

# US 2 STEVENS PASS PEDESTRIAN BRIDGE & EASTBOUND RIGHT TURN LANE



## Visual Discipline Report

December 2008



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# ACRONYMS

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## **F**

FHWA Federal Highway Administration

## **N**

NEPA National Environmental Policy Act

## **S**

SEPA State Environmental Policy Act

## **U**

USDOT United States Department of  
Transportation

USFS US Forest Service staff

# Chapter 1 Introduction and Project Description

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## What is the US 2 Stevens Pass Pedestrian Bridge & Eastbound Right Turn Lane Project?

### 1 What are the existing facilities?

Stevens Pass is a major ski and recreation area. During winter months there is significant traffic, principally coming from the west, to park in the lots west of the ski lodge buildings. This can be seen in Exhibit 1-1.

Exhibit 1-1  
**Heavy Winter Traffic Conditions**



In heavy snowfall, US 2 becomes so congested that cars must stop. Many become stuck, which results in a backup that extends farther west.

There are also several parking lots east of the ski lodge buildings. Many skiers walk across US 2 to access the Stevens Pass Ski Area from one of its primary parking lots across the highway. This can be seen in Exhibit 1-2. During the winter the at-grade crossing poses a particular hazard to both pedestrians and motorists because of low visibility and icy conditions.

Exhibit 1-2

**Skier crossing US 2 at Stevens Pass in low visibility conditions**



In other seasons, people must cross the highway when hiking the Pacific Crest Trail. The trail crosses at the crest of the pass.

## **2 What is the proposed project**

The proposed project will construct a pedestrian bridge over US 2 at the crest of the pass and an eastbound right turn lane into the western parking lots for the ski area.

Exhibit 1-2 shows the project location and its context.

Exhibit 1-3  
US 2 Stevens Pass – Project Vicinity



### **3 What is the purpose of this project?**

The Stevens Pass Pedestrian Bridge will allow skiers and other users to safely cross the road on a grade separated structure.

The addition of a right turn lane will relieve congestion during peak winter months. During those peak winter months, there are times when both eastbound lanes turn into the parking lots. That restricts travel for through traffic. This project will allow through traffic to flow more freely at those times.

#### **Project Benefits**

- **Safety.** This will provide increased safety for skiers, hikers, and motorists.

### **4 How will the project be phased?**

This project will be constructed in a single phase in one construction season. Design work has started with the construction phase scheduled to begin in 2010.

# Chapter 2 Methodology

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## 1 Why do we consider aesthetics, light, and glare as we plan this project?

The visual experience is an important component of a project and its impact on the environment. How a project looks and fits into the natural or built environment is closely allied with how it functions as a facility. Visual quality is a fundamental concept in planning and analysis. Public concern over negative visual impacts of a project can be a major source of opposition to projects. The visual effect of any alteration must be thoroughly analyzed during project development. Temporary visual impacts during project construction must also be considered.

Both the State Environmental Policy Act (SEPA) and the National Environmental Policy Act (NEPA) require an environmental analysis be performed during project development to minimize harm to the human, physical, or biological environment. Both acts seek to provide safe, healthful, productive, and aesthetically and culturally pleasing surroundings.<sup>1</sup> The visual impact of a project is recognized by

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<sup>1</sup> National Environmental Policy Act (NEPA), 42 USC 4321-4347 (1969) Declares that it is the "continuous responsibility" of the federal government to "use all practicable means" to "assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings."

State Environmental Policy Act (SEPA), RCW 43.21C.020 2b Assures for all people of Washington safe, healthful, productive, and aesthetically and culturally pleasing surroundings. <http://apps.leg.wa.gov/RCW/default.aspx?cite=43.21C.020>

the Washington State Department of Transportation's (WSDOT's) approach to project development. For these reasons visual quality is an important element to consider in environmental documentation. Visual quality is just one of the many parameters evaluated to determine if a proposed project meets Federal Highway Administration (FHWA) and WSDOT standards and user expectations.

## 2 What are the key points of this report?

This visual discipline report describes the character and quality of the existing landscape and visual resources. It then looks at the degree of change in those visual resources and the anticipated viewer response to those changes, based on the sensitivity of the viewer and the frequency and duration of views. Views for analysis are selected to represent typical views from and toward the project area.

This analysis follows the guidelines found in the WSDOT *Environmental Procedures Manual*. Visual quality assessments were conducted in accordance with the United States Department of Transportation (USDOT) FHWA Visual Impact Assessment for Highway Projects, 1988.

## 3 What is the FHWA Assessment Method?

Visual quality is inherently subjective, however the FHWA methodology provides a process of evaluation that removes the subjectivity. It uses a qualitative and quantitative approach to analyze existing and proposed views of the project area. The process is repeatable by other experts.

### Visual Quality

Landform, waterform, vegetation, and manmade elements are all analyzed according to three criteria. The three criteria used to perform an evaluative appraisal of the landscape visual quality are:

#### Vividness

The memorability of the visual impression received from contrasting landscape elements as they combine to form a

Exhibit 2-1  
Form

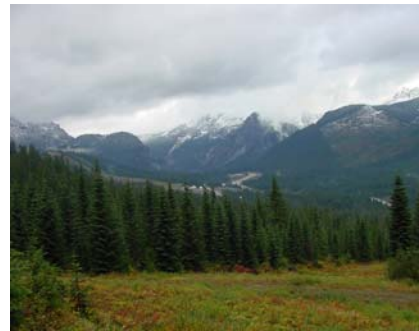


Exhibit 2-2  
Line



striking and distinctive visual pattern. The photos on this page show exceptionally vivid scenes.

