Downer Place Bridges
Spanning Fox River
City of Aurora
Kane County
Illinois

IL HAER No. K-2011-1

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

PHOTOGRAPHS

PHOTOGRAPHIC KEY

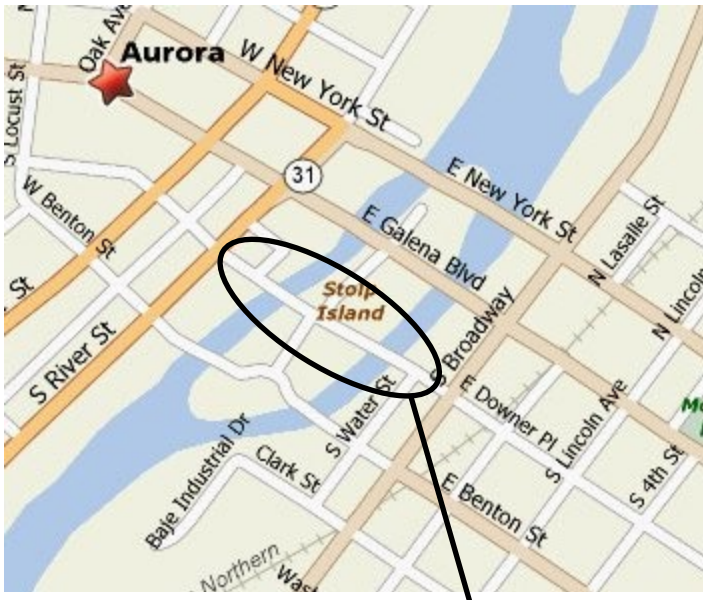
Illinois Historic American Engineering Record
Illinois Historic Preservation Agency
Old State Capitol
Springfield, Illinois 62701

ILLINOIS HISTORIC AMERICAN ENGINEERING RECORD

DOWNER PLACE BRIDGES

IL HAER No. K-2011-1

Location: Downer Place, spanning the East and West branches of the Fox River, Aurora, Kane County, Illinois



Quad: USGS Quadrangle Aurora, Illinois – Kane County
SW ¼, NW ¼, Section 22, Township 38 North, Range 8 East, 3rd P. M.

UTM: 13S 265102E 329690N

Present Owner: City of Aurora, Illinois

Present Use: Public road bridges since its construction

Significance: The Downer Place Bridges are at the locations of the original crossings over the east and west branches of the Fox River to Stolp Island. The bridges for Benton Street, Galena Boulevard, and New York Street also crossing the Fox River onto Stolp Island were influenced by the construction of the Downer Place Bridges.

PART I. HISTORICAL INFORMATION

A. Physical History

1. **Date of construction:** circa 1910

2. **Design Architect/Engineer:** Unknown

3. **Constructor:** J. Roemheld

4. **Original and subsequent owners:**

   Original: City of Aurora, Illinois

   Current: City of Aurora, Illinois

5. **Original plans and construction:**

   Original plans not on record or within investigated archives. The bridges were constructed circa 1910.

6. **Alterations**

   1965 to 1975 – Replaced original concrete railings with steel railings painted black.

B. Historical Context:

Aurora, Illinois

The following is from the City of Aurora's official website:

"Joseph McCarty, a pioneer from New York State, came west seeking a new home. Reaching the Fox Valley, he built the first campfire in April of 1834 on the island, which is now the site of downtown Aurora. He thought that the Fox River location was an ideal place for a new community and told his brother, Samuel. It was not long before Samuel arrived, family was sent for, and a permanent settlement was taking roots. The settlement was named McCarty mills for the brothers' grist mill and sawmill. In 1837, when a Post Office was established, the village became Aurora, goddess of the dawn. Later, when the City was the first in the United States to use electric lights for publicly lighting the entire City, it achieved the nickname of "City of Lights".

The modest camp of 1834 has grown into a teeming city. With a population of 197,899 according to the 2010 census, the City has steadily grown throughout the years to become the second largest city in the state.

