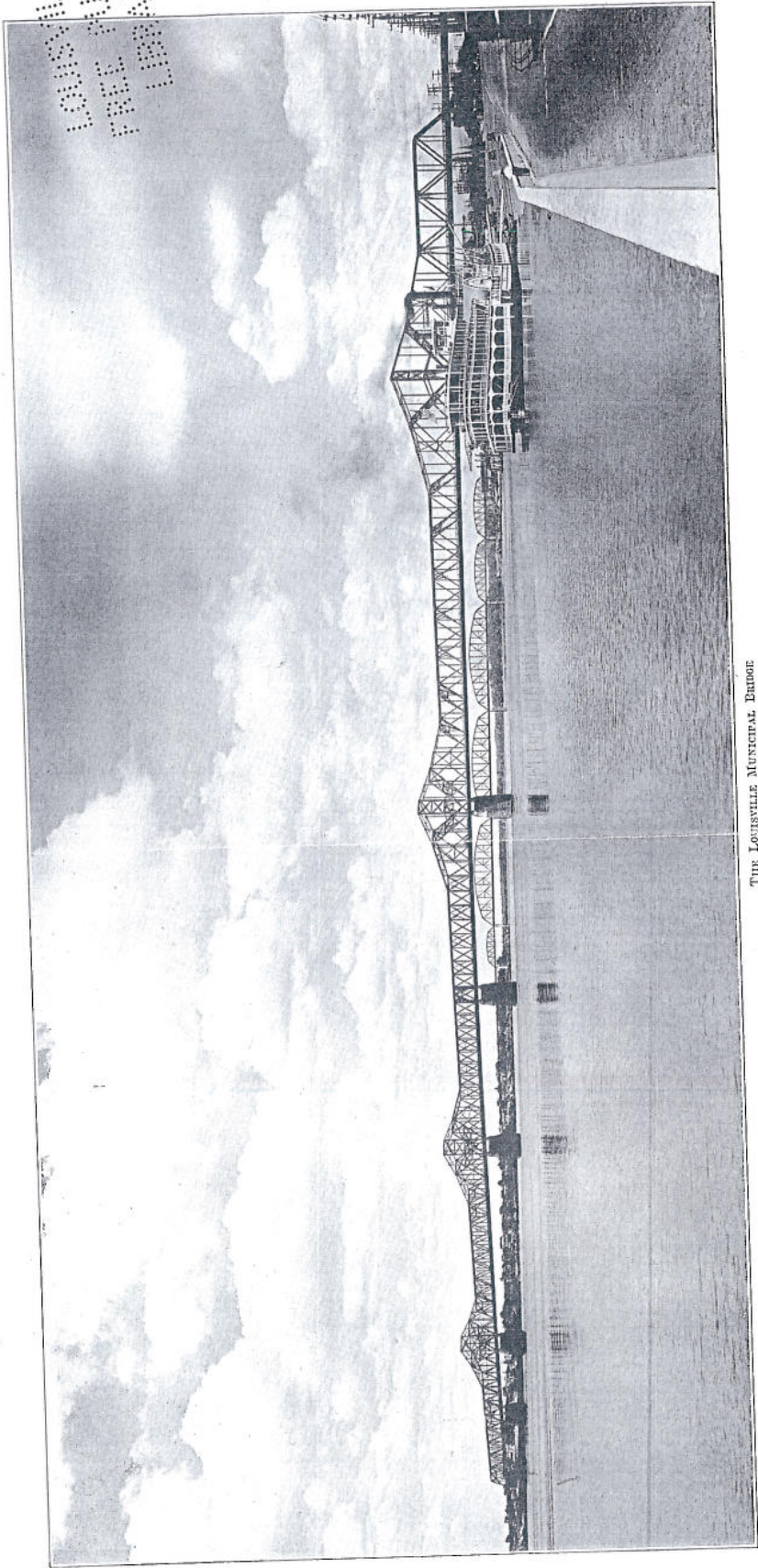


THE  
LOUISVILLE MUNICIPAL  
BRIDGE  
OVER THE OHIO RIVER  
BETWEEN  
LOUISVILLE, KENTUCKY  
AND  
JEFFERSONVILLE, INDIANA

RALPH MODJESKI, FRANK M. MASTERS  
CONSULTING ENGINEERS



THE LOUISVILLE MUNICIPAL EMBANKMENT

LOUISVILLE  
KENTUCKY

Louisville, Ky. Bridge Commission.

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BRIDGE

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HARRISBURG, PA.,

TO THE LOUISVILLE BRIDGE COMMISSION,  
JEFFERSONVILLE, INDIANA.

GENTLEMEN:—

We submit the following final report in relation to  
the construction of The Louisville Municipal Bridge.

Very truly yours,

RALPH MOUJESKI and F. M. MASTERS  
Consulting Engineers.

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# THE LOUISVILLE MUNICIPAL BRIDGE

## Over the Ohio River

### GENERAL NARRATIVE

The City of Louisville is located in a bend of the Ohio River which forms the Northern and Western limits of the City, as well as the boundary between Kentucky and Indiana. The State line is at low water mark along the Indiana shore of the river.

Opposite Louisville in Indiana, near the turn of the river, northwest from the City, is the town of New Albany, a prosperous community. From New Albany one main highway route No. 62 goes west to Evansville and another No. 150 runs northwest to French Lick. The community of New Albany has access to Louisville by means of highways bracketed from the K. & I. Railway Bridge. This bridge is several miles from the central shopping area of Louisville.

Directly opposite the business district of Louisville are the towns of Jeffersonville, Clarksville and a prosperous agricultural and industrial area. Out of Jeffersonville Route 31 runs directly north through Indiana to Indianapolis. Other important highway routes intersect this highway and feed into Jeffersonville. This section is reached over the Pennsylvania Railroad Bridge and the Big Four Railroad Bridge, the latter carrying both railway and trolley service. However, prior to the building of the Municipal Bridge the only means of communication between this community and the City of Louisville, for highway traffic, was the Falls Cities Ferry and Transportation Company. Two large ferry boats were operated between the wharf in Louisville, near Second Street, up the river under the Big Four Bridge to a wharf in Jeffersonville. These boats operated from early morning till midnight but the service was sometimes interrupted by unfavorable weather and river conditions.

