HABITAT MANAGEMENT PLAN
BLUEBIRD TO GARDEN SPRINGS 230 KV WEST PLAINS TRANSMISSION LINE PROJECT
SPOKANE COUNTY, WASHINGTON

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February 2026

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LIST OF ACRONYMS AND ABBREVIATIONS

AEC	Anderson Environmental Consulting
APA	Aquifer Protection Area
BMPs	Best Management Practices
BPA	Bonneville Power Administration
CAO	Spokane County Critical Areas Ordinance
CARA	Critical Aquifer Recharge Areas
DNR	Department of Natural Resources
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
F	Fish-Bearing
GIS	Geographic Information Systems
GMA	Growth Management Act
HMP	Habitat Management Plan
HUC	Hydraulic Unit Code
IPaC	Information for Planning and Consultation
NAIP	National Agricultural Imagery Program
NHD	National Hydrography Dataset
NWI	National Wetlands Inventory
OHWM	Ordinary High-Water Mark
OPGW	Optical Ground Wire
PEM	Palustrine Emergent
PFO	Palustrine Forested
PHS	Priority Habitat and Species
PID	Parcel Identification Number
Np	Non-Fish-Bearing Perennial
REM	Riverine Emergent
SCC	Spokane County Code
SMC	Spokane Municipal Code
SWPPP	Stormwater Pollution Prevention Plan
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WDFW	Washington Department of Fish and Wildlife

1. INTRODUCTION

This Habitat Management Plan (HMP) evaluates how the proposed Bluebird to Garden Springs 230 KV West Plains Transmission Line project (Project) would impact regulated critical areas, identifies measures to avoid or minimize impacts, and proposes mitigation where applicable, in compliance with Critical Areas Ordinances (CAO), Spokane County Code (SCC) 11.20 and City of Spokane Municipal Code (SMC) 17E (Environmental Standards).

Both Spokane County and the City of Spokane implement their critical areas regulations pursuant to the Washington State Growth Management Act (GMA). Under the GMA, critical areas are defined in RCW 36.70A.030(5) as wetlands; areas with a critical recharging effect on aquifers used for potable water; fish and wildlife habitat conservation areas; frequently flooded areas; and geologically hazardous areas. Areas with a critical recharging effect on aquifers used for potable water are commonly referred to in local codes as Critical Aquifer Recharge Areas (CARAs).

1.1 PROPERTY LOCATION

The Project occurs within Avista's utility easements in Spokane County, Washington. The easement spans from Avista's Bluebird substation in the north, which is permitted and currently under construction (located on Spokane County Parcel (PID) 16176.9091), to Avista's existing Garden Springs substation in the south (PID 25274.9085). It is in the following Sections, Townships, and Ranges, listed from north to south:

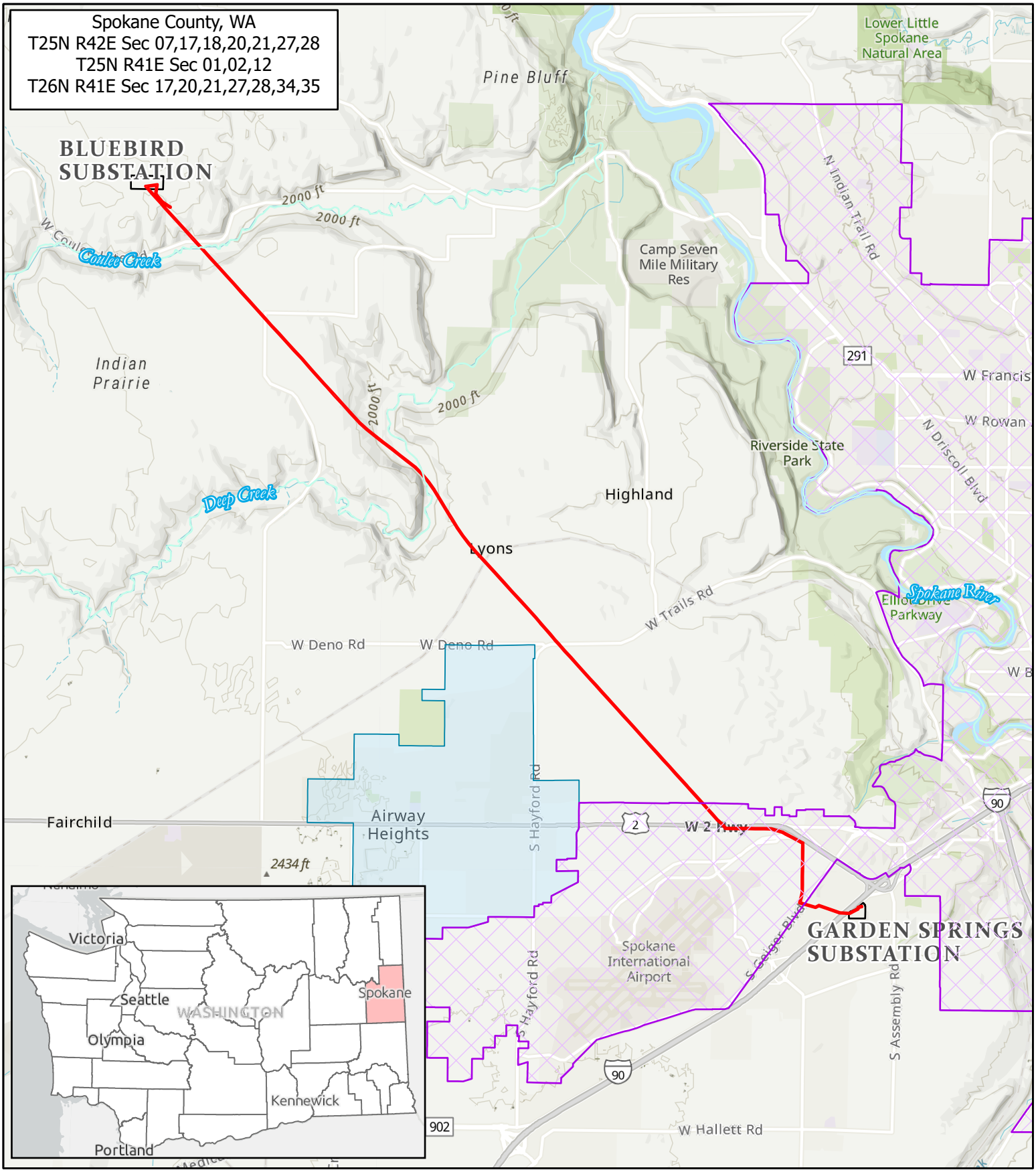
- T 26 N, R 41 E, Section 17
- T 26 N, R 41 E, Section 20
- T 26 N, R 41 E, Section 21
- T 26 N, R 41 E, Section 28
- T 26 N, R 41 E, Section 27
- T 26 N, R 41 E, Section 34
- T 26 N, R 41 E, Section 35
- T 25 N, R 41 E, Section 02
- T 25 N, R 41 E, Section 01
- T 25 N, R 41 E, Section 12
- T 25 N, R 42 E, Section 07
- T 25 N, R 42 E, Section 18
- T 25 N, R 42 E, Section 17
- T 25 N, R 42 E, Section 20
- T 25 N, R 42 E, Section 21
- T 25 N, R 42 E, Section 28
- T 25 N, R 42 E, Section 27

The approximate coordinates for the Project extent are below:

- Northernmost extent: 47.744577, -117.654102
- Southernmost extent: 47.628959, -117.483971

The approximately 150-acre study area for the Project includes a 100 ft wide area centered on the proposed transmission line centerline.

Spokane County, WA
T25N R42E Sec 07,17,18,20,21,27,28
T25N R41E Sec 01,02,12
T26N R41E Sec 17,20,21,27,28,34,35



Legend

- Alignment

Municipal Boundaries

- Airway Heights
- City of Spokane

Scale: 1:90,000

0 4
Miles

N

Figure 1

ANDERSON ENVIRONMENTAL CONSULTING

1.2 PROJECT DESCRIPTION

The Avista Bluebird to Garden Springs 230 kV West Plains Transmission Line Project would increase the reliability, safety and capacity of the transmission line system and connect the proposed Bluebird Substation and the Garden Springs Substation over an approximately 12-mile distance. Construction will involve installing new single poles made of weathered steel and stringing 230kV conductors (cables) and optical ground wire within an existing utility easement. This expansion is essential to accommodate engineering requirements, ensure adequate clearance for equipment staging, and facilitate vegetation management, including the removal of trees that may interfere with line reliability or safety. The widened easements will provide sufficient space for construction access, long-term maintenance, and compliance with regulatory standards.

The construction would involve the following:

- Installing 129 new single poles made of weathered steel. They range in height from 80 ft to 130 ft with bases from 2 to 7 feet diameter at ground height. This will require a 100-foot diameter disturbance buffer around each pole location. Excess soil from the holes will be spread around the holes and reseeded with a native seed mix.
- Stringing approximately 12 miles of conductors (3 230 kV conductors and one optical ground wire (OPGW)) onto the poles.
- Tying into the existing Bonneville Power Administration (BPA) towers.
- Constructing temporary access routes to access the pole structures. Access will primarily utilize existing road grades, and disturbed areas within the easement to the extent practicable. The access route widths are anticipated to be no more than 15 feet wide.
- Removal of trees under the overhead lines and vegetation maintenance for the transmission line operation.
- Restoring and reseeding disturbed soils after construction.

See **Appendix A** for the proposed footprint of the transmission line and poles.

Although the total transmission alignment encompass approximately 150 acres, actual ground disturbance and vegetation removal will occur on a much smaller subset of this area. Permanent impacts are limited to individual transmission pole foundations. While the entire transmission corridor will be subject to long-term vegetation management to maintain required safety clearances, not all portions of the alignment currently support vegetation exceeding 15 feet in height. Permanent vegetation removal will be limited to areas where existing trees exceed the height threshold and will be removed during initial construction. Areas disturbed during construction will be regraded and reseeded to approximate pre-construction conditions.

Table 1 below provides a summary of construction activities and their estimated disturbance quantities in acres (ac). Disturbance quantities were estimated using ArcGIS Pro based on proposed pole locations, substation footprint plans, anticipated temporary access routes, and manual digitization of areas containing trees likely exceeding approximately 15 feet in height based on aerial imagery interpretation.

Table 1. Summary of Construction Activities and Estimated Disturbance Quantities

Construction Activity	Permanent Construction Impact (ac)*	Permanent Vegetation Removal (ac)**	Temporary Vegetation Removal and Ground Disturbance (ac)***
Temporary Access Roads	N/A	N/A	**6.15**
Transmission Pole installation (129)	**0.05**	N/A	**23.74**
New or expanded transmission alignment	N/A	**29.85**	N/A
Totals	**0.05**	**29.85**	**29.89**

**Permanent construction impacts include permanent structure footprints*

***Permanent vegetation removal includes areas within the new or expanded transmission alignment where existing vegetation exceeds approximately 15 feet in height and will be removed during initial construction or clearing. This does not represent the full extent of the transmission corridor subject to long-term vegetation management.*

****Temporary disturbance areas include areas impacted by construction that will be regraded and seeded to pre-existing conditions.*

1.3 ENVIRONMENTAL SETTING

The Project is located within the Channeled Scablands Level IV Ecoregion, a subdivision of the Columbia Plateau defined by flood-scoured basalt bedrock, discontinuous soils, and a fragmented distribution of wetland and riparian habitats (USFWS Level IV Ecoregions). The landscape reflects catastrophic Pleistocene flood processes and consists of shallow-soiled uplands, rock outcrops, scabland channels, and isolated depressional and linear drainage features. Elevations along the Project alignment range from approximately 1,950 to 2,400 feet above mean sea level. The Project lies within the Lower Spokane River watershed (Hydrologic Unit Code [HUC] 17010307), where Coulee Creek and Deep Creek flow north through the study area and discharge to the Spokane River within Lake Spokane.

Land use within and adjacent to the Project corridor is predominantly rural and includes rural residential development, The Spokane International Airport, and small-scale agricultural uses. The alignment generally follows or parallels existing utility corridors and transportation features.

Zoning within the Project area is primarily designated Rural Traditional, with Rural Conservation zoning present in the vicinity of the Coulee Creek and Deep Creek crossings. Rural Traditional zoning is intended to support low-density rural development and essential public facilities while maintaining rural character and accommodating continued agricultural and utility uses. Rural Conservation zoning emphasizes protection of environmentally sensitive areas, including streams, wetlands, floodplains, and associated habitat functions, while allowing necessary infrastructure where impacts are avoided, minimized, and mitigated (Spokane County 2020).

Photos of the Project setting are provided in **Appendix B**.

2. METHODOLOGY

This HMP was prepared using a combination of desktop review, geographic information system (GIS) analysis, and field investigations conducted by Anderson Environmental Consulting (AEC). This section provides an overview of the approach used to identify critical areas, evaluate potential Project impacts, and estimate disturbance quantities. Detailed methodologies for specific resources are described in the corresponding sections of this report and in supporting technical documents.

Desktop review included evaluation of publicly available spatial data and regulatory mapping to identify potential critical areas and priority habitats within and adjacent to the Project study area. Data sources reviewed included:

- Aerial Imagery-National Aerial Imagery Program (NAIP) (USDA 2023)
- U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) (USGS 2025)
- Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) database (WDFW 2025)
- Washington Department of Natural Resources (DNR) Natural Heritage Program species and habitats occurrences data
- The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) tool
- Spokane County's website, including the Geographic Information System (GIS) maps available for Aquifer Susceptibility, DNR Streams, Geologic Hazards and Shoreline Designations (Spokane County, 2025).

GIS analysis was conducted using ArcGIS Pro to delineate the study area and estimate disturbance areas associated with construction and vegetation management. Disturbance estimates were developed based on proposed substation footprint plans, transmission pole locations, anticipated temporary access routes, and manual digitization of areas containing existing vegetation likely exceeding approximately 15 feet in height based on aerial imagery interpretation. These estimates represent conservative, planning-level quantities intended to support impact assessment and mitigation planning.

Field investigations were conducted by AEC staff on April 16, 22, 23, and 24; May 8; July 31, 2025, and February 2, 2026. Fieldwork included wetland delineation and rating, stream identification and typing, verification of mapped critical areas, and evaluation of habitat conditions for Priority Habitats and Species. Wetlands and streams were delineated in accordance with applicable federal and state guidance and are documented in a Wetland and Stream Assessment Report prepared by AEC (2025), which is provided as a supporting document to this HMP.

Impact determinations in this report are based on the integration of desktop data, GIS analysis, and field observations. Where impacts are associated with long-term vegetation management within the transmission corridor, effects are evaluated based on existing site conditions and anticipated maintenance activities. Mitigation measures were developed consistent with CAO mitigation sequencing requirements.

3. CRITICAL AREAS INVENTORY AND IMPACTS

Critical Areas are defined by the CAO to include wetlands, CARAs, fish and wildlife habitat conservation areas; frequently flooded areas; and geologically hazardous areas. Wetland and stream buffers are also regulated. **Table 2** summarizes critical areas and describes their presence in the study area. **Appendix A** includes a map series showing the site plan and potential Project impacts on critical areas.

Table 2. Critical Areas in Study Area

Critical Area	Present (Yes/No)	Information Source	Summary	Finding
Wetlands	Yes	NWI Wetland and Stream Assessment Report (AEC 2025)	Wetlands and associated buffers occur within the study area. Impacts are detailed in **Section 3.1.**	Impact
Critical Aquifer Recharge Area (CARA)	Yes	Spokane County Aquifer Susceptibility Map	Portions of the alignment occur within Moderate and High susceptibility CARAs. No groundwater impacts are anticipated with implementation of BMPs.	No Impact
Fish and Wildlife Habitat Conservation Areas	Yes	WDFW PHS Database USFWS IPaC Tool Wetland and Stream Assessment Report (AEC 2025) Shrubsteppe Habitat Screening and Field Verification (AEC 2026)	Priority Habitats and Species are present, including shrubsteppe and riparian areas. Impacts to streams and shrubsteppe are described in **Sections 3.3.2 and 3.3.4**.	Impact
Frequently Flooded Areas	Yes	Spokane County Scout and Flood Emergency Management Administration (FEMA) database	FEMA Flood Insurance Rate Maps show Zone A floodplain associated with Deep Creek. One pole is located within the mapped floodplain.	Impact
Geologic Hazard Areas	Yes	Spokane County Geologic Hazard Maps	Two geologically hazardous areas are present in the Project area. These are: 1) erodible soils are found on north facing forested slopes south of Coulee Creek and Deep Creek, and 2) areas of alluvium associated with Deep Creek. Poles would be designed to accommodate slope conditions as needed to meet engineering, safety, and applicable local or state requirements. Pole design and revegetation will maintain slope stability. No increase in geologic hazard risk is anticipated.	No Impact

3.1 WETLANDS

Wetlands are regulated under SCC 11.20 and SMC 17E.070. Wetlands within the study area were delineated and rated in the Wetland and Stream Assessment Report (AEC 2025), which is provided as a supporting document to this HMP.

