Environmental and Land Use Report

AB-BC Intertie Restoration (AIR) Project

Presented to the Alberta Electric System Operator (AESO)

Date: October 9, 2025

LIST OF ACRONYMS

ACIMS	Alberta Conservation Information Management System
AEPA	Alberta Environment and Protect Areas
AESO	Alberta Electric System Operator
ELU	Environmental and Land Use
ESA	Environmentally Significant Area
FWMIS	Fish and Wildlife Management Information System
GB	Generic Base
HRIA	Historical Resource Impact Assessment
HRV	Historical Resource Value
IBA	Important Bird Area
LUB	Land Use Bylaw
MDP	Municipal Development Plans
NID	Needs Identification Document
SAM	Study Area Map
SSRP	South Saskatchewan Regional Plan
TFO	Transmission Facility Owner

1. INTRODUCTION

1. In consideration of the AESO's development for the NID; the AESO has requested that AltaLink assess the environmental and land use effects of four preliminary options under consideration. The AESO has determined that a combination of various transmission developments is required to increase the import capability of the AB-BC intertie to or near to 950 MW. The aspects considered in this report include:

   - land use including agriculture or other land use;
   - environmental features (e.g., wildlife sensitivity areas, protected areas); and
   - *Alberta Land Stewardship Act* regional land use plans.

2. This summary provides a desktop level assessment of these aspects and other relevant environmental and land use effects associated with the four technical alternatives under consideration.

2. TECHNICAL ALTERNATIVES

3. In the NID Specification – AB-BC Intertie Restoration (AIR), Project No. 7006, dated May 20, 2025 (V4) (the Specification), the AESO directed AltaLink to consider the following transmission development options (the Options) for the Project:

   - Option 1A/1B/1C: Addition of a Series Compensator on the 1201L transmission line (1201L);
   - Option 2A/2B: Increase in Transformation Capacity at the Bennett 520S substation (Bennett 520S); and
   - Option 3A/3B: Increase in Thermal Ratings of the 1201L;

4. Option 4A/4B: Addition of a Dynamic Shunt Compensator on the 1201L.

5. The scope for each of these Options are provided below.

2.1 Addition of a Series Compensator on 1201L

Option 1A:

- Build a new substation near the existing 1201L, located approximately within ±10% of its midpoint (i.e., the midpoint between the Bennett 520S and Cranbrook substations), to accommodate the series compensator;
- Install series capacitors at the new substation to provide **20% compensation** for the existing 1201L, with provisions for increasing the compensation to 50%;
- Connect the existing 1201L to the series compensator; and
- Add or modify any associated equipment, as required.

Option 1B:

- Build a new substation near the existing 1201L, located approximately within ±10% of its midpoint (i.e., the midpoint between the Bennett 520S and Cranbrook substations), to accommodate the series compensator;
- Install series capacitors at the new substation to provide **30% compensation** for the existing 1201L, with provisions for increasing the compensation to 50%;
- Connect the existing 1201L to the series compensator; and
- Add or modify any associated equipment, as required.

Option 1C:

- Build a new substation near the existing 1201L, located approximately within ±10% of its midpoint (i.e., the midpoint between the Bennett 520S and Cranbrook substations), to accommodate the series compensator;
- Install series capacitors at the new substation to provide **50% compensation** for the existing 1201L;
- Connect the existing 1201L to the series compensator; and
- Add or modify any associated equipment, as required.

The TFO must also:

6. Assess the feasibility of selecting a site for the series compensation substation that can be used for the future construction of the planned Chapel Rock 491S substation (Chapel Rock 491S)[1]. For the purpose of this assessment, the TFO may identify a site located outside the ±10% range of the midpoint of the existing 1201L.

7. Provide detailed information on various impacts (cost, siting, etc.) associated with selecting a site for the series compensation substation that can be used for the future construction of the planned Chapel Rock 491S.

2.2 Increase in Transformation Capacity at Bennett 520S

Option 2A:

- Install a new 500/240 kV transformer at the Bennett 520S, adjacent to the existing 500/240 kV transformer, having a **continuous rating of 1,350 MVA** and an **emergency rating of at least 1,850 MVA** for a duration of 30 minutes;
- The new transformer must include one spare phase;
- Decommission the existing 500/240 kV transformer at the Bennett 520S after the new transformer is in service;
- Perform any necessary upgrades or modifications to the Bennett 520S to enable the full utilization of the new transformer's ratings; and
- Add or modify any associated equipment, as required.

Option 2B:

- Replace the existing 500/240 kV transformer at the Bennett 520S with a new 500/240 kV transformer at the same location, having a **continuous rating of 1,350 MVA** and an **emergency rating of at least 1,850 MVA** for a duration of 30 minutes;
- The new transformer must include one spare phase;
- Perform any necessary upgrades or modifications to the Bennett 520S to enable the full utilization of the new transformer's ratings; and
- Add or modify any associated equipment, as required.

[1] The scope of the planned Chapel Rock 491S substation was outlined in the Functional Specification document for the Chapel Rock-to-Pincher Creek transmission development (Project Number 7064), which was issued to AltaLink on February 6, 2020.

2.3 Option 3: Increase in Thermal Ratings of 1201L

Option 3A:

- Perform clearance mitigation for the existing 1201L within Alberta (Between the Bennett 520S and the BC border) to grant the line a **continuous rating of at least 1,200 MVA** and an **emergency rating of at least 1,400 MVA** for a duration of 30 minutes; and
- Add or modify any associated equipment, as required.

Option 3B:

- Perform clearance mitigation for the existing 1201L within Alberta (between the Bennett 520S and the BC border) to grant the line a **continuous rating of at least 1,350 MVA** and an **emergency rating of at least 1,850 MVA** for a duration of 30 minutes; and
- Add or modify any associated equipment, as required.

2.4 Option 4: Addition of Dynamic Shunt Compensator on 1201L

Option 4A:

- Build a new substation near the existing 1201L, located approximately within ±10% of its midpoint (i.e., the midpoint between the Bennett 520S and Cranbrook substations), to accommodate the dynamic shunt compensator;
- Install a dynamic shunt compensator at the new substation, capable of providing **200 MVAr of capacitive** reactive power;
- Connect the existing 1201L to the dynamic shunt compensator; and
- Add or modify any associated equipment, as required.

Option 4B:

- Build a new substation near the existing 1201L, located approximately within ±10% of its midpoint (i.e., the midpoint between the Bennett 520S and Cranbrook substations), to accommodate the dynamic shunt compensator;
- Install a dynamic shunt compensator at the new substation, capable of providing **300 MVAr of capacitive** reactive power;
- Connect the existing 1201L to the dynamic shunt compensator; and
- Add or modify any associated equipment as required.

8. AltaLink has applied the following assumptions to complete the assessment of the Options:

- Option 1 and Option 4 have the same study area;
- Only Option 1 or Option 4 will be built, not both;
- Associated telecommunications infrastructure was not contemplated as part of this document;
- Option 1A/1B/1C are the same size with an approximate fenced area of 120 m x 105 m. The size of each site will be constructed to allow for the addition of the future 50% compensation;
- Option 2A, Bennett 520S will require a fence expansion anticipated to be approximately 12 m x 118 m to the north and approximately 53 m x 72 m to the west;
- It is anticipated Option 2B will not require a fence expansion;

- Option 3 will not require any additional right-of-way. This may change during preliminary and detailed siting and engineering;
- It is anticipated Option 3 will require structure replacements and the replacements will be adjacent to existing structures;
- It is anticipated Option 3 will require up to five spans be mitigated for clearance. This may change during preliminary and detailed siting and engineering;
- This report does not consider the difference in loading for Option 3 and therefore the assessment was based on five spans potentially requiring mitigation; and
- Option 4A is anticipated to have a fenced area of approximately 185 m x 90 m. Option 4B is anticipated to be comparable in size and the effects of any size difference between the two options are anticipated to negligible, therefore both options are assumed to be the same size.

9. These assumptions along with the technical assumptions found in the NID Report, are based on an initial high-level review of the options presented in the AESO Specification. These assumptions may change during preliminary and detailed siting and engineering.

3. ENVIRONMENTAL AND LAND USE CONSIDERATIONS

10. Outlined below are the environmental and land use considerations assessed for each Option. A summary of each of the findings is contained in **Appendix A.**

11. The study area boundaries provide an opportunity to review the potential effects of each Option identified by the AESO. Any substation site location and associated transmission line route configuration, outside of the study area is anticipated to result in a longer transmission line with higher overall effects and is not considered here. AltaLink has included the SAMs in **Appendix B** of this report.

12. All of the study areas are located within the boundary of the SSRP. The SSRP came into effect in September 2014 and was amended in 2018.

13. The SSRP, like all regional plans, is a wide-ranging document that looks to balance a number of effects and provide direction for decision-makers when conducting land use planning. Overall, the implications of the SSRP are similar across all Options. The SSRP does not place restrictions for any of the options under consideration.

14. There are no Federal lands, First Nations' reserve lands or transportation utility corridors within the study areas.

15. To assist with the assessment of the environmental and land use considerations below, AltaLink has created a series of GB maps included in **Appendix C**. Maps GB1 through GB9 illustrate the land use considerations, including residences and environmental considerations of each study area.

3.1 Addition of Series Compensator on 1201L (1A/1B/1C) and Addition of Dynamic Shunt Compensator on 1201L (4A/4B)

16. Option 1 and Option 4 have been combined for assessment within this document as they share the same study area. A comparative analysis of Option 1A/1B/1C and Option 4A/4B is provided in **Appendix A**, Table 1-1 and Table 4-1, respectively.

17. Options 1A/1B/1C and 4A/4B study area spans three county boundaries including the Municipal District of Ranchland No. 66, the Municipal District of Pincher Creek No. 9 and the Municipality of Crowsnest Pass.

18. The west and east study area boundaries for Option 1A/1B/1C and 4A/4B are set 1000 m on either side of existing 1201L. The north and south boundaries are set 1000 m from the +/-10% points from the midpoint of 1201L. Setting the boundaries out to 1000 m allows AltaLink to fully assess the area adjacent to the 1201L for land use and environmental features that may be effected by the project. Looking outside 1000 m of the study area is also anticipated to result in longer transmission line length resulting in higher overall effects. The study area is illustrated on SAM1 provided in **Appendix B**.

19. The north portion of the study area is mainly crown land while the bottom half is mainly private land with small pockets of crown land throughout. The north portion of the study area is also located partially within the Bob Creek Wildland Provincial Park.

3.1.1 Land Assessment

Agricultural Land

20. The study area for these Options is approximately half agricultural, with the other half being forested. The majority of the agricultural area is native prairie and is used mainly for cattle grazing. The land uses are illustrated on GB4 for the study area provided in **Appendix C**.

Residential

21. New transmission facilities can have potential effects to residential properties. These effects can be both physical effects to residential properties, like the removal of trees or outbuildings, and visual (aesthetic) effects which are subjective and vary between stakeholders.

22. Generally, in a rural setting, residential densities are sparse with densities increasing in areas surrounding towns or cities. Locations of residences across the study area are illustrated on GB4 provided in **Appendix C**.

23. The residential density within the study area is relatively sparse. The study area includes the locality of Chapel Rock. Residential densities are generally higher in the south half of the study area in the vicinity of local roads, while the north half of the study area has minimal residences.

Oil and Gas Infrastructure

24. Transmission facilities can have an effect on existing oil and gas infrastructure (for example AC interference that needs to be mitigated). Paralleling or sharing oil and gas infrastructure (such as access roads) can also be beneficial from a land use perspective.

25. Within the study area, the south half has minimal oil and gas infrastructure located within it. There is no oil and gas infrastructure located in the north half of the study area.

Existing Linear Corridors/Transmission Lines

26. AltaLink looked for sites that could be located near or directly under the existing 1201L. This would reduce the need to construct a twinned single circuit 500 kV transmission line to connect the Series Compensator potentially reducing the overall impact of the project. Where possible, AltaLink sought opportunities to locate the site near a dead-end structure to facilitate the connection of the 500 kV transmission into Series Cap site.

Access and Topography

27. Looking for areas within the study area where existing access is available including municipal roads, highways or resource roads in order to minimize the need for additional linear disturbance on the landscape would be beneficial. The study area has existing roads throughout that intersect with the existing 1201L. The study area also has a number of areas of steep terrain and valleys between mountain ridges. There is opportunity throughout the study area to locate the proposed facility on relatively flat terrain.

3.1.2 Environmental Features

28. There are several environmental sensitivities identified across the study area for Option 1A/1B/1C and Option 4A/4B. The study area crosses multiple natural subregions which includes sensitive ecological areas and wildlife, fish, and plants sensitive to industrial activities and development.

29. Further assessment of the potential environmental effects outlined below will be completed during the development of the facility application for this Project. Potential environmental impacts will depend on the specific footprint location(s) and will require a detailed environmental assessment that includes field surveys.

30. The environmental features listed below are illustrated on GB1 through GB4 provided in **Appendix C**.

31. Native grassland dominates the majority of the study area with forested areas located on the south and north ends. A small amount of tame pasture and cultivation is located near the mid-point. The majority of the study area crosses large tracts of native landscapes with few existing disturbances.

32. Watercourses are prevalent in the study area. Impacts to watercourses are assumed to be minimal as it is anticipated that the proposed substation location, whether it is Option 1 or 4, will avoid watercourses and proper crossings will be built for any new or upgraded temporary or permanent access roads.

33. Critical Fish Habitat is located primarily in the southernmost part of the study area and the Oldman River which is located near the mid-point. Critical Fish Habitat is defined as habitat essential for the survival or recovery of Species at Risk, such as westslope cutthroat trout and bull trout. Any works or proposed transmission facilities within Critical Fish Habitat will require Department of Fisheries and Oceans approval. It is recommended that proposed transmission facilities and access avoid Critical Fish Habitat, where possible.

34. Key Range Layers identified by AEPA cover the majority of the study area and include Endangered and Threatened Plants, Sensitive Raptor, and Sharp-tailed Grouse.

35. Sharp-tailed Grouse Range is located along the mid-point near the Oldman River and the north tip of the study area. Sensitive Raptor Range covers the north half of the study area. Features associated with the Sensitive Raptor and Sharp-tailed Grouse layer include raptor nests and sharp-tailed grouse leks which could be identified during field assessments. These features have the potential to impact the location of the proposed facilities and/or timing of construction.

36. The Endangered and Threatened Plant Range includes whitebark and limber pine trees that are both endangered protected plants that occur throughout the study area. Field assessments will be required to determine if any of these tree species occur on proposed footprint locations.

Transmission facilities that impact whitebark and/or limber pine will be constrained as a permit is required for removal. It is expected that proposed substation facilities will be able to avoid locations with these protected plants.