With the development of the highway systems in Indiana and Kentucky a demand was created for better facilities for crossing the river directly opposite the centre of Louisville. The ferry service was not adequate to accommodate all the traffic offered at all seasons of the year and to handle it in a prompt and expeditious manner.

This demand for improved facilities culminated in the appointment of committees by such bodies as the Board of Trade, the Automobile Club, the Louisville Real Estate Board, a Jeffersonville Commission and others, all of which assisted in creating sentiment favorable to the construction of a bridge. This sentiment finally resulted in the passing of an Act in the General Assembly of Kentucky, Chapter 116 of the Acts of 1926, which authorized cities of the first class, either independently or in conjunction with legally constituted authority of an adjoining State, to build, construct, operate and maintain bridges across navigable streams. This Act further provided for a Kentucky Commission in such cities with authority to build, construct and operate such bridges and authorized the voting of a bond

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Mayor Harrison requested the Bridge Commission, which had been appointed by Mayor Will, to continue to serve and receive these proposals. Twenty or more proposals were received, the most favorable of which was that submitted by the firm of Stranahan, Harris & Oatis, who proposed to buy revenue bonds of the City of Louisville, the earnings from the bridge to be pledged for the paying of operation, maintenance, interest and sinking fund costs, provided a traffic survey, to be made by recognized traffic experts, would show that the revenues on the bridge would pay these costs, and, further provided, that an Act of the Legislature could be secured authorizing the City of Louisville Bridge Commission to issue and sell such revenue bonds.

The firm of Coverdale & Colpitts in New York City, with our cooperation, made the traffic survey. The City through its Bridge Commission, which was then acting by appointment of the Mayor only, and without legislative authority, secured the passage of a new Act of the General Assembly of Kentucky, Chapter 74 of the Acts of 1928. This Act enabled "cities of the first class to construct, operate, control and maintain bridges" and further provided for the issuance of revenue bonds of such cities to pay the cost of the bridges, which bonds were payable solely through bridge tolls without the incurrance of indebtedness of any such city. This act was passed and approved February 16, 1928.

Mayor Harrison then reappointed the Bridge Commission under the authority of this Act and this Commission reengaged us and authorized us to prepare plans for the bridge.

Acting on our recommendation, the Bridge Commission secured a new Act of Congress, removing the restrictions on the location of the bridge, and plans were made for the existing Municipal Bridge at Second Street. In May, 1928 the Courts of the State of Kentucky passed upon the legality of the Act, and the contracts and Trust Indenture under which the bridge was to be financed. All preliminary negotiations with the Bankers, Stranahan, Harris & Oatis, had been completed by this time and immediately upon the receipt of the Court decisions, the Bankers gave the Louisville Bridge Commission a check for the bonds. The first construction contract, for the main river bridge piers, bids for which had been received on May 15th prior to the Court decision, was awarded and signed June 1, 1928. Work was started immediately on these piers.

The Bridge Commission which had been reappointed under the authority of Chapter 74 of the 1928 Acts of the General Assembly, accepted the resignation of Mr. George W. Hubley, head of the Public Utilities Bureau of Louisville, who up to this time had served as Secretary of this Commission along with his other duties, and engaged Mr. Edward H. West as the Secretary and Treasurer of the Commission. Mr. William T. Baskett, City Attorney, continued to act as the legal adviser of the Commission. Mr. Wilmet T. Fox of Jeffersonville, Indiana, was engaged as the Indiana counsel.

## DESCRIPTION OF THE BRIDGE

The traffic studies prepared by Coverdale & Colpitts indicated the necessity for a four lane highway bridge. The War Department permit was secured approving a structure consisting of two cantilever bridges, extending from Pier I located on the bank on the Louisville shore to Pier VIII located on the bank on

issue by such cities to pay the cost of constructing such bridges, which could be either free or toll bridges. The bonds were to be issued as a direct tax burden on the taxpayers of the City and had to be authorized by a general election of the citizens.

Acting under the authority of this Act on June 22, 1926, Mayor A. A. Will of the City of Louisville appointed the first Louisville Bridge Commission, consisting of Mr. William Black, Chairman, Mr. William Heyburn, Mr. George M. Eady, and Mr. Fred Forcht. Mr. George W. Hubley, the head of the Public Utilities Bureau in the City of Louisville, acted as Secretary to the Commission and Mr. William T. Baskett, City Attorney, acted as their legal counsel. Shortly after the appointment of this Commission, Mr. Heyburn resigned and on July 21, 1926, Mr. William S. Speed was appointed to fill the vacancy. Mr. Speed resigned and on September 20, 1927, Mr. J. T. O'Neal, then Mayor of Louisville, appointed Mr. Tom. B. Duncan to fill this vacancy.

This Commission by an ordinance of the City of Louisville was given a fund of \$20,000 to pay for the costs of preliminary investigations and a report by Engineers, to be selected by the Commission, on the cost and location of a bridge. The City had already secured authority for the construction of a bridge by an Act of Congress dated April 2, 1926, authorizing the City to construct a bridge located at a suitable point between Third Street and Twelfth Street.

On September 22, 1926, the Bridge Commission selected Ralph Modjeski and Frank M. Masters as its Engineers and requested us to report to them on the feasibility of constructing a bridge under the restrictions imposed by the Act of Congress.

On September 6, 1927, we submitted to your Commission our report showing various locations for a bridge opposite the City of Louisville. These location studies clearly indicated that the best site for the bridge was at Second Street. However, we were restricted by the Act of Congress to the study of a bridge between Third and Twelfth Streets. Preliminary plans and cost estimates were furnished for a bridge to be located between Fifth and Sixth Streets in Louisville, entering Jeffersonville at Missouri Avenue.

On November 2, 1926, the City submitted to its voters a proposal to authorize bonds for the construction of a free bridge. This proposal was very decisively defeated at this election. In February, 1927 City Council passed an ordinance authorizing the submission to the voters of a proposal to build the bridge by issuing tax bonds, which were to be paid off through the collection of tolls on the bridge. This proposal was also defeated, by a very small margin, at the election in November of 1927.