A total of eleven wetlands were identified within the study area. Four wetlands and their associated buffers occur outside areas of disturbance and vegetation removal and will not be impacted by the Project. Seven wetlands and/or their buffers will be impacted. Three impacted wetlands are within the City of Spokane's jurisdiction. The rest of the impacted wetlands are under Spokane County jurisdiction.

Impacts to wetlands consist primarily of buffer temporary disturbance associated with access and pole installation and long-term vegetation management within the transmission corridor.

Total wetland and buffer impacts equal approximately **1.426 acres**, consisting primarily of buffer disturbance (**1.202 acres**). Permanent wetland conversion totals approximately **0.189 acres**, and temporary wetland impact totals approximately 0.034 acre. Permanent wetland conversion reflects removal of woody vegetation greater than approximately 15 feet in height within the transmission corridor to meet long-term vegetation management requirements. No grading or filling of wetlands is proposed.

Wetland D has limited overlap with Deep Creek and Wetland E buffers. Overlapping areas were assigned to Wetland E buffer impact totals to avoid double counting.

Impacts by wetland are summarized in **Table 3** and depicted in the Site Plan in **Appendix A**. Additional wetland characterization, rating forms, and delineation documentation are provided in AEC (2025).

Table 3. Wetland Inventory and Impacts Summary

Resource ID	Sheet # From Appendix A	Cowardin Classification*	Category/ Buffer (ft)	Buffer Impact (acres)	Permanent Conversion (acres)	Temporary Impact (acres)	Total Impact (acres)
Spokane County Jurisdiction							
Wetland C	3	PFO	IV/40	0.136	0.175	N/A	0.311
Wetland D**	13	PEM	III/110	0.089	0.003	N/A	0.092
Wetland E	13	PEM/PSS	III/110	0.303	0.012	N/A	0.315
Wetland K	3	PEM	III/110	0.291	0.000	N/A	0.291
City of Spokane Jurisdiction							
Wetland F	24	PEM	III/110	0.221	N/A	N/A	0.221
Wetland G	25	PEM	IV/40	0.091	N/A	0.034	0.125
Wetland H	26-27	PEM	III/60	0.071	N/A	N/A	0.071
Totals				1.202	0.189	0.034	1.426

**** Cowardin Class Definitions – PEM: Palustrine Emergent; PSS: Palustrine Scrub Shrub; PFO: Palustrine Forested***

*****Wetland D has some overlap with Deep Creek and Wetland E Buffers. Overlapped buffer accounted for under Wetland E buffer to avoid double count***

3.2 CRITICAL AQUIFER RECHARGE (CARA)

The Project is located outside the Spokane Valley-Rathdrum Prairie Aquifer Protection Area (APA). However, according to the Spokane County Aquifer Susceptibility Map (Spokane County GIS, February 2019), portions of the Project study area occur within mapped Moderate and High Aquifer Susceptibility areas, which are designated as Critical Aquifer Recharge Areas (CARAs) by Spokane County. See **Appendix C** for a map of susceptibility areas within the study area.

Utility work is not expressly identified in SCC 11.20.075B; however, CARA protection measures and performance standards may apply. In the City of Spokane, SMC 17E.010 applies to all activities and development within CARAs.

Construction will implement erosion and sediment control and spill-prevention BMPs, and stormwater will be managed in accordance with applicable local stormwater requirements to prevent impacts to groundwater quality within CARAs. There will be no impact to CARAs as a result of this Project.

3.3 FISH AND WILDLIFE HABITAT CONSERVATION AREA

Fish and wildlife habitat conservation areas are regulated under SCC 11.120.060 and SMC 17E.020.030 and include Priority Habitats and Species as defined by the WDFW Species List (2023), and other Species of Local Concern identified by WDFW or the local jurisdiction. An inventory of species and habitats present was completed by utilizing available data and site visits conducted by AEC staff.

3.3.1 WDFW Priority Habitats and Species

The WDFW PHS database and mapping tool for the study area shows rainbow trout (Oncorhynchus mykiss), mule deer (Odocoileus hemionus hemionus), white-tailed deer (Odocoileus virginianus ochrourus), Townsend's Big-eared Bat (Corynorhinus townsendii), and big brown bat (Eptesicus fuscus) as species that are likely to occur in the study area. Priority habitats mapped within the study area include freshwater emergent, forested, and shrub wetland habitat, shrubsteppe habitat, and cliff habitat.

Wetlands and riparian areas present within the study area provide potential habitat for small mammals, amphibians, raptors, and other avian species; songbirds were observed during site visits. Upland habitats including shrubsteppe, pine forest, mixed conifer stands, and open fields may provide foraging and movement habitat for deer and bats. Pollinators, including Bombus species, were observed utilizing flowering plants within the corridor.

See **Appendix D** for the PHS report. The WDFW PHS species and Project effects are summarized in **Table 4**.

Table 4. PHS Summary of Effects

Common Name	Scientific Name	Description	Determination of Effect
Rainbow trout	*Onchorhynchus mykiss*	Rainbow trout occur in Coulee Creek and Deep Creek. No in-water work or disturbance below the ordinary high water mark (OHWM) is proposed. Vegetation removal may occur above the OHWM within managed transmission corridor areas.	Minimal effect to habitat
Mule deer	*Odocoileus hemionus hemionus*	Mule deer are documented in the Project vicinity, and the area south of Lake Spokane includes mapped winter range. Project activities are limited to a linear transmission corridor with minimal ground disturbance relative to available surrounding habitat.	Minimal effect to habitat
Townsend's big-eared bat	*Corynorhinus townsendii*	Potential habitat for Townsend's big-eared bat includes ponderosa pine forest, mixed conifer forest, shrubsteppe, riparian areas, and open fields. Roosting may occur in caves, tunnels, and structures. Vegetation removal will occur within the transmission corridor; however, no roost sites or hibernacula were identified within the study area, and suitable habitat remains abundant in the surrounding landscape.	Minimal effect to habitat
Big brown bat	*Eptesicus fuscus*	Big brown bats are known to occur in the region and utilize a variety of forest, rangeland, and developed habitats. Roosting may occur in buildings, trees, snags, caves, and cliff crevices. Limited tree removal is proposed within the managed transmission corridor; similar habitat remains available in adjacent areas.	Minimal effect to habitat
Northwest white-tailed deer	*Odocoileus virginianus ochrourus*	White-tailed deer are documented in the Project vicinity, and the area south of Lake Spokane includes mapped winter range. Project activities are limited to a linear transmission corridor with minimal ground disturbance relative to available surrounding habitat.	Minimal effect to habitat
Cliffs	*N/A*	Cliffs, defined by WDFW as greater than 25 feet in height, occur in the broader Deep Creek area but are not present within the study area. Rock outcrops occur within the alignment; however, no mapped cliff habitat as defined by WDFW will be impacted.	No effect
Freshwater Forested/ Shrubsteppe Wetland	N/A	Freshwater forested and palustrine emergent wetlands occur within the study area and were delineated and rated in AEC (2025). Wetland and buffer impacts associated with pole installation and vegetation management are summarized in **Section 3.1** of this HMP.	Will adversely effect
Shrubsteppe	N/A	Shrubsteppe habitat was identified in the study area through desktop screening and field verification. Nine discrete shrubsteppe polygons dominated by scabland sagebrush (Artemisia rigida) were delineated. Impacts associated with vegetation management and pole installation are summarized in **Section 3.3.2** and the Shrubsteppe Habitat Memorandum (AEC 2026).	Will adversely effect

3.3.2 Shrubsteppe

Shrubsteppe habitat within the Project alignment was evaluated through desktop screening and field verification consistent with WDFW management recommendations. The results are documented in the Shrubsteppe Habitat Screening and Field Verification Memorandum (AEC 2026), provided as a supporting document to this HMP. Field verification confirmed nine discrete shrubsteppe polygons (SS1–SS9) totaling approximately **8.69 acres** within the alignment. Confirmed shrubsteppe occurs primarily on shallow, rocky uplands with exposed basalt and thin soils and is dominated by scabland sagebrush (*Artemisia rigida*) with associated native bunchgrasses. Polygon SS6 is the only polygon that will not be impacted. Polygon SS8 is located within the City of Spokane jurisdiction; all remaining shrubsteppe polygons occur within Spokane County jurisdiction.

Project impacts to shrubsteppe are limited and primarily temporary. Total shrubsteppe impact is approximately **0.716 acres**, the majority of which (**0.678 acres**) represents temporary construction disturbance. Permanent impacts, consisting of pole foundation disturbance and long-term vegetation removal, total approximately **0.038 acres**.

Impacts by polygon are summarized in **Table 5** and depicted in the site plans in **Appendix A**.

Table 5. Shrubsteppe Inventory and Impacts Summary

Shrubsteppe ID	Sheet # From Appendix A	Permanent Ground Conversion*	Permanent Vegetation Removal**	Temporary Impact***	Totals
Spokane County Jurisdiction					
SS1	4	N/A	0.003	0.094	0.097
SS2	4-5	0.001	0.000	0.122	0.123
SS3	4-5	N/A	0.031		0.031
SS4	5	0.001	N/A	0.108	0.108
SS5	8	0.001	N/A	0.149	0.150
SS7	9-10	N/A	N/A	0.008	0.008
SS9	3-4	0.001	N/A	0.121	0.122
City of Spokane Jurisdiction					
SS8	22	N/A	N/A	0.076	0.076
Grand Total		**0.003**	**0.035**	**0.678**	**0.716**

**** Permanent ground conversion includes installation of permanent pole structures within the shrubsteppe polygons***

*****Permanent vegetation removal includes areas within shrubsteppe polygons with vegetation greater than 15 feet tall that will be removed and managed permanently within the alignment.***

******Temporary impacts include temporary construction disturbance for access roads and pole installation.***

3.3.3 USFWS Threatened and Endangered Species

Based on IPaC results and site-specific field review, no federally listed threatened or endangered species or designated critical habitats are present within the Project alignment. One proposed threatened species, the monarch butterfly (Danaus plexippus), may occur in the vicinity due to the presence of milkweed species. Showy milkweed (Asclepias speciosa) was observed at one location near Wetland H; however, no permanent structures or ground disturbance are proposed in this area. Overhead conductors will span this location, and impacts to milkweed plants will be avoided to the extent practicable.

The Project will not result in direct habitat loss for any federally listed species. Based on the nature and scale of proposed activities, the Project is anticipated to have no effect on federally listed species and will not adversely effect designated critical habitat.

Impacts to federally listed, proposed, or candidate species are summarized in **Table 6**. See **Appendix D** for the IPaC report.

Table 6. Federally Protected Species

Common Name	Scientific Name	Classification	Description	Determination of Effect
Yellow-billed cuckoo	*Coccyzus americanus*	Threatened	It is not known to occur in Spokane County. Requires expansive contiguous deciduous riparian habitat which is not present.	No effect
Bull trout	*Salvelinus confluentus*	Threatened	Bull trout or their designated critical habitat does not occur in Coulee Creek or Deep Creek.	No effect
Monarch Butterfly	*Danaus plexippus*	Proposed Threatened	Requires milkweed, an obligate host plant, or composite species. Showy milkweed was observed at one location in the study area, near Wetland H. Overhead lines will be installed over this area and no structures are proposed in this location. Impacts to milkweed plants will be minimized.	No effect
Suckley's Cuckoo Bumble Bee	*Bombus suckleyi*	Proposed Threatened	This species is an obligate social parasite of other Bombus species. Bombus species require an abundance of flowering plants. Detected this species in only six localities of Washington, including one near far northeastern part of the state.	No effect
Spalding's Catchfly	*Silene spaldingii*	Threatened	Spalding's catchfly was not observed in the study area.	No effect

3.3.4 Riparian and Instream Habitat

Riparian and instream habitats are classified as fish and wildlife habitat conservation areas under SCC 11.20 and are present within the study area. Streams were delineated, typed, and mapped in the Wetland and Stream Assessment Report (AEC 2025), which is provided as a supporting document to this HMP.

A total of nine creeks or drainages were identified within the transmission alignment, including two Type F (fish-bearing) streams (Coulee Creek and Deep Creek) and seven Type Np (non-fish perennial) drainages. Only Coulee Creek, Deep Creek, and Unnamed Drainage A exhibited flowing water or evidence of an ordinary high water mark (OHWM) during field investigation. All identified streams and drainages occur within Spokane County jurisdiction; no streams are located within the City of Spokane.

Several drainages were conservatively classified as Type Np during the stream assessment in the absence of formal stream type modification documentation. In some instances, OHWM indicators were not observed; however, features were assumed to be Type Np for buffer application purposes to ensure conservative impact accounting.

Impacts to streams and associated buffers are limited to pole installation, temporary construction access, and vegetation removal within the transmission corridor. The majority of impacts occur within regulated stream buffers rather than within channel bottoms.

Total stream and buffer impacts equal approximately **1.883 acres**, consisting primarily of buffer disturbance (**1.782 acres**). Permanent vegetation conversion within mapped channel areas totals approximately **0.087 acre**, and permanent structural impacts associated with pole installation total approximately **0.001** acre. Temporary disturbance within stream or buffer areas totals approximately **0.014 acre**.

Deep Creek and Unnamed Drainage A have limited overlap with wetland buffers. Overlapping areas were assigned to the applicable wetland buffer impact totals to avoid double counting. Impacts by drainage are summarized in **Table 7** and depicted in the site plans in **Appendix A**.

Table 7. Drainage Inventory and Impacts Summary

Row Labels	Sheet # From Appendix A	Classification/ Buffer (ft)	Buffer Impact (acres)	Permanent Vegetation Conversion (acres)*	Permanent Structural Impact (acres)**	Temporary Impact (acres)***	Total (acres)
Coulee Creek	6	F/100	0.057	N/A	N/A	N/A	0.057
Deep Creek**	13-14	F/100	0.092	0.055	N/A	N/A	0.147
Unnamed Drainage A ***	3	Np/75	0.380	0.007	N/A	0.004	0.392
Unnamed Drainage B	4-5	Np/75	0.158	N/A	N/A	N/A	0.158
Unnamed Drainage C	5	Np/75	0.520	0.011	N/A	N/A	0.531
Unnamed Drainage D	11	Np/75	0.089	0.004	N/A	N/A	0.093
Unnamed Drainage E	14	Np/75	0.087	0.003	N/A	N/A	0.090
Unnamed Drainage F	14	Np/75	0.215	N/A	0.001	0.009	0.225
Unnamed Drainage G	14-15	Np/75	0.184	0.005	N/A	N/A	0.189
Totals			**1.782**	**0.087**	**0.001**	**0.014**	**1.883**

**** Permanent conversion includes areas within the mapped resource with vegetation greater than 15 feet tall that will be removed and managed permanently within the alignment.***

***** Permanent impact includes installation of permanent pole structures within the mapped resource***

******Temporary impacts include temporary construction disturbance for access roads and pole installation.***

******* Deep Creek has some overlap with Wetland D and E Buffers. Overlapped buffer accounted for under Wetland E buffer to avoid double count.***

********Unnamed Drainage A has some overlap with Wetland C Buffer. Overlapped buffer accounted for under Wetland C buffer to avoid double count***

3.4 FREQUENTLY FLOODED AREAS

Frequently flooded areas are classified as critical areas under the Growth Management Act (RCW 36.70A.030(5)). Spokane County addresses floodplain management through SCC 3.20 (Flood Damage Protection). While SCC 11.20 (Critical Areas) does not establish independent development standards for floodplains, it incorporates and relies on SCC 3.20 for regulation of flood hazards and floodplain development.

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) indicate that no mapped Special Flood Hazard Areas occur within the study area in the City of Spokane's jurisdiction. Within the Spokane County jurisdiction, there is one mapped floodplain associated with Deep Creek, which is designated as Zone A (approximate study, no Base Flood Elevations) on FEMA FIRM Panel 53063C0525D. See **Appendix C** for a map of the Deep Creek floodplain.

There is one planned installation of a weathered steel monopole (Pole 4/4) within the mapped floodplain of Deep Creek. The pole would be between 2 to 7 feet diameter at ground height, or a maximum of approximately 38.5 square feet. A 100-foot diameter disturbance buffer around the pole location would be required. Any spoils would be disposed of outside of the floodplain and any disturbed area would be regraded to pre-existing conditions and reseeded with a native seed mix.

