STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Central Region Office
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July 14, 2022

Amí Hafkemeyer
Energy Facility Site Evaluation Council
PO Box 47250
Olympia, WA 98504

SENT VIA ELECTRONIC MAIL

RE: Badger Mountain Solar Energy Project: Shorelands, Wetlands and Waters of the State Review

Dear Amí Hafkemeyer:

The Department of Ecology's (Ecology) Shoreline and Environmental Assistance (SEA) Program has reviewed the application materials for the proposed 200-megawatt solar photovoltaic generation facility with an optional 200-megawatt battery energy storage system and associated 3.7-mile-long, 230-kilovolt overhead generation-tie transmission line corridor. The Badger Mountain Solar Energy Project is located approximately 3.5 miles east of the East Wenatchee city limits, located in unincorporated Douglas County, Washington. The project includes a 2,390-acre project study area.

The wetland and waters delineation conducted for the project stated that no wetlands, intermittent, or perennial streams occur in the project area. There are fourty-four (44) ephemeral stream segments making up approximately 15 National Hydrography Dataset (NHD) streams (Attachment I, Figure 4). Ecology reviewed *ATTACHMENT J: PRELIMINARY STORMWATER MANAGEMENT PLAN* by Westwood Professional Services, dated 2/24/2020 and 9 NHD streams appear to have full or partial impacts.

The project materials state that potential impacts include stream crossings, erosion, potential water quality issues, and fish presence. Temporary impacts could include sediment and dust from the construction of project components. Specific stream crossing locations are undetermined at this stage. Impacts associated with stream crossings could include excavation (removal and fill) within the stream corridor and below the ordinary high water mark, construction of roadway, and placement of culverts or bridges, if needed. Additional Ecology review will be necessary to consider potential proposed impacts as they may relate to the identified areas, concluded in Appendix A of this memo.

Specifically, Ecology reviewed the following materials: application form, Badger Mountain Original Application Main, Maps, Soils, Rare Plant Survey Report, 2021 Wildlife and Habitat Survey Report, Wetland Delineation Report, Preliminary Stormwater Management Plan, Preliminary Hydrology Report, Wildlife Habitat Management and Mitigation Plan. Comments are provided below and separated into three main sections for your convenience.

Shorelands

Applicable requirements for shorelands can found in Revised Code of Washington (RCW) 90.58, Washington Administrative Code (WAC) 173-26 & 27, and Douglas County Regional Master Program (Effective Date: January 28, 2022).

Local governments having shorelines of the State located within their boundaries are required to adopt and implement a shoreline master program. WAC 173-18 thru 173-22 define Washington State Shoreline definitions and requirements.

None of the features identified and located within the site meet the description of shorelines of the state or are identified in the Douglas County Regional Shoreline Master Program, dated January 28, 2022. Therefore regulatory jurisdiction of any City, County or State Shorelines and the above-mentioned codes and regulations do not apply.

Waters of the State

Waters of the state are defined in RCW 90.48.020 and include lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and water courses in Washington. Waters of the State are protected and managed through multiple state laws, including the state Water Pollution Control Act and the Shoreline Management Act.

Arid-land vegetation is highly responsive to precipitation patterns, and the Arid West is known for a high degree of spatial and temporal variability in rainfall amounts (Reid and Frostick, 1997). Wetlands subject to seasonal hydrology in the region often show substantial changes in species presence and abundance through the year. In addition to seasonal and annual variability, decadal-scale shifts in the frequency and amount of precipitation influence many wetland types in the region. Shifts in the presence and species composition of herbaceous vegetation, however, can be rapid and dramatic. Examples of wetland types that are influenced by seasonal and longer term climatic fluctuations in the Arid West include, but are not limited to, vernal pools, grassy playas, seeps, springs, and riparian wetlands associated with ephemeral, intermittent, and perennial streams and rivers. Forty-four (44) ephemeral stream segments were identified and specific design elements to identify potential impacts to these were not determined at the time of this review.

Wetlands

Ecology reviewed *ATTACHMENT I – Wetland Delineation Report* for Aurora Solar, LLC prepared by TetraTech dated September 2021. Wetland and other water surveys were conducted April 19 to 22, 2021, and June 23 and 24, 2021. The provided wetland report did not identify any wetlands located within the project limits.

