



# TECHNICAL MEMORANDUM

TO: Olaf Sweetman, PE Lane County Public Works  
FROM: Carl Hughes, PE, DOWL  
DATE: March 12, 2026  
PROJECT: Stewart and Currin Covered Bridges Cost Estimating

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## LIABILITY STATEMENT

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The Stewart and Currin Covered Bridges are currently closed to the public and exhibit significant deterioration that should be addressed. Bridge inspectors cannot safely enter the structures in their existing condition to perform thorough bridge inspections. This memorandum details repairs and associated costs for temporarily shoring the structures so that full inspections may be completed.

Additionally, DOWL recommends that Lane County (County) provide additional deterrents, such as fencing and signage, to limit public access to the Stewart Covered Bridge and remove the rope swing beneath it, due to the structure's risk of imminent failure and the site's frequent use as a local swimming area.

## PROJECT UNDERSTANDING

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The Stewart and Currin Covered Bridges are registered historic structures and are located in Lane County near Cottage Grove, Oregon. The bridges are maintained by Lane County Parks and are not part of the County's transportation system. Both bridges are currently closed to the public due to safety concerns.

The Stewart Covered Bridge (Br. #39C243) was built in 1930 and added to the National Register of Historic Places in 1979. It is a timber Howe truss bridge with a main span of 60 feet over Mosby Creek. The timber approach spans have been removed, and access to the inside of the bridge is restricted with orange safety netting installed at each end. A 1995 restoration project repaired portions of the truss and replaced siding, rafters, roof, and railing. DOWL completed an inspection and Bridge Inspection Report (BIR) on October 14, 2021, with a findings letter dated November 12, 2021. The BIR noted timber decay in various members, including the top and bottom chords of the truss.

The Currin Covered Bridge (Br. #20-3W-36) was built in 1925 and similarly added to the National Register of Historic Places in 1979. This structure is also a timber Howe truss bridge, with a main span of 105 feet over the Row River. Both the north and south timber approach spans have been removed, and access inside the bridge is restricted. A 1995 restoration project repaired portions of the truss and siding and replaced the rafters, roof, and railing. DOWL completed a BIR on January 29, 2014, which noted timber decay in various members, including portions of the truss.

On November 4, 2025, Mike Hawkins (DOWL) met with Brett Henry (Lane County Parks) at the Stewart Covered Bridge and noted that the bottom chord had fully decayed and that the first diagonal had crushed the member at the southeast corner of the bridge. The corbel supporting the bottom chord appeared to be hinging at the face of the pier. Although the bridge is

inaccessible to the public, it still poses a risk of collapsing onto the adjacent bridge or injuring anyone passing beneath it.

During the same visit, they also reviewed the Currin Covered Bridge and observed severe crushing at the bottom of the furthest northeast floor beam. It was also suspected that a bottom chord/corbel failure similar to that of the Stewart Covered Bridge was occurring at the northwest corner of Currin Covered Bridge. At that time, DOWL recommended closing the Currin Covered Bridge. Following this site visit, the County asked DOWL to prepare a Rehabilitation Technical Memorandum to establish costs for temporarily supporting and rehabilitating both structures.

This technical memorandum establishes an engineer's cost estimate for both temporary bridge supports and full bridge rehabilitation. The cost estimate for the temporary bridge supports includes the work required to stabilize the structure, prevent catastrophic collapse, and provide safe access for construction personnel and bridge inspectors to perform inspection and repairs. The cost estimate for bridge rehabilitation includes engineering and construction costs to restore the bridge through in-kind replacement of members with known decay, based on the latest BIRs. This estimate should be updated once an in-depth inspection of the bridges has been completed.

## EXISTING CONDITIONS

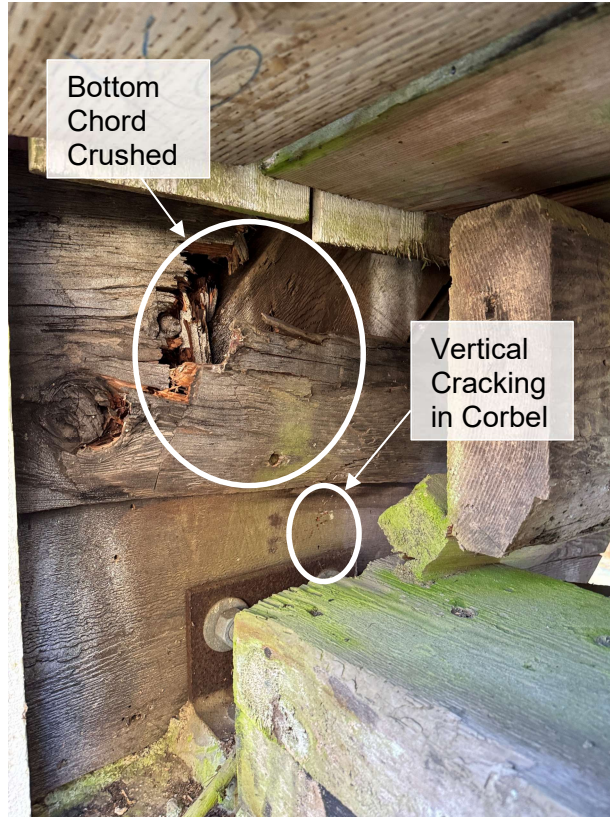
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On January 13, 2026, DOWL inspectors Mike Hawkins, a Federal Highway Administration (FHWA)/Oregon Department of Transportation (ODOT)-Certified Bridge Inspection Team Lead, and Carl Hughes, a registered professional engineer and structural engineer, observed the deterioration visible from a safe distance on specific portions of the Stewart and Currin Covered Bridges. They assessed only what could be safely viewed from ladders without entering either structure. Brett Henry, Lane County Parks Division Manager, met with DOWL at the Stewart Covered Bridge to observe the bridge's condition from the adjacent vehicular bridge.