This would require a floodplain development permit and no rise certification with the Spokane County Public Works Department.

3.5 GEOLOGICALLY HAZARDOUS AREAS

Geologically Hazardous Areas are regulated under SCC 11.20.070 and City of SMC 17E.020.040. According to the Spokane County Geologic Hazards and Constraints Map (Spokane County GIS, February 2019), two types of geologically hazardous areas occur within the Project study area:

1. Areas of erodible soils on steep, north-facing forested slopes south of Coulee Creek and Deep Creek, and

2. Areas of alluvium associated with Deep Creek.

The proposed Project would avoid disturbance to areas of mapped alluvium associated with Deep Creek. Several transmission poles would be installed on steeper forested slopes where erodible soils are mapped. These poles would be constructed using single-pole foundations designed to accommodate slope conditions, including deeper footings as needed to meet engineering, safety, and applicable local or state requirements. Disturbance at individual pole locations would be limited to the immediate footprint necessary for installation. Temporary access routes would be minimized and generally confined to existing utility corridors.

Construction-related soil disturbance on steep slopes would be temporary. Disturbed areas would be regraded to pre-existing conditions and reseeded with a native seed mix. Although trees within the transmission corridor would be removed to maintain required safety clearances, long-term vegetation management would allow low-growing native shrubs and groundcover to re-establish, maintaining root structure and soil stability on slopes.

The Project would not increase erosion potential, slope instability, or geologic hazard risk. No grading, filling, or development of habitable structures is proposed within geologically hazardous areas. There will be no impact to Geologically Hazardous Areas as a result of this Project.

4. MITIGATION

The CAO requires mitigation sequencing, which is to first avoid, then minimize harm before compensatory mitigation is implemented. Mitigation sequencing for this Project is described below:

4.1 AVOIDANCE MEASURES

The following measures were taken to avoid impacts to the ecological functions of the critical areas:

- The transmission alignment is located primarily within existing utility easements and parallel to existing transmission or transportation infrastructure, reducing the need for new corridor clearing.
- Overhead conductors span wetlands, streams, and riparian areas to avoid in-water work and direct channel disturbance.
- Transmission poles were sited outside wetlands and outside of channel bottoms to the extent practicable.
- No grading, filling, or structures are proposed within delineated wetlands.
- No in-water work below the OHWM is proposed.

4.2 MEASURES TO MINIMIZE HARM

The following measures will minimize impacts to the critical areas:

- Preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP).
- Erosion and Sediment Control BMPs such as fiber wattles or silt fence will be installed to minimize erosion and stormwater runoff into identified resources.
- High-visibility fencing will be installed at buffer boundaries where work occurs adjacent to streams and wetlands and construction access will be limited to designated areas.
- Spill prevention and response procedures will be in place.
- Construction will be conducted during the dry periods and will not be conducted during rainfall events to minimize erosion and sedimentation into wetlands and streams.
- Temporary access routes will be limited to the minimum width necessary (≤15 feet).
- Vegetation management will be limited to removal of trees exceeding approximately 15 feet in height to maintain required safety clearances.
- Bare soils will be reseeded with a native grass mixture after construction to minimize weeds and erosion.

4.3 COMPENSATORY MITIGATION

Project impacts are primarily associated with long-term vegetation management within the transmission easement and limited permanent ground disturbance at pole locations. Permanent impacts consist largely of vegetation conversion (removal of trees and tall shrubs) within wetlands, buffers, streams, and shrubsteppe habitat.

In addition to the Project-specific mitigation described above, Avista conducts and participates in broader habitat restoration and shoreline improvement efforts in the region. These include native revegetation and riparian enhancement projects along the Spokane River and Little Spokane River. While these efforts are not proposed as compensatory mitigation for the Project, they reflect Avista's broader commitment to watershed-scale habitat improvement.

4.3.1 Wetlands

Wetland mitigation will be provided in accordance with SCC 11.20.050.D.2 and SMC 17E.070.130, Table 17E.070.130-1. Wetlands C, D, E, G, H, and K are within Spokane County jurisdiction; Wetland F is within City of Spokane jurisdiction. Required mitigation ratios are based on the applicable jurisdictional code.

Permanent wetland impacts associated with the Project consist primarily of vegetation conversion within mapped wetland boundaries and long-term vegetation management within wetland buffers. No wetland fill is proposed. Temporary impacts are limited to construction access and pole installation areas and will be regraded, stabilized, and reseeded with an approved native seed mix to approximate pre-construction conditions. Wetlands and buffers will be clearly marked with high-visibility fencing or other visible indicators prior to construction to prevent disturbance outside approved impact areas.

Compensatory mitigation for permanent wetland impacts is proposed as offsite enhancement. Mitigation ratios were calculated using the Spokane County CAO mitigation ratio table for Eastern Washington wetlands based on enhancement as the proposed mitigation method.

Based on the calculated permanent conversion and buffer impacts, total compensatory mitigation required is approximately **1.141 acres** of wetland enhancement and **1.202 acres** of buffer mitigation. The proposed mitigation site is anticipated to occur on Avista-owned property (Wetland A area near the Bluebird Substation); however, final mitigation location, method, and design will be determined in coordination with Spokane County and the City of Spokane.

Table 8 details the impacts to wetlands in the Project area and includes proposed mitigation ratios.

Table 8. Proposed Wetland Mitigation Ratios and Quantities

Resource ID	Sheet # From Appendix A	Category	Buffer Impact	Permanent Conversion	Ratio (Buffer)	Ratio (Conversion)	Mitigation Acres (Buffer)	Mitigation Acres (Conversion)
Spokane County Jurisdiction								
Wetland C	2	IV	0.136	0.175	1:1	6:1	0.136	1.047
Wetland D	13	III	0.089	0.003	1:1	8:1	0.089	0.022
Wetland E	13	III	0.303	0.012	1:1	8:1	0.303	0.072
Wetland K	2	III	0.291	0.000	1:1	8:1	0.291	0.000
Wetland G	25	IV	0.091	N/A	1:1	6:1	0.091	N/A
Wetland H	26-27	III	0.071	N/A	1:1	8:1	0.071	N/A
City of Spokane Jurisdiction								
Wetland F	24	III	0.221	N/A	1:1	8:1	0.221	N/A
Totals			1.202	0.189			1.202	1.141

4.3.2 Riparian and Instream Habitat

All streams and associated buffers within the Project area are located in Spokane County jurisdiction. Impacts are primarily limited to vegetation management within established transmission corridor areas and minor temporary construction disturbance. No in-water work or disturbance below the OHWM is proposed.

Temporary impacts (**0.014 acre** total) associated with access and pole installation will be restored following construction. Disturbed areas will be regraded as necessary, stabilized, and reseeded with an appropriate native riparian seed mix to reestablish pre-construction vegetative conditions and prevent erosion.

Permanent impacts total **0.087** acre and consist primarily of vegetation conversion within stream buffers associated with long-term vegetation management. A minor structural overlap (<**0.001 acre**) is mapped within Unnamed Drainage F; final pole placement will avoid defined channel bottoms to the extent practicable during construction staking. Any required adjustments will be coordinated with Spokane County and WDFW, as appropriate.

Compensatory mitigation for permanent impacts and buffer impacts will be provided at a 1:1 ratio through riparian enhancement at an approved offsite location. Enhancement measures may include native shrub and tree planting, invasive species control, and other actions intended to improve riparian function, subject to County review and approval.

Table 9 details the impacts to streams in the Project area and includes proposed mitigation ratios.

Table 9. Proposed Stream Mitigation Ratios and Quantities

Resource ID	Buffer Impacts (acres)	Permanent Impacts vegetation and structural (acres)	Mitigation Ratio (Buffer and impacts)	Buffer Mitigation (acres)	Permanent Impact Mitigation (acres)
Coulee Creek	0.057	N/A	1:1	0.057	N/A
Deep Creek	0.092	0.055	1:1	0.092	0.055
Unnamed Drainage A	0.380	0.007	1:1	0.380	0.007
Unnamed Drainage B	0.158	N/A	1:1	0.158	N/A
Unnamed Drainage C	0.520	0.011	1:1	0.520	0.011
Unnamed Drainage D	0.089	0.004	1:1	0.089	0.004
Unnamed Drainage E	0.087	0.003	1:1	0.087	0.003
Unnamed Drainage F	0.215	0.001	1:1	0.215	0.001
Unnamed Drainage G	0.184	0.005	1:1	0.184	0.005
Totals	1.782	0.087		1.782	0.087

4.3.3 Shrubsteppe

Impacts to shrubsteppe habitat are limited in extent and consist primarily of temporary construction disturbance (**0.678 acre**) associated with pole installation and access. Permanent impacts total approximately **0.038** acre and include minor pole foundation disturbance and limited long-term vegetation conversion within the managed transmission corridor.

Temporary disturbance areas will be reseeded with a native shrubsteppe seed mix consistent with the existing scabland plant community. Restoration will focus on reestablishing native sagebrush, bunchgrasses, and forbs to approximate pre-construction conditions and stabilize shallow soils. These areas are not anticipated to result in long-term loss of shrubsteppe function.

Permanent impacts will be mitigated at a minimum 1:1 ratio through on-site enhancement of adjacent shrubsteppe habitat within the alignment where feasible. Enhancement measures may include native seed augmentation, selective invasive species control, and protection of intact biological soil crust and existing sagebrush stands during construction. Because shrubsteppe within the Project area is associated with shallow lithic soils over basalt and specific microtopographic conditions, mitigation will focus on improving function and resiliency of existing habitat rather than attempting to establish shrubsteppe in unsuitable soil types or locations.

Final mitigation measures and performance standards will be refined in coordination with Spokane County and WDFW, as appropriate.

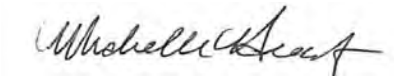
4.3.4 Frequently Flooded Areas

The Project crosses one FEMA-mapped Zone A floodplain associated with Deep Creek within Spokane County jurisdiction (FIRM Panel 53063C). Impacts within the mapped floodplain are limited to a monopole foundation footprint. No grading, fill, or alteration of flood storage capacity is proposed.

The Project will obtain a Floodplain Development Permit from Spokane County and will comply with SCC 3.20 (Flood Damage Prevention), including submittal of any required no-rise certification. No additional compensatory mitigation is proposed beyond compliance with applicable floodplain permitting requirements.

5. CERTIFICATION BY QUALIFIED BIOLOGIST

I, Michelle Anderson of Anderson Environmental Consulting, certify that I meet the Spokane County qualifications as a Qualified Biologist and on the Spokane County Qualified Biologist List. I further certify that the information contained in this report is accurate to the best of my knowledge, is based on best available science and is prepared in accordance with the Spokane County and City of Spokane CAO.



Michelle C. Anderson

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APPENDIX A. SITE PLANS WITH IMPACTS

Overview

Bluebird Transmission Line ~ HMP Map Series

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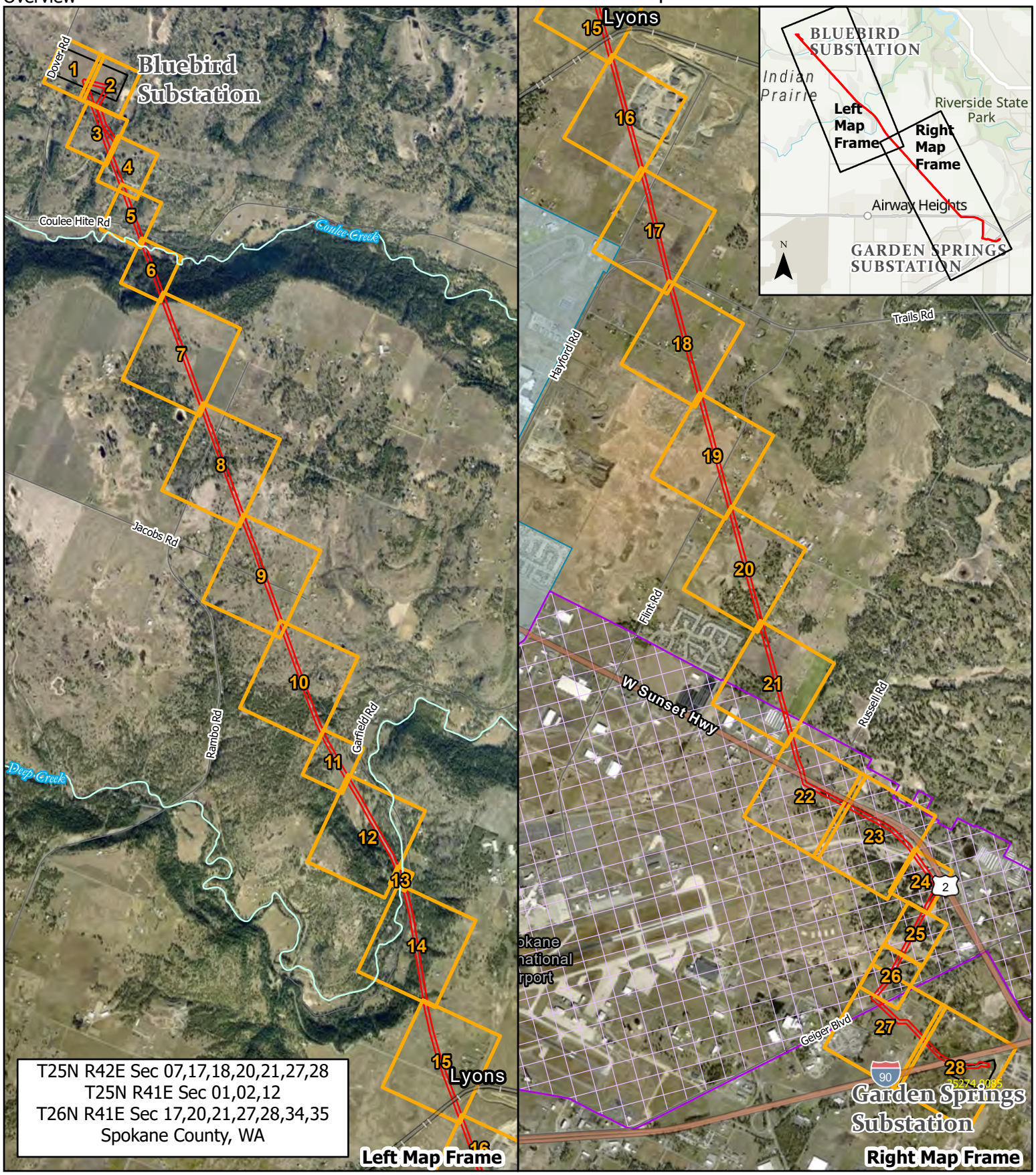

Legend

- Mapbook Series Page

Municipal Boundaries

- Airway Heights
- City of Spokane
- Alignment

Scale: 1:42,000

0 — 2 Miles

N

ANDERSON ENVIRONMENTAL CONSULTING

Bluebird Transmission Line ~ HMP Map Series

Legend

- Structure Location
- Powerline
- Parcels
- Permanent Vegetation Removal
- Alignment

