

HISTORIC AMERICAN ENGINEERING RECORD

LINCOLN AVENUE VIADUCT

(Cantrell Road Bridge)

HAER NO. AR-6

LOCATION: Spanning the lines of the Missouri Pacific Railroad Company, now the Union Pacific Railroad Company, on Cantrell Road between Baring Cross Bridge and Union Station, Little Rock, Arkansas.

UTM: 15/4845620/565625

QUAD: North Little Rock, Arkansas

DATE OF CONSTRUCTION: 1928

ENGINEER: Missouri Pacific Railroad Company

BUILDER: The Ozark Engineering Company, Joplin, Missouri.

PRESENT OWNER: City of Little Rock

PRESENT USE: Pedestrian and vehicular traffic.

SIGNIFICANCE: Designed by the Missouri Pacific Railroad Company and presented to the City of Little Rock as a corporate gesture of goodwill, the Lincoln Avenue Viaduct was the first and only through rainbow arch in the city. As an example of a single-span reinforced concrete bridge of through rainbow arch design it remains today as an example unique in Arkansas. It was built by The Ozark Engineering Company of Joplin, Missouri in 1928 and, though it has lost a balustrade on the west side and has had a second bridge built adjacent to it, the Lincoln Avenue Viaduct is remarkably well preserved.

HISTORIAN: Sean O'Reilly

DESCRIPTION: Corinne Smith

Arkansas Historic Bridge Recording Project, 1988.

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The Lincoln Avenue Viaduct, a reinforced concrete rainbow arch bridge, was opened at 2:05 p.m. on Friday, December 28, 1928, and, despite later alterations, it remains particularly well preserved.(1) The Missouri Pacific Railroad Company, the most important railroad company in the state (2), constructed the bridge amid a series of improvements in Little Rock made necessary by the damage wrought by the infamous spring floods of 1927.(3) On the morning of April 21, the Old Baring Cross Bridge over the Arkansas River had been swept away by the floods. The bridge linked the Missouri Pacific's workshops in North Little Rock on the northern side of the river with the railroad station, Union Station, on the southern side. The restoration of this link across the Arkansas was vitally important to the company's continued success.

THE OLD BARING CROSS BRIDGE

Alexander Baring, an English banker who came to America in the late nineteenth century, married into the multimillionaire Bingham family of Philadelphia. He was a regular visitor to the then fashionable resort of Hot Springs, but was dissatisfied with the uncomfortable ferry crossing of the Arkansas River at Little Rock. Realizing that a bridge across the river would be a lucrative investment "...he told the people he could build them a mighty nice bridge with \$300,000 of his wife's money. That she wouldn't mind."(4) The construction of the bridge was undertaken in association with the Cairo and Fulton Railroad Company which had held rights to cross the river since 1853. This company, founded in 1852 to construct a railroad from Cairo, Illinois to Fulton near Texarkana, Arkansas, was to operate the bridge after its completion.

The Baring Cross Bridge Company began on April 8, 1872, organized and financed by Baring, with James M. Loughborough as Commissioner.(5) The wooden bridge they constructed

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opened on December 21, 1873, and was the first railroad route across the river. The weaknesses inherent in a wooden structure meant that it required regular renovation; by 1890 the wooden beams of the bridge had decayed and were replaced by steel. However, the basic structure survived until the floods of April, 1927.

MISSOURI PACIFIC RAILROAD COMPANY

The Missouri Pacific Railroad company was the most important railroad system in Arkansas: with 1,796 miles of Class One railroads in Arkansas by 1936, its nearest competitor having less than half that mileage, and its workshops situated in North Little Rock, the railroad company was a major factor in the economy of the whole state.(6) Its significance was reinforced in 1927 when Alderman George R. Gay, at a sitting of the Little Rock City Council, proposed that a holiday be specifically devoted to the Missouri Pacific Company, when "state, county and city officials will be invited to participate in a parade."(7) The Missouri Pacific lines were incorporated in 1907 with John G. Drew as president. This incorporation absorbed the St. Louis, Iron Mountain and Southern Railroad, a descendant of the Cairo and Fulton, and with it came possession of the Old Baring Cross Bridge. When the bridge was lost in the floods, the Missouri Pacific Railroad Company began immediate preparations for its replacement. Included in its considerations regarding the new bridge was the general improvement of the railroad's lines through Little Rock. The company intended to replace the old viaduct across the lines at Lincoln Avenue with a new structure in "the latest type of bridge construction."(8)

