



Administration  
Engineering Services  
Traffic Engineering & Operations  
Road Maintenance & Operations  
Real Estate Services  
Waste Management

## Department of Public Works

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[www.lewiscountywa.gov](http://www.lewiscountywa.gov)

### Design Deviation Request Report March 10, 2011



Agency: Lewis County Public Works  
Project Title: Airport Road Extension Project  
Project No.: CRP 2100

Lewis County was previously awarded a TIB Grant to complete corridor improvements between Louisiana Ave. in Chehalis, Washington and Mellon Street in Centralia, Washington via improvements to Lewis County's Airport Road. Planned corridor improvements include roadway rehabilitation with Cement Treated Base (CTB), Crushed Surfacing, HMA, traffic marking/signing, and other improvements along with a separated bicycle/pedestrian pathway. This Deviation Request outlines Lewis County's justification to leave the existing Airport Road Bridge crossing Salzer Creek in-place for vehicular traffic while providing a new separated bicycle/pedestrian bridge immediately downstream. The following report utilizes WSDOT's Deviation Analysis format to compare standard and deviated features associated with the project:

1. Posted Speed Limit: 50
2. Physical Comparison:
  - (a.) Standard Geometrics

Page 385 of the 2004 AASHTO Manual "Geometric Design of Highways and Streets" discusses the high replacement costs involved with replacing an existing bridge and the advisability of replacing these structures when they are not posted and fit within the design alignment and profile. The guidance given allows the structure to remain providing it is at least an H15 capacity and 24 feet wide for design volumes below 2000 ADT.

- (b.) Deviation Geometrics

The proposed design shall maintain the existing bridge for vehicular traffic and provide a separate structure downstream from the existing structure for pedestrian traffic.

(c.) Discussion

Airport Road is classified as an Urban Collector (FFC 17) route that functions as the main transportation link parallel to I-5 on the west side of the freeway between the City of Chehalis and the City of Centralia (see Attachment A – vicinity map). This 3R rehabilitation project will complete a connection for vehicular traffic and pedestrians between Louisiana Avenue in the City of Chehalis and Airport Road and it will also connect to the WSDOT Mellon-to-Blakesly project. Planning for improvements began in 2003. This project will rehabilitate the failing roadway base, widen the roadway shoulders, provide a multiuse pathway, improve roadway drainage features and improve transportation safety between M.P. 0.39 Airport Road and in the City of Chehalis Louisiana Avenue at the Home Depot entrance.

This project is funded with TIB funds and local matching funds and therefore is subject to the project development standards included in the Local Agency Guidelines Manual. The design matrix checklist used for this project is the “3R Project Checklist”. The design element “Bridge” design approval is covered in section 43.3 of the LAG manual. The bridge in question would not fall under category “c” or “d” and therefore falls under category “b” and the local agency is the approving authority for the design.

This project has one bridge contained within the project limits. The current ADT is 590 with a projected 2020 ADT of 1150. The existing bridge does not meet the new roadway AASHTO design width of 34 feet for projected ADT, the existing bridge has a width of 24 feet. The inventory rating for this bridge is 30 tons and has an operating rating of 50 tons. This bridge has a sufficiency rating of 83. With projected ADT less than 1500 vehicles per day and minimal truck traffic, the 2004 AASHTO Manual’s “tolerable criteria” guidance for the existing structure to remain in-place would be exceeded.

3. Safety Issues

(a.) Accident History

There have been two accidents at this site since 1985, one in February of 1985 (injury) and one in March of 2004 (property damage only).

(b.) Accident Projections

No increase in accidents are projected as a result of this deviation.

(c.) Discussion

A pedestrian bridge will be built adjacent to the existing bridge. This will decrease the potential for accidents by removing pedestrian and bicycle traffic from the roadway.

4. Cost Comparison

	Standard Cost	Deviation Cost	Several improvement measures will be made to mitigate this deviation:
Structure	\$1,000,000	\$250,000	<ol style="list-style-type: none"> <li>1. The bridge will be augmented with a separate bridge for pedestrian and bicycle traffic.</li> <li>2. The taper from the new roadway section to the bridge will be 150 feet long.</li> <li>3. The guardrail will follow the taper.</li> <li>4. The posted speed limit will be lowered from 50 mph to 35 mph.</li> <li>5. Appropriate Road Narrows signage will be placed.</li> <li>6. No work will be inside the ordinary high water mark.</li> <li>7. Street Lights will be provided on each end of the existing bridge.</li> </ol>

5. Reasons Standard Cannot be Achieved at This Time:

There is an unwarranted extra expense of \$750,000 to provide a new bridge at this location. Removal and construction of a new vehicle bridge would create additional environmental impacts to Salzer Creek (a salmon bearing stream).