N

Scale: 1:2,000

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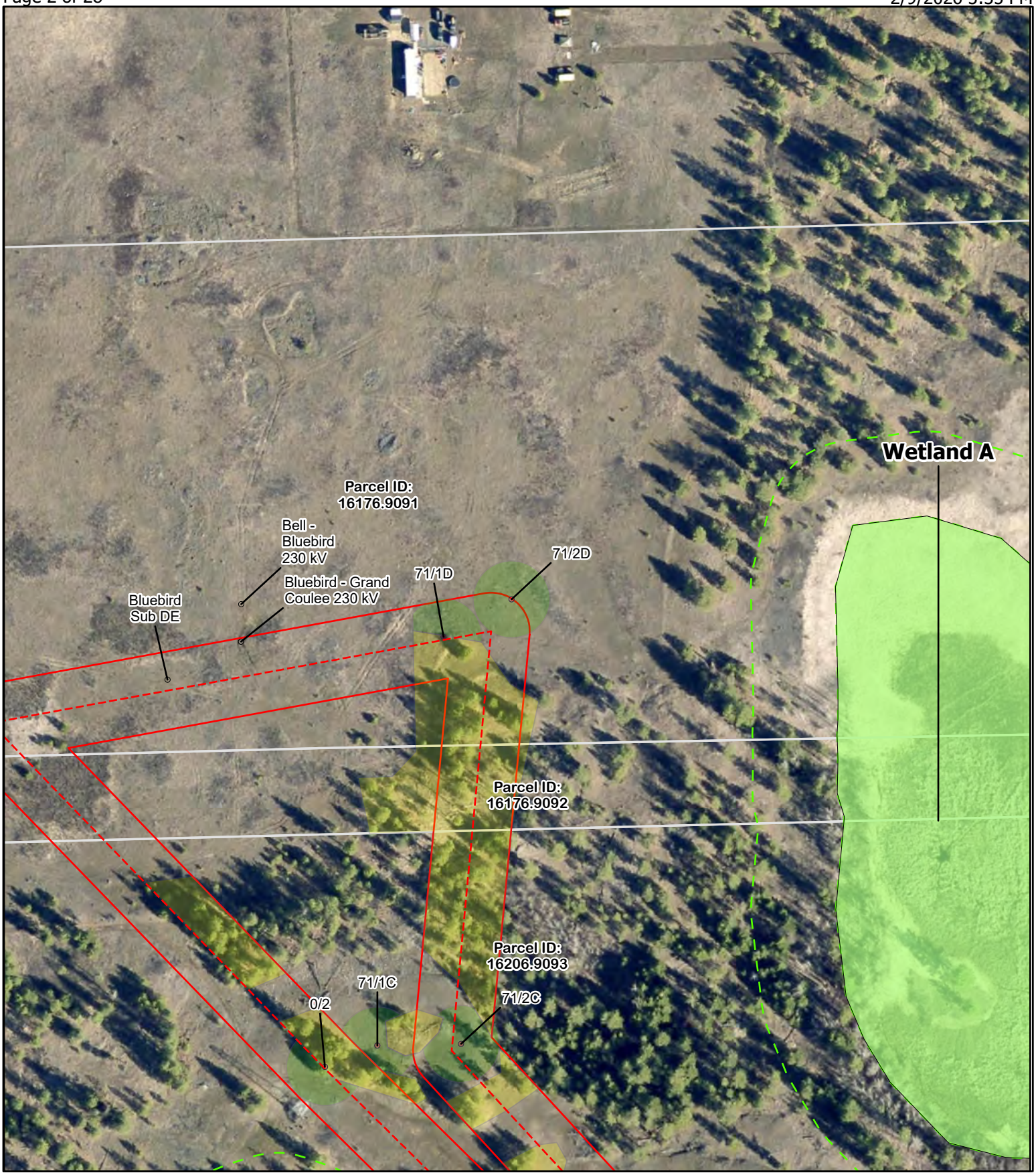
Feet

Bluebird Transmission Line ~ HMP Map Series



Legend

- Structure Location
- Powerline
- Delineated Wetland
- Aquatic Resource Buffer
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion
- Alignment

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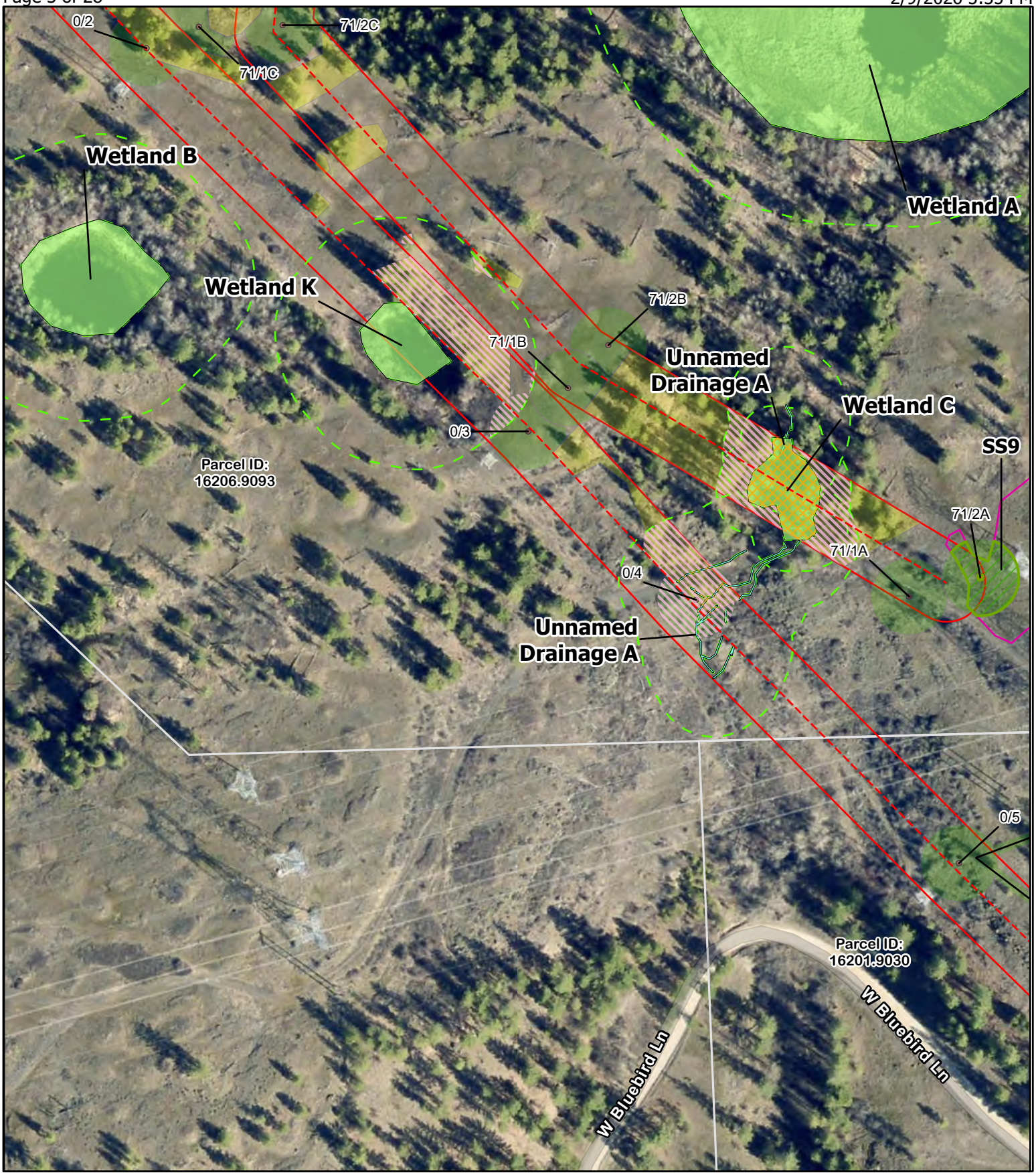
Feet

Bluebird Transmission Line ~ HMP Map Series



Legend

- Structure Location
- Access Roads
- Powerline
- Delineated Stream
- Delineated Wetland
- Aquatic Resource Buffer
- Existing Shrubsteppe
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion

Wetland & Stream Impacts

- Buffer Impact
- Permanent Conversion
- Temporary Impact

Shrubsteppe Impacts

- Permanent Ground Conversion
- Temporary Impact
- Alignment

N

Scale: 1:2,000

0 200

Feet

Bluebird Transmission Line ~ HMP Map Series

Legend

- Structure Location
- Access Roads
- Powerline
- Delineated Stream
- Aquatic Resource Buffer
- Existing Shrubsteppe
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion

Wetland & Stream Impacts

- Buffer Impact

Shrubsteppe Impacts

- Permanent Ground Conversion
- Permanent Vegetation Removal
- Temporary Impact
- Alignment

N

Scale: 1:2,000

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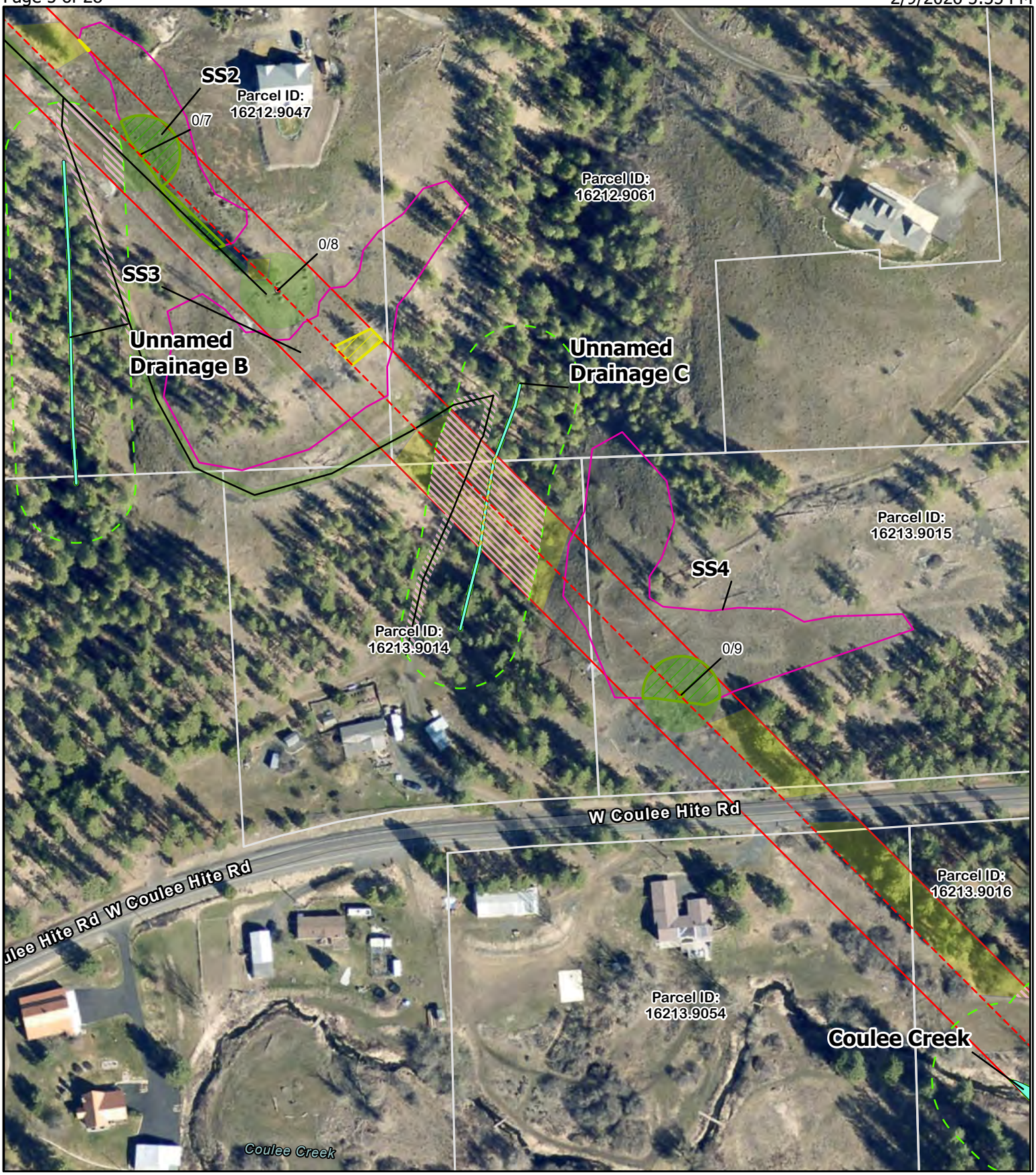
Feet

Bluebird Transmission Line ~ HMP Map Series



Legend

- Structure Location
- Access Roads
- Powerline
- Delineated Stream
- Aquatic Resource Buffer
- Existing Shrubsteppe
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion

Wetland & Stream Impacts

- Buffer Impact
- Permanent Conversion

Shrubsteppe Impacts

- Permanent Ground Conversion
- Permanent Vegetation Removal
- Temporary Impact
- Alignment

N

Scale: 1:2,000

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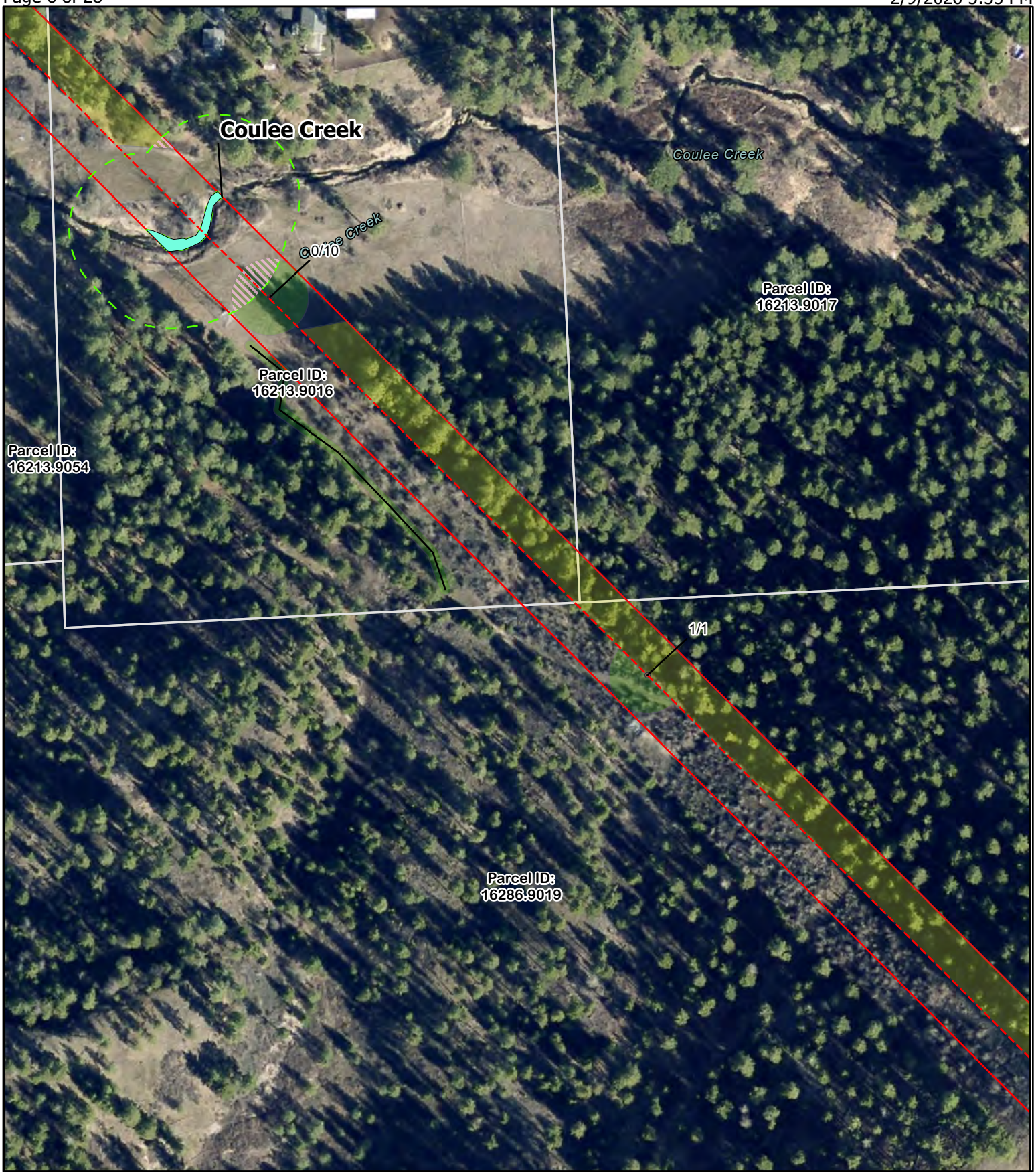
Feet

Bluebird Transmission Line ~ HMP Map Series



Legend

- Structure Location
- Access Roads
- Powerline
- Delineated Stream
- Aquatic Resource Buffer
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion

Wetland & Stream Impacts

- Buffer Impact
- Alignment

N

Scale: 1:2,000

0 200

Feet

Bluebird Transmission Line ~ HMP Map Series

Legend

- Structure Location
- Powerline
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion
- Alignment

