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# Chapter Three

The Environment: What Is There Now, Project Effects, Commitments and Mitigation

## Environmental Assessment

US Highway 12: Frenchtown Vicinity to Walla Walla

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### How Does an Environmental Assessment Analyze Effects to Social, Economic, and Environmental Resources?

The National Environmental Policy Act (NEPA) and the State Environmental Policy Act (SEPA) require an evaluation of a project's potential positive and negative effects to a number of social, economic, and environmental resources. Typically, an *Environmental Assessment* (EA) first analyzes the existing condition for a resource (known as the resource's baseline condition) and then compares that to the expected condition that would result from constructing a project. When appropriate, the extent of these effects is quantified so measures can be taken to avoid, minimize, or mitigate for any negative effects to the resource.

### To What Degree Were Social, Economic, and Environmental Resources Analyzed?

The level of analysis for each resource within this EA is proportional to the expected effect that the preferred alternative would have on that resource. For example, technical memoranda have been prepared when potential effects were considered minor. When the potential effects to a resource were more substantial or unknown, then a detailed technical discipline report was prepared.

The technical memoranda and discipline reports in support of this Environmental Assessment have been prepared consistent with the WSDOT *Environmental Procedures Manual* (EPM) and **Federal Highway Administration Technical Advisory (T 6640.8A)**. The level of analysis completed for each resource is listed below. The abbreviation DR designates Discipline Report, and the abbreviation TM stands for Technical Memorandum.

- Geology and Soils – DR
- Air Quality – TM
- Water Resources – DR
- Natural Environment – DR
- Wetland/Biology – DR
- Noise – DR
- Hazardous Materials – DR
- Land Use – DR
- Farmlands – TM
- Public Lands – TM
- Historic, Cultural, and Archaeological Resources – DR
- Economic Resources – DR
- Environmental Justice – TM
- Visual Resources – DR
- Transportation – DR
- Public Services and Utilities – TM

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**How Does the Federal Highway Administration’s Technical Advisory T 6640.8A Relate to the Level of Analysis within This EA?**

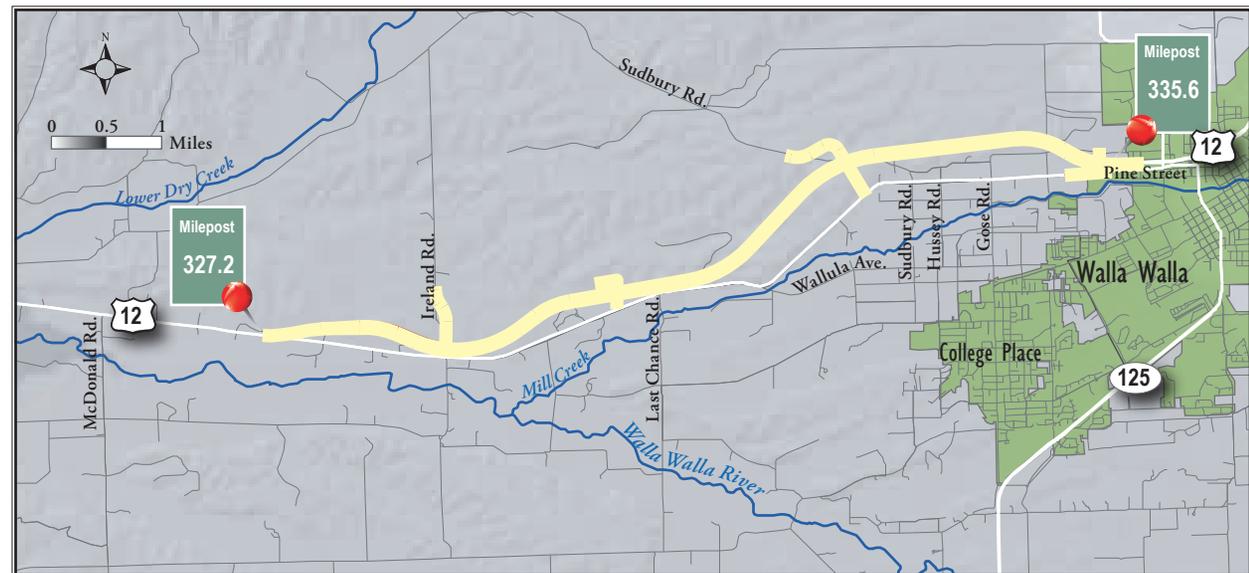
*Technical Advisory T6640.8A reminds us that the goal of the NEPA process is better decisions, not more documentation. Environmental documents should be concise, clear, and to the point. They should focus on the important impacts and issues with the less important areas only briefly discussed.*

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## For What Area Were Social, Economic, and Environmental Resources Analyzed?

In order to assess potential effects to social, economic, and environmental resources that would result from constructing the preferred alternative, the WSDOT developed a 1,000-foot wide study corridor centered on the median strip of the preferred alternative (Exhibit 3-1). Analyzing resources within this larger corridor allowed the proposed alternative to be shifted several hundred feet in various directions to avoid or minimize negative effects to these resources.

Exhibit 3-1. Map showing the study corridor for the proposed US Highway 12 under the preferred alternative.



## Which Resources Would Not Be Affected by the Preferred Alternative?

Results from of the analysis of social, economic, and environmental resources show that the following resources either are not present within the project area or would not be affected by the proposed project.

### Coastal Areas and Shorelines

There are no Coastal Areas or Shorelines within the study corridor that would be affected by the proposed project.

### Wild and Scenic Rivers

There are no Wild and Scenic Rivers within the study corridor that would be affected by the proposed project.

### Public Lands (Section 4(f), 6(f) and Forests)

There are no **Public Lands or Forests** within the study corridor that would be affected by the proposed project.

### Environmental Justice Populations

There are no **Environmental Justice Populations** within the study corridor that would be negatively affected by the proposed project.

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#### What are Section 4(f) and 6(f) Resources?

*Section 4(f) of the U.S. Department of Transportation Act of 1966 applies to projects that directly or indirectly affect publicly owned parks, recreation areas, wildlife or waterfowl refuges, or historic sites.*

*Section 6(f) of the Land and Water Conservation Funds Act applies to projects that directly or indirectly affect publicly owned outdoor recreation property acquired or developed with moneys from the Interagency Committee for Outdoor Recreation.*

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#### What are Environmental Justice Populations?

*Under Presidential Executive Order 12898, federally funded projects must attempt to identify, avoid, minimize, and mitigate disproportionate effects to low-income and minority populations.*

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## Which Resources Would Be Affected and What Commitments and Mitigation Would Occur?

### Geology and Soils

#### How were geologic and soil resources evaluated for the proposed project?

The *Geology and Soils Environmental Discipline Report* (WSDOT 2005a) utilized primary literature, federal, state, and local government documents, and personal communications to identify potential geologic hazards and soil limitations within the study corridor. On-site visits verified relevant information collected during the literature search.

#### How would geologic and soil resources be affected?

Results from the *Geology and Soils Environmental Discipline Report* show that no substantial temporary or long-term effects to geologic or soil resources will occur from constructing the preferred alternative. However, temporary and long-term effects may occur if the following measures are not taken.

#### What measures are proposed to minimize and mitigate temporary effects to geologic and soil resources?

The following measures will be implemented to reduce erosion of **loess soils** on cut slopes, embankment slopes, and at stockpile and waste sites during the short-term:

- Erosion from wind and water will be reduced by limiting the total acreage of soil exposed at any one time during construction. If these soils remain moist, then they are less likely to be eroded by wind during construction; therefore, following *Best Management Practices* (BMPs), by developing a *Temporary Erosion and Sediment*

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#### What are Loess Soils?

*Loess soils are composed of mixed accumulations of fine-grained clay and silt. They are created by glaciers and deposited by the wind.*

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*Control* (TESC) Plan as outlined in chapter six of the *Highway Runoff Manual* (HRM) (WSDOT 2004) will reduce the potential for severe erosion.

- **Best Management Practices** (BMPs) will be implemented for reducing erosion of structural foundation material excavated and stored on-site.
- Include additional mitigation measures, if necessary, when a more detailed construction and equipment-staging plan is developed.

The following measures will be implemented for soils with properties that would affect their ability for compaction or settlement during the short-term:

- A geotechnical analysis that includes an evaluation of the soil's physical properties that will be excavated and re-used for embankment construction.
- A geotechnical analysis that includes evaluation of stability and settlement for critical embankments and structure foundations.
- Limit earthwork construction to the drier time of year.
- Include mitigation for erosion as outlined above.

### **What measures are proposed to minimize and mitigate long-term effects to geologic and soil resources?**

The following measures will be implemented to reduce erosion of loess soils on cut slopes and embankment slopes over the long-term:

- The WSDOT will acquire adequate right-of-way for design and construction of three horizontal units-to-one vertical unit (3H:1V) loess cut slopes and embankment slopes throughout the preferred alternative, as this design will substantially reduce the likelihood of severe erosion from wind and water.
- **Brow-ditching** will be used at the top of loess cut slopes in conjunction with 3H:1V slopes to intercept and direct surface water runoff in areas where overland flow is likely to occur.

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#### **What are Best Management Practices?**

*Best Management Practices include structural devices, maintenance procedures, managerial practices, prohibitions of practices, and schedules of activities that are used singly or in combination to prevent or reduce detrimental impacts to social, economic, and natural resources.*

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#### **What is a Brow-Ditch?**

*A brow ditch is typically placed up-slope of an excavation in order to help deflect surface runoff away from the excavation once filled.*

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- Where the gradient of ditches increase, the potential for erosion will be reduced by armoring ditches.
- Dissipate culvert outflow on embankment slopes by extending culverts to the base of all embankment slopes and employ a hardened, energy dissipating outflow channel on the face of embankment slopes to further reduce erosion.
- Develop a long-term strategy to promote vegetation on the face of embankment slopes to further reduce erosion.
- Use erosion control structures in the highway's median to reduce the potential for erosion where surface runoff may concentrate.

The following measures will be implemented for reducing the likelihood of landslides over the long-term:

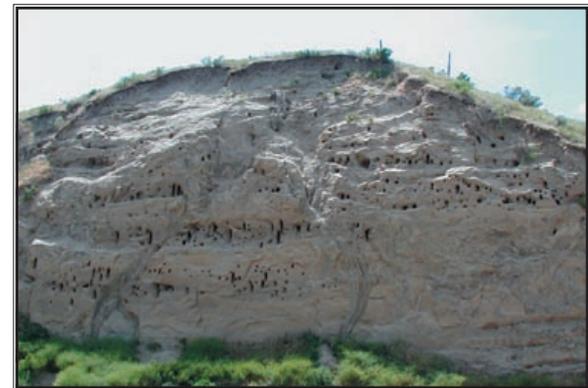
- The WSDOT will acquire adequate right-of-way for design and construction of 3H:1V loess cut slopes and embankment slopes throughout the preferred alternative. This design will substantially reduce the likelihood of new landslides from construction or earthquakes.

The following measures will be implemented for reducing the effects of differential frost heaving on susceptible soils over the long-term:

- Where the highway lies on embankments, the roadbed will be raised and ditching constructed to adequately drain runoff and keep groundwater elevations below the structural section of the roadway.
- Brow-ditching will be used in conjunction with 3H:1V slopes in areas where overland flow is likely to occur.



Highly erodible when disturbed, loess soils blanket much of the study area.



An example of an eroding loess cut slope.

The following measures will be implemented for reducing the likelihood of damage to, or failure of, critical structures over the long-term:

- The WSDOT should perform seismic analyses that include considerations for **liquefaction** and **lateral spread** for all proposed critical structures within the preferred alternative.

### What would happen if the preferred alternative were not selected?

Negative effects to geologic and soil resources relative to the no-build alternative include continued wind and water erosion, and small landslides from existing loess cut slopes and embankments along existing US 12 in the proximity of Mill Creek.

## Air Quality

### How was air quality evaluated for the proposed project?

The *Air Quality Technical Memorandum* (Entech Northwest, Inc. 2005a) utilized federal and state documents and personal communications to identify any known **non-attainment areas** within the study corridor, and to determine if the preferred alternative would cause or contribute to violations of *National Ambient Air Quality Standards* (NAAQS) for fine particulate matter.

### How would air quality be affected?

Results from the *Air Quality Technical Memorandum* show that the proposed project is not within a non-attainment area and would not produce substantial temporary or long-term effects to air quality will occur from constructing the

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#### What is Liquefaction and Lateral Spread?

*Liquefaction results in a change of a material's solid engineering properties to liquid-like characteristics.*

*Lateral spread is the horizontal displacement of gently sloped ground caused by liquefaction of the underlying soil.*

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#### What is a Non-attainment Area?

*A nonattainment area is a locality where air pollution levels persistently exceed National Ambient Air Quality Standards, or that contribute to ambient air quality in a nearby area that fails to meet set standards. Designating an area as nonattainment is a formal rule-making process, and the Environmental Protection Agency (EPA) normally takes this action only after air quality standards have been exceeded for several consecutive years. Nonattainment areas are given a classification based on the severity of the violation and the type of air quality standard they exceed.*

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preferred alternative. However, temporary effects are likely if the following measures are not taken.

