CITY OF WICHITA

KANSAS

SPECIFICATIONS FOR

[illegible] BRIDGE ACROSS THE ARKANSAS RIVER AT THIRTEENTH STREET

[illegible]

[illegible], KANSAS, [illegible], 1932.

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INSTRUCTIONS TO CONTRACTORS

1. All bids must be made on the forms to be obtained at the office of the City Engineer, and enclosed in sealed envelopes, directed to C. C. Ellis, City Clerk, and endorsed on the outside of the envelope:

Proposal for constructing the bridge across the Little Arkansas River at Thirteenth Street in the City of Wichita, Kansas.

2. Each bid must be accompanied by a certified check in the sum of three thousand dollars ($3,000.00) to be left in the hands of the City Clerk, subject to the conditions specified in the proposals hereto annexed, as a guarantee of good faith of the bidder until the contract is made.

3. All bids shall state a price for all items enumerated in the schedule, which price shall be in full for all labor and materials required for the complete execution of the work.

4. All prices must be written in words and also stated in figures.

5. The place of residence of each bidder must be given after his signature, which must be written in full. If bids are submitted by a company, all members of the company or partnership must be given in the proposal.

6. The name of the Contractor must be filled in the blank left for that purpose.

7. Two proposals under different names will not be received from one firm or association.

8. The City of Wichita reserves the right to reject any and all bids.

9. Bidders are requested to be present at the opening of bids.

10. Bidders must present satisfactory evidence that they have been regularly engaged in the business of constructing similar concrete structures, or are reasonably familiar therewith, and that they are fully prepared with the necessary equipment, and that they intend to conduct the work to be contracted for, to the satisfaction of the City Commission.

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4000 sq. ft. sidewalk,

per sq. ft.----------

Temporary foot bridge----------

600 cu. yds. fill in approaches,

per cu. yd.----------

3. We hereby agree to enter into a contract within ten (10) days from the date of your acceptance of this proposal and to finish the work on or before July 1, 1932.

4. We further agree to furnish sureties for the faithful performance of the contract, the payment of all materials, labor, machinery, damage to property or persons, etc., as provided in the annexed specifications, which sureties are subject to the approval of your Honorable Body.

5. We have read the attached specifications for the proposed work, have satisfied ourselves by personal examination of the location of the work and understand the nature of the work to be done, and our proposal is based on the conditions and requirements of the annexed specifications, and should the contract be awarded to us, we will execute the work in strict accordance with the annexed specifications.

6. We enclose herewith a certified check in the sum of three thousand dollars ($3,000.00) which shall become the property of the City in case this proposal be accepted by the City or its authorized agents, and the undersigned shall fail or refuse to enter into a contract within the time provided and to furnish the bonds provided for in these specifications.

Dated at Wichita, Kansas, this ____ day of _____, 1931.

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_____

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DEFINITIONS AND GENERAL STIPULATIONS.

1. City. Wherever the word "City" is hereinafter used, the term shall signify the City of Wichita, Kansas, or its authorized officers.

2. Engineer. The word "Engineer" in these specifications shall signify the City Engineer of Wichita, Kansas, or the said person acting either directly or through an assistant or inspector in immediate charge of a portion of the work, limited by the particular duties entrusted to him.

3. Contractor. The word "Contractor" in these specifications refers to the party or parties contracting to perform the work contemplated under these specifications, and they shall at all times be represented by a competent foreman to whom necessary directions may be given by the City Engineer or his assistant or inspector.

4. It is the intention of these specifications to provide for these improvements in a complete, thorough and workmanlike manner. The Contractor to whom the work is awarded shall furnish all material, labor and appurtenances necessary to properly complete the work in accordance with these specifications, and anything omitted herein which may be reasonably interpreted as necessary to such completion, the Engineer being the judge, is to be merged in the price bid for these improvements.

Any reasonable instructions given by the Engineer, either verbal or written, to render a fuller understanding of these specifications or plans, shall be accepted by the Contractor as though they were contained herein.

5. In the prosecution of the work under these specifications, eight (8) hours shall constitute a day's labor, and any Contractor who shall compel or allow laborers or employees to work more than eight (8) hours a day shall be liable to have his contract forfeited; provided, however, that in case of emergency the contractor may by and with the written consent of the State Labor Commissioner allow laborers and employees to work extra time.

The last session of the Legislature enacted a law providing that all laborers or employees on public works contracts shall be paid at the prevailing rate of scale of wages which is in effect in the City of Wichita for the same class of work at the time it is being done.

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6. All work shall be executed in the best and most workmanlike manner, and no improper materials shall be used, but all materials of every kind shall fully meet the specifications, or if not particularly specified, shall be suitable for the place where used and satisfactory to the Engineer.

7. No claims whatsoever shall be made by the Contractor for extra material or work, or for a greater amount of money than is stipulated to be paid, unless some changes in, or additions to the work, requiring additional outlay by the Contractor, shall first have been ordered in writing by the City Engineer. All claims for extra work must be presented to the City Engineer on or before the last day of the month in which the work was done; otherwise all claims therefor shall be deemed absolutely waived by the Contractor and the City shall not be required to allow or pay for the same. For extra work required to be done, which is not covered by the contract, the Contractor will be paid the market value of materials and labor, plus fifteen (15) percent.

8. The City Engineer shall have the right at any time, either before or during the construction of the work, to order any additional work to be done, or to make any changes in the work, and such changes, additions or deviations shall not annul or invalidate the contract, and the Contractor shall not be allowed any extra pay for changes made in the plans, unless such changes are made after the forms have been built in whole or part or unless such changes require more concrete or steel than shown in the original plans.

Should the plans and specifications appear to be contradictory in any part or should there be apparent errors in either, the Contractor must not attempt to adjust the same but must refer the matter to the Engineer for his adjustment.

9. All loss or damage arising out of the nature of the work to be done, or from any detention or other unforeseen or unusual obstruction, or from difficulties which may be encountered in the prosecution of the work or from the action of the elements, shall be sustained by the Contractor, who will be required to replace all damaged work, without cost to the City of Wichita, and deliver it in perfect condition upon completion of the contract.

The Contractor shall upon completion of the work remove all surplus material and debris from the site.

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10. If, in the prosecution of the work, it shall be necessary to dig up, use, or occupy any street, highway or public grounds of said City of Wichita, the Contractor shall erect and maintain strong and suitable barriers, and during the night time, lights such as will effectually prevent any accident or harm to life, limb or property, in consequence of such digging up, use or occupancy of the street, alley, highway, or public grounds, and the Contractor will be held liable for damages which may result therefrom, or which may result from the carelessness of such Contractor, or his or their agents, employees or workmen or assigns. All material and equipment of every kind must be stored within the street space at the approaches to the bridge in such a manner as not to block any entrances to public or private property with the exception that the City owns the property on the west bank of the river south of Thirteenth Street which may be used for storage purposes.

11. Inspectors may be appointed whose duties shall be to point out to the Contractor any neglect or disregard of these specifications, but the right of final acceptance or condemnation will not be waived thereby.

12. The City Engineer shall have the authority to order the dismissal of any employee on the work who refuses or neglects to obey any of his instructions relating to the carrying out of the provisions and intent of these specifications, or who is incompetent, unfaithful, abusive, threatening or disorderly in his conduct, and such persons shall not be again employed on the work.

13. Upon all questions concerning the execution of the work in accordance with these specifications and the measurements thereof, the decision of the City Engineer shall be final.

14. If, at any time during the progress of the work, any rejected material should be found on the site, or any portion of the work being improperly done, such material shall be removed and replaced by proper material and workmanship at the expense of the Contractor.

Notice of any imperfections in the work to any foreman or agent in charge of any portion of the work shall be considered as notice to the Contractor.

15. If the rate of progress and quality of work being done is satisfactory to the City Engineer, he shall file an estimate of the work done and the materials on hand at the end of each calendar month, which estimate shall include the follow-

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ing: All portions of work completed which are a part of the contract as shown by a schedule of prices to be submitted to and approved by the City Engineer and which will amount, as a whole, to the contract price; all authorized and approved claims for extra work; all material on the site which will become a part of the permanent structure insofar as the Contractor files receipted bills with the City Engineer.

Fifteen percent of all estimates will be withheld until the final estimate is made; the final estimate shall be made upon the final completion and acceptance of the work. These estimates, upon being approved by the City Commission, will be paid in cash by the City, provided, however, that no cash payments will be made until February 15, 1932.

