Thorncreek Road to Moscow
Project No. DHP-NH-4110(156)
Key No. 9294
Alignment Screening #1

This report recommends alternatives to be carried forward for evaluation in the Thorncreek Road to Moscow Draft Environmental Impact Statement (DEIS) and documents the process used to develop the recommendations.

PART I – PROJECT BACKGROUND AND DESCRIPTION

PROJECT HISTORY

In 1999, the Idaho Transportation Department (ITD) District 2 began development of an Environmental Assessment (EA) for the Top of Lewiston Hill to Moscow projects. The EA was approved in May 2002. In 2003, the Top of Lewiston Hill to Moscow project was litigated which resulted in a change to the approved logical termini for the project. As a result of this action, two projects were defined, the Top of Lewiston Hill to Thorncreek Road and Thorncreek Road to Moscow.

The Top of Lewiston Hill to Thorncreek Road project was separated into two projects for construction which began in October 2004. It was determined that an EIS would be required for the Thorncreek Road to Moscow project. Work on the EIS began in November 2003 when Notice of Intent to prepare an EIS was published on the Federal Register. Environmental evaluation of the project began in 2004. This project will complete improvements to U.S. 95 between Lewiston and Moscow.

PURPOSE AND NEED

The purpose of this project is to improve public safety and increase highway capacity on U.S. 95 between Thorncreek Road, south of Moscow at MP 337.200 and Moscow at MP 343.982.

Within the project limits, U.S. 95 does not meet current American Association of State Highway and Transportation Officials (AASHTO) guidelines standards for widths, clear-zones, grades and sight distance. Additional concerns include high accident locations and insufficient highway capacity.

LOGICAL TERMINI

The logical termini established for the project begins at Thorncreek Road (MP 337.189) and runs north to the South Fork Palouse River Bridge (MP 344.004). The project limits were selected as logical termini for several reasons:

- Civil Case No. 03-0156-S-BLW defined separate projects from what was originally planned as one large project between the Top of the Lewiston Hill and Moscow.

- The Thorncreek Road to Moscow project generates 16 percent of the traffic volume on U.S. 95 between Lewiston and Moscow.

PROJECT CONCEPT

The concept for this project was approved on 12/19/99 when the Top of Lewiston Hill to Moscow project was approved. Based on discussions with the ITD Roadway Design section, this approval may be used as concept approval for the Thorncreek Road to Moscow project.

PROPOSED ROADWAY (TYPICAL SECTION)

The cross section of the proposed roadway will consist of a four lane divided highway with a thirty four foot median. The roadway will have eight foot outside shoulders and four foot inside shoulders with two twelve foot travel lanes in each direction. The fore slope of the roadway will have a six to one slope on the outside with a four to one slope on the inside (median) and a minimum of a one foot ditch will be constructed throughout the project. As the alignment gets closer to Moscow the four lane divided section will transition to a five lane facility (continuous twelve foot center turn lane) to match the existing cross section at the Palouse River Bridge, just south of Moscow. Both right and left turn lanes will be constructed at all county road intersections.

CORRIDORS

The project area examined is approximately 21 square miles. To the west of U.S. 95, the project area extends approximately one mile and is near the Washington state line. To the east, the project area extends to the shoulder of a timbered ridgeline known as Paradise Ridge.

The project area was divided into three corridors -- west, central and east (see attached corridor maps):

- The western corridor occurs west of the existing U.S. 95
- The central corridor is the area adjacent to U.S. 95
- The Eastern corridor is east of U.S. 95.

ALIGNMENTS

In 2004 scoping for the Thorncreek Road to Moscow project began. Based on input received, five alignments were created. In 2005, those five alignments were presented to the public during project workshops. As a result of comments received from the public, five additional alignments were developed. A total of ten alignments were studied during the 2005 field season. This document was prepared to screen the 10 alignments considered and recommend alignments to carry forward into the DIES process.

The ten alignments developed include four alignments in the western corridor, three alignments in the central corridor (including an existing/improved alignment) and three alignments in the eastern corridor (see attached alignment map). A brief description of these alignments follows:

Western Corridor

- **W-1:**
  This alignment is approximately 8.2 miles long and will be constructed to a four-lane divided highway. W-1 begins at Martinsen Road and crosses Thorncreek Road with an

at-grade intersection providing access to existing U.S. 95 and Thorncreek Road. W-1 then runs east of Broenneke Road. At Jacksha Road an overpass structure will be constructed. The alignment continues north and crosses over an unnamed private road with an overpass structure. An overpass structure will be constructed at Snow Road approximately 1,000 feet east of the Idaho/Washington state line.

The alignment will connect to existing U.S. 95 on the north end of the project near the grain elevators and the recently completed Moscow South project. An at-grade intersection will be constructed in this location that will provide access to existing U.S. 95. From the left turn lane to the existing U.S. 95 connector, the roadway will change from a four-lane divided section to a five-lane section with a center turn lane, curb, gutter and sidewalk. The speed limit will also be reduced from here into Moscow. Existing U.S. 95 from Thorncreek Road to the grain elevators will be turned over to the North Latah Highway District.

- **W-2:**
  This alignment is approximately 7.3 miles long and will be constructed to a four-lane divided highway. W-2 begins at Martinsen Road then crosses Thorncreek Road with an at-grade intersection proving access to existing U.S. 95 and Thorncreek Road. It then runs east of Broenneke and Jacksha Roads. This alignment continues north and crosses Jacksha Road with an overpass structure. This alignment will cross Snow Road with an overpass structure located approximately ¾ mile west of the existing junction of U.S. 95 and Snow Road.

  This alignment will connect to existing U.S. 95 near the grain elevators and the recently completed Moscow South project. An at-grade intersection will be constructed in this location to provide access to existing U.S. 95. From the left turn lane to the existing U.S. 95 connector, the roadway will change from a four-lane divided section to a five-lane section with a center turn lane, curb, gutter and sidewalk. The speed limit will also be reduced from here into Moscow. Existing U.S. 95 from Thorncreek Road to the grain elevators will be turned over to the North Latah Highway District.

- **W-3:**
  This alignment is approximately 7.8 miles long and will be constructed to a four-lane divided highway. W-3 begins at Martinsen Road and crosses Thorncreek Road with an at-grade intersection providing access to existing U.S. 95 and Thorncreek Road. It then runs east of Broenneke Road. At Jacksha Road an overpass structure will be constructed. This overpass is located approximately ½ mile west of the existing junction with U.S. 95. The alignment continues north and runs parallel and to the west of Jacksha Road. W-3 will cross an unnamed private road with an overpass structure. An overpass structure will also be constructed at Snow Road which is located approximately ¾ mile west of the existing junction of U.S. 95 and Snow Road.

  This alignment will connect to existing U.S. 95 near the grain elevators and the recently completed Moscow South project. An at-grade intersection will be constructed in this location to provide access to existing U.S. 95. Beginning at the left turn lane to the

existing U.S. 95 connector, the roadway will change from a four-lane divided section to a five-lane section with a center turn lane, curb, gutter and sidewalk. The speed limit will also be reduced from here into Moscow. Existing U.S. 95 from Thorncreek Road to the grain elevators will be turned over to the North Latah Highway District.