### Intactness

Intactness is the integrity of visual order in the natural and man-built landscape, and the extent to which the landscape is free from visual encroachment, or eyesores.

### Unity

The degree to which the visual resources of the landscape join together to form a coherent, harmonious visual pattern. Unity refers to the compositional harmony or inter-compatibility between landscape elements.

Expert evaluation based on the three criteria has proven to be a good predictor of the visual quality using the following sample equation:

$$\text{Visual Quality} = \text{Vividness} + \text{Intactness} + \text{Unity}$$

3

Each of the three criteria is independent. Each is intended to evaluate one aspect of visual quality.

The process in a visual analysis generally follows these steps:

1. Determine the project elements and their extent. This involves understanding all the elements of the project design. It also considers possible land use changes that may occur as a result of the project, such as conversion of farm fields to suburban uses or stormwater treatment areas.
2. Determine the visual extent of the project – this may extend far beyond the construction limits.
3. Determine who has views toward the project and what the views will be from the facility. The locations where the greatest change as a result of the project is also a factor in determining views selected for analysis.

Exhibit 2-3  
Color



Exhibit 2-4  
Texture



4. Evaluate viewer “sensitivity.” A person living along or next to the project may be more “sensitive” to visual changes than a traveler passing through once, because the resident’s duration or frequency of view will be greater. However, a person driving to the project vicinity to view the scenery would be very sensitive to changes. The number of viewers is also considered for selection of representative views.

5. Describe and evaluate representative views of the existing landscape before the project

6. Describe and evaluate the same representative views from and toward the project after its construction. This is possible because of the understanding gained in Step 1 and continuing conversation with the design team. It may also consider design simulations or models.

### **Visual Character**

Visual character is an objective description of a landscape view that is made up of various natural and built elements. Each scene is made up of form, line, color, and texture. Features, or elements, that combine to form visual character are:

- Landforms – visual mass, scale, and shape of an object such as a mountain, hill, or plain.
- Vegetation – species, color, size, maturity, form, placement, and scale.
- Water forms – existence in the view, mass, color, linear form, and reflected light.
- Structural Elements – Buildings, utility lines, roads, lighting, bridges, walls, etc.

These four form types are evaluated for their vividness. Intactness and unity, as defined earlier, are rated separately. The scores for each are combined to give an overall rating for each representative, or key view, both before and after the project

**Exhibit 2-5  
Landform**



**Exhibit 2-6  
Vegetation**



**Exhibit 2-7  
Waterform**



The change in ratings for each view is considered to be the positive or negative visual impact. Views may improve or decline after a project. Suggestions for mitigating negative visual impacts of the project are included in this report

### Rating Scale

Vividness Ratings:

Very High (Rating Value = 7)

The visual impression received is highly memorable, in a good way, as contrasting landscape elements combine to form distinctive, yet harmonious visual patterns. Strongly defined landscape or landforms are noted, including mountains, large bodies of water, distinctive patterns, colors, and textures of vegetation or significant manmade structures. This often occurs where a change in landscape character occurs. For example, approaching Seattle from the water, or approaching the mountains from a valley.

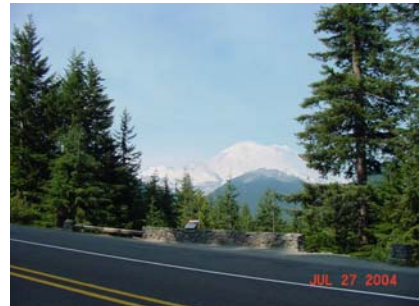
Medium Rating (Rating value = 4)

The visual impression received is moderately memorable, with some distinctive patterns; moderately defined landscape or landforms are present, including low rolling hills, and smaller water bodies. Vegetation patterns, colors, and textures are less visible. Some significant manmade structures may be present.

Very Low Rating (Rating value = 0)

The visual impression received is not memorable, or may be memorable because it is so bad. Little visual pattern is formed because landscape elements have become mundane. There is often clutter that distracts from a natural setting. Homogeneous landforms or landscapes and small bodies of water may be present. Vegetation patterns, colors, and textures are not noticeable and well-designed manmade structures are insignificant or not present.

**Exhibit 2-8**  
**Structural Elements**



*This view toward Mount Rainier is an exceptionally vivid one, which would have a very high rating.*

### Intactness Ratings:

#### Very High (Rating Value = 7)

There is a high visual integrity between the natural and manmade landscape to the extent that the landscape is free from visual eyesores. Visual integrity occurs where natural areas and manmade landscapes blend into the surrounding character and create no visual discontinuity between the natural and manmade elements. Natural and manmade patterns are not disturbed and they maintain visual order.



*This is an example of an intact rural scene with a very high rating*

#### Medium (Rating Value – 4)

There is an average visual integrity between the natural and manmade landscape. Some visual encroachment on to the landscape is present and it lacks visual order. There is some disruption of the natural and manmade patterns.

#### Very Low (Rating Value = 0)

There is low visual integrity between the natural and manmade landscape features. Visual eyesores and clutter in the landscape is very apparent. The pattern of elements is disrupted and the integrity of the natural visual order is lost.