### Stewart Covered Bridge

Observations at the Stewart Covered Bridge consisted of a review of the bottom chord at the southeast corner of the house (Bent 4 south). The October 14, 2021, BIR lists additional structural concerns that are expected to have experienced further deterioration since that inspection.

As shown in **Figure 1**, the south bottom chord at Bent 4 has experienced significant decay and crushing, causing the truss diagonal to punch through the chord. This failure has compromised the structural integrity of the truss. The corbel supporting the bottom chord and diagonal was intended to handle only bearing-type loads and is now subject to additional flexural stresses because of the bottom chord failure. It exhibits signs of overstress in the form of vertical cracking at the maximum flexural stress location.



**Figure 1: Crushing Failure of South Bottom Chord at Bent 4**

The local failure has resulted in additional global effects. The whole structure has racked, which is apparent when looking at floor beam 3 (the floor beam adjacent to the bottom chord failure) from the northeast corner of the bridge. The floor beam has visibly deflected downward at its south end. **Figure B3** in Appendix B tries to capture this but it is much more apparent in person than in the photograph.

On November 12, 2021, DOWL issued a findings letter to the County concluding that “Many of the structural members in the truss span are heavily decayed, checked, or split, and rotated which includes the top chord and the bottom chords as well as the floor beams.” These members have likely continued to decay and can only be safely inspected following temporary support of the south truss. Without immediate stabilization, the bridge is at risk of catastrophic collapse.

## **Currin Covered Bridge**

Observations at the Currin Covered Bridge consisted of a review of the floor beam at L6 and the Bent 6 corbels on the north end of the house. The January 29, 2014, BIR lists other structural concerns that are expected to have experienced additional deterioration since that evaluation.

As shown in **Figure 2**, the east end of floor beam 6 exhibits approximately 3 inches of crushing and shearing deterioration at the hanger rod connection plate.



**Figure 2: Floor beam Crushing and Shearing at Hanger Rod Connection**

The Bent 6 corbels were also observed, and the west corbel was found to have crushed approximately 3 inches. Although there are signs of distress in the west bottom chord, there was no evidence of a bottom chord failure above the corbel similar to the one observed at the Stewart Covered Bridge and as originally suspected during the November 4, 2025, site visit. The severity of distress in the bottom chord will be confirmed with a full inspection of the bridge.

These local failures have resulted in warping of the deck system. There is visible sag in the deck over the east end of floor beam 6.

According to the 2014 BIR, the structure was in fair condition and only minor maintenance items were noted. Although deterioration is expected to have continued since that inspection, it is reasonable to assume that the superstructure is still in a fair condition state with the exception of the noted deficiencies that led to closing the bridge. This assumption will need to be verified through a full bridge inspection, and DOWL recommends that the bridge remain closed to the public until a temporary support has been installed.

## **PROPOSED TEMPORARY SUPPORTS AND REHABILITATION**

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Both bridges require temporary supports before full bridge inspections can be performed, and the Stewart Covered Bridge will also require rehabilitation to safely reopen to the public. The

following is a summary of recommended temporary supports and rehabilitation measures, as well as assumptions for cost estimating purposes.

## Stewart Covered Bridge

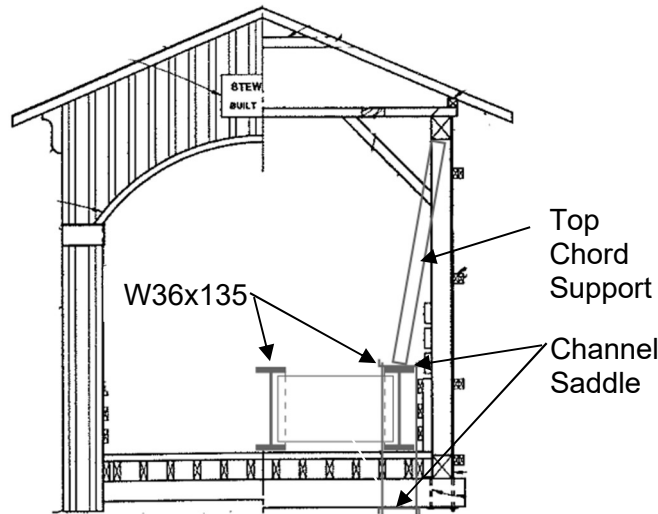
### Temporary Support Discussion and Cost Estimate Assumptions

To open the Stewart Covered Bridge to inspectors, an alternative load path for the south truss will need to be established. DOWL recommends using a similar approach to the method used by the contractor on the County's Wildcat Covered Bridge as seen in **Figure 3**.