16. The Contractor shall perform all the work under the direction and superintendence of the City Engineer of the City of Wichita, and to his entire satisfaction and acceptance. All material to be incorporated in the work, all labor performed, and all appliances, tools and methods used shall be subject to the inspection and approval or rejection of said City Engineer, but the City Commission reserves the right to finally decide all questions arising as to the proper performance of said work, and whether the rate of progress thereon is such as to correspond with the conditions of these specifications, and if the work shall not be begun at the time herein stipulated, or if the rate at which said work shall be performed, shall not in the judgment of the City Commission be such as to insure its progress and completion in the time and manner herein stipulated, or if said work shall be wholly or in part improperly constructed, then to declare the contract for said work forfeited, either as to a portion or the whole of said work, and re-let the same, or to order the entire reconstruction of said work if improperly done, and in such case of default or in any case of default, to adjust the difference of damage or price (if there be any) which according to just and reasonable interpretation of these specifications and the contract as a whole, the Contractor should in the opinion of the said City Commission pay to the City of Wichita for any further failure to commence and prosecute, or to properly construct said work, in all respects according to the conditions hereinbefore specified, or for any other default; and it is hereby understood and agreed for the amount of damages or price determined by said City Commission to be paid to the City of Wichita by said Contractor, in consequence of any default, there shall be applied in payment thereof a like amount of money that may be due and owing to the Contractor on account of said work so far as there may be any such money, and so far as may be sufficient, and if there shall not be sufficient amount retained from said Contractor, then

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in such case the amount to be paid to the City of Wichita in consequence of such default shall be a just claim against the Contractor and to be recovered from him at law, in the name of the City of Wichita, before any court of competent jurisdiction.

In case the said Commission shall deem it necessary to declare any portion of said work forfeited, it is expressly stipulated and understood that such declaration of forfeiture shall not in any manner relieve the Contractor from the covenants and conditions of the contract for said work, but the same shall be and remain valid and binding on the Contractor.

17. No part or the work herein shall be assigned or subcontracted without the written consent of the City Engineer, and in no case shall such consent relieve the Contractor from the obligations herein entered into by the same or change the terms of this agreement.

18. Work shall begin within thirty (30) days of the approval and signing of the contract by the Mayor of the City of Wichita. The Contractor shall complete the bridge ready for use not later than July 1, 1932. Should it appear at any time that the work is not being prosecuted with sufficient rapidity to insure its completion within the time stipulated, the Engineer may notify the Contractor to employ additional help, and should the Contractor fail or refuse to do so within three (3) days thereafter, the Engineer may employ at the Contractor's expense such additional help and procure such materials as may be required to complete the work. Should the Contractor fail to complete the work within the specified time, the Engineer may employ at the Contractor's expense such help as may be required to complete the work.

The Contractor shall erect ready for use the foot bridge which is specified before closing the street to traffic.

19. The Contractor shall furnish a surety bond to the City of Wichita amounting to 50% of all the contract price, which surety bond shall guarantee faithful performance of the contract and shall hold the City harmless in case of damage or injury to property or persons arising from the performance of this contract. He shall furnish surety bond in the full amount of the contract price to the State of Kansas, which bond shall guarantee the payment of all bills for material and wages which may be incurred in the performance of the contract. Both bonds shall be furnished by a bonding company authorized

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countersigned by an agent resident in the City of Wichita who has filed with the City Clerk and the Clerk of the District Court a sufficient and satisfactory power of attorney to act for his company.

If the Contractor is not a resident of Sedgwick County, Kansas, he must appoint in writing an agent who is a resident of Sedgwick County, Kansas, to act for him in the matter of any civil suit which may arise by reason of the contractual relation between the Contractor and the City of Wichita by reason of the performance of the contract and in which the City may become a plaintiff.

20. The City reserves the right to remove the existing steel truss or pay the Contractor cost plus fifteen percent for such removal, cost to include the actual labor expended and fifteen percent to include the cost of equipment and supervision.

The stringers in the existing bridge are to remain the property of the City and shall not be used by the Contractor in the construction of the new bridge. All of the rest of the lumber and material excepting the stringers and the steel truss shall become the property of the Contractor and may be used by him in the construction of the foot bridge or in constructing the new concrete bridge.

Price bid for the complete structure shall include the furnishing of all necessary equipment, labor, and materials necessary for the construction and removal of all cofferdams, the making of all necessary excavation, the driving of all foundation piles, the completion of the concrete structure according to the detail of the plans and specifications, the furnishing and installation of sewers and light fixtures and electric conduit to a point not more than fifty feet from each end of the bridge on each side of the road, and the cleaning up of all debris from the bridge site making it ready for pavement.

Price bid per cubic yard for the item listed as concrete in approaches shall include the furnishing and placing of a concrete base at each end of the bridge necessary to restore the paved approaches to the bridge. The concrete shall be mixed under the same specification as provided for the bridge superstructure.

Price bid for the item listed as steel in approaches shall include the furnishing and placing of such steel as may be required in paving base across the back filling adjacent

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to the abutments. This steel will be straight rods three-quarters of an inch in diameter. Sucker rods will be accepted.

Price bid per square yard for new brick surface shall include the furnishing and laying of a three inch vertical fiber paving brick and pouring the asphalt filler, as provided in the standard specifications for brick pavement on file in the office of the City Engineer. This item will include the surface on the bridge structure itself and as much of the approaches to the bridge as cannot be paved with the brick which are already in place in the street.

Price bid for relaying brick paving surface shall include the taking up, cleaning, and relaying of all of the existing brick surface in the approaches to the bridge, pouring the necessary asphalt, and cleaning up the street. Contractor will be required to prevent the loss of brick in the progress of the construction of the bridge, and such brick as must be replaced by reason of such loss will be paid for at the price bid for relaying pavement.

Price bid per linear foot for combined curb and gutter will include the furnishing of all materials and labor necessary to construct combined curb and gutter at the new elevations and lines at both approaches to the bridge under the standard plans and specifications for the construction of combination curb and gutter which are on file in the office of the City Engineer.

Price bid per square foot for sidewalk shall include the necessary materials and labor for the construction of sidewalk, four inches in thickness, at the approaches to the bridge structure. Sidewalk on the bridge is to be included in the price bid for the complete bridge structure.

Price bid per cubic yard for fill in the approaches will include the furnishing and placing and the necessary tamping, rolling and flushing of the fill necessary to raise the grade of the approaches at both ends of the bridge. Some material will be available from the excavation of the abutments. The rest of it must be of sand which may be obtained from the bed of the river or hauled in from commercial sand pumps.

Price bid for the temporary foot bridge must include the furnishing of all labor and materials, excepting as material may be available from the old bridge, for the erection of a safe and suitable bridge for pedestrian use only,

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at a point far enough north of the new structure to be safe for pedestrian use and not more than one hundred (100) feet north of the north line of Thirteenth Street. The bridge shall have a clear space of six (6) feet between railings, and the railings shall be four (4) feet high, with a top and center girt, and well braced so that they will be safe even under unusual conditions of crowding. The approach shall be carried to a safe and smooth landing at the natural ground elevations at the top of the bank on each side of the river.

SPECIFICATIONS

FOUNDATION PILES

Foundation piles shall be No. 1 straight, round piles, either Cypress, White Oak, or Red Cedar, with small cap area, and full ten inch tips. Piling shall be driven to shale which is at the elevation indicated on the plans and will require piling approximately thirty (30) feet long under the piers and thirty-five (35) feet long under both abutments. Equipment and method of driving the piling must be such that they will be within one foot of the location shown on the plans after being driven, and provided further that no part of any pile be less than six inches from the outside of the concrete footing.

REINFORCING STEEL

1. All reinforcement shall be of approved bars of deformed section and of structural steel grade of new billet steel.

The chemical and physical properties of the steel shall comply with the specifications of the American Society for Testing Materials for new billet steel concrete reinforcing bars.

Finished bars shall be free from injurious flaws, seams, cracks, excessive rust, scale or any other defects.

2. The steel may be tested either on the site or at the mills but the tests shall not prevent the Engineer from rejecting any individual bars that are brittle, cracked or injured in any way.

3. All steel must be accurately placed in position as shown on plans and securely fastened against displacement while concrete is being placed. To secure this the bars shall be firmly wired together at their points of intersection and shall be supported from the forms.