### Unity Ratings:

#### Very High (Rating Value = 7)

The visual elements of the landscape join together to form a highly coherent, harmonious visual pattern. Manmade and natural elements blend with and reinforce each other.



*This is an example of a unified rural scene with a very high rating.*

#### Medium (Rating value = 4)

The visual elements of the landscape join to form a moderately coherent, harmonious visual pattern. Manmade elements blend with natural elements, but the visual order is disrupted.

Very Low (Rating Value = 0)

Visual resources do not join to form a coherent, harmonious visual pattern. Manmade elements do not have a visual relationship to natural landforms or land cover patterns and visual order is lacking.

A total visual quality rating change of 1.0 or greater is considered to be a significant visual impact for the purposes of this report. A total visual quality rating change of less than 1.0 point is not considered to be a significant visual impact.

# Chapter 3 Affected Environment

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## **1 What is the study area for this analysis and how was it determined?**

The study area begins on US 2 at MP 64.32 and ends at 64.64 and includes the parking lots on both sides of US 2. The study area was determined by assessing where the proposed bridge and right turn lane would be visible to motorists on US 2 and users at Stevens Pass and its ski area.

The proposed project is located within the Stevens Pass Scenic Byway and is listed as a scenic viewshed in the Mt. Baker-Snoqualmie National Forest Land Management Plan (USDA Forest Service 1990). The Forest Plan states that the scenic quality will be maintained and gradually improved within scenic viewsheds. A goal or “standard & guideline” for scenic viewsheds is to: Provide an attractive forest setting, emphasizing the natural appearance of areas as seen from major roads and recreation sites. The specific visual quality objective (VQO) in the foreground-viewing zone along a scenic highway requires a “Retention” VQO. The Retention VQO provides for management activities, which are not visually evident by blending in thoroughly with the environment. Under Retention, activities may only repeat the form, line, color, and texture, which are found in the characteristic landscape.

In addition, the proposed project site falls within the “Stevens Pass Historic District.” The purpose of the historic district is to preserve and protect examples of historic engineering construction techniques used on turn-of-the-century railroad

development in this area. Under the Mt. Baker-Snoqualmie Forest Plan, all new facility construction on the forest should employ the Cascadian architectural style. The Cascadian style employs a variety of rustic architectural techniques. To meet the Cascadian architectural style, the proposed bridge structure should have some textural pattern and darker earth-tone colors associated with its appearance.<sup>1</sup>

The *Roadside Classification Plan* (WSDOT 1996), classifies the roadside here as “Forest” in character. The forest landscape is predominantly natural or naturalized forest. A roadside classified as forest is characterized by natural-appearing landforms and native trees and/or understory vegetation. Zone 2 may be meadow.<sup>2</sup>

Exhibit 3-1 shows the project limits and the key views that are analyzed in this report on an air photo.

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<sup>1</sup> Email from USDA Forest Service Landscape Architect, Michael Miller, L.A. October 15, 2008.

<sup>2</sup> *Roadside Classification Plan*. WSDOT. 1996. P. 11.

**Exhibit 3-1  
Key View Locations**



**2 How was information on visual quality collected?**

Information on visual quality was collected during site visits in the spring and summer of 2008 and from photographs.

**Viewer Analysis**

People viewing this project area are travelers on both US 2, hikers on the Pacific Crest Trail, US Forest Service staff (USFS), and customers and workers at the Stevens Pass ski area. Travelers are presumed to be moderately sensitive to changes in views. The USFS and business owners at Stevens Pass are expected to be highly sensitive to changes in visual quality that affect the pass, either positively or negatively. The activity that the viewer is involved in, the duration or period of time the view is perceived by the viewer, and the frequency or how often the view is perceived by the viewer affect the sensitivity of the viewer. Customers at Stevens Pass are

presumed to be moderately to highly sensitive to changes in visual quality because their frequency and duration ranges from a few minutes to multiple days in the case of someone staying in a recreational vehicle and skiing at the resort. Commuters of commercial drivers traveling on US 2 are moderately sensitive to changes in visual quality since their viewer time would be relatively short, but their views would be impacted the most on days when there is a good view of the surrounding mountains. Travelers who are sightseeing will be highly sensitive to changes in the view.

### **3 What is the existing visual quality in the study area?**

#### **Views for Analysis**

Seven Key Views were chosen to analyze existing visual quality and potential visual quality as a result of the project. These views were chosen because they are representative of views toward and from the roadway from a high number of users or from viewers that would have frequent views of long duration, such as workers at businesses. There is only one Landscape Unit within the project limits. The topography is very mountainous in this area and views from adjacent businesses can be analyzed from business parking lots.

**Key View 1 – View of Pedestrian Bridge from the South Parking Lot off US 2**

Key View 1 looks towards the proposed location of the pedestrian bridge from the south parking lot south off US 2.

Exhibit 3-2

**Key View 1 – View of Pedestrian Bridge from the South Parking Lot off US 2**



The total visual quality in Key View 1 is moderately high, at 4.1. The landform in this photo is highly vivid because of the mountain scene. The vegetative cover is average and the manmade development vividness is moderately low. The intactness of the scene is moderately high but the unity is average. The unity score is brought down some by the presence of the utility poles and power lines.

**Key View 2 – View of pedestrian bridge from parking lot on north side of US 2 at Mile Post 64.62**

Key View 2 looks west toward the proposed pedestrian bridge from the parking lot on the north side of US 2. The view is dominated by the parking lot in the foreground and the mountainous landform.

