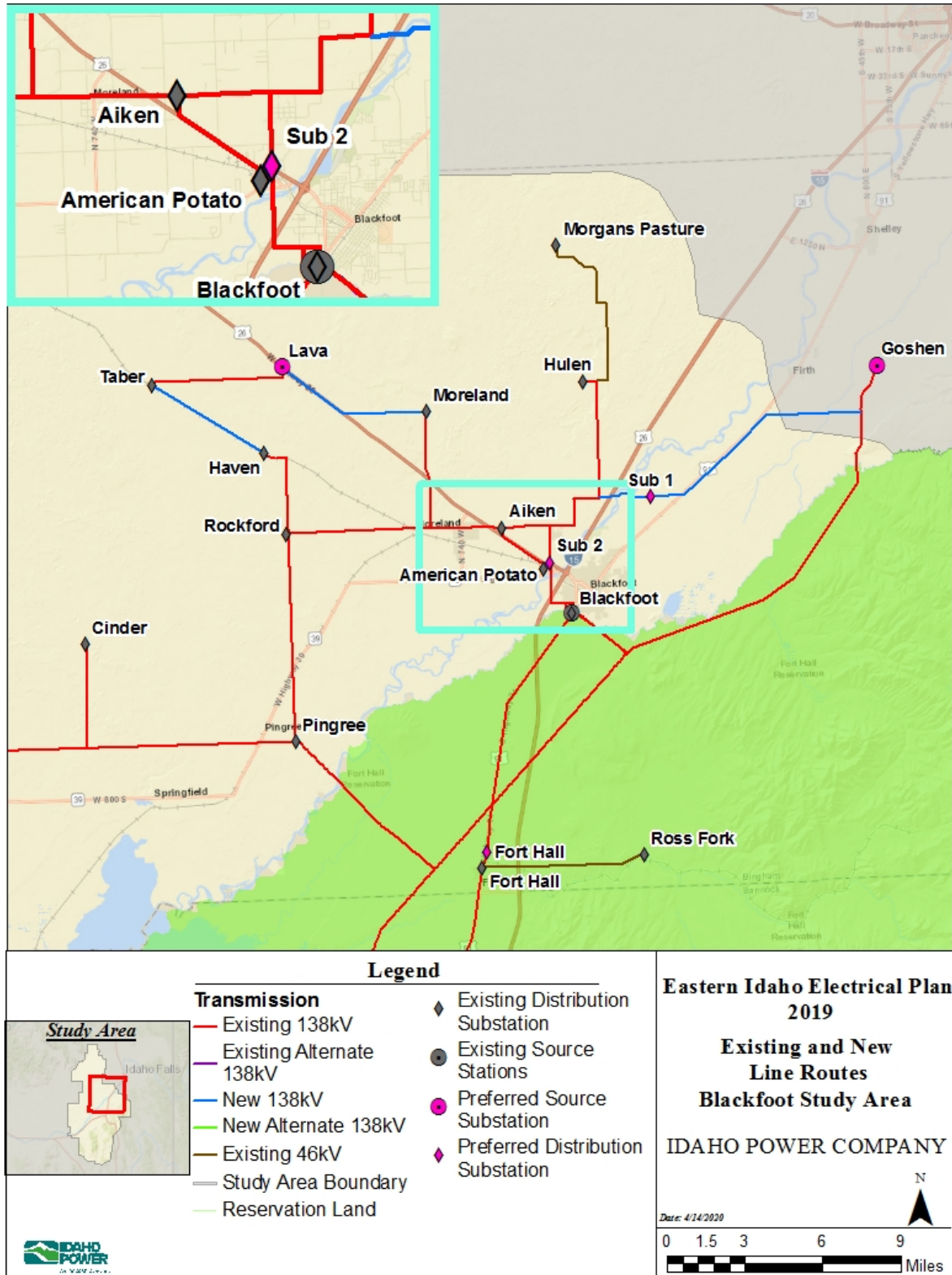


Figure 30. Blackfoot New and Existing Line Routes