4. When necessary to bend bars, the bending shall be done, without heating the bars, by an approved bending machine.

5. Bars may be spliced where necessary, being lapped for the splicing not less than forty (40) diameters. The main reinforcing bars in the girders may not be spliced. More than one-third of the main reinforcing bars in the floor slab shall be spliced over the same girder.

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CONCRETE

1. The cement used must be Portland Cement of a standard brand, bearing a good reputation. Each sack must have printed upon it the brand and name of the manufacturer and must weigh not less than 94 pounds net. All tests will be made in accordance with the methods proposed by the American Society for Testing Materials. The specific gravity of the cement thoroughly dried shall be not less than 3.1. It shall leave by weight a residue of not more than 8 percent on a No. 100 and not more than 22 percent on a No. 200 sieve. It shall not develop initial set in less than 45 minutes and shall develop final set within ten hours.

2. Aggregate shall be clean, sharp sand such as is produced at the commercial plants in the City of Wichita. It shall have a grading factor of not less than 2.6 nor more than 2.75 as determined by a sieve analysis, using the following screens: 1/4 inch, No. 8, No. 14, No. 28, No. 48, and No. 100. It shall contain not less than ten (10) percent of material retained on a 1/4 inch screen and not less than twenty (20) percent shall pass a No. 28 screen.

3. Concrete in the entire structure, excepting the hand rails, shall contain two (2) barrels of cement per cubic yard. It shall be mixed two (2) minutes after all of the ingredients are in the mixer.

Concrete used in the hand rails shall contain not less than seven (7) sacks of cement per cubic yard of concrete and shall be mixed not less than two (2) minutes after all the ingredients are in the mixer.

4. Not more than five and one-half (5½) gallons of water to the sack of cement, including the water contained in the sand, shall be used in the concrete. Sand shall be weighed, and water shall be measured in a tank equipped with a scale graduated in gallons and fractions thereof. All mixed water contents must be kept right at all times. The mixer shall be equipped with an automatic locking timing device.

5. Concrete may not be deposited under water. Concrete in all footings shall be placed in such a manner that it is deposited in the dry excepting for the initial batches. Water must be pumped from the cofferdams used outside the footings; or by other approved method, care being taken to prevent separation of the cement from the concrete while being placed.

6. The bolts or rods shall be used for internal ties. They shall be so arranged that when the forms are removed no metal

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shall be within one inch of the surface, and the hole shall be rammed, with a suitable punch, full of Portland cement mortar within thirty-six (36) hours after the removal of the forms. Forms for exposed surfaces shall be of planed, matched lumber excepting that the vertical face of the outside girders and all faces of the brackets under the walks shall be lined with Pressdwood Water-Proofed Form Lining. This form lining shall be Grade A 1/8 inch Pressdwood board manufactured by the Masonite Corporation, 111 West Washington Street, Chicago, Illinois, and shall be installed in strict accordance with the manufacturer's specifications. Plans for centering shall be submitted to the City Engineer for his approval.

7. Forms which support the weight of any part of the structure shall not be removed without the special permission of the City Engineer and in no case may they be removed until the concrete has acquired a compressive strength of three thousand (3000) pounds per square inch. (Concrete mixed and placed as herein provided will acquire this strength in seven days in normal summer temperatures.) All square edges shall be bevelled with one inch chamfer strips.

8. Forms shall be removed from all lateral exposed surfaces as soon as possible without damaging the concrete.

9. All exposed surfaces shall be carefully finished by removing all form marks and all porous or rough places filled with 1 to 2 mortar.

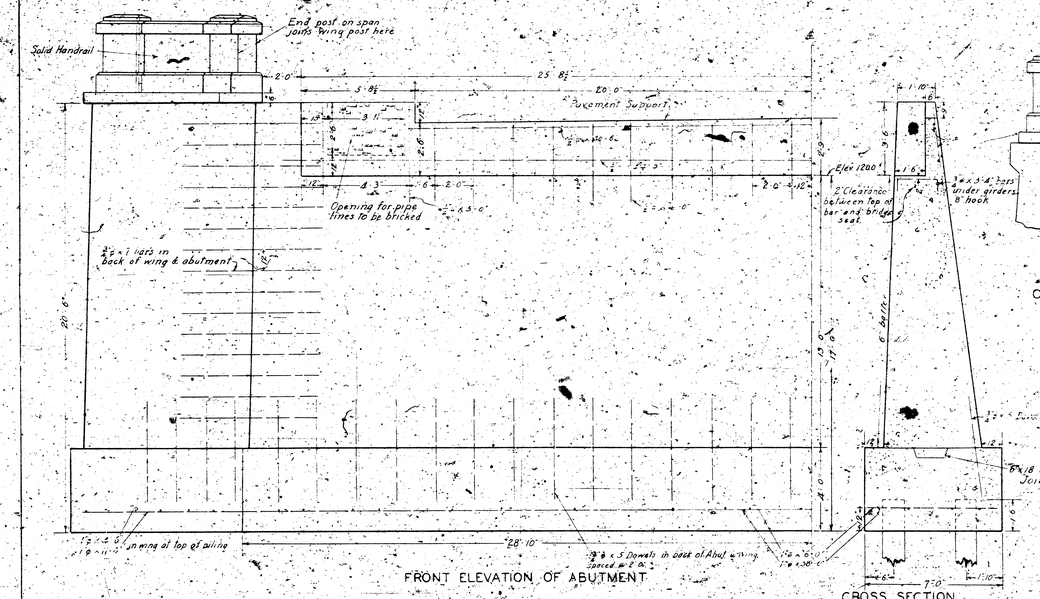
Any concrete that projects beyond the proper surface shall be cut off with a chisel, leaving all surfaces true to line or grade.

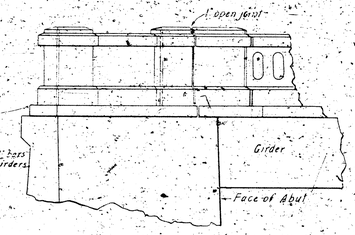
After the surface of the hand rail has been smoothed up to the satisfaction of the Engineer, it shall be given a thin paint coat of neat cement, leaving the surface of uniform color. All of the paint coat shall be removed that it is possible to remove by rubbing with a sack.

10. Concrete shall be well puddled or spaded against all forms and shall be thoroughly puddled around all reinforcing steel. Forms shall be thoroughly cleaned and all debris removed before commencing to place concrete in any section.

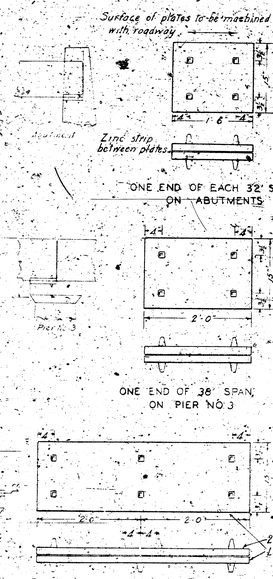
11. Concrete shall be deposited continuously in each span until completed, making construction joints, if any, over

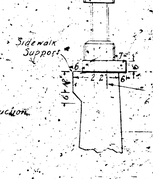
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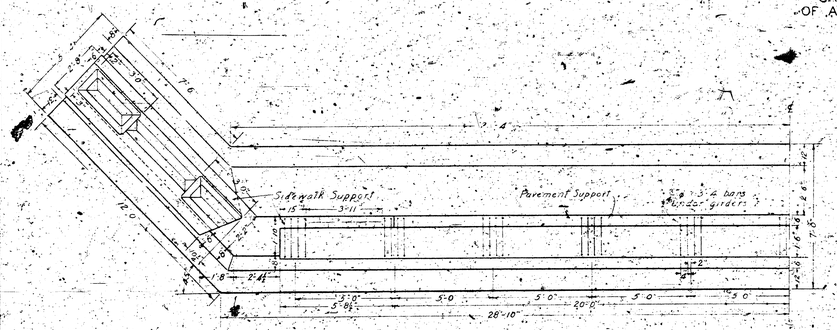
DETAIL SHOWING CONNECTION OF SPAN POST WITH WING POST



