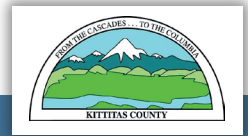


Appendix C



TECHNICAL MEMORANDUM

DATE: June 30, 2016
TO: Matt Rogers, Century West Engineering
FROM: Shane Phelps, Parametrix
SUBJECT: Environmental Overview for Bowers Field Airport
CC:
PROJECT NUMBER: 273-2694-013
PROJECT NAME: Bowers Field Airport Environmental Overview

The Bowers Field Airport is located along Bowers Road, on the north side of the City of Ellensburg, Kittitas County, Washington, and approximately 3.5 miles to the east of I-90. The airport has two runways that converge in an eastward direction forming a V shape. The airport and related property are referred to in this memorandum collectively as the study area and are shown on the attached figure.

Parametrix collected and reviewed information originating from previous studies and reports written about the study area, as well as reviewed information available at online databases and websites. This technical memorandum provides an overview of existing environmentally related information available for the study area as of the date of this memorandum. The following sections provide a summary of existing conditions.

Threatened and Endangered Species

The US Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) and the National Oceanic and Atmospheric Administration (NOAA) Fisheries websites were reviewed on May 18, 2016, to provide a list of federally proposed or listed threatened and endangered species that may occur in the study area (USFWS 2016a; NOAA Fisheries 2016). These species are shown in Table 1 below. Based on Washington Department of Fish and Wildlife (WDFW) Priority Habitat and Species (PHS) data reviewed on May 3, 2016, no federally listed threatened or endangered species or critical habitat is present within one mile of the project area (WDFW 2016).

Table 1. Listed Species Potentially Occurring in Project Vicinity

Common Name	Scientific Name	ESU or DPS*	Listing Status	Critical Habitat
Marbled Murrelet	<i>Brachyramphus marmoratus</i>	N/A	Threatened	Designated
Northern Spotted Owl	<i>Strix occidentalis caurina</i>	N/A	Threatened	Designated
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	Western DPS	Threatened	Proposed
Whitebark Pine	<i>Pinus albicaulis</i>	N/A	Candidate	None
Northern Wormwood	<i>Artemisia campestris var. wormskioldii</i>	N/A	Candidate	None

Wenatchee Mountains Checkermallow	<i>Sidalcea oregana var. calva</i>	N/A	Endangered	Designated
Bull Trout	<i>Salvelinus confluentus</i>	Columbia River DPS	Threatened	Designated
Steelhead	<i>Oncorhynchus mykiss</i>	Middle Columbia River DPS	Threatened	Designated
Chinook Salmon	<i>Oncorhynchus tshawytscha</i>	Upper Columbia River DPS	Not listed	Designated
Canada Lynx	<i>Lynx canadensis</i>	N/A	Threatened	Designated
Columbia Basin Pygmy Rabbit	<i>Brachylagus idahoensis</i>	N/A	Endangered	None
Gray Wolf	<i>Canus lupus</i>	N/A	Endangered	None
Grizzly Bear	<i>Ursus arctos horribilis</i>	N/A	Threatened	None

*ESU - Evolutionarily Significant Unit; DPS – Distinct Population Segment

In the immediate vicinity of the project area, Whiskey Creek runs along Hungry Junction Road north of the study area and then cuts down to the southwest to the west of the study area. Irrigation ditch NB 15.2 bounds the north and northwest sides of Bowers Field. Mercer Creek runs along the eastern edge of the study area parallel to Look Road and then to the south of the study area. To the west of the study area, Cascade Canal runs from the north to the east, intersecting both Whiskey Creek as well as Mercer Creek (Century West 2015). All of these creeks appear to eventually converge and feed into the Yakima River several miles south of the study area.