**Figure 3: Truss Temporary Support Steel Girder (Wildcat Covered Bridge, 2016)**

DOWL expects the temporary support to consist of a steel two-girder system, as shown in **Figure 4**, extending approximately 60 feet from direct supports at Bent 3 to Bent 4 based on a preliminary analysis. The system would include attaching each floor beam to the girder and propping up the top chord at each panel point to eliminate the stresses in the top chord, bottom chord, diagonals, and vertical steel hanger rods. Attachment between the girder and floor beam typically consists of a channel section saddle and threaded rods extending from below the floor beam to the top flange of the girder.



**Figure 4: Temporary Support Steel Two-Girder System**

The system is expected to be launched over the 60-foot span from the parking area east of the structure with a counterweight system so that no additional load is placed on the existing truss during installation of the girders. There is plenty of room in the parking area east of Bent 4 for this type of system. A launched method for placing the girder is assumed, rather than a crane installation, because the covered roof would conflict with crane rigging.

Attaching the existing floor beams to the temporary support system poses a safety challenge. It is not safe to walk on the bridge deck given the current state of the bottom chord. Therefore, attaching a saddle under the floor beam to the temporary support girder must be completed without placing a worker on the existing structure. The following options are available to the contractor.

- A flexible flooring system could be installed on twin cables attached between Bent 3 and 4 and a worker could access the underside of the floor beams to attach the saddle element.
- A temporary floor system could be installed between the two W36x135 girders. A worker could cut and reach through the decking and stringers to access and attach the saddle element to the floor beams and temporary support girder while standing on the temporary floor system.

Costs associated with each of these options are different. A temporary support in the water was also considered to access the floor beams, but this method was deemed cost-prohibitive because of the depth of the creek and the associated cost and permitting effort for a cofferdam.

This system could remain in place to support the south truss until the County is able to secure funding for rehabilitation of the entire structure. This solution provides no additional protection against ongoing decay, and deterioration of the entire structure is expected to continue.

*Assumptions:*

- The temporary bridge support consists of two W36x135 girders.
- The system will be launched from the east parking lot.
- There are no road closures required.

### *Bridge Rehabilitation Cost Estimate Assumptions*

The following is a list of recommended permanent repairs identified in the 2021 BIR and during the January 2026 observations. This list has been assumed to be comprehensive for cost-estimating purposes for a complete rehabilitation of the Stewart Covered Bridge. It should be verified through a full bridge inspection once the temporary support is installed.

- Reconstruct the previously removed eastern approach spans (by contractor)
- Replace the roof (includes shingles, felt paper, nailers, collar ties, and rafters).
- Replace both truss top chords.
- Replace the south truss bottom chord at Bent 4. A partial removal and replacement of 9 feet is assumed.
- Replace the south truss diagonal at Bent 4.
- Replace floor beams 1 and 3.
- Replace siding at Bent 4 south.
- Re-tune the bridge.
- Tighten and secure the timber rail.
- Repaint the bridge.

Additional repairs may be required following a full bridge inspection with the temporary support in place. The cost estimate assumes that members not listed may be reused once deteriorated members are replaced. Based on DOWL's previous experience, the level of deterioration observed on this bridge may warrant a complete rebuild of the structure, similar to the Chambers Covered Railroad Bridge in Cottage Grove.

### *Assumptions:*

- Existing conditions match conditions recorded in 2021 BIR.
- The adjacent existing bridge will be closed for five days to access the Stewart Covered Bridge siding.
- Three flaggers will be required for five days.
- Components that are removed to gain access to the truss system or floor beams can be reused and reinstalled.
- The contractor will stage in the parking lot east of bridge.

## **Currin Covered Bridge**

### *Temporary Supports Discussion and Assumptions*

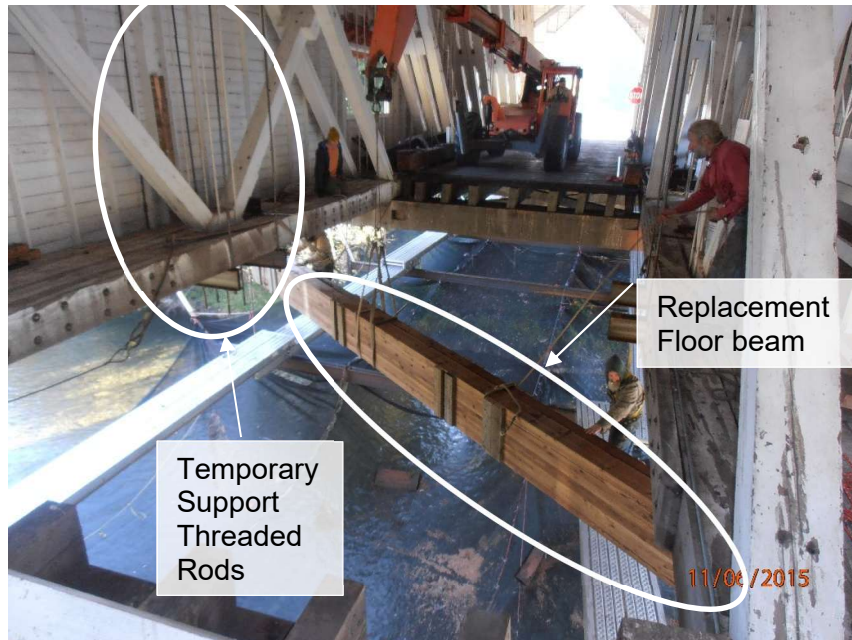
To open the Currin Covered Bridge to inspectors, an initial timber boring of the east bottom chord at L6 above the failing floor beam will need to be conducted. The deterioration observed

in the floor beam may indicate that condensation is forming on the vertical hanger rods, leading to decay and crushing of the floor beam. Since the hanger rods go through the bottom chord and the floor beam, a similar level of decay could be present in the bottom chord. Deterioration of this member would lead to a catastrophic failure.

