

Bridge No. 257-14-03017A
SR 257 over Veale Creek
Daviess County, Indiana

INDOT Des. No. 0100917

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

PHOTOGRAPHS

REDUCED COPIES OF HISTORIC CONSTRUCTION DRAWINGS

April 2012

- Location:** SR 257 over Veale Creek, 1.03 miles south of US 50, Washington Township, Daviess County, Indiana
- Present Owner:** Indiana Department of Transportation
- Date of Construction:** 1938-1939
- Designer:** Indiana State Highway Commission
- Fabricator:** Bergen and Bergen (Franklin, Indiana) with approach work completed by Works Progress Administration (WPA) forces¹
- Significance:** Bridge No. 257-14-03017A is a good example of a second-generation Indiana State Highway Commission steel pony truss structure on the Indiana state highway system. The bridge is one of only a handful of pony trusses remaining on the state highway system and it retains material integrity.
- Project Information:** The recordation of Bridge No. 257-14-03017A was prepared by the Indiana Department of Transportation's (INDOT) Cultural Resources Office (CRO) staff. Written historical documentation was completed by Mary Kennedy and Susan Branigin and photographic documentation was completed by Patrick Carpenter.
- Description:** SR 257 over Veale Creek is located in a mostly rural area in southwestern Daviess County, Indiana. Surrounding land use includes a dense floodplain forest with wetland areas on the east side of the road and prime farmland on the west. No residential properties are located within 1,000 feet of the bridge. The confluence of Hurricane Branch, a large tributary of Veale Creek is located approximately 75' east of the bridge. The closest intersections to the project location are CR 150 S located approximately 0.3 miles north of the bridge and CR 200 S located approximately 0.4 miles south of the bridge.
- SR 257 over Veale Creek is a single span, riveted steel Warren Pony Truss with flat top chords. It has an 84' span that carries a reinforced concrete deck. Metal brackets, in line with the vertical members of the truss, extend perpendicularly to the outside of the truss. The trusses have six panels 14' in width for a total span of 84'. The bridge has a roadway width of 24' and has a total width of 26'-6.5" from center-to-center of the trusses. The distance from the bridge seat to the top chord is 10'. The bridge rests on concrete abutments with concrete wing walls.
- Since its construction in 1938, no significant alterations have occurred to the bridge, with its original design and original materials remaining largely intact. Repair work was undertaken in 1977 and 2009. In 1977, repairs to the bridge included replacement of the floor slab, cleaning and painting of the steel beams, and installation of guardrails and riprap. In 2009, INDOT posted a load limit of 12 tons on the bridge for safety reasons. The repairs in 2009 were to retrofit the bridge to remove the load restriction, and included bolting steel plates to the bottom cords.

This bridge is being inspected annually due to its deteriorating condition. It has a deficient clear roadway width and deficient load rating. The steel substructure is heavily rusted, and the lower cord/floor beam gussets have section loss and packed rust.

**Historical
Narrative:**

Early Local Settlement and Development

Daviess County is located in the southwestern part of Indiana. It is bounded on the west by Knox County, on the south by Pike and Dubois counties, on the east by Martin County and on the north by Greene County. Daviess County was officially organized on February 2, 1817. The county had originally been part of Knox County, which was established in 1800 as the seat of Indiana's territorial government by the terms of the Northwest Ordinance of 1787. Knox County also included Posey, Vanderburgh, Warrick and Pike counties. Daviess County was named in honor of Captain Joseph H. Daviess, who was killed at the Battle of Tippecanoe on November 11, 1811.²

The topography of Daviess County ranges from hilly in the northeastern corner to more gently rolling and level land in the center and on its western border near the White River. Hilly terrain dominates the county's southern region. The county is drained by numerous creeks that are part of the White River watershed. The soils are both alluvial and sandy, making them conducive to the cultivation of diverse agricultural products, such as corn, grain, cantaloupes and watermelons.³

As elsewhere in southern Indiana, most of the early settlers in Daviess County came from the "Upland South," which consisted of the states of Virginia, West Virginia, Tennessee and the Carolinas. As the population grew, out of necessity, so did the transportation infrastructure on the local and state levels. Much of this growth was resultant of Indiana's Internal Improvements Act of 1836. By that year, the Vincennes and New Albany Turnpike was routed through the town of Washington in Daviess County.⁴ In 1845, the Wabash and Erie Canal advanced into Daviess County.⁵

As was the case elsewhere in the state, the Wabash and Erie Canal's construction represented an economic boost to the local economy; a canal-associated land office was opened in Washington in 1845. A 23-mile section of the canal, from Newberry to Maysville, was let for contract on June 27, 1849 and cost \$160,000.⁶ During its heyday the Wabash and Erie Canal system helped in the movement of people and goods across the state--as well as in Daviess County—but by 1860, "navigation had ceased south of Terre Haute."⁷

Late Nineteenth and Early Twentieth Century Development

Like many other Indiana counties, from the mid 19th to the early 20th century, railroad development made a major impact on transportation in Daviess County. The advent of the railroad brought with it the improved statewide (and eventually, national) transportation of people and goods (particularly agricultural products) into and out of Daviess County.

By 1870 in Daviess County, the Wabash and Erie Canal had “sold out completely its right-of-way to the railroad.”⁸ The Evansville and Indianapolis Railroad was constructed along the old canal route, and in 1883, it was completed from Petersburg to Newberry. This railroad track, for the most part, was built along the tow path of the former canal.⁹ The Evansville and Indianapolis Railroad line, which ran through Daviess County and Washington, eventually became part of the Big Four/Cleveland, Cincinnati, Chicago & St. Louis (CCC & St. L) railroad, which in turn was absorbed by the New York Central line.

The railroads enabled access to distant markets, and the railroad boom lasted through the early 20th century. The Baltimore and Ohio Railroad was a major line that ran the entire length of southern Indiana and connected the region to the state of Ohio. Additionally, repair shops for this railroad were located in Washington. They were the largest ones in the state at the time of their construction in 1889.¹⁰

During the Depression era, railroads continued to be the primary means of transportation of goods and people, and the advent of World War II increased rail traffic. However, the increasing popularity of the gasoline-powered automobile around the early 20th century completely changed the local road network. The automobile forced improvements to the entire road system. Roads transformed from narrow dirt paths to gravel and then concrete and asphalt. In Daviess County, 325 miles of county roads were gravel or macadam by 1914.¹¹

The Federal-Aid Road Act of 1916 changed the face of road construction across the country, as for the first time, a regular appropriation of federal funding was made to states for road-building activities. This act required each state to, among other things, establish and maintain a state highway department to administer the new funds. Indiana became the last state to establish such a department with the creation of the Indiana State Highway Commission (ISHC) in June 1917.¹²