Review of Wetland Datasheets. Ecology reviewed Figure A-5. Delineated Wetlands (Attachment I). The wetland determination site visit took place in April 2021. Datasheets for wetland points 223-227 demonstrated no wetland presence in the area of the NWI wetland within the vicinity of reference map 10. The datasheet for wetland point 227 indicated Hydrophytic Vegetation Indicators for dominance due to the presence of Reed Canary Grass (*Phalaris arundinacea*). Dominant plants located at the sample site met the FAC neutral test, a secondary hydrology indicator. Secondary hydrology indicators require a minimum of two indicators to be present for the hydrology requirement to be met. Most wetlands in the Arid West have plant communities that will pass the dominance test, and this is the only indicator that needs to be used in most situations. Soil test pits were dug to a depth of 16". A minimum depth of 24" (2 FT.) is recommended for determining wetland characteristics.

No datasheets were provided for WT-332. Listed as a Sample site, see Photo-point 332 in Attachment C. This is one of the areas of concern for Ecology, additional information and site visit is recommended.

Vegetation

Ecology reviewed *ATTACHMENT F: 2021 RARE PLANT SURVEY REPORT* for Aurora Solar, LLC prepared by TetraTech dated September 2021. The report states: Habitat for later-blooming rare plant species with potential to occur in the Survey Area (i.e., those listed with a low, moderate, or high likelihood of occurrence in Appendix A whose recommended survey period occurs later than May). This includes vernal pools, moist meadows, wet openings in hardwood or coniferous forests, bogs, springs, seeps, riparian areas, and dry rocky washes. Ecology reviewed Table A-1. Rare Plant Species with Potential to Occur within the Survey Area and a number of plant species were noted for their presence on site and will need further Ecology review. If these and/or the following plants are observed by others, please inform Ecology for the occurrence of potential vernal pool and wetland habitat: Suksdorf's Monkeyflower (*Erythranthe suksdorfii*), Inch-high Rush (*Juncus uncialis*), Dwarf Phacelia (*Phacelia tetramera*), Ute ladies'-tresses (*Spiranthes diluvialis*), Wenatchee larkspur (*Delphinium viridescens*), Beaked Spike-rush (*Eleocharis rostellata*), Dwarf Evening Primrose (*Eremothera pygmaea*), Tiehm's dwarf rush (*Juncus tiehmii*), False monkeyflower (*Mimetanthe pilosa*), Adder's-tongue (*Ophioglossum pusillum*), Strict blue-eyed grass (*Sisyrinchium montanum* var. *montanum*), Prairie cordgrass (*Spartina pectina*ta), Arrow thelypody (*Thelypodium sagittatum* ssp. *sagittatum*).

Wetland of High Conservation Value (WHCV) - previously "Natural Heritage Wetland" - is a term used in the Washington Wetland Rating System to describe a wetland that supports an Element Occurrence (EO) recognized by the Washington Natural Heritage Program (WNHP) at the Department of Natural Resources (WDNR) as either high quality undisturbed wetlands or wetlands that support rare or sensitive plant populations. An EO (shown in appendix A of this memo) refers to a specific location of a rare species or a rare/high-quality ecosystem type (see Natural Heritage Methodology). Known locations of any plant or nonvascular species considered to be Endangered, Threatened, or Sensitive are considered to be EOs. If an identified wetland overlaps with any EO, it is rated as a category I wetland.

Hydrology

Ecology reviewed *ATTACHMENT K: PRELIMINARY HYDROLOGY REPORT* prepared by Westwood Professional Services dated 02/21/2020, updated 09/02/2020. The report notes potential issues with flooding (FEMA Firm Panel 5300360555A) and erosion. Curve data shown on Exhibit 5 demonstrates values common to what is found in woody and emergent herbaceous wetlands within areas identified as soil type D. Where wetland curve data values of 80-89 (orange) align with soil type D additional Department of Ecology review is recommended.

Soils

Ecology reviewed *ATTACHMENT H: GEOTECHNICAL ENGINEERING REPORTS* prepared by Terracon and Westwood Professional Services dated April 24, 2020. A number of boring sites, specifically boring sites AP-01, AP-02, AP-03, AP-05, AP-07, AP-09, AP-19, AP-20, B-01, B-19, BESS-01, SUB-02 demonstrated shallow aquitard. Shallow water table may be primary or secondary indicators for hydrology of wetlands and other shallow aquatic areas, such as vernal pools, as discussed in the Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0).

