



August 19, 2022

STAFF REPORT

TO: Ephrata Planning Commission

FROM: Rachel Granrath, Contract Planner SCJ Alliance

DATE: August 25, 2022

REQUEST: Application #22-001: Public Hearing: Preliminary Major Plat for Desert Plains Subdivision

A. Request

Applicant is proposing a subdivision of 57 acres into 329 lots in the Residential-2 Zone. Ivy, K, and L streets NE will be extended northward and new interior streets to serve the subdivision will be constructed. The development will be completed in phases over approximately 7 years with each phase consisting of approximately 40 lots. Various mitigation efforts have been determined as part of this development and outlined as conditions of approval with the SEPA Mitigated Determination of Non-Significance (MDNS) and a proposed Development Agreement.

B. General Information

Project Location:	
Parcel Number:	Grant County Assessor's Parcel #13-0425-005
Legal Description & size:	SENE S OF RR R/W & NESE 10 21 26, 57 acres
Location:	North of Prairie Bluff Major Plat and 8* Ave NE and approximately 1.5 miles northeast of Ephrata City Hall.
Owner/Applicant:	Jeff and Lisa Fairchild, PO Box 2756, Pasco WA 99302
Zoning:	Residential 2 (R-2)
Comprehensive Plan Designation:	Urban Residential Mixed Urban Density

Existing Land Use & Permit History:	Undeveloped vacant land
Adjacent Properties	North: BNSF Railroad/ right of way East: Undeveloped vacant land South: Single family home subdivision West: Ranch home and undeveloped land
Critical Areas	Shrub steppe – see survey report and conditions
Cultural Resources	High likely discovery site - Inadvertent discovery plan required as conditions



Figure 1: Vicinity Map - Project Site

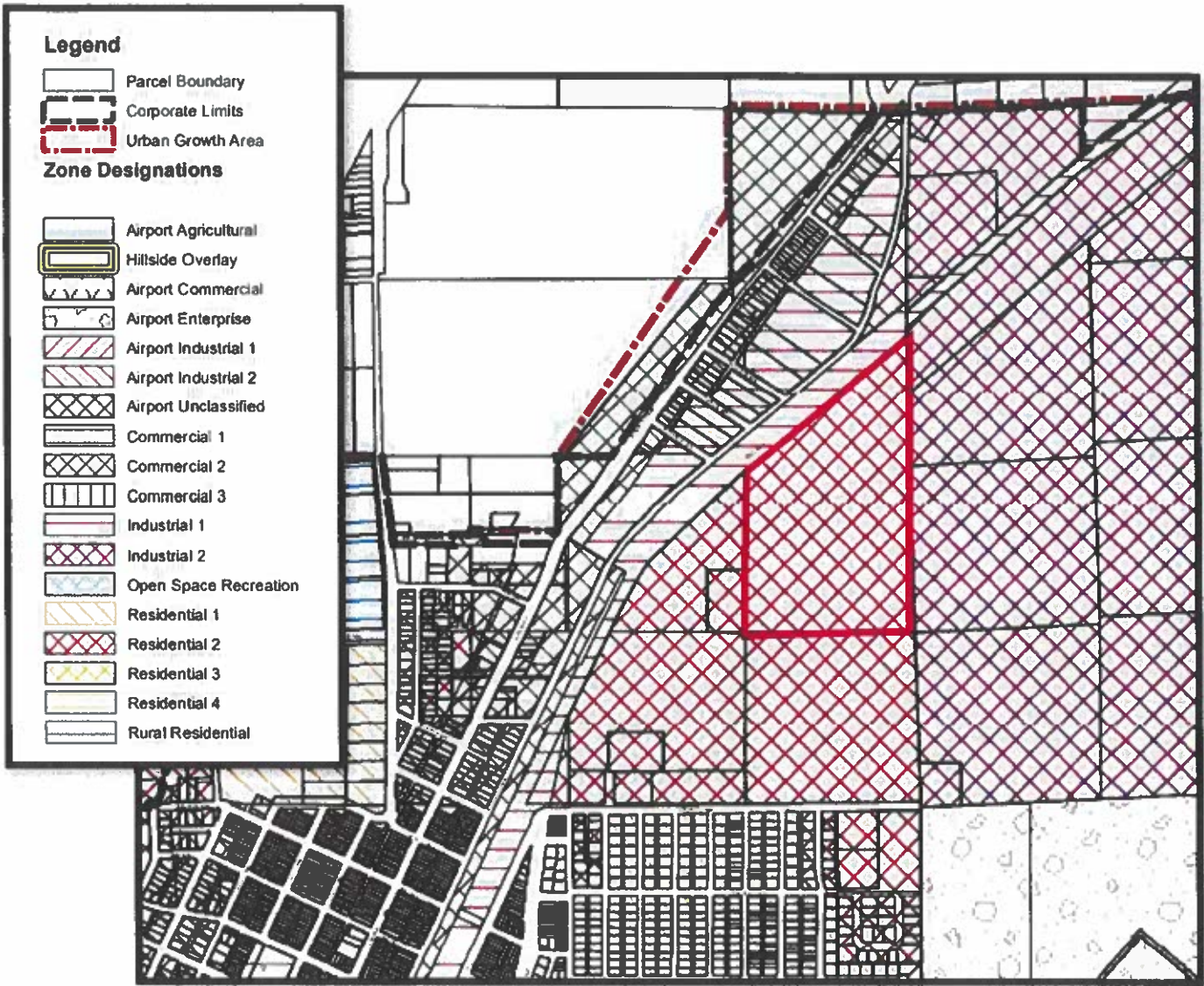


Figure 2: Zoning Map - Subject Property

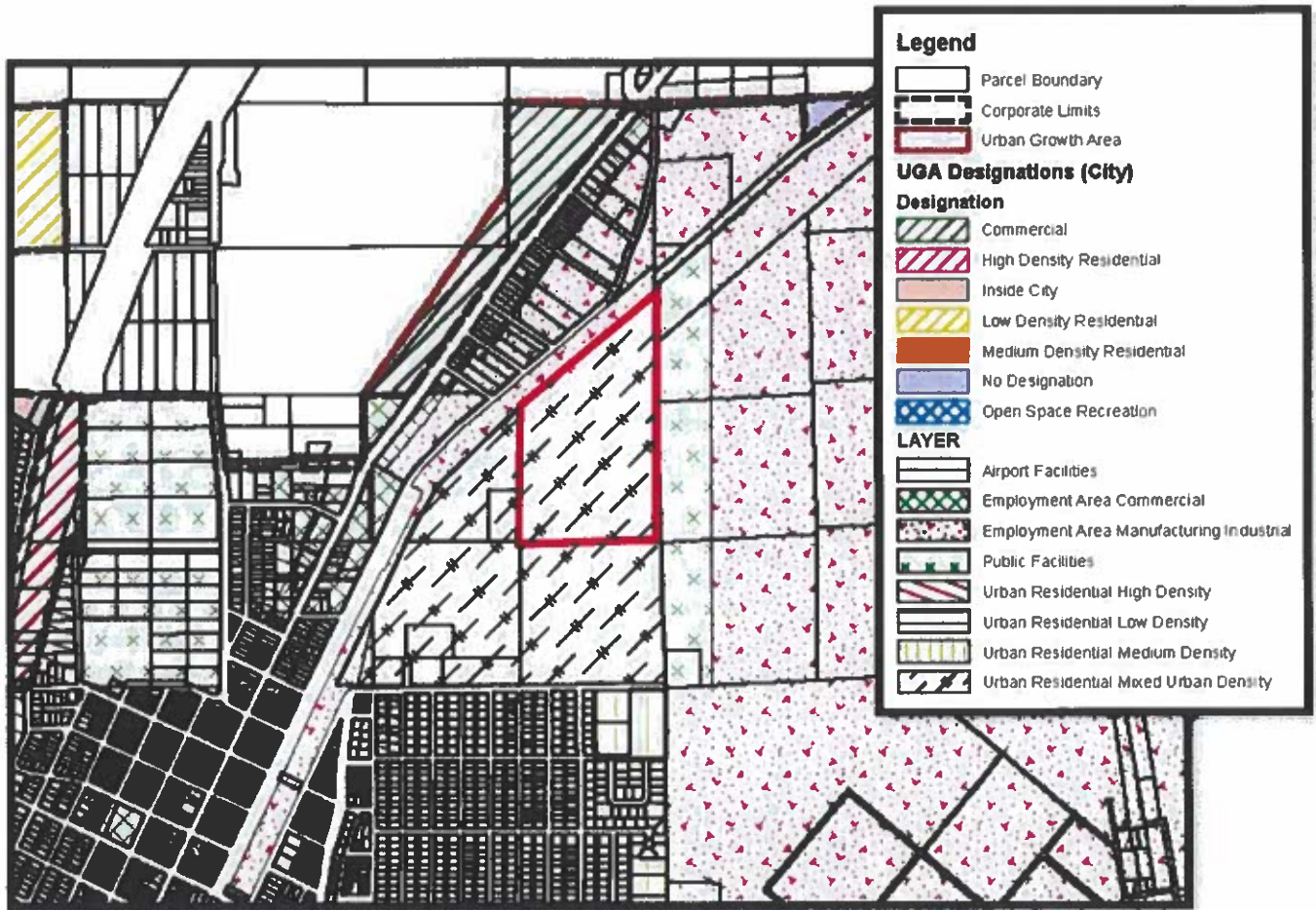


Figure 3: Future Land Use Map - Subject Property

C. Application and Public Hearing Notice

Application Milestone	Date
Application Submitted:	March 30, 2022, additional materials submitted April 15 and April 16
SEPA Determination	Mitigated Determination of Non-Significance (MDNS) – initial issued May 19, 2022/ revised August 16, 2022 Additional mitigated efforts required and submitted to City August 5, 2022
Determination of Completeness issued:	April 25, 2022
Notice of Application:	May 5, 2022
Notice of Public Hearings:	May 5, 2022 (continued to a date certain at meetings)

Planning Commission Public Hearing:	August 25, 2022
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D. Noticing and Comments

The following agencies were notified as part of the review process in accordance with Ephrata Municipal Code. Below is a table that summarizes the response date and nature of each comment. Full comment letters are attached as Attachment 5.

Agencies Notified	Response Date	Nature of Comment
Ephrata Building Official	No Comment	Lot size clarification; park and open space dedication versus cash in lieu – lack of facility in this part of town.
Ephrata Engineering Department	No Comment	
Grant County Fire District	No Comment	
Grant County Health District	No Comment	
Grant County Public Utility District	No Comment	
Grant County Assessor Office	No Comment	
Burlington Northern Railroad	No Comment	
Ephrata School District	No Comment	
WA State Dept. of Ecology	May 18, 2022	Construction stormwater permit and water rights subject to Ecology review and permitting
WA State Dept. of Fish and Wildlife: Region Two	May 12, 2022; July 8, 2022 and August 4, 2022	Shrub steppe habitat, mitigation ratios, management and deed restrictions
WA State Dept. of Archaeology and Historic Preservation	May 18, 2022	Recommends a cultural resource inadvertent discovery plan
WA State Dept. of Transportation	No Comment	
WA State Dept. of Natural Resources	No Comment	
WA Department of Commerce	No Comment	
U.S. Bureau of Reclamation		
U.S. National Park Service	No Comment	
Confederated Tribes of the Colville Reservation	No Comment	

The city receives public comments both written and verbal on applications coming before hearing. The following table summarizes public comments, dates received, and nature of the comment.

Public Comments	Date Received	Nature of Comment
Donna Chase	July 4, 2022	Density of homes; traffic and access concerns; lack of green space; missing a crossing over BNSF railroad
James Tillotson	July 5, 2022	Not opposed to growth but has concerns on increased traffic; lot sizes and no parks proposed in subdivision
Michael and Val Weaver	June 7, 2022	Lack of green spaces and play areas; access to the school property and walking paths; access to development; is this a trailer park or mixed zoning?
Kent Ziemer	May 19, 2022	Traffic access; Water and sewer; pedestrian access; consistency with adjacent neighborhoods and designs; critical areas

E. Department Analysis

- 1. Applicable Code Analysis:** Staff has provided an evaluation against EMC 17.01.150 (B) illustrating consistency with development regulations and the State Environmental Policy Act (SEPA).

EMC 17.01.150 (B) Consistency with development regulations and SEPA	
1. The type of land use permitted at the site, including uses that may be allowed under certain circumstances, if the criteria for their approval have been satisfied;	The R-2 Zone is described as a variety of housing options for single family or multifamily. Lots are a minimum of 5,000 sf each.
2. The level of development, such as units per acre, density of residential development in urban growth areas, or other measures of density;	Density is appropriate given the city code and comprehensive plan
3. Availability and adequacy of infrastructure, including public facilities and services identified in the comprehensive plan if the plan or development regulations provide for funding of these facilities as required by Chapter 36.70A RCW; and	Adequate infrastructure and services are in place, this is consistent with the comprehensive plan
4. Characteristics of the development, such as development standards.	The applicant has provided screening to BNSF railroad with a fence. The city requested additional vegetation screening to be maintained by the homeowner.

5. In deciding whether a project is consistent, the determinations made pursuant to subsection (B) of this section shall be controlling.	See conditions of approval
6. Nothing in this section limits the city from asking more specific or related questions in subsections (B)(1) through (5) of this section.	See conditions of approval

2. Comprehensive Plan Consistency

Applicable Comprehensive Goals and Policies: the following goals are applicable to this development and associated conditions of approval.

Land Use Goal 4: To manage development of the community so that the delivery of public facilities and services will occur in a fiscally responsible manner to support development and redevelopment of the city.

Land Use Goal 5: To encourage efficient use of resources by discouraging the inappropriate conversion of undeveloped land into sprawling, low density development.

Land Use Goal 7: To provide flexibility in mixing certain types of uses within an area or development while minimizing negative impacts of potentially incompatible uses.

Land Use Goal 8: To ensure that all development proposals and public policy are considered within the broad framework of the comprehensive plan.

Housing Goal 4: To promote new residential development at densities that will allow cost savings and consolidation of services.

Capital Facilities Goal 2: To ensure future development bears a fair share of facility improvement cost necessitated by the development in order to achieve and maintain the adopted Level of Service (LOS) standards and measurable objectives standards.

3. State Environmental Policy Act (SEPA) Environmental Review: In accordance with the Optional DNS process in WAC 197-11-355, the city issued a Mitigated Determination of Non-Significance (MDNS) on May 19, 2022. However, this was issued prior to all comment windows ending, specifically for the Department of Fish and Wildlife relative to the critical habitat area of the shrub steppe. The City has since issued a revised MDNS on August 16, 2022. SEPA Attachments are included as Attachment 4.

4. Approval Criteria Analysis: Per EMC 18.04.685 a proposed subdivision and dedication shall not be approved unless the City finds that the following are met:

EMC 18.04.685 Approval criteria preliminary plat

(1) Appropriate provisions have been made for: (a-n)

a. The public health, safety and general welfare of the community;	Criterion Met: As conditioned the preliminary plat addresses public health, safety and welfare.
b. Protection of environmentally sensitive lands and habitat;	Criterion Met: In response to conditions from the Department of Fish and Wildlife, the applicant has addressed preservation of Shrub Steppe habitat by offsetting a mitigation ratio of 1:1.2 preservation of a deed restricted property of quality habitat to mitigate the 57 acre development as proposed.
c. Open spaces;	Criterion Met: The applicant has submitted to pay a 'fee in lieu' rather than develop on site recreation and open spaces. While there is a community concern relative to a lack of parks and open space in this area of the City, the applicant has met all current long range plans and codes.
d. Community parks and recreation;	See comment for item C above.
e. Neighborhood tot lots and play areas;	See comment for item C above.
f. Schools and school grounds;	Criterion Met: The development does not include schools but has adequate sidewalk and transportation systems to achieve walkability and connections to such facilities.
g. Drainageways;	Criterion Met: Proper drainage facilities are planned and delineated on the development.
h. Storm-water detention;	See comment for item G above.
i. Connectivity of sidewalks, pedestrian pathways and other planning features that assure safe walking conditions within and between subdivisions and neighborhoods for residents and students who walk to and from schools, parks, transit stops and other neighborhood services;	See comment F above.
j. Connectivity of streets or roads, alleys, pedestrian accessways, and other public ways within and between subdivisions and neighborhoods;	Criterion Met (as conditioned): As conditioned in this staff report and MDNS, the transportation layout will adequately serve the neighborhood and transition between existing land uses and neighborhoods. Specifically providing for future connections and re-analyzing the connection at Ivy.
k. Transit stops;	N/A
l. Potable water supplies;	Criterion Met: There are adequate water services to serve the proposed development.

m. Sanitary wastes;	Criterion Met: There are adequate sewer services to serve the proposed development
n. Other public utilities and services, as deemed necessary; and	Criterion Met: The development is served by adequate utilities and services.

F. Conclusions & Recommendation

EMC 18.04.690 Decisions on preliminary plat states the following:

A. The Planning Commission after reviewing the application materials, maps and reports, staff recommendation, oral and written testimony shall make a recommendation to approve, approve with conditions or deny the subdivision as presented. The Planning Commission shall direct the Community Development Department to prepare a written report setting forth the recommendation of the Planning Commission including: findings, conclusions, decision, staff report, and testimony on the record from agencies and interested parties in the form of a resolution. The decision of the Planning Commission constitutes a recommendation to the City Council. The Planning Commission is a recommending authority only for subdivision applications; the City Council renders the final decision.

Staff is recommending **approval** of the Desert Plains Preliminary Plat with the following conditions (outlined in the MDNS and this staff report):

1. Development Agreement: The City and the Applicant will enter into a mutually agreed upon Development Agreement approved by City Council, to be executed prior to recording of the Preliminary Plat, and shall include recommendations from Planning Commission at the duly noticed public hearing. This agreement shall outline the mitigation requirements and development phasing over the 7 year period. The agreement shall run with the land.
2. Landscaping shall be installed adjacent to the sidewalk throughout the development, the applicant will submit a final landscape plan at the time of final platting in accordance with the approved preliminary plat.
3. Properties along the BNSF railroad right of way will require landscape buffering, including an exterior perimeter fence at a minimum, to mitigate noise and visual affects to the development. The developer will include a deed restriction on the properties affected that all required landscape improvements, including but not limited to plants, irrigation, and hardscape (fences), must be maintained.
4. The City of Ephrata Public Works Department will conduct an onsite pre-construction conference with before written authorization to proceed will be issued.
 - a. During construction, any release of oil, hydraulic fluids, fuels, other petroleum products, paints, solvents, or other deleterious materials must be contained and removed in a manner that will prevent their discharge into water or soil. The cleanup of spills shall take precedence over other work on the site.

5. The developer is required to obtain all state, local and federal permits including but not limited to the following required permits:
 - a. The proponent must apply for coverage under the Department of Ecology's Construction Stormwater General Permit at least 60 days prior to start of construction. Additionally, discharge from the dry wells must comply with the ground water quality requirement (non-endangerment standard) at the top of the ground water table.
 - b. City of Ephrata approval of Erosion, Sediment and Dust Control Plans integrated with Interim Stormwater Management Plans prepared in accordance with the Department of Ecology Stormwater Manual for the Eastern Washington as adopted and implemented by the City of Ephrata.
 - c. City of Ephrata Mass Grading Permit; Building Permits
6. Since ground disturbance leads to weeds and dust, the portions of the site not proposed for development at this time shall remain undisturbed as much as possible. Disturbed areas that will not be built on, paved, or landscaped for more than 45 days shall be stabilized through long-term methods such as establishing dryland grasses or native shrub/steppe. The proponent shall ensure that nuisances, such as weeds and dust, do not develop.
7. To facilitate orderly flow of traffic, provide safe pedestrian facilities, and provide sufficient utility connections, the developer shall construct full-width street and utility improvements to Community Standards for all streets within the plat and shall connect the streets to existing improved City streets. Street construction should also be designed to connect the subdivision with the vacant property to the east of the proposed development. These connections should create a block length not greater than 600 feet and a right of way width of no less than 60 feet.
8. The Washington State Department of Archaeological and Historic Preservation (DAHP) has determined the proposed subdivision to be an area characterized as moderate to high probability of encountering cultural resources. These resources would be destroyed by ground-disturbing activities. Identification during construction is not a recommended detection method because inadvertent discoveries often result in costly construction delays and damage to the resource. Therefore, a professional archaeological survey of the project area shall be conducted, and a report produced prior to ground disturbing activities. This report shall meet DAHP's Standards for Cultural Resource Reporting.
9. After review of the proposed site by the Washington State Department of Fish and Wildlife (WDFW) it has been determined that the project site contains City of Ephrata Fish and Wildlife Habitat Conservation Areas, including shrub steppe habitat. WDFW designates shrub steppe habitat as a Washington State Priority Habitat. A site analysis and habitat assessment review have been conducted and a mitigation/habitat management plan has been developed. To mitigate for the impacts to the moderate shrub steppe rating found on the site the proposed development, the proponent has identified 70 acres as an off-site mitigation site to mitigate the 57 acre parcel to be developed. These sites are identified by the Grant County Auditor as parcels #16- 18260-16 and #16-18260-15. The land is adjacent to land owned and managed by the WDFW and surrounded by large areas of undeveloped shrub steppe habitat and has been determined to be a quality shrub steppe habitat which off sets the site to be developed. The habitat management plan will mitigate impacts of the proposed

development at a ratio of 1:1.2 for the 70 acres of low to moderate quality shrub steppe located within the City of Ephrata, with 70 acres of moderate to high quality shrub steppe in an identified wildlife corridor/linkage area. The mitigation site will have a Native Growth Protection Deed Restriction (NGPDR) placed on it and be recorded and 'run with' the title of the property. The restrictions on the 70 acres of land include the following:

- a. No structures of any kind allowed
 - b. No driveways, wells, drain fields or other improvements
 - c. Fencing will be minimized
 - d. Any livestock grazing will not be allowed or restricted by a WDFW approved grazing plan
 - e. Motorized vehicles will be restricted to the existing power line maintenance road
10. A traffic impact analysis was submitted to the City on July 13, 2022. The city Engineer, Gray & Osborne Consulting Engineers, has provided comments in their Letter Dated July 13, 2022, and determined that the following mitigation efforts are required:
- a. Compliance with Ephrata's Comprehensive Plan forecasting for a minimum of 10 years and using an estimated growth rate of 2%.
 - b. Verify the level of service standard used in the traffic impact analysis is measured equivalently to the City's standard of a ratio of hourly demand volume versus hourly capacity.
 - c. Provide a letter to the City and City Engineer before any final plat is approved from the Fire Department approving the development access points for emergency management purposes.
 - d. Intersection alignment to the development on Ivy Street must be worked out prior to final approvals of the preliminary plat.
 - e. The development is increasing traffic at existing city streets of Ivy, K, and L street. There is a nexus for improvements to these intersections and the developer shall mitigate with stop signs and intersection improvements, if necessary, at final plat consideration.
11. The applicant resubmitted a road alignment exhibit on August 4, 2022, which did not address previous discussions relating to the alignment of Ivy Street NE. The applicant will be required to revise this exhibit to illustrate the access solely on the applicant's property, reworking turning radius, lot alignment, etc. or shall purchase land from neighboring properties to address the alignment.