In September 1917, the ISHC delineated and designated five main market highways. Road No. 5 was a 72.5 mile route that went from Vincennes through Washington and on to Mitchell. Later, Road No. 5 combined with parts of Road No. 4 (from Evansville through Seymour to Lawrenceburg) and became U.S. 50, which is a major roadway through Daviess County.¹³

Historic mapping shows that the stretch of SR 257 on which Bridge No. 257-14-03017A is located has been a transportation route in southwestern Indiana since at least 1876.¹⁴ This section of roadway was taken over by the ISHC on October 16, 1934. It consisted of 15 miles from near the Pike-Dubois County line to the city of Washington.¹⁵

During the Depression, the Roosevelt Administration created New Deal programs to provide jobs for the numerous unemployed people across the country. These programs led to road construction and road improvements across the state of Indiana. Many took the form of Works Progress Administration (WPA; later named Works Projects Administration) projects. In Daviess County, for example, SR 57 was paved in 1936 as a WPA project.¹⁶ The plan sheets for Bridge No. 257-14-03017A indicate that the approach work was completed by WPA forces.¹⁷

Mid-Late Twentieth Century and Early Twenty-first Development

Even before the onset of World War II made construction materials scarce, road building across the country began to decline significantly. In 1941, when the war in Europe started and before the United States had entered the conflict, President Roosevelt had supported reductions in highway funding that was not determined to be essential. The U.S. Bureau of Public Roads, under the direction of the War Department, designated a “strategic network” of 1,143 miles of state highways across the country, and the Defense Highway Act of 1941 provided funding for this network. With its central location, Indiana had several defense plants, military bases, and military-related industries, which meant that a substantial amount of mileage throughout the state was part of the strategic highway network.¹⁸

During World War II, the ISHC’s focus was the preservation and upkeep of existing infrastructure, especially that which supported the movement of war materials and supplies. Very little new construction was undertaken, especially by the ISHC’s Bridge Department which “stressed preservation of structures by repair work, new bridge floors, clearing channels, etc.”¹⁹ ISHC Chairman Samuel C. Hadden also served as the president of the American Association of State Highway Officials (AASHO), and he advocated ramping up highway construction efforts as soon as the war ended.²⁰

After World War II, the ISHC conducted a large-scale study from 1947-1948 of the condition of Indiana’s roads and continued to advocate for massive increases in funding in order to implement the many needed improvements.²¹ In the 1950s and 1960s, the state began planning and construction on the Interstate Road System, but much of southwestern Indiana, including Daviess County was not initially, and still is not, traversed by an interstate. Plans are currently underway for an extension of Interstate 69 from Indianapolis to Evansville, traveling through Daviess County, just east of Washington. Construction has been completed on some sections and is currently on-going for other sections.

Since its formation, Daviess County has primarily been rural and agricultural, and this holds true into the 21st century. Just over 70% of the total acreage of Daviess County is in agricultural use, and the county ranks 25th in land area in agricultural use among Indiana’s 92 counties. Daviess County ranks in the top ten in Indiana in two agricultural production areas: 2nd in turkeys and 9th in wheat.²² Two of Daviess County’s top employers are also agricultural in nature: Perdue Foods, Inc. (turkey processing) and the Grain Processing Corporation (corn-based production).²³

In the 21st century, tourism is also playing a role in the economy of Daviess County, especially as related to the Old Order Amish community. The first Old Order Amish families began settling in Daviess County in the late 1860s. As their population has grown over the decades, many have shifted or supplemented their livelihood from agricultural pursuits to manufacturing and cottage industries, including cabinet-making, quilting, and candy-making.²⁴ Even if not owned by the Amish themselves, several “Amish-related” tourist attractions exist in Daviess County, such as restaurants, furniture stores, candy stores, and quilt stores.²⁵

Steel Pony Trusses in Indiana

The rise and proliferation of metal bridges in Indiana, according to one authority on the subject, was tied to that of the national railroad companies. Innovations brought about by the large railroad companies were not confined to improvements in the number of available rail routes, decreased travel times or to construction innovations like railroad depots, roundhouses, and repair shops. Changes also came in the conveyances that carried the trains themselves.²⁶

Timber truss bridges could not withstand the increasing weight of the train cars, and they were also vulnerable to fires started by the errant sparks that flew from steam engines. These factors necessitated new, stronger construction in the bridges that would carry the rail lines, which in turn led to the proliferation of metal bridge construction in the state. Around the end of the 1880s, iron became the standard construction material for bridges in Indiana.²⁷

Some railroad companies, such as the Baltimore and Pennsylvania, designed their own patented bridge types that were implemented on their lines, while other patented truss designs carried the names of their engineer-inventors. Examples of these truss types are Pratt, Warren, Parker, and Whipple. Engineering science became the rule in bridge design. Trusses were first connected by metal pins and later by rivets.²⁸

The American industrial age coincided and had a symbiotic relationship with the growth of the railroad systems across the nation. Increased need for the production of iron and steel and the introduction of standardized bridge designs and parts gave rise to the production of bridge members at foundries and roller mills. They could be shipped to the construction site and assembled. Additionally, the widespread production and use of metals such as iron and steel decreased their price and made metal bridges more affordable for the local communities that had them constructed.²⁹

The Warren truss, of which Bridge No. 257-14-03017A is an example, is a triangular truss type that was patented by James Warren and Willoughby Monzani in England in 1848. American Squire Whipple was unaware of the Englishmen's patented design when he created his own Warren truss in 1849. The first pinned Warren through truss in Indiana is believed to have been Hendricks County Bridge No. 216, constructed in 1886.³⁰ Even though it was efficient at carrying loads, the Warren truss was not used heavily in the United States in the nineteenth century because of the "extensive wear experienced around the piers at center span. Without counters and often without verticals, the diagonals of the Warren through truss suffered around mid-span from the full impact of stress reversal."³¹

After rivets replaced pins at panel points, Warren trusses gained some popularity, although more so by the railroads than road builders. Additionally, the pony truss form was used more frequently on roads than the through truss form. Through the 1930s and beyond, railroad companies often built all-riveted Warren through trusses, even after the Parker through truss had become the most popular design for highway bridges. The Warren pony truss, however, was a popular choice for roads with moderate traffic where mid-range crossings had to be made.³²

Over the years, metal trusses have been disappearing from the Indiana landscape as deterioration and highway improvements that require roadway widening have resulted in their replacement. The Indiana Historic Bridge Inventory shows that a total of 124 metal pony trusses existed across the state on Indiana's publically-owned roadways in 2010.³³ Of that number, 68 were specifically Warren pony trusses. Of those Warren pony trusses, two were bedsteads, nine had polygonal top chords, and 57 had flat top chords like Bridge No. 257-14-03017A. Of those bridges, only six were located on state highways: three of the polygonal top chord type and three of the flat top chord type. No other examples of Warren pony trusses exist in Daviess County.³⁴