The failure of the citizens to authorize funds for the construction of the bridge left the City without any means of providing the money. In the meantime the agitation for a bridge at Louisville had attracted the attention of private financial interests, toll bridge construction by private financing at this time being at its height. The City of Louisville, however, did not encourage the construction of a privately owned toll bridge, but Mr. Harrison, who had then been elected Mayor of the City, acting on the advice of his Commission and its Engineers, requested various parties proposing the construction of a privately owned toll bridge to submit propositions to the City for the financing and construction of a bridge, either privately or publicly owned, which would eventually become a free bridge.



the Jeffersonville shore, with approaches on easy grades descending to Main Street in Louisville and crossing the river to and landing in Jeffersonville between Indiana and Missouri Avenues.

Due to the fact that this bridge is constructed over the harbor of the City of Louisville, which is one of the most important inland waterway harbors, the navigation interests demanded large horizontal clearances over the two river channels. This required the construction of a bridge having an anchor arm from Pier I to Pier II, 362 feet long; a cantilever structure from Pier II to Pier III, 820 feet long; an anchor arm from Pier III to Pier IV, 500 feet long, followed by a duplicate structure consisting of an anchor arm from Pier IV to Pier V, 500 feet long; a cantilever structure from Pier V to Pier VI, 820 feet long; an anchor arm from Pier VI to Pier VII, 362 feet 6 inches long and a simple span from Pier VII to Pier VIII, 376 feet long.

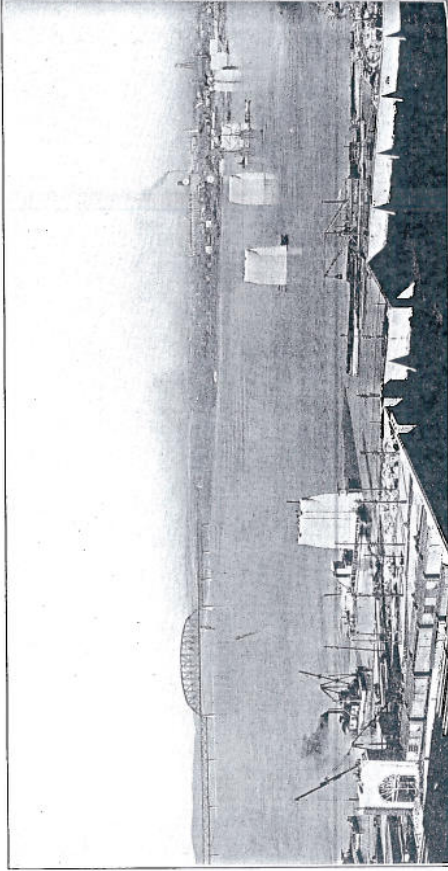
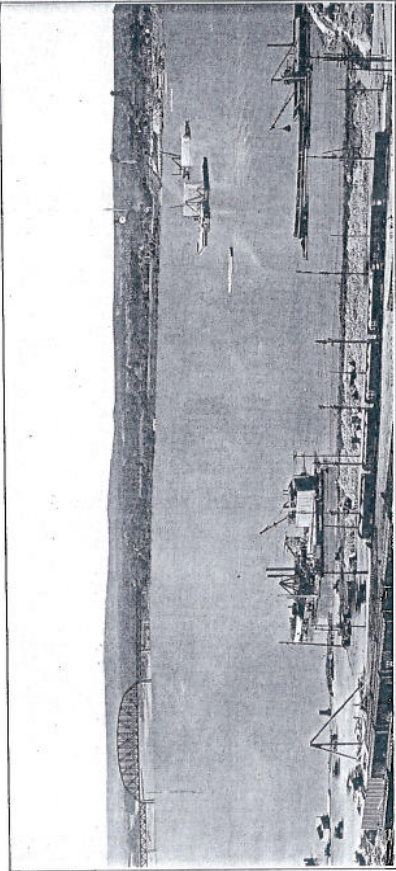
At the time application was made to the War Department for a permit for this bridge, there were in existence certain Acts of Congress fixing the vertical clearances on bridges over the Ohio River. However, the Pennsylvania Railroad Bridge which had been reconstructed in 1913-1914 over the Falls of the Ohio just below this proposed bridge, had been constructed under a special Act of Congress fixing vertical clearances lower than those required by the previous Congressional Acts, regulating clearances on Ohio River Bridges. The Commission accordingly had presented to Congress in February, 1927 an Act authorizing the construction of the Municipal Bridge with vertical clearances not less than the vertical clearances of the Pennsylvania Railroad Bridge. This Act was presented to Congress upon the recommendation of Colonel Spalding, U. S. District Engineer in Louisville. However, Congress instead of passing the Act as presented, simply repealed the Acts of December 17, 1872, and the Act supplementary thereto of February 14, 1883, which had fixed the vertical clearances of Ohio River Bridges, and placed the authority for the approval of this bridge under the General Bridge Act of 1906. Application was thereupon made for a permit for the construction of this bridge under the 1906 Act and a permit was secured for the construction of this bridge with vertical clearances about equal to those of the Pennsylvania Railroad Bridge, all as shown on the general plan of the bridge submitted with this report.

### CONSTRUCTION OF SUBSTRUCTURE

The contract for the construction of the substructure was signed June 1, 1928, with the Vang Construction Company of Pittsburgh, the low bidder for this portion of the work.

This contract contemplated the erection of the Northern, or Indiana half of the cantilever structure, ahead of the Southern, or Louisville half of the bridge. It was a bonus and penalty contract in which the Contractor was required to complete the Northern five piers ready to erect the steel superstructure by December 1, 1928. The Southern three piers were to be completed not later than May 1, 1929. The Contractor actually finished all piers ready for steel erection about December 1, 1928.

