

**Appendix J**  
**BLM Manual 6280**  
**Inventory and Impacts Analysis for National Historic Trails**  
**and Study Trails**

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**BLM Manual 6280  
Inventory and Impacts Analysis for National Historic Trails and Study  
Trails**

**Gateway West Transmission Line Project  
Supplemental Environmental Impact Statement**

**Prepared by AECOM**

**Submitted To:  
Bureau of Land Management**

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## 1 INTRODUCTION

On May 7, 2007, Idaho Power Company and PacifiCorp (doing business as Rocky Mountain Power), collectively known as the Proponents, applied to the Bureau of Land Management (BLM) for a right-of-way (ROW) grant to use the National System of Public Lands for portions of the Gateway West Transmission Line Project (Gateway West or Project) that extends from the Aeolus Substation in Wyoming to the Hemingway Substation, approximately 30 miles southwest of Boise, Idaho. The Project comprises 10 transmission line segments with a total length of approximately 1,000 miles.

The BLM published the Final Environmental Impact Statement (FEIS) for this Project on April 26, 2013 (BLM 2013a), and a Record of Decision (ROD) on November 14, 2013 (BLM 2013b). In the ROD, the BLM deferred offering a ROW grant for 2 of the 10 segments (i.e., Segments 8 and 9) to allow additional time for federal, state, and local permitting agencies to examine additional routing options, as well as mitigation and enhancement measures for these segments.

The Proponents submitted a revised Project application for Segments 8 and 9 in August 2014. The BLM has prepared a Supplemental Environmental Impact Statement (SEIS) to analyze seven action alternatives:

- Alternative 1, Revised Proposed Routes for Segments 8 and 9 (Proposed Action);
- Alternative 2, Revised Proposed 8 and FEIS Proposed 9;
- Alternative 3, Revised Proposed 8 and 9K Route;
- Alternative 4, Route 8G and FEIS Proposed 9;
- Alternative 5, Routes 8G and 9K (BLM Preferred Alternative);
- Alternative 6, Route 8H and FEIS Proposed 9; and
- Alternative 7, Routes 8H and 9K.

The BLM is also analyzing the two Toana Road Variations to the Revised Proposed Route for Segment 9 as well as the Helicopter-Assisted Construction and West-wide Energy (WWE) Corridor Variations for Alternative 5. While incorporating by reference the analysis included in the Gateway West 2013 FEIS, the SEIS will supplement the analysis found in the FEIS by assessing the new information that has become available since the FEIS and ROD were published.

In addition to analyzing new information, the BLM is now also required to prepare this *BLM Manual 6280 Inventory and Impacts Analysis for National Historic Trails and Study Trails*. The Project crosses private and public lands with segments of the Oregon National Historic Trail (Oregon NHT), the North Alternate Oregon Trail Study Trail (North Alternate Study Trail), Goodale's Cutoff Study Trail, and North Side Alternative Route Study Trail. In compliance with the National Trails System Act (NTSA) of 1968 (Public Law [P.L.] 90-543, as amended through P.L. 111-11) and with the guidelines in BLM Manual 6280, *Management of National Scenic and Historic Trails Under Study or Recommended as Suitable for Congressional Designation* (Manual 6280) (BLM 2012), it is necessary to inventory cultural, historic, visual, and recreation resources and

characteristics for sites and trail segments associated with the portions of these trails on BLM-managed lands that occur within the Gateway West Project analysis area. While the Oregon NHT and North Alternate Study Trail are situated on BLM-managed lands affected by the Project, Goodale's Cutoff Study Trail and North Side Alternative Route Study Trail are not located on BLM-managed land in the Project Analysis Units (AU) or Area of Potential Adverse Impact (APAI). No additional analysis for the Goodale's Cutoff Study Trail and North Side Alternative Route Study Trail, therefore, is contained in this report. For a discussion of historic trails and roads not subject to BLM Manual 6280, such as Goodale's Cutoff Study Trail and North Side Alternative Route Study Trail as well as sites of historic or cultural significance, please refer to Section 3.3 – Cultural Resources in the SEIS.

The NTSA of 1968, as amended, established a network of visual, historic, and recreational trails to provide for outdoor recreation needs; promote the enjoyment, appreciation, and preservation of open-air, outdoor areas, and historic resources; and encourage public access and citizen involvement. BLM Manual 6280 establishes the agency's policies for managing these National Trails and trails under study for National Trail designation, and it provides direction for identifying and evaluating impacts on "the nature and purposes of the trail, trail resources, qualities, values, uses (including public access and enjoyment) and associated settings" from proposed actions subject to analysis under the National Environmental Policy Act (NEPA) (BLM 2012:1–18). This Inventory and Impacts Analysis report follows BLM Manual 6280 policy guidance to identify those natural, cultural, recreational, and visual resources, qualities, values, associated setting, and primary uses that support the nature and purposes of National Historic Trails (NHTs) and trails undergoing a National Trail Feasibility Study. The Gateway West Project SEIS identifies the consequences that the Revised Proposed Routes for Segments 8 and 9 and alternatives/variations would have on those resources. There are no National Scenic Trails, Recreation (including Water) Trails, or Connecting and Side Trails in the inventory area, and as such, this inventory focuses solely on segments of the Oregon NHT and North Alternate Study Trail, as they are situated on BLM-administered lands.

## **2 REGULATORY FRAMEWORK**

### **2.1 National Trails System Act**

According to the NTSA of 1968, the Secretary charged with administration of the NHT may permit other uses along the trail provided that they do not "substantially interfere with the nature and purpose of the trail" (16 United States Code [U.S.C.] 1246). In this regard, "reasonable efforts shall be made to provide sufficient access opportunities to such trails and, to the extent practicable, efforts shall be made to avoid activities incompatible with the purposes for which such trails were established" (16 U.S.C. 1246). Easements or rights-of-way granted by the Secretary of the Interior or Secretary of Agriculture must comply with laws applicable to the national park system and national forest system, and conditions established in the easements or rights-of-way must reflect the policy and purposes of the NTSA (16 U.S.C. 1248).

The proposed Gateway West Project, the alternatives, and their associated features may directly or indirectly impact segments of the Oregon NHT, NHT-related resources, and the North Alternate Study Trail present within the inventory area (see Section 6 for impacts analysis). NHTs, which are authorized and designated only by an act of Congress, commemorate historically significant routes (i.e., historic routes of exploration, migration, trade, communication, and military action) whose location is known sufficiently to permit public recreation and historical interest (NPS 2013). To be designated by Congress, NHTs must follow as closely as possible the actual route of historic use, be of national significance, and have significant potential for public recreation and/or interpretation opportunities (16 U.S.C. 1242).

## **2.2 National Historic Preservation Act**

Section 106 of the National Historic Preservation Act (NHPA; 54 U.S.C. 300101 et seq.) requires that the federal agency permitting the undertaking “take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register” and provide the Advisory Council on Historic Preservation (ACHP) an opportunity to comment. Effect is defined in the implementing regulations for Section 106 (36 Code of Federal Regulations [CFR] 800.16(i)) as “alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register.” Section 106 requires the lead federal agency to consult with the State Historic Preservation Office, members of the public, affected Native American tribes, and the ACHP throughout the process of identification, evaluation, and resolution of effects. Section 106 compliance is considered satisfied with the execution of a programmatic agreement (PA), a legal document that describes the lead federal agency’s (in this case, the BLM’s) process of identifying and evaluating impacts on historic properties and its plans for resolving adverse effects.

As a historic property listed on the National Register of Historic Places (NRHP), the Oregon NHT requires evaluation of effect under Section 106. Segments and sites associated with the trail located in the direct and indirect area of potential effects established for the Project will be assessed through cultural resources inventory associated with the Section 106 process, and effects will be determined in consultation with tribes and parties to the project PA. This Inventory and Impacts Analysis draws upon the NRHP eligibility assessments of segments through previous documentation; fieldwork performed in conjunction with the inventory and analysis did not reevaluate the NRHP eligibility of previously documented trail segments and sites. BLM Manual 6280 requires the BLM to consider how the proposed action would affect designated NHT properties, including “remnants and artifacts from the associated period of use that may be eligible or listed on the National Register” (BLM 2012). The BLM, therefore, is required to coordinate the analysis of cultural resources associated with the Oregon NHT and North Alternate Study Trail with the Manual 6280 Inventory and Impacts Analysis. While the Manual 6280 Inventory and Impacts Analysis covers Project impacts to segments of the Oregon NHT and North Alternate Study Trail on BLM-managed land, Section 106 requires the BLM to consider a more comprehensive assessment of Project impacts to NRHP-eligible segments of these two trails on both federal and non-federal lands. The Section 106 analysis for these resources is discussed in Section 3.3 – Cultural Resources of the SEIS.

### **2.3 Federal Land Policy and Management Act**

Designated NHTs as well as Trails under study are managed as public lands under the Federal Land Policy and Management Act (FLPMA). This act, also known as the BLM Organic Act, establishes the agency's "multiple-use mandate to serve and protect future generations" (BLM and Office of the Solicitor 2001). The concept of "multiple-use" management is defined within the act (43 U.S.C. 1702) as "management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people." The uses and values associated with the Oregon NHT and North Alternate Study Trail that fall within the Gateway West analysis area are documented in this inventory.

### **2.4 National Environmental Policy Act**

NEPA (42 U.S.C. 4321) requires the federal government to take a "hard look" and to evaluate and disclose the anticipated environmental consequences that would occur if major federal actions are implemented. This analysis includes an articulation of what action is to be considered (the proposed action), where it will occur (the affected environment), a reasonable range of alternatives for accomplishing the project, and a description of the environmental consequences associated with the project. The purpose of NEPA is to allow the decision maker and the public to have information sufficient to understand the environmental consequences of major federal actions. This information is disclosed in the context of an environmental assessment or environmental impact statement.

This NHT Inventory and Impacts Analysis report responds to these regulatory requirements. This report focuses on the resources within the designated Oregon NHT, in accordance with the NTSA, as well as on resources within trails under study for inclusion as NHTs, in accordance with BLM Manual 6280. As guided by the NHPA, this report allows BLM to "take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register." FLPMA guides the BLM to manage public lands for multiple use, including protection of resources of historic significance, as well as allowed uses, including establishment of rights-of-way for utilities. NEPA requires identification of resources and evaluation of the environmental consequences associated with the action to approve the ROW requested for construction of the proposed Gateway West Project.

### **2.5 BLM Manual 6280 (Management of National Scenic and Historic Trails and Trails under Study or Recommended as Suitable for Congressional Designation)**

BLM Manual 6280 provides policies for the management of National Scenic and Historic Trails. Specifically, this manual identifies requirements for the management of congressionally designated NHTs; trails undergoing a National Trail Feasibility Study; trails that are recommended as suitable for National Trail designation through the National Trail Feasibility Study; inventory, planning, management, and monitoring of designated National Scenic and Historic Trails; and data and records management requirements for National Scenic and Historic Trails. The manual also provides guidance on the application of NEPA to NHTs and Trails Under Study (BLM 2012).

As part of the NEPA analysis, for any implementation-level action proposed or that may potentially affect NHTs, the BLM is required to do the following:

- For each alternative, describe and analyze the potential impacts to the nature and purposes of the National Trail; the National Trail resources, qualities, values, and associated settings; and the primary use or uses of the trail.
- Describe the impacts to the national significance of National Trails, based on NHPA criteria and other NTSA criteria, as well as impacts to the significance of properties that are eligible or listed on the National Register, as applicable.
- Ensure adequate public involvement in the BLM's management activities through NEPA, land use planning, and/or other applicable processes.
- To the greatest extent possible, consider opportunities for mitigation to a level commensurate with the adverse impact to the nature and purposes; resources, qualities, values, and associated settings; and the primary use or uses of the National Trail.

For trails under feasibility study, the NEPA analysis for the proposed action is required to consider existing data, including data from the completed National Trail Feasibility Study (if available), or additional data collected as necessary for alternative formulation and analysis of the proposed action (i.e., Gateway West Transmission Line Project). In evaluating whether to approve the proposed action, the BLM's NEPA analysis is required to

- Describe the values, characteristics, and settings of trails under study and trails recommended as suitable in the affected environment section of the NEPA document;
- Analyze and describe any impacts of the proposed action on the values, characteristics, and settings of trails under study or trails recommended as suitable; and
- Consider an alternative that would avoid adverse impacts to the values, characteristics, and settings of the trail under study or recommended as suitable and/or incorporate and consider applying design features to avoid adverse impacts.

To analyze the potential for Project impacts, the manual stipulates that the inventory include an interdisciplinary assessment of NHT-related recreation resources, qualities, and values and settings, visual and settings, historic/cultural and settings, and natural and settings (BLM 2012).

### **3 SCOPE OF ANALYSIS**

#### **3.1 Issues Identified for Analysis during Scoping**

In order to determine the scope and breadth of this and other studies undertaken for the Project, the BLM has received public and agency comments concerning NHTs affected by the Project. The following NHT-related issues were raised by the public during the initial public scoping period for the Gateway West Transmission Line Project in 2008 (Tetra Tech 2008) and during the SEIS scoping (Tetra Tech 2015). Additional

information was collected during a Manual 6280 consultation meeting held by the BLM on March 3, 2015. The meeting was attended by staff of the BLM, National Park Service (NPS), Rocky Mountain Power, Idaho Power, Shoshone-Paiute Tribes, National Trust for Historic Preservation, and Idaho Chapter Oregon-California Trails Association staff. The following issues and concerns raised by federal and state agencies, tribes, and private organizations during scoping and agency discussions were considered in this report as stipulated by law or regulation:

- What are the impacts to NRHP-eligible historic resources?
- What would be the visual and recreational impacts on historic trails?
- Where the setting is an important aspect of the integrity of a property, would the setting be affected?
- How will the BLM avoid and/or minimize impacts to the Oregon NHT?
- How will the BLM work with the Proponents to locate the Project near areas already visually impaired and away from NHTs?
- How will the BLM actively coordinate with other organizations and agencies on effects to the Oregon NHT?
- How will the BLM protect visitor experiences associated with the Oregon NHT?
- How will the BLM develop any potential mitigation to be commensurate with the Project's impacts?
- How will the BLM address concerns with Project routing near the Hagerman Fossil Beds National Monument, Three Island Crossing State Park, and along Segment 9 between King Hill and the NCA?

The scoping comments received during the 2014-2015 scoping effort were similar to those received in 2009.

### **3.2 Area of Potential Adverse Impact, Analysis Units, and Affected Trails**

To date, no National Trail Management Corridor has been established for the Oregon NHT within Idaho. In lieu of having a designated Management Corridor, the BLM is required to identify the APAI (BLM 2012: 3-1). After considering the scoping comments of agencies and the public, the BLM established the APAI to include all BLM-managed lands within a 10-mile corridor, or 5 miles on either side of the centerline for the Revised Proposed Routes, Alternative Routes, and FEIS routes that would have a view of the proposed Project (see Attachment A1). Five miles is generally the viewing threshold, beyond which point terrain and atmospheric conditions tend to absorb the transmission line. Due to the nature of lattice structures and color of the H-frame structures, these structures would not be visible in this landscape beyond 5 miles. This corridor lies within the BLM-defined Foreground/Middleground Visual Resource Inventory (VRI) distance zone where indirect adverse impacts to NHTs and Study Trails are most likely to occur (BLM 1986a).

In order to analyze the APAI, five inventory AUs were developed. For the purposes of this analysis, an AU is a polygon encompassing discrete segments of the Oregon NHT and North Alternate Study Trail and the associated viewshed where the Manual 6280

inventory is performed. These five AUs were prepared to delineate the geographic area for identifying the resources, qualities, values, associated settings, and primary uses that support the nature and purposes of the Oregon NHT and the North Alternate Study Trail and for assessing the potential for Project impacts. Table 1 provides the respective lengths of the Oregon NHT and the applicable Study Trails that are located in the APAI.

**Table 1.** Length of Oregon NHT and Study Trails within the BLM Manual 6280 APAI by County, State, and BLM Field Office

Trail Name and Designation	County, State	BLM Field Office	Total Length of Trail in Field Office (all ownership) (miles)	Length of Trails within BLM Manual 6280 APAI (BLM-managed land only) (miles)
Oregon NHT Designated Route	Owyhee and Elmore Counties, ID	Four Rivers	96.4	95.4
	Twin Falls County, ID	Burley	2.4	0.4
	Owyhee, Elmore and Twin Falls Counties, ID	Jarbridge	48.6	21.9
	Elmore and Gooding Counties, ID	Shoshone	0	0
	Owyhee County, ID	Owyhee	15.6	3.3
	Owyhee County, ID	Bruneau	14.6	0.5
<b>Subtotal Length Oregon NHT</b>			<b>177.5</b>	<b>121.4</b>
North Side Alternative Route Study Trail	Gooding and Twin Falls Counties, ID	Shoshone	11.4	0
	Twin Falls County, ID	Jarbridge	0.2	0
North Alternate Oregon Trail Study Trail	Elmore and Gooding Counties, ID	Shoshone	43.1	13.8
	Elmore County, ID	Four Rivers	21.6	17.0
	Twin Falls County, ID	Jarbridge	0.2	0
Goodale's Cutoff Study Trail	Elmore County, ID	Four Rivers	1.8	0
<b>Total Length of Study Trails</b>			<b>78.1</b>	<b>30.8</b>
<b>Total Length of NHT and Study Trails</b>			<b>255.6</b>	<b>152.7</b>

For the purposes of preparing the VRI consistent with Handbook 8410-1, the AUs were extended to 15 miles in order to adequately identify the distance zones, scenic quality, and visual sensitivity of the landscapes and settings that surround the Oregon NHT and North Alternate Study Trail. Project impacts to the resources, values, and qualities of

the Oregon NHT and North Alternate Study Trail are not expected to be adverse in the area between 5 and 15 miles, and the inventories performed for cultural/historical resources, recreation, and natural resources were not performed in the expanded portions of the AUs. The methodology for inventory and impacts analysis is discussed in more detail in Sections 4 and 6 of this document.

### **3.3 Designated National Historic Trails Affected by the Project**

Within the APAL, one designated NHT, the Oregon NHT, would be affected by the Project. Congressionally designated in 1978 (P.L. 95-625 amendment to the NTSA, P.L. 90-543), the Oregon NHT formally recognizes the 2,200-mile emigrant trail that connected the Missouri River to the fertile Columbia River and Willamette valleys in Oregon, a route used by approximately 400,000 people during its period of use. Within the Project AUs and APAL, the designated Oregon NHT route splits into two routes at the Three Island Crossing of the Snake River near present day Glens Ferry, Idaho. These two routes are typically referred to as the “Primary” or “North Trail” and the South Alternate. Each route is considered a part of the designated Oregon NHT during its period of primary use 1841 to 1848 (NPS 1998).

The North Trail (Primary Route) extends along the north side of the Snake River Valley from the Twin Falls-Elmore County line to the outskirts of present-day Boise, Idaho. The South Alternate, meanwhile, traverses the comparably dry lands situated on the south side of Snake River. The two routes eventually converge to one route again near Boise, Idaho.

### **3.4 Trails Recommended as Suitable for National Trail Designation**

In addition to trails formally designated by Congress, BLM Manual 6280 requires the BLM to analyze Project impacts to “Trails Recommended as Suitable for National Trail Designation” that have been identified in a feasibility study. Within the APAL, alternative routes of the Oregon NHT followed the north side of the Snake River from a point north of American Falls to a junction just west of Mountain Home. These routes are currently not part of the designated Oregon NHT and are known as the North Alternate Oregon Trail, North Side Alternative Route, and Goodale’s Cutoff Study Trails. The three trail routes are part of a feasibility study being conducted by the NPS under the congressionally approved Omnibus Public Land Management Act of 2009 (Public Law 111-11 Section 5302) (NPS 2011a). While portions of these three Study Trails pass through the APAL, only the North Alternate Oregon Trail is part of this study because the North Side Alternative Route and Goodale’s Cutoff Study Trails are not on land managed by the BLM and thus are beyond the scope of this report.

## **4 METHODS**

### **4.1 Inventory Methodology**

#### **4.1.1 Introduction**

BLM Manual 6280 provides policy guidance that directs the BLM to inventory the resources, qualities, values, associated setting, and primary uses that support the

nature and purposes of segments of the Oregon NHT and North Alternate Study Trail and to assess impacts from proposed agency actions. The agency, however, has not developed a formal methodology for either the inventory or impact assessment. In the absence of agency direction, the following inventory and analysis of impacts was developed for the Project in coordination with the BLM, NPS, and Idaho Chapter Oregon/California Trails Association. Given the lack of a formal methodology, this analysis is considered reasonable and appropriate because it utilizes existing methods for collecting and analyzing data germane to the resources being studied. For the cultural resources component of this study, for instance, the analysis closely follows the identification, evaluation, and impact assessment thresholds common to cultural resource investigations prepared under the requirements of 36 CFR 800. Likewise, the visual resource components of the analysis follow the inventory methods developed by the BLM's VRM program (see SEIS Section 3.2 – Visual Resources; BLM 1986a).

Following the interdisciplinary study requirements of Manual 6280, inventories were prepared for visual, recreation, cultural, and natural resources that characterize the affected environment and setting for the Oregon NHT and North Alternate Study Trail. An interdisciplinary field team collected data from individual Inventory Observation Points (IOPs) on the recreation, natural, visual, and cultural/historic resources, qualities, and values and associated settings of the Oregon NHT and North Alternate Study Trail. The methodology for inventorying and analyzing Project impacts included background research, viewshed application, field assessment of IOPs, visual simulations, and discipline-specific impact analysis at Key Observation Points (KOPs).

#### **4.1.2 Background Research**

Background information pertaining to the visual, recreation, cultural, and natural resources, values, and qualities associated with the Oregon NHT and North Alternate Study Trail within the AUs and APAL was collected from a variety of sources to determine the breadth of existing information and to identify potential data gaps that would need to be addressed through a field investigation. Technical documents consulted during the background research effort included the following:

- Scoping Report: Oregon, California, Mormon Pioneer, and Pony Express National Historic Trails Feasibility Study Update and Revision/Environmental Assessment (NPS 2011b);
- Management and Use Plan Update Final Environmental Impact Statement: Oregon National Historic Trail Mormon Pioneer National Historic Trail (NPS 1998);
- Owyhee Resource Management Plan (BLM 1999);
- National Historic Trails Auto Tour Route Interpretive Guide: Along the Snake River Plain through Idaho (NPS 2008);
- Main Oregon Trail Backcountry Byway from Three Island Crossing to Bonneville Point (BLM and IOCTA 2009);
- Idaho Recreation Guide: Campgrounds, Sites and Destinations (BLM n.d.);
- Bruneau Management Framework Plan (BLM 1983b);

- Jarbidge Resource Management Plan and Record of Decision (BLM 1987);
- Jarbidge Resource Management Plan and Record of Decision (BLM 2015);
- Morley Nelson Snake River Birds of Prey National Conservation Area Resource Management Plan and Record of Decision (BLM 2008);
- Pieces to the Puzzle: Rediscovering Idaho's North Alternate Oregon Trail (Eichhorst 2011);
- Trails of the West: A Review and Evaluation of Historic Trails in Wyoming and Idaho Along the Proposed Gateway West Transmission Line Project (Tetra Tech and URS 2011); and
- Gateway West FEIS and ROD (BLM 2013a and 2013b).

Additional sources included emigrant diaries consulted during archival research, cultural resource reports prepared for the Project, and other primary and secondary sources such as manuscripts and books on the history of the Oregon Trail, historic maps such as General Land Office (GLO) plats, modern trail guides, and BLM pamphlets for Oregon NHT interpretive sites.

#### **4.1.3 Viewshed Analysis**

Consistent with the requirements of BLM Manual 6280, two separate viewshed analyses were conducted for this Project. The viewsheds were used to:

1. complete a VRI centered on the Oregon NHT and North Alternate Study Trail; and
2. determine whether BLM-managed trail segments or associated sites could have a view of the proposed Project.

Both viewsheds were created using a Geographic Information System (GIS)-based "bare earth" application based upon a digital elevation model that reveals the visible areas of a landscape based on existing landforms without consideration of vegetation and/or the built environment regardless of property ownership. This analysis, therefore, conveys the greatest possible extent of the views from the two respective trails (for the purposes of the VRI) in addition to the greatest possible extent of potential Project visibility (for the APAI). The validity and extent of the viewshed model was confirmed during fieldwork and in the development of the Project simulations (Attachment D).

#### **4.1.4 Analysis Units**

Consistent with BLM Manual 6280, inventory AUs were developed around segments of the Oregon NHT. An AU is a polygon encompassing discrete trail segments as well as the resources, qualities, values, associated settings, and primary uses that support the nature and purposes of the Oregon NHT and the North Alternate Study Trail. Five inventory AUs were developed based on the presence of distinct Oregon NHT high potential historic sites (HPHSs) and high potential route segments (HPRSEGs) in addition to the North Alternate Study Trail (See Attachment A2). The development of the AUs also took into consideration the presence of significant landforms or changes in land use that represented obstacles to the visual environment of the respective trails. The built environment and intensive agricultural land use around Grand View, Idaho, for

instance, interrupts the visual setting of the Oregon NHT as it heads north and west, thus prompting the split of AU 1 into AU 1a and AU 1b.

Due to the lack of available VRI data for the trails, the AU viewshed was established to a distance of 15 miles from the respective trails to facilitate the VRI centered on the Oregon NHT and North Alternate Study Trail. This distance was consistent with that required under BLM's VRI process to understand the contribution of background views to the characteristics of the foreground/midground (0-5 miles) area (BLM 1986a). The seldom seen distance zone (beyond 15 miles) was not included because it was not considered to substantially contribute to the trails' setting. The VRI process is described in Section 4.5.1. The inventory areas for recreation, cultural, and natural resource analyses were limited to 5 miles from the trails because Project features, most notably the lattice or H-frame transmission structures, would not be visible in this landscape (see Section 3.2 – Visual Resources).

#### **4.1.5 Inventory Observation Points**

IOPs are the basic building blocks of data collection for the BLM Manual 6280 study and provide overviews of the recreational environments, historic setting, and visual landscape of an historic trail. Utilizing background research and the viewshed analyses, IOPs were selected based upon the following characteristics:

- existing trail recreation and interpretive developments;
- critical points that reflect how visitors interact with the trail;
- areas with sensitive resources, qualities, values, and associated settings;
- regularly spaced intervals along the Oregon NHT and North Alternate Study Trail;
- trail-related NRHP-eligible and listed properties;
- significant historic trail-related features such as river crossings, graves, and inscription sites;
- HPHSs;
- HPRSEGs;
- designated auto tour routes (ATRs); and
- trails that facilitate public access and opportunities for vicarious experiences.

IOPs identified for the inventory and analysis are mapped in Attachment A2, with digital photographic overviews of the individual IOPs presented in Attachment B.

##### **4.1.5.1 Visual Resource Inventory Methodology**

Consistent with the requirements of BLM Manual 6280, the VRI and visual resource impacts analysis uses the concepts of the BLM's VRM system as outlined in BLM VRM Manual 8400 (BLM 1984).

The VRM system requires the inventory of scenic values and the establishment of management objectives for those values through the VRM planning process. This is typically accomplished through the development of Resource Management Plans. While VRM classes are established within the AUs, the VRI data within the six BLM Field Offices covered by the AUs are currently in various stages of being updated

through various RMP updates and could not provide comprehensive coverage of all of the AUs. In order to identify the scenic values within the five AUs, a VRI centered on the Oregon NHT and North Alternate Study Trail was prepared. Consistent with BLM Manual 6280 guidance, VRI data, including scenic quality, viewer sensitivity, and distance zones, were inventoried by the field team.

### **Scenic Quality**

Scenic quality as defined by the BLM is the measure of the visual appeal of a tract of land. In the VRI process, public land is given an A, B, or C rating, based on the evaluation of the following seven key factors: landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications. Class A scenery typically has a higher degree of landscape relief, diversity of water, and vegetation that harmoniously combine and result in a high level of aesthetic appeal. Class B scenery has less variety in the elements that comprise the landscape, but still has some diversity and visual interest. Class C scenery typically does not have much diversity in terms of landscape features, and rates the lowest from an aesthetic perspective. Scenic Quality Rating Units (SQRUs) are units of land that characterize the natural landscape setting. These settings are associated with similar features that harmonize with each other and result in a particular landscape character. These SQRUs may range in size from several thousand acres to 100 acres or less, depending on the homogeneity of the landscape features, and take into account man-made features that either enhance or detract from the scenic value. The use of SQRUs to characterize the existing setting of National Trails will provide a consistent definition of setting for all trail resources (visual, recreation, cultural, and natural).

### **Viewer Sensitivity**

Sensitivity levels are a measure of public concern for the maintenance of scenic quality associated with a given tract of BLM-managed land. Public lands are assigned high, medium, or low sensitivity by analyzing the various indicators of public concern, including type of user, amount of use, public interest, adjacent land uses, and special areas, among other factors. Similar to SQRUs, Sensitivity Level Rating Units characterize the public value of the natural landscape setting and do not always correlate with the most scenic areas. For the purposes of this Project, viewer sensitivity levels within the AUs were assumed to be high due to the general accessibility of the Oregon NHT, the ATRs, and other trail-related recreational opportunities.

### **Distance Zones**

Consistent with Manual 8400, landscapes are subdivided into three distance zones based on relative visibility from public viewing locations (i.e., roads, residences, etc.). The three distance zones that the BLM uses to characterize the visibility of BLM-administered lands are foreground/midground (0 to 5 miles), background (5-15 miles), and seldom seen (greater than 15 miles).

On the basis of these three inventory factors, all BLM-administered lands were placed into one of four visual inventory classes (Class I, II, III, or IV). VRI classes for each of the IOPs are presented in the inventory.

#### **4.1.5.2 Cultural and Historic Resource and Settings Inventory**

Consistent with BLM Manual 6280 and the Gateway West PA (see Section 3.3.1.1 of the SEIS), the cultural and historic resource inventory utilized the numerous literature reviews, 15 percent sample surveys (Class II), intensive pedestrian surveys (Class III), trails study (Tetra Tech and URS 2011), emigrant diaries, and public comments from interested groups and individuals. Previously recorded cultural and historic resources associated with the Oregon NHT and North Alternate Study Trail were identified as IOPs and visited by the field team to confirm their location and condition and whether they would serve as contributing segments or sites to the NRHP-eligible Oregon NHT. In addition to assessing the locations of these previously recorded resources, field teams also collected data about the physical characteristics, setting, historic integrity, and NRHP contributing status of other segments of the designated Oregon NHT, associated heritage resources (routes and/or sites), and North Alternate Study Trail at each IOP (as applicable).

#### **4.1.5.3 Recreation and Travel Management Opportunities Inventory**

Utilizing background literature, such as BLM recreation-related websites, EISs associated with BLM RMPs, and publicly available recreational travel maps within the AUs, the inventory of recreation and travel resources included a three-tiered identification effort. The first tier included NHT-related resources and experiences consisting of, but not limited to, trail interpretation or vicarious trail-based recreational opportunities. The second tier consisted of identifying recreational opportunities (potentially dispersed) that may or may not be related to the NHT such as hiking, trail use, hunting, fishing, wildlife viewing, camping, or other activities. The final tier consisted of identifying campgrounds, day-use areas, or other developed or dispersed recreational sites that could be near but not necessarily related to the NHT.

#### **4.1.5.4 Natural Resources and Settings Inventory**

The Gateway West FEIS provides pertinent information related to natural resources and settings situated within the AUs (see Sections 3.6, 3.7, 3.8, 3.10, and 3.11 of the FEIS). Some natural resource qualities, values, and settings serve to influence trail experiences and may support the primary use or uses of the Oregon NHT, although much of the natural condition within the AUs has been altered since the Oregon NHT was used. An inventory of natural resources and settings was performed during fieldwork at each IOP to assess extant geologic features, water sources, native vegetative settings, and invasive vegetation. Additional information was collected using aerial photography to gauge the extent of man-made alterations to the natural setting.

#### **4.1.5.5 Other Landscape Elements**

Other landscape elements include additional components that support or detract from the trail, including existing transmission lines, wind farms, communication towers, transportation routes, adjacent land uses, land ownership, and the extent of these cultural modifications. Additional variables within the viewshed, including noise, sights, smells, and other existing conditions, are also considered for their role within and modification to the Oregon NHT landscape.

## **4.2 Impacts Assessment Methodology**

### **4.2.1 Visual Resource Impact Methodology**

Generally, impacts to visual resources refer to the change in aesthetic values resulting from modifications to the landscape. For this Manual 6280 study, the changes in the visual resources, values, qualities, and settings associated with the Oregon NHT and North Alternate Study Trail were analyzed by using the VRI and the general concepts of the BLM's VRM system. The VRM's use of KOPs and visual contrast rating forms (BLM 1986b) provided the principal means of analyzing Project impacts to aesthetic components of the trails.

For the analysis here, the IOPs visited during field data collection were also utilized as KOPs to provide a well-distributed assessment of impacts across the project area and to include both stationary platforms (e.g., scenic overlooks, trailheads) and linear platforms (e.g., trails, scenic roads, floatable rivers). The contrast rating forms prepared for each KOP, therefore, provided a determination of the level of contrast expected for each KOP. The levels of Project contrast are discussed in Table 2, which presents thresholds for impacts that would be classified as high, moderate, and low. High impacts would generally result in a potential change in the scenic quality while a low impact would have a minimal effect on scenic quality. Project simulations were prepared to provide examples of Project features at key locations, to verify the validity of the contrast ratings taken in the field, and to provide evaluators with examples of Project impacts to visual, cultural, recreational, and natural resources, qualities, values, and settings. These simulations are presented in Attachment D to this report.

In general, existing cultural modifications, such as energy infrastructure, typically diminish an AU's scenic quality. In those AUs with a lower scenic quality rating, the potential for adverse impacts to visual/scenic resources is reduced due to the existing visual intrusions. These cultural modifications primarily consist of wind farms or existing transmission lines that cross or parallel the trail within views facing Project routes. Generally, the route's visual contrast is reduced due to these types of existing cultural modifications. In areas where a route has a strong visual contrast but will not diminish a Scenic Quality Rating threshold, the impact is considered moderate. In areas where a route has a moderate visual contrast but will not diminish a Scenic Quality Rating threshold, the impact is considered low.

Project simulations were prepared to provide examples, at key locations, to verify the validity of the contrast ratings taken in the field and to provide evaluators with examples of Project impacts to visual, cultural, recreational, and natural resources, qualities, values, and settings.

**Table 2. Project Impact Assessment Thresholds**

Threshold Level	Resource Types
High (Adverse Impact for Cultural/Historic)	<p>Scenic/Visual Resources</p> <ul style="list-style-type: none"> <li>– Contrast produced by the Project would demand attention and dominate views from the trail centerline where form, line, color, and texture of Project components would be incongruent with existing landscape or historic features.</li> <li>– High-quality, diverse, and rare or unique scenery (Class A or B) would be modified where the setting is a defining factor for the “high potential route segments” or as seen from historic properties and/or interpretive areas, or scenic trail centerlines.</li> </ul> <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> <li>– Characteristics of historic properties located in the trail corridor and seen from the trail centerline would be modified to the extent that the NRHP eligibility of the trail segments and related historic properties affected would be compromised. The effect would be considered an “adverse impact,” which would also be consistent with Section 106 of the NHPA.</li> </ul> <p>Recreation, including Travel Management</p> <ul style="list-style-type: none"> <li>– Intact resource values, including recreation and National Trail-related travel management opportunities and values would be substantially compromised by the Project. These values would no longer contribute to the character of the trail.</li> </ul> <p>Natural Resources</p> <ul style="list-style-type: none"> <li>– Natural values, including any key contributing values and characteristics would be substantially compromised by the Project (i.e., a riparian area adjacent to a route segment follows what would be cleared for access roads). These values would no longer contribute to the character of the trail.</li> </ul> <p>Other Landscape Elements</p> <ul style="list-style-type: none"> <li>– Presence of developments; facilities; landscape modifications; existing land uses; valid existing rights; surface, sub-surface, or other interests in land ownership; and other variables such as sights, smells, and other experiences that may impact the trail experience. Areas where Project facilities would be located in proximity to, or parallel with (but not immediately adjacent to), landscape modifications that exhibit similar form, line, color, and texture.</li> </ul>
Moderate	<p>Scenic/Visual Resources</p> <ul style="list-style-type: none"> <li>– Contrast produced by the Project would attract attention from viewers using the trail centerline, and Project components would be co-dominant with existing landscape features.</li> <li>– The inherent quality of interesting, but not outstanding, landscapes (Class B or C) would be modified as seen from historic properties and/or interpretive areas, or scenic trail centerlines.</li> </ul> <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> <li>– No Moderate measure. Impacts are assessed as either High (adverse pursuant to the NHPA) or low (not adverse pursuant to the NHPA).</li> </ul> <p>Recreation, including Travel Management</p> <ul style="list-style-type: none"> <li>– Intact resource values, including recreation and National Trail-related travel management opportunities and values, would be modified by the Project but would remain suitably intact and continue to contribute to the character of the trail.</li> </ul> <p>Natural Resources</p> <ul style="list-style-type: none"> <li>– Natural values, including any key contributing values and characteristics, would be modified by the Project but would remain suitably intact and continue to contribute to the character of the trail.</li> </ul>

**Table 2.** Project Impact Assessment Thresholds (continued)

Threshold Level	Resource Types
	<p>Other Landscape Elements</p> <ul style="list-style-type: none"> <li>– Presence of developments; facilities; landscape modifications; existing land uses; valid existing rights; surface, sub-surface, or other interests in land ownership; and other variables such as sights, smells, and other experiences that may impact the trail experience.</li> <li>– Areas where Project facilities would be located in proximity to, or parallel with (but not immediately adjacent to), landscape modifications that exhibit similar form, line, color, and texture.</li> </ul>
<p>Low (No Adverse Impact/No Effect for Cultural/Historic)</p>	<p>Scenic/Visual Resources</p> <ul style="list-style-type: none"> <li>– Contrast produced by the Project would not be readily apparent from trail centerlines and would be subordinate in the context of existing conditions.</li> <li>– Minimal change would occur to the existing character of interesting and common landscapes (Class B or C) as seen from historic properties/interpretive areas, or scenic trail centerlines.</li> </ul> <p>Historic and Cultural Resources</p> <ul style="list-style-type: none"> <li>– Characteristics of historic properties located in the trail corridor and seen from the trail centerline and the trail segments affected would be modified, but their eligibility for listing on the NRHP would likely not be affected. This would be classified as “no adverse impacts” or “no impact” depending upon the presence of historic properties, consistent with Section 106 of the NHPA.</li> </ul> <p>Recreation, including Travel Management</p> <ul style="list-style-type: none"> <li>– Intact resource values, including recreation and National Trail-related travel management opportunities and values, would be modified negligibly by the Project. Contributing values would continue to define the character of the trail.</li> </ul> <p>Natural Resources</p> <ul style="list-style-type: none"> <li>– Natural values, including any key contributing values and characteristics would be modified negligibly by the Project. Contributing values would continue to define the character of trail.</li> </ul> <p>Other Landscape Elements</p> <ul style="list-style-type: none"> <li>– Presence of developments; facilities; landscape modifications; existing land uses; valid existing rights; surface, sub-surface, or other interests in land ownership; and other variables such as sights, smells, and other experiences that may impact the trail experience.</li> <li>– Areas where the Project would be located in proximity or parallel to an existing transmission line facility with similar landscape modifications and structural elements in regard to form, line, color, and texture, or screened from viewing locations associated with the trail such that the landscape is perceived to be unaltered.</li> </ul>

**4.2.2 Cultural and Historic Resource Impact Methodology**

Impacts to cultural and historic resources, values, qualities, and settings associated with the Oregon NHT and North Alternate Study Trail were assessed during the field study at each individual IOP/KOP. For those trail segments that are intact and contribute to the NRHP significance of the trail impacts were assessed by evaluating how character-defining features and historic integrity of the NRHP-eligible segment of the trail were altered. In general, an “adverse impact” occurred when the NRHP integrity of the trail (i.e., location, design, setting, materials, workmanship, feeling, and association) was diminished by Project features. This would occur, for instance, if a Project element was

constructed on the trail or is located close to or would obstruct views from the trail, thus diminishing the trail's integrity of setting, feeling, and association. If the Project affected the trail, such as if the Project were visible from the trail but its visual impact was lessened by vegetation, intervening topography, lack of skylining, and/or sufficient distance so that it did not diminish the trail's integrity of setting, then a recommendation of "no adverse impact" was made. A "no impact" recommendation was made when the Project was not visible or when an eligible trail segment was not present. These findings would be consistent with the thresholds for Project effects to historic properties established in 36 CFR 800.5. For the purposes of the cultural resources analysis for the Manual 6280 study, the terms "effect" and "impact" are interchangeable.