G. Attachments

1. Attachment 1: Resolution 22-03
2. Attachment 2: Application Materials
3. Attachment 3: Reports and Exhibits
4. Attachment 4: SEPA MDNS
5. Attachment 5: Agency & Public Comments
6. Attachment 6: Noticing documents

ATTACHMENT TWO
APPLICATION AND SUPPORTING DOCUMENTS

Long Subdivision (10 or more lots) Preliminary Plat Application

Please print

Application #: _____

Plat Name: OFFICE USE ONLY Desert Plains

Date Preliminary Subdivision Approved: _____

Number of lots Proposed: 329 Minimum Lot Size Proposed: 5,000 SF

Address/Location: Unassigned Zone: R2

Grant County Parcel Number(s): 130425005 Acres: 58

¼ Section NE,SE Section 11 Township 21N N Range 26E E

Applicant: (mandatory)

Name: The ConsultME Group Daytime Phone: 509-398-1992

Mailing Address: 2909 S Quillan St, # 146 Fax Number: _____

City/State/Zip: Kennewick/WA/99337 Contact Person: Brandon Bernard

Professional License No: _____ Signature: _____

Property Owner 1: (mandatory if different from applicant; attach additional info/sheets if more than one property owner)

Name: Jeffrey L & Lisa M Fairchild Daytime Phone: 509 750 4230

Mailing Address: PO Box 2756 Fax Number: _____

City/State/Zip: Pasco/WA/99302 Signature: 

Licensed Land Surveyor:

Name: Wes Portridge Daytime Phone: 509-884-2562

Mailing Address: 250 Simon Street Fax Number: 509-8842814

City/State/Zip: East Wenatchee/WA/98802 License No.: 22964



The above signed property owners, certify that the above information is true and correct to the best of our knowledge and under penalty of perjury, each state that we are all of the legal owners of the property described above and designate the following party to act as our agent with respect to this application:

Agent/Consultant/Attorney: (mandatory if primary contact is different from applicant)

Name: _____ Daytime Phone: _____

Mailing Address: _____ Fax Number: _____

City/State/Zip: _____ License No. _____

OFFICE USE ONLY:

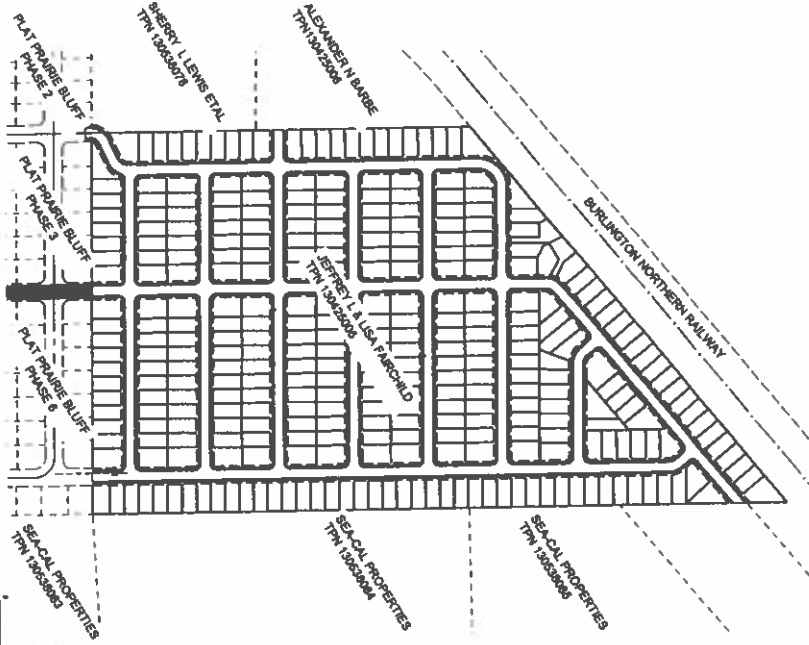
City-Initiated

Privately Initiated

Date Application Received: _____ Received by: _____

Date Application Complete: _____ Completeness Review by: _____





DESERT PLAINS
 SUBDIVISION
 TPN: 130005000
 PRELIMINARY PLAT
 SECTION: T.11, R.29, S.30
 109 W. DIVISION ST. EPHRATA, WA



VICINITY MAP
 N.T.S.



CONTRACT THE CONSULTING GROUP ATT: MALCOLM WILSON 2000 N. GARDNER ST. # 110 SEASIDE, WA 98148 (206) 465-1000	SURVEYOR ERLANDSEN MRS. POTROCK, P.L.S. 200 SOUTH STREET SUITE 1000 EPHRATA, WA 98941
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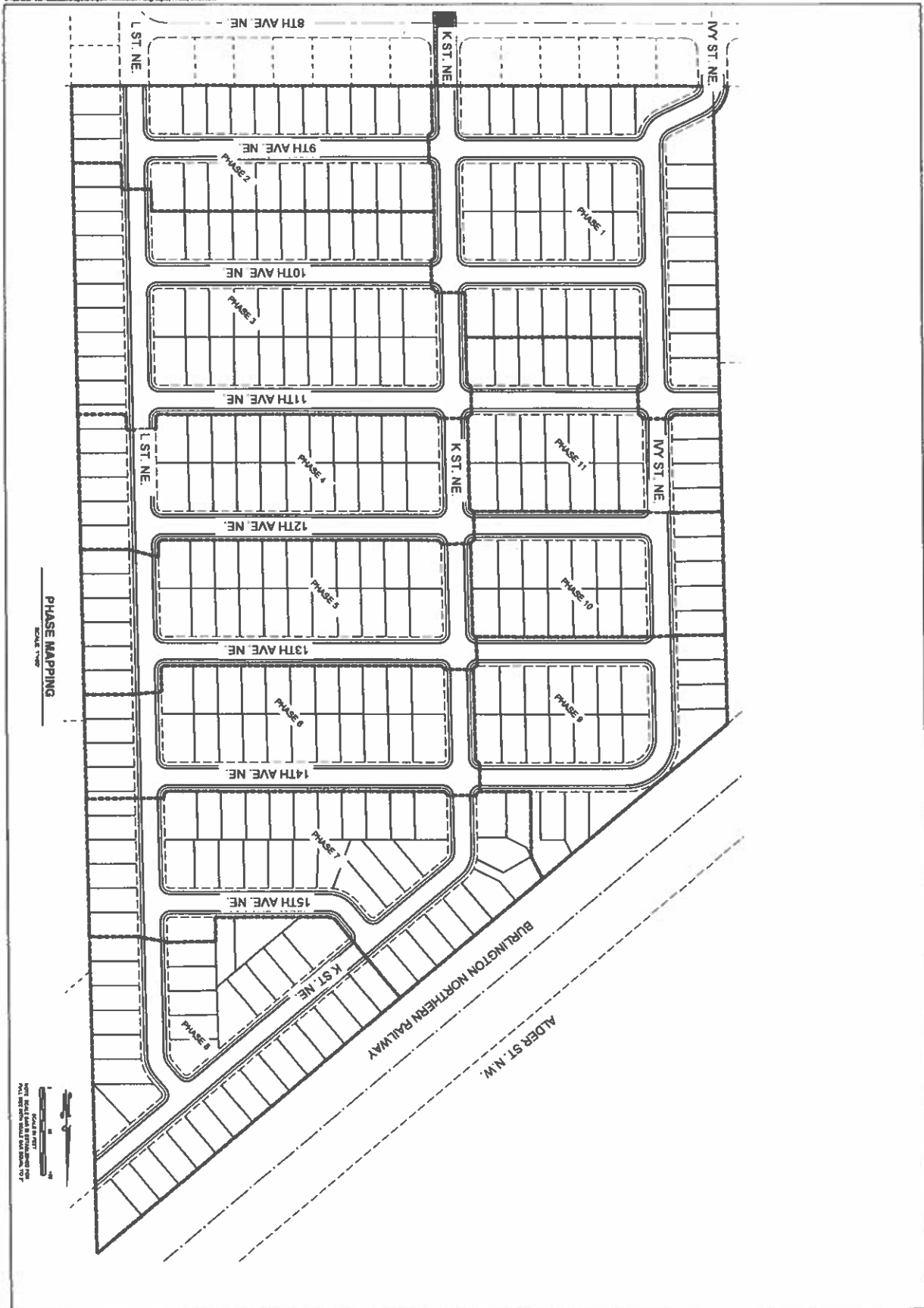
SHEET 001
 http://www.erlandsen.com

DESIGNED BY: ERLANDSEN
 DATE: 05/18/2011
 LAYOUT: ERLANDSEN
 FILE NO: 201005000-PP-001
 TOLL FREE: (800) 723-2142

NO.	DESCRIPTION	DATE



DESERT PLAINS SUBDIVISION
 PRELIMINARY PLAT
 COVER SHEET

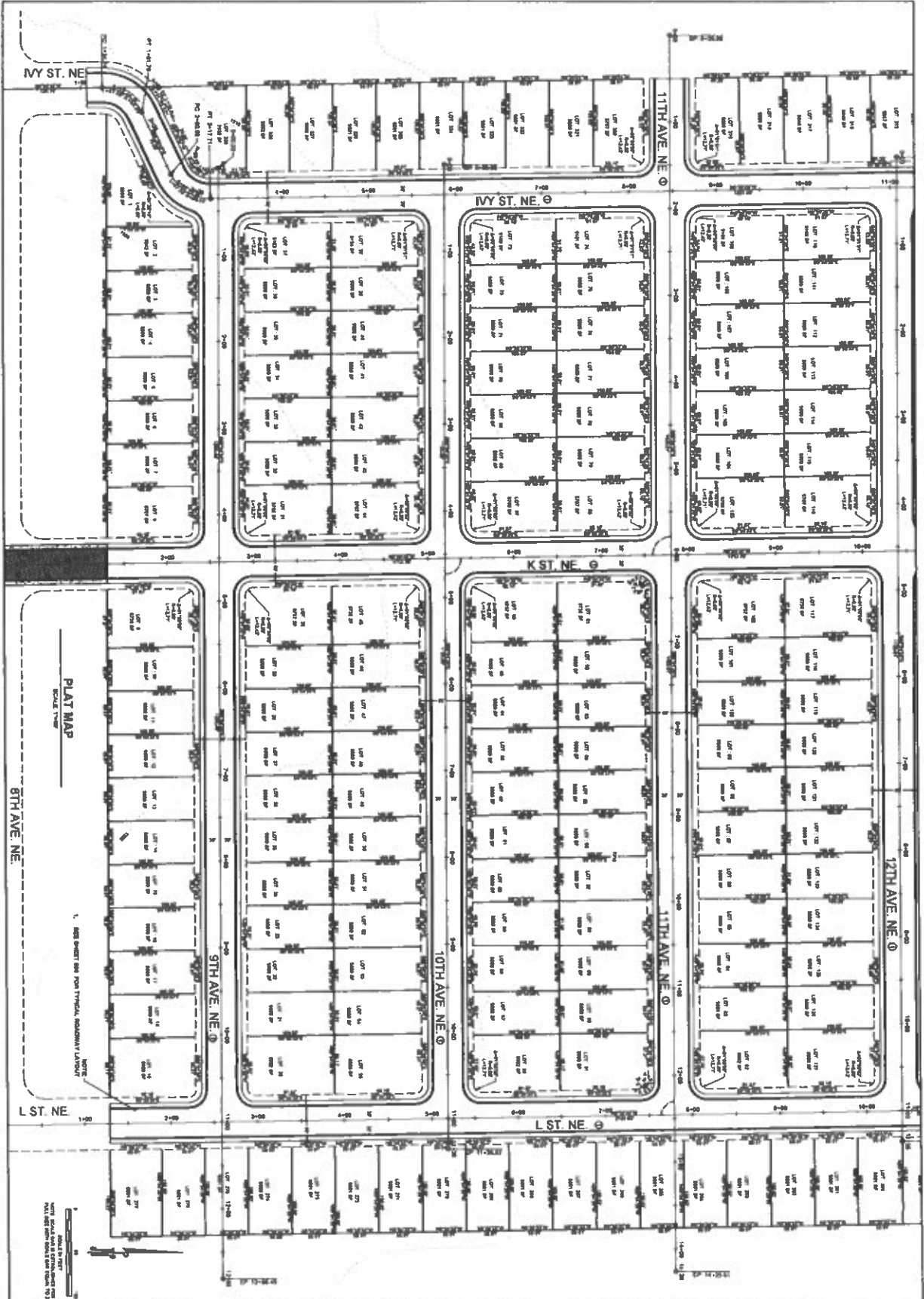


DESIGN BY: [blank]
 DATE OF DESIGN: [blank]
 FILE NO: [blank]

SHEET	NO	DESCRIPTION	DATE
003			



**DESERT PLAINS SUBDIVISION
 PRELIMINARY PLAT
 PROJECT PHASING MAP**



Erlandsen
 Surveyors & Engineers, Inc.

SHEET 004
 04/15/2012

DESIGNER: ERLEN
 CHECKER: ERLEN
 DATE: 04/15/2012
 LAYOUT: PLS AND 1
 FILE NO: 20100000000000000000
 SHEET: 4 OF 4



DESERT PLAINS SUBDIVISION
PRELIMINARY PLAT
PLAT MAP - SOUTH



LAND USE PERMIT APPLICATION

TYPE OF PERMIT (please check)

- Boundry Line Adjustment Preliminary Plat Variance
 Binding Site Plan Final Plat Environmental Review(SEPA)
 Short Subdivision Conditional Use Permit Temporary

APPLICATION DATA

Project Description: <u>Preliminary Plat of proposed 329 lots</u>	
Property Owner: <u>Jeffrey & Lisa M Fairchild</u>	Phone: _____
Mailing Address: <u>PO Box 2756</u>	City/State: <u>Pasco, WA 99302</u>
Email Address: <u>jeff@fairchildcinemas.com</u>	Fax: _____
Owner's Agent/Contact: <u>The ConsultME Group Att: Brandon Bernard</u>	
Phone: <u>509-398-1992</u>	
Mailing Address: <u>2909 S. Quillan St, #146</u>	City/State: <u>Kennewick, WA 99337</u>
Email Address: <u>brandon@theconsultmegrup.com</u>	Fax: _____

Detailed Description of Request (please attach additional sheets if needed):

329 lot subdivision to be completed over several phases.

Are there any other Governmental applications required or in the process? If so, please list:

None known to applicant

GENERAL QUESTIONS

Describe the current use of the surrounding properties to the:

NORTH: Rail Road

EAST: Vacant

SOUTH: Residential

WEST: Vacant / single-family home

Has the site preparation been started on the site: If so, please explain to what extent.

No

If the proposal is commercial or industrial, what are the proposed hours of operation?

N/A

Do you have any plans for future additions, expansions, or further activity related to or connected with this proposal?

No

Proposed timing for completion of the proposal (including phasing if applicable):

Approximately 7 year with phasing to be done with about 40 lots per phase, subject to market conditions.

Are there any other applications pending for Governmental approvals for this or other proposals directly affecting the property covered by this proposal? If yes, please list:

No

I, JEFF FAIRCHILD, declare that I have personal knowledge of the matters set forth below and that I am competent to testify to the matter stated herein.

I am a property owner or officer of the corporation owning property or authorized agent involved in this application and I have familiarized myself with the rules and regulations of the City of Ephrata Community Development Department with respect to preparing and filling this application and foregoing statements, answers and information submitted present the argument in behalf of this application and are in all respects true and correct to the best of my knowledge and belief.

I declare under penalty of perjury of the laws of the State of Washington the foregoing to be true and correct.

SIGNED this 31st day of MARCH, 2022

4801 S. MORAN ST
Street Address


Signature

KENNEWICK WA 98337
City/State/Zip

Corporation or Company

509 750 4230
Phone

IF A PERSON OTHER THAN THE PROPERTY OWNER IS SUBMITTING THIS APPLICATION, A LETTER FROM THE PROPERTY OWNER, GRANTING AUTHORIZATION TO ACT AS THE OWNER'S AGENT, MUST ALSO BE SUBMITTED.

NOTE: Requests that are subject to posting requirements must be posted by the applicant/agent in accordance with the regulations. The sign shall remain posted until Notice of Application comment period has expired. If signs are not posted, meetings and hearings must be postponed.

I, Lisa, declare that I have personal knowledge of the matters set forth below and that I am competent to testify to the matter stated herein.

I am a property owner or officer of the corporation owning property or authorized agent involved in this application and I have familiarized myself with the rules and regulations of the City of Ephrata Community Development Department with respect to preparing and filling this application and foregoing statements, answers and information submitted present the argument in behalf of this application and are in all respects true and correct to the best of my knowledge and belief.

I declare under penalty of perjury of the laws of the State of Washington the foregoing to be true and correct.

SIGNED this 18th day of APRIL, 2022

4801 S. MORAHO ST.

Street Address

Kennelworth WA 99337

City/State/Zip

509 750 4230

Phone



Signature

Corporation or Company

IF A PERSON OTHER THAN THE PROPERTY OWNER IS SUBMITTING THIS APPLICATION, A LETTER FROM THE PROPERTY OWNER, GRANTING AUTHORIZATION TO ACT AS THE OWNER'S AGENT, MUST ALSO BE SUBMITTED.

NOTE: Requests that are subject to posting requirements must be posted by the applicant/agent in accordance with the regulations. The sign shall remain posted until Notice of Application comment period has expired. If signs are not posted, meetings and hearings must be postponed.

SEPA ENVIRONMENTAL CHECKLIST

A. Background [HELP]

1. Name of proposed project, if applicable: **Desert Plains**

2. Name of applicant:

Applicant: Jeff Fairchild

Consultant: Erlandsen Associates

3. Address and phone number of applicant and contact person:

Applicant: Jeff Fairchild

PO Box 2756

Pasco, WA 99302

Contact:

The ConsultME Group

Att: Brandon Bernard

2909 S Quillan St, # 146

Kennewick, WA 99337

509-393-1992

brandon@theconsultmegroup.com

4. Date checklist prepared: **March 23, 2022**

5. Agency requesting checklist: **City of Ephrata**

6. Proposed timing or schedule (including phasing, if applicable): **2022 Phase 1, with multiply phases to follow. Each phase will consist of approximately 40 lots with full build-out anticipated within about 7 years depending on market conditions.**

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain. **No**

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Environmental Habitat Survey - Due site shown as a potential for Shrubsteppe per WDFW mapping

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

None know to the applicant

10. List any government approvals or permits that will be needed for your proposal, if known.

Preliminary Plat (City of Ephrata)

Site Development (City of Ephrata)

Right-of-Way Use (City of Ephrata)

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

The project proposed the development of up to 329 single-family lots with associated road and utility improvements as shown in the preliminary plan submittal included with this checklist. Work would be completed using standard construction methods, which would consist of various earthwork, grading, paving, and trenching machinery in addition to hand labor.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The project is located in the City of Ephrata on Grant County Tax Parcel 130425005 as shown on the preliminary plan submittal included with this checklist

B. Environmental Elements [\[HELP\]](#)

1. **Earth** [\[help\]](#)

a. General description of the site: **Slight Slope**

(circle one) Flat, rolling, hilly, steep slopes, mountainous, other _____

b. What is the steepest slope on the site (approximate percent slope)? **1-2%**

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them, and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

Soils appear to be sandy & rocky glacial till, consistent with Malaga association that is dominantly gravelly or cobbly, medium-textured and moderately coarse-textured, strongly sloping to steep soils on terraces and uplands. No known past agricultural use.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

None known to the applicant

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

Excavation and regrading for road installation, excavation & backfill for utility installation, foundation construction for homes and common buildings. Fill if required will be from an approved source. Excavated materials will be reused on-site as needed. Excess materials will be removed and disposed of at an approved location per local requirements. Work will be completed as separate phases over the 57-ac property.

- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Exposed soils from grading & excavation work increase the chances of erosion.

- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Approximately 40 – 60%

- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Before initiating construction activities, appropriate soil erosion and sedimentation control measures will be installed. The specific measures will be shown with the detailed Stormwater Pollution and Prevention Plan developed for each phase of the project.

2. Air [\[help\]](#)

- a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

The use of construction equipment will be necessary to perform the required site construction activities. The operation of this heavy equipment will result in short-term vehicle exhaust emissions lasting the duration of construction. All heavy equipment will be required to operate with appropriate vehicle emission controls that comply with current air quality standards. Some dust may be produced from equipment operating within staging/stockpile sites.

Following construction, emissions associated with single-family homes would be anticipated.

- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

During construction, to bring utilities to the site: backhoe, bulldozer, and dump truck exhaust. Some associated dust.

- c. Proposed measures to reduce or control emissions or other impacts to air, if any:

As stated above, heavy equipment will be operated with required vehicle emission control devices per local standards. Appropriate dust control measures will be employed during construction.

**Following construction:
The site will be paved or fully landscaped.**

3. **Water** [\[help\]](#)

a. Surface Water: [\[help\]](#)

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

No

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

No

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No

- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

No

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

None

b. Ground Water: [\[help\]](#)

- 1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

No - Connection to City of Ephrata Water System

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . .; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

No discharge is proposed to the ground. Sanitary sewer flow from the 329-home site will be connected to the City of Ephrata sewer system.

c. Water runoff (including stormwater):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Stormwater will originate from the existing and proposed surface and will flow along existing and proposed contours. The runoff will be collected via catch basins as needed to convey to stormwater retention ponds, localized drywells, and underground infiltration trenches/drywells, where runoff will infiltrate into the ground.

- 2) Could waste materials enter ground or surface waters? If so, generally describe.

Vehicle fluids from automobiles traveling or parking on paved areas.

- 3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

No

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

During construction, site-specific SWPPP BMPs will be implemented to control sediment movement and prevent sediment from being discharged from the project site. Stormwater runoff will be controlled via constructed stormwater BMP per the Department of Ecology standards and guidelines.

4. **Plants** [\[help\]](#)

- a. Check the types of vegetation found on the site:

- deciduous tree: alder, maple, aspen, other
 evergreen tree: fir, cedar, pine, other
 shrubs
 grass
 pasture
 crop or grain
 Orchards, vineyards, or other permanent crops.
 wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
 water plants: water lily, eelgrass, milfoil, other
 other types of vegetation

- b. What kind and amount of vegetation will be removed or altered?

Limited/sparse grasslands.

- c. List threatened and endangered species are known to be on or near the site.

None known to the applicant.

- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Landscaping will be part of the communal areas and homeowners will landscape yards after their home is built.

- e. List all noxious weeds and invasive species known to be on or near the site.

None known to the applicant

5. *Animals* [help]

- a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site.

Examples include:

birds: hawk, heron, eagle, songbirds, other:
mammals: deer, bear, elk, beaver, other:
fish: bass, salmon, trout, herring, shellfish, other _____

- b. List any threatened and endangered species known to be on or near the site.

None known to the applicant

- c. Is the site part of a migration route? If so, explain.

No

- d. Proposed measures to preserve or enhance wildlife, if any:

None

- e. List any invasive animal species known to be on or near the site.

None known to the applicant

6. *Energy and Natural Resources* [help]

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Electric power for residential needs: Grant County PUD

- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No

- c. What kinds of energy conservation features are included in the plans of this proposal?
List other proposed measures to reduce or control energy impacts, if any:

Current compliance with energy codes.

7. Environmental Health [help]

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal?
If so, describe.

- 1) Describe any known or possible contamination at the site from present or past uses.

None known to the applicant

- 2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

None known to the applicant

- 3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

None

- 4) Describe special emergency services that might be required.

No special emergency service will be required. Only typical police, fire EMS typical of the residential area would be required.

- 5) Proposed measures to reduce or control environmental health hazards, if any:
None

b. *Noise*

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

None

- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Short Term: (Construction) – Short-term noise level would increase commensurate with activities associated with roadway, utility, and house construction activities.

Long Term: Light traffic expected of a residential development

- 3) Proposed measures to reduce or control noise impacts, if any:

None

8. Land and Shoreline Use [\[help\]](#)

- a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The property is currently vacant land with residential development to the South, North Railroad, east/west vacant land. Existing and proposed land uses are residential and would not impact further use of adjacent properties.

- b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

No past use as farm or forest land is known to the applicant.

- 1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

No.

- c. Describe any structures on the site.

None

- d. Will any structures be demolished? If so, what?

No – no existing structures

- e. What is the current zoning classification of the site?

Residential 2

- f. What is the current comprehensive plan designation of the site?

Urban residential Mixed Urban Density

- g. If applicable, what is the current shoreline master program designation of the site?

N/A

- h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

Potential listing as by WDFW as Shrubsteppe area. Currently under review by Project Biologist per the City of Ephrata Code 20.08.

- i. Approximately how many people would reside or work in the completed project?

329 SFR with an average family unit of 2.5 would yield 823 people

j. Approximately how many people would the completed project displace?

