EARTHQUAKE READY BURNSIDE BRIDGE

Multnomah County

Consulting Parties Advisory Group

Meeting #3 – July 12, 2024

Review Topics from Meeting #2

- Endorsed the Advisory Group Charter
- Reviewed examples and discussed options for:
  - Interpretive Displays
  - Salvage and Reuse
  - 3-D Scan
- Discussed timing of NHL District and west side design discussions

Review Work Plan and Schedule

May 2024 - November 2024

- Design and the NHL District
- Salvage and Reuse
- Interpretive Displays
- 3-D Scanning

April 2025 - February 2026

- Video Documentation
- 3-D Model
- Documentation (HAER)
- Archival Records
- Publication
- Public Event

March 2027 - April 2028

- Book Update
- Wikipedia Entry
- Oregon Encyclopedia Entry

Review Work Plan and Schedule

	2024				2025				2026				2027				2028				2029				2030				2031			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Salvage and Reuse																																
New Bridge Components in NHL																																
Interpretive Displays																																
3D Scan																																
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Planning

Procurement

Implementation

Focus for Meeting #3
Design Related Mitigation Items

Interpretive Displays

Salvage and Reuse

3-D Scanning

Interpretive Displays

Interpretive Displays

Programmatic Agreement Guidelines

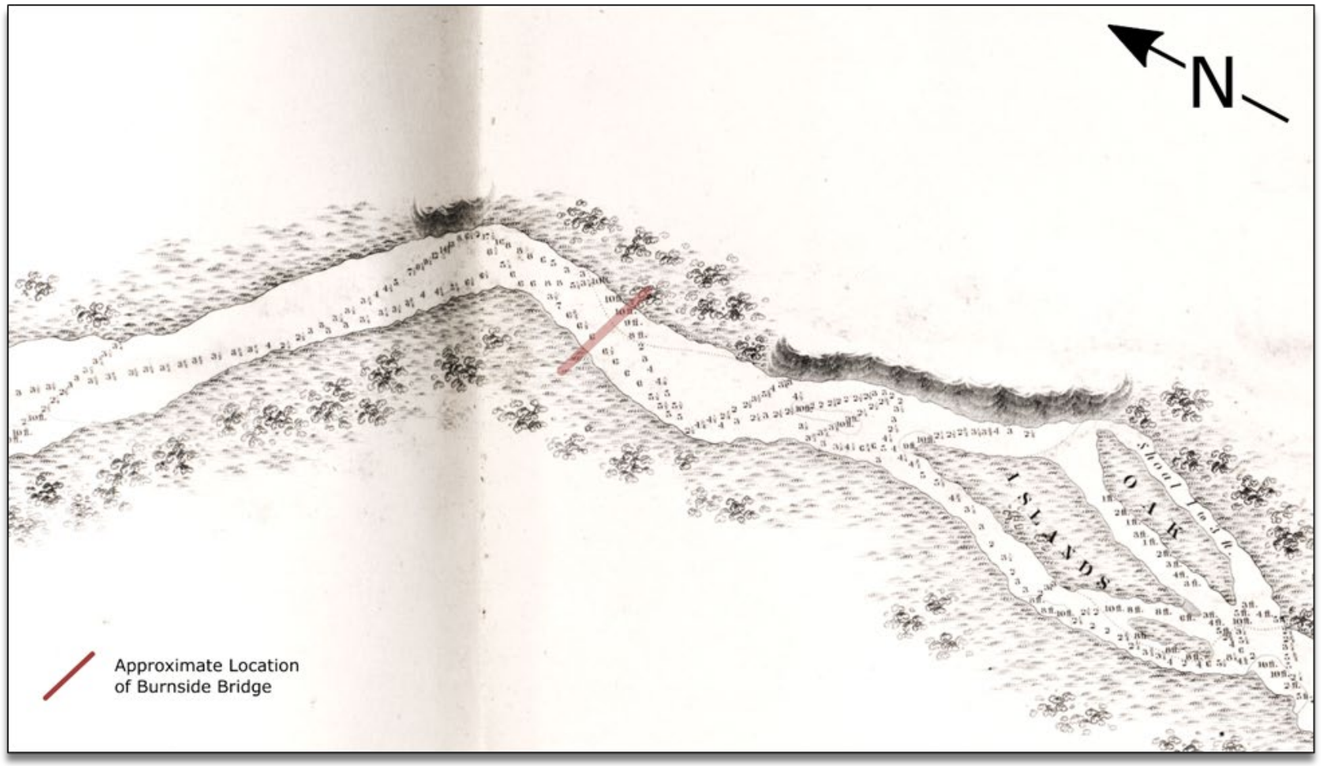
Multnomah County shall contract with an experienced firm for the graphic design, display design, and fabrication of three (3) permanent outdoor interpretive displays, consisting of not more than two (2) panels each depicting the Burnside Bridge and its history and significance, including the bridge's social and civic importance. Multnomah County shall install the panels on the new Burnside Bridge. These panels may either be identical in content or encourage users to explore different aspects of the area's history. Multnomah County shall install the interpretive panels no later than the time of bridge opening and shall maintain the panels for a minimum of 10 years in the event the displays are vandalized or weather prematurely.

Interpretive Displays

Theme #1: Before the Burnside Bridge

Possible topics under this theme:

- Precontact: how Indigenous peoples used the Willamette River before non-Indigenous peoples arrived.
- Postcontact: how Indigenous and non-Indigenous peoples used the Willamette River before the Burnside Bridge was built.
- Postcontact: why a bridge at this location was needed after non-Indigenous peoples founded Portland and the city expanded.

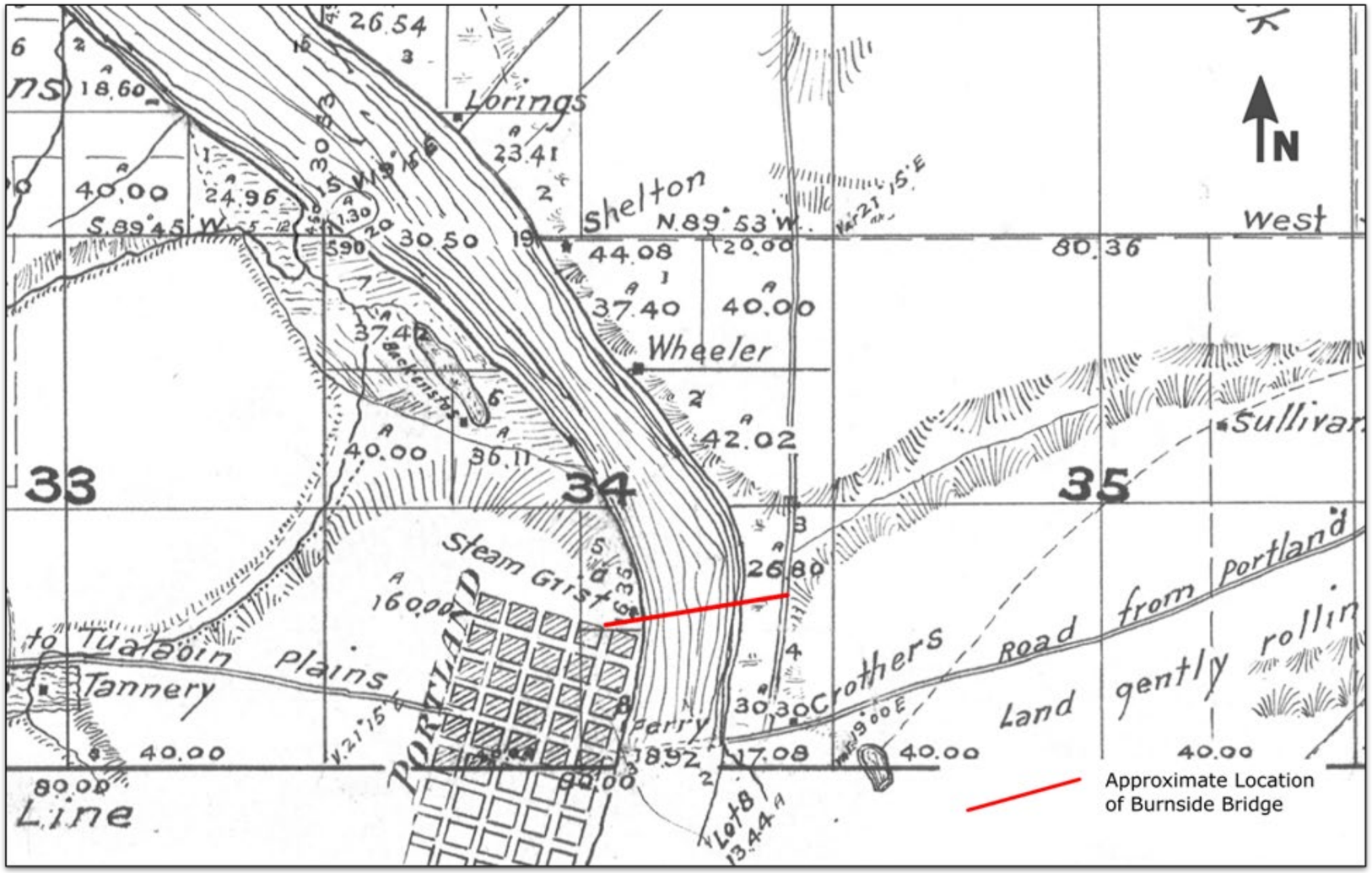


1841 approximate location of the Burnside Bridge indicated.

Source: Wilkes 1858:Sheet No. 7

Interpretive Displays

Theme #1: Before the Burnside Bridge



1852 GLO plat with approximate location of the Burnside Bridge.

Source: GLO 1852

Interpretive Displays

Theme #2: History of the Burnside Bridge

Possible topics under this theme:

- First Burnside Bridge at this location and why it was replaced.
- Design and construction of the second Burnside Bridge.
- Designer of the second Burnside Bridge.
- Bascule operation of the second Burnside Bridge: why it opens and how it opens.
- Why the second Burnside Bridge is such a significant and notable work of engineering.