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Scale: 1:4,000

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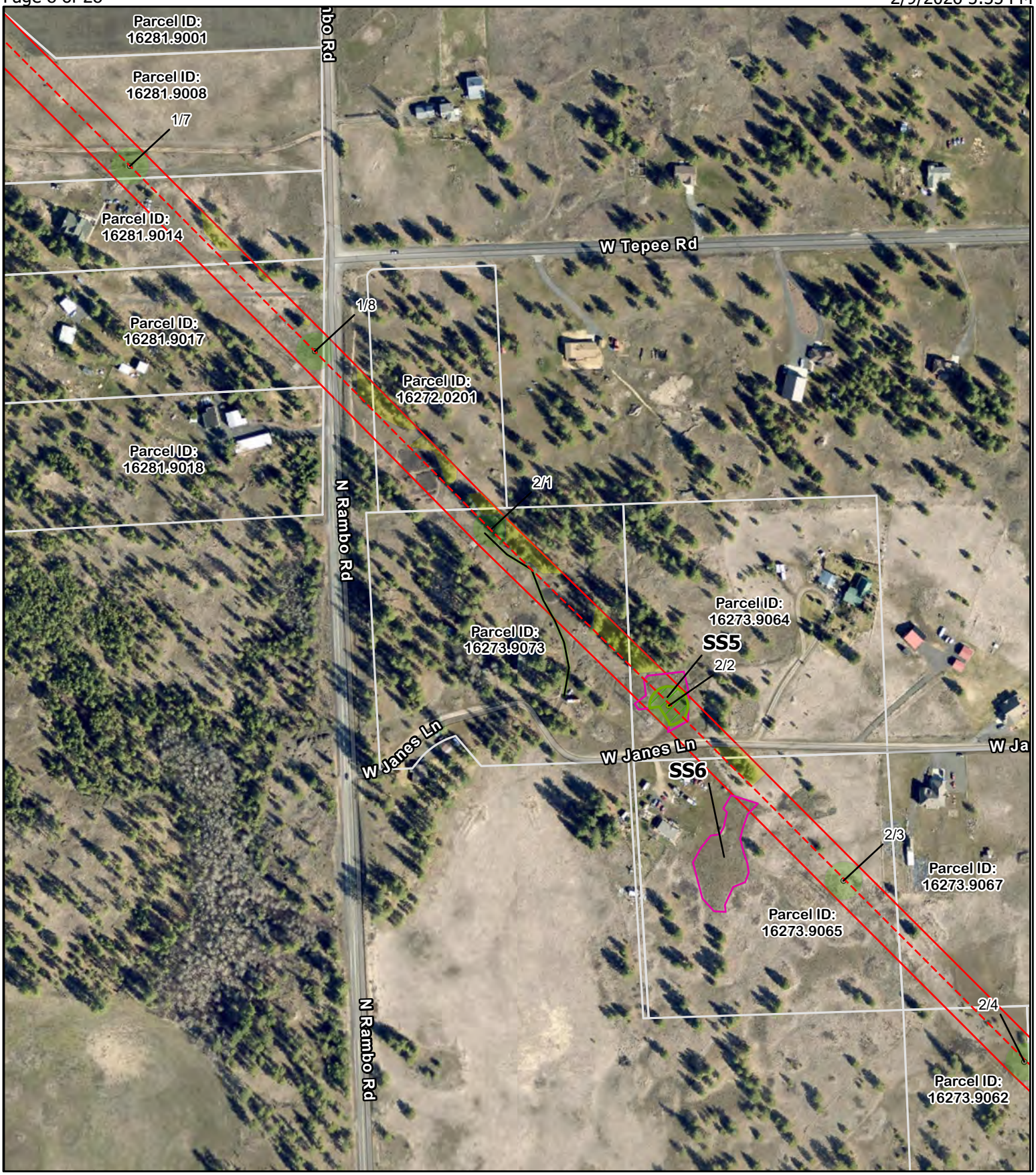
Feet

Bluebird Transmission Line ~ HMP Map Series



Legend

- Structure Location
- Access Roads
- Powerline
- Existing Shrubsteppe
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion

Shrubsteppe Impacts

- Permanent Ground Conversion
- Temporary Impact
- Alignment

N

Scale: 1:4,000

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Feet

Bluebird Transmission Line ~ HMP Map Series

Legend

- Structure Location
- Powerline
- Existing Shrubsteppe
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion

Shrubsteppe Impacts

- Temporary Impact
- Alignment

N

Scale: 1:4,000

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Feet

Bluebird Transmission Line ~ HMP Map Series

Legend

- Structure Location
- Powerline
- Existing Shrubsteppe
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion

Shrubsteppe Impacts

- Temporary Impact
- Alignment

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Scale: 1:4,000

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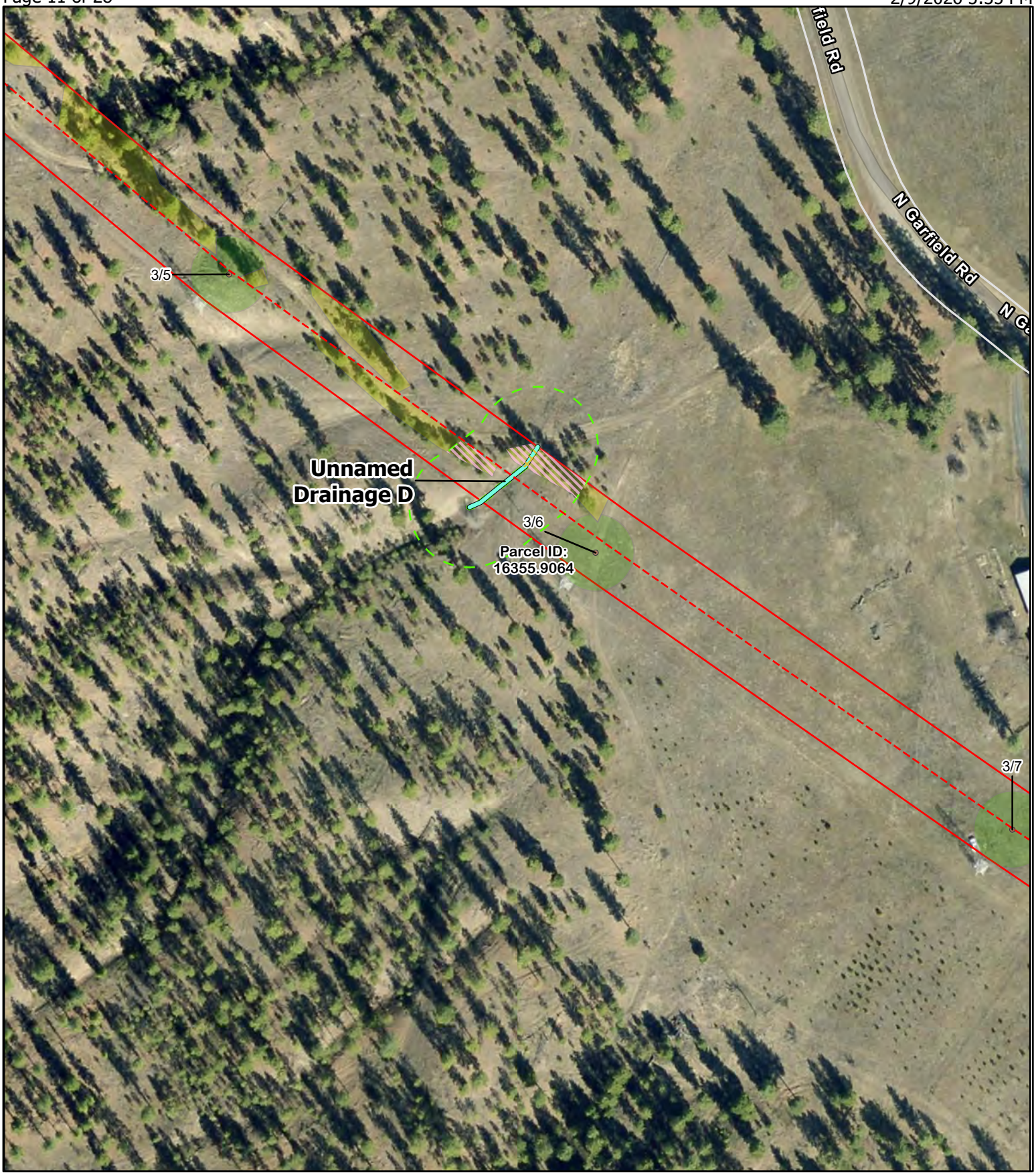
Feet

Bluebird Transmission Line ~ HMP Map Series



Legend

- Structure Location
- Powerline
- Delineated Stream
- Aquatic Resource Buffer
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion

Wetland & Stream Impacts

- Buffer Impact
- Permanent Conversion
- Alignment

N

Scale: 1:2,000

0 200

Feet

Bluebird Transmission Line ~ HMP Map Series

Legend

- Structure Location
- Powerline
- Delineated Stream
- Delineated Wetland
- Aquatic Resource Buffer
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion

Wetland & Stream Impacts

- Buffer Impact
- Permanent Conversion
- Alignment

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Scale: 1:4,000

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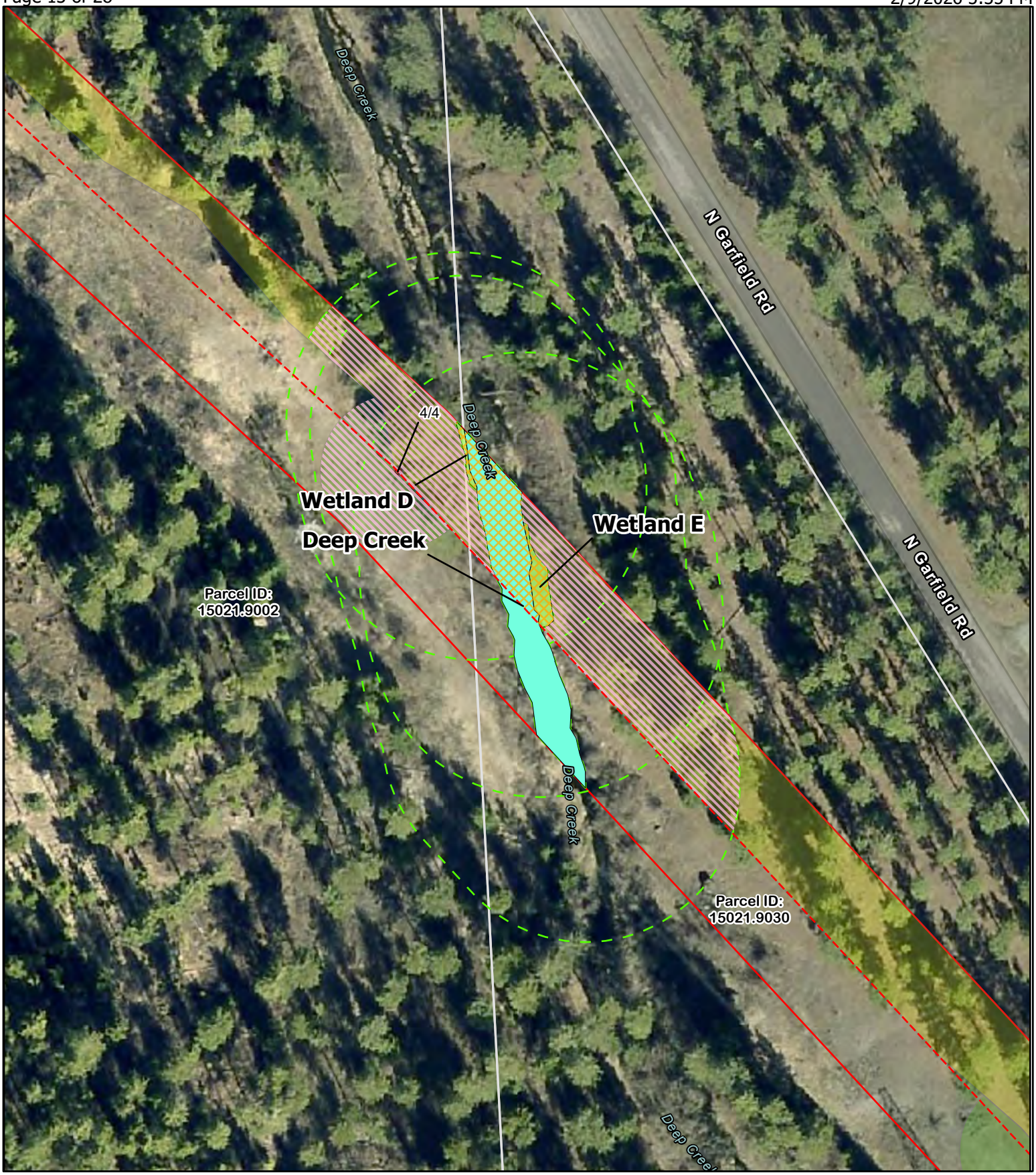
Feet

Bluebird Transmission Line ~ HMP Map Series



Legend

- Structure Location
- Powerline
- Delineated Stream
- Delineated Wetland
- Aquatic Resource Buffer
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion

Wetland & Stream Impacts

- Buffer Impact
- Permanent Conversion
- Alignment

N

Scale: 1:1,000

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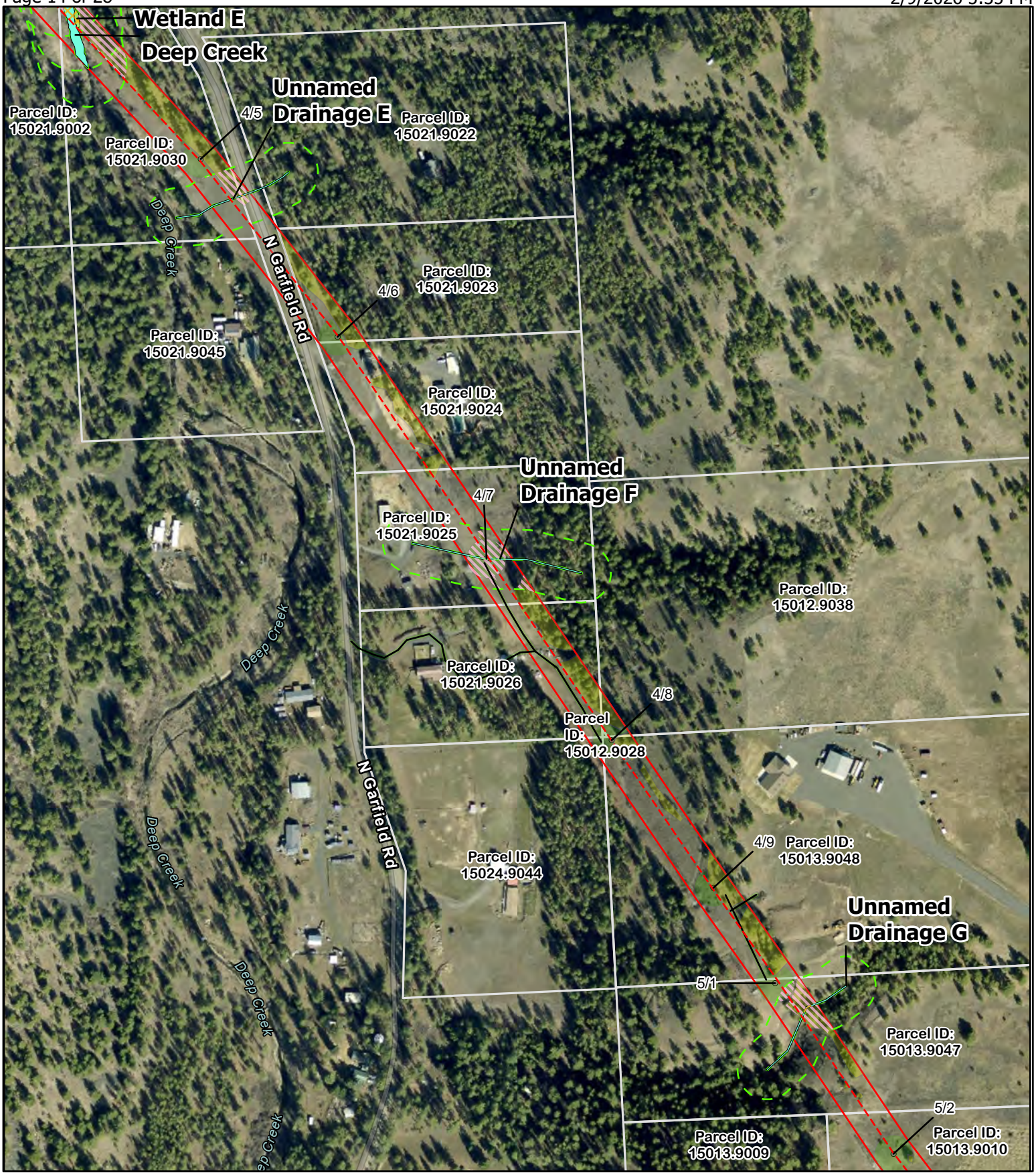

Legend

- Structure Location
- Access Roads
- Powerline
- Delineated Stream
- Delineated Wetland
- Aquatic Resource Buffer
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion

Wetland & Stream Impacts

- Buffer Impact
- Permanent Conversion
- Permanent Impact
- Temporary Impact
- Alignment

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Scale: 1:4,000

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Feet

Bluebird Transmission Line ~ HMP Map Series

Legend

- Structure Location
- Access Roads
- Powerline
- Delineated Stream
- Aquatic Resource Buffer
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion