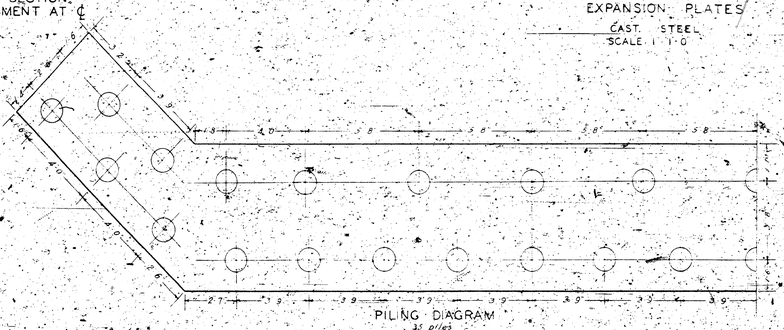


DETAIL END OF WING

EXPANSION PLATES
CAST STEEL
SCALE 1"=1'-0"

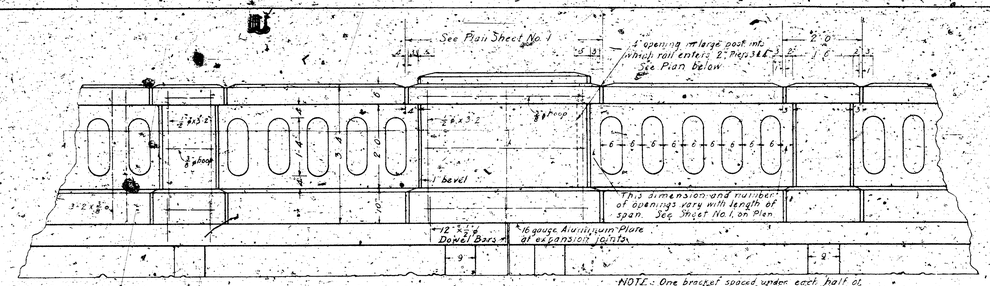


PLAN OF ABUTMENT



PILING DIAGRAM
35 piles

13TH STREET BRIDGE
ABUTMENTS
EXPANSION PLATES
SHEET NO 3 5 SHEETS
SCALE 1"=1'-0"
EXCEPT AS SHOWN

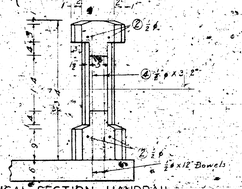


ELEVATION OF HANDRAIL
SCALE 1" = 1'-0"

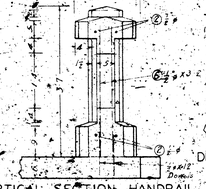
NOTE:- One bracket spaced under each half of main posts and two Brackets to be centered under all intermediate posts. Thickness 3/8"



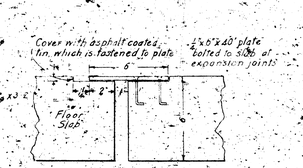
PLAN OF HANDRAIL
SHOWING SECTION A-A
SCALE 1" = 1'-0"



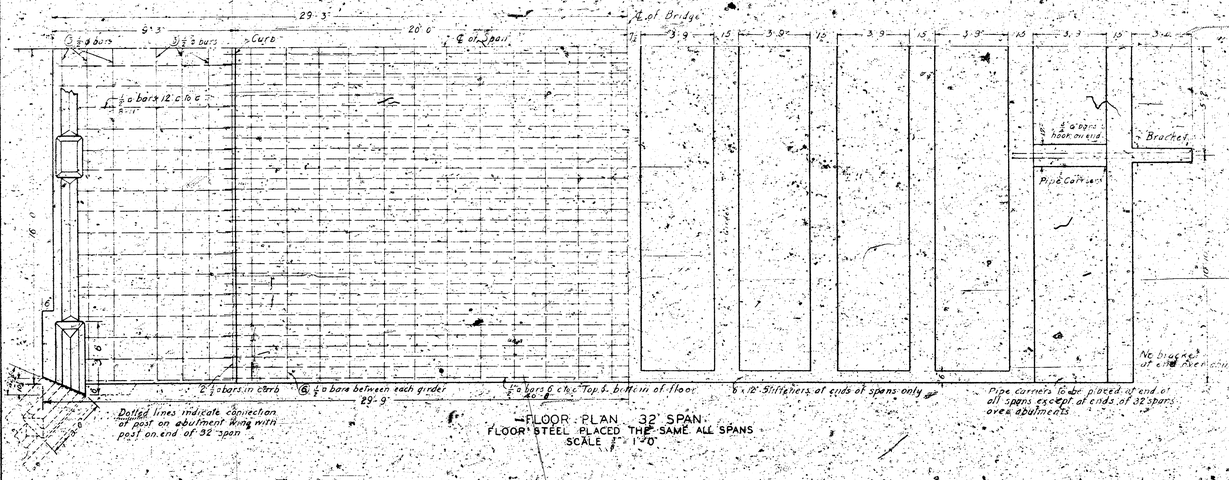
VERTICAL SECTION HANDRAIL
SECONDARY POST
SCALE 1" = 1'-0"



VERTICAL SECTION HANDRAIL
PRIMARY POST
SCALE 1" = 1'-0"



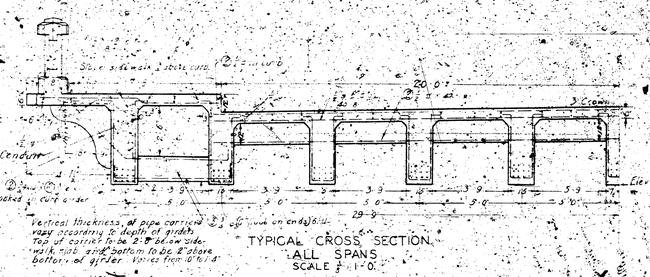
DETAIL FLOOR SLAB CONNECTION
AT EXPANSION JOINTS
Scale 3" = 1'-0"



Dotted lines indicate connection of post on abutment wing with post on end of 32' span

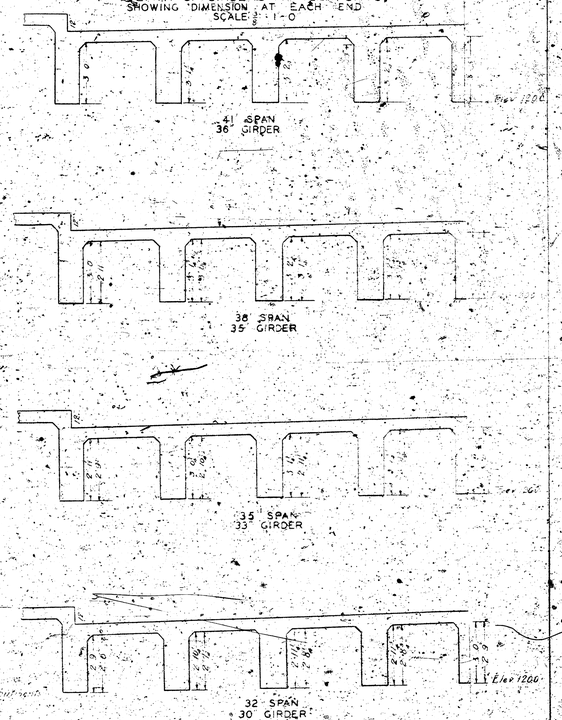
6 - 3/4" ø bars in curb
6 - 3/4" ø bars between each girder
29'-9"
6 - 3/4" ø bars ℄ c to c Top & bottom of floor
6 x 12" Stiffeners at ends of spans only
Pipe carriers to be placed at end of all spans except at ends of 32' spans over abutments

FLOOR PLAN 32' SPAN
FLOOR STEEL PLACED THE SAME ALL SPANS
SCALE 1" = 1'-0"



TYPICAL CROSS SECTION
ALL SPANS
SCALE 1" = 1'-0"

DEPTH OF GIRDERS AT SUPPORTS
SHOWING DIMENSION AT EACH END
SCALE 1" = 1'-0"