#### **4.2.3 Recreation and Travel Opportunities Impact Methodology**

Project impacts to recreation and travel opportunities were assessed to determine whether the intact values, qualities, resources, and settings would be substantially compromised, modified, or left intact at each IOP/KOP. The impact assessment accounted for a wide variety of potential users including those that may hike the Oregon NHT or North Alternate Study Trail, follow the trails via the BLM's Backcountry Byway or NPS's ATR, or those who utilize recreation and travel opportunities in the area that may or may not be trail oriented. Thresholds of high, medium, and low were assigned based on the degree to which the recreational experience, vicarious experience, or travel opportunity was compromised.

#### **4.2.4 Natural Resource Impact Methodology**

Natural values that contributed to the salient characteristics of the respective trails were analyzed during the impacts analysis. This analysis included an assessment of impacts to landscape-defining trail-related characteristics immediately surrounding and within the viewshed of HPHSs and HPRSEGs or landscape features identified by original trail users. The degrees to which these natural characteristics would be substantially compromised, modified, or modified negligibly by the proposed Project were assessed at each IOP/KOP. Impacts assessed could include whether the Project could remove or alter vegetation, natural and geological features, or soils that characterize the respective trail's landscape.

#### **4.2.5 Other Landscape Elements**

The presence of other landscape elements in the Project area and how these elements will interact with the Project plays an integral role in the impact assessment. Existing energy developments such as wind farms and transmission line corridors, cellular facilities situated on promontories, and the mosaic of property ownership and varying land uses, for instance, all affect how landscape changes caused by the Project within the APAI are assessed. In some instances, the Project's visually inferior placement in relationship to existing transmission lines reduces the Project's level of impact, but its prominent position in front of an existing wind farm may accentuate the Project's level of impact. The impact analysis for visual, cultural/historic, recreation, and natural resources took these existing landscape elements into account when determining the degree to which these other landscape elements increased or decreased the level of potential Project impacts.

## 5 INVENTORY RESULTS (AFFECTED ENVIRONMENT)

The inventory results section begins with a summary of the nature and purposes of the Oregon NHT, as established in the Oregon Trail Comprehensive Management and Use Plan (CMUP) and as articulated in the RMPs that govern BLM-managed land in the inventory area. The discussion is organized within the five AUs defined for the inventory area (numbered 1 through 5). One of the AUs includes all of the North Alternate Study Trail. Each of the AUs is characterized in terms of visual, historic and cultural, recreational, and natural resources, qualities, and values. Each corresponding IOP is described within its respective AU. Representative photographs taken from each IOP are provided in Attachment B.

### 5.1 Overview

The Oregon NHT is a network of trail segments, river crossings, and sites that stretch across 2,282 miles of the western United States that provided a vital transportation link to the western frontier from the settled lands of the east. The Oregon NHT represented the principal route of westerly migration from Missouri to southern Idaho, Oregon, and northern California. The trail was originally formed by Native Americans, and used by European-American explorers and fur trappers in the early nineteenth century.

While the Oregon Trail facilitated settlement of the Oregon Territory in the mid-nineteenth century, particularly in the Willamette and Columbia River valleys, the trail also had significant impacts upon Native Americans. With the increase in settlers, water sources were soon diverted to agricultural enterprises that converted formerly fertile grasslands into agricultural production and ranges for livestock. This conversion quickly destroyed the grasses and root crops that represented staples in the subsistence lifestyles of the region's Native Americans.

By the mid-1840s, the Oregon Trail had become a major, nationally recognized thoroughfare for emigrants making their way west. During the trip, some emigrants wrote in diaries often meant for publication in county newspapers or to guide relatives intending to make the same journey the following season. Others described the journey in letters sent after travel had been completed. Over 800 diaries and day journals kept by those who made the overland journey have been published or catalogued in archives and many more remain in family collections. Many emigrant diaries contained information about the route, watering places, areas to feed cattle and oxen, and the quality of grasses along the way (Schlissel 2004). They also describe outstanding landscape features, hardships experienced, and interactions with Native Americans. The Snake River crossing, particularly Three Island Crossing, figures prominently in the diaries as one of the more difficult obstacles that emigrants faced. These diaries are a primary source in illustrating the trail's historic setting and outstanding landscape features noted by the emigrants on this significant journey. Emigrants generally traveled through the southwestern Idaho portion of the Oregon Trails and its alternates between July and September. Camps were made at junctions where the trail left the Snake River (not knowing when they would see water again they camped). This was also a good location to bury heavy but valuable items, such as a blacksmith's tool kit, in hopes that they could return the following season to retrieve them (La Salle 2011).

Portions of the Oregon Trail continued to be used into the late 1870s, though many became wagon roads during the mining booms. Wider use of railroads and automobiles after the 1890s caused many segments of the trail to be abandoned as road alignments were altered and road surfaces improved. Beginning in the early twentieth century, a number of organizations erected at burial sites, springs, emigrant camps, and inscription sites along prominent trail segments (Hutchison and Jones 1993).

With the passage of the NTSA in 1968, the National Trails System was established to provide a means for managing significant national trails and to ensure that agencies consider effects of proposed projects to these resources. The Oregon NHT was established in 1978. Since that time, federal agencies have considered and integrated the Oregon NHT into their resource planning documents and have developed key partnerships to enhance the agency's ability to manage the Oregon NHT's resources.

Management of the NHT and its associated resources is dictated through a NPS CMUP, which provides for coordinated action between federal, state, and private entities to enable opportunities for use and interpretation along the various identified segments of the water, land, and associated motor routes.

### **5.1.1 Primary Purpose**

The nature and purposes of a national historic trail are defined as the character, characteristics, and congressional intent for a designated National Trail, including the resources, qualities, values, and associated settings of the areas through which such trails may pass; the primary use or uses of a National Trail; and activities promoting the preservation of, public access to, travel within, and enjoyment and appreciation of such trails. In 1998, the NPS developed a CMUP for the Oregon NHT and described the trail's purpose "to identify, preserve, and interpret the sites, route, and history of the Oregon Trail for all people to experience and understand," and to "commemorate the westward movement of emigrants to the Oregon country as an important chapter of our national heritage" (NPS 1998).

### **5.1.2 Primary Use**

The Oregon NHT CMUP (1998) identifies a variety of trail uses, which include interpretation, heritage tourism, media interest (manifested by production of movies and documentaries), walking, biking, horseback riding, historic reenactments of the trails experience, and commemorative activities such as trail visitation, driving along ATRs and BLM backcountry byways, reading interpretive brochures and publications, and visiting associated museums and educational facilities. The NPS has also established ATRs for the Oregon NHT within the Project area. Idaho State Highway 78 and I-84 are a part of that system (NPS 1998; NPS 2008). While not mentioned in the CMUP, the BLM has also established the Main Oregon Trail Backcountry Byway along the "North Trail" of the Oregon NHT (BLM and IOCTA 2009).

The primary use or uses of the Oregon NHT are not specifically defined under existing BLM-managed land management documents such as the Bruneau MFP (BLM 1983) or the Owyhee District RMP (BLM 1999), but both documents refer readers back to the applicable CMUP prepared by NPS as including the management principles that the respective districts will follow to protect the visual and historic values of the NHT. The

Bruneau MFP designates a 0.5-mile corridor as a Special Recreation Management Area (SRMA), which includes an interpretive site near Cove Recreation Site, to be guided by the NPS management plan.

The recently approved (September 14, 2015) Jarbidge RMP notes that the 16,384-acre Oregon Trail SRMA includes such recreational opportunities as hiking, wildlife viewing, and natural scenery and educational activities. It also notes that there are “some opportunities for isolation from man-made sights and sounds in a predominantly unmodified environment. Concentration of visitors is low, but evidence of other area users is present” (BLM 2015a). The SRBOP RMP (BLM 2008) acknowledged the intact visual characteristics of the Oregon NHT when it established a visual protection corridor within the Birds of Prey Avoidance Area that included the Oregon NHT (in addition to other sensitive resources).

## **5.2 Federal Protection Components, Heritage Resources, and Auto Tour Routes**

The NTSA and BLM Manual 6280 mandate assessment of impacts to Federal Protection Components, Heritage Resources, and ATRs. Federal Protection Components include HPHSs and HPRSEGs and other land- and water-based components of a designated NHT located on federally owned land that meet the NHT criteria listed in the NTSA and that are identified in trailwide CMUPs, RMPs, and implementation plans. ATRs are defined as those roads that parallel the NHT and provide opportunities to commemorate and/or interpret the historic route as an alternate experience. Table 3 provides a list of Federal Protection Components and ATRs listed in the Oregon Trail CMUP that are situated in the APAI (NPS 1998). Only Canyon Creek Stage Station (HPHS No. 92), C.J. Strike Ruts (HPHS No. 100), North Trail (HPRSEG No. 8), Three Island Crossing, and Sinker Creek (HPRSEG No. 9) are situated on lands administered by the BLM. The Utter Creek Massacre (HPHS No. 101) likely occurred on private lands, but an interpretive panel is situated on BLM-managed land. BLM Manual 6280 also requires an inventory and impacts assessment of “Heritage Resources,” which are those trail segments and/or sites that are likely associated with the Oregon NHT but are not officially designated. Table 4 provides a summary of trail mileage by AU that includes the designated Oregon NHT route, represented as “NHT<sup>1</sup>,” Heritage Resources as “NHT<sup>2</sup>,” and the ATRs as “NHT<sup>3</sup>.” Table 4 provides the respective mileage of the Oregon NHT resources situated on BLM-managed land.

**Table 3.** Federal Protection Components and Auto Tour Routes within the APAI

<b>Federal Protection Components Name and No.</b>	<b>Site/ Segment #</b>	<b>Location</b>	<b>Description</b>	<b>AU #</b>	<b>NRHP Status</b>	<b>Ownership</b>
Thousand Springs Complex State Park	HPHS No. 87	Gooding/Twin Falls County, ID	Emigrant Stopping Point and Natural Feature	AU1	N/A	State
Upper Salmon Falls	HPHS No. 88	Gooding/Twin Falls County, ID	Rapids, Natural Feature	AU1	N/A	State
Three Island Crossing State Park	HPHS No. 89	Elmore County, ID	Oregon Trail Crossing of Snake River	AU2	NRHP Listed	BLM; State
Teapot Dome Hot Springs	HPHS No. 90	Elmore County, ID	Hot Springs, Natural Feature	AU2	N/A	Private/State
Rattlesnake Stage Station	HPHS No. 91	Elmore County, ID	Stage Station	AU2	N/A	Private
Canyon Creek Stage Station	HPHS No. 92	Elmore County, ID	Stage Station	AU2	N/A	BLM
Inscription Rock	HPHS No. 93	Elmore County, ID	Emigrant Inscription Point	AU2	N/A	Private
Ditto Station	HPHS No. 94	Elmore County, ID	Stage Station	AU2	N/A	Private
Indian Creek Station	HPHS No. 95	Elmore County, ID	Stage Station	AU2	NRHP Listed	Private
C.J. Strike Ruts	HPHS No. 100	Owyhee County, ID	Intact Oregon Trail Ruts	AU3	N/A	BLM
Utter Massacre Site	HPHS No. 101	Owyhee County, ID	Historic Massacre Site	AU4	N/A	Private (Interpretive panel on BLM-managed land)
Givens Hot Springs	HPHS No. 102	Owyhee County, ID	Hot Springs, Emigrant Stopping Point	AU4	N/A	Private
Hagerman Fossil Beds	HPRSEG 7	Elmore and Twin Falls Counties, ID	High Potential Route Segments	AU1a and AU1b	N/A	NPS
North Trail High Potential Route Segment	HPRSEG 8	Ada and Elmore Counties, ID	High Potential Route Segment	AU2	N/A	BLM/Private/State

**Table 3.** Federal Protection Components and Auto Tour Routes within the APAI (continued)

Federal Protection Components Name and No.	Site/ Segment #	Location	Description	AU #	NRHP Status	Ownership
Sinker Creek High Potential Historic Segment	HPRSEG 9	Owyhee County, ID	High Potential Route Segment	AU4b	N/A	BLM/Private
Idaho State Highway 78	ATR	Gooding, Twin Falls, Elmore, Owyhee, ID	Auto Tour Route	AU1-AU5	N/A	State
Interstate 84	ATR	Gooding, Twin Falls, Elmore, Owyhee, ID	Auto Tour Route	AU1-AU5	N/A	State

**Table 4.** Miles of Oregon Trail Resources on BLM-managed Land within Analysis Units

Analysis Unit	BLM Field Office(s)	Length of Oregon Trail Resources on BLM-managed land (in miles)		
		Congressionally Designated Trail (NHT <sup>1</sup> )	Oregon Trail Segments (NHT <sup>2</sup> )	Oregon Trail ATR/Interstate 84/Idaho Route 78 (NHT <sup>3</sup> )
1	Four Rivers, Jarbidge, Shoshone, and Burley	17.3	65.1	1.8
2	Four Rivers, Jarbidge, and Shoshone	24.6	55.6	27.3
3	Four Rivers, Bruneau, Jarbidge, and Shoshone	14.3	56.6	28.4
4	Four Rivers, Owyhee, and Bruneau	16.2	16.4	21.0
5	Four Rivers, Jarbidge, Shoshone, and Burley	30.8 (North Alternate Study Trail)	69.8	22.1

Note: Several of the Analysis Units (AU) overlap and are tailored to discrete Oregon NHT high potential route segments and high potential historic sites so the total number of miles of the Oregon NHT crossing all AUs is not consistent with the total length of Oregon NHT miles (for instance, as expressed in Table 1). Each AU contains a 15-mile buffer on either side of the designated Oregon NHT route (NHT<sup>1</sup>). The AUs also depict the locations of Heritage Resources (NHT<sup>2</sup>) and the auto tour routes (ATR) (NHT<sup>2</sup>).

### 5.3 Inventory Results

Between April 27 and May 2, 2015, a field inventory of the APAI was performed by AECOM and Tetra Tech with assistance from BLM staff. An interdisciplinary field team collected data from individual IOPs on the recreation, natural, visual, and cultural/historic resources, qualities, and values and associated settings of the Oregon

NHT and North Alternate Study Trail. Representative photographs taken from each IOP are presented in Attachment B.

Following fieldwork associated with the VRI, each AU received a Scenic Quality Rating based upon information collected from each IOP and a review of aerial mapping data. Table 5 provides the numerical scores used to develop the scenic quality ratings.

**Table 5.** AU Scenic Quality Ratings

Analysis Unit/Scenic Quality Rating Unit	Landform	Vegetation	Water	Color	Adjacent Scenery	Scarcity	Cultural Modification	Total Score	Scenic Quality Rating
1a	2	3	2	2	0	1	-4	6	C
1b	2	3	2	2	3	3	-2	13	B
2	4	3	2	3	0	3	-4	11	C
3	3	3	5	4	3	5	1	24	A
4a	1	5	3	3	3	1	-2	14	B
4b	5	3	3	5	5	5	0	26	A
5	3	3	1	1	0	1	-2	7	C

### 5.3.1 Inventory Results AU1

#### 5.3.1.1 Visual Resources

AU1 includes the North Trail (Primary Route) of the Oregon NHT between the east end of the Study Area and Three Island Crossing where the trail diverges into two routes north and south of the Snake River.

For the purposes of the VRI, the AU is composed of two sub-units, delineated by developed agricultural land the relative lack of BLM-managed land (1a) and rural land that features larger undeveloped BLM parcels (1b). Table 6 lists the field and remote IOPs analyzed for the VRI within this AU. It should be noted that due to the relative lack of BLM-managed land in AU1a, there are no IOPs in AU1a.

**Table 6.** Analysis Unit 1 – Inventory Observation Points

IOP	AU Sub-Unit (for VRI)	IOP Description
C61	1b	Oregon NHT (SE of Three Island Crossing)
C95	1b	Oregon NHT (West Deer Creek Gulch)
C96	1b	Oregon NHT (a portion coincides with Kelton Rd)
C97	1b	Oregon NHT (Rosevear Gulch area)
C106	1b	Oregon NHT Trail Marker, near Bell Rapids Road
C107	1b	Kelton Road Marker
C108	1b	Oregon NHT Marker off of Bennett Mountain Road
C1504	1b	380-1 associated trail - Oregon NHT
C1509	1b	Oregon NHT Crossing-Route 8A
C1515	1b	Oregon NHT Crossing-Route 8G
C1529	1b	Three Island Crossing and Two Island Crossing Viewpoint <sup>1/</sup>

1/ Inventory Observation Point (IOP) C1529 is on state lands. Due to its location on state lands, this IOP was not analyzed for impacts consistent with BLM Manual 6280. This IOP was chosen as an inventory point to assess scenic quality in this AU.

### **Scenic Quality Rating Units**

This segment of the trail largely passes through Class B (AU 1b) and C (AU 1a) scenic areas. The landscape is characterized by rolling hills with no dominant landform features and a limited variety of sagebrush and grassland vegetation. The trail lacks a major visual interaction with the Snake River in this area, except for AU1's west end at Three Island Crossing. Much of this AU is bisected by a series of gulches and small seasonal creek beds that are not dominant features in the landscape. Color variations are subtle, with little contrast in most areas aside from Three Island Crossing. The area is distinct within the region due to the unique concentration of gulches (1b), although the agricultural landscape (1a) is fairly typical. Several transmission lines cross the trail and setting within the AU. Coupled with the surrounding wind farm development, these cultural modifications introduce discordant forms and lines in the landscape and detract from the AU's visual harmony.

### **Sensitivity Level Rating Units**

The entirety of AU1 is rated as highly sensitive, due to the congressional designation and associated protection measures for this segment of the Oregon NHT, which includes the Hagerman Fossil Beds HPRSEG, North Trail HPRSEG, Upper Salmon Falls HPHS, and Three Island Crossing HPHS – all Federal Protection Components of the Oregon NHT.

### **Distance Zones**

AU1 includes viewsheds from the trail within the foreground-middleground (up to 5 miles), and background (5-15 miles) distance zones, as well as seldom seen areas. Travel route viewers along I-84/US 26 and US 30, which serve as the NPS ATR through this AU, will pass through the background in AU1a and the foreground/middleground in AU1b. Seldom seen areas are generally limited to small segments of the Snake River Canyon and valleys within and south of the Bruneau Desert.

#### **5.3.1.2 Cultural/Historical Resources**

Within AU1, the trail passes between the Snake River to the north and the Bruneau Desert to the south. Several braided, non-Oregon NHT segments follow along the main route, and the trail connects with Castleford Road and Kelton Road. The historic setting is characterized by elevated plateaus and gentle sloping hills met with gulches, including Tuana Gulch, Cassia Gulch, Little Pilgrim Gulch, Big Pilgrim Gulch, Deer Gulch, and Rosevear Gulch. The Snake River is a prominent linear feature in the historic setting.

AU1 includes two HPRSEGs of the Oregon NHT, separated by a large grouping of wind farms and agricultural land at Black Mesa. The Hagerman Fossil Beds HPRSEG includes a 4-mile trail segment within the Hagerman Fossil Beds National Monument. The segment begins at the mouth of Yahoo Gulch, where, according to the NPS CMUP, emigrants camped and grazed their stock. The segment climbs a ridge adjacent to the Snake River, which features a narrow spot that Jesse Applegate called the "Devil's Backbone" (NPS 1998). Several trail artifacts are in the museum at the National Monument.

Additionally, a portion of the North Trail HPRSEG extends from the Twin Falls – Elmore County line through AU1 to the crossing at Glens Ferry. According to the NPS CMUP, this HPRSEG contains the best overall stretch of the Oregon Trail left in Idaho and features scenery of the Snake River Valley. The segment heads northwest across rangeland, following trail remnants and passing near Pilgrim State Station and the camping area at Little Pilgrim Gulch. The route crosses Black Mesa and meets AU2 and AU3 just south of Glens Ferry. The setting of the North Trail HPRSEG has been diminished since the 1998 NPS CMUP for the Oregon Trail with the construction of several windfarms on private lands within the HPRSEG’s viewshed.

A large grouping of wind farms and agricultural land centered on Black Mesa Farms separate the two HPRSEGs. The wind farm properties are also frequently bisected by existing transmission lines. These cultural modifications are present in the viewshed and detract from the historic setting.

The Cultural Resources study identified four previously recorded historic sites associated with the Oregon NHT in AU1 (Table 7).

**Table 7.** Previously Recorded Historic Sites Associated with the Oregon Trail in AU1

Site No.	Site Class	Site Type	Description	NRHP Recommendation
10EL1372	Historic	Historic Road	Oregon Trail, Kelton Road	Unevaluated
375-1	Historic	Historic Road	Segment of the Oregon Trail primary route (North Trail) southeast of Glens Ferry	Eligible/Contributing
378-1	Historic	Historic Road	Segment of the Oregon Trail primary route (North Trail) southeast of Glens Ferry	Eligible/Contributing
380-1	Historic	Historic Road	Segment of the Oregon Trail primary route (North Trail) southeast of Glens Ferry	Eligible/Contributing

The Pilgrim Gulch Area and the area approaching Two Island Crossing and Three Island Crossing are highlighted in emigrant diaries.

**Pilgrim Gulch**

The Little Pilgrim Gulch area hosted a significant emigrant campground and access point to the Snake River. In addition, evidence of several alternate routes is present in the Big Pilgrim Gulch area. John S. Ziebar noted on August 27, 1851: “It was ¾ of a mile to the water and down a steep way probably 300 feet below the wagons” (Hutchison and Jones 1993).

**Two Island Crossing and Three Island Crossing**

The Oregon Trail Primary Route (North Trail) and South Alternate intersected at Three Island Crossing. Pioneers forded the Snake River there until 1869, when Gustavus Glenn established a commercial ferry about 2 miles upstream. The crossing has been described as “the most important and difficult river crossing in Idaho. Crossing the Snake River was always dangerous, but when the water was low enough, everyone able to cross did so to access the more favorable northern route to Fort Boise” (NPS

1998). Emigrants chose to either continue on the preferred North Route by fording the Snake River at Three Island Crossing (AU2) or if conditions were unfavorable, remain on the south side of the river along the South Alternate (AU3). On the undulating hills leading down to Three Island Crossing, many emigrants lightened their wagon loads by, among other things, sawing off and shortening the ends of their wagons. The remains (now archaeological sites) would have been left between Salmon Falls Creek and Three Island Crossing (La Salle 2011).

In July 1851, P.V. Crawford described the landscape on the approach to Three Island Crossing and the popular animal watering area at Two Island Crossing:

*This day [July 30] we traveled twelve miles. The first four or five miles were very hilly and sandy, then four miles of level sandy plain. Then down a ravine to a dry channel, that has the appearance of being a large creek at times, but is at this time perfectly dry. We followed the channel down to the river. Here camped, but had to swim our cattle across the river to grass. This is now called the upper crossing of Snake river. Here we decided to cross over to the north side (Idaho State Historical Society Reference Series 1995).*

Table 8 describes the resources, qualities, and values of the Oregon NHT observed from selective IOPs in AU1.

**Table 8.** IOP Descriptions of Oregon NHT Resources, Qualities, and Values in AU1

IOP	Character Defining Features
C61	Two-track road still in use—not marked. Nine feet wide and runs northeast-southwest.
C95	Barely visible portion of Oregon NHT; a flat road surface.
C96	Two deep swales, each measure about 12 feet across and up to 3 feet deep. The swales descend an east-facing slope. No artifacts noted.
C97	None visible. Trail could not be seen. Only a Carsonite marker is present.
C106	Two deep swales 12–13 feet wide and 12–16 inches deep. The trails converge at a Carsonite marker. The main swale runs generally north-south. The other, narrower trail turns east and goes downhill. A rusted sanitary can with interior friction lid (coffee can) noted.
C107	Deep rut or swale present is up to 12 feet wide and several feet deep. Runs generally southeast-northwest.
C1504	An 8-foot wide, two-track road runs north-south parallel to a fence. Appears to be a modern two-track.
C1509	Deep swale, 12–15 feet wide and up to 4 feet deep. Carsonite markers present. Tin can scatters and perforated sheet metal noted alongside swale.
C1515	About a 10-foot wide swale up to 12 inches deep. One or two parallel, shallow swales also noted.

### 5.3.1.3 Recreation and Travel Opportunities

Recreation opportunities managed by the BLM within AU1 largely consist of Carsonite trail markers situated along the North Trail HPRSEG. The northeastern edge of this AU connects with the BLM Backcountry Byway. No trailheads or other improved access points, however, were identified during fieldwork on BLM-managed land associated with the byway because the majority of the byway is located within AU2. Road circulation generally facilitates access to the North Trail HPRSEG in this AU, but the roads vary in condition. The wide, well-graded gravel Bell Rapids Road provides easy direct access

to the North Trail HPRSEG from well-traveled two-track dirt roads. Other roads, such as Black Mesa Road, are in poor condition, with single- and double-track dirt paths that make driving difficult or require foot travel to reach the Oregon NHT.

Two IOPs associated with the eastern terminus of the Backcountry Byway (C1529 and C61) are examples of opportunities for vicarious experiences along the trail near the Three Island Crossing area. Additional IOPs in AU1, such as C106, C107, C61, C96, C1509, and C1515, allow opportunities to experience trail segments with high physical integrity and high interpretive potential. While these IOPs lack interpretive panels, Carsonite markers identify the location of the trail. Little to no evidence of other recreational activities in these areas was recorded during fieldwork.

Trail-related interpretive opportunities are largely limited to non-BLM properties such as the Hagerman Fossil Beds National Monument area (managed by the NPS), which contains an intact segment of the North Trail HPRSEG. Three Island Crossing State Park contains an interpretive overlook on the south side of the Snake River with a view of BLM-owned parcels that contain an intact segment of the North Trail HPRSEG. Other recreational opportunities in the area consist of camping, RV parks, informal ATV use, and dispersed recreation including hunting and fishing along the Snake River. All of these opportunities, however, are not on BLM-managed lands and may or may not be associated with Oregon NHT-related recreational opportunities. Trail-related camping is available at Three Island Crossing State Park and Hagerman Fossil Beds National Monument.

#### **5.3.1.4 Natural Resources**

Most of the ground surface in AU1 is covered with vegetation, including a combination of open shrub-steppe and grassland that has been invaded by cheatgrass. Large sagebrush and rabbitbrush primarily comprise the overstory, while cheatgrass is the most common understory species. Other species include bunch grass, crested wheat grass, tower mustard, and lupine. Soil types are primarily silty sand and sandy silt, with some areas of scattered gravel.

The natural setting of this AU is defined by the Mt. Bennett hills north of the Snake River, with the snow-covered peaks of the Soldier Mountains beyond these hills. Black Mesa and Flint Mesa are centrally located within the AU. Several gulches carve out the eastern half of the AU, including Cassia Gulch, Little Pilgrim Gulch, Big Pilgrim Gulch, and Deer Gulch. The Snake River Canyon and its drainages are more prominent in the western portion of the AU. The combination of these prominent geological landforms characterizes the AU's overall natural setting.

#### **5.3.1.5 Other Landscape Elements**

Landscape elements that support the trail in AU1 are discussed in the scenic, historic, recreation, and natural settings. The towns of Hagerman and Glens Ferry are within 5 miles of the Oregon NHT but have minimal impact on the trail's resources, qualities, values, and settings. The primary transportation corridor is I-84, which passes within 5 miles of the trail to the north, but also serves as the NPS ATR. Other transportation elements, which include Bell Rapids Road, Bennett Mountain Road, secondary two-track roads, and localized OHV trails, moderately detract from the Oregon NHT's scenic and historic settings in limited areas. Multiple transmission lines pass through AU1,

including 500-kV lattice towers to the northeast, north, and northwest; and H-frame towers to the northeast and southwest. A large concentration of wind farms is located east of the trail near Buhl, and the multiple windmills are highly visible from most IOPs within AU1. Additional elements include wireless communications towers and microwave antennae to the south, north, and northeast.

Land near the trail in AU1 is primarily administered by the BLM, with one large wind farm and agricultural development at Black Mesa separating two trail segments. Agricultural fields, fencing, and some farm buildings are visible from, and in some instances obscure, the trail. In localized areas, cattle grazing diminishes the trail’s immediate historic and natural setting.

### 5.3.2 Inventory Results AU2

#### 5.3.2.1 Visual Resources

AU2 includes the North Trail (Primary Route) of the Oregon NHT, North Alternate Study Trail, and Goodale’s Cutoff Study Trail and almost entirely encompasses the Main Oregon Trail Backcountry Byway. Table 9 lists the field IOPs analyzed for the VRI within AU2.

**Table 9.** Analysis Unit 2 – Inventory Observation Points

IOP	IOP Description
C120	Oregon NHT South Alternate
C1516	Alkali Springs Historic-Period Camping Area
C1517	Kelton Rd Recreation Site-Hot Springs Creek
C1518	Kelton Rd Recreation Site-Parallels OT Segment
C1519	Rocky Road Hiking Area and Trail Ruts
C1520	Interpretive Sign and Visible Ruts
C1521	Byway Road Parallels Oregon NHT Route
C1522	Interpretive Sign at Inscription Rock near Bowns Creek
C1529	Three Island Crossing and Two Island Crossing Viewpoint <sup>1/</sup>

1/ Inventory Observation Point (IOP) C1529 is on state lands. Due to its location on state lands, this IOP was not analyzed for impacts consistent with BLM Manual 6280. This IOP was chosen as an inventory point to assess scenic quality in this AU.

#### **Scenic Quality Rating Units**

This segment of the trail largely passes through Class C scenic areas. The landscape is relatively flat to the south and west, but bordered on the north and east by the Danskin Mountains, a dramatic mountain range that parallels the Oregon NHT through this AU and creates a distinct landscape element for trail users in the region. Some variety of vegetation is present, though sagebrush and grassland are the major types. Water features within the landscape include the Snake River, which is only prominent at Three Island Crossing and Two Island Crossing, as well as Morrow Reservoir and the hot springs located near Teapot Dome. The Danskin Mountains provide some variety and contrast in color, but overall, color is not a dominant part of the landscape. Multiple intersecting transmission lines and a concentration of wind farms detract from the scenic elements and are discordant cultural modifications within AU2.

### **Sensitivity Level Rating Units**

The entirety of AU2 is rated as highly sensitive, due to the Congressional designation and associated protection measures for this segment of the Oregon NHT, as well as its inclusion of the Main Oregon Trail Backcountry Byway. The AU contains the North Trail HPRSEG, Three Island Crossing HPHS, Teapot Dome Hot Springs HPHS, Rattlesnake Station HPSH, Canyon Creek Station HPHS, and Inscription Rock HPHS – Federal Protection Components of the Oregon NHT. The North Alternate Study Trail and Goodale’s Cutoff Study Trail are also situated in the AU. The Rattlesnake Station HPHS and Goodale’s Cutoff Study Trail are not located on BLM-managed land.

### **Distance Zones**

The Danskin Mountains limit the viewshed in AU2 to the foreground/middleground to the north and east of the trail, while the flat lands south and west of the trail provide a full viewshed beyond 15 miles in several areas. Travel route viewers along the Main Oregon Trail Backcountry Byway will pass through the trail foreground/middleground. Seldom seen areas are limited to the north side of the Danskin Mountains, as well as the Sailor Creek Basin south of Hammett and Glens Ferry.

#### **5.3.2.2 Cultural/Historical Resources**

In AU2, the trail extends from Glens Ferry and the Three Island Crossing area northwest through the AU towards Bonneville Point and Fort Boise. The route follows along the southwestern edge of the Danskin Mountains and the Bennett Hills and generally parallels US 26/I-84 approximately 6 miles to the southeast. Within this AU, the entire main route is part of the North Trail HPRSEG. Several braided, non-Oregon NHT segments of trail follow along the HPRSEG, many of which connect to the North Alternate Study Trail to the southeast.

AU2 begins at Three Island Crossing. Following Three Island Crossing, the trail passes through a series of flats, draws, creeks, and hollows. Starting in the southeast and moving northwest, the Oregon NHT passes over Cold Springs Creek, Hot Springs Creek, the Teapot Basin, Rattlesnake Creek, Canyon Creek, Ditto Creek, Sand Hollow, Smith Draw, Caldwell Draw, McLintyre Draw, and Indian Creek and then ends within Slaters Flat. The historic setting is characterized by this sequence of low flat valleys divided by occasional crevasses and dips within the landscape. Other significant features in the setting include Alkali Hot Springs, located along Hot Springs Creek and Lockman Butte, visible to the south where the trail crosses Canyon Creek.

AU2 includes seven HPHSs, all of which are located in Elmore County on private or state lands. Three Island Crossing State Park, located on the north side of the Snake River within the city of Glens Ferry, is located entirely on state lands, but does contribute to the significance and setting of the North Alternate Study Trail. Both Three Island Crossing and Indian Creek Station—a historic stage station located on private lands—are listed on the NRHP. Two privately held stage stations are also located within this AU, neither of which is listed on the NRHP. These include Rattlesnake Stage Station and Ditto Station. The Canyon Creek Stage Station, recently placed under BLM management (October 2015), is also located within AU2. Teapot Dome Hot Springs, a natural hot springs is a feature on private and state lands, and Inscription Rock, an emigrant stopping point with historic inscriptions, is located on private lands. In

addition, all of the stage stations are within lowland areas surrounding creeks and have limited views of the trail.

Agriculture and grazing have created minor impacts on the historic setting, including erosion of the trail and some minor visual impacts related to agricultural properties. The greatest cultural modifications to the historic landscape in this area include extensive transmission lines to the southeast and south and large-scale wind farms located within the same vicinity. These cultural modifications are present in the viewshed and alter the historic setting.

One previously recorded historic site associated with the Oregon NHT in AU2 was identified in the Cultural Resources study (Table 10).

**Table 10.** Previously Recorded Historic Site Associated with the Oregon NHT in AU2

Site No.	Site Class	Site Type	Description	NRHP Recommendation
10EL1372	Historic	Historic Road	Oregon Trail, Kelton Road	Unevaluated

Emigrant diaries that document the Oregon NHT in AU2 focus primarily focus on Three Island Crossing, one of the Oregon Trail's most famous and perilous river crossings. The swift currents were notorious for overturning wagons and drowning pioneers and livestock. The diaries also describe Cold Springs Creek, Bennett Mountain, Rattlesnake Creek and Hot Springs, Canyon Creek, Bliss, and Teapot Dome and Hot Springs, distinctive natural features within AU2 that the pioneers noted along their route west.

### **Three Island Crossing**

As one of the Oregon Trail's most famous and perilous river crossings (see Figures 1 and 2), Three Island Crossing narratives frequently appear in emigrant diaries. Prior to the opening of the Oregon Trail, Missionary Narcissa Whitman, traveling with her husband Marcus Whitman, first detailed the crossing on August 13, 1836:

*We have come fifteen miles and have had the worst route in all the journey for the cart. We might have had a better one but for being misled by some of the company who started out before the leaders. It was two o'clock before we came into camp. They were preparing to cross Snake River. The river is divided by two islands into three branches, and is fordable. The packs are placed upon the tops of the highest horses and in this way we crossed without wetting. Two of the tallest horses were selected to carry Mrs. Spalding and myself over. Mr. McLeod gave me his and rode mine. The last branch we rode as much as half a mile in crossing and against the current too, which made it hard for the horses, the water being up to their sides. Husband had considerable difficulty in crossing the cart. Both cart and mules were turned upside down in the river and entangled in the harness. The mules would have been drowned but for a desperate struggle to get them ashore. Then after putting two of the strongest horses before the cart, and two men swimming behind to steady it, they succeeded in getting it across. I once thought that crossing streams would be the most dreaded part of the journey. I can now cross the most difficult stream without the least fear. There is one manner of crossing which husband has tried but I have not, neither do I wish to. Take an elk skin and stretch it over you,*

*spreading yourself out as much as possible, then let the Indian women carefully put you on the water and with a cord in the mouth they will swim and draw you over. Edward, how do you think you would like to travel in this way? (Idaho State Historical Society Reference Series 1968).*



**Figure 1.** Three Island Crossing of the Snake River, Idaho, Watercolor (circa 1932), William Henry Jackson, 1843-1942 (Denver Public Library Western Art Collection)



**Figure 2.** Three Island Crossing of the Snake River, Idaho (Patience Stuart, photographer, AECOM, 2015)

On August 21, 1851, nearly two decades later, Elizabeth Wood discussed the challenge of crossing with livestock:

*We forded the Snake river, which runs so swift that the drivers (four to a team) had to hold on to the ox yokes to keep from being swept down by the current. The water came into the wagon boxes, and after making the island we raised the boxes on blocks, engaged an Indian pilot, doubled teams, and reached the opposite bank in safety. It is best in fording this river to engage a pilot (Idaho State Historical Society Reference Series 1968).*

According to later Oregon Trail diarists, most travelers crossed here in their wagon boxes. On August 7, 1852, Abigail Scott, traveling with her family from Illinois, wrote “emigrants were ferrying in their wagon boxes” (Holmes and Duniway 1986; Shirley 1998). The Conyer family “calked two wagon beds and used them as a ferry to cross the river, one tied before the other” (Rau 2001).