### **What measures are proposed to minimize and mitigate temporary effects to air quality?**

The WSDOT will implement *Best Management Practices* (BMPs) for controlling dust based on the 2004 WSDOT *Highway Runoff Manual* (HRM) during the short-term. They include the following:

- Prevent fugitive dust emissions during transport of all fill material or topsoil by covering the load, wetting down the load, or by ensuring adequate freeboard on trucks.
- Wet down all areas where highway cuts are close to residences.
- Promptly clean up spills from transported material on public roads by frequent use of a street sweeper machine.
- Frequently sweep and wash dust from streets adjacent to the construction site.
- Cover loads of hot asphalt to minimize odors.
- Schedule work tasks to minimize disruption and delay of vehicle traffic on all streets near the project.
- Minimize the idling of all diesel engines to reduce exhaust emissions.

### **What measures are proposed to minimize and mitigate long-term effects to air quality?**

Because erosion control measures to stabilize disturbed areas would be implemented as outlined in the Geology and Soils section, there would be no long-term negative effects to air quality.



The existing level of air quality will be preserved during and after project construction.

### What would happen if the preferred alternative were not selected?

Because the new highway will have the same speed limit as existing US 12, it would not negatively affect air quality from the burning of more fuel.

In contrast, if the preferred alternative is not constructed, then air quality will likely deteriorate as capacity and mobility continue to worsen and vehicles idle longer while waiting to turn onto or off of existing US 12, or accelerate to pass slower moving vehicles.

### Water Resources

#### How were water resources evaluated for the proposed project?

To assess effects to these resources more comprehensively, the 1,000-foot wide study corridor was extended approximately one-half mile to the north of its existing position, and one-half mile to the south of US 12. The *Water Resources Discipline Report* (David Evans and Associates, Inc. 2005a) utilized primary literature, federal, state, local government documents, and personal communications to identify potential effects to these resources. On-site visits verified relevant information collected during the literature search.

#### Are there areas of special concern?

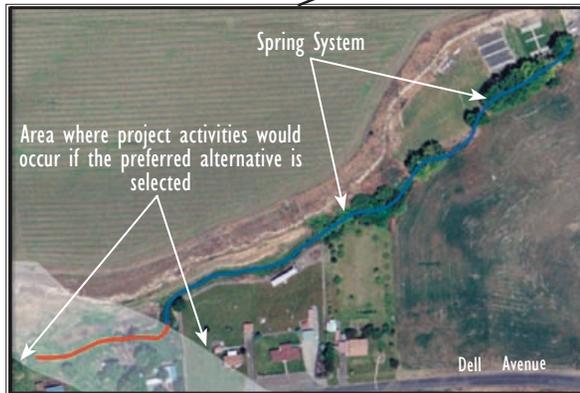
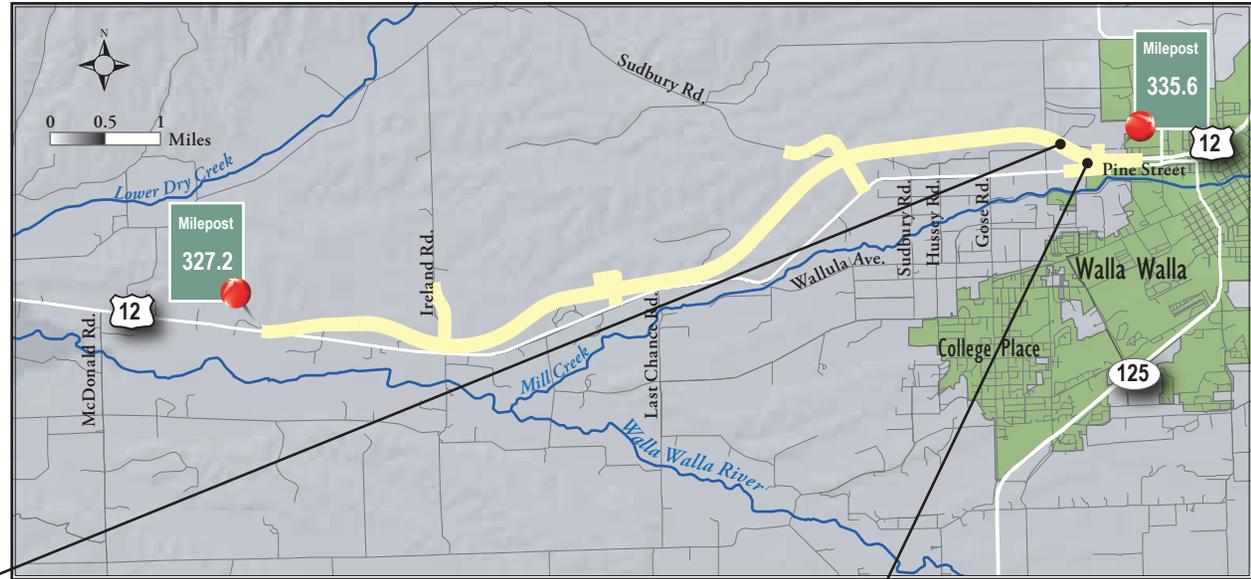
##### Springs and Seeps

The preferred alternative has the potential to negatively affect two springs near the eastern end of the project corridor. Both springs are located in close proximity to one another. The first spring is located north of Dell Avenue and provides water for an associated wetland. The second spring is located just west of Pine

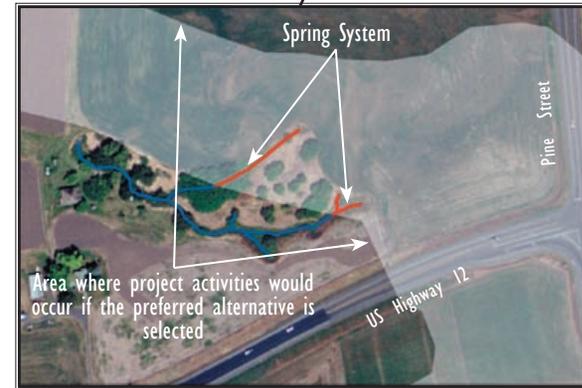


Source of the spring system located north of existing US 12 and west of Pine Street. This spring provides water for a wetland and 50 percent of an associated water right for a private irrigation system.

Exhibit 3-2. Map showing locations of spring systems within the study corridor.



One of two springs affected by the proposed project; this spring is located north of Dell Avenue between Pine Street and Duncan Lane.



This spring system is located just north of existing US 12 and west of Pine Street.

Street and north of existing US 12. This spring system also provides water for a wetland complex and 50 percent of a water right held by Gose Irrigation, a private irrigation company (Exhibit 3-2).

The *Best Management Practices* (BMPs) described below will be implemented and stringently followed to avoid and minimize negative effects to both the quality and quantity of water flowing from these springs during construction and operation of the proposed project.

#### Canals, Ditches, Lakes, and Reservoirs

Two irrigation ditches are in close proximity to the study corridor and one lies within the corridor. The Stiller Ditch and Whitman Ditch both lie outside of the study corridor; nevertheless, preliminary design plans show that constructing a new intersection at Last Chance Road could affect the Stiller Ditch north of existing US 12 at MP 330.3, while improving Ireland Road could affect the Whitman Ditch near MP 329. The preferred alternative will intersect the Bergevin-Williams Ditch near MP 327 at the western end of the project.

There is only one body of standing water in close proximity to the study corridor. Located just north of existing US 12 at MP 330, this man-made impoundment stores water for irrigation and is associated with the Stiller Ditch irrigation system, which diverts water from Mill Creek.

The BMPs described below will be implemented to eliminate the potential for negatively affecting both the quality and quantity of irrigation water during



An irrigation conveyance ditch just north of existing US 12 delivers water to crops.

construction and operation of the proposed highway. If construction activities would potentially affect the delivery of irrigation water, then the WSDOT will re-route irrigation flows to avoid disrupting its delivery. However, under no circumstance will the point of diversion be altered.

### Wellhead Protection Areas

There are no **Group A wells** located within the study corridor. However, the five year **wellhead protection area** for Hydro Irrigation District's No. 9 well does extend into the study corridor; also, preliminary designs show the preferred alternative crossing the ten year wellhead protection area for the same well.

Five **Group B wells** do lie within the study corridor, and the 600-foot wellhead protection area of three additional Group B wells extends into the study corridor.

At a minimum, two of the five Group B wells will be affected by constructing the preferred alternative. Whether or not the capacity of these wells will be replaced depends on the continuing need for this groundwater.

### Water Use and Reuse

Two center-pivot irrigation systems located north of existing US 12 between MP 329 and MP 331 would be affected by constructing the preferred alternative.

Both systems would function at 50 to 70 percent of its original acreage after project construction.

Constructing the preferred alternative would also affect the southern end of the Seneca Foods process water-recycling farm, which is located just east and south

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#### What is the difference between a Group A Well and a Group B Well?

*Group A Wells are public water systems that serve 25 or more people, or 15 or more residential services. Group B Wells are public water systems constructed to serve less than 15 residential services regardless of the number of people; or constructed to serve an average nonresidential population of less than 25 people per day for sixty or more days within a calendar year; or any number of people for less than sixty days within a calendar year.*

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#### What is a Wellhead Protection Area?

*A wellhead protection area (WHPA) is a delineation for each well, well-field, or spring with the six month, one, five and ten year time of travel boundaries marked, or boundaries established using alternate criteria approved by the Washington State Department of Health, in those settings where ground water time of travel is not a reasonable delineation criteria.*

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of the Walla Walla city landfill. As a result, capacity for treating Seneca's process water would be reduced. However, this part of the facility has not been used in recent years and Seneca's operations will not be affected unless production was to increase.

### How would water resources be affected?

Results from the *Water Resources Discipline Report* show that no substantial temporary or long-term effects to surface water, floodplains, or groundwater will occur from constructing the preferred alternative. However, temporary and long-term effects may occur if the following measures are not taken.

### What measures are proposed to minimize and mitigate temporary effects to water resources?

The following measures will be implemented to ensure that pollutants generated from construction activities are not delivered to rivers, perennial, intermittent, and ephemeral streams, lakes, wetlands, springs and seeps, reservoirs, canals, ditches, well-head protection areas, either directly or by overland flow:

- All construction-staging areas will be identified and pre-approved by the WSDOT Project Engineer and the South Central Region Environmental Office.
- All construction-staging areas will be located at least 200 feet away from the ordinary high water mark of all rivers, perennial, intermittent, and ephemeral streams, lakes, wetlands, springs, seeps, reservoirs, canals, ditches, and well-head protection areas; they will be delineated with high-visibility construction fencing.
- Spill clean-up kits and personnel trained in the use of spill clean-up kits will be on-site during all construction activities.
- All sediment-laden or ph-laden wastewater produced by the proposed project will be treated to legal standards prior to discharge.



Every effort was made to avoid wellheads and wellhead protection areas like this one, which is located at the northwest corner of the US 12/Gose Street intersection.

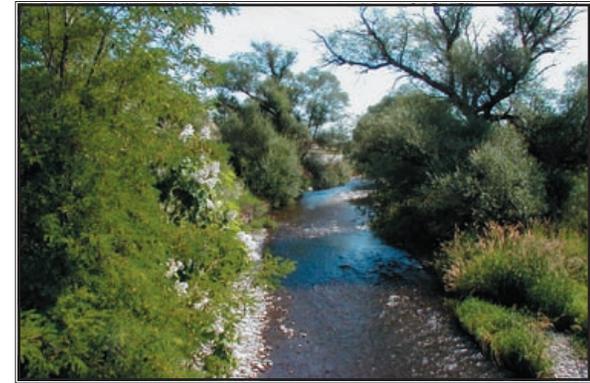
- The WSDOT will fully comply with the terms and conditions of the *Implementing Agreement between the Washington State Department of Ecology and the WSDOT regarding compliance with the State of Washington Surface Water Quality Standards*.
- A Clean Water Act Section 401 Certification will be obtained from the Washington State Department of Ecology, which will allow the state of Washington to certify that the project meets federal and state Water Quality Standards.
- The WSDOT will follow all *Best Management Practices* (BMPs) as outlined in the *2004 Highway Runoff Manual* (HRM) for developing this project's *Stormwater Pollution Prevention Plan* (SWPPP), including a *Temporary Erosion and Sediment Control Plan* (TESC) and *Spill Prevention Control and Countermeasures Plan* (SPCC), as required for the *National Pollutant Discharge Elimination System* (NPDES) stormwater discharge permit. Together with low annual precipitation and the deep, permeable soils within the project area, these measures will greatly reduce or eliminate potential negative effects during the short-term.