The river bottom at the site of the bridge, starting on the Indiana shore under Pier VII, consists of limestone rock at elevation approximately 40.4. This rock is



PIERS UNDER CONSTRUCTION



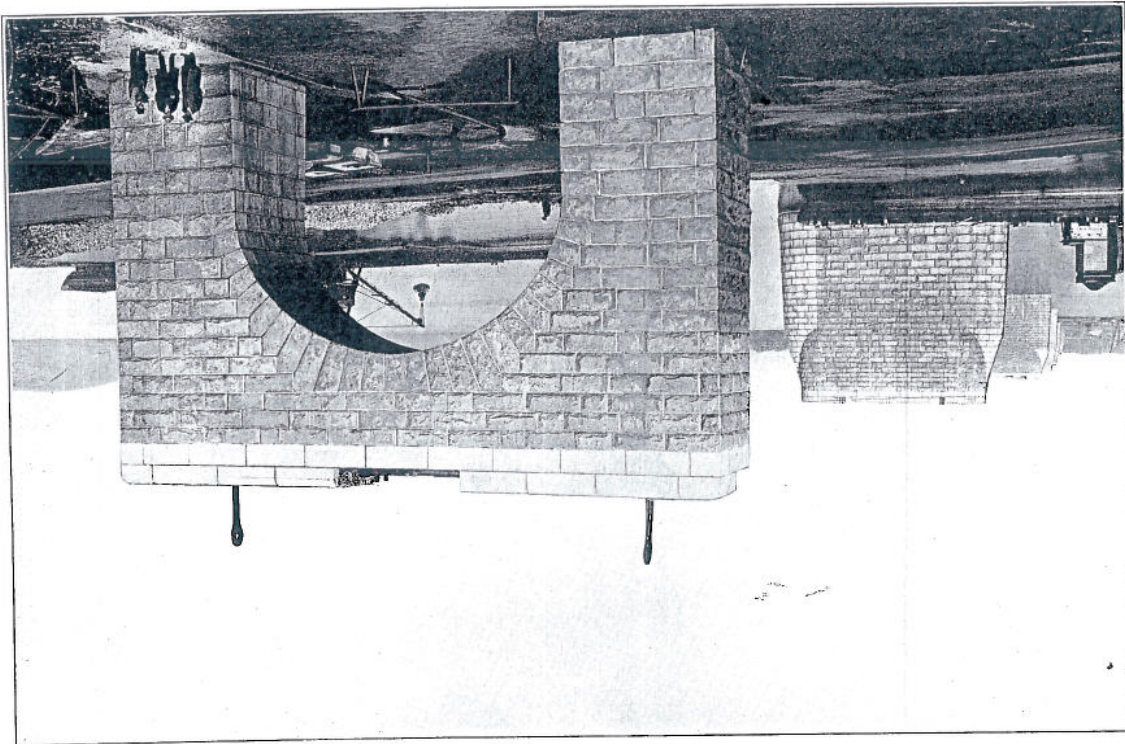
hard limestone, very smooth and flat. The rock was bare and exposed from the Indiana shore to the site of Pier IV where it is encountered at elevation 397 and is overlaid with a few feet of sand and gravel. The elevation of the pool maintained by the dam below the site of the bridge is 420. Starting at Pier IV the rock slopes toward the Kentucky shore and under Pier III is encountered at elevation 394. The rock dips sharply from Pier III to Pier II, at about low water mark on the Kentucky shore, where it is found at elevation 354 covered with sand and gravel. All of the piers, except the anchor Pier I, are founded on the rock. Pier I is founded at elevation 400 on sand and gravel 20 feet below the pool level.

The original plans contemplated founding Pier II on sand and gravel. However, during the sinking of this pier, the sand on which it had been expected to found the pier was found to be not satisfactory. This sand at times would be firm and compact and at other times would be loose and run quite readily when examined under air in the caisson. A careful investigation developed the fact that pumps operating in deep wells several squares from the site of the pier, in connection with an ice making plant, were causing the unsatisfactory conditions. It was decided to sink this pier to rock at elevation 354 as shown on the plans.

The Vang Construction Company, contractors for these piers, adopted the plan of constructing them by means of pneumatic caissons for all except Piers I and VIII, which are bank piers on the Kentucky and Indiana shores. These two piers were constructed by means of concrete caissons with steel cutting edges built in place on the shore and sunk by the open dredging method.

The main river piers were constructed by steel caissons built and launched from skidways on the Indiana bank. The first caisson constructed was for Pier VII and this was followed in regular order by those for the other river piers. The most difficult problem in connection with the use of these steel caissons and the pneumatic process, was safely anchoring these caissons in the current of the river and accurately sinking them to their proper position on the rock. The caissons were towed to place and tied to a cable which had been laid across the river bottom and anchored to heavy concrete blocks. From each corner of the caisson a line was carried to similar heavy blocks of concrete in the bottom of the river. By means of these four lines and winches on the corners of the caissons, it was possible to accurately locate and hold them in position against the river currents. As soon as a caisson was accurately spotted in place concrete or water was placed in the cofferdams and the caisson sunk to the river bottom. Airlocks were then attached, air admitted to the working chambers and the river bottom was cleaned by the "sand hogs." Four keyways were cut into the rock under all piers except Pier V, where a series of material rock ridges across the pier formed an excellent bond. Each keyway was about two feet deep by four or five feet wide and the working chamber thoroughly cleaned, the caissons were sealed through the material locks. Grout was forced down under air pressure until the concrete rose in the manlocks to the height of several feet. Grout was also applied under pressure through pipes at several points in the roof of the working chamber, thus insuring a complete filling and sealing of the caisson.

The first caisson for Pier VII was launched June 30th. This was followed by the Caisson for Piers V, IV, VI, III and II. The last caisson was launched August 21st. The first caisson was landed on rock July 12th and the last one



COMPLETED PIERS—PIER I IN FOREGROUND



October 14th. The first caisson for Pier VII was sealed July 21st and the last caisson for Pier II was sealed October 22nd.

At all piers, except Pier II, very little deposit was found on the surface of the rock. The amount of deposit on the rock increased toward the Louisville shore. At Pier III a layer of soft sandstone 18 to 30 inches thick was removed before reaching a satisfactory rock on which to seal the caisson. The rock was usually quite level, with a slight dip toward the Kentucky shore, and needed very little excavation to dress up the edges and secure an even foundation.

The greatest difficulty and delay to the work was encountered at Pier II where the sand on which we had contemplated founding this pier was not satisfactory. For this pier the Contractors had designed a special caisson with two seven foot diameter dredge wells through which the material was removed by means of orange peel buckets. This was accomplished by building the two seven foot diameter material tubes through the working chamber of the caisson and projecting them about one foot below the elevation of the cutting edges of the caisson. When the caisson was landed in the sand, the water was forced out and the sand hogs admitted through additional manlocks. These workmen simply shoveled the material to the seven foot diameter dredge wells, care being taken never to lower the water level below the cutting edge. The seven foot diameter open dredge tubes were kept filled with water. In this way it was possible to excavate the sand and gravel very rapidly until the caisson had come within about two feet of the rock. At this point of the work these open dredge tubes were sealed with concrete at the working chamber roof by depositing the concrete upon sand and gravel placed in the bottom of the tube. The portion of the tube extending through the working chamber to a point below the cutting edge was then burned off and removed through the material locks. The final dredging operations and cleaning of the rock was carried on in the usual manner by removing the material under air through the regular material locks. This method of sinking was carried out very successfully without a single accident or interruption to the work and greatly expedited the construction of this pier.