The Row River is relatively shallow below the crushing floor beam, and DOWL assumes that a sandbag cofferdam and paint scaffolding would provide adequate work access for bridge inspectors to assess the bottom chord condition. If the bottom chord is found to be in adequate condition, temporary supports of the floor beam can be placed and a full inspection can be carried out. **The cost estimate prepared for Currin Covered Bridge temporary supports assumes that the bottom chord is in fair to good condition.**

As part of the temporary support to stabilize the bridge, DOWL recommends removing the deck and stringers from the two north-most bays, which are supported by the failing floor beam. Four additional threaded rods will be placed on either side of each end of the floor beam to connect the top and bottom chord (L6 to U6 nodes) and unload the existing two threaded rods at each end. Once this system is in place, the existing floor beam will no longer carry load along its length or at its connections other than its self-weight. DOWL recommends replacing the floor beam and removing the temporary support as a part of the temporary work for the bridge.

Removal of the deck, stringers, and floor beams can be completed using typical light construction equipment, such as an extendable forklift. The forklift could access the bridge by driving from the south parking lot through the covered bridge. The temporary supports and floor beam replacement would be similar to the County's Office Covered Bridge rehabilitation project, as seen in **Figure 5**.



**Figure 5: Floor beam Replacement (Similar to Office Covered Bridge 2015 Repair)**

It is not necessary to replace the Bent 6 west corbel during the temporary support phase of work. On November 4, 2025, it was suspected that the sagging at this corner was due to a

bottom chord failure. A corbel-crushing failure can induce forces into the bridge that were not originally considered and lead to unsuspected and serious deterioration over time. This type of failure does not put the bridge at immediate risk of collapse like a bottom chord failure would but should be addressed in the near future.

*Assumptions:*

- No road closures are required.
- The river depth is shallow enough that a simple sandbag cofferdam can be constructed for initial timber boring of the east bottom chord at L6.
- The County will reinstall the previously removed south approach spans (not included in the cost estimate).
- All work will be done with access from inside of the bridge except the initial timber boring.
- The existing bridge is in good enough condition to support a light-duty extending forklift.
- The existing floor beam is replaced with an in-kind floor beam at the time of the temporary repair.

*Bridge Rehabilitation Cost Estimate Assumptions*

The following is a list of recommended rehabilitation efforts identified in the 2014 BIR and during the January 2026 observations. This list was assumed to be comprehensive to estimate the cost of rehabilitating the Currin Covered Bridge. It should be verified through a full bridge inspection once the temporary support is installed.

- Replace the roof shingles.
- Replace the L6U6 downstream vertical steel rod.
- Re-tune the truss.
- Replace the sill at Bent 5 west and repair the lower cross-brace.
- Replace the Bent 6 west corbel.

Note that the 2014 BIR lists multiple damaged or broken stringers throughout the bridge. The costs to replace these stringers were not included in the cost estimate, as accessing stringers requires removing the deck planks, which could add significant project costs. Stringers are typically lightly loaded on pedestrian bridges and have considerable redundancy. Additional repairs may be required following the bridge inspection once the temporary support is in place.

*Assumptions:*

- The County will reinstall the previously removed south approach spans (not included in the cost estimate).
- No closure of Layng Road or Row River Road will be required.
- The Bent 6 west corbel replacement will require a temporary support beneath the west end of floor beam 6.
- The contractor will access the inside of the bridge via the south parking area.
- The contractor will stage in the south parking area.

## PERMITTING REQUIREMENTS

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It is assumed that the two bridges would be bid and permitted separately.

### Stewart Covered Bridge

The temporary support girder system is above the ordinary high water (OHW) elevation, and the bridge rehabilitation assumes no in-water work. Therefore, state removal/fill, and federal Clean Water Act (CWA) Section 404 permitting will likely not be required. Permitting considerations would include:

- **Wetland/Waters Determination:** It is recommended that an environmental professional conducts a wetland/waters determination to determine the boundary of the water resource(s) on-site to confirm that work will occur in uplands.
- **Fish Passage:** For existing bridges, if there is either a single or cumulative removal, fill, replacement, or addition of over 50 percent by volume of the existing material directly above an historic channel or historically inundated area, a fish passage plan approval would be required.<sup>1</sup>
- **Section 106 National Historic Preservation Act (NHPA):** Formal consultation with the Oregon State Historic Preservation Office (SHPO) will need to be completed for both the installation of the temporary structure for inspection and for the rehabilitation/decommissioning. A Section 106 Initiation letter, followed by a Finding of Effect letter, will need to be submitted that details the installation and removal procedures for the temporary support girder system. The process will need to be repeated once the County selects either rehabilitation, which will require SHPO review of the proposed rehabilitation steps and materials, or decommissioning, which will require mitigation of the historic property. Mitigation will involve an agreement document between SHPO and the County, which will detail the implementation steps.
- **CWA Section 402 National Pollutant Discharge Elimination System (NPDES):** If greater than 1 acre of ground disturbance is expected, a 1200-C permit will be required (if the local jurisdiction does not have an applicable 1200-CA permit on file).<sup>2</sup>

