NPS Form 10-900
(10-90)

OMB No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Cape Creek Bridge No. 01113

other names/site number _____

2. Location

street & number Oregon Coast Highway No. 9 (US 101), MP 178.35 not for publication ___

city or town Heceta Head vicinity X

state Oregon code OR county Lane code 039

zip code _____

3. State/Federal/Tribal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this ☒ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ☒ meets ☐ does not meet the National Register Criteria. I recommend that this property be considered significant ☐ nationally ☒ statewide ☐ locally. (☐ See continuation sheet for additional comments.)

Signature of certifying official / Deputy SHPO Date 14 June 05

Oregon State Historic Preservation Office
State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. (☐ See continuation sheet for additional comments.)

Signature of commenting or other official Date

State or Federal agency and bureau

4. National Park Service Certification

I, hereby certify that this property is:

☑ entered in the National Register Edson Beall 8/5/05
☐ See continuation sheet.
☐ determined eligible for the National Register _____
☐ See continuation sheet.
☐ determined not eligible for the National Register _____
☐ removed from the National Register _____
☐ other (explain): _____

Signature of Keeper Date of Action

5. Classification

Ownership of Property
(Check as many boxes as apply)

- ☐ private
- ☐ public-local
- ☒ public-State
- ☐ public-Federal

Category of Property
(Check only one box)

- ☐ building(s)
- ☐ district
- ☐ site
- ☒ structure
- ☐ object

Number of Resources within Property
(Do not include previously listed resources in the count

Contributing	Noncontributing
_____	_____ buildings
_____	_____ sites
1	_____ structures
_____	_____ objects
_____	_____ Total

Number of contributing resources previously listed in the National Register 0

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing.)

C. B. McCullough Major Oregon Coast Highway Bridges, 1927-36.

6. Function or Use

Historic Functions
(Enter categories from instructions)

Transportation

Historic Subfunctions
(Enter subcategories from instructions)

Road-related

Current Functions
Enter categories from instructions)

Transportation

Current Subfunctions
(Enter subcategories from instructions)

Road-related

7. Description

Architectural Classification
Enter categories from instructions)\

Late 19th and 20th Century Revivals
Classic Revival
Modern Movement
Art Deco
Moderne

Materials
(Enter categories from instructions)

Foundation Concrete
Other Steel
Concrete

Narrative Description
(Describe the historic and current condition of the property on one or more continuation sheets

See continuation sheets

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

☒ A Property is associated with events that have made a significant contribution to the broad patterns of our history.

☐ B Property is associated with the lives of persons significant in our past.

☒ C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

☐ D Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations
(Mark "X" in all the boxes that apply.)

☐ A owned by a religious institution or used for religious purposes.

☐ B removed from its original location.

☐ C a birthplace or a grave.

☐ D a cemetery.

☐ E a reconstructed building, object, or structure.

☐ F a commemorative property.

☐ G less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance
(Enter categories from instructions)

Engineering
Transportation

Period of Significance

1932

Significant Dates

Completed in 1932.

Significant Person
(Complete if Criterion B is marked above)

Cultural Affiliation

Architect/Builder

Conde B. McCullough, Oregon State Bridge Engineer, designer
John K. Holt, Salem, Oregon, contractor—main arch
Clackamas Construction Company, Oregon City, Oregon, contractor—north viaduct

Narrative Statement of Significance
(Explain the significance of the property on one or more continuation sheets.)

See continuation sheets.

9. Major Bibliographical References

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS)
☐ preliminary determination of individual listing (36 CFR 67) has been requested.
☐ previously listed in the National Register

☐ previously determined eligible by the National Register
☐ designated a National Historic Landmark
☐ recorded by Historic American Buildings Survey # _____
☒ recorded by Historic American Engineering Record # OR-41

Primary Location of Additional Data
☐ State Historic Preservation Office
☐ Other State agency
☒ Federal agency
☐ Local government
☐ University
☐ Other
Name of repository: Prints and Photographs Division, US Library of Congress

10. Geographical Data

Acreage of Property 0.43 acres

UTM References
(Place additional UTM references on a continuation sheet)

1	10	410365	4887118	3			
	Zone	Easting	Northing		Zone	Easting	Northing
2				4			

Verbal Boundary Description
(Describe the boundaries of the property on a continuation sheet.)

Boundary Justification
(Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Robert W. Hadlow, Ph.D., Senior Historian

organization Oregon Department of Transportation date June 30, 2004

street & number 123 NW Flanders Street telephone (503) 731-8239

city or town Portland state OR zip code 97209-4037

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

USGS map (7.5 or 15 minute series) indicating the property's location.
sketch map for historic districts and properties having large acreage or numerous resources.

Photographs

Representative **black and white photographs** of the property.

Additional items (Check with the SHPO or FPO for any additional items)

Property Owner

(Complete this item at the request of the SHPO or FPO.)

name Oregon Department of Transportation

street & number 355 Capitol Street NE telephone

city or town Salem state OR zip code 97301

Narrative Description

Cape Creek Bridge is a combination two-tiered reinforced-concrete viaduct and open-spandrel ribbed deck arch structure. It is reminiscent of the Roman stone aqueducts. The bridge spans Cape Creek at milepost 178.35 on the Oregon Coast Highway No. 9 (US 101) eleven miles north of Florence, Lane County, Oregon. The bridge is located near the Heceta Head Lighthouse at Devil's Elbow State Park.

The bridge is 619 feet long and 36 feet wide. The roadway is 27 feet curb-to-curb, with two travel lanes. The two-tiered viaduct sections comprise thirty arched panels on the upper level over a lower level that includes a 300-foot long seven-panel north viaduct and a three-panel south viaduct. They flank a 220-foot open-spandrel reinforced-concrete rib-deck arch that rises 104 feet over the creek channel. The grade is a continuous 3.5 percent rising from north to south.[1] It is believed that McCullough hoped to solve the problems of anchoring a span through unstable fill by dispersing its load on to a series of piers.

The structure of Cape Creek Bridge, read from north to south, consists of the following spans:

one 30-foot reinforced-concrete on concrete columns

one 20-foot reinforced-concrete on concrete columns

six 40-foot reinforced-concrete on 4-foot concrete columns

one 220-foot reinforced-concrete open-spandrel rib-deck arch

one 40-foot reinforced-concrete on 4-foot concrete columns

one 41-foot reinforced-concrete on one 4-foot and one 3-foot concrete column

one 28-foot reinforced-concrete on concrete columns

Above this, between the 30-foot span to the north and the 28-foot span to the south, are twenty-eight 20-foot arched reinforced-concrete panels on three-foot concrete columns.

The viaducts and deck arch rest on thirteen piers, each a pair of concrete pedestals. The first four, beginning at the north end, are attached to bedrock, below a shallow layer of loose gravel. Piling for the next five piers was made from spruce or hemlock. Those for the first four consist of sixteen, spaced in a thirteen-foot grid. The fifth, also the anchor for the deck arch includes ninety, positioned in a 24'-6" x 24' grid. The timbers were driven to a maximum depth of forty feet to a subsurface layer of hard gravel and boulders. The south pier of the deck arch and the three piers to its south rest on bedrock, below layers of loam and loose gravel.[2]

For the balustrades, McCullough chose to use the following combination of concrete ornamentation: 3'-2¾" rectangular posts 2'-3" wide by 12" thick, with centered 3"-wide flutes. Between these are spaced 6½"-wide pilasters with decorative

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[1] Oregon, Department of Transportation, "Engineering Antiquities Inventory for Cape Creek Bridge," TMs [photocopy], 1982; Dwight A. Smith, James B. Norman, and Pieter T. Dykman, *Historic Highway Bridges of Oregon*, 2nd ed. (Portland: Oregon Historical Society Press, 1989), 108; E. S. Hunter, Assistant State Highway Engineer, ODOT to David Plowden, 14 June 1973, photocopy in "Cape Creek Bridge File," Environmental Section, ODOT.