37. Key Wildlife Layers identified by AEPA cover the majority of the study area and include Mountain Goat and Sheep Areas, Key Wildlife and Biodiversity Zone, and Grizzly Bear Managment Zones.

38. AEPA has published land use guidelines for Mountain Goat and Sheep Areas and Key Wildlife and Biodiversity Zones which include avoiding permanent alteration of habitat and Restricted Activity Periods from industrial disturbance from August 23 to June 30, and December 15 to April 30, respectively. It is recommended that proposed transmission faculties avoid the Mountain Goat and Sheep Areas in the southern portion of the study area.

39. The study area crosses Grizzly Bear Support Zone and the Livingston Core Access Management Zone. The Livingston Core Access Management Zone, located north of the Oldman River, is designed for the long-term viability of the core population. Managment efforts to maintain this include limiting road density and human bear conflict. The Support Zone is a buffer zone around the Core Zone which aims at grizzly bear survival and includes managing attractants and human bear conflicts. The Livingston Core Access Management Zone mirrors the Black Creek Heritage Rangeland and Bob Creek Wildlife Provincial Park which are protected from new industrial development. It is expected transmission will be avoided in this area.

40. No IBA's are located in the study area for the proposed project.

41. ESA (generally defined as areas that are important to the long-term maintenance of biological diversity, physical landscape features and/or other natural processes) cover the majority of the study area. Areas within the study that are not designated as ESAs occur near the midpoint south of the Oldman River and the Tod Creek and Chapel Rock hamlets where there are more existing disturbances and land use changes.

42. Protected areas identified in the study area include Black Creek Heritage Rangeland and Bob Creek Wildlife Provincial Park. New transmission lines are prohibited in the Black Creek Heritage Rangeland as they may undermine the ecological integrity of the rangeland ecosystem. It is assumed this provision would also apply to transmission line facilities such as the proposed series compensator/substation. No new industrial development is permitted in Bob Creek Wildlife Provincial Park as per Alberta Parks.

43. AEPA's general recommendations related to transmission line facilities include: to avoid native habitats including but not limited to native grasslands, follow existing disturbances, and to avoid siting within the recommended setback of an identified feature for species of management concern including house, nests, dens, leks, or Class III or higher wetlands.

44. The majority of the study area is rated as a 5 for HRV, believed to contain an historical resource. The south end of the study area, north of Frank, Alberta, is rated as a 3 (contains a significant historic resource that will likely require avoidance). It is expected that a HRIA will be required to support the project siting and Facility Application. It is expected that proposed substation facilities will be able to avoid locations with historical resources.

45. It is expected that the development of Option 1A, 1B, 1C or Option 4A and 4B and any additional scope listed in Technical Alternatives would be constrained:

- Within Black Creek Heritage Rangeland and Bob Creek Wildlife Provincial Park;
- Where there is impact, either direct or indirect, to Critical Fish Habitat;
- On terrain that is steep and mountainous where large civil works would be required;
- Project footprint locations that contain limber or whitebark pine which are protected under the *Wildlife Act*;
- In Mountain Goat and Sheep Areas where construction may be limited to July 1 to August 22; and
- On crown land, where the Disposition Holder must not conduct activities from December 16 to July 31 on Fescue Grasslands in the Montane and Foothills Fescue Natural Subregions.

46. Overall, Option 1A, 1B, 1C, and Option 4A and 4B are expected to have similar potential environmental impacts as proposed footprint size within each option is expected to be similar in size. Potential environmental impacts and extent will depend on the specific footprint location as well as any access requirements.

3.1.3 Visual Effects

47. Options considered in this section have the potential to create some level of visual effects. This study area falls within the “Pristine Viewscapes and Visual Impact Assessment Zones, currently these regulations do not apply to transmission development, however visual impact is anticipated to be a concern in the project area. The determination of what may constitute a visual effect can be subjective and perspectives vary between stakeholders.

48. Visual effects generally increase with proximity to a transmission facility. Visual impacts can be reduced by consolidating new transmission facilities in areas where transmission facilities already exist.

49. It is anticipated that Option 1A/1B/1C will have similar visual effects due to the facility being similar in size. There is a slight preference to Option 4A as 4B is anticipated to be slightly larger. Option 4B is anticipated to have a greater potential visual effect due to the facility requiring a larger footprint.

3.1.4 Municipal Land Use Plans

50. AltaLink’s study area covers parts of three counties: Municipal District of Ranchland No. 66, Municipal District of Pincher Creek No. 9 and Municipality of Crowsnest Pass. These municipalities have MDPs and LUBs. These documents were reviewed to identify potential conflicts between the electrical solutions identified by the AESO and Municipal Plans. The documents did not include anything that would preclude development in any of the municipalities.

51. Regardless of which option is selected by the AESO, consultation with the applicable municipalities would be important to identify potential impacts and areas of concern associated with transmission facilities.

3.1.5 Potential Effects of a planned Chapel Rock 491S

52. The AESO has requested AltaLink to assess the feasibility of selecting a site for the series compensation substation that can be used for the future construction of the planned Chapel Rock 491S.

53. AltaLink notes that no formal siting process has been completed to select a site for the Options, and only a landscape level assessment of the study area has been provided.

54. The opportunity to locate a future Chapel Rock substation adjacent to an existing transmission facility potentially reduces the effects of the Chapel Rock substation from a land use and environmental perspective.

55. AltaLink anticipates a separate ELU report will be completed prior to the AESO submitting a NID application to the AUC to support development of a Chapel Rock Substation and transmission development.

56. It is important to note that the Chapel Rock project also includes constructing a new 240 kV transmission line and the effects of the transmission line routing will need to be taken into consideration collectively with the effect the Chapel Rock substation when determining site locations for Chapel Rock. As a result, it may not be the low impact option to locate the Chapel Rock substation adjacent to a site being considered in this ELU report depending on the final location selected.

57. A review of the study area does indicate, at a high level, that are locations that would be able to accommodate both facilities adjacent to each other.

58. Environmental risks and potential impacts of a future Chapel Rock substation are expected to be similar to Options 1 and 4.

3.1.6 Conclusion

59. Overall Option 1A/1B/1C, and Options 4A and 4B are expected to have similar potential impacts from a land use and environmental perspective, as proposed footprint size within each option is expected to be similar in size.

3.2 Increase in Transformation Capacity at Bennett 520S (Option 2A/2B)

60. The study area for Option 2 is located within Rocky View County and the boundary is set 1000 m from the existing Bennett 520S fenceline. It is assumed the scope of work for Option 2 will be located entirely within SW 16-23-27-W4 on land owned by AltaLink Management Ltd. The study area is shown on SAM2 in **Appendix B**. A comparative analysis of Option 2A and 2B can be found in **Appendix A**, Table 2-1.

3.2.1 Land Assessment and Environmental Features

61. The Bennett 520S is located in the Grasslands Natural Subregion. The primary land use in the study area is cultivation. Existing disturbances are common within the study area and include transmission lines, substations, oil and gas infrastructure, roads, residences, and farming activities.

62. New transmission facilities can have potential effects to residential properties. There is one residence located within Option 2 study area, approximately 950 m away from Bennett 520S. The study area does not include any towns or cities. Option 2 considered in this section has the potential to create some level of visual effects. The determination of what may constitute a visual effect can be subjective, and perspectives vary between stakeholders. Visual effects generally increase the closer to residences a transmission facility is located. From a viusal impact the area is home to a large number of substations, HVDC converter station and number of 138,

240 and 500 kV transmission lines, therefore the fence expansion is anticipated to be minor if not negligable compared to visual impacts created by the existing infrastructure.

63. The study area has minimal oil and gas infrastructure located within it to the north and east of the existing Bennett 520S. The Bennett 520S is located adjacent to AltaLink's existing transmission infrastructure of Langdon 102S Substation, Crossings 511S Substation, including AltaLink's HVDC site. There are a number of existing 240 and 500 kV transmission lines entering and exiting these facilities, including Bennett substation. The proposed scope of work for the Bennett substation would have a negligible impact at this location.

64. The environmental features listed below are illustrated on GB5 provided in **Appendix C**.

65. Wetlands are scattered throughout the study area as well as within 100 m of the Bennett 520S based on aerial imagery and Grassland Vegetation Inventory review. However, no wetland impacts are expected for either option.

66. No native prairie will be impacted by either option.

67. Both options are located in the Sensitive Raptor and Sharp-tailed Grouse Range. Features of concern associated with these layers such as nests and leks are not anticipated due to surrounding land use impacts and associated anthropogenic disturbances. In addition, there are no historical records of sensitive species in AltaLink, FWMIS, or ACIMS databases within the study area.

68. Neither option is located within an ESA.

69. The nearest IBA is located approximately 25 km east of the Bennett 520S. No impacts to the IBA are anticipated from the development of either option.

70. No historical resources concerns are expected for either option.

71. The land uses, residences and environmental features are illustrated on GB5 provided in **Appendix C**.

3.2.2 Conclusion

72. Both options are feasible from a land use and environmental perspective. Option 2B is anticipated to have a lower amount of potential environmental impact as no site expansion is required. However, due to AltaLink owning the quarter section and the area being disturbed, AltaLink anticipates the fence expansion and associated land use impacts for Option 2A to be negligible

3.3 Increase in Thermal Ratings of 1201L (Option 3A/3B)

73. Option 3 is anticipated to require structure replacements on up to approximately five spans for clearance mitigation.

74. The five study areas for Option 3A/3B are located within the Municipal District of Willow Creek No. 26, Municipal District of Ranchland No. 66 and the Municipality of Crowsnest Pass. The boundaries are set 1000 m from the existing 1201L right-of way edge. It is assumed the structure replacements required in Option 3A/3B will be located entirely within the existing right-of-way for 1201L. The study areas are shown on SAM3 in **Appendix B**. A comparative analysis of Option 3A and 3B can be found in **Appendix A**, Table 3-1.

3.3.1 Land Assessment and Environmental Features

75. Option 3 scope is located in the Grasslands Foothills Fescue, Parkland Foothills Parkland, Rocky Mountain Montane, and Rocky Mountain Subalpine Natural Subregion. The three sites in the north portion of the study area are located on private land while the bottom two sites are located on crown land. Further assessment of the potential environmental effects discussed below will be completed during the development of the facility application for this Project.

76. New or replaced transmission facilities can have potential effects to residential properties. There are minimal residences located within the Option 3 study areas. The study areas do not include any towns or city's. Option 3 considered in this section has the potential to create some level of visual effects. The determination of what may constitute a visual effect can be subjective and perspectives vary between stakeholders. Visual effects generally increase the closer to residences a transmission facility is located. From a visual impact the area is home to existing 1201L and the scope of work in this option involves the replacement of transmission structures in up to 5 locations along 1201L. The replacement of the structures is anticipated to be minor if not negligible compared to visual impacts created by the existing infrastructure.

77. Two of the study areas have minimal oil and gas infrastructure located within them, while the southern three have no oil and gas infrastructure located within the study areas. The proposed scope of work for Option 3 would have a negligible impact at these locations.

78. The environmental features listed below are illustrated on GB6 through GB9 provided in **Appendix C**.

79. Native grassland dominates clearance mitigation spans 228-229, 232-233, and 265-266. Whereas, clearance mitigation span, 295-296 is primarily forested and 452-453 is a mixture between native grassland and forested.

80. Wetlands are scattered throughout all clearance mitigation span study areas. No wetland impacts are expected for either of the clearance mitigation spans. However, further assessment will be required to support the facility application.

81. Watercourses are located in all clearance mitigation span study areas and crossings may be required to support vehicle and equipment access. Major access upgrades are expected for clearance mitigation spans 295-296 and 452-453. Proper watercourse crossings will be built for any new or upgraded temporary or permanent access roads.

82. The southern most clearance mitigation span, 452-453, crosses Critical Fish Habitat. Any works, including access upgrades or proposed transmission facilities within Critical Fish Habitat will require Department of Fisheries and Oceans approval. It is expected that any upgrades to access and clearance mitigation work will be completed with required permits in place and have a minimal impact on Critical Fish Habitat and populations.

83. Several AEPA Key Range and Wildlife Layers are located within the various clearance mitigation span study areas and are provided below. Field surveys will be required to identify any specific features that require mitigation.

84. Sensitve Raptor Range: spans 228-229, 232-233, 265-266, and 295-296.

85. Sharp-tailed Grouse Range: spans 228-229, 232-233, and 265-266.

86. Key Wildlife and Biodiversity Zone: spans 265-266, and 295-296.

87. Mountain Goat and Sheep Area: Span 452-453.

88. Grizzly Bear Support Zone: spans 265-266, 295-296, and 452-453.

89. Endangered and Threatened Plant Range: spans 295-296 (limber pine only) and 452-453 (limber and whitebark pine).

90. Clearance mitigation spans 228-229, 232-233, and 452-453 are located within an ESA.

91. No IBAs are located in proximity to any clearance mitigation spans. No impacts are expected.

92. Clearance mitigation spans 295-296 is traverses HRV 5 and 452-453 traverses HRV 4 designations. It is expected that a HRIA may be required to support the project siting and Facility Application for all clearance mitigation spans. All clearance mitigation spans are located on native grassland or forested lands.

3.3.2 Conclusion

93. Overall, both options are feasible from a land use and environmental perspective. It is anticipated that the land use impacts that currently exist along existing 1201L would be the same as those where structure replacements are required.