Interactions with Indian tribes were not always accommodating. On August 1, 1851, Crawford reflects on the crossing, the quality of grassland, and an experience with local Native Americans: “This day we completed crossing our fifteen wagons before night. Last night we had three horses stolen, and three more shot in the shoulders with arrows. Grass is good here, but Indians are very bad” (Idaho State Historical Society Reference Series 1968).

On September 24, 1844, Edward Evans Parrish described crossing on a calm day: “We crossed the river safely after noon today and camped on a fine bed of grass within sight of the ford. The river is rapid and the water middling low. The bottom is gravel of the prettiest kind and the water is clear. In consequence of two islands, side by side, we had to cross three streams” (Idaho State Historical Society Reference Series 1968).

### **Cold Spring Creek, South of Bennett Mountain**

Cold Spring Creek is not a HPHS, but the area’s rocky conditions impacted emigrant travel. In 1853, Elizabeth J. Goltra describes the area south of Bennett Mountain near Cold Spring Creek:

*Saturday August 13th. We had a long hill to climb this morning and a very rocky one. It is almost useless to attempt to describe the road on this part of the trip. For several days we have had little else but rocks to travel over and it looks no better ahead. Mountains and hills rise up before us and when we get on the top of one we see another ahead still higher. Seven miles from camp we come to another creek, not much grass, 8 miles farther are 3 fine springs branches. Here we camped again having good feed. Drove 15 miles today (University of Richmond 2015).*

### **Hot Springs South of Teapot Dome**

Teapot Dome Hot Springs is a series of small springs on the Oregon NHT North Route that occupy a basin 1,000 feet across at the Hot Springs Creek (NPS 1998). The springs branched in multiple directions and provided several areas for emigrants to camp. Famed explorer John C. Fremont wrote of the Hot Springs South of Teapot Dome on October 5, 1843:

*In about nine miles the road brought us to a group of smoking hot springs, with a temperature of 164 [degrees]. There were a few helianthi in bloom, with some other low plants, and the place was green round about; the ground warm, and the air pleasant, with a summer atmosphere that was very grateful in a day of high and cold searching wind. The rocks were covered with a white and red incrustation; and the water has on the tongue the same unpleasant effect as that of the Basin spring on Bear river. They form several branches, and bubble up with force enough to raise the small pebbles several inches... These springs are near the foot of the ridge (a dark and rugged-looking mountain) in which some of the nearer rocks have a reddish appearance, and probably consist of a reddish-brown trap, fragments of which were scattered along the road after leaving the spring (Jackson 1970 in Hutchison and Jones 1993).*

### **Rattlesnake Creek and Hot Springs**

The area near Rattlesnake Creek was established as an important stage station in 1864 and later as a freight stop for the Rocky Bar mining area. Prior to the stage station, however, emigrants camped near the creek and nearby hot springs. On August 14, 1853, Goltra describes Rattlesnake Creek (near Sun Valley Highway and Hot Springs Road intersection):

*Drove 5 miles and came to another creek, 7 miles farther and we came to another creek, one half a mile from which are hot spring branches. Water not*

*good. One mile farther and to the right of the road are the hot springs. These springs are very hot, almost boiling. Cannot hold my hand in the water 10 seconds. Four miles farther is Barrel creek. Good grass here. Camped again. Drove 17 1/2 miles to-day (University of Richmond 2015).*

Rattlesnake Creek Stage Station remained a major stage stop until the early twentieth century, with connections to gold mining operations on the Rocky Bar Road (Simpson 2001). Ben Holladay founded the station in 1864 as a stop on his new Overland Stage Line between Salt Lake City, Utah, and Walla Walla, Washington. Commodore William Jackson acquired the property in 1872 and ran the station for 3 years. In 1870, the Northwestern Stage Company acquired the overland line. Wesley C. Tatro initiated a weekly stage line from Boise to the South Boise mines and made stops at Rattlesnake to accommodate overland travelers. In 1875, Tatro made the station an overnight stop and Jackson quit as manager. A post office named Mountain Home was established in 1876 at the station. When the Oregon Short Line Railway was completed in 1883, the post office was removed to a new town site. The station served stages between the new town of Mountain Home and Rocky Bar until the stage route to South Boise was abandoned in 1914 (Idaho State Historical Society Reference Series 1984). The remains of the round rock fort built in 1878 and the old school house built in 1898 may still be seen in the area (BLM/IOCTA 2009).

### **Canyon Creek**

Ten miles west of Rattlesnake Creek, Canyon Creek was also used as a campground and later established as a stage station. As early as 1843, emigrants sought out the creek bottom for its availability of water and lush green grass (Simpson 2001). At Canyon Creek (near Foothill Road and Mayfield Road), Elizabeth J. Goltra briefly describes the landscape at their camp on August 15, 1853: “Twelve miles farther is another creek. Some grass and a very rough sort of a road. Camped here” (University of Richmond 2015).

Canyon Creek Stage Station was established in the later years of the Oregon Trail. The family of Archibald Daniel homesteaded Canyon Creek Stage Station in 1873. The stage station was constructed of lava rocks from the surrounding canyon and wood floors and roof from the hillsides (Idaho Heritage Trust 2015). A breezeway between the station’s two buildings allowed passengers safe passage into the station from the stagecoach. Food and lodging were provided for up to 50 teams and their drivers (Simpson 2001). The station operated until 1921 and was destroyed by fire in 1976, leaving only its stone wall structure (Idaho Heritage Trust 2015). The Station was recently acquired by the federal government and placed under BLM management (October 2015).

Table 11 describes the resources, qualities, and values of the Oregon NHT observed from selective IOPs in AU2.

**Table 11.** IOP Descriptions of Oregon NHT Resources, Qualities, and Values in AU2

IOP	Character-Defining Features
C108	Two parallel ruts, up to 12 inches deep, and white Carsonite markers. No period artifacts noted.
C1516	Faint two-track passing through tall sagebrush, marked with concrete BLM post markers. No period artifacts noted.
C1517	Two-track road with concrete post markers. Road is still in use.
C1518	Gentle slope below Teapot Dome. Shallow swale or trail visible. Runs northwest/southeast and is 15 feet wide. No artifacts. Some rocks have been pushed to the south edge of trail. White opalite gravel is noted.
C1519	Trail swale is readily visible. One rut noted. This is a Class 1 with excellent integrity. Carsonite markers have been found broken off on ground. There are basalt cobbles in the trail.
C1520	Ridgetop in rolling foothills north of Snake River Valley. Multiple ruts pass over the ridgetop, running east-west. Ditto Creek is about 300 meters north. Scattered sagebrush is on ridgetop. No period artifacts noted.
C1521	Narrow road bed visible uphill north of Mayfield Road. A deep rut or swale is visible below the modern road.
C1522	Near Bowns Creek. No visible evidence of the trail. Likely followed the route of the current gravel road (Mayfield Road). No period artifacts noted. The inscription rock has painted and carved inscriptions—black letters produced with axle grease or charcoal. A Backcountry Byways marker is located on the north side of Mayfield Road at this location.

### 5.3.2.3 Recreation and Travel Opportunities

The only BLM-managed recreation site within AU2 is the Morrow Reservoir Dispersed Recreation Site. This recreation area is seldom used and no visible signs of the Oregon Trail were seen during fieldwork. There are no BLM markers and no visible ruts. The Oregon Trail is located 1.2 miles southwest of the reservoir and recreation may or may not be related to the trail at this location.

The Backcountry Byway is a recreational tour route located primarily within AU2. The byway passes many historic and natural sites associated with the Oregon Trail. These include the Alkali Springs Historic Camping Area (IOP C1516); the Kelton Road Recreation Site-Hot Springs Creek Area (IOP C1517); a Kelton Road Recreation Site that Parallels the Oregon Trail (IOP C1518); the Rocky Road Hiking Area, a dispersed hiking area along a rocky portion of the North Alternate Study Trail with BLM Carsonite markers and clear ruts (IOP C1519); an interpretive sign with visible ruts (IOP CC1520); an interpretive site where the byway parallels the trail that exhibits ruts with high integrity (IOP C1521); and an interpretive sign at the Inscription Rock near Bowns Creek (IOP C1522).

Within AU2, trail-related recreation is focused around the Backcountry Byway Route. Additional BLM recreation opportunities within this AU include sporadic OHV trails and Jeep trails and dispersed hunting. No camping was evident within this AU. The historic stage stations, such as the Rattlesnake Station and Canyon Creek Station, are considered recreational interpretive sites related to the Oregon NHT, but were associated more with the wagon roads, which utilized the trail in later years. The Rattlesnake Station is on private lands but the Canyon Creek Station was recently

donated to the federal government and is now managed by the BLM as of October 2015.

#### **5.3.2.4 Natural Resources**

The ground surface in AU2 is fully covered by fairly dense shrub-steppe vegetation, composed primarily of sagebrush and bitter brush. Cheatgrass is the dominant understory, interspersed with patches of peppergrass and crested wheatgrass. Wild mustard, needlegrass, thistle, and sunflower are present in select locations (C1519). There is a small patch of cottonwood near a small reservoir used as a stock pond and willow trees near C1522. Soils are generally silty sand with gravel in some areas.

The natural setting is dominated by the ridges and basalt outcrops of the Danskin Mountains, which border the north edge of the trail's viewshed in AU2. Several additional prominent geologic features are also within the area. Bennett Mountain is visible to the east and southeast. Inscription Rock (C1522), within the immediate setting, is a granitic outcrop likely related to the Idaho Batholith near Bowns Creek. Teapot Dome (near C1516) features a columnar basalt formation on its steep southwest-facing hillside. From C1519, Lockman Butte is visible to the southwest. Additional unnamed boulders and outcrops are present on the surrounding hills. The Owyhee Mountain Range is within the distant viewshed to the southwest, as is a possible former shield volcano (visible from C1519). Water features within the natural setting include Alkali Springs (C1516), Ditto Creek (C1520), and Hot Springs near Teapot Dome (C1517).

#### **5.3.2.5 Other Landscape Elements**

Most landscape elements that support the trail in AU2 are discussed in the scenic, historic, recreation, and natural settings. Three Island Crossing State Park and the associated viewpoint on the south bank of the Snake River offer camping, picnic areas, and an interpretive center that support the nature and purpose of the Oregon NHT. The town of Glens Ferry and the community of Mayfield are the only population centers within 5 miles of the Oregon NHT, although Glens Ferry was historically associated with the Oregon NHT route. The outskirts of Hammett, Mountain Home, and Kuna are located off I-84 just south of the trail's 5-mile distance zone and are visible in the distant viewshed but do not detract from the trail's resources qualities, values, and settings.

Many of the roads near the Oregon NHT in AU2, primarily county roads, are associated with the Main Oregon Trail Backcountry Byway and provide trail-related recreation opportunities for interpretation and vicarious experiences. In some areas, however, these roads obscure the trail. Additional landscape elements associated with the Backcountry Byway include interpretive signs and hiking trails.

Multiple intersecting transmission lines, including steel lattice and wood H-frame towers, are within close proximity to the trail in all directions and greatly diminish the overall setting. Several wind farms are located within the southeast portion of the AU and are visible from most IOPs within AU2. Additional landscape elements include a communications tower facility to the northwest and a dump near IOP C1522. Land ownership in this AU is scattered with short trail segments on BLM-managed land interspersed with private property. Agricultural activity is limited in this area, with some agricultural fields visible in the distant valley floor.

### 5.3.3 Inventory Results AU3

#### 5.3.3.1 Visual Resources

AU3 includes the Oregon NHT South Alternate, which contains the C.J. Strike HPHS. Table 12 lists the field and remote IOPs analyzed for the VRI within this AU.

**Table 12.** Analysis Unit 3 – Inventory Observation Points

IOP	IOP Description
C113	Oregon NHT South Alternate
C137	Simulation Point
C1133	Recreation View
C1155	Recreation View
C1501	C.J. Strike Ruts (HPHS)
C1502	Cove Recreation Site at CJ Strike Reservoir
C1508	Oregon NHT Crossing-Route 9D
C1526	North Side of CJ Strike Reservoir
C1529	Three Island Crossing and Two Island Crossing Viewpoint <sup>1/</sup>

1/ Inventory Observation Point (IOP) C1529 is on state lands. Due to its location on state lands, this IOP was not analyzed for impacts consistent with BLM Manual 6280. This IOP was chosen as an inventory point to assess scenic quality in this AU.

#### **Scenic Quality Rating Units**

This segment of the Oregon NHT South Alternate is within a Class A scenic area. AU3 is characterized by the bold landform created by the Snake River Canyon that includes a striking combination of high cliffs and rolling hills that lead to the river. The vivid color from the C.J. Strike Reservoir and Snake River contrasts with the dry monotone landscape of the adjacent Bruneau Dunes and surrounding area. Vegetation is limited to sagebrush and cheatgrass with some agricultural development throughout the area. The Danskin Mountains to the north moderately enhance the overall visual quality but do not dominate the scenery. In AU2, there are cultural modifications favorable to and discordant with the visual harmony. The C.J. Strike Hydroelectric Project has created the multi-armed reservoir, which provides multiple scenic and recreation opportunities within the region, while transmission lines that parallel the trail along the north side of the reservoir are discordant within the visual landscape.

#### **Sensitivity Level Rating Units**

The entirety of AU3 is rated as highly sensitive, due to the Congressional designation for this segment of the Oregon NHT, as well as its inclusion of the Hagerman Fossil Beds HPRSEG and the C.J. Strike Ruts HPHS.

#### **Distance Zones**

The viewsheds along the Oregon NHT within AU3 have few visual obstructions within the foreground/middleground and background distance zones. Travel route viewers along I-84/US 26/US 30 and Idaho State Highway 78 will pass through the foreground/middleground and background. Seldom seen areas include portions of the Snake River north of the C.J. Strike Reservoir, the Sailor Creek Basin, and the north end of the Bruneau Canyon.

### 5.3.3.2 Cultural/Historical Resources

AU3 follows the Oregon NHT South Alternate Route. At Three Island Crossing, approximately half of the emigrants were unable to cross the river and were forced to use the 126-mile South Alternate Route or “Dry Route.” Days of hot and dusty travel along the south bank of the Snake awaited emigrants before they could rejoin the main route just west of Fort Boise (NPS 1998). The route was far less desirable than the preferred North Route. In 1843, Overton Johnson and William H. Winter, among the first emigrants to traverse the South Alternate, noted that the trail passed, through “perhaps the most rugged, desert, and dreary country between the Western borders of the United States and the Shores of the Pacific. It is nothing else than a wild, rocky barren wilderness, of wrecked and ruined Nature, a vast field of volcanic desolation” (Idaho State Historical Society Reference Series 1968).

In AU3, the trail closely follows the Snake River’s south bank between the towns of Glens Ferry and Grand View. The trail is accompanied by braided sections of non-Oregon NHT trail, which are largely located north of the C.J. Strike Reservoir. The historic setting is characterized by striking views of the river and the C.J. Strike Reservoir, located next to the C.J. Strike Ruts HPHS. Beginning in the east, additional prominent geographic features include Deadman Canyon, the Bruneau Dunes—located 1 mile south of the trail—and the Waterhouse Gulch. The largely flat area within this AU is defined by these geographic features, with the C.J. Strike Reservoir being the most prominent visual element in the landscape.

Several segments of the trail are visible; however, many have been obliterated by modern developments and agriculture. Agriculture and grazing have had minor impacts on the historic setting, such as trail erosion and minor visual impacts related to agricultural properties. The greatest cultural modification to the area’s historic landscape is the damming of the Snake River for the C.J. Strike Reservoir. Transmission lines are also present within this AU, including a 138-kv line that crosses directly over the reservoir’s main basin. These cultural modifications are present in the viewshed and modify the historic setting.

Though the reservoir itself would not have existed during the time that emigrants were using the Oregon NHT, there are clearly defined trail ruts located southeast of the reservoir that provide interpretation for the area. The Snake River would have been the dominant physical feature within the historic setting. Thus, the present emphasis on large water bodies as a cultural modification does not significantly detract from the cultural setting, except where the damming of the reservoir has physically obscured sections of the trail.

The C.J. Strike Ruts are the only HPHS in AU3, and there are no HPRSEGs. One previously recorded historic site associated with the Oregon NHT in AU3 was identified in the Cultural Resources study (Table 13).

**Table 13.** Previously Recorded Historic Sites Associated with the Oregon NHT in AU3

Site No.	Site Class	Site Type	Description	NRHP Recommendation
10OE6025	Historic	Historic Road	Segment of the Oregon NHT (South Alternate)	Non-contributing

Emigrant diary entries describe the general setting of the South Alternate), as well as the approach to the Bruneau River.

### **South Alternate Route**

In 1848, traveling with the Miller Company, William Anderson described the difficult terrain experienced on the South Alternate route after the company's decision to not cross the Snake River at Three Island Crossing. Anderson described the day's 10-mile journey west from the crossing:

*July the 29th we concluded that we would not cross the river and so the foremost company [Gates] roled out and we followed and traveled 8 miles down on the left bank of the river our road to day was pretty bad there several places that there was barely room for our waggons to pass between the river and the bluffs and they were very rocky and sidelong some waggons came verry near to upsetting and roling some 40 or 50 feet into the river we pased several small patches of grass to day (La Salle 2011).*

On the following day, July 30, 1848, William Anderson describes the ongoing journey west from Glens Ferry:

*When we came to where the road left the river and not knowing how far it would be before we would come to watter agan we concluded to camp here (here a blacksmith who had said all the way he would take his tools through had to give it up and buried them with the intention of coming back the next season after them) our road to day was pretty good with the exception of one mile where the mountains closed into the river this was verry rocky and sidelong the company before us [Gates] broke an axletree and were compeled to leave the waggon (La Salle 2011).*

In July 1848, Riley Root joined the Gates Company at Three Island Crossing after departing from the Wambaugh Company he had traveled with (La Salle 2011). Root writes about the difficult road from Glens Ferry along the Snake River's south bank on July 29, 1848 (approximately 14 miles west of Glens Ferry, just north of Highway 78): "12 miles over as rough and stony a road, along the banks of the Snake river, as I ever traveled. One wagon was broken, to-day, and left to be totally destroyed [sic] by those that came after us" (La Salle 2011).

On July 30, 1848, Riley Root describes the grassy river islands his company saw as they travelled along the Snake River's south bank (approximately 14-25 miles west of Glens Ferry): "Grass not very good. About two miles back, grass might be had by driving the cattle on to an island, in the river. Road sandy during forepart of the route, to-day, and during the afterpart, good" (La Salle 2011).

### **Approach to Bruneau River**

During the overland migration, the Bruneau River (now part of C.J. Strike Reservoir Bruneau Arm) was known as Catherine Creek and Salt Grass Creek. Emigrants described the journey along the South Alternate to the Bruneau River as hot, dusty, and sandy. In 1852, John Kerns noted, "Road as usual, very dusty, and country a barren, deserted, burnt-to-death waste" (Rau 2001). Riley Root and the Gates Company

reached the Bruneau River on July 31, 1848. Root described the area’s salt grass and the bluffs on approach to the Snake River:

*11 ½ miles. Six and a half miles to Salt Grass creek, a name given from the abundance of salt grass growing there. A tolerable camp might be had at that place. The creek soon passes among the bluffs, in a northerly direction, and unites with the Snake river, about 5 miles below where we campd. Grass is plenty at this place, but it is almost impossible to obtain anything of which to make fires (La Salle 2011).*

William Anderson and Miller Company reached the Bruneau River soon after Root and the Gates Company. Anderson wrote:

*July the 31<sup>st</sup> we traveled 14 miles we traveled up a long sand hill and 4 miles from where we left camp we came down into the river bottom agan here was pretty smart grass we traveled a long in this bottom 2 miles and agan left the river and ascended a long hill 8 miles from this bottom we came to a creek, the name of which none of the company knew nor none of the maps or journals that we had gave it any name so I gave it the name of Moss creek [Bruneau River] there being a great deal of moss in the bottom of it this was a good camp (La Salle 2011).*

Table 14 describes the resources, qualities, and values of the Oregon NHT observed from selective IOPs in AU3.

**Table 14.** IOP Descriptions of Oregon NHT Resources, Qualities, and Values in AU3

IOP	Character-Defining Features
C113	Swale running east-west, measures 12–15 feet wide and 12–16 inches deep. Marked with Carsonite posts. No artifacts noted.
C120	Shallow swale 12–15 feet, runs east-west at base of hill. Numerous Carsonite markers. Two-track access road to C.J. Strike Reservoir cuts across trail and has removed about 40 m of the trail. No period artifacts noted.
C137	A deep swale 15–17 feet wide and up to 12 inches deep is present. A second, shallow swale is on the south side, running parallel to the deep swale. The shallow swale is 10 feet wide and about 9 inches deep at center. The trail is marked with Carsonite posts and runs east-west.
C1133	Bladed gravel road. No visible evidence of original trail. One Carsonite marker on gravel road. Gravel road is called "Oregon Trail Road."
C1501	At least five parallel swales, including two deep swales that converge. Three or more shallow swales occur on the northeast side of deep swales. Swales range from 10–15 feet wide. The deep swales are about 3 feet deep at center. The shallow swales measure up to 12 inches deep. Runs northwest-southeast at this point. Noted an aqua glass insulator fragment, suggesting telegraph line was once here.
C1502	Two parallel swales visible starting at barbed wire fence and transmission line on hilltop. Trails/swales go northwest and downhill toward reservoir. An active HOV trail meets the swales and goes down one of them.
C1508	A 60-meter segment of swale measures 12 feet wide and up to 12 inches deep at center. Modern debris from roadside dumping occurs along the access road and Oregon Trail. The trail runs generally east-west.
C1526	Trail appears as a shallow swale/two-track and ends at a Carsonite marker, where it was removed by a wide, mechanical blade swath. Oregon Trail is 12–14 feet wide. Bladed swath is about 17 feet wide. Noted fragment of aqua-colored bottle glass.
C1155	Area has wide, shallow rut running parallel to the north edge of Highway 78. It is 15 feet wide and located about 10 meters north of the highway. A 9-foot-wide two-track runs parallel to the swale’s north side. Carsonite markers have been placed on the two-track.

### **5.3.3.3 Recreation and Travel Opportunities**

The only BLM-managed recreation site within AU3 is the Cove Recreation Site at the C.J. Strike Reservoir (IOP C1502). This recreational opportunity provides striking views of the reservoir and Snake River as well as ample Oregon NHT interpretation through surviving ruts marked by BLM Carsonite trail markers.

The NPS ATR (NHT<sup>3</sup>) parallels the South Alternate of the Oregon NHT for the majority of this AU, facilitating access to significant viewing points along the trail. These include the C.J. Strike Ruts (IOP C1501), a viewpoint along the Snake River (IOP C120), viewpoints on the north side of the C.J. Strike Reservoir adjacent to associated trail segments (NHT<sup>2</sup>) (IOPs C1526 and C137), and a point where the auto route joins the North Trail (IOP C113).

An additional BLM-managed recreation site is the Indian Bathtub Recreation Site, which is over 8 miles south of the trail and was established as a recreation site in 1891 near Bruneau Hot Springs (ISHS 1995). Recreational opportunities at this site may or may not be related to the trail.

Other recreational opportunities in the area consist of extensive dispersed OHV and Jeep trails, averaging 5-10 miles from the trail at the foothills of the Owyhee Mountains. In addition, some dispersed camping and fishing occurs within large patches of BLM-managed land that is divided by segments of private land and is considered discontinuous.

### **5.3.3.4 Natural Resources**

The vegetation in AU3 is primarily disturbed grassland and areas of shrub-steppe with sparse big sage and rabbitbrush. Cheat grass is the predominant groundcover, mixed with needlegrass and tower mustard in some areas. Soil types include sandy loam, silty sand, and sandy silt with scattered gravel and some small boulders in select locations.

A combination of geologic features creates the natural setting within AU3. Portions of the upper rim of the north and northeast wall of the Snake River Canyon are visible, illustrating the region's basic stratigraphy and delineating the river's presence and location within the natural setting. The C.J. Strike Reservoir, though not historic, provides some variation within the viewshed. The view northward across the reservoir includes dark, basalt-capped plateaus with contrasting light colored rhyolite underneath (C120). Other geologic formations include Flat Iron Butte, the Owyhee Mountains to the west, and low bluffs and rock outcroppings of basalt bedrock to the north and northeast.

### **5.3.3.5 Other Landscape Elements**

Landscape elements that support the trail in AU3 include Idaho State Highway 78, the main transportation corridor along the south side of the Snake River, and C.J. Strike Reservoir. Although both of these elements detract from the Oregon NHT's resources, qualities, values, and settings by obscuring the trail in areas, they also provide recreation opportunities for interpretation and vicarious experiences. Idaho State Highway 78 serves as an alternate route ("Segment B") of the NPS ATR, and portions of the Oregon NHT retain visible ruts that are publically accessible in recreation areas near C.J. Strike Reservoir. Bruneau Dunes State Park is south of the Oregon NHT

along Idaho State Highway 78 and is minimally developed, causing no diminishment of the Oregon NHT resources, qualities, values, and settings.

The towns of Glens Ferry, Hammett, and Bruneau are within 5 miles of the Oregon NHT but do not detract from the trail’s resources, qualities, values, and settings. Other transportation elements near the trail include Highway 51, Crane Falls Road, Tendall Road, and several other paved and gravel county and private roads that provide access to communities, agricultural lands, and the reservoir. Tendall Road and a paralleling H-frame transmission line follow the Oregon NHT north of the C.J. Strike Reservoir Bruneau Arm and diminish the historic setting along this stretch of trail. The trail is diminished by other H-frame transmission lines that cross the Oregon NHT or are in the foreground/midground within this AU.

Land in AU3 includes large segments of both BLM-managed land and private property. Agricultural development is evident with center pivot farming and other agricultural fields adjacent to and covering the Oregon NHT.

### 5.3.4 Inventory Results AU4

#### 5.3.4.1 Visual Resources

AU4 includes the Oregon NHT South Alternate as well as the Sinker Creek HPRSEG and Utter Massacre HPHS Segment toward the west end of the Study Area. For the purposes of the VRI, the AU is composed of two sub-units, delineated by developed agricultural land (4a) and undeveloped rural land (4b). Table 15 lists the field and remote IOPs analyzed for the VRI within AU4.

**Table 15.** Analysis Unit 4 – Inventory Observation Points

IOP	IOP Description
C90	Oregon NHT South Alternate (SRBOP)
C91	Oregon NHT South Alternate Sinker Creek Butte Area
C132	Simulation Point
C1505	Oregon NHT Crossing-Segment 8
C1506	Oregon NHT Crossing-Route 9D
C1507	Oregon NHT Crossing-Route 9G
C1514	Oregon NHT Crossing-Segment 9
C1523	Oregon NHT Castle Butte Landmark
C1524	Wild Horse Butte
C1527	Sinker Creek HPRSEG near Sinker Creek Butte
C1528	Utter Massacre Site (HPHS)

### **Scenic Quality Rating Units**

This segment of the trail passes mostly through Class A (AU4b) and Class B (AU4a) scenic areas. The majority of the AU4 (AU4b) is characterized by the repeating vertical nature and contrasting brown, black, orange, and yellow hues of several distinct and prominent buttes. The cluster of these landforms is unique within the region and is a defining feature of AU4 and the Oregon NHT experience. Vegetation mostly consists of a limited variety of sagebrush and grassland, interspersed with less dominant species. Water is not a dominant component of the landscape in AU4. Small creeks, including Sinker Creek and Rabbit Creek, were part of the Oregon NHT emigrant experience but

are not dominant expressions in the landscape. The snow-capped peaks of the Owyhee Mountains and Silver City Range visible within the adjacent scenery greatly enhance AU4's visual quality. Idaho State Highway 78 and the small towns of Murphy and Grand View are visible from portions of the trail but do not detract from the scenic quality. Limited additional cultural modifications are neutral and add little or no visual variety to the landscape.

The dense agricultural area in AU4a is predominantly flat river valley, with the primary variations in the landscape occurring through different agricultural crops. Due to the changing nature of agricultural activity, the vegetation and color within 4a varies throughout the year. Within AU4a, I-84/US 26 primarily follows the route of the Oregon NHT and diminishes the trail's visual experience caused by this cultural modification.

### **Sensitivity Level Rating Units**

The entirety of AU4 is rated as highly sensitive, due to the Congressional designation and associated protection measures for the Oregon NHT South Alternate and its constituent parts, which include the Sinker Creek HPRSEG and Utter Massacre HPHS. The Utter Massacre HPHS is not located on BLM-managed land.

### **Distance Zones**

AU4 includes viewsheds from the trail within the foreground-midground (up to 5 miles), and background (5-15 miles) distance zones, as well as seldom seen areas. To the north, west, and southwest, the viewshed from this AU (4a and 4b) is primarily limited to the foreground/midground, while the viewshed in the south and east is largely open, with some seldom seen areas in creek basins, and in a wide valley north of Grand View. Travel route viewers along Idaho State Highway 78 will pass through the foreground/midground in this AU (4a and 4b).

#### **5.3.4.2 Cultural/Historical Resources**

In AU4, the Oregon NHT South Alternate route closely follows the Snake River's south bank, except where the route diverges to the east towards the town of Murphy. The historic setting is characterized by a series of prominent buttes and dividing creeks. Beginning in the east, buttes include Black Butte, Jackass Butte, Wild Horse Butte, Fossil Butte, Sinker Creek Butte, Sinker Butte, and Guffey Butte. Primary creeks include Catherine Creek, Castle Creek, Sinker Creek, and Scorpion Creek.

The route in AU4 encompasses the Sinker Creek HPRSEG and is followed by several small sections of braided, non-Oregon NHT segments of trail. The HPRSEG is located between Fossil Creek and Scorpion Creek and includes the divergence towards Murphy. On August 14, 1852, John Kerns wrote that they had traveled "over a dusty road in hot weather, through the poorest of all countries" (Rau 2001). According to the NPS CMUP:

*This segment crosses one of the driest, hottest, and dustiest stretches of the entire Oregon Trail. Emigrants who were forced to travel the South Alternate Route compared their appearance at the end of each day to a man who had been dipped into a flour barrel. The segment begins two miles northwest of Castle Butte and ends about four miles north of present-day Murphy, Idaho. The trail crosses the broken and arid mesas that stretch along the south bank of the*

*Snake River, passing Wild Horse Butte, crossing Sinker Creek, and climbing Sinker Creek Butte (NPS 1998).*

AU4 also contains two HPHSs: the Utter Massacre Site and Givens Hot Springs. The Utter Massacre Site HPHS is located near the AU's eastern boundary primarily on private lands. According to the NPS CUMP:

*A major emigrant campsite was located on the South Alternate Oregon Trail at Henderson Flats near Castle Butte. On September 9, 1860, the Elijah Utter party of 44 emigrants was attacked by Indians. During the two-day siege, 11 people were killed. Seventeen others managed to escape but subsequently died or were killed. Only 16 emigrants survived the attack and the hardships that followed. This was one of the rare occasions when Indians sustained a prolonged assault on encircled emigrant wagons. The exact site of this battle has not been located (NPS 1998).*

An interpretive sign describing the Utter Massacre (C1528) is situated on a small tract of BLM-managed land off Highway 78, but the significant components of this event took place in several locations within the surrounding area.<sup>1</sup>

The Givens Hot Springs HPHS is located at the western end of AU4 and includes a series of hot springs that bubble up from a flat near the Snake River's south bank. On August 4, 1848, Riley Root and Gates Company arrived at Givens Hot Springs. Root wrote: "The water of these Hot springs, at their source, is scalding hot" (La Salle 2011). The area surrounding the natural hot springs was a popular campground for both emigrants and American Indians and has since been developed into a privately run modern recreation site for picnics, camping, and RV use (NPS 1998). The site is no longer physically connected to the trail as it is located off Highway 78, and its viewshed has been greatly altered through cultural modification.

No historic or cultural sites associated with the Oregon NHT in AU4 were identified in the Cultural Resources study.

Emigrant diary entries describe the segments general conditions, illustrating how, from the Bruneau River area, the trail continued along the Snake River through today's Grand View, to Castle Creek and Castle Butte, then past Wild Horse Butte and on to Sinker Creek and Givens Hot Springs.

### **Journey to Castle Creek**

Castle Creek is named to describe some of the singular looking rocks along the creek, which have "the appearance of old dilapidated castles and other ruins" (Hutchison and Jones 1993). William Anderson of Miller Company wrote in his diary on August 1, 1848: "Left Bruneau River on August 1 and traveled 15 miles." The camp that night would have been 3 miles northwest of Grand View, Idaho, and 1 mile north of Highway 78. On August 2, Anderson and Miller Company traveled 12 miles; Anderson noted that "our road to day was verry dusty sage plain." Then, "10 miles brought us to a small branch [Castle Creek] here was a pretty good camp but we passed on 2 miles further to the

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<sup>1</sup> The GIS shapefile point for this site received from the BLM shows the site as being on private lands, but since the site has not been mapped, there may be some Utter Massacre related resources or sites located on BLM-managed land that have not been identified.

river where we had a poor camp we drove the cattle 1 mile down the river to a small patch of grass” (La Salle 2011).

Henry M. Judson wrote on September 4, 1862: “About 12 o’clk we reach Castle Creek so called from some singular looking rocks having the appearance of old dilapidated castles and other ruins- soon Capt K’s [Kennedy] train arrives and Corrals near us- After remaining an hour & a half we are ordered to hitch up & drive on a mile or so for better grass ... we comply & find grass higher than our heads & just abreast of the Castle rock- on the other side of the corral runs the creek a small crooked stream” (Hutchison and Jones 1993).

### **Journey to Camp near Castle Butte**

On August 1, 1848, Riley Root and Gates Company left camp near the Bruneau River mouth, traveling as close as possible to the Snake River. The group’s general direction began to change from westerly to northwesterly, and Root described arriving at Castle Creek (which crosses Highway 78 approximately 11 miles northwest of Grand View) and the geological formation now known as Castle Butte:

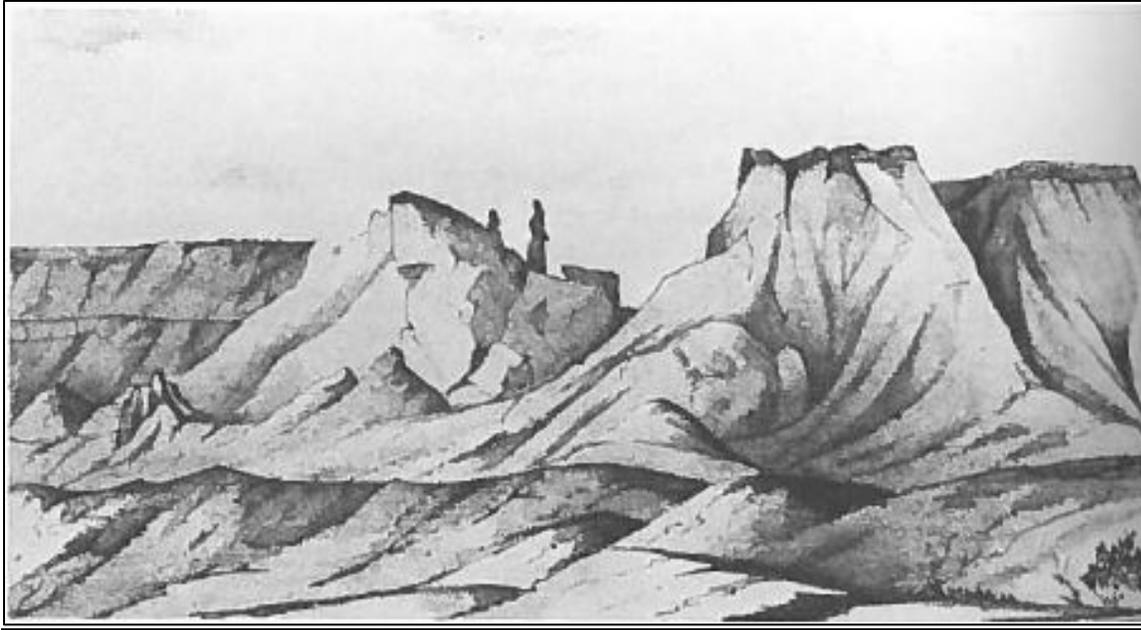
*August 1<sup>st</sup>- 19 ½ miles, over a very level plain, most of the way, and near to the river, to camp, on Grease Wood [Castle] creek, about a mile above its mouth. No good camp can be had along this day’s route, till our present one, which is not very good. Between camp and Snake river, the little stream [Castle Creek] in which our camp is located passes through two crags of basaltic rock, much crumbled down by time. Rock, east of creek, shows marks of excessive volcanic violence. Volcanic cinders, rocks half melted, chimneys where smoke had issued, and in fact, every mark of Vulcan’s blacksmith shop is here displayd (La Salle 2011).*

### **Castle Creek to Sinker Creek (Burnt Rock Creek)**

On August 3, 1848, William Anderson and Miller Company traveled 7 miles from their camp to arrive at Sinker Creek, “a spring branch.” Their campsite was about 9 miles southeast of Murphy, Idaho. According to Anderson, “we drove our stock  $\frac{3}{4}$  of a mile down this branch to the river for grass.” “[I]n going down this branch to the river we pass through a narrow canyon the sides of which were 500 feet high 200 feet perpendicular.” Anderson noted “a volcanic appearance burnt rock lay scattered around for miles up and down the river and hills in every shape and form” (La Salle 2011).

Evan S. McComas wrote on September 5, 1862: “Started from Castle Creek, drove 7 m. to Burnt Rock Creek [Sinker Creek]. Here had no grass at all. Here we watered and rested our cattle and prospected for gold. Found from five to fifteen grains or colors of gold in each pan. Here we had to climb the worst hill on the Oregon road. Doubled teams and got up by four o’clock” (Hutchison and Jones 1993).

John Tucker Scott, who journeyed through the Sinker Creek area in 1852, described his impressions on August 13: “country all around is extremely barren interspersed with deep kanyons & high rocky bluffs all blackened ... doubtless volcanic formation” (Rau 2001; see Figures 3 and 4).



**Figure 3.** Snake River Bluffs, Drawing (circa 1849), William Henry Tappan, 1821-1907 (Hill 2001)



**Figure 4.** Snake River Bluffs in the Distance, View Facing Northeast (Patience Stuart, photographer, AECOM, 2015)

Table 16 describes the resources, qualities, and values of the Oregon NHT observed from selective IOPs in AU4.