### **What measures are proposed to minimize and mitigate long-term effects to water resources?**

Conceptually, total infiltration and/or evaporation are proposed to treat runoff from the new highway during the long-term. The WSDOT will implement BMPs for controlling and treating stormwater over the long-term based on the 2004 HRM. They include the following:

- Design and incorporate stormwater facilities to remove pollutants contained in runoff utilizing infiltration and/or evaporation ponds, infiltration trenches, or infiltration vaults.
- Design and incorporate stormwater dispersion areas to remove pollutants contained in runoff utilizing natural or engineered dispersion.
- Design and incorporate biofiltration treatments to remove pollutants contained in runoff utilizing bioinfiltration swales and vegetated filter strips.

- The WSDOT will conduct routine inspections and maintenance of all stormwater facilities.
- The WSDOT will provide adequate compensatory mitigation if it is determined that the capacity of either one or both affected Group B wells is still needed.
- The WSDOT will provide adequate compensatory mitigation for disruption of private irrigation facilities that result from the proposed project.
- The WSDOT will develop and implement a revegetation plan for all land within the project's right-of-way. At a minimum, this plan will comply with Treatment Level 2 of the *Roadside Classification Plan* (RCP) (WSDOT 1996), and will be sufficient to ensure the reestablishment of the native vegetation that was present within this part of the corridor prior to agricultural development.
- The WSDOT will follow all *Best Management Practices* (BMPs) as outlined in the *2004 Highway Runoff Manual* (HRM) for developing this project's *Stormwater Pollution Prevention Plan* (SWPPP), including a *Temporary Erosion and Sediment Control Plan* (TESC) and *Spill Prevention Control and Countermeasures Plan* (SPCC), as required for the *National Pollutant Discharge Elimination System* (NPDES) stormwater discharge permit. Together with low annual precipitation and the deep, permeable soils within the project area, these measures will greatly reduce or eliminate potential negative effects during the long-term.



Mill Creek (shown here) and the Walla Walla River lie outside of the study corridor; nevertheless, measures will be taken to preserve the quantity and quality of all water resources during construction and operation of the preferred alternative.

### What would happen if the preferred alternative were not selected?

Because up to 75 percent of existing and future traffic would travel on the new roadway (The Transpo Group 2004), the amount of pollutants suspended in stormwater and currently delivered to Mill Creek and the Walla Walla River would be reduced, but this opportunity would be lost if the preferred alternative is not selected. Moreover, because US 12 lies in close proximity to Mill Creek and the Walla Walla River, the risk of accident-related water pollution would remain high.

## Fish, Wildlife, and Vegetation

### How were fish, wildlife, and vegetation evaluated for the proposed project?

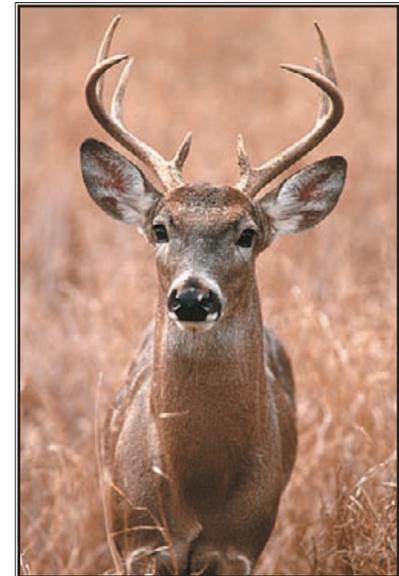
To assess effects to these resources more comprehensively, the 1,000-foot wide study corridor was extended approximately one-half mile to the north of its existing position, and one-half mile to the south of US 12. The *Natural Environment Discipline Report* (WSDOT 2005b) utilized primary literature, federal, state, and local government documents, and personal communications to identify potential effects to these resources. On-site visits verified relevant information collected during the literature search.

### Are there areas of special concern?

#### Wildlife Mortality

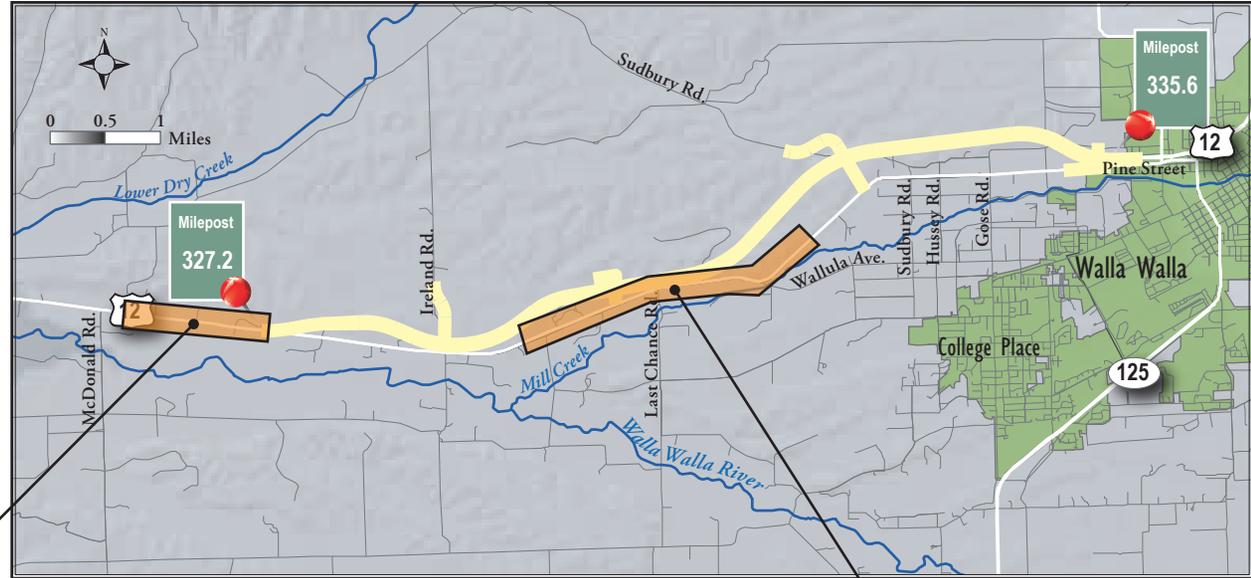
A total of 94 Mule deer and Whitetail deer were lost to vehicle-deer collisions between 1998 and 2003 along the 8.4 miles of existing US 12 that would be replaced by the proposed project. These totals do not include animals that were hit and then traveled some distance from the highway before dying, and therefore, were not recorded by WSDOT Maintenance personnel. Collisions between vehicles and wildlife are a concern because of the potential for serious injury to the traveling public and loss of wildlife.

The WSDOT Deerkill Database shows the location of several medium-to-high density vehicle-deer collision areas on existing US 12 within the project area (Exhibit 3-3). In one location, 29 Mule and Whitetail deer were killed along



Both Mule deer and Whitetail deer are present within the study area and are valued as game animals.

Exhibit 3-3. Map showing locations along existing US 12 where a medium-to-high frequency of deerkill occurs.



Twenty-nine vehicle-deer collisions were recorded between milepost 325.8 and 327.5 on US 12 during the five-year period from 1998 to 2003.



The portion of US 12 between milepost 329.8 and 332.5 recorded 46 vehicle-deer collisions during the five year period from 1998 to 2003.

1.7 miles of US 12 in five years. An additional 46 Mule and Whitetail deer were lost to vehicle collisions along 2.7 miles of US 12 less than four miles to the east of the first site during the same period. The *Transpo Group Traffic Study* (The Transpo Group 2004) shows that traffic volumes at these two sites averaged 6,300 and 7,200 vehicles per day in 2004, respectively.

Considering the local **topography** that surrounds both sites offers a partial explanation as to why the number of vehicle-wildlife collisions are as high as they are. As shown in Exhibit 3-3 both sites are situated in a rural setting where the landscape north of US 12 has been converted to cultivated cropland. Many of these crops (alfalfa, hay, wheat, and asparagus) are nutrient-rich and provide a reliable source of forage for deer and other animals from season to season. Two perennial sources of water, Mill Creek and the Walla Walla River, lie just to the south of the highway, and the **riparian forests** associated with both provide shelter for deer. Therefore, it is likely that the number of deer being killed at both sites results from their daily and seasonal migration between these resources.

Given that average traffic volumes are predicted to more than double by the design year of 2028 (The Transpo Group 2004), we should expect the number of recorded vehicle-wildlife collisions to increase substantially along these two sections of highway.

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#### What is Topography?

*Topography is the configuration of land and the relations among its man-made and natural features.*

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#### What are Riparian Forests?

*Riparian Forests are woodlands associated with a stream or river.*

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The cost to the public for each vehicle-deer collision is approximately \$8,000. This total includes a loss of \$2,000 per animal as estimated by WSDOT biologists, and a \$6,000 loss that results from property damage to vehicles, higher insurance costs, highway cleanup, and impact on travel times. This means that from 1998 to 2003, total societal costs from vehicle-deer collisions along the 8.3 miles of existing US 12 were at least \$752,000. This figure would increase many times over if one human fatality were to occur.

Constructing the preferred alternative could potentially reduce vehicle-wildlife collisions. The Benton-Franklin Council of Government’s Regional Travel Demand Model shows that at least 75 percent of the average number of vehicles that use existing US 12 on a daily basis would move to the new roadway. Because it would be located further north of the riparian forests along Mill Creek and the Walla Walla River, the preferred alternative would afford drivers a greater line of sight, which could help reduce the number of vehicle-wildlife collisions.

Even though the new roadway would lie one-half of a mile or more to the north of US 12, it could still act as a barrier to deer and other animals moving between forage areas, water sources, and sheltered bedding areas, which could affect the diversity of local wildlife populations over the long-term. Therefore, the WSDOT may consider implementing some combination of the following measures to help reduce the likelihood of vehicle-wildlife collisions over the long-term. They include the following:



The cost to the public from each vehicle-deer collision is approximately \$8,000.

- Installation of wildlife exclusion fencing
- Installation of traditional wildlife warning signs
- Installation of wildlife warning systems
- Installation of wildlife protection systems

Much information exists regarding the costs, benefits, and effectiveness associated with these mitigation measures. Please see the following internet sites for details concerning each:

- <http://www.wildlifeaccidents.ca/default.htm>
- <http://www.fhwa.dot.gov/environment/wildlifecrossings/>
- <http://www.wildlifecrossings.info/beta2.htm>
- <http://www.icoet.net/>

### How would fish, wildlife, and vegetation be affected?

Results from the *Natural Environment Discipline Report* (WSDOT 2005b) show that no substantial temporary or long-term effects to fish, wildlife, or native vegetation will occur from constructing the preferred alternative. In addition, the *Biological Assessment* (David Evans and Associates, Inc. 2006a) for this project shows that no threatened or endangered species would be affected by the proposed project. Further, consultation with both the National Oceanic and Atmospheric Administration (NOAA) Fisheries Service and the United States Fish and Wildlife Service (USFWS) was finalized in March of 2006. To ensure that temporary and long-term effects do not occur, the following measures will be taken.



An example of a wildlife protection system installed on US Highway 191 near Pinedale Wyoming. Both motion and presence sensors activate signs warning motorists of animals in the area.

### **What measures are proposed to minimize and mitigate temporary effects to fish, wildlife, and vegetation?**

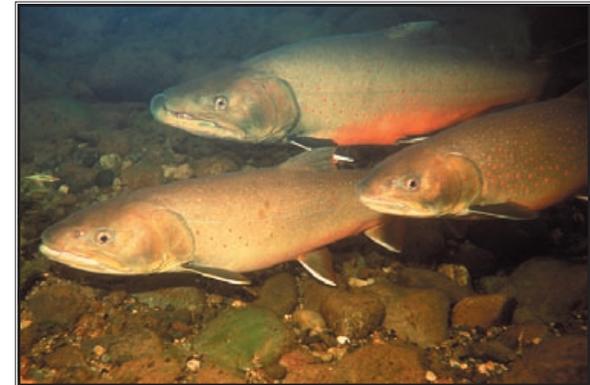
At a minimum, the following measures will be implemented to reduce the likelihood of negative effects to fish, wildlife, and native vegetation during the short-term. They include the following:

- All construction-staging areas will be identified and pre-approved by the WSDOT Project Engineer and the South Central Region Environmental Office.
- All construction-staging areas will be located at least 200 feet away from the ordinary high water mark of rivers, perennial, intermittent, and ephemeral streams, lakes, wetlands, springs, seeps, reservoirs, canals, ditches, well-head protection zones, and areas utilized by endangered, threatened, and sensitive species; they will also be delineated with high-visibility construction fencing.
- Spill clean-up kits and personnel trained in the use of spill clean-up kits will be on-site during all construction activities.
- The WSDOT will follow all *Best Management Practices* (BMPs) as outlined in the *2004 Highway Runoff Manual* (HRM) for developing this project's *Stormwater Pollution Prevention Plan* (SWPPP), including a *Temporary Erosion and Sediment Control Plan* (TESC) and *Spill Prevention Control and Countermeasures Plan* (SPCC), as required for the *National Pollutant Discharge Elimination System* (NPDES) stormwater discharge permit. Together with low annual precipitation and the deep, permeable soils within the project area, these measures will greatly reduce or eliminate potential negative effects during the long-term.