According to the fish distribution data on the StreamNet Mapper, the creeks described above do not appear to be accessible to fish within the study area (StreamNet 2016). However, fish presence (listed steelhead and unlisted Chinook) is documented within Whiskey Creek approximately 1.3 miles downstream of the study area where a fish passage barrier appears to be present at the intersection of the stream with Town Canal (StreamNet 2016). Fish presence (listed steelhead and unlisted Chinook) is documented in Mercer Creek approximately 2 miles downstream from the study area (StreamNet 2016). Visual review of aerial photography for the area noted for fish presence in StreamNet Mapper showed no stream in that area, so it is possible that the data are incorrect or that the stream is piped at that location. If StreamNet Mapper data are correct, it is assumed that a fish passage barrier is present in Mercer Creek just to the northeast of the intersection of N Okanogan Street and W University Way. It is therefore assumed that ESA-listed species are not present within the streams adjacent to the study area. However, given that listed fish species have been documented downstream and are in the Yakima River to which all of these streams are tributary, if federal permitting or funding is pursued for projects within the study area, it is presumed that a biological assessment may need to be completed to determine the potential effects to ESA-listed salmonids and bull trout found in the Yakima River.

Land Use and Zoning

Airport Zoning

The airport is zoned Light Industrial (IL) by the County with an airport zoning overlay (A). The airport is also located with the Ellensburg Urban Growth Area. IL zoning “is established to preserve areas for industrial and related uses of such a nature that they do not create serious problems of compatibility with other kinds of land uses and to protect such zones from encroachment by conflicting land uses” (Kittitas 2016). The minimum lot size is 20 acres; however, smaller lots may be approved after review of a land division plan by the Kittitas County Community Development Services Director. Uses in the IL zone include “airport” as a conditional use. Airport is defined as any

area of land or water designed and set aside for landing and taking off of aircraft. Conditional land uses may be permitted following review and hearing under provisions set forth in Kittitas County Code.

Bowers Field Airport Overlay Zone

The purpose of an airport overlay zone is to “protect the health, welfare, safety, and quality of life of the general public, property owners, airport operators, and aviation community; and also to ensure compatible land uses in the vicinity of the affected environments of the airport overlay zoning district” (Kittitas 2016). The Bowers Field airport overlay zone covers an area that is affected by airport activities such as aircraft noise, aircraft flight patterns, airport safety zones, local circulation patterns, and area development patterns. The airport overlay zone was adopted jointly by both Kittitas County and the City of Ellensburg. The overlay zone consists of surface and safety zones that are overlaid on top of the existing IL zoning. Surface zones include Runway and Approach Zones, Transitional Zones, Horizontal Zones, and Conical Zones. Safety zones include Runway Protection (Zone 1), Inner Safety (Zone 2), Inner Turning (Zone 3), Outer Safety (Zone 4), Sideline (Zone 5), and Airport Operations (Zone 6). Underlying IL zoning designation remains in full force and effect, and where conflicts exist between underlying IL zoning and surface and safety zones from the airport overlay, the more restrictive requirement is enforced.

Surrounding Zoning Designations

Kittitas County zoning surrounding the airport includes Urban Residential (UR) to the south and southwest, and Agriculture (A-5 and A-20) to the west, north, and east. UR zoning allows for predominantly single- or two-family dwellings. A-5 zoning allows for agricultural activities and low density residential (1 dwelling for 5 acres). A-20 zoning is dominated by agricultural uses with a minimum lot size of 20 acres.

Although the airport is completely within Kittitas County, the City of Ellensburg municipal boundaries are along the southern IL boundary in several places. Surrounding zoning in these locations is R-S, which is composed of detached single-family dwellings.

Compatibility of Land Uses

Surrounding zoning designations vary with regard to compatibility with airport-related activities. Compatible land uses are those that are expressly allowed, permitted, or considered a conditional use as documented in Kittitas County Code 17.15 or Ellensburg City Code 15.310. Incompatible land uses do not meet these criteria.

In Kittitas County, airport activities are considered conditional uses in IL, A-5, and A-20, and therefore are considered compatible land uses. Approval of a conditional use is subject to review by the Kittitas County Board and public hearing. Airport-related activities are not permitted, allowed or considered conditional uses within the Kittitas County UR zone or in the City of Ellensburg R-S zone, and therefore are considered incompatible. Incompatible uses would need to either obtain a rezone or variance for development of airport-related activities.