### Currin Covered Bridge

The temporary support work for the Currin Covered Bridge assumes temporary scaffolding and sandbag isolation in the river to inspect the east bottom chord at L6. With a federal nexus of a CWA Section 404 permit need, permitting considerations would include:

- **Wetland Delineation:** Prior to the submittal of the state and federal removal-fill permits, a wetland delineation report would likely need to be submitted to the Oregon Department of State Lands (DSL) and US Army Corps of Engineers (USACE) unless otherwise coordinated.<sup>3</sup>
- **State Removal/Fill:** The Row River in this location is designated Essential Salmonid Habitat (ESH). Therefore, any amount of temporary or permanent removal and/or fill will

<sup>1</sup> There is no fee associated with this permit.

<sup>2</sup> The fee is typically a \$1,515 application fee, a \$950 plan review fee, and a \$1,558 annual fee.

<sup>3</sup> In 2026, review fees range from \$600 (Tier 1) to \$3,500 (Tier 3).

require a removal/fill permit authorized by DSL through the submittal of a Joint Permit Application (JPA).<sup>4</sup>

- **CWA Section 404:** USACE regulates discharging dredged or fill material into U.S. waters; thus, it is likely the project will require the submittal of the JPA to the USACE.<sup>1</sup>
- **CWA Section 401:** If the project requires a Section 404 permit, the submittal of the JPA and supporting materials will be required to the Oregon Department of Environmental Quality (DEQ) to receive a Section 401 Certification.<sup>5</sup>
- **Endangered Species Act (ESA):** The Row River is habitat for ESA-listed threatened or endangered species, including Upper Willamette River chinook salmon and steelhead. The project would likely require programmatic consultation with National Marine Fisheries Service (NMFS) through the Standard Local Operating Procedures for Endangered Species (SLOPES) during the JPA review.<sup>1</sup>
- **Fish Passage:** The fish passage requirements are similar to those of the Stewart Covered Bridge. In addition, if the work on the bridge consists of construction as defined in Oregon fish passage law (OAR 635-412-0005(10)), a fish passage plan approval would be required.<sup>1</sup>
- **Section 106 NHPA:** The Section 106 process is similar to the Stewart Covered Bridge. In addition, for the ground disturbance anticipated for installing the cofferdam, a Section 106 concurrence for archaeology would be required to be obtained from the SHPO during the JPA review.<sup>1</sup>
- **CWA Section 402 NPDES:** If greater than 1 acre of ground disturbance is expected, a 1200-C permit will be required (if the local jurisdiction does not have an applicable 1200-CA permit on file).<sup>2</sup>

In-water work is assumed to not be required for the rehabilitation of the Currin Covered Bridge. Therefore, state removal/fill, and federal CWA Section 404 permitting will likely not be required. Otherwise, the list of required permits would be similar to the ones required for completing the temporary support work.

## BRIDGE INSPECTION

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### Stewart Covered Bridge:

Due to the significant deterioration of the structure, the bridge will need to be temporarily supported before any inspection work can be performed inside the covered bridge. One challenge is accessing the floor beams and stringers. Traditionally, we would request that the County remove some of the timber decking over the floor beams to gain access for inspection. However, this may be difficult with the temporary support system in place. The anticipated cost for inspection assumes that DOWL will coordinate with the contractor and use the contractor's under-bridge access walkway for installing the support system.

Anticipated cost for inspection: \$10,000

<sup>4</sup> In 2026, review fees range from \$900 (Tier 1) to \$7,200 (Tier 5).

<sup>5</sup> Review fees typically range from \$1,044 (Tier 1) to \$12,842 (Tier 2B).

**Currin Covered Bridge:**

The bridge is currently closed and unsafe to inspect due to noticeable decay in floor beam 6. It will be necessary to conduct a special inspection of this floor beam and the bottom chord to determine the stability of the truss. This inspection will be conducted from under the bridge. The river bottom at this location is comprised of gravel and has an average water depth of approximately 2 feet. We recommend installing a temporary water management system using sandbags to isolate the area around the deteriorated floor beam and installing a ground-supported scaffolding system. An inspection team will then perform an inspection of these timber members to determine the level of decay. If the structure is deemed safe, the remaining timber members will be inspected within the bridge house. Similar to our previous covered bridge inspections, DOWL will work with County forces to remove any timber decking to access the remaining floor beams.

Anticipated cost for inspection:

- Temporary Water Management System (by contractor, included in estimate as Temporary Water Management Facility at L6 Right): \$20,000
- Scaffold System (by contractor, included in estimate as part of Temporary Work Access and Containment): \$10,000
- DOWL Inspection: \$10,000

Costs associated with permitting for temporary water management system are not included in the anticipated cost for inspection.

**CONCLUSION**

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Based on site observations, these bridges should be considered at risk of collapse until the temporary recommended repairs are installed and a more thorough inspection of each bridge is completed. **Table 1** provides an Engineer’s Opinion of Probable Costs for providing temporary support and rehabilitation to the Stewart and Currin Covered Bridges. Costs for conducting the thorough bridge inspections are not included in the cost estimates. Costs are rounded to the nearest \$1,000.