**Table 16.** IOP Descriptions of Oregon NHT Resources, Qualities, and Values in AU4

IOP	Character-Defining Features
C90	5-foot wide and 3–4 inch deep swale present with obvious two-track ruts. Use seems to be more for OHV than truck.
C91	A 10 to 12-foot wide swale is visible, running east-west. The swale is up to 10 feet deep. A second, shallow swale runs parallel to the south side of the deeper swale. The second swale is about 10 feet wide and about 6 inches deep. The swales are only visible on BLM-managed land, west of a gravel access road. No period artifacts observed. The trail is marked with Carsonite posts on BLM-managed land.
C132	There is a 5-foot wide, 3-inch deep swale, and two-track ruts.
C1505	The trail route is very diffuse, with considerable erosion on the slopes leading into the drainage.
C1506	The swale is approximately 6 inches deep. The trail is somewhat obscured in places by sagebrush. The width is no more than 5–6 feet, but appears more characteristic of an animal trail because of use by cattle. No associated artifacts observed.
C1507	Grassy flat that was previously at the bottom of the reservoir. No evidence of the trail at this location due to extensive erosion.
C1514	A subtle swale measures 3 inches deep. The trail is approximately 6 feet wide, with some braiding. No associated artifacts observed.
C1523	A shallow swale contains a well-defined two-track road. The road is still being used to access the BLM-managed land. It measures 12 feet wide and about 6 inches deep. No signs mark the trail. The trail runs east-west at this location. It should turn north toward Castle Butte on private hunting club property. No artifacts observed.
C1524	A two-track road is within a shallow swale in places. It measures 10 feet wide and is marked with Carsonite posts.
C1527	At least two swales marked with Carsonite posts. The swales at this point are about 8 feet wide and up to 10 inches deep. The two-track road is within a swale that is about 10 feet wide. No artifacts found.
C1528	The Utter Massacre interpretive sign is located on BLM-managed land off Highway 78, a paved, two-lane road. The roadside sign here describes the Indian assault on the Utter wagon train in September 1860. The trail is located north of this point. No artifacts were noted.

Agriculture and grazing have greatly impacted the historic setting, causing erosion, decimation of trail ruts, and major visual impacts related to agricultural properties, particularly within AU4a. Within AU4b, agriculture is dispersed and has less of an impact on the overall historic setting of the trail. Murphy is a very small town with a population of less than 100 people. The only prominent visual feature within the town's landscape that can be seen from the trail is a mid-century water tower. The remainder of the area within this AU is sparsely populated, except for the area within AU4a, which is a large area covered with agricultural fields located at the far northwestern edge of the APAL. Nearly all of AU4a is located within fully developed agricultural plots and smaller housing developments. Additional cultural modifications to the historic setting include extensive transmission lines to the north and east and three wind farms located east of Murphy.

### 5.3.4.3 Recreation and Travel Opportunities

There are 19 BLM-managed recreation sites located with AU4 that may or may not be related to the Oregon NHT but appear to be largely connected to off-road OHV recreation (Table 17). Other recreational opportunities in the area consist of extensive dispersed OHV and Jeep trails, averaging 5-10 miles distance from the trail at the foothills of the Owyhee Mountains. In addition, some dispersed camping and fishing occurs within large patches of BLM-managed land that is divided by segments of private land and is considered discontinuous.

**Table 17.** BLM Recreation Sites within AU4

Site Name	Distance from Trail	Primary Use
McKeeth-Vinson Wash Off-Highway Vehicle (OHV) Recreation Site	5 miles from South Alternate	OHV Off-Road Recreation
Birch Creek Bench OHV Recreation Site	5 miles from South Alternate	OHV Off-Road Recreation
Sinker Creek Rim OHV Recreation Site	7.5 miles from South Alternate	OHV Off-Road Recreation
Rabbit Creek OHV Trailhead Recreation Site	1 mile from South Alternate	OHV Off-Road Recreation
South Rabbit Creek OHV Recreation Site	3.3 miles from South Alternate	OHV Off-Road Recreation
Murphy Y Dispersed Recreation Site	1.6 miles from South Alternate	OHV Off-Road Recreation
Hemingway Butte OHV Trailhead Recreation Site	1.8 miles from South Alternate	OHV Off-Road Recreation
Fossil Creek OHV Trailhead Recreation Site	5.3 miles from the South Alternate	OHV Off-Road Recreation
Diamond Basin Well OHV Recreation Site	7 miles from the South Alternate	OHV Off-Road Recreation
Priest Dunes OHV Play Area	3.8 miles from the South Alternate	OHV Off-Road Recreation
Kuna Butte Dispersed Recreation Site	12 miles from South Alternate 20 miles from North Alternate	National Conservation Area (NCA) Interpretive site
Three Pole Recreation Site	4 miles from South Alternate 25 miles from North Alternate	NCA Interpretive site
Kuna Cave Recreation Site	9 miles from South Alternate 20 miles from North Alternate	NCA Interpretive site and Natural Feature
Initial Point	9 miles from South Alternate 20 miles from North Alternate	NCA Interpretive Site
Higby Cave Recreation Site	15 miles from South Alternate 14 miles from North Alternate	NCA Interpretive site and Natural Feature
Cabin Draw Recreation Site	2.2 miles from South Alternate	Fishing and Snake River Access
Wilson Creek Trailhead Recreation Site	4 miles from South Alternate	Hiking Trail and Natural Area
Wilson Creek Wayside Recreation Site	2.3 miles from the South Alternate	Wayside
Diamond Creek Campground	11.2 miles from the South Alternate	Hunting and Dispersed Camping

#### **5.3.4.4 Natural Resources**

The ground surface in AU4 is mostly covered with shrub-steppe and disturbed grassland vegetation. Cheatgrass is the most common groundcover and generally dominates the understory. Other plants, such as apricot mallow, towering mustard, and other flowering plants are present in more localized areas. Medium-density sagebrush and bitterbrush, with some rabbitbrush, comprises the overstory. Soils in this AU are silt and vary from coarse to fine-grained sand with scattered areas of gravel.

The natural setting in AU4 is defined by a series of rocky buttes, including (from east to west) Black Butte, Jackass Butte, Castle Butte, Wild Horse Butte, Fossil Butte, Sinker Creek Butte, Sinker Butte, and Guffey Butte. These buttes create a unique concentration of geologic formations within the natural setting. Wild Horse Butte, for example, includes a flat-topped circular butte about 1 mile in diameter that rises approximately 300 feet from the surrounding landscape. From observation areas within the AU, the butte clearly shows a veneer of dark-colored basalt overlying lighter-colored rhyolite.

Other geologic features include the Snake River Canyon, Striker Basin Gulch, Henderson Flats, and other unnamed basalt bluffs and flows. In the distant viewshed, the cliffs of Murphy Rim are visible to the east, and the Owyhee Mountains are visible to the south and southwest. In addition to the river, some drainage features are within the AU, including Rabbit Creek (C132), Castle Creek, and Fossil Creek.

#### **5.3.4.5 Other Landscape Elements**

Landscape elements that support the nature and purpose of the Oregon NHT in AU4 are limited to Idaho State Highway 78, the NPS ATR "Segment B," which follows the South Alternate of the Oregon NHT, and interpretive resources associated with this route. The highway's location and traffic diminish aspects of the trail's resources, qualities, values, and settings, but also provide recreational opportunities for interpretation and vicarious experiences. Other transportation elements near the trail include Con Shea Road, Murphy Flat Road, Warrick Road, Rye Patch Road, and localized OHV routes.

The town of Murphy and the communities of Walters Ferry, Guffey, and Wilson are within 5 miles of the Oregon NHT. The townscape and multiple buildings in Murphy are visible from some IOPs in AU4, causing a slight visual intrusion to the historic setting from nearby IOPs. Land ownership in this AU is composed of large segments of both BLM and private property. Agricultural activity in the AU has introduced farmsteads, irrigated alfalfa and other fields, and fences into the setting. Canyon County, which encompasses the northwest end and concentrated agricultural area of the AU (4a) is the highest producer of corn in the state and grows the majority of Idaho's orchard, seed, and mint crops.

Some existing transmission lines are present within the viewshed to the southeast, east, northeast, and north of the Oregon NHT. Additional landscape elements include a collapsed earthen dam near the Oregon NHT (C1507) and a U.S. Department of Ecology hazardous waste landfill site (near C1523).

### 5.3.5 Inventory Results AU5

#### 5.3.5.1 Visual Resources

AU5 includes the entirety of the North Alternate Study Trail. Table 18 lists the field IOPs analyzed for the VRI within this AU. For the purposes of this study, other Federal Protection Components of the Oregon NHT situated in AU5, such as the Three Island Crossing HPHS, Upper Salmon Falls HPHS, and North Trail HPRSEG, are considered in AU1.

**Table 18.** Analysis Unit 5 – Inventory Observation Points

IOP	IOP Description
C83	Oregon NHT North Alternate Canyon Creek near Stage Station (HPHS)
C84	Oregon NHT North Alternate King Hill
C85	Oregon NHT North Alternate Pioneer Reservoir
C118	Oregon NHT North Alternate south side of Blair Trail Reservoir
C1503	Emigrant Reservoir
C1510	Oregon NHT Crossing–Route 8A
C1511	Oregon NHT Crossing–Segment 8
C1512	Oregon NHT Crossing–Segment 8
C1513	Oregon NHT Crossing–Segment 8
C1525	North Alternate Study Trail Segment between Bennett Creek and Cold Springs Creek

#### **Scenic Quality Rating Units**

The North Alternate Study Trail is within a Class C scenic area. The landscape is a combination of mostly undeveloped land with interspersed agricultural activity. The Danskin Mountains bound the north edge of the viewshed, while flat lands and gentle sloping hills are to the south. Distinct land forms are present from portions of the trail, including the Snake River canyon cliffs, rounded basalt boulders, King Hill, and Bennett Mountain ridge. The color is generally grey mixed with muted hues of brown, orange, green, and blue, providing subtle color variations and limited contrast. Small creeks, reservoirs, and seasonal streams exist in the landscape, but water is not a major defining feature of the landscape. Some variety of vegetation is present, though sagebrush and grassland are the major types.

Multiple transmission lines are visible within the landscape and introduce discordant elements to the scenic harmony. Major highways and interstates are present within the foreground/midground, but are not adjacent to the trail and do not substantially modify the visual setting from the trail.

#### **Sensitivity Level Rating Units**

The entirety of AU5 is rated as highly sensitive, due to the inclusion of the North Alternate Study Trail in the NPS' Four Trails Feasibility Study (NPS 2011a). This study considers the feasibility of including the North Alternate Study Trail as part of the existing Oregon NHT designation.

#### **Distance Zones**

AU5 includes viewsheds from the trail within the foreground-midground (up to 5 miles), and background (5-15 miles) distance zones, as well as seldom seen areas. The Danskin Mountains comprise the extent of the trail's viewshed to the north, while

the Sailor Creek Basin and Bruneau Desert mostly follow the trail's 15-mile viewshed to the south. Areas beyond these landforms, as well as portions of the Snake River Canyon, are in the seldom seen distance zone. Travel route viewers along I-84 and US 26, which serve as the NPS ATR through AU5, will pass through the foreground/midground south of the trail.

### 5.3.5.2 Cultural/Historical Resources

In AU5, the North Alternate Study Trail clings to the southern edge of the Mount Bennett Hills and is not associated with the Snake River. This segment runs from the Salmon Falls crossing of the Snake River to Clover Creek, crossing the Malad River and traveling through Bliss, then follows the east side of Clover Creek to where the Clover Creek Stage Station would eventually be built. At this point, the Study Trail joined with Kelton Road and followed the same route to a connection with the Primary Trail North Trail near Hot Springs and Alkali Creeks (Eichhorst 2011). Many braided, non-Study Trail segments are located along the Study Trail.

The North Alternate Study Trail was used by thousands of emigrants attempting to find a better route to Oregon across the southern Idaho desert (Eichhorst 2011). Emigrants began using the North Alternate Study Trail in 1852 after retired mountain men installed a ferry above Salmon Falls (Hutchison and Jones 1993). Research suggests that between 1852 and 1854, the North Trail was the primary route traveled, with nearly two-thirds of emigrants using this route (Eichhorst 2011). According to Eichhorst's article, "Pieces to the Puzzle" (2011):

*After receiving instructions from the ferrymen, the emigrants started on the [North Alternate Route] with no trail guide to lead them. As they followed this new route, the diarists gave names to the creeks and rivers they crossed, usually based upon the terrain encountered in the crossing. Unlike the main Oregon Trail which had published guides naming the creeks and thus allowing consistency in the diaries, the [North Alternate Route] names varied with the imagination of the writer.*

The alternate avoided a 30-mile desert crossing between Salmon Falls and the traditional ford at Three Island Crossing (Bagley 2012). The trail had good forage and springs, but at Clover Creek, which William Cornell called Grave Creek and Henry Allyn said was a "creek of poison," contaminated water proved fatal for humans and cattle. After 1854, travel shifted back to the main trail, leaving the alternate lined with graves (Bagley 2012).

The historic setting is characterized by the Bennett Hills to the north and a series of seasonal creek crossings that separate large patches of grasslands. Primary seasonal creeks include Clover Creek, King Hill Creek, Little Canyon Creek, Alkali Creek, Cold Springs Creek, and Ryegrass Creek. Pioneer Reservoir and Blair Trail Reservoir are also associated with the Oregon NHT. The creeks, reservoirs, and prominent hills to the north dominate the historic and cultural landscape.

There are no HPHSs or HPRSEGs associated with the North Alternate Study Trail. The Study Trail, by definition, is still under study in the scoping process and thus full historic documentation and survey of the area has not been completed. There may be potentially historic resources associated with the Oregon NHT located within the vicinity

of the North Alternate Study Trail that were not observed during fieldwork and that have yet to be identified.

Agriculture and grazing have had minor impacts on the historic setting, including erosion of the trail and some minor visual impacts related to agricultural properties. The greatest cultural modifications to the historic landscape in this area include extensive transmission lines surrounding the trail on both sides and directly adjacent to it and large-scale wind farms located to the south. These cultural modifications are present in the viewshed and greatly modify the historic setting.

Eight previously recorded historic sites associated with the North Alternate Study Trail were identified in the Cultural Resources study (Table 19) in AU5.

**Table 19.** Previously Recorded Historic and Cultural Sites Associated with the North Alternate Study Trail in AU5

Site No.	Site Class	Site Type	Description	NRHP Recommendation
10EL1918 (GW1-148)	Historic	Historic Road, Historic Debris Scatter	North Alternate Study Trail, Kelton Road	Eligible/Contributing
10EL1918 (GW1-148)	Historic	Historic Road	North Alternate Study Trail, Kelton Road	Eligible/Contributing
10EL1918 (GW1-139)	Historic	Historic Road	North Alternate Study Trail, Kelton Road	Eligible/Contributing
10GG0689 (GW1-81)	Multi-component	Historic Road, Historic Debris Scatter, Precontact Lithic Material	North Alternate Study Trail, Kelton Road	Eligible/Contributing
10GG0689 (GW1-158)	Multi-component	Historic Road, Precontact Lithic Material	North Alternate Study Trail, Kelton Road	Eligible/Contributing
10GG0689 (GW3-1)	Historic	Historic Road, Historic Debris Scatter, Precontact Lithic Material	North Alternate Study Trail, Kelton Road	Eligible/Contributing
10GG0689 (GW3-2)	Historic	Historic Road	North Alternate Study Trail, Kelton Road	Eligible/Contributing
GW1-159	Historic	Historic Road; Historic Debris Scatter	North Alternate Study Trail near Pioneer Reservoir	Eligible/Contributing

Emigrant diary entries highlight the Malad River Crossing, which included the camps at King Hill and Pioneer Reservoir, and the trade activity at Clover Creek.

**Malad River Crossing and Clover Valley**

Emigrants crossed the Malad River a short distance above a deep gorge where the river drops from the high desert plain to the bottom of the Snake River Canyon (Eichorst 2011). Deep gushing water and large rocks made the crossing dangerous and often required camping out on an island in the channel. Harvey Hines began writing letters to the Wyoming County Mirror in 1853, shortly after his trip had been completed. He

describes the surrounding area after crossing the Malad River during the summer heat and the natural setting of the valleys beyond:

*August 12, 1853: The men who went out to sleep with the oxen came in very early with them, and before seven o'clock, we forded Malad and continued westward over a country as nearly the picture of desolation one can imagine. The sun burned with a horrible fierceness. The dust enveloped us in a whitish cloud, so that frequently the driver could not see more than half his team. The heat wilted the leaves of the sage and filled the atmosphere with its sickening odor. The afternoon, especially, was a test of both patience and piety. The sunshine blazed into our faces and blistered our lips, so that it was with great pleasure that we saw the sun go down behind the west, as we entered the beautiful valley of Clover Creek, and stopped our wagons, and unyoked our oxen on its grassy banks (Hines and Peters 2008).*

*August 13, 1853; The 13<sup>th</sup> was Saturday. We drove but about three miles when we came to a beautiful natural meadow the grass from two to six feet high, and plenty of good cool water where we encamped for our Sabbath rest. The meek-eyed oxen almost spoke their gratified surprise when, so soon after starting, we unyoked them, and let them go at their own sweet will among the natural clover tufts and the swaying red-top (Hines and Peters 2008).*

### **Bliss and Northward**

Mae Stone describes the journey to Bliss and north to King Hill, July 19-20, 1898:

*Wed. 19 We left the last camp in morning & went to Bliss before noon We met a young man on the road his is going to Bliss. We came through a lot of sand & up a big steep rocky, sandy hill that the horses nearly played out on us ... I am writing this in the sage brush with the camp fire for a light (we are cooking beans)...We are about 3 or 5 miles from Kingdom Hill (Holmes 2011).*

*Thursday 20 Kingdom Hill isnt so bad as the Malad Hill & the other sandy hill but it was pretty steep ... The horses had a pretty hard time today it was so hot & so many up hills and down & so much sand (Holmes 2011).*

### **King Hill Vicinity**

In 1853, Elizabeth J. Goltra and her family left Missouri for Oregon (University of Richmond 2015). Following the Study Trail, her journal was written as a guide to future emigrants traveling on the North Alternate Study Trail. From their camp near King Hill, Goltra describes the dusty landscape, lack of water, and water-borne illnesses experienced by their livestock on the North Alternate:

*Friday August 12th. Lost 2 oxen belonging to our train last night and they are dying off all around us. Destruction stares us in the face. Drove 3 miles this morning and came to a dry creek, 8 miles farther is another creek. Not much feed, 6 miles more and we came to a creek with very good feed. Camped here. Drove 18 miles. (University of Richmond 2015)*

### **Clover Creek**

Goltra describes the trade activity with Indian tribes and the natural setting leading up to their camp at Clover Creek (just north of Clover Creek Road approximately 7.5 miles north of Bliss):

*Wednesday the [August] 10th. A few Indians about our camp this morning trading moccasins etc. for shirts, powder and balls. Drove 13 miles without water, came to another creek, where we camped again. Oh! we are getting so tired of this business. Found very good grass.* (University of Richmond 2015)

Table 20 describes the resources, qualities, and values of the North Alternate Study Trail observed from selective IOPs in AU5.

**Table 20.** IOP Descriptions of the North Alternate Study Trail Resources, Qualities, and Values in AU5

IOP	Character-Defining Features
C83	Rutted trails running east-west. Marked with OCTA Carsonite posts. No artifacts noted.
C84	Two-track road, 10 feet wide and heavily used by local farmers. OCTA Carsonite marker on road. No period artifacts noted.
C85	Trail is a deep rut with a raised berm alongside. The berm has a two-track trail on top that is no longer used. The rut is about 15 feet wide and 12 inches deep. The berm is about 30 feet wide and more than 12 inches tall.
C118	A single rut or swale about 10–12 feet wide and 9 inches deep. Marked with white Carsonite posts. No period artifacts observed. Runs east-west. OCTA markers present.
C1503	Class 2 two-track road still in use.
C1510	Wide rut running in a straight line northeast-southwest. Covered with fairly dense sagebrush and marked with an old Carsonite post. Some rusted tin can scraps noted on the trail.
C1511	Deep ruts on steep slope marked with white Carsonite OCTA posts.
C1512	Trail evident by vegetation changes.
C1513	Parallel ruts in bedrock possibly from wagon wheels. Cow trails may follow old trail.
C1525	Multiple, braided trails. Up to four parallel trails, some rutted. One main trail still in use as a two-track road. One Carsonite marker on the trail at barbed wire fence and Ross Road. No period artifacts noted.

#### **5.3.5.3 Recreation and Travel Opportunities**

There are two BLM recreation sites located within AU5 that are in close proximity to the North Alternate Study Trail: Emigrant Reservoir (IOP C1503) and Blair Trail Reservoir (IOP C118). The North Alternate Study Trail passes directly through and adjacent to both reservoirs and defined trail ruts are visible. Both sites provide good trail interpretation, and signs of overnight camping are evident at these dispersed recreation sites.

There are no ATRs within this AU, but there are many multiple interconnecting roads that provide good access to the Study Trail and associated viewing areas. These include King Hill Road, a well-graded two-lane gravel road, and Berry Ranch Road, a well-graded single-lane gravel road, along with many other well-graded secondary gravel roads.

Overall, BLM interpretation is very limited in this area as this portion of trail is still under study, and many segments of the trail are not well defined with BLM Carsonite markers. Some markers were noted, but their application was dispersed.

Other recreational opportunities in the area consist of dispersed camping and hunting on BLM-managed lands, though no BLM-managed trailheads or campgrounds are located within this AU.

#### **5.3.5.4 Natural Resources**

This AU includes a healthy shrub-steppe environment dominated by large sagebrush. The understory is close cropped with a fair amount of bare dirt. A mix of sagebrush and short grasses, including cheatgrass, bottlebrush, squirrel tail, crested wheatgrass, and needlegrass provide the majority of ground cover. Several areas are disturbed by grazing, while select areas include wildflowers such as phlox and lupine. Soils types include sandy silt and silty sand with gravel and cobbles. In some areas, such as the bank of Emigrant Reservoir, shallow basalt bedrock is evident.

Geologic features in the natural setting include the exposed basalt bedrock of Mount Bennett Hills and Bennett Mountain to the north and northwest and the north wall of the broad Snake River Canyon to the north. Rises in land formation include King Hill in the trail's immediate vicinity, as well as Burnt Ridge to the west and the Owyhee Mountains to the southeast. In addition, rounded basalt boulders deposited by the historic Bonneville Flood are scattered across the ground surface. Small reservoirs and canyons, including Pioneer Reservoir, Emigrant Reservoir, and Little Creek Canyon, mark the landscape. Several tributaries, such as Alkali Creek, Clover Creek, Ryegrass Creek, and Cold Springs Creek are also present in the natural setting.

#### **5.3.5.5 Other Landscape Elements**

The only additional landscape element in this AU that supports the nature and purpose of the Study Trail is I-84, which serves as the NPS ATR in this area. While this major highway provides opportunities for interpretation along the Oregon NHT, the ROW and traffic also diminish the trail's scenic and historic settings. Other transportation elements in this AU include Highway 30, King Hill Road, Berry Ranch Road, Ross Road, and other gravel roads. The communities of Hagerman, Tuttle, Bliss, King Hill, and Glens Ferry are within 5 miles of the North Alternate Study Trail but do not detract from the trail's resources, qualities, values, and settings.

Multiple intersecting transmission lines, including wood H-frame and steel lattice towers, are within close proximity to the trail in all directions and greatly diminish the overall setting. Several wind farms are also present within the AU, with concentrated wind farm developments west of King Hill and south of Bliss.

Land ownership in the AU includes large tracts of BLM-managed land separated by concentrated areas of private property. Agricultural activity is interspersed throughout the AU, particularly with areas of center-pivot irrigation surrounding the population centers. Cattle grazing is evident in select areas near the trail (IOP C1503). Additional landscape elements include Blair Trail Reservoir, Pioneer Reservoir, and an irrigation canal. These elements diminish the Study Trail by obscuring the trail and detracting from its historic setting.

### **5.3.6 Inventory Results: SRBOP**

The SRBOP, established by Congress in 1993, is part of the BLM's National Landscape Conservation System. The BLM manages the SRBOP to preserve the area's wildlife habitat while providing other compatible land uses. The SRBOP RMP (BLM 2008) acknowledged the intact visual characteristics of the Oregon NHT when it established a visual protection corridor within the Birds of Prey Avoidance Area that included the Oregon NHT (in addition to other sensitive resources). The Oregon NHT crosses 40.5 miles of the SRBOP with 22.7 miles of the trail situated on BLM-managed land. Trails associated with the Oregon NHT (i.e., NHT<sup>2</sup> heritage resources associated with the Oregon Trail NHT but not a part of the congressionally designated NHT route) cross 30.9 miles of the SRBOP with 17.9 miles of these associated trails situated on BLM-managed land. The Oregon Trail ATR also crosses 43.3 miles of the SRBOP. The inventory within the SRBOP included 18 IOPs (C113, C1155, C120, C132, C137, C1501, C1502, C1505, C1506, C1507, C1508, C1514, C1523, C1524, C1526, C1527, C90, and C91). The visual, recreational, cultural, and natural resources, values, and qualities of the Oregon NHT within the SRBOP are described in the inventory results for AU3 and AU4.

## **6 ENVIRONMENTAL CONSEQUENCES (IMPACTS ASSESSMENT)**

The identification of Project impacts (i.e., environmental consequences) on the Oregon NHT and Study Trail segments and sites is based on the changes in the existing condition caused by the development of the Revised Proposed Routes 8 and 9 or their respective alternative routes. According to BLM Manual 6280, as a part of the NEPA analysis for a proposed action, the BLM is required to "evaluate whether the proposed action would substantially interfere with or be incompatible with the nature and purpose of a National Trail (hinders or obstructs)". Within the context of that evaluation, the BLM considers:

- The extent to which the proposed action would affect the characteristics that made the trail worthy of designation;
- The extent to which the proposed action would affect the Federal Protection Components, including HPHSs or HPRSEGs located on public land administered by the BLM;
- The extent to which the proposed action would affect designated NHT properties, including remnants and artifacts from the associated period of use that may be eligible or listed on the National Register and/or determined by the National Trail administering agency to qualify as possible HPHS or HPRSEGs; and
- The extent to which the proposed action would limit the agency's ability to manage the trail for the purpose of identifying and protecting the historic route and its historic remnants and artifacts for public use and enjoyment, including interpretation, education, appreciation, and vicarious experiences.

Since a NHT Management Corridor has not been established for the Oregon NHT in Idaho through a BLM land use plan, BLM Manual 6280 requires the BLM to determine the scope of the analysis by:

- Conducting a viewshed analysis to determine if the proposed action is within the viewshed of the trail(s);
- Completing an assessment that enables identification of reasonable alternative locations for the proposed action if it is within the viewshed of the trail(s);
- Delineating the APAI;
- Identifying any adverse impacts on the nature and purposes and primary use or uses within the APAI; and
- Considering alternatives which support National Trail purposes, lie outside the APAI, or that affect a disturbed or culturally modified area such as near existing utility corridors.

The scope of the inventory and impacts analysis was limited to the APAI that extends 5 miles from the centerline of the Oregon NHT and the North Alternate Study Trail from Hemingway, Idaho, to just north of Buhl, Idaho, and just west of Wendell, Idaho. The VRI was extended to 15 miles from the Project centerline for the purposes of understanding the role of background views to the foreground/midground visual characteristics of the APAI and consistent with the BLM's VRI requirements (BLM 1986a). The extent of the APAI was selected based upon the viewshed (see Section 4.3) used for determining the AUs, the proximity of the Project to the Oregon NHT and Study Trail to the Project, previous trails studies submitted for the Gateway West Project (Tetra Tech and URS 2011), other transmission line projects such as Boardman to Hemingway and Sun Zia Transmission Line Projects that are subject to BLM permitting (BLM 2013c, 2014), BLM Manual 6280, and BLM VRI guidance in BLM Manual H-8410-1.

To analyze the magnitude of project impacts to the Oregon NHT and the North Alternate Study Trail, this section utilizes the inventory data discussed in Section 5. The section discusses the methods used to assess Project impacts and then describes the general types of expected impacts caused by the Project, by alternative and AU, in addition to the potential for cumulative impacts, and impacts to the SRBOP.

## **6.1 Direct, Indirect, and Cumulative Impacts**

This section describes the potential impacts associated with the Project. The section begins with a discussion of effects common to all of the Action Alternatives that include Project construction, operations, and decommissioning. This is followed by a detailed analysis of impacts on the Oregon NHT and North Alternate Study Trail as they relate to the No Action Alternative, Revised Proposed Routes, other routes, and FEIS Routes. The discussion for each Action Alternative is organized by AU and the settings, qualities, and values specific to the scenic, cultural/historic, recreation, and natural resources associated with the Oregon NHT and North Alternate Study Trail.

The direct impacts involve physical effects to trail resources, qualities, values and settings typically associated with ground disturbance for the construction of a project.

These would include construction of the actual transmission line, ancillary features and road construction. Direct impacts would most likely occur within the Project's 500-foot ROW corridor (or the 750-foot-wide sections where the proposed alternatives parallel existing transmission lines), plus those specific areas for construction activities that may be identified later in Project planning and potentially contained in an Historic Property Treatment Plan (HPTP) prepared in compliance with the NHPA.

Indirect effects cover a broader range at a landscape scale than direct impacts and include visual, auditory and atmospheric effects to the resource as a by-product of project construction and operation. Resources indirectly impacted by the project, as a function of visual, auditory and atmospheric effects, may be located within the 500-foot-wide or 750-foot-wide corridor for direct impacts; however, these resources may also be located outside this corridor. The area of indirect impacts is the APAI.

Cumulative effects result from the incremental effects related to the Project over time such as increased impacts due to new access roads, future infrastructure projects in the same corridor and additional projects such as wind turbines due to the transmission access etc. For the Project, the cumulative impacts would be most evident for the indirect visual effects to the resources, qualities, values, and settings of the Oregon NHT and North Alternate Study Trail.

### **6.1.1 No Action Alternative**

Under the No Action Alternative, the BLM would not issue a ROW grant to the Proponents of Gateway West and the Project would not be constructed across federal lands. No land management plans would be amended to allow for the construction of this Project. No Project-related impacts to NHTs would occur; however, impacts would continue as a result of natural events (such as fire, drought, and severe weather) as well as from existing and planned developments within the Analysis Area and other projects, including wind farms, mining, agricultural, or other competing land uses. The demand for electricity, especially for renewable energy, would continue to grow in the Proponents' service territories. If the No Action Alternative is implemented, the demand for transmission services, as described in Section 1.4, Proponents' Objectives for the Project, would not be met with this Project, and the area would have to turn to other proposals to meet the transmission demand. Under the No Action Alternative, impacts similar to those described below may occur due to new transmission lines built instead of this Project.

### **6.1.2 Effects Common to All Action Alternatives**

#### **Construction**

Construction of the Project and its ancillary facilities could directly impact segments of the Oregon NHT and North Alternate Study Trail. Short-term impacts from construction would include the visual intrusion of construction vehicles, equipment, materials, and a work force in staging areas, along access roads, and along the new transmission line ROW. Long-term impacts from construction include ground-disturbing activities that could directly disturb ruts, swales, and previously recorded and/or undetected sites associated with the trails. Project crossings and access road construction and/or improvements are the most likely locations for this type of impact to occur. Table 21

provides a list of Project crossings of the Oregon NHT on BLM-managed land by AU and Project route.

**Table 21.** Oregon NHT and North Alternate Oregon Trail Crossings within the APAI

Route	AU1 or NHT	AU2 or NHT	AU3 or NHT	AU4 or NHT	AU5 or NHT	Total Crossings
Revised Proposed Route 8	0	1	0	1	4	6
Revised Proposed Route 8 (BLM land only)	0	0	0	0	3	3
Route 8G	1	0	0	0	1	2
Route 8G (BLM land only)	0	0	0	0	0	0
Route 8H	1	0	3	1	1	6
Route 8H (BLM-managed land only)	0	0	2	1	0	3
Revised Proposed Route 9	0	0	3	1	0	4
Revised Proposed Route 9 (BLM land only)	0	0	2	2	0	4
FEIS Proposed 9	0	0	0	0	0	0
FEIS Proposed 9 (BLM-managed land only)	0	0	0	0	0	0
Route 9K	0	0	0	0	0	0
Route 9K (BLM-managed land only)	0	0	0	0	0	0
FEIS Routes (other than 9)	2 (8A)	1 (8)	5 (9D/9G) 1 (9F/9H)	1 (8) 1 (8B) 1 (9D/9F) 1 (9G/9H)	4 (8) 2 (8A)	19
FEIS Routes (other than 9) (BLM-managed Land)	2 (8A)	0	2 (9D/9G)	1(8) 1 (9D/9F) 1 (9G/9H)	3 (8) 1 (8A)	11
Alternative 5 Helicopter-Assisted Construction Variation	0	0	0	0	0	0
Alternative 5 WW Corridor Variation	0	0	0	0	0	0

Note: There is no overlap between the AUs within this table. Each AU is centered on a discrete segment of the Oregon NHT and though the AUs overlap with each other due to the 15-mile buffer, the total number of crossings above is accurate to the segment focused on in each AU.

Construction or improvement of roads may encourage unauthorized site access, artifact collection, and vandalism. These impacts would be considered adverse if they diminish the NRHP integrity of these resources, particularly their historic setting, feeling, and associational qualities.

Project construction is not expected to permanently preclude the use of or access to any existing trail-related recreation areas or activities. Some short-term impacts are expected. These include impacts to dispersed trail-related recreation activities that would likely diminish the quality of trail-related recreational activities or vicarious experiences for the duration of the construction phase of the Project. These impacts,

caused by the presence of construction noises, visual disturbances, or other humans, would be localized and short-term in nature.

Vegetation removal caused by construction activities has the potential for short- and long-term impacts to natural resources, more specifically vegetation communities, within the Project area. Vegetation removal, for instance, can increase the potential for invasive plants and the introduction of noxious weeds by transient construction vehicles moving through the Project area. This would cause changes to the visual presence of existing vegetation communities surrounding the Oregon NHT and North Alternate Study Trail.

### **Operations**

If the transmission line is constructed, the presence of large transmission structures would introduce long-term visual impacts.

Periodic access to the transmission line ROW is required to maintain its operating function. Thus, access roads would be kept open, at least at a two-track level, which would increase the potential for vandalism and illicit artifact collection.

### **Decommissioning**

Impacts from decommissioning would be similar to those for construction.

## **6.2 Direct and Indirect Effects by Route and Variation**

### **6.2.1 Segment 8**

#### **6.2.1.1 Revised Proposed Route**

##### **Construction**

The Segment 8 Revised Proposed Route runs southeast-northwest through AUs 2, 4, and 5. This route is found primarily in the Four Rivers BLM management area and, to a lesser extent, through the Shoshone BLM management area. A total of 20 KOPs surveyed along the route fall within three distinct AUs: 8 KOPs within AU2, 2 KOPs within AU4, and 10 KOPs within AU5. The route does not cross the Oregon NHT within AU2 or AU4 on BLM-managed lands, but crosses the trail four times within AU5. KOP site types along this route include primarily cultural and recreational within AU2, cultural and historic within AU4, and cultural, visual, and historic within AU5.

Along this route, cultural modifications within AU2 consist primarily of existing transmission lines between 0.5 and 4.2 miles away. Other cultural modifications within AU2 are windfarms at distances between 4 and 10 miles away, a communication tower, a fence and an unnamed road. Cultural modifications within AU4 consist of the town of Murphy 1 mile south and a transmission line 6.5 miles southeast. Cultural modifications within AU5 consist primarily of transmission lines, including two lines that cross the trail. Other cultural modifications in AU5 are Pioneer Reservoir, Emigrant Reservoir, and N. Berry Ranch Road. King Hill Road crosses the trail twice within AU5.

In AU2, the route runs roughly parallel to the Oregon NHT North Trail HPRSEG at a distance ranging from 1.5 to 5 miles. This route is situated to the south and southwest of the trail and is visible from 28.9 miles of trail; of these, 14.6 miles are on BLM-managed land. The Segment 8 Revised Proposed Route crosses the trail in one

location in AU2, but not on BLM-managed land, and is therefore not within the APAI. At the convergence of the Revised Proposed Route and FEIS Route 8A, the Revised Proposed Route is less than 1 mile from the Oregon NHT for approximately 8 miles until the trail reaches Hot Springs Creek. From Hot Springs Creek, the route parallels the trail for approximately 28 miles at a distance ranging from 2 to 5 miles from the trail.

In AU4, the Segment 8 Revised Proposed Route crosses the trail, on non-BLM-managed land, near the northern edge of the AU and remains within the viewshed for 10.3 miles, 0.3 mile of which is on BLM-managed land, located over 3 miles from the trail. The visual impacts of the route are limited to the northern end of this AU, which has experienced the greatest cultural modifications within this AU due to existing transmission lines and agricultural development. The section of trail with a view of Revised Proposed Route 8 is not a part of the Sinker Creek HPRSEG; it is located about one mile north of the northern end of that HPRSEG.

Through most of AU5, Revised Proposed Route 8 closely follows the North Alternate Study Trail at a distance of 0.5 to 3 miles and crosses the trail in four locations, three of which are located on BLM-managed land. For much of its distance within this AU, the route would be located approximately 1 mile from the trail to either the north or south, as the route weaves around the trail multiple times.

Within AU2 and AU4, the Segment 8 Revised Proposed Route impacts to the trail's scenic/visual resources are anticipated to be low based on the route's weak visual contrast. This route would cause no change to the Scenic Quality Rating through these AUs, because the existing cultural modifications, even when combined with the route, would not reduce the AU's Scenic Quality Rating score below a threshold that would trigger a lower Scenic Quality Rating. Within AU5, the route's impacts to the trail's scenic/visual resources are anticipated to be low or weak based on the route's predominantly moderate visual contrast.

The Segment 8 Revised Proposed Route's impacts on recreation within AUs 2 and 4 would be low and, within AU5, low to moderate.

### ***SRBOP***

Within AU4, Revised Proposed Route 8 as well as some FEIS routes cross the SRBOP, though comparably few substantively impact the resources, values, qualities, and settings of the Oregon NHT within the SRBOP.

### **Operations**

If the transmission line is constructed, the presence of large transmission structures would introduce long-term visual impacts.

Periodic access to the transmission line ROW is required to maintain its operating function. Thus, access roads would be kept open, at least at a two-track level, which would increase the potential for vandalism and illicit artifact collection.

### **6.2.1.2 Route 8G**

#### **Construction**

Route 8G, of Segment 8, runs primarily through the Jarbidge BLM management area and, to a lesser extent, through the Four Rivers and Bruneau management areas. A total of 10 KOPs surveyed along the route fall within three AUs: 7 KOPs within AU1b, 1 KOP within AU3, and 2 KOPs within AU4b. The route does not cross the Oregon NHT within AU1b, AU3, or AU4b.

KOP site types along this route include primarily visual, cultural, and historic, with one recreation site, within AU1b. Visual, cultural, and historic site types fall within AU3, and cultural and visual within AU4b.

The route runs west and northwest through AU1. Views of this route are present from 22.6 miles of the Oregon NHT. Approximately 8.5 of these miles are on BLM-managed land and would have views of Route 8G that range between 0.5 to 4 miles from the trail (with an average distance of 3 miles). Route 8G crosses the Oregon NHT in Cassia Gulch (KOP C1515). For 7.8 miles, this route follows the same alignment as FEIS Route 9B between Big Pilgrim Gulch and Deadman Flat.