ORDINANCE 4335

The construction of The Lincoln Avenue Viaduct was undertaken by the Missouri Pacific Railroad Company as a cost-free service to the City of Little Rock. However, the railroad construction needed appropriate authorization from the City through its officials, the City Council. In the passing of Ordinance 4335, on May 28, 1928, such authority was granted.(9) The ordinance was entitled:

An ordinance providing for the construction and maintenance by the Missouri Pacific Railroad Company of a viaduct over its right of way and tracks connecting Cross Street with North Street and for the closing of North Street across the railroad company's right of way and tracks and the removal of the old viaducts.(10)

The ordinance was first read before the City Council on May 14, 1928. It was presented by Alderman Lange and, by his own motion, referred to the Street Committee. The Street Committee, overseeing the city's streets and their facilities, returned the ordinance on May 28 "with recommendation that the ordinance be passed."(11) That day, the obligatory second and third readings of the ordinance were made at the sitting of the City Council, and the ordinance was voted on and unanimously passed. Its passing was documented in the Council Records as follows:

The ordinance, having been read the first time on May 14, 1928, was then read the second time and, by unanimous vote of the members of the Council present, being eighteen in number and all of the members of the council elect, the rules were suspended and the ordinance read the third and last time and the aye and no vote taken upon the question, Shall the Ordinance pass, the result being as follows; Ayes - ...total 18; Noes - none; absent and not voting - none. Whereupon, the said ordinance was declared passed.(12)

The ordinance registered the following undertakings by The Missouri Pacific Railroad Company:

1. That the company would construct and maintain over its railroad tracks at Lincoln Avenue "a re-inforced concrete viaduct with a 30 foot clear roadway and five foot sidewalks on either side..."(13)

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2. That company would furnish, open and dedicate to the public the viaduct and its accesses.(14)

3. That the company would remove "the old present existing viaducts" at Lincoln Avenue and North Street.(15)

4. That all the above "be furnished, constructed and done by the Missouri Pacific Railroad Company... at its sole cost and without expense to the City of Little Rock."(16)

These provisions were undertaken by the company in return for which the city of Little Rock abandoned the old viaducts and its right of way across the tracks at North Street.(17) Little Rock also resolved to return the rights and titles of the viaduct and its accesses to the company "in the event that at any time the street or way...shall be abandoned by the public or the city."(18)

CONSTRUCTION AND OPENING

The new viaduct on Lincoln Avenue across the tracks of the Missouri Pacific Lines, one of the most beautiful structures of its kind in the country, was opened at 2:05 p.m. yesterday.(19)

The new viaduct was built as a replacement for two older viaducts; one its direct predecessor at Lincoln Avenue and the other at North Street, abandoned by the City under Ordinance 4335. The old Lincoln Avenue Viaduct "was built of wood and steel, now obsolete in bridge construction."(20) The new viaduct, "in contrast", featured "the rainbow arch design... said by engineers to be the latest type of bridge construction".(21) It was begun in September, 1928 and "required more than three months to build, and the labor alone cost more than \$20,000. The total cost of \$50,000 was carried by the railroad company."(22)

The bridge was designed by the railroad company and built by the Ozark Engineering

Company of Joplin, Missouri, directed by foreman Ray Bishop, under the supervision of the railroad company's chief engineer in St. Louis, E.A. Hadley. The completed viaduct was opened with "brief opening ceremonies, at which two automobiles bearing members of the Street Committee of the City Council were the first to cross the new structure."(23) This opening took place before the approaches were completed. These could not "...be laid for several weeks on account of having to let the fills at either end settle."(24)