13-TH STREET BRIDGE
FLOOR PLAN & CROSS SECTION
DETAIL OF HANDRAIL
SHEET NO. 4 5 SHEETS

32' SPAN

35' SPAN

38' SPAN

41' SPAN

ROADWAY

ROADWAY

ROADWAY

ROADWAY

CURB

CURB

CURB

CURB

SIDEWALK

SIDEWALK

SIDEWALK

SIDEWALK

NOTE: Stirrups bent as shown above Roadway Girders & Curb & Walk Girders

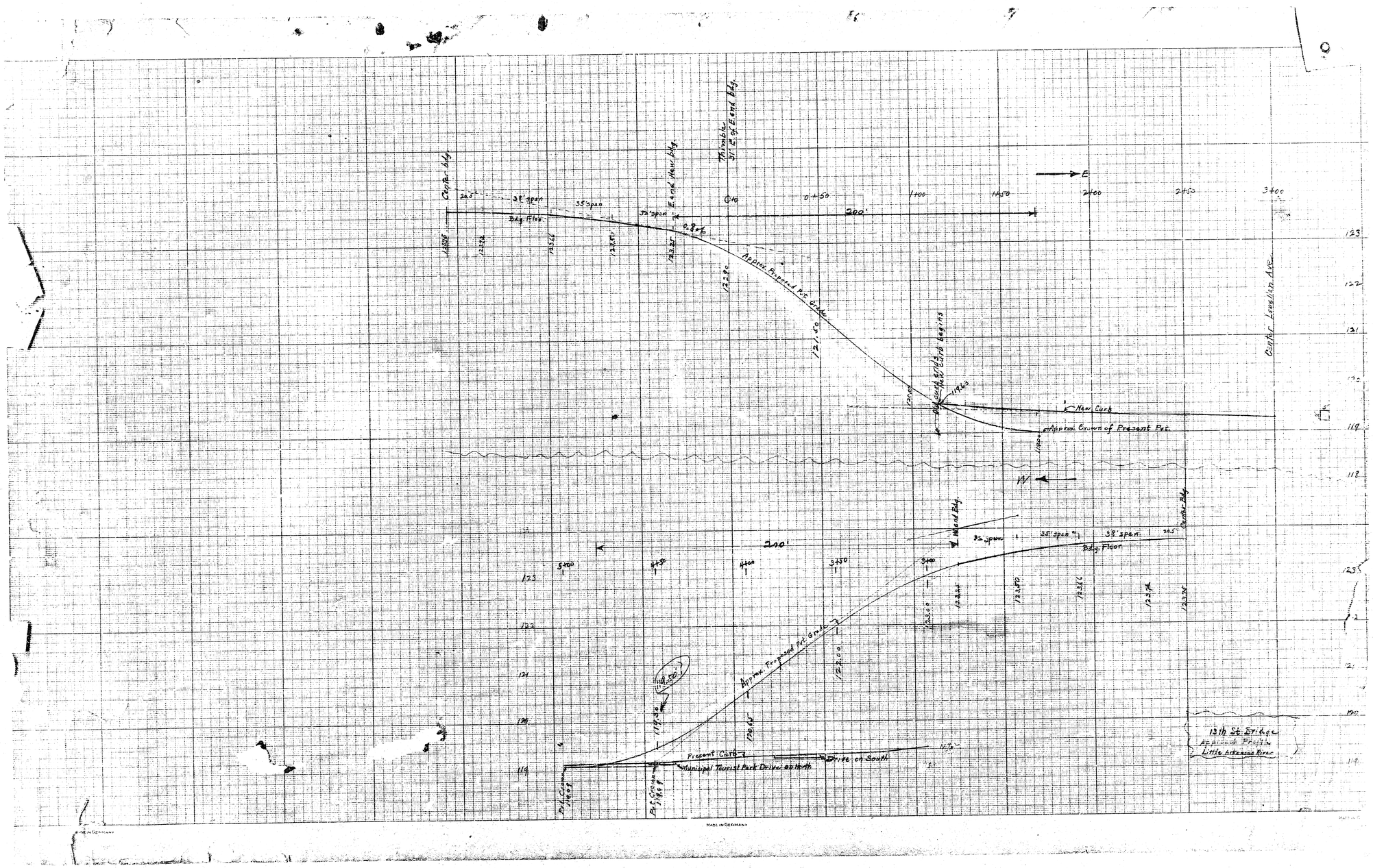
Arrangement of Steel in girder Scale 1"=1'0"

13TH STREET BRIDGE

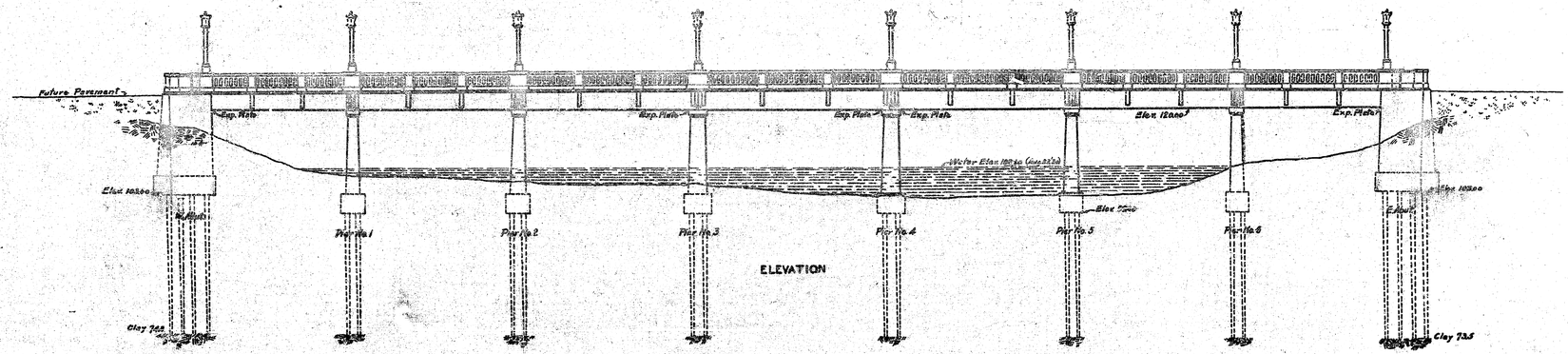
GIRDER REINFORCING

SHEET NO 5 5 SHEETS

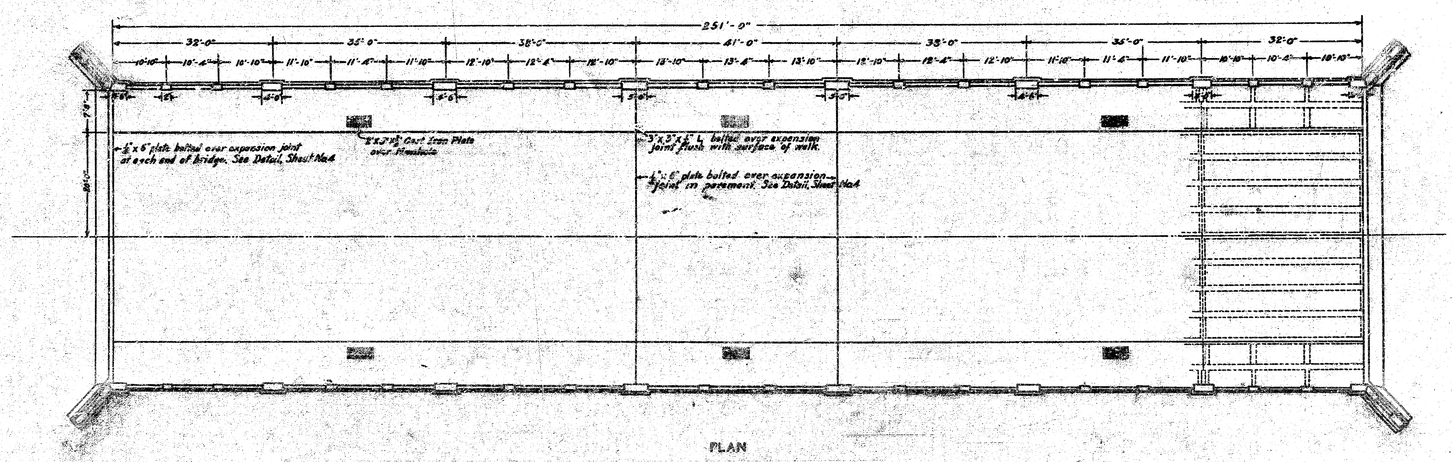
SCALE 1"=1'0" EXCEPT AS NOTED



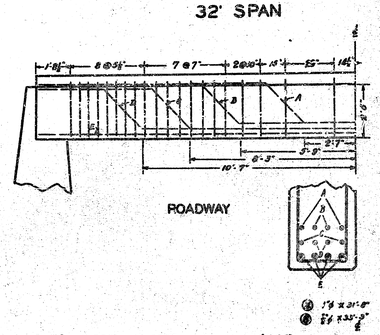
13TH ST. BRIDGE



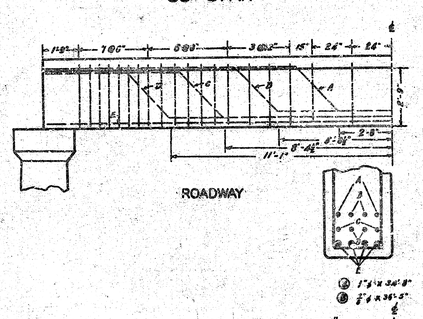
ELEVATION


251'-0"
32'-0"
35'-0"
35'-0"
41'-0"
33'-0"
35'-0"
32'-0"
10'-10"
10'-4"
10'-10"
11'-10"
11'-4"
11'-10"
12'-10"
12'-4"
12'-10"
13'-4"
13'-10"
12'-10"
12'-4"
12'-10"
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11'-4"
11'-10"
10'-10"
10'-4"
10'-10"
5'-0"
5'-0"
5'-0