The City is accessible through five interchanges on the East/West Tollway Corridor. Corporate offices and commercial growth on the City's east and west sides continue to expand the City's boundaries, now stretching from Route 59 on the east to portions beyond Orchard Road on the west. The Far East Side of the City includes the regional Westfield Shoppingtown at Fox Valley (formerly known as Fox Valley Mall) and residential areas and is projected to house 60,000 people within the next twenty years. The City extends into four counties, Kane, DuPage, Kendall, and Will. There are six school districts and seven townships covered within the city limits. There are four historic districts and a large number of individual landmark designations for many of the City's buildings.

The City of Aurora is rich in history and pride. The future for the "City of Lights" looks bright as the community continues to grow and prosper."[1]

Stolp Island National Register Historic District

The following is from the City of Aurora's official website:

"National Register Historic District 1986
Begin: Galena Boulevard; End: Galena Boulevard/Paramount Arts Centre

Stolp Island is located in the Fox River, at a site where the river drops steeply. This drop is what gave the McCarty Brothers, Joseph Stolp, and Zaphna Lake the waterpower source they desired for their milling businesses. The Fox River, although an excellent power source and motivator for industrial development, had a disruptive influence on commercial and residential development causing rivalry between the growing settlements on the east and west banks. It was because of these rivalries that Stolp Island became the neutral territory for Aurora's public buildings and other private organizations. The National Register Historic District includes good examples of the works of nationally known architects, and unique architectural styles. Due to its central location in the growing community, Stolp Island became a functional transportation link as well as an emotional link between Aurora's east and west sides. W Frederick Stolp bought this island for $12.72 in 1848. He later deeded the island to his nephew, Joseph Stolp, who built a woolen mill.

If you think of Stolp Island as an outdoor museum of architecture, one of the finest exhibits is the terra cotta. Essentially a fired clay product, terra cotta was often used with glazes of various colors and textures. It was a versatile and inexpensive building material that was used to form elaborate details, or to simulate expensive stone such as granite and limestone. Buildings clad with architectural terra cotta were originally called "china front" buildings. In America, this building material was first used in

[1] "Welcome to Aurora." http://www.aurora-il.org/aboutourcity.php. (11 November 2011).

Chicago in 1895. Terra cotta's primary appeal was its ability to adapt to the variety of elaborate revival architectural styles in vogue at the time."[2]

[2] "Stolp Island National Register Historic District." http://www.aurora-il.org/development_services/planning_and_zoning/historicpreservation/hist_stolpisland.php?zoom_highlight=stolp+island. (11 November 2011).

PART II. ENGINEERING INFORMATION

A. General Statement:

The Bridges

Circa 1910, J. Roemheld completed the existing bridge structures. These structures consist of three-span filled spandrel concrete arches supported on concrete piers and abutments. The superstructure consists of reinforced concrete arches with integral spandrel walls. The current roadway and sidewalks are supported on fill contained within the spandrel walls. The arch design is very common to turn-of-the-century bridge construction and is approximately 18 inches thick at mid-span and increases to approximately 24 inches near the piers and abutments.

The spandrel walls at the piers include architectural column details below the semi-circular sidewalk bump-outs. The existing steel bridge railing is not original to the bridges. The original railing was decorative concrete similar to the modern "Texas" railing and the current railing on the Galena Street Bridges, one block north of Downer Place.

The substructure and foundation type are unknown. The visible portions of the piers and abutments consist of solid concrete walls. The upstream ends of the piers are tapered and armored with three (3) - 3" wide vertical steel sections embedded in the concrete. None of the reinforcement bars are epoxy coated.

The Bridges in Context

The bridges were constructed after the adjacent buildings to all four corners of the bridges were built. Stolp Island is the land between the two bridges and is listed on the National Register of Historic Places along with the Grand Army of the Republic Hall located adjacent southwest corner of the east bridge. The YWCA building at the northwest corner is a concrete flat slab structure constructed on concrete columns founded on bedrock. It was constructed over the western third of the river and is open (except for the columns) between the street level floor and streambed. There is a curtain wall enclosure (see appended photos) around the main entrance to the building on a concrete slab supported by steel beams that spans from the YWCA building to the bridge (the slab connects to the bridge).