The completed viaduct and its accesses were discussed at length in the Little Rock Year Book of 1929 registering the city's appreciation of, and indebtedness to, the Missouri Pacific Railroad Company:

Alignment between the streets is very much improved and the general appearance is pleasing. Most of the material used was purchased locally. The City of Little Rock is under many obligations to the Missouri Pacific Railroad for its many improvements to the City.(25)

VIADUCT DESIGN

The Arkansas Gazette described the completed bridge as being:

...143 feet 10 inches in length, overall. The span across the tracks is 96 feet four inches, while there are 24-foot approaches at either end. It is provided with five-foot sidewalks on either side giving it a width of 50 feet six inches. The roadway is 30 foot wide while the arch rings extend 21 feet over and above the roadway.(26)

The arch rings referred to the most distinctive aspect of the bridge, its through arch construction. The Arkansas Gazette was impressed with "the rainbow arch design", wherein the deck of the bridge passes through the structure at the arch, an aesthetically-pleasing though never common method of bridge construction of the time.(27) With walkways "protected by ornamental concrete handrails," the design was complete.(28)

ENGINEERING DESCRIPTION

The Cantrell Road Bridge is a rainbow arch bridge with a total length of 144 feet, comprised of 90-foot-long arches and 24-foot-long concrete deck approaches on either end. The two arches support a 30-foot-wide roadway, with a 5-foot sidewalk on the north side. Each arch is a steel frame covered with concrete to create continuity between the different structural parts. The concrete was poured to form panels in the faces of each visible member.

The arches, entirely above the road deck, spring from the top of concrete piers to a maximum height of 21 feet. The piers are formed by two rectangular columns connected by beams at the top and bottom. Ten hangers suspend the floor slab from the arch. Two top lateral struts connect the arches at the fourth and seventh hangers. Beams connect all the pairs of hangers. The floor, beams, hangers, and the portions of the arches to which the hangers are attached were simultaneously covered with concrete to form one continuous reinforced concrete support structure. The floor and curb, which are probably reinforced with a grid of longitudinal wires and transverse rods, are continuous across the approaches and the arch span. The balustrade handrail crosses the bridge from one abutment to the other. The reinforced concrete rail is on a sidewalk suspended from extensions of the ties on the north side of the bridge. The sidewalk on the south side of the bridge is now part of the new bridge.

J.B. MARSH AND HIS ARCH

James Barney Marsh, born in Wisconsin in 1856, designed one of the most distinctive bridge types in the history of bridge construction--the Marsh arch.(29) Graduating from Iowa State University in 1882, he accepted a position in the Des Moines office of Zenas King's King Bridge

and Iron Company of Cleveland, Ohio.(30) Here he was introduced to some of the most advanced bridge building methods, and soon made patented improvements in that company's metal bowstring truss. In 1911 he completely superseded that form with an arched bridge design of his own invention. In a design filed with the U.S. Patent Office on November 1, 1911, Marsh remolded the traditional structural and formal concepts of King's metal bowstring truss into a completely contemporary unit. Using the expressive powers of interpenetrating forms and reinforced concrete he presented an ostensibly modern bridge type to the public.

Granted as Patent Number 1,035,026 on August 6, 1912, the Marsh arch was formally characterized by the passage of the deck through the supporting arches at a point above their springing line. The inter-penetration of these two bridge members gave the distinctive visual character of the Marsh arch and this aspect of the bridge patent was applicable to bridge design in any medium.(31) However, the patent medium was "primarily...a bridge of reinforced concrete."(32) The reinforced concrete had "a skeleton framework" of reinforcement, "surrounded by a concrete body molded thereon."(33) The skeleton framework echoed King's bowstring truss in a more substantial form, with "angle irons...and oblique braces or lattice work connecting...at frequent intervals" forming the supporting arches.(34)

MARSH'S ARCH

Broadly speaking the object of the present invention is to construct an arch bridge of reinforced concrete in such a manner as to permit of a limited amount of expansion and contraction both of the arches and of the floor which are, of course, the longest members of the bridge.(35)

The principal of the Marsh arch, as outlined in its 1912 patent, was specifically aimed at

allowing the expansion and contraction of its members in order to absorb stresses. This involved a complex interaction between floor, arches and abutments in two inter-dependent systems of reinforcement.