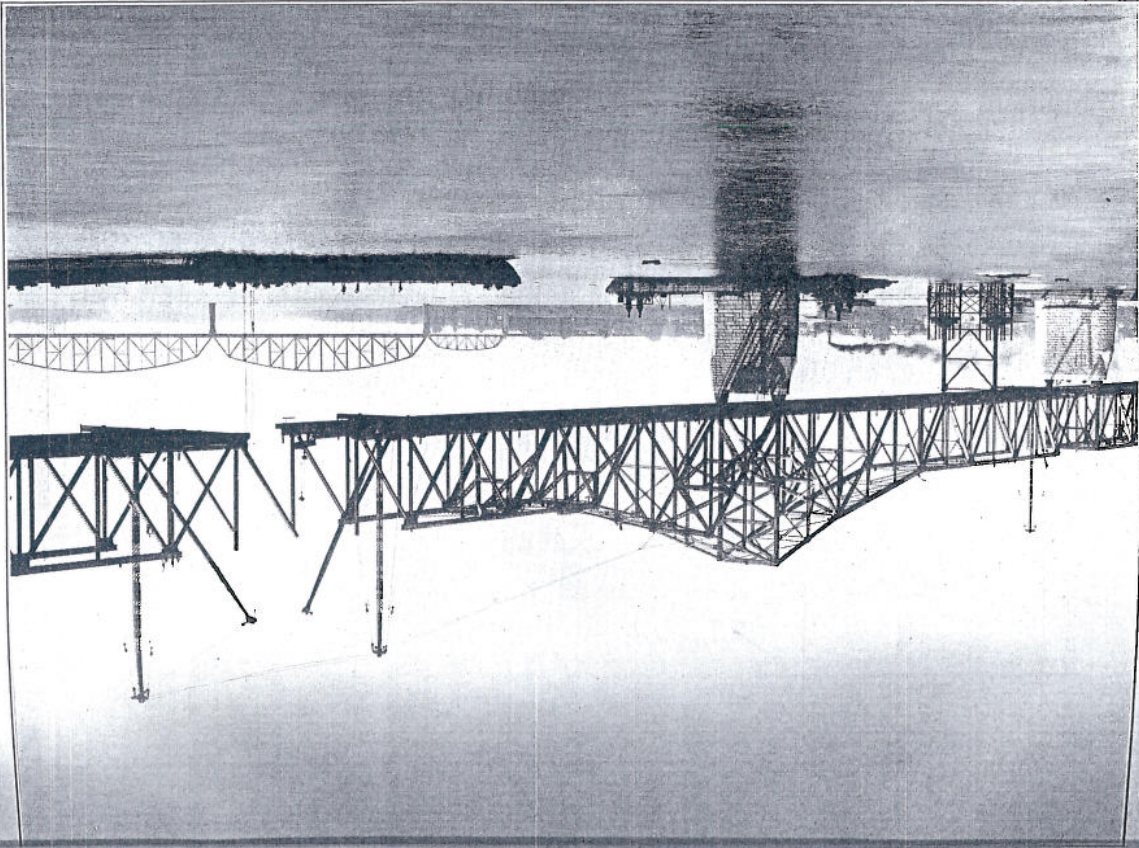
The two land Piers I and VIII were sunk by open dredging through a reinforced concrete caisson. The caisson for Pier I, which is an anchor pier, was founded on a layer of sand and gravel at elevation 398. The material encountered was compact enough to support the heavy concrete caisson on its cutting edge without settlement. This caisson was sealed by depositing tremie concrete by means of a bottom dump bucket. The foundation was carefully inspected by a diver before sealing. Frequent inspections were also made by a diver during sealing operations to make certain that the concrete was completely filling the working chambers. After sufficient concrete had been deposited by tremie to affect a seal, the water was pumped out of the caisson and the remainder of the concrete placed in the dry.

Pier VIII was founded on rock without any particular difficulty. The caisson encountered a bed of soft sand under its south or river side shortly after sinking and tipped slightly. However, it was righted without difficulty. Very little water was encountered and it was sealed on good rock in the dry about four feet below the pool level of the river. There was no difficulty in keeping this caisson dry by means of a two inch pump.

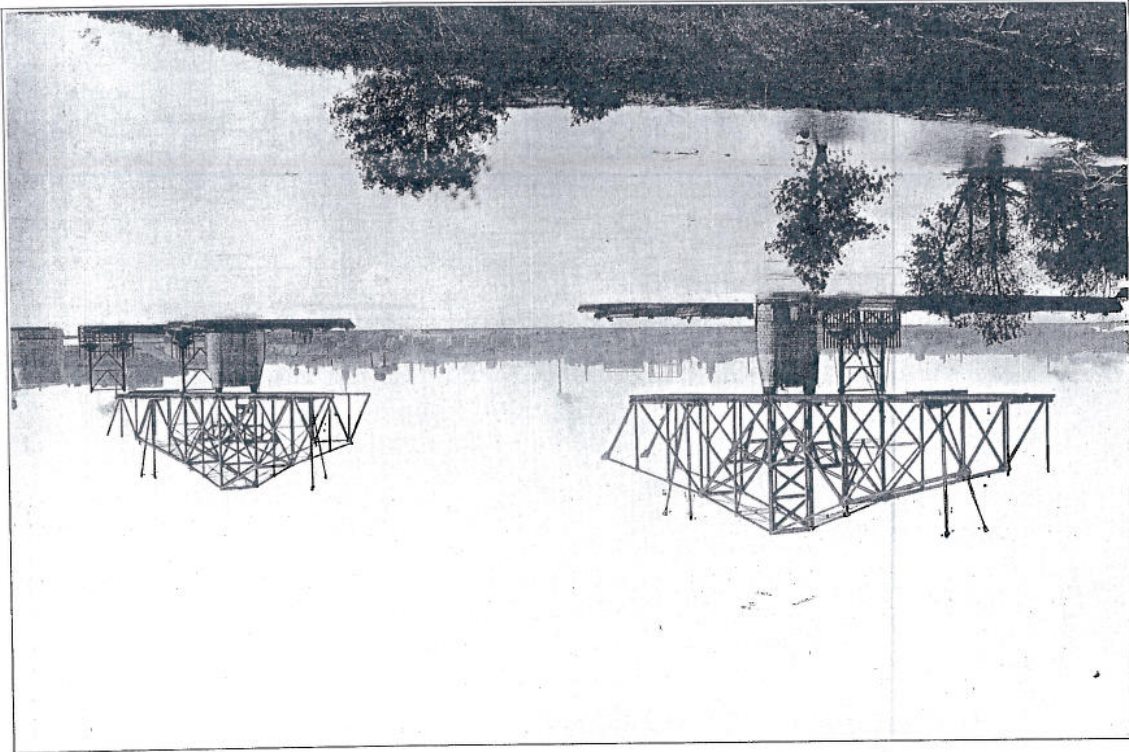
The plans required the piers to be constructed with granite facing from a