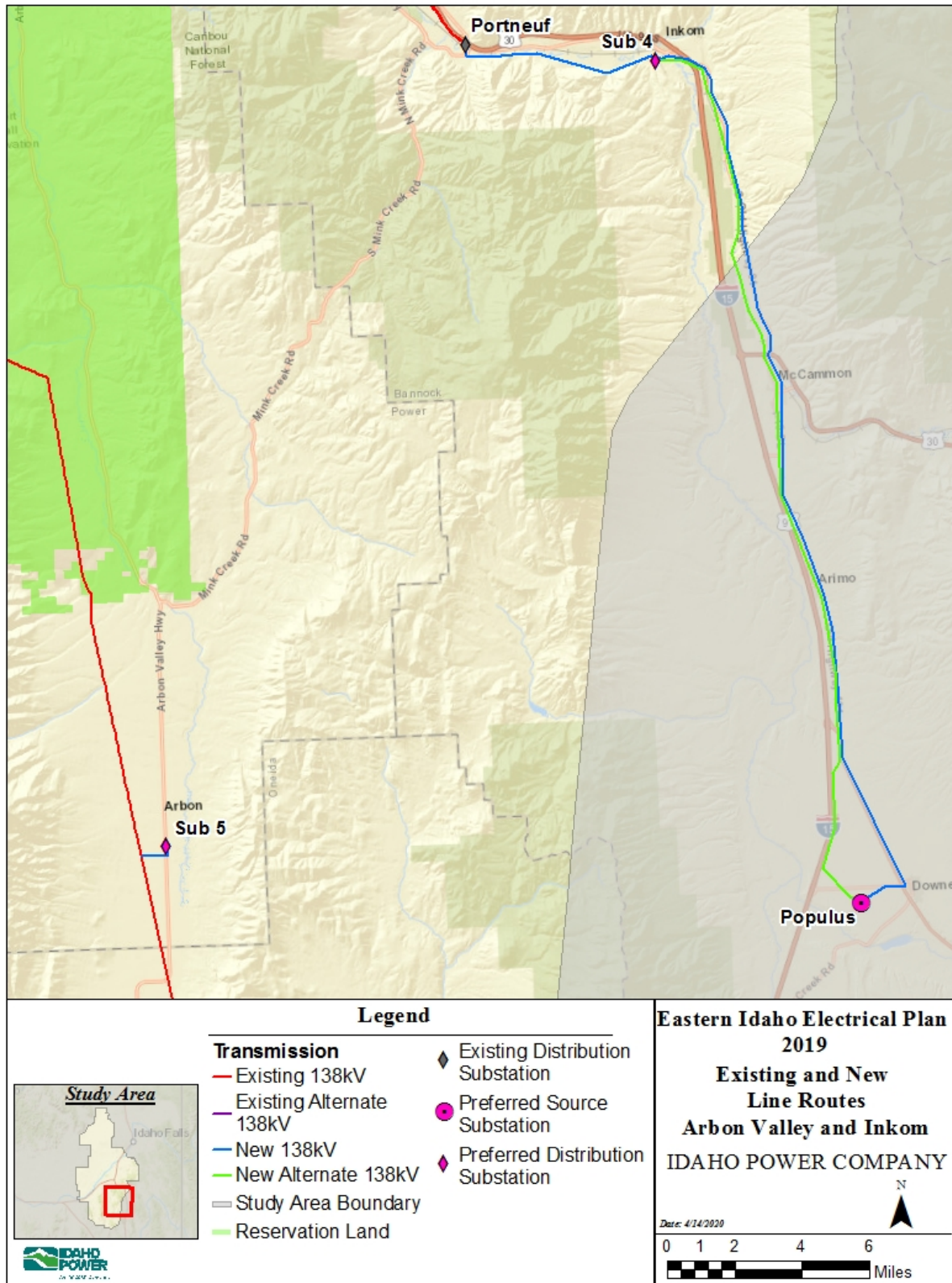


Figure 32. Arbon Valley and Inkom New and Existing Line Routes