**Conclusions:**

Based on the above justifications and proposed mitigation measures the decision was made to leave the existing bridge in place. This document shall serve as the basis for the decision and documentation of the design exception approval by the local agency approving authority.

**Certification:**

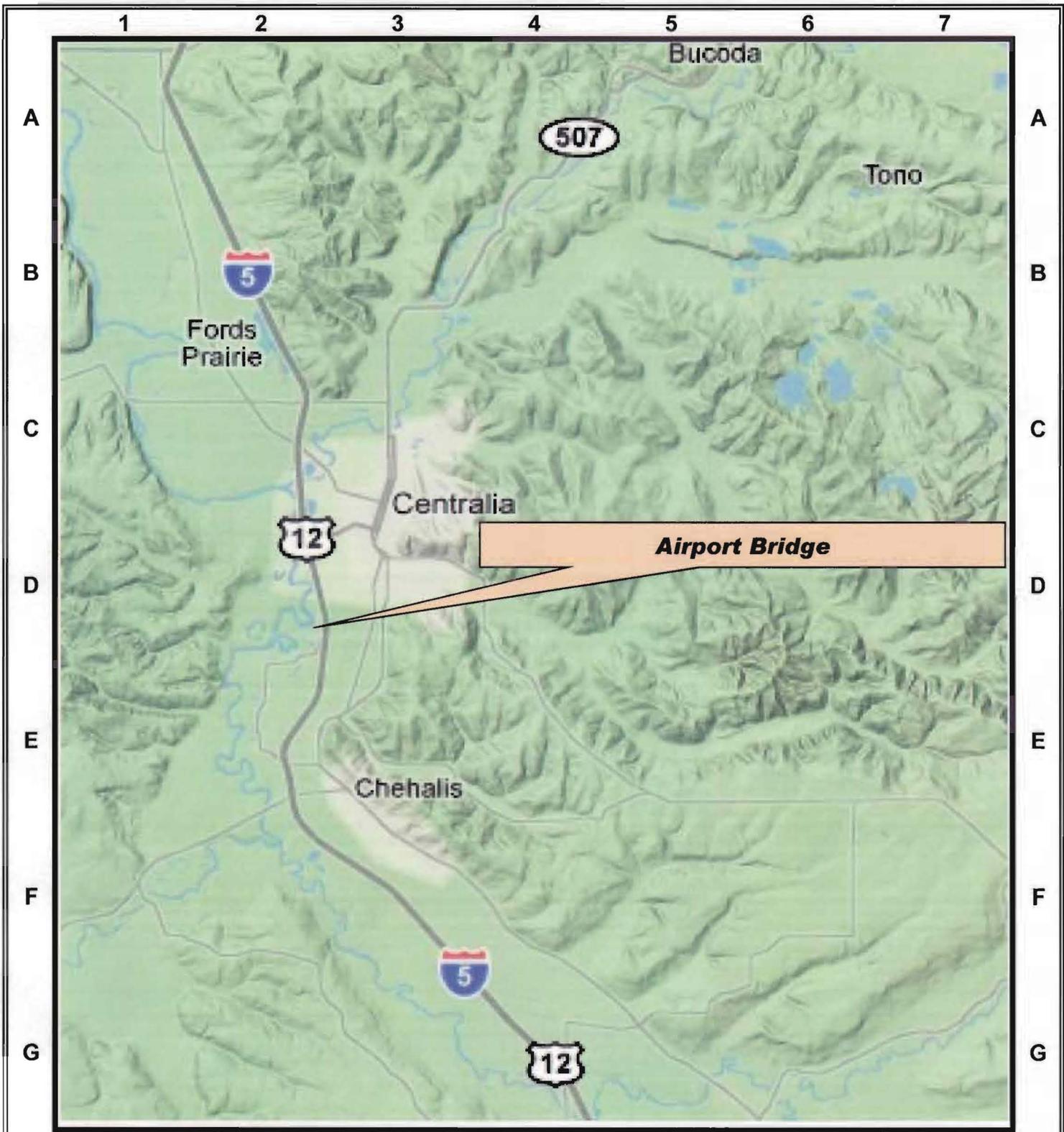
I have approved this design exception and believe it to be in the best public interest.