CANTILEVER ERECTION—MAIN BRIDGE



CANTILEVER ERECTION OVER PIERS V AND VI





point about five feet below the pool level to the bridge seats. Quite a little delay was encountered due to the failure of the quarries to deliver stone on time. The granite for the facing of Piers I, III, IV and VI was furnished by the Stone Mountain Granite Company of Stone Mountain, Georgia and that for Piers II, V, VII and VIII by the H. E. Fletcher Company, West Chelmsford, Massachusetts. The usual procedure in the construction of the pier shafts was to set several courses of stone during the daytime and pour the concrete backing at night. Stone setting was started at Pier VIII on August 4th and all stone setting was completed December 14th about four and a half months ahead of schedule time. All bridge seats were dressed by means of special grinding and planing devices to within one thirty-second of an inch variation from a true plane. All stone facing was carefully pointed and thoroughly cleaned prior to starting erection of the superstructure steelwork.

### CONSTRUCTION OF SUPERSTRUCTURE PIERS I TO VIII

The contract for the construction of the superstructure of the Louisville Bridge, Piers No. I to No. VIII, was signed July 5, 1928, with the American Bridge Company of New York, the low bidders for this portion of the work.

Inasmuch as it was necessary to purchase and demolish properties in the Cities of Louisville and Jeffersonville to provide room for the bridge approaches, and the acquisition of this property required a considerable length of time, it was decided in order to speed up the completion of the project to put the main bridge superstructure under contract and start the erection of this portion of the work prior to the construction of the approaches. This made it necessary to work out a schedule for the construction of the entire project which would provide for the completion of the main bridge superstructure by the time the approaches were finished.

The contract for the main bridge superstructure, therefore, provided a bonus and penalty for completion of this portion of the work by December 1, 1929, the date set for the completion of the entire project.

The erection of the main bridge superstructure in advance of the approaches necessitated receiving all structural steelwork aboard barges and starting the erection of the cantilever structures from the middle of the river, the bridge members being lifted directly from the barges to their place in the structure.

The American Bridge Company developed a new method of erecting this cantilever structure known as their "guy derrick system of erection." This system involved the use of four ordinary guy derricks for the erection of each half of the bridge; two derricks travelling away from each of the main tower piers, one erecting the anchor arms while the other derrick at the same time erected the cantilever arms and suspended span. This system of erection had the advantage of light weight in the erection equipment, thus making it unnecessary to increase the structural sections to provide for the erection stresses. The power plant for the operation of the derricks was located in a barge floating in the river at the foot of each pier, thus eliminating the weight of all power plant on the cantilever structure. The derricks were supported by means of top guys clamped to the tops

of the mast and fastened to the tops of the piers. The mast was secured sideways by means of guys fastened to the floorbeams of the bridge, as well as to a special guy wheel slung under each floorbeam. The derrick itself was mounted on a small four wheel railway truck carriage travelling on the stringers.

The procedure in general was as follows: By means of grillage beams on the tower piers, the first derrick was lifted into position on top of the pier and used to set the lower tower sections. This derrick, after placing the bracing, was then elevated to the tops of these tower sections, from which position it erected the remainder of the tower. It then lifted into place the second derrick and erected the bottom chord sections of the anchor arm out to the first falsework bent, which was under the second panel point of the anchor arm. These derricks then moved in opposite directions out on to the structure, generally two panels at a time, and erected the steelwork ahead of them, closing in the bracing behind. The general scheme of erection is shown on the progress erection diagram.

The erection work was started in December, 1928. This system was new and there were many details that had to be improved and developed as the work progressed, and this delayed somewhat the progress made on the first half of the bridge which was not completed until July 1, 1929, requiring a total of eight months' time. However, the work progressed much more rapidly on the second half of the structure and it was completed in approximately four months' time. This system of erection greatly facilitated the work and enabled the American Bridge Company to complete their contract well in advance of the date of completion.

### CONSTRUCTION OF APPROACHES

As soon as all of the property had been acquired in Louisville and Jeffersonville, bids were received for the construction of both the substructure and the superstructure of the approaches. Contract for this work was signed with the Henry Bickel Company, December 12, 1928. This contract provided for liquidated damages for failure to complete the work on or before August 1, 1929.

The approaches consist of girder spans supported on steel columns resting on limestone faced pedestals which are supported on precast concrete piles driven to firm foundation. This contract also included the bridge plazas which consist of steel beams and columns encased with concrete and the entire construction enclosed within Indiana limestone walls. The enclosed space on the Louisville plaza is used for an electrical equipment room in which is installed all of the electrical apparatus controlling the roadway and navigation lighting system. The enclosed space under the Indiana plaza provides a large storage room. Included as a part of these plazas are the ornamental limestone pylons which are architectural features of the bridge entrances. The Indiana plaza also contains the toll collectors' houses. This plaza, located between Indiana and Missouri Avenues, widens out to provide room for eight lanes of driveway passing the toll collectors, thus providing sufficient capacity for peak hour toll collection.

No unusual difficulties were encountered in the construction of this portion of the work. The Henry Bickel Company sublet the fabrication and erection of the approach steelwork to the American Bridge Company and this portion of the work was finished well in advance of the required date.