The arches were to spring from the inside faces of the abutments or piers, rise above the floor and carry that floor by means of vertical "hangers" depended from the arches above the deck line. Arches, hangers and floor were to constitute "one unitary reinforced concrete structure."(36)

A second system consisted of two "beams" transversely connecting the arches beneath the floor. While these tied the arch pair together, under the floor, they were not attached to the floor. The floor simply rested "slidably" on the beams.(37) Similarly, while the arches were to spring from inside the abutments, the ends of the floor rested "slidably" on the abutments. This second system of beams, arches and abutments provided support for the outer ends of the floor, yet it allowed the movement of the deck with respect to the beams and abutments, with special metal "wear-plates" absorbing the friction between the moving members.

These two systems, one of upper arches, hangers and deck, the other of lower arches, beams and abutments, interacted. Through their respective movement they allowed any strain in the structure of the bridge to be absorbed through the relative movement of the members. Marsh described the effect of his new design in the following words:

During the expansion or contraction of the members of this improved bridge on account of climatic changes or the stress of weight upon it, the rise and fall of the arches due to their longitudinal expansion and contraction may cause the beams to move slightly beneath the ends of the floor, and this is accommodated by the disconnection of the beam structure and the (floor) slab and the interposition of the wear plates. On the other hand, the expansion and contraction of the floor may cause its ends to move over said beams, and this is accommodated in the same manner.(38)

THE LINCOLN AVENUE VIADUCT AND THE MARSH ARCH

The structure of the Lincoln Avenue Viaduct does not involve a basic specification of Marsh's classic 1912 patent and its design does not have the arches "springing from points in the abutments (or piers) below the upper edges of their walls.(39) As such neither this viaduct or similar designs such as the Second Street Bridge, do not qualify as "Marsh Arches" proper, despite classifications to the contrary.(40) While these designs might well have included the expansion and construction elements specified in the Marsh patent, Marsh clearly required the support of the deck by beams connecting the arches above the springing line. Consequently the use of the term "Marsh Arch" in the context of the Lincoln Avenue Viaduct is inappropriate.

ENDNOTES

1. "Missouri Pacific Viaduct is Opened", Arkansas Gazette, December 29, 1928, p. 12. The viaduct lost a balustrade in AHTD road development, but, apart from its context, is otherwise unchanged. c.f. AHTD Files cited in bibliography.

2. Murray, J. C. "States Fine Transportation Facilities", Arkansas Centennial, Little Rock, 1936, pp. 65-66.

3. c.f. Arkansas Gazette, various articles April, 1927.

4. Anderson, W. A. "Goulds Southern Railroads", unpublished, p. 49.

5. Murray, J. C., loc. cit., p. 65.

6. c.f. Murray, J. C., loc. cit. and Anderson, W. A. op. cit.

7. Council Record, Book VI, 1926-1928, City of Little Rock, p. 309.

8. "Missouri Pacific Viaduct is Opened", Arkansas Gazette, December 29, 1928, p. 12.

9. Council Record Book V, City of Little Rock, 1926-1928. May 14, 1928, p. 549 and May 28, 1928, p. 554. Also Ordinance 4335, May 28, 1928 of the City of Little Rock. The title remained unchanged.

10. *ibid.*

11. Council Record Book V, City of Little Rock, 1926-1928. May 28, 1928, p. 554.

12. *ibid.*

13. Ordinance 4335, City of Little Rock, Section 1.

14. *ibid.*

15. *ibid.*, Section 2.