[2] ODOT, Highway Division, Bridge Section, "Bridge Plans", Cape Creek Bridge (No. 1113), Drawing No. 4247, 27 April 1931; Lawrence Hulin, Seattle, Washington to Oregon Department of Transportation, Bridge Engineering, 20 August 1984, photocopy, "Cape Creek Bridge File," Environmental Section, ODOT. Hulin was a laborer on the Cape Creek Bridge. His letter gives some insight into the construction methods used on this structure.

precast 2'-5"-wide by 2' rectangular panels. The pilasters and panels are capped with beveled 10"-wide banisters or railings.[3]

The contract was with two firms. John K. Holt, of Salem, Oregon, was awarded the contract for the main arch. Design changes prompted a delay in advertising for the north viaduct section. Clackamas Construction Company, of Oregon City received its contract. Work began on the project on 8 April 1931. The project was completed on 30 April 1932. Costs for the entire structure totaled $187,433 ($135,665 for the arch, $51,768 for the viaduct approach).[4]

At the time of the bridge's construction, the U.S. Bureau of Public Roads was completing a 700-foot long tunnel through nearby Devil's Elbow, at the south approach to Cape Creek Bridge as part of its effort to complete US 101. This section of highway presented engineers with major construction problems. It became known to many as the "million-dollar mile"

McCullough's job, in 1930, was to construct a bridge to span Cape Creek gorge with some type of approach to span that would traverse the offset streambed. He eventually designed the present 619-foot viaduct and open-spandrel reinforced-concrete deck-arch bridge that connects with a 700-foot tunnel through Devil's Elbow. It appears that there never had been a previous public-use bridge over Cape Creek in this locale. While construction photographs of the 1932 bridge show a small timber structure to the east, it probably provided temporary service for construction workers or was part of an access road to the Heceta Head lighthouse.[5] Cape Creek Bridge helped to provide a continuous stretch of roadway from ferry docks on Alsea Bay at Waldport to ferry docks on the Siuslaw River at Florence.[6]

In May 1932, less than a month after the bridge's opening, a state bridge inspector wrote that he was "worried about driftwood diverting water flow on Cape Creek and causing scouring of one of the deck arch piers. In addition he noted that earth thrust had caused the north viaduct to shift to the south 3½". The inspector also found settlement under some of its expansion plates. Faulty workmanship, alone, does not account for the settling and lateral shift problems that plagued Cape Creek Bridge. McCullough, in 1931, wrote of his worries about the unstable nature of substrata under various proposed north approaches to the main deck arch.[7] Another bridge inspector also noticed tension cracks in the top of the second full arch on the lower level north of the deck arch. By 1933, unequal pressure acting on the insides of the east and west curtain walls of the viaduct was causing them to fail. Another inspector, in October 1934, reported that the north end of the viaduct "moved noticeably west due to settlement and movement of fill . . . approximately [five inches]." Yet, he forecasted that it would cease in two to three years and recommended that the highway department repair it and some badly damaged concrete the south face of the main arch. The department jacked the curtain walls back into place, only to have them crack again two years later. Then, the Bridge Department placed timbers against the fill in an attempt to relieve the pressure it bore against the walls[8]

Cape Creek Bridge received little more than minimal attention until the late 1960s, when inspectors noted that the

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[3]ODOT, Highway Division, Bridge Section, "Bridge Plans," Cape Creek Bridge (No. 1113), Drawing No. 4219, 4 March 1931.

[4]See "Job Record," File No. 1113 (Cape Creek Bridge), ODOT Bridge Section, Salem; "Oregon State Highway Commission Bridge Maintenance, Repairs and Renewals [1934]," Maintenance Files, Cape Creek Bridge (No. 1113), ODOT Bridge Section, Salem.

[5]For copies of construction photographs see: ODOT, Highway Division, Bridge Section, Photograph Collection.

[6]Oregon State Highway Commission, *Ninth Biennial Report, 1929-30*, 13.

[7]R. H. Baldock, "Bridge Builders' Secrets," *Oregon Motorist* 16, no. 4 (May 1936): 5-12; ODOT, Highway Division, Bridge Section, Maintenance Files, Cape Creek Bridge (No. 1113), "Bridge Inspection Report, May 1932"; Conde B. McCullough, Bridge Engineer, to Roy A. Klein, State Highway Engineer, 27 April 1931, in "Cape Creek Bridge File," Environmental Section, ODOT.

[8]A. G. Skelton to C. B. McCullough, 6 January 1934, in Cape Creek Bridge (No. 1113), Maintenance File, Bridge Section, Highway Division, ODOT; ODOT, Highway Division, Bridge Section, Maintenance Files, Cape Creek Bridge (No. 1113), "Bridge Inspection Report for 12 October 1934"; Skelton to McCullough, 6 January 1934; ODOT, Highway Division, Bridge Section, Maintenance Files, Cape Creek Bridge (No. 1113), "Bridge Inspection Report for 19 August 1937."

structure was "mostly ok," except that many columns on the upper level of panels had exposed reinforcing bars. They recommended thorough cleaning, covering, and sealing as soon as possible. Problems mounted, though, for in the next decade more rebar became exposed to the elements because of chloride ion permeation of the concrete. In the late 1970s, Highway Division employees of ODOT saw to what extent the Cape Creek Bridge had deteriorated, but they also recognized the cost to stabilize it would be well over $150,000. While they began comprehensive testing of Cape Creek Bridge, their priority at the time was to stabilize similar chloride ion damage on two other, much larger McCullough structures on the Oregon Coast Highway, the Yaquina Bay Bridge at Newport and the Alsea Bay Bridge at Waldport.[9]

The state accepted a bid, in the summer of 1984, from the Stauch Construction Company of Grants Pass, Oregon to repair rocker joints on the bridge that had frozen from salt corrosion and had limited its ability to expand and contract with climatic changes.[10] But the chloride ion was still causing extensive deterioration to the bridge's reinforced-concrete. The Highway Division of ODOT decided that cathodic protection was the only means available for stopping extensive rebar corrosion and concrete spalling on Cape Creek Bridge. In early 1989, it estimated that contracts for the proposed project would amount to nearly $2 million.[11] The *Eugene Register-Guard* ran the following headline in its 4 August 1989 issue, "Electric charge to preserve historic Cape Creek Bridge." The story went on to say that, "It's not going to glow in the dark," but will have a permanent electrical charge of 900 watts flowing through it.

State bridge engineers at the time stated that electricity would keep corrosive chloride ions from developing around the rebar, thereby preventing the concrete from spalling. Michael R. Tighe, Vice President for ELGARD Corporation, explained the process in a July 1990 issue of *Public Works*. He wrote that "it arrests corrosion in reinforced concrete by lowering the active corrosion potentials of the reinforcing steel to immunity or passivity potentials." The complete system of cathodic protection also included arc-applying zinc over the entire structure, except for the deck. This thin layer would act like a sheet of galvanized steel, forming a thin metal shield dispersing the electrical charge so that it could attract the chloride ions away from the rebar. As long as the electrical current is maintained, the corrosion process is halted.[12] In 1990, contractors repaired damaged sections of the span and put in place the components of cathodic protection.

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[9]ODOT, Highway Division, Bridge Section, Maintenance Files, Cape Creek Bridge (No. 1113), "Bridge Inspection and Maintenance Report for 27 November 1968; "Bridge Inspection and Maintenance Report for 15 July 1969"; "Bridge Inspection and Maintenance Report for 5 May 1970"; "Bridge Inspection and Maintenance Report for 1 December 1970"; Duane Kirby, Region Bridge Inspector, to J. X. Wilson, Region Maintenance Engineer, 13 February 1979, "Cape Creek Bridge (No. 1113)," Maintenance Files, Bridge Section, Highway Division, ODOT; J. X. Wilson to John Wood, Bridge Maintenance Engineer, 14 February 1979.

[10]Hazarian, "State Fixing Flaw in Cape Creek Span," *Florence Oregon Siuslaw News*, 22 August 1984.

[11]Kamal Kamadoli to Bob Pool, Region 2 Engineer, 23 February 1989, Cape Creek Bridge (No. 1113), Maintenance Files, Bridge Section, Highway Division, ODOT.

[12]Larry Bacon, "Electric charge to preserve historic Cape Creek Bridge," *Eugene Register-Guard*, 4 August 1989; Michael R. Tighe, "Cathodic Protection Leads Charge in Corrosion Battle," *Public Works*, July 1990.