- **W-4:**
  This alignment is approximately 7.5 miles long and will be constructed to a four-lane divided highway. W-4 begins at Martinsen Road and closely follows the existing alignment to approximately ¾ mile south of Zeitler Road. Improvements to this point consist of flattening the existing horizontal curves and adjusting the grade to meet current standards. At-grade intersections will be constructed at all the county roads up through Zeitler Road. Left and right turn lanes will be located at all the county road intersections. At this point, the alignment will move west. It will cross Snow Road with an overpass structure. This overpass is located approximately ½ mile west of the existing junction of U.S. 95 and Snow Road.

  The alignment will connect to existing U.S. 95 near the grain elevators and the recently completed Moscow South project. An at-grade intersection will be constructed in this location to provide access to existing U.S. 95. From the left turn lane to the existing U.S. 95 connector, the roadway will change from a four-lane divided section to a five-lane section with a center turn lane, curb, gutter and sidewalk. The speed limit will also be reduced from here into Moscow. Existing U.S. 95 from Jacksha Road to the grain elevators will be turned over to the North Latah Highway District.

Central Corridor

- **C-1:**
  This alignment is approximately 7.3 miles long and will be constructed to a four-lane divided highway. C-1 begins at Martinsen Road and closely follows the existing alignment to the end at the recently completed Moscow South project. Improvements will include flattening the existing horizontal curves and adjusting the grade to meet current standards. At-grade intersections will be constructed at all county roads to the south entrance to Clyde Road. Left and right turn lanes will be located at all the county road intersections.

  At the south entrance to Clyde Road, this alignment will change from a four-lane divided section to a five-lane section with a center turn lane, curb, gutter and sidewalk. The speed limit will also be reduced from here into Moscow.

- **C-2:**
  This alignment is approximately 7.4 miles long and will be constructed to a four-lane divided highway. C-2 begins at Martinsen Road and closely follows the existing alignment to approximately ½ mile south of Jacksha Road. Improvements will include flattening the existing horizontal curves and adjusting the grade to meet current standards. At-grade intersections will be constructed at all the county roads through Jacksha Road. Left and right turn lanes will be located at all the county road intersections. This alignment will move west and approximately ½ mile north of the

Jacksha Road intersection. An at-grade intersection will be constructed to connect to existing U.S. 95 and Zeitler Road to the east. Left and right turn lanes will be provided at this intersection. The alignment continues north and at Snow Road it will cross Snow Road with an overpass structure. This overpass is located approximately ½ mile west of the existing junction of U.S. 95 and Snow Road.

This alignment will connect to existing U.S. 95 near the grain elevators and the recently completed Moscow South project. An at-grade intersection will be constructed at this location to access existing U.S. 95. Beginning at the left turn lane to the existing U.S. 95 connector, the roadway will change from a 4-lane divided section to a 5-lane section with a center turn lane, curb, gutter and sidewalk. The speed limit will also be reduced from here into Moscow. Existing U.S. 95 from Zeitler Road to the grain elevators will be turned over to the North Latah Highway District.

- **C-3:**
  This alignment is approximately 6.8 miles long and will be constructed to a four-lane divided highway. C-3 will begin at Martinsen Road and will closely follow the existing alignment to approximately ¼ mile north of Eid Road. Improvements will include flattening the existing horizontal curves and adjusting the grade to meet current standards. At-grade intersections will be constructed at the county roads up through Eid Road. Left and right turn lanes will be provided at these intersections. An at-grade intersection will be constructed approximately ½ mile north of the Eid Road intersection to provide access to existing U.S. 95. Left and right turn lanes will be located at this intersection. This alignment will continue east of existing U.S. 95 running north and will cross Zeitler Road with an overpass structure. The alternate will tie into existing U.S. 95 just south of Cameron Road near Johnson Trucking and an at-grade intersection will be constructed south of the Johnson Trucking to provide access to existing U.S. 95. Left and right turn lanes will be located at this intersection.

  Existing U.S. 95 will be abandoned from approximately Eid Road to the Johnson trucking parcel and will be turned over to the North Latah Highway District to maintain. From the U.S. 95 connector, the proposed roadway will change from a four-lane divided section to a five-lane section with a center turn lane, curb, gutter and sidewalk. The speed limit will also be reduced from here into Moscow. This alignment will end at the recently completed Moscow South project.

- **E-1:**
  This alignment is approximately 6.6 miles long and will be constructed to a four-lane divided highway. E-1 begins at Martinsen Road and will closely follow the existing alignment up to the top of Reisenauer Hill. Improvements will include flattening the existing horizontal curves and adjusting the grade to meet current standards. An at-grade intersection will be constructed at the county roads and at the top of Reisenauer Hill to provide access to existing U.S. 95. Left and right turn lanes will be located at this intersection.

From the top of Reisenauer Hill, this alignment runs north and closely follows the north/south power lines. E-1 will cross Eid Road with an overpass structure. The alignment continues north to the east/west power lines near Cameron Road.

The alignment will connect to existing U.S. 95 near the grain elevators and the recently completed Moscow South project. An at-grade intersection will be constructed in this location to provide access to existing U.S. 95. Beginning at the left-turn lane for the existing U.S. 95 connector, the roadway will change from a four-lane divided to a five-lane section with a center turn lane, curb, gutter and sidewalk. The speed limit will also be reduced from here into Moscow. Existing U.S. 95 from the top of Reisenauer Hill to the grain elevators will be turned over to the North Latah Highway District.

- **E-2:**
  This alignment is approximately 6.7 miles long and will be constructed to a four-lane divided highway. E-2 begins at Martinsen Road and closely follows the existing alignment up to the top of Reisenauer Hill. Improvements will include flattening the existing horizontal curves and adjusting the grade to meet current standards. An at-grade intersection will be constructed at the county roads and at the top of Reisenauer Hill to provide access to existing U.S. 95. Left and right turn lanes will be located at this intersection.

  From the top of Reisenauer Hill, this alternate runs north and will cross Eid Road with an overpass structure. This alignment continues north to the east/west power lines approximately ½ mile from Cameron Road.

  The alignment will connect to existing U.S. 95 near the grain elevators and the recently completed Moscow South project. An at-grade intersection will be constructed in this location to access existing U.S. 95. Beginning at the left turn lane for the existing U.S. 95 connector, the roadway will change from a four-lane divided to a five-lane section with a center turn lane, curb, gutter and sidewalk. The speed limit will also be reduced from here into Moscow. Existing U.S. 95 from the top of Reisenauer Hill to the grain elevators will be turned over to the North Latah Highway District.

- **E-3:**
  This alignment is approximately 6.6 miles long and is similar to E-2 but falls between E-1 and E-2. E-3 will be constructed to a four-lane divided highway and will begin at Martinsen Road. E-3 closely follows the existing alignment up to the top of Reisenauer Hill. Improvements will include flattening the existing horizontal curves and adjusting the grade to meet current standards. An at-grade intersection will be constructed at the county roads and at the top of Reisenauer Hill to provide access to existing U.S. 95. Left and right turn lanes will be located at this intersection.