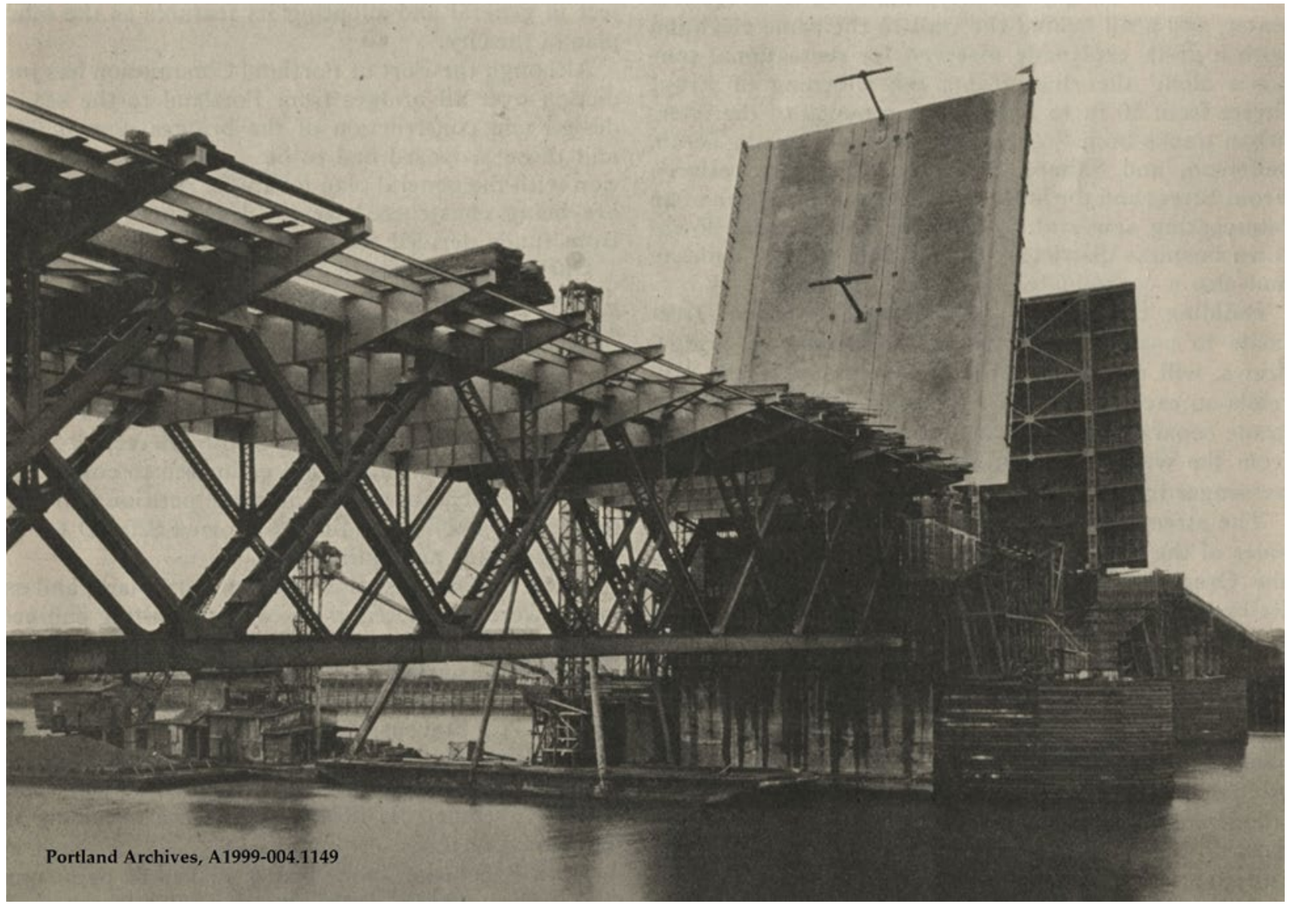


Photo taken from waterfront.

Source: Portland Archives, 1926

Interpretive Displays

Theme #2: History of the Burnside Bridge

Photo looking north.

Source: Portland Archives, 1926

Interpretive Displays

Theme #2: History of the Burnside Bridge

Burnside Bridge with bascule spans open and a ship is passing through.

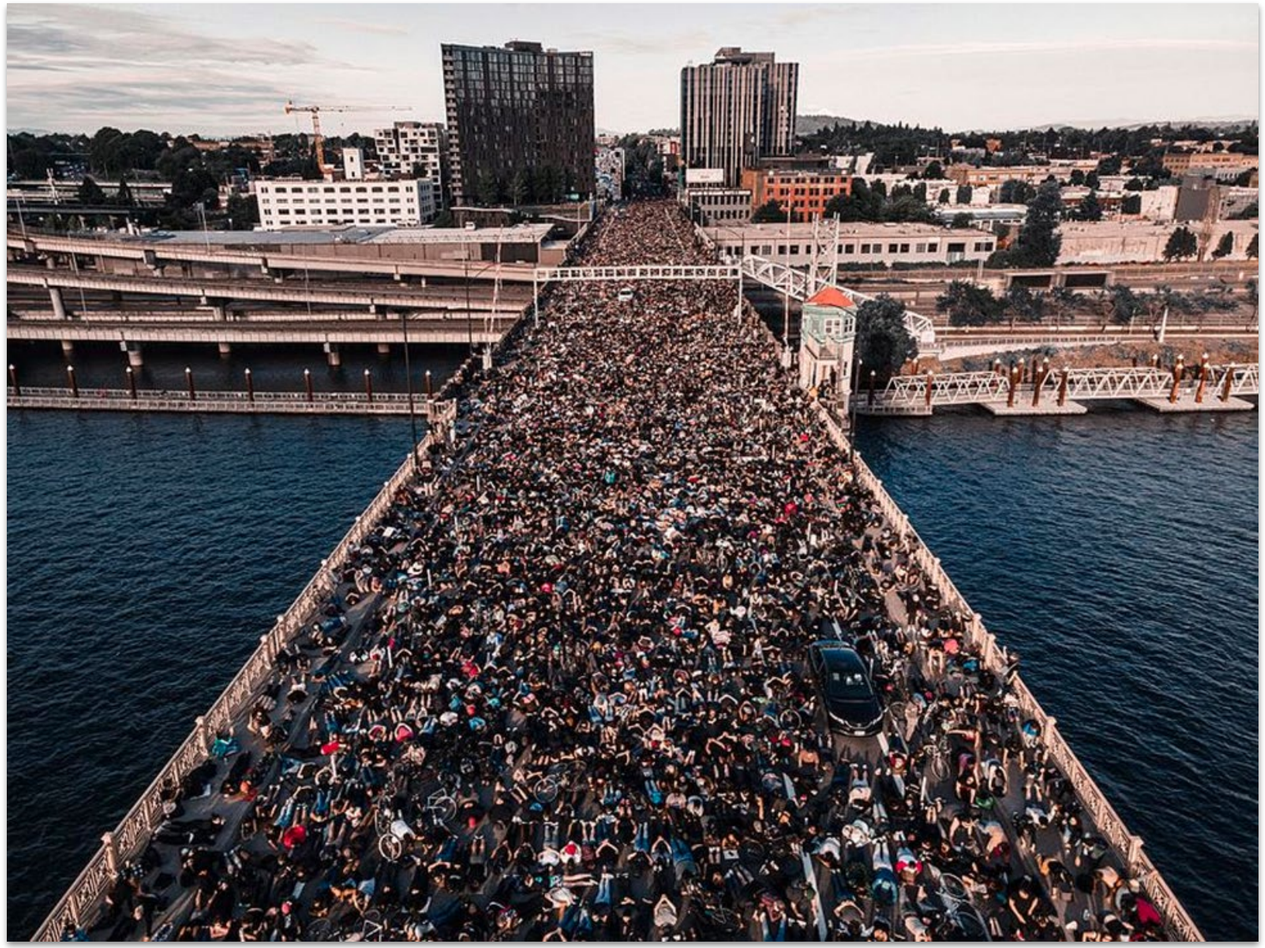
Source: Portland Archives, 1926

Interpretive Displays

Theme #3: Social Importance of the Burnside Bridge

Possible topics under this theme:

- Automobiles, Buses, and Streetcars: Crossing the Burnside Bridge, 1924 to 2027.
- Events: Rose Parade, protests, and demonstrations.
- Burnside Bridge in art and photography.
- Burnside Bridge in popular culture and public memory.
- Construction and use of the Burnside Skatepark
- Continual use of the Willamette River by Indigenous peoples as a fishery.