### **What measures are proposed to minimize and mitigate long-term effects to fish, wildlife, and vegetation?**

The following measures will be implemented to reduce the likelihood of negative effects on aquatic and terrestrial organisms and their habitats during the long-term. They include the following:

- Design and incorporate stormwater facilities to remove pollutants contained in runoff utilizing infiltration and/or evaporation ponds, infiltration trenches, or infiltration vaults.
- Design and incorporate stormwater dispersion areas to remove pollutants contained in runoff utilizing natural or engineered dispersion.
- Design and incorporate biofiltration treatments to remove pollutants contained in runoff utilizing bioinfiltration swales and vegetated filter strips.
- The WSDOT will conduct routine inspections and maintenance of all stormwater facilities.
- The WSDOT will implement some combination of the collision reduction measures listed above.
- The WSDOT will develop and implement a revegetation plan for all land within the project's right-of-way. At a minimum, this plan will comply with Treatment Level 2 of the *Roadside Classification Plan* (RCP) (WSDOT 1996), and will be sufficient to ensure the reestablishment of the native vegetation that was present within this part of the corridor prior to agricultural development.
- The WSDOT will follow all *Best Management Practices* (BMPs) as outlined in the *2004 Highway Runoff Manual* (HRM) for developing this project's *Stormwater Pollution Prevention Plan* (SWPPP), including a *Temporary Erosion and Sediment Control Plan* (TESC) and *Spill Prevention Control and Countermeasures Plan* (SPCC), as required for the *National Pollutant Discharge Elimination System* (NPDES) stormwater discharge permit. Together with low annual precipitation and the deep, permeable soils within the project area, these measures will greatly reduce or eliminate potential negative effects during the long-term.



Bull trout and Steelhead trout are found in Mill Creek and the Walla Walla River. Both are listed as a **species of concern** by the state of Washington, and as threatened by the federal government.

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#### What are Species of Concern?

*Species of concern are plants and animals which the United States Fish and Wildlife Service is reviewing for consideration as Candidates for listing under the Endangered Species Act.*

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The short and long-term measures cited above will help ensure that existing water quality is preserved, as would be the fitness of aquatic and terrestrial organisms that depend on a source of high quality water within and around the project area.

**What would happen if the preferred alternative were not selected?**

Because up to 75 percent of existing and future traffic would travel on the new roadway (The Transpo Group 2004), the amount of pollutants suspended in stormwater and currently delivered to Mill Creek and the Walla Walla River would be reduced, but this opportunity would be lost if the preferred alternative is not selected. Moreover, because US 12 lies in close proximity to Mill Creek and the Walla Walla River, the risk of accident-related water pollution would remain high.

The current location of US 12 between forage areas and riparian forests along Mill Creek and the Walla Walla River increases the likelihood that societal costs associated with vehicle-wildlife collisions will continue rising as traffic volumes increase, as would the probability of a human fatality. Constructing the preferred alternative could potentially reduce vehicle-wildlife collisions, especially if the WSDOT chooses to incorporate measures that would help reduce the likelihood of their occurrence.

## Wetlands

### How were wetlands evaluated for the proposed project?

To assess effects to these resources more comprehensively, the 1,000-foot wide study corridor was extended approximately one-half mile to the north of its existing position, and one-half mile to the south of US 12. The *Wetland/Biology Discipline Report* (WSDOT 2006a) assessed wetland and waterbody impacts for federal, state, and local permitting requirements and utilized primary literature, federal, state, and local government documents, and personal communications to identify potential effects to these resources.

On-site visits verified relevant information collected during the literature search. The boundaries of all wetlands were delineated during on-site visits using the Routine Determination Method outlined in the *Washington State Wetland Identification and Delineation Manual* (Ecology 1997), now considered the standard to be used by all agencies within the state of Washington. Wetlands were classified according to the U.S. Fish and Wildlife Service (USFWS) classification system (Cowardin et al. 1979), and rated using the Washington State Department of Ecology's (Ecology) 4-tier wetland rating system for Eastern Washington (Hruby 2004).

Wetlands perform a variety of biological, physical, and chemical functions. For this project, wetland functions were evaluated using the WSDOT *Wetland Functions Characterization Tool for Linear Projects* manual and were assessed based on best professional judgment (Null et al. 2000).

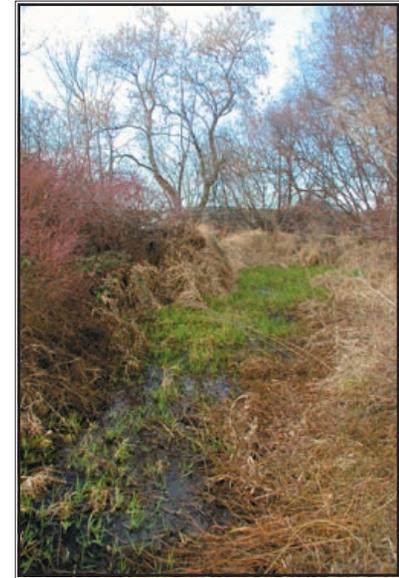
### How would wetlands be affected?

Results from the *Wetland Biology Discipline Report* (WSDOT 2006a) show that four of the six wetlands found within the project area would be affected from constructing the preferred alternative. However, the total wetland area that would be impacted is 0.44 acres. Exhibit 3-4 shows the location of the wetlands within the study corridor that would be impacted.

The first wetland complex (WB-1) discussed here is .64 acres in size and is associated with the spring system located just north of US 12 and west of Pine Street, near the eastern end of the project (Exhibit 3-4). Field determinations have verified that this wetland is jurisdictional under United States Army Corps of Engineers (USACE) and Ecology regulations.

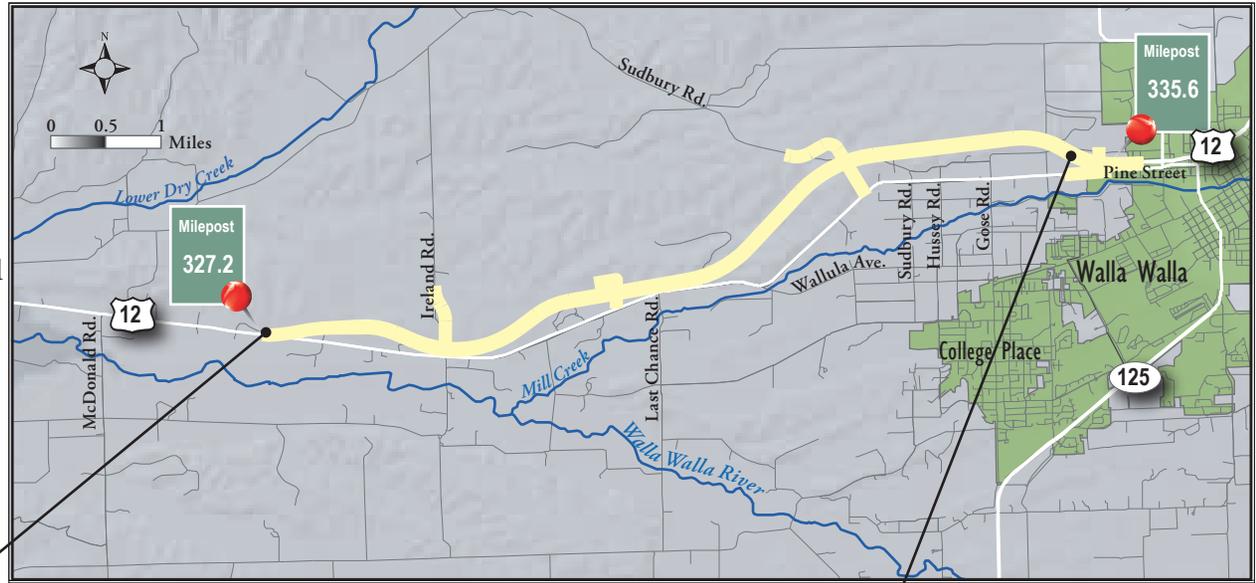
This wetland was excavated sometime in the past, most likely to increase the flow of spring water for use by irrigators, and is currently surrounded by agricultural fields. It was rated as a Category IV wetland using the *Washington State Wetland Rating System for Eastern Washington* (Hruby 2004). Category IV wetlands provide a moderate level of functionality and are less diverse and more isolated from other natural resources than Category I, II, or III wetlands. Category IV wetlands typically provide the lowest level of functions and are often heavily disturbed.

Because of its position in the landscape, the major function of WB-1 is water quality improvement (sediment removal). This wetland most likely provides

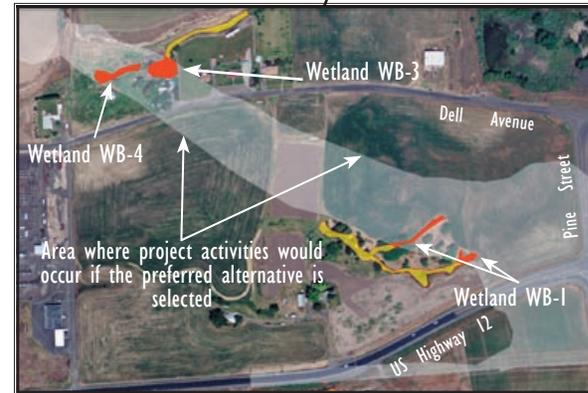


Part of wetland WB-1, a 0.64-acre Category IV wetland system associated with a spring complex just north of existing US 12 and west of Pine Street.

Exhibit 3-4. Map showing locations of wetland complexes within the study corridor. Wetlands WB-1, WB-3, and WB-4, would be impacted by the preferred alternative. Because the total affected acreage of Wetland WB-5 (less than 0.001 acre) would fall below regulatory thresholds, it is not considered an impact.



Although Wetland WB-5 would be affected by the proposed project (< 0.001 acres), the total acreage affected falls below regulatory thresholds.



Mitigation measures would be implemented for those wetlands impacted (shown here in red) by the proposed alternative.

a high level of aquatic invertebrate habitat, and furnishes limited habitat for amphibians, birds, and small mammals. Engineering design plans from field surveys show that 0.12<sup>1</sup> acres of the total 0.64 acres would be impacted by the preferred alternative.

The second wetland (WB-3) impacted by the project is situated several hundred yards to the northwest of wetland WB-1 on the north side of Dell Avenue between Pine Street and Duncan Lane (Exhibit 3-4). WB-3 is 0.41 acres in size and is also associated with a spring system. Site visits suggest that this is an **isolated wetland**. If the USACE determines that it is an isolated wetland, then the Washington State Department of Ecology (Ecology) would assume regulatory authority.

A portion of this wetland has been filled, and other parts have been affected by residential development and grazing. This wetland was rated as a Category III wetland.

Although degraded, the major function of WB-3 is water quality improvement (sediment removal). It also provides limited habitat for amphibians, birds and small mammals. Engineering design plans from field surveys show that 0.19<sup>1</sup> acres of the total 0.41 acres would be impacted by constructing the preferred alternative.



Wetland WB-3, a 0.64-acre Category III wetland system associated with a spring complex north of Dell Avenue between Pine Street and Duncan Lane.

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**What is an Isolated Wetland?**

*Isolated wetlands are those that are not adjacent to or connected to a navigable water body, such as a river, lake or marine waters. However, they still perform the same important environmental functions as other wetlands, including recharging streams and aquifers, storing flood waters, filtering pollutants from water, and providing habitat for a host of plants and animals.*

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<sup>1</sup>This number may increase as the design is finalized and other effects are realized, or decrease as additional minimization measures are implemented.

The third impacted wetland system (WB-4) is 0.13 acres in size and is situated immediately west of WB-3. It is associated with the same spring system. Like WB-3, WB-4 also appears to be isolated, and its status as such will be determined by the USACE. Portions of this wetland have been filled, affected by residential development, and grazing. This wetland was rated as a Category III wetland.

This wetland’s functional value is water quality treatment (sediment removal); however, it lacks habitat for amphibians, birds and small mammals. Engineering design plans show that 100 percent of this wetland would be impacted by the preferred alternative.

The last wetland system (WB-5) affected by the preferred alternative is located near the extreme western end of the project adjacent to an irrigation ditch (the Bergevin-Williams Ditch) on the north side of US 12 (Exhibit 3-4). WB-5 is 0.12 acres in size and is rated as a Category IV wetland.

Its functions are limited to providing minimal habitat for amphibians, birds, and small mammals. Engineering design plans show that less than 0.001<sup>1</sup> acres of this wetland would be impacted by the preferred alternative, an amount considered to be below permitting and mitigation thresholds by regulatory agencies.



Wetland WB-4, a 0.13-acre Category III wetland system associated with a spring complex north of Dell Avenue between Pine Street and Duncan Lane.

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<sup>1</sup>This number may increase as the design is finalized and other effects are realized, or decrease as additional minimization measures are implemented.