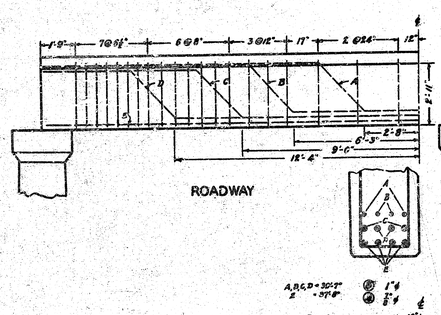
32' SPAN



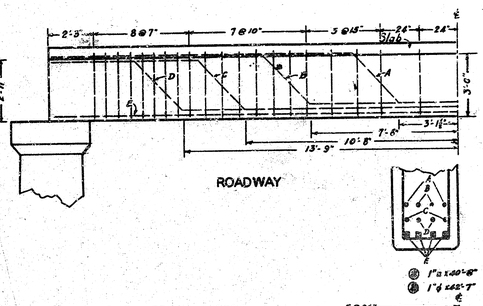
35' SPAN

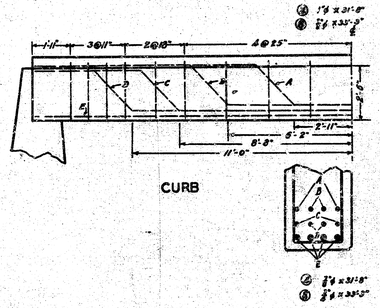


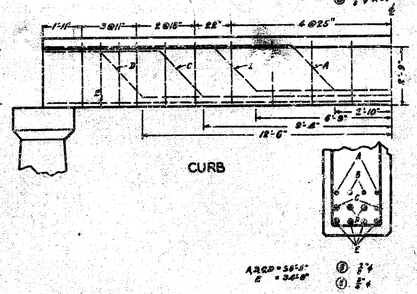
38' SPAN

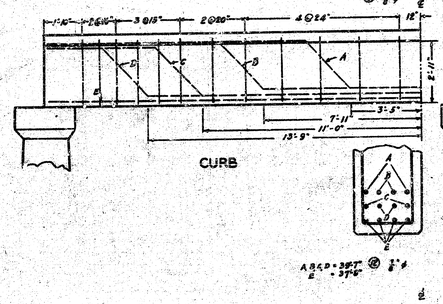


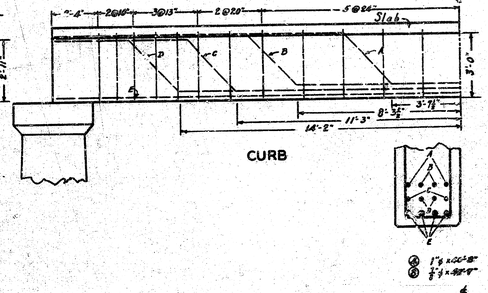
41' SPAN

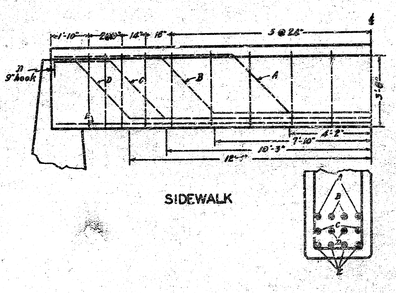


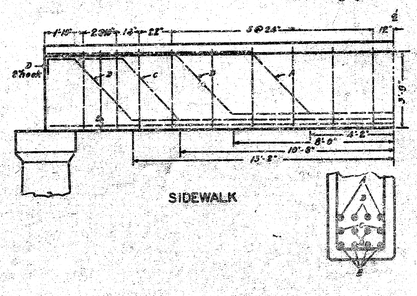


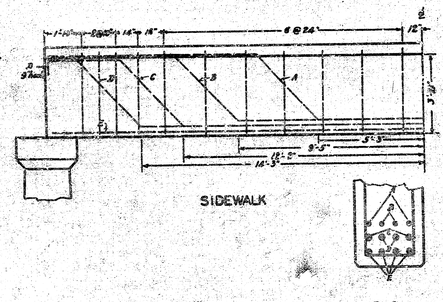


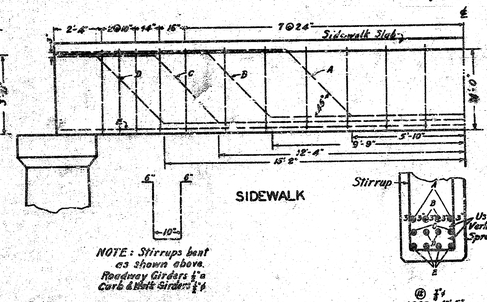








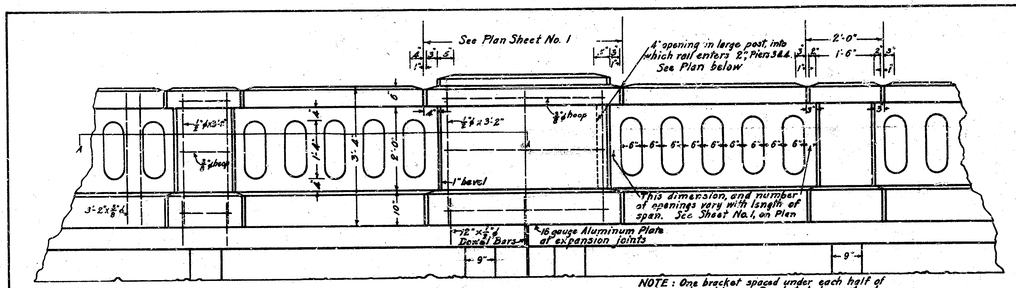




NOTE: Stirrups bent as shown above. Roadway Girders 1"ø Curb & Walk Girders ⅝"ø

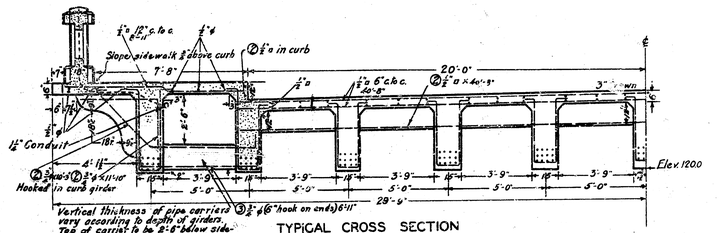
Arrangement of Steel in girder. Scale 1"=1'-0"

13 TH. STREET BRIDGE
GIRDER REINFORCING
SHEET NO. 5 5 SHEETS
SCALE ¼"=1'-0" EXCEPT AS NOTED

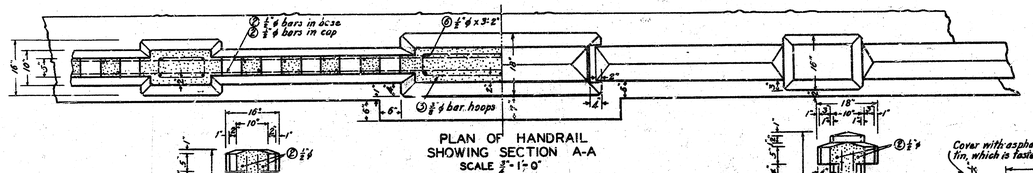


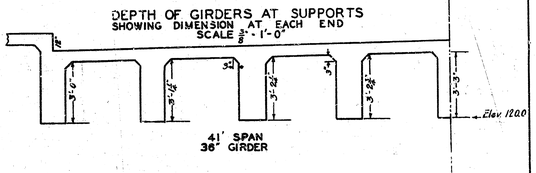
ELEVATION OF HANDRAIL
SCALE 3/4" = 1'-0"