  From the top of Reisenauer Hill, alignment E-3 runs northwest and will cross Eid Road with an overpass structure. Alignment E-3 continues in a north direction to the east/west power lines approximately ½ mile from Cameron Road.

The alignment will connect to existing U.S. 95 near the grain elevators and the recently completed Moscow South project. An at-grade intersection will be constructed in this location to provide access to existing U.S. 95. At the U.S. 95 connector, the roadway will change from a four-lane divided to a five-lane section with a center turn lane, curb, gutter and sidewalk. The speed limit will also be reduced from here into Moscow. Existing U.S. 95 from the top of Reisenauer Hill to the grain elevators will be turned over to the North Latah Highway District.

PUBLIC INVOLVEMENT

Public involvement has had a significant role since the beginning of the Thorncreek Road to Moscow project. The following is a summary of public involvement activities to date:

- In July and August 2004, ITD conducted community interviews in the project area. The purpose of the interviews was to learn the community's issues and concerns, and how best to engage the public in this project.
- ITD hosted the first formal public involvement opportunity at an open house in November 2004. At this open house, the public identified issues important to them and concerns when selecting an alignment. ITD included these issues and concerns in the evaluation criteria for this project.
- ITD hosted an alternative workshop in January 2005. The public provided input on the six alternatives proposed by ITD. Input at the workshops resulted in the addition of four alternatives to be studied. In April 2005, ITD provided the public with an opportunity to review and give input on the ten alternatives it proposed to study.
- In January 2006, ITD presented and gathered public input on the environmental studies that were conducted for this project and on the alternatives ITD recommended for further consideration.

Notification for public involvement opportunities occurs in several ways. ITD maintains and mails to a stakeholder database that contains nearly 1,100 names. Newsletters and/or invitation postcards are mailed to these lists.

ITD used a mail house to send notification for the November 2004 and the January 2006 open houses to all businesses and residents in Moscow and Genesee, a total of more than 12,000.

The community has also been kept informed about this project by: monthly breakfast meetings, display ads in local papers, news releases to local media and a project Web site. Public involvement continues to be a priority for this project.

INTERDISCIPLINARY TEAM

To involve regulatory agencies in the development of this project, an interdisciplinary team (IDT) was formed. The goal of this team was to have continuous communication with the agencies, in particular the U.S. Army Corps of Engineers, which is on record as being a Cooperative Agency. The IDT provided expert review of the environmental reports prepared for this project. All environmental reports were circulated to all IDT agencies. All agency comments were reviewed, addressed and incorporated by the environmental consultants who completed the studies.

In many instances, the IDT made recommendations regarding the level of detail required to complete the Phase 1 screening of alignments. For example, ITD and the EPA agreed that existing wetland information was sufficient to complete a Phase 1 screen of alignments. EPA also requested a Function and Value Assessment be prepared for all alignments under consideration after the Phase 1 screen is complete. District 2 has agreed to do this and a Function and Value Assessment will begin after FHWA approves the alignments to carry forward into the DIES.

Following is a list of agencies that participated in the IDT process and dates meetings were held (attached are meeting minutes from all IDT meetings):

IDT Agencies:	IDT Meeting Dates:
• Federal Highway Administration	• 5/12/04
• U.S. Army Corps of Engineers	• 12/14/04
• Environmental Protection Agency	• 4/12/05
• U.S. Fish & Wildlife Service	• 10/11/05
• Idaho Transportation Department	• 1/10/06
• Idaho Department of Fish & Game	
• Department of Environmental Quality	

PART II – SCREENING CRITERIA AND ANALYSIS

SCREENING CRITERIA

Based on a desire to maintain corridor and alignment options and based on extensive environmental evaluation and public involvement, ITD proposes to advance one alignment from the western, central and eastern corridors. Prior to making any alignment recommendations, the following criteria were considered:

- Design Standards
- Safety
- Right-Of-Way Acres
- Estimated Total Construction Cost
- Water Quality
- Air Quality
- Archeological
- Historic
- Wetlands
- Regulatory Floodways and Floodplains
- Threatened and Endangered Species
- Hazardous Materials
- Environmental Justice
- Socio-Economic
- Displacements
- Noise
- Visual Analysis
- Prime Farmland
- State Sensitive Species
- Plant Species and Communities of Concern
- Ungulates
- Climate

MEETS DESIGN STANDARDS

All the alternatives will meet the American Association of State Highway and Transportation Officials (AASHTO) guidelines standards, as outlined in the 2004 book. These standards include a maximum of 5 percent grades, design speed of 70 mph, a maximum of a 2,040-foot radius curve and two 12-foot travel lanes with an 8-foot outside shoulder and 4-foot inside shoulder.

SAFETY

Safety for the traveling public must be considered when developing highway improvement projects. The ITD Safety Evaluation Instruction Manual was used to identify potential roadway characteristic differences in the 10 alignments.

A basic measure of the safety of a roadway segment is identified as the crash rate, which is noted in crashes per vehicle mile traveled. Due to the very small nature of this number, it is normally converted to crashes per million vehicle miles traveled (crashes/MVM) for reporting purposes. Historical crash rates for the various road types in Idaho are provided in the Manual. The safety evaluation manual identifies measurable items like length of roadway segment, average daily traffic count, number of recorded crashes and roadway type (lane characteristics) as criteria that can be used to calculate current crash rates for existing roads as well as anticipated crash rates for future roadway improvements. Since this project will be designed and constructed to the latest Federal Highway Administration standards as adopted by the ITD, many roadway safety characteristics (such as curve geometry, lane width, shoulder width, shoulder slopes, clear zones, etc.) will be similar regardless of the alignment that is chosen.

In an effort to compare the relative safety of the various proposed alternative alignments, the district staff determined that there were two prominent characteristics that varied between the proposed alignments. The length of each alignment is the first notable difference that can be considered (a longer alignment produces more vehicle miles traveled and thus more risk/exposure to crashes). The second notable difference is the level of access control that can be attained (the more access points, or driveways/approaches, along the alignment the more traffic flow conflict points that are present to create risk to the highway user).

The safety evaluation manual indicates that a rural partial controlled access multi-lane divided roadway of the type proposed under this project has a historical crash rate of 0.89 crashes/MVM. It determined that this crash rate should be representative of the C-1 alignment (as it was determined to be the proposed alignment with the most identifiable access points). The manual further indicates the best crash rate of 0.60 crashes/MVM occurs on full access controlled rural roads (e.g. Interstate highways). ITD assumed that this 0.60 rate would represent the safest roadway and would cover factors beyond the control of ITD (driver error, unpredictable weather, loose animals, etc.). ITD prorated a crash rate between 0.89 and 0.60 for the other proposed alignments (C-2, C-3, W-1, W-2, W-3, W-4, E-1,E-2,E-3) based on the reduced number of access points on each alignment. These prorated crash rates were then used, with projected ADT values and alignment lengths, to calculate the crashes per year that could be anticipated for each of the proposed alignments.

The calculations showed a significant difference between the proposed multi-lane alignments and the existing two-lane two-way highway, supporting the need for the improvement project. There were only slight differences in the anticipated crash rates for the proposed new alignments (primarily based on the lengths of the respective alignments).