B. Description:

Note:

Dimensions given are a result of contemporary field measurements as no original plans and specifications were available for reference.

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1. Bridge Type: Three Span – Filled Spandrel Concrete Arches

2. General Dimensions

a. Length (Back to Back Abutments) = 172'-7½" (West Bridge), 171'-1½" (East Bridge)

b. Width (Perpendicular to Centerline of Roadway) = 63'-8" (West Bridge), 63'-11½" (East Bridge)

c. Height (Grade Level Bottom of Low Abutment to top of Railing) = 28' (West Bridge), 26.5' (East Bridge)

3. Materials:

a. Reinforced Concrete

Reinforced concrete is the main material used in the construction of the bridges. The abutments, piers, arches, spandrel walls, and original railings consisted of the reinforced concrete. SAM Consultants, Inc. took cores through the bridge arches for their "Report of Soil Investigation" dated June 30, 2008. This reported provided the compressive strength of the concrete ranging from 3,500 psi to 4,400 psi. Their report also noted the rebar within the arches being larger than 1" diameter.[3]

b. Fill

Fill used in the bridges is between the top of the arches and the bottom of the roadway section. The fill is an uncontrolled combination of clay, gravel, rubble and debris.[3]

c. Roadbed

The roadbed is from west to east over the bridge structures. The roadbed is 5½" – 8¾" of asphalt pavement over 3" – 5½" of gravel. The road itself is

[3] SAM Consultants, Inc. "Report of Soil Investigation, Phase II Design Engineering, Downer Place over the Fox River, City of Aurora, IL." June 30, 2008.

37’ in width including travel lanes, parking lanes, and combination concrete curbs and gutters. [4]

4. Bridge Structural Components:

a. Substructure

The substructure units consist of the abutments and piers. These substructure units are on 12.42º skew for the West Bridge and 17.08º for the East Bridge. It is assumed the substructure units are founded on footings keyed into the limestone bedrock below the streambed. [4] The heights of the substructure units are approximately 8.5’ from the bottom of footing to the bottom of the arch. The width of the piers is approximately 6’ and the width of the abutments is unknown.

b. Arches

Each bridge consists of three arch spans between substructure units. The thickness of the arches varies from approximately 14.4” at mid-span to an unknown thickness at the substructure units. [4]

c. Spandrel Walls

The spandrel walls are constructed on top of the arches. The top of the walls are at a profile similar to the roadway. The length of the walls match the overall length of the bridges and the thickness of the walls are unknown.

C. Site

1. General Orientation and Setting

a. *Orientation* – The bridges are located on Downer Place in Aurora, Illinois between Illinois Route 31 to the west and Illinois Route 25 to the east. The traffic is one-way from east to west on two travel lanes. The bridges traverse the east and west branches of the Fox River. The high point of the bridges approach grades begin west of Illinois Route 31 and the low point is between the bridges at approximately 250’ east of the west bridge and 200’ west of the east bridge. The grade slope on the west bridge is approximately 1% and the east bridge is on a vertical curve with the approach slopes at approximately 2.2% from the west and 0.7% from the east.

[4] SAM Consultants, Inc. “Report of Soil Investigation, Phase II Design Engineering, Downer Place over the Fox River, City of Aurora, IL.” June 30, 2008.

b. *Setting* – The setting of the bridges is urban. There are buildings abutting the bridges in every corner except the southwest corner of the east bridge. The bridges were built after these adjacent buildings. It is reasonable to assume the abutments were poured against the existing building foundations. The buildings are multiple stories zoned for commercial and residential use. The topography consists of an approximately 17' to 22' deep ravine (roadway elevation to streambed elevation) between the east and west shores. The streambed is silt and fine sand with limestone bedrock. [5] The agriculture is typical for an urban setting with a small amount of grass at the northeast corner of the east bridge.