0 – no displacement

k. Proposed measures to avoid or reduce displacement impacts, if any:

None Proposed.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Compliance with City of Ephrata ordinances for land use.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

None

9. Housing [\[help\]](#)

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

329 SFR middle income

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None

c. Proposed measures to reduce or control housing impacts, if any:

None

10. Aesthetics [\[help\]](#)

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

2 story (Approx. max 35'), typical residential exterior construction.

b. What views in the immediate vicinity would be altered or obstructed?

None

b. Proposed measures to reduce or control aesthetic impacts, if any:

None

11. Light and Glare [\[help\]](#)

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

New lighting for safety. This may be porch light or street lighting during nighttime use.

- b. Could light or glare from the finished project be a safety hazard or interfere with views?

No

- c. What existing off-site sources of light or glare may affect your proposal?

None

- d. Proposed measures to reduce or control light and glare impacts, if any:

None

12. Recreation [\[help\]](#)

- a. What designated and informal recreational opportunities are in the immediate vicinity?

City Parks

- b. Would the proposed project displace any existing recreational uses? If so, describe.

No

- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

Meeting City Code

13. Historic and cultural preservation [\[help\]](#)

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers ? If so, specifically describe.

No

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

No --survey to be completed by Project Team.

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

See item 13b.

- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

None

14. Transportation [help]

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

The project will extend public roadways: Ivy, K, and L into the project as shown on the provided plan. K and L connect to Ivy which then connects to 3rd Street.

- b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

Grant Transit provides service to Ephrata – nearest stop is on Division/D Street which is approximately 1 mile to the south

- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

No formal parking space will be provided. Streetside parking will be permitted per City Code along the road along with parking in the driveway/garage of each SFR for 2-3 vehicles.

- d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle, or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

The project would build new public roadways meeting City of Ephrata standards as shown on the provided plans.

- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No

- f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

The project will result in 329 SFR with a net increase of 329SFR. Per ITE single-family create 10 trips. The project will add 3,290 trips It would be anticipated that peaks would occur 8-9 am and 5-6 pm consistent with residential development consisting of mainly passenger vehicles except for short-term delivery vehicles.

- g. Will the proposal interfere with, affect, or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

No

- h. Proposed measures to reduce or control transportation impacts, if any:

None

15. Public Services [help]

a. Would the project result in an increased need for public services (for example fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

The project is located in a residential area with single-family homes to the south. With the increased population with the addition of 329 SFR, some increase in public service would be expected.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None

16. Utilities [help]

a. Circle utilities currently available at the site:

electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other _____

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Electricity: Grant County PUD

Sewer: City of Ephrata

Water: City of Ephrata

Solid Waste: Consolidated Disposal Service

Fuel Gas: Undetermined providers of Propane Gas as desired by the homeowner

Telecomm: Undetermined provider of phone & high-speed internet (fiber infrastructure by Grant PUD)

Underground services with normal trenching and backfill are required for installation.

C. Signature [HELP]

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: 
Name of signee: Jeff Fairchild
Position and Agency/Organization: _____
Date Submitted: 3/31/22

**ATTACHMENT THREE
REPORTS AND EXHIBITS**

Memorandum

TO: *City of Ephrata Community Development*
FROM: *Jeff Sutton, PE*
DATE: *08/03/22*
SUBJECT: *Desert Plains Landscaping – Preliminary Plan
EA Job # 20210386.0000*

Landscaping:

City Code 19.07.04 requires landscape buffers depending on the use and the adjacent use.

North (adjoin BNSF Right-of-Way):

To the north of the project is the BNSF railway. A railway is not listed as specific adjacent use. A similar use would be a highway that requires a 20' wide type 1 Landscape Buffer. Title 19.07.050 define the purpose of a Type 1 landscape is to provide a solid sight barrier to totally separate incompatible uses.

This area is located within the backyard of each lot and adjacent to the railroad. There is a limited long-term mechanism to protect this area a landscape and the end lot use will likely install their landscaping meeting their want and needs. Additionally, the adjacent railroad would warrant improved nose protection, site screening, and access protection that a landscape buffer would not provide.

In this area, the project would install as part of each phase of development a 6' solid sight obscuring fence. This would provide an improved tall and full visual sight separation and physical barrier from the railroad. As the fence will be continuous along the railroad it will be less likely modified or removed by the lot owner and provide a better screening and overall better option to meet the intent of this code.

A note requiring the retention of the exterior fence would be added as a note to the final plat.

East (adjoin Industrial 2):

To the east of the project is currently vacant land zoned Industrial 2. Code requires a 10' wide Type 2 Landscape Buffer. Title 19.07.050 define the purpose of a Type 2 landscape is to provide a visual separation that is not one hundred percent sight-obscuring.

This area is located within the backyard of each lot and adjacent to vacant lands. There is a limited long-term mechanism to protect this area a landscape and the end lot use will likely install their landscaping meeting their want and needs.

In this area, the project would install as part of each phase of development a 6' solid sight obscuring fence. This would provide an improved tall and full visual separation from the adjoining use, once developed, while still meeting the intent of this code.

A note requiring the retention of the exterior fence would be added as a note to the final plat.

Typical installed exterior/perimeter fence for reference (Final type to be determined at final plan development).



Street Frontage:

Each lot fronts a public residential roadway. The improvements are located within a sixty (60) foot right-of-way which provides seven (7) feet between the back of the walk and the right-of-way. Code requires a five (5) foot wide Type 3 Landscape Buffer. Title 19.07.050 define the purpose of a Type 3 landscape is to provide a visual separation of use from streets and compatible use to soften the appearance of streets. Based on conversations with City Staff, the City does not want to maintain the landscape within the right-of-way, they would ask that this area is maintained similarly to sidewalks and snow removal. Additionally, this allows the lot owner to install landscaping to meet their overall plan needs, while still meeting the intent of this code, and not adding an additional burden to the City's maintenance staff.

Specific notes to this would be added to the final plat.

Attachment: Figure 1 – Landscape Plan

Stacy Hooper

From: Stacy Hooper
Sent: Wednesday, August 3, 2022 5:13 PM
To: Anna Franz; Rachel Granrath
Subject: Fw: Desert Plains Documents
Attachments: 20210386.0000-E1-Road Plan.pdf

From: Jeffrey Sutton <jeffs@erlandsen.com>
Sent: Wednesday, August 3, 2022 4:13 PM
To: Stacy Hooper <shooper@ephrata.org>
Cc: Brandon Bernard <brandon@theconsultmegroup.com>; Jeff Fairchild <jeff@fairchildcinemas.com>; Rachel Granrath <rachel.granrath@scjalliance.com>; Misty Fairchild <MFairchild@ephrata.org>; afranz@basinlaw.com <afranz@basinlaw.com>; Bill Sangster <BSangster@ephrata.org>
Subject: Desert Plains Documents

CAUTION: External Email

Stacy,

At the meeting yesterday the applicant was requested to provide an updated road plan.

1. Revised to show the connections to the east
2. Revised Ivy roadway connection
3. Update road names to reflect existing connection names and proposed roads.

Jeff Sutton, PE
PROJECT ENGINEER

800.732.7442
509.884.2562 (Office)
509.670.4359 (Cell)

250 Simon St. SE
E. Wenatchee, WA
98802

erlandsen.com

From: Jeffrey Sutton
Sent: Wednesday, August 3, 2022 3:41 PM
To: Stacy Hooper <shooper@ephrata.org>
Cc: Brandon Bernard <brandon@theconsultmegroup.com>; Jeff Fairchild <jeff@fairchildcinemas.com>; Rachel Granrath

ECOSYSTEMS NORTH WEST

Phone (509) 670-9918
Rriver2b@hotmail.com

04/02/2022 Revised 08/03/22

To: Brandon Bernard

RE: Habitat Assessment for Parcel 13-0425005 Grant County

INTRODUCTION

Ecosystems North West was contracted by Mr. Bernard to conduct a Shrub Steppe analysis on the above referenced parcel located in the City of Ephrata, Grant County, WA. The purpose of the survey was to conduct an analysis of the extent and quality of shrub steppe habitat on the property in compliance with the requirements outlined in the City of Ephrata Critical Area Ordinance (CAO). Shrub Steppe is an identified priority habitat by Washington State and identified in the City of Ephrata Critical Area Ordinance (CAO) 20.08. The City of Ephrata (CAO) Chapter 20.08 identifies critical resources within the city limits, Section 20.08.160 defines Fish and Wildlife Habitat Conservation Areas (HCAs) as "Areas within which State and Federal endangered and threatened species exist, or state sensitive, candidate and monitor species have a primary association with shrub steppe habitat. Shrub steppe habitat have restrictions associated with any impacts resulting from any proposed development.

This report addresses the findings of the survey that was conducted the mornings of March 25 and 26, 2022.

Background

The area surveyed is approximately 57 acres within Section 10 of Township 21 North, Range 26 East Grant County Washington. The Western and Northern borders of the site is bordered by Burlington Northern Railroad and residential and commercial uses. The southern border is small lot single family residential and to the east is undeveloped shrub steppe property. The site is flat with hummocks (Figure 1).

This site is within the city limits of Ephrata and does not appear to have been grazed in the recent past.

The Washington State Dept. of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) web site identifies the presence of Shrub Steppe habitat as the only potential priority habitat on this site. No specific species were noted.

The property has no structures and has not been grazed. The shrub steppe habitat associated with this parcel is relatively consistent across its entirety. The proposal for this site is 55 single family homes.

The Shrub Steppe analysis is based on criteria found in Table A4 and where appropriate recommendations found in "Management recommendations for Washington's priority habitats: managing shrubsteppe in developing landscapes".

Discussion

General Description

The landscape of the site is a flat with scattered hummocks. The USDA web soil survey identifies the Malaga soil unit as the primary soil type found on the site. The specific Malaga units range from sandy to cobbly (Figure 4).

The survey was carried out through the use of aerial photos (Google, WDFW PHS Web and Grant County Web) and then walking the site to verify photo interpretation, specific flora and fauna presence. During the course of the on ground investigation species typically associated with shrub steppe habitat were looked for as were those species identified in Table 3.

The shrub steppe analysis was conducted on March 25 and 26 by Dennis Beich. On the 25th the survey was started at 11:00 AM and completed at 1:30 the day was partly cloudy with a 10 to 15 MPH wind. On the 26th the survey was conducted between 7:30 AM and 11:00 AM. The day was clear with a slight wind.

The site is relatively consistent across the landscape, it is a shrub steppe habitat that generally has a 5 to 15% shrub component (primarily rabbit brush (*Chrysothamnus*) with a few scattered sage brush (*Artemisia tridentata*) and bitter brush (bitterbrush (*Purshia t.*)). A 15 to 50% native bunch grass component consisting generally of Blue bunch (*Pseudoroegneria Spicata*), bulbous (*Poa bulbosa*) and Indian rice (*Achnatherum hymenoides*) A 5 to 10% herbaceous component of yarrow (*achillea m.*), canby's biscut

root (*Lomatium canbyi*), viola (*Viola pedate*), *Eriogonum* spp. and arrow leaf (*Balsamorhiza sagittate*). In addition, there is a 10 to 35% weedy component consisting of Cheat grass (*Bromus*) and tumble weed (*Salsola k.*).

The hummock areas that are distributed throughout the site have a little deeper soil and as a result have more fossorial activity and dominated by weedy nonnative vegetation.

The northern portion of the site is rockier with shallower soils.

The site has low to moderate fossorial activity and there was biological crust noted at approximately 10 to 15% scattered throughout the site.

Other species encountered during the survey were:

Meadowlark (*Sturnella n.*)

Dusky flycatcher (*Empidonax o.*)

Raven (*Corvus c.*)

Cottontail rabbit (*Sylvilagus auduboni*), (assumed cottontail scatt sign)

American Kestrel (*Falco sparverius*)

Bull snake (*Pituophis catenifer sayi*)

No sage grouse or sage grouse sign was observed and although the habitat would support sage grouse no sage grouse have been observed in this area for a number of years.

Conclusion and Recommendations

The site has good ungrazed intact shrub steppe habitat across its entirety. The fossorial activity was spotty and minimal, biological crust was scattered at about 10 to 15%, and connectivity restricted on 3 sides. Using the shrub steppe rating table 4-A and where appropriate recommendations in “Management recommendations for Washington’s priority habitats: managing shrubsteppe in developing landscapes”, the site would rate out as moderate shrub steppe habitat primarily due to the extent of invasive nonnative vegetation. There are some areas of low quality shrub steppe within the moderate rating.

This site is within the city limits of Ephrata and as such is intended for maximum residential build out. All 57 acres of this shrub steppe habitat will be impacted as a result of the proposed development. On site mitigation for this project is not practical nor would it be effective as it will soon be surrounded by development due to location and availability of services. For this project off site mitigation for impacts to 57 acres of shrub steppe habitat is recommended. A Habitat Management Plan (HMP) that outlines how mitigation is proposed is attached to this report.

Appendix

Figure 1	Arial view of project site in relation to surrounding uses
Figure 2	Arial view of the project site
Figure 3	WDFW PHS Web
Figure 4	Imperiiled Habitats
Figure 5	USDA Soils map of site
Table A4	WDFW shrub steppe ranking index
Table 3	List of potential PHS species associated with the site
Citation	Azerrad, J.M., K.A. Divens, M.S.Teske, H.L. Ferguson, and J.L.Davis. 2011. Management recommendations for Washington's priority habitats: managing shrubsteppe in developing landscapes. Washington Departmetn of Fish and Wildlife, Olympia, Washington.

187



T21R26S14

T21R26S11

CLINTON ST NE

10th St

11th St

12th St

13th St

14th St

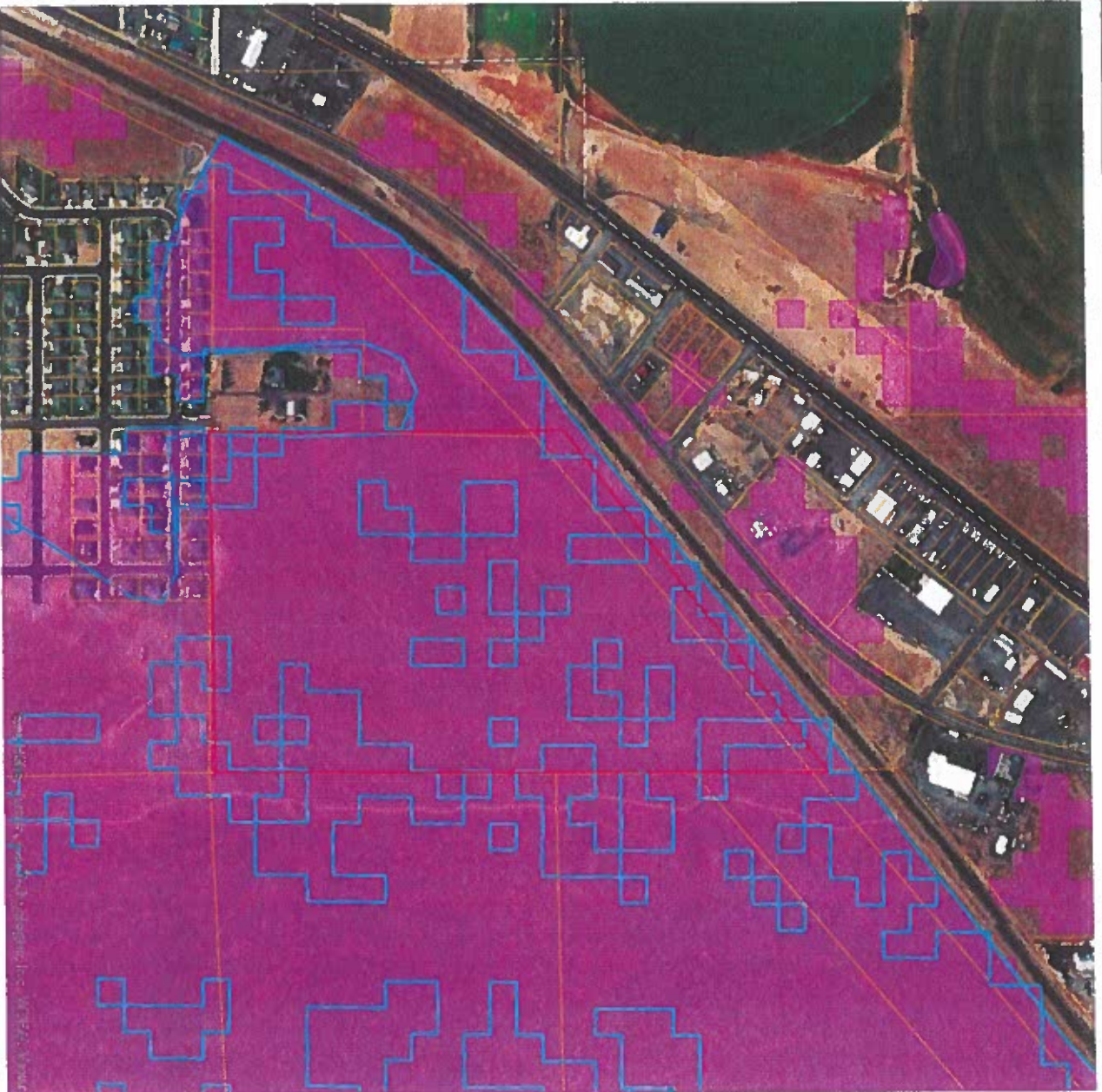
15th St

Fig 2





Priority Habitats and Species on the Web



3
D
C

U

Report Date: 03/21/2022

Shrubs Steppe

PHS Species/Habitats Overview:

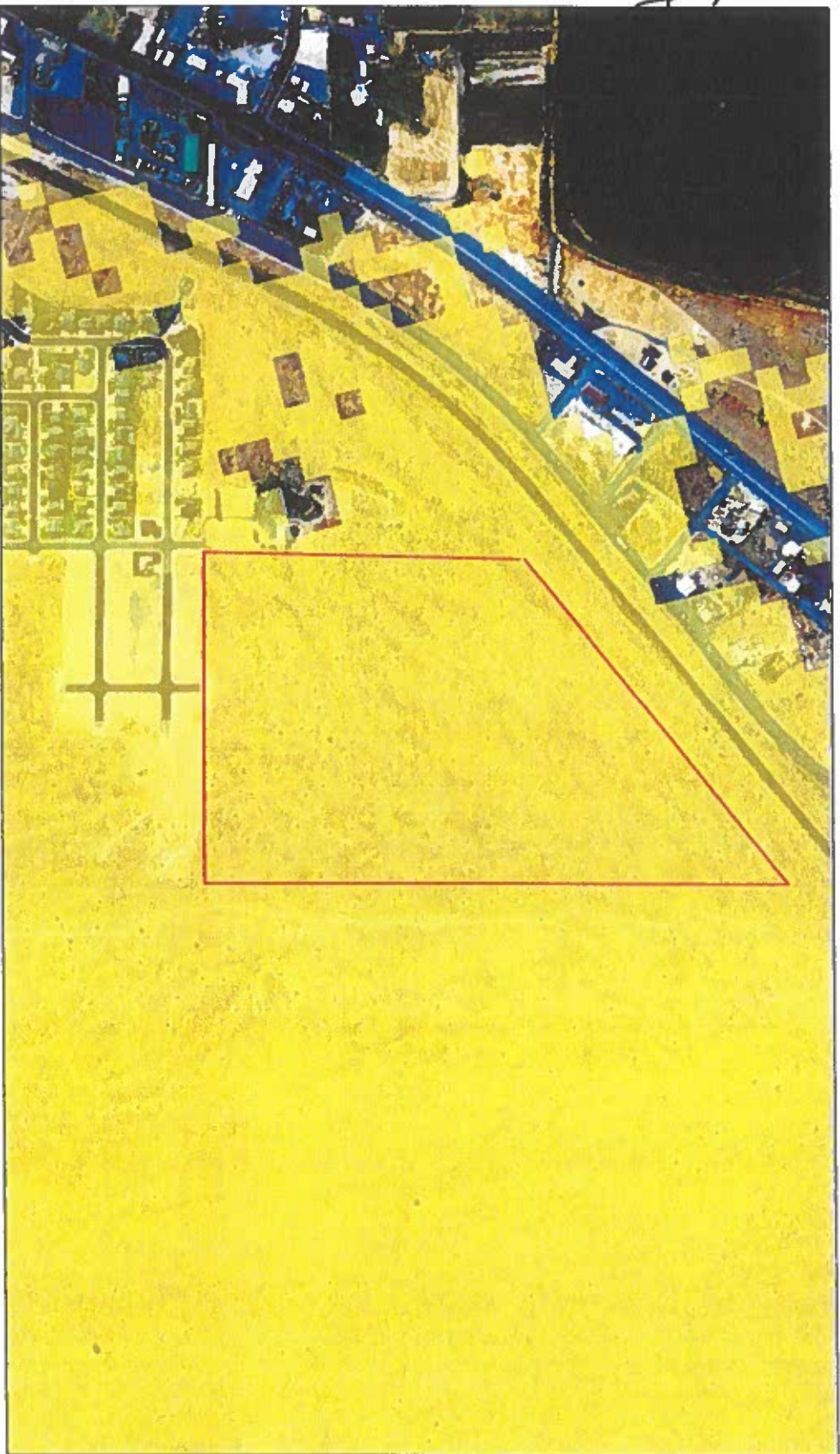
Occurrence Name	Federal Status	State Status	Sensitive Location
Shrub-steppe	N/A	N/A	No

PHS Species/Habitats Details:

Shrub-steppe	Terrestrial Habitat		
Priority Area	EPHRATA NORTHEAST BETWEEN HWY 28 AND HWY 17		
Site Name	1/4 mile (Quarter Section)		
Accuracy	GRASS LANDS SOME SAGEBRUSH, RABBITBRUSH UTILIZED HUNS, LONGBILLED CURLEWS, MARMOTS HORNE LARD, GRASSHOPPER SPARROWS, FENCE LIZARDS		
Notes	901248		
Source Record	PHSREGION		
Source Dataset	DUFF, RAYMON		
Source Name	WA Dept. of Fish and Wildlife		
Source Entity	N/A		
Federal Status	N/A		
State Status	PHS Listed Occurrence		
PHS Listing Status	N		
Sensitive	N		
SGCN	AS MAPPED		
Display Resolution	Polygons		
Geometry Type			

Fig 4

Parcel 130425005 - Imperiled Habitats

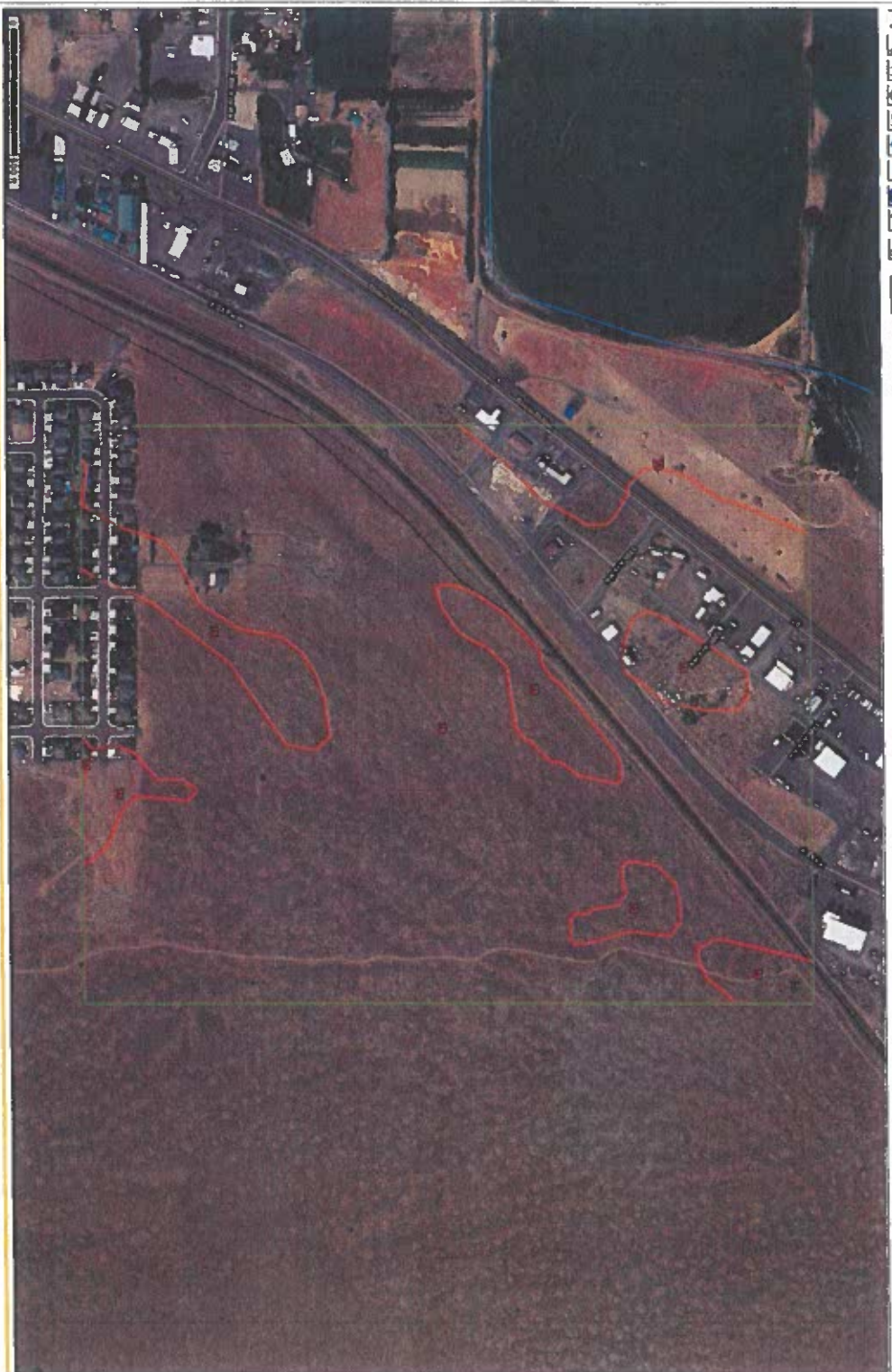


Bureau of Land Management, Esri Canada, Esri HERE, Garmin, GeoTechnology, Inc., Intermap, USGS, METRANSA, EPA, USDA | Washington Geological Survey | Northwest Geomatics, LTD | Leica Geosystems, Inc | WebAppBuilder for ArcGIS

Soil Map

Scale (not to scale)

Map Unit Symbol	Map Unit Name	Acres In AOI	Percent of AOI
73	Malaga gravelly sandy loam, 0 to 5 percent slopes	10.2	6.8%
	Malaga cobbly sandy loam, 0 to 15 percent slopes	14.8	9.8%
77	Malaga stony sandy loam, 0 to 15 percent slopes	0.1	0.1%
78	Malaga very stony sandy loam, 0 to 35 percent slopes	123.9	82.1%
79	Malaga-Ephrata complex, 0 to 15 percent slopes	2.0	1.3%
Totals for Area of Interest			151.0 100.0%



Warning: Soil Map may not be valid at this scale.
 You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Mapping of soils is done at a particular scale. The soil surveys that comprise your AOI were mapped at 1:24,000. The design of map units and the level of detail shown in the resulting soil map are dependent on that map scale. Enlargement of maps beyond the scale of mapping can cause misunderstanding of the details of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could be shown at a more detailed scale.