Wetland & Stream Impacts

- Buffer Impact
- Permanent Conversion
- Alignment

N

Scale: 1:4,000

0 400

Feet

Bluebird Transmission Line ~ HMP Map Series

Legend

- Structure Location
- Access Roads
- Powerline
- Parcels
- Temporary Disturbance
- Permanent Ground Conversion
- Alignment

N

Scale: 1:4,000

0 400

Feet

Bluebird Transmission Line ~ HMP Map Series

Legend

- Structure Location
- Access Roads
- Powerline
- Airway Heights
- Parcels
- Temporary Disturbance
- Permanent Ground Conversion
- Alignment

N

Scale: 1:4,000

0 400

Feet

Bluebird Transmission Line ~ HMP Map Series

Legend

- Structure Location
- Access Roads
- Powerline
- Parcels
- Temporary Disturbance
- Permanent Ground Conversion
- Alignment

N

Scale: 1:4,000

0 400

Feet

Bluebird Transmission Line ~ HMP Map Series

Legend

- Structure Location
- Access Roads
- Powerline
- Parcels
- Temporary Disturbance
- Permanent Ground Conversion
- Alignment

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Scale: 1:4,000

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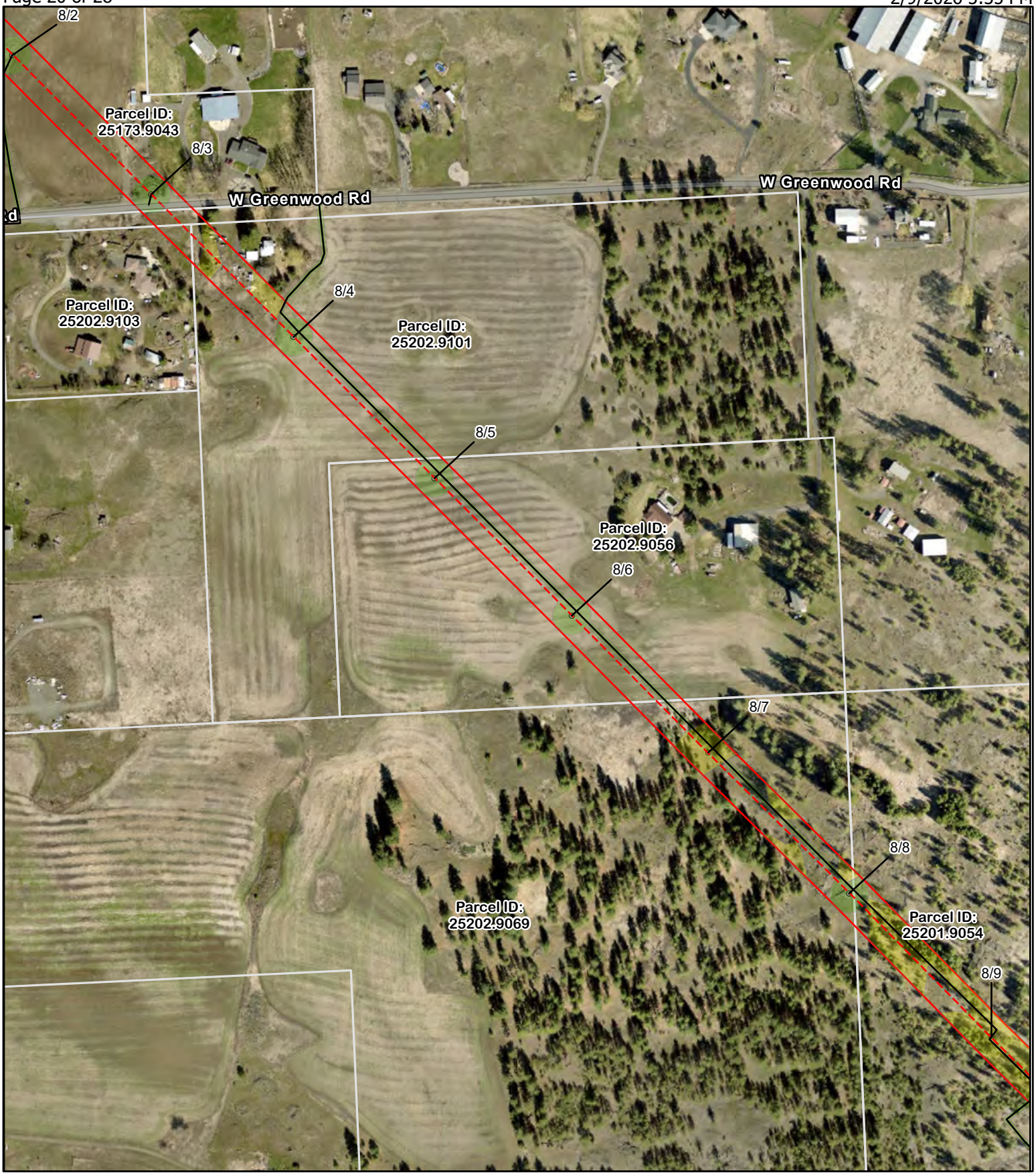
Feet

Bluebird Transmission Line ~ HMP Map Series



Legend

- Structure Location
- Access Roads
- Powerline
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion
- Alignment

N

Scale: 1:4,000

0 400

Feet

Bluebird Transmission Line ~ HMP Map Series

Legend

- Structure Location
- Access Roads
- Powerline
- Spokane
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion
- Alignment

N

Scale: 1:4,000

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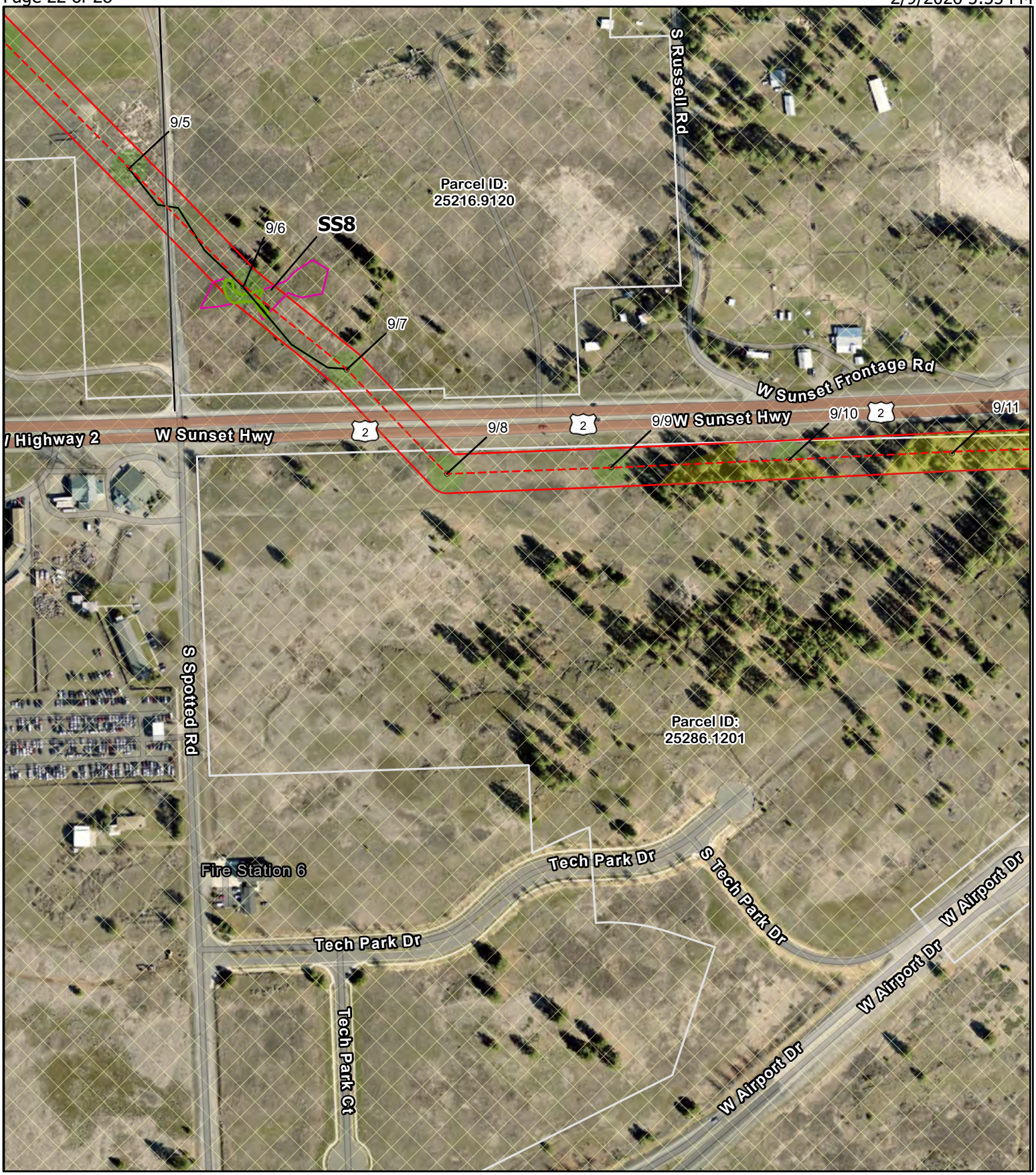
Feet

Bluebird Transmission Line ~ HMP Map Series



Legend

- Structure Location
- Access Roads
- Powerline
- Existing Shrubsteppe
- Spokane
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion

Shrubsteppe Impacts

- Temporary Impact
- Alignment

N

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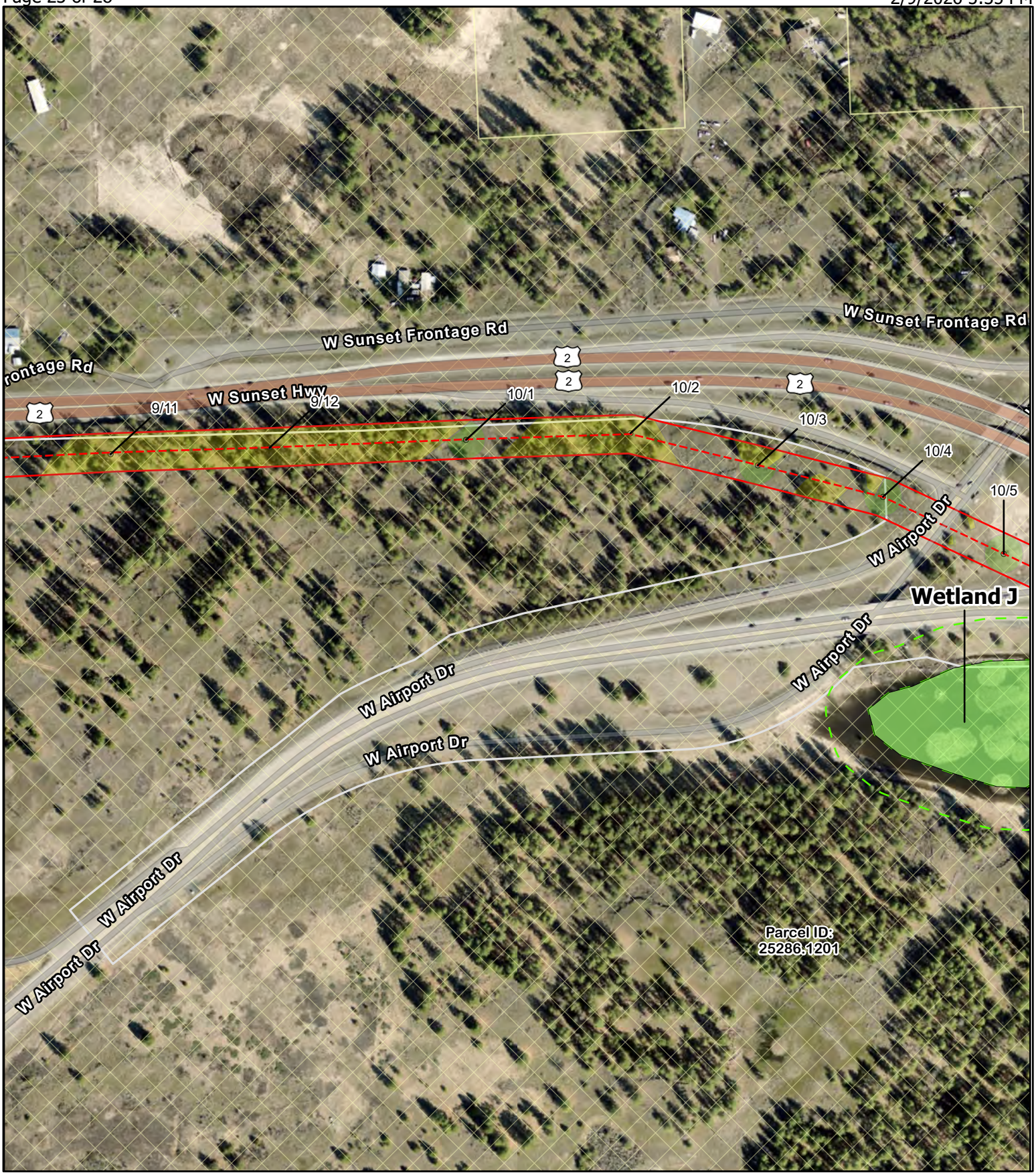
Feet

Bluebird Transmission Line ~ HMP Map Series



Legend

- Structure Location
- Powerline
- Delineated Wetland
- Aquatic Resource Buffer
- Spokane
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion
- Alignment

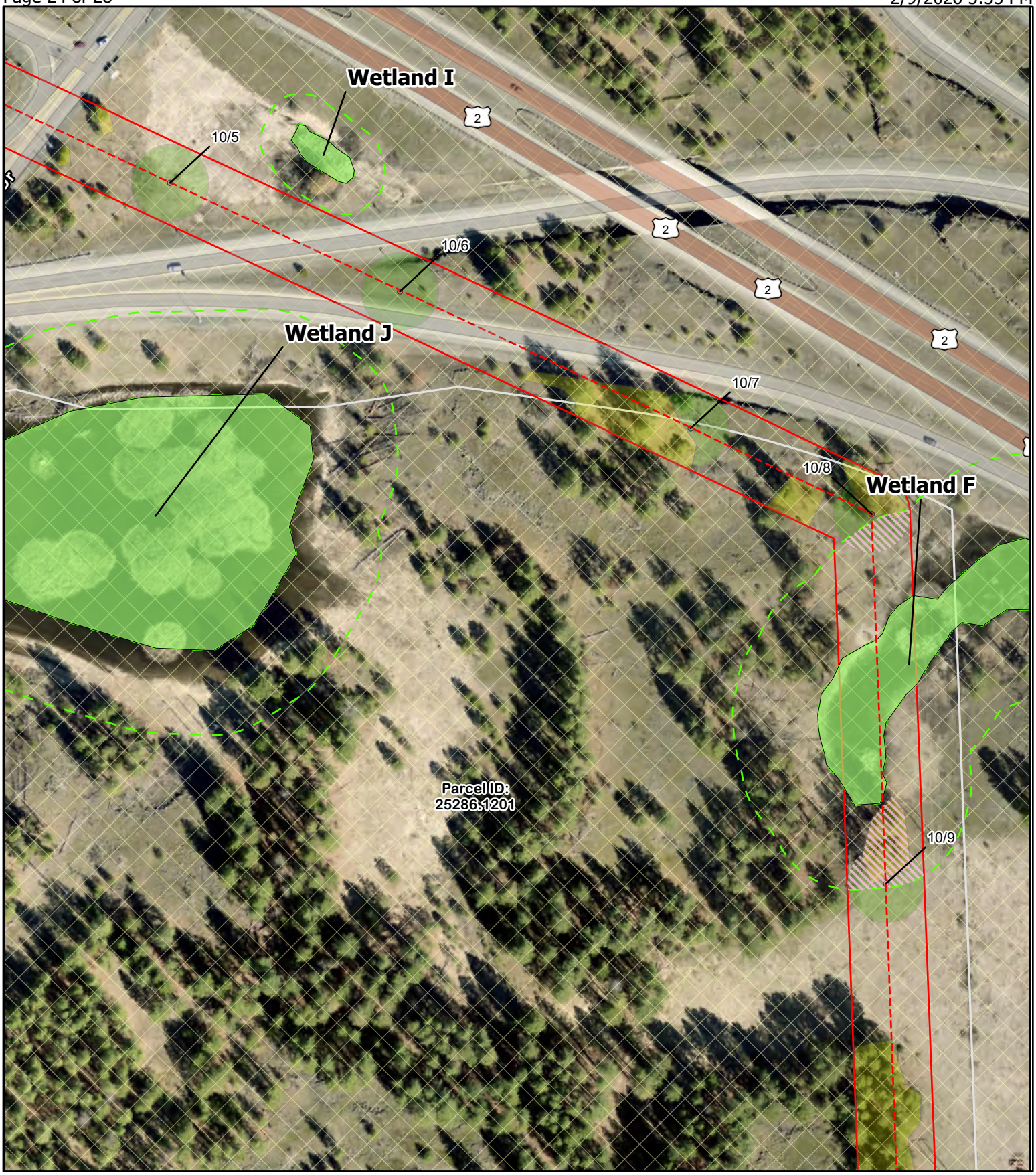
N

Scale: 1:4,000

0 400

Feet

Bluebird Transmission Line ~ HMP Map Series



Legend

- Structure Location
- Powerline
- Delineated Wetland
- Aquatic Resource Buffer
- Spokane
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion