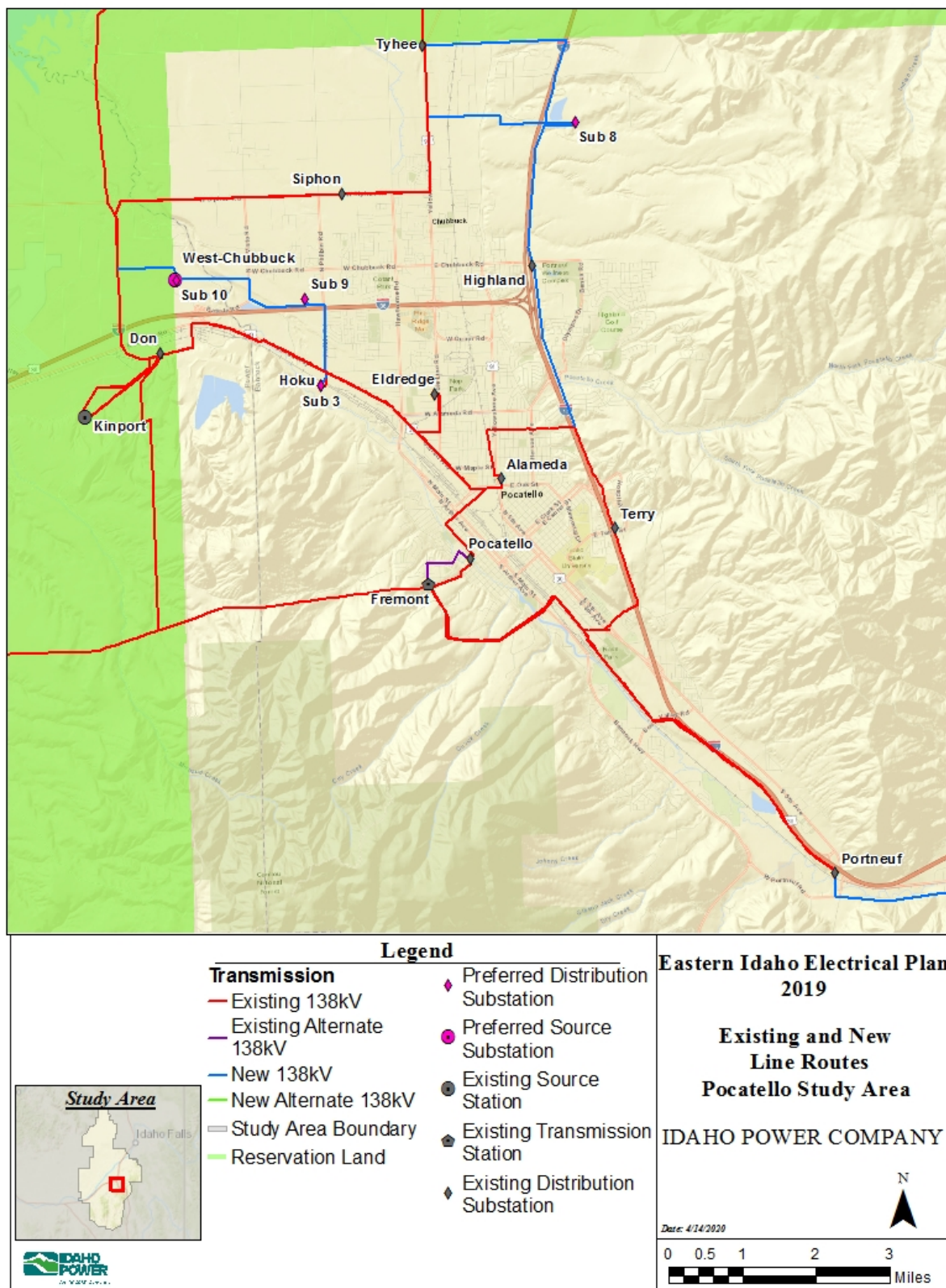


Figure 33. Pocatello New and Existing Line Route