Portland Protest #2, June 2, 2020

Source: Andrew Wallner

Interpretive Displays

Theme #3: Social Importance of the Burnside Bridge

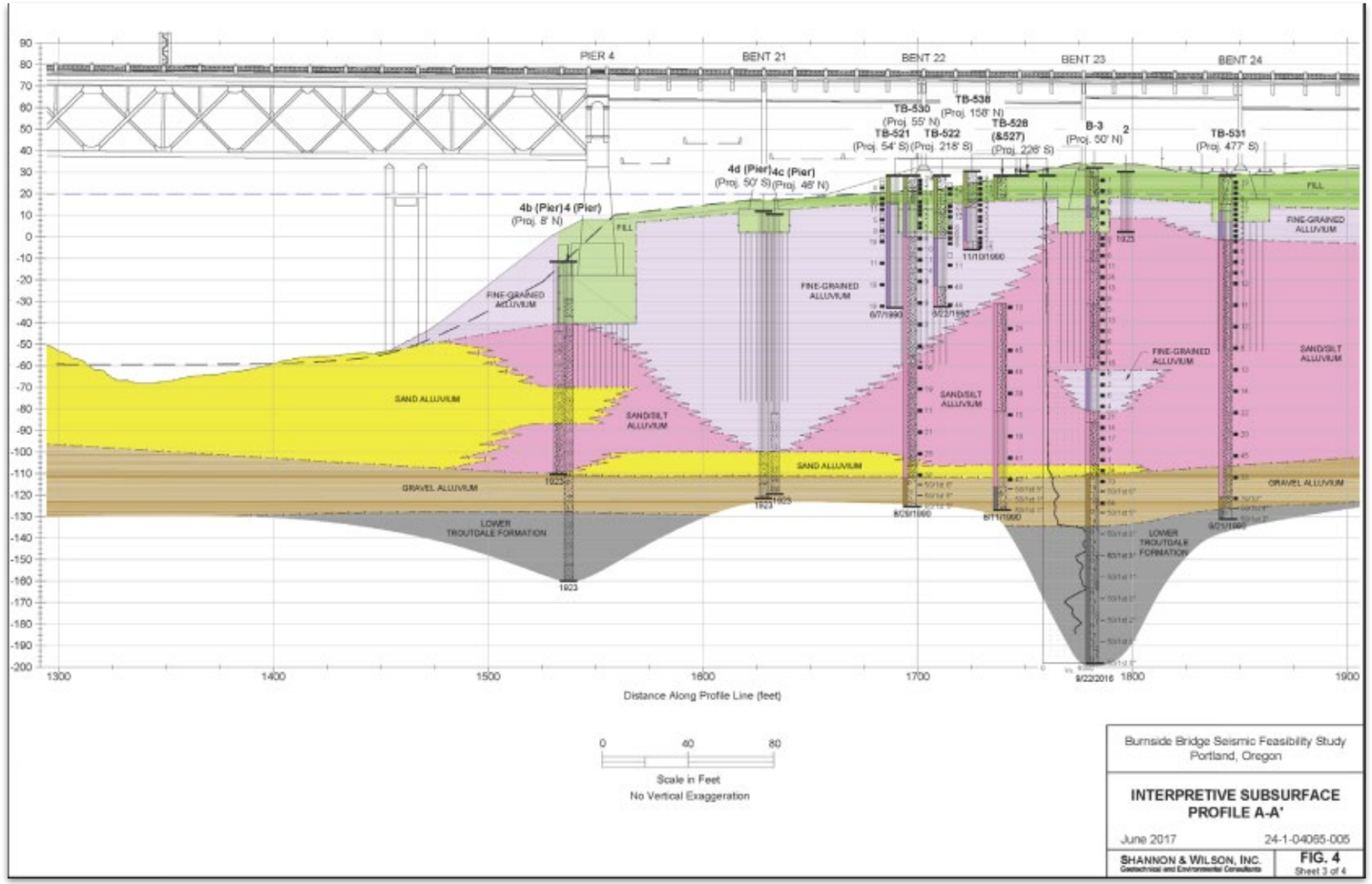
Parade on Burnside Bridge.
Source: OHS, Oregon Journal

Interpretive Displays

Theme #4: Geology and Seismic

Possible topics under this theme:

- Seismic fault lines in the region
- Precontact seismic events from geologic and Indigenous peoples' perspectives.
- Postcontact seismic events since the arrival of non-Indigenous peoples.
- Soil conditions in the vicinity of the Burnside Bridge.
- Why the replacement Burnside Bridge must be seismically resilient.



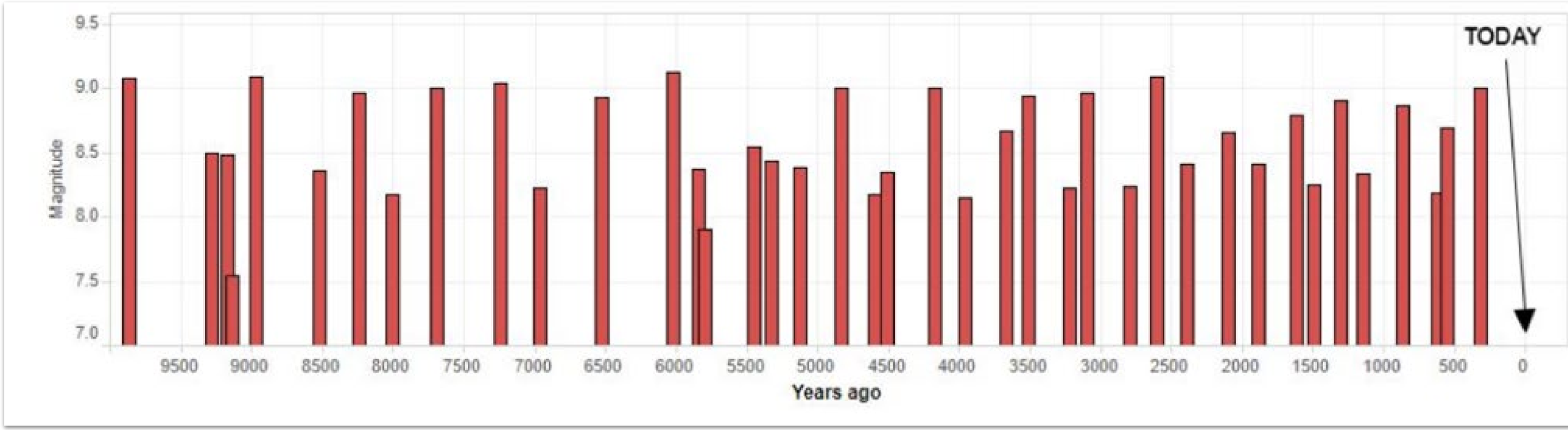
Soils under Burnside Bridge

Source: Shannon & Wilson, Inc.

Interpretive Displays

Theme #4: Geology and Seismic

Frequency and Magnitude of CSZ Earthquakes (Oregon Live)



Interpretive Displays

What makes a successful interpretive display?

Design

- Lead with a thematic statement.
- Graphics, such as drawings, maps, or photographs to fill in details.
- Small amounts of text (150-200 words), with bold headings, drop capitals, and quotations.
- Strong contrast of graphics with the background.
- Reading comprehension at a 6th grade level.

Accessibility

- Strong contrast of graphics with the background.
- Audio.
- Braille and other tactile elements.

Durability

Interpretive Displays

Durability

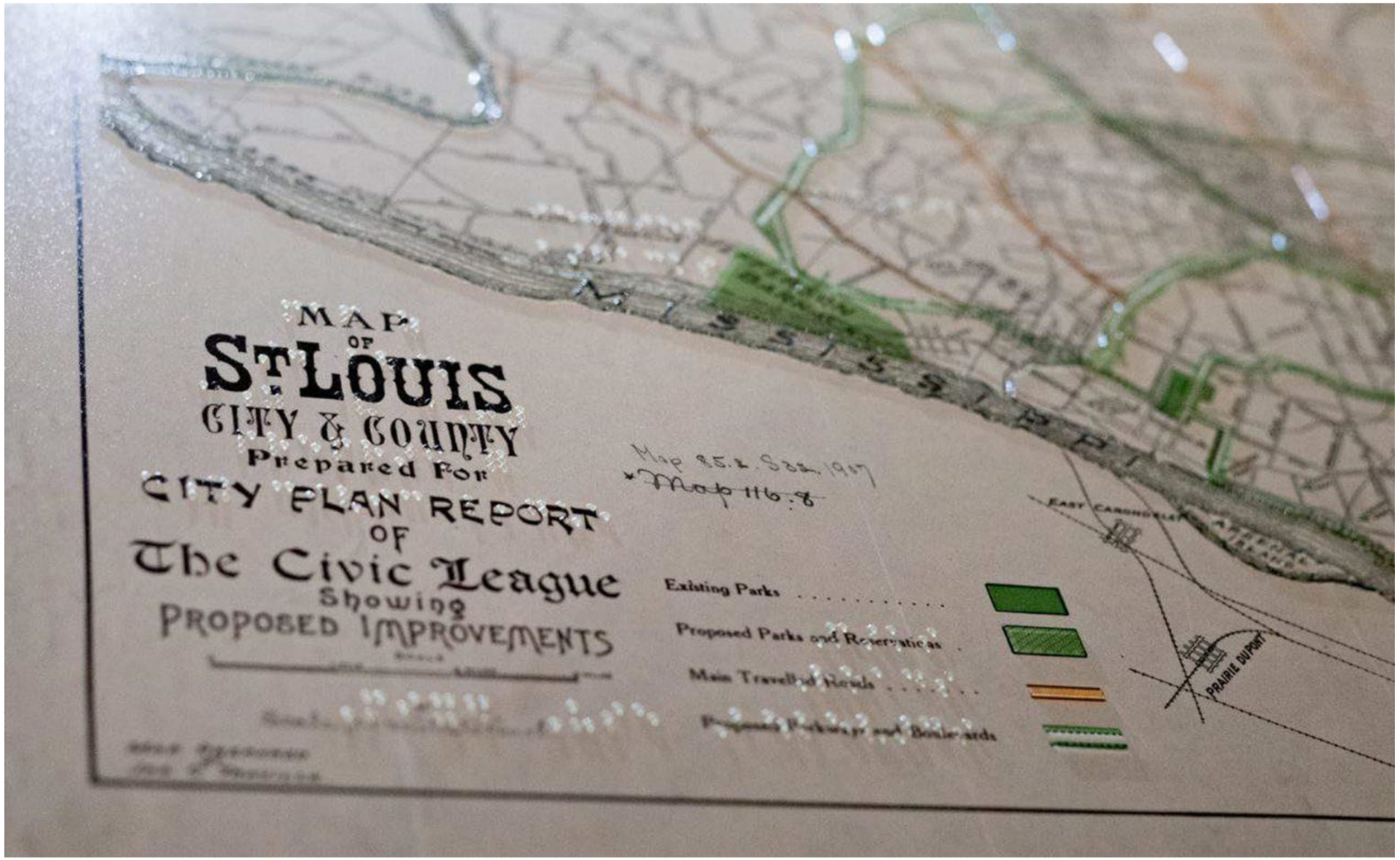
- Porcelain enamel, high pressure laminate, direct-print aluminum, etched stainless steel or aluminum
- Last for over a decade
- Easy to clean from paint, markers, stickers, etc.