Cultural modifications within AU1b consist primarily of existing transmission lines between 0.3 and 2 miles away. Other cultural modifications within AU1 are windfarms at distances between 2 and 14 miles away, a fence and petroleum pipelines. Cultural modifications within AU3 consist of ID 78, 200 feet (60 meters) south, a transmission line 200 feet (60 meters) south and a waste transfer station 80 feet (25 meters) south. Cultural modifications within AU4b consist of transmission and power lines between 2 and 4 miles away. In AU1b, Route 8G may diminish the trail's scenic quality at KOP C1515 and C106 by changing the cultural modification score to a level that prompts a lower Scenic Quality Rating, from a rating of "B" to "C."

#### **Operations**

If the transmission line is constructed, the presence of large transmission structures would introduce long-term visual impacts.

Periodic access to the transmission line ROW is required to maintain its operating function. Thus, access roads would be kept open, at least at a two-track level, which would increase the potential for vandalism and illicit artifact collection.

### **6.2.1.3 Route 8H**

#### **Construction**

Within AU1, Route 8H follows the same alignment as Route 8G. Beginning at the eastern boundary of AU1, Route 8H runs west for 35 miles, northwest for 3.5 miles, then west for the final 15 miles to AU1's western boundary. Views of Route 8H within AU1 are present from 22.6 miles of the Oregon NHT. Approximately 8.5 of these miles are on BLM-managed land and would have views of Route H that range between 0.5 to 4 miles from the trail (with an average distance of 3 miles). Within AU1, Route 8H crosses the Oregon NHT in Cassia Gulch (KOP C1515). Route 8H is visible from the Oregon NHT from all KOPs in AU1b, except for a 1.5-mile portion located approximately

7.5 miles from the west edge of AU1. For 18 miles of AU1, Route 8H also overlaps with FEIS Route 9 and Route 9K between Deadman Flat and Brown's Gulch.

Cultural modifications within AU1 consist primarily of existing transmission lines that range between 0.3 and 2 miles away. Other cultural modifications within AU1 consist of windfarms that range in distance from 2 to 14 miles away, fencing, and petroleum pipelines.

The route crosses the Oregon NHT a total of three times, twice in AU3 (C137 and C1502) and once in AU4 (C132).

Within AU3, Route 8H follows the same alignment as the Segment 9 Revised Proposed Route for 57.2 miles beginning at Dead Man Flat and extending to the western border of AU3. Route 8H also overlaps with Route 8G for the first 35 miles beginning at the eastern border of the AU and terminating just south of Bruneau Dunes State Park. A total of approximately 18 miles of Route 8H would be visible from the Oregon NHT South Alternate within AU3 at a distance of 0.5 to 5 miles (and averaging about 3 miles); 5.7 miles of which are located on BLM-managed land. Within AU3, Route 8H crosses the trail twice on BLM-managed land (C137 and C1502). Route 8H follows the trail closely along the southern end of the C.J. Strike Reservoir (remaining within 1 mile) before crossing the reservoir once to its north side.

For the entirety of AU4, Route 8H follows the same alignment as the Segment 9 Revised Proposed Route. In AU4b, the Route 8H would have a strong visual contrast at eight KOPs (C1527, C91, C132, C1507, C1514, C1505, C90, and C1506). Route 8H would have moderate adverse visual impacts and would not result in a reduction in the AU's Scenic Quality Rating. Even when combined with the Revised Proposed Route, the existing cultural modifications would not reduce the AU's Scenic Quality Rating score below a threshold that would trigger a lower Scenic Quality Rating. Route 8H is visible from the Oregon NHT for 20.2 miles within AU4b at a distance of 0.5 to 5 miles (and averaging 4 miles) Approximately 11.4 miles of these miles are on BLM-managed land and would have views of Route 8H. Route 8H crosses the trail once on BLM-managed land (C132). At the southern end of AU4 near Black Butte, Route 8H is runs at a distance of 4.5 miles from the trail and remains at that distance until crossing the Snake River just north of Sinker Creek Butte. From Sinker Creek Butte to the east end of the town of Murphy, Idaho, Route 8H runs at an average distance of 0.5 mile from the trail and would appear prominent in the viewshed. The segment of Oregon NHT that parallels Route 8H is the Sinker Creek HPRSEG, except within a small section on the east end of Murphy and within a small patch of agricultural land west of Sinker Creek Butte. After the town of Murphy, Route 8H continues west, and the trail continues north for 3 miles until the northern edge of this AU.

Within AU5, Route 8H follows the same alignment as Route 8G. Route 8H runs at a distance of approximately 9 to 11 miles from the trail except at the far southeastern edge of AU5, where the North Alternate Study Trail is crossed by Route 8H near Hagerman on private lands. Route 8H runs west and northwest through AU5. There would be little to no visual impact from this route to the Study Trail as it exists on BLM-managed land in AU5.

## **SRBOP**

Route 8H would have six adverse impacts on the Oregon NHT within the SRBOP, two of which occur within AU3 and four within AU4.

### **Operations**

If the transmission line is constructed, the presence of large transmission structures would introduce long-term visual impacts.

Periodic access to the transmission line ROW is required to maintain its operating function. Thus, access roads would be kept open, at least at a two-track level, which would increase the potential for vandalism and illicit artifact collection.

## **6.2.2 Segment 9**

### **6.2.2.1 Revised Proposed Route 9**

#### **Construction**

The Segment 9 Revised Proposed Route runs primarily through the Four Rivers BLM management area and, to a lesser extent, through the Jarbidge BLM management area. A total of 22 KOPs surveyed along the route fall within three AUs: 3 KOPs within AU1, 9 KOPs within AU3, and 10 KOPs within AU4. The route crosses the Oregon NHT a total of four times, twice in AU3 (C137 and C1502) and twice in AU4 (C132 and C1514).

KOP site types along this route include primarily cultural, historic and visual within AU1; cultural, historic, visual, and recreation within AU3; and cultural, historic, and visual within AU5.

Cultural modifications within AU1 consist primarily of existing transmission lines between 0.3 and 2 miles away. Another cultural modification within AU1 are windfarms located 5 miles east. Cultural modifications within AU3 include existing transmission lines crossing the trail in two places. State Highway 78 and a waste transfer station are both within less than 200 feet (60 meters) and C.J. Strike Reservoir is about 650 feet (200 meters) north. Cultural modifications within AU4 consist primarily of existing transmission and power lines, 0.5 to 6.5 miles away. Other cultural modifications in AU4 are a hazardous waste landfill 2 miles away, a barbed wire fence crossing the trail, the town of Murphy 0.25 mile south, State Highway 78 south by 0.25 mile, and an earthen dam to the north.

The Segment 9 Revised Proposed Route overlaps with Route 9K through all of AU1. The route passes roughly northwest, west, and northwest again through AU1. Most of this route would not be visible from the Oregon NHT, including the North Trail HPRSEG. Very narrow views of this route are present for 0.5 mile of the Oregon NHT within the Black Mesa Flats area southeast of Glens Ferry at a distance of over 7 miles, but this is not on BLM-managed land. There are no visual impacts to the Oregon NHT from the Segment 9 Revised Proposed Route or Route 9K on BLM-managed land within AU1.

A total of 18 miles of the Segment 9 Revised Proposed Route would be visible from the Oregon NHT South Alternate within AU3 at a distance of 0.5 to 5 miles (and averaging 4 miles). Approximately 5.7 miles of the Oregon NHT South Alternate on BLM-managed land would have views of Segment 9 Revised Proposed Route. Within this viewshed, the route crosses the trail three times and C.J. Strike Reservoir once. The route follows the trail

closely along the southern end of the reservoir within 1 mile before crossing to its north side. The route would not be visible in any other location within this AU.

In AU4b, the Segment 9 Revised Proposed Route would have strong visual contrasts at eight KOPs (C1527, C91, C132, C1507, C1514, C1505, C90, and C1506). The route would have moderate adverse visual impacts and would not result in a reduction in the AU's Scenic Quality Rating. Even when combined with the Segment 9 Revised Proposed Route, the existing cultural modifications would not reduce the AU's Scenic Quality Rating score below a threshold that would trigger a lower Scenic Quality Rating. The route is visible from the Oregon NHT for 20.2 miles within AU4b at a distance of 0.5 to 5 miles (and averaging 4 miles). Approximately 11.4 miles of the Oregon NHT on BLM-managed land would have views of Segment 9 Revised Proposed Route. The route does not cross the trail on BLM-managed land within AU4. At the southern end of AU4 near Black Butte, the route is located 4.5 miles from the trail and remains at that distance until crossing the Snake River just north of Sinker Creek Butte. From Sinker Creek Butte to the east end of the town of Murphy, Idaho, the route is located on average 0.5 mile from the trail and would be very prominent in the viewshed. The segment of Oregon NHT that parallels the Revised Proposed Route for Segment 9 is the Sinker Creek HPRSEG, except within a small section on the east end of Murphy and within a small patch of agricultural land west of Sinker Creek Butte. After the town of Murphy, the route continues west and the trail continues north at a distance of over 3 miles until the northern edge of AU4.

### ***SRBOP***

The majority of impacts to the Oregon NHT within the SRBOP are from the Segment 9 Revised Proposed Route and the route's associated FEIS routes (9D, 9G, 9H, and 9F) that lie to the north and south of the Snake River Valley. Several routes associated with Segment 8 Revised Proposed Route and its FEIS routes cross the SRBOP but comparably few substantively impact the resources, values, qualities, and settings of the Oregon NHT within the SRBOP.

### **Operations**

If the transmission line is constructed, the presence of large transmission structures would introduce long-term visual impacts.

Periodic access to the transmission line ROW is required to maintain its operating function. Thus, access roads would be kept open, at least at a two-track level, which would increase the potential for vandalism and illicit artifact collection.

## **6.2.2.2 FEIS Proposed 9**

### **Construction**

The 162.2-mile long FEIS Proposed 9 runs primarily through the Jarbidge, Bruneau, and Owyhee BLM management areas, and to a lesser extent, through the Four Rivers BLM management area. A total of 13 Oregon NHT KOPs, situated within AU1, AU3, and AU4, are within 5 miles of the route and would have visibility of the transmission line. The route would not be visible from any KOPs in AU2 or AU5. FEIS Proposed 9 does not cross the Oregon NHT.

KOP site types along this route include visual, cultural, historic, and recreation resources in AU1 and AU2 and visual, cultural, and historic resources in AU4.

Cultural modifications along the route include transmission lines to the northeast in AU1. Transmission lines, Idaho Highway 78, and agricultural fields, and C.J. Strike Reservoir are situated in AU3. Transmission lines, State Highway 78, the town of Murphy, a hazardous waste facility, and an earthen dam are in close proximity to the KOPs in AU4.

Through 34.3 miles of AU1, FEIS Proposed 9 runs generally parallel to the Oregon NHT, varying from 2 to 5 miles south of the trail in distance. The route follows the same alignment as Route 9K for the entirety of AU1 and follows the same alignment as Route 8G through the western 18.1 miles of AU1. Views of FEIS Proposed 9 within AU1 are present from 6.3 miles of the Oregon NHT at the west end of AU1 at a distance of 2 to 3 miles; 1.4 of these miles are on BLM-managed lands. Three KOPs in AU1 have visibility of the route (C106, C97, and C61), from a distance between 3.2 miles and 4.5 miles. The route would not change the scenic quality, and would have no adverse impact on cultural, historic, and recreation resources. The route would have no impact on natural resources.

In AU2, FEIS Proposed 9 is located approximately 3 to 36 miles south of the Oregon NHT North Trail and is not visible from any KOPs in this AU.

In AU3, FEIS Proposed 9 follows the same alignment as Route 9K for 32.4 miles and Route 8G for 23 miles. This route does not follow any other routes for the remaining western half of AU1. The route falls within 1.7 miles south of the Oregon NHT near C.J. Strike Ruts (C1501), and 2.0 and 2.5 miles south of C.J. Strike Reservoir (C1155 and C1502), respectively, but is not visible from these KOPs. The route is visible for 36.9 miles of the Oregon NHT South Alternate in AU3 at a distance of 0.5 to 5 miles (and averaging 4 miles), including three KOPs (C113, C1133, and C137). A total of 13.8 miles of the Oregon NHT South Alternate on BLM-managed land would have views of FEIS Proposed 9. From KOP C113, FEIS Proposed 9 is approximately 2.8 miles south of the Oregon NHT South Alternate and is visually separated from the trail by State Highway 78, which is approximately 200 feet (60 meters) south of the Oregon NHT at this KOP. From the Recreation view at C1133, FEIS Proposed 9 is approximately 4.2 miles southwest of the KOP. From the simulation point at KOP C137, FEIS Proposed 9 is approximately 4.2 miles southwest of the KOP, and is visually separated by other transmission lines that cross the trail within the immediate setting. Within AU3, FEIS Proposed 9 would have no adverse impact on cultural, historic, and recreation resources, and would have no impact on natural resources.

In AU4, FEIS Proposed 9 follows the same alignment as Route 8G for 3.2 miles, and lies approximately 2.3 miles south and east of the Utter Massacre Site (C1528). The route then follows the same alignment as the Segment 9 Revised Proposed Route at the west end of the SRBOP and then also with Routes 8G and 9K before terminating in Hemingway. The route generally parallels the Oregon NHT south of the trail at a distance of 2 to 5 miles, except for a small area to the west of Murphy where the route comes within 1.2 miles of the trail. Though the route is expected to be visible in the distance for almost the entirety of AU4 (approximately 55.4 miles), only 16.6 of those

miles are located on BLM-managed land. Impacts in AU4 are localized near the northwest end, where the Sinker Creek HPRSEG heads west toward the route before turning sharply to the north. In this area, situated within the SRBOP, the route is visible from six KOPs (C132, C90, C1506, C1507, C1514, and C1505), with distances ranging from 1 mile (C90) to 3.2 miles (1505) from the KOPs. From C1506 and C1514, both of which are where other Project routes cross the Oregon NHT, FEIS Proposed 9 would moderately contrast with the visual setting, but would not adversely impact scenic/visual, cultural/historic, or natural resources.

In AU5, FEIS Proposed 9 is located approximately 9.8 to 19 miles south of the North Alternative Study Trail and is not visible from any KOPs in this AU.

### **Operations**

If the transmission line is constructed, the presence of large transmission structures would introduce long-term visual impacts.

Periodic access to the transmission line ROW is required to maintain its operating function. Thus, access roads would be kept open, at least at a two-track level, which would increase the potential for vandalism and illicit artifact collection.

#### **6.2.2.3 Route 9K**

### **Construction**

Route 9K of Segment 9 runs primarily through the Jarbidge BLM management area and, to a lesser extent, through the Four Rivers and Bruneau BLM management areas. A total of six KOPs surveyed along the route fall within three AUs: three KOPs within AU1, one KOP within AU3, and two KOPs within AU4. The route does not cross the Oregon NHT.

KOP site types along this route include primarily cultural, historic, and visual sites within AU1 and AU3, and cultural and visual sites within AU4.

Cultural modifications within AU1 consist primarily of existing transmission lines between 0.3 and 2 miles away. Another cultural modification within AU1 is a windfarm 5 miles east. Cultural modifications within AU3 include Idaho Highway 78 60 meters south, a waste transfer station 25 meters south, and existing transmission lines 60 meters south. Cultural modifications within AU4 consist of existing transmission and power lines between 2 and 4 miles away.

Route 9K follows the same alignment as the Segment 9 Revised Proposed Route through AU1. The route passes roughly northwest, west, and northwest again through the AU. Most of this route would not be visible from the Oregon NHT, including the North Trail HPRSEG. Very narrow views of this route are present for 0.5 mile of the Oregon NHT within the Black Mesa Flats area southeast of Glens Ferry, but this is not on BLM-managed land. There are no visual impacts to the Oregon NHT from Route 9K on BLM-managed land within AU1. The remainder of Route 9K follows the same alignment as Route 8G and Route 9K would have an identical impact on the trail as Route 8G in AUs 3 and 4.

## **Operations**

If the transmission line is constructed, the presence of large transmission structures would introduce long-term visual impacts.

Periodic access to the transmission line ROW is required to maintain its operating function. Thus, access roads would be kept open, at least at a two-track level, which would increase the potential for vandalism and illicit artifact collection.

### **6.2.3 Variations**

#### **6.2.3.1 Toana Road Variations 1 and 1-A and the Comparison Portion of the Revised Proposed Route**

Neither of the Toana Road Variations (1 and 1-A) would be visible from any Congressionally Designated Trail Segments (NHT<sup>1</sup>) or Oregon Trail Segments (NHT<sup>2</sup>) being analyzed for purposes of this report.

Since the Toana Road Variations have no potential visual impact to any NHT<sup>1</sup> or NHT<sup>2</sup> resources, an effects analysis was not necessary when prepared consistent with BLM Manual 6280. No construction or operations impacts from the Toana Road Variations are anticipated.

Visual impacts to the Toana Road as an eligible historic property are addressed within Section 3.3 – Cultural Resources of the FSEIS. The Toana Road is not a designated NHT Study Trail or Oregon Trail–related feature.

#### **6.2.3.2 Alternative 5 Helicopter-Assisted Construction Variation**

This variation applies only to Alternative 5, which considers using a hybrid construction approach to reduce ground disturbance. This scenario utilizes low-impact vehicles and ground equipment to support the construction of foundations and tower erection for Routes 9K and 8G. Helicopter-assisted construction would minimize permanent disturbance by fully reclaiming all access roads and temporary worksites. The Alternative 5 Helicopter-Assisted Construction Variation would not change the visibility of Routes 8G or 9K from the Oregon NHT. Route 8G would still cross the Oregon NHT in Cassia Gulch (C1515) and may diminish the trail's scenic quality in AU1b at KOP C1515 and C106.

The Alternative 5 Helicopter-Assisted Construction Variation may be temporarily visible and in audible range of recreational users experiencing the Oregon NHT near Routes 8G or 9K.

#### **6.2.3.3 Alternative 5 WWE Corridor Variation**

This variation applies only to Alternative 5, which considers placing Routes 9K and 8G approximately 250 feet apart in this portion of the alternative, which is situated in AU4. Under this variation, the Alternative 5 WWE Corridor Variation follows the same alignment as FEIS Proposed 9 for the 33.8 miles of Route 9K between milepost 141.0 and the Hemingway Substation and 34.8 miles of 8G between milepost 112.0 and the substation. The variation would pass approximately 2.3 miles south and east of the Utter Massacre Site (C1528), and then follow the same alignment as the Segment 9 Revised Proposed Route at the west end of the SRBOP, and then with Routes 8G and 9K before terminating in Hemingway. The variation would generally parallel the Oregon

NHT south of the trail at a distance of 2 to 5 miles, except for a small area to the west of Murphy where the variation would come within 1.2 miles of the trail. Though the entire Alternative 5 WWE Corridor Variation is expected to be visible from the trail, approximately 16.7 miles would be visible in the middleground. Impacts would be localized near the northwest end of AU4, where the Sinker Creek HPRSEG heads west toward the variation before turning sharply to the north. In this area, situated within the SRBOP, the Alternative 5 WWE Corridor Variation is visible from six KOPs (C132, C90, C1506, C1507, C1514, and C1505), with distances ranging from 1 mile (C90) to 3.2 miles (1505) from the KOPs. From C1506 and C1514, both of which are where other Project routes cross the Oregon NHT, the Alternative 5 WWE Corridor Variation would moderately contrast with the visual setting, but would not adversely impact scenic/visual, cultural/historic, or natural resources.

### 6.2.4 SRBOP

The majority of impacts to the Oregon NHT within the SRBOP are from the Segment 9 Revised Proposed Route and the route’s associated FEIS routes that lie to the north and south of the Snake River Valley. Several routes associated with the Segment 8 Revised Proposed Route and its FEIS routes cross the SRBOP but comparably few substantively impact the resources, values, qualities and settings of the Oregon NHT within the SRBOP.

### 6.2.5 Summary of Route Impacts

Attachment F consists of a detailed spreadsheet that describes the Project impacts to visual, recreational, cultural, and natural resources, qualities, and values of the Oregon NHT and the North Alternate Study Trail. These impacts to individual KOPs were assessed using the impact thresholds described in Table 2. Table 22 below includes the total number of KOPs that would experience an adverse impact to any of the trail-related resources, qualities, and/or values present at that location from each of the Project proposed routes and alternative routes.

**Table 22.** Summary of Project Impacts

Segment	AU1	AU2	AU3	AU4	AU5	Total	SRBOP
<b>Segment 8 Revised Proposed Route</b>							
Adverse Impact	–	–	–	–	7	7	0
No Adverse Impact	–	8	-	1	3	12	1
<b>Segment 8 (FEIS Proposed Route)</b>							
Adverse Impact	–	–	–	1	7	8	1
No Adverse Impact	–	8	-	5	3	16	5
<b>Route 8A</b>							
Adverse Impact	6	–	–	–	1	7	0
No Adverse Impact	3	8	–	–	4	15	0
<b>Route 8B</b>							
Adverse Impact	–	–	–	–	–	0	0
No Adverse Impact	–	1	–	–	–	1	0
<b>Route 8E</b>							
Adverse Impact	–	–	–	1	–	1	1
No Adverse Impact	–	–	–	5	–	5	5

**Table 22.** Summary of Project Impacts (continued)

Segment	AU1	AU2	AU3	AU4	AU5	Total	SRBOP
<b>Route 8G</b>							
Adverse Impact	3	–	–	-	–	3	0
No Adverse Impact	4	–	1	2	–	7	2
<b>Route 8H</b>							
Adverse Impact	5	–	2	4	–	11	6
No Adverse Impact	3	–	4	4	–	11	7
<b>Segment 9 Revised Proposed Route</b>							
Adverse Impact	-	-	5	5	–	10	9
No Adverse Impact	3	-	4	5	–	12	9
<b>FEIS Proposed 9</b>							
Adverse Impact	-	–	–	–	–	0	0
No Adverse Impact	3	–	4	7	–	14	9
<b>Route 9B</b>							
Adverse Impact	4	–	–	–	–	4	0
No Adverse Impact	2	–	–	–	–	2	0
<b>Route 9D</b>							
Adverse Impact	–	–	5	4	-	9	8
No Adverse Impact	–	–	3	6	-	9	9
<b>Route 9F</b>							
Adverse Impact	–	–	–	4	–	4	4
No Adverse Impact	–	–	3	6	–	9	9
<b>Route 9G</b>							
Adverse Impact	–	–	5	6	–	11	10
No Adverse Impact	–	–	3	4	–	7	7
<b>Route 9H</b>							
Adverse Impact	–	–	1	5	–	6	6
No Adverse Impact	–	–	4	5	–	9	8
<b>Route 9I</b>							
Adverse Impact	–	–	–	–	–	0	0
No Adverse Impact	–	–	–	1	–	1	1
<b>Route 9K</b>							
Adverse Impact	–	–	–	–	–	0	0
No Adverse Impact	3	–	1	2	–	6	2

Of the routes considered in the SEIS, the two with the fewest adverse impacts are Route 8G and Route 9K. Three of the 20 KOPs situated along Route 8G would experience adverse impacts while none of the 6 KOPs along Route 9K would experience adverse impacts. Of the routes considered in the SEIS, the Segment 8 Revised Proposed Route and Segment 9 Revised Proposed Route would result in the greatest number of adverse impacts. Seven of the 20 KOPs located along Segment 8 would experience adverse impacts and 10 of the 22 KOPs located along Segment 9 would experience adverse impacts.

The analysis also revealed that several proposed routes analyzed under the Gateway West FEIS could be utilized to reduce the number of impacts to the Oregon NHT and North Alternate Study Trail for portions of routes explored in the SEIS. FEIS Route 8B, for instance, could provide an alternative route to the Segment 8 Revised Proposed Route from the Ada/Elmore County line to the Hemingway Substation that would entirely avoid both the SRBOP and crossing an intact segment of the Oregon NHT.

FEIS Proposed 9 would also result in no adverse impacts to trail resources either inside or outside the SRBOP.

The Segment 9 Revised Proposed Route would have the greatest number of adverse impacts to the Oregon NHT in the SRBOP resulting in nine adverse impacts from the 18 KOPs in the SRBOP with visibility of this route. Route 8H would result in six adverse impacts from the 13 Oregon NHT KOPs in the SRBOP with visibility of this route. The Segment 8 Revised Proposed Route, Route 8G, FEIS Proposed 9, and Route 9K would not result in any adverse impacts to the Oregon NHT in the SRBOP.

### **6.3 Cumulative Effects**

For the purposes of this analysis, the temporal extent of the projects to be considered is the expected physical operational service life of this Project (50 years), plus the estimated 10 years needed for substantial site rehabilitation after decommissioning is completed. Past and present events and projects are generally identified and their ongoing impacts discussed. “Reasonably foreseeable actions” are proposed projects or actions that have applied for a permit from local, state, or federal authorities or which are publicly known.

The spatial extent of the projects considered in the cumulative effects analysis varies by the project and by resource. In several cases, the Cumulative Impact Analysis Area (CIAA) for a resource is substantially larger than the corresponding project-specific Analysis Area in order to consider an area large enough to encompass likely effects from other projects on the same resource.

The Project “footprint” or direct construction ground disturbance extent is defined in the Proponent’s August 2013 Plan of Development, which is Appendix B to the 2013 ROD (BLM 2013b) and summarized in Chapter 2 of the SEIS. The CIAA for direct disturbance starts with an area defined as 500 feet on either side of the centerline of the Proposed Route or Route Alternatives and 25 feet on either side of indicative road location centerlines and includes the actual footprint of other Project-related facilities outside the 1,000-foot-wide area, including temporary facilities such as fly yards and laydown areas. For the purposes of this chapter, that set of polygons is called the Direct Impact Cumulative Impact Analysis Area (DICIAA). That set of polygons was then used to overlay various resource extents. For the purposes of the Manual 6280 Impact analysis, the CIAA extends 5 to 15 miles from the DICIAA.

#### **6.3.1 Cumulative Effects Analysis**

Gateway West and the other current and reasonably foreseeable actions would result in substantial cumulative adverse effects to NHTs. Construction of the Gateway West transmission line and its ancillary facilities could directly impact the existing Oregon NHT, the North Alternate Study Trail, and its associated visual contexts, recreational values and settings, and associated cultural resources and landscapes. Construction or other ground-disturbing activities could directly or indirectly impact previously undetected components of the Oregon NHT. Such impacts are likely to be adverse. Identification of new or previously recorded segments and sites associated with the Oregon NHT and North Alternate Study Trail could result in increased use of existing and new access roads and may encourage unauthorized site access, artifact collection,

and vandalism. Impacts on the setting and feeling of the Oregon NHT may be introduced through the addition of structural elements to the landscape. Construction of transmission line structures introduces an indirect (visual) impact upon the visual contexts, recreational values, and historic/cultural settings of the Oregon NHT.

Other current and reasonably foreseeable activities with ground-disturbing activities (essentially all those listed in Section 4.2 of the SEIS) have the potential for additional effects on NHTs and associated resources. Some of the more visually prominent activities are included in Attachment E, which includes maps of each Analysis Unit and the locations of existing transmission lines and wind farms. These projects have already affected the visual environments around the Oregon NHT and the North Alternate Study Trail and, in some areas, already degraded the visual, cultural, recreational, and natural resources, qualities, values, and settings related to the trails primary purpose and use. The maps in Attachment E also provide an indication of how the Project either falls into the immediate foreground of trail-related settings, thus having a larger impact than the existing projects, or falls into the background, where it is largely obscured by existing energy infrastructure.

The Proponents of Gateway West have committed to avoiding direct effects to NRHP-eligible features wherever feasible. Avoidance of indirect effects is not likely to be possible. HPTPs will be prepared for site-specific treatments for areas that may experience direct or indirect effects to be reviewed and approved by the BLM prior to issuance of a Notice to Proceed for that work element. An indirect effect of Gateway West is that potential for increased access due to new access roads may encourage unauthorized site access, artifact collection, and vandalism as well as visual effects caused by construction of the Project. This is the case with all of the current and reasonably foreseeable projects that have new or improved access roads associated with them.

### 6.4 Direct and Indirect Effects of the Alternatives

This section includes a summary of direct and indirect effects to the Oregon NHT and North Alternate Study Trail. Table 23, which summarizes the total number of adverse impacts on the Oregon NHT for each of the seven action alternatives, is followed by narratives that describe the nature and magnitude of these adverse impacts to specific NHT resources.

**Table 23.** Summary of Adverse Impacts on the Oregon NHT for Each Alternative

Alternative	Impact	AU1	AU2	AU3	AU4	AU5	Total	SRBOP	Alternative Total	
Alternative 1 (Revised Proposed Action)	Segment 8 (Revised Proposed Route)									
	Adverse Impact	---	---	---	---	7	7	0	17 Adverse Impacts 10 Trail Crossings (7 on BLM-managed land) 24 No Adverse Impacts	
	No Adverse Impact	---	8	---	1	3	12	1		
	Segment 9 (Revised Proposed Route)									
	Adverse Impact	---	---	5	5	---	10	9		
No Adverse Impact	3	---	4	5	---	12	9			
Alternative 2	Segment 8 (Revised Proposed Route)									
	Adverse Impact	---	---	---	---	7	7	0	7 Adverse Impacts 6 Trail Crossings (3 on BLM-managed land) 26 No Adverse Impacts	
	No Adverse Impact	---	8	---	1	3	12	1		
	Segment 9 (FEIS Proposed Route)									
	Adverse Impact	---	---	---	---	---	0	0		
No Adverse Impact	3	---	4	7	---	14	9			

**Table 23.** Summary of Adverse Impacts on the Oregon NHT for Each Alternative (continued)

Alternative	Impact	AU1	AU2	AU3	AU4	AU5	Total	SRBOP	Alternative Total	
Alternative 3	Segment 8 (Revised Proposed Route)									
	Adverse Impact	---	---	---	---	7	7	0	7 Adverse Impacts 6 Trail Crossings (3 on BLM-managed land) 18 No Adverse Impacts	
	No Adverse Impact	---	8	---	1	3	12	1		
	Segment 9 (Route 9K)									
	Adverse Impact	---	---	---	---	---	0	0		
No Adverse Impact	3	---	1	2	---	6	2			
Alternative 4	Segment 8 (Route 8G)									
	Adverse Impact	3	---	---	---	---	3	0	3 Adverse Impacts 2 Trail Crossings (0 on BLM-managed land) 21 No Adverse Impacts	
	No Adverse Impact	4	---	1	2	---	7	2		
	Segment 9 (FEIS Proposed Route)									
	Adverse Impact	---	---	---	---	---	0	0		
No Adverse Impact	3	---	4	7	---	14	9			
Alternative 5 (BLM Preferred Alternative)	Segment 8 (Route 8G)									
	Adverse Impact	3	---	---	---	---	3	0	3 Adverse Impacts 2 Trail Crossings (0 on BLM-managed land) 13 No Adverse Impacts	
	No Adverse Impact	4	---	1	2	---	7	2		
	Segment 9 (Route 9K)									
	Adverse Impact	---	---	---	---	---	0	0		
No Adverse Impact	3	---	1	2	---	6	2			
Alternative 5 Helicopter-Assisted Construction Variation	Segment 8 (Route 8G)									
	Adverse Impact	3	---	---	---	---	3	0	3 Adverse Impacts 2 Trail Crossings (0 on BLM-managed land) 13 No Adverse Impacts	
	No Adverse Impact	4	---	1	2	---	7	2		
	Segment 9 (Route 9K)									
	Adverse Impact	---	---	---	---	---	0	0		
No Adverse Impact	3	---	1	2	---	6	2			
Alternative 5 WWE Corridor Variation	Segment 8 (Route 8G)									
	Adverse Impact	3	–	–	–	–	3	0	3 Adverse Impact 2 Trail Crossings (0 on BLM-managed land) 18 No Adverse Impact	
	No Adverse Impact	4	–	1	2	–	7	2		
	Segment 9 (Route 9K)									
	Adverse Impact	–	–	–	–	–	0	0		
No Adverse Impact	3	–	1	7	–	11	6			
Alternative 6	Segment 8 (Route 8H)									
	Adverse Impact	5	---	2	4	---	11	6	11 Adverse Impacts 6 Trail Crossings (3 on BLM-managed land) 25 No Adverse Impacts	
	No Adverse Impact	3	---	4	4	---	11	7		
	Segment 9 (FEIS Proposed Route)									
	Adverse Impact	---	---	---	---	---	0	0		
No Adverse Impact	3	---	4	7	---	14	9			
Alternative 7	Segment 8 (Route 8H)									
	Adverse Impact	5	---	2	4	---	11	6	11 Adverse Impacts 6 Trail Crossings (3 on BLM-managed land) 17 No Adverse Impacts	
	No Adverse Impact	3	---	4	4	---	11	7		
	Segment 9 (Route 9K)									
	Adverse Impact	---	---	---	---	---	0	0		
No Adverse Impact	3	---	1	2	---	6	2			

**6.4.1 Alternative 1 – Proposed Action (the Revised Proposed Routes for Segments 8 and 9)**

Alternative 1, the Revised Proposed Action, would have 17 adverse impacts on the Oregon NHT, with impacts associated with the Segment 8 Revised Proposed Route in AU5 (7) and Segment 9 Revised Proposed Route in AU3 (5) and AU4 (5). Four of these adverse impacts are to KOPs located on the Oregon NHT Sinker Creek HPRSEG. Alternative 1 would have no adverse impact on the 24 KOPs from which the alternative would be visible. Seven of the 17 adverse impacts would be caused by trail crossings on BLM-managed land.

Alternative 1 would cross the Oregon NHT a total of seven times on BLM-managed land, three of which would be caused by the Segment 8 Revised Proposed Route. Specifically, three of the five adverse impacts in AU3 and five of the seven adverse impacts in AU5 would be caused by Alternative 1 crossing the Oregon NHT.

Nine of the adverse impacts, all associated with the Segment 9 Revised Proposed Route are on the SRBOP. Four of the trail crossings are in the SRBOP.

Alternative 1, compared to all the Alternatives, would have the greatest number of adverse impacts (17) on the Oregon NHT and the largest number of trail crossings on BLM-managed land (7). Alternative 6 and Alternative 7 would have the next largest number of adverse impacts (11 for each alternative).

Alternative 1 would also have the greatest number of adverse impacts (9) to the Oregon NHT within the SRBOP. Alternative 6 and Alternative 7 have the next largest number of adverse impacts in the SRBOP (six for each alternative).

Toana Road Variations 1 or 1-A would not have an impact upon any NHT resources.

#### **6.4.2 Alternative 2 – Revised Proposed 8 and FEIS Proposed 9**

Alternative 2 would have seven adverse impacts on the Oregon NHT, all located within AU5 and associated with the Segment 8 Revised Proposed Route. Three of the adverse impacts would be caused by trail crossings on BLM-managed land. Alternative 2 would have no adverse impact on the 26 KOPs from which the alternative would be visible. FEIS Proposed 9 would have no adverse impacts on the Oregon NHT.

Alternative 2 would have no adverse impact on the 11 KOPs in the SRBOP from which the alternative would be visible.

Compared to Alternative 1, Alternative 2 would have 10 fewer adverse impacts (7) on the Oregon NHT, including 4 fewer trail crossings on BLM-managed land (3), and 9 fewer adverse impacts (0) in the SRBOP. Only AU5 would be adversely impacted by Alternative 2, whereas Alternative 1 would adversely impact three AUs.

Toana Road Variations 1 or 1-A would not have an impact upon any NHT resources.

#### **6.4.3 Alternative 3 – Revised Proposed 8 and the 9K Route**

Alternative 3 would have seven adverse impacts on the Oregon NHT, all located within AU5 and associated with the Segment 8 Revised Proposed Route. Three of the adverse impacts would be caused by trail crossings on BLM-managed land. Alternative 3 would have no adverse impact on the 18 KOPs from which the alternative would be visible.

Alternative 3 would have no adverse impact on the four KOPs in the SRBOP from which the alternative would be visible.

Compared to Alternative 1, Alternative 3 would have 10 fewer adverse impacts (7) on the Oregon NHT, including 4 fewer trail crossings on BLM-managed land (3), and 9 fewer adverse impacts (0) in the SRBOP. Only AU5 would be adversely impacted by Alternative 3, whereas Alternative 1 would adversely impact three AUs.

Toana Road Variations 1 or 1-A would not have an impact upon any NHT resources.

#### **6.4.4 Alternative 4 – The 8G Route and FEIS Proposed 9**

Alternative 4 would have a total of three adverse impacts on the Oregon NHT, all located within AU1 and associated with the 8G route. Two of these adverse impacts affect KOPs located on the Oregon NHT North Trail HPRSEG. None of the Adverse Impacts would be caused by trail crossings on BLM-managed land. Alternative 4 would have no adverse impact on the 21 KOPs from which the alternative would be visible.

Alternative 4 would have no adverse impact on the 11 KOPs in the SRBOP from which the alternative would be visible.

Compared to Alternative 1, Alternative 4, along with Alternative 5, would have the least number of adverse impacts on the Oregon NHT (3), with 14 fewer impacts. Adverse impacts would be limited to AU1 and are associated with the 8G route. Alternative 4 would not cross the Oregon NHT on BLM-managed land, compared to Alternative 1, which would cross the Oregon NHT seven times on BLM-managed land. Alternative 4 would not adversely impact the Oregon NHT in the SRBOP, compared to Alternative 1, which would have nine adverse impacts in the SRBOP.

Toana Road Variations 1 or 1-A would not have an impact upon any NHT resources.

#### **6.4.5 Alternative 5 – The 8G and 9K Routes**

Alternative 5, the BLM Preferred Alternative, would have a total of three adverse impacts on the Oregon NHT, all located within AU1 and associated with Route 8G. Two of these adverse impacts affect KOPs located on the Oregon NHT North Trail HPRSEG. None of the adverse impacts would be caused by trail crossings on BLM-managed land. Alternative 5 would have no adverse impact on the 13 KOPs from which the alternative would be visible.

Alternative 5 would have no adverse impact on the four KOPs in the SRBOP from which the alternative would be visible.

Compared to Alternative 1, Alternative 5, along with Alternative 4, would have the least number of adverse impacts on the Oregon NHT (3), with 14 fewer impacts. Adverse impacts would be limited to AU1 and are associated with Route 8G. Alternative 5 would not cross the Oregon NHT on BLM-managed land, whereas Alternative 1 would cross the Oregon NHT seven times on BLM-managed land. Alternative 5 would not adversely impact the Oregon NHT in the SRBOP, while Alternative 1 would have nine adverse impacts in the SRBOP.

Toana Road Variations 1 or 1-A would not have an impact upon any NHT resources.

#### **6.4.6 Alternative 6 – The 8H Route and FEIS Proposed 9**

Alternative 6 would have a total of 11 adverse impacts on the Oregon NHT, with impacts located in AU1 (5), AU3 (2), and AU4 (4). All of the impacts are associated with Route 8H. Six of these adverse impacts affect KOPs located on the Oregon NHT North Trail HPRSEG (3) and the Oregon NHT Sinker Creek HPRSEG. Three of the adverse impacts would be caused by trail crossings on BLM-managed land. Alternative 6 would have no adverse impact on the 25 KOPs from which the alternative would be visible.