## CONSTRUCTION OF ADMINISTRATION BUILDING AND TOLL HOUSES

The construction of the Administration Building and Toll Houses was let as a separate piece of work. This contract was signed with the Henry Bickel Company on March 29, 1929. It required the work to be completed by the time the remainder of the bridge was ready for traffic. The Administration Building provides quarters for the general offices of the Bridge Commission, facilities for the Toll Collectors, the Bridge Manager, Bookkeeper, Maintenance Department, Cashier and other employees. This building is constructed of Indiana Limestone architecturally treated to be in harmony with the entire construction. The Toll Houses consist of small brick buildings located on islands placed between the drive-ways, arranged for the convenient collection of tolls with a minimum of interruption to the movement of traffic.

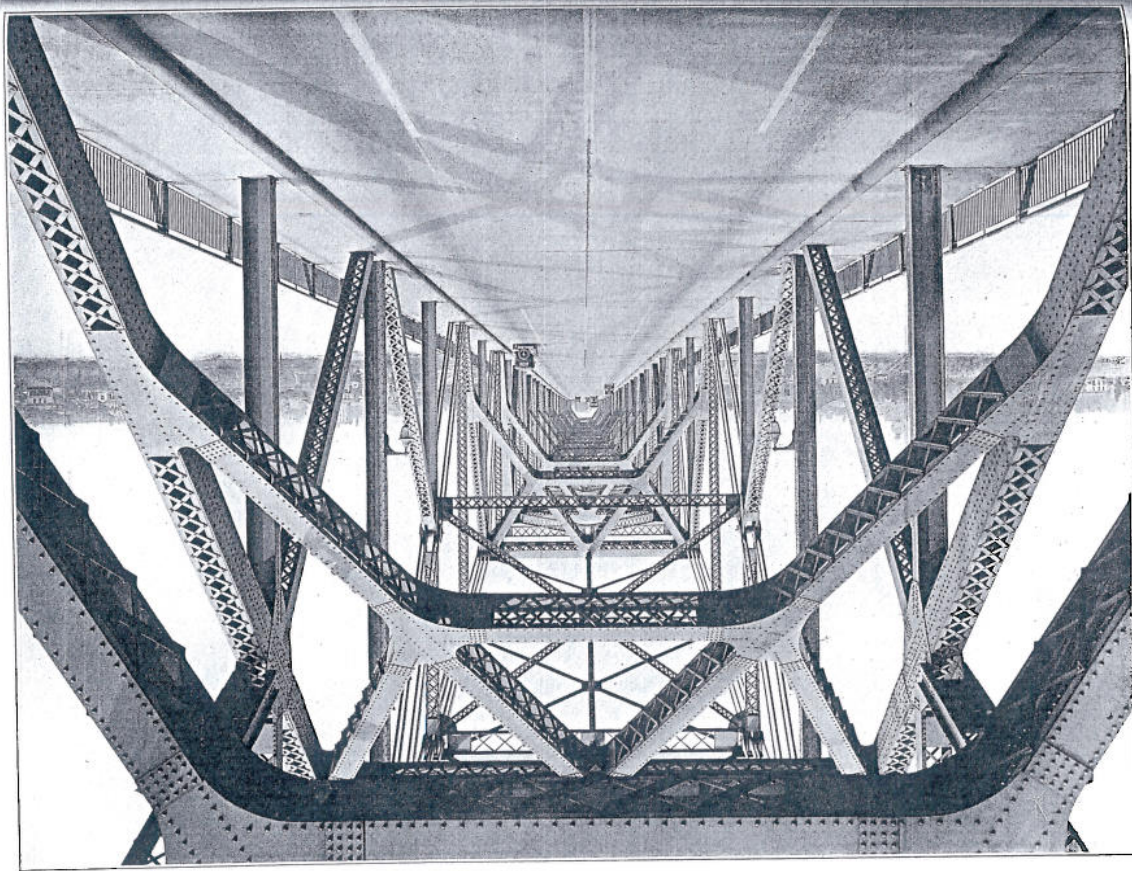
There were no unusual difficulties in the construction of this part of the work and it was all completed within the time scheduled.

## CONSTRUCTION OF THE BRIDGE LIGHTING SYSTEM

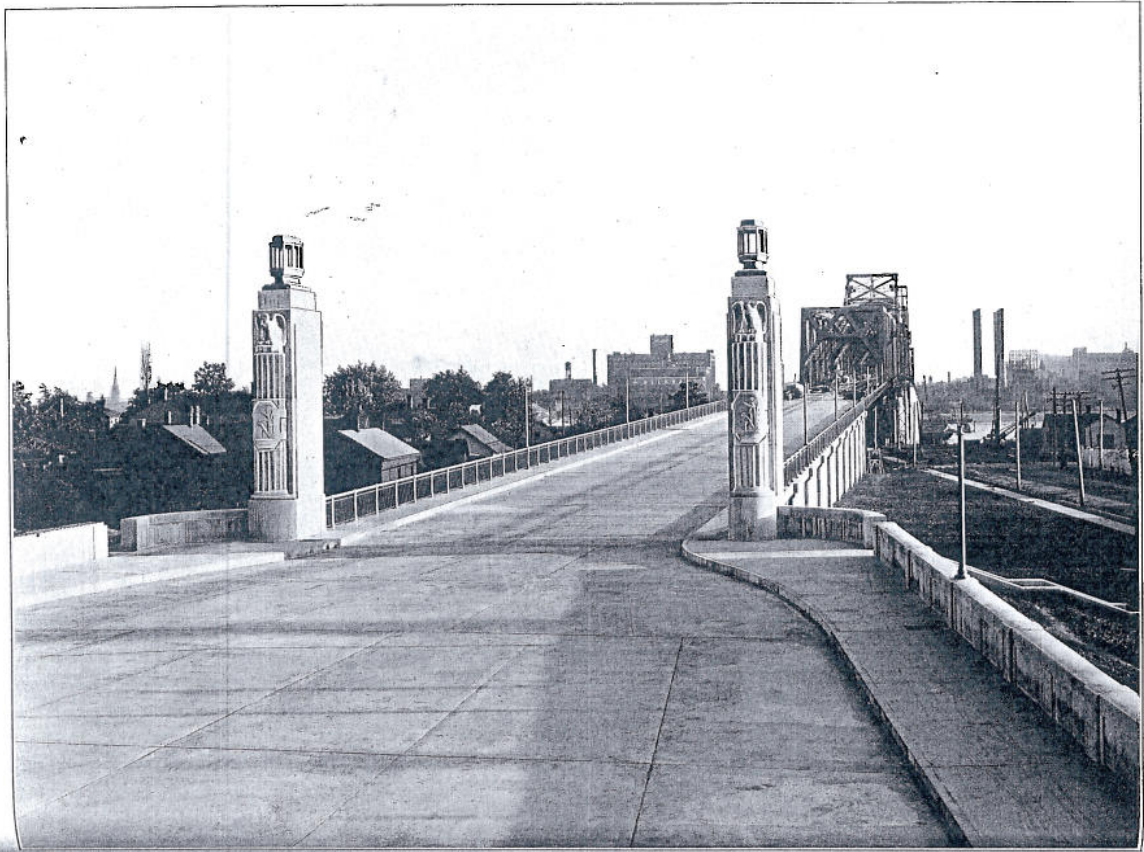
The bridge roadway and plazas are lighted by means of a 6.6 ampere constant current street lighting system. The current for the roadway lighting is supplied from the plant of the Louisville Gas & Electric Company located alongside the Louisville approach. The constant current regulators, switches, control panel and other necessary equipment, are under the Louisville plaza. From this control room remote control circuits are carried direct to the Manager's Office in the Administration Building, at which point a push button control board is installed to control all lighting circuits. The navigation lights on the piers are on a circuit separate from the street lighting. The roadway lights are arranged in two circuits, so connected that every other light on opposite sides of the roadway may be controlled from the Manager's Office.