Bridge No. 257-14-03017A

Bridge No. 257-14-03017A, carrying the north and south bound lanes of SR 257 over Veale Creek was built under ISHC Contract No. 1711, which was let on August 31, 1938. The contract included the construction of this bridge and another "twin" bridge on SR 257, Bridge No. 257-14-03016. Bridge No. 257-14-03016 was a similar steel pony truss that carried SR 257 over Aikman Creek, 5.63 miles south of US 50 (it was replaced with a pre-stressed concrete I-beam bridge in 2003). The cost to construct Bridge No. 257-14-03017A was \$19,849.70.³⁵

One bridge historian notes that Bridge No. 257-14-03017A represents a period of transition in which the ISHC made modifications to standard designs from the 1920s:

[The ISHC] first widened the deck and made some of the diagonal and lower-chord members from heavier stock and added battens to the verticals and sway braces. Here the state's design engineers have further stiffened the verticals by lacing together their pairs of angles and also lightened the sway braces by reducing the number and size of their supporting plates. . . The revised standard plan shifted from the traditional latticed guardrails to a heavier post and channel arrangement.³⁶

The members of Bridge No. 257-14-03017A were fabricated as such:

. . .members were shop-riveted into three sections per truss and then "spliced" together with field riveting at erection. The external sway braces share battens with the all-interior verticals--each of two pairs of angles (3.5"x3" Ls) riveted together with lacing bars. Pairs of different sizes of angles--heavier towards the ends (6"x4"Ls) than toward midspan (3.5"x3" Ls)--riveted together with battens supply the diagonals. Both the top and the lower chord members also become increasingly heavy toward midspan. The 10" channels of the top chord grow in weight from 15.3 lbs to 30 lbs. The 10" channels of the lower chord also start at 15.3 lbs and increase to 25 lbs. and in all but the outermost panel have a 7/16" to 3/8" plate riveted to each's [sic] side. The ISHC specified heavy floor beams (33"x132 lb Is) riveted to the verticals above the lower chord. Nine rows of rolled 12"x28 lb Is were attached to the sides of the floor beams as stringers. The floor beams and the stringers together carry the concrete deck. Angles supply the lower sway bracing.³⁷

Bridge No. 257-14-03017A was designed and built in the midst of the Great Depression. It was a time when, despite many people experiencing great hardships and poverty across the nation, road building continued. Sustained work on America's highways was due, in part, to a growing obsession with the automobile. One historian notes that in the decade leading up to the Great Depression, one car existed in Indiana for every four residents.³⁸ During the Depression, Hoosier automobile registrations did not decline very much, and automobile fuel consumption stayed at pre-Depression levels with a rapid increase in the late 1930s. This fervor for motorized transportation, coupled with New Deal programs to put people back to work, resulted in improvements to roadways during the Depression era.³⁹ Across the country, from 1930 to 1940, the amount of surfaced roadways nearly doubled from 694,000 miles to 1,367,000 miles.⁴⁰

The ISHC utilized federal money from a variety of programs to continue road building during the Depression. In 1932, it created a three-part approach for managing federal relief programs:

- (1) adding local miles to the state system—almost 1,500 miles were added
- (2) doing more contract construction, and
- (3) creating day-labor projects.⁴¹

Many roads in Indiana, such as SR 257 in this location, were improved because of their upgrade from local roads to state highways. As the ISHC obtained new jurisdiction and responsibility for more local roadways each year, the need for maintenance and new construction projects continued to grow. As mentioned earlier in this document, the stretch of SR 257 on which Bridge No. 257-14-03017A is located was taken over by the ISHC in 1934.⁴² ISHC survey crews visited the project site in August 1936 with the ultimate purpose being the “relocation and improvement of SR 257.”⁴³ Its designation from a local road to a state highway necessitated a physical and material upgrade.

The existing bridge at the site was a Pratt pony truss that only possessed a roadway width of 13'-8". It was described by the surveyors as being in “poor” condition overall.⁴⁴ The survey crew recommended a new “steel beam” bridge with 24' of roadway width because traffic volumes warranted the width increase.⁴⁵ Two long-time local residents reported to the surveyors that the existing bridge was “not adequate.”⁴⁶

In the ISHC report included in the annual yearbook for the State of Indiana for 1939, the presence of many inadequate bridges on the state road network was discussed. A survey of all bridges over 10' had just been updated, and it revealed “over 1,900 such bridges below the present standards of width, strength, and alignment, several hundred of them being in urgent need of replacement.”⁴⁷

The poor condition of so many of Indiana's bridges was even news that was covered by local media in Daviess County. An article from during the time of construction of Bridge No. 257-14-03017A reported the following:

A majority of these obsolete bridges were constructed by counties and townships prior to the establishment of the state highway system, at a time when there were comparatively few automobiles and fewer trucks. These bridges were not designed to carry either the volume or the type of traffic which moves over the state highway system today.⁴⁸

The WPA is probably the most well-known of the New Deal agencies, and it is often identified with roadway projects, in part, because many bridge projects of the era carry a plaque commemorating the WPA involvement. Across the country, the WPA constructed 639,000 miles of roads and streets and 78,000 bridges. Almost half (49.3%) of Indiana's WPA funds were used for roadway and bridge construction. This funding totaled \$182,104,483 from 1935 to 1943.⁴⁹

The work by WPA crews on the part of SR 257 in which Bridge No. 257-14-03017A is located was completed ahead of the new bridge construction. Notations on the bridge plan sheets from June 1938 state that the roadway had already been "graded & surfaced by WPA forces."⁵⁰ In that fiscal year (July 1, 1937 to June 30, 1938), roadway "maintenance and betterment costs" on nearly 71 miles of state highways in Daviess County totaled over \$50,000, with almost \$7,500 coming from WPA funds.⁵¹

One mention of the construction activities for Bridge No. 257-14-03017A was found in available local print media of the time. On January 28, 1939, the *Washington Democrat* reported that the SR 257 Bridge over Aikman Creek was open and that the "new bridge over Veale's [sic] creek on the same highway will be in service within a week."⁵² The new bridge over Aikman Creek apparently made quite an impression as it was described as a "splendid" structure. Both bridges were described as "substantial" and as "monuments to the good administrative work of the State Highway Commission."⁵³

Further improvements to SR 257 were expected to continue through the rest of the year.⁵⁴ In May 1939, mention was found of an "oil treatment" along this stretch of SR 257. The work was to take place from south of Washington through Pikeville in Pike County.⁵⁵ No subsequent mention of the actual completion of Bridge No. 257-14-03017A was found, indicating the bridge was likely opened to traffic with little fanfare.⁵⁶ The ISHC report included in the state's yearbook for 1939 indicates that the contract for the construction of Bridge No. 257-14-03017A was closed out on June 16, 1939.⁵⁷