Appendix A – Summary of Environmental and Land Use Considerations

Table 1-1

Technical Alternatives	Land Assessment	Agriculture features	Other Land Use Features	Environmental Features: Wildlife / Protected areas	Visual Effects	Provincial Land Use Plans	Conclusions
Addition of a Series Compensator on 1201L **Option 1A:** • Build a new substation near the existing 1201L line, located approximately within ±10% of its midpoint (i.e., the midpoint between the Bennett 520S and Cranbrook substations), to accommodate the series compensator • Install series capacitors at the new substation to provide **20% compensation** for the existing 1201L line, with provisions for increasing the compensation to 50% • Connect the existing 1201L line to the series compensator • Add or modify any associated equipment as required **Option 1B:** • Build a new substation near the existing 1201L line, located approximately within ±10% of its midpoint (i.e., the midpoint between the Bennett 520S and Cranbrook substations), to accommodate the series compensator • Install series capacitors at the new substation to provide **30% compensation** for the existing 1201L line, with provisions for increasing the compensation to 50% • Connect the existing 1201L line to the series compensator • Add or modify any associated equipment as required **Option 1C:** • Build a new substation near the existing 1201L line, located approximately within ±10% of its midpoint (i.e., the midpoint between the Bennett 520S and Cranbrook substations), to accommodate the series compensator • Install series capacitors at the new substation to provide **50% compensation** for the existing 1201L line • Connect the existing 1201L line to the series compensator • Add or modify any associated equipment as required	Similar land impacts as Option 1A, 1B, and 1C are expected to be similar in size.	Option 1A, 1B, 1C are expected to have similar potential agricultural impacts. Potential agricultural impacts and the extent will depend on the specific footprint location.	Similar residential effects for all options. Similar oil and gas effects due to the low number of wells and pipelines in the study area.	Option 1A, 1B, and 1C are expected to have similar potential environmental impacts. Potential environmental impacts and extent will depend on the specific footprint location. Potential environmental risks may include: • Impacts to Critical Fish Habitat • Impacts to sensitive wildlife and Species at Risk • Impacts to native/fescue grassland • Impacts to wetlands and watercourses • Habitat fragmentation It is expected that the development of Option 1A, 1B, 1C would be constrained: • Within Black Creek Heritage Rangeland and Bob Creek Wildlife Provincial Park where new transmission facilities are prohibited • Where there is direct impact to Critical Fish Habitat and Mountain Goat and Sheep Areas located in the south portion of the study area • On terrain that is steep and mountainous where large civil works would be required	It is anticipated that Option 1A, 1B, 1C will have similar visual effects due to the facility being similar in size.	Located within the boundaries of the South Saskatchewan Regional Plan (SSRP) and implications of the plan are anticipated to be similar across all Options. New transmission lines are prohibited in the Black Creek Heritage Rangeland as they may undermine the ecological integrity of the rangeland ecosystem. It is assumed this provision would also apply to transmission line facilities such as the proposed series compensator and/or Chapel Rock 491S Substation (BCHR Management Plan 2011 – App 1).	Option 1A, 1B, 1C are expected to have similar potential impacts from a land use and environmental perspective, as proposed footprint size within each option is expected to be similar in size.

Technical Alternatives	Land Assessment	Agriculture features	Other Land Use Features	Environmental Features: Wildlife / Protected areas	Visual Effects	Provincial Land Use Plans	Conclusions
				• Project footprint locations that contain limber or whitebark pine which are protected under the *Wildlife Act* • On crown land, where the Disposition Holder must not conduct activities from December 16th to July 31st on Fescue Grasslands in the Montane and Foothills Fescue Natural Subregions			

Table 2-1

Technical Alternatives	Land Assessment	Agriculture features	Other Land Use Features	Environmental Features: Wildlife / Protected areas	Visual Effects	Provincial Land Use Plans	Conclusions
Increase in Transformation Capacity at Bennett 520S Substation **Option 2A:** • Install a new 500/240 kV transformer at the Bennett 520S substation, adjacent to the existing 500/240 kV transformer, having a **continuous rating of 1,350 MVA** and an **emergency rating of at least 1,850 MVA** for a duration of 30 minutes • The new transformer must include one spare phase • Decommission the existing 500/240 kV transformer at the Bennett 520S substation after the new transformer is in service • Perform any necessary upgrades or modifications to the Bennett 520S substation to enable the full utilization of the new transformer's ratings • Add or modify any associated equipment as required **Option 2B:** • Replace the existing 500/240 kV transformer at the Bennett 520S substation with a new 500/240 kV transformer at the same location, having a **continuous rating of 1,350 MVA** and an **emergency rating of at least 1,850 MVA** for a duration of 30 minutes • The new transformer must include one spare phase • Perform any necessary upgrades or modifications to the Bennett 520S substation to enable the full utilization of the new transformer's ratings • Add or modify any associated equipment as required	Option 2A impacts are anticipated to be negligible as AltaLink owns the proposed land for expansion and the area is heavily disturbed.	Option 2A would be considered to have a higher potential impact as the study area is primarily cultivated and requires a fence expansion on cultivated lands to the north and west of the existing substation site. Although an expansion on cultivated lands is required, AltaLink considers this to be fairly negligible impact.	There are no anticipated impacts to residences or oil and gas infrastructure.	Option 2B is anticipated to have a lower amount of potential environmental impact as no site expansion is required. No wetland impacts and Water Act approval are expected for either option. Both options are located in the Sensitive Raptor and Sharp-tailed Grouse Range. Features of concern associated with these sensitive species are not anticipated due to surrounding land use impacts and disturbance. No historical records of sensitive species in AltaLink, Fish and Wildlife Management Information System (FWMIS), or Alberta Conservation Information Management System (ACIMS) databases. The land use surrounding the Bennett 520S Substation is cultivated. No native prairie will be impacted by either option. Neither option is located in or in vicinity of an Environmentally Significant Area (ESA) or International Bird Area (IBA). The Eagle, Namaka, and Stobart Lakes IBA is located approximately 24 km east of the Bennett 520S Substation. Low potential effect to historical resources for both options.	Options 2A and 2B are anticipated to be minor if not negligible compared to visual impacts created by the existing infrastructure, as the area has a large number of substations, HVDC converter station and number of 138, 240 and 500 kV transmission lines.	Located within the boundaries of the South Saskatchewan Regional Plan (SSRP) and implications of the plan are anticipated to be similar across both Options.	Both options are feasible from a land use and environmental perspective. Option 2B is anticipated to have a lower amount of potential environmental impact as no site expansion is required. However, due to AltaLink owning the quarter section and the area being disturbed, AltaLink anticipates the fence expansion and associated land use impacts for Option 2A to be negligible.

				Overall, both options are feasible from an environmental perspective.			

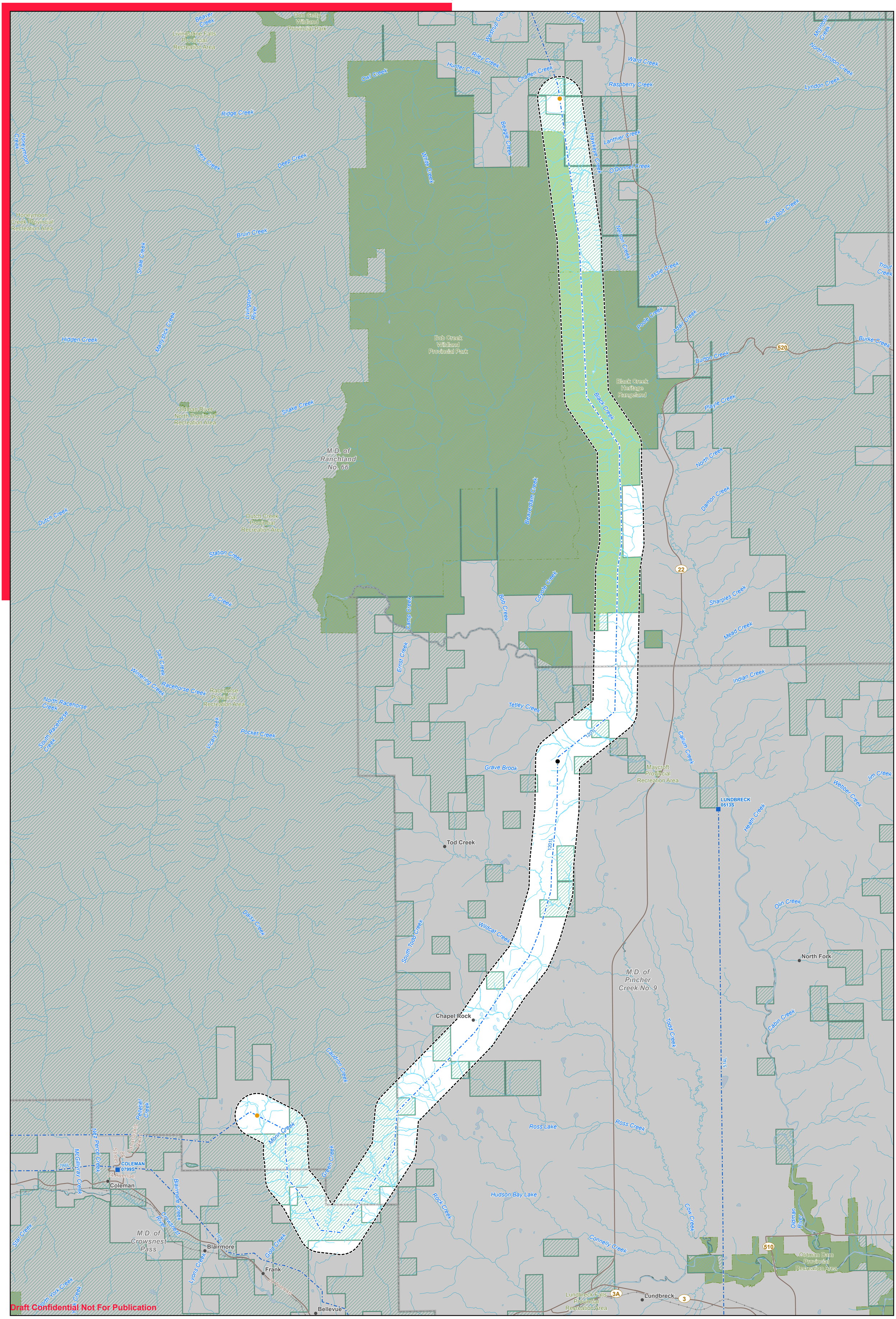
Table 3-1

Technical Alternatives	Land Assessment	Agriculture features	Other Land Use Features	Environmental Features: Wildlife / Protected areas	Visual Effects	Provincial Land Use Plans	Conclusions
Increase in Thermal Ratings of 1201L **Option 3A:** • Perform clearance mitigation for the existing 1201L line within Alberta (Between the Bennett substation and the BC border) to grant the line a **continuous rating of at least 1,200 MVA** and an **emergency rating of at least 1,400 MVA** for a duration of 30 minutes • Add or modify any associated equipment as required **Option 3B:** • Perform clearance mitigation for the existing 1201L line within Alberta (Between the Bennett substation and the BC border) to grant the line a **continuous rating of at least 1,350 MVA** and an **emergency rating of at least 1,850 MVA** for a duration of 30 minutes • Add or modify any associated equipment as required	Option 3A is expected to have lower impacts as less spans require mitigation.	Option 3A and 3B are expected to have similar potential agricultural impacts. Potential agricultural impacts and extent will depend on the specific footprint location.	There are no anticipated impacts to residences or oil and gas infrastructure.	Option 3A and 3B are expected to have similar potential environmental impacts. Environmental impacts are expected to be mainly from sensory disturbance associated with construction and temporary in nature. Potential environmental risks may include: • Impacts to Critical Fish Habitat • Impacts to sensitive wildlife and Species at Risk • Impacts to native grassland • Impacts to wetlands and watercourses • Impacts to limber pine/whitebark pine	The replacement of the structures is anticipated to be minor if not negligible compared to visual impacts created by the existing infrastructure.	Located within the boundaries of the South Saskatchewan Regional Plan (SSRP) and implications of the plan are anticipated to be similar across both Options.	Both options are feasible from a land use and environmental perspective. Option 3A is anticipated to have a lower amount of potential environmental impact as less spans would require mitigation. However, due to 1201L being an existing line and the scope of work requiring structure replacements. It is anticipated that the impacts that currently exist along the line would be the same where structure replacements are required, therefore see the impacts to be negligible between Option 3A and 3B.

Table 4-1

Technical Alternatives	Land Assessment	Agriculture features	Other Land Use Features	Environmental Features: Wildlife / Protected areas	Visual Effects	Provincial Land Use Plans	Conclusions
Addition of Dynamic Shunt Compensator **Option 4A:** • Build a new substation near the existing 1201L line, located approximately within ±10% of its midpoint (i.e., the midpoint between the Bennett 520S and Cranbrook substations), to accommodate the dynamic shunt compensator • Install a dynamic shunt compensator at the new substation, capable of providing **200 MVAr of capacitive** reactive power • Connect the existing 1201L line to the dynamic shunt compensator • Add or modify any associated equipment as required **Option 4B:** • Build a new substation near the existing 1201L line, located approximately within ±10% of its midpoint (i.e., the midpoint between the Bennett 520S and Cranbrook substations), to accommodate the dynamic shunt compensator • Install a dynamic shunt compensator at the new substation, capable of providing **300 MVAr of capacitive** reactive power • Connect the existing 1201L line to the dynamic shunt compensator • Add or modify any associated equipment as required	Similar land impacts as Option 4A and 4B are expected to be similar in size.	Option 4A and 4B are expected to have similar potential agricultural impacts. Potential agricultural impacts and extent will depend on the specific footprint location.	Similar residential effects for both options. Similar oil and gas effects due to the low number of wells and pipelines in the study area.	Option 4A and B are expected to have similar potential environmental impacts. Potential environmental impacts and extent will depend on the specific footprint location. Potential environmental risks may include: • Impacts to Critical Fish Habitat • Impacts to sensitive wildlife and Species at Risk • Impacts to native/fescue grassland • Impacts to wetlands and watercourses • Habitat fragmentation • It is expected that the development of Option 1A, 1B, 1C would be constrained: • Within Black Creek Heritage Rangeland and Bob Creek Wildlife Provincial Park where new transmission facilities are prohibited • Where there is direct impact to Critical Fish Habitat and Mountain Goat and Sheep Areas located in the south portion of the study area • On terrain that is steep and mountainous where large civil works would be required • Project footprint locations that contain	It is anticipated that Option 4A and 4B will have similar visual effects due to the facility being similar in size.	Located within the boundaries of the South Saskatchewan Regional Plan (SSRP) and implications of the plan are anticipated to be similar across all Options. New transmission lines are prohibited in the Black Creek Heritage Rangeland as they may undermine the ecological integrity of the rangeland ecosystem. It is assumed this provision would also apply to transmission line facilities such as the proposed series compensator and/or Chapel Rock 491S Substation (BCHR Management Plan 2011 – App 1).	Option 4A and 4B are expected to have similar potential impacts from a land use and environmental perspective, as proposed footprint size within each option is expected to be similar in size.

				limber or whitebark pine which are protected under the *Wildlife Act* • On crown land, where the Disposition Holder must not conduct activities from December 16th to July 31st on Fescue Grasslands in the Montane and Foothills Fescue Natural Subregions			



LEGEND

- 1201L Midpoint
- 1201L +/- 10% from midpoint
- Study Area
- Existing Substation
- Existing Transmission Line
- Hamlet or Locality
- Major Road
- Railway
- Watercourse
- Crown Land
- Municipal District and County
- Park or Protected Area
- Waterbody

NO.: 123515433-0001 REVISION: 0.00.00
DRAWN: AY-STN DATE: 2025-05-27
FILE NO.: XXXXXXX AL FOLDER: ELU Intertie Mapping

Although there is no reason to believe that there are any errors associated with the data used to generate this product or in the product itself, users of these data are advised that errors in the data may be present.