**Table 1: Engineer’s Opinion of Probable Costs**

Item	Association for the Advancement of Cost Engineering (AACE) Low-End Cost Estimate	AACE High-End Cost Estimate
<b>Stewart Bridge Temporary Support</b>	\$228,000	\$371,000
<b>Stewart Bridge Rehabilitation</b>	\$1,602,000	\$3,434,000
<b>Currin Bridge Temporary Support</b>	\$252,000	\$409,000
<b>Currin Bridge Rehabilitation</b>	\$911,000	\$1,953,000

A detailed cost estimate for the above items is available in Appendix A.

## **LIMITATIONS**

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DOWL based the conclusions and recommendations presented in this report on the assumption that site conditions are not substantially different than those reported or exposed during site investigations. If during design and/or construction, conditions are found to be different from those encountered in the investigations, the County should advise DOWL at once to review those conditions and reconsider recommendations. The recommendations provided herein are based on the premise that an in-depth bridge inspection, including timber borings of all structural members, will be conducted once temporary supports are placed and it is safe to conduct such investigations.

If there is a substantial lapse of time between submission of this report and the start of work at the site, and especially if conditions have changed, the County should contact DOWL to review this report and to evaluate the applicability of the conclusions and recommendations presented herein.

DOWL performed these services consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in this area under similar time and budgetary constraints. No warranty is made or implied. Any conclusions made by a construction contractor or bidder relating to construction means, methods, techniques, sequences, or costs based upon the information provided in this report are not the responsibility of Lane County or DOWL.

# **APPENDIX A: CONCEPTUAL COST ESTIMATES**



**Engineer's Cost Estimate 10%**  
**February 18, 2026**  
**Temporary Support**

Spec. No.	Item No.	Item	Bid Unit	Est. Unit	Quantity	Unit Price	Total Price
<b>TEMPORARY FEATURES AND APPURTENANCES</b>							
00210	10	Mobilization	Lump Sum	Lump Sum	1	\$ 19,062.00	\$ 19,062.00
00221	20	Temporary Protection & Direction of Traffic	Lump Sum	Lump Sum	1	\$ 2,000.00	\$ 2,000.00
00222	30	Temporary Signs	Sq Ft	Sq Ft	100	\$ 28.00	\$ 2,800.00
00253	40	Temporary Work Access and Containment	Lump Sum	Lump Sum	1	\$ 15,000.00	\$ 15,000.00
00280	50	Erosion Control	Lump Sum	Lump Sum	1	\$ 2,500.00	\$ 2,500.00
00280	60	Matting, Type D	Sq Yd	Sq Yd	150	\$ 5.00	\$ 750.00
00290	70	Pollution Control Plan	Lump Sum	Lump Sum	1	\$ 1,500.00	\$ 1,500.00
00290	80	Work Containment Plan	Lump Sum	Lump Sum	1	\$ 1,500.00	\$ 1,500.00
<b>ROADWORK</b>							
00320	90	Clearing and Grubbing	Lump Sum	Lump Sum	1.00	\$ 1,500.00	\$ 1,500.00
<b>BRIDGE NO. 39C243</b>							
00560	100	Structural Steel	Lump Sum	Lb	18,000	\$ 5.50	\$ 99,000.00
01999	110	Temporary Bridge Truss Supports	Lump Sum	Lump Sum	1	\$ 45,000.00	\$ 45,000.00

SUB-TOTAL OF ITEMS	\$ 190,612.00
Professional Engineering & Permitting (PE, 15%)	\$ 28,591.80
Construction Engineering (CE, 15%)	\$ 28,591.80
Subtotal of Biddable Items, PE, CE	\$ 247,795.60

**ANTICIPATED ITEMS**

	Unit	Quantity	
ESCALATION TO 2026 CONSTRUCTION (0 YEARS at 5% EACH YEAR)	Year	0	\$ -

Contingency (15%)	\$ 37,170.00
<b>Overall Cost (Base)</b>	<b>\$ 284,965.60</b>
AACE Range (Low, -20%)	\$ (56,993.12)
<b>Overall Cost (Low)</b>	<b>\$ 227,972.48</b>
AACE Range (High, +30%)	\$ 85,489.68
<b>Overall Cost (High)</b>	<b>\$ 370,455.28</b>