Ecology is interested in site visits between the beginning and ending dates of the growing season which may be needed to evaluate certain wetland indicators, such as visual observations of flooding, ponding, or shallow water tables on potential wetland sites. If surface water is present for less than 120 days during the wet season, it may indicate potential vernal pools or other shallow aquatic habitats. In addition, it is not uncommon for ephemeral streams to have riverine or slope wetlands associated with them. These wetlands are typically only observable during the wettest part of the growing season when the streams are flowing. Also, the time of the year could impact the occurrence of hydrophytic vegetation. A number of the photos appear to be demonstrating senesced plant growth from the previous year. Ecology recommends that EFSEC request an additional site visit to verify the potential for seasonal wetlands throughout the project site that may be timed as site conditions allow, approximately February through March. The use of Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), Chapter 5, Difficult Wetland Situations in the Arid West, may be required.

Review of Wetland Rating Forms

Ecology reviewed the provided materials. Wetland reports did not include rating forms and maps due to no positive determination of wetlands. If any of the features, on or off the project site, are identified to have a positive determination for wetlands, then all supporting datasheets and accompanying figures to the rating forms shall be provided. Wetland buffers shall be consistent with Douglas County Code 19.18B RESOURCE LANDS/CRITICAL AREAS—WETLANDS and should be included within a wetland report for review and verification. If local government buffers are less restrictive than those recommended in our state interagency guidance document based on Best Available Science (BAS), then we recommend using those found within the Interagency Guidance Wetland Mitigation in Washington State–Part 1 (Version 2) Table 6C-2., will apply.

In the event wetlands are found, Ecology will evaluate the proposal to determine if applicants have adequately demonstrated no net loss of wetland function.

Permitting may include requirements for monitoring, reporting, and adaptive management to ensure that the proposed benefits have been achieved. If the increase to aquatic functions are not sufficient to offset wetland losses, compensatory mitigation may be required.

Surface water and non-fish bearing streams

Cities and counties use a stream typing system developed by the Department of Natural Resources. In cases where wetland and stream buffers overlap, the wider buffer should be used. Impacts to ephemeral streams maybe regulated by Ecology with an Administrative Order, per RCW 90.48. Water bodies not included in the definition of wetlands as well as those mentioned in the definition are still waters of the state.

Ecology reviewed *ATTACHMENT I – Wetland Delineation Report* for Aurora Solar, LLC prepared by TetraTech dated September 2021. There were 44 ephemeral stream segments delineated in the field and two stream segments that were desktop delineated (ST-DT-01 and ST-DT-02). The majority of streams are listed N for non-fish or U for unknown. Only one stream, ST-329 is rated F for considered to have fish use.

Photo-points demonstrate a number of drainages without bed and bank. Ecology is interested in reviewing select areas of these segments for presence of wetland characteristics. Such as the areas demonstrated in:

- Photo-point 508.
- Photo-point 513. ST-513
- Photo-point 329a. and 329b. ST-329

Impacts, associated with crossings, are anticipated to occur to 9 ephemeral channels within the Badger Mountain project site. Temporary and permanent impacts are not yet identified. The remaining 6 ephemeral channels will be partially impacted or protected. Compensatory mitigation involving vernal pools, alkali wetlands, bogs, calcareous fens, and Wetlands of High Conservation Value, would generally be preservation and the buffers would apply to the preservation site.

A preliminary stormwater management plan was provided. The plan proposes that grading will be minimal and existing drainage patterns will be maintained.

The applicant does not intend to apply for a U.S. Army Corps of Engineers (Corps) Clean Water Act Section 404 Nationwide Permit (NWP) as there are no proposed impacts to Waters of the United States (WOTUS). If the project does not require a Corps permit then a Section 401 Water Quality Certification would not be needed.

While the Corps may determine that the ephemeral streams are non-federally regulated waters, authorization for the proposed impacts may be required by Ecology through the issuance of an Administrative Order under RCW 90.48, the Water Pollution Control Act. Ecology

regulates all State water's (including wetlands) that meet the state definition and applies the water quality standards prescribed by state law, despite any changes to regulation at the federal level.