Narrative Statement of Significance

The Cape Creek Bridge No. 01113 is being nominated under the C. B. McCullough Major Oregon Coast Highway Bridges Multiple Property Submission. It is significant at the statewide level under National Register criterion C because it embodies the distinctive characteristics of a type, period, and method of construction for mid-twentieth-century reinforced-concrete arch bridge technology. Just as important, it significant under criterion C as the work of a master, Conde B. McCullough, Oregon state bridge engineer from 1919 to 1936. The bridge is also significant at the statewide level under criterion A for its association with construction of the Oregon Coast Highway, which eventually ran the length of Oregon and connected with adjacent segments in California and Washington. The road would not have been complete without eleven major bridges, including the Cape Creek Bridge, and many other spans. The Cape Creek Bridge is unique in the sense that it is the only reinforced-concrete bridge in Oregon that mimics the style of the Roman stone aqueducts of Europe, particularly that of the Pont du Gard near Nimes, France.[13]

McCullough had perfected the use of concrete, reinforced with steel bars, in Oregon bridge construction since the 1920s. At Cape Creek he chose not to simply use rubble fill as approaches to an arched span over the creek. Concerns appeared in early 1931 about the logistics of hauling "a considerable amount of excavated material" through the Devil's Elbow tunnel, and across the bridge "to be wasted as embankment at the north approach." In a subsequent plan state engineers decided to instead use creosote-soaked timber construction as an approach to the bridge. The U.S. Bureau of Public Roads, a co-sponsor of the project objected, preferring the use of hollow concrete towers and fill. McCullough argued that these would suffer destructive lateral movement from unstable substrata. McCullough believed that a reinforced-concrete north viaduct was the best alternative because it would permit earlier use of the highway, present "a much more desirable appearance," "eliminate the uncertainty as regards the placement of such a high fill on movable sub-strata," eliminate the expense of continually adding more fill to one that would shrink over time, and, finally, the cost estimates for using fill outweighed those for a reinforced-concrete viaduct.[14]

Twelve miles north of Florence, Cape Creek empties into the Pacific Ocean between a large head land called "Devil's Elbow," and Heceta Head, a point named after the eighteenth century Spanish mariner and explorer Bruno de Hezeta who sailed near these shores in 1775. The region experienced little settlement by people of European descent until 1894, when a lighthouse and tender's residence were constructed on Heceta Head.[15] It appears that there never had been a previous public-use bridge over Cape Creek in this locale. While construction photographs of the 1932 bridge show a small timber structure to the east, it probably provided temporary service for construction workers or was part of an access road to the Heceta Head lighthouse.[16] Initially, the Cape Creek Bridge also helped to provide a continuous stretch of roadway from ferry docks on Alsea Bay at Waldport to ferry docks on the Siuslaw River at Florence.[17]

The Cape Creek Bridge is also significant under criterion C as the work of a master. It as a strong thematic association with several other major steel and reinforced-concrete bridges designed by C. B. McCullough, Oregon state bridge engineer from 1919 to 1936, and erected along the Oregon Coast Highway No. 9 (US 101) in the 1920s and 1930s. During his years as State Bridge Engineer, and later as Assistant State Highway Engineer, McCullough authored several books and many technical articles on bridge design and construction. He is significant for his use of innovative bridge technology, and for his visually appealing designs. He attained international recognition for the large-scale structures he designed to span the major

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[13]Smith, Norman, and Dykman, *Historic Highway Bridges of Oregon*, 108.

[14]McCullough to Klein, 27 April 1931.

[15]Lewis A. McArthur, *Oregon Geographic Names*, 5th ed., revised by Lewis L. McArthur (Portland: Oregon Historical Society Press, 1982), 355; Federal Writers' Program, 377.

[16]For copies of construction photographs see: ODOT, Highway Division, Bridge Section, Photograph Collection.

[17]Oregon, State Highway Commission, *Ninth Biennial Report, 1929-30*, 13.

rivers and estuaries, and several other thematically-similar concrete beam and girder structures, along the Oregon coast for the completion of the Oregon Coast Highway in the 1930s.

McCullough employed many common design themes and elements in his bridges. These signature components included stylized sidewalk railing balustrades; curved bracketing; arched curtain walls, often with bush-hammered inset panels and employing classical and Gothic forms. By the 1930s, they also included the then popular Art Deco/Moderne ornamentation on entrance pylons, stringers, piers and bents, and other vertical structural members. Much of the ornamentation was possible because inexpensive hand labor was available to construct the timber forms necessary to mold the concrete to the desired shapes. Eric N. DeLony, chief of the Historic American Engineering Record, remarked in his book, *Landmark American Bridges*, that this family of spans on the Oregon Coast Highway "represents some of the best and most innovative concrete and steel bridges in the world."[18]

The Cape Creek Bridge is significant under criterion A because of its association with the initial construction of the Oregon Coast Highway in the 1920 and early 1930s. In the early 1930s, the Oregon State Highway Department and the US Bureau of Public Roads (BPR) worked cooperatively to complete a picturesque five-mile section of the Oregon Coast Highway through rugged terrain between Berry Creek and China Creek. Because of the costs for erecting a bridge over Cape Creek, boring a tunnel through Devil's Elbow, and excavating a roadway from the cliffs high above the surf, the section of US 101 from Heceta Head Lighthouse to the Sea Lion Caves soon took on the title of the "half-million-dollar mile." At the time, it was the most expensive mile of road construction nationwide that involved BPR participation.

Completion of the Oregon Coast Highway was a major public works effort in the early and mid-1930s that sought to establish an uninterrupted coastal transportation route from California to Washington by eliminating congested ferry crossings across five bays and estuaries. The effort was aided by the Oregon Coast Bridges Project in which the federal Public Works Administration provided funds for the construction of five modern bridges to replace the existing slow, cumbersome ferries which serviced the crossings of the larger bays, rivers and estuaries. An immediate accomplishment of the route's completion was the construction jobs that it provided to many unemployed workers. In more long lasting terms, the Oregon Coast Highway became a major factor in the development of commerce and tourism in Oregon's coastal regions, and has since become one of the most notable scenic routes in the United States, and has been designated a National Scenic Byway.

The Cape Creek Bridge meets the property type and registration requirements for the C. B. McCullough Major Oregon Coast Highway Bridges Multiple Property Submission. It was completed during the period of significance (1927-36) on the then current alignment of the Oregon Coast Highway. It was designed by Oregon State Highway Department bridge engineers under the direction of Conde B. McCullough. Its primary or secondary main spans are reinforced-concrete arches and it possesses a high degree of original integrity of design and materials.

[18]Eric DeLony, *Landmark American Bridges*, (New York: American Society of Civil Engineers and Bulfinch Press, 1993), 125-35 (quote, 125).

Major Bibliographic References

Bacon, Larry. "Electric charge to preserve historic Cape Creek Bridge." *Eugene Oregon Register-Guard*, 4 August 1989.

Baldock, R. H. "Bridge Builders' Secrets," *Oregon Motorist* 16, no. 4 (May 1936): 5-12.

DeLony, Eric. *Landmark American Bridges*. New York: American Society of Civil Engineers and Bulfinch Press, 1993.

Hadlow, Robert W. "Cape Creek Bridge, HAER No. OR-41, Report." Historic American Engineering Record, National Park Service, 1990.

--------. *Elegant Arches, Soaring Spans: C. B. McCullough, Oregon's Master Bridge Builder*. Corvallis: Oregon State University Press, 2001.

"Half Million Road Contract is Given." *Florence Oregon Siuslaw Oar*, 17 October 1930, 1.

"Heceta Tunnel Now Completed." *Corvallis Oregon Gazette-Times*, 14 March 1932

Lynch, W. H. "Road Building in the Pacific Northwest." *The Earth Mover*, February 1931, 12-14.

McArthur, Lewis A. *Oregon Geographic Names*. Fifth edition. Revised by Lewis L. McArthur. Portland: Oregon Historical Society Press, 1982.

Oregon Department of Transportation. Bridge Section Maintenance File #1113.

Oregon State Highway Commission. *Ninth Biennial Report, for 1929-30.*

--------. *Tenth Biennial Report, for 1931-32.*

Record Group 30, Portland Regional Office, Federal Highway Administration—Oregon Division, Box 78, Binder "476—Oregon Route No. 5-D, E, F, Roosevelt Coast Hwy. Grading to." Located at the National Archives—Pacific Alaska Region, Seattle, WA.

"Road Work North of Florence Attracts Many Sight-Seers." *Florence Siuslaw Oar*, 12 June 1931, 1.

"Rugged Mile of Coast Highway is Most Costly Ever to Be Constructed." *Marshfield Coos Bay Times*, 26 January 1933.

Sanders, S. J. "Construction Review: Bridge Construction and River and Harbor Work." *Western Construction News*, 25 August 1931, 449.

Smith, Dwight A., James B. Norman, and Pieter T. Dykman. *Historic Highway Bridges of Oregon*. Second edition. Portland: Oregon Historical Society Press, 1989.

"State Fixing Flaw in Cape Creek Span." *Florence Siuslaw News*, 22 August 1984.

Tighe, Michael R. "Cathodic Protection Leads Charge in Corrosion Battle." *Public Works*, July 1990.

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Verbal Boundary Description

The property is described as beginning at the north end of the Cape Creek Bridge, at mile post 178.35 on the Oregon Coast Highway No. 9, and running 619 feet to the south end of the bridge. It is 60 feet wide (30 feet either side of center line on the bridge).

Boundary Justification

The boundary includes property associated historically with the Cape Creek Bridge.