Sellwood - installed 2015

Source: SeaReach

Interpretive Displays

Accessibility



An example of Braille superimposed on a historic map.

Source: Engraphix Architectural Signage, Inc., https://www.engraphix.com/portfolio/missouri-history-museum-coloring-stl-braille-interpretive-exhibit/

Interpretive Displays

Durability

An interpretive display with a durable stone and steel base and an aluminum information panel etched with an architectural plan and descriptive text.

Source: Courtesy Aluma Photo-Plate Company, https://www.alumaphoto-plateco.com/products/interpretive-signage.html

Interpretive Displays

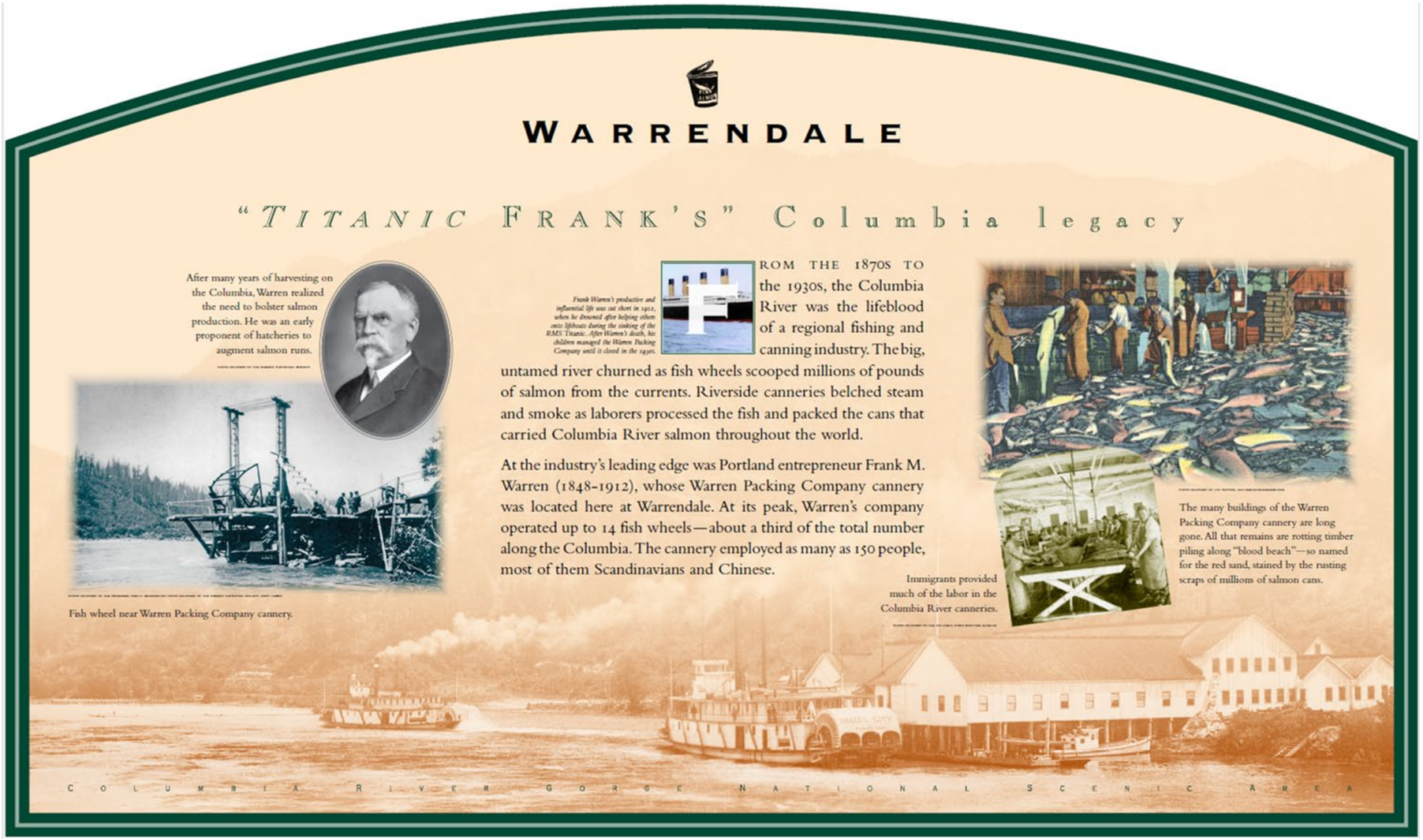
Example: Hanapēpē River Bridge, Kaumualiʻi Highway, Kauaʻi, Hawaiʻi

Interpretive display in Hanapēpē Community Park (Hanapēpē, Kauaʻi County, Hawaiʻi) memorializes the history of the former Hanapēpē River Bridge on Kaumualiʻi Highway on Kauaʻi." Example of an interpretive display integrated with a salvaged section of historic bridge railing.

Source: Courtesy of Historic Hawaiʻi Foundation, https://historichawaii.org/2023/06/22/hanapepebridgereplacement

Interpretive Displays

Example: Columbia River Gorge National Scenic Area

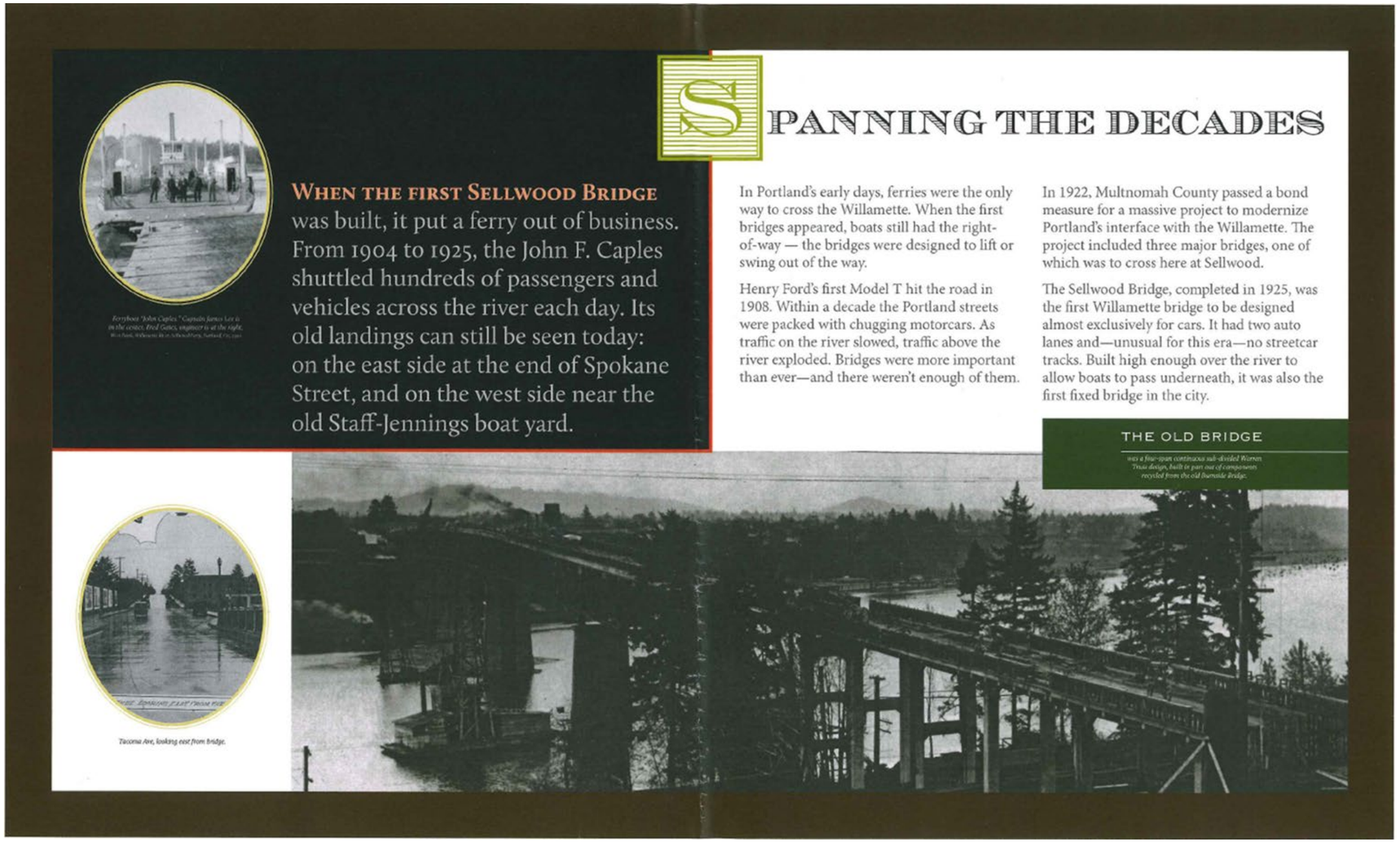


An example of an interpretive display from the Columbia River Gorge National Scenic Area.