[5] SAM Consultants, Inc. "Report of Soil Investigation, Phase II Design Engineering, Downer Place over the Fox River, City of Aurora, IL." June 30, 2008.

PART III. SOURCES OF INFORMATION

A. Original Engineering Drawings: None

B. Early Views:

East Downer Place Bridge as seen from the current City Hall at the northeast corner of Downer Place and the Fox River, courtesy of *Postcard History Series – Aurora*.

C. Interviews: None

D. Bibliography:

1. Primary and Published Sources:

Higgins, Jo Fredell. *Postcard History Series – Aurora*. Charleston, South Carolina: Arcadia Publishing, 2006.

2. Secondary and Published/Unpublished Sources:

Aurora Daily Beacon, July 2, 1910, p. 1, picture caption

Aurora Daily Beacon, July 5, 1910, p. 1, col. 1

Aurora Daily Beacon - Centennial Edition, September 5, 1937, Section 2, p. 28

SAM Consultants, Inc. "Report of Soil Investigation, Phase II Design Engineering, Downer Place over the Fox River, City of Aurora, IL." June 30, 2008.

Thompson, Stephen T. "Illinois Historic American Engineering Record, IL HAER No. H-2011-1, WPA Pipe Culvert No. 5711." Illinois Historic Preservation Agency, Springfield, Il, 2011.

Veregin, Peggy. "Illinois Historic Building Survey, IL HABS No. CK-2003-06." Illinois Historic Preservation Agency, Springfield, Il, 2003.

"Stolp Island National Register Historic District." [internet web site]. S.L.11 November 2011. Available at http://www.aurora-il.org/development_services/planning_and_zoning/historicpreservation/hist_stolpisland.php?zoom_highlight=stolp+island.

"Welcome to Aurora." [internet web site]. S.L.11 November 2011. Available at http://www.aurora-il.org/aboutourcity.php.

E. Supplemental Material:

Large format black and white photographs

Digital color photos of enclosed building entrance off the west bridge

PART IV. METHODOLOGY OF RESEARCH

A. Research Strategy:

The primary objective of this IL HAER documentation project was to provide a written and photographic record of the Downer Place Bridges over the Fox River prior to their replacement of aesthetically similar bridges, using historic photographs, documents, and contemporary photographs. Review material available at local archives and repositories for historical information.

We would like to thank the City of Aurora and the Aurora Public Library for providing newspaper articles and photographs.

B. Actual Research Process:

The executed research process fundamentally followed the proposed preliminary research plan. No reference to the subject resource or execution of the associated construction project was identified at any of the records repositories cited above or with the Chicago Historical Society.

C. Archives and Repositories Used:

Aurora Public Library, Aurora, IL.

Aurora City Hall, Aurora, IL.
- Historic Preservation
- Public Works

Aurora Historic Society, Aurora, IL.

D. Research Staff:

1. **Primary Researcher/Preparer:** Michael Harding, P.E.

2. **Photographer:** Michael F. Dixon, AIA

3. **Delineator:** Robert Davies, S.E., P.E.

4. **Additional Staff:**

   Mary Ann Pirone, Aurora Public Library, Local History Specialist – Research

   Christopher Lirot, P.E., City of Aurora, Road and Bridge Coordinator – Research

   Jan Mangers, City of Aurora, Director, Historic Preservation – Research

PART V. PROJECT INFORMATION

This IL HAER documentation project was undertaken by HR Green, Inc. on behalf of the City of Aurora, Illinois. Additionally, this IL HAER documentation project was undertaken to fulfill Stipulation 2, included in the Memorandum of Agreement executed on September 14, 2009 between the City of Aurora, the Illinois State Historic Preservation Office and Illinois Department of Transportation regulatory compliance by the participating agencies under Section 106 of the National Historic Preservation Act of 1966, as amended.