Wetland & Stream Impacts

- Buffer Impact
- Alignment

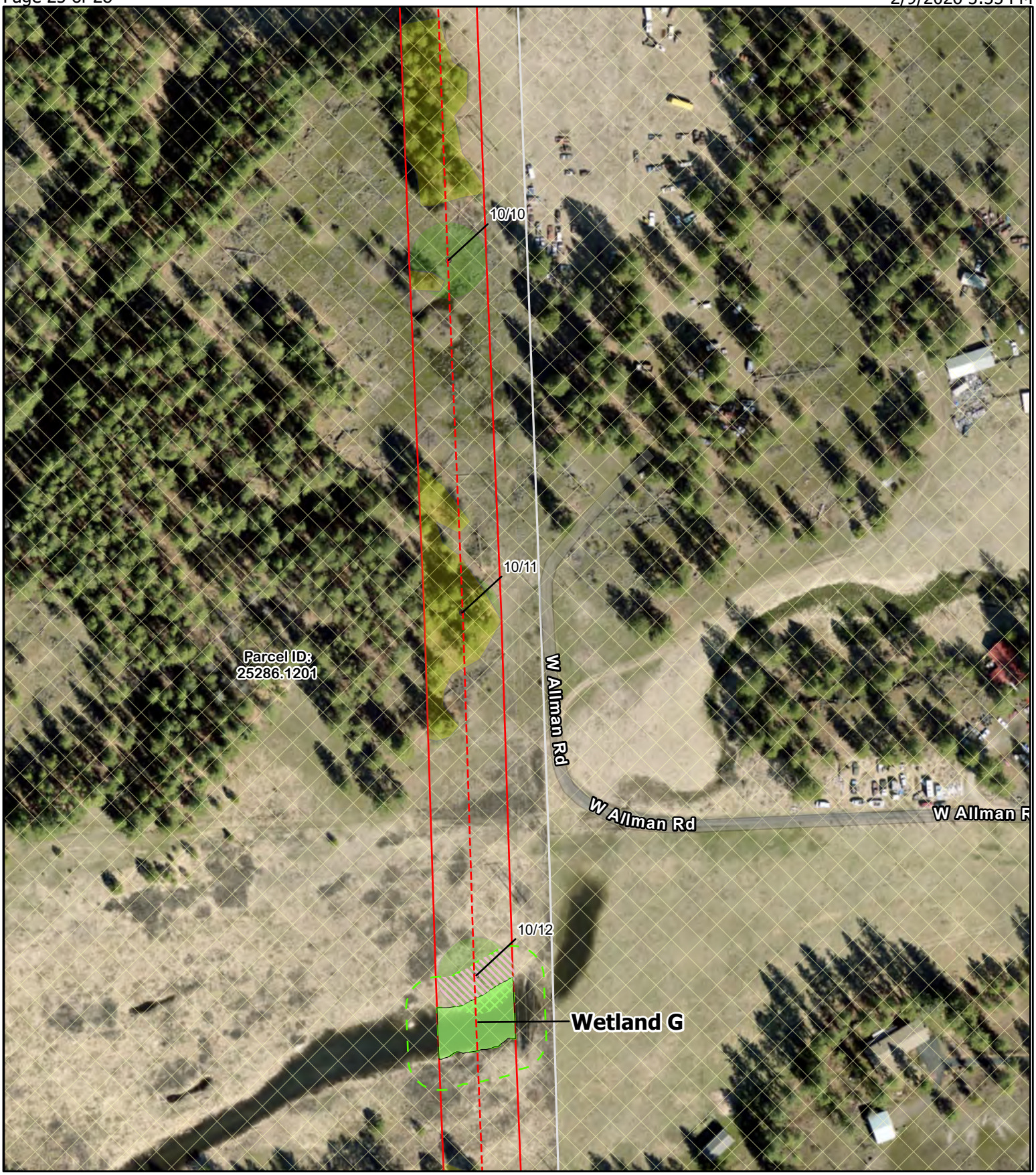
N

Scale: 1:2,000

0 200

Feet

Bluebird Transmission Line ~ HMP Map Series



Legend

- Structure Location
- Powerline
- Delineated Wetland
- Aquatic Resource Buffer
- Spokane
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion

Wetland & Stream Impacts

- Buffer Impact
- Temporary Impact
- Alignment

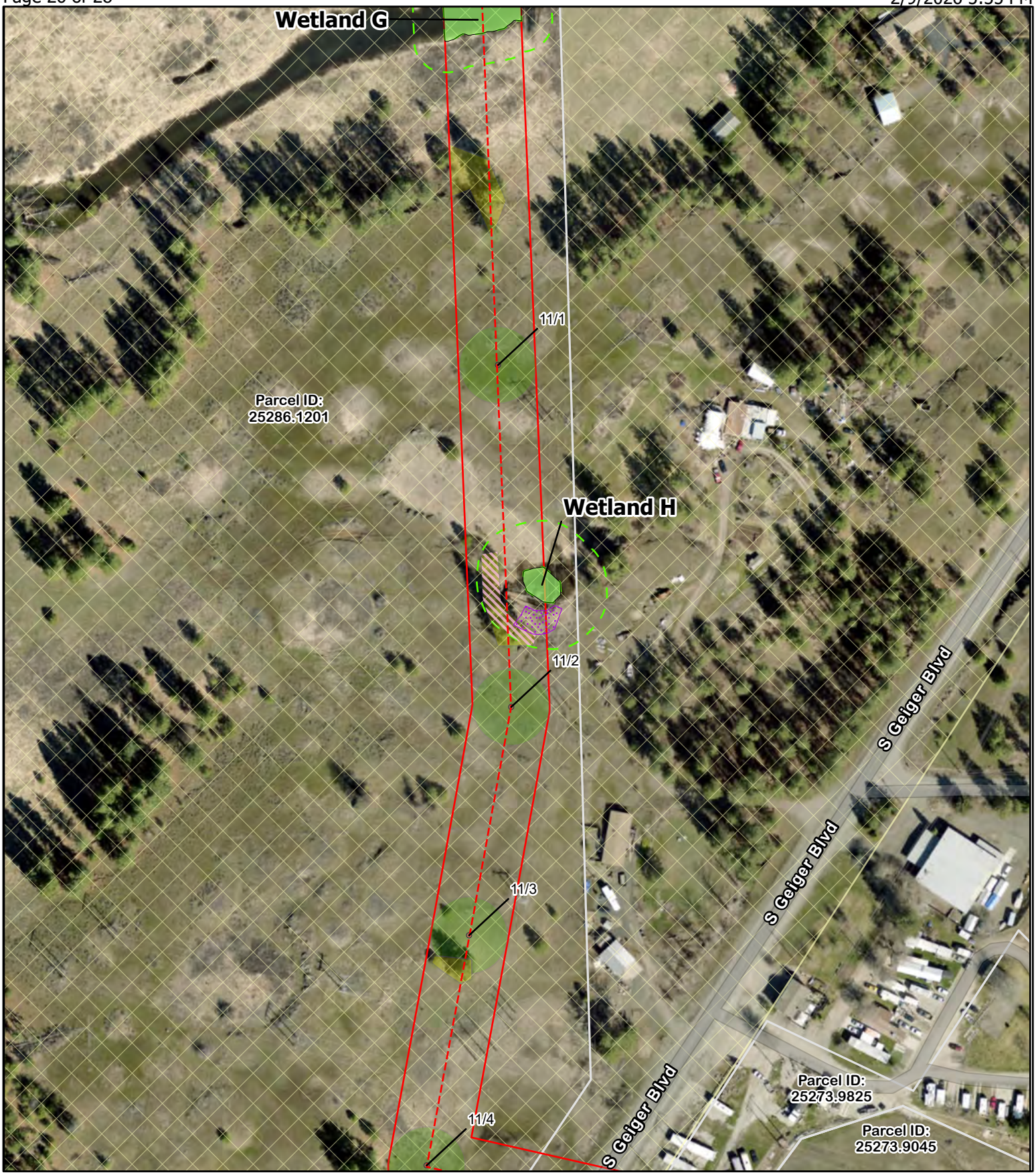
N

Scale: 1:2,000

0 200

Feet

Bluebird Transmission Line ~ HMP Map Series



Legend

- Structure Location
- Powerline
- Showy Milkweed Area
- Delineated Wetland
- Aquatic Resource Buffer
- Spokane
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion

Wetland & Stream Impacts

- Buffer Impact
- Alignment

N

Scale: 1:2,000

0 200

Feet

Bluebird Transmission Line ~ HMP Map Series

Legend

- Structure Location
- Powerline
- Showy Milkweed Area
- Delineated Wetland
- Aquatic Resource Buffer
- Spokane
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion

Wetland & Stream Impacts

- Buffer Impact
- Alignment

N

Scale: 1:4,000

0 400

Feet

Bluebird Transmission Line ~ HMP Map Series

Legend

- Structure Location
- Powerline
- Parcels
- Temporary Disturbance
- Permanent Vegetation Removal
- Permanent Ground Conversion
- Alignment

N

Scale: 1:4,000

0 400

Feet

APPENDIX B. PHOTOS

PHOTOS

Photo 1

Photo 2

Photo 3

Photo 4

Photos 1-4 generally represent the existing conditions in the northern portion of the study area.

Photo 5

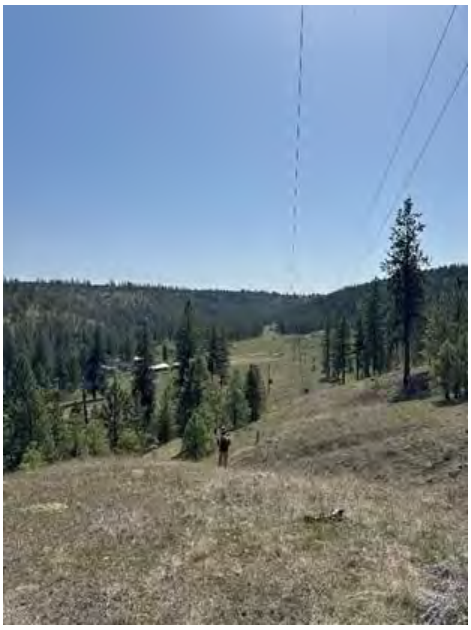


Photo 6

Photo 7

Photo 8

Photos 5-8 are a continuation of existing conditions in the study area south of Photos 1-4

Photo 9

Photo 10

Photo 11

Photo 12

Photos 9-12 represent existing conditions in the study area south of Photos 5-8

Photo 13

Photo 14

Photo 15

Photo 16

Photos 13-18 represent existing conditions in the study area south of Photos 9-12

Photo 17

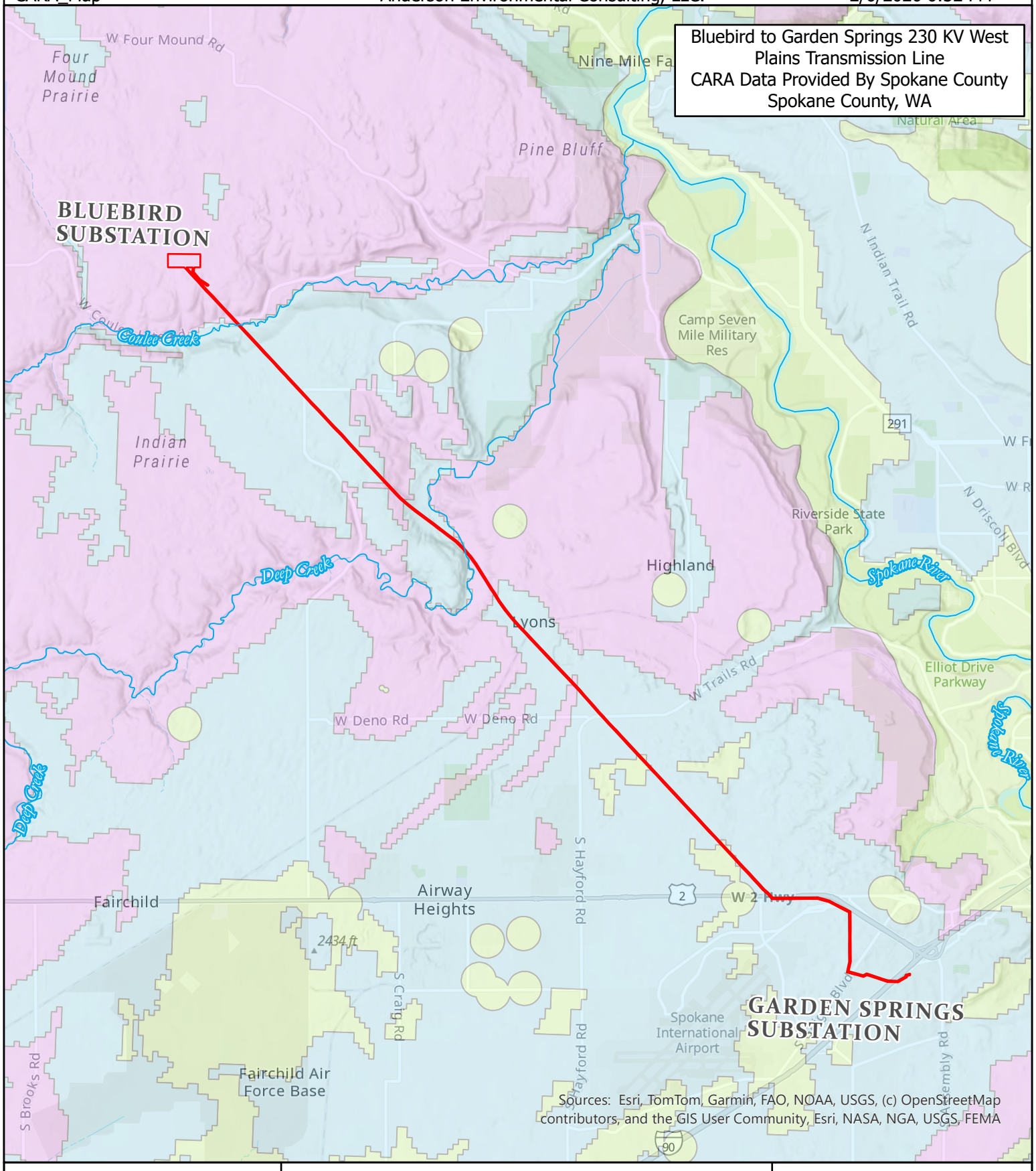
Photo 18

Photo 19

Photo 20

Photos 19-22 represent existing conditions in the southernmost portion of the study area.