N

0 1 2 3 4 5 Kilometres
0 1 2 3 Miles

STUDY AREA **SAM1**

ALTALINK
A BERKSHIRE HATHAWAY ENERGY COMPANY

STUDY AREA
Option 1A/1B/1C, Chapel Rock Substation and Option 4A/4B
AB-BC Intertie Restoration

Range Road 275A
Range Road 275
Range Road 274
Vale View Road
Centre Street North
Range Road 274A
Range Road 280
Range Road 272
Range Road 273
Township Road 233
Township Road 232
Township Road 230
Dead Horse Road
Glenmore Trail
560
797
Rocky View County
Langdon
CROSSINGS 0511S
LANGDON 0102S
BENNETT 0520S
1325L
1064L
936L
924L
1201L

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LEGEND

- Study Area
- Existing Substation
- Existing Transmission Line
- Pipeline
- Hamlet or Locality
- Major Road
- Watercourse
- Municipal District and County
- Quarter Section
- Waterbody

NO.: 123515433-0002 REVISION: 0.00.00
DRAWN: AY-STN DATE: 2025-05-27
FILE NO.: XXXXXXX AL FOLDER: ELU Intertie Mapping

Although there is no reason to believe that there are any errors associated with the data used to generate this product or in the product itself, users of these data are advised that errors in the data may be present.

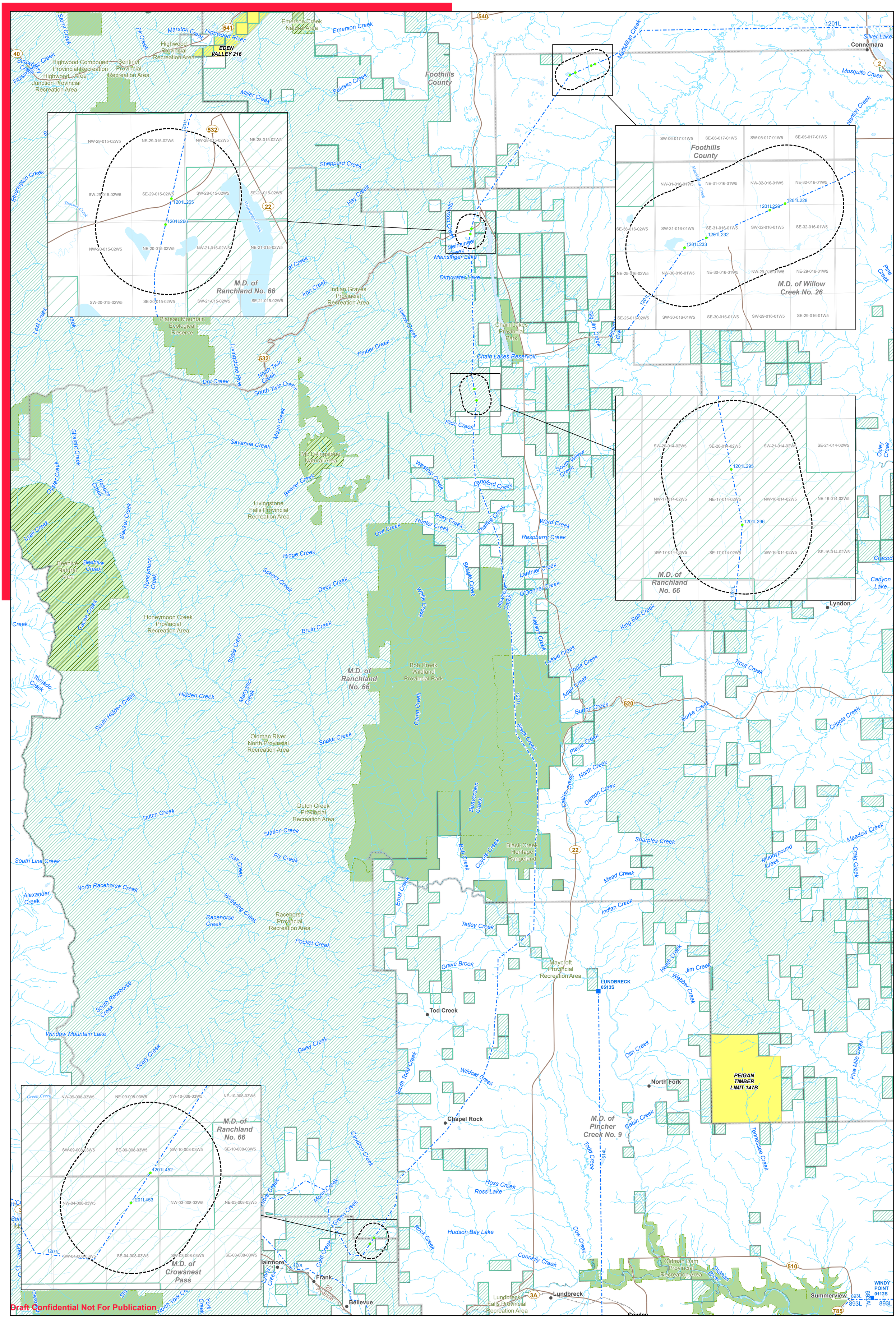
N

0 0.5 1 Kilometres
0 0.25 0.5 Miles

STUDY AREA **SAM2**

ALTALINK
A BERKSHIRE HATHAWAY ENERGY COMPANY

STUDY AREA
Option 2A/2B
AB-BC Intertie Restoration



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LEGEND

- Existing Transmission Tower
- Study Area
- Existing Substation
- Existing Transmission Line
- Hamlet or Locality
- Major Road
- Railway
- Watercourse
- Crown Land
- Municipal District and County
- Natural Area
- Park or Protected Area
- First Nations Reserve
- Waterbody

NO.: 123515433-0001 REVISION: 0.00.00
DRAWN: AY-STN DATE: 2025-09-11
FILE NO.: XXXXXXX AL FOLDER: ELU Intertie Mapping

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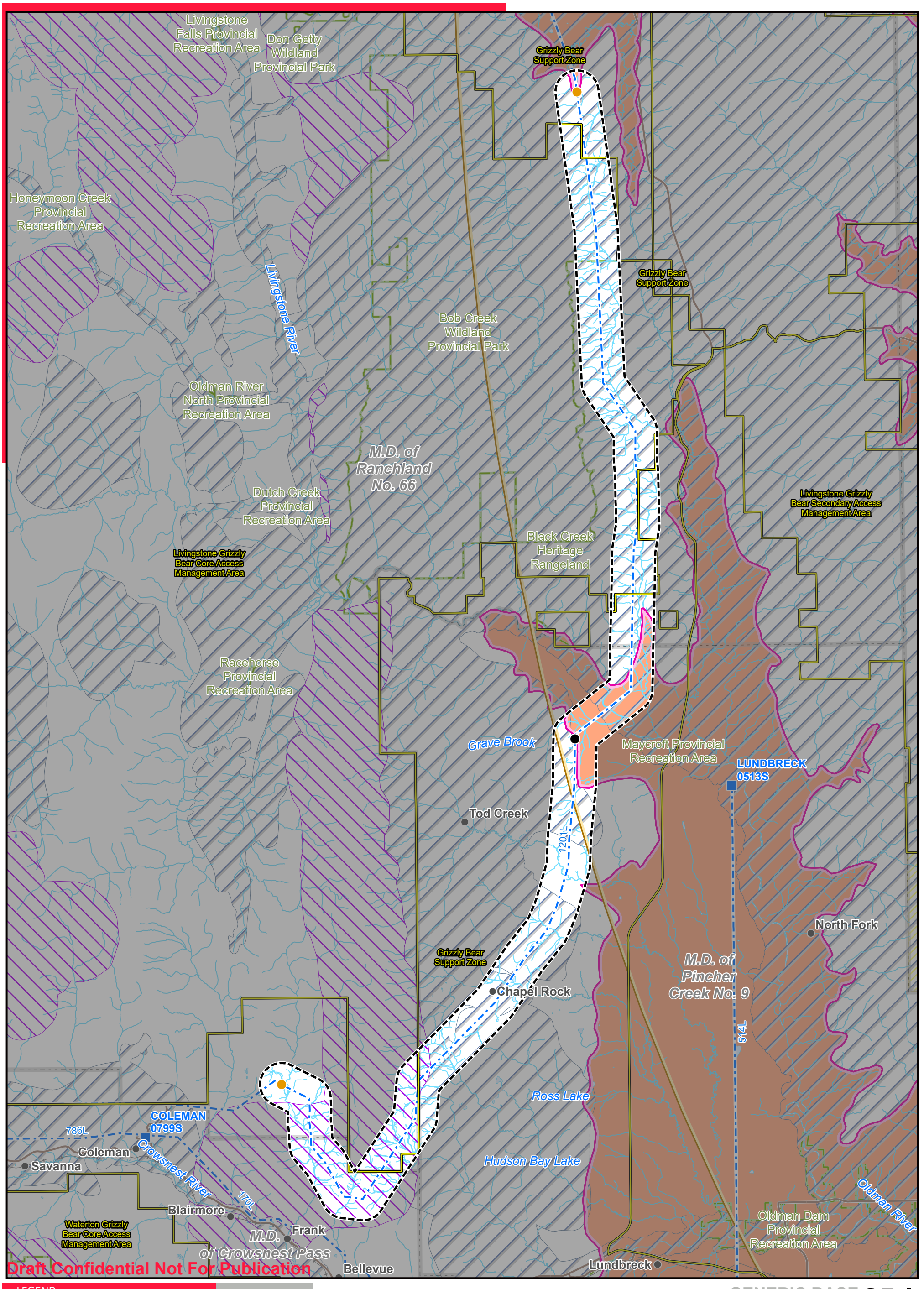
N

0 2 4 6 8 10 Kilometres
0 2 4 6 Miles

STUDY AREA **SAM3**

ALTALINK
A BERKSHIRE HATHAWAY ENERGY COMPANY

STUDY AREA
Option 3 (Structures 228/229, 232/233, 265/266, 295/296, 452/453)
AB-BC Intertie Restoration



LEGEND

- 1201L Midpoint
- 1201L +/- 10% from midpoint
- Study Area
- Existing Substation
- Existing Transmission Line
- Grizzly Bear Access Management Zone / Support Zone
- Key Wildlife And Biodiversity Zone
- Mountain Goat and Sheep Range
- Sensitive Raptor Range
- Bald Eagle / Golden Eagle / Prairie Falcon
- Ferruginous Hawk
- Sharp Tailed Grouse
- Hamlet or Locality
- Major Road
- Railway
- Watercourse
- First Nations Reserve
- Park or Protected Area
- Waterbody

NO.: 123515433-0003
DRAWN: AY - STN
FILE NO.: XXXXXXX
REVISION: 0.00.00
DATE: 2025-05-27
AL FOLDER: Intertie ELU mapping

N

0 1 2 3 4 5 Kilometres

0 1 2 3 Miles

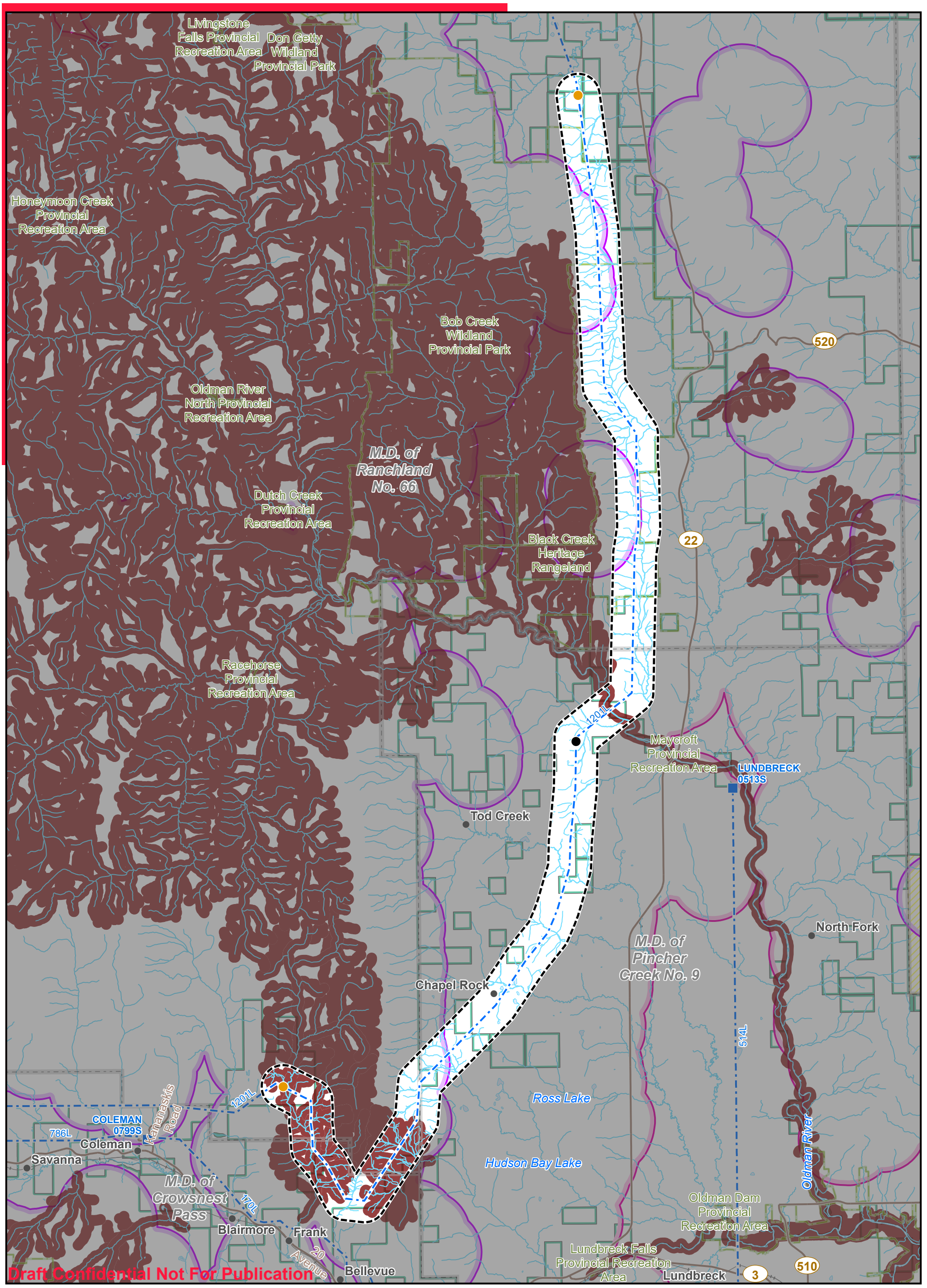
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GENERIC BASE **GB1**

ALTALINK
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Wildlife Environmental Features

Option 1A/1B/1C, Chapel Rock Substation and Option 4A/4B
AB-BC Intertie Restoration