Ecology typically requires a jurisdictional determination (JD) from the Corps verifying the waters are non-federally jurisdictional before beginning our Administrative Order permitting process.

Conclusion

Additional information is needed to properly assess potential impacts to Waters of the State. Ecology would like to conduct a site visit to verify the presence or absence of wetlands within the project area and gather more information regarding the work to be done in the stream features. Additional work and review of subsequent materials may be needed after the site visit.

A discharge into one of the 44 stream features, identified as ephemeral, could be regulated through Ecology. If the Corps determines the ephemeral streams are non-federally regulated waters, an AO under RCW 90.48, Water Pollution Control Act, could be needed if details show the project will not meet the State's water quality standards and if mitigation is needed to replace any of the features functions and values.

If project plans change, details should be provided for review to determine if the State's water quality standards will be met.

Ecology looks forward to providing the Energy Facility Site Evaluation Council with technical assistance and expertise in the future. If you have any questions or would like to discuss these comments, please call me at (509) 379-4541.

Sincerely,

Alicia Schulz
Wetland/Shoreline/Federal Permit Specialist

ec: Loree' Randall, Ecology
Gary Graff, Ecology

Appendix A – Areas for additional review

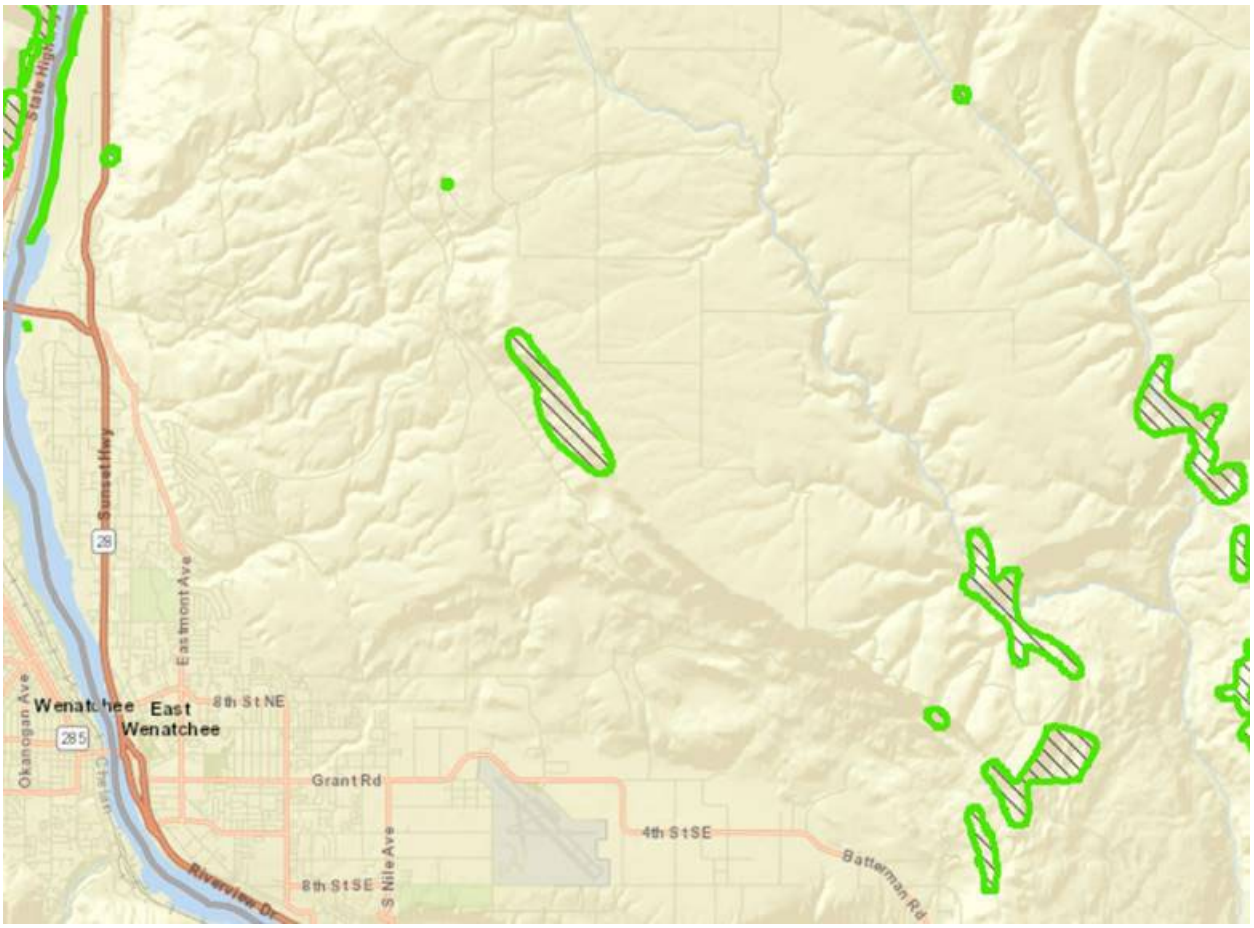

Image 1. General areas of interest – Elements of Occurrence (EO) Wetlands of High Conservation Value