When comparing the safety numbers for the proposed alignments to the existing alignment it shows that there will be approximately one half of the accident per year by constructing a four lane divided highway. The main reason for this reduction is because of the number of approaches on the proposed alignments will decrease since we are only allowing farm and county road access only. The other factor is going from a existing two lane facility to a four lane facility which will reduce the head on type of crashes.

The outcome of this report reflects the predicted number of accidents per year for each alignment.

W-1	W-2	W-3	W-4	C-1	C-2	C-3	E-1	E-2	E-3
13.07	11.64	12.43	12.63	14.59	12.29	12.97	10.52	10.68	10.52

To weight the proposed alignments against one another based on the findings of the safety study, it was determined that the alignments with the fewest accidents per year per corridor were preferred. Using this weighting method, the top three alignments are: W-2, C-2, E-1 and E-3 (tied).

RIGHT-OF-WAY ACRES

The right-of-way calculation for each alternative shows both the new and existing acres and the total. The right-of-way is estimated to be 15 feet beyond the cut/fill line on each side of the roadway. The existing right-of-way acres are locations where the proposed roadway is located over the existing roadway and represents land that ITD will not have to purchase.

W-1	W-2	W-3	W-4	C-1	C-2	C-3	E-1	E-2	E-3
308/12/320	270/15/285	283/7/290	204/51/255	135/90/225	196/54/250	139/56/195	227/33/260	195/30/225	205/30/235

To weight the proposed alignments against one another based on right-of-way, it was determined that the alignments with the least amount of total right-of-way take per corridor were preferred. Using this weighting method, the top three alignments are: W-4, C-3 and E-2.

ESTIMATED TOTAL CONSTRUCTION COST

The cost estimate (displayed in millions of dollars) for each alternative only includes the cost of construction: excavation, rock ballast, plant mix, structures, traffic control and illumination. The estimate does not include the right-of-way, preliminary engineering, mitigation and construction engineering. The cost will be calculated once the alignments are designed during the preliminary design phase of the project.

W-1	W-2	W-3	W-4	C-1	C-2	C-3	E-1	E-2	E-3
$58 m	$49 m	$55 m	$41 m	$33 m	$41 m	$33 m	$43 m	$37 m	$40 m

To weight the proposed alignments against one another based on cost, it was determined that alignments that cost the least were preferred. Using this weighting method, the top three alignments are: W-4, C-1 and C-3 (tied), and E-2.

ENVIRONMENTAL STUDIES

Eighteen environmental aspects were considered for the first screening of alignments. Many of these tasks required an environmental/discipline report prepared by a professional consultant with expertise in the field. Some of the tasks were documented by mapping the location of existing resources. The environmental aspects documented under ITD's current screening effort and for EIS preparation are:

A summary of the findings of the referenced report follows:

WATER QUALITY

Water quality impacts for this project were evaluated in regard to 303d listing status and Total Maximum Daily Load (TMDL) assessment. The 303d list establishes requirements to identify and prioritize water bodies that do not meet water quality standards.

A TMDL is a pollutant budget, a calculation of the maximum amount of a pollutant that a water body can receive from human-caused sources and still meet water quality standards. This budget is expressed in terms of loads: the amounts of pollutants added to a water body during a given time or per a volume of water.

Within the project limits there are two large streams. Thorn Creek parallels U.S. 95 briefly on the southern end of the project and the South Fork of the Palouse River runs east/west across the project on its northern end. There are numerous small, unnamed tributaries and field drainages that are crossed by the all the proposed alignments.

All of the streams within the project limits are within the same watershed and are tributaries to a 303d listed water, but none of the streams have been individually listed or have an established TMDL. Construction of all alignments will be permitted and have associated water quality standards applied.

AIR QUALITY

The purpose of the air quality guidance is to maintain/lower impacts of environmental and health risks caused by pollutants in the air. The National Environmental Policy Act (NEPA), 42 USC 4231 is the umbrella act for air quality. The Federal Clean Air Act, 42 USC 7401 plus Amendments deals directly with pollutants of concern. 40 CFR 1500-1508 and 23 CFR Part 771, and Idaho State Administrative Code (IDAPA 58.01.01) are the regulations of those laws.

The project is not within a Federally designated air quality non attainment area for CO and/or PM10. This project does not include or directly affect any roadways for which forecast traffic numbers will exceed volumes as determined by ITD project Level Air Quality Screening Policy (July 2005). It can therefore be concluded that the project will have no significant adverse impact on air quality as a result of CO emissions.

ARCHEOLOGICAL

Because the project area is 21 square miles, it was not practical to perform an on-the-ground archeological and history survey of the entire project area. Rather, based on discussion with the Idaho State Preservation Office, the consultant prepared a predictive model. Based on terrain features, water courses and existing documentation, the predictive model was used to estimate which areas of the study corridor would have the highest probability of containing cultural material.

Historic cultural resources are well documented in the project Area of Potential Effect (APE). Additional historic resources are likely to be located, particularly debris scatters near farmsteads and along roads. Historic site probability is moderate along transportation corridors and in

stream valleys. Historic site probability is low throughout the remaining predominately steep, cultivated slopes.

Prehistoric cultural resources are not known in the project APE. While they are likely present in the 21 square mile project APE, a previous survey of more than 50 percent of the existing U.S. 95 corridor has failed to locate any prehistoric cultural resources. There is no doubt that Indians used and traversed the project APE; however, the area is peripheral to major stream valleys that were the location of much ethnographically documented activity. The large camas meadow at Moscow north of the APE would have been a locus of activity, but no similar camas meadows are known to have existed in the APE. As described above, exploited camas meadows should have associated camp and camas processing sites. Indeed, the one Nez Perce camp, *t'áxtaxhinma*, reported to have been somewhere in Section 19 or 20 T39N, R5W, is relatively close to the large camas field near the airfield in Section 20 T39N, R5W. Stream valleys in the project APE provided water, plant, and animal resources desired by Native American people, as well as providing relatively level terrain for campsites.

Importantly, the project APE is outside of the area of aboriginal village locations, and it lacks a number of the environmental characteristics that typify the known distribution of Nez Perce camps. Nonetheless, prehistoric camp or resource exploitation sites may be present in the project APE. However, it is likely that the resources in the APE were present in lower quantities or associated with fewer other resources than was the case elsewhere in the region. While project APE valleys possess the greatest prehistoric site probability, this probability is moderate and the remaining project APE has low prehistoric site probability.

Prehistoric cultural resources are likely to be of low concern for designing the proposed U.S. 95 project. Historic resources in the form of National Register of Historic Places eligible farmsteads will be of greater concern, although effects to these resources are likely easily avoided through careful design.

Provided is a breakdown of the cultural findings for all alignments. The number provided is the estimated acres within probable cultural occurrence areas per alignment.

W-1	W-2	W-3	W-4	C-1	C-2	C-3	E-1	E-2	E-3
114	90	83	121	100	125	75	53	42	44

To weight the proposed alignments against one another based on the findings of the Cultural Resource Probability Study it was determined that the alignments with the fewest acres of probable cultural resource occurrence areas per corridor were preferred. Using this weighting method, the top three alignments are: W-3, C-3 and E-2.