Little is known about the contractor who constructed Bridge No. 257-14-03017A other than it was Bergen and Bergen of Franklin, Indiana. As part of the studies for the I-69 Indianapolis to Evansville project (Bridge No. 257-14-03017A is located within the Area of Potential Effect [APE] for Section 3), investigations were carried out at the Indiana State Library to find information about this firm. City directories and city and county histories were searched and no reference to this firm was found.⁵⁸ Bergen and Bergen did construct other bridges, including steel through trusses, for the ISHC.⁵⁹ For example, as part of the SR 44 road relocation project in 1940 through Shelby and Johnson counties, Bergen and Bergen was awarded a

contract to construct three bridges, including Bridge No. 044-73-03332A, a Parker through truss carrying SR 44 over Sugar Creek (this bridge is no longer extant).⁶⁰

Summary

Today, the SR 257 Bridge over Veale Creek is a significant example of a second-generation Indiana State Highway Commission-designed steel pony truss. The bridge retains material integrity and is a testament to the bridge design philosophy of this era, but also to the growing network of roads and highway improvements in Indiana's transportation history.

Bridge No. 257-14-03017A is deteriorated, including section loss and packed rust throughout the steel substructure. It has a deficient clear roadway width and deficient load rating for current standards of a roadway of its classification. The bridge is scheduled for replacement with construction beginning in 2012. The purpose of the replacement project is to maintain a safe river crossing and address the geometric and structural deficiencies with the current bridge. The new structure will be an approximately 122' long three-span bridge built on approximately the same alignment as the existing bridge.

Bridge No. 257-14-03017A will be dismantled and stored by INDOT. The bridge will be stored for a period of ten (10) years or until the bridge is removed and reused by a suitable applicant, whichever occurs first.

NOTES

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- ¹ “HB-0363--Indiana State Highway Bridge #257-14-3017A.” Entry in Historic Bridges Section of the Indiana State Historic Architectural and Archaeological Research Database (SHAARD), <https://secure.in.gov/apps/dnr/shaard/welcome.html> (Accessed March 14, 2012) and State of Indiana, State Highway Commission. *Bridge Plans for Spans Over 20 Feet on State Road No.257 Section E*, July 8, 1938.
- ² A.O. Fulkerson, editor, *History of Daviess County, Indiana: Its People, Industries, and Institutions*, (Indianapolis: B.F. Bowen & Co., 1915), 83.
- ³ Fulkerson, 130.
- ⁴ Logan Esarey, *A History of Indiana from its Exploration to 1850*, (Indianapolis: W.K. Stewart Co., 1915), 374.
- ⁵ Logan Esarey, *Internal Improvements in Early Indiana*, (Indianapolis: Edward J. Hecker, Printer, 1912), 145.
- ⁶ Esarey, *Internal Improvements in Early Indiana*, 146.
- ⁷ Esarey, *Internal Improvements in Early Indiana*, 153.
- ⁸ *Daviess County Interim Report: Indiana Historic Sites and Structures Inventory*, (Indianapolis: Historic Landmarks Foundation of Indiana), 1987, xix.
- ⁹ *Daviess County Interim Report*, xix.
- ¹⁰ *I-69: Evansville to Indianapolis, Tier 2 Studies: Historic Properties Report, Section 2, SR 64 to US 5*, October 18, 2005, 51.
- ¹¹ Fulkerson, 133.
- ¹² M&H Architecture, Inc., *Indiana Bridges Historic Context Study, 1830s-1965* (Minneapolis: Mead and Hunt, Inc., 2007), 25-26.
- ¹³ M&H Architecture, Inc., *Indiana Bridges Historic Context Study*, 26.
- ¹⁴ Indiana Historical Society, *Maps of Indiana Counties in 1876*. 1968. (Reprinted from *Illustrated Historical Atlas of the State of Indiana*. Chicago: Baskin, Forster & Company, 1876).
- ¹⁵ *Year Book of the State of Indiana for the Year 1935* (Indianapolis: Wm. B. Burford, 1935), 533.
- ¹⁶ I-69 Section 2 report, 63.
- ¹⁷ *Bridge Plans for Spans Over 20 Feet on State Road No.257 Section E*,.
- ¹⁸ M&H Architecture, Inc., *Indiana Bridges Historic Context Study*, 37.
- ¹⁹ *Year Book of the State of Indiana for the Year 1946* (Indianapolis: Wm. B. Burford, 1946), 1219.
- ²⁰ “Cites Need for Road Construction,” *Shelbyville Democrat*, May 2, 1944.
- ²¹ M&H Architecture, Inc., *Indiana Bridges Historic Context Study*, 39-40.
- ²² United States Federal Highway Administration and Indiana Department of Transportation. *I-69 Evansville to Indianapolis, Indiana Project, Section 3, Washington to Crane NSWC, Indiana, Tier 2, Final Environmental Impact Statement*. Indianapolis: Federal Highway Administration, December 1, 2009, Chapter 4-43
- ²³ *I-69 Evansville to Indianapolis, Indiana Project, Section 3, Washington to Crane NSWC, Indiana, Tier 2, Final Environmental Impact Statement*, Chapter 4-49.
- ²⁴ *I-69 Evansville to Indianapolis, Indiana Project, Section 3, Washington to Crane NSWC, Indiana, Tier 2, Final Environmental Impact Statement*, Chapter 4-6 – 4-7.
- ²⁵ *I-69 Evansville to Indianapolis, Indiana Project, Section 3, Washington to Crane NSWC, Indiana, Tier 2, Final Environmental Impact Statement*, Chapter 4-59
- ²⁶ James L. Cooper, *Iron Monuments to Distant Posterity: Indiana’s Metal Bridges, 1870-1930*, (Indianapolis: DePauw University, et. al, 1987), 4-5.
- ²⁷ Cooper, 7.
- ²⁸ Cooper, 4.
- ²⁹ Cooper, 45.
- ³⁰ Cooper, 84.
- ³¹ Cooper, 84.
- ³² Cooper, 86-87.
- ³³ M&H Architecture, Inc. (for the Indiana Department of Transportation). *Indiana Historic Bridge Inventory: Volume 4: List of Select and Non-Select Bridges*. Minneapolis: Mead and Hunt, Inc., December 2010, Section 1-2.

³⁴ M&H Architecture, Inc., *Indiana Historic Bridge Inventory: Volume 4: List of Select and Non-Select Bridges*, Section 2-13 – Section 2-19.

³⁵ *Year Book of the State of Indiana for the Year 1939* (Indianapolis: Wm. B. Burford, 1939), 769.

³⁶ “HB-0363--Indiana State Highway Bridge #257-14-3017A.” Entry in Historic Bridges Section of SHAARD.

³⁷ “HB-0363--Indiana State Highway Bridge #257-14-3017A.” Entry in Historic Bridges Section of SHAARD.