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Photographs

James B. Norman, Photographer, June 2003
(Original negatives housed at Oregon Department of Transportation, Salem, Oregon)

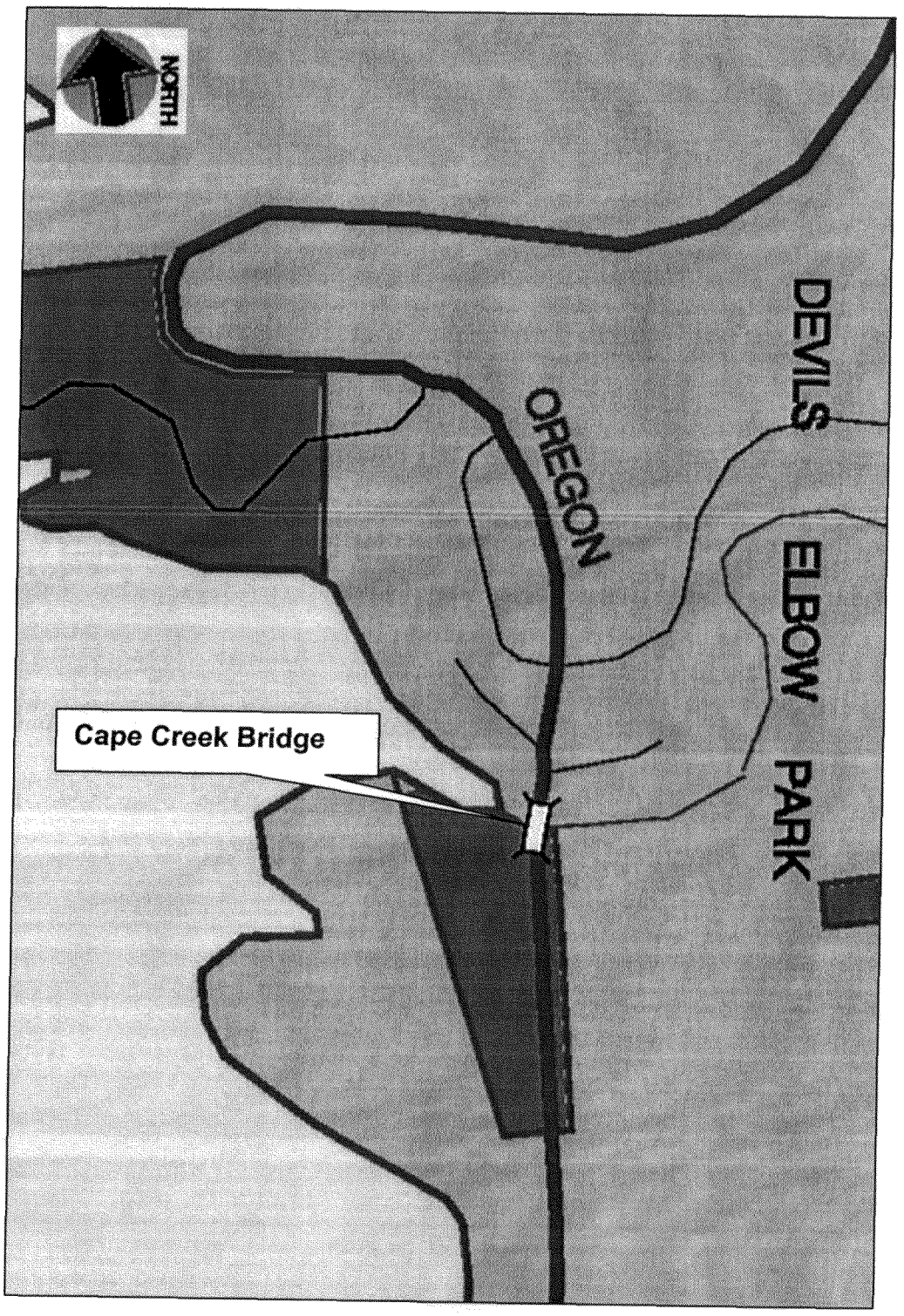
Photographic Description

View No.	Description
1	General perspective view of the Cape Creek Bridge, view looking southeast.
2	General perspective view of the bridge, view looking southeast.
3	General perspective view of the bridge, view looking southeast.
4	Elevation view of the Cape Creek Bridge, view looking east.

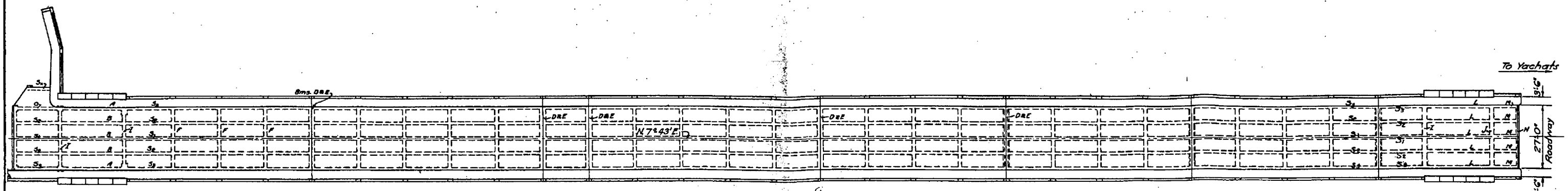
Leslie Schwab, Photographer, July 2004
(Original negatives housed at Oregon Department of Transportation, Salem, Oregon)

Photographic Description

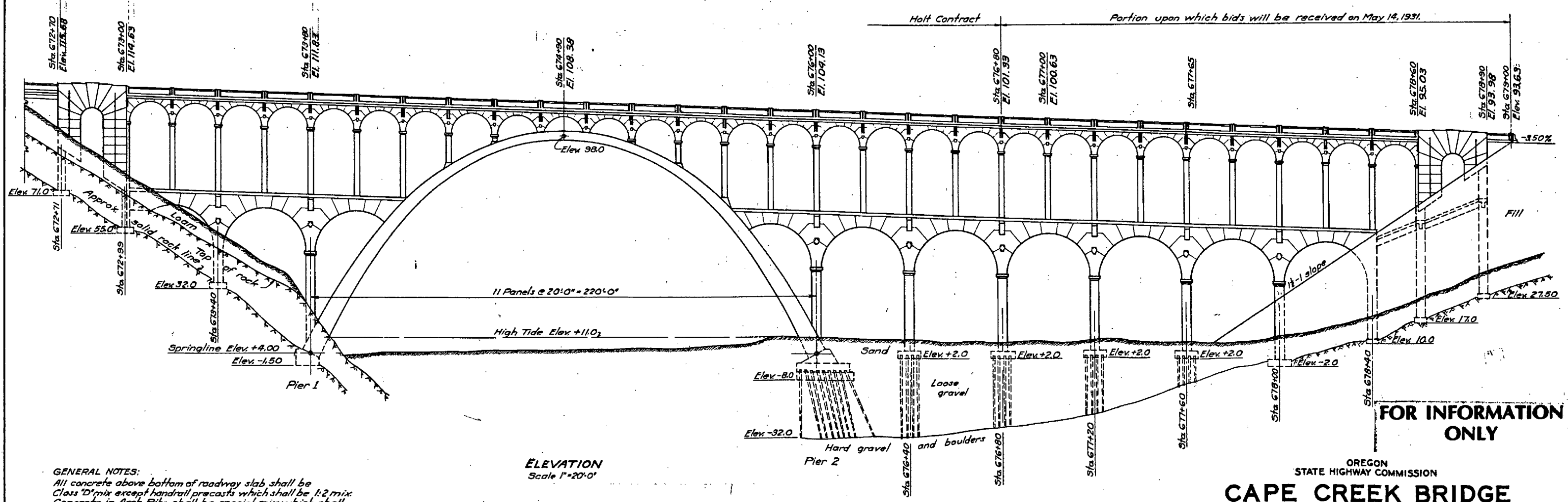
View No.	Description
5	Detail view of the bridge, view looking south.
6	Detail view of the main deck arch span, view looking southeast.
7	Detail elevation view of the viaduct-like approach spans, view looking east.
8	Detail view of the decorative concrete railing, view looking west.
9	Detail view of the bridge plaque, view looking west.



Cape Creek Bridge No. 01113
MP 178.35, Oregon Coast Highway No. 9
Vicinity of Heceta Head, Lane County, Oregon



DECK PLAN
Scale 1"=20'-0"



ELEVATION
Scale 1"=20'-0"

FOR INFORMATION ONLY

GENERAL NOTES:
All concrete above bottom of roadway slab shall be Class "D" mix except handrail precasts which shall be 1:2 mix.
Concrete in Arch Ribs shall be special mix which shall test 4000 lbs per square inch in 28 days.
All other concrete except seal concrete shall be class A mix.
All exposed corners shall have ¾" bevel unless noted or shown otherwise.
Footing elevations, at the discretion of the Engineer, may be varied to secure suitable foundation.
All material and workmanship shall conform to the specifications for the bridges of the Oregon State Highway Commission.

EXISTING
FOR INFORMATION ONLY

REVISED: 6-20-'31

Revised June 9, 1931.