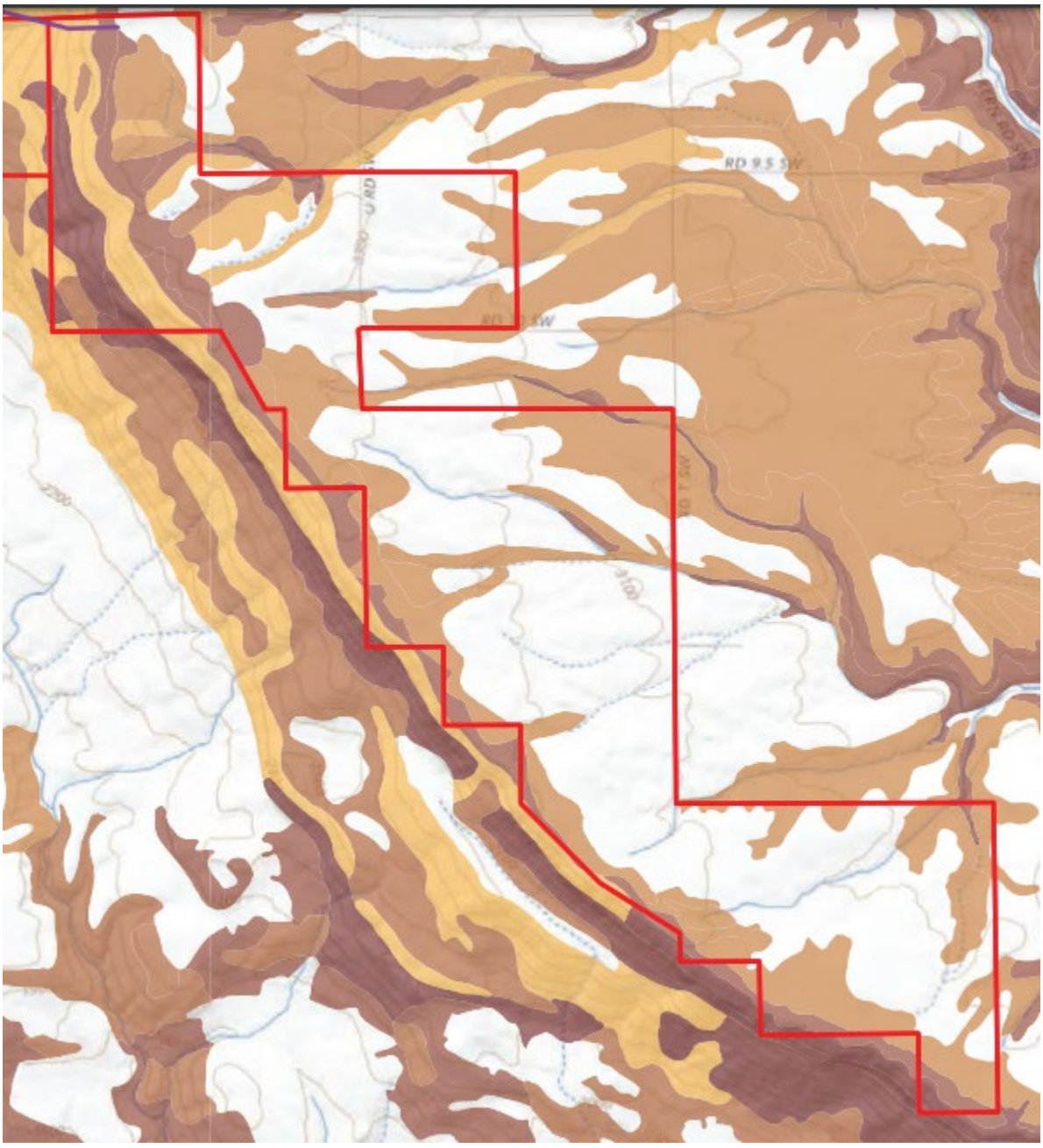

Image 2. General areas of interest – Shallow Aquitard