Jurisdictional determinations will be performed by the United States Army Corps of Engineers (USACE) to determine if wetlands WB-3 and WB-4 are in fact isolated. If they are isolated, then a Washington State Department of Ecology administrative order would be required.

### **What measures are proposed to minimize and mitigate temporary effects to wetlands?**

At a minimum, the following measures will be implemented to reduce the likelihood of negative effects on wetlands during the short-term. They include the following:

- All construction-staging areas will be identified and pre-approved by the WSDOT Project Engineer and the South Central Region Environmental Office.
- All construction-staging areas will be located at least 200 feet away from the ordinary high water mark of rivers, perennial, intermittent, and ephemeral streams, lakes, wetlands, reservoirs, canals, ditches, springs and seeps; they will be delineated with high-visibility construction fencing.
- Spill clean-up kits and personnel trained in the use of spill clean-up kits will be on-site during all construction activities.
- The WSDOT will fully comply with the terms and conditions of the *Implementing Agreement between the Washington State Department of Ecology and the WSDOT regarding compliance with the State of Washington Surface Water Quality Standards*.
- All sediment-laden or ph-laden wastewater produced by the proposed project will be treated to legal standards prior to discharge.
- The WSDOT will follow all *Best Management Practices* (BMPs) as outlined in the *2004 Highway Runoff Manual* (HRM) for developing this project's *Stormwater Pollution Prevention Plan* (SWPPP), including a *Temporary Erosion and Sediment Control Plan* (TESC) and *Spill Prevention Control and Countermeasures Plan*



Wetland WB-5 is a 0.12-acre Category IV wetland associated with an irrigation ditch on the north side of existing US 12 near the western end of the project.

(SPCC), as required for the *National Pollutant Discharge Elimination System* (NPDES) stormwater discharge permit. Together with low annual precipitation and the deep, permeable soils within the project area, these measures will greatly reduce or eliminate potential negative effects during the short-term.

### **What measures are proposed to minimize and mitigate long-term effects to wetlands?**

The following measures will be implemented to reduce negative effects to wetlands during the long-term. They include the following:

- The WSDOT design team has developed and implemented avoidance and minimization strategies, such as constructing steeper side-slopes that reduce the extent of fill and ground disturbance near wetlands, and will continue to develop avoidance and minimization strategies through the contract development process.
- All necessary regulatory permits will be acquired for unavoidable negative effects to wetlands. Following guidelines established by the State Department of Ecology, the Army Corps of Engineers, Walla Walla County, and the WSDOT, a combination of wetland preservation, wetland enhancement, wetland restoration, and wetland creation will be implemented as mitigation for those wetlands impacted by the proposed project.
- The WSDOT will develop and implement a revegetation plan for all land within the project's right-of-way. At a minimum, this plan will comply with Treatment Level 2 of the *Roadside Classification Plan* (RCP) (WSDOT 1996), and will be sufficient to ensure the reestablishment of the native vegetation that was present within this part of the corridor prior to agricultural development.
- The WSDOT will follow all *Best Management Practices* (BMPs) as outlined in the *2004 Highway Runoff Manual* (HRM) for developing this project's *Stormwater Pollution Prevention Plan* (SWPPP), including a *Temporary Erosion and Sediment Control Plan* (TESC) and *Spill Prevention Control and Countermeasures Plan* (SPCC), as required for the *National Pollutant Discharge Elimination System*

(NPDES) stormwater discharge permit. Together with low annual precipitation and the deep, permeable soils within the project area, these measures will greatly reduce or eliminate potential negative effects during the long-term.

### **What would happen if the preferred alternative were not selected?**

If the preferred alternative is not constructed, then no negative effects to wetlands would exist. However, the opportunity to improve existing baseline conditions for those wetlands associated with Mill Creek and the Walla Walla River in close proximity to existing US 12 would be lost, and the risk of accident-related wetland impacts would remain high when compared to constructing the preferred alternative.

## **Noise**

### **How were noise levels evaluated for the proposed project?**

The *Noise Discipline Report* (Entech Northwest, Inc. 2005b) followed the FHWA Traffic Noise Model (TNM) to compare current noise levels to expected levels of noise that would affect **sensitive receptors** as a result of constructing the preferred alternative.

### **How would noise levels be affected?**

Results from the *Noise Discipline Report* show that one of fifteen noise monitoring stations representing two residential structures would be negatively affected from constructing the preferred alternative. However, these two **sensitive receptors** can be eliminated from further consideration since they are properties that would be purchased for project construction.

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#### **What are Sensitive Receptors?**

*Sensitive receptors represent all land use categories where FHWA noise abatement criteria specify exterior and interior noise levels. They include residences, hospitals, schools, churches, libraries, hotels, and recreation areas.*

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### **What measures are proposed to minimize and mitigate temporary effects from noise?**

At a minimum, the following measures will be implemented to reduce negative effects from increased noise levels to sensitive receptors during construction. They include the following:

- Notify nearby residents in advance of any planned, controlled blasting activities.
- Limit construction activities such as pile-driving, jack hammering, and blasting to between 7 a.m. and 10 p.m.
- Plan dump truck haul routes to minimize travel through residential areas.

### **What measures are proposed to minimize and mitigate long-term effects from noise?**

There will be no long-term negative effects from increased noise levels.

### **What would happen if the preferred alternative were not selected?**

Based on predicted traffic volumes, 13 residences that currently have noise levels exceeding the FHWA noise abatement criteria of 67 dBA would experience a substantial noise effect from increased noise levels by the design year of 2028 if the highway is not improved. However, because these receptors are adjacent to the existing highway, no mitigation would be necessary.

## **Hazardous Materials**

### **How were hazardous materials evaluated for the proposed project?**

The *Hazardous Materials Discipline Report* (Terra Associates, Inc. 2005) followed the American Society for Testing and Materials (ASTM) Test Designation



Measures will be taken to reduce noise levels during project construction.

E-1527-00: *Standard Practice for Environmental Site Assessments: Initial Site Assessment Process.*

The *Hazardous Materials Discipline Report* also utilized regulatory databases maintained by the State Department of Ecology and the Environmental Protection Agency (EPA), reviewed historic aerial photography and maps, city directories, contemporary published maps, and geologic information in an effort to identify **Recognized Environmental Conditions** (RECs) within the study corridor. On-site visits and personal communications verified relevant information collected during the database and document search.

### **How would hazardous materials be affected?**

Results from the *Hazardous Materials Discipline Report* show that no substantial temporary or long-term effects from hazardous materials will occur from constructing the preferred alternative. However, temporary and long-term effects may occur if the following measures are not taken.

### **What measures are proposed to minimize and mitigate temporary effects from hazardous materials?**

At a minimum, the following measures will be implemented to reduce the likelihood of negative effects from hazardous materials during the short-term.

They include the following:

- Conduct Preliminary Site Investigations (PSIs) of any parcels with RECs listed in the *Hazardous Materials Discipline Report* that would be affected by construction of the preferred alternative prior to acquiring the property.

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#### **What is a Recognized Environmental Condition?**

*A Recognized Environmental Condition refers to the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws.*

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- Evaluate all buildings scheduled for demolition for asbestos-containing materials (ACMs) in accordance with local and federal requirements.
- Where the conditions of older structures show signs of improper maintenance and are suspect for current or past lead paint, soils surrounding the structure should be tested to evaluate the potential for lead contamination and precautions that are consistent with federal, state, and local laws.
- Ensure that workers performing cleanup activities are qualified and provided with adequate protection in accordance with Washington State Industrial Safety and Health Act requirements.
- Protect off-site properties and the public during site remedial actions by limiting access into the cleanup area and by reducing the potential for migration of contaminated material.
- The WSDOT will implement a *Spill Prevention Control and Countermeasures Plan* (SPCC), as required for the *National Pollutant Discharge Elimination System* (NPDES) during project construction.



Every effort was made to identify and avoid all hazardous materials sites within and near the study corridor. The Walla Walla municipal solid waste landfill is an obvious example of a site that was avoided.

**What measures are proposed to minimize and mitigate long-term effects from hazardous materials?**

The following measures will be implemented to reduce the likelihood of negative effects from hazardous materials during the long-term. They include the following:

- Implement all applicable *Best Management Practices* (BMPs) whenever performing highway maintenance activities.

**What would happen if the preferred alternative were not selected?**

If the preferred alternative is not selected, then no potentially contaminated properties or sites with recognized environmental conditions would be disturbed.

## Land Use

### How was land use evaluated for the proposed project?

To assess effects to these resources more comprehensively, the 1,000-foot wide study corridor was extended approximately one-half mile to the north of its existing position, and one-half mile to the south of US 12. The *Land Use Technical Memorandum* (David Evans and Associates, Inc. 2005f) utilized city, county, and state planning documents, on-site visits, and personal communications to identify potential effects to land use resources.

### Are there areas of special concern?

#### Right-of-Way Acquisition

Working design plans show that the proposed project would require the acquisition of approximately 420 acres of right-of-way. The amount of affected acreage by current land use, as designated by Walla Walla County's Comprehensive Plan, through the entire proposed project is as follows.

From the project's eastern terminus to the proposed intersection with Sudbury Road:

- Urban Growth Area/Residential – 25 Acres
- Primary Agricultural 40-Acre Minimum – 94 Acres
- Commercial – 20 Acres
- Industrial – 5 Acres

From the proposed intersection with Sudbury Road to the proposed intersection with Last Chance Road:

- Agricultural Residential 10-Acre Minimum – 78 Acres
- Primary Agricultural 40-Acre Minimum – 52 Acres

From the proposed intersection with Last Chance Road to the proposed intersection with Ireland Road:

- Agricultural Residential 10-Acre Minimum – 81 Acres

From the proposed intersection with Ireland Road to the project’s western terminus:

- Agricultural Residential 10-Acre Minimum – 64 Acres

A total of 369 acres of agricultural land and an additional 50 acres of land designated as residential, commercial, and industrial would be acquired for the proposed project’s right-of-way.

### How would land use be affected?

Results from the *Land Use Technical Memorandum* show that the proposed project is compatible with the Land Use, Transportation, and Economic Vitality Elements of the Comprehensive Plan for the city of Walla Walla and Walla Walla County; the proposed project is also compatible with the Land Use and Transportation Elements of the Comprehensive Plan for the city of College Place. No substantial temporary or long-term effects to existing land uses will occur



Irrigated agriculture and dry-land farming represent the majority of land use activities occurring within the study corridor.

from constructing the preferred alternative. However, temporary effects are likely if the following measures are not taken.

### What measures are proposed to minimize and mitigate temporary effects to land use?

At a minimum, the following measures will be implemented to reduce the likelihood of negative effects to existing land uses during the short-term. They include the following:

- Plan construction activities to minimize disruptions to residents and businesses where and when feasible.
- Ensure continued access through the project area during construction where and when feasible.
- Provide information in a timely manner regarding transit and pedestrian re-routes, schedules of operation, road closures, and alternative modes of transportation.
- Ensure that all of the *Best Management Practices* (BMPs) previously cited in the *Air Quality Section* and the *Noise Section* of this chapter are implemented.

### What measures are proposed to minimize and mitigate long-term effects to land use?

At a minimum, the following measures will be implemented to reduce the likelihood of negative effects from changes to existing land uses during the long-term. They include the following:

- Any long-term changes to existing land use that result from the proposed project would be subject to the applicable sections of the governing jurisdiction's zoning ordinance and applicable policies of its comprehensive plan.
- Signing along the new roadway will be provided to direct pedestrian and vehicular traffic.



Although irrigated agriculture and dry-land farming represent the majority of land use activities within the study corridor, these land uses are changing with the growth of both Walla Walla and College Place.

### What would happen if the preferred alternative were not selected?

Because the preferred alternative would not be constructed there would be no short-term or long-term effects to existing land uses. However, when combined with increasing traffic volumes and roadway deficiencies, future development along US 12 would likely contribute to existing capacity and safety problems.

## Farmlands

### How were farmlands evaluated for the proposed project?

The *Farmlands Technical Memorandum* (David Evans and Associates, Inc. 2005c) utilized federal government documents and personal communications to identify potential effects to these resources. On-site visits verified relevant information collected during the literature search.

### How would farmlands be affected?

Results from the *Farmlands Technical Memorandum* show that approximately 369 acres of **Prime Farmland** would be affected by constructing the preferred alternative. Additionally, as much as 934 acres of farmable land would remain as “islands” between the existing highway and the proposed project. The majority of this land is currently zoned Agricultural Residential – 10-Acre Minimum, while the remainder is zoned Primary Agriculture – 40-Acre Minimum. If the farm owners and operators decide that continuing to farm these “islands” would be cost prohibitive, then it may be rezoned by Walla Walla County for higher intensity uses and would no longer be farmed. Even so, the total affected acreage

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#### What are Prime Farmlands?

*Prime farmland has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oil seed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion.*

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is less than one percent of the land farmed within Walla Walla County, and as such does not warrant protection under the federal Farmlands Protection Policy Act (FPPA).