Air and Water Quality

Air Quality

Kittitas County is located on the eastern slopes of the Cascades, and the geography results in long periods of high pressure and air inversions during winter months when wood stoves are commonly used for heating. Air quality data from the State of Washington Department of Ecology have identified Ellensburg as having one of the highest levels of PM_{2.5} in Washington State during the winter home-heating season. PM_{2.5}, which is an abbreviation for particulate matter with a diameter of 2.5 micrometers or less, are particles that are known to produce respiratory and cardiovascular illness. Over the past several years, the number of days with unhealthy levels of PM_{2.5} have

been increasing. Although the airport is not located in any Environmental Protection Agency (EPA)–listed nonattainment areas, Kittitas County is a high risk community that is in danger of violating the federal air quality standards (KCPHD 2015).

Water Quality

The airport is located in the Upper Yakima Water Resource Inventory Area (WRIA 39) about 100 miles southeast of Seattle, Washington (Ecology 2016a). Mercer Creek, Whiskey Creek, Irrigation ditch NB 15.2, and Cascade Canal are found in the vicinity of the airport and ultimately merge and flow to the Yakima River. The State of Washington Department of Ecology website shows no 303(d)-listed waters in close proximity to the airport; 303(d)-listed waters are impaired state waters not meeting water quality standards in accordance with Section 303(d) of the Clean Water Act. Several miles south and southeast of the airport, small portions of creeks and ditches have 303(d) listings, with impairments including pesticide contamination of fish tissue, high levels of fecal coliform bacteria, pH, turbidity, and nutrient enrichment (Ecology 2016b; Ellensburg 2015).

There are no water quality impairments listed for the Upper Yakima River in the Ellensburg area. However, the greater Upper Yakima River Basin is 303(d)-listed for temperature, and a draft total maximum daily load (TMDL) has been submitted for approval. Additionally, a TMDL for suspended sediment and turbidity in the Upper Yakima River Basin was approved in 2002 with full compliance expected in 2016. Toxics have been an issue of concern as well in the Upper Yakima River Basin, though with improved agricultural operations, the advisory on toxics such as DDT, dieldrin, and other pesticides has been dropped (Ecology 2016a). Other water quality parameters of future concern for the entire Upper Yakima River Basin are pH and dissolved oxygen (Ellensburg 2015).

Wastewater and Solid Waste Treatment

An 8-inch sanitary sewer line runs along Airport Road, Bowers Road, and Falcon Road serving the airport and industrial park. The sewer lines are part of the City of Ellensburg’s sewer system, and sewage is treated at the City’s Wastewater Treatment Facility. No upgrades to the sanitary sewer lines serving the airport are projected as part of the Wastewater Treatment Facility Engineering Report (Ellensburg 2015). The 2004 Bowers Field Airport Master Plan Update notes that current wastewater infrastructure in place appears to be sufficient for the existing and futures needs of the airport (KCPWD 2004).

The Washington Utilities and Transportation Commission (WUTC), the County, and the municipalities regulate solid waste collection in Kittitas County. One hauler is certified by the WUTC to provide private collection services to unincorporated Kittitas County: Waste Management of Washington (d.b.a. Waste Management of Ellensburg). Solid waste at the airport is collected by Waste Management and brought to the Ellensburg Transfer Station on 1001 Industrial Way. Solid waste is ultimately transferred to the Greater Wenatchee Regional Landfill which is owned by Waste Management and located in Douglas County, Washington (KCSWD 2010).

Drainage Patterns (Stormwater)

Tightline drainage systems exist for both Runway 11-29 and Runway 7-25, which were constructed with the primary runway infrastructure in 1941. Runway 11-29 has catch basins spaced at approximately 500-foot intervals along the east side of the runway which are connected with a series of 12-inch, 18-inch, and 24-inch concrete pipes. The runway is crowned and stormwater sheet flows to the shoulders and is collected in the catch basins with wooden grates. Flows on the west side are connected to the east drainage system via culvert crossings. The stormwater is conveyed to the south end of the runway and discharges to an open ditch located south of Taxiway 1. The ditch flows southeast to the perimeter of the airport property and eventually joins Mercer Creek (Century West 2015).