The contract for the lighting system for the entire project was signed with the F. A. Clegg Company of Louisville on March 27, 1929, and the work was completed within the scheduled time.

RALPH MODJESKI and FRANK M. MASTERS,  
*Consulting Engineers.*







ADMINISTRATION BUILDING AND TOLL HOUSES

## APPENDIX A

### PERSONNEL

#### CITY OF LOUISVILLE

##### BRIDGE COMMITTEES AND COMMISSIONS

New Bridge Committee. (Appointed by Mayor Huston Quin—April 11, 1925)

WILLIAM HEYBURN, *Chairman*. (Resigned May 22, 1925)  
WILLIAM BLACK, *Chairman*. (Appointed Chairman May 22, 1925)  
R. E. FILSON  
T. B. WILSON  
ALEXANDER JOHNSON  
GEORGE W. HUBLEY, *Secretary*  
CHARLES T. HERTZSCH  
WILMER T. FOX, *Vice-chairman*  
W. Y. FILLERBROWN  
COL. J. R. R. HANNAY. (Appointed May 1, 1925)  
W. H. McALPINE. (Appointed May 1, 1925)  
WILLIAM S. SPEED. (Appointed May 22, 1925)

New Bridge Committee. (Appointed by Mayor A. A. Will—January 18, 1926)

WILLIAM BLACK, *Chairman*  
R. E. FILSON  
T. B. WILSON  
ALEXANDER JOHNSON  
GEORGE W. HUBLEY, *Secretary*  
CHARLES T. HERTZSCH  
WILMER T. FOX, *Vice-chairman*  
W. Y. FILLERBROWN  
COL. J. R. R. HANNAY  
W. H. McALPINE  
WILLIAM S. SPEED  
WILLIAM HEYBURN  
HUSTON QUIN

Louisville Bridge Commission. (Appointed by Mayor A. A. Will—June 22, 1926)

WILLIAM BLACK, *Chairman*  
WILLIAM HEYBURN. (Resigned July 21, 1926)  
GEORGE M. EADY  
FRED FORCHT  
GEORGE W. HUBLEY, *Acting Secretary*  
WILLIAM S. SPEED. (Appointed July 21, 1926)  
MAYOR A. A. WILL

Louisville Bridge Commission. (Appointed by Mayor Joseph T. O'Neal)

WILLIAM BLACK, *Chairman*  
GEORGE M. EADY  
FRED FORCHT  
GEORGE W. HUBLEY, *Acting Secretary*  
WILLIAM S. SPEED. (Resigned September 30, 1927)  
TOM B. DUNCAN. (Appointed November 28, 1927)  
MAYOR JOSEPH T. O'NEAL

Louisville Bridge Commission. (Appointed by Mayor William B. Harrison)  
(This Commission, sworn in March 24, 1928, undertook the actual financing, construction and operation of the bridge)

WILLIAM BLACK, *Chairman*  
GEORGE M. EADY  
FRED FORCHT  
TOM B. DUNCAN  
MAYOR WILLIAM B. HARRISON  
E. H. WEST, *Secretary*. (Appointed May 1, 1928)

##### CONSULTING ENGINEERS

RALPH MODJESKI FRANK M. MASTERS

##### ARCHITECT

PAUL P. CRET

##### OFFICE STAFF

##### New York Office

G. B. WOODRUFF, Principal Assistant Engineer  
G. H. RANDALL, Chief Draftsman  
J. R. KELSEY  
B. J. DIETRICH  
A. ERIC  
Y. L. WANG  
T. KUO  
H. F. TOPPING  
H. G. ALTWATER  
A. HONSVET  
H. F. GAYE  
H. N. TRACY, Secretary  
V. RADIONOFF, Stenographer

##### Harrisburg Office

C. E. J. MODJESKI, Asst. Engr.  
F. M. GREEN, Chief Draftsman  
R. M. ANDREWS  
A. A. SIRELSCHIKOV  
F. C. KEIM  
R. E. BUBB  
GEORGE M. GREENE  
E. A. SOURBIER  
M. O. BELLINGRODT  
FLORENCE BURKHOLDER, Secretary  
ANNA WAGNER, Stenographer

##### FIELD STAFF

C. G. MELVILLE, Resident Engineer  
DONALD PATTERSON  
W. C. GORMAN  
J. W. COLPITTS

##### MILL AND SHOP INSPECTION STAFF

JESS H. WILLIAMS, Mill Inspector  
G. A. MILHOLLAND, Shop Inspector  
T. F. WILKINSON, Shop Inspector

LECH YEJESKI, Shop Inspector  
S. R. RUSIACKUS, Shop Inspector  
HARRY ENGEL