³⁸ James H. Madison, *The Indiana Way* (Bloomington: Indiana University Press, 1986), 268.

³⁹ Madison, 268-269.

⁴⁰ M&H Architecture, Inc., *Indiana Bridges Historic Context Study*, 31.

⁴¹ M&H Architecture, Inc., *Indiana Bridges Historic Context Study*, 33.

⁴² *Year Book of the State of Indiana for the Year 1935*, 533.

⁴³ State of Indiana, State Highway Commission. Surveyor’s Field Notebook BR No. 975. 257-E-3017 *Veals Creek*, August 1936, 2.

⁴⁴ Surveyor’s Field Notebook BR No. 975. 257-E-3017 *Veals Creek*, August 1936, 7-8.

⁴⁵ Surveyor’s Field Notebook BR No. 975. 257-E-3017 *Veals Creek*, 3-4.

⁴⁶ Surveyor’s Field Notebook BR No. 975. 257-E-3017 *Veals Creek*, 24.

⁴⁷ *Year Book of the State of Indiana for the Year 1939*, 747.

⁴⁸ “Obsolete Bridges on State Highways Factor in Safety,” *Washington Democrat*, February 21, 1939.

⁴⁹ M&H Architecture, Inc., *Indiana Bridges Historic Context Study*, 32.

⁵⁰ *Bridge Plans for Spans Over 20 Feet on State Road No.257 Section E*, July 8, 1938.

⁵¹ *Year Book of the State of Indiana for the Year 1939*, 869.

⁵² “Aikman Creek Bridge Opened,” *Washington Democrat*, January 28, 1939.

⁵³ “Aikman Creek Bridge Opened.”

⁵⁴ “Aikman Creek Bridge Opened.”

⁵⁵ “May Build Newberry Span in 1940,” *Washington Democrat*, May 27, 1939.

⁵⁶ Investigations were carried out at the Indiana State Library, Indianapolis. The *Washington Herald* and *Washington Democrat* for August 1938 – July 1939 were searched.

⁵⁷ *Year Book of the State of Indiana for the Year 1939*, 769.

⁵⁸ Federal Highway Administration. *Documentation of Section 106 Finding of Adverse Effect Submitted to the State Historic Preservation Officer Pursuant to 36 CFR 800.6(a)(3), I-69 Evansville to Indianapolis Tier 2 Study: Section 3, US 50 to US 231, Des. No. 0300379, Federal Project No.: IN10(006)*. Indianapolis: FHWA-Indiana Division, August 19, 2009, Appendix C-3.

⁵⁹ “HB-0363--Indiana State Highway Bridge #257-14-3017A.” Entry in Historic Bridges Section of SHAARD.

⁶⁰ “Contracts for 4 Bridges Let: Awards for Construction on New Road 44 Are Made Public,” *Shelbyville Republican*, September 8, 1940.

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- Federal Highway Administration. *Documentation of Section 106 Finding of Adverse Effect Submitted to the State Historic Preservation Officer Pursuant to 36 CFR 800.6(a)(3), I-69 Evansville to Indianapolis Tier 2 Study: Section 3, US 50 to US 231, Des. No. 0300379, Federal Project No.: IN10(006)*. Indianapolis: FHWA-Indiana Division, August 19, 2009.
- Fulkerson, A.O., editor. *History of Daviess County, Indiana: Its People, Industries, and Institutions*. Indianapolis: B.F. Bowen & Co., 1915.
- Madison, James H. *The Indiana Way*. Bloomington: Indiana University Press, 1986.
- “May Build Newberry Span in 1940.” *Washington Democrat*, May 27, 1939.
- “Obsolete Bridges on State Highways Factor in Safety.” *Washington Democrat*, February 21, 1939.