16. *ibid.*

17. *ibid.*, Section 1.

18. *ibid.*, Section 3.

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19. "Missouri Pacific Viaduct is Opened", Arkansas Gazette, December 29, 1928, p. 12.
20. *ibid.*
21. *ibid.*
22. *ibid.*
23. *ibid.*
24. *ibid.*
25. Little Rock Year Book, Reports to City Council for 1928, Little Rock, 1929, p. 96.
26. "Missouri Pacific Viaduct is Opened", Arkansas Gazette, December 29, 1928, p. 12.
27. *ibid.*
28. *ibid.*
29. Granted August 6, 1912 as Patent 1035026.
30. See: Historic American Engineering Record, HAER Report AR-32: "Springfield-Des Arc Bridge," 1988.
31. Patent 1035026, Page 3, Lines 55-70.
32. *ibid.*, Page 1, Lines 14-15.
33. *ibid.*, Page 2, Lines 72-74.
34. *ibid.*, Page 1, Line 110 and Page 2, Lines 1-6.
35. *ibid.*, Page 1, Lines 51-57.
36. *ibid.*, Page 3, Lines 11-23.
37. *ibid.*, Page 3, Lines 62-63, 66, 83.
38. *ibid.*, Page 3, Lines 39-53.
39. *ibid.*,

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40. HAER Report No. AR-41: c.f. also "Kansas" in Great American Bridges, Washington, 1988, pp. 206-208. The Cedar Creek bridge at Elgin, though built by the Marsh Engineering Company, does not accord with the details of the patent discussed in the text of this report. i.e. The arches do not rise from the sides of the piers.

BIBLIOGRAPHY

Anderson, William Alonzo, "Goulds Southern Railroads", unpublished "Personal Observations" held in Arkansas Historic Preservation Program, 225 E. Markham, Little Rock, AR 72201.

Arkansas Centennial 1836-1936, Arkansas Democrat, Little Rock, 1936.

Arkansas Democrat, Little Rock, 1928.

Arkansas Gazette, Little Rock, 1927, 1928, 1929.

Arkansas State Highway and Transportation Department, Bridge Section: Card Index, Microfilm Files and Drawings. Ref. Bridge No. 1538A, Job No. 6678.

"Building Baring Cross Bridge" Arkansas Gazette, July 22, 1934. Supplement p.3, p. 13.

Council Record, City of Little Rock, Book V, 1926-1928.

Jackson, Donald C., Great American Bridges and Dams, The Preservation Press, Washington, 1988.

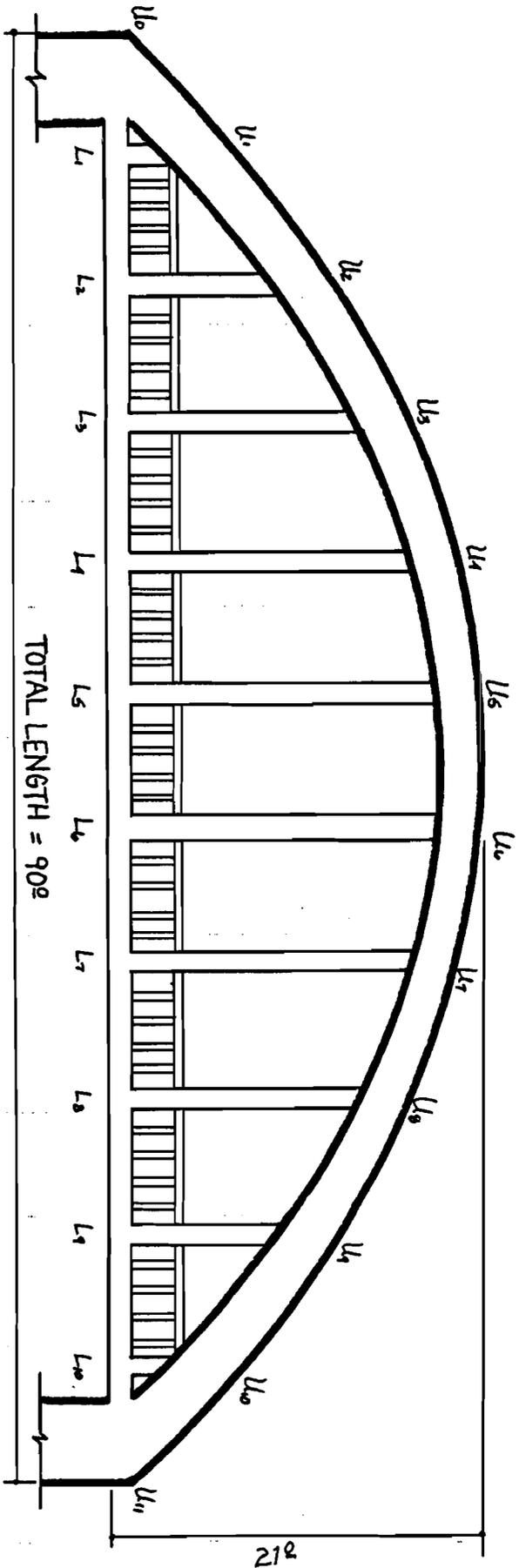
"Little Rock is a City of Bridges" Arkansas Gazette, July 2, 1972, 4E, p. 1.