LEGEND

- Critical Habitat of Aquatic Species at Risk
- Limber Pine
- Whitebark Pine
- 1201L Midpoint
- 1201L +/- 10% from midpoint
- Study Area
- Existing Substation
- Existing Transmission Line
- Hamlet or Locality
- Major Road
- Railway
- Watercourse
- Crown Land
- First Nations Reserve
- Municipal District and County
- Park or Protected Area
- Waterbody

NO.: 123515433-0005
DRAWN: AY-STN
FILE NO.: XXXXXXX
REVISION: 0.00.00
DATE: 2025-05-27
AL FOLDER: ELU Intertie Mapping

N

0 1 2 3 4 5 Kilometres

0 1 2 3 4 Miles

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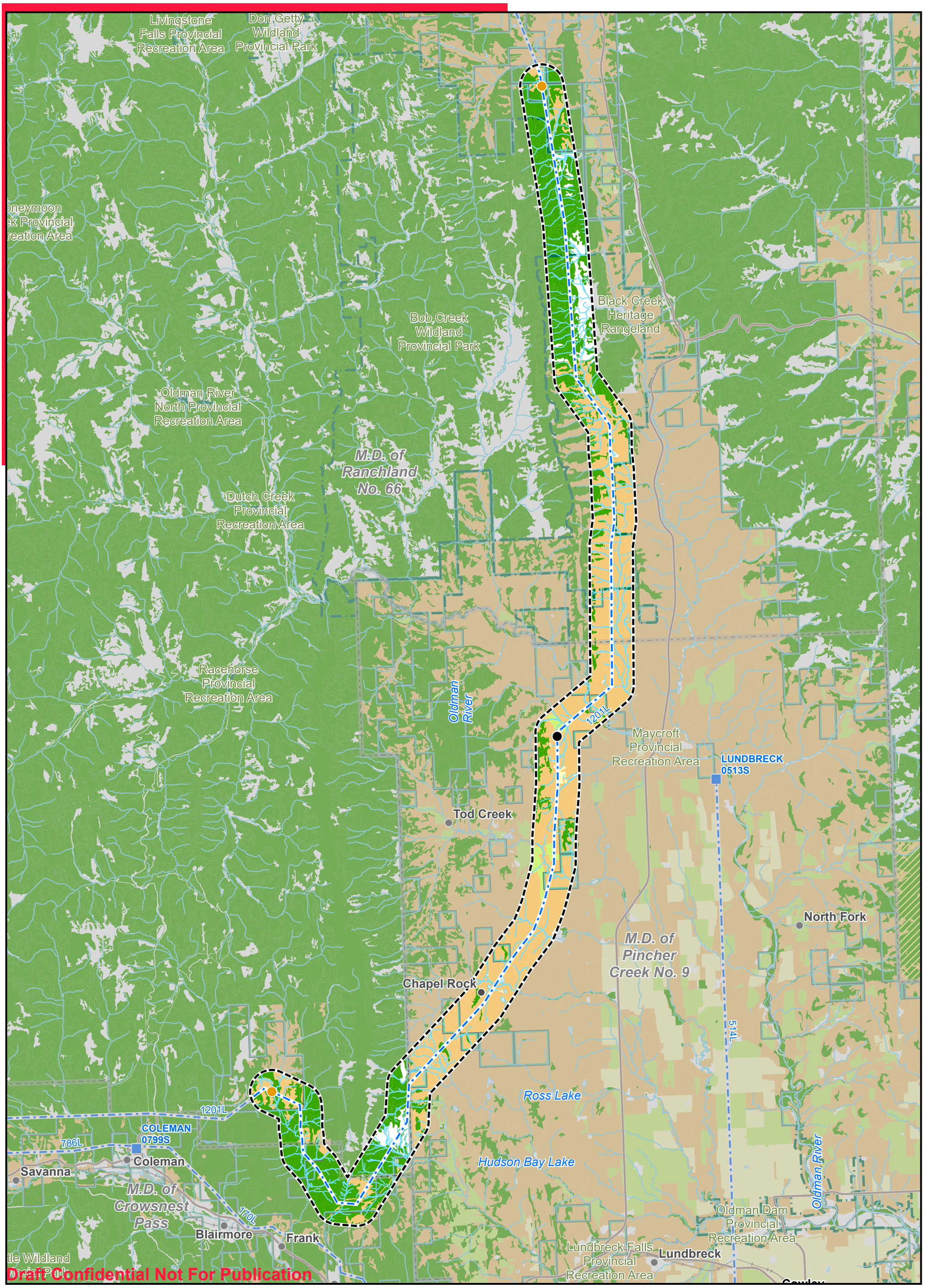
GENERIC BASE **GB2**

ALTALINK
A BERKSHIRE HATHAWAY ENERGY COMPANY

Aquatic Environment Features and Protected Plants

Option 1A/1B/1C, Chapel Rock Substation and Option 4A/4B

AB-BC Intertie Restoration



LEGEND

Grassland Vegetation Inventory
- Cultivated
- Native Prairie
- Tame Pasture
- 1201L Midpoint
- 1201L +/- 10% from midpoint
- Study Area
- Existing Substation
- Existing Transmission Line
- Hamlet or Locality

- Major Road
- Railway
- Watercourse
- Crown Land
- First Nations Reserve
- Forested Area
- Municipal District and County
- Park or Protected Area
- Waterbody

White area shown within study area is absence of grassland vegetation inventory data.

NO.: 123515433-0007
DRAWN: AY-STN
FILE NO.: XXXXXXX
REVISION: 0.00.00
DATE: 2025-05-27
AL FOLDER: ELU Intertie Mapping

N

0 1 2 3 4 5 Kilometres

0 1 2 3 4 Miles

Although there is no reason to believe that there are any errors associated with the data used to generate this product or in the product itself, users of these data are advised that errors in the data may be present.

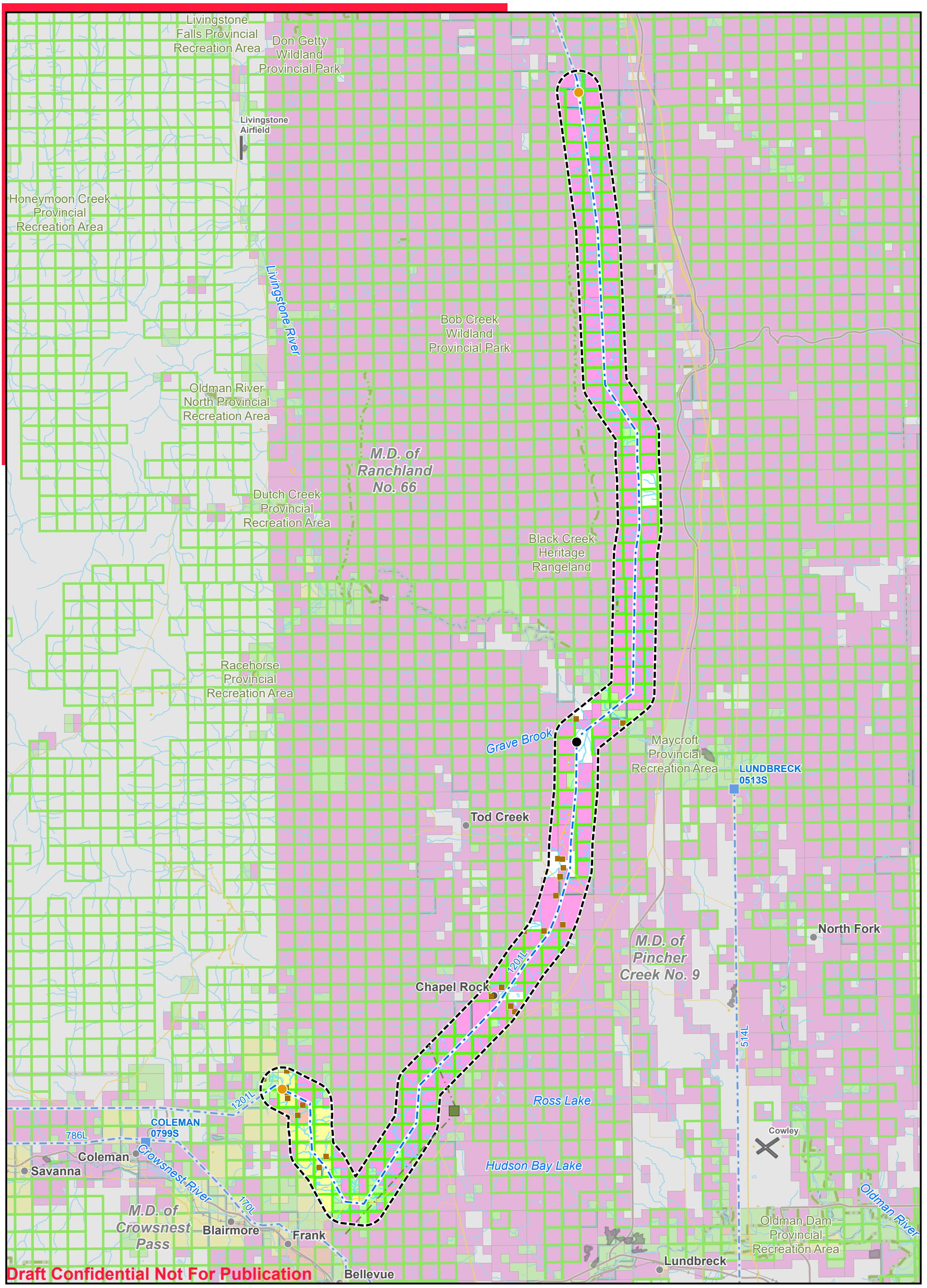
GENERIC BASE **GB3**

ALTALINK
A BERKSHIRE HATHAWAY ENERGY COMPANY

Grassland Vegetation Inventory

Option 1A/1B/1C, Chapel Rock Substation and Option 4A/4B

AB-BC Intertie Restoration



LEGEND

Historical Resource Value
- HRV - 1
- HRV - 3
- HRV - 4
- HRV - 5
- 1201L Midpoint
- 1201L +/- 10% from midpoint
- Study Area
- Existing Substation
- Existing Transmission Line
- DU Ranchlands Cabin
- Hamlet or Locality
- Residence
- Wellsite
- DU Ranchlands Viewscape
- Major Road
- Pipeline
- Railway
- Watercourse
- Aggregate
- Airfield
- Environmentally Significant Area
- Crown Land
- First Nations Reserve
- Park or Protected Area
- Waterbody

NO.: 123515433-0009
DRAWN: AY - STN
FILE NO.: XXXXXXX
REVISION: 0.00.00
DATE: 2025-05-27
AL FOLDER: Intertie ELU mapping

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0 1 2 3 4 Miles

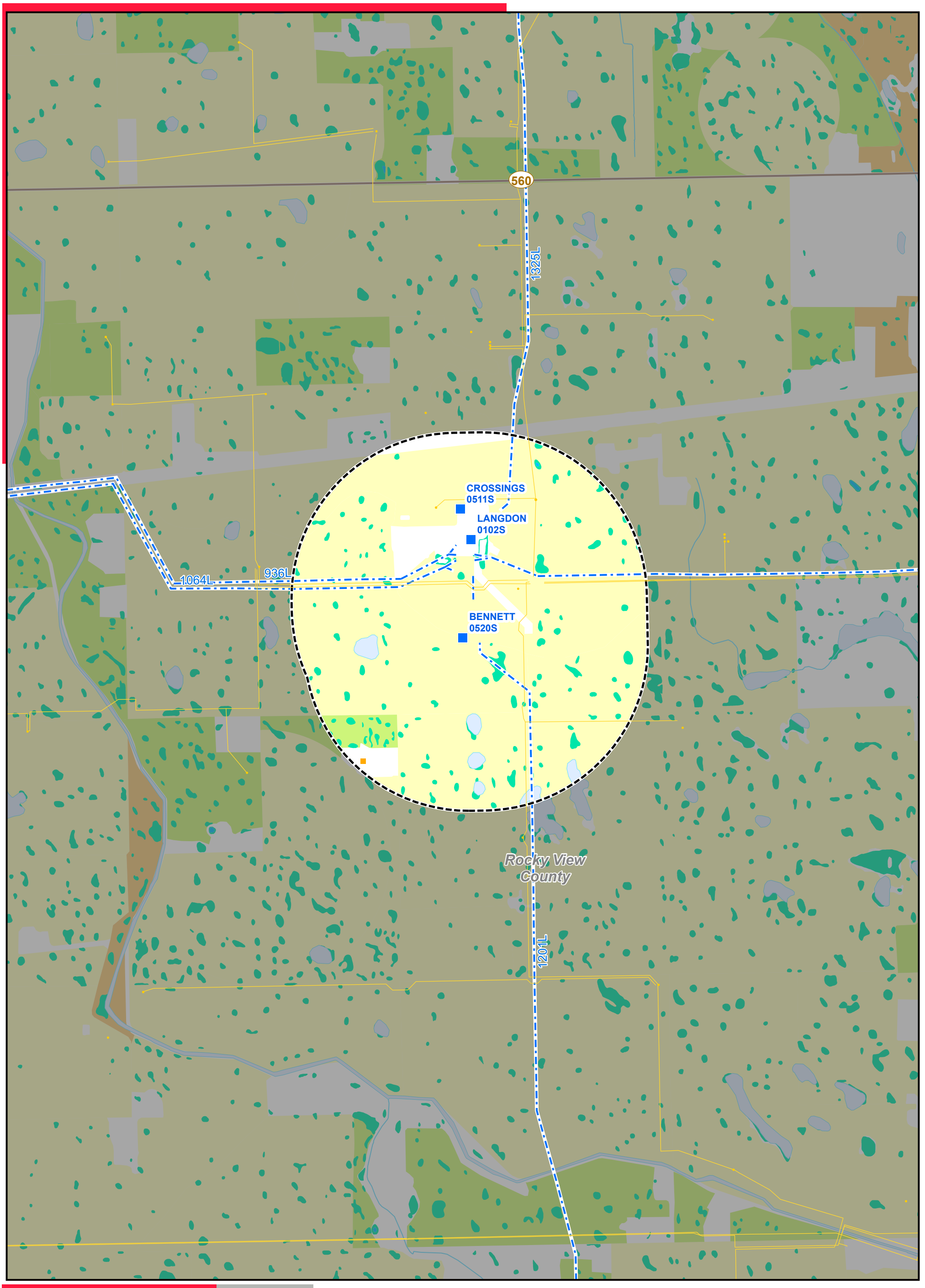
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GENERIC BASE **GB4**

ALTALINK
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Land Use Considerations

Option 1A/1B/1C, Chapel Rock Substation and Option 4A/4B
AB-BC Intertie Restoration



LEGEND

Grassland Vegetation Inventory
- Cultivated
- Native Prairie
- Tame Pasture

Study Area
Existing Substation
Existing Transmission Line
Residence
Wellsite

Pipeline
Major Road
Watercourse
Waterbody

Wetland
- Marsh
- Open Water

Entire figure extent within bald eagle, ferruginous hawk, golden eagle, prairie falcon, and sharp tailed grouse range.