Appendices

Appendix A – Maps

Appendix B – Copy of 1938 Plans

Appendix C – Copy of 1977 Plans

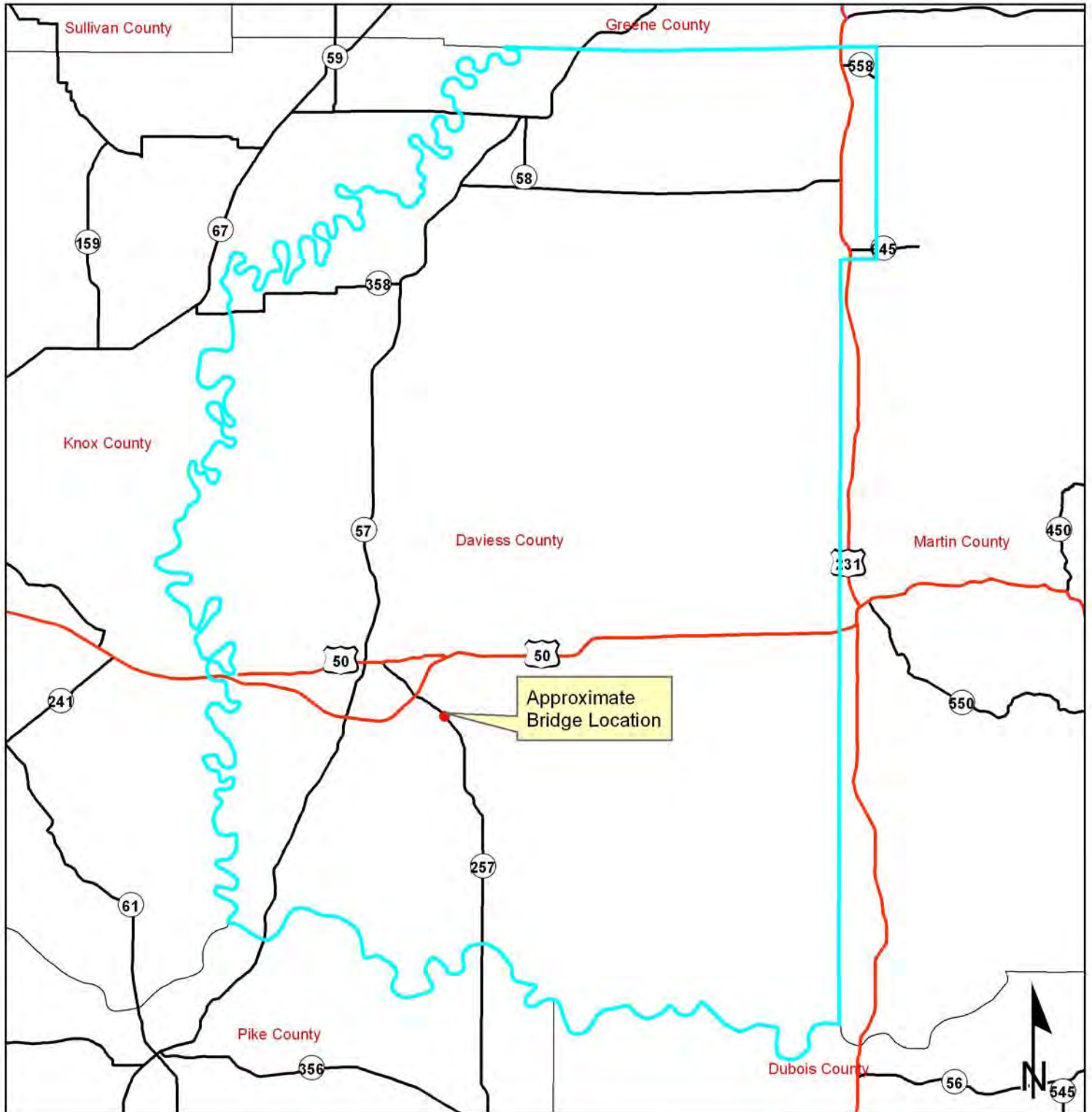
Appendix D – Copy of 2009 Plans

Appendix E – Copy of 1936 Photographs of Project Site

Appendix F – Copy of 2009 Photographs

Appendix A – Maps

**INDOT Des. No. 0100917
Bridge No. 257-14-03017A
SR 257 over Veale Creek
Daviness County, Indiana**

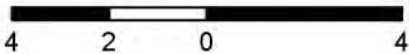


Sources: Non Orthophotography

Data - Obtained from the State of Indiana Geographical Information Office Library

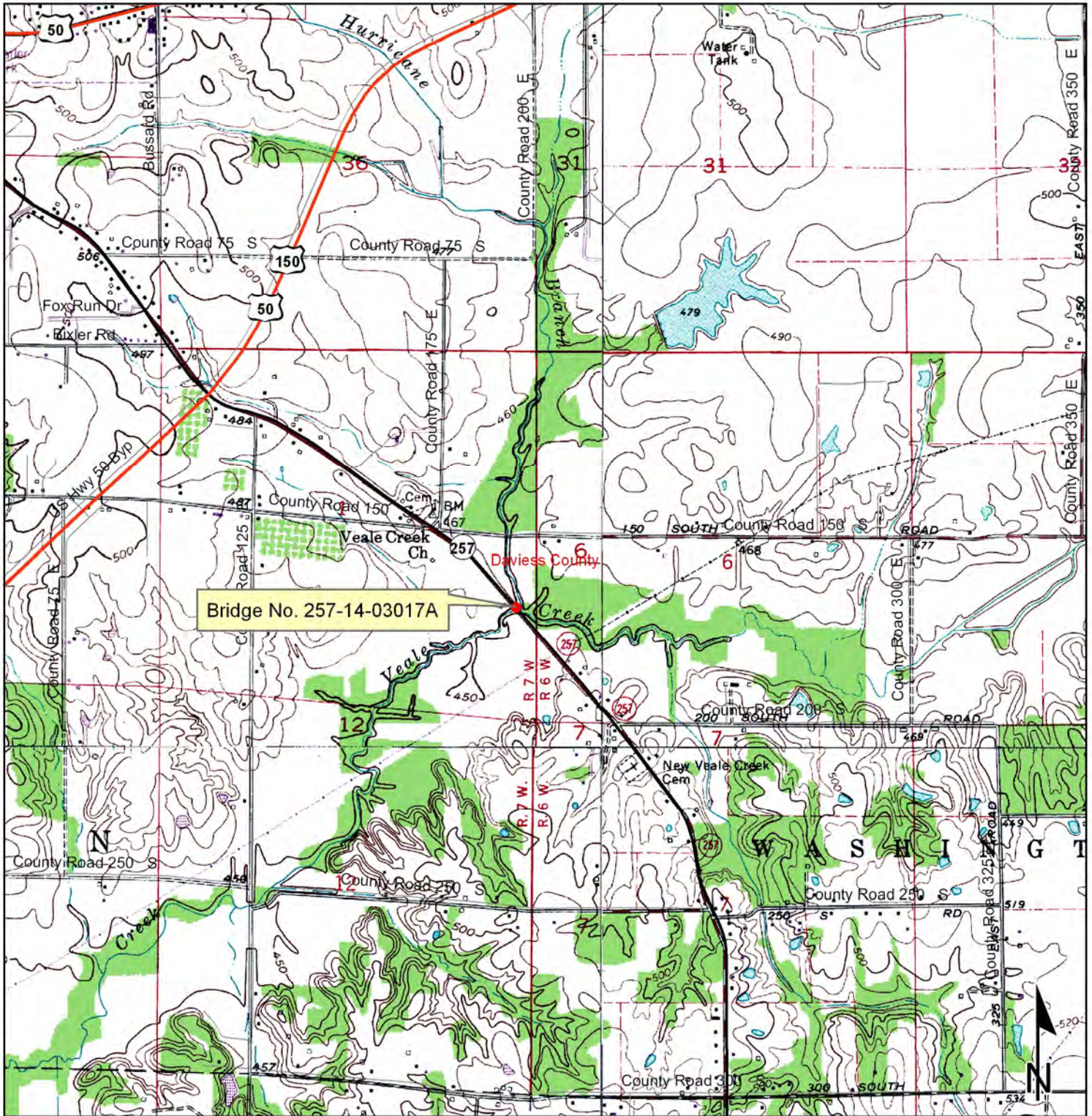
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)

Map Projection: UTM Zone 16 N **Map Datum:** NAD83

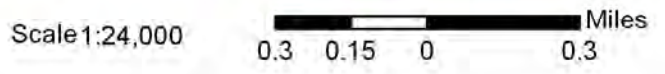
Scale 1:250,000  Miles

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

INDOT Des. No. 0100917
 Bridge No. 257-14-03017A
 SR 257 over Veale Creek
 Daviess County, Indiana