Table A.4. Ecobases integrity index measures to be calculated for ranking the ecological quality of riparian habitat A&E found within a reach

Metric	Justification	A (Good)	B (Good)	C (Good)	D (Good)
RANK FACTOR: LANDSCAPE CONTEXT					
Key Ecobases Attribute: Buffer					
Buffer Length		Buffer is 75 - 100% of average riparian occurrence	Buffer is 50 - 75% of average riparian occurrence	Buffer is 25 - 50% of average riparian occurrence	Buffer is < 25% of average riparian occurrence
Buffer Width	The buffer can be composed of the following:	Average buffer width of occurrence is 200 m (150 ft), adjusted for 100%	Average buffer width is 100 - 150m (330-500 ft), after adjusting for 100%	Average buffer width is 50-100m (165-330 ft), after adjusting for 100%	Average buffer width is < 50m (165 ft), after adjusting for 100%
Buffer Condition		Substantial (75-100%) cover of riparian vegetation, low percentage of non-riparian vegetation, and low percentage of bare soil and other non-riparian vegetation	Substantial (50-75%) cover of riparian vegetation, low percentage of non-riparian vegetation, and low percentage of bare soil and other non-riparian vegetation	Substantial (25-50%) cover of riparian vegetation, low percentage of non-riparian vegetation, and low percentage of bare soil and other non-riparian vegetation	Dominant (>50%) cover of non-riparian plants, barren ground, highly compacted soil, and/or other non-riparian vegetation or other non-riparian vegetation
RANK FACTOR: VEGETATION COMPOSITION					
Key Ecobases Attribute: Vegetation Composition					
Soil Surface Condition	Soil disturbance can result in erosion, energy degradation, and other ecological impacts. Soil surface condition is measured by the percentage of bare soil and other non-riparian vegetation.	Bare soil area is limited to less than 5% of the riparian habitat area.	Bare soil area is limited to less than 10% of the riparian habitat area.	Bare soil area is limited to less than 20% of the riparian habitat area.	Bare soil area is limited to less than 30% of the riparian habitat area.
Vegetation Condition	Vegetation condition is measured by the percentage of bare soil and other non-riparian vegetation.	Vegetation cover is > 75% of the riparian habitat area.	Vegetation cover is > 50% of the riparian habitat area.	Vegetation cover is > 25% of the riparian habitat area.	Vegetation cover is < 25% of the riparian habitat area.
Soil Surface Condition	Soil disturbance can result in erosion, energy degradation, and other ecological impacts. Soil surface condition is measured by the percentage of bare soil and other non-riparian vegetation.	Bare soil area is limited to less than 5% of the riparian habitat area.	Bare soil area is limited to less than 10% of the riparian habitat area.	Bare soil area is limited to less than 20% of the riparian habitat area.	Bare soil area is limited to less than 30% of the riparian habitat area.

Parcel 130425005 potential PHS species

1. Within the observed range of black-tailed jackrabbit.
2. Within the observed range of white-tailed jackrabbit.
3. Within the observed range of Washington ground squirrel.
4. Within the observed range of loggerhead shrike.
5. Within the observed range of golden eagle.
6. Within the observed range of burrowing owl.
7. Within the observed range of peregrine falcon.

ECOSYSTEMS NORTH WEST

Phone (509) 670-9918
Rriver2b@hotmail.com

07/11/2022 **Revised** 08/03/22

To: Brandon Bernard

RE: Shrub steppe assessment on parcels # 16-1826016 and 16-1826015 Grant County mitigation site

Introduction

The critical area assessment on the above two parcels is for the purpose of establishing an off site shrub steppe mitigation site (Rocky Ford Site) for impacts to shrub steppe habitat associated with the residential development referred to as Desert Plains within the City of Ephrata. The Desert Plains development will impact 57 acres of moderate quality shrub steppe habitat, impacts to shrub steppe habitat will be mitigated at a 1 to 1 ratio within the Rocky Ford mitigation site (figures 1, 2 and 10).

The property where the shrub steppe habitat impacts will occur is located in the City of Ephrata within Section 10-Twn21N-R26E. This project will impact 57 acres of moderate quality shrub steppe habitat. Please refer to the shrub steppe assessment dated April 2, 2022, prepared by Ecosystems North West for specific information regarding critical habitat on the Desert Plains site.

The 80 acre mitigation site is located east of Rocky Ford Creek in Section 23-Twn21N-R27E, Grant County and owned by Brandon Bernard the developer of the Ephrata project.

The mitigation site has no structures on it other than transmission lines and has not been grazed for a number of years, if ever.

Site Assessment (80 acres mitigation site)

The 80 acres selected as a shrub steppe mitigation site is located east of Rocky Ford Creek in Section 23-Twn21N-R27E, Grant County (figure 1 and 2). The site is strategically located aligning within several identified key habitat and wildlife linkage areas. The Arid Lands Initiative (ALI) has identified this area as having imperiled habitats (shrub steppe) (figure 4) and the property is within ALI identified Rocky Ford Creek and Black Rock Coulee Priority Linkage areas (figures 5-7). Washington State Department of Fish and Wildlife's (WDFW) Priority Habitats and Species (PHS) web site identifies shrub steppe habitat as the only priority habitat associated with this site and does not identify any specific species associated with this site (figure 3). Table 3 identifies those PHS wildlife species that could potentially be found on this site.

The mitigation site is surrounded by undeveloped large expanses of quality shrub steppe habitat. In addition, the north property line of the proposed mitigation site is bordered by WDFW property. The mitigation site is relatively flat with a general slope to the west and is somewhat rocky in places. The USDA soil survey identifies this site as having Malaga soil series ranging from gravelly to stony.

Methods

The site was walked on April 13, 2022, to assess the shrub steppe habitat on the site and prescribe a category based on the attached table 4-A. The survey on the 13th was started at 8:15 AM and completed at 12:00 PM. The day was clear with a wind that ranged from 5 to 15 MPH. I did not conduct a formal transect of the site as the landscape was open and for the most part not densely vegetated. For this site assessment I used aerial photography from several sources including Google, WDFW PHS and Grant County Web that was then verified on the ground during the April site visit. Figures 2, 3 and 9 show the aerial of the site. A second on site visit was carried out the morning of April 18. This second visit was a visual and audible survey between 8:30 and 9:30 AM. A second site visit was thought necessary due to the high winds during the April 13 survey.

The site chosen for mitigation has moderate to high quality shrub steppe habitat associated with it. The site is a mosaic of vegetation types and no attempt was made to delineate the difference in quality of shrub steppe which was mostly based on the presence of cheat grass which was actually minimal on this site.

Discussion

The site has very good quality shrub steppe associated with it. The site if ever grazed was a long time ago. In general, the vegetation composition of this site is 70 to 85% native vegetation with native bunch grass making up from 30 to 80%, shrubs comprising between 30 to 60% and the herbaceous layer between 10 to 20%. The nonnative plant composition on this site is low being only 0 to 10%. The biological crust is present at approximately 50% in patches and the fossorial activity is high throughout the site. Only one burrow was noted during the course of the survey and assumed to be badger. There were areas of extensive digging at various locations on the property.

The site is relatively consistent across its landscape with some more open areas scattered throughout the site which have less shrub component and more bunch grass.

The types of vegetation encountered are as follows. The shrub layer is a 30/40 mix of sagebrush and rabbit brush. The native bunch grass layer has a variety of species associated with it including blue bunch wheat (*Pseudoroegneria Spicata*), Sandberg (*Poa secunda*), bulbous (*Poa bulbosa*). The herbaceous layer had a variety of species which included but not limited to arrow leaf (*Balsamorhiza sagittate*), yarrow (*Achillea millefolium*), Lomatium, Eriogonum, Phlox, Sulphur Lupine and larkspur (*Delphinium bicolor*).

The nonnative plant layer was primarily cheat grass (*Bromus t.*) with a few scattered tumble weed (*Salsola kali*).

During the course of the two surveys the following wildlife species were noted.

Magpie (*Pica hudsonia*)

Raven (*Corvus corax*)
White crowned sparrow (*Zonotrichia leucophrys*)
Sage sparrow (*Artemisiospiza nevadensis*)
Meadowlark (*Sturnella neglecta*)

There was also sign of coyote, mule deer and rabbit.

Conclusion

The 80 acres identified as an off site mitigation site has excellent shrub steppe habitat, it is ideally located within identified wildlife corridors/linkage areas, it is adjacent to public land owned and managed by the WDFW and surrounded by large areas of undeveloped shrub steppe habitat. This area is a very good location to mitigate for impacts associated with the development of the 57 acres of shrub steppe in the City of Ephrata.

Mitigation/Habitat Management Plan

With most development projects that impact a critical area similar sequencing criteria found in the Grant County Critical Area Ordinance (GCAO 24.08.160) are employed. In the case of the Ephrata housing project which is located within the city limits of the City of Ephrata it was neither practical nor beneficial for wildlife to minimize or mitigate for impacts on site given the location of the proposed development and the availability of infrastructure surrounding the proposed development which will lead to future buildout of the area. The proposed development site is surrounded on three sides by development and will provide minimal landscape connectivity now and less in the future. In this case the best option for wildlife was moving the mitigation for impacts to the shrub steppe off site.

The Habitat Management Plan (HMP) for the Ephrata Desert Plains development is to mitigate at a ratio of 1:1.2 for the 57 acres of low to moderate quality shrub steppe located within the city of Ephrata with 70 acres of moderate to high quality shrub steppe in an identified wildlife corridor/linkage area.

The shrub steppe being impacted is within the city limits of Ephrata and regulated under

the City of Ephrata's Critical Area Code (CAO) Chapter 20.08. and the proposed mitigation site is in Grant County. In this instance Grant County CAO regulations have been applied as an umbrella in developing this HMP. In reviewing the regulations that would apply to mitigation for shrub steppe impacts in both the City of Ephrata and Grant County CAO's the HMP standards outlined in the Grant County Critical Area Ordinance (GCAO) 24.08 have been used as the Grant County ordinance would meet or exceed the standards outlined for impacts to shrub steppe habitat in the City of Ephrata's CAO.


The HMP section of this report incorporates the shrub steppe assessments that was conducted on the Ephrata site and the shrub steppe assessment report dated April 2, 2022 used to establish the base line for mitigation requirements.

Figure 10 shows the location of the proposed 70 acres of land identified to mitigate for the Ephrata development shrub steppe impacts. This area will have a Native Growth Protection Deed Restriction (NGPDR) placed on it that will be recorded and "run with" the title of the property. The deed restriction will provide permanent protection of the habitat. The NGPDR is to be maintained in native vegetation and will have the following deed restrictions associated with it.

- No structures of any kind allowed
- No driveways, wells, drain fields or other improvements will be allowed
- Any fencing will be minimized
- Any livestock grazing will not be allowed or restricted by a WDFW approved grazing plan
- Motorized vehicles will be restricted to the existing power line maintenance road

Following the above listed restrictions will minimize impacts to the shrub steppe habitat on this site and provide adequate protection to native species associated with the site. Protecting 70 acres of quality shrub steppe on this site will provide appropriate mitigation for impacts to shrub steppe habitat within the city limits of Ephrata.

Dennis Beich

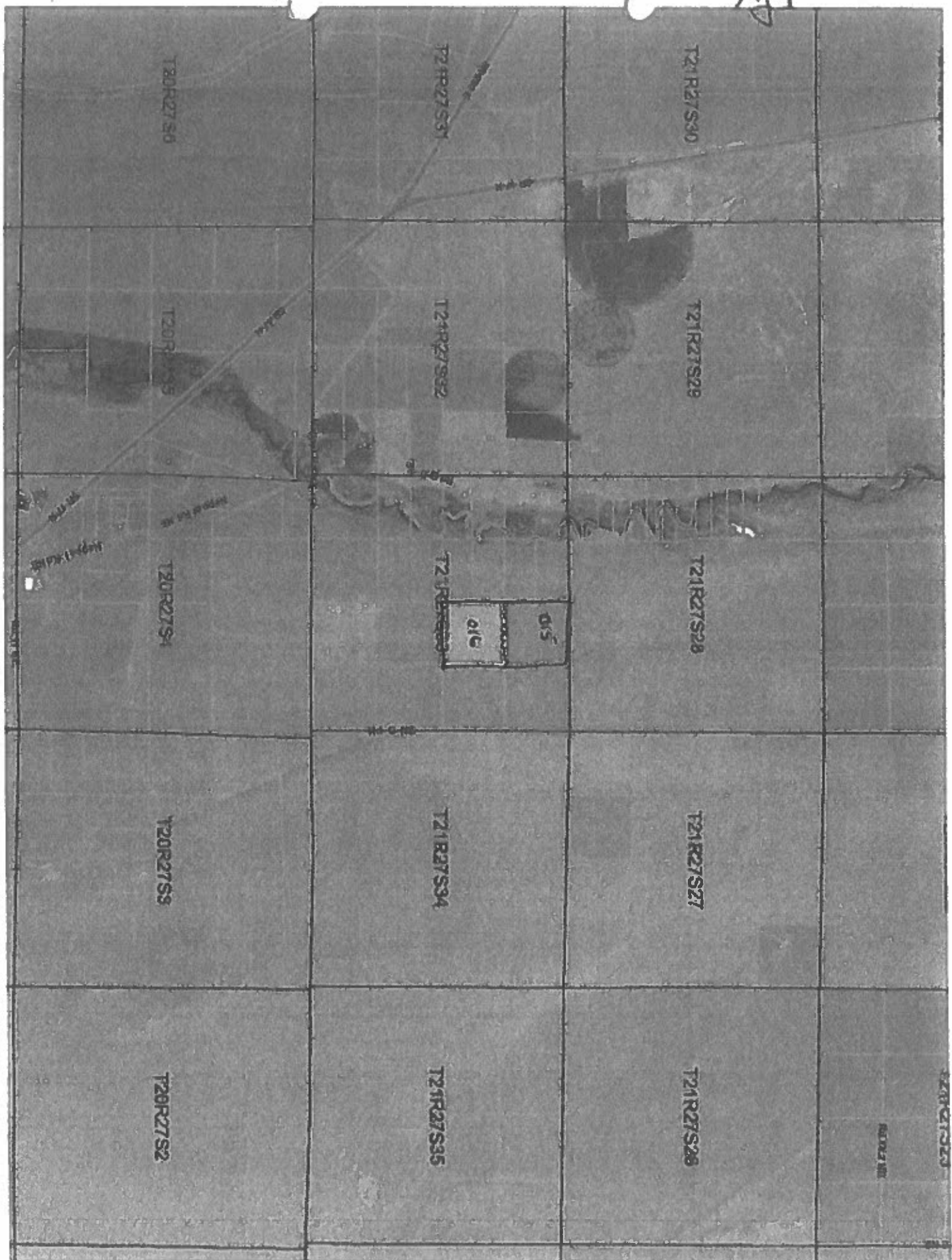


Ecosystems North West

Appendix for HMP

Figure 1	Arial view of project site
Figure 2	Arial view of the project site close upnoting areas of variation
Figure 3	WDFW PHS Web
Figure 4	Arid Lands Initiative (ALI) Imperiled Habitats
Figure 5	ALI Rocky Ford Creek Priority Linkage Area
Figure 6	Rocky Ford Creek PLA Ecoregion
Figure 7	Black Rock Coulee PLA Ecoregion
Figure 8	USDA Soils map of site
Figure 9	Arial close up of the mitigation site
Figure 10	Area of Native Growth Deed Restriction
Table A4	WDFW shrub steppe ranking index
Table 3	List of potential PHS species assocaited with the site

Fig 1



F2



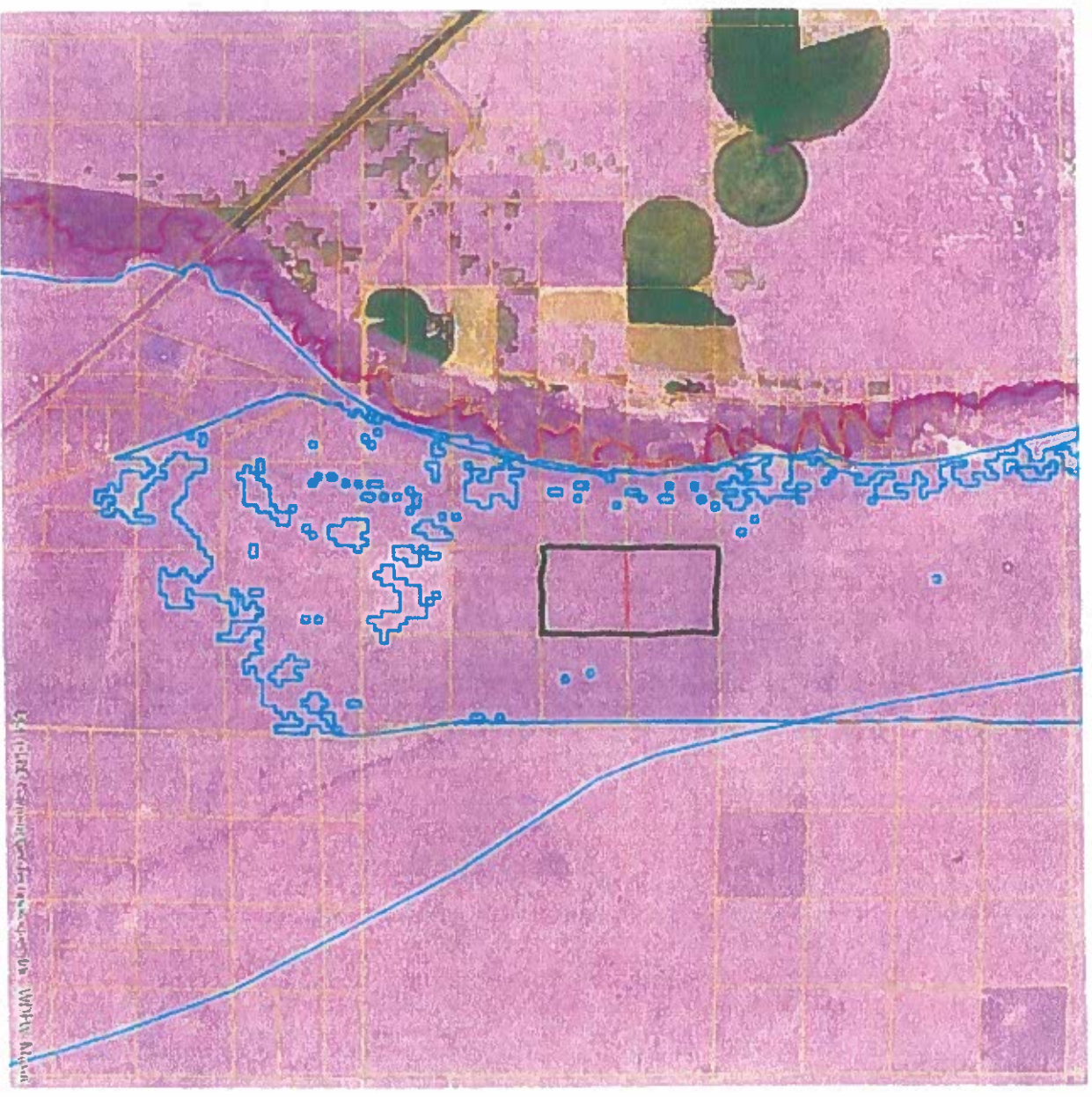
T21R27S33



Fy 3

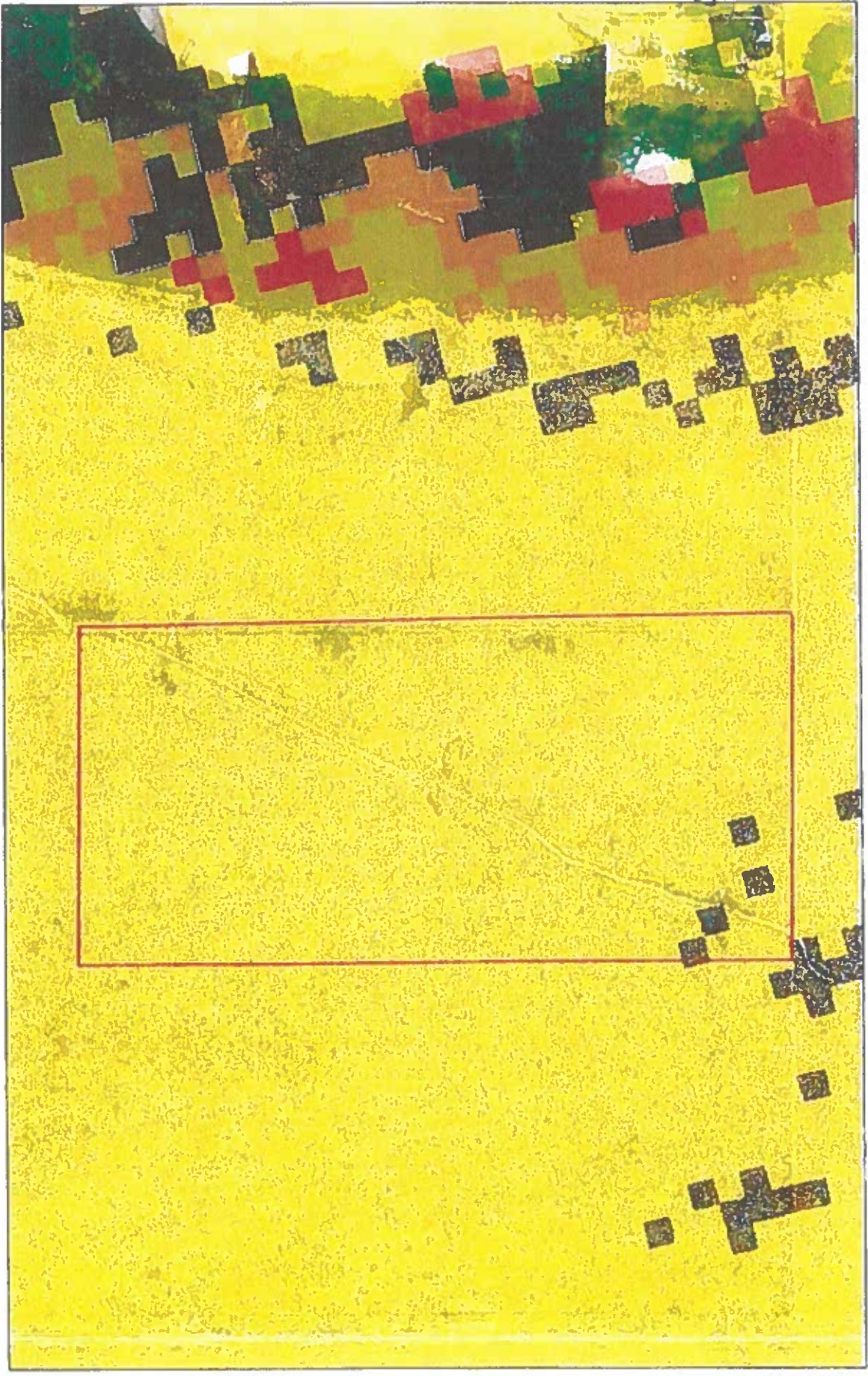


Priority Habitats and Species on the Web



Arid Lands Initiative Imperiled Habitats

4
F



Bureau of Land Management, Earth Canada, Earth, HERE, Garmin, GeoTechnology, Inc., Intermap USGS, MET/NASA, EPA, USDA, Washington Geological Survey | Northwest Geomatics LTD | Laska Geosystems Inc. |
Web AppBuilder for ArcGIS