Alternative 6 would have an adverse impact on the six KOPs within the SRBOP and no adverse impact on the seven KOPs in the SRBOP from which the alternative would be visible.

Compared to Alternative 1, Alternative 6 would have six fewer adverse impacts (11) on the Oregon NHT, including four fewer trail crossings on BLM-managed land (3), and three fewer adverse impacts (6) in the SRBOP. Alternative 6 would have adverse impacts in AU1, AU3, and AU4, whereas Alternative 1 would have adverse impacts in AU2, AU4, and AU5.

Toana Road Variations 1 or 1-A would not have an impact upon any NHT resources.

#### **6.4.7 Alternative 7 – The 8H and 9K Routes**

Alternative 7 would have a total of 11 adverse impacts on the Oregon NHT, with impacts located in AU1 (5), AU3 (2), and AU4 (4). All of the impacts are associated with Route 8H. Six of these adverse impacts affect KOPs located on the Oregon NHT North Trail HPRSEG (3) and the Oregon NHT Sinker Creek HPRSEG. Three of the adverse impacts would be caused by trail crossings on BLM-managed land. Alternative 7 would have no adverse impact on the 17 KOPs from which the alternative would be visible.

Alternative 7 would have an adverse impact on six KOPs within the SRBOP and no adverse impact on the seven KOPs in the SRBOP from which the alternative would be visible.

Compared to Alternative 1, Alternative 7 would have six fewer adverse impacts (11) on the Oregon NHT, including four fewer trail crossings on BLM-managed land (3), and three fewer adverse impacts (6) in the SRBOP. Alternative 7 would have adverse impacts in AU1, AU3, and AU4, whereas Alternative 1 would have adverse impacts in AU2, AU4, and AU5.

Toana Road Variations 1 or 1-A would not have an impact upon NHT resources.

### **6.5 Plan Amendments**

Amendments to the BLM RMPs and MFPs are summarized for each alternative in Table 2.3-1 in Chapter 2 of the SEIS. The BLM plan amendments are discussed in detail in Appendices F and G of the SEIS. Amendments are needed to permit the Project to cross various areas of BLM-managed land. The effects described for areas requiring an amendment in order for the Project to be built would only occur if the amendment were approved, and amendments that alter land management designations could change future use of these areas.

The Segments 8 and 9 Revised Proposed Routes would require BLM plan amendments. The Revised Proposed Route for Segment 8 would require a plan amendment to the 1987 Jarbidge RMP to protect the Oregon NHT ruts from surface disturbance within a 0.25-mile corridor. The Bennett Hills/Timmerman Hills MFP would also require a plan amendment to manage NHT resources with applicable laws and policies. Additional amendments would be required for visual resources that would also affect the cultural aspects of these resources (see Section 3.2 – Visual Resources).

The Revised Proposed Route for Segment 9 would require three amendments to the SRBOP RMP:

- A corridor 250 feet from the centerline of the proposed powerline would be established with a VRM of Class III. This corridor would maintain a distance of at least 0.5 mile from the NHT, except where it crosses the trail.
- The Snake River Canyon SRMA: This SRMA consists of 22,300 acres in the Snake River Canyon downstream from Grandview, Idaho that is managed for the protection of cultural and scenic values. Allow a 500-kV transmission line to cross the SRMA while protecting cultural resources, which includes NHT resources, from surface disturbance.
- C.J. Strike SRMA: This SRMA consists of 16,900 acres surrounding C.J. Strike Reservoir along the Snake River. The purpose of the SRMA is to provide enhanced recreation management associated with the reservoir, and protection of the Oregon NHT adjacent to the reservoir. Allow a 500-kV transmission line to cross the SRMA while protecting the Oregon NHT from surface disturbance.

VRM Class II areas associated with the Oregon Trail and Snake River in view of the 500-kV transmission line that would not meet VRM Class II objectives of the C.J. Strike SRMA would be reclassified to VRM Class III.

## **6.6 Proponent-Proposed Design Features and Measures**

### **6.6.1 Environmental Protection Measures & Mitigation and Enhancement Plans**

The Project Proponents have committed to Project design features, best management practices, and Environmental Protection Measures (EPMs) to minimize or avoid impacts on environmental resources that include the Oregon NHT and North Alternate Study Trail. These measures, the areas where they would be applicable (e.g., private, state, or federally managed lands), as well as the details of each measure, are provided in Table 2.7-1 of the Gateway West FEIS (BLM 2013a).

As a part of the FEIS, several EPMs to avoid, minimize, and mitigate impacts to resources were developed. While EPMs for recreational, natural, visual, and cultural resources would address general impacts to NHTs and Study Trails, EPMs that directly address the avoidance and minimization of Project impacts to the Oregon NHT and North Alternate Study Trail are listed below. These measures are also included in the *Compensatory Mitigation Plan for Unavoidable Impacts to Historic Trails* in the Project ROD (Appendix F) (BLM 2013b).

- VIS-6 To minimize sensitive feature disturbance and/or visual contrast in designated areas on federal lands, structures will be placed to avoid sensitive features such as riparian areas, water courses, and cultural sites, and/or to allow conductors to clearly span the features, within the limits of standard tower design. Where conflicts arise between resources, the applicable land manager will be consulted.
- VIS-7 To reduce visual impacts on federal land, including potential impacts on recreation values and safety, towers will be placed at the maximum

feasible distance from the highway, canyon and trail crossings within limits of standard design and to the extent practical.

VIS-11 Site-specific “micrositing,” within the limits of standard engineering design, will be required near certain sensitive areas, as identified by the agencies, where proposed transmission facilities would impact visual quality; these situations include:

- Crossings over major highways;
- Crossings of high quality historic trails;
- Crossings over the North Platte and Snake Rivers;
- Sensitive travelways, use areas, residential areas, recreational facilities as identified by the agencies (including national recreation and scenic trails, campgrounds, recreation areas, and trailheads), and other areas identified by management plans; and
- To avoid bisecting forest patches within the Sawtooth National Forest.

The Proponents will consult with the applicable local land management agency during transmission line design.

CR-5 If construction will adversely affect any properties listed on, or eligible for listing on, the NRHP, mitigation will be required. Mitigation will be in accordance with the HPTP and may include, but not be limited to, one or more of the following measures: a) avoidance through the use of relocation of structures through the design process, realignment of the route, relocation of temporary workspace, or changes in the construction and/or operational design; b) the use of landscaping or other techniques that will minimize or eliminate effects on the historic setting or ambience of standing structures; and c) data recovery, which may include the systematic professional excavation of an archaeological site or the preparation of photographic and/or measured drawings documenting standing structures.

These EPMs would avoid or minimize the extent of impacts that could occur to Oregon NHT and North Alternate Study Trail. These EPMs are a part of the current Project description, and as such, the effects of their implementation are included in the impact discussion found in Section 6 of this study.

## **6.6.2 Proponent-Proposed MEP and Potential Effects of the MEP within the SRBOP**

### **6.6.2.1 Habitat Restoration**

In general, habitat restoration would improve the physical setting of the Oregon NHT. By restoring habitat to an earlier period that better reflects the trail’s period of use, the overall historical integrity of the landscape and setting would be improved. Project impacts the Oregon NHT, therefore, would be reduced.

### **6.6.2.2 Purchase of Private Inholdings**

The acquisition of private inholdings may improve protections of the Oregon NHT. Federal ownership would provide regulatory protections for trail resources. Those trail

segments within these private inholdings that are eligible for the NRHP, for instance, would be protected by Section 106 of the National Historic Preservation Act of 1966. These trails would also be protected by the National Trails System Act, Federal Land Policy and Management Act, and the requirements of BLM Manual 6280 if BLM were to assume land management responsibilities for these parcels. Project impacts the Oregon NHT, therefore, would be reduced.

### **6.6.2.3 Law Enforcement**

Additional law enforcement would provide additional protections for the Oregon NHT, particularly in areas where access roads are in close proximity to, or that facilitate access to the Oregon NHT. Coordination between federal and local law enforcement would allow for the protection of trail resources under federal and Idaho laws and serve as a deterrent to vandalism, disturbance, and artifact theft. Project impacts the Oregon NHT, therefore, would be reduced.

### **6.6.2.4 Visitor Enhancement**

Visitor enhancements would be beneficial to the use and interpretation of the Oregon NHT. These enhancements would be consistent with the NPS Oregon Trail CMUP and would assist with raising awareness about Oregon NHT resources and enhance visitor experiences. Project impacts the Oregon NHT, therefore, would be reduced.

### **6.6.2.5 Line and Substation Removal**

The removal of transmission line and substations would improve the visual setting of the Oregon NHT and North Alternate Study Trail. Cumulative visual impacts to trail resources would be reduced as views from and to trail resources would be potentially improved. Project impacts the Oregon NHT, therefore, would be reduced.

### **6.6.2.6 Summary of Remaining Impacts**

If the Proponents' EPMs and other design features were implemented, impacts to the resources, qualities, values, associated setting, and primary uses of the NHT would be reduced but the principal effects of the Project, the visual impact of transmission infrastructure, and the potential for direct impacts from Project construction, operation, and decommissioning would remain.

## **6.7 Mitigation**

Consistent with BLM Manual 6280, the BLM is required, to the greatest extent possible, to consider opportunities for mitigation to a level commensurate with the adverse impact to the nature and purposes; resources, qualities, values, and associated settings; and the primary use or uses of the NHT. To eliminate or moderate adverse impacts, the BLM can consider:

- Rectifying, reducing, or eliminating the impact over time and/or compensating for the impact by replacing or providing substitute resources or environments;
- On-site mitigation and design considerations can include moving the project location, minimizing the scale, camouflaging the proposed activity with visual screening techniques, or similar actions;

- Prioritizing on-site mitigation prior to considering off-site mitigation options with regional options being considered prior to statewide options; and/or
- Where on-site mitigation (along the Oregon NHT) cannot adequately compensate for an adverse impact, off-site mitigation may include consideration of monetary compensation for public lands along the Oregon NHT.

It is anticipated that mitigation measures would be implemented through site-specific HPTPs. These plans would include measures to avoid, minimize, or mitigate adverse impacts (direct and/or indirect) to the Oregon NHT and/or the North Alternate Study Trail. In the event of unavoidable adverse impacts to the Oregon NHT and/or the North Alternate Study Trail, the Historic Property Treatment Plan may stipulate compensatory mitigation measures.

## 7 REFERENCES

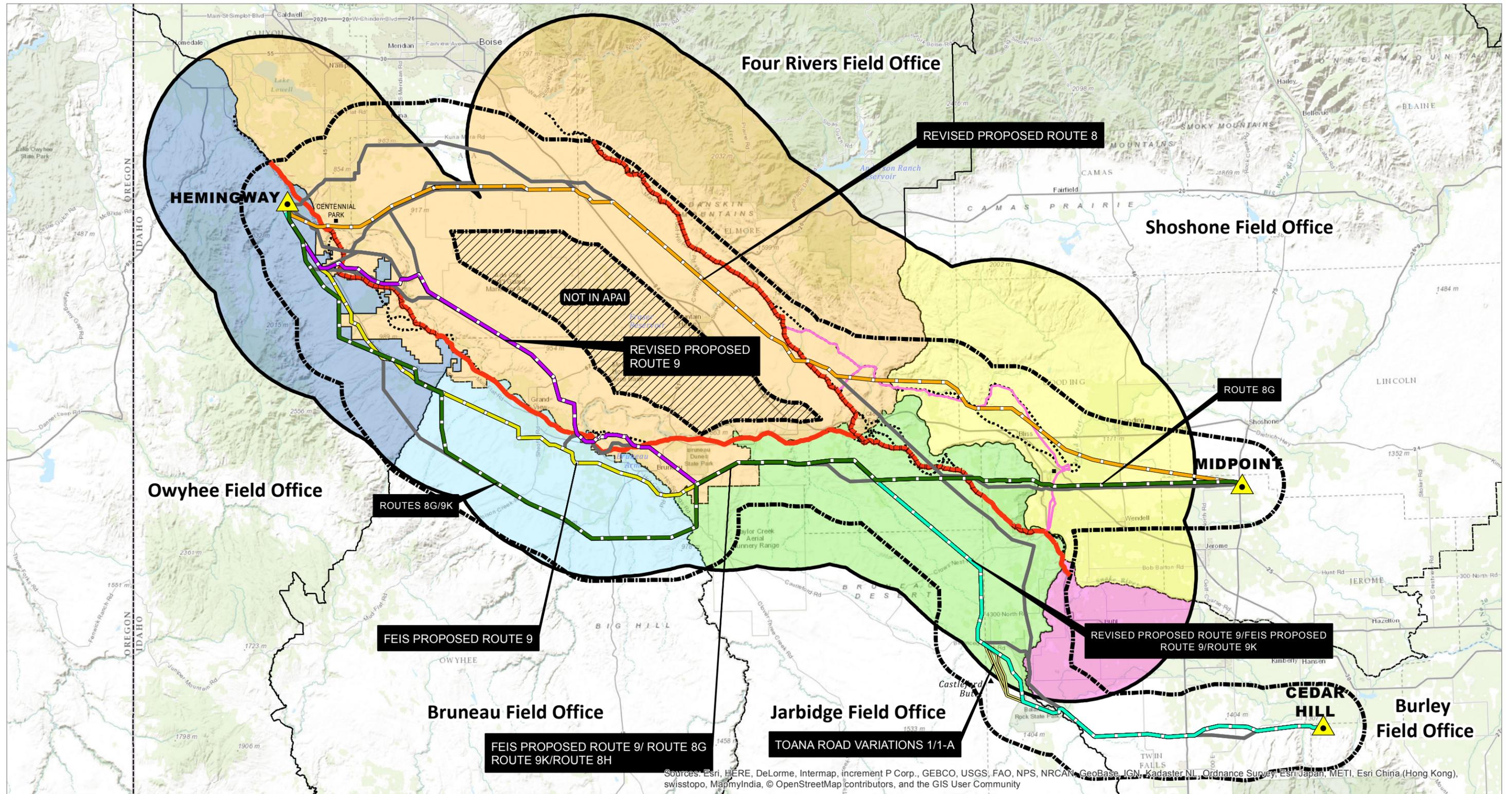
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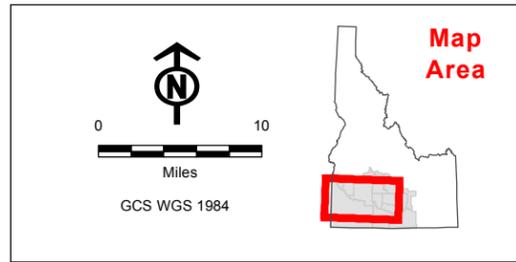
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**Attachment A1**  
**Project Overview Maps**



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



- Substations
- APAI Boundary
- AU Boundaries

**Project Features**

- Route 8G
- Route 9K
- Revised Proposed Rte. 8
- Revised Proposed Rte. 9
- FEIS Proposed Route 9
- Route 8H
- Other 2013 FEIS Routes
- Toana Road Variations

**Oregon Trail Features**

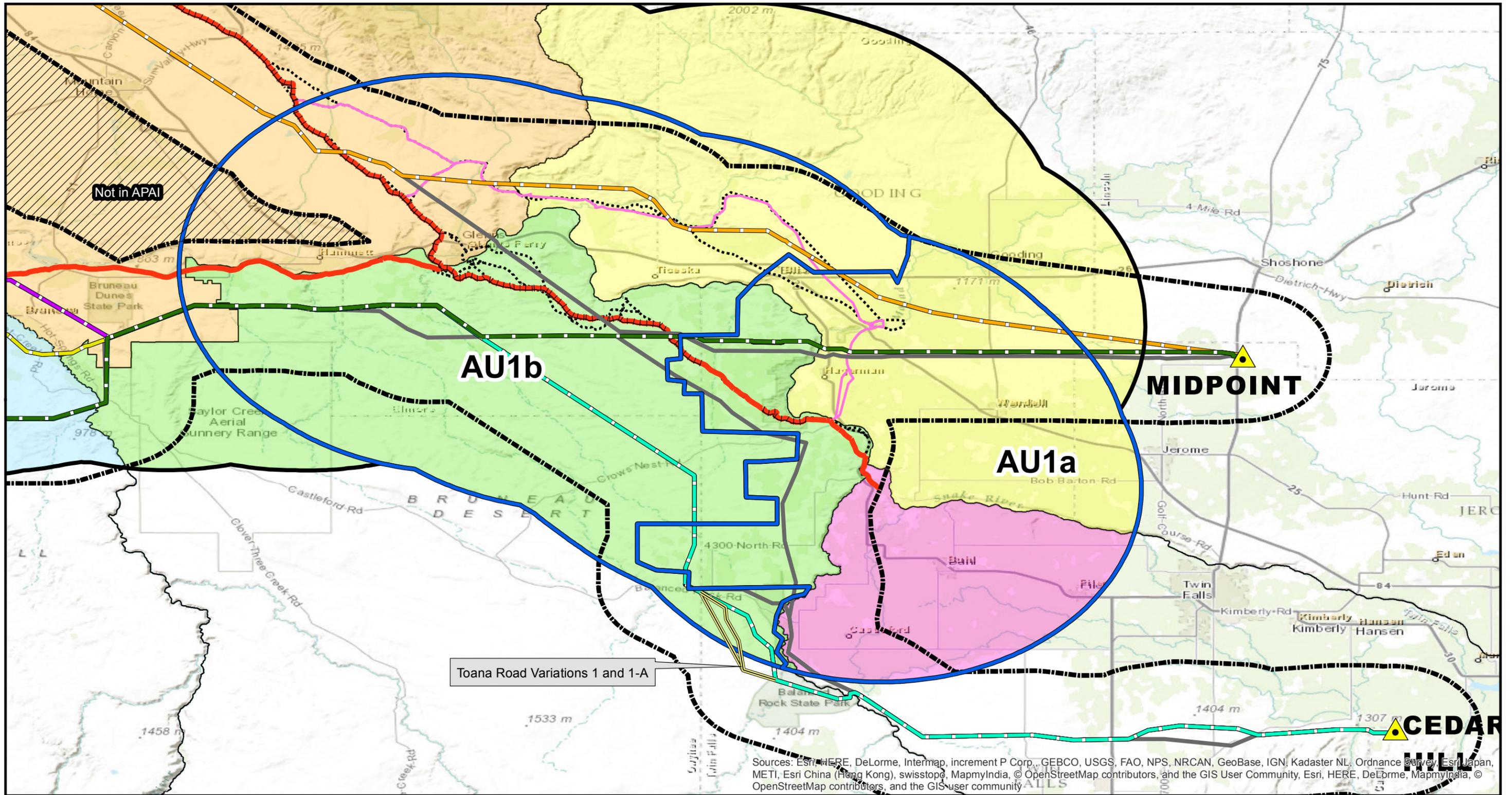
- HPRSEG
- Oregon Trail (NHT<sup>1</sup>)
- North Alternate Study Trail
- Associated Trail Segments (NHT<sup>2</sup>)

**BLM Field Office**

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- Burley Field Office
- Four Rivers Field Office
- Jarbidge Field Office
- Owyhee Field Office
- Shoshone Field Office

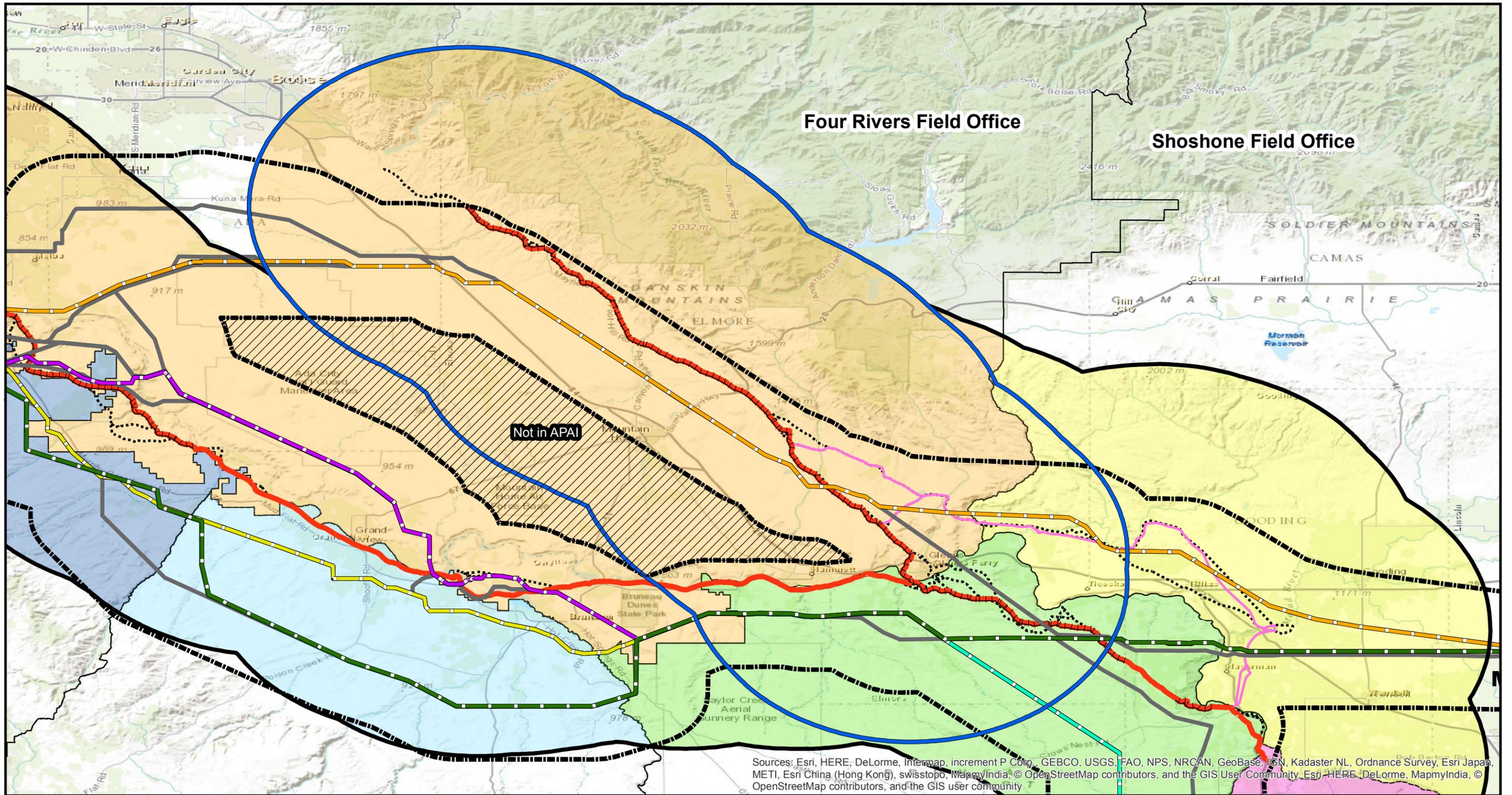


Gateway West  
Transmission Line Project  
Draft Supplemental EIS  
**Project Overview Maps**  
**BLM Field Offices, AU Boundaries, and APAI**  
Figure A1-1

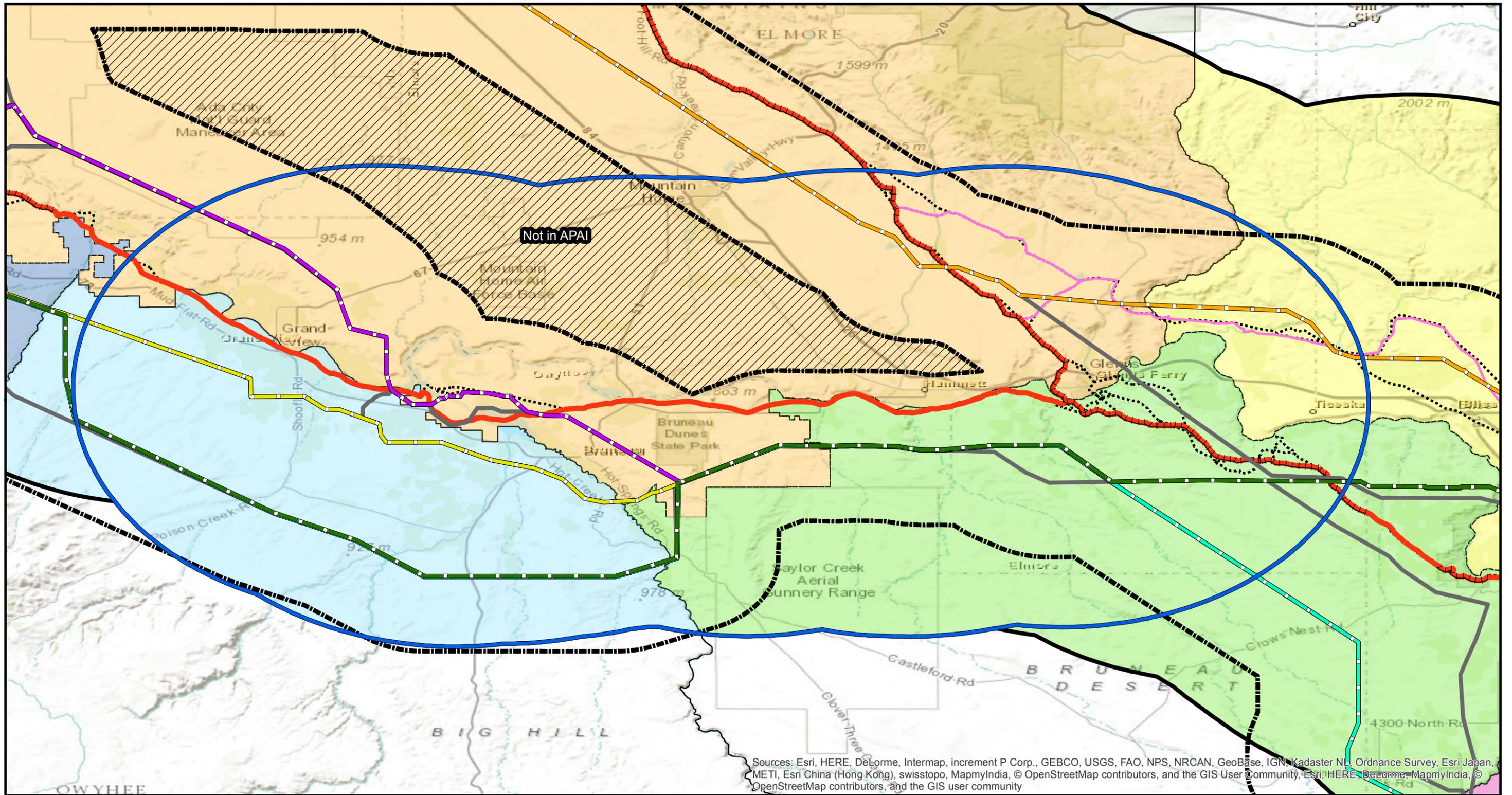


Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

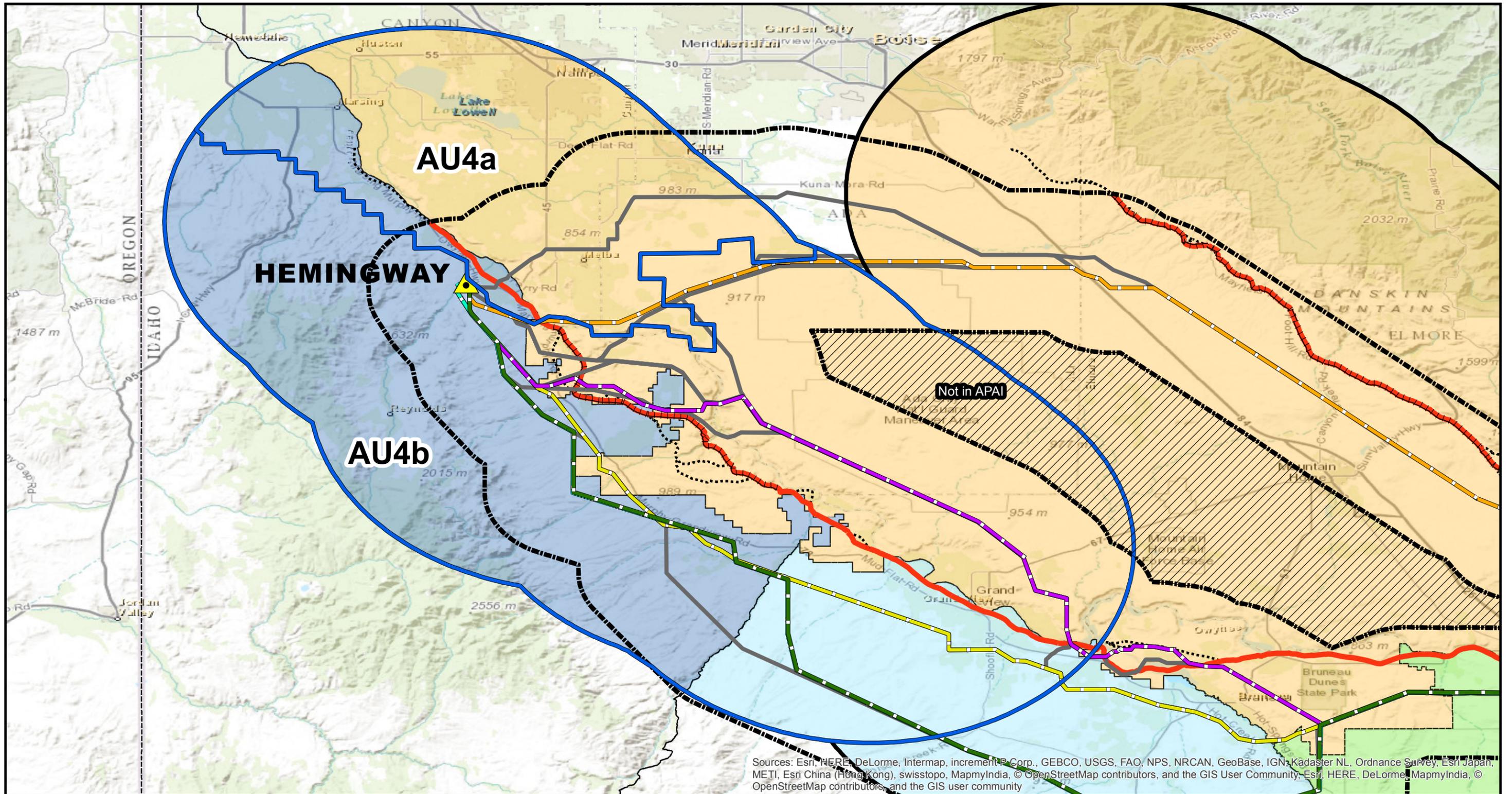
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		<b>Map Area</b> 	AU2 APAI Boundary AU Boundaries Substation	<b>Project Features</b> Route 8G Route 9K Revised Proposed Rte. 8 Revised Proposed Rte. 9 Route 8H Other 2013 FEIS Routes	<b>Oregon Trail Features</b> Oregon Trail (NHT <sup>1</sup> ) North Alternate Study Trail Associated Trail Segments (NHT <sup>2</sup> )	<b>BLM Field Office</b> Bruneau Field Office Burley Field Office Four Rivers Field Office Jarbidge Field Office Owyhee Field Office Shoshone Field Office	<p>Gateway West Transmission Line Project Draft Supplemental EIS</p> <p><b>Project Overview Map AU2</b> BLM Field Offices, AU Boundaries, and APAI Figure A1-3</p>

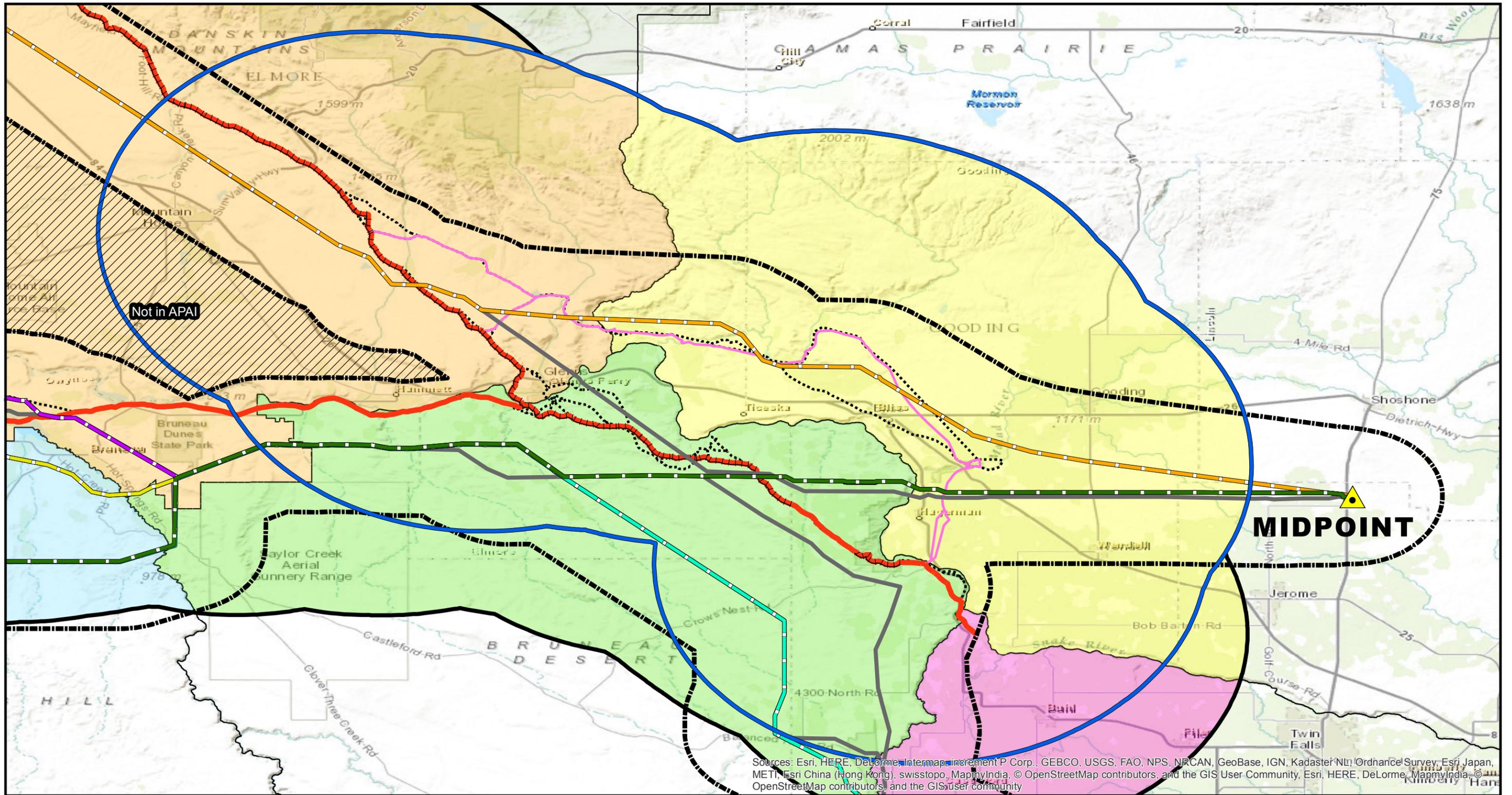


<p>Map Area</p>	<p><b>AU3</b></p> <p><b>APAI Boundary</b></p> <p><b>AU Boundaries</b></p> <p><b>Substation</b></p> <p><b>Project Features</b></p> <ul style="list-style-type: none"> <li>Route 8G</li> <li>Route 9K</li> <li>Revised Proposed Rte. 8</li> <li>Revised Proposed Rte. 9</li> <li>FEIS Proposed Route 9</li> <li>Route 8H</li> <li>Other 2013 FEIS Routes</li> </ul>	<p><b>Oregon Trail Features</b></p> <ul style="list-style-type: none"> <li>HPRSEG</li> <li>Oregon Trail (NHT<sup>1</sup>)</li> <li>North Alternate Study Trail</li> <li>Associated Trail Segments (NHT<sup>2</sup>)</li> </ul>	<p><b>BLM Field Office</b></p> <ul style="list-style-type: none"> <li>Bruneau Field Office</li> <li>Burley Field Office</li> <li>Four Rivers Field Office</li> <li>Jarbidge Field Office</li> <li>Owyhee Field Office</li> <li>Shoshone Field Office</li> </ul>	<p>Gateway West Transmission Line Project Draft Supplemental EIS</p> <p><b>Project Overview Map AU3</b> <b>BLM Field Offices, AU Boundaries, and APAI</b> Figure A1-4</p>
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Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

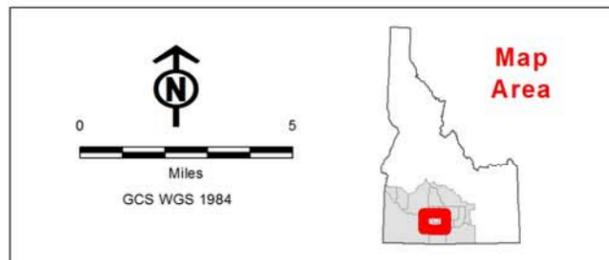
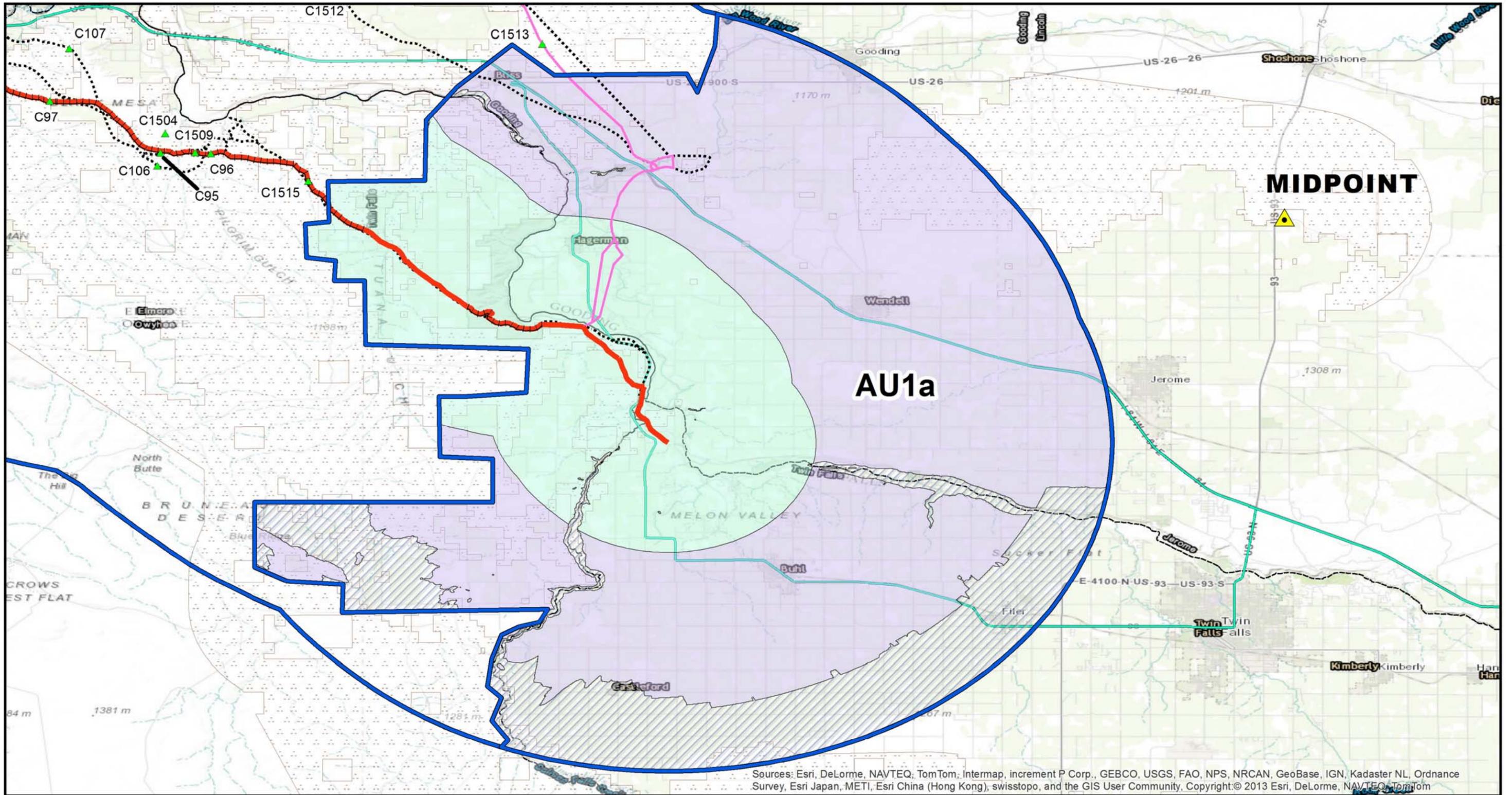
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Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