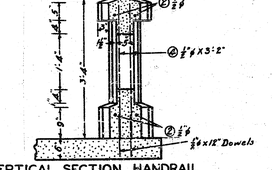
NOTE: One bracket spaced under each half of main posts midway. Brackets to be centered under all intermediate posts. Thickness 9"



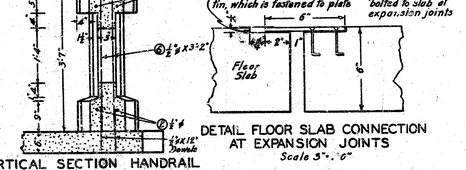
TYPICAL CROSS SECTION
ALL SPANS
SCALE 3/8" = 1'-0"





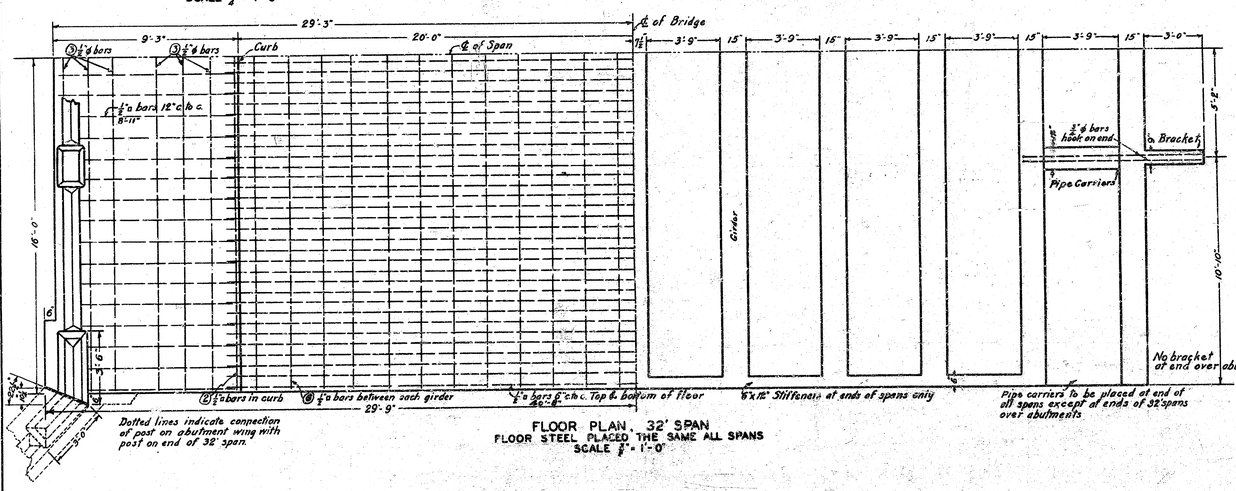


VERTICAL SECTION HANDRAIL
SECONDARY POST
SCALE 3/4" = 1'-0"



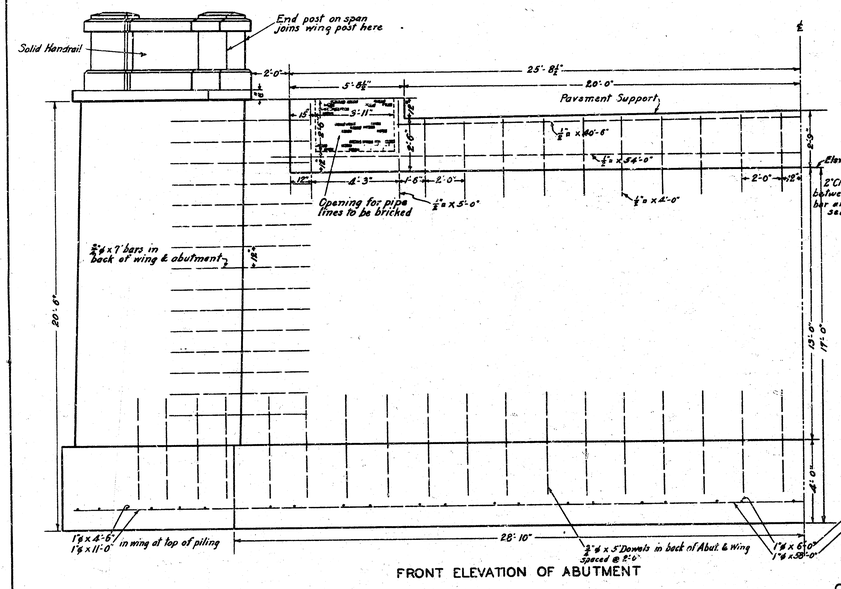
VERTICAL SECTION HANDRAIL
PRIMARY POST
SCALE 3/4" = 1'-0"

DETAIL FLOOR SLAB CONNECTION
AT EXPANSION JOINTS
Scale 3"=1'-0"

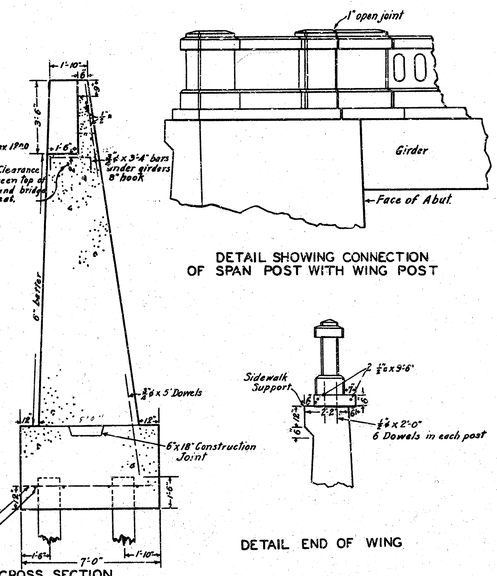


FLOOR PLAN, 32' SPAN
FLOOR STEEL PLACED THE SAME ALL SPANS
SCALE 3/8" = 1'-0"