Exhibit 3-3

**Key View 2 – View of pedestrian bridge from parking lot on north side of US 2 at Mile Post 64.62**



The total visual quality rating from Key View 2 is moderately high to high at 4.5. The landform is highly vivid due to the mountains. The vegetation vividness is moderately high due to the vegetation in the middle ground and the back ground. The intactness and unity are moderately high. The encroachment of the utility poles and power lines detract somewhat from the scene.

**Key View 3 – View East toward the Proposed Bridge  
from the Shoulder of US 2 at Mile Post 64.50**

Key View 3 looks east towards the proposed pedestrian bridge from the shoulder of east bound US 2. This scene is intact but the vividness is lower because the landform is not as vivid as the prior two views.

Exhibit 3-4

**Key View 3 – View East toward the Proposed Bridge  
from the Shoulder of US 2 at Mile Post 64.50**



The unity of the scene is high however there is some human development in the view in the form of utility lines and signs. The overall visual rating of the view is high at 4.9.

### **Key View 4 – View West from the Proposed Pedestrian Bridge**

Key View 4 looks west from the proposed centerline of the pedestrian bridge<sup>3</sup>. This view is currently not viewed by pedestrian users but will be seen frequently after the bridge is built.

Exhibit 3-5

### **Key View 4 – View West from the Proposed Pedestrian Bridge**



Visual quality from Key View 4 is moderately high to high at 4.7. There is very little development or encroachment evident in this view. The vividness is average and the unity is moderately high.

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<sup>3</sup> The photo approximates standing on the bridge and looking west.

**Key View 5 – View Eastbound on US 2 toward Summit from Mile Post 64.26**

Key View 5 looks toward the facilities at Stevens Pass recreation area from the eastbound lanes. The highway and guardrail is in the foreground view. Traffic signs along the highway and vegetation are in the middleground view. The ski lodge, ski slopes, and mountain are in the background view.

Exhibit 3-6

**Key View 5 – View Eastbound on US 2 toward Summit from Mile Post 64.26**



The total visual quality rating from this view is moderately high, at 4.6, due to the form of the land and the large amount of vegetation in the view. The moderate level of development lowers the intactness rating.

**Key View 6 – View toward West from US 2 at Mile Post 64.47**

Key View 6 looks at the entrance to the western parking lots for the Stevens Pass ski area and toward the proposed right turn lane. The highway and traffic barrier are in the foreground view. The highway and parking lots are in the middleground view. The forested hillside is in the background view.

Exhibit 3-7

**Key View 6 - View toward West from US 2 at Mile Post 64.47**



The total visual quality rating is 4.7, a moderately high rating. The expanse of pavement and the parking area lowers the intactness rating from its potential.

**Key View 7 – View toward Western Parking Area and US 2 from the Ski Area offices**

Key View 7 looks westbound along US 2 and the parking lots west of the Ski Lodge from the hill just below the Stevens Pass Ski Area offices. There are shrubs in the foreground view. The highway and parking areas are in the middleground view. The curve of US 2 and mountains beyond are in the background view.

Exhibit 3-8

**Key View 7 - View toward Western Parking Area and US 2 from the Ski Area offices**



The large amount of pavement in this view gives this a total visual quality rating of 3.9 because it disrupts the intactness and unity of the natural environment.

# Chapter 4 Potential Effects

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## **1 How are impacts identified?**

Impacts were characterized using the methodology described in Chapter 2. A total visual quality rating change of 1.0 or greater is considered to be a significant visual impact for the purposes of this report. A total visual quality rating change of less than 1.0 point was not considered to be a significant visual impact.

## **2 Will project construction temporarily affect visual quality?**

The project will temporarily impact visual quality during the construction period. There will be heavy equipment working within the project limits, which may create some dust and may create some distraction for drivers in the project vicinity. The lanes on US 2 may be narrowed during construction of the bridge. This may entail jersey barriers or traffic cones, and/or restriping of the roadway. These impacts are temporary in nature and do not require mitigation.