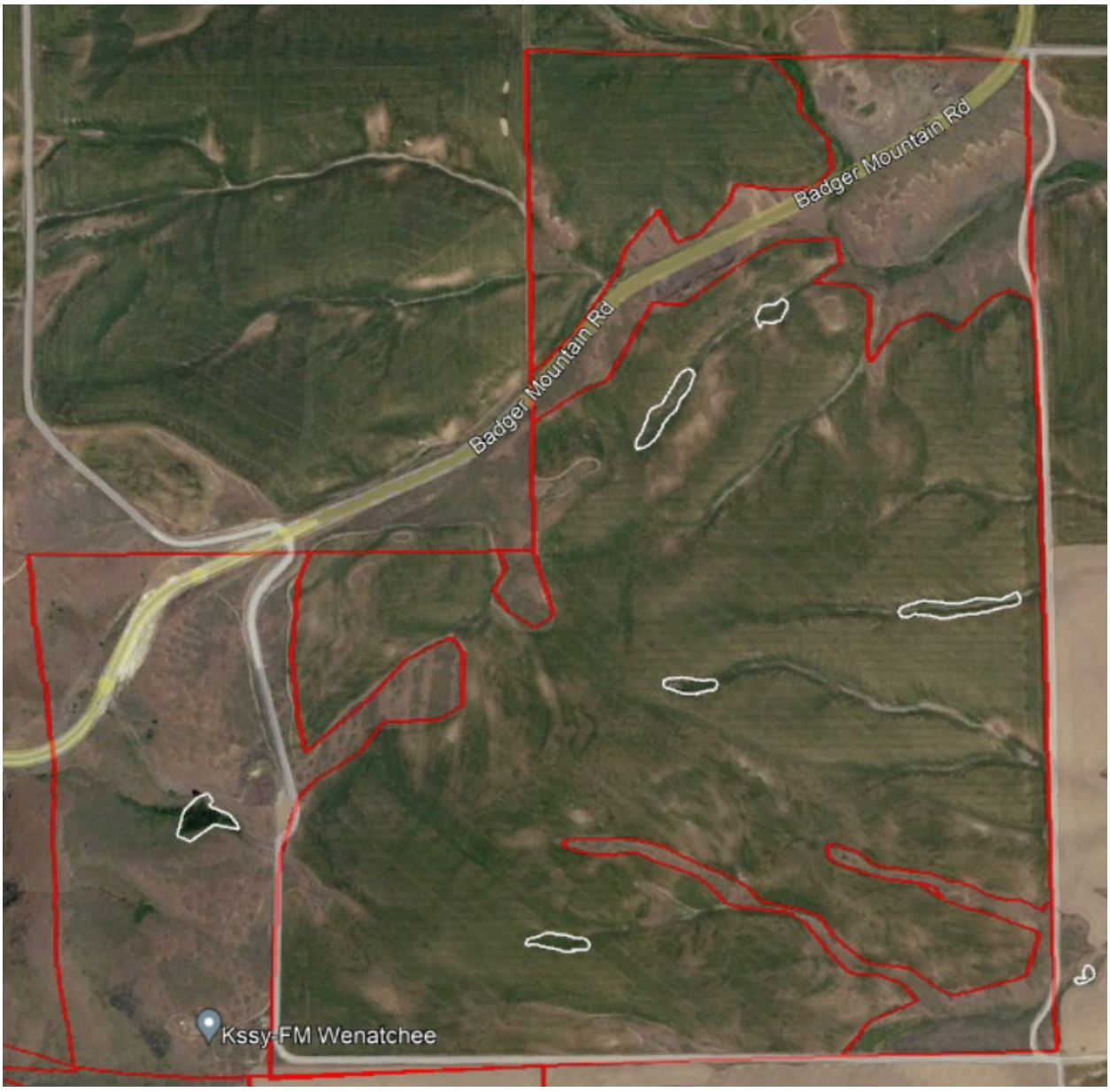

Image 3. Potential areas of interest - North

Image 4. Potential areas of