HISTORIC

The purpose of the historic buildings/structure survey was to review the project area for historic resources eligible for the National Register of Historic Places and to discuss the effects of each alternative on historic resources as well as measures to reduce or eliminate impacts to them.

Thirty-five historical building/structures were identified in the project Area of Potential Effect (APE). Five structures were identified as National Register of Historic Places (NRHP) eligible.

Since the proposed project is still in planning stages, the effects on NRHP-eligible properties have not been reviewed by the State Historic Preservation Office (SHPO).

Provided is a breakdown of the historic findings for all alignments. The number provided is the total number of structures eligible for the NRHP that may be adversely affected by each alignment.

W-1	W-2	W-3	W-4	C-1	C-2	C-3	E-1	E-2	E-3
1	1	0	0	2	0	0	1	0	0

To weight the proposed alignments against one another based on the findings of the historic buildings/structure survey, it was determined that the alignments that impacted the fewest number of historic structures per corridor were preferred. Using this weighting method, the top three alignments are: W-3 and W-4 (tied because both alignments have no impact); C-2 and C-3 (tied because both alignments have no impact); E-2 and E-3 (tied because both alignments have no impact).

WETLANDS

The purpose of the wetland report was to identify and delineate all wetlands within the project area. Field methods of this project followed those outlined in the Wetlands Delineation Manual (COE 1987) for a "routine" wetland determination. The U.S. Army Corps of Engineers recognize the use of the COE 1987 manual for delineation of wetlands. The manual provides technical criteria, field indicators and recommended procedures to be followed in determining a jurisdictional wetland, as well as in determining the location of wetland boundaries.

Provided is a breakdown of wetland findings for all alignments. The number provided is the total number of wetland acres impacted by each alignment.

W-1	W-2	W-3	W-4	C-1	C-2	C-3	E-1	E-2	E-3
5.1	5.2	3.7	6.5	4.6	5.8	1.7	4.4	4.1	4.3

To weight the proposed alignments against one another based on the findings of the wetland report, it was determined that the alignments with the fewest acres of wetland impact per corridor were preferred. Using this weighting method, the top three alignments are: W-3, C-3 and E-2.

REGULATORY FLOODWAYS AND REGULATORY FLOODPLAINS

The purpose of the regulatory floodway and floodplain review was to identify and map any floodways or floodplains that exist within the project area as identified by the National Flood Insurance Program, Flood Insurance Studies or Flood Insurance Rate maps.

The National Flood Insurance Program (NFIP) was initiated to reduce future and recurring damages due to flooding. The program makes subsidized flood insurance available to property owners at reasonable rates. A condition of participation in this program is that each community must pass and enforce ordinances to control the development within the 100-year floodplains. Latah County administers the program throughout the project limits. The 100-year floodplain configurations for this project were taken from the National Flood Insurance Maps on file at the Latah County Courthouse. Information received in March 2005 and again in April 2006 indicates that panel 330 and 340 dated August 15, 1980, of the NFIP Flood Insurance Rate Maps

(FIRM) and the Flood Insurance Study (FIS) for Latah County dated February 1980 and revised in September 1983 are the documents currently used to administer the program. These were the maps used to project the floodplain images for the project mapping.

Provided is a breakdown of regulatory floodway/floodplain findings for all alignments. The number provided is the total number of encroaches upon a Federal Emergency Management Agency-mapped regulatory floodway or floodplain.

W-1	W-2	W-3	W-4	C-1	C-2	C-3	E-1	E-2	E-3
8	6	7	5	4	5	4	3	3	3

To weight the proposed alignments against one another based on mapping of the regulatory floodways and floodplains, it was determined that the alignments with the fewest number of encroachments per corridor were preferred. Using this weighting method, the top three alignments would be: W-4; C-1 and C-3 (tied); and E-1, E-2 and E-3 (tied).

THREATENED AND ENDANGERED SPECIES

The purpose of the biological assessment was to evaluate the impacts of the project on listed threatened and endangered species. There are five listed species occurring within Latah County. Those species are Canada lynx, Gray wolf, Spalding's catchfly, Water howellia and Steelhead. The action has no proposed or designated critical habitat for any listed species. The project is not anticipated to have any direct, indirect or cumulative affect to threatened or endangered species.

Since there are no anticipated direct, indirect or cumulative effects to any listed threatened or endangered species there is no need to apply any weighting method to this assessment. The determinate of effect for all species is "no effect."

HAZARDOUS MATERIALS

Purpose of the hazardous materials survey was to identify known or potentially hazardous material waste sites.

The National Response Center public database listed no toxic releases, water discharges, or hazardous waste sites for the project area. There were no sites listed for the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) or the Resource Conservation Recovery Act (RCRA). DEQ and ITD had no recorded incidences of any spills or releases.

During the hazardous materials scan of the project area, a total of 17 properties were found to contain aboveground storage tanks (ASTs) assumed to contain petroleum products such as gasoline, heating oil, or diesel fuel. The majority of the ASTs were approximately 200 to 500 gallon tanks. Four sites were observed to contain underground storage tanks (USTs). One of these sites appeared on the DEQ UST list as containing five tanks (unleaded gasoline and diesel fuel). The other three sites were not listed by DEQ. Two of these sites were located on Thorncreek Road on the southern end of the project scan area. Old gas pumps were visible and may still be connected to USTs. The other site was located on U.S. 95 and probably contains

one tank used for diesel fuel. Thirty-four homes were observed to have an above-ground propane tank on the property. These ranged in size from 200 to 500 gallon tanks.

Provided is a breakdown of hazardous materials findings for all alignments. The number provided is the total number of times any alignment impacts a site of known or potential hazardous materials.

W-1	W-2	W-3	W-4	C-1	C-2	C-3	E-1	E-2	E-3
3	5	3	5	12	5	11	4	5	5

To weight the proposed alignments against one another based on mapping of identified hazardous materials areas, it was determined that the alignments with the fewest number of potential hazardous materials sites per corridor were preferred. Using this weighting method, the top three alignments are: W-1 and W-3 (tied); C-2, and E-1.

ENVIRONMENTAL JUSTICE

The purpose of this report was to identify if the project would have a disproportionately high impact on minority or low-income populations, in accordance with Executive Order 12898.

Assessment of impacts to environmental justice populations was done at the corridor level. Although the eastern alignments would have a moderate adverse affect and mitigation would be needed, none of the alignments will cause disproportionately high and adverse effects to any minority or low-income populations.

Provided is a breakdown of environmental justice findings for all alignments, displayed as "no effect" (NE) or "no disproportionately high impact" (NDHI).

W-1	W-2	W-3	W-4	C-1	C-2	C-3	E-1	E-2	E-3
NE	NE	NE	NE	NE	NE	NE	NDHI	NDHI	NDHI

Since the threshold for identifying an environmental justice impact is a "disproportionately high impact" there is no need to apply any weighting method to this assessment. All of the alignments in the western and central corridors have the same assessment of "no effect." All of the eastern corridor alignments have the same assessment of "no disproportionately high impact."

SOCIO-ECONOMIC (COMMUNITY PROFILE AND INDUCED DEVELOPMENT)

The purpose of this report was to address changes in neighborhood or community cohesion, travel patterns and accessibility, and highway and traffic safety.