Approved:

Bridge Engineer

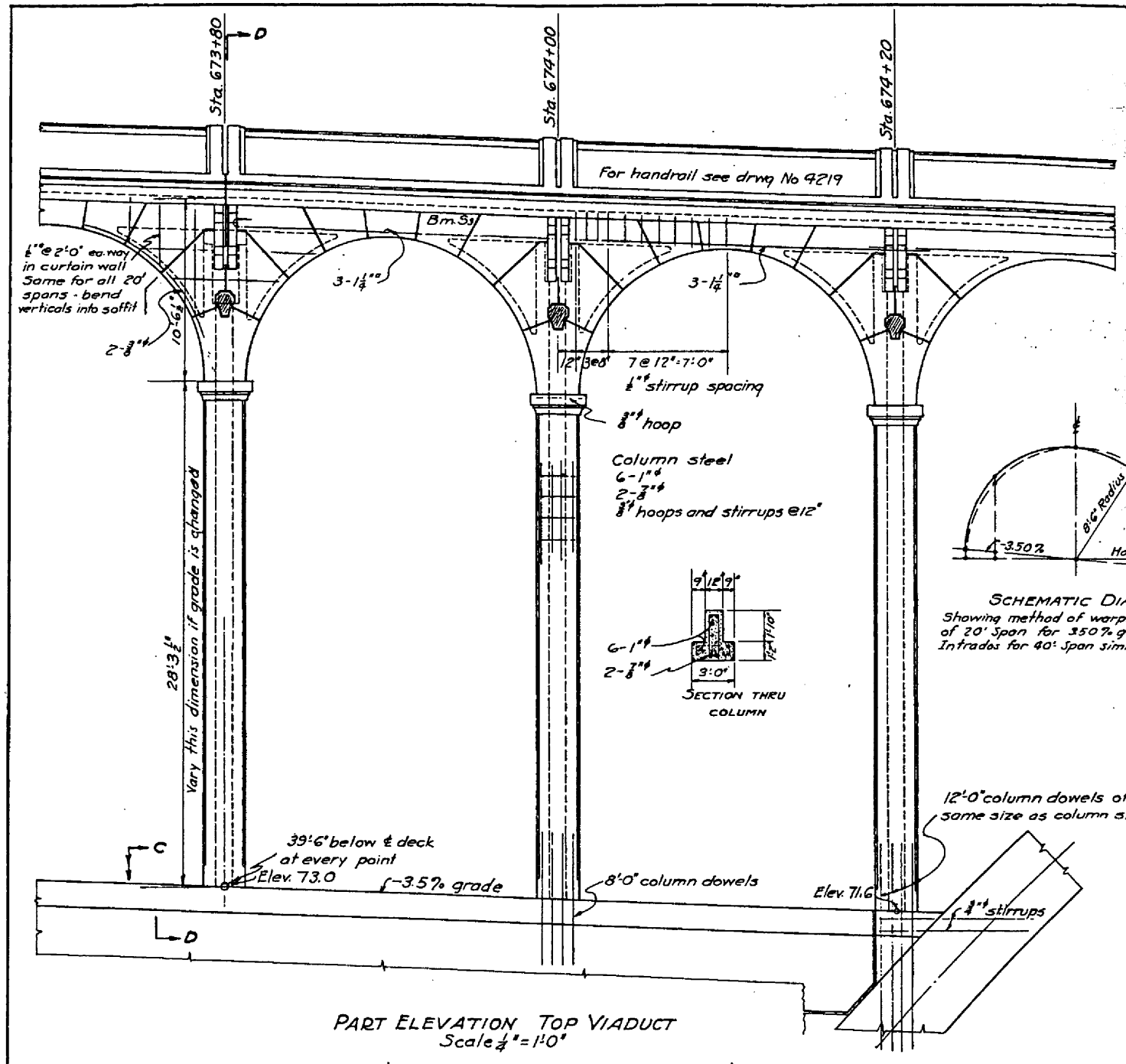
State Highway Engineer

OREGON
STATE HIGHWAY COMMISSION

CAPE CREEK BRIDGE

LOCATED AT MILE 9-193.37
ROOSEVELT COAST HWY.
IN
LANE COUNTY
PLAN AND ELEVATION

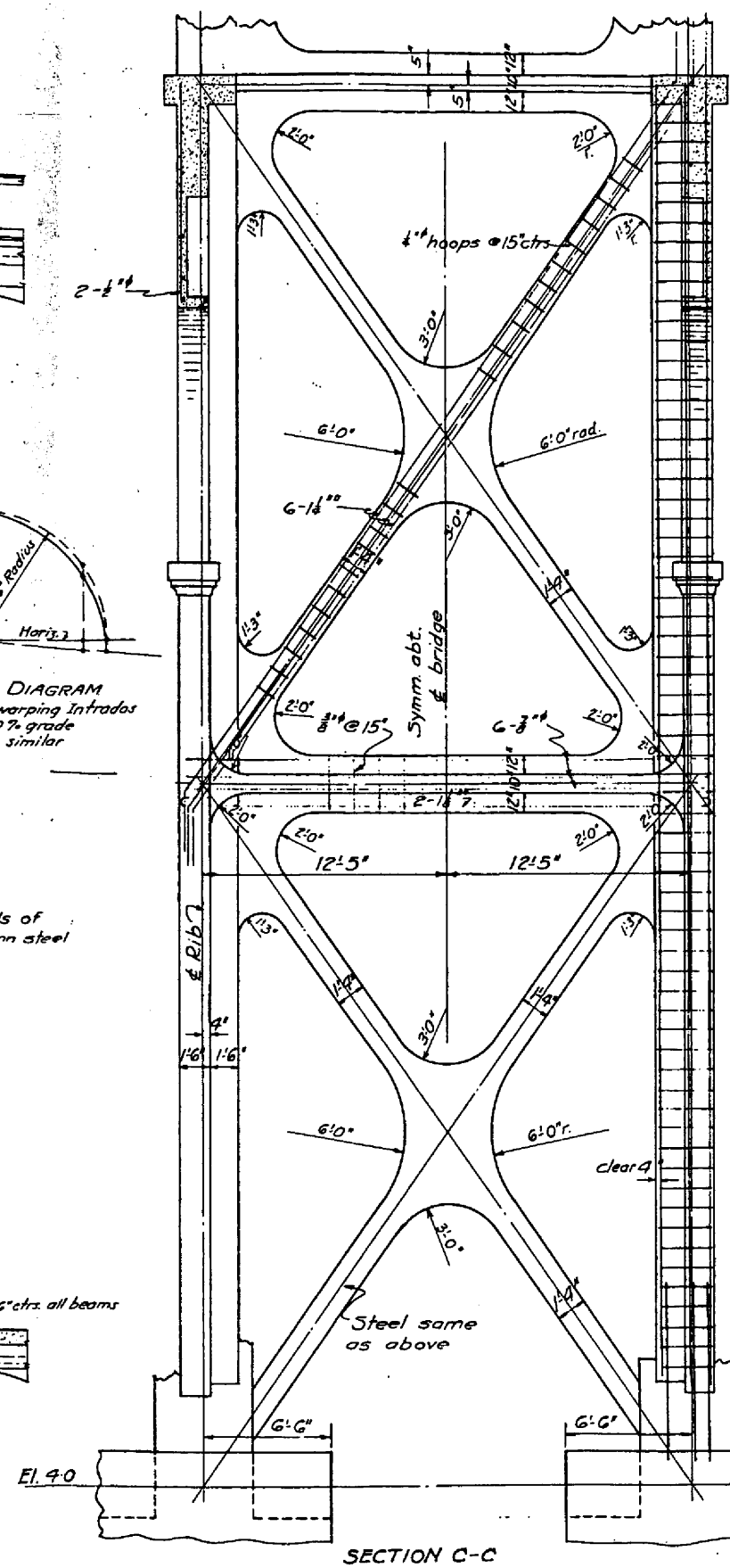
SCALE AS NOTED | DRAWN BY L.S.S. | SHEET 1 OF 17
APRIL 27, 1931. | TRACED BY " | BRIDGE NO. 1113
CALC S. FILED | CHECKED BY CHD | DRAWING NO. 4247
ACCOMPANIED BY DWGS. NO. 4248-49-50-4214-16-19-09-12-13-15-57-58
4284-97-4308-09



PART ELEVATION TOP VIADUCT
Scale ¼" = 1'-0"

LONGITUDINAL SECTION THRU DECK
Scale ¼" = 1'-0"