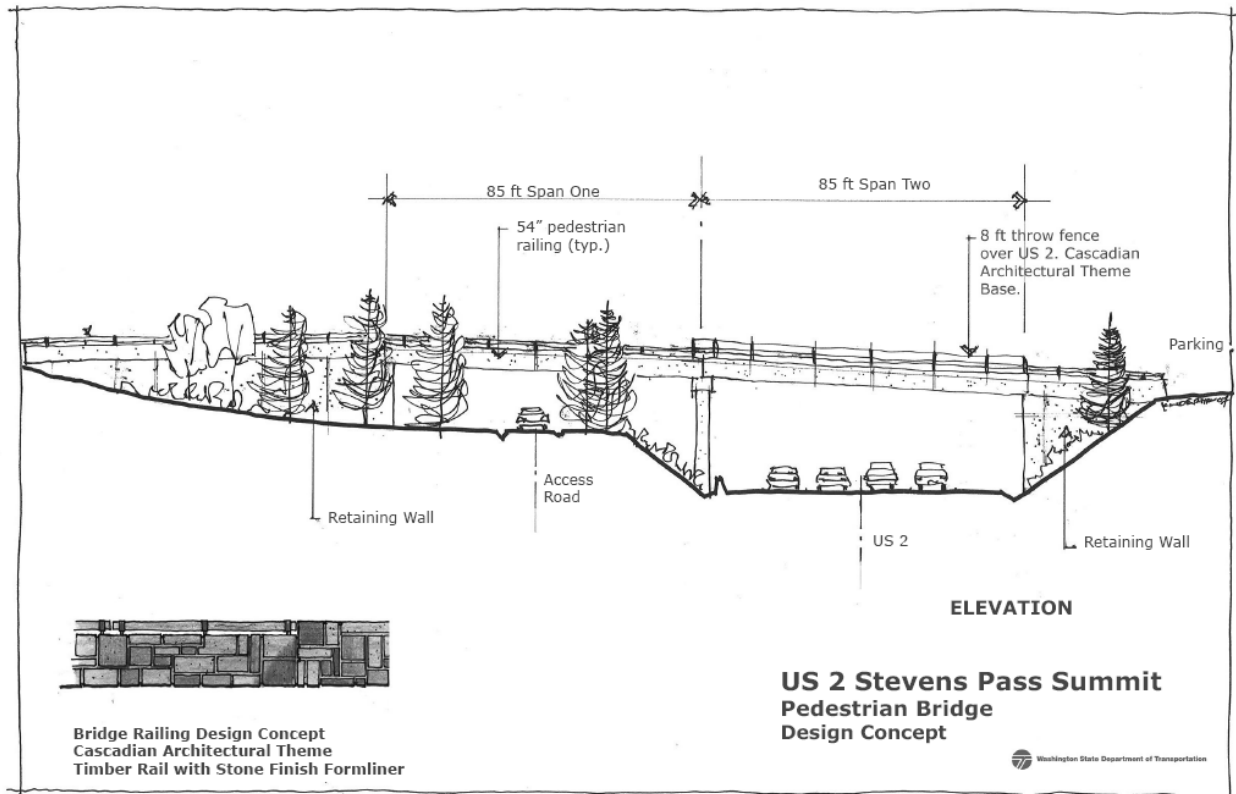
The Contractor may use lighting to enable work at night. The project will use directional lighting to minimize night sky impacts.

## **3 Will there be effects on visual quality if the project is not built?**

If the project is not built there will continue to be routine maintenance activities, such as paving, plowing, and sweeping within the project limits.

Exhibit 4-1 shows the design concept for this project.

**Exhibit 4-1  
Artist Sketch of Pedestrian Bridge**



**4 How will the project permanently affect visual quality?**

This report assumes that all roadside areas within the project limits will receive, at minimum, Treatment Level 2 as described in the *Roadside Classification Plan*. However, the area in front of the retaining walls near the Stevens Pass buildings may receive Treatment Level 3 to meet the requirements of the USFS. This involves the use of larger plant sizes and irrigation. This report also assumes that compost will be used to restore any disturbed soils and to aid in the vegetation restoration process.

The retaining walls on both sides of the bridge will have a finish that blends into the existing buildings and rock outcrops.

Also the bridge railing will use the Cascadian Architectural Theme developed by the USFS. These decisions follow discussions with the owners of the Stevens Pass ski area and the USFS. Specific assumptions will be discussed for each view point later in this document.

### **Key View 1 – View Of Pedestrian Bridge From South Parking Lot Off US 2**

The project will add a pedestrian bridge over US 2. The bridge will cross US 2 approximately in the middle of the photo shown on the right column. The approach on the north side of US 2 to the bridge will be visible from this location.

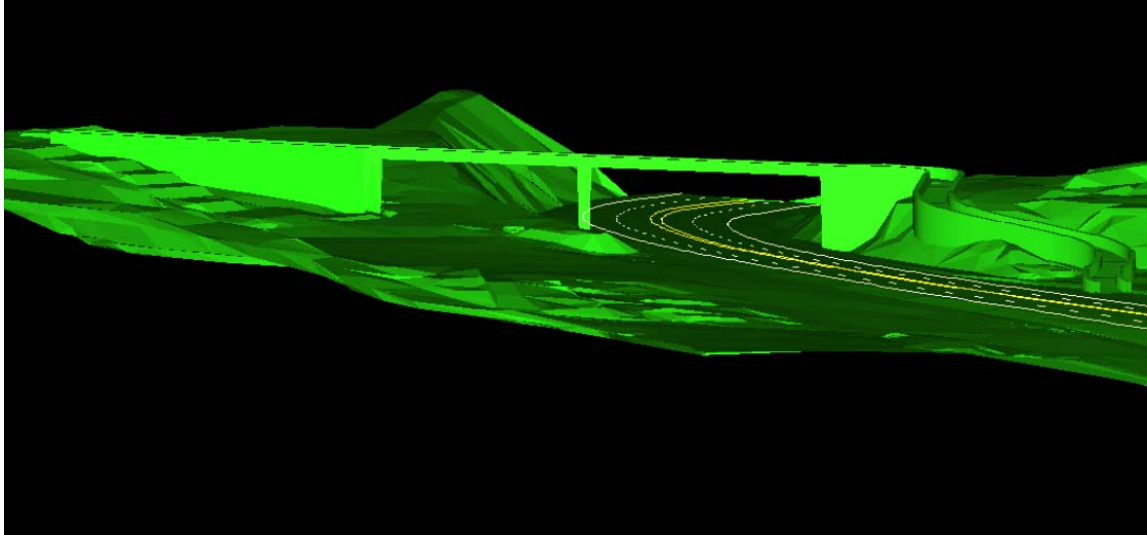
Construction of the bridge will require the removal of the trees on the left center of the photo. These trees currently obscure the Stevens Pass lodge. The trees will be replaced, but there will be visual impacts especially until the replacement trees grow up large enough to obscure the view of the pedestrian bridge approach and building.