### **What measures are proposed to minimize and mitigate temporary effects to farmlands?**

At a minimum, the following measures will be implemented to reduce the likelihood of negative effects to farmlands during the short-term. They include the following:

- Erosion control measures to stabilize all disturbed areas adjacent to farmlands would be implemented as outlined in the Geology and Soils section.

Please note that measures to reduce short-term negative effects to farm owners and operators are discussed in the *Economic Resources* section of this document.

### **What measures are proposed to minimize and mitigate long-term effects to farmlands?**

At a minimum, the following measures will be implemented to reduce the likelihood of negative effects to farmlands during the long-term. They include the following:

- The WSDOT will fully comply with the terms and conditions of the Conversion Impact Rating Form required by the Natural Resources Conservation Service (NRCS) to determine the degree of effect and whether mitigation will be necessary.

Please note that measures to reduce long-term negative effects to farm owners and operators are discussed in the *Economic Resources* section of this document.

### What would happen if the preferred alternative were not selected?

Because the preferred alternative would not be constructed there would be no short-term or long-term effects to farmlands.

### Historic, Cultural, and Archaeological Resources

#### How were historic, cultural and archaeological resources evaluated for the proposed project?

The *Historic, Cultural, and Archaeological Resources Discipline Report* (Historical Research Associates, Inc. 2006) utilized primary literature, federal, state, local government documents, and personal communications to identify potential historic properties and cultural and archaeological resources within the **Area of Potential Effect (APE)**. The APE for the proposed project encompasses the 1,000-foot wide study corridor and totals approximately 1,200 acres.

As required by **Section 106 of the National Historic Preservation Act**, the WSDOT consulted with the State Historic Preservation Officer (SHPO) regarding the definition of this project’s APE. The WSDOT also consulted with interested tribes regarding the definition of the APE and Work Plan.

#### Are there areas of special concern?

##### Frenchtown Cemetery

The Frenchtown Cemetery site is located in the western part of the APE north of existing US 12 at Mile Post 328. It is marked by a wooden cross and marble monument that are situated on a knoll and surrounded by an agricultural field. Exhibit 3-5 shows a square 100-foot buffer centered on the monument. Sources

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#### What is the Area of Potential Effect (APE)?

*The APE is the geographic area in which a project may cause alterations in the character or use of historic properties, or cultural and archaeological resources.*

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#### What is Section 106?

*Section 106 implements the National Historic Preservation Act of 1966. This is a federal review process that ensures the consideration of historic properties during planning and execution of projects with federal involvement.*

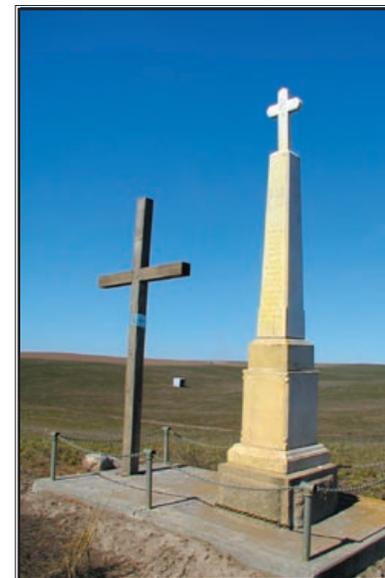
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indicate that this site was used for the Frenchtown community's burials for an undetermined period prior to its affiliation with the St. Rose of Lima church. The Frenchtown Cemetery became affiliated with the St. Rose of Lima church when the church was moved to the cemetery site from its previous location on the north bank of the Walla Walla River. Both the church and burials from its cemetery were subsequently moved to the knoll north of US 12 after being threatened by Walla Walla River floodwaters. By 1909 the church building had fallen into disrepair and was sold for scrap lumber. Currently, there are no set boundaries for the cemetery, and the surrounding property is farmed to the edge of the concrete pad that forms the base of the monument.

The Frenchtown Cemetery, which is in ruins, is evidence of the French-Canadian immigrant community that settled the area starting at about 1824. Many of these settlers married women from the tribes that occupied the area, and Native Americans are reportedly buried in the cemetery. For these reasons, the Frenchtown Cemetery remains highly significant to the descendants of the French-Canadian immigrants and the Confederated Tribes of the Umatilla Indian Reservation (CTUIR).

#### **Battle of Walla Walla Site**

As shown in Exhibit 3-5, the Battle of Walla Walla Site is located just north of existing US 12 and west of Mile Post 328. The site was nominated for the **National Register of Historic Places (NRHP)** in 1993. It was identified as a two-acre parcel of land that is the best-preserved parcel associated with the battle,



A wooden cross and marble monument mark the approximate location of the Frenchtown Cemetery Site.

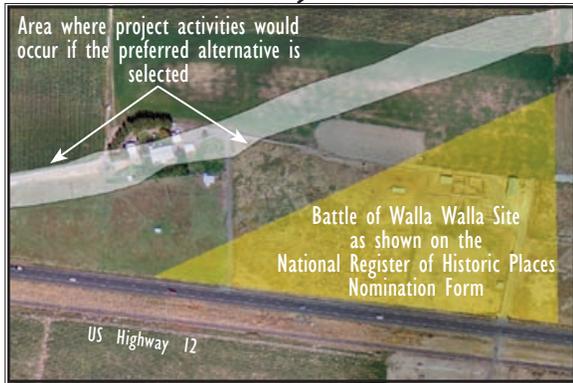
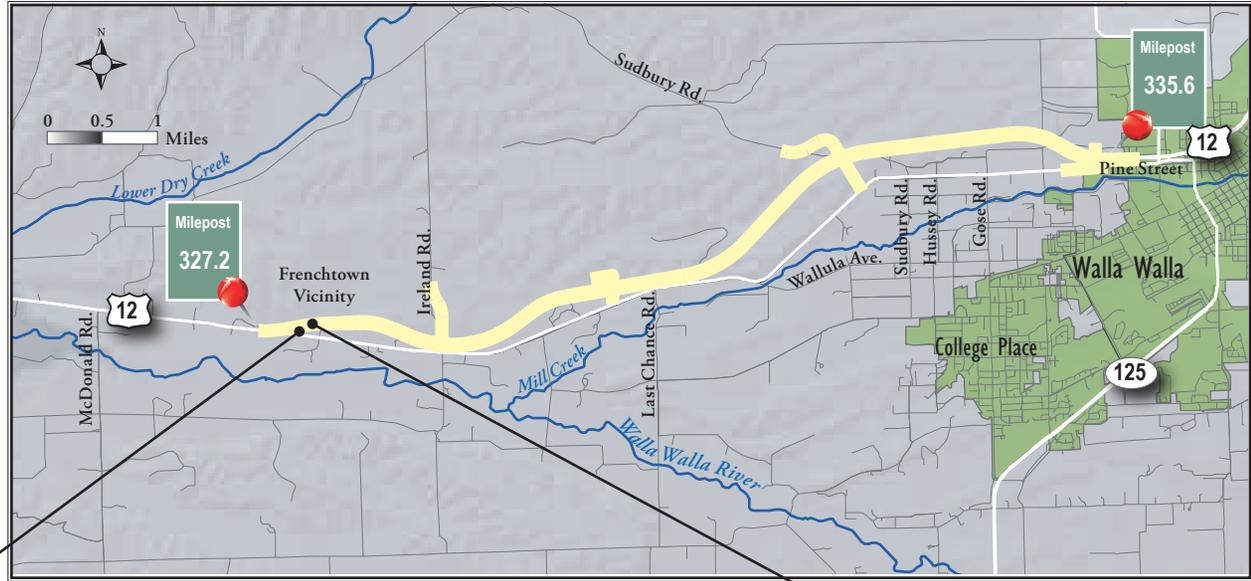
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#### **What is the National Register of Historic Places?**

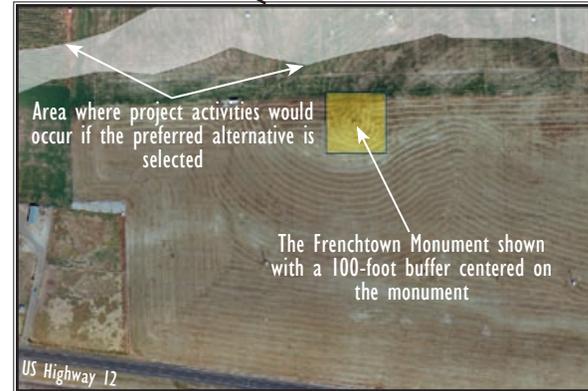
*The National Register of Historic Places is the official listing of properties significant in national, state, and/or local history.*

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Exhibit 3-5. Map showing the Area of Potential Effect (APE) for the proposed project under Alternative 4: Frenchtown Vicinity to the Walla Walla Bypass.



The Battle of Walla Walla site is located just southwest of the Frenchtown Monument. No excavation activities would occur within the project area near this site.



The Frenchtown Monument designates the location of the Frenchtown Cemetery. No excavation activities would occur within the project area near the Frenchtown site.

as well as the location of the battle's culmination, which resulted in the killing of Walla Walla Chief Peu-Peu-Mox-Mox. The nomination form describes the site as fenced and exhibiting an undeveloped character that contrasts with the cultivated fields, highway, and farm buildings that surround the property. At the time of nomination the property was used as a cattle yard.

After reviewing the 1993 nomination form for the Battle of Walla Walla Site, the Washington State Department of Archaeology and Historic Preservation (DAHP) declined to concur with the nomination due to inadequate documentation regarding the actual site of the battle (i.e., speculative boundaries for a battle that occurred over a large area) and questionable integrity. The site was subsequently listed in the Washington Heritage Register (WW-178) for its association with important historic events at the state level. Because of its association with the death of Peu-Peu-Mox-Mox, Chief of the Walla Walla, and other native peoples, this site holds cultural heritage importance for both the descendents of French-Canadian immigrants and the Confederated Tribes of the Umatilla Indian Reservation (CTUIR).

**How would historic, cultural, and archaeological resources be affected?**

Acting on behalf of the Federal Highway Administration (FHWA) the Washington State Department of Transportation (WSDOT) Cultural Resources Program Office will make a recommendation regarding the eligibility of the Frenchtown Cemetery and Walla Walla Battlefield sites for listing in the NRHP. The WSDOT Cultural Resources Program Office will also make a determination



A roadside monument that discusses the approximate location of the St. Rose Mission, the Frenchtown Cemetery, and Battle of Walla Walla.

of effect on behalf of the FHWA. Mitigation for negative effects, if any, will be determined through consultation between the FHWA, the WSDOT, the DAHP, the CTUIR, and the FHF.

Results from the *Historic, Cultural, and Archaeological Discipline Report* show that no substantial temporary or long-term effects to these resources will occur from constructing the preferred alternative. However, temporary and long-term negative effects may occur if the following measures are not taken.

### **What measures are proposed to minimize and mitigate temporary effects to historic, cultural, and archaeological resources?**

The WSDOT design plans for the proposed project avoids disturbance to the Frenchtown Cemetery Site and the Battle of Walla Walla Site. Nevertheless, at a minimum, the following measures will be implemented to reduce the likelihood of negative effects to historic, cultural, and archaeological resources during the short-term. They include the following:

- Construction activities will take place more than 150-to-200 feet to the north of the Frenchtown Monument and Cemetery ; however, no ground disturbing activities would occur within the project area near these sites.
- The WSDOT is working directly with the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), the State Historic Preservation Officer (SHPO), and a local group of individuals and organizations known as the Frenchtown Historical Foundation (FHF). The goal of this partnership has been to determine the boundaries of the Frenchtown Cemetery and other potential historic, cultural, and archaeological resources so they can be avoided, to develop inadvertent discovery

and monitoring protocol, and to assist the interest groups in their effort to preserve sites of local heritage and historical significance.

- WSDOT consultation efforts and field research have resulted in design variances of the proposed project that will minimize ground disturbing activities, especially where the highway nears areas with a high potential for historic, cultural, and archaeological resources.
- Working together, the FHF and CTUIR have developed and agreed upon their goals for the Frenchtown area. The WSDOT has assisted and provided letters in support of the FHF with two different grant applications. The first application is for an American Battlefields Grant to help establish the boundaries of the Walla Walla Battlefield. The second application is for a Scenic Byways Grant. The FHF was awarded this grant in the spring of 2006. These grant funds will help to plan interpretive facilities for the St. Rose of Lima Church, the Frenchtown Cemetery, and the Battle of Walla Walla sites. The WSDOT and the CTUIR have also contributed match funds (to the awarded Scenic Byways Grant) to establish the boundaries of the Frenchtown Cemetery, for fencing the boundary once established, and for planting natural vegetative cover to help reduce erosion of the site.
- The WSDOT, FHWA, and CTUIR will abide by the 2004 *Programmatic Memorandum of Agreement for Coordination and Consultation of State Transportation Activities*. This agreement covers the WSDOT and FHWA's commitment to ongoing consultation and has provisions for "Reparation of Ancestral Human Remains and Funerary objects."
- The WSDOT will develop and implement an archaeological monitoring plan for all ground-disturbing construction activities in the proximity of both the Frenchtown Cemetery Site and the Battle of the Walla Walla Site prior to the beginning of construction that includes a provision for monitoring by a qualified archaeologist, and that is consistent with the WSDOT, FHWA, and CTUIR operating agreement.
- If previously unidentified cultural or archaeological resources are discovered during construction, then all work in the immediate vicinity of the discovery would cease

and the project engineer will be notified immediately. The project engineer would then notify the DAHP, the CTUIR, the FHWA, the WSDOT Cultural Resources Program Office, and the WSDOT South Central Region Environmental Office.