ILLINOIS HISTORIC AMERICAN ENGINEERING RECORD
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SN 045-6005, SN 045-6006

IL HAER No. K-2011-1
Aurora, Kane County, Illinois

Michael Dixon, Photographer August 2008
Documentation: 14 Photographs

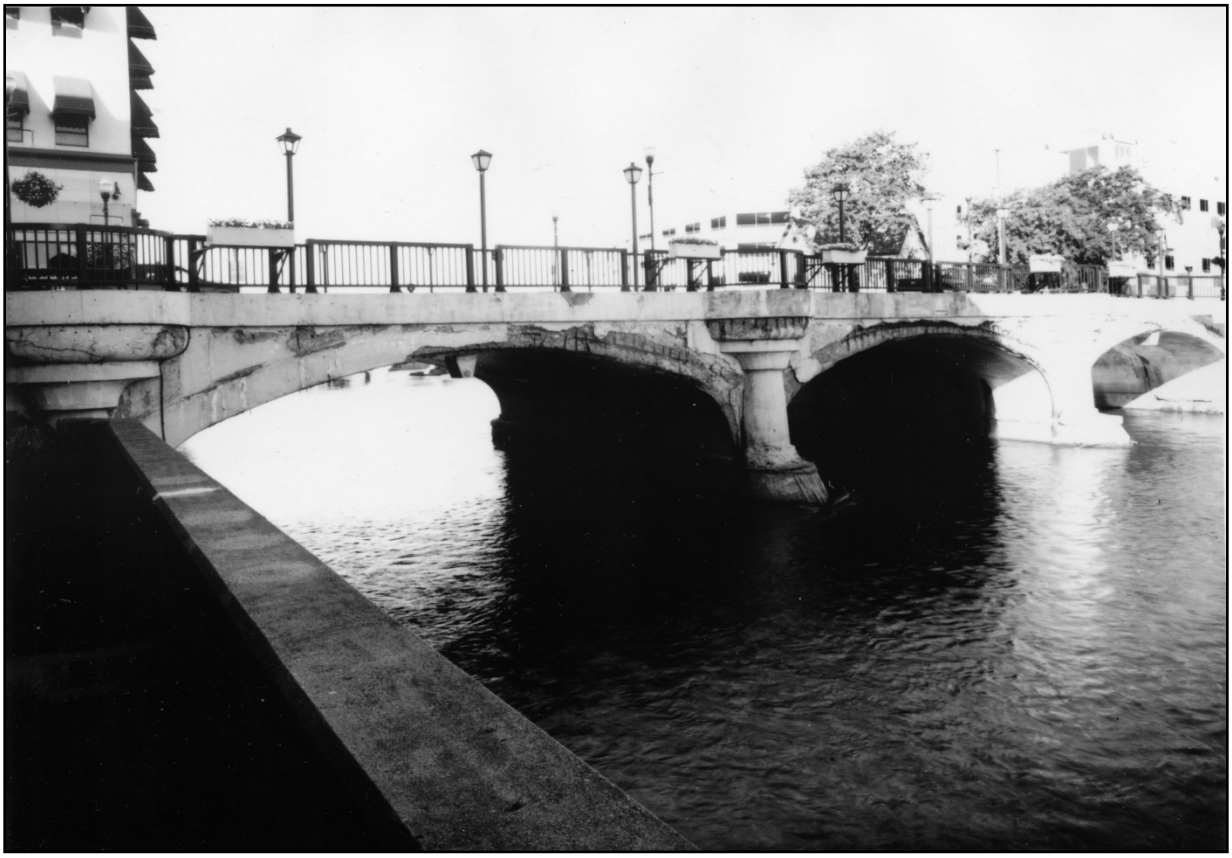
K-2011-1.1	SN 045-6005 East Downer Place over the Fox River, Looking North
K-2011-1.2	SN 045-6005 East Downer Place over the Fox River, Looking South
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K-2011-1.5	SN 045-6005 East Bridge Pier Detail Looking Southeast, North Side
K-2011-1.6	SN 045-6005 East Bridge Overlook Support, Northeast Corner
K-2011-1.7	SN 045-6005 East Bridge North Railing Detail, Looking West
K-2011-1.8	SN 045-6005 East Bridge Pier Detail Looking Northwest, South Side
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K-2011-1.14	SN 045-6006 West Section of West Downer Place over the Fox River, Looking Northwest