**Engineer's Cost Estimate 10%**  
**February 18, 2026**  
**Rehabilitation**

Spec. No.	Item No.	Item	Bid Unit	Est. Unit	Quantity	Unit Price	Total Price
<b>TEMPORARY FEATURES AND APPURTENANCES</b>							
00210	10	Mobilization	Lump Sum	Lump Sum	1	\$ 105,306.00	\$ 105,306.00
00221	20	Temporary Protection & Direction of Traffic	Lump Sum	Lump Sum	1	\$ 5,000.00	\$ 5,000.00
00222	30	Temporary Signs	Sq Ft	Sq Ft	150	\$ 28.00	\$ 4,200.00
00223	40	Flaggers	Hour	Hour	120	\$ 70.00	\$ 8,400.00
00223	50	Flagger Station Lighting	Each	Each	3	\$ 2,000.00	\$ 6,000.00
00224	60	Temporary Barricades, Type III	Each	Each	4	\$ 200.00	\$ 800.00
00224	70	Temporary Plastic Drums	Each	Each	13	\$ 50.00	\$ 650.00
00253	80	Temporary Work Access and Containment	Lump Sum	Lump Sum	1	\$ 100,000.00	\$ 100,000.00
00280	90	Erosion Control	Lump Sum	Lump Sum	1	\$ 5,000.00	\$ 5,000.00
00280	100	Matting, Type D	Sq Yd	Sq Yd	300	\$ 5.00	\$ 1,500.00
00270	110	Temporary Type CL-6 Chain Link Fence	Lump Sum	Foot	350	\$ 30.00	\$ 10,500.00
00290	120	Pollution Control Plan	Lump Sum	Lump Sum	1	\$ 1,500.00	\$ 1,500.00
00290	130	Turbidity Monitoring	Lump Sum	Lump Sum	1	\$ 1,500.00	\$ 1,500.00
00290	140	Work Containment Plan	Lump Sum	Lump Sum	1	\$ 1,500.00	\$ 1,500.00
<b>ROADWORK</b>							
00320	150	Clearing and Grubbing	Lump Sum	Lump Sum	1	\$ 5,000.00	\$ 5,000.00
<b>BRIDGE NO. 39C243</b>							
00501	160	Bridge Removal Work	Lump Sum	MFBM	5	\$ 10,000.00	\$ 50,000.00
00570	170	Timber and Lumber	MFBM	MFBM	5	\$ 60,000.00	\$ 300,000.00
00570	180	Timber and Lumber (East Approach Spans)	MFBM	MFBM	5	\$ 15,000.00	\$ 75,000.00
00570	190	Timber Siding	MFBM	MFBM	0.25	\$ 96,000.00	\$ 24,000.00
00570	200	Remove and Reinstall Bridge Rail	Foot	Foot	120	\$ 280.00	\$ 33,600.00
00570	210	Remove and Reinstall Timber Siding	Lump Sum	Lump Sum	1	\$ 20,000.00	\$ 20,000.00
00570	220	Truss Camber Adjustment	Lump Sum	Lump Sum	1	\$ 22,000.00	\$ 22,000.00
00574	230	Re-Roof Covered Bridge	Lump Sum	Sq Ft	1,630	\$ 120.00	\$ 195,600.00
00590	240	Paint Covered Bridge	Lump Sum	Sq Ft	2,300	\$ 20.00	\$ 46,000.00
01999	250	Temporary Bridge Truss Supports	Lump Sum	Lump Sum	1	\$ 30,000.00	\$ 30,000.00

SUB-TOTAL OF ITEMS	\$ 1,053,056.00
Professional Engineering & Permitting (PE, 25%)	\$ 315,916.80
Construction Engineering (CE, 20%)	\$ 263,264.00
Subtotal of Biddable Items, PE, CE	\$ 1,632,236.80

ANTICIPATED ITEMS	Unit	Quantity	
ESCALATION TO 2028 CONSTRUCTION (0 YEARS at 5% EACH YEAR)	Year	2	\$ 167,304.27

Contingency (30%)	\$ 489,672.00
<b>Overall Cost (Base)</b>	<b>\$ 2,289,213.07</b>

AACE Range (Low, -30%)	\$ (686,763.92)
<b>Overall Cost (Low)</b>	<b>\$ 1,602,449.15</b>
AACE Range (High, +50%)	\$ 1,144,606.54
<b>Overall Cost (High)</b>	<b>\$ 3,433,819.61</b>

**Engineer's Cost Estimate 10%**  
**February 18, 2026**  
**Temporary Support**

Spec. No.	Item No.	Item	Bid Unit	Est. Unit	Quantity	Unit Price	Total Price
<b>TEMPORARY FEATURES AND APPURTENANCES</b>							
00210	10	Mobilization	Lump Sum	Lump Sum	1	\$ 17,673.00	\$ 17,673.00
00221	20	Temporary Protection & Direction of Traffic	Lump Sum	Lump Sum	1	\$ 3,000.00	\$ 3,000.00
00222	30	Temporary Signs	Sq Ft	Sq Ft	100	\$ 28.00	\$ 2,800.00
00245	40	Temporary Water Management Facility at L6 Right	Lump Sum	Lump Sum	1	\$ 20,000.00	\$ 20,000.00
00253	50	Temporary Work Access and Containment	Lump Sum	Lump Sum	1	\$ 30,000.00	\$ 30,000.00
00280	60	Erosion Control	Lump Sum	Lump Sum	1	\$ 5,000.00	\$ 5,000.00
00280	70	Matting, Type D	Sq Yd	Sq Yd	150	\$ 5.00	\$ 750.00
00270	80	Temporary Type CL-6 Chain Link Fence	Lump Sum	Foot	350	\$ 30.00	\$ 10,500.00
00290	90	Pollution Control Plan	Lump Sum	Lump Sum	1	\$ 1,500.00	\$ 1,500.00
00290	100	Turbidity Monitoring	Lump Sum	Lump Sum	1	\$ 1,500.00	\$ 1,500.00
00290	110	Work Containment Plan	Lump Sum	Lump Sum	1	\$ 1,500.00	\$ 1,500.00
<b>ROADWORK</b>							
00320	120	Clearing and Grubbing	Lump Sum	Lump Sum	1	\$ 15,000.00	\$ 15,000.00
<b>BRIDGE NO. 20-3W-36</b>							
00501	130	Bridge Removal Work	Lump Sum	MFBM	4	\$ 2,500.00	\$ 10,000.00
00570	140	Timber and Lumber	MFBM	MFBM	0.5	\$ 15,000.00	\$ 7,500.00
01999	150	Temporary Bridge Truss Supports	Lump Sum	Lump Sum	1	\$ 50,000.00	\$ 50,000.00