Rocky Ford Cr. and Black Rock Coulee Priority Linkage Areas

F.45



4/18/2022, 11:00:02 AM

Override 1

Arid Land Initiative's Priority Linkage Areas

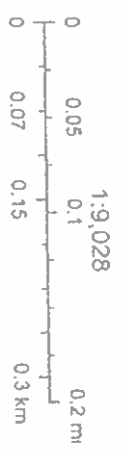
County Boundaries

Statewide_2019_1ft_4band_wsps_83h_img

Red Band_1

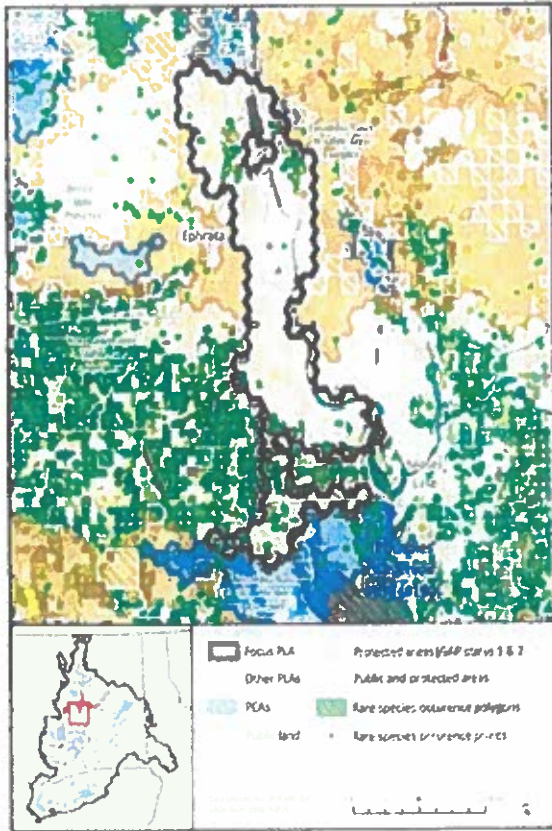
Green Band_2

Blue Band_3



Bureau of Land Management, Esri Canada, Esri, HERE, Garmin, Geotitles, Inc., Intermap, USGS, METNUSA, EPA, USDA | Washington Geological Survey | Northwest Geomatics, LTD | Leica Geosystems, Inc | Web AppBuilder for ArcGIS

Fig 6



Rocky Ford Creek PLA (#96), Pleistocene Lake Basins Ecoregion

Connectedness

- H Average Focal Species Count
- HAP Cumulative Linkage Centrality
- H Species Count in Barriers
- H Species Count in Pinch-Points
- ML Greater Sage-Grouse network
- ML Sharp-Tailed Grouse network
- ML Townsend's Ground Squirrel network
- H Washington Ground Squirrel network
- ML General permeability to movement

Contribution to All targets

- H Shrub steppe & dry grassland
- H Inland dunes
- H Cliffs, caves, and talus
- H Depressional wetlands
- L Transitional woodlands
- L Greater Sage-Grouse HCAs
- L Sharp-Tailed Grouse HCAs
- L Townsend's Ground Squirrel HCAs
- ML Washington Ground Squirrel HCAs
- L Under-protected target index

Current threats

- ML Invasive annual grasses
- H Road density

Fire risk

- M Vegetation departure
- ML Probability of burning
- L Future fire frequency

Future non-climatic threats

- H Development pressure
- M Wind power potential
- H Agricultural conversion pressure



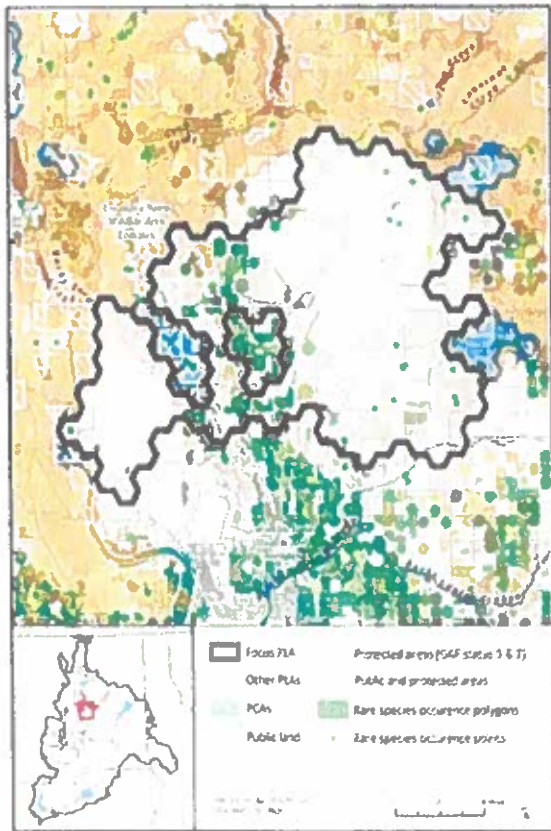
Climate Change Vulnerability

- H Overall vulnerability
- H Exposure
 - MH Temperature climate velocity
 - H Multivariate (Rate velocity)
- M Sensitivity
 - L Sage-grouse contraction
 - ML Sharp-tailed grouse contraction
 - MH Big sagebrush contraction
 - ML Climate sensitive targets index
 - H Vegetation instability
- ML Adaptive capacity
 - ML Climate change resilience
 - ML Percent permanently protected
 - L Landscape condition model
 - L Climate connectivity (temperature only)
 - ML Climate connectivity (temp & landscape integrity)

Ownership



Fj 7



Black Rock Coulee PLA (#97), Channeled Scablands Ecoregion

Connectedness

- ML** Average Focal Species Count
- ML** Cumulative Linkage Centrality
- ML** Species Count in Barriers
- ML** Species Count in Pinch-Points
- L** Greater Sage-Grouse network
- L** Sharp-Tailed Grouse network
- L** Townsend's Ground Squirrel network
- L** Washington Ground Squirrel network
- L** General permeability to movement

Contribution to ALL targets

- L** Shrub steppe & dry grassland
- L** Inland dunes
- L** Cliffs, caves, and talus
- L** Depressional wetlands
- L** Transitional woodlands
- L** Greater Sage-Grouse HCAs
- L** Sharp Tailed Grouse HCAs
- L** Townsend's Ground Squirrel HCAs
- L** Washington Ground Squirrel HCAs
- ML** Under-protected targets index

Current threats

- L** Invasive annual grasses
- L** Road density

Fire risk

- L** Vegetation departure
- M** Probability of burning
- ML** Future fire frequency

Future non-climatic threats

- ML** Development pressure
- ML** Wind power potential
- M** Agricultural conversion pressure

Legend

Ranks based on relative values of PLA, broken into quintiles

VALUES	PLAs
L Low (Bottom 20%)	L
ML Medium-Low	ML
M Medium	M
ML Medium-High	ML
H High	H

no data, not present, or N/A

Climate Change Vulnerability

- M** Overall vulnerability
- H** Exposure
 - H** Temperature change velocity
 - H** Multivariate climate velocity
- ML** Sensitivity
 - L** Sage-grouse contraction
 - L** Sharp-tailed grouse contraction
 - M** Big sagebrush contraction
 - ML** Climate sensitive targets index
 - ML** Vegetation instability
- H** Adaptive capacity
 - ML** Climate change resilience
 - ML** Percent permanently protected
 - L** Landscape condition model
 - ML** Climate connectivity (temperature only)
 - ML** Climate connectivity (temp & landscape integrity)

Ownership





Area of Interest (AOI)

Soil Data Explorer

Download Soils Data

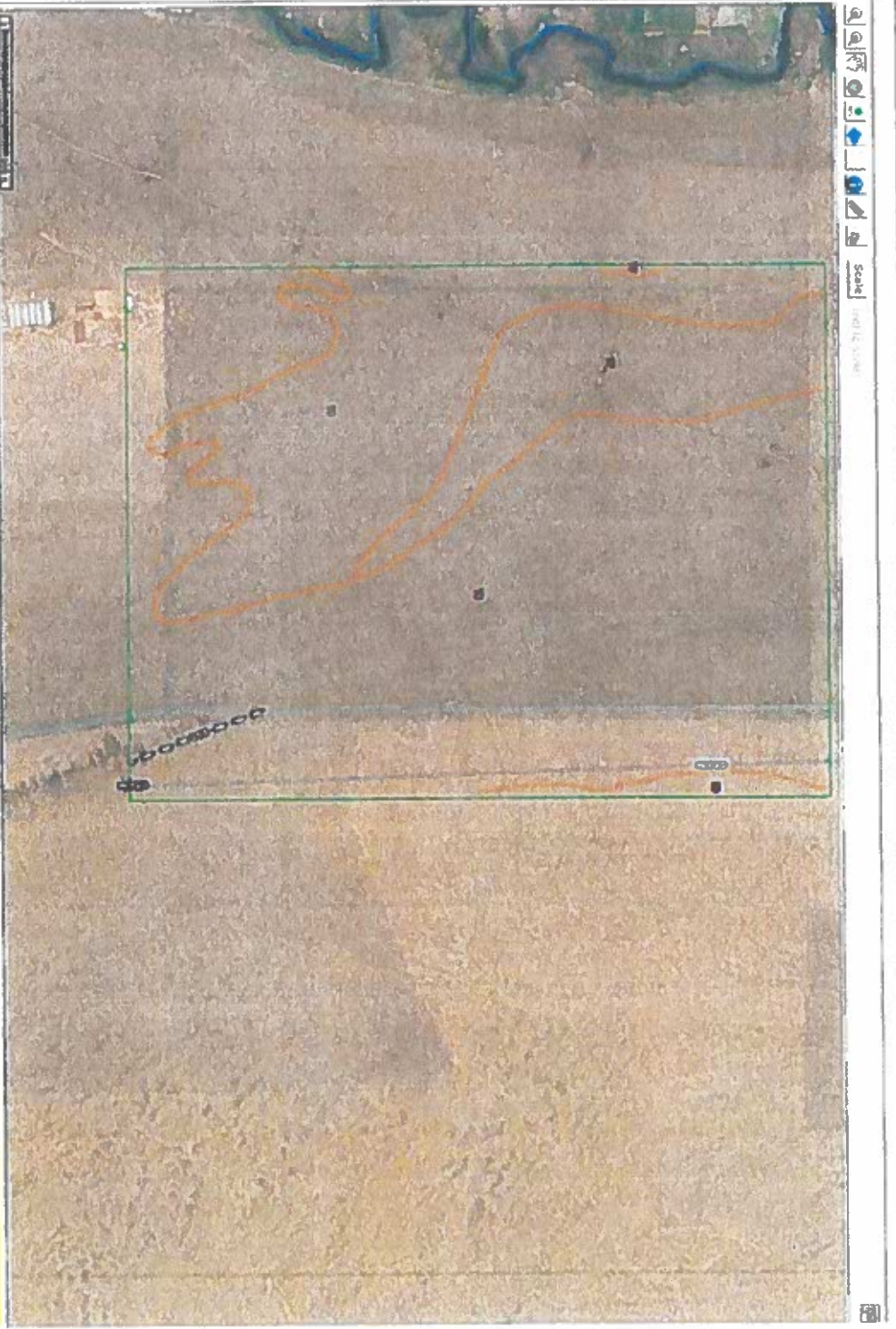
Shopping Cart (Free)

Printable Version

Add to Shopping Cart

Grant County, Washington (WA025)
Grant County, Washington (WA025)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
77	Malaga gravelly sandy loam, 0 to 5 percent slopes	77.3	22.6%
77	Malaga stony sandy loam, 0 to 15 percent slopes	39.3	11.5%
78	Malaga very stony sandy loam, 0 to 35 percent slopes	219.8	64.4%
79	Malaga-Ephrata complex, 0 to 15 percent slopes	5.1	1.5%
Totals for Area of Interest		341.5	100.0%



Warning: Soil map may not be valid at this scale.
 You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Mapping of soils is done at a particular scale. The soil surveys that comprise your AOI were mapped at 1:24,000. The design of map units and the level of detail shown in the resulting soil map are dependent on that map scale. Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Fig 9

WDFW

015

016

F.D. 10

T21R27S33

70 AC.
DEED RESTRICTED
AREA

Area:
10.29
acres
Perimeter:
3,270.21
feet

R4C7E

T21R27S3

Table A4. Ecological integrity index measures to be evaluated for ranking the ecological quality of riparian habitats AAs found within a project

Measure	Justification	A (50%)	B (40%)	C (30%)	D (10%)
RANK FACTOR: LANDSCAPE CONTEXT					
Key Ecological Attribute: Buffer					
Buffer Length	The buffer can be equivalent to both and abiotic aspects of the site.	Buffer is > 75 - 100% of occurrence perimeter.	Buffer is > 50 - 75% of occurrence perimeter.	Buffer is 25 - 50% of occurrence perimeter.	Buffer is < 25% of occurrence perimeter.
Buffer Width		Average buffer width is 100-150m (150-200m) after adjusting for slope.	Average buffer width is 50-100m (100-150m) after adjusting for slope.	Average buffer width is 25-50m (50-100m) after adjusting for slope.	Average buffer width is < 25m (25-50m) after adjusting for slope.
Buffer Condition		Abundant (>95%) cover of native vegetation, little or no disturbance, little or no phase change, AND little or no track or vehicle.	Substantial (75-95%) cover of native vegetation, low disturbance, little or no phase change, AND little or no track or vehicle.	Moderate (25-75%) cover of native vegetation, moderate or high disturbance, little or no phase change, AND little or no track or vehicle.	Disturbed (<25%) cover of native vegetation, high disturbance, little or no phase change, AND little or no track or vehicle.
Key Ecological Attribute: Landscape Structure					
Connectivity	Links must have a continuous corridor of natural or semi-natural vegetation between which riparian habitat occurs.	Matrix: Embedded in the 100% natural habitat, connectivity is essential to high.	Vegetation: Embedded in a 75-100% natural habitat, connectivity is generally high, but lower for species sensitive to habitat modification.	Fragmented: Embedded in a 25-75% natural habitat, connectivity is generally low.	Isolated: Embedded in a < 25% natural habitat, connectivity is generally low.
Landscape Condition Index (LCMI) (see bottom of Page 7)	The stability and type of landscape in the surrounding area affect ecological integrity.	LCMI = 0.8	LCMI = 0.7	LCMI = 0.6	LCMI = 0.5
RANK FACTOR: CONDITION					
Key Ecological Attribute: Vegetation Composition					
Native Plant Species Cover	Native species comprise the system; non-native species have minimal impacts.	Relative cover of native plants = 95-100%.	Relative cover of native plants 80-95%.	Relative cover of native plants 50 to 80%.	Relative cover of native plants < 50%.
Native Biomass Cover	Native biomass dominates; high cover is related to connectivity to riparian habitat.	Relative cover of perennial biomass 70-90% or more (for all other ecological systems).	Relative cover of perennial biomass 50-70% or more (for all other ecological systems).	Relative cover of perennial biomass 20-50% or more (for all other ecological systems).	Relative cover of perennial biomass < 20% and much reduced cover (for all other ecological systems).
Cover of Native Invasives (including Cynodons and Plantain Scabbards)	Some shrubs such as grazing can pull or homogenize native composition; invasive species can affect wider range of ecological processes.	Absent or < 5% cover.	< 10% relative cover.	10-20% relative cover.	> 20% relative cover.
Invasive Species Cover		Near present.	Low to moderate.	High to moderate.	High to moderate.
Key Ecological Attribute: Vegetation Structure					
Biological Soil Cover	Crust cover and diversity is greatest when soil is most intact; disturbance and surface disturbance and fragmentation (Bishop et al. 2001; Bishop and Elmer 2002; Yoccoz 2004; Leach 2007).	Largely intact biological soil crust that nearly matches the capability when intact (for all other ecological systems).	Biological soil crust is fragmented and does not meet the capability when intact (for all other ecological systems).	Biological soil crust is present in some areas and does not meet the capability when intact (for all other ecological systems).	Biological soil crust is present in a few areas and does not meet the capability when intact (for all other ecological systems).
Fire-sensitive Shrubs (Columbine, Phlox, Scilla, etc.)	Shrubs are part of the historic range of vegetation.	Fire-sensitive shrubs present in 90-100% of the area.	Fire-sensitive shrubs present in 70-90% of the area.	Fire-sensitive shrubs present in 50-70% of the area.	Fire-sensitive shrubs absent or present in < 50% of the area.
Fire-sensitive Shrubs (Macropodium, Broom, Dog, etc.)	Native fire regime promotes cover by 50-100%.	Fire-sensitive shrubs present in 90-100% of the area.	Fire-sensitive shrubs present in 70-90% of the area.	Fire-sensitive shrubs present in 50-70% of the area.	Fire-sensitive shrubs present in < 50% of the area.
Fire-sensitive Shrubs (Macropodium, Broom, Dog, etc.)	Native fire regime promotes cover by 50-100%.	Fire-sensitive shrubs present in 90-100% of the area.	Fire-sensitive shrubs present in 70-90% of the area.	Fire-sensitive shrubs present in 50-70% of the area.	Fire-sensitive shrubs present in < 50% of the area.
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RANK FACTOR: CONDITION					
Key Ecological Attribute: Vegetation Composition					
Soil Surface Condition	Soil disturbance can result in erosion, loss of organic matter, and affect many ecological processes; the amount of bare soil is related to the amount of cover.	Bare soil area is limited to naturally caused disturbance (e.g., erosion, landslides, etc.) and is less than 10%.	Bare soil area is limited to naturally caused disturbance (e.g., erosion, landslides, etc.) and is less than 20%.	Bare soil area is limited to naturally caused disturbance (e.g., erosion, landslides, etc.) and is less than 30%.	Bare soil area is limited to naturally caused disturbance (e.g., erosion, landslides, etc.) and is less than 40%.

Parcel 130425005 potential PHS species

1. Within the observed range of black-tailed jackrabbit.
2. Within the observed range of white-tailed jackrabbit.
3. Within the observed range of Washington ground squirrel.
4. Within the observed range of loggerhead shrike.
5. Within the observed range of golden eagle.
6. Within the observed range of burrowing owl.
7. Within the observed range of peregrine falcon.



MEMORANDUM

TO: CITY OF EPHRATA
FROM: ADAM MILLER P.E.
BILL SBLENDORIO E.I.T.
DATE: JULY 13, 2022
SUBJECT: DESERT PLAINS TIA REVIEW

Overview

Gray and Osborne was requested by the City of Ephrata to review the Traffic Impact Analysis (TIA) of the proposed Desert Plains Development provided by Transportation Engineering Northwest (TENW). In our review we checked for consistency with the City's code and policies. This memo summarizes what we found and potential next steps.

Standards

As specified in the Growth Management Act (RCW 36.70A) local jurisdiction must adopt and enforce ordinances which prohibit development approval if the development causes the level of service on locally owned transportation facilities to decline below the standards adopted in the Transportation Element, unless transportation improvement or strategies to accommodate the impacts of development are made concurrent with the development.

As indicated in Ephrata's 2018 Comprehensive Plan - Transportation Element (TE), policy F.2, the City has adopted Link (A-F) Level of Service (LOS) standards for the arterials that handle the most significant volume of traffic in the city. The LOS is to be determined for weekday peak hour traffic and measured as a ratio of "peak hour demand vs. peak hour capacity". The city does not however, appear to explicitly state a minimum LOS standard for its roads. Per policy F.6, of the TE, the city's LOS standards and methodologies are intended to be consistent with Grant County as well as the greater QUADCO area. Both the Grant County and QUADCO Transportation Plans specify a minimum LOS D for all urban facilities or areas within Urban Growth Areas.

The TE also specifies that the Washington State Department of Transportation (WSDOT) is responsible for Highway 28 and 282 and coordinates with the city at intersections with city streets. For this section of SR 28 WSDOT has adopted a level of service standard "D" and level of service standards of "C" and "D" for SR 282 for mileposts 0.00-2.68 and 2.68-4.92 respectively.

TIA Review

In the report TENW indicates that traffic counts were taken at various intersections throughout the city during the weekday peak traffic periods, 4-6 pm, to determine typical traffic movements at these intersections. Existing LOS conditions were then calculated using standard methodology. The results showed that none of the monitored intersections are currently

operating below an LOS C. They then assumed future growth up to 2030 using a 1% growth rate which appears to be standard for much of Central Washington. They then used rates from the *Institute of Transportation Engineers (ITE) Trip Generation Manual* to estimate peak hour traffic generated from the proposed development. The rates used in the report appear to be consistent with those stated by the ITE. Their model indicates that with the additional traffic generated by Desert Plains all city intersections will operate at a minimum LOS D by 2030. The resulting LOS along SR 28 and SR 282 also appear to meet current WSDOT standards. Due to this TENW proposes that no mitigation is required on their part.

