

SEATTLE HISTORIC BUILDING DATA SHEET

1. Name (common or present and/or historic) RAVENNA PARK BRIDGE (20th N. E. Bridge)
2. Street and Number 20th N. E. at N. E. 62nd Block Lot Year Built 1913-14
3. Present Owner City of Seattle Present Use pedestrian/bicycle bridge
4. Interim Owner(s) Interim Use(s)
5. Original Owner Original Use auto/pedestrian bridge
6. Architect (designer) Frank Melvin Johnson Builder City Engineering Dept.
7. Assessed Value: Building Land Assessors File No.
8. Classification:

☐ Building	☒ Public	☐ Occupied	Open to Public: ☒ Yes ☐ No Hours <u> </u>
☐ Site	☐ Private	☐ Unoccupied	
☒ Structure	☐ Both	☒ Preservation work in progress	
☐ Object		☐ Threatened by demolition	
☐ Other		☐ Unknown	
9. Neighborhood Information:

A. Compatibility With Neighborhood Structure Yes ☒ No <u> </u> Use Yes ☒ No <u> </u>	C. Architecturally Strong Neighborhood Comments <u>Neighborhood fought to save it as a pedestrian bridge, rather than have it obliterated by expansion, or removed entirely.</u>
B. Importance to Neighborhood Great ☒ Moderate <u> </u> Minor <u> </u>	
10. Special Research Sources (Be Specific, list name or item and where found)

Johnson, Frank Melvin, The Ravenna Park Steel Arch Bridge. University of Washington, Thesis, 1916. #399.

Seattle Post-Intelligencer, "Ravenna Bridge Will Open Well Settled Section" November 2, 1913, part 4, page 10. (Xerox copy attached)

Seattle, City of, Engineering Department blueprints, 1912.

Seattle, City of, Photo Lab, photographs, 1913 and 1914.
11. Cross Street Reference

20th N.E.,
N.E. 62nd
12. Photos Attached & Photographer Seattle Engineering Dept.
13. Physical Description: (second sheet attached)
14. Significance: (Third sheet attached)

13. Physical Description

A. Style of Architecture

Three pin arch,
steel arch bridge, deck type arch

B. Construction Material

steel bridge, concrete

C. No. of Stories

D. Condition

Excellent _____
Good x _____
Fair _____
Poor _____

E. Exterior Description of Original Design

lamp posts removed
none or little
Moderate amount
considerable

F. Architectural worth as Example of Its Style

Exceptional x _____
Excellent _____
Good _____
Fair _____
Poor _____

G. Notable Features: (Be specific, i.e., detailing, craftsmanship, proportions, materials, colors, interior, etc. Refer to Guidelines of Landmarks Preservation Board).
NUMBERS RELATE TO CRITERIA NUMBERS

(5) The Ravenna Bridge is an excellent example of a three pin arch steel arch bridge. Its design was chosen for pleasing appearance, economy of construction, and flexibility of the structure under stress. The arch bridge is one of the five major types of bridges: Beam, cantilever, suspension, arch, and pontoon. The Ravenna bridge is a deck type arched bridge, since the carriageway is completely above the arch. The three pins, at the lower ends of the arch and at the center top of the arch, allow the bridge members to move slightly with the stress of live loads on the structure. The bridge has the pleasing arrangement of an odd number of spans, bridge deck cantilevered over the trusses, and approach girders of an open web type with straight bottom cords in contrast to the design of the large span. The lattice braced central arch, slightly more expensive than a spandrel braced arch, reveals the basic arch more directly and its primary purpose. The bridge handrail, although very simple, was specially designed for the structure. It is composed of upper and lower members of angle iron, with cross and vertical braces of strap steel. The hand rail is steel pipe. (the present auto guard is simply bolted to the rail, and should be removed). Light fixtures were chosen for their pleasing appearance, being according to the specifications 80 watt and on standard CI posts. (These are now missing).

(7) The approach concrete railings, of "artistic design", were innovative in construction for that time in history. The railing was precast, in sections of eight triangular openings. The panels were set in place and then the base and cap poured.

(7) The side elevation of the bridge shows an extra touch given by a fascia of steel plates with arches on the lower edge, forming a cover for the stringer ends of the deck slab. This was "inexpensive and beautifying".

The Ravenna Bridge is 354' long and has a roadway of 17'-6" width. The total deck width is 23', the sidewalk 5'. The arch is 250' with a rise of 41½'.

The bridge was financed by the County, City, and an expanded L.I.D. Total cost was reported to be \$55,000, with a total weight of steel of 300 tons. The cost of the steel in place was \$32,000, with the remaining costs being shared by masonry, excavation, and paving.

14. Significance

A. Major Significance

- ☐ Historical
☐ Architectural
☒ Engineering
☐ Cultural
☐ Geographic
☐ Archaeological

B. Level of Significance

- ☐ National
☐ State
☒ Community

C. Statement of Significance (Be specific, history, personages, events, etc.)

(8), (9) Plans for a span across the deep ravine of Ravenna Park developed as that part of the city grew in density of residences. The area was without public transportation, and the residents had to walk almost a mile around in order to cross from one side of the chasm to the other. The park had been acquired by condemnation in 1911, and in May of 1913, the Board of Park Commissioners approved the design for a major bridge at 20th N. E. The design by Frank Melvin Johnson called for two truss spans as approaches with a truss arch over the ravine. The design took into consideration the fine vegetation of the park, and the footpaths which were part way up the sides of the ravine. Yet it accommodated the growing demand for auto passage, with a well cambered deck of 2" of asphalt overlaying a 6" concrete slab. Even the color of the paint was thought out: buff to contrast with the spring green, blend with the summer and autumn buff, contrast with the winter gray and black, and continually contrast with the surrounding tall evergreens.

Johnson's work was executed under City Engineer A. H. Dimock, with J. A. Dunford the superintendant of construction. Steel was fabricated by the American Bridge Company out of their Ambridge Plant, and they asked additional compensation because the shop drawings "were the most difficult that they had had in six years". Contractor was J. R. Wood and Co., Seattle.

The use of the three hinged arch was decided upon by the designer since the shewbacks were not going into solid rock, but into dry sandy clay soil. The rise of the bridge was only $41\frac{1}{2}'$ but the ribs of the arch were designed to $41'10"$. The camber, desirable in a highway bridge floor, was achieved by raising the deck above the stringers.

The north approach has two 55' open web girders. The south approach has two 48' open web girders. The girders are riveted to the columns over the skewback hinges, but are free to slide at their outer ends.

Heavy timber falsework was used as the method of erection. The arch ring was made in 28 sections for easier transport and erection. The approach girders were shop riveted and swung into place. The cableway used in pouring the shewbacks was again used with block and tackle to move and swing and position the arch pieces.

Surveyor Signature

Margaret A. Conley

Date

10/8/76

REVIEWED:

[Signature]
Historic Preservation Officer

Date

10/11/76

Designer Johnson said "the ratio of rise to span selected was such that the parabola very nearly coincided with the segmental curve; so that by selecting the segmented form, the most pleasing, most simple and most economic design was obtained." Area residents agreed, and fought the city's plan to alter or demolish the bridge. By ordinance of 1975, the bridge was designated for use of pedestrians and bikes only.