A retaining wall will be built to minimize the footprint of the approach from the building to the bridge. The face of the retaining wall will be either a rock face or a cast in place structure that blends with the Stevens Pass lodge. The approach on the north side of US 2 will also require a retaining wall on the road side of the approach. This wall will be faced with a rock treatment that will blend with the rock outcrop that the bridge will rest on. Exhibit 4-2 shows the location of the walls.



*Key View 1 – View Of Pedestrian Bridge From Parking Lot South Of US 2*

**Exhibit 4-2**  
**Design Visualization of Bridge Location**



The utility poles and utility lines will be removed and either placed underground or suspended under the bridge. Removing the utility poles will increase the unity of the view. The bridge itself will cut across the view, but because of its placement, the bridge will mostly block the view of the grey lodge building in the midground. The architectural treatment of the bridge will help to blend it into the view and minimize visual impacts. Because of the improvement to the unity of the scene, the visual quality rating will rise slightly from 4.1 to 4.3.

**Key View 2 – View of Pedestrian Bridge from Parking Lot on North Side of US 2 at Mile Post 64.62**

The pedestrian bridge will bisect this view from the knoll on the right to the lodge on the left. Construction of the bridge will require the removal of the trees in the middle ground on the south side of the highway. The removal of these trees will be very visible from this angle and will be the greatest impact to the visual quality from this viewpoint. This impact will be mitigated by planting trees to replace the ones that will be removed. The retaining wall for the bridge approach on the south side of the road will also be visible from this location. The retaining wall will be treated with a rock face or a cast in place treatment that will blend with the lodge.

The approach ramp to the bridge on the north side of US will also be highly visible from this angle. The ramp will follow the path of the existing driveway, visible on the right side of the photo. This will require that the drive be pushed to the right and will increase the amount of pavement visible from the road and parking lot and will cause the removal of more vegetation. In addition, there will be a standard concrete barrier between the highway and the parking lot and pedestrian walkway. It will be approximately 32 inches high, will be tinted brown with a pigmented sealer, and will run up the center of this view.

The utility poles and wires will be placed underground or suspended under the bridge. This will improve the intactness and unity of the scene. The total visual quality of the view will drop from 4.5 to 4.1 because of the increase in the level of development in this view. 4.1 is an moderately high rating.



*Key View 2 – View of Pedestrian Bridge from Parking Lot on North Side of US 2 at Mile Post 64.62*

### **Key View 3 – View East toward the Proposed Bridge from the Shoulder of US 2 at Mile Post 64.50**

The bridge will be the prominent visual element in this view and will cut the view in half horizontally. The scene currently has high intactness and high unity, although there is some encroachment by utility poles and signs at this time. The bridge will lower the scores in both cases. The architectural treatment of the bridge will be the Cascadian Theme and help blend it into the context of the scene. Because of the placement of the bridge and the view from this angle there is not much else that can be done to mitigate the visual effects of the structural mass. Because of this, the total visual quality of the scene is significantly lowered from high at 4.9 to moderately high at 3.9. The bridge will act as a visual cue that there is some development ahead and may help to slow down cars.



*Key View 3 – View East toward the Proposed Bridge from the Shoulder of US 2 at Mile Post 64.50*

### **Key View 4 – View West from the Proposed Pedestrian Bridge**

This viewpoint is an approximation of the view from atop the proposed pedestrian bridge. This view will be seen by pedestrians only. The view will not be changed by the bridge but it will add a view point that doesn't exist currently. Because of this, views for pedestrians will be enhanced by the bridge over current views. The total visual quality rating remains moderately high, at 4.7



*Key View 4 – View West from the Proposed Pedestrian Bridge*

**Key View 5 – View Eastbound on US 2 toward Summit from Mile Post 64.26**

From Key View 5, the new right turn lane would be visible. This will increase the pavement width by approximately 12 feet and will remove the shrubs at the right in the photo. The increase in pavement will decrease intactness ratings but the total visual quality rating will remain moderately high at 4.4, down from 4.6.



*Key View 5 – View Eastbound on US 2 toward Summit from Mile Post 64.26*

**Key View 6 – View toward West from US 2 at Mile Post 64.47**

Key View 6 looks toward the entrance to the west parking lots and the new right turn lane. Any change in this view will be due to the removal of some shrubs on the shoulder between the highway and the parking lot. The total visual quality rating will decrease slightly from 4.7 to 4.6, both moderately high ratings.



*Key View 6 – View toward West from US 2 at Mile Post 64.47*

**Key View 7 – View toward Western Parking Area and US 2 from the Ski Area offices**

The additional lane will be visible from Key View 7 as an increase in the width of pavement and a narrowing of the vegetation between the highway and the parking lot. The total visual quality rating will decrease from 3.9 to 3.8 because of the decrease in vegetation.