Potential Questions/Follow Up

- The Growth Management Act specifies that local jurisdictions are required to forecast future levels of service of their roadways a minimum of 10 years into the future. The provided TIA only projects level of service until 2030 or for the next 8 years. TIA should be forecast for 10 year period.
- The TIA estimates a 1% growth rate. However, the City's 2018 Comprehensive Plan estimates a higher growth rate of ~2%. Recommend using higher growth rate consistent with City's recent comprehensive plan.
- The City of Ephrata specifies their level of service standards are to be measured as a ratio of hourly demand volume vs. hourly capacity however, the TIA uses a measurement of delay in seconds to determine level of service standards. It should be verified that this method is equivalent to the one stated in the City's TE.
- Often TIAs will include impacts of future developments expected to be built alongside their own. It does not appear any additional future developments were assumed or included in the analysis. If additional developments are planned then it should be verified that they will not lower the projected future levels of service.
- It should be confirmed with the fire marshal whether a secondary access to the proposed development is required.
- Other intersection improvements may be required at the connection of the new development to the existing streets at Ivy, K, and L Street. These improvements may include stop signs, intersection improvements, and frontage improvements.
- Residential streets are shown to have a minimum right-of-way width of 60-feet per City standard detail A-1.

CULTURAL RESOURCES REPORT COVER SHEET

DAHP Project Number: 2022-05-02881

Author: Michaëlle Machuca, Justin Fitzpatrick, and David A. Harder

Title of Report: Cultural Resource Survey for the Parcel 130425005 Project, Grant County,
Washington

Date of Report: July 15, 2022

County(ies): Grant Section: 10 Township: 21 N Range: 26 E

Quad: Ephrata, 1956 (1978) Acres: 58.0

PDF of report submitted (REQUIRED) Yes

Historic Property Inventory Forms to be Approved Online? Yes No

Archaeological Site(s)/Isolate(s) Found or Amended? Yes No

TCP(s) found? Yes No

Replace a draft? Yes No

Satisfy a DAHP Archaeological Excavation Permit requirement? Yes No

Were Human Remains Found? Yes DAHP Case # _____ No

DAHP Archaeological Site #:

45GR3886

45GR3887

45GR3888

45GR3889

Cultural Resource Survey for the
Parcel 130425005 Project,
Grant County,
Washington

By:
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ABSTRACT

Cultural Resource Survey for the Parcel 130425005 Project, Grant County, Washington

Maple Landing, LLC, is planning a development in Ephrata to build a single-family housing development. The Project will include approximately 300 single-family homes. The Project Area covers approximately 58.0 acres and lies in Section 10 of Township 21 North, Range 26 East, Willamette Meridian.

This cultural resource survey will be done to support the State Environmental Policy Act (SEPA) filing for the project and other permitted activities required for the development as proposed.

Pre-field research included the review of known archaeological resources within a 1.0-mile radius of the area of potential impact as inventoried at the Washington State Department of Archaeology and Historic Preservation (DAHP). This review was completed using DAHP's secure electronic database known as the Washington Information System for Architectural and Archaeological Data (WISAARD). This database includes recorded archaeological resources, historic property inventories (HPIs), National Register of Historic Properties (NRHP) and Washington Heritage Register (WHR) properties, identified cemeteries, and previously conducted cultural resource surveys found throughout the state. The DAHP's predictive model places the APE in an area of "Moderate Risk" for encountering cultural resources, stating that "survey is advised" for this location.

The fieldwork was completed in a manner consistent with RCW 27.53.030, and included inspection techniques to identify both surface and subsurface archaeological resources. Plateau archaeologists conducted a pedestrian survey and excavated forty-one subsurface probes. The pedestrian survey covered the entire area of potential impact and subsurface probes were placed in three strings of six, nine, and twelve probes orientated north/south. Probes were placed at 20 m (66 ft) intervals within the strings. During pedestrian survey and probing, archaeologists located three sites 45GR3886, 45GR3887, 45GR3888, and one isolate 45GR3889. The four new cultural resources consist of a precontact feature (45GR3886), historic rock feature (45GR3337), historic debris scatter (45GR3888), and precontact isolate (45GR3889). These cultural resources are not eligible for inclusion on the National Register of Historic Places (NRHP); therefore, **Plateau recommends monitoring within 100 ft (30 m) of 45GR3886 and 45GR3889.** An archaeological excavation and alteration permit will need to be submitted prior to ground-disturbing work within these areas.

KEY INFORMATION

PROJECT

Cultural Resource Survey for the Parcel 130425005 Project, Grant County, Washington

REPORT AUTHORS

Michaëlle Machuca, Justin Fitzpatrick, and David A. Harder

COUNTY

Grant County

LEGAL LOCATION OF PROJECT

Section 10 of Township 21 North, Range 26 East, Willamette Meridian

USGS QUADS

Ephrata, Washington 7.5 minute, 1956 (1978)

ACREAGE

58.0 acres

PROJECT DATA

No previously recorded historic properties

Four new cultural resources located and/or recorded

DAHP PROJECT NUMBER

2022-05-02881

MANAGING AGENCY

City of Ephrata

REPORT PREPARED FOR

Maple Landing, LLC

FIELD NOTE DISPOSITION

Archived at the office of Plateau Archaeological Investigations, LLC, Pullman.

PRINCIPAL INVESTIGATOR

David A. Harder, M.A.

CERTIFICATION OF RESULTS

I certify that this investigation was conducted and documented according to Secretary of Interior's Standards and Guidelines and that the report is complete and accurate to the best of my knowledge.



Signature of Reporter
July 15, 2022

Date

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PROJECT DESCRIPTION

Maple Landing, LLC is preparing to build a single family housing development consisting of approximately 300 homes, located in Grant County, Washington (Figure 1). Anticipated impacts include excavations for homes, utilities, and roadways, compaction of soils, and other ground-disturbing construction activities required for the proposed development. The area of potential impact covers approximately 58.0 acres, and lies within Section 10 of Township 21 North, Range 26 East, Willamette Meridian (Figure 2). The area of potential impact hereafter will be referred to as the "Project Area."

This cultural resource survey will be done to support the State Environmental Policy Act (SEPA) filing for the project and other permitted activities required for the development as proposed.

STATEMENT OF OBJECTIVES FOR SURVEY

The cultural resource survey of the Parcel 130425005 Project is intended to identify potential historic properties, including archaeological and built environment cultural resources, within the Project Area prior to execution of the proposed project. The pre-field research is designed to identify any known historic properties, including archaeological sites and isolates; historic property inventories of buildings, structures, and historic districts; and cemeteries located in or near the Project Area. Fieldwork procedures are intended to identify areas of moderate to high probability for such cultural resources, previously recorded or otherwise. This report describes the pre-field research, methodology, results, and recommendations for the cultural resources aspect of the proposed project.

PRE-FIELD RESEARCH

Pre-field research included the review of known archaeological resources within a 1.0 mile (mi) (1.6 kilometer [km]) radius of the Project Area as inventoried at the Washington State Department of Archaeology and Historic Preservation (DAHP) in Olympia, Washington. This review was completed using DAHP's secure electronic database known as the Washington Information System for Architectural and Archaeological Data (WISAARD). This database includes recorded archaeological resources, historic property inventories (HPIs), properties and districts on the National Register of Historic Places (NRHP) and the Washington Heritage Register (WHR), identified cemeteries, and previously conducted cultural resource surveys found throughout the state.

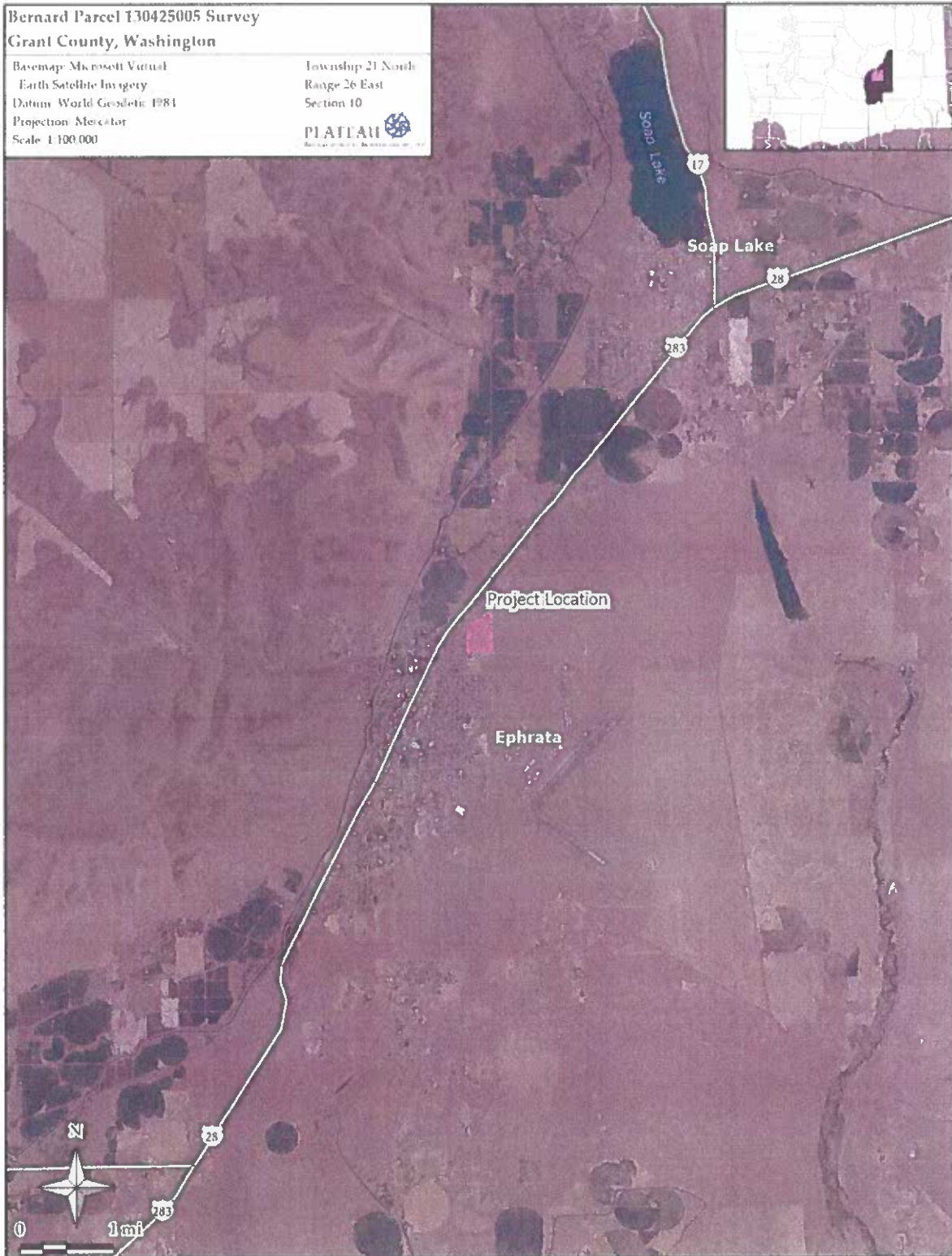


Figure 1. The location of the Project Area within Grant County.

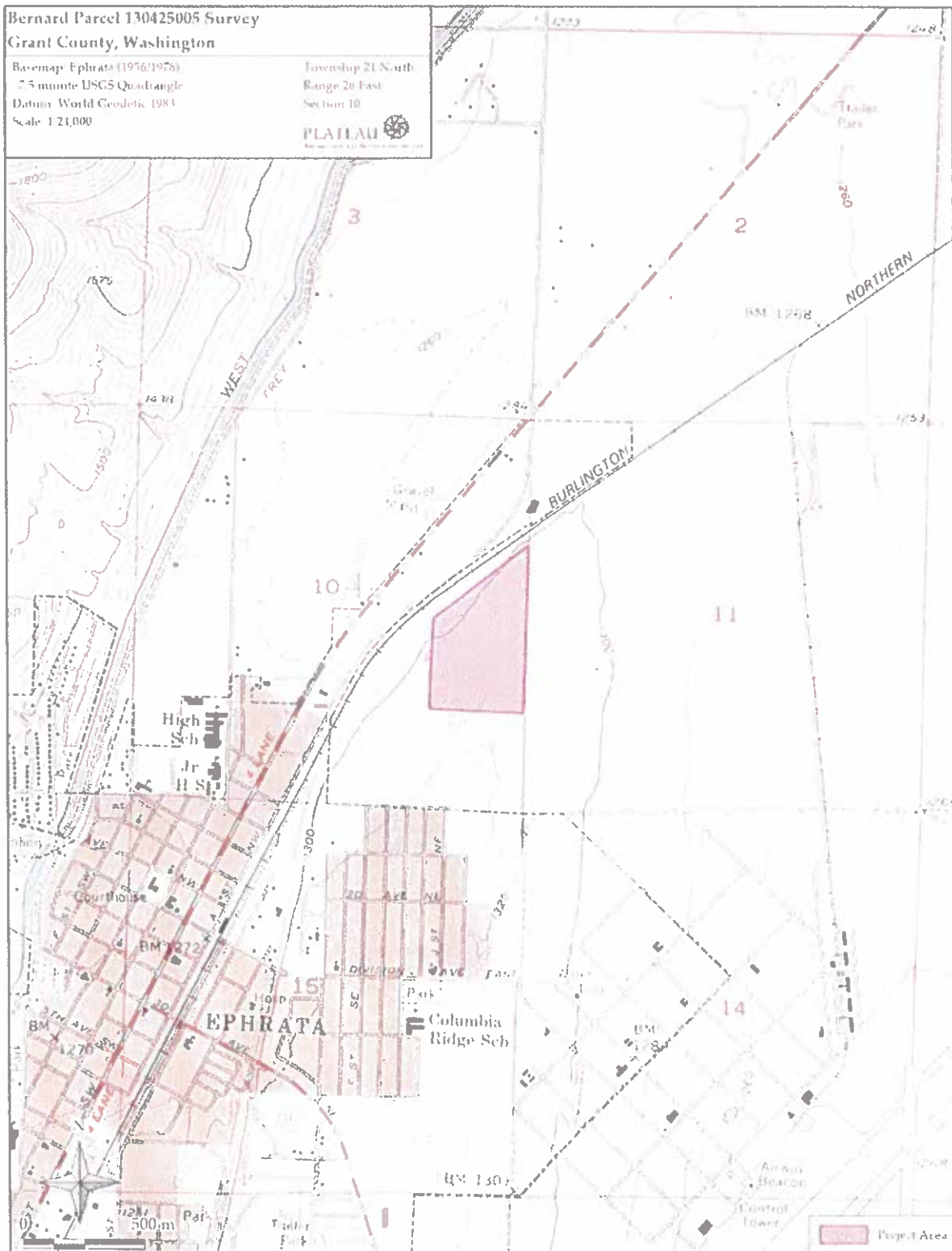


Figure 2. The Project Area shown on a portion of the Ephrata USGS map.

Plateau also conducted cartographic analysis of landform, topography, proximity to water using topographic maps, and the United States Department of Agriculture (USDA) online soil survey. Secondary historic resources, on file at the DAHP and the Plateau office in Pullman, were consulted to identify other potential historic resources. In addition, available survey and overview reports and ethnographic accounts of the region were consulted. This background review allows for the identification of previously recorded historic and archaeological resources within or near the Project Area.

ENVIRONMENTAL SETTING

The Project Area is within the Columbia Basin, situated between the Rocky Mountain and Cascade Mountain ranges. The region consists of gently rolling hills amidst the Channeled Scablands, which are features that resulted from Pleistocene-era mega-floods ranging in size from small stream-like trenches to large coulees measuring miles wide and hundreds of feet deep. Elevations in this region range between 200 feet (ft) (61 meters [m]) above mean sea level (AMSL) near the Columbia River to over 4,500 ft (1,372 m) AMSL in outlying ridges and low mountains (Fenneman 1946; Hunt 1967).

According to the Natural Resources Conservation Service (2022), the Project Area contains three soil types: Malaga gravelly sandy loam, Malaga cobbly sandy loam, and Malaga very stony sandy loam.

Table 1. NRCS Soil Descriptions within Project Area.

Soil Name	Parent Material	Horizons	% P/A
Malaga very stony sandy loam	Glacial outwash	Horizon I (0-6 inches [in]): very stony sandy loam Horizon II (6-11 in): gravelly sandy loam Horizon III (11-18 in): very gravelly sandy loam Horizon IV (18-60 in): extremely gravelly course sand	88%
Malaga cobbly sandy loam	Glacial outwash	Horizon I (0-6 in): cobbly sandy loam Horizon II (6-11 in): gravelly sandy loam Horizon III (11-18 in): very gravelly sandy loam Horizon IV (18-60 in): extremely gravelly course sand	9%
Malaga gravelly sandy loam	Glacial outwash	Horizon I (0-11 in): gravelly sandy loam Horizon II (11-18 in): very gravelly sandy loam Horizon III (18-60 in): extremely gravelly course sand	3%

The predominant draw for Native American and Euroamerican populations in this region was, and still is, the extensive river systems. The most significant environmental feature is the Columbia River, which flows for more than 1,200 mi (2,000 km) from the base of the Canadian Rockies in southeastern British Columbia to the Pacific Ocean at Astoria, Oregon. Ten major tributaries—the Cowlitz, Deschutes, Kootenay, Lewis, Okanogan, Spokane, Snake, Wenatchee, Willamette, and

Yakima—complete the drainage system. The Project Area is within the city of Ephrata which is located 22 miles east of the Columbia River, 6 miles south of Soap Lake, and 9 miles north of Moses Lake.

The vegetation around the Project Area falls within the *Artemisia tridentata*—*Agropyron spicatum* habitat type, characterized by arid sagebrush steppe (Daubenmire 1970; Taylor 1992). Big sagebrush (*Artemisia tridentata*) and bluebunch wheatgrass (*Agropyron spicatum*) are dominant in this environment. The plant community includes threetip sagebrush (*Artemisia tripartita*), gray horsebrush (*Tetradymia canescens*), spiny hopsage (*Grayia spinosa*), green rabbitbrush (*Chrysothamnus viscidiflorus*), and gray rabbitbrush (*Chrysothamnus nauseosus*). Grasses and forbs include needle and thread (*Stipa comata*), *Stipa thurberana* (no common name known), bottlebrush squirreltail (*Sitanion hystrix*), Cusick's bluegrass (*Poa cusikii*), Indian paintbrush (*Castilleja* spp.), lupine (*Lupinus* spp.), plantain (*Plantago patagonica*), longleaf phlox (*Phlox longifolia*) and balsamroot (*Balsamorhiza sagittata*). Additional species of flora thrive along the shores of the Columbia River, including bitterbrush (*Purshia tridentata*), quaking aspen (*Populus tremuloides*), willow (*Salix* spp.) and currant (*Ribes* spp.) (Daubenmire 1970). Many of these plants have been incorporated in Native American use as medicinal plants, food sources, and other employment.

The Project Area lies within a region that historically contained an abundance of life. It is likely, though, that Native Americans had access to an even larger variety of resources during the past that played a role in aboriginal use, settlement, and travel patterns in relation to the Project Area. Mammals include sagebrush voles (*Lemmyscus curtatus*), Great Basin pocket mice (*Perognathus parvus*), deer mice (*Peromyscus maniculatus*), bushy-tailed wood rat (*Neotoma cinerea*), Washington ground squirrel (*Spermophilus washingtoni*), northern pocket gopher (*Thomomys talpoides*), yellow bellied marmot (*Marmota flaviventris*), white-tailed hare (*Lepus townsendii*), Nuttall cottontail (*Sylvilagus nuttallii*), porcupine (*Erethizon dorsatum*), beaver (*Castor canadensis*), muskrat (*Ondatra zibethica*), Bighorn sheep (*Ovis canadensis*), coyote (*Canis latrans*), bobcat (*Lynx rufus*), badger (*Taxidea taxus*), and long-tailed weasel (*Mustela frenata*). The occasional bison (*bison bison*) is also thought to be available prehistorically (Burt and Grossenheider 1961; Ingles 1965; Schroedl 1973).

Many types of fowl were also available in the past including Swarth blue grouse (*Dendragapus obscurus pallidus*), Columbian ruffed grouse (*Bonasa umbellus affinis*), Columbian sharp-tailed grouse (*Pedioecetes phasianellus*), western sage grouse (*Centrocercus urophasianus phaios*), mallard duck (*Anas platyrhynchos platyrhynchos*), western harlequin duck (*Histrionicus histrionicus pacificus*), American common merganser (*Mergus merganser americanus*), the lesser snow goose (*Chen hyperborea hyperborea*), and the Great Basin Canada goose (*Branta canadensis moffitti*). Seasonally available birds such as Gadwall (*Anas strepera*), wood duck (*Aix sponsa*), redhead (*Aythya americana*), and the northern ruddy duck (*Oxjura jamaicensis rubida*) resided in the region in the summer. Winter game birds of the region included canvasback (*Aythya valisineria*) and American greater scaup (*Aythya marila nearctica*) (Lothson 1977).

The climate in the Columbia Basin was cool and moist at the end of the last glacial period. Gradually, climatic conditions became markedly warmer and dryer by approximately 9,000 years before present (B.P.). The warm dry climatic trend reached its maximum around 6,500 B.P. and then conditions reverted to a cooler and moister regime (Fryxell and Daugherty 1962). Comparatively, the present climate is arid with mild moist winters and hot dry summers (Meinig 1968). The mean seasonal temperatures recorded at the Ephrata Municipal Airport weather station (#452614) between 1949 and 2012 are 30.3° Fahrenheit (F) in winter and 72.1° F in the summer. Extreme temperatures of -24° F and 115° F have been recorded at the same station. Yearly precipitation averages 7.53 inches (Western Regional Climate Center 2022).

REGIONAL PRECONTACT BACKGROUND

The Project Area is included in the Plateau culture area, which corresponds roughly to the geographic region drained by the Fraser, Columbia, and Snake rivers. The Plateau culture area is bordered on the west by the Cascade Mountains and on the east by the Rocky Mountains. The northern border of the culture area is in Canada where it gives way to Arctic culture patterns. The southern border of the Plateau culture area mixes gradually with the Great Basin culture area (Walker 1998:1-3).

A cultural chronology provides a time line describing the adaptations, material culture, subsistence, and sometimes settlement patterns of the people who inhabited a specific area. Based originally on archaeological investigations at 45KT28, the Sunset Creek Site, a chronological sequence identifying technological trends through time emerged for the middle Columbia River region (Nelson 1969). Over the succeeding years, this chronology changed as new archaeological discoveries added to the body of knowledge for the middle Columbia River area, resulting in the identification of five distinct cultural phases; the Paleoindian Phase (11,500 to 10,000 B.P.) (Meltzer 1993), the Windust Phase (10,000 to 8,000 B.P.) (Leonhardy and Rice 1970), the Vantage Phase (8,000 to 4,000 B.P.), the Frenchmen Springs Phase (4,000 to 2,500 B.P.) (Galm et al. 1981:55), and the Sunset Creek Phase (2,500 to 250 B.P.) (Galm et al. 1981:82). The culture chronology of the middle Columbia River has been discussed at length in Nelson (1969), Rice (1969), Leonhardy and Rice (1970), Galm et al. (1981), and Meltzer (1993), and, if pertinent, will be discussed further within the results of this report.

Ethnography

Ethnographic sources that depict the geographic distribution of Native American traditional territories provide a general guide for identifying the range of occupation for Indigenous groups in the precontact and historic eras. However, these boundaries are oversimplified and should not be viewed as rigid considering that they are arbitrarily defined, with sharp lines that neither depict joint or disputed occupations nor historical changes in range distributions prior to and after the early- to mid-19th century (Walker, ed. 1998:viii). While these ethnographic sources provide a baseline for recognizing the ancestral homes of the groups that originally occupied the Project Area, it is important to recognize the variability in the geographic distribution of groups on the Plateau and the broader relationships between people and place that make these boundaries permeable (see

Thom 2009:179). According to the DAHP, the Project Area is in an "area of interest" for the Confederated Tribes of the Colville Reservation, the Confederated Tribes and Bands of the Yakama Nation, and the Spokane Tribe of Indians (DAHP 2022).