Source: Courtesy Bob Hadlow, ODOT

Interpretive Displays

Example: Sellwood Bridge

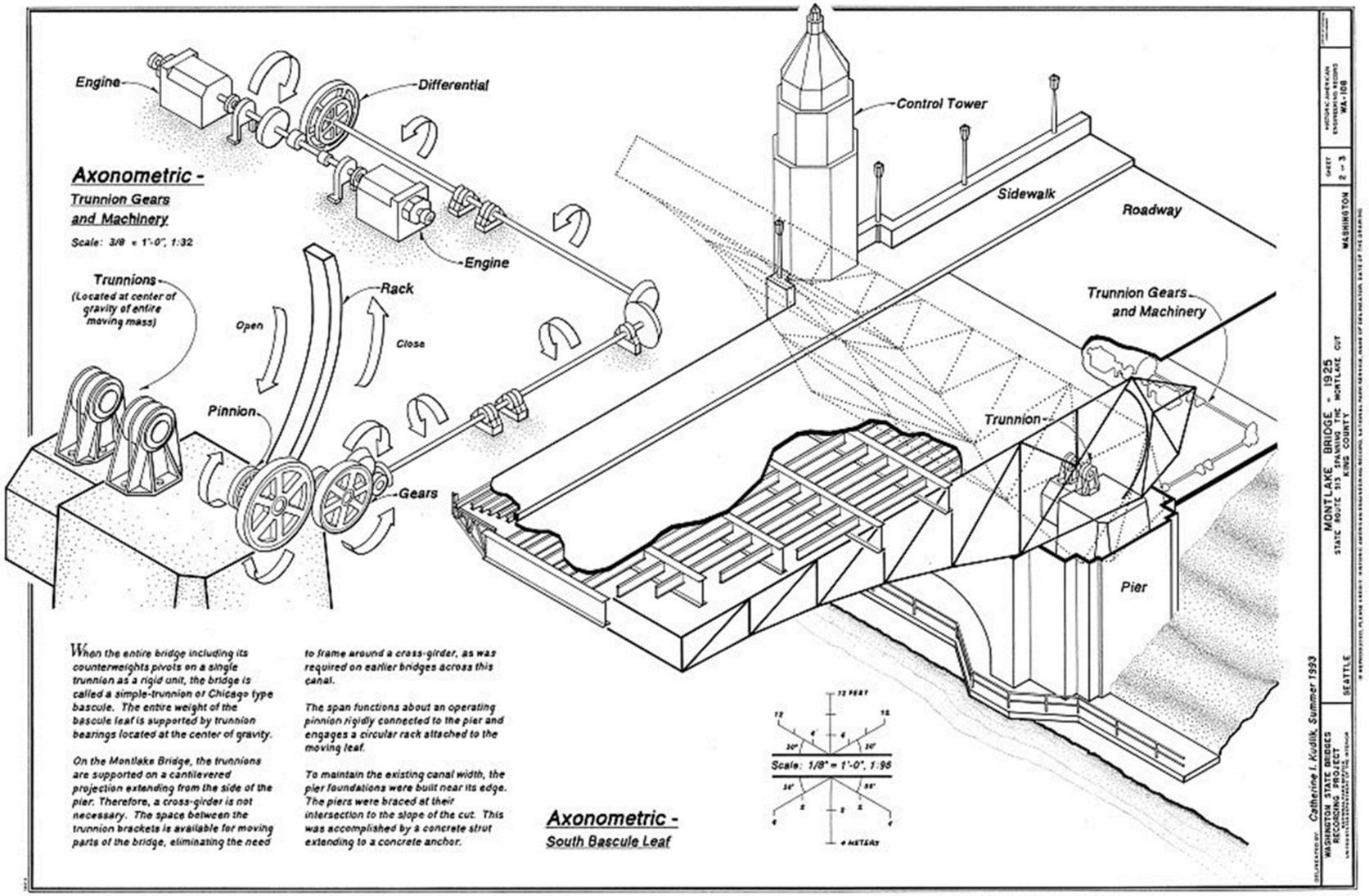


An interpretive display for the Sellwood Bridge in Portland.

Source: Courtesy Bob Hadlow, ODOT

Interpretive Displays

Example: Historic American Engineering Record (HAER) drawings



Example of Historic American Engineering Record (HAER) drawings, which could be incorporated into one of the interpretive display panels.

Source: Courtesy Library of Congress

Questions

- What themes do you feel are the most important?

  1 - Before the Burnside Bridge

  2 - History of the Burnside Bridge

  3 - Social Importance of the Burnside Bridge

  4 - Geology and Seismic

- Which topics within each theme do you feel are the most important?

Theme #1: Before the Burnside Bridge

Possible topics under this theme:

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Multnomah County

Theme #2: History of the Burnside Bridge

Possible topics under this theme:

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Theme #3: Social Importance of the Burnside Bridge

Possible topics under this theme:

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EARTHQUAKE READY BURNSIDE BRIDGE

Multnomah County

Salvage and Reuse

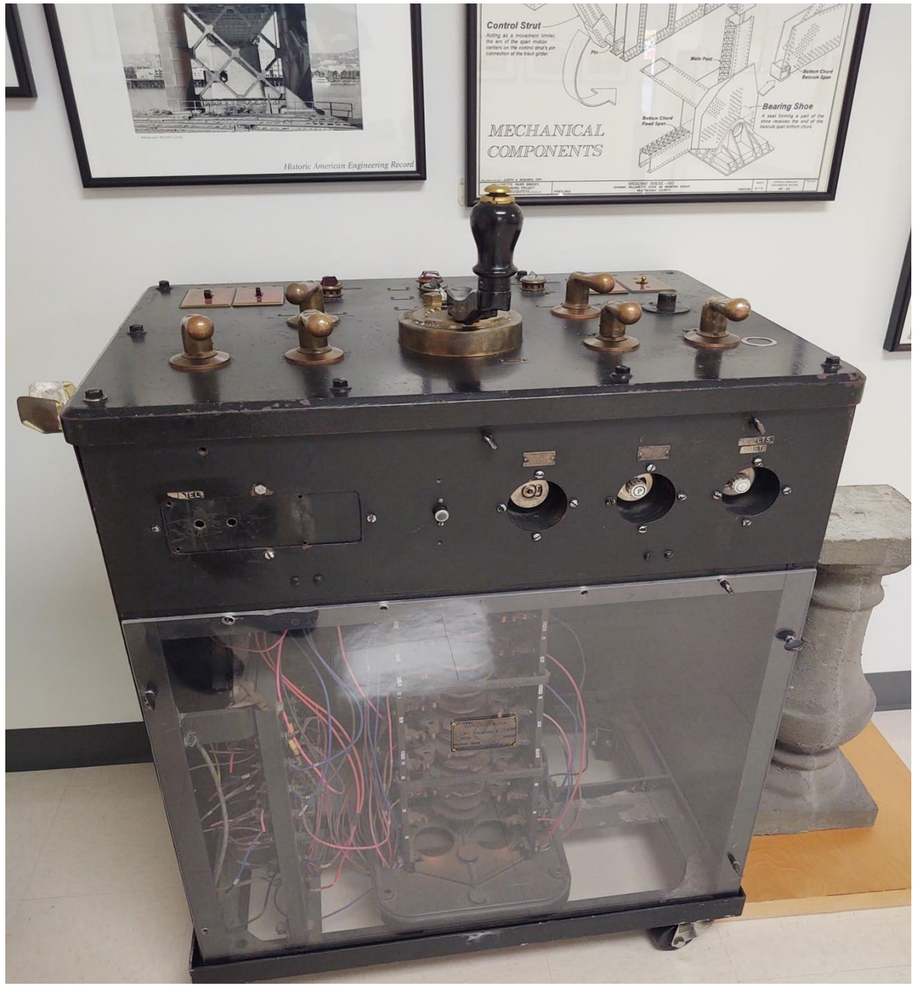
Salvage and Reuse

Programmatic Agreement Guidelines

Multnomah County shall explore options for salvage and reuse of existing features of the Burnside Bridge, including railings, mechanical components, and the operator towers.

Existing Example of Salvage

Original Burnside Bridge Control Panel – Housed at ODOT



Portrait of John Frenette, chief operator on Burnside Bridge, 1956
Source: OHS

Salvage

Bridge Elements

1 - Operator Tower

- Entire Operator Tower (as a whole)
- Red Terracotta Roof (Terracotta Tile Shingles over Steel Frame with Concrete Slab)
- Green Architectural Operators Quarters (Glass Windows and TerraCotta Tiling)
- Beige Architectural Tower (Cement Stucco over Terra Cotta Walls)
- Walking balcony

2 - Metal Bridge Railing

3 - Concrete Bridge Railing

- Individual balustrades
- Balustrade panel
- Transition units

4 - Steel Structural Components

- Individual rivets / bolts
- Truss portions (at joints)

5 - Historic Name Plate

6 - Mechanical Components

- Motors and gears (i.e., machinery housed in mechanical room)
- Interior trunnion tower
- Pinion rack