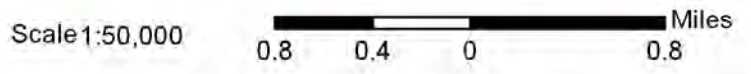
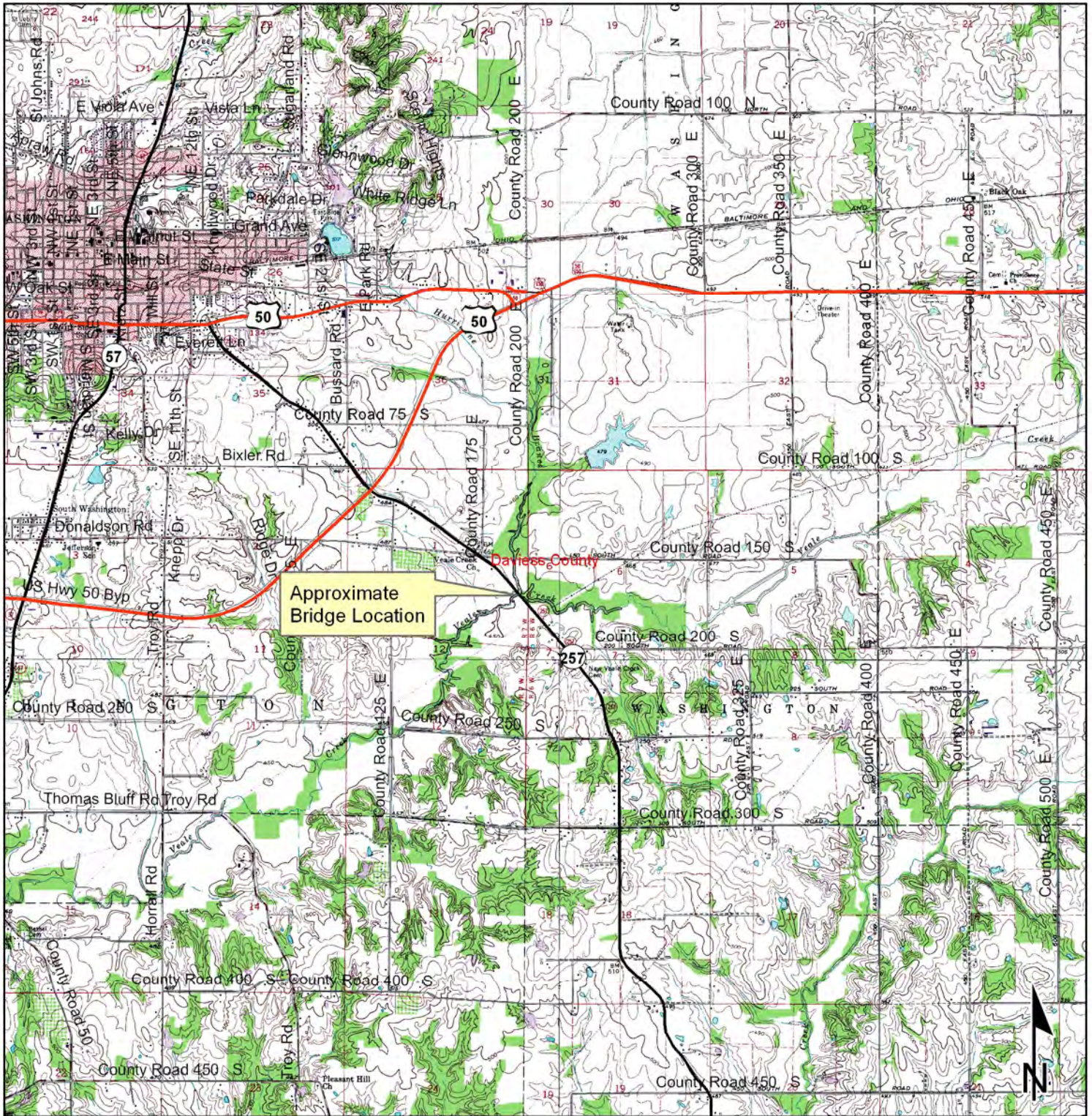
Bridge No. 257-14-03017A



Sources: **Non Orthophotography**
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
 Map Projection: UTM Zone 16 N Map Datum: NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

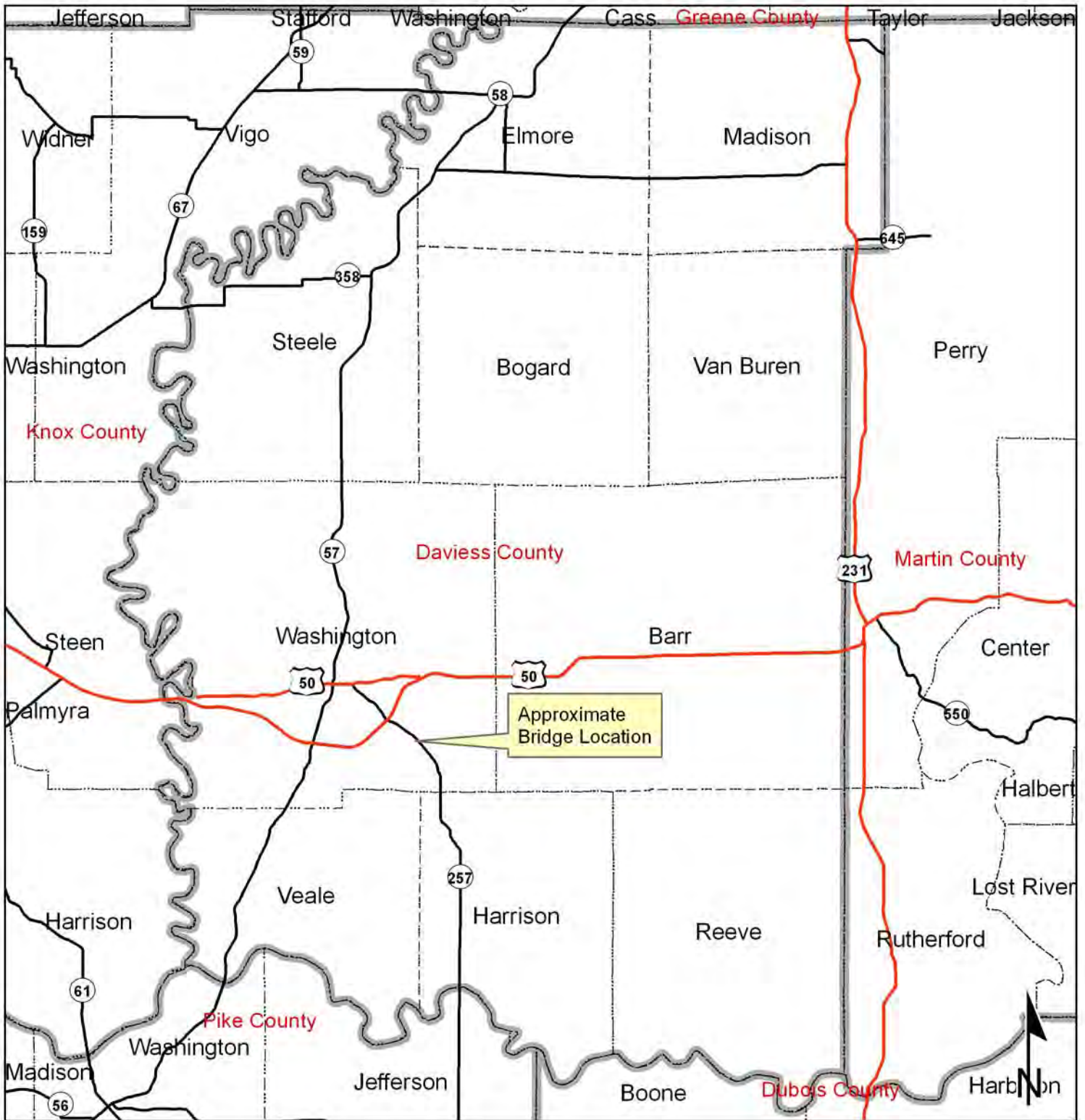
INDOT Des. No. 0100917 Bridge No. 257-14-03017A SR 257 over Veale Creek Daviess County, Indiana