Sinkayuse The *škwáxcənəx* people are known today as the Moses-Columbia. A part of the Middle Columbia River Salishan subgroup of the Plateau culture area, they speak the Interior Salish language of *nxaʔamxcin* (Miller 1998:253). After 1886, a majority of the Moses-Columbia moved to the Colville Indian Reservation where they reside today as one of twelve constituent members of the Confederated Tribes of the Colville Reservation (CTCR 2022).

The Moses-Columbia traditional territory lies in the "Big Bend" portion of the Columbia River, bounded by the Columbia River, Wenatchee River, and Crab Creek with shared access provided to many groups (Anglin 1995; Waldman 2006; CTCR 2022). The Sinkayuse "controlled the left bank of the Columbia from the foot of Priest Rapids upstream to Rock Island...northward to approximately opposite the Wentachee confluence" (Smith 1983:198). They also controlled the interior basin from the Saddle Mountains to the Brewster-Bridgeport area (Smith 1983:198). In addition, they shared the intertribal root grounds adjacent to the Kittitas Valley (Ruby and Brown 1965:4) and shared terrain with the Palus Tribe whose traditional territory was south and east of Sinkayuse homelands (CTCR 2022).

The Moses-Columbia had large winter camps along the Columbia River where they aggregated into villages with more permanent house structures (Anglin 1995; Waldman 2006). There were many benefits to wintering on the Columbia, including the abundance of driftwood to construct houses or maintain fires and protection from winter winds that whip across the Plateau (Anglin 1995). Houses could be as large as 40 feet long and house up to four families, which were related through a bilateral kinship system (Anglin 1995; Miller 1998). During the winter, men occasionally hunted while women made baskets and mats for use during the rest of the year (Ray 1932:28). Winter was also the primary ceremonial season, and families traveled from one dance to the next for up to two months (Ray 1932:28). During the fall, winter, and early spring, the Moses-Columbia traveled between villages along the Columbia using dugout canoes (Anglin 1995).

When spring arrived, family groups left their winter villages and returned to early season temporary camps near root grounds where women began harvesting various early root crops, particularly camas and bitterroot, along with prickly pear (*Opuntia polyacantha* Haw.) (Miller 1998:255; Ray 1932:27). Men hunted small game and collected freshwater shellfish (Ray 1932:27). As spring progressed, Moses-Columbia family groups moved farther south of the Columbia River to the root digging grounds known as *háypx*, "prairie," or *kaʔit'əlt*, "second plateau" (Kinkade 1981:98).

During the summer, small groups of Moses-Columbia spread throughout the Big Bend region to fish along the rivers, harvest roots and berries, hunt for deer, and engage in trade with other Plateau peoples at important trade centers such as *Tuc-Ta-Hyaspum* (modern day Ephrata) (Anglin 1995) and as far south as the Dalles. There they traded "skins, fur, fish, oil, roots, pemmican,

feathers, robes, clothing, shells, slaves, and horses” (Teit 1928:121) with the Wasco, Wishram, and other tribes (Teit 1928:121). Shells and shell and bone beads from the Pacific coast were part of this network with the Sinkayuse as central figures (Teit 1928:121). Horses were often used during spring and summer months for hauling tepees and family possessions to main camps where families congregated for trade and gathering (Anglin 1995).

The main subsistence practice of the Moses-Columbia was based on numerous species of migratory salmon and ocean-run trout, once abundant in the Columbia River, Wenatchee River, and other productive tributaries prior to the building of dams (CTCR 2022). Collecting and processing *tsuka-lo-tsa* root (*Lomatium canbyi*) was also an essential activity (Anglin 1995). During the summer, families aggregated in *Tuc-Ta-Hyaspum* (Ephrata) for trade and harvesting *tsuka-lo-tsa* roots (Anglin 1995). Once the roots were gathered, women often left the main camp for small camps near streams where they could easily steam their roots in cooking pits (Anglin 1995). These roots were then traded at Rocky Ford, which was one of the most important inter-tribal trading centers of the Northwest (Anglin 1995).

In addition to root gathering and trade, salmon fishing, hunting of deer, geese, and ducks was highly important for Moses-Columbia subsistence and seasonal movements (Anglin 1995). First hand accounts from Billy Curlew state that dugout canoes were particularly important for hunting geese, and probably ducks, on many of the lakes in the Moses-Columbia territory (Anglin 1995). At Squa-quint Falls, trout were caught by hand from the stream and the fish were cooked in a basalt pothole filled with water from the stream and heated through large boiling stones (Anglin 1995). Persistence running of deer was common after the introduction of the horse into the area (Anglin 1995). Collaborative efforts for game drives are noted, specifically Miller (1998) suggests that the Sanpoil and Sinkayuse conducted communal antelope drives. Sinkayuse were also known to travel to the plains to partake in bison hunting “under the leadership of the Split Sun [chieftain Sulkalthscosum]” (Miller 1998).

Although the lifeways of the ancestors of members of the constituent tribes of the CTCR were altered drastically during the Reservation era, “cultural teachings and practices continue to be passed on to younger generations, and the deep cultural and spiritual significance of places within CTCR homelands persists” (CTCR 2022). In addition, “the gathering of roots, medicines, and other plant materials, along with the seeking of spiritual guidance and strength continues through this day, as do traditional teachings and ceremonies related to these activities (Sylvia Peasley, personal communication 2014)” (CTCR 2022).

One of the most important and famous individuals in the Plateau region is Chief Moses-Columbia, who made every effort to form a Sinkayuse reservation in their traditional homelands, centered on Moses Coulee (CTCR 2022). He built his reputation as a respected individual who was willing to work with Euroamericans; therefore, as tension between settlers and Indigenous people in the territory rose, Chief Moses became a representative of Indigenous interests in the area (Ruby and Brown 1965). The 1855 Walla Walla Treaty Council with the Yakama, signed by Chief Moses’ predecessors, ceded rights to nearly ten million acres, including to the Sinkayuse homeland. Chief

Moses himself adamantly opposed this treaty and after a bloody extermination campaign by Colonel George Wright, he led his people in 1858 back to Moses Coulee. Here they were safe in relative isolation, surrounded by sufficient resources to live until the 1870s (CTCR 2022).

As neighboring tribes, including the Lower and Middle Spokanes, Okanogans, San Poils, Lakes, and Colvilles agreed to go to reservations, Moses and his people remained uncommitted (Ruby and Brown 1965). Although some Sinkayuse did agree to go to the Colville and Yakama reservations, Moses and his band fought for their own reservation in their traditional homelands around Moses Coulee (Ruby and Brown 1965; CTCR 2022). In 1877 and 1878, Chief Moses and General Howard met in council to draw the boundaries of the proposed Moses-Columbia reservation which focused on Moses Coulee and extended from the Spokane River, west to Lake Chelan, and south to the confluence of the Yakima and Columbia Rivers (Ruby and Brown 1965). Although Chief Moses was successful in securing the Columbia Reserve for his people, he resided on the Colville Reservation where, ultimately, his people were forced to move after the loss of their reservation by Presidential Executive Order in 1886 (CTCR 2022).

Yakama The Confederated Tribes and Bands of the Yakama Nation hold 1.2 million acres of land from Mount Adams, the Klickitat River, and the Yakima River (Columbia River Inter-Tribal Fishing Commission [CRITFC] 2022). While the treaty for these lands was initiated in 1855, the Yakama Nation ancestral territory spanned 11.5 million acres throughout central Washington (CRITFC 2022). While some use “Yakama” to refer to constituent members of the Confederated Tribes and Bands of the Yakama Nation (Yakama Nation), Hunn (2003:7) noted that the Yakama “proper” may be understood as the Native people who lived on the Yakima River at the time of the Walla Walla Treaty Council in 1855. In the mid-nineteenth century, Yakama territory was divided into the Upper Yakama and Lower Yakama, with Wenas Creek dividing the two closely connected bands (Schuster 1998:327). Some suggest that the Lower Yakama (*mámachatpam*) are the Yakama proper, and that the Upper Yakama are the same as, or nearly indiscernible from, the Kittitas (*pshwánwapam*) (Gibbs 1855; see also Hunn 2003:7, Schuster 1998:327). The Yakama and neighboring groups (Klickitat, Kittitas, and Taitnapam [Upper Cowlitz]) spoke dialects of the Northwest Sahaptin dialect cluster (Ray 1936:108; Schuster 1998:327), while the Wanapum, who were also closely related to the Yakama, spoke a dialect of the Northeast Sahaptin cluster (Kinkade et al. 1998:58).

The Yakama and neighboring groups are traditionally related through language, contiguous territories, reciprocal exchange systems, recurring social interactions, and similar lifeways, yet each consisted of independent, politically autonomous bands and villages prior to the treaty era (Schuster 1998:327). The geographic subsistence, political, social, and spiritual areas in which these related groups maintained their lifeways both then and now is often referred to as “Yakama country,” perhaps as a legacy of the Treaty of 1855 and the U.S. Government’s attempt to lump numerous discrete bands into a single representative tribe for exploitative and administrative purposes. Casey Barney (personal communication 2022), Cultural Resource Program Manager of the Yakama Nation, stated:

"The Yakama Nation reserved the "exclusive right of taking fish at all usual and accustomed places, and of erecting temporary buildings for curing them; together with the privilege of hunt, gathering roots, and berries" (Treaty with the Yakimas 1855 12 Stat 951). Under the terms of the Treaty, the "Yakama" reserved no only usufructuary rights, but all other rights not granted by Yakama Nation were reserved (referred to as the Treaty Reserved Rights). "The Treaty was not a grant of rights to the treaty Indians, but a grant of rights from them, and a reservation of those not granted" (United States v. Winans 198 US 371 (1905); United States v. Washington 384 F. Supp. 312 (1974)."

Today, these groups and their sovereign rights and interests are represented within the Yakama Nation (Schuster 1998). Fourteen bands and tribes comprise the Confederated Bands and Tribes of the Yakama Nation today and include the Kah-milt-pah, Klickitat, Klinquit, Kow-was-say-ee, Li-ay-was, Oche-chotes, Palouse, Psquouse, Se-ap-cat, Shyiks, Skinpah, Wenatshapam, Wishram, and Yakama (CRITFC 2022; Yakama Nation 2022).

Traditionally, the primary political unit in the region occupied by the Yakama and other closely related tribes and bands was the village, while the basic residential unit was the bilateral (mother's and father's) extended family. The introduction of the horse, which came about through trading or raiding with the Western Shoshone during the 1730s, had a notable impact on the lives of Plateau Native Americans (Nelson 1973). Prior to the horse, winter villages were comprised of residential structures that were typically semi-subterranean, circular mat lodges measuring between 12 and 30 ft (3.7 and 9.1 m) in diameter and 6.0 to 7.0 ft (1.8 to 2.1 m) in total depth, with a ladder exit and smoke hole at the apex of the conical roof (Schuster 1998:335). After the introduction of the horse, winter villages were typically comprised of 5 to 15 multi-family lodges, or longhouses, which accommodated extended affinal families. These lodges were rectangular mat structures measuring 40 to 60 ft (12.2 to 12.3 m) long, 12 to 15 ft (3.7 to 4.5 m) wide, approximately 10 ft (3.1 m) tall, and with entrances at each rounded end. Longhouses (*káatnam*) could be dismantled in the spring and moved if necessary, and were not only the primary winter living spaces of Yakama and Kittitas groups, but were also the centers of ceremonial and religious life in the winter village until the latter 18th century when community ceremonial longhouses began to appear (Schuster 1998:335).

In addition to the larger multifamily lodges, villages typically contained several smaller, conical lodges that housed nuclear families, as well as a few sweat lodges (Schuster 1998:335). Larger Kittitas and Yakama winter villages between the present-day unincorporated communities of Thorp and Parker were home to 500 to 2,000 people or more, respectively (Schuster 1998:327-329). Verne Ray identified 77 or more villages or camps in the surrounding areas (1936:143-151), and Schuster (1998:327) pointed to additional work done by Spier (1936) and others that depict dozens of discrete villages, camps, and bands. The Yakama and Kittitas winter villages described here were arranged in river valleys, which offered not only water transportation and access to salmon, eels, and other riverine resources, but also shelter from harsh elements and late-fall and winter pastures for grazing horses (Ray 1939:135; Schuster 1998:335).

Residential patterns and subsistence procurement followed seasonal changes and the accompanying annual round. Settlement and subsistence centered along the river courses, although the Yakama would extensively utilize the Cascades in the summer and fall as resources became available (Ray 1936). River valleys were occupied during the fall salmon runs in September and October, and winter villages were usually settled by November. During the coldest months of the year, the Yakama relied upon stored foods from their previous annual round and any game that could be taken. In early spring, winter supplies began to dwindle and people began making forays to gather emergent root crops (Nelson 1973). Snowmelt in February or March saw the “first foods feast,” held in a community longhouse, which marked the first stalks of the earliest harvestable wild plant, celery (*Lomatium grayi*), as villagers eagerly awaited the opportunity to begin salmon fishing (Schuster 1998:331).

Mid-spring salmon fishing marked the departure of permanent and semi-permanent winter villages for fisheries along the Columbia, Yakima, Klikitat, White Salmon, and Cowlitz rivers, as well as several tributaries (Schuster 1998:331). Late spring and summer camps were situated in the uplands, where hunting, berry picking, and root digging occurred. Deer were particularly important game, as they provided venison and materials for much of the Yakama and Kittitas material culture. Individuals or small groups often went to specific areas to hunt a variety of game, quarry toolstone, collect camas and berries, or gather other resources such as tules to make mats (Aikens 1993:90). Some Yakama would occasionally travel to hunt buffalo on the Plains, east of the Rockies, in cooperative hunts with other eastern Plateau groups (Schuster 1998:333).

After another salmon run and multiple camp movements based on specific resources throughout the summer, people would return to the river valleys for massive gatherings, as discussed by Ray (1936, 1939). These gatherings involved thousands of people who engaged in trading, horse races, marriages and family visits, dispute settlements, oral narratives, and every other complexity of life on the Plateau. Such gatherings took place in late-May, early-June, and August near the present-day City of Kittitas and the community of Teanaway, and served as the social, economic, and political highlights of the year. Following the summer, families and village communities would make their ways back to the river valleys in time for fall salmon runs and elk hunting, before settling into their winter village sites by October or November when the heavy frost arrived (Schuster 1998:328).

The Yakama engaged in an expansive trade system that extended from the Plateau and Northwest Coast to the Plains and Great Basin. Access to complex trade networks was essential for maintaining the traditional economy and lifeways of the Yakama (Walker 1997:71). The adoption of the horse allowed the Yakama to greatly expand their range of travel and intensify their existing patterns of trade and exchange (Walker 1997:77). Horses allowed bulk packages of root cakes, dried berries, buffalo robes, and other goods to be transported with relative ease (Feit 1928). Allan Smith (1964) documented an expansive trans-Cascades trade network that was utilized by the Yakama and surrounding groups. The Yakama would frequently travel across the Cascades in order to obtain supplies of natural resources that were not available in the Plateau and to establish

and maintain friendly relationships with their Northwest Coast neighbors (Smith 1964). These and other trade networks allowed the Yakama to obtain and exchange aquatic resources, game, decorative objects, desert products, and other materials, as well as slaves (Walker 1997:90).

The Yakama traditionally emphasized and continue to maintain the importance of intergenerational teaching and learning. One such example is found in dance, which is a key component of Yakama life. As noted by Yakama member Sue Rigdon, each dance has a “spirit and its own life;” thus, learning traditional dances is a spiritual act (Jacob 2013:22, 38). These lessons contain “important teachings about cultural pride, leadership, and responsibility to the future generations” (Jacob 2013:38). Dance is one of multiple pathways to cultural revitalization and healing the wounds of colonialism for Yakama people (Jacob 2013:4, 41).

The ethnographic records of the groups and areas surrounding the Project Area and the larger Plateau is much more complex, with a wider cultural diversity than can be summarized here. Ethnographic studies by Anastasio (1972), Boas and Teit (1996), Ray (1936, 1939, 1942), Relander (1986), Ruby and Brown (1981, 1989), Schuster (1998), Smith (1988), Spier (1936), and others offer the reader a more thorough examination of the represented Native culture groups.

While ethnographies such as those referenced above provide a useful means of understanding the traditional lifeways of Indigenous peoples, it is important to remember that Indigenous groups were, and continue to be, markedly complex, dynamic, and diverse. Uncritical applications of the ethnographic record to representations of past lifeways have the potential to produce reductionist views of tribes and bands that portray them as homogenous or static. The above depictions of the Sinkayuse and Yakama peoples serve as generalized portrayals of the traditional lives of these groups, and should be viewed in light of these complexities.

Places of Cultural Significance

Traditional Cultural Places (TCPs) are important for the “role the property plays in a community’s historically rooted beliefs, customs and practices” as stated in the *National Register Bulletin 38* (U.S. Department of the Interior 1990). Although these places can be difficult to identify and evaluate from an etic perspective, an initial search of pertinent publications can be helpful toward identifying the types of properties that may be expected. *National Register Bulletin 38* goes on to state that “examples of properties possessing such significance include:

- a location associated with the traditional beliefs of a Native American group about its origins, its cultural history, or the nature of the world;
- a rural community whose organization, buildings and structures, or patterns of land use reflect the cultural traditions valued by its long-term residents;
- an urban neighborhood that is the traditional home of a particular cultural group, and that reflects its beliefs and practices;

- a location where Native American religious practitioners have historically gone, and are known or thought to go today, to perform ceremonial activities in accordance with traditional cultural rules of practice; and
- a location where a community has traditionally carried out economic, artistic, or other cultural practices important in maintaining its historic identity” (1990:1).

The Project Area falls within the traditional territory of the Sinkayuse and Yakama people. A review of ethnographies was undertaken to help identify cultural contexts and any known TCPs within or near the Project Area. This is a preliminary review that was performed using publicly available resources, and should not be construed as an exhaustive identification of potential resources. The works of Anastasio (1972), George (2011), Miller (1998), Ray (1936, 1939, 1942), Ruby et al. (2010), Smith (1988), Spier (1936), and Swanton (1968) were consulted. Miller (1998) recorded four ethnographic locations within 4.0 mi (6.4 km) of the Project Area (Table 2, Figure 3).

Table 2. Ethnographic Locations near the Project Area.

Traditional Name	Translation	Details
name not recorded		Sinkayuse village (Miller 1998, Village 62). Located 3 mi (4.8 km) west of the Project Area.
<i>n̄tx̄áȳtp̄m</i>	"cottonwood place"	Sinkayuse village (Miller 1998, Village 65). Located 3 mi (4.8 km) southeast of the Project Area.
name not recorded		Sinkayuse village (Miller 1998, Village 66). Located 3 mi (4.8 km) south of the Project Area.
<i>kl̄áx̄áwas</i>	"rocks in a pile"	Sinkayuse village (Miller 1998, Village 61). Located 4 mi (6.4 km) southeast of the Project Area.

Several collections of published legends were consulted to identify points of legendary significance to the Sinkayuse, Yakama, and surrounding Indigenous groups in or near the Project Area. These include publications by Clark (1969), Erdoes and Ortiz (1984), Ferguson (2007), Hill-Tout (1978), Judson (1910), Mourning Dove (1990), Ray (1933), and Yanan (1971). Many tales were found involving the general region.

A Sanpoil and Nespelem tale known as *Unsuccessful Suitors* tells the story of Coyote’s unsuccessful attempt to marry a girl (Ray 1933) or two girls (Ferguson 2007) who he encountered at Dry Falls, and his subsequent decision to change the course of the Columbia River from Grand Coulee to its current route. According to the story, as told by a Sanpoil member named Clara Moore in 1950, Coyote encountered a family camping at Dry Falls that included two girls who he found attractive. Coyote asked the father of the girls if he could marry them, to which the father replied, “Well, I’ll have to ask the girls.” When asked, the girls refused the marriage proposal, telling their father that they weren’t ready to be married (Ferguson 2007:122–123).

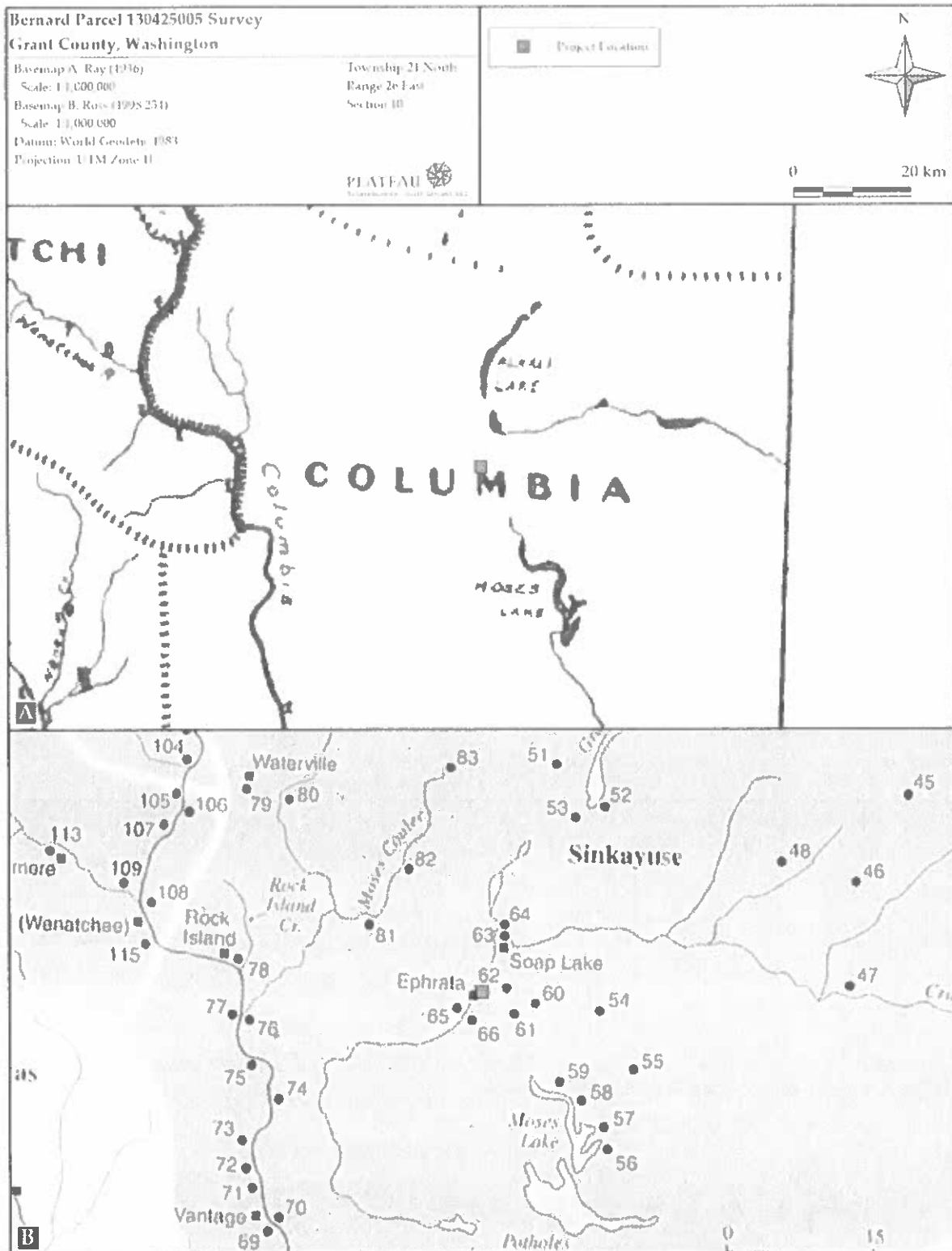


Figure 3. The Project Area shown in relation to ethnographic locations.