<p><b>Map Area</b></p>	<p><b>Map Symbols</b></p> <ul style="list-style-type: none"> <li> AU5</li> <li> APAI Boundary</li> <li> AU Boundaries</li> <li> Substation</li> </ul> <p><b>Project Features</b></p> <ul style="list-style-type: none"> <li> Route 8G</li> <li> Route 9K</li> <li> Revised Proposed Rte. 8</li> <li> Revised Proposed Rte. 9</li> <li> FEIS Proposed Route 9</li> <li> Route 8H</li> <li> Other 2013 FEIS Routes</li> </ul>	<p><b>Oregon Trail Features</b></p> <ul style="list-style-type: none"> <li> HPRSEG</li> <li> Oregon Trail (NHT<sup>1</sup>)</li> <li> North Alternate Study Trail</li> <li> Associated Trail Segments (NHT<sup>2</sup>)</li> </ul>	<p><b>BLM Field Office</b></p> <ul style="list-style-type: none"> <li> Bruneau Field Office</li> <li> Burley Field Office</li> <li> Four Rivers Field Office</li> <li> Jarbidge Field Office</li> <li> Owyhee Field Office</li> <li> Shoshone Field Office</li> </ul>	<p>Gateway West Transmission Line Project Draft Supplemental EIS</p> <p><b>Project Overview Map AU5</b> <b>BLM Field Offices, AU Boundaries, and APAI</b> Figure A1-6</p>
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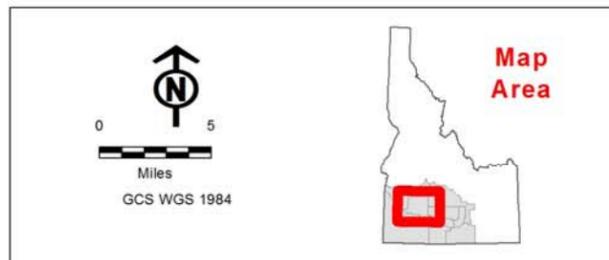
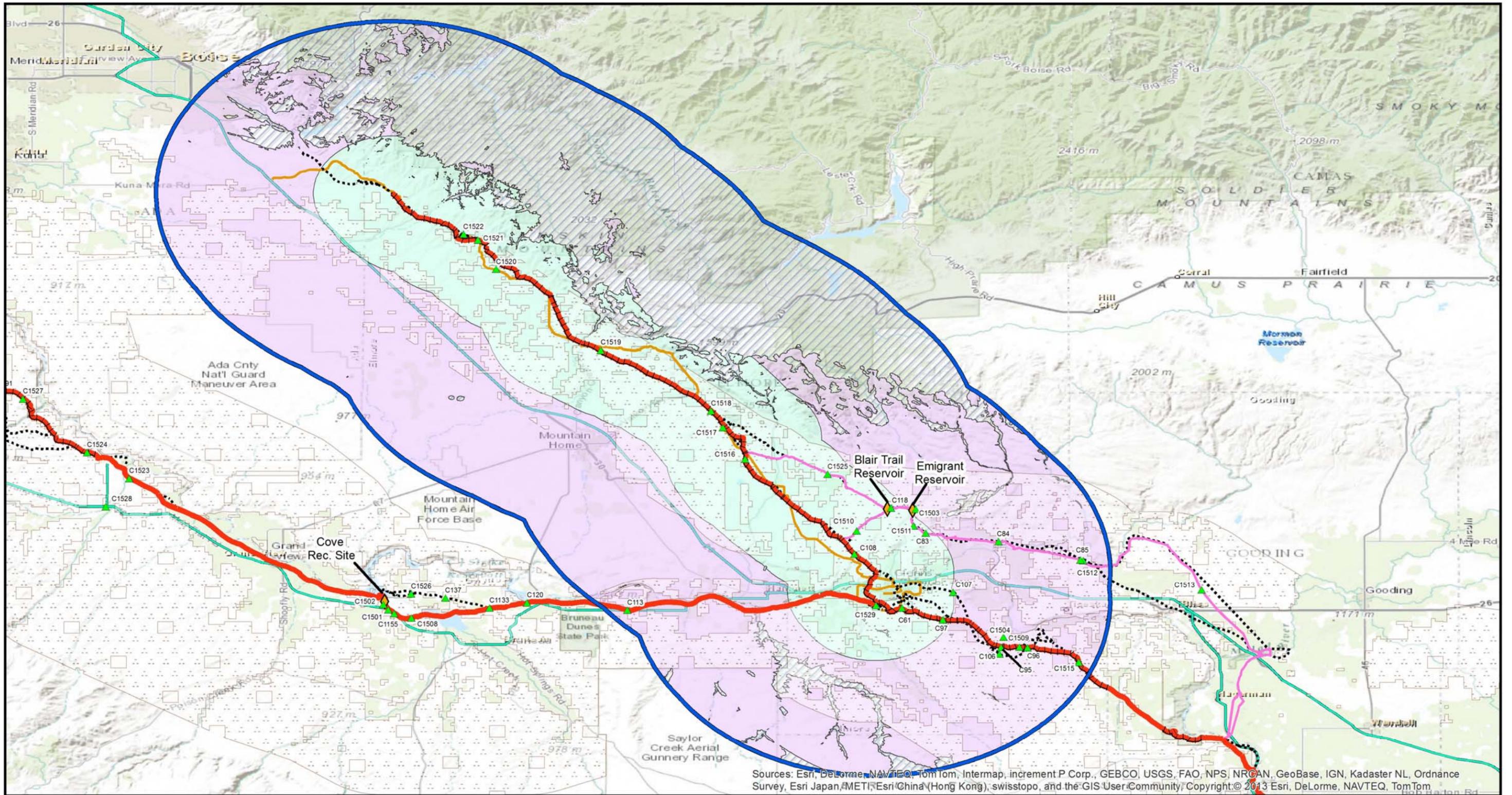
**Attachment A2**  
**Manual 6280 Inventory Maps**

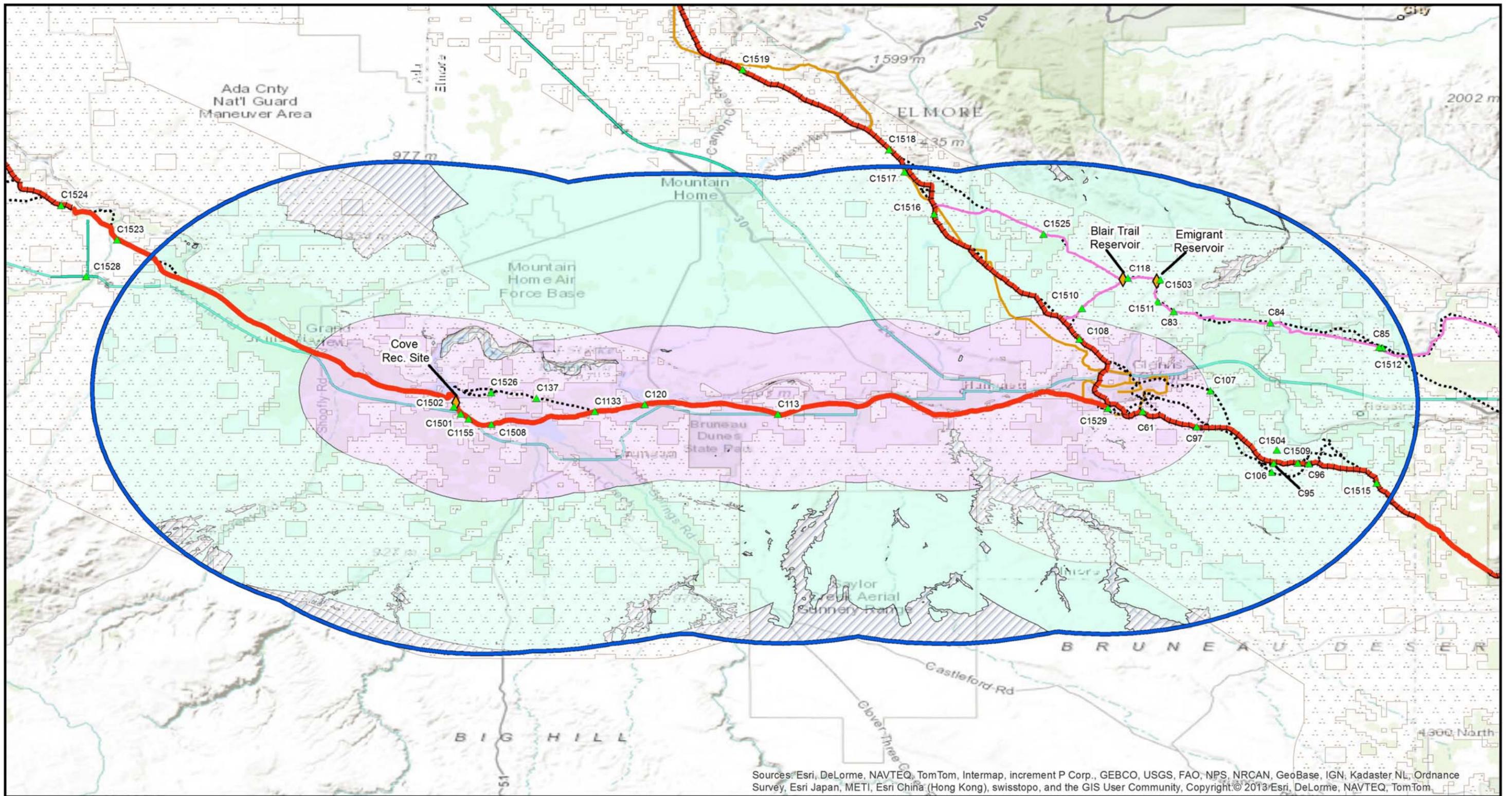


Oregon Trail Features		VRI Distance Zones and Classes	
IOPs/KOPs	HPRSEG	Foreground/Midground 0-5Mi: VRI Class III	Background 5-15Mi: VRI Class IV
AU1	Oregon Trail (NHT <sup>1</sup> )	Seldom Seen/Not in View +15Mi: VRI Class IV	
Substation	North Alternate Study Trail		
BLM Land	Associated Trail Segments (NHT <sup>2</sup> )		
	NPS Auto Tour Route (NHT <sup>3</sup> )		

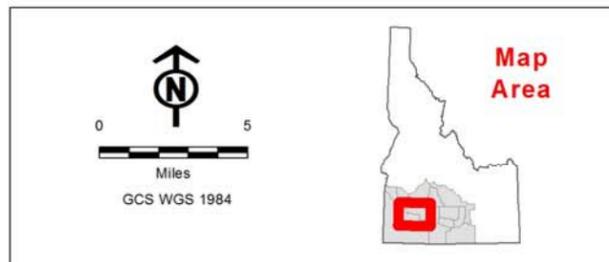
Gateway West  
Transmission Line Project  
Draft Supplemental EIS  
**Inventory Map AU1a**  
Oregon Trail Features, IOPs/KOPs, and VRI  
Figure A2-1







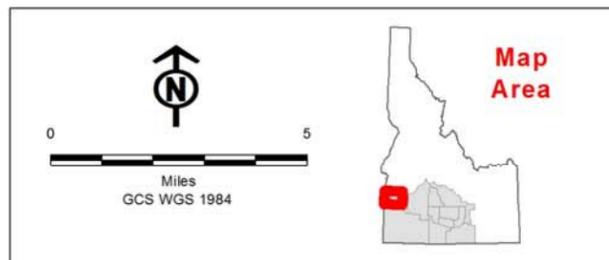
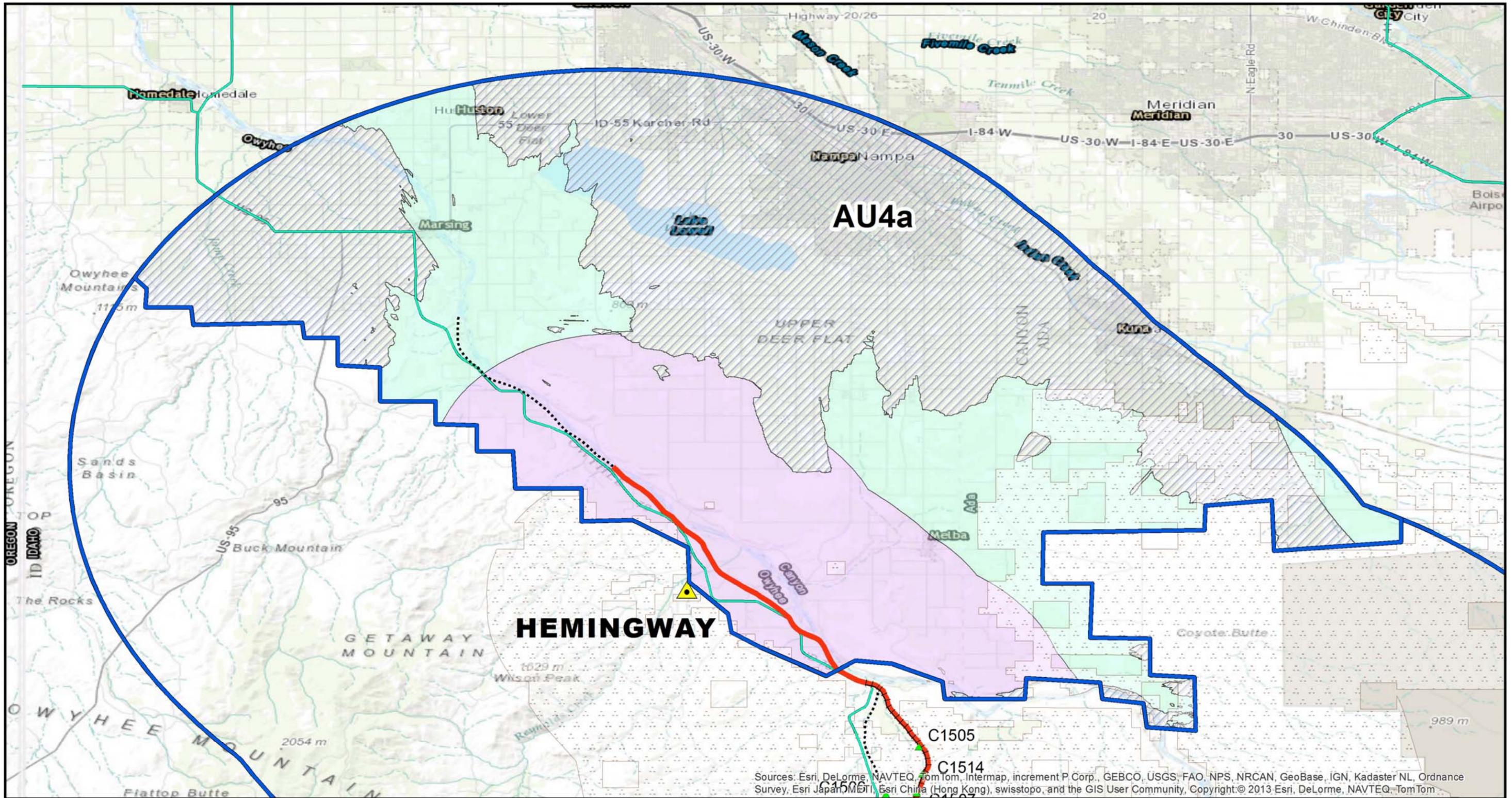
Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community, Copyright © 2013 Esri, DeLorme, NAVTEQ, TomTom.



Oregon Trail Features			
	IOPs/KOPs		HPRSEG
	AU3		Oregon Trail (NHT <sup>1</sup> )
	Substation		North Alternate Study Trail
	BLM Land		Associated Trail Segments (NHT <sup>2</sup> )
			NPS Auto Tour Route (NHT <sup>3</sup> )
			Recreation Sites (NHT <sup>3</sup> )
			Backcountry Byway (NHT <sup>3</sup> )

VRI Distance Zones and Classes	
	Foreground/Midground 0-5Mi: VRI Class II
	Background 5-15Mi: VRI Class II
	Seldom Seen/Not in View +15Mi: VRI Class II

Gateway West  
 Transmission Line Project  
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**Inventory Map AU3**  
**Oregon Trail Features, IOPs/KOPs, and VRI**  
 Figure A2-4

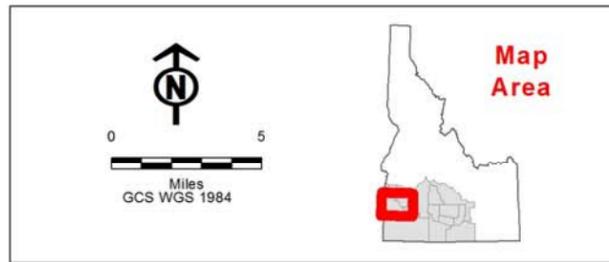
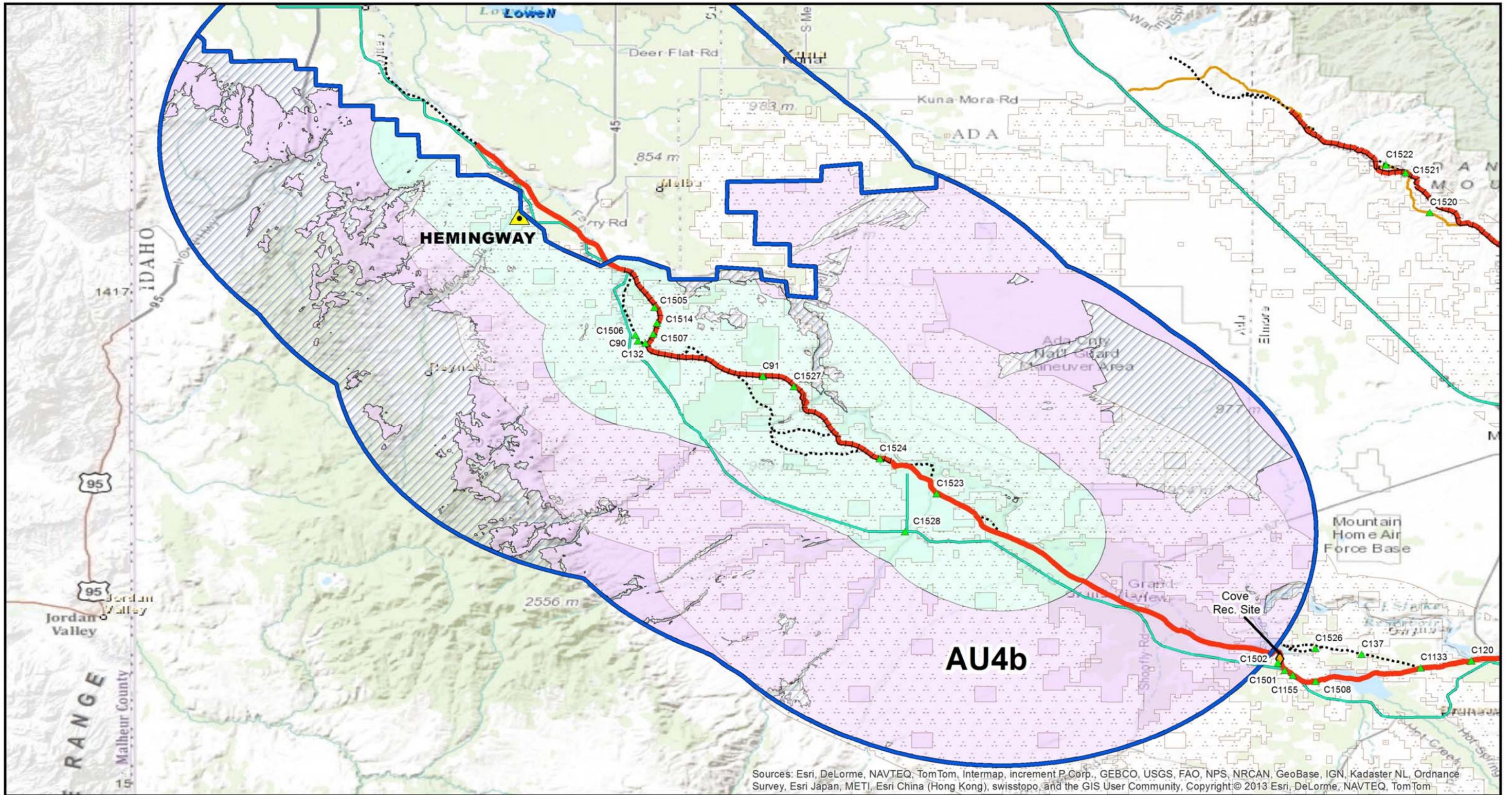


Oregon Trail Features		VRI Distance Zones and Classes	
IOPs/KOPs	HPRSEG	Foreground/Midground 0-5Mi: VRI Class II	Background 5-15Mi: VRI Class III
AU4	Oregon Trail (NHT <sup>1</sup> )	Seldom Seen/Not in View +15Mi: VRI Class III	
Substation	North Alternate Study Trail		
BLM Land	Associated Trail Segments (NHT <sup>2</sup> )		
	NPS Auto Tour Route (NHT <sup>3</sup> )		

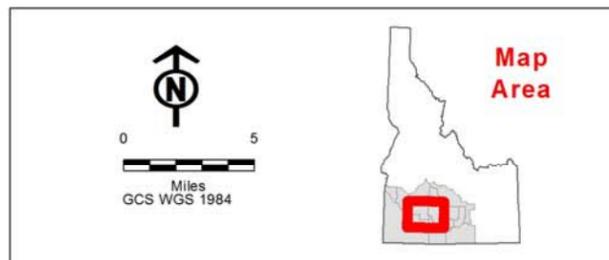
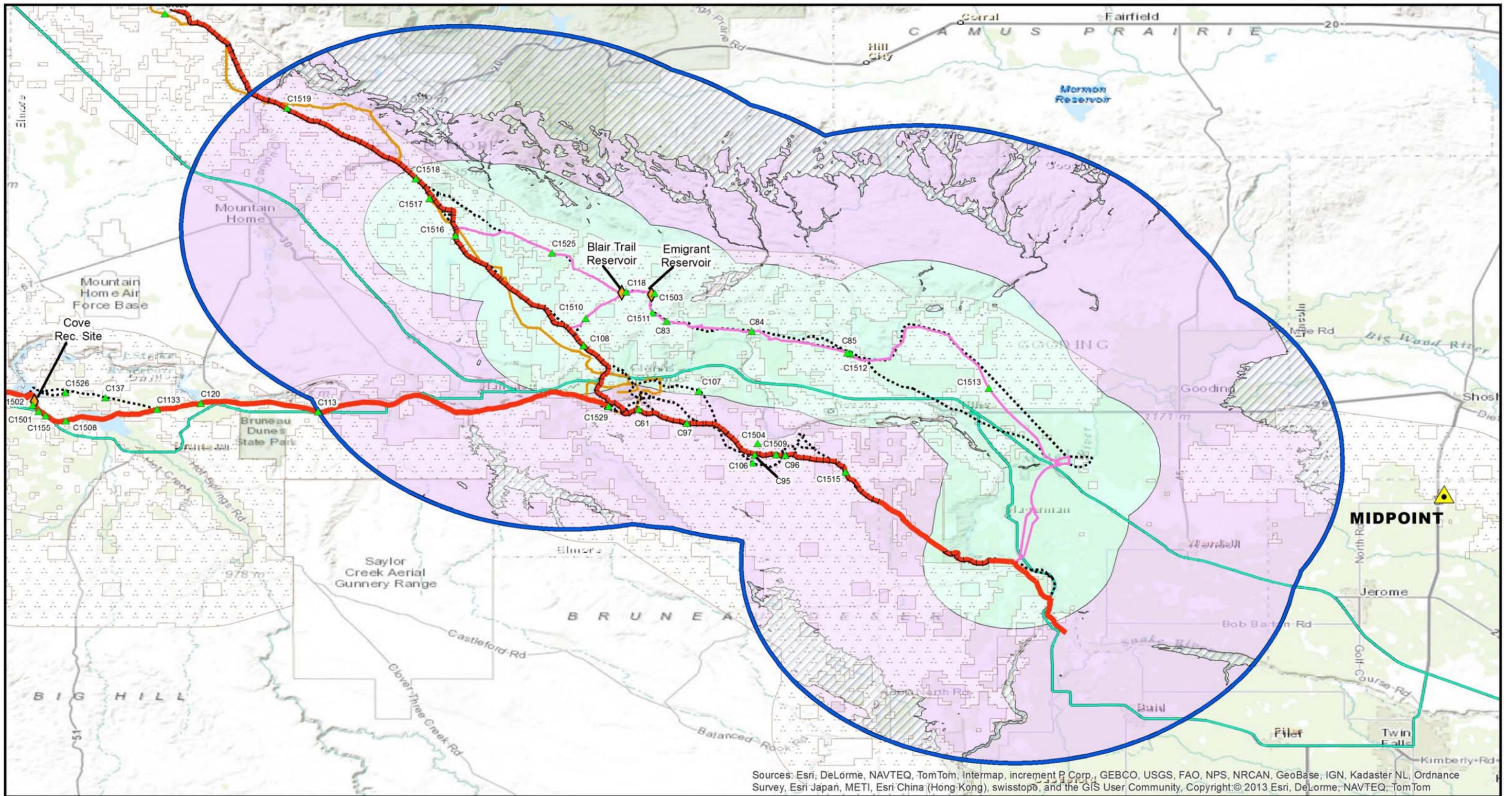


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**Inventory Map AU4a**  
Oregon Trail Features, IOPs/KOPs, and VRI  
Figure A2-5




Gateway West  
Transmission Line Project  
Draft Supplemental EIS  
**Inventory Map AU4b**  
Oregon Trail Features, IOPs/KOPs, and VRI  
Figure A2-6



**Attachment B**  
**IOP-KOP Photographic Overviews**

## **ATTACHMENT B. PHOTOGRAPHS OF OREGON TRAIL KOPS**

### **Analysis Unit 1: Oregon NHT (Primary Route)**

#### **KOP C106**



**Figure 1. Oregon National Historic Trail KOP C106, Trail Marker near Bell Rapids Road, facing northeast.**

## KOP C107



Figure 2. Oregon National Historic Trail KOP C107, Kelton Road Marker, facing southwest.

## KOP C108



Figure 3. Oregon National Historic Trail KOP C108, Trail Marker off Bennett Mountain Road, facing west.

## KOP C61



Figure 4. Oregon National Historic Trail KOP C61, Swale, facing southwest.

## KOP C95



Figure 5. Oregon National Historic Trail KOP C95, West Deer Creek Gulch, facing east-southeast.

## KOP C96



Figure 6. Oregon National Historic Trail KOP C96, Portion of trail that coincides with Kelton Road, facing east.

## KOP C97



Figure 7. Oregon National Historic Trail, KOP C97, Rosevear Gulch area, facing west.

## KOP C1504



Figure 8. Oregon Trail KOP C1504 (GW 380-1), alternate trail segment identified on USGS map, facing southwest.

## KOP C1509



Figure 9. Oregon National Historic Trail KOP C1509, Segment 8A Trail Crossing, facing south-southeast.

## **KOP C1515**



**Figure 10. Oregon National Historic Trail KOP C1515, Segment 8G trail crossing, facing west.**

## **Analysis Unit 2: Oregon NHT (North Trail Primary Route)**

### **KOP C108**



**Figure 11. Oregon National Historic Trail North Route KOP C108, Marker off Bennett Mountain Road, facing west.**

## KOP C1516



Figure 12. Oregon National Historic Trail North Route KOP C1516, Alkali Springs historic camping area, facing east-southeast

## KOP C1517



Figure 13. Oregon National Historic Trail North Route KOP C1517, Kelton Road – Hot Springs Creek, facing east.

## KOP C1518



Figure 14. Oregon National Historic Trail North Route KOP C1518, Kelton Road parallels Oregon Trail segment, facing east.

## KOP C1519



Figure 15. Oregon National Historic Trail North Route KOP C1519, Rocky Road Hiking Area and Trail Ruts, facing east.

## KOP C1520



Figure 16. Oregon National Historic Trail North Route KOP C1520, Interpretive sign and visible ruts, facing east..

## KOP C1521



Figure 17. Oregon National Historic Trail North Route KOP C1521, Main Oregon Trail Backcountry Byway route parallels ONHT, facing southwest.

**KOP C1522**



**Figure 18. Oregon National Historic Trail North Route KOP C1522, Inscription Point facing east.**

**Analysis Unit 3: Oregon NHT (South Alternate) – C.J. Strike Area  
KOP C120**



**Figure 19. Oregon National Historic Trail South Alternate KOP C120, Swale near Snake River lobe of C.J. Strike Reservoir, facing northeast.**

## KOP C113



Figure 20. Oregon National Historic Trail South Alternate KOP C113, swale and ruts, facing east.

## KOP C1501



Figure 21. Oregon National Historic Trail South Alternate KOP C1501, C.J. Strike Ruts, facing west.

## KOP C1502



Figure 22. Oregon National Historic Trail South Alternate KOP C1502, Cove at C.J. Strike Reservoir, facing west.

## KOP C1133



Figure 23. Oregon National Historic Trail South Alternate KOP C1133, Crane Falls Road, facing west.

## KOP C1155



Figure 24. Oregon National Historic Trail South Alternate KOP C1155, Entrance to Cove Recreation Site, facing northwest.

## KOP C137



Figure 25. Oregon National Historic Trail South Alternate KOP C137, Segment 9 Trail Crossing at Tindall Road, facing west.

## KOP C1508



Figure 26. Oregon National Historic Trail South Alternate KOP C1508, Segment 9D Trail Crossing near C.J. Strike Reservoir, facing northeast.

## KOP C1526



Figure 27. Oregon National Historic Trail South Alternate KOP C1526, north side of C.J. Strike Reservoir near Segment 9, facing east.

## Analysis Unit 4: Oregon NHT (South Alternate – Sinker Creek Segment) KOP C90



Figure 28. Oregon National Historic Trail South Alternative KOP C90, Trail Marker within Snake River Birds of Prey area

## KOP C91



Figure 29. Oregon National Historic Trail South Alternate KOP C91, Sinkers Butte Area, facing northeast.

## KOP C132



Figure 30. Oregon National Historic Trail South Alternate KOP C132, Segment 9 trail crossing, facing west.

## KOP C1505



Figure 31. Oregon National Historic Trail South Alternate KOP C1505, Trail Marker at Segment 8 trail crossing, facing northwest.

## KOP C1506



Figure 32. Oregon National Historic Trail South Alternative KOP C1506, Segment 9D trail crossing, facing east.

## KOP C1507



Figure 33. Oregon National Historic Trail South Alternative KOP C1507, near Sinker Creek at Segment 9G trail crossing, facing northwest.

## KOP C1514



Figure 34. Oregon National Historic Trail South Alternative KOP C1514, Segment 9 trail crossing, facing west.

## KOP C1523



Figure 35. Oregon National Historic Trail South Alternate KOP C1523, Castle Butte, facing north-northwest.

## KOP C1524



Figure 36. Oregon National Historic Trail South Alternate KOP C1524, Wild Horse Butte, facing west.

## KOP C1527



Figure 37. Oregon National Historic Trail South Alternate KOP C1527, Sinker Creek Butte, facing northwest.

## KOP C1528

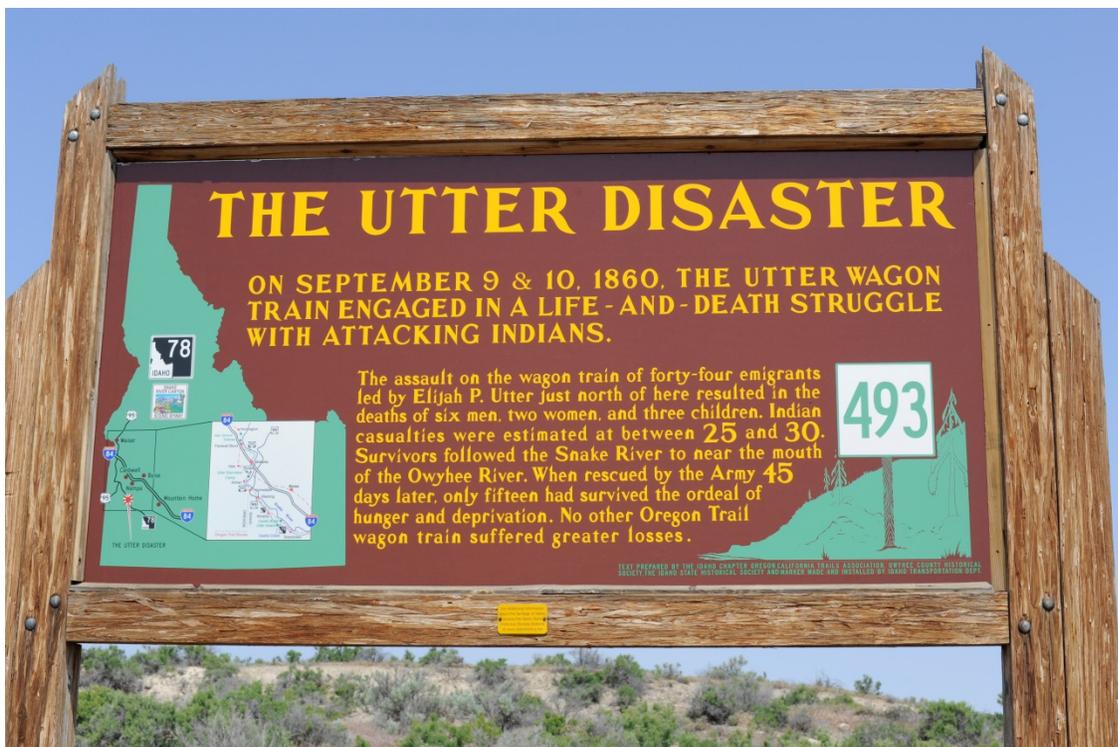


Figure 38. Oregon National Historic Trail Auto Tour Route (Hwy 78) KOP C1528, Utter Disaster Interpretive Panel, facing north.

## **Analysis Unit 5: Oregon Trail North Alternate Study Trail KOP C118**



**Figure 39. Oregon Trail North Alternate Study Trail KOP C118, south side of Blair Trail Reservoir, facing east.**

## KOP C83



Figure 40. Oregon Trail North Alternate Study Trail KOP C83, Canyon Creek near Stage Station, facing north-northeast.

## KOP C84



Figure 41. Oregon Trail North Alternate Study Trail KOP C84, King Hill, facing west.

## KOP C85



Figure 42. Oregon Trail North Alternate Study Trail KOP C85, Pioneer Reservoir, facing north.

## KOP C1503



Figure 43. Oregon Trail North Alternate Study Trail KOP C1503, near Emigrant Reservoir, facing east.

## KOP C1510



Figure 44. Oregon Trail North Alternate Study Trail KOP C1510, Segment 8A trail crossing, facing south.

## KOP C1511



Figure 45. Oregon Trail North Alternate Study Trail KOP C1511, Segment 8 trail crossing, facing south.

## KOP C1512



Figure 46. Oregon Trail North Alternate Study Trail KOP C1512, Segment 8 trail crossing near Pioneer Reservoir, facing southeast.

## KOP C1513



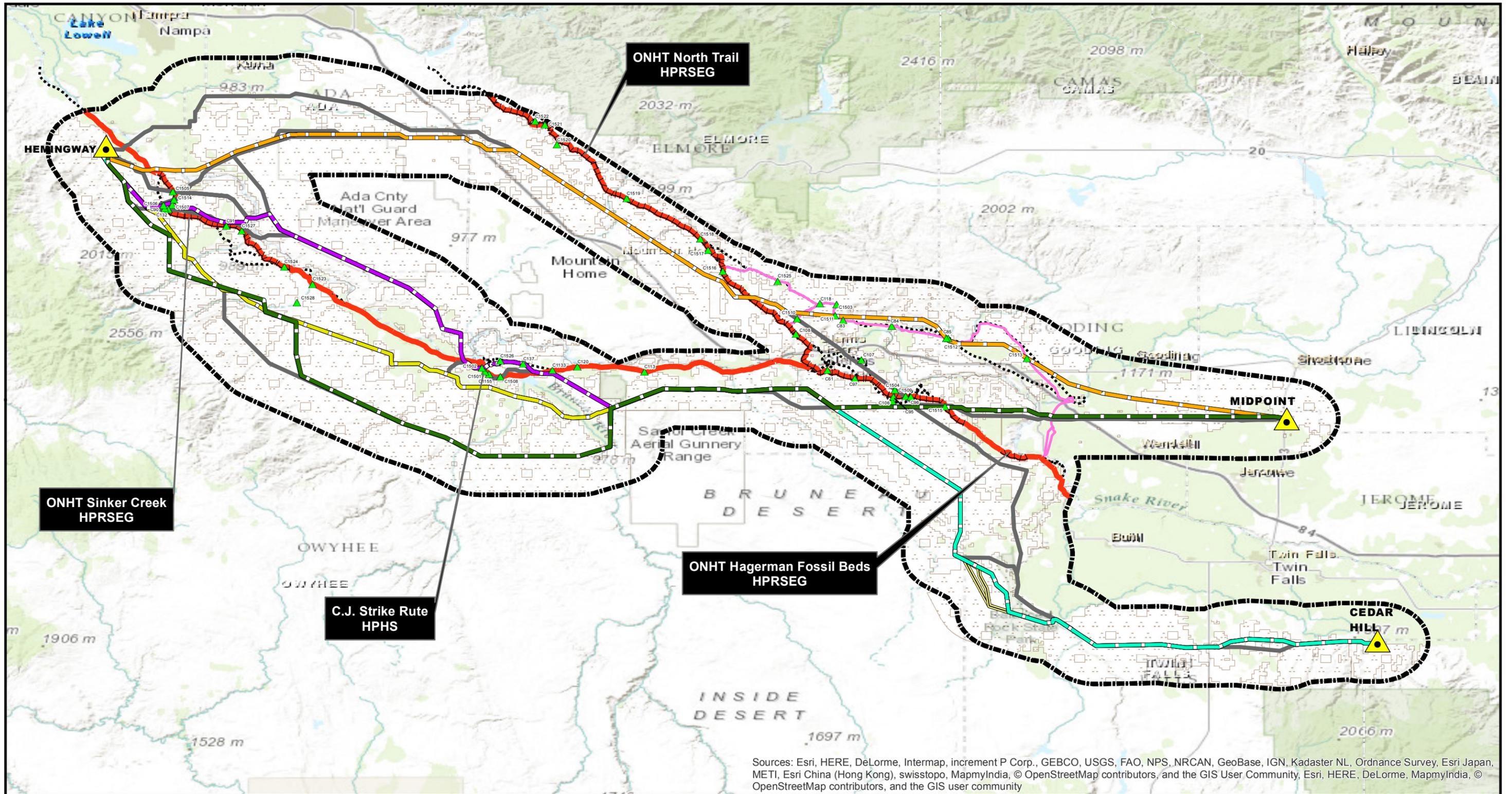
Figure 47. Oregon Trail North Alternate Study Trail KOP C1513, Segment 8 trail crossing, facing northwest.