7 - Douglas Fir Piling

- Piling from starling
- Piling from below foundations

Salvage

Operator Tower

Terracotta Roof

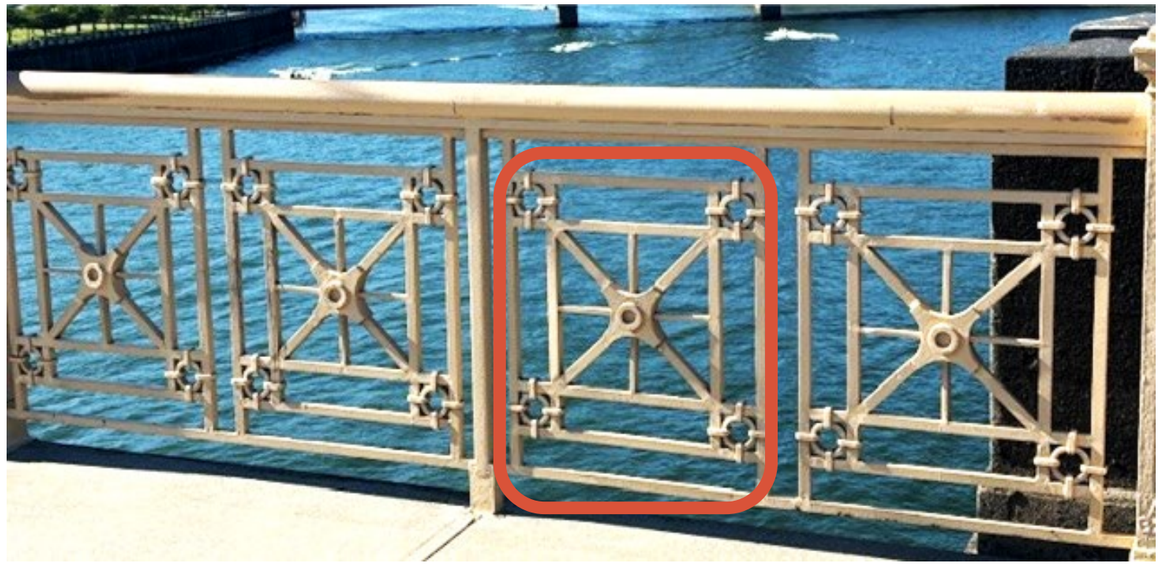
Operators Quarters

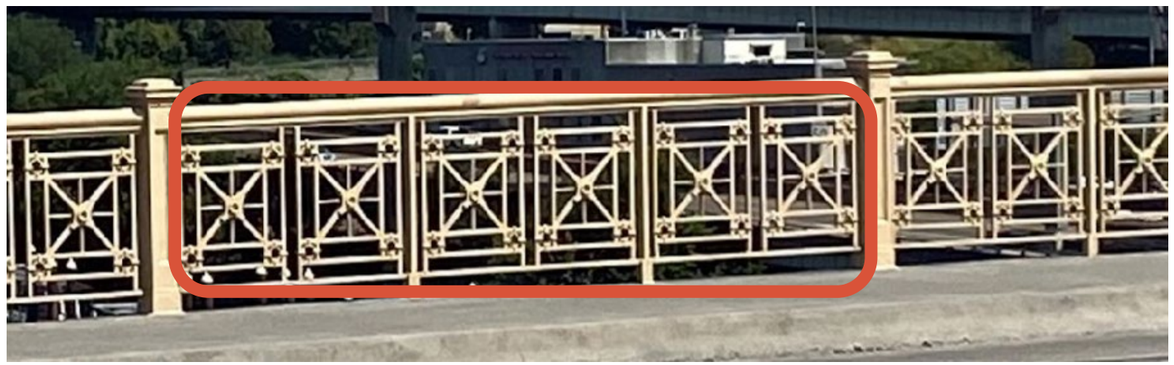
Tower

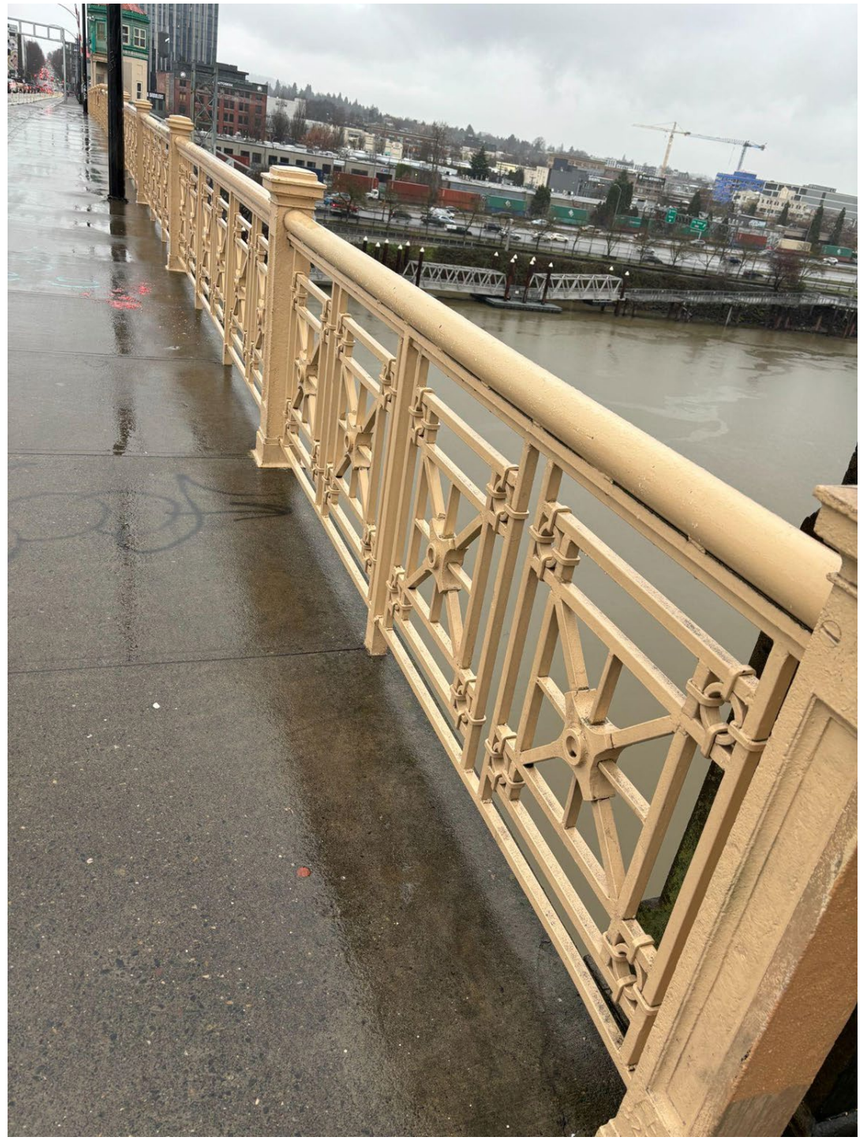
Walking Balcony

Salvage

Metal Bridge Railings







Salvage

Concrete Bridge Railings

Salvage

Steel Structural Components

Approach Truss Node

Salvage

Steel Structural Components

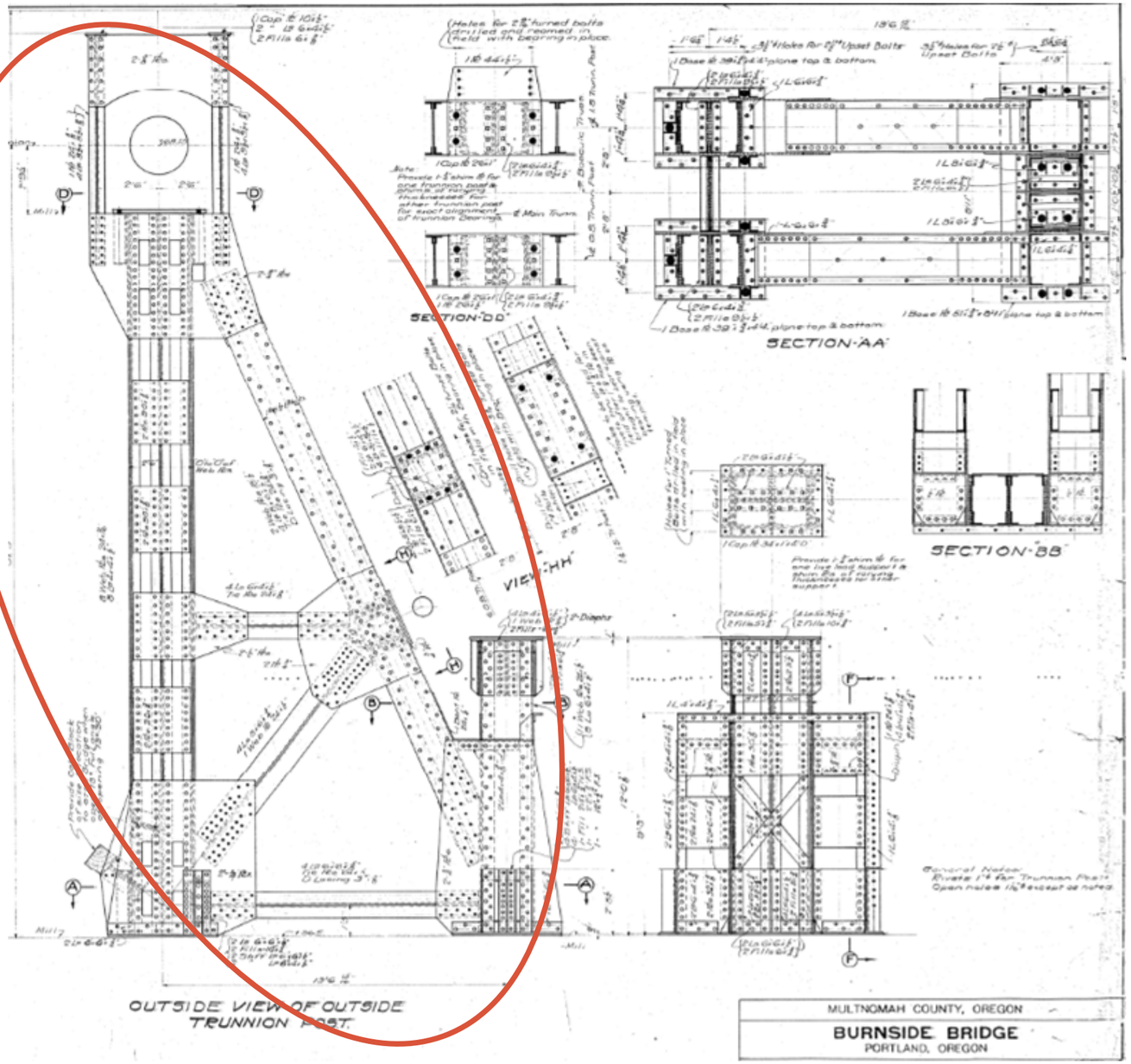
Bascule Span Node

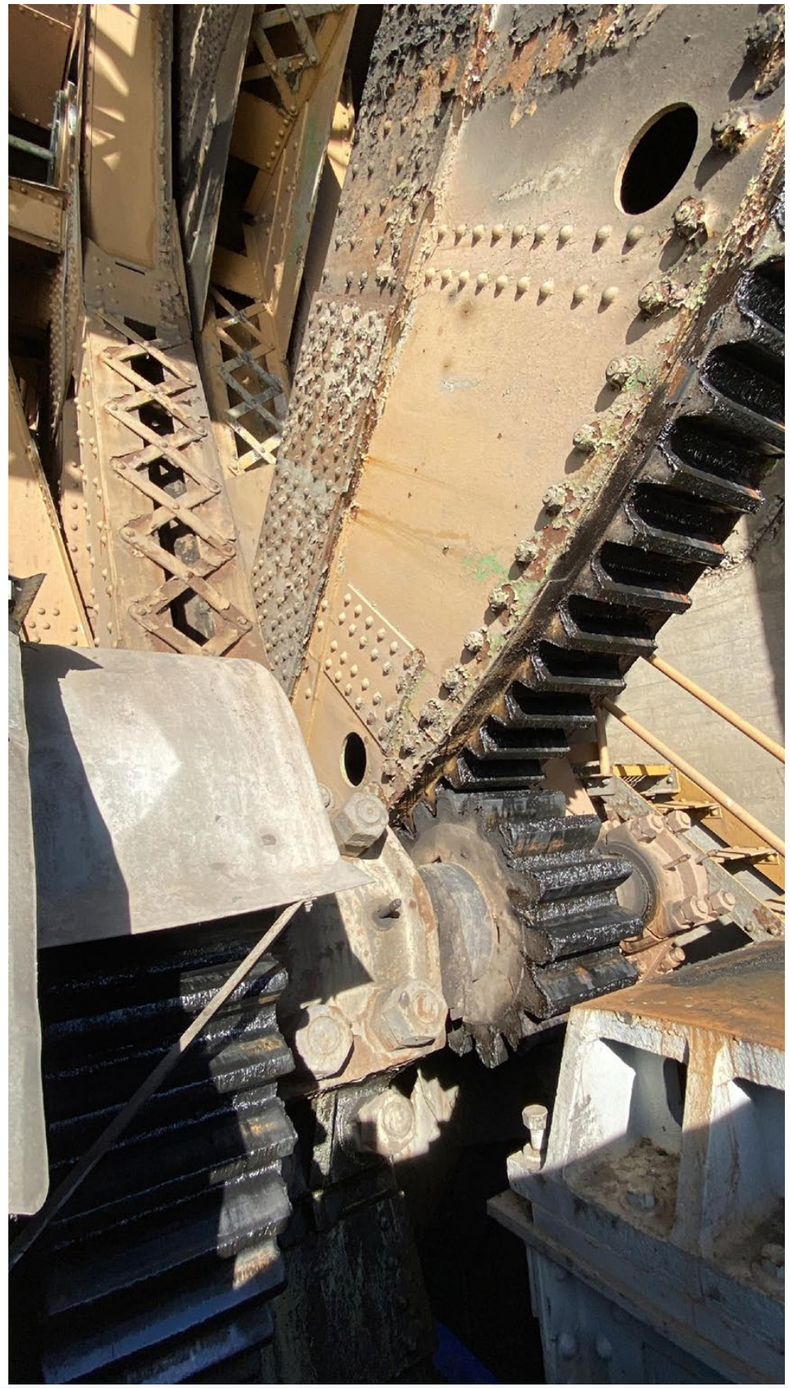
Salvage

Steel Structural Components - Rivets / Bolts

Salvage

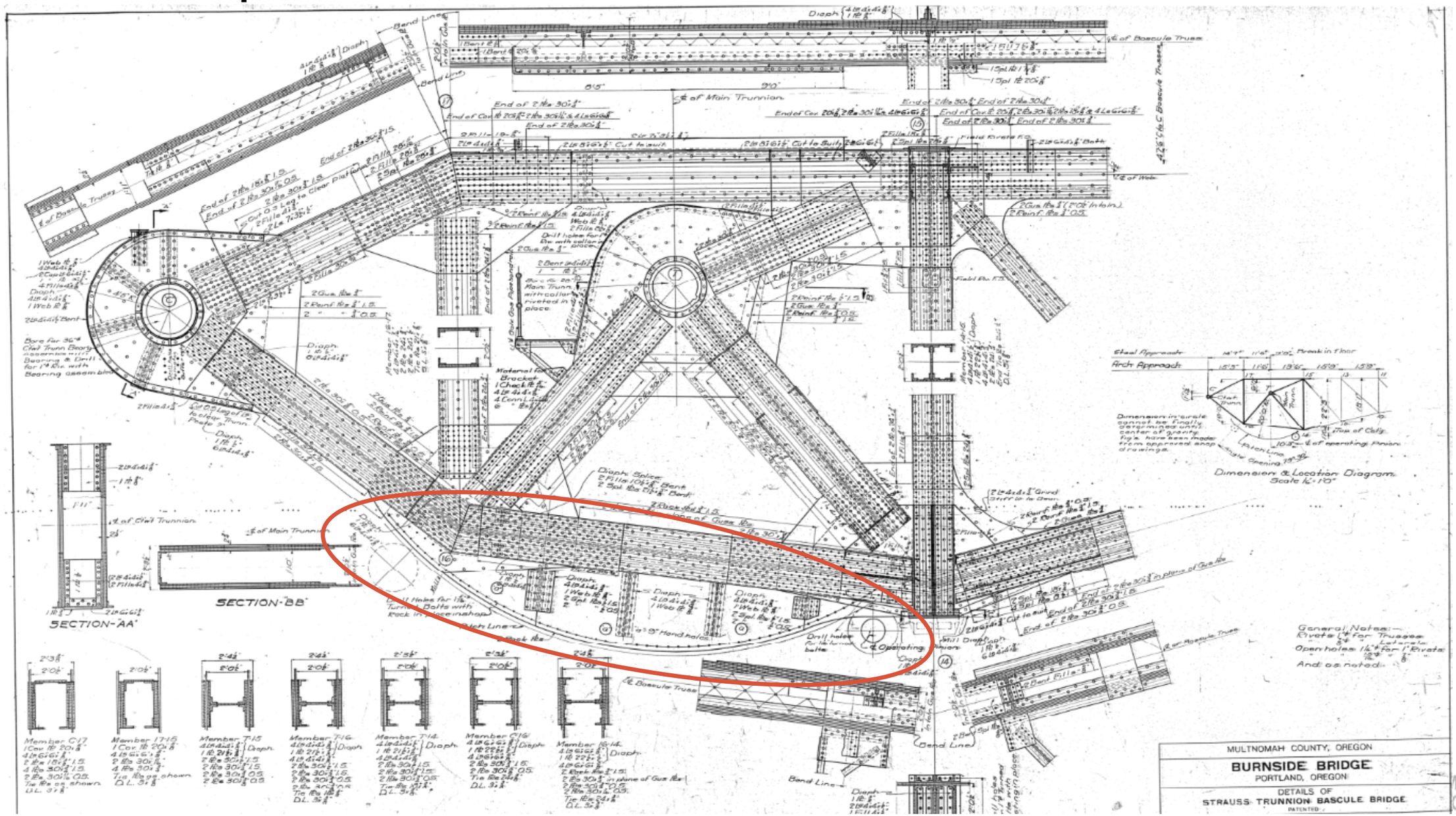
Mechanical Components - Trunnion Tower





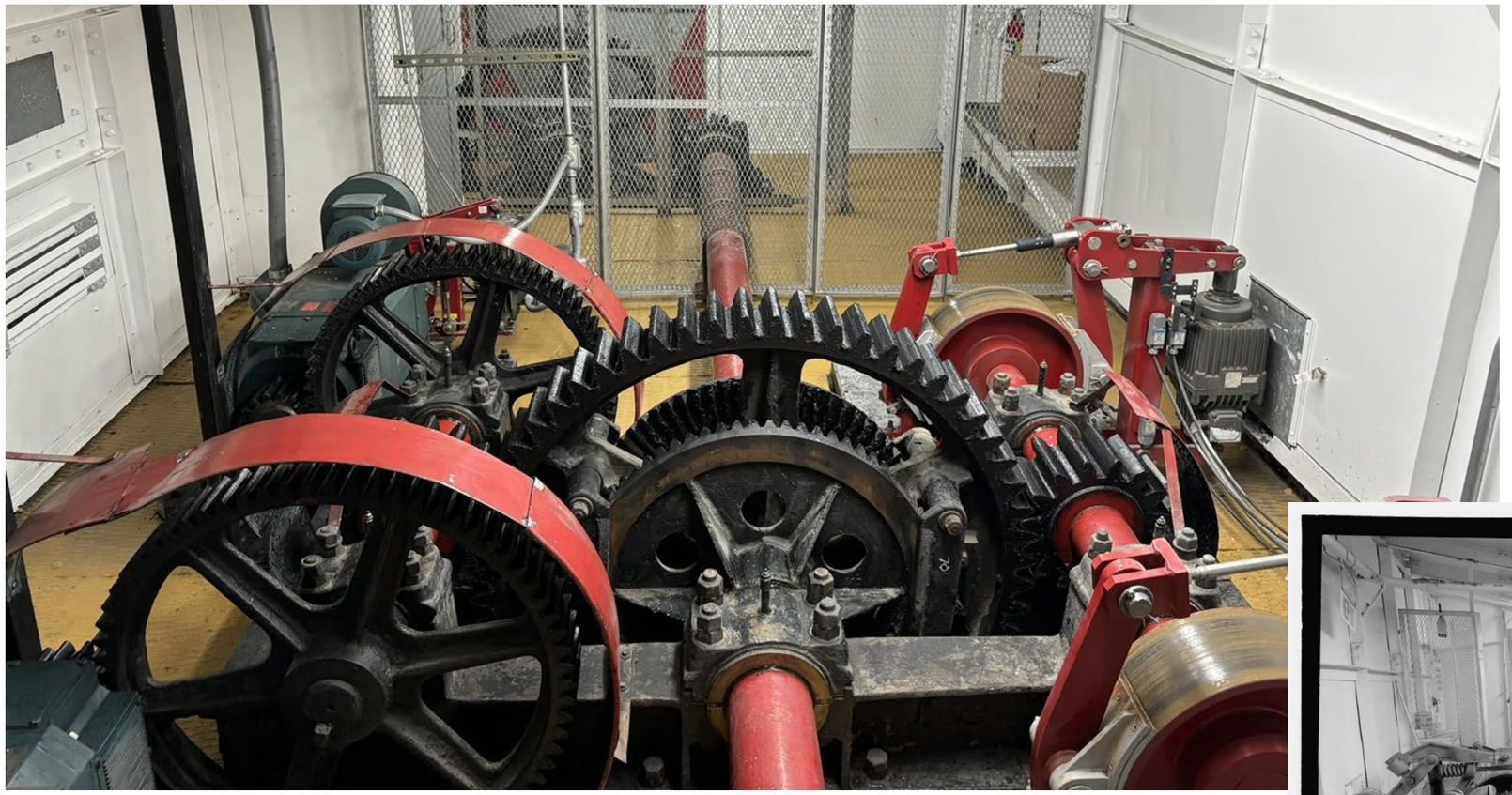
Salvage

Mechanical Components - Pinion Rack



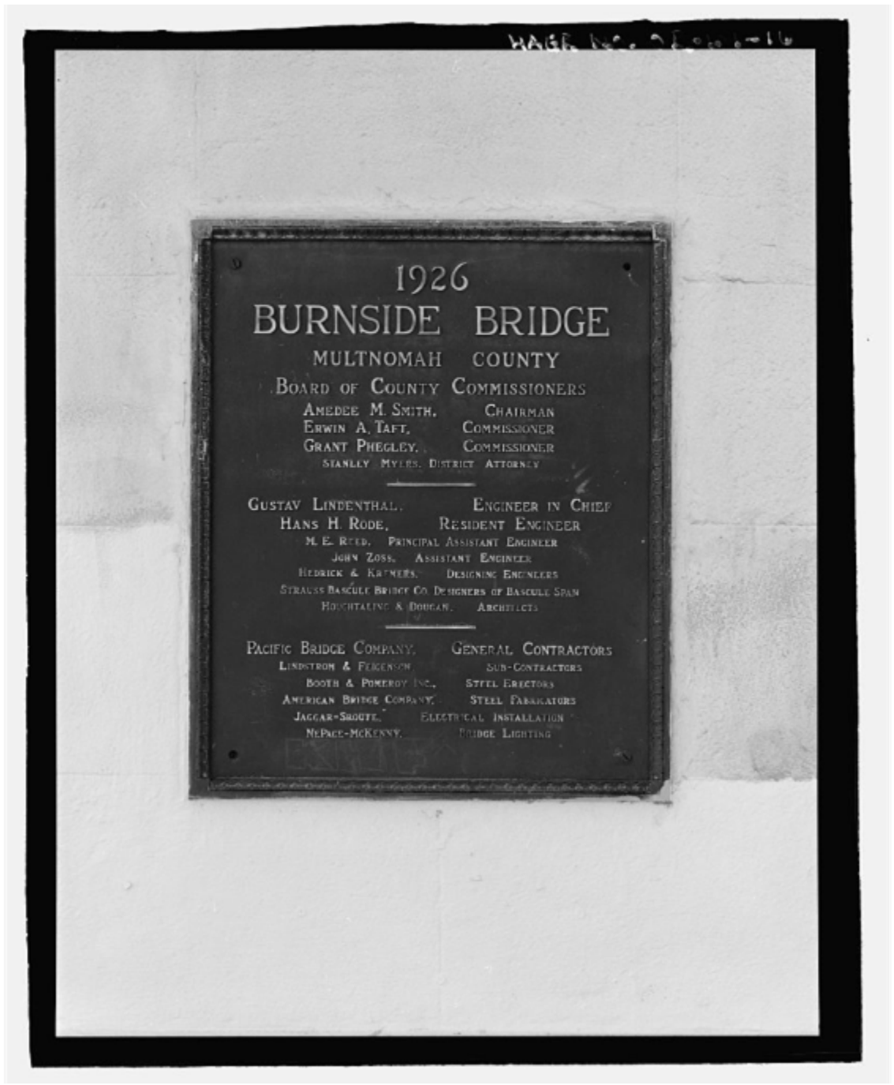
Salvage

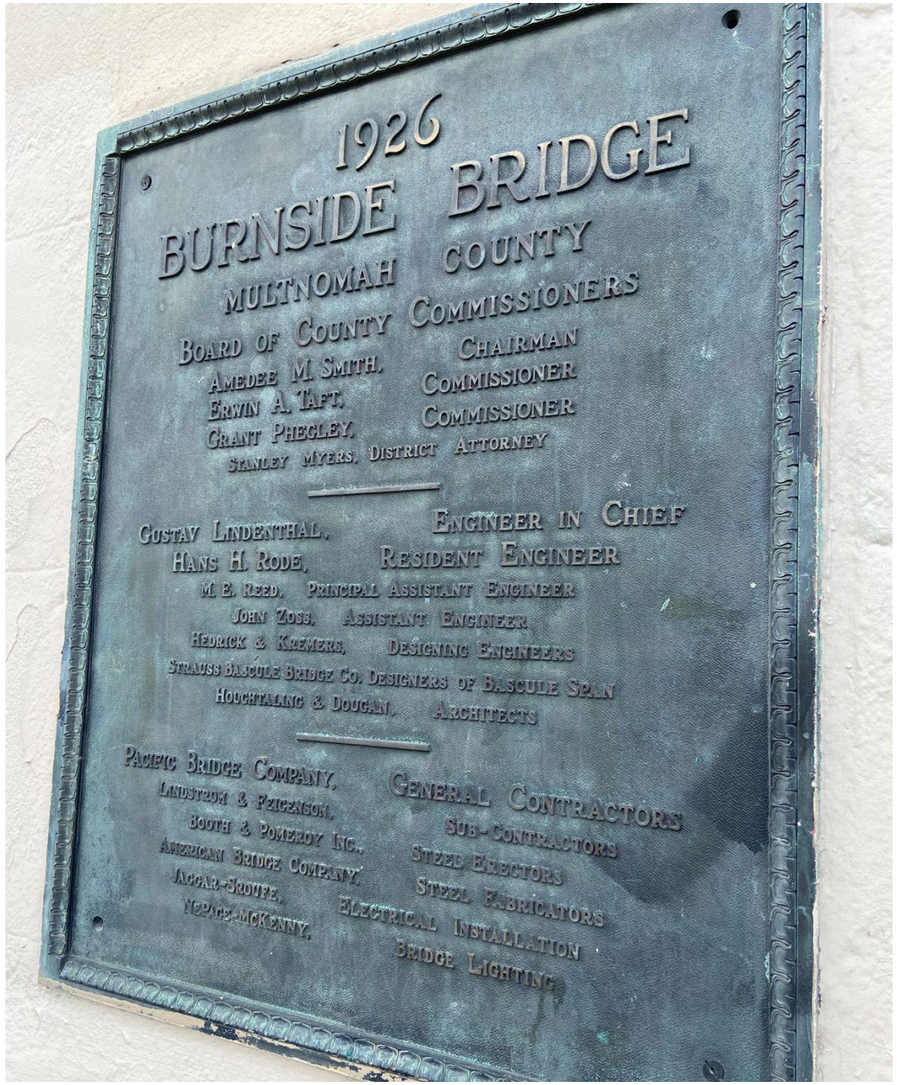
Mechanical Components - Gears



Salvage

Name Plate





Potential Salvage Components	Level of Effort	Risk of Damage
Very Low / Low / Moderate / High / Very High / Infeasible		