APPENDIX C. OTHER CRITICAL AREA MAPS



Legend

- Study Area
- High Susceptibility CARA
- Moderate Susceptibility
- Low Susceptibility

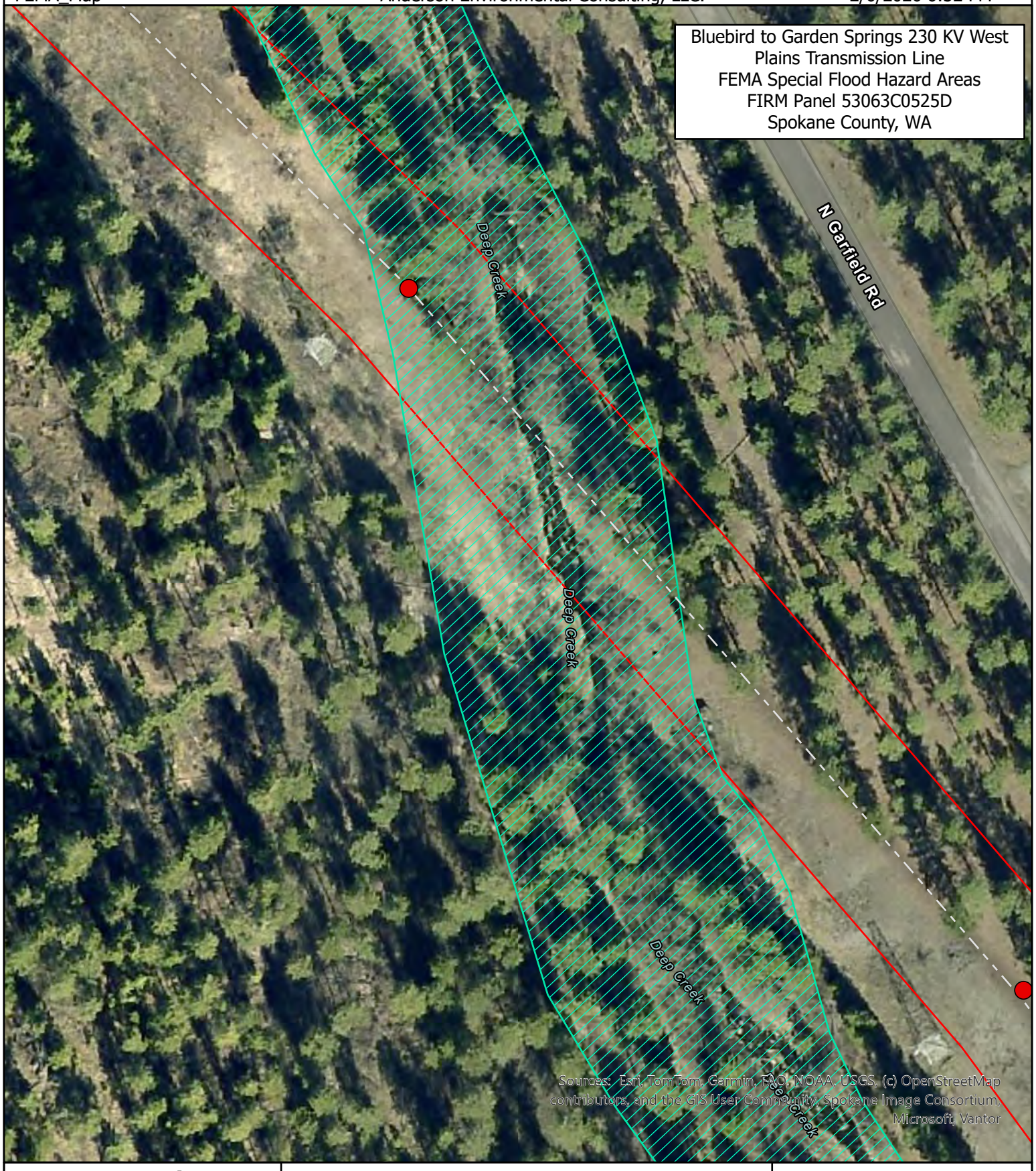
Scale: 1:90,000

0 2 4

Miles

N

ANDERSON ENVIRONMENTAL CONSULTING



Legend

- Proposed Steel Monopole Structures
- Proposed Transmission Centerline
- Zone A 100-Yr Flood (No Base Flood Elevations Determined)
- Study Area

Scale: 1:1,000

N

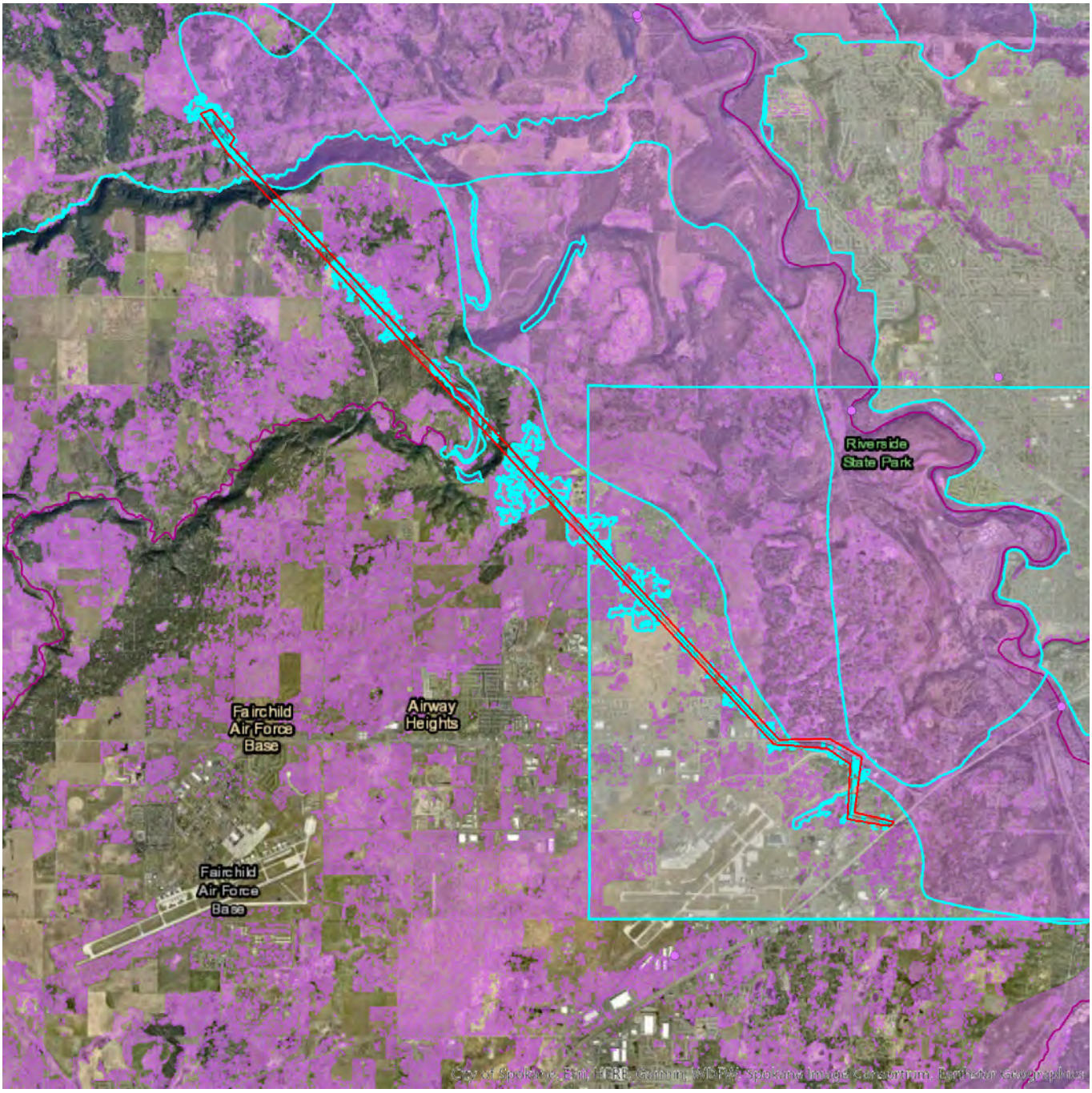
0 100 200

US Feet

ANDERSON ENVIRONMENTAL CONSULTING

APPENDIX D. SPECIES LISTS AND PHS DATA

Priority Habitats and Species on the Web



Report Date: 11/20/2025

PHS Species/Habitats Overview:

Occurence Name	Federal Status	State Status	Sensitive Location
Rainbow Trout	N/A	N/A	No
Mule deer	N/A	N/A	No
Freshwater Emergent Wetland	N/A	N/A	No
Freshwater Forested/Shrub Wetland	N/A	N/A	No
Shrubsteppe	N/A	N/A	No
Townsend's Big-eared Bat		Candidate	Yes
Cliffs/bluffs	N/A	N/A	No
Big brown bat			Yes
Northwest white-tailed deer	N/A	N/A	No

PHS Species/Habitats Details:

Rainbow Trout	
Scientific Name	*Oncorhynchus mykiss*
Priority Area	Occurrence/Migration
Site Name	Coulee Creek
Accuracy	NA
Notes	LLID: 1175486477520, Fish Name: Rainbow Trout, Run Time: Unknown or not Applicable, Life History: Resident
Source Record	1037
Source Dataset	SWIFD
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
More Info	http://wdfw.wa.gov/wlm/diversty/soc/soc.htm
ManagementRecommendations	https://wdfw.wa.gov/publications/00033
Geometry Type	Lines

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Spokane County, Washington

Local office

Washington Fish And Wildlife Office

(360) 753-9440
(360) 753-9405

1009 College St Se
Ste 215
Lacey, WA 98503-1249

https://www.fws.gov/office/washington-fish-and-wildlife

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
Yellow-billed Cuckoo Coccyzus americanus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/3911	Threatened

Fishes

NAME	STATUS
Bull Trout Salvelinus confluentus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8212	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Suckley's Cuckoo Bumble Bee Bombus suckleyi No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10885	Proposed Endangered

Flowering Plants

NAME	STATUS
Spalding's Catchfly Silene spaldingii Wherever found There is **proposed** critical habitat for this species. https://ecos.fws.gov/ecp/species/3681	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

Review the FAQs
The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▪)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

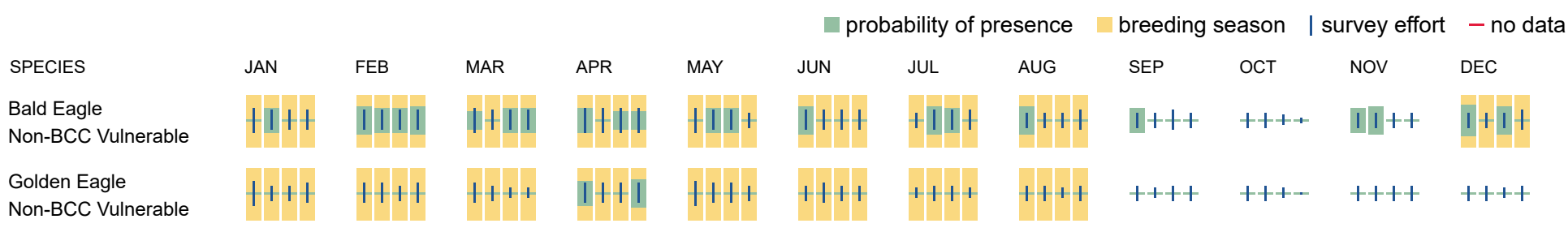
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Bald & Golden Eagles FAQs

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are an eagle (Bald and Golden Eagle Protection Act requirements may apply).

Proper interpretation and use of your eagle report
On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort line or no data line (red horizontal) means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

How do I know if eagles are breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:
The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Migratory birds

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Measures for Proactively Minimizing Migratory Bird Impacts

Your IPaC Migratory Bird list showcases birds of concern, including Birds of Conservation Concern (BCC), in your project location. This is not a comprehensive list of all birds found in your project area. However, you can help proactively minimize significant impacts to all birds at your project location by implementing the measures in the Nationwide avoidance and minimization measures for birds

document, and any other project-specific avoidance and minimization measures suggested at the link Measures for avoiding and minimizing impacts to birds for the birds of concern on your list below.

Ensure Your Migratory Bird List is Accurate and Complete

If your project area is in a poorly surveyed area, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles document, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
American Avocet Recurvirostra americana This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 21 to Aug 10
American White Pelican pelecanus erythrorhynchos This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6886	Breeds Apr 1 to Aug 31
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
California Gull Larus californicus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31
Calliope Hummingbird Selasphorus calliope This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9526	Breeds May 1 to Aug 15
Cassin's Finch Haemorhous cassinii This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9462	Breeds May 15 to Jul 15
Evening Grosbeak Coccothraustes vespertinus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 15 to Aug 10
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Lewis's Woodpecker Melanerpes lewis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408	Breeds Apr 20 to Sep 30

Northern Harrier Circus hudsonius This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8350	Breeds Apr 1 to Sep 15
Olive-sided Flycatcher Contopus cooperi This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Pectoral Sandpiper Calidris melanotos This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Rufous Hummingbird Selasphorus rufus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds Apr 15 to Jul 15
Western Grebe aechmophorus occidentalis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

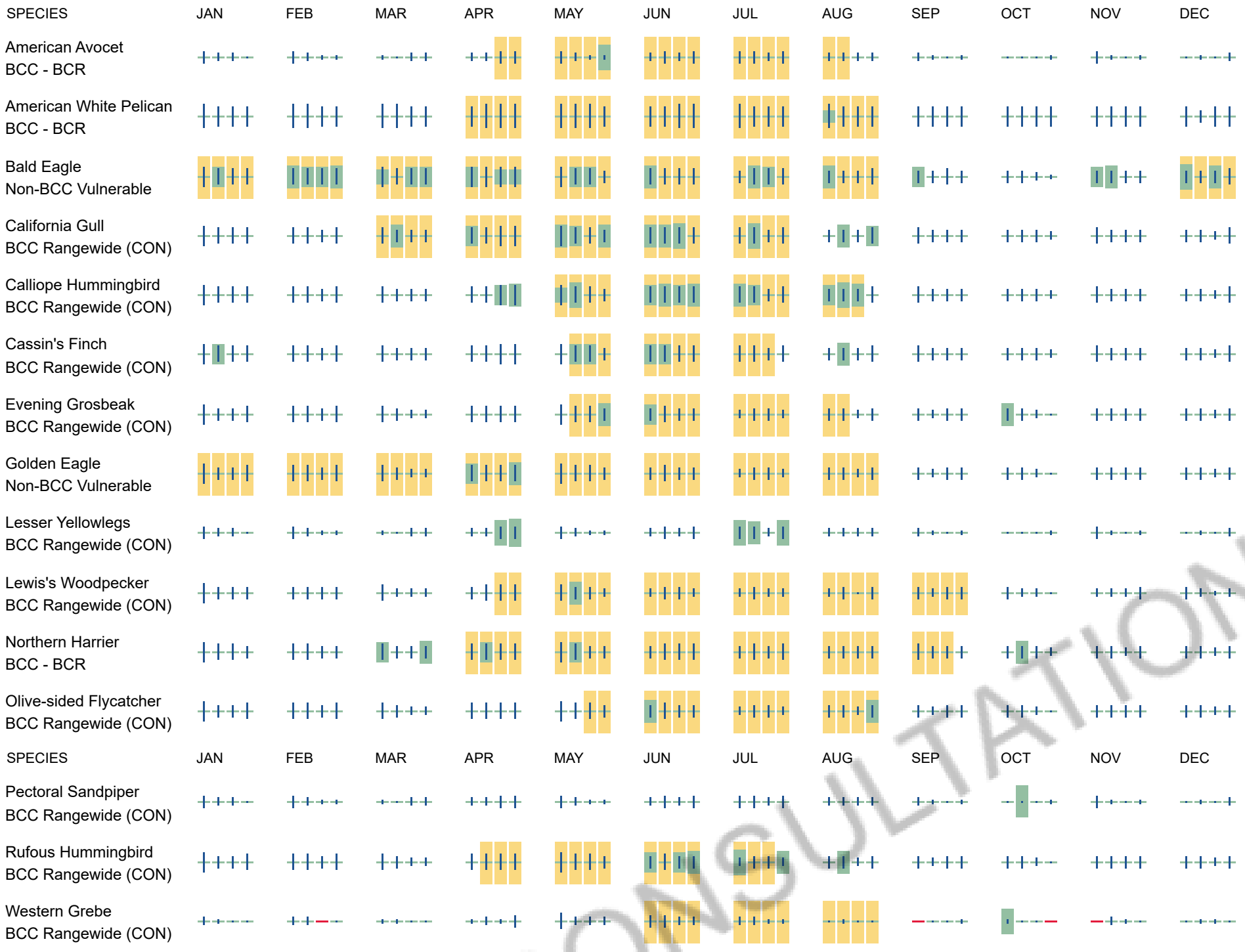
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

■ probability of presence ■ breeding season | survey effort – no data



Migratory Bird FAQs

Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Avoidance & Minimization Measures for Birds describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the Bald and Golden Eagle Protection Act and those species marked as “Vulnerable”. See the FAQ “What are the levels of concern for migratory birds?” for more information on the levels of concern covered in the IPaC migratory bird species list.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) with which your project intersects. These species have been identified as warranting special attention because they are BCC species in that area, an eagle (Bald and Golden Eagle Protection Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, and to verify survey effort when no results present, please visit the Rapid Avian Information Locator (RAIL) Tool.

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Bald and Golden Eagle Protection Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ “Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds”.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Proper interpretation and use of your migratory bird report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list does not represent all birds present in your project area. It is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide implementation of avoidance and minimization measures to eliminate or reduce potential impacts from your project activities, should presence be confirmed. To learn more about avoidance and minimization measures, visit the FAQ "Tell me about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Interpreting the Probability of Presence Graphs
Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:
The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Facilities

National Wildlife Refuge lands

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

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND
- PEM1A
- PEM1C

FRESHWATER FORESTED/SHRUB WETLAND
- PSS1C

RIVERINE
- R4SBC
- R5UBH

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.