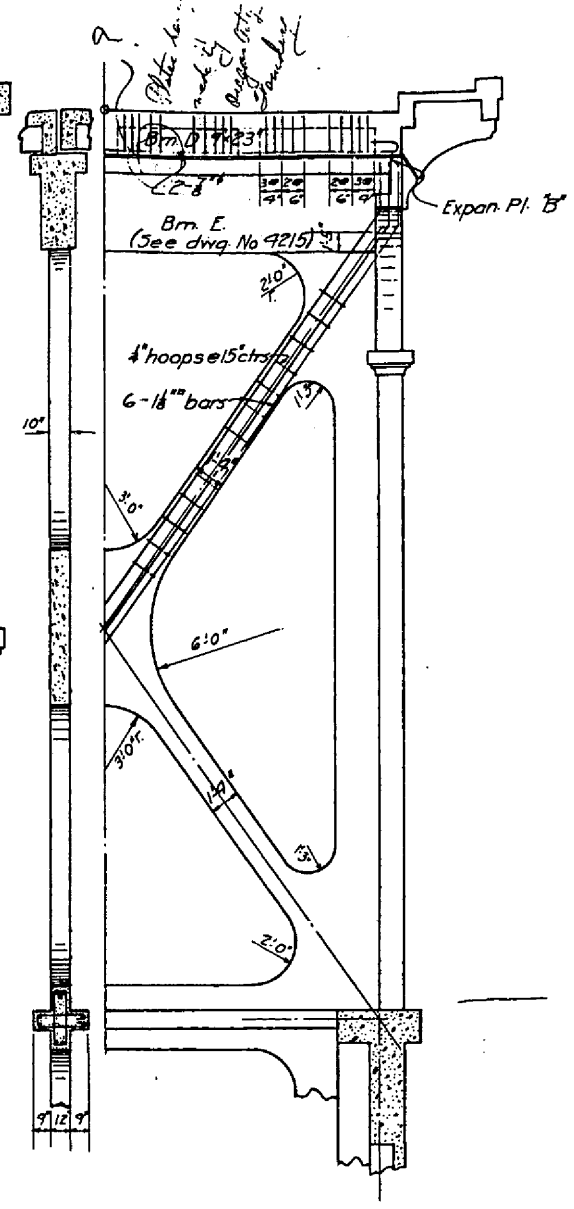
SCHEMATIC DIAGRAM
Showing method of warping Intrados of 20' Span for 3.50% grade
Intrados for 40' span similar



SECTION C-C

DETAIL OF WIND BRACING AT STA. 673+80 (Sta. 676+00 similar)
Scale ¼" = 1'0"

For bracing at Sta. 676+40 and 676+80 See Drwg 9299



SECTION D-D

Revised 5-14-31

Revised May 4, 1931
" June 5, 1931
Revised: June 20, 1931

Approved:

Bridge Engineer

FOR INFORMATION ONLY

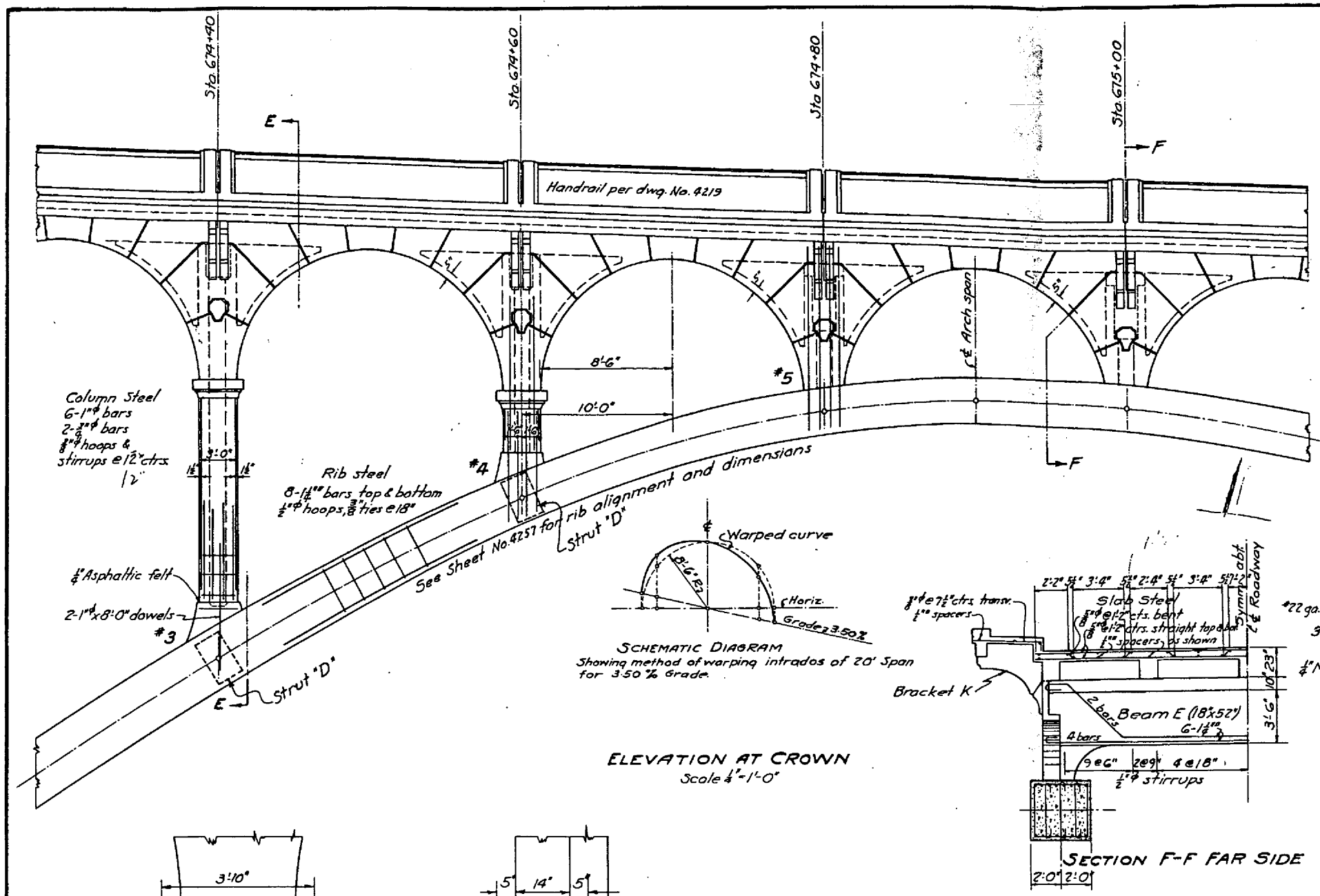
State Highway Engineer

OREGON
STATE HIGHWAY COMMISSION

GENERAL DETAILS
CAPE CREEK BRIDGE

MAR. 4 1931 DRAWN BY E.T. & L.S. TRACED BY C.C.S.
CALC. BK. NO. CHECKED BY C.H.D. DRAWING NO. 4214

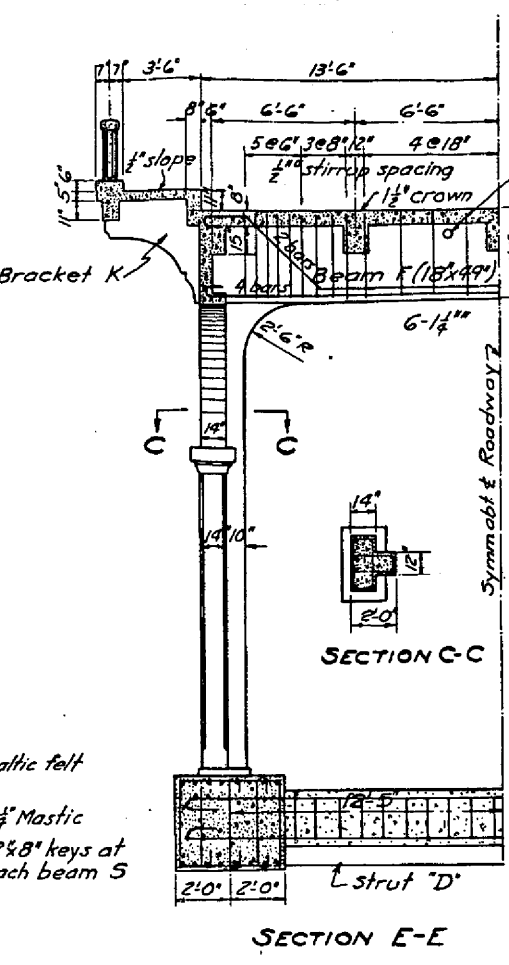
USED FOR BRIDGE NO. 1113



SCHEMATIC DIAGRAM
Showing method of warping intrados of 20' Span for 3.50% Grade.