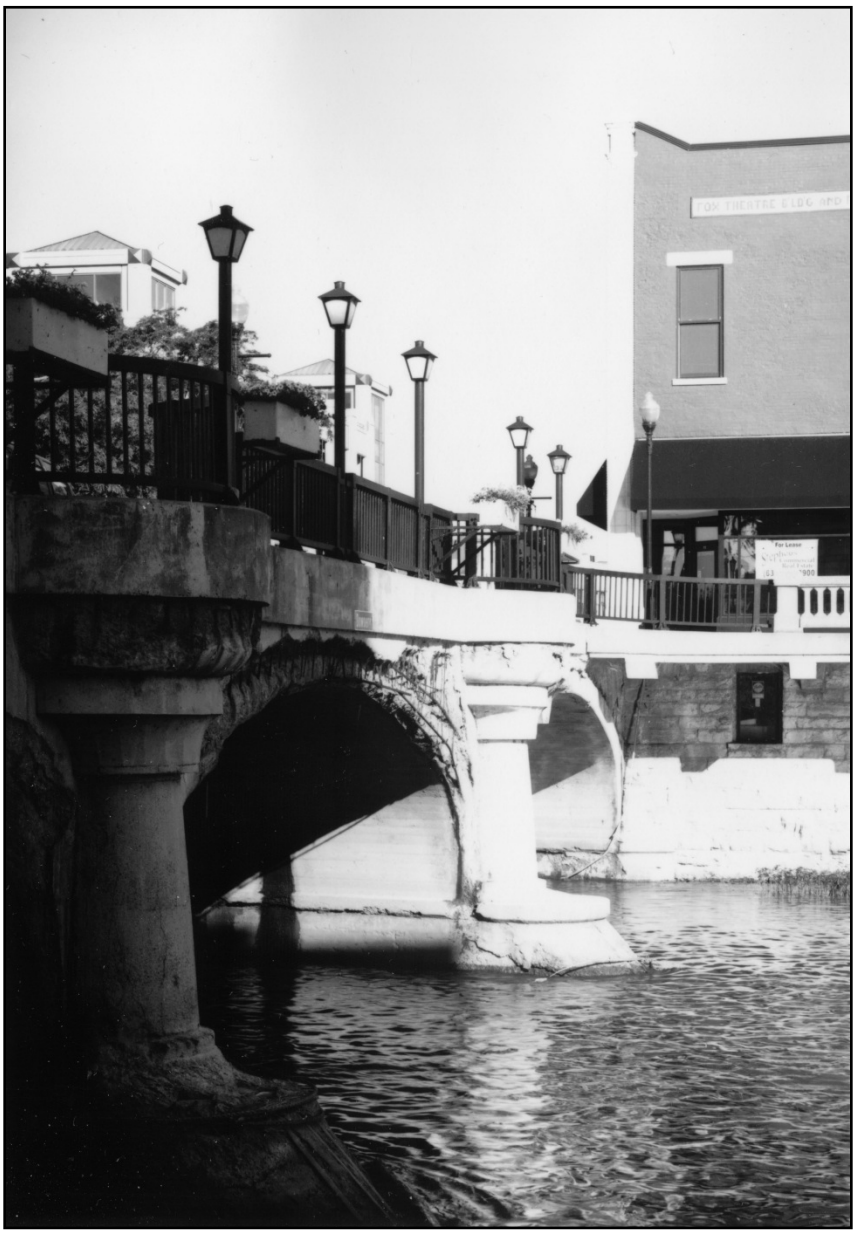
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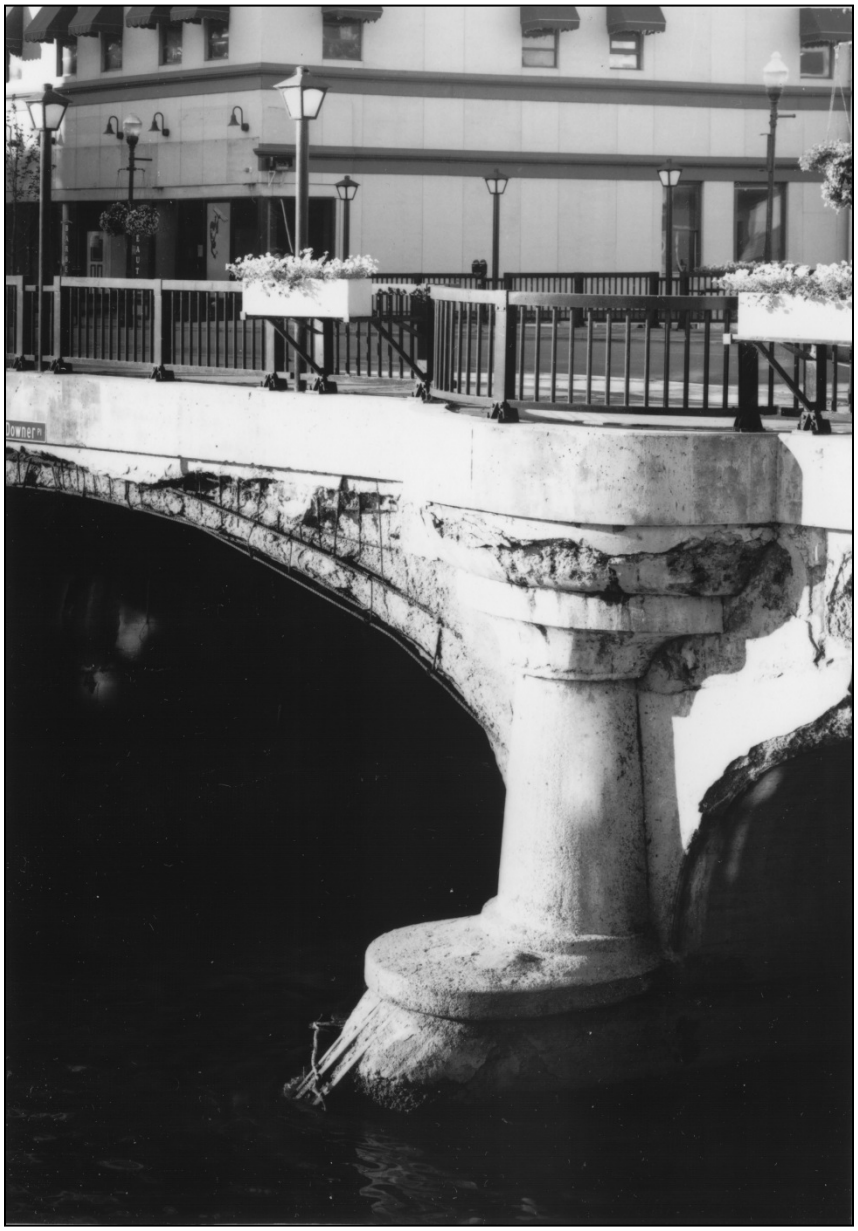
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EARLY VIEW



Memorial Building, Aurora City Hall, and the post office are shown in this beautiful postcard that was mailed on August 10, 1910. (Courtesy of Bill Novotny.)

Photo from *Postcard History Series – Aurora* by Jo Fredell Higgins

ENCLOSED BUILDING ENTRANCE OFF THE WEST BRIDGE



31 West Downer Place
South Elevation



31 West Downer Place
East Elevation



31 West Downer Place
Curtain Wall Enclosure



31 West Downer Place
Curtain Wall Enclosure