3/14/11  
Date

  
Tim Elsea, P.E., Lewis County Engineer

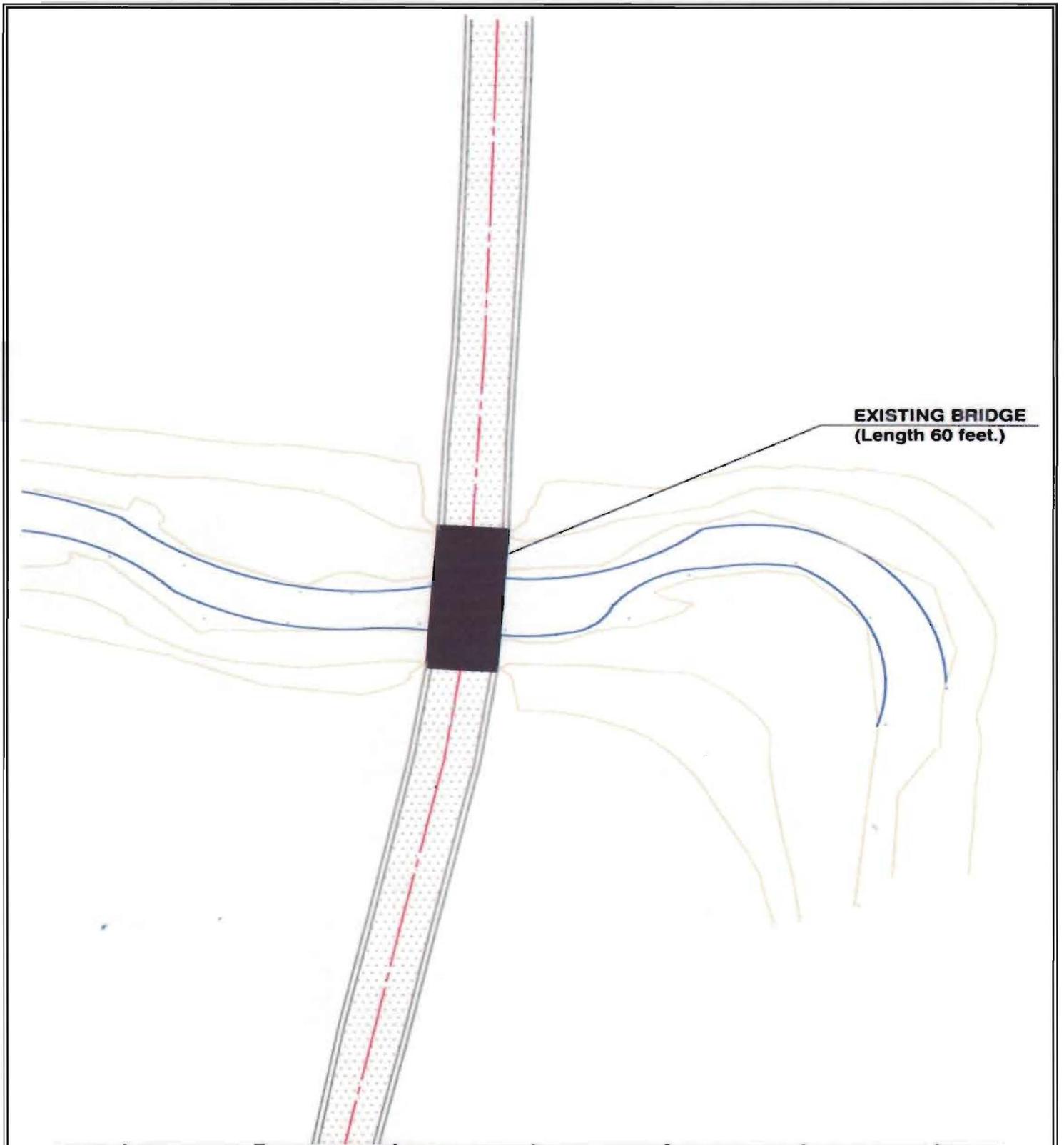
**Attachments:**

- 1.) Vicinity Map
- 2.) Existing Configuration
- 3.) Proposed Configuration
- 4.) Roadway Sections