13 TH STREET BRIDGE
FLOOR PLAN & CROSS SECTION
DETAIL OF HANDRAIL
SHEET NO. 4 5 SHEETS



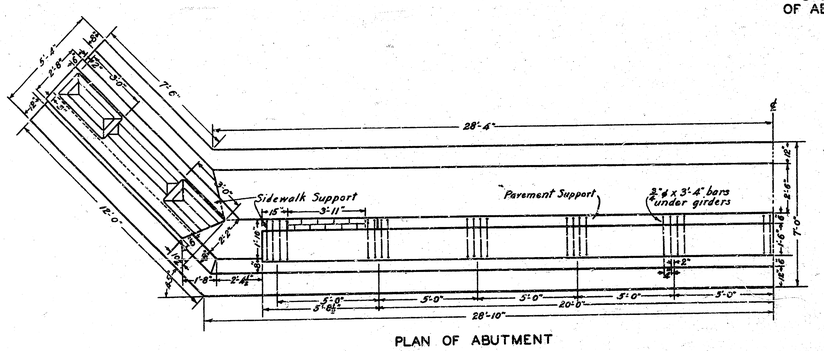
FRONT ELEVATION OF ABUTMENT



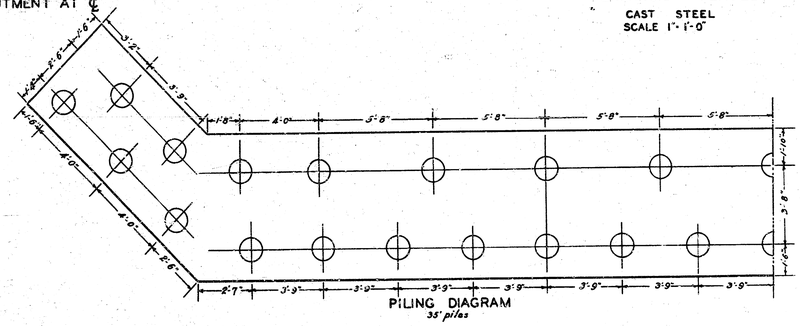
DETAIL SHOWING CONNECTION OF SPAN POST WITH WING POST

DETAIL END OF WING

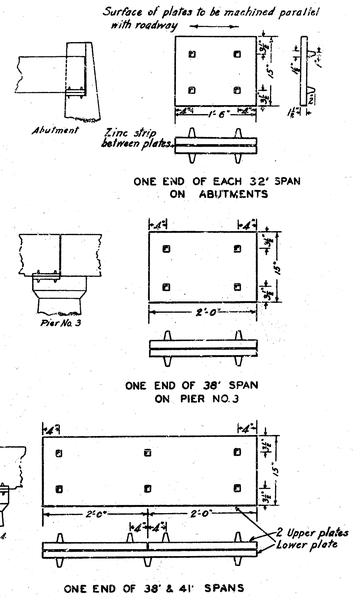
CROSS SECTION OF ABUTMENT AT ℄



PLAN OF ABUTMENT

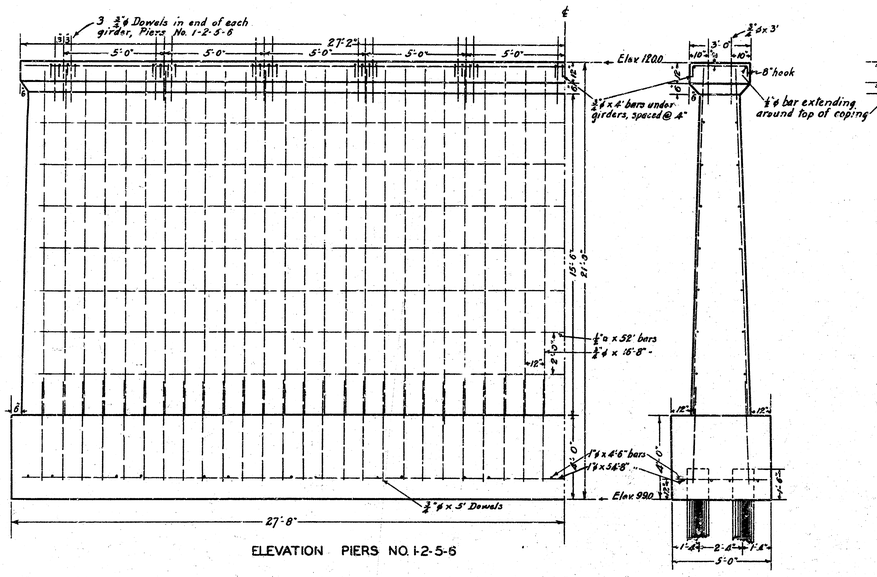


PILING DIAGRAM
35' piles

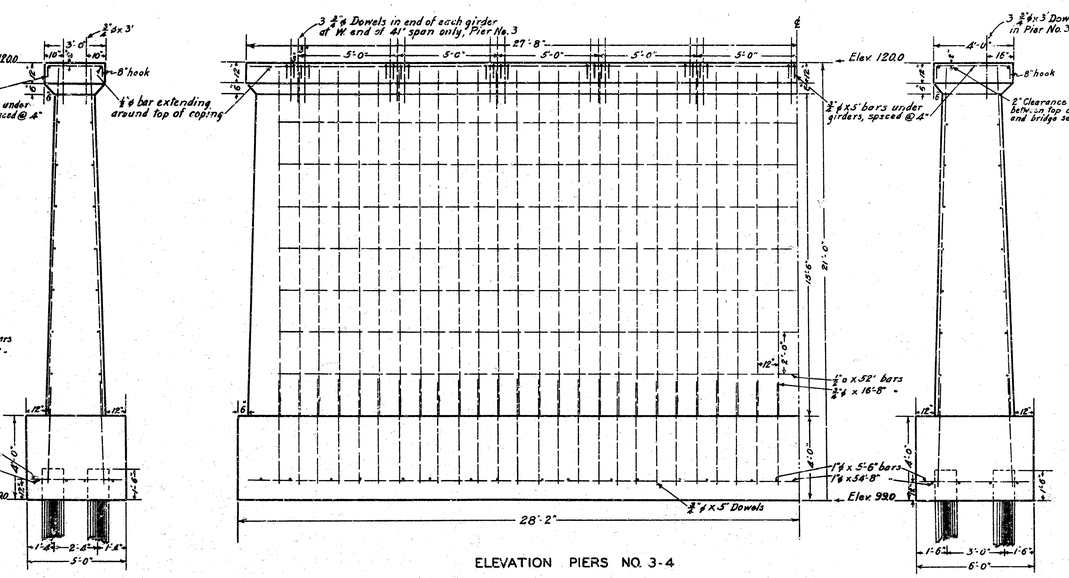


EXPANSION PLATES
CAST STEEL
SCALE 1"= 1'-0"

13 TH STREET BRIDGE
ABUTMENTS
EXPANSION PLATES
SHEET NO.3 5 SHEETS
SCALE 3/4"= 1'-0"
EXCEPT AS SHOWN



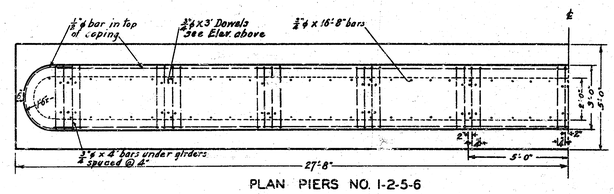
ELEVATION PIERS NO. 1-2-5-6



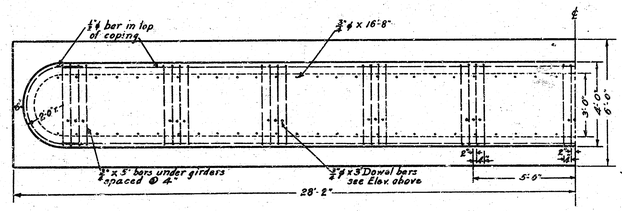
ELEVATION PIERS NO. 3-4

END VIEW PIERS NO. 1-2-5-6

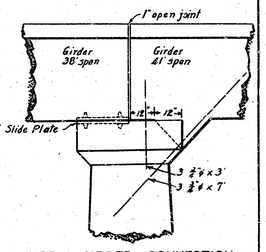
END VIEW PIERS NO. 3-4



PLAN PIERS NO. 1-2-5-6

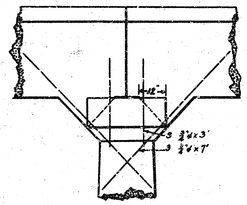


PLAN PIERS NO. 3-4



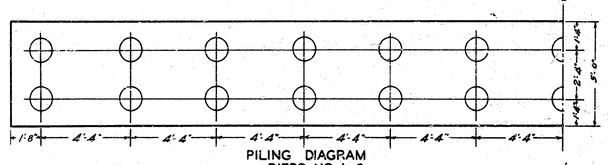
PIER & GIRDER CONNECTION PIER NO. 3

Openings 15" in width to be left in pier as indicated by dotted line, into which girders are to be cast in place.
Scale ½"=1'-0"

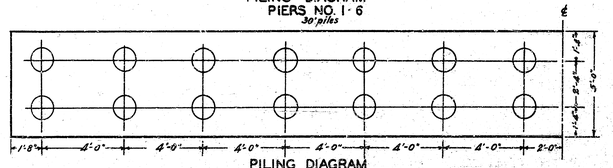


PIER & GIRDER CONNECTION PIERS NO. 1-2-5-6

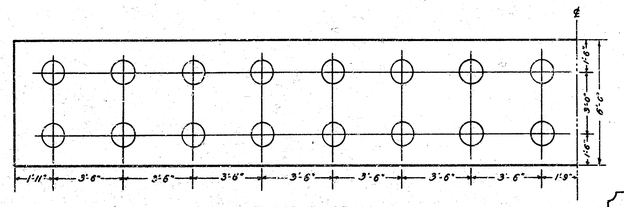
Openings 15" in width to be left in piers as indicated by dotted lines, into which girders are to be cast in place.
Scale ½"=1'-0"



PILING DIAGRAM PIERS NO. 1-6
30' piles



PILING DIAGRAM PIERS NO. 2-5
30' piles



PILING DIAGRAM PIERS NO. 3-4
30' piles

13TH STREET BRIDGE
PIERS
SHEET NO. 2 OF 3 SHEETS
SCALE ¼" = 1'-0"
(EXCEPT AS NOTED)

APPROACH GRADES AT 13TH ST BRIDGE
OVER LITTLE ARKANSAS RIVER

P.L. BROCKWAY CITY ENGINEER

WICHITA KANSAS

APRIL 1932