1 - Operator Tower		
Entire Operator Tower (as a whole)		
Red Terracotta Roof (Terracotta Tile Shingles over Steel Frame with Concrete Slab)		
Green Architectural Operators Quarters (Glass Windows and TerraCotta Tiling)		
Beige Architectural Tower (Cement Stucco over Terra Cotta Walls)		
Walking balcony		
2 - Metal Bridge Railing		
3 - Concrete Bridge Railing		
Individual balustrades		
Balustrade panel		
Transition units		
4 - Steel Structural Components		
Individual rivets / bolts		
Truss portions (at joints)		
5 - Historic Name Plate		
6 - Mechanical Components		
Motors and gears (i.e., machinery housed in mechanical room)		
Interior trunnion tower		
Pinion rack		
7 - Douglas Fir Piling		
Piling from starling		
Piling from below foundations		

Salvage and Reuse

National Endowment for the Arts (NEA) Grants

- Award range: $10,00-$100,000
- Require 1:1 cost/share matching funds
- Some require partnering with nonprofits that have a history of arts programming
- Can apply twice per year

Questions

- What is your top priority to salvage?

3-D Scanning

3-D Scanning

Programmatic Agreement Guidelines

Multnomah County shall make a three-dimensional scan of the Burnside Bridge available to Consulting Parties and the public through the County website and upon request during construction. Upon completion of the Project, Multnomah County shall archive the data in the County's permanent electronic records management system.

3-D Scanning

- There are several vendors who do 3-D scanning and we will invite them to tour the bridge and describe their services
- It is possible to scan the machinery and counterweight inside of the bridge

Discussion - Questions

Next Steps

Current Project Status

- Bridge Type Survey
- Public Outreach

September 13th meeting:

- Research and planning results
- Draft scopes for procurement
- More input from Advisory Group

Reminder for Input:

Email to EQRB-Consulting-Parties@multco.us

Materials Website

https://www.multco.us/earthquake-ready-burnside-bridge/consulting-parties-advisory-group-meeting-materials

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Multnomah County