General Vicinity Sheet  
 Lewis County, Washington  
 Airport Road Extension Project CRP 2100  
 Airport Road Bridge Milepost 1.43  
 Lat 46° 41' 30" Long 122° 58' 6" Sec 19 T14N R2W





**EXISTING BRIDGE**  
**(Length 60 feet.)**



Department of Public Works

Existing Configuration Sheet

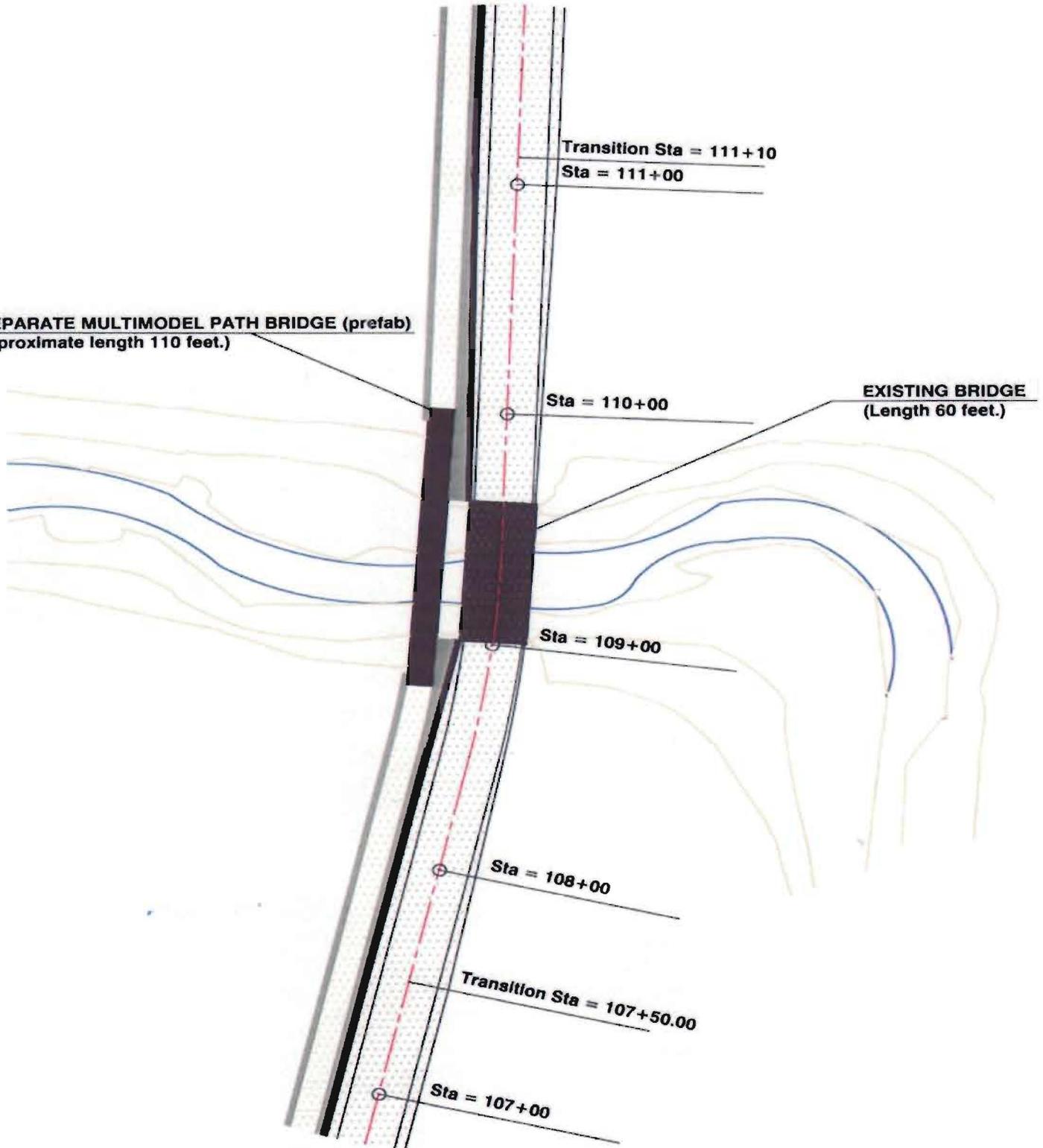
*Lewis County, Washington*

**Airport Road Extension Project CRP 2100**

Airport Road Bridge Milepost 1.43

Lat 46° 41' 30" Long 122° 58' 6" Sec 19 T14N R2W

**SEPARATE MULTIMODEL PATH BRIDGE (prefab)**  
(Approximate length 110 feet.)



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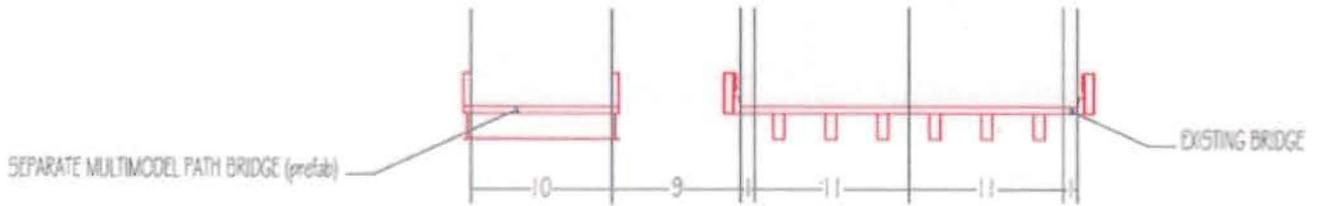
Proposed Configuration Sheet

*Lewis County, Washington*