NO.: 123515433-0004
DRAWN: AY-STN
FILE NO.: XXXXXXX
REVISION: 0.00.00
DATE: 2025-05-27
AL FOLDER: ELU Intertie mapping

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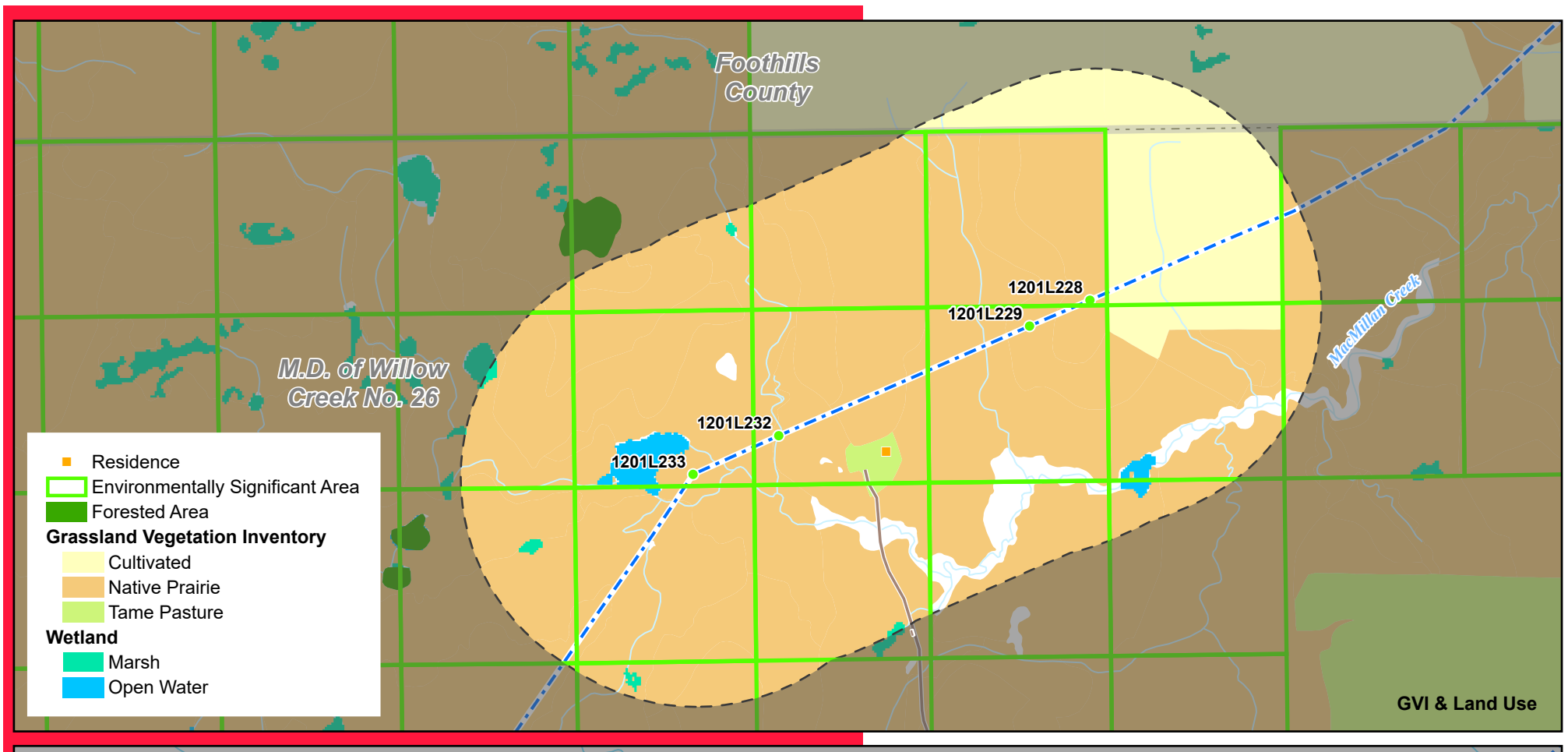
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0 0.25 0.5 0.75 Miles

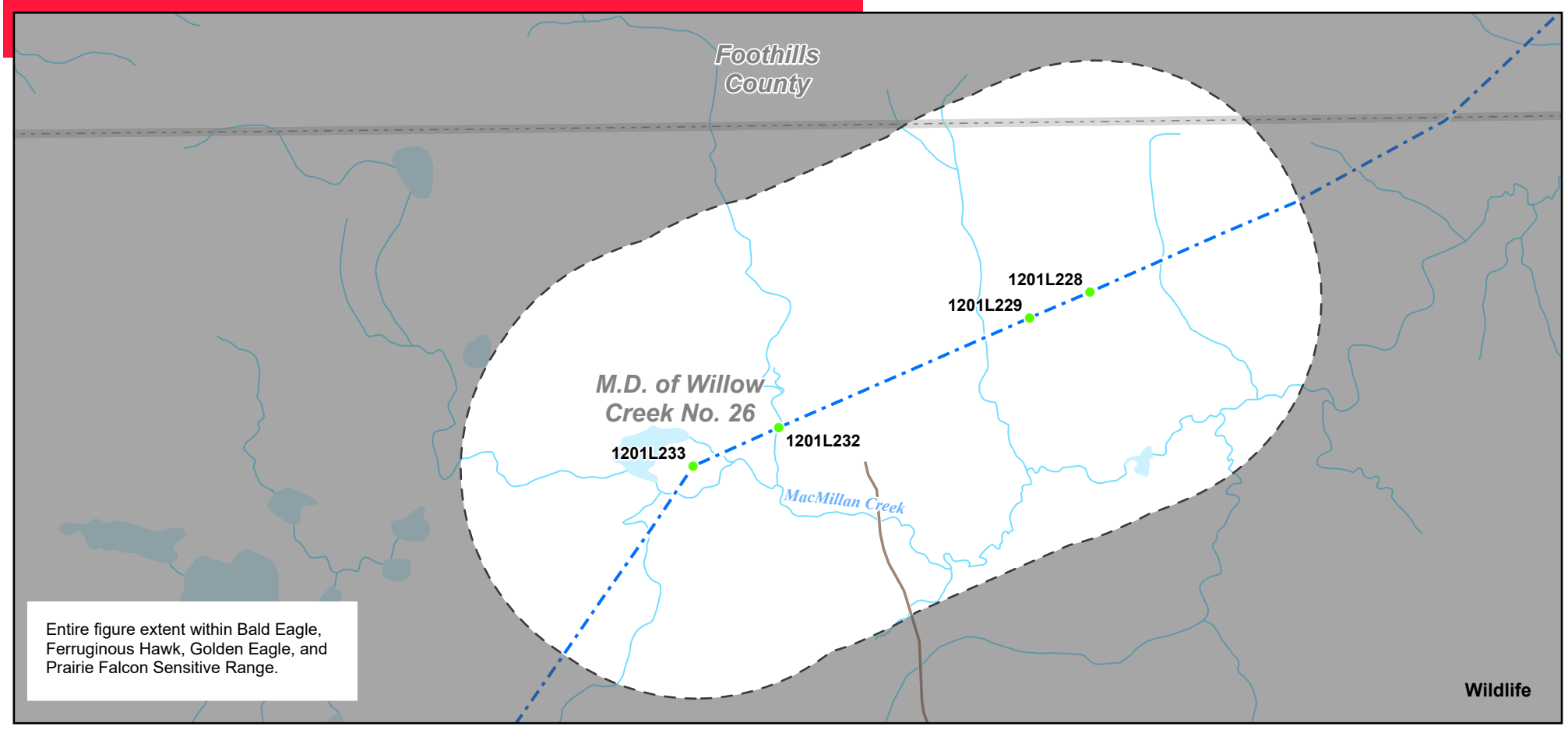
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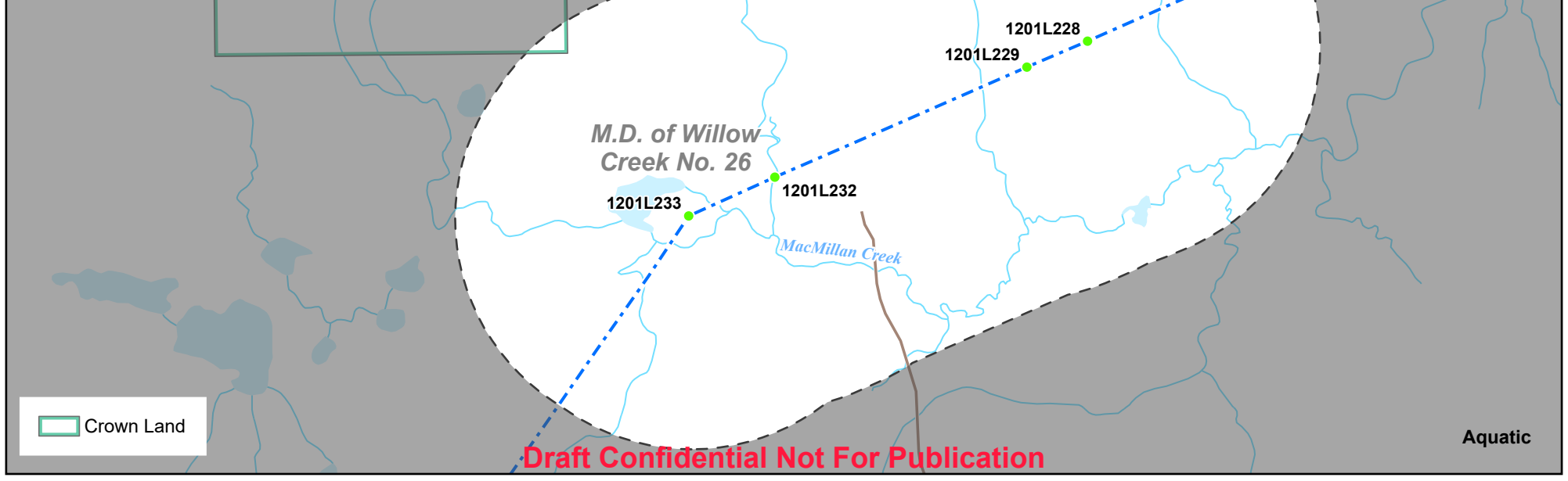
GENERIC BASE **GB5**

ALTALINK
A BERKSHIRE HATHAWAY ENERGY COMPANY

Wildlife Environmental Features, Grassland Vegetation Inventory, and Land Use Considerations
Option 2A/2B
AB-BC Intertie Restoration







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LEGEND

- Existing Transmission Tower
- Study Area
- Existing Transmission Line
- Road
- Watercourse
- Municipal District and County
- Waterbody

NO.: XXXXXXX
DRAWN: AY-STN
FILE NO.: XXXXXXX
REVISION: 0.00.00
DATE: 2025-09-10
AL FOLDER: ELU Intertie mapping

N

0 0.5 1 Kilometers

0 0.25 0.5 Miles

Although there is no reason to believe that there are any errors associated with the data used to generate this product or in the product itself, users of these data are advised that errors in the data may be present.