In the version of *Unsuccessful Suitors* that is depicted by Ray (1933), Coyote fell in love with a girl but was afraid to ask her parents for her hand in marriage because he knew that the parents did not approve of him. Coyote sent a messenger to tell the parents that he would give them many gifts if they would allow the girl to marry Coyote. The girl's father agreed, but her mother refused. In both versions of the story, the failed marriage proposal angered Coyote, and in retaliation, he went to the north end of Grand Coulee and changed the channel of the Columbia River from Grand Coulee to its current-day route (Ray 1933:176–177). Dry Falls, where Coyote encountered the girl(s), is located roughly 21 mi (33.8 km) northeast of the Project Area; while the northern end of Grand Coulee, where Coyote changed the course of the Columbia River, is situated approximately 49 mi (78.2 km) northeast of the Project Area.

Ray (1933:185) referenced a Sanpoil tale about Blue Lake, which is located approximately 15 mi (24.1 km) northeast of the Project Area. According to the story, one day an excellent swimmer began swimming to an island in Blue Lake. About halfway to the island, the swimmer drowned. Two or three weeks later, his skeleton was found on the shore of the lake, on the opposite side of where he drowned. His flesh was believed to have been eaten off by the spirits of the lake. No Native Americans ventured to that area again.

It should be noted that TCPs, place names, and landscape narratives are highly sensitive and often sacred. Native American traditional knowledge and landscape narratives are extensive within traditional territories, which extend well-beyond current reservation boundaries and include the Project Area. Due to the significance of TCPs, as well as their esoteric and sacred importance, and out of genuine and reasonable concern for their safety, tribes often do not share information regarding TCPs, and published materials often do not reveal locations of sensitive properties or narratives. If further review of TCPs is required, it is recommended that one make arrangements with the Tribes directly.

REGIONAL HISTORIC BACKGROUND

Contact with peoples on the west coast of the continent was well established by the end of the eighteenth century by British, Spanish, and Russian trading vessels that made regular visits to the coastline. These trading expeditions began the first contact between aboriginal groups and outside cultures. Written historic accounts of the area, though, really begin when Lewis and Clark journeyed through the region in 1805.

In 1809, Oregon Territory saw an influx of trappers and fur traders, beginning with the Canadian-owned North West Company as they made their way into the region and built Spokane House in 1810, located near the confluence of the Spokane River and Hangman Creek. Spokane House became the first permanent European settlement in the State of Washington (McCart and McCart 2000:213). For a time, Spokane House thrived as both a trading center and a gathering place for fur traders. Despite its successes, Spokane House was abandoned in 1816. By that time, trading routes

had shifted largely to the Columbia River, leaving the Spokane House no longer logistically or economically important (Meinig 1968). In 1825, the Hudson's Bay Company closed Spokane House and moved its local operations north to Fort Colville at Kettle Falls.

Subsequent to the opening of the Oregon Trail in 1840, Euroamerican settlers flooded the area, bringing trade, religion, and disease into Native-occupied areas. In 1846, the United States took control of the Oregon territory in the Oregon Treaty. With increasing population and economic and political pressures of immigrants and the Whitman massacre, the Territory of Oregon (Oregon Territory) was officially established in 1848. By 1850, nearly 12,000 immigrants had passed through the Plateau region along the Oregon Trail (Beckham 1998; Walker and Sprague 1998). With the establishment of the Oregon Territory in 1848 and Washington Territory in 1853, federal involvement proliferated. Treaties between Native tribes and the new state and federal governments were soon underway.

Washington Governor Isaac Stevens, also appointed as Superintendent of Indian Affairs by President Pierce, worked jointly with Joel Palmer, Superintendent of Indian Affairs in Oregon, to negotiate a series of treaties between 1854 and 1855. The Confederated Tribes and Bands of the Yakima Nation were established as a result of one of these treaties (Schuster 1998; Sprague 1998; and Yakama Nation 2013). On June 9, 1855, the Yakama, Palouse, Piquouse, Klikitat, Klinquit, Kowwassayee, Liaywas, Skin, Wishram, Shyiks, Ochechotes, Kahmiltpah, and Seapcat, along with the Wenatchi, signed a treaty that ceded 10,816,000 acres of ancestral homeland to the U.S. Government. Among the fourteen signatories of the Yakima Treaty of 1855 was Kamiakin and Wenatchi Chief Tecolekun. The fourteen tribes, not necessarily assembled by traditional ways, language, or by mutual agreement, were grouped as one: the Yakima (Yakama).

In exchange for the ceded lands, the Yakama negotiated and secured agreements for the 1,200,000-acre Simcoe Reservation, as well as agreements that no Euroamericans could live on the reservation without express permission. Under the terms of the treaty, the U.S. Government agreed to provide two schools, a hospital and physician, a sawmill, a flour mill, a farmer and craftsmen to teach trades, as well as annuities (Schuster 1998:343). Additionally, the treaty reserved the rights of the Confederated Tribes of the Yakama Nation to hunt, fish, access and use traditional cultural sites, gather traditional foods and medicines, graze livestock, and access water in sufficient quantity and quality in all their usual and accustomed places in the ceded areas. Finally, the terms of the treaty provided a period of two years to allow the various bands and tribes to migrate to and resettle on their new reservations (Schuster 1998; Sprague 1998; Yakama Nation 2013).

Fatefully, twelve days after the treaty was signed, gold was discovered east of the Cascades and the rush was on. Governor Stevens illegally opened the reserved lands to afford miners passage and access to the newfound resources. Believing the reserved areas open to settlement, Euroamericans rushed onto the sovereign Native American land. Seeing that the government had failed to observe the terms of the treaty within days of the council, and in light of immediate mistreatment of the Yakama, Chief Kamiakin withdrew what had been his abiding support for

cooperation. The Yakama attempted to protect their reserved land and resources, and resulting confrontations led to the death of several miners as well as Indian Agent Andrew J. Bolon (Schuster 1998: 343-344). The Yakama Wars had begun.

As the U.S. Army moved in to retaliate for Bolon's killing, Chief Kamiakin led a group of warriors in attacking Major Granville O. Haller's troops near Toppenish Creek. Major Haller, recognizing that Governor Stevens had illegally opened lands, an action that resulted in the violence at hand, acquitted the Yakama of wrongdoing in their attack (Schuster 1998:344).

On November 14, 1855, Major Gabriel Rains and his soldiers advanced on the Saint Joseph Mission. During the raid, soldiers "discovered" a cask of gunpowder buried in the garden. Citing this as an act of aggression toward the U.S. Army, and believing that the priests were aiding the Native Americans, the soldiers burned Saint Joseph Mission to the ground. This was only one of countless travesties that marked the era of policymaking, gross treaty violations, and Indian Wars that would play out for the next several years. On March 26, 1856, Yakama, Klikitat, and Cascades warriors attacked an Army outpost, killing 14 settlers and three U.S. soldiers in what became known as the Cascades Massacre. Army reinforcements drove out the warriors and nine Cascade Indians, including Chief Chenoweth (Schuster 1998:344).

Between 1855 and 1858, ineffectual efforts were made to limit the incursion of emigrants and others into reserved Indian territories. After the Puget Sound War broke out in the summer of 1856, Fort Simcoe was established 20 mi (32.8 km) southwest of the modern City of Yakima in order to create a stronghold in the Yakima Valley, as well as to prevent Euroamerican settlement (Schuster 1998:344). General Wool pointed out that "the army cannot furnish guards to farm houses dotted among hostile tribes" (Meinig 1968:165).

The settlement prohibition, established in 1855, was only a temporary solution to an inevitability. People settled and volunteer militias attacked indiscriminately and fueled the fire under uncertain relations. The unrest culminated with Colonel Wright's campaign in 1858 that resulted in the executions and murders of sixteen Indians, including a Yakama chief named Owhi and his son, Qualchan (Beckham 1998).

While Wright's campaign was underway, Major R.S. Garnett led approximately 300 soldiers on a sweep from Fort Simcoe up through the Yakama country, through Wenatchee, and as far as the Similkameen River. Garnett's sweep resulted in the summary executions of ten Indians suspected of having attacked miners, and the loss of one private who was lagging behind the company and was presumably shot by an Indian (Wilson 1990:62). This sweep resulted in the end of armed Native resistance within the region.

The war ended after Colonel Wright's and Major Garnett's campaigns and the ratification of the Yakama Treaty in 1895. An area of 1,200,000 acres was designated as the Yakama Reservation, creating the modern boundaries of the reservation. As part of the treaty, control of Fort Simcoe was given to the Indian Department and turned into a boarding school. A hospital and doctor, sawmill and flour mill, and an annuity were also to be provided by the Federal government (Schuster 1998: 343-345).

Occurring around this time, the Colville Indian Reservation was established with an Executive Order, signed by President Grant, on April 9, 1872 and included the Methow, Okanogan, Sanpoil, Nespelem, Lakes, Colville, Kalispel, Spokane, Coeur d'Alene, Chelan, Entiat, and Southern Okanogan bands and tribes (Lahren 1998: 492). The original Colville Indian Reservation was bounded by a line that began at the confluence of the Columbia River and Spokane River, following the Columbia River north to the Canadian border, and then following the border east to the Pend Oreille River towards the border between Washington and Idaho states. The boundary line then moved south to the Little Spokane River, southwest to the Spokane River, and then back down to the Columbia River (Kappler 1904:915; CTCR 2021). Within less than three months of its creation, a subsequent Executive Order moved the reservation to the west side of the Columbia River, and established the Okanogan River as its western boundary (Kappler 1904:916).

Meanwhile, the Columbia Reserve was established for Chief Moses following two Executive Orders, dated to April 19, 1879, and March 6, 1880. The enlarged reservation reached from Lake Chelan, north to the Canadian border, and from the crest of the Cascade Mountains to the Okanogan River (Ruby et al. 2010:205). In 1883, miners insisted on the reduction of the reservation to exclude a 15 mile strip along the Canadian border, which was approved through an executive order (Ruby et al. 2010:205). On July 9, 1883, Moses and other Native American leaders were called to Washington, D.C. to sign an agreement whereby the Native Americans would be allowed to remain in the area as settlers or to move onto the Colville Reservation. Numerous allotments were permitted on the former Moses Reservation and those who moved were provided with farm equipment and, in some cases, cash and yearly stipends. In 1884, Moses and many people residing within Columbia Reserve lands moved to the Colville Indian Reservation (CTCR 2021; Ruby and Brown 1981:261–262; Beckham 1998:167).

Indian allotments were the result of the General Allotment Act of 1887, otherwise known as the Dawes Severalty Act. The Dawes Severalty Act permitted the President to divide Native American reservations into tracts of land—with title typically held in trust by the federal government for a period of 25 years—that Indigenous people could use for farming or cattle grazing, with tracts ranging from around 40 to 160 acres in size allotted to individual adults and their children. If the remaining land exceeded the amount of land that was needed for allotments, then the government could negotiate to purchase the remaining land from the tribes and render the land as public domain to be sold to non-Natives (Deloria, Jr. and Lytle 1983:9–11; Indian Land Tenure Foundation [ILTF] 2021). As noted by Beckham (1998), Indian allotments were “another variant on the scheme of consolidating Indians, reducing their land base, and increasing government control and oversight over their activities” (Beckham 1998:166). As a consequence of this assimilation policy,

an estimated 60 million acres of reservation lands were either ceded or sold to the government as “surplus lands.” An estimated 20 million acres of allotted tracts were on desert or semi-arid desert lands that were virtually useless for farming (Deloria, Jr. and Lytle 1983:10; ILTF 2021).

The Colville Indian Reservation was again drastically reduced when, on July 1, 1892, its northern half (“North Half”) (totaling 1.5 million acres of land) was withdrawn by an act of Congress and the land was rendered as public domain. The act was loosely based on an agreement between tribal leaders and the federal government to vacate the North Half in exchange for \$1.5 million, which amounted to \$1 per acre of land. At the time, the Indigenous people who lived in the North Half were forced to either move onto the southern half (“South Half”) of the reservation, or take allotments on their individual holdings with the caveat that patents were subject to state laws and taxation (CTCR 2021; Ruby and Brown 1981:261–262; Beckham 1998:167). Only 80 acres of the North Half were allotted, which was half the amount of acres that they would have received if they moved to the South Half of the Colville Reservation (CTCR 2021). In 1896, mineral rights in the North Half were opened to the general public, and in 1900 the North Half was opened for homesteading under the Homestead Act (Ruby and Brown 1981:262).

After the allotments were made and lands within the diminished Colville Indian Reservation were surveyed, the government attempted to classify the remaining lands as irrigable, grazing, timber, mineral, or arid lands. With the exception of the lands classified as mineral lands, which were subject to location and disposal under U.S. mineral-land laws, the remaining lands were opened to settlement and entry by proclamation of the President. On March 22, 1906, an act of congress provided for the allotment and for the sale of unallotted or surplus lands of the diminished Colville Indian Reservation. A total of 333,275 acres of land within the South Half of the reservation were allotted to 2,505 Native people. On May 3, 1916, President Woodrow Wilson approved a proclamation to open lands within the diminished Colville Indian Reservation. According to the proclamation, the unallotted, unreserved lands within the diminished Colville Indian Reservation that were classified as irrigable, grazing, or arid lands—lands totaling 422,144.91 acres—were opened to settlement in accordance with the act of 1906 (U.S. Government 1949:31; CTCR 2021).

Grant County

In 1909, Grant County was carved out of the western portion of Douglas County. The county covers 2,660 square miles, and was originally to be called Big Bend County. Protests from the towns of Wilbur and Davenport, however, forced a compromise and the county was named after President Ulysses S. Grant. The first European American settlers to the Grant County area began to arrive in the mid-to-late-nineteenth century, primarily with the goal of raising livestock. The introduction of the railroad system to the region brought with it new settlers, and the economy began to shift from ranching to dryland farming. This shift in livelihood required ready access to water, and irrigation projects began in 1898, although none were successful until the early part of the twentieth century. Beginning in July 1918, several prominent Ephrata residents started the promotion of a plan to redirect waters of the Columbia River in order to irrigate the dry but fertile

soils of the Big Bend country via a dam at Grand Coulee. Ephrata residents persistently lobbied at the local, state, and federal levels to gather support for the project. Initial funding for the Grand Coulee Dam was through the Public Works Administration created under Franklin Roosevelt (Flom 2006).

Cartographic Analysis of the Project Area

The Project Area is located in the E½ of Section 10 of Township 21 North, Range 26 East.

The 1881 cadastral map (McMicken) shows one north-south trending road located northwest of the Project Area. There is no built environment depicted within the Project Area boundary (Figure 4A).

The 1956/1978 Ephrata USGS topographic map shows a secondary highway and one single track railroad constructed to the north and west of the Project Area. No built environment is depicted within the Project Area boundary (Figure 4B).

The 1961 atlas shows widespread industrial and residential development surrounding the Project Area with the exception of along the eastern boundary (Metsker 1961). The map also shows that the Project Area falls within the ownership of "Trilby Nelsen." No built environment is depicted within the Project Area boundary (Figure 4C).

PREVIOUS ARCHAEOLOGY

A review of previously recorded cultural resources and archaeological surveys was completed through the WISAARD on April 12, 2022. The review covered areas within Sections 10, 11, 14, 15 and 16 of Township 21 North, Range 26 East.

There have been five previously conducted cultural resource surveys within 1.0 mi (1.6 km) of the Project Area (Table 3). None of these surveys intersect with the Project Area. None of these surveys yielded newly recorded cultural resources.

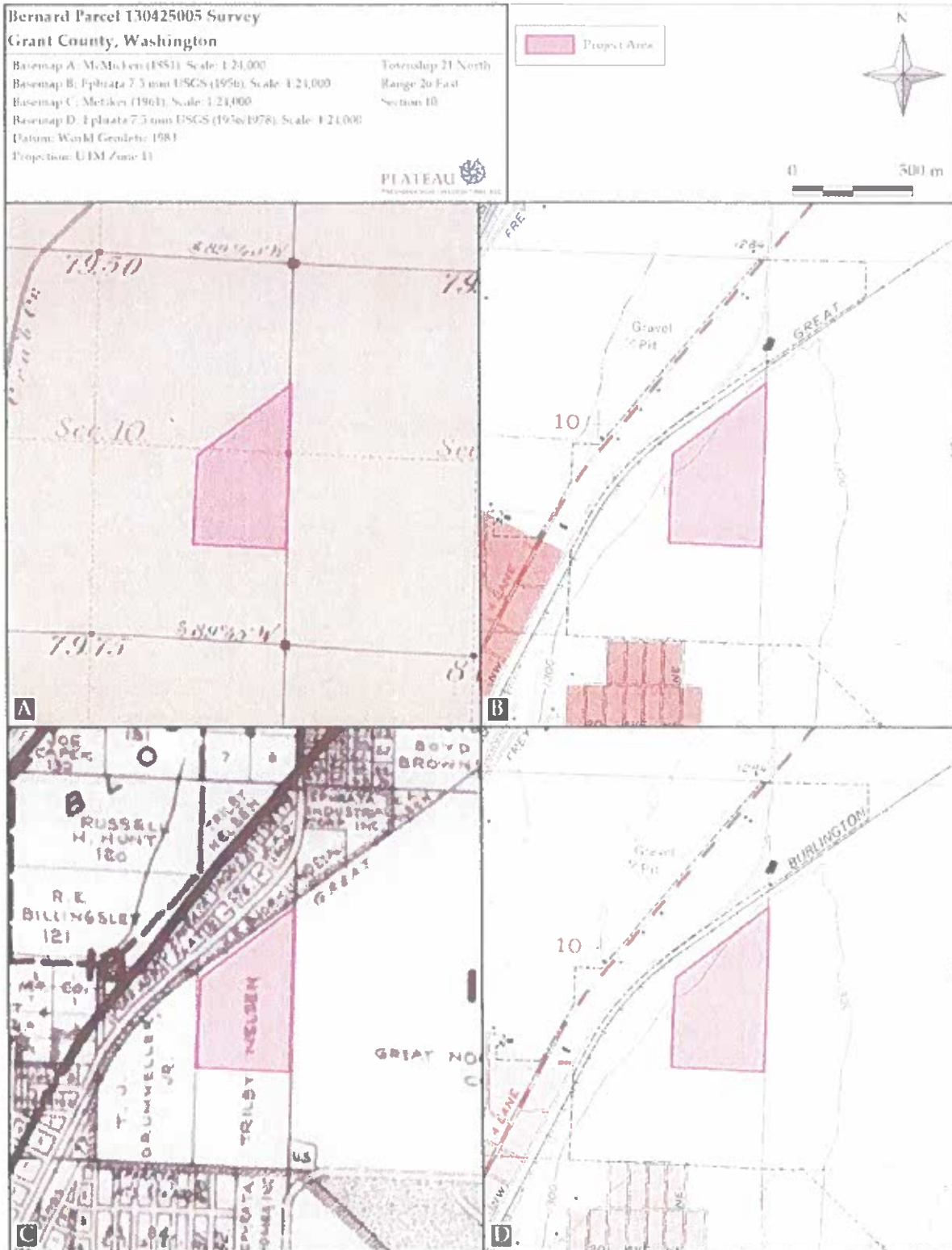


Table 3. Previously Conducted Cultural Resource Surveys within 1.0 mi of the Project Area.

Author	Project	Distance from P/A	Results
De Boer 2013	Ephrata's Beezley Hill Trail	0.75–1.0 mi SW	Negative
Freed 1998	Investigation of Tract 212616	0.75–1.0 mi SW	Not Available
Hannum and Harder 2012	Ephrata Airport Communication Tower	0.5–0.75 mi SE	Negative
Miller 2010	Ephrata Airport Washington Tire Corporation	0.5–0.75 mi SE	Negative
Sackman and Harder 2017	Ephrata Basin Street Water Main Replacement	0–0.25 mi N	Negative

The review revealed one cultural resources within 1.0 mi (1.6 km) of the Project Area. Site 45GR3879 was originally recorded in 2021 (Whistler 2021). The site consists of both a precontact and historic artifact scatter. It is located 0.75–1.0 mi (1.2–1.6 km) southwest of the Project Area. The site was evaluated and determined Eligible for inclusion on the NRHP under Criteria D (Whistler 2021).

A total of three eligible HPIs have been inventoried, or derived from the Grant County Assessor’s records within 1.0 mi (1.6 km) of the Project Area (Table 4). All three are located 0.75–1.0 mi (1.2–1.6 km) southwest of the Project Area and are eligible for inclusion on the NRHP.

Table 4. NRHP Eligible Historic Properties Inventoried within 1.0 mi of the Project Area.

Property	Resource Name	Recorder(s)	Distance from P/A	Eligibility
45GR444	Grant County Court House	Thomas (1975)	0.75–1.0 mi SW	Eligible
45GR1411	Bell Hotel	Link (1997)	0.75–1.0 mi SW	Eligible
45GR3604	Columbia Basin Project Irrigation Division Headquarters Office	Doncaster (2018)	0.75–1.0 mi SW	Eligible

The Grant County Court House, designated 45GR444, was built in 1917 and is a two-story, flat-roofed brick and terra cotta structure that classifies as neo-classical revival in style. The structure is significant as it was the first permanent courthouse built in Grant County. The property has been determined to be Eligible for inclusion on the NRHP under Criteria C (Thomas 1975).

The Bell Hotel, designated 45GR1411, was built in 1938 and is a three-story U-shaped building with a continuous low pitched hipped gable roof made of sawn shingles. The structure is significant as it operated during and through World War II and into the 1950’s as a residential hotel that hosted workers from the Grand Coulee Dam. The property has been determined to be Eligible for inclusion on the NRHP under Criteria A and B (Link 1997).

The Columbia Basin Project Irrigation Division Headquarters Office, designated 45GR3604, was built in 1951 and served as a home for all of the Supply, Finance, Legal, Land, Information, Camp Maintenance, Project Development, and Personnel Departments for the Columbia Basin Project. The structure is significant because of its direct connection to the Columbia basin Irrigation project. The property has been determined to be Eligible for inclusion on the NRHP under Criteria A (Doncaster 2018).

FIELD METHODS AND SURVEY RESULTS

Survey work was completed in accordance with the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716, September 29, 1983) and under the supervision of Principal Investigator, David Harder. Plateau archaeologists Michaelle Machuca and Sophia Bush completed the cultural resource survey on May 10–12, 2022. The limits of the Project Area were identified using maps provided by the client. Survey conditions were fair with temperatures in the mid 50s, intermittent cloudy skies, and intermittent light wind.

The Project Area is directly north of 8th Avenue NE and approximately 0.1 mi (0.3 km) east of Washington State Route 28. The environment of the Project Area is primarily sage-steppe with domestic plants and built portions in the southern portion of the Project Area. Vegetation matches native vegetation as described in the Environmental Setting section of the report. Prior to the field visit, a utility locate was requested under ticket #22157253. This locate identified no subsurface utility lines.

The archaeologists conducted pedestrian survey consisting of twenty north/south transects, spaced no more than 20 m (66 ft) apart (Figure 5). Ground surface visibility was 30% throughout the Project Area. Thick seasonal grasses and vegetation impeded ground visibility (Figure 6 and 7). During pedestrian survey, archaeologists discovered three sites 45GR3886, 45GR3887, and 45GR3888 in the northern half of the Project Area.

45GR3886 consists of two precontact features located in situ in the northeast corner of the Project Area (Figure 8, Figure 9, and Figure 10). One precontact feature is an intact basalt mano and fragment of a basalt metate with consistent lichen coverage (20-30%) found perched on top of an unmodified, large basalt boulder on the northern slope of a large, circular depression. The mano was found located in the concave groove of the metate. It is intact and exhibits a ground surface on the bottom, and weighs 6-8 pounds. It is large for a two handed mano measuring 20 cm in length, 15 cm in width, and 7 cm in height. It is made of basalt, appears to be half of its original form, exhibits a ground surface in the concave groove (1-2 cm deep), and measures 35 cm in length, 30 cm in width, and 11 cm in height. The large basalt boulder that both the mano and metate were perched on also displayed consistent lichen coverage as the other artifacts and measures 70 cm in length, 59 cm in width, and 21 cm in height. The feature is located in an outcrop with numerous other large basalt boulders. Although, the mano and metate are perched on top of the large basalt boulder, it is unlikely that this location was its original or functional location considering the uneven surface of the mount boulder. In their current state, the mano and metate are only secure