**Airport Road Extension Project CRP 2100**

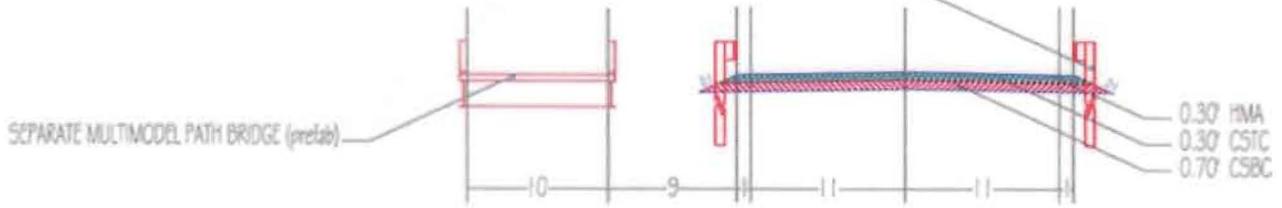
Airport Road Bridge Milepost 1.43

Lat 46° 41' 30" Long 122° 58' 6" Sec 19 T14N R2W

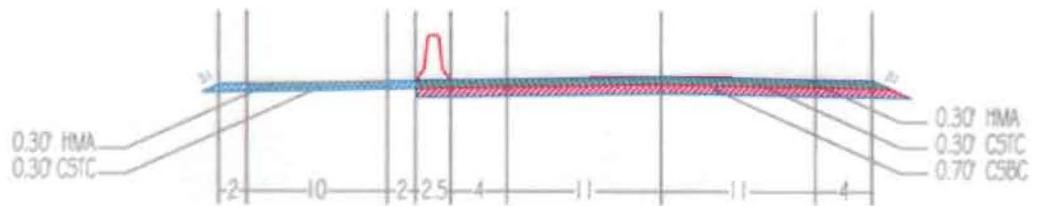


BRIDGE SECTION  
STA 109+00 - STA 109+60

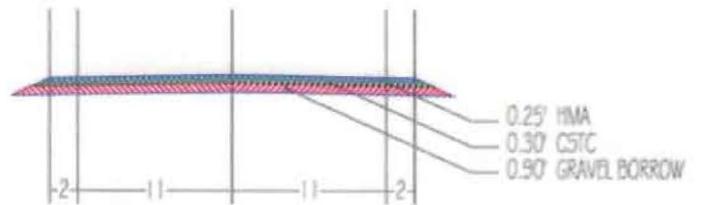
Typical Guardrail Detail Differs as Guardrail Transitions from Bridge to Anchor



ADJOINING ROADWAY TO BRIDGE SECTION  
STA 107+50 - STA 109+00 & STA 109+60 - STA 111+10



TYPICAL TWO LANE SECTION PROPOSED



CURRENT ROADWAY SECTION



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Roadway Sections Sheet

Lewis County, Washington

Airport Road Extension Project CRP 2100

Airport Road Bridge Milepost 1.43

Lat 46° 41' 30" Long 122° 58' 6" Sec 19 T14N R2W