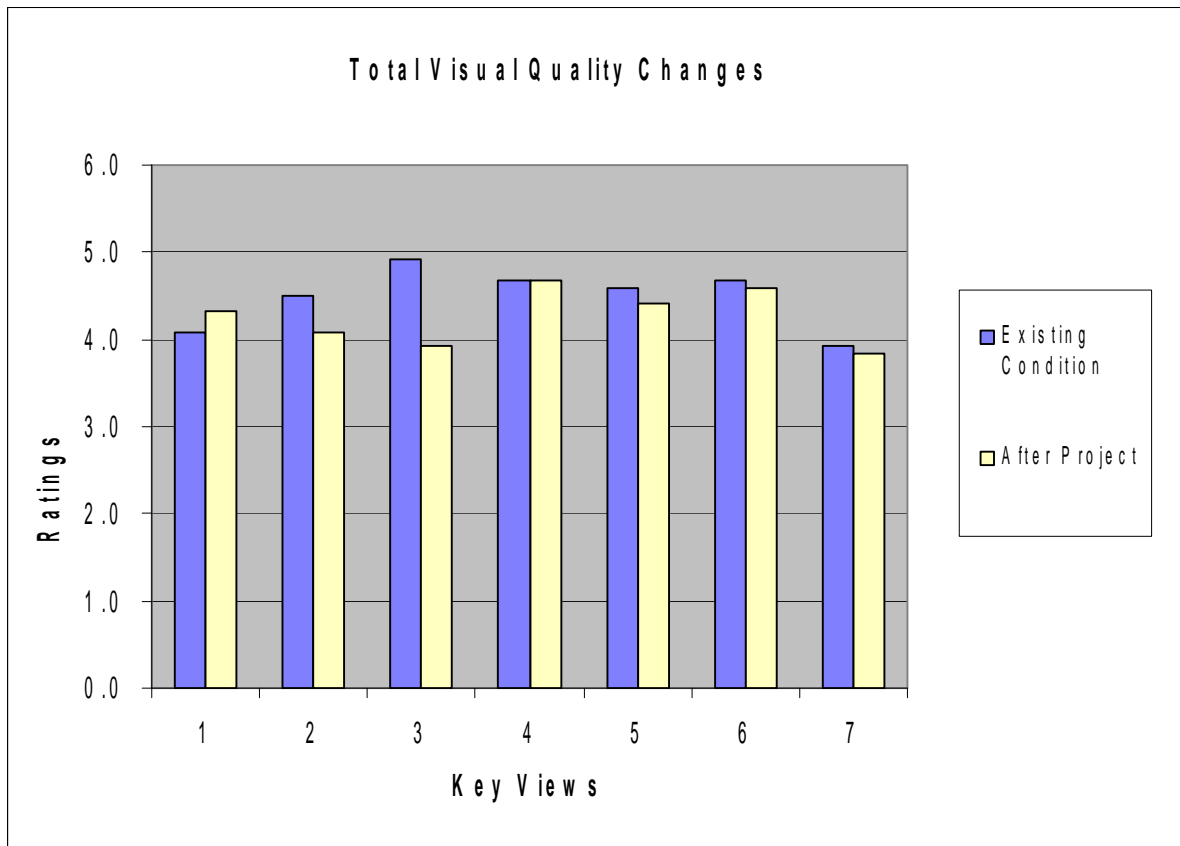


*Key View 7 – View toward Western Parking Area and US 2 from the Ski Area offices*

## 5 What are the direct effects to visual quality

This project will lower the visual quality in the project area from 4.5 to 4.3. This slight decrease in overall visual quality is due primarily to the large decrease in Key View 3. The overall unity of the views at the summit will increase due to the removal of the power lines and other utilities and placing them either underground or attached to the structure of the pedestrian bridge.

Exhibit 4-3  
**Direct Effects on Visual Quality**



In Key View 3, the visual change reaches the level of significance with changes of 1.0. The rest of the ratings have changes less than 1 point and are not significant. The changes can be seen in Exhibit 4-3.

# Chapter 5 Measures to Minimize and Mitigate Project Effects

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## 1 What has been done to avoid or minimize negative effects?

The project design team is working with the USFS and the Stevens Pass ski operation owners to mitigate the visual impacts. The design team is also working with the WSDOT Bridge and Structures Architect to make the new bridges, and any necessary walls visually appealing, using combinations of standard form liners and concrete stain. In addition, the project will follow all the requirements in the *Roadside Classification Plan* for restoring the roadside.

## 2 What additional measures could be implemented to further reduce negative effects?

It is important to use the Cascadian treatment, which includes rock texture, concrete stain, and coatings on any metal, including fencing and railing, in Federal Standard Color 30045, on the bridge and the retaining walls. Concrete should be stained with an integral color to blend with the existing rock outcroppings found on Stevens Pass, as well as rock work found in the Stevens Pass ski area buildings.

Lighting on the bridge should focus downward to avoid night-sky impacts. Light standards should tie in to the existing lighting features at the ski area. Ski areas traditionally use a sodium-vapor type light which is a soft yellow light versus the bright white light of a mercury vapor light. Subtle lighting of the bridge structure may be needed for safety reasons. If so,

some down-lighting of the bridge abutments may be appropriate, reflecting off the sides of the bridge. Also, lighting fixtures could be designed into the bridge under-decking to cast light downward towards the ground.<sup>1</sup>

The ramp approaches to the pedestrian bridge need to be ADA accessible. The bridge decking itself and the ramp approaches need to be of a non-slip surface, as the bridge decking may ice up or fill up with snow during the winter months. People will be walking across the bridge in plastic ski boots which don't have any tread or traction to them.<sup>2</sup>

The barrier between US 2 and the parking lot north of the highway could have exposed aggregate or a formliner finish to blend with the rock pattern on the bridge if this can be done without causing a hazard to vehicles.