Based on the findings of this report, socio-economic impacts to all alignments (as they approach one mile south of Moscow) can be captured by two effect determinations. Those determinations are:

1. Significant increase in property values, moderate potential to induce development, challenge for contiguous growth and future connectivity; or
2. Significant increase in property values, moderate potential to induce development.

The affect determinations for all alignments once they leave the one mile south of Moscow boundary are consistent. That determination is:

- No change in property values to minor increase in property values, no potential to induce development to moderate potential to induce development .

Provided is a breakdown of socio-economic findings for all alignments.

W-1	W-2	W-3	W-4	C-1	C-2	C-3	E-1	E-2	E-3
Significant increase in property values / Moderate potential to induced develop-ment / Challenge for contiguous growth and future connectivity	**Significant increase in property values / Moderate potential to induced development**	**Significant increase in property values / Moderate potential to induced development**	**Significant increase in property values / Moderate potential to induced develop-ment / Challenge for contiguous growth and future connectivity**	**Increase in property values / Moderate to low potential to induced development**	**Increase in property values / Moderate to low potential to induced development**	**Increase in property values / Moderate to low potential to induced development**	**Increase in property values / Moderate potential to induced development**	**Increase in property values / Moderate potential to induced development**	**Increase in property values / Moderate potential to induced development**

To weight the proposed alignments against one another based socio-economic findings, it was determined that the alignments per corridor with the least potential to induce development, challenge contiguous growth or change property values were preferred. Using this weighting method, the top three alignments are: W-2 and W-3 (tied); C-1, C-2and C-3 (tied); and E-1, E-2 and E-3 (tied).

DISPLACEMENTS

The purpose of this study was to map all structures in the project area, identify them as either a residence or business and determine which structures would be directly affected by any of the proposed alignments. It was found that over half of the proposed alignments require displacements of a business, a residence or both.

Provided is a breakdown of displacement findings for all alignments. The number provided is the total number of times any alignment displaces either a residence (R) or a business (B).

W-1	W-2	W-3	W-4	C-1	C-2	C-3	E-1	E-2	E-3
0	0	0	3R	9R	3R	3R	4R, 1B	5R	2R

To weight the proposed alignments against one another, it was determined that the alignments which displace the fewest number of residences and business per corridor were preferred. Using this weighting method, the top three alignments are: W-1, W-2 and W-3 (tied); C-2 and C-3 (tied); and E-3.

NOISE

The purpose of the noise study was to identify noise-sensitive areas within 300 of all alignment centerlines. This screen found residential and commercial receptors within the 300 foot buffer for the various alignments. This resulted in a total number of potential impacted receptors per alignment and exhibits potential impacted receptors according to location. Where a business is attached to a home, the property is indicated as a residence, as the noise criteria are more stringent for residences.

Provided is the total of noise receptors for all alignments. The number provided is the total number of times any alignment has a receptor (either a residence (R) or a business (B)) within 300' of centerline.

W-1	W-2	W-3	W-4	C-1	C-2	C-3	E-1	E-2	E-3
4R,7B	6R,7B	4R,7B	9R,6B	32R,18B	10R,8B	15R,17B	9R,8B	9R,4B	12R,8B

To weight the proposed alignments against one another, it was determined that the alignments with the fewest number of potential receptors per corridor were preferred. Using this weighting method, the top three alignments are: W-1, C-2 and E-2.

VISUAL ANALYSIS

The purpose of this study is to address views of the project and from the project. All of the proposed alignments have a visual impact. Screening for this assessment included digital mapping of terrain and residences, and prominent corridor features within the study area. Impacts vary by alignment and were totaled by percentage in categories of low, medium, moderate high and high. For purposes of this screening, ITD evaluated visual impact based on the assessed impact of the moderate high and high values.

Provided is the assessment of visual impact for all alignments. The numbers provided represent the percentage of each alignment that falls within the medium high (MH) to high (H) impact range.

W-1	W-2	W-3	W-4	C-1	C-2	C-3	E-1	E-2	E-3
MH = 33% H = 12% MH + H = 45%	MH = 34% H = 27% MH + H = 61%	MH = 30% H = 24% MH + H = 54%	MH = 23% H = 8% MH + H = 31%	MH = 19% H = 5% MH + H = 24%	MH = 22% H = 22% MH + H = 44%	MH = 15% H = 8% MH + H = 23%	MH = 26% H = 26% MH + H = 52%	MH = 25% H = 25% MH + H = 50%	MH = 27% H = 23% MH + H = 50%

To weight the proposed alignments against one another, it was determined that the alignments with the lowest percentage of visually affected areas (the lowest percentage of medium high and high visual impact) per corridor were preferred. Using this weighting method, the top three alignments are: W-4, C-3, E-2 and E-3 (tied).

PRIME FARMLAND

The objective of this study was to assess the impact each of the alternatives would have on farmland in the project area. To achieve this goal, a farmland conversion impact rating for corridor type projects was done on each alternative. (NRCS-CPA-106 form) This analysis was also done to comply with the Farmland Protection Policy Act (FPPA). The requirements state that federal agencies involved in proposed projects that convert farmland to nonagricultural use must complete this form.

Calculations were done with the aid of a geographic information program called Arc View. To determine the boundaries of each alternative, a cut and fill outline was provided by the ITD for each of the routes and the existing U.S. 95. Because this analysis deals only with land use

change, the existing highway was subtracted from each of the alternatives to obtain the total area to be converted (see chart.) The area to be converted ranged from a low of 133 acres in route C3 to a high of 281 acres in W3.

The acres of prime and statewide important farmland were calculated by placing the outline of each alternative over soil maps from the Soil Survey of Latah County. The routes fell into three distinct groups. The lowest number of acres of important farmland was C3 with 125 and C1 with 147. The middle group was E1, E2 E3, C2 and W4 with a range of 183 to 187 acres. The routes with the most acres of important farmland were W1, W2 and W3 with a range of 228 to 255.

When the soil survey was completed, a local committee evaluated the map units and assigned a relative value to each based on the soils productive capability. Winter wheat yields were used as a base. The highest value given was 100. All other units were given a lesser value based on productive capability. To compare soil productivity between the various routes, the relative value of each map unit was multiplied by the number of acres that occurs within the boundary of each alternative. The sum of these values was then divided by the total number of acres in each route to determine the value for each alternative. The range of values for all the alternatives was 77 to 79 indicating very little difference between alternatives.

Another part of the evaluation deals with impacts on the farming community that are not soil related. Ten items were assessed and the scores posted on Part VI of the form NRCS-CPA-106. A detailed explanation of the criteria and scores assigned is included with this report.

The final impact rating is the sum of soil and non-soil related criteria. The higher the rating the more of an impact there is on farmland conversion. Points ranged from 173 to 204. The lowest scoring alternative was the C1 route. This route follows the existing U.S. 95 and has over 94 acres of existing right-of-way. It scored very low because this route does not divide farms or create nonfarmable units. The percentage of the corridor being farmed is smaller.