interest - Central

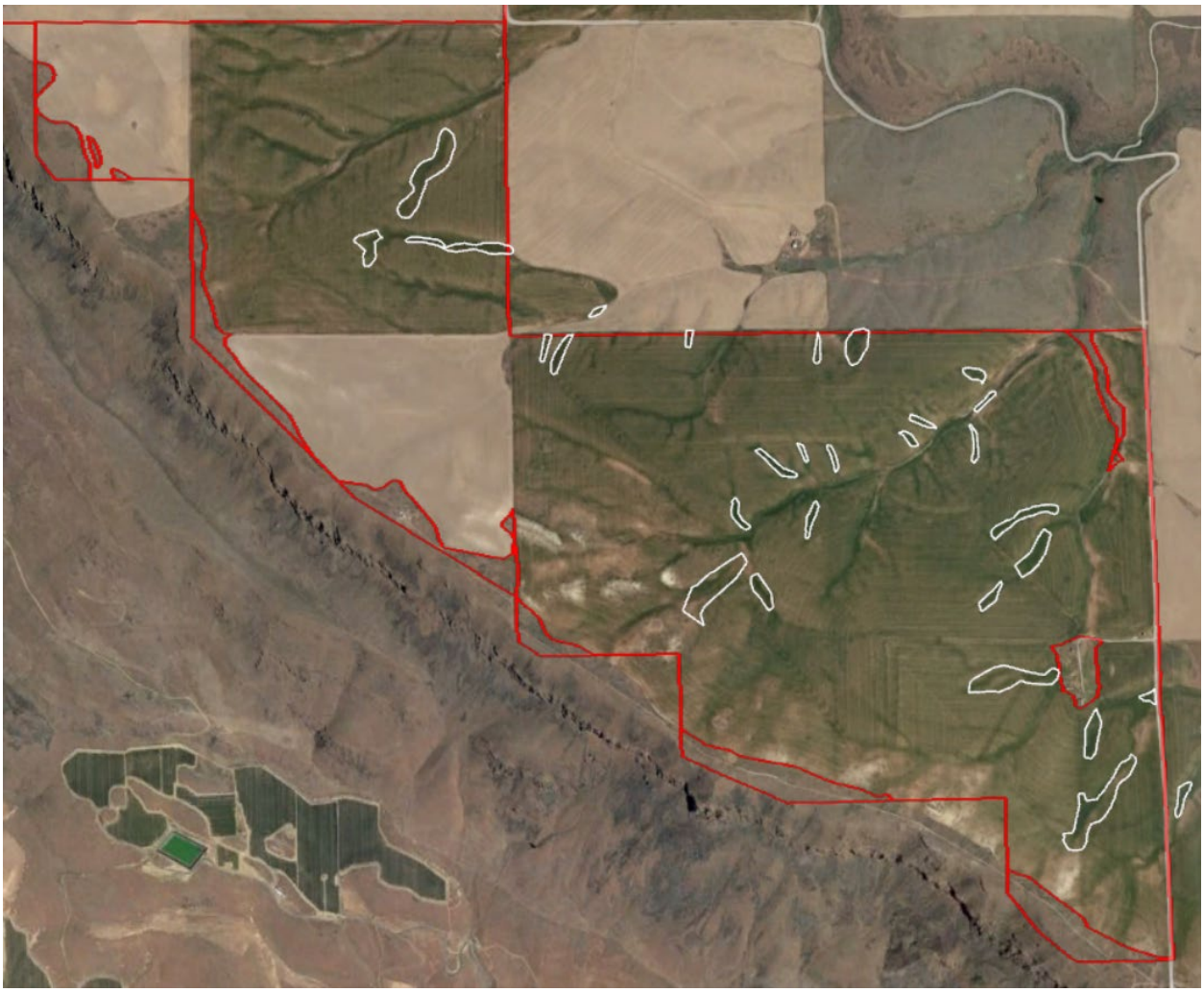

Image 5. Potential areas of interest - South