A mixture of moderately large trees and 1 gallon container trees and shrubs around the entrances to the pedestrian crossing and at the base of walls will be important to blend the structure into the natural environment. A permit can be obtained from the US Forest Service for salvaging and transplanting native vegetation associated with this project.

Screening plantings, including trees should be used between the western parking lots and US 2 to replace shrubs and trees removed by the addition of the right turn lane. These will help screen the parking lot from views from the road.

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<sup>1</sup> Miller, October 15, 2008.

<sup>2</sup> Miller, October 15, 2008

# Appendix

VISUAL ANALYSIS MATRIX		I-82 / Valley Mall Boulevard Interchange - Rebuild																
ALTERNATIVE	ORIENTATION TO FACILITY	VIEWPOINT	VIEW DISTANCE			VIEWER POSITION		VIVIDNESS				INTACTNESS		UNITY	TOTAL VISUAL QUALITY			
			FOREGROUND	MIDDLEGROUND	BACKGROUND	INFERIOR LEVEL	SUPERIOR	LANDFORM	WATERFORM	VEGETATIVE	MANMADE	AVERAGE	DEVELOPMENT			ENCROACHMENT	AVERAGE	
KEY VIEW 1	Toward	1	20'	200'	1 ml.	k		6	0	4	3	3	3	5	5	5	4	4.1
Toward bridge from parking lot								6	0	3	3	3	3	5	5	5	5	4.3
KEY VIEW 2	Toward	2	30'	150'	1 ml.	k		6	0	5	3	3.5	5	5	5	5	5	4.5
View of bridge from parking lot on north side of US 2								6	0	4	3	3.3	4	4	4	4	5	4.1
KEY VIEW 3	Toward	3	30'	200'	500'	k		5	0	6	2	3.3	6	5	5.5	6	6	4.9
Looking east from shoulder of US 2 toward bridge								5	0	6	2	3.3	5	4	4.5	4	4	3.9
KEY VIEW 4	From	4	50'	200'	1 ml.	k		4	0	4	4	3	6	6	6	6	5	4.7
View from the pedestrian bridge looking west								4	0	4	4	3	6	6	6	6	5	4.7
KEY VIEW 5	From	5	20'	1000'	1 ml.	k		6	0	5	4	3.8	5	5	5	5	5	4.6
View east toward summit								6	0	5	4	3.8	4	5	4.5	5	5	4.4
Key View 6	From	6	20'	100'	2000'	k		6	0	6	4	4	5	5	5	5	5	4.7
W Parking area from WB lane								6	0	5	4	3.8	5	5	5	5	5	4.6
Key View 7	Toward	7	30'	1500'	3 ml.	k		7	0	6	4	4.3	3	4	3.5	4	4	3.9
From Hill above W parking and US 2								7	0	5	4	4	3	4	3.5	4	4	3.8
Average of Existing																		4.5
Average Post Project																		4.3

Vividness:  
 7 - Very High  
 6 - High  
 5 - Moderately High  
 4 - Average  
 3 - Moderately Low  
 2 - Low  
 1 - Very Low  
 - Non-existent

Intactness:  
 Development:  
 7 - No development  
 6 - Little development  
 5 - Some development  
 4 - Average level of development  
 3 - Moderately high development  
 2 - High level of development  
 1 - Very high level of development  
 Encroachment (unstable eyescore):  
 7 - None  
 6 - Few  
 5 - Some  
 4 - Average  
 3 - Several  
 2 - Many  
 1 - Very Many

Unity:  
 7 - Very High  
 6 - High  
 5 - Moderately High  
 4 - Average  
 3 - Moderately Low  
 2 - Low  
 1 - Very Low  
 - Non-existent

Existing  
 Equal to Existing  
 Higher than Existing  
 Significant Impact

Raiser's Total Visual Quality Score Breakdown  
 7 - Dramatic, Pristine Natural Environment with water, mountains, and mature vegetation or Superb example of built environment in dramatic physical setting.  
 6 - Very High  
 5 - High  
 4 - Moderately High  
 3 - Average  
 2 - Moderately Low  
 1 - Low

## List of Preparers

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<b>Name</b> Affiliation	<b>Contribution</b>	<b>Education</b> Certifications, Licenses, and Professional Organizations	<b>Years of Experience</b>
Mark Maurer, LA WSDOT, Headquarters, Design Office, Roadside and Site Development	Author	Licensed Landscape Architect, Bachelor of Landscape Architecture, University of Arkansas, 1989	19
Sandra L. Salisbury, LA WSDOT, Headquarters, Design Office, Roadside and Site Development	Author	Licensed Landscape Architect Master of Landscape Architecture, University of Washington, 1997	11

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## References

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*Visual Assessment for Highway Projects*, U.S. Department of Transportation,  
Federal Highway Administration (FHWA). March 1988

*Environmental Procedures Manual*, (M 31-11), WSDOT

*Roadside Classification Plan*, (M 25-31), WSDOT

*Roadside Manual*, M 25-30, Chapter 910, WSDOT

*Standard Concrete Finishes*, WSDOT, 2008

<http://www.wsdot.wa.gov/eesc/bridge/architect/StandardFormlinerConcreteFinishes.pdf>