Little Rock Year Book, Reports of Mayor, City Officials, Department Heads and Commission Chairman to City Council. Annual Report, Little Rock, 1920-1930.

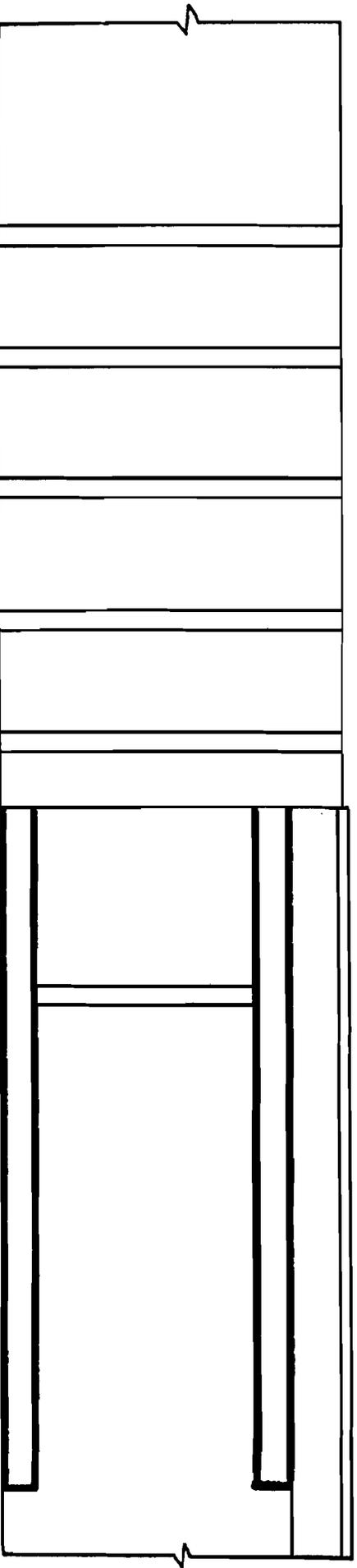
Ordinance 4335," City Hall, Little Rock, May 28, 1928.

United States Patent Office, Patent 1,035,026, August 6, 1912, James B. Marsh, Des Moines, Iowa.

ELEVATION



PLAN



DECK SUPPORT SYSTEM

DRAWN BY CORINNE L. SMITH

TOP VIEW

DRAWINGS NOT TO SCALE

Name Mutilated

LITTLE ROCK
YEAR BOOK

REPORTS
OF
Mayor, City Officials,
Department Heads and
Commission Chairmen



To City Council
for 1928

JANUARY 14, 1929

Total Bills.....	\$14,414.09
Pay Rolls	13,257.50
<hr/>	
Total Expenditures	\$27,671.59
Standing Budget for Electric Department.....	36,993.00
<hr/>	
Net Savings Over Budget.....	\$ 9,321.41

This is a saving in operation over 1927 of \$4,277.22, and includes an item of \$1,280.59 for traffic lights that should be charged to the Police Department.