The airport frequently experiences flooding on the north end of Runway 11-29 and nearby access roads. Flooding is common during the spring when stream levels are high from snowmelt and the irrigation waters have been turned on, during winter months when the ground is frozen and there is a sudden snowmelt, and when construction of beaver dams on Mercer Creek causes the stream to overflow onto airport property (Century West 2015).

Wetland and Waters of the State/US

As shown in the attached figure, the National Wetland Inventory (NWI) indicates that several potential wetland areas are present adjacent to and within the study area (USFWS 2016b). The two parcels located on the north side of Hungry Junction Road appear to be encompassed entirely by areas mapped as potential wetlands. A large wetland is mapped in between and to the west of the two runways. A few potential wetlands are mapped within the parcels adjacent to Whiskey Creek on the west side of the study area. Other potential wetland areas affiliated with Mercer Creek to the east of the project area and with Cascade Canal to the south and southwest of the project area are present, as well.

It should be noted that the NWI only identifies potential wetland areas and does not establish if a wetland is actually present or not at a given location. Prior to development of any of the parcels within the study area, a wetland survey and/or delineation should be performed to ascertain whether or not wetlands are actually present. If wetlands are present, permits may be needed from agencies such as the US Army Corps of Engineers, the Washington Department of Ecology, and Kittitas County.

Hazardous Materials and Cleanup Sites

Six sites regulated for hazardous materials are located along the south side of the airport. These sites include a mix of designations including hazardous waste management, hazardous waste generation, independent cleanup, leaking underground storage tank (LUST), state cleanup site, and underground storage tank site (Ecology 2016c). Table 2 below lists the regulated facilities in the study area. These are also shown on the attached figure.

Table 2 – Hazardous Materials and Cleanup Sites

Site Name	Site Address	Site Type Designation
FUDS Ellensburg AAF	100 Bowers Rd; Ellensburg, WA	Independent Cleanup
Kittitas Trap & Skeet Club	3102 N. Airport Rd., Ellensburg, WA	State Cleanup Site
WA DNR Ellensburg	718 E. Bowers Rd., Ellensburg, WA	LUST Facility; Underground Storage Tank; Independent Cleanup
Midstate Aviation	1101 Bowers Rd., Ellensburg, WA	Underground Storage Tank; State Cleanup Site; Hazardous Waste Generator
Dale & Clara Ball	710 E. Elmview Rd., Ellensburg, WA	Underground Storage Tank (closed in place)

Prior to development of sites with a previous history of hazardous materials and/or cleanup, it is recommended that a Phase I Environmental Site Assessment (ESA) be conducted to ascertain site history. If the Phase I ESA indicates the potential presence of contamination, site sampling may need to be conducted to confirm the presence and concentration of any contaminants that may be present.