- The WSDOT will continue face-to-face and written correspondence with the CTUIR and the FHF.

### **What measures are proposed to minimize and mitigate long-term effects to historic, cultural, and archaeological resources?**

The following measures will be implemented to reduce the likelihood of negative effects to historic, cultural, and archaeological resources during the long-term.

- Continue working with the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), the Department of Archaeology and Historic Preservation (DAHP), and the Frenchtown Historical Foundation (FHF) to identify opportunities for preserving sites of local heritage and historical significance.

### **What would happen if the preferred alternative were not selected?**

If the preferred alternative is not selected, then the potential for disturbing previously unidentified historic, cultural, or archaeological resources from construction activities (excavation) related to the proposed project would not exist.

## **Economic Resources**

### **How were economic resources evaluated for the proposed project?**

To assess effects to these resources more comprehensively, the 1,000-foot wide study corridor was extended approximately one-half mile to the north and south

of its existing boundaries. The *Economic Resources Discipline Report* (WSDOT 2005d) utilized federal, state, and local government documents, surveys, and personal interviews to identify potential effects to these resources.

### Are there areas of special concern?

#### Farm-Produce Stands

During interviews, operators and owners from three of the six farm-produce stands located along US 12 between McDonald Road and Pine Street reported that they depend exclusively on drive-by traffic. One owner said that because the profit margins from retail sales are double that of wholesale trade, their farm-produce stand accounts for two-thirds of the farm’s revenue. This same owner estimated that 75 percent of their sales come from nonresidents, while a second said that 70 percent of their sales are to nonresidents; however, none provided records to verify these figures. Also, none of the three operators believes that their nonresident customers will exit the new roadway to buy produce if the customer’s destination does not require them to do so. All of the farm-produce stand operators believed that the proposed project has the potential to affect the viability of their business.

#### Farms

Results from the *Farmland Technical Memorandum* show that approximately 369 acres of farmland would be acquired for constructing the preferred alternative. An additional 934 acres of farmable land would remain as “islands” between existing US 12 and the proposed project. If the farm owners and operators decide



Six farm-produce stands are located along US 12 within the project area..

that continuing to farm these “islands” would be cost prohibitive, then farm yields and future revenues would be reduced, and the ability of some farmers to meet contractual obligations to wholesalers or retailers may be affected. Because the future of the remaining farmland is uncertain, dissecting farmland into smaller parcels represents a potential cost to the farmer.

More specifically, the proposed project would affect operations on three of eight farms present within the project area. Most of these negative effects would result from dissecting the farms into smaller parcels. More time spent accessing fields to plant, maintain, and harvest crops, and possible interruptions to irrigation patterns would reduce efficiency, and therefore, lower revenues. One farm residence near the west end of the project would be displaced.

#### **Walla Walla Valley Wineries**

The number of wineries in the Walla Walla Valley grew from 22 to 70 between 2000 and 2005, an increase of 218 percent. The two wineries located within the proposed project area, Three Rivers Winery and Reineger Winery, were ranked as the fourth and ninth largest wineries by volume in the Walla Walla American Viticultural Area (AVA) by the Walla Walla Wine Alliance. Like farm-produce stands, profits from wineries’ retail sales are twice that of wholesale trade, and are estimated to account for 25 to 30 percent of total revenues according to winery survey respondents. Like owners of farm-produce stands, they also cite sales to nonresidents as accounting for the majority of their retail business; estimating that 60 to 70 percent of visitors are new customers. Therefore, nonresidents



Winter wheat is the major crop grown in the Walla Walla Valley. Other significant crops include barley, alfalfa, potatoes, feed-corn, fruit, peas, onions, and asparagus.

traveling on US 12 could account for 15 to 21 percent of a winery's total revenue. However, no corroborating data tracked by the wineries, the Walla Walla Wine Alliance or any public agency was found to verify these figures. Respondents to the winery survey also said that "visibility" and "easy and safe access" from existing US 12 are important factors affecting retail sales, and that the proposed project could cause up to a 50 percent decline in retail sales.

#### **Commercial Businesses**

Commercial businesses in various stages of development within the project area are concentrated around the intersection of US 12 and Pine Street. They include lodging facilities, a restaurant, and a used car lot. All were sited at this location because of visibility from and ease of access to US 12.

#### **City of College Place**

Representatives from the city of College Place have expressed concerns over the loss of existing access to US 12 via Gose Street and Wallula Avenue. They cite the potential for negative effects to local business's sales and ultimately, sales tax revenues. An increased response time by emergency service vehicles to outlying areas was also a stated concern. Constructing the proposed project would alter the principal access route at Gose Street to and from College Place. A secondary access route via Wallula Avenue would also be lost.



Vineyards and wineries are a rapidly growing sector of the Walla Walla Valley's economy.

### **How would economic resources be affected?**

Results from the *Economic Resources Discipline Report* show that no substantial temporary or long-term effects to social and economic resources will occur from constructing the preferred alternative. However, temporary and long-term negative effects are likely if the following measures are not taken.

### **What measures are proposed to minimize and mitigate temporary effects to social and economic resources?**

At a minimum, the following measures will be implemented to reduce negative effects to retail businesses and farm operations during the short-term. They include the following:

- The WSDOT will plan construction activities to minimize disruptions to businesses and farm operations where and when feasible.
- Ensure continued access to businesses and farm fields during construction where and when feasible through as much of the construction window as possible.
- Provide information to businesses and farm owners and operators in a timely manner regarding re-routes, schedules of operation, and road closures that result from construction activities.
- Provide financial compensatory mitigation for reconfiguring irrigation systems and any loss of crops that result from temporary construction easements.
- The WSDOT will not require any displaced person, business, farm, or non-profit organization to move from any dwelling or business facility without giving a written notice at least 90 days prior to the earliest date they could be required to move.

## What measures are proposed to minimize and mitigate long-term effects to social and economic resources?

At a minimum, the following measures will be implemented to reduce negative effects to retail businesses and farm operations during the long-term. They include the following:

- Administer acquisition and relocation assistance in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970*, as amended by the *Surface Transportation and Uniform Relocation Act Amendments of 1987*. The WSDOT will provide relocation assistance to all displaced business owners without discrimination.
- Develop a detailed relocation plan that will include information on each displaced business, farm, and non-profit organization that will be displaced.
- Work with each displaced business, farm, and non-profit organization to help minimize the amount of disruption that may result from the need to relocate.
- Allow for the installation of tourist activity signs that show a business's logo through the WSDOT's Motorist Information Sign Program before key intersections/interchanges (Information can be found at: <http://www.wsdot.wa.gov/biz/trafficoperations/traffic/logosigns.htm>).

At a minimum, the following measures will be implemented to reduce negative effects to the city of College Place during the long-term. They include the following:

- Identify one or more specific exit(s) as the College Place exit(s), with off-highway directional signs on old US 12.

**What would happen if the preferred alternative were not selected?**

There would be no short-term effects to farm-produce stands, farm operations, wineries, or other retail and commercial businesses in Walla Walla or College Place if the preferred alternative were not constructed. However, on an average day the number of vehicles traveling on US 12 would more than double by 2028 (The Transpo Group 2004), making it even more difficult to access commercial and retail businesses, move farm equipment, or transport goods and materials on this part of US 12.

**Visual Resources**

**How were visual resources evaluated for the proposed project?**

The *Visual Resources Discipline Report* (WSDOT 2005c) followed the FHWA *Visual Impact Assessment for Highway Projects* to compare current levels of visual quality along existing US 12 to expected levels that would result from constructing the preferred alternative. The report also utilized primary literature and state documents. On-site visits verified relevant information collected during the literature search.

**How would visual resources be affected?**

Results from the *Visual Resources Discipline Report* show that the visual quality along existing US 12 ranges from high to very low depending on the location within the project area.



An example of a view with a high rating for visual quality. This photograph was taken from the high point on the grounds of the Whitman Mission National Historic Site and looks north toward the proposed project area which would be situated on the furthest ridge line.

Temporary effects to visual resources include those associated with the presence of construction equipment and workers, staging areas, material stockpiles, debris, signs, high-visibility construction fencing, and demolition activities.

Over the long-term, visual quality from the new roadway would improve for the traveling public because of the dramatic views offered from its position on top of the ridge north of existing US 12. Views of the surrounding landscape looking toward the new roadway would diminish for those living nearby. However, relocating the highway away from residences currently situated along US 12 would decrease the amount of traffic and associated light and glare from vehicles.

**What measures are proposed to minimize and mitigate temporary effects to visual resources?**

At a minimum, the following measures will be implemented to reduce negative effects to visual resources during the short-term. They include the following:

- Encourage contractors to use already disturbed sites located away from high quality visual resources for staging and stockpile areas.
- Shield construction lighting to minimize spillover of artificial light into adjacent areas when and where feasible.
- Limit traffic congestion and lane closures to non-peak travel times when and where feasible.

**What measures are proposed to minimize and mitigate long-term effects to visual resources?**

At a minimum, the following measures will be implemented to reduce the likelihood of negative effects to visual resources during the long-term. They include the following:

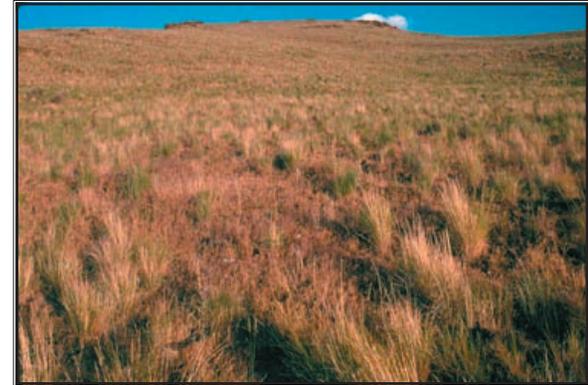
- The WSDOT will develop and implement a revegetation plan for all land within the project's right-of-way. At a minimum, this plan will comply with Treatment Level 2 of the *Roadside Classification Plan* (RCP) (WSDOT 1996), and will be sufficient to ensure the reestablishment of the native vegetation that was present within this part of the corridor prior to agricultural development, except at the extreme eastern end of the project where a semi-urban landscape is required by the Roadside Classification Plan.
- The native grass seed mix should include Regreen™ or annual rye grass to help suppress the establishment of noxious weeds.
- Provide funding for a minimum of three years of weed control to promote the establishment of plants prescribed in the revegetation plan.
- Design sign-bridges using pole construction and use paint colors that blend with the corridor's landscape.
- Design lights to focus emissions downward onto the highway and use paint colors that blend with the corridor's landscape.

The following measures should be considered to reduce negative effects to visual resources during the long-term.

- Include decorative facades on overpasses and ramp retaining walls for the interchange near Pine Street and US 12.

### **What would happen if the preferred alternative were not selected?**

There would be no short-term effects to visual quality if the preferred alternative is not constructed. Additionally, visual quality from the highway would not improve for the traveling public over the long-term, nor would the visual quality for those residents that experience residual light and glare from passing traffic



Native bunchgrasses such as Bluebunch Wheatgrass, Idaho fescue, Basin Wildrye, and Sandberg Bluegrass once covered the project area, and would be reestablished according to the project's revegetation plan.

along existing US 12. Views of the surrounding landscape looking toward the proposed project would not diminish for those living nearby.

## Public Services and Utilities

### How were public services and utilities evaluated for the proposed project?

The *Public Services and Utilities Technical Memorandum* (WSDOT 2006a) utilized contemporary aerial photography and maps, utility locate-markings, and survey data in an effort to identify, locate, and determine utility ownership within the study corridor. On-site visits and personal communications verified relevant information collected during the document search.

### How would public services and utilities be affected?

Results from the *Public Services and Utilities Technical Memorandum* show that no substantial temporary or long-term effects to public services and utilities will occur from constructing the preferred alternative. However, temporary effects are likely if the following measures are not taken.

### What measures are proposed to minimize and mitigate temporary effects to public services and utilities?

At a minimum, the following measures will be implemented to reduce negative effects to public services and utilities during the short term. They include the following:

- Ensure continued access by emergency service vehicles through the project area at all times during construction.



Every effort was made to identify and avoid or minimize effects to all utilities within and near the study corridor, such as this electric substation just outside of Walla Walla.