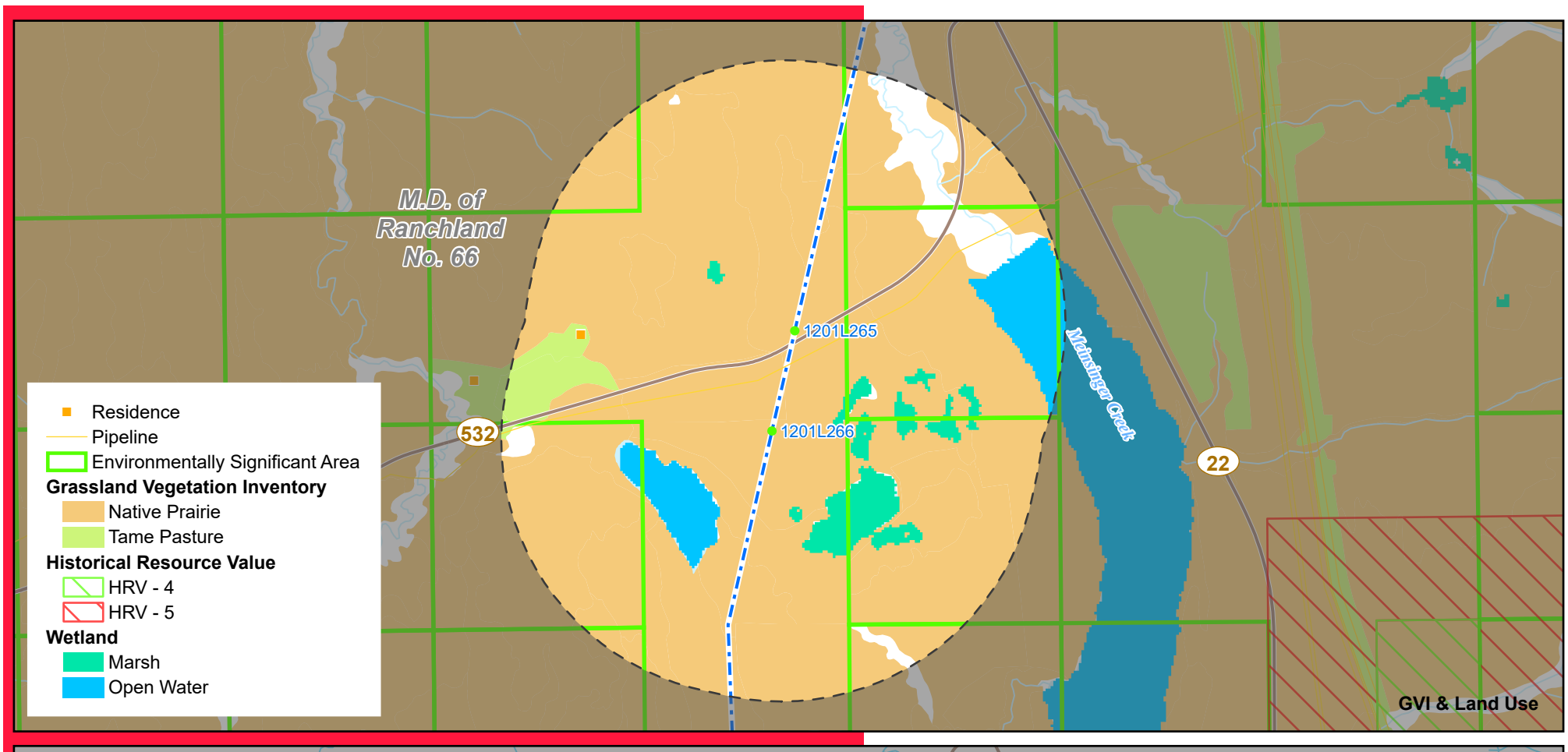
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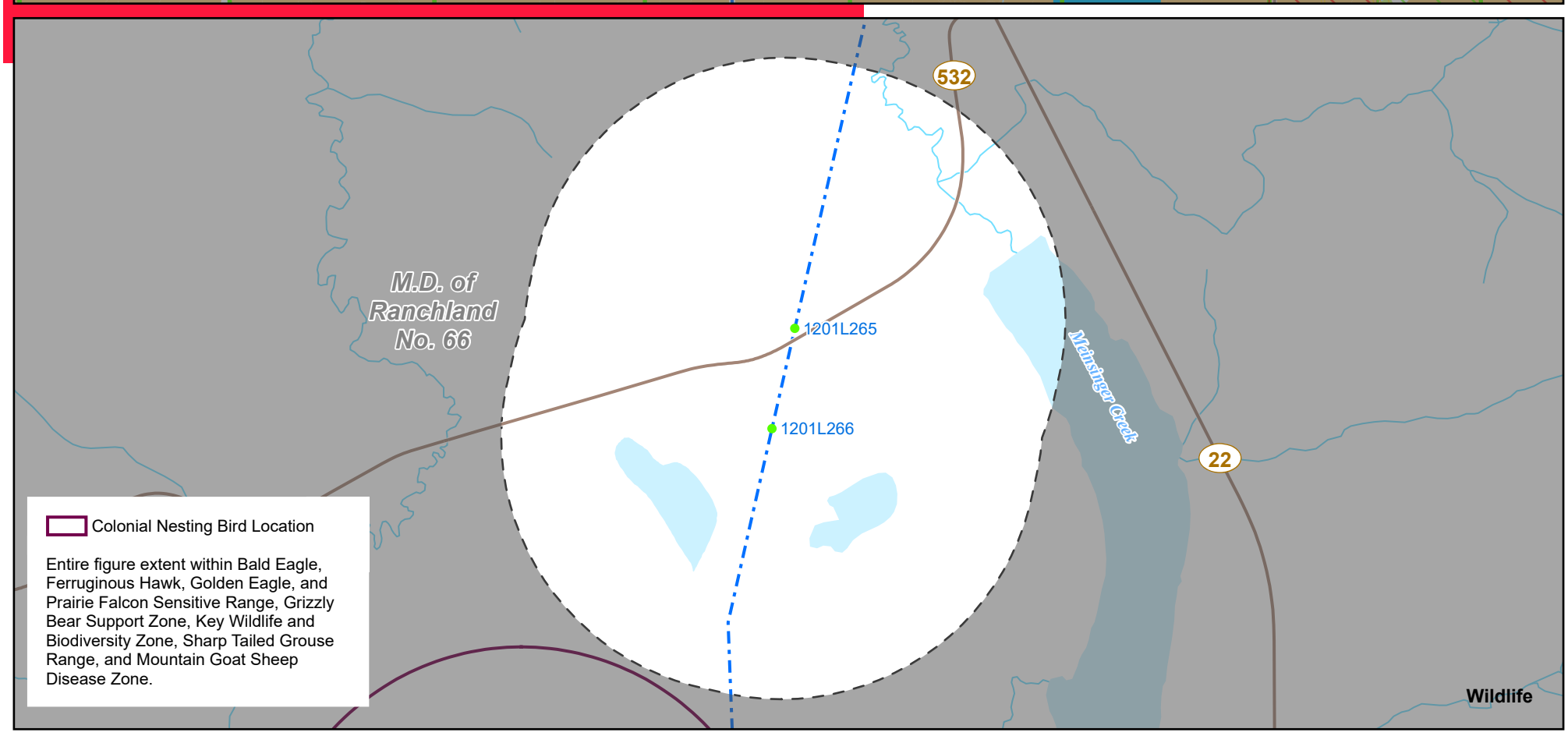
ALTALINK
A BERKSHIRE HATHAWAY ENERGY COMPANY

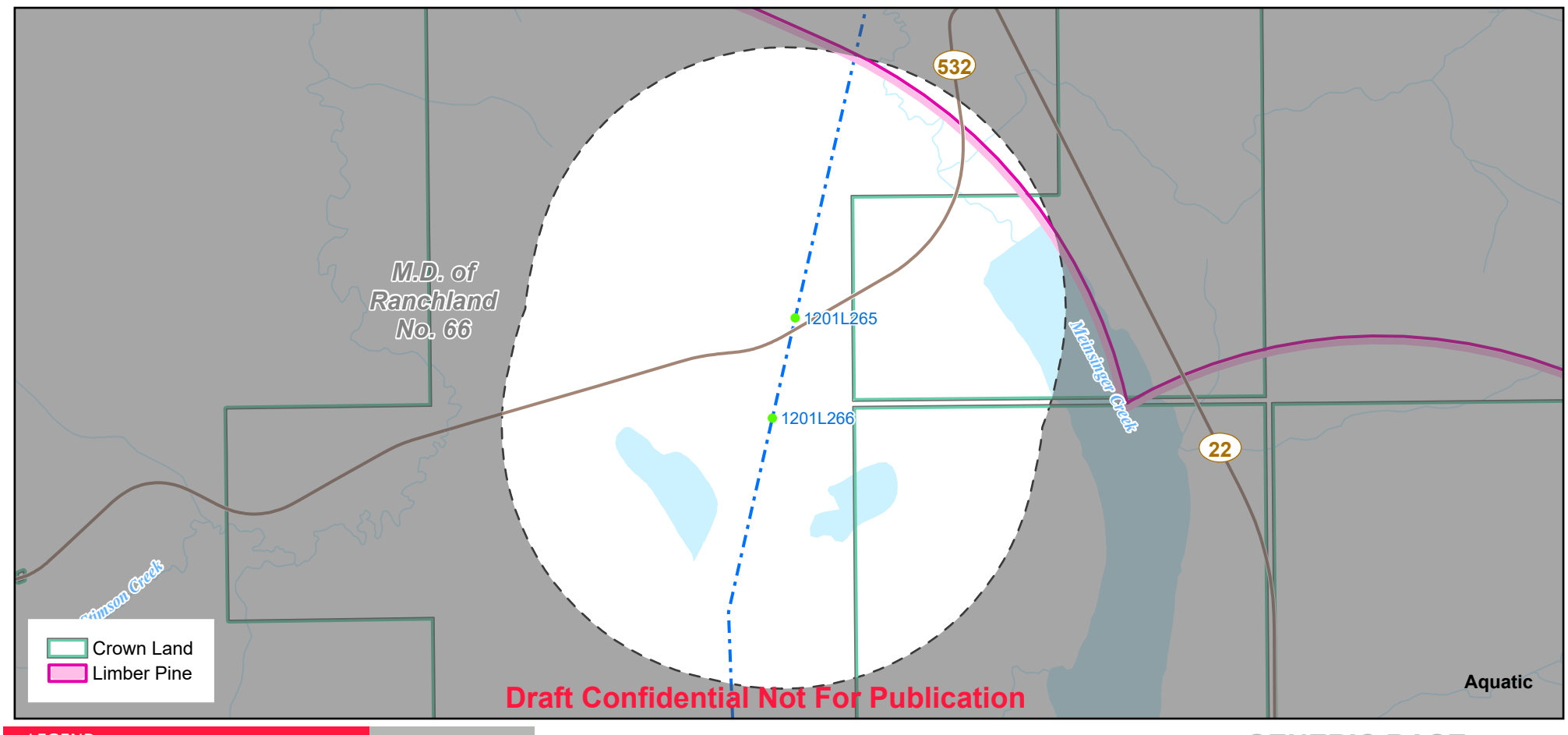
Wildlife Environmental Features, Grassland Vegetation Inventory, Aquatics, and Land Use Considerations

Option 3 (Structures 228/229 and 232/233)

AB-BC Intertie Restoration







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LEGEND

- Existing Transmission Tower
- Study Area
- Existing Transmission Line
- Road
- Watercourse
- Municipal District and County
- Waterbody

NO.: XXXXXXX
DRAWN: AY-STN
FILE NO.: XXXXXXX
REVISION: 0.00.00
DATE: 2025-09-10
AL FOLDER: ELU Intertie mapping

N

0 0.5 1 Kilometers

0 0.25 0.5 Miles

Although there is no reason to believe that there are any errors associated with the data used to generate this product or in the product itself, users of these data are advised that errors in the data may be present.

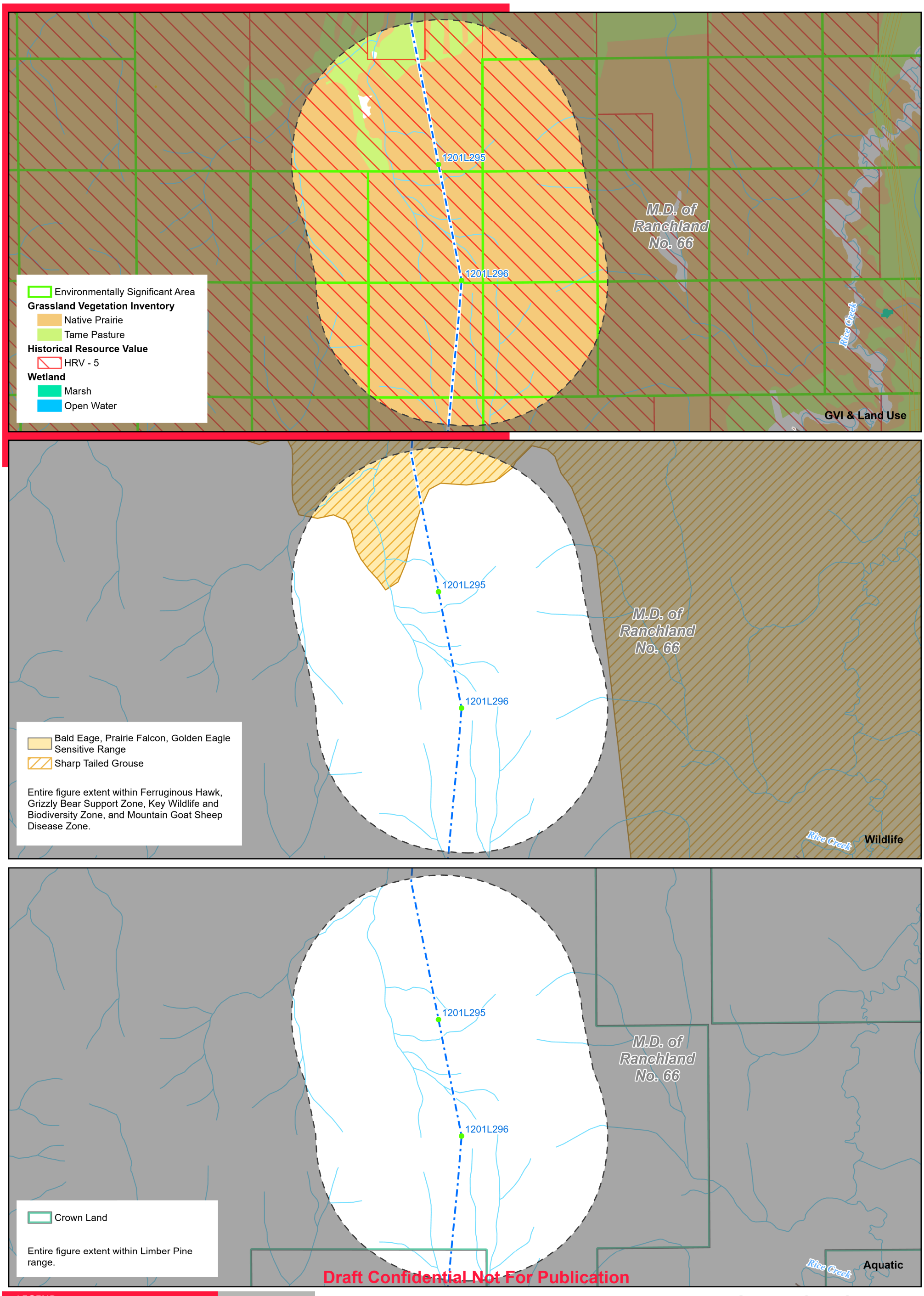
GENERIC BASE **GB7**

ALTALINK
A BERKSHIRE HATHAWAY ENERGY COMPANY

Wildlife Environmental Features, Grassland Vegetation Inventory, Aquatics, and Land Use Considerations

Option 3 (Structures 265/266)

AB-BC Intertie Restoration



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LEGEND

- Existing Transmission Tower
- Study Area
- Existing Transmission Line
- Road
- Watercourse
- Municipal District and County
- Waterbody

NO.: XXXXXXX
DRAWN: AY-STN
FILE NO.: XXXXXXX
REVISION: 0.00.00
DATE: 2025-09-10
AL FOLDER: ELU Intertie mapping

N

0 0.5 1 Kilometers

0 0.25 0.5 0.75 Miles

Although there is no reason to believe that there are any errors associated with the data used to generate this product or in the product itself, users of these data are advised that errors in the data may be present.