I wish to express my appreciation and thanks to the Mayor and the members of the City Council for the hearty co-operation that they have given me during the past year. It has been a pleasure to work with this body of men, and I assure you that I will try to serve you in the future as I have in the past.

Respectfully submitted,

P. J. HUBAN,
City Electrician.



LINCOLN AVENUE VIADUCT

THE LINCOLN AVENUE VIADUCT

The Missouri Pacific has recently completed a fine viaduct across the railroad tracks connecting Cross street with Lincoln avenue and North street. This structure is 144 feet long and has a 94-foot span across the tracks. It has a 30-foot roadway and a five-foot sidewalk on each side for pedestrians.

The new viaduct takes the place of two old, wornout structures. Alignment between the streets is very much improved and the general appearance is pleasing. Most of the material used was purchased locally. The City of Little Rock is under many obligations to the Missouri Pacific Railroad for its many improvements to the City.

LOUISIANA STREET WHITE WAY

During the year a new White Way has been established on Louisiana street from Markham to Capitol avenue. This adds much to the beauty of the City at night and helps give Little Rock a metropolitan appearance. The City pays the expense of burning one light in each block from midnight until morning.

RADIO STATIONS

Little Rock is now the home of three radio broadcasting stations, which are a great help to the City as advertising mediums and in providing entertainment and information to the citizens of the City in their homes. Radio is the wonder of the age, and it is more and more being recognized as one of the greatest influences through which information and amusement may be distributed in this nation.

Station KLRA is owned and operated by the Arkansas Broadcasting Company and is located on the top floor of the A. O. U. W. building. Mr. Ray Winters, chief announcer, is recognized as one of the best on the air. He has recently made a contract with the Columbia Broadcasting System for chain programs, and they are now being broadcast by KLRA.

Station KGJF is located in the Nazarene Church at Ninth and Battery streets. Mr. T. W. Sharp, Jr., is the announcer, and the station is operating regularly to the satisfaction and pleasure of the people of the City and a large air audience elsewhere.

Station KGHI is located in the Hotel Marion and is owned by the First Baptist Church. Mr. O. A. Cook, the announcer, is conducting the station in an admirable way, and it has a large place on the air that is much appreciated by the citizens of Little Rock as well as a large additional territory.

THE ALBERT PIKE HOTEL

There is now under construction a fine new hotel at Seventh and Scott streets, which will be known as the Albert Pike Hotel. This magnificent building will cover a ground space of 92x150 feet and is ten stories high. It will be fireproof throughout.

Adjoining the hotel will be a two-story fireproof garage, with a

4335

E. J. Lange
St. Comm.

ORDINANCE NO. 4335.

~~AN ORDINANCE...~~ AN ORDINANCE PROVIDING FOR THE CONSTRUCTION AND MAINTENANCE BY THE MISSOURI PACIFIC RAILROAD COMPANY OF A VIADUCT OVER ITS RIGHT OF WAY AND TRACKS CONNECTING CROSS STREET WITH LINCOLN AVENUE, AND FOR THE OPENING OF A STREET CONNECTING ITS WEST END WITH NORTH STREET AND FOR THE CLOSING OF NORTH STREET ACROSS THE RAILROAD COMPANY'S RIGHT OF WAY AND TRACKS, AND THE REMOVAL OF THE OLD VIADUCTS.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF LITTLE ROCK.