ELEVATION AT CROWN
Scale ¼"=1'-0"

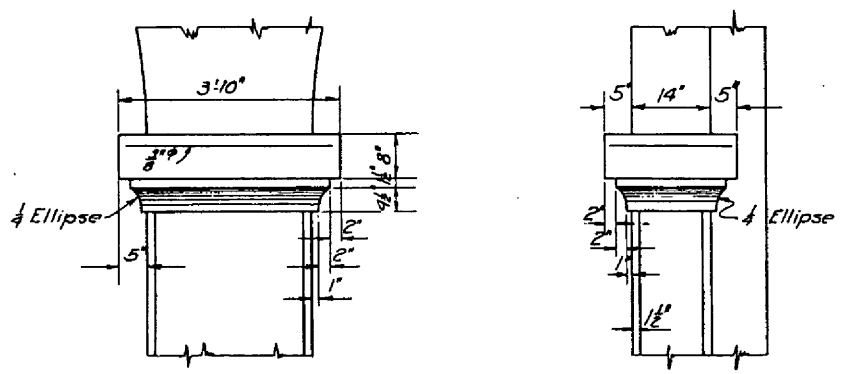
SECTION F-F FAR SIDE



SECTION C-C

HINGE DETAIL
Sta. 674+80 & Sta. 675+00

SECTION E-E



DETAILS OF CAPITAL
Scale ¾"=1'-0"

Revised 4-1-31
5-18-31
REVISED: 6-20-31

Approved

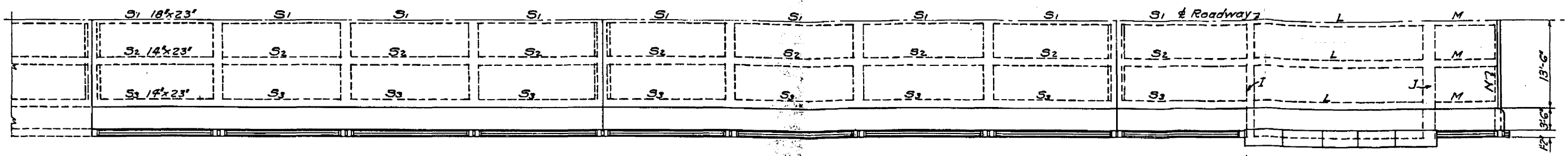
Bridge Engineer

State Highway Engineer

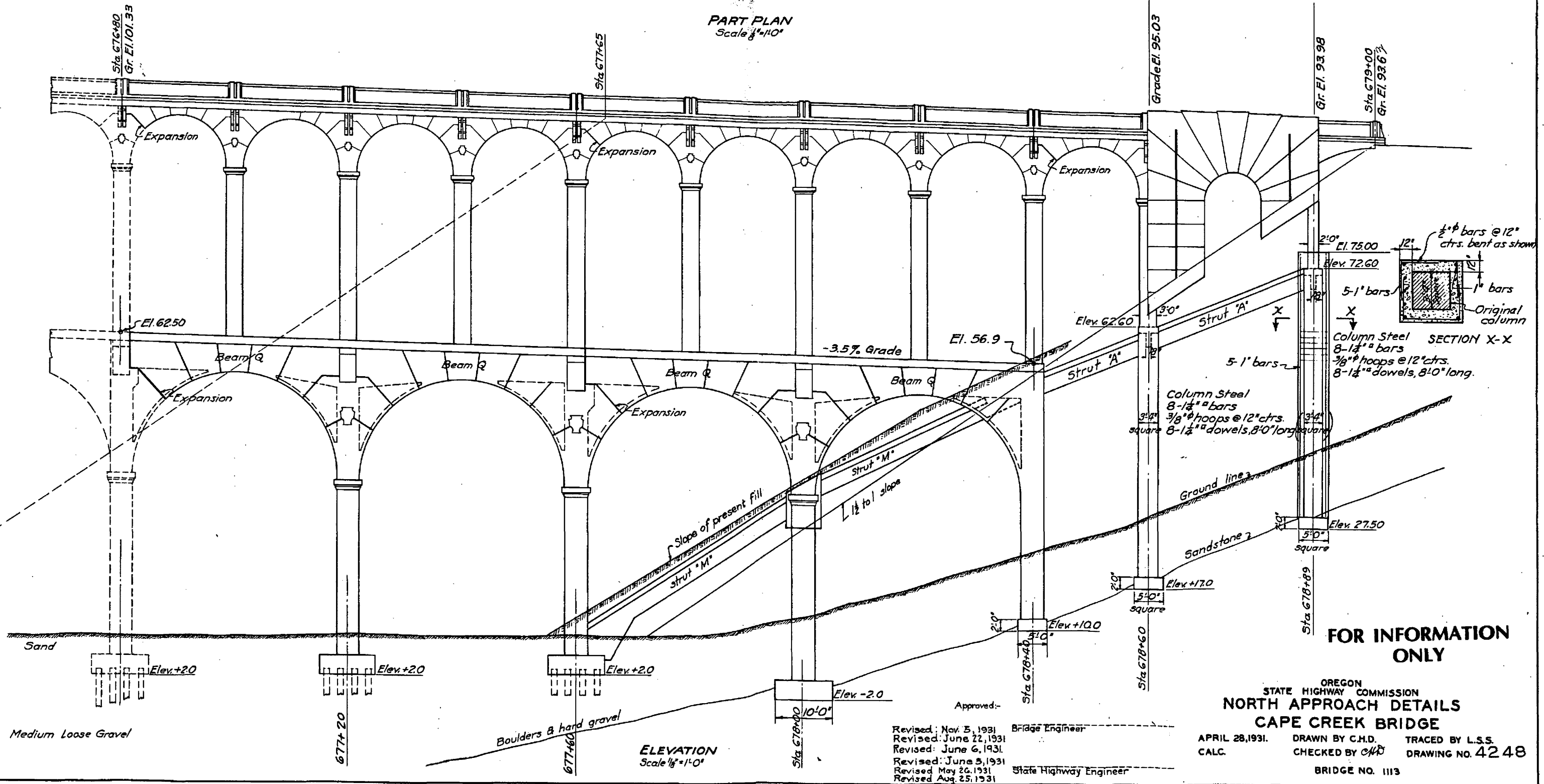
FOR INFORMATION ONLY

OREGON
STATE HIGHWAY COMMISSION
DETAIL OF
DETAILS AT CROWN
CAPE CREEK BRIDGE

MAR. 5, 1931. DRAWN BY L.S.S. TRACED BY T.C.R.
CALC. BK. NO. CHECKED BY DRAWING NO. 4215
USED FOR BRIDGE NO. 1113



PART PLAN
Scale 1/8"=1'0"



ELEVATION
Scale 1/8"=1'-0"

Approved:-

Bridge Engineer

State Highway Engineer

Revised: Nov. 5, 1931
Revised: June 22, 1931
Revised: June 6, 1931.
Revised: June 5, 1931
Revised May 26, 1931
Revised Aug. 25, 1931
" 8-31-31
REVISED: OCT. 14, 1931