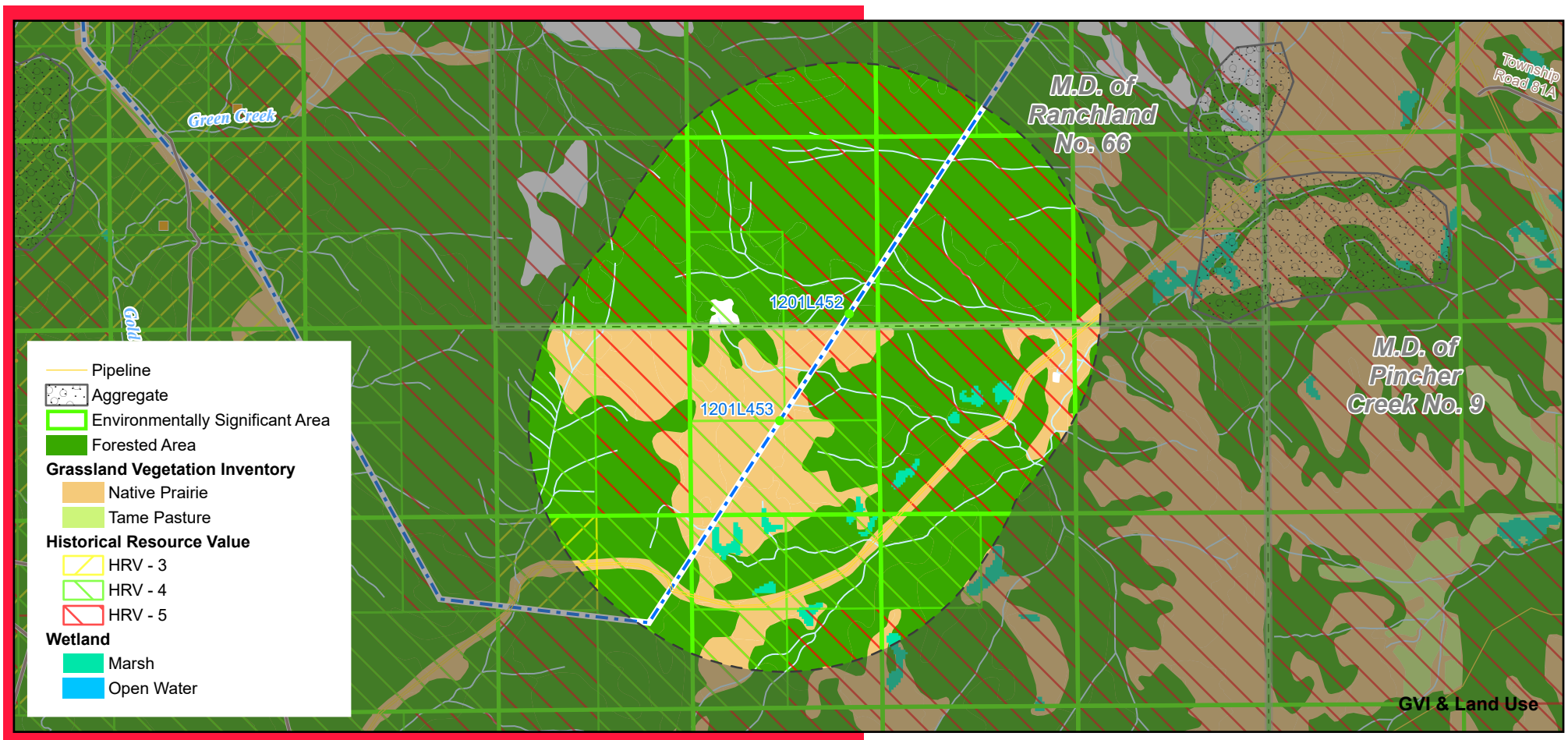
GENERIC BASE **GB8**

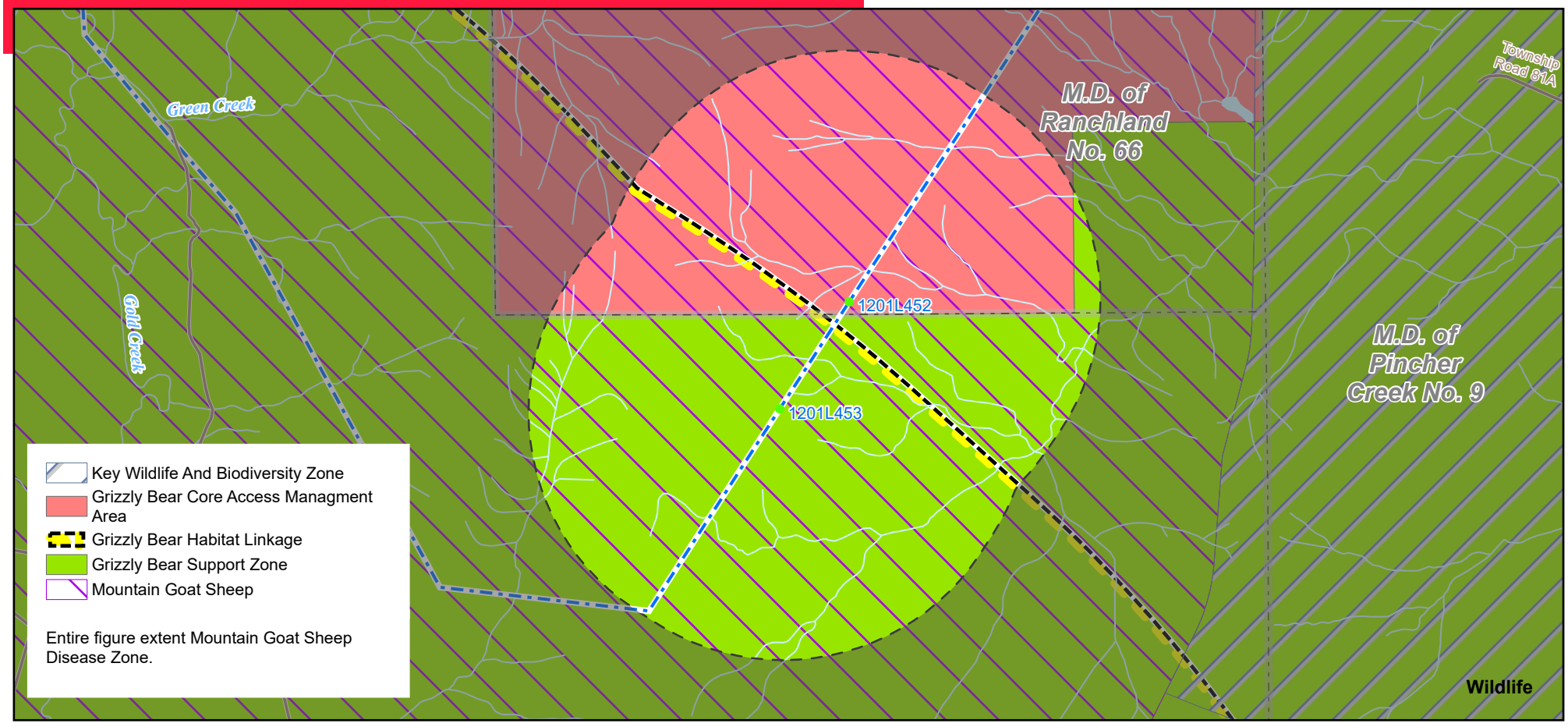
ALTALINK
A BERKSHIRE HATHAWAY ENERGY COMPANY

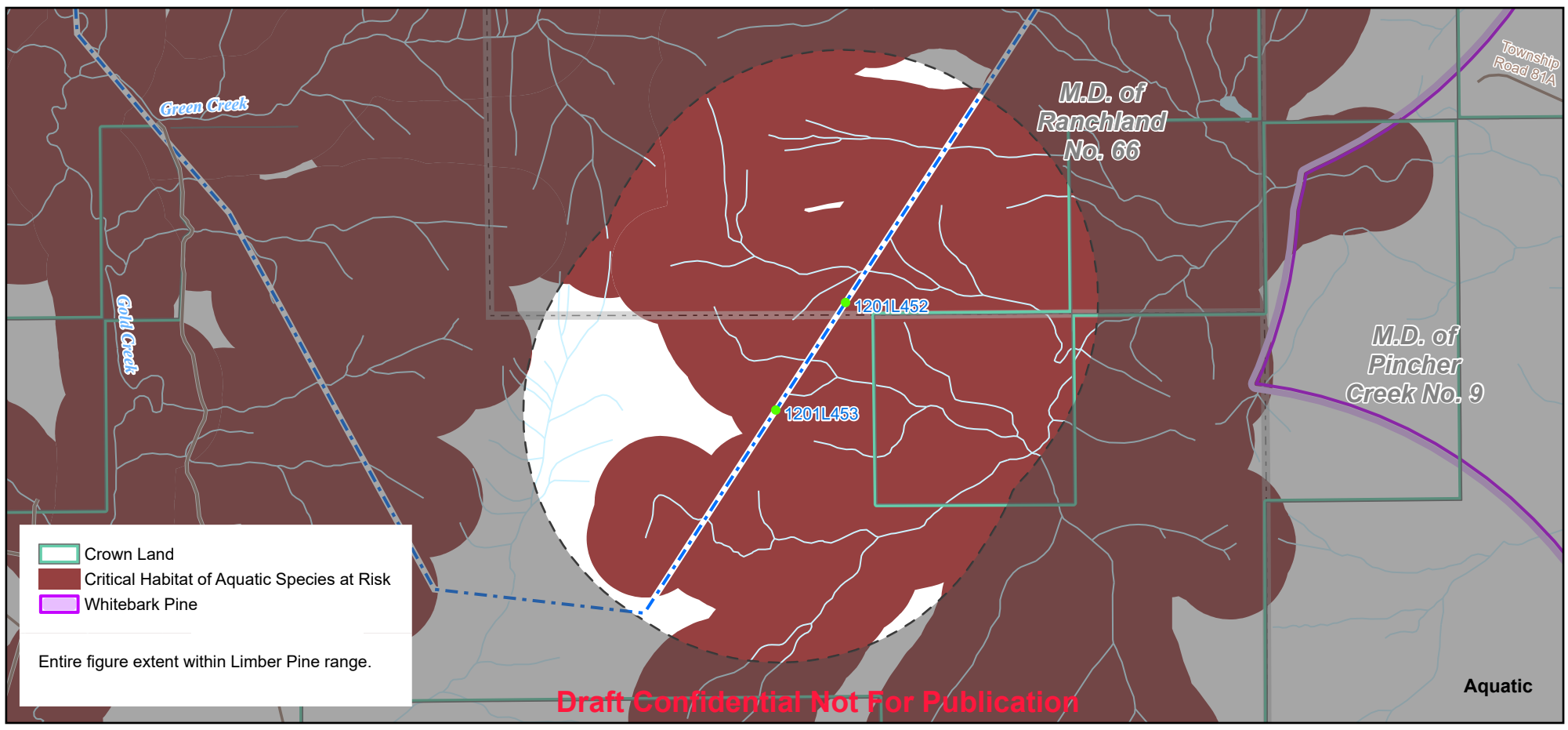
Wildlife Environmental Features, Grassland Vegetation Inventory, Aquatics, and Land Use Considerations

Option 3 (Structures 295/296)

AB-BC Intertie Restoration







Draft Confidential Not For Publication

LEGEND

- Existing Transmission Tower
- Study Area
- Existing Transmission Line
- Road
- Watercourse
- Municipal District and County
- Waterbody

NO.: XXXXXXX
DRAWN: AY-STN
FILE NO.: XXXXXXX
REVISION: 0.00.00
DATE: 2025-09-10
AL FOLDER: ELU Intertie mapping

N

0 0.5 1 Kilometers

0 0.25 0.5 0.75 Miles

Although there is no reason to believe that there are any errors associated with the data used to generate this product or in the product itself, users of these data are advised that errors in the data may be present.

GENERIC BASE **GB9**

ALTALINK
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Wildlife Environmental Features, Grassland Vegetation Inventory, Aquatics, and Land Use Considerations

Option 3 (Structures 452/453)

AB-BC Intertie Restoration

Data Sources:

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GOA. 2011. Bob Creek and Black Creek Heritage Rangeland Management Plan. Alberta Tourism, Parks and Recreation. Edmonton, Alberta. Website: https://www.albertaparks.ca/media/3331519/bcbc_final_web.pdf

GOA. 2019. South Saskatchewan AEP Risk Assessment of Chapel Rock to Pincher Creek Transmission Line Technical Solutions. Alberta Environment and Parks.

GOA. 2025. Alberta Conservation Information Management System (ACIMS). March 20, 2025. Alberta Environment and Parks. Edmonton, Alberta. Website: https://www.albertaparks.ca/albertaparksca/management-land-use/alberta-conservation-information-management-system-acims/search-acims-data/.

IBA Canada. 2010. Important Bird Areas in Canada. Available at: http://www.ibacanada.com.

Natural Regions Committee [NRC]. 2006. Natural Regions and Subregions of Alberta. Pub. No. T/852. Compiled by D.J. Downing and W.W. Pettapiece. Government of Alberta. Edmonton, Alberta. 254 pp.

Mapping Data Sources:

First Nation Reserve	*NRCAN (ftp.maps.canada.ca/pub/nrcan_rncan/vector/geobase_al_ta/shp_eng)*
Urban Area	*Altalis (http://www.altalis.com/products/base/20k_base_features.html)*
Parks or Protected Area	*Alberta Environment and Parks, Government of Alberta - Altalis Geo-administrative Areas*
Waterbody	*Canvec (ftp://ftp.maps.canada.ca/pub/nrcan_rncan/vector/canvec/fgdb/Hydro/)*
Watercourse	*Canvec (ftp://ftp.maps.canada.ca/pub/nrcan_rncan/vector/canvec/fgdb/Hydro/)*
Municipal District and County	*Altalis (http://www.altalis.com/products/base/20k_base_features.html)*
Railway	*Government of Canada; Natural Resources Canada; Earth Sciences Sector; Canada Centre for Mapping and Earth Observation*
Hamlet or Locality	*Altalis (http://www.altalis.com/products/base/20k_base_features.html)*
Major Road	*Government of Canada (https://open.canada.ca/data/en/dataset/3d282116-e556-400c-9306-ca1a3cada77f)*
Key Biodiversity	*Government of Alberta (https://www.alberta.ca/wildlife-sensitivity-maps.aspx)*
Sharp-tailed Grouse	*Government of Alberta (https://www.alberta.ca/wildlife-sensitivity-maps)*
Mountain Goat and Sheep Range	*Alberta Environment and Parks, Government of Alberta (https://www.alberta.ca/wildlife-sensitivity-maps)*

Bald Eagle/Golden Eagle/Prairie Falcon/Ferruginous Hawk	*Alberta Environment and Parks, Government of Alberta (https://www.alberta.ca/wildlife-sensitivity-maps)*
Grizzly Bear Access Management Zone/Support Zone	*Government of Alberta (https://open.alberta.ca/opendata/gda-9b7d92cb-794a-44a5-8ef3-b47e8658b11a#summary)*
Limber Pine and Whitebark	*Government of Alberta (https://www.alberta.ca/wildlife-sensitivity-maps.aspx)*
Crown Land	*Geodiscover (https://geodiscover.alberta.ca/geoportal/rest/metadata/item/858dfab29e4f4361934095b312f1b5c9/html)*
Critical Habitat of Aquatic Species at Risk	*Data is derived from Fisheries and Oceans Canada's Species at Risk Program and its Critical Habitat of Species at Risk [database] (https://open.canada.ca/data), reproduced under the Open Government Licence - Canada* *Government of Alberta (https://www.alberta.ca/wildlife-sensitivity-maps.aspx)*
Grassland Vegetation Inventory	*Alberta Environment and Sustainable Resource Development, Government of Alberta (http://aep.alberta.ca/forms-maps-services/maps/resource-data-product-catalogue/forest-vegetation-inventories.aspx)*
Forested Area	*Government of Alberta (https://open.alberta.ca/opendata/gda-3dbcfa02-e97a-4059-9414-1ed8e0700e80)*
Aggregate	*Altalis (http://www.altalis.com/products/base/20k_base_features.html)*
Environmental Significant Area	*AEP (http://www.albertaparks.ca/albertaparksca/library/environmentally-significant-areas-report.aspx)*
Historic Resource Value	*Altalis Listing of Resources (https://www.alberta.ca/listing-historic-resources.aspx)*