The next three alternatives, W4, C2 and C3, were very close with a score of 187 or 188. The W4 and C2 routes are very similar in their impact. They follow almost the same route, except W4 goes west of Clyde Hill and C2 goes east. Each would convert about 185 acres of prime or statewide important farmland. The C3 option follows much of the existing right-of-way. North of Eid Road, it turns north and enters the highway again at the top of the hill near Cameron Road. It has the lowest total area of 133 acres and the lowest acreage of converted prime or statewide important farmland at 125 acres.

The next three alternatives, E1, E2 and E3, have an impact rating of 190 to 196. These alternatives follow the existing right-of-way to Reisenauer Hill and continue straight north, entering the highway again just south of the bridge on the South Fork of the Palouse River. E1 is the most direct route at 6.4 miles, but the amount of prime or statewide important farmland for all three alternatives is about 185 acres.

The last three alternatives, W2, W3 and W1, have the highest impact rating of 197 to 204. None of these alternatives follow the existing route so each would involve a new right-of-way. The

amount of prime or statewide important farmland affected by these alternatives ranged from 228 to 255 acres.

Provided is the prime farmland impact rating for each alignment as determined by the assessment methods described above.

W-1	W-2	W-3	W-4	C-1	C-2	C-3	E-1	E-2	E-3
204	197	202	187	173	188	188	190	194	196

To weight the proposed alignments against one another based impacts to prime and statewide important farmland, it was determined that the alignments with the lowest impact rating number per corridor were preferred. Using this weighting method, the top three alignments are: W-4, C-1 and E-1.

CONSERVATION DATA CENTER SPECIES (long-eared myotis and pygmy nuthatch)

The purpose of this study was to identify impacts to the state sensitive species listed by the Conservation Data Center (CDC) for the project area. The list prepared by the CDC included all state sensitive species but excluded plants (all plants including T&E species and state sensitive species) are assessed by the biological assessment of plant species. The two species listed for this project area were long-eared myotis and pygmy nuthatch.

Long-eared myotis - Impacts to the long-eared myotis or its habitat resulting from the construction of a new divided highway in the three potential corridors should be negligible and should not jeopardize bat populations. In comparing the three potential corridors, impacts would be greater in the eastern corridor, primarily because of the diversity of foraging and roosting habitat that exists in and adjacent to this area.

Pygmy nuthatch - Impacts to pygmy nuthatches would be greatest if construction occurred in the eastern corridor, as that is where suitable habitat exists and it is adjacent to additional suitable habitat on Paradise Ridge. While it is not possible to know if nuthatch populations would be adversely impacted, the potential for loss of nesting, foraging, and roosting habitat exists in the eastern corridor, depending on the specific location of the highway. There should be no impact on pygmy nuthatch populations if construction occurred in either the central corridor or the western corridor.

Provided is an effect determination for both species by alignment and estimated affect to habitat.

W-1	W-2	W-3	W-4	C-1	C-2	C-3	E-1	E-2	E-3
No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	May Effect; 0 Acres of Habitat	May Effect; 2.9 Acres of Habitat	May Effect; 2.5 Acres of Habitat

To weight the proposed alignments against one another it was determined that the alignments with the least effect on a species population or suitable habitat per corridor were preferred. Using this weighting method, the top three alignments are: W-1, W-2, W-3 and W-4 (tied with

no effect to species and no habitat loss); C-1, C-2 and C-3 (tied with no effect to species and no habitat loss); and E-1.

PLANT SPECIES AND COMMUNITIES OF CONCERN

The purpose of this study was to identify impacts to the state sensitive species plant species recommended by the Conservation Data Center (CDC), for the project area. The list prepared by the CDC included only sensitive plant species. The state sensitive rare plant species addressed under this study are:

- Jessica's aster
- Palouse milkvetch
- Green-band mariposa lily
- Broad-fruit mariposa lily
- Palouse thistle
- Idaho hawksbeard
- Palouse goldenweed
- Ample monkey-flower
- Spalding's catchfly
- Water howellia

The Thorncreek Road to Moscow project could have direct and/or indirect effects on rare plants and communities. Direct effects can be defined the same way for both remnants and target species, that is, as soil disturbance by movement or equipment tracking within any portion of a remnant, including soil deposition occurring during or after construction. All remnants contain populations of target species, and because all remnants except the Paradise Ridge Conservation Site (CS) are very small, any decrease in size or condition can be expected to degrade the population. Less than half of the proposed alignments impact rare plant communities.

Provided is a summary of rare plant survey findings for all alignments. The number provided is the total number of rare plant communities that would be impacted by a particular alignment.

W-1	W-2	W-3	W-4	C-1	C-2	C-3	E-1	E-2	E-3
2	0	2	0	0	0	0	2	0	2

To weight the proposed alignments against one another, it was determined that the alignments that impact the fewest number of rare plant communities per corridor were preferred. Using this weighting method, the top three alignments are: W-2 and W-4 (tied with 0 impacts); C-1, C-2 and C-3 (tied with 0 impacts); and E-2.

UNGULATE REPORT

The purpose of this study was to identify impacts to populations and habitats for deer, elk and moose within the project study area.

The project area is not located within any designated or known important travel corridor for deer, elk, or moose, nor would the proposed roadway bisect significant habitat for these species. The proposed project could potentially impact a small amount of wildlife habitat and disrupt use of adjacent habitats. Nonetheless, deer, elk, and moose will likely continue periodic movements

within the project area after construction of the new roadway is completed. While individual animals will be impacted, existing populations should not be threatened by the project.

Provided is a summary of ungulate population impacts for all alignments.

W-1	W-2	W-3	W-4	C-1	C-2	C-3	E-1	E-2	E-3
No Population Effect / Alignment Crosses 29.2 Acres of known use.	No Population Effect / No identified habitat areas	No Population Effect / Alignment Crosses 29.2 Acres of known use.	No Population Effect / No identified habitat areas	No Population Effect / No identified habitat areas	No Population Effect / No identified habitat areas	No Population Effect / No identified habitat areas	No Population Effect / Alignment Crosses 0 acres of suitable habitat area	No Population Effect / Alignment Crosses 3.3 acres of suitable habitat area	No Population Effect / Alignment Crosses 4.7 acres of suitable habitat area

To weight the proposed alignments against one another, it was determined that the alignments with the lowest estimated population effect and least amount of habitat crossed per corridor were preferred. Using this weighting method, the top three alignments are: W-2 and W-4 (tied with no population effects and no habitat loss); C-1, C-2 and C-3 (tied with no population effects and no habitat loss); and E-1.

CLIMATE

The purpose of the climate study was to identify adverse climate conditions and whether those conditions occur in one corridor more frequently than another. Many different climate factors were considered. Based on the recommendation of the state climatologist the study focused on precipitation, fog and road ice conditions.

Each of the three study sites within the project area has particular climatological elements that are worse with respect to the impact on driving than at the other two study sites; precipitation is worse in the eastern corridor (EC) than the western corridor (WC) or Reisenauer Hill (RH), although not worse than at Plant Sciences Farm (PSF), located near U.S. Highway 8; fog is the worst at RH, and temperature/frost is the worst in the WC.