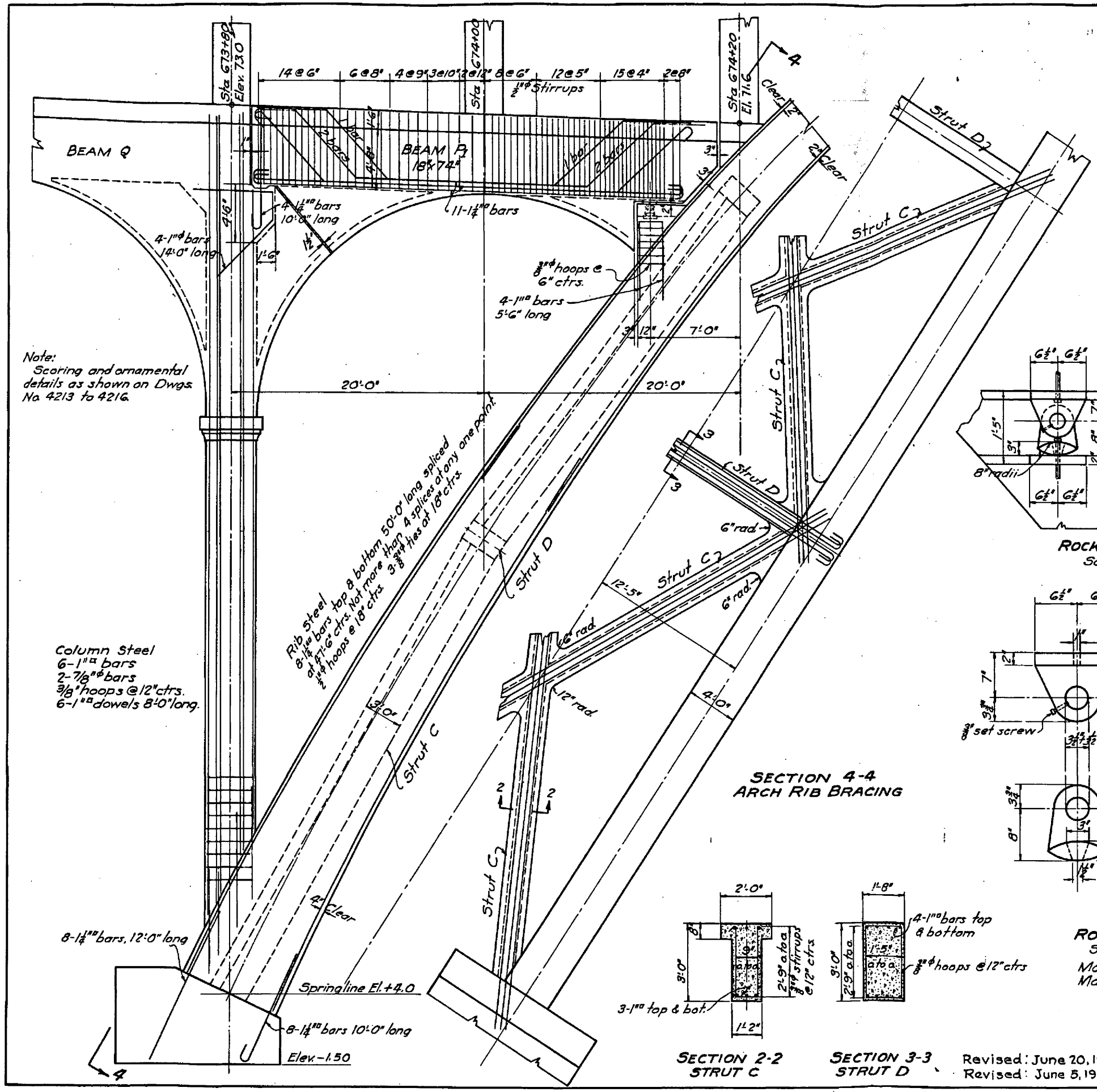
FOR INFORMATION ONLY

OREGON
STATE HIGHWAY COMMISSION

NORTH APPROACH DETAILS
CAPE CREEK BRIDGE

APRIL 28, 1931. DRAWN BY C.H.D. TRACED BY L.S.S.
CALC. CHECKED BY C.H.D DRAWING NO. 4248

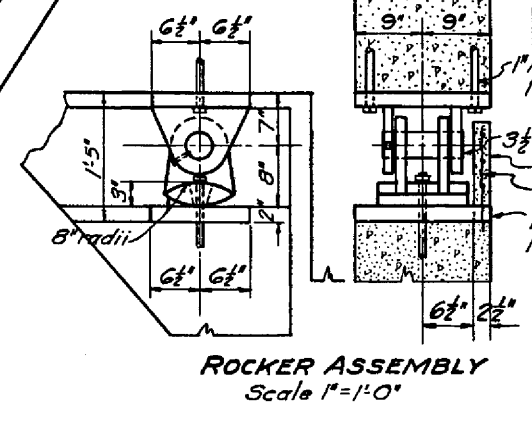
BRIDGE NO. 1113



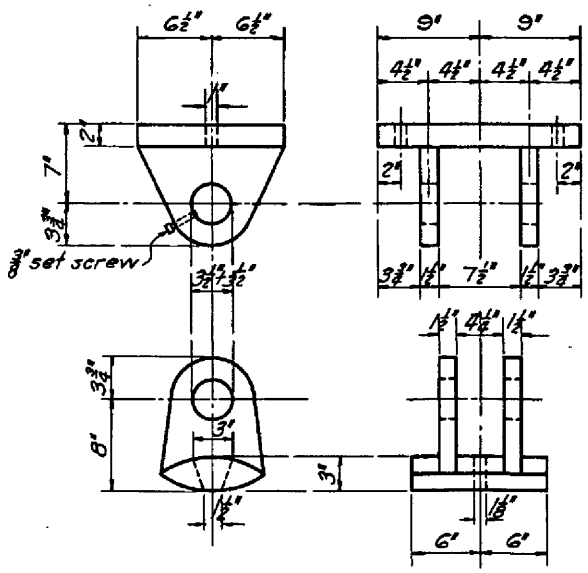
SECTION 4-4
ARCH RIB BRACING

SECTION 2-2
STRUT C

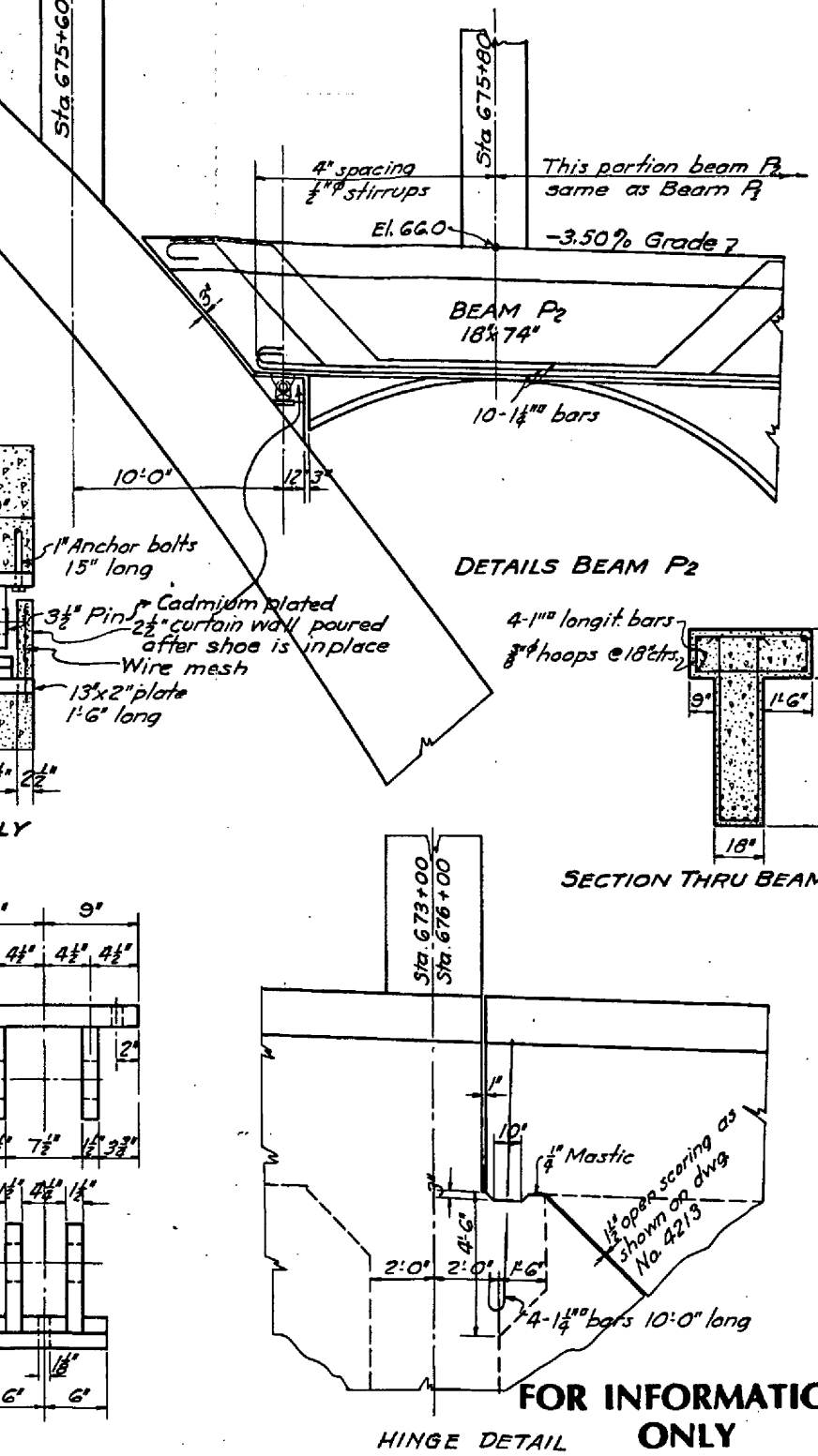
SECTION 3-3
STRUT D



ROCKER ASSEMBLY
Scale 1"=1'-0"



ROCKER DETAILS
Scale 1½"=1'-0"
Material - Cast Steel - Galvanized
Make 4 sets



DETAILS BEAM P2

SECTION THRU BEAM P2

HINGE DETAIL

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OREGON
STATE HIGHWAY COMMISSION

GENERAL DETAILS
CAPE CREEK BRIDGE

Approved:

Bridge Engineer

State Highway Engineer

Revised: June 20, 1931
Revised: June 5, 1931

MAY 14, 1931. DRAWN BY C.H.D. TRACED BY L.S.S.
CALC. BK. NO. 108 CHECKED BY C.H.D. DRAWING NO. 4258
BRIDGE NO. 1113