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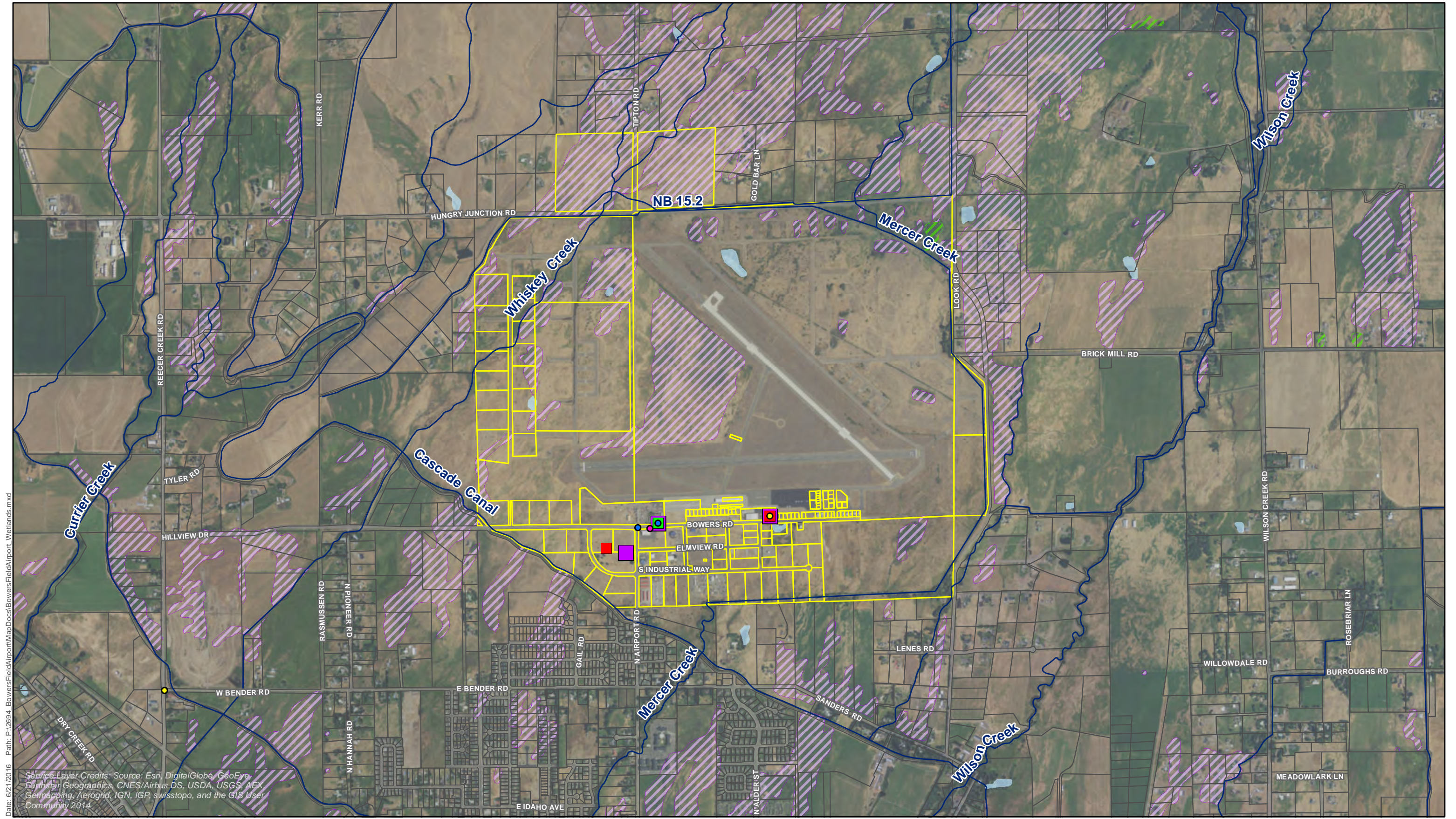
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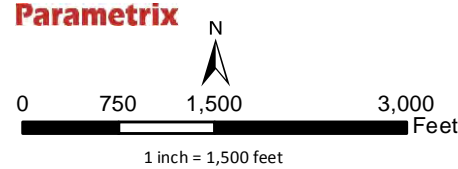
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Date: 6/21/2016 Path: P:\2694 BowersFieldAirport\MapDocs\BowersFieldAirport_Wetlands.mxd

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Geomatics, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community 2014



Source: U.S. Fish and Wildlife Service
National Wetland Inventory,
WA Department of Ecology,
Kittatas County, WA Department
of Natural Resources

- Kittatas Co. Airport Parcel
- Kittatas Co. Parcel
- Stream Centerline (DNR)

- Wetland (NWI)**
- Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Freshwater Pond

- Hazardous Materials and Cleanup Sites**
- Haz Waste Management Activity
 - Hazardous Waste Generator
 - Independent Cleanup
 - LUST Facility
 - State Cleanup Site
 - Underground Storage Tank

**Bowers Field Airport
Wetlands, Streams and
Hazmat Sites**
Ellensburg, WA 98926