6

Section 1. In consideration of the construction and maintenance by the Missouri Pacific Railroad Company of a reinforced concrete viaduct with a thirty foot clear roadway and five foot side walks on each side thereof over the Missouri Pacific Railroad Company's tracks connecting Cross Street and Lincoln Avenue in the city of Little Rock with the center line of its Eastern terminus located forty-five feet Southwestwardly from the center line of the old viaduct now existing which connects Cross Street with Lincoln Avenue and with the center line of its Western terminus located eighty-one feet Southwestwardly from the center line of the old now existing viaduct produced, and opening and dedicating to the public as a street or way of the ground lying between the Eastern Terminus of said viaduct and the Western boundary of Cross Street and between the Western terminus of said viaduct and the Southern Boundary of Lincoln Avenue; and the further furnishing, opening and dedicating to the public use as a street, a way with a minimum width of clear roadway twenty feet with an additional width of five feet on the West thereof for a sidewalk to connect Lincoln Avenue with North Street and extending from the South boundary of Lincoln Avenue adjacent to the Western terminus of the said viaduct in a Southwesterly direction to the North boundary of North Street adjacent to the Western right of way line of the

Missouri Pacific Railroad Company, being over and across Block Three Hundred and Fifty Eight (358) of the City of Little Rock, together with the paving of said twenty foot roadway and five foot sidewalk by the Missouri Pacific Railroad Company, the old present existing viaduct now connecting Cross Street with Lincoln Avenue be and is hereby abandoned and forever closed, and the old present existing viaduct on North Street over and across the Missouri Pacific Railroad Company's right of way and tracks south of said Block Three Hundred and Fifty Eight (358) of the City of Little Rock be and is hereby abandoned and closed, and North Street is forever closed across the Missouri Pacific Railroad Company's right of way and tracks as now located.

Section 2. The matters and things provided in foregoing Section 1 of this Ordinance to be furnished, constructed and done by the Missouri Pacific Railroad Company shall be at its sole cost and without expense to the City of Little Rock; and the Missouri Pacific Railroad Company shall remove the old present existing viaducts which are by the foregoing Section 1 abandoned and closed at the cost and expense of the Missouri Pacific Railroad Company.

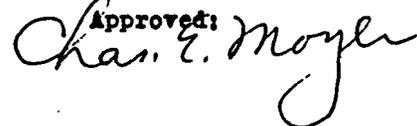
Section 3. In the event that at any time the street or way which is provided in Section 1 herein to connect Lincoln Avenue with North Street shall be abandoned by the public or the City and cease to be used or shall be closed by an action of the City Council, the same and every part thereof and all right, title and interest therein shall revert to the owners of the fee.

Section 4. All Ordinances and parts of Ordinances in conflict with this Ordinance are hereby repealed, and this ordinance shall be in effect from and after the date of its passage. Passed: May 28, 1928.

Attest:


City Clerk.

Approved:


Mayor.

Mayor.

HISTORIC AMERICAN ENGINEERING RECORD

Index to Photographs

Lincoln Avenue Viaduct (Cantrell Road Bridge)
Little Rock
Pulaski County
Arkansas

HAER No. AR-6

NOTE: These photographs are Government material and are not subject to copyright. However, the courtesy of a credit line identifying the Historic American Engineering Record and the photographer would be appreciated. Louise T. Taft photographed the bridge in July 1988.

- AR-6-1 LOOKING SOUTHWEST, GENERAL VIEW OF CONCRETE RAINBOW ARCH BRIDGE FROM RAILROAD TRACKS
- AR-6-2 GENERAL VIEW OF BRIDGE FROM RAILROAD TRACKS, LOOKING NORTHEAST
- AR-6-3 THREE-QUARTER VIEW OF BRIDGE, LOOKING NORTHWEST
- AR-6-4 THREE-QUARTER VIEW OF BRIDGE, LOOKING NORTH
- AR-6-5 THREE-QUARTER VIEW OF BRIDGE LOOKING EAST
- AR-6-7 LOOKING NORTHWEST TOWARD NORTHWEST END OF BRIDGE FROM UNDERNEATH, SHOWING CONCRETE SUPPORTS FOR CANTILEVERED WALKWAY (ON RIGHT)