- Provide effectual traffic control at all locations where construction activities have the potential to reduce response times of emergency service vehicles through the project area at all times.
- Notify residents and businesses well in advance of any planned disruption of service to public or private utilities.
- The WSDOT will facilitate the relocation of all existing utilities within the project area that are disturbed as a result of construction activities according to the 1992 WSDOT Utility Accommodation Policy, as amended.
- Develop and implement an archaeological monitoring plan for all ground-disturbing activities related to relocating utilities that includes a provision for monitoring by a qualified archaeologist. This measure pertains to utility relocations by both the WSDOT and private utilities.
- If previously unidentified cultural or archaeological resources are discovered during the relocation of utilities, then all work in the immediate vicinity of the discovery would cease and the project engineer will be notified immediately. The project engineer would then notify the OAHP, the CTUIR, the FHWA, the WSDOT Cultural Resources Program Office, and the WSDOT South Central Region Environmental Office.



The WSDOT will facilitate the relocation of all existing utilities within the project area that are disturbed as a result of constructing the proposed project.

**What measures are proposed to minimize and mitigate long-term effects to public services and utilities?**

There will be no long-term effects to public services and utilities.

**What would happen if the preferred alternative is not selected?**

There would be no short-term effects to public services and utilities if the preferred alternative were not constructed. However, because on average the number of vehicles traveling on US 12 will more than double by 2028 (The Transpo Group 2004), the response time of emergency service vehicles and the level of safety at which they operate would decline over the long-term.

## Indirect and Cumulative Effects

### What Are Indirect Effects?

Indirect effects occur because of a proposed project, but take place later in time or are further removed in distance from the proposed project. They are however, still reasonably foreseeable. Indirect effects may cause changes in the growth rate, population density, and land use patterns of an area, which may subsequently affect other social, economic, and environmental resources.

### What Are Cumulative Effects?

Cumulative effects occur incrementally and are the result of combined effects from the proposed project together with other past, present, and reasonably foreseeable future actions. Results from cumulative effects analyses rarely show a particular action having a substantial effect in isolation from other actions, but instead analyze a proposed project to determine its consistency with the direction a community is moving.

The landscape encompassing the project area has been substantially modified in the 150 years since the signing of the treaty between the U.S. Government and the Cayuse, Umatilla, and Walla Walla Tribes in 1855. The cumulative effects time-line in Exhibit 3-6 depicts those public and private decisions that have changed the social, economic, and environmental landscape of the Walla Walla Valley from the signing of the treaty to 2028, the design year for the proposed project.

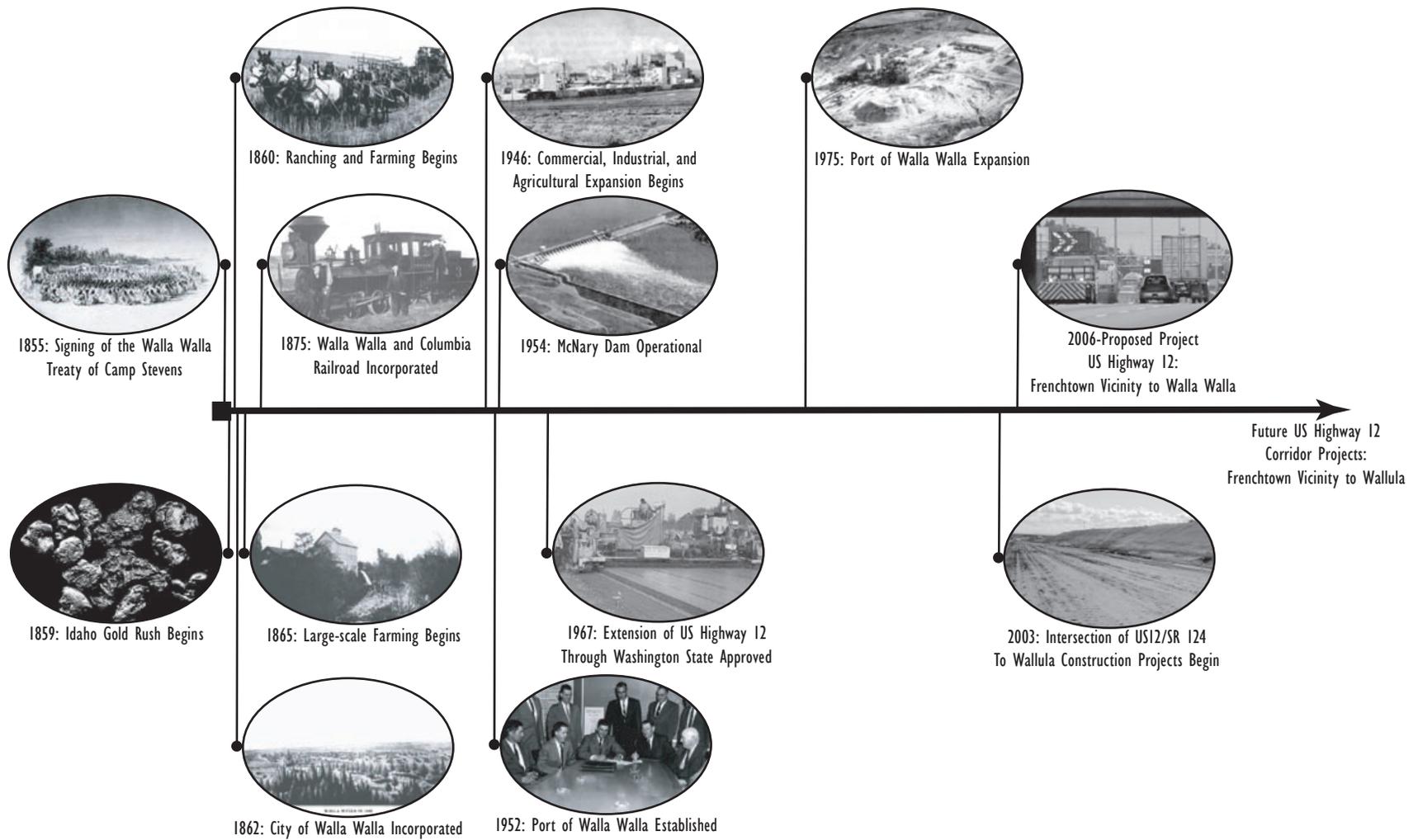


Exhibit 3-6. Time-line showing those past, present, and reasonably foreseeable future land actions within the geographic area of the proposed project that may contribute to cumulative effects.

## Which Social, Economic, and Environmental Resources Would Experience Indirect and Cumulative Effects?

The likelihood of indirect and cumulative effects were evaluated for each resource considered in this document. However, only those resources subject to an indirect effect, a cumulative effect, or both, are addressed here.

### Land Use

Results from the *Land Use Discipline Report* (David Evans and Associates, Inc, 2005f) show that “islands” of land would be created between the existing highway and the proposed project. The majority of this land, 83 percent, is currently zoned either Agricultural Residential – 10 acre minimum or Primary Agriculture – 40 acre minimum; the remaining 17 percent is zoned non-agricultural. If Walla Walla County continues to permit the rezoning of these agricultural lands for higher intensity uses, then they will likely become more fragmented during the design life of the proposed project.

Because access to the proposed roadway would be limited to planned intersections, most commercial development associated with the proposed alternative would be limited to these areas; however, access to newly subdivided properties between the two roadways would be from existing US 12. The potential for additional points of access along existing US 12 as a result of rezoning, together with a change in access to the proposed roadway, would likely alter local traffic patterns for travelers going to or coming from College Place. While a change in local traffic is not expected to reduce the number of trips to

College Place, it could affect the potential for commercial opportunities where none currently exist. This may encourage applications for rezoning on parcels of land within the cities Walla Walla and College Place. If permitted, these future land uses could affect other social, economic, and environmental resources.

There are several active and proposed developments within and around the project area. In conversations with the Development Services Director for the City of Walla Walla, it was determined that the following projects be considered for their potential cumulative effects:

- South of West Pine Street, behind Elmer’s Restaurant, an on-going development is under construction that includes a hotel and two office buildings.
- Mini storage units are being proposed near existing US 12, west of Pine Street. Property annexation into Walla Walla is required for this project.
- The Washington State Penitentiary is proposing to expand their existing facilities. Physical property expansion would occur to the west of the existing site. An Environmental Impact Statement has been prepared for the project. Permitting is underway and the project proposes phased construction. The County Planning Commission voted to approve the necessary rezone for this project.

In conversations with the Associate Planner for Walla Walla County, it was determined that the following projects be considered for their potential cumulative impacts:

- Skylight Winery is proposing to locate at the southeast corner of the intersection of Campbell Road and existing US 12.
- Cougar Crest Winery has recently relocated to a property near the intersection of existing US 12 and Ireland Road.

- Bodega Turner Winery is planning a new facility just west of where the proposed roadway would tie-in to existing US 12 near Nibler Road. It would be located on the east side of Nibler Road and north side of Camino Del Vino Road (private road).
- Long Shadow Winery is proposing a new facility that would be located on Ireland Road approximately two miles north of where the proposed roadway would intersect Ireland Road.
- A golf course and housing development called the Byerley's Pioneer Subdivision has been proposed for the Byerley farm. The property is located to the west of Ireland Road and north of existing US 12. The site is platted directly over the proposed roadway. A zoning change has been permitted by Walla Walla County for this land use action.
- A golf course and housing development has also been proposed on the former Baumann property, now owned by Walla Walla Rivers Estates. The property is located to the east of Ireland Road and north of existing US 12. The land is currently leased for farming. A zoning change would be required for the new development to go forward.
- The Myra Road Corridor Extension Project, a transportation project proposed by Walla Walla County and the cities of Walla Walla and College Place, would construct a four-lane extension of Myra Road from north of Poplar Street in College Place to a roundabout at the eastern end of the proposed project near Pine Street.
- The WSDOT is currently scoping the remaining phased construction projects for the US 12 Corridor. These projects would continue constructing a four-lane limited access highway from the west end of the proposed project to the Wallula area near the Columbia River.

When considered within the context of the known effects from the proposed project, it is likely that both negative and positive indirect and cumulative

effects to social, economic, and environmental resources could result from these reasonably foreseeable future actions.

## **Water Resources**

Results from the *Water Resources Discipline Report* (David Evans and Associates 2005a) suggest that the quality of both surface water and groundwater entering Mill Creek and the Walla Walla River could be improved by constructing the preferred alternative.

The proposed roadway would be located at least one-half of a mile further from the floodplains of Mill Creek and the Walla Walla River near the top of a ridge on very deep soils. The characteristics of this new location permit implementing *Best Management Practices* (BMPs) for treating pollutants suspended in stormwater runoff that would be more effective than the level of treatment on existing US Highway 12. Additionally, up to 75 percent of all traffic using the existing highway would shift to the proposed roadway; therefore, the amount of pollutants from the existing highway that currently reach Mill Creek and the Walla Walla River would be reduced proportionately, as would the risk of accident-related water pollution.

When taken together with the completed and remaining construction projects planned for the US 12 Corridor from the Snake River to Walla Walla, the proposed project would improve the quality of both surface water and groundwater, especially if the remaining construction projects also relocate the existing US 12 to areas with deep soil and further from floodplains.

## Fish, Wildlife, and Vegetation

The *Natural Environment Discipline Report* (WSDOT 2005b) suggests that improving the quality of stormwater runoff would help to maintain and improve the habitat utilized by fish and wildlife, and therefore, the fitness of those organisms that depend on a source of high quality water within and around the project area.

Conversely, it is likely that the proposed project, together with completed and remaining construction projects, would act as an obstacle to deer and other wildlife moving between forage areas, water sources, and sheltered bedding areas. Therefore, we should expect more vehicle-wildlife collisions as traffic increases, which could affect the diversity of local wildlife populations over the long-term.

Constructing the preferred alternative could accelerate the fragmentation of habitat already occurring between the existing highway and the proposed project, especially if Walla Walla County continues to permit the rezoning of this land for higher intensity uses.

## Farmlands

If Walla Walla County continues permitting the subdivision of the remaining farmland between existing US 12 and the proposed project, then it would become fragmented and could be more difficult to farm economically. Likewise, if the remaining planned construction projects within the US 12 Corridor result

in the realignment of the highway from the west end of the proposed project to the Wallula area near the Columbia River, then it is likely that more farmland would become fragmented, and possibly taken out of production.

### **Economic Resources**

Realigning US 12 through the remainder of the corridor could contribute to additional losses of retail sales. However, when considered within the context of Walla Walla County's economy, it is likely that the overall effect would be negligible.

### **Indirect and Cumulative Effects Summary**

Indirect and cumulative effects from the proposed project are minimal when compared to the level of disturbance from the conversion of native plant and animal communities to agricultural, commercial, industrial, and residential land uses throughout the corridor. The proposed project employs effective avoidance, minimization, and mitigation strategies developed from input by state and federal agencies, tribal governments, and the public.

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