## **KOP C1525**

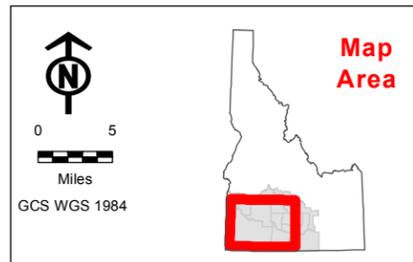


**Figure 48. Oregon Trail North Alternate Study Trail KOP C1525, segment between Bennett Creek and Cold Springs, facing north.**

**Attachment C**  
**Impact Maps**



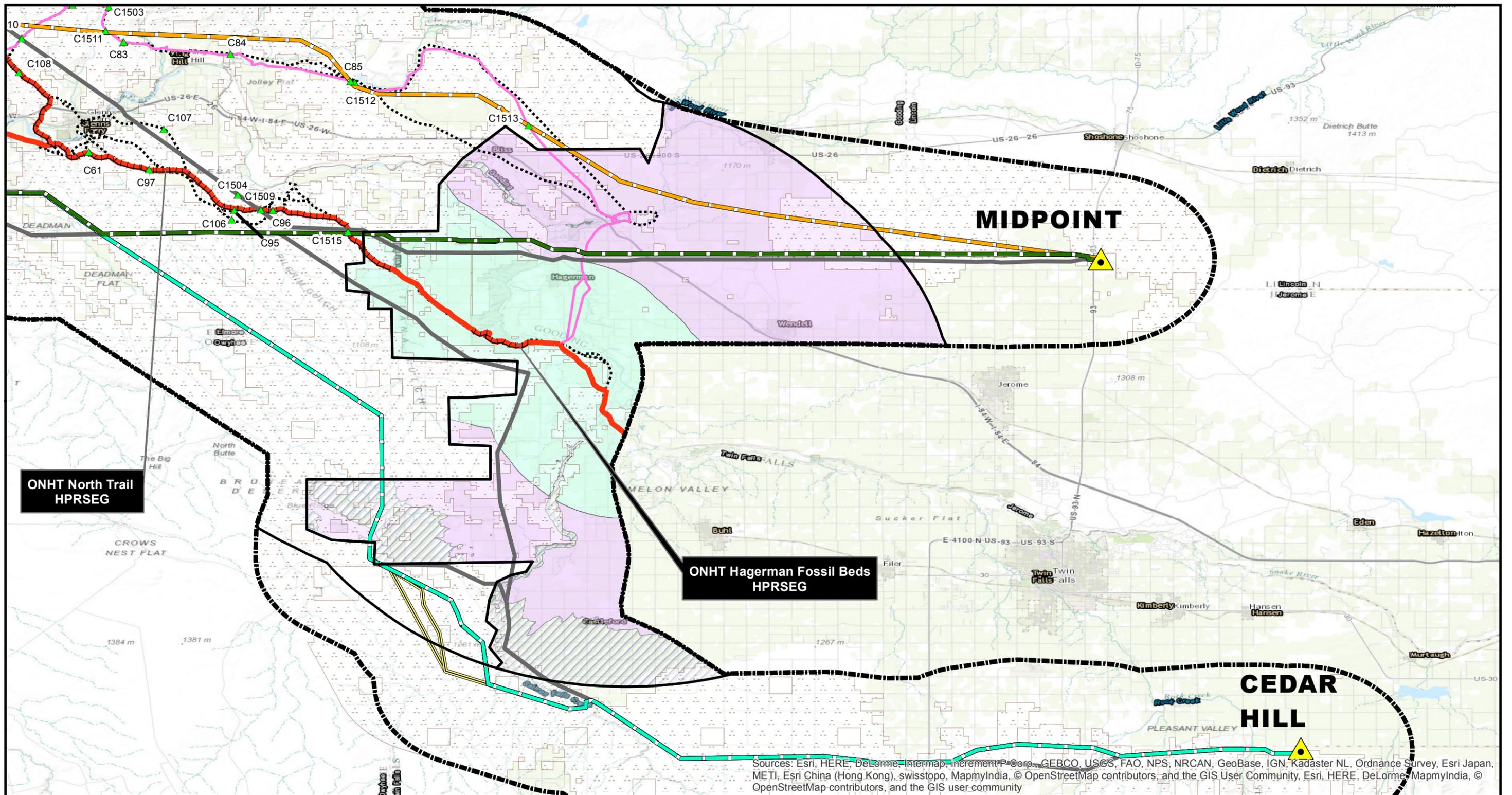
Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community



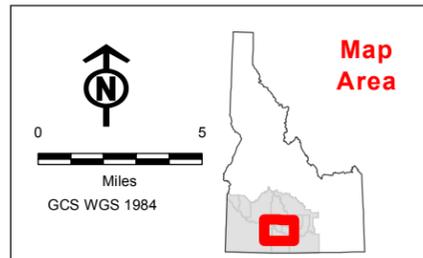
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	HPRSEG	▲	KOPs
—	Oregon Trail (NHT <sup>1</sup> )	▭	APAI Boundary
—	North Alternate Study Trail	▭	BLM Land
.....	Associated Trail Segments (NHT <sup>2</sup> )	▲	Substation
		▭	Alternative 8G
		▭	Alternative 9K
		▭	Segment 8 Rev. Prop. Rte.
		▭	Segment 9 Rev. Prop. Rte.
		▭	FEIS Proposed Route 9
		▭	Route 8H
		▭	Other 2013 FEIS Routes
		▭	Toana Road Variations



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OR TR. Feats., KOPs, Project Feats., and VRI  
Figure C-1



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community



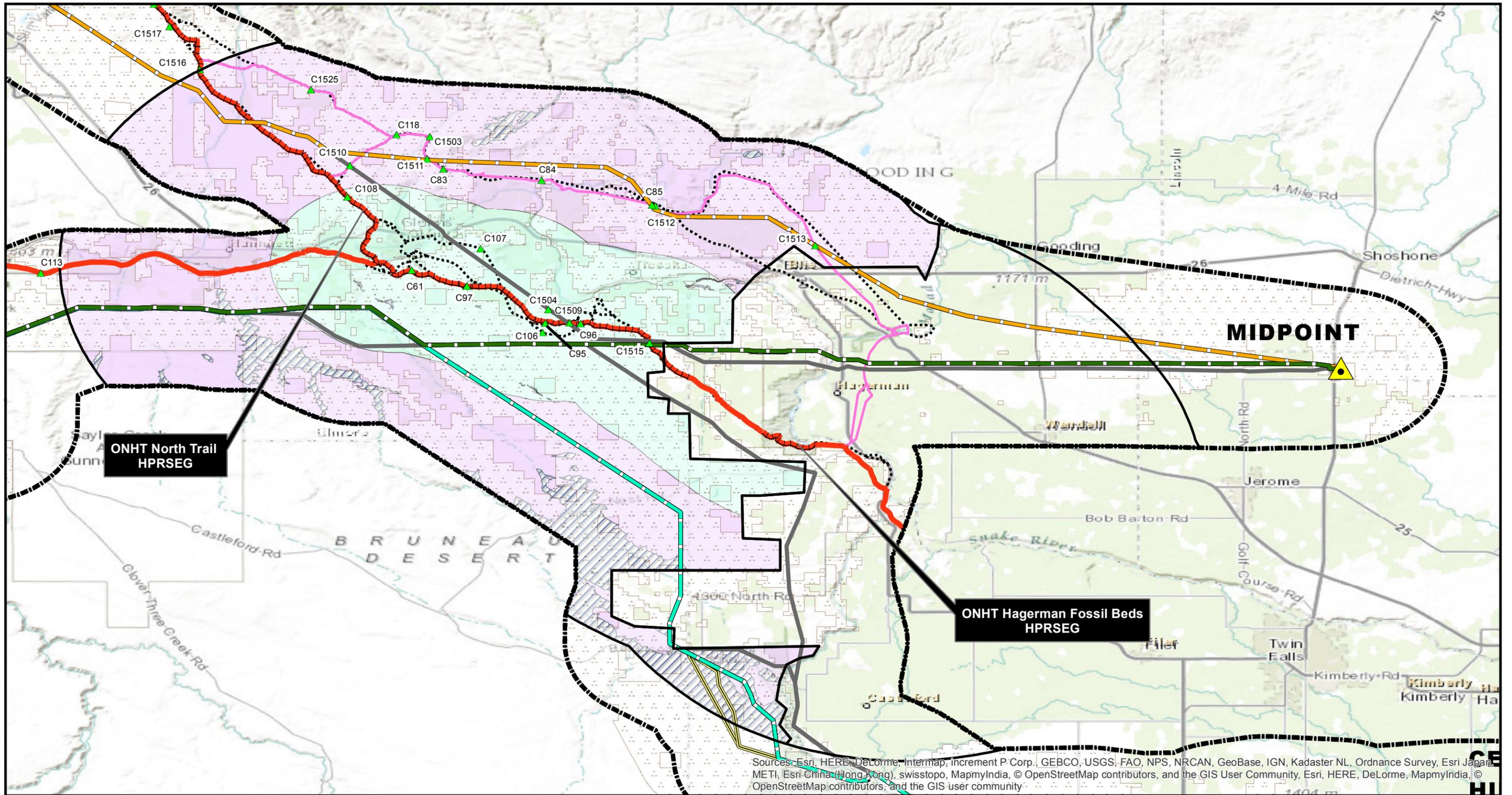
Oregon Trail Features	
	HPRSEG
—	Oregon Trail (NHT <sup>1</sup> )
—	North Alternate Study Trail
.....	Associated Trail Segments (NHT <sup>2</sup> )
□	AU1
▲	KOPs
□	APAI Boundary
□	BLM Land
▲	Substation

Project Features	
—	Alternative 8G
—	Alternative 9K
—	Segment 8 Rev. Prop. Rte.
—	Segment 9 Rev. Prop. Rte.
—	FEIS Proposed Route 9
—	Route 8H
—	Other 2013 FEIS Routes
—	Toana Road Variations

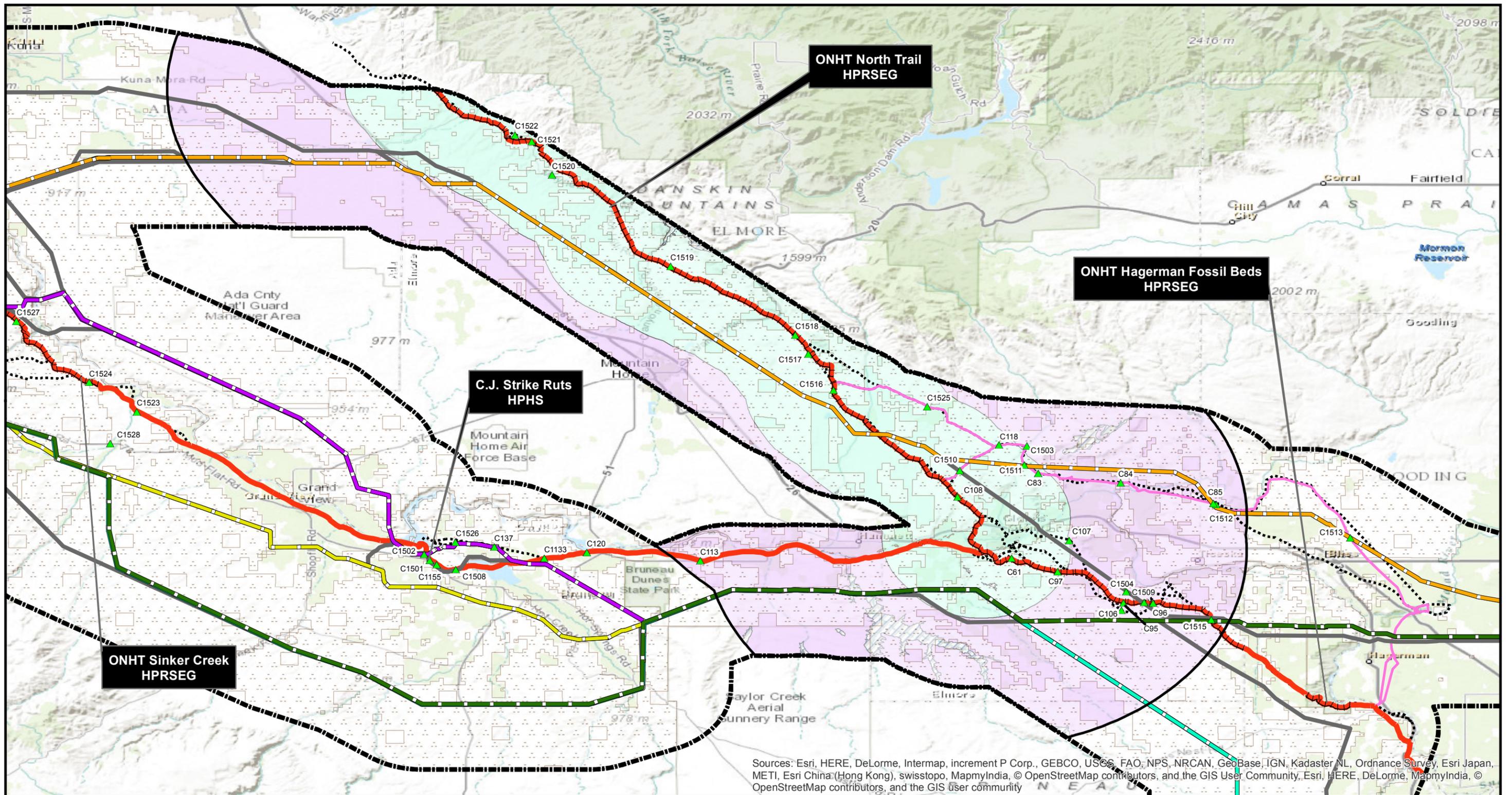
VRI Distance Zones and Classes	
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□	Background 5-15Mi: VRI Class IV
□	Seldom Seen/Not in View +15Mi: VRI Class IV



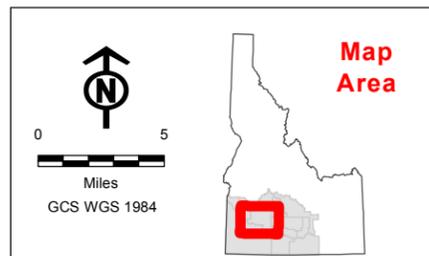
Gateway West  
 Transmission Line Project  
 Draft Supplemental EIS  
**Impacts Map AU1a**  
**OR TR. Feats., KOPs, Project Feats., and VRI**  
 Figure C-2



<p>Map Area</p>	<p><b>Oregon Trail Features</b></p> <ul style="list-style-type: none"> <li>----- HPRSEG</li> <li>— Oregon Trail (NHT<sup>1</sup>)</li> <li>— North Alternate Study Trail</li> <li>..... Associated Trail Segments (NHT<sup>2</sup>)</li> </ul>	<ul style="list-style-type: none"> <li>□ AU1</li> <li>▲ KOPs</li> <li>▭ APAI Boundary</li> <li>□ BLM Land</li> <li>▲ Substation</li> </ul>	<p><b>Project Features</b></p> <ul style="list-style-type: none"> <li>— Alternative 8G</li> <li>— Alternative 9K</li> <li>— Segment 8 Rev. Prop. Rte.</li> <li>— Segment 9 Rev. Prop. Rte.</li> <li>— FEIS Proposed Route 9</li> <li>— Route 8H</li> <li>— Other 2013 FEIS Routes</li> <li>— Toana Road Variations</li> </ul>	<p><b>VRI Distance Zones and Classes</b></p> <ul style="list-style-type: none"> <li>— Foreground/Middleground 0-5Mi: VRI Class II</li> <li>— Background 5-15Mi: VRI Class III</li> <li>— Seldom Seen/Not in View +15Mi: VRI Class III</li> </ul>	<p>Gateway West Transmission Line Project Draft Supplemental EIS <b>Impacts Map AU1b</b> OR TR. Feats., KOPs, Project Feats., and VRI Figure C-3</p>
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Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

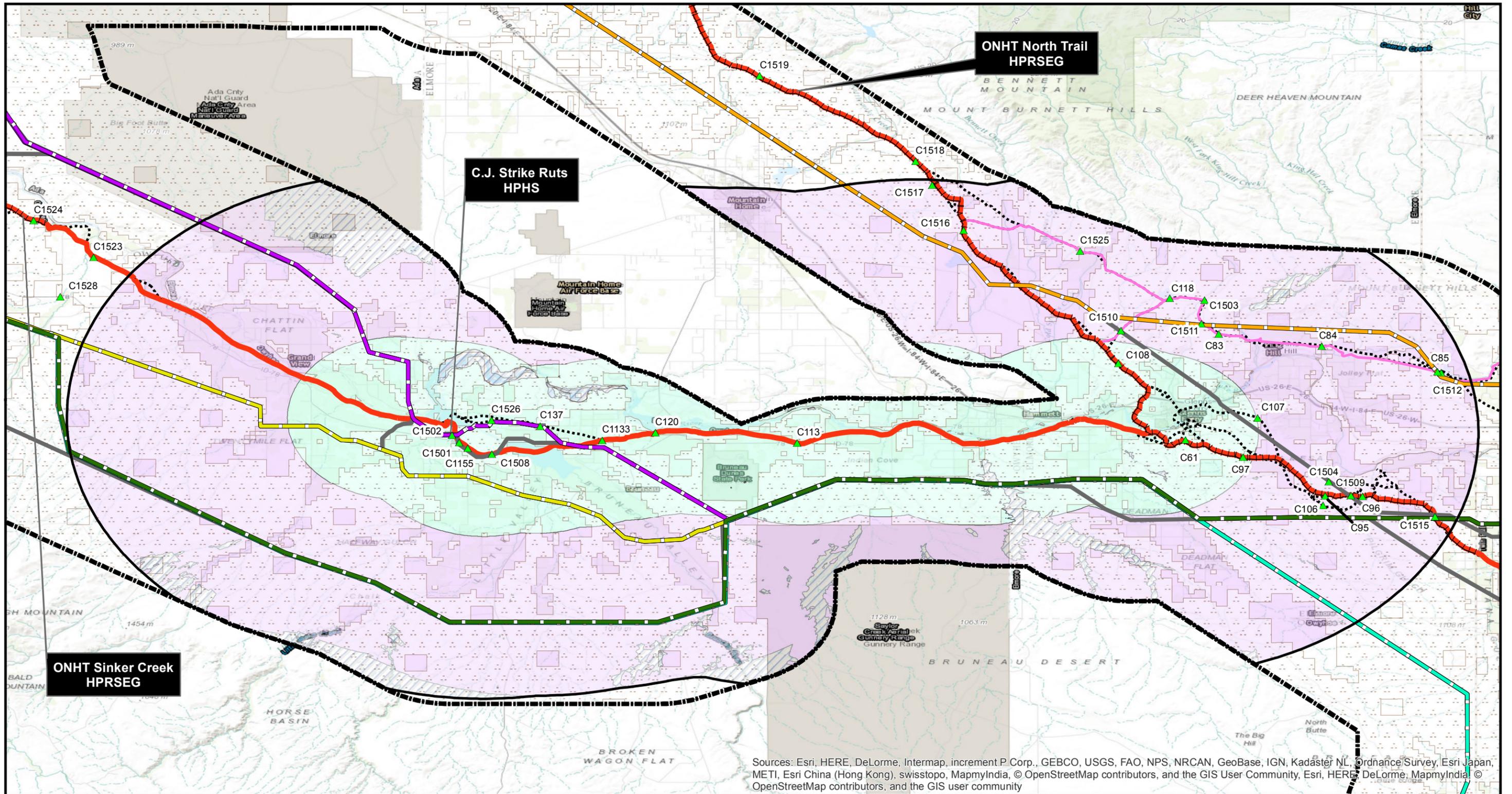


Oregon Trail Features	
-----	HPRSEG
—	Oregon Trail (NHT <sup>1</sup> )
—	North Alternate Study Trail
.....	Associated Trail Segments (NHT <sup>2</sup> )
□	AU2
▲	KOPs
⬭	APAI Boundary
⬭	BLM Land
▲	Substation

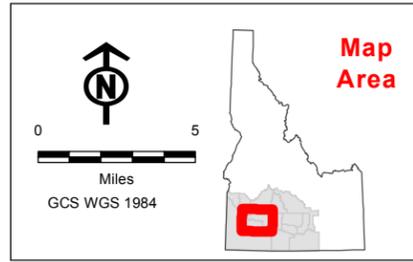
Project Features	
—	Alternative 8G
—	Alternative 9K
—	Segment 8 Rev. Prop. Rte.
—	Segment 9 Rev. Prop. Rte.
—	FEIS Proposed Route 9
—	Route 8H
—	Other 2013 FEIS Routes
—	Toana Road Variations

VRI Distance Zones and Classes	
□	Foreground/Midleground 0-5Mi: VRI Class III
□	Background 5-15Mi: VRI Class IV
□	Seldom Seen/Not in View +15Mi: VRI Class IV


  
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**Impacts Map AU2**  
**OR TR. Feats., KOPs, Project Feats., and VRI**  
 Figure C-4



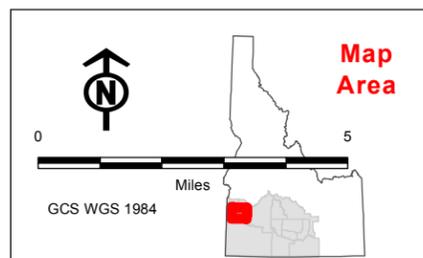
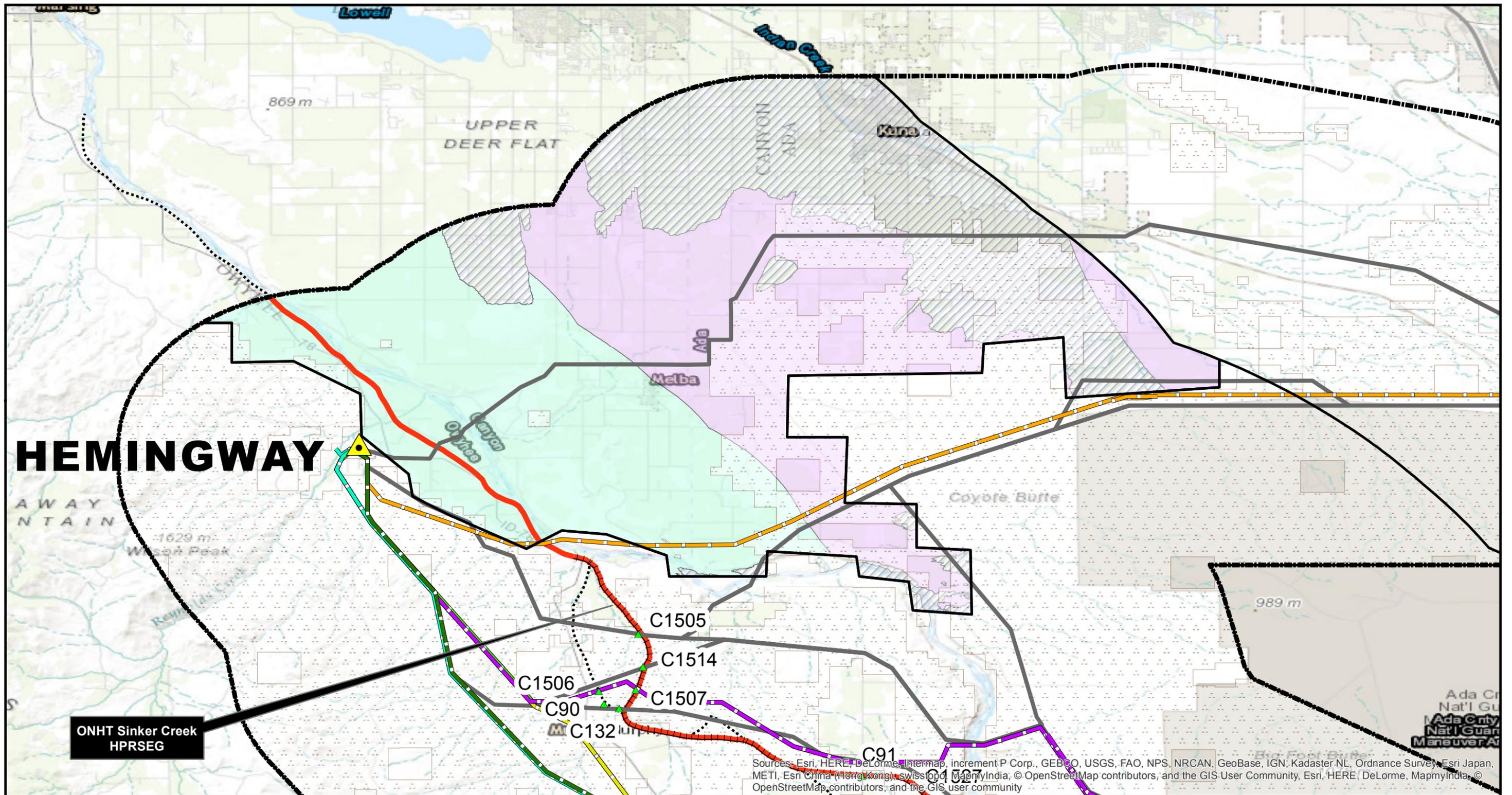
Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community



Oregon Trail Features		Project Features		VRI Distance Zones and Classes	
	HPRSEG		Alternative 8G		Foreground/Middleground 0-5Mi: VRI Class II
	Oregon Trail (NHT <sup>1</sup> )		Alternative 9K		Background 5-15Mi: VRI Class II
	North Alternate Study Trail		Segment 8 Rev. Prop. Rte.		Seldom Seen/Not in View +15Mi: VRI Class II
	Associated Trail Segments (NHT <sup>2</sup> )		Segment 9 Rev. Prop. Rte.		
	APAI Boundary		FEIS Proposed Route 9		
	BLM Land		Route 8H		
	Substation		Other 2013 FEIS Routes		
	AU3		Toana Road Variations		
	KOPs				



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**Impacts Map AU3**  
**OR TR. Feats., KOPs, Project Feats., and VRI**  
Figure C-5



**Oregon Trail Features**

HPRSEG	□ AU4
— Oregon Trail (NHT <sup>1</sup> )	▲ KOPs
— North Alternate Study Trail	⬢ APAI Boundary
⋯ Associated Trail Segments (NHT <sup>2</sup> )	⬢ BLM Land
	▲ Substation

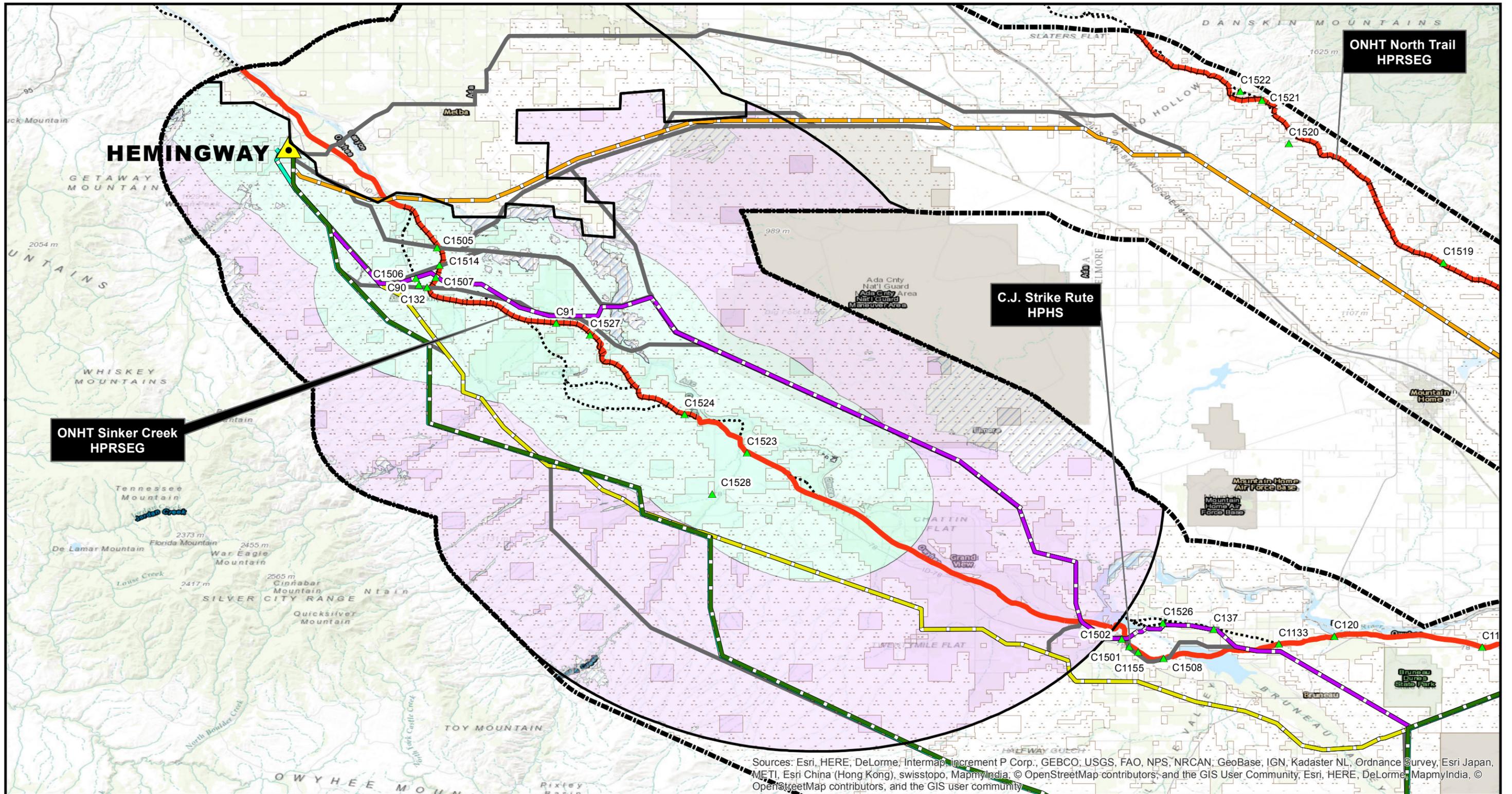
**Project Features**

— Alternative 8G	— FEIS Proposed Route 9
— Alternative 9K	— Route 8H
— Segment 8 Rev. Prop. Rte.	— Other 2013 FEIS Routes
— Segment 9 Rev. Prop. Rte.	— Toana Road Variations

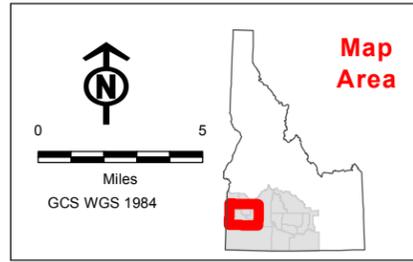
**VRI Distance Zones and Classes**

— Foreground/Midground 0-5Mi: VRI Class II
— Background 5-15Mi: VRI Class III
— Seldom Seen/Not in View +15Mi: VRI Class III

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**Impacts Map AU4a**  
**OR TR. Feats., KOPs, Project Feats., and VRI**  
Figure C-6



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community



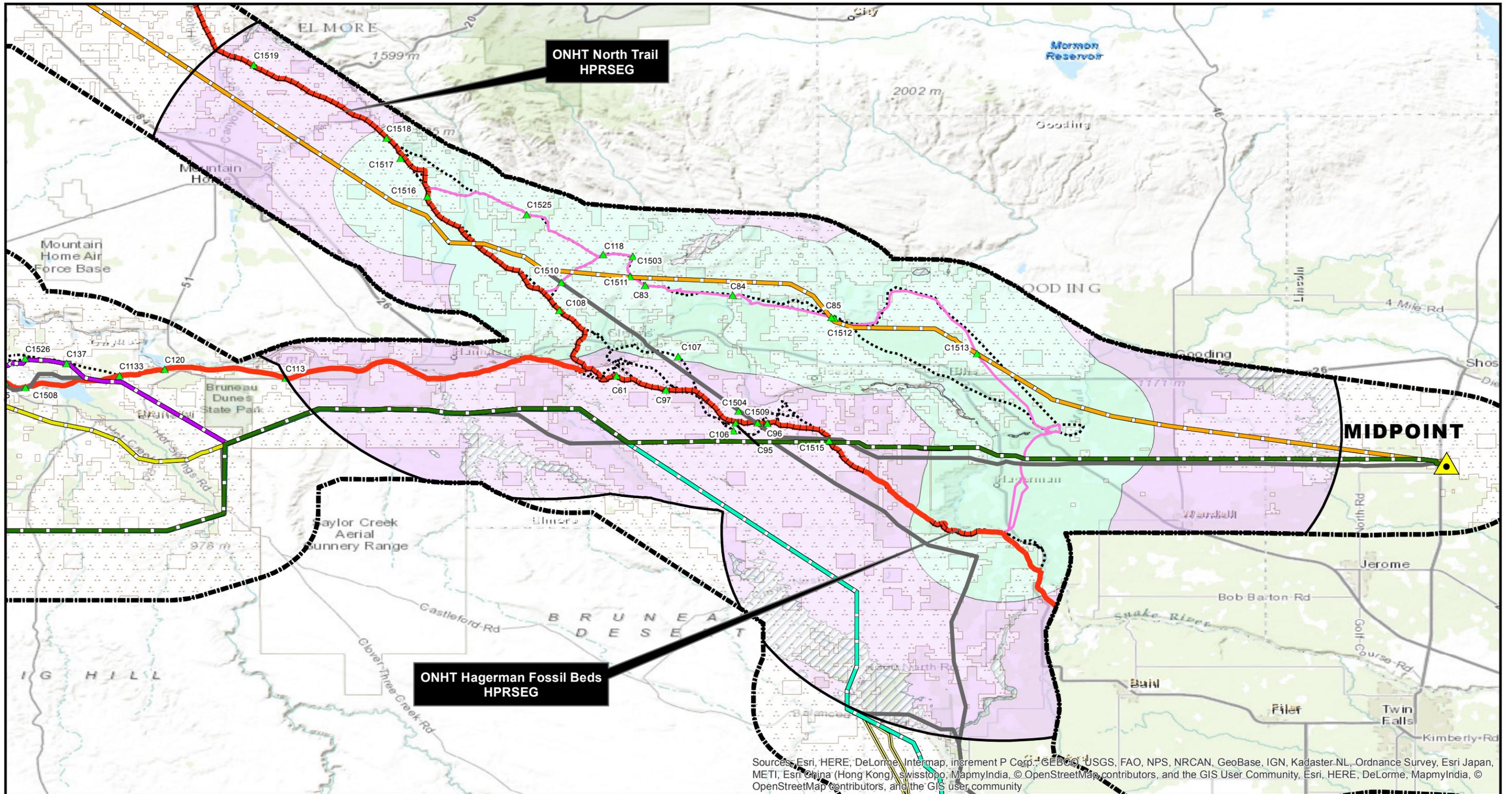
Oregon Trail Features	
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—	Oregon Trail (NHT <sup>1</sup> )
—	North Alternate Study Trail
.....	Associated Trail Segments (NHT <sup>2</sup> )
□	AU4
▲	KOPs
⬭	APAI Boundary
□	BLM Land
▲	Substation

Project Features	
—	Alternative 8G
—	Alternative 9K
—	Segment 8 Rev. Prop. Rte.
—	Segment 9 Rev. Prop. Rte.
—	FEIS Proposed Route 9
—	Route 8H
—	Other 2013 FEIS Routes
—	Toana Road Variations

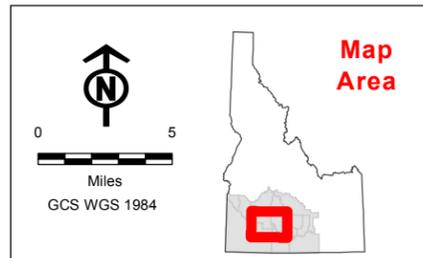
VRI Distance Zones and Classes	
□	Foreground/Midleground 0-5Mi: VRI Class II
□	Background 5-15Mi: VRI Class II
□	Seldom Seen/Not in View +15Mi: VRI Class II



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**Impacts Map AU4b**  
**OR TR. Feats., KOPs, Project Feats., and VRI**  
Figure C-7



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster.NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community



Oregon Trail Features	
	HPRSEG
—	Oregon Trail (NHT <sup>1</sup> )
—	North Alternate Study Trail
.....	Associated Trail Segments (NHT <sup>2</sup> )
□	AU5
▲	KOPs
⬭	APAI Boundary
⬭	BLM Land
▲	Substation

Project Features	
—	Alternative 8G
—	Alternative 9K
—	Segment 8 Rev. Prop. Rte.
—	Segment 9 Rev. Prop. Rte.
—	FEIS Proposed Route 9
—	Route 8H
—	Other 2013 FEIS Routes
—	Toana Road Variations

VRI Distance Zones and Classes	
□	Foreground/Midground 0-5Mi: VRI Class III
□	Background 5-15Mi: VRI Class IV
□	Seldom Seen/Not in View +15Mi: VRI Class IV

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**Impacts Map AU5**  
**OR TR. Feats., KOPs, Project Feats., and VRI**  
 Figure C-8