Furthermore, any road alternative selected for the U.S. 95 realignment project will traverse the southern portion of the study area, for which RH is uniformly representative. Thus, the worst fog conditions of the study area will confront any selected road alternative.

As a result, the most important areas to compare are the EC and the WC. In this comparison, each of the sites has climatological variables for which it exhibits more severe conditions than the other. As noted above, the WC is subject to more extreme cold temperatures, leading to greater exposure to frost and icy road conditions. The EC is subject to heavier precipitation. The general conclusion that may be drawn from this is that each corridor has some climate characteristics that are worse than the adjacent corridor, and some that are better, suggesting that climate should not be the dominant factor used in selecting one alternative over another.

Provided is a summary of climate factors for all alignments. Precipitation (P) is displayed as a percentage based on a 30-year average for the region. Fog (F) is a measurement of the total number of hours fog was present at the site. Road ice (RI) represents the total number of hours under which climate conditions were favorable to produce road ice conditions.

W-1	W-2	W-3	W-4	C-1	C-2	C-3	E-1	E-2	E-3

P= 74%	P= 74%	P= 74%	P= 74%	P= 74%	P= 74%	P= 80%	P= 80%	P= 80%	P= 80%
F= 49 Hours	F= 49 Hours	F= 49 Hours	F= 49 Hours	F= 49 Hours	F= 49 Hours	F= 69Hours	F= 69Hours	F= 69Hours	F= 69Hours
RI= 158 Hours	RI= 158 Hours	RI= 158 Hours	RI= 158 Hours	RI= 158 Hours	RI= 158 Hours	RI= 128 Hours	RI= 128 Hours	RI= 128 Hours	RI= 128 Hours

To weight the proposed alignments against one another based on climate factors, it was determined that the alignments with the least amount of fog, precipitation and road ice conditions per corridor were preferred. Using this weighting method, the top three alignments are: W-1, W-2, W-3 and W-4 (tied in all categories); The central corridor was split with C-1 and C-2 having the best weather conditions for precipitation and fog and C-3 having the best conditions for road ice; E-1, E-2 and E-3 (tied in all categories).

PHASE 2 ENVIRONMENTAL STUDIES

The following Phase 2 studies will be performed after ITD and FHWA complete the screening process: noise, hazardous materials, wildlife, wetland function and values, cultural resource investigation, and socio-Economic. When complete, these studies will be circulated to the IDT for review and comment.

NOISE

This will be a detailed noise study intended to quantify impacts for each alternative carried forward into the DEIS. The report will also evaluate noise abatement measures, such as noise walls, for reasonability and feasibility.

HAZARDOUS MATERIALS

The HM phase I assessment identified properties that may require a HM phase II assessment. The alternative/alignment selected will determine which properties will need further investigation. The chemical of concern for most of the properties in question was petroleum. We determined that propane tank leaks would be in a gaseous state or quickly become a gas, therefore the impact to soils or ground water would be minimal. A few contained drums of unknown content were observed in the field. A Phase II Hazardous Materials investigation will be prepared for properties in question, after the approval of the DEIS and the Location/Design Hearing. The purpose of the study will be to provide information for the appraisal and settlement of the purchase of property, determine if the sites in question pose a risk to construction personnel or will need to be remediated prior to or during the construction phase of this project.

WILDLIFE

This report will utilize a series of coarse filters to identify additional wildlife species to be addressed in the EIS. The report will identify species that occur within the Palouse Prairie Ecological Section as defined in the Idaho Comprehensive Wildlife Conservation Strategy (IDCWCS), which is the only peer-reviewed, comprehensive summary of wildlife distributions in Idaho.

WETLAND FUNCTIONS AND VALUES

This report will consist of a function and value assessment of all wetlands associated with alignments identified to carry forward into the DEIS. The report may be useful when screening alignments down to a preferred alternative and identifying appropriate wetland mitigation ratios. This assessment was requested by EPA during one of the project IDT meetings.

CULTURAL RESOURCES

This will consist of the full archeological survey of all alignments carried forward in the DEIS. Cultural resource investigators will walk transects of all alignments, complete a cultural resource survey in compliance with Section 106 and submit the report to the State Historic Preservation Office for review and approval.

SOCIO-ECONOMIC

The socioeconomic analysis will identify existing social, demographic and economic trends in the project and will address the potential impacts of the proposed project. This report will supplement previously completed Community Profile, Induced Development and Environmental Justice reports completed for the project.

ALIGNMENT EVALUATION MATRIX (attached)

Based on all the information gathered by the environmental studies an alignment evaluation matrix was developed. The intent of the matrix was to display environmental findings for each discipline specific to each alignment. All of the information gathered for the matrix represents final information that has a high degree of accuracy.

ITD proposes to advance one alignment each from the western, central and eastern corridors. To do this, the matrix was scored by totaling the number of positive attributes of each alignment. As a rule, the least amount of impact of any environmental factor was considered favorable. In situations where alignment information for a given environmental factor was equal, all the alignments were counted as favorable. This method identified the least environmentally damaging alignment based on the matrix criteria.

When this task was complete, there were many alignments with similar scores. There were also some alignments that scored the same when considering environmental affects. As a result, design issues including length, cost, safety and right-of-way were brought into the matrix. This was done to help differentiate between alignments and consider factors that ITD and the public consider to be meaningful.

PART III - SCREENING RESULTS AND RECOMMENDATION

Based on the findings of the referenced environmental studies, the alignment evaluation matrix and extensive public involvement, ITD has identified three alternatives that we recommend be advanced to DEIS preparation. Those alignments are: W-4, C-3 and E-2.

This recommendation is based on the following rationale:

- W-4, C-3 and E-2 are the least environmentally damaging when all matrix criteria are considered.
- W-4, C-3 and E-2 have the most design benefits.
- Public involvement has shown that the community of Moscow is in agreement with advancing either the W-4, C-3 or E-3 alignment.
- ITD has not identified any rational for advancing alignments other than W-4, C-3 and E-2, with regard to design or environmental criteria.

Environmental factors (as taken from the alignment evaluation matrix) that counted as beneficial to the W-4, C-3 and E-2 alignments because they had no impact or effect or they require the least amount of impact:

W-4 Alignment	C-3 Alignment	E-2 Alignment
255 Acres - R/W	195 Acres – R/W	225 Acres – R/W
41 Million – Cost	33 Million – Cost	37 Million – Cost
Historic Sites	Archeological	Archeological
Regulatory Floodways/Plains	Historic	Historic
T & E Species	Wetlands	Wetlands
Socio Economic – Rest/Cor.	Regulatory Floodways/Plains	Tributaries/Streams
Environmental Justice	T & E Species	Regulatory Floodways/Plains
Visual	Socio Economic – 1 mi S.	T & E Species
Prime Farmland	Socio Economic – Rest/Cor.	Socio Economic – 1 mi. S
CDC Species	Environmental Justice	Socio Economic – Rest/Cor.
Rare Plant Survey	Displacements	Environmental Justice
Wildlife	Visual	Noise
Precipitation	CDC Species	Visual
Fog	Rare Plant Survey	Rare Plant Survey
Road Ice Conditions	Wildlife	Precipitation
	Road Ice Conditions	Fog
		Road Ice Conditions