SUB-TOTAL OF ITEMS	\$ 176,723.00
Professional Engineering & Permitting (PE, 30%)	\$ 53,016.90
Construction Engineering (CE, 25%)	\$ 44,180.75
Subtotal of Biddable Items, PE, CE	\$ 273,920.65

**ANTICIPATED ITEMS**

	Unit	Quantity	
ESCALATION TO 2026 CONSTRUCTION (0 YEARS at 5% EACH YEAR)	Year	0	\$ -

Contingency (15%)	\$ 41,089.00
<b>Overall Cost (Base)</b>	<b>\$ 315,009.65</b>
AAACE Range (Low, -20%)	\$ (63,001.93)
<b>Overall Cost (Low)</b>	<b>\$ 252,007.72</b>
AAACE Range (High, +30%)	\$ 94,502.90
<b>Overall Cost (High)</b>	<b>\$ 409,512.55</b>

**Engineer's Cost Estimate 10%**  
**February 18, 2026**  
**Rehabilitation**

Spec. No.	Item No.	Item	Bid Unit	Est. Unit	Quantity	Unit Price	Total Price
<b>TEMPORARY FEATURES AND APPURTENANCES</b>							
00210	10	Mobilization	Lump Sum	Lump Sum	1	\$ 59,881.00	\$ 59,881.00
00221	20	Temporary Protection & Direction of Traffic	Lump Sum	Lump Sum	1	\$ 5,000.00	\$ 5,000.00
00222	30	Temporary Signs	Sq Ft	Sq Ft	100	\$ 28.00	\$ 2,800.00
00253	40	Temporary Work Access and Containment	Lump Sum	Lump Sum	1	\$ 200,000.00	\$ 200,000.00
00280	50	Erosion Control	Lump Sum	Lump Sum	1	\$ 5,000.00	\$ 5,000.00
00280	60	Matting, Type D	Sq Yd	Sq Yd	250	\$ 5.00	\$ 1,250.00
00270	70	Temporary Type CL-6 Chain Link Fence	Lump Sum	Foot	350	\$ 30.00	\$ 10,500.00
00290	80	Pollution Control Plan	Lump Sum	Lump Sum	1	\$ 1,500.00	\$ 1,500.00
00290	90	Turbidity Monitoring	Lump Sum	Lump Sum	1	\$ 1,500.00	\$ 1,500.00
00290	100	Work Containment Plan	Lump Sum	Lump Sum	1	\$ 1,500.00	\$ 1,500.00
<b>BRIDGE NO. 20-3W-36</b>							
00501	110	Bridge Removal Work	Lump Sum	MFBM	0.25	\$ 2,500.00	\$ 625.00
00560	120	Structural Steel Maintenance	Lump Sum	Lb	200	\$ 4.00	\$ 800.00
00570	130	Timber and Lumber	MFBM	MFBM	0.25	\$ 15,000.00	\$ 3,750.00
00570	140	Remove and Reinstall Bridge Rail	Foot	Foot	210	\$ 70.00	\$ 14,700.00
00570	150	Truss Camber Adjustment	Lump Sum	Lump Sum	1	\$ 25,000.00	\$ 25,000.00
00574	160	Re-Roof Covered Bridge	Lump Sum	Sq Ft	3,000	\$ 30.00	\$ 90,000.00
00590	170	Paint Covered Bridge	Lump Sum	Sq Ft	5,500	\$ 20.00	\$ 110,000.00
01999	180	Temporary Bridge Supports	Lump Sum	Lump Sum	1	\$ 65,000.00	\$ 65,000.00

SUB-TOTAL OF ITEMS	\$ 598,806.00
Professional Engineering & Permitting (PE, 30%)	\$ 179,641.80
Construction Engineering (CE, 25%)	\$ 149,701.50
Subtotal of Biddable Items, PE, CE	\$ 928,149.30

ANTICIPATED ITEMS	Unit	Quantity
ESCALATION TO 2028 CONSTRUCTION (0 YEARS at 5% EACH YEAR)	Year	2

\$ 95,135.30

Contingency (30%)	\$ 278,445.00
<b>Overall Cost (Base)</b>	<b>\$ 1,301,729.60</b>
AAE Range (Low, -30%)	\$ (390,518.88)
<b>Overall Cost (Low)</b>	<b>\$ 911,210.72</b>
AAE Range (High, +50%)	\$ 650,864.80
<b>Overall Cost (High)</b>	<b>\$ 1,952,594.40</b>

# **APPENDIX B: PHOTOGRAPHS**





**Figure B1: Stewart Bridge: Siding Buckling Bent 4 SE Corner**



**Figure B2: Stewart Bridge: Crushing at Right Truss Bottom Chord (Bent 4)**



**Figure B3: Stewart Bridge: Downward deflection at floorbeam 3**



**Figure B4: Currin Bridge: Crushing at floorbeam 6 east**



**Figure B5: Currin Bridge: Crushing at Bent 6 West Corbel**