Sources: Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

INDOT Des. No. 0100917
Bridge No. 257-14-03017A
SR 257 over Veale Creek
Washington Township, Daviess County, Indiana



Scale 1:230,084 Miles
3 1.5 0 3

Sources: Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83

This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

INDOT Des. No. 0100917
Bridge No. 257-14-03017A
SR 257 over Veale Creek
Daviness County, Indiana



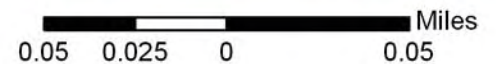
Sources: Non Orthophotography

Data - Obtained from the State of Indiana Geographical Information Office Library

Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)

Map Projection: UTM Zone 16 N **Map Datum:** NAD83

Scale 1:3,333



This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

Appendix B – Copy of 1938 Plans

BRIDGE CONTRACT No. 1711

BRIDGE CONTRACT No. 1711			
1	NOV	1935	10
SECTION E			

STRUCTURE NO.	TYPE	SPAN	STATION	SUBJECT	BRIDGE CONTRACT NO.
1				Index and Title Sheet	
2				General Plan	
3				Elevations for setting Fl. Bars & Deck	
4	Steel Truss	10' 0"	17+02.80	General Plan	
5				Elevations for setting Fl. Bars & Deck	
6				General Plan	
7	Steel Truss	10' 0"	14+44.25	General Plan	
8				Elevations for setting Fl. Bars & Deck	
9				General Plan	
10				Elevations for setting Fl. Bars & Deck	
11				General Plan	
12				Stress and Reaction Diagram	
13				Truss and Steel Details	
14				Truss and Steel Details	
15				Truss and Steel Details	
16				Truss and Steel Details	
17				Truss and Steel Details	
18				Truss and Steel Details	
19				Truss and Steel Details	
20				Truss and Steel Details	
21				Truss and Steel Details	
22				Truss and Steel Details	
23				Truss and Steel Details	
24				Truss and Steel Details	
25				Truss and Steel Details	
26				Truss and Steel Details	
27				Truss and Steel Details	
28				Truss and Steel Details	
29				Truss and Steel Details	
30				Truss and Steel Details	
31				Truss and Steel Details	

STATE OF INDIANA
STATE HIGHWAY COMMISSION

BRIDGE PLANS

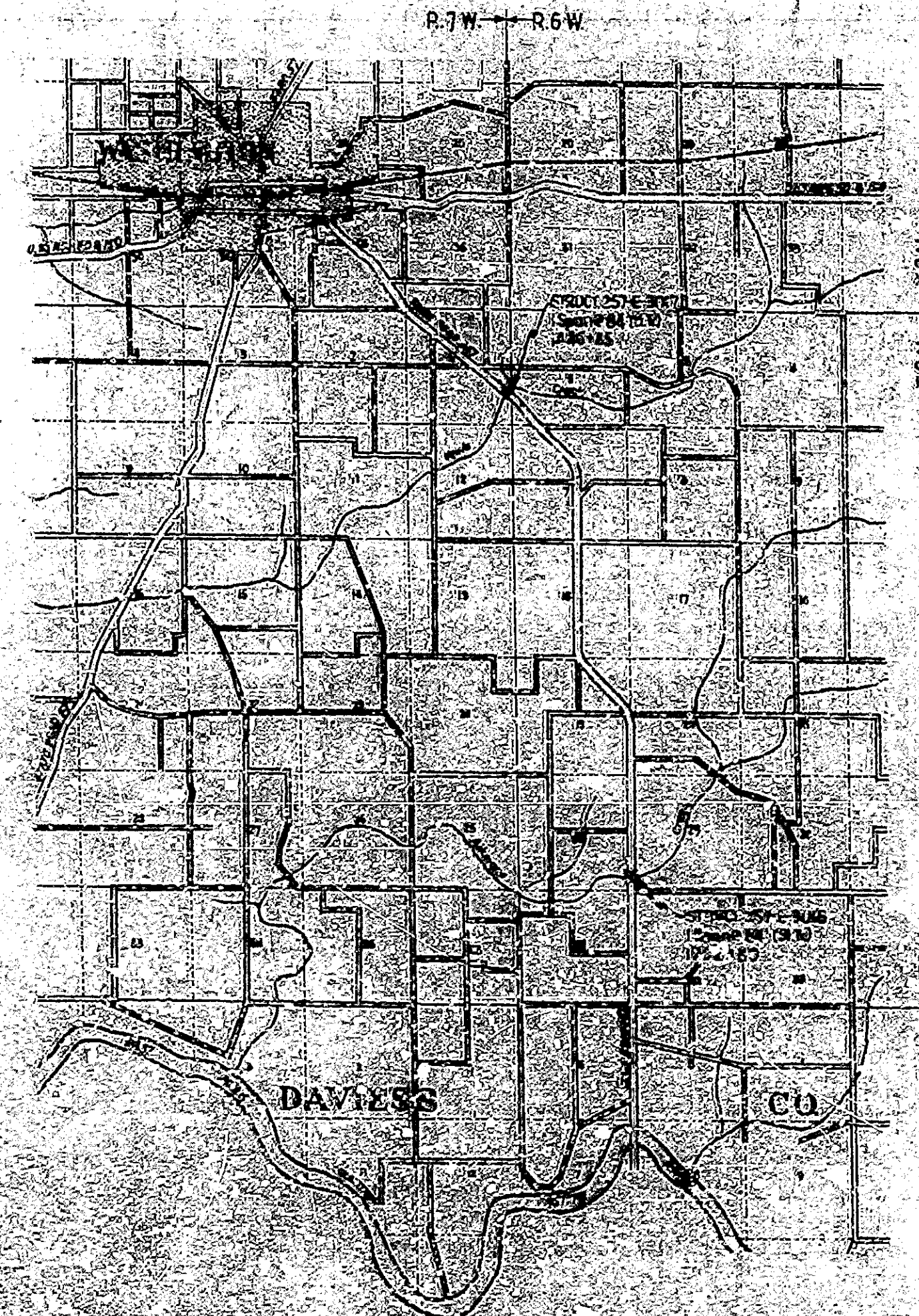
FOR SPANS OVER 20 FEET

ON

STATE ROAD NO. 257 SECTION E

STRUCTURE 257-E-3016 IS LOCATED IN DAVIESS COUNTY ON STATE ROAD 257 APPROX. 0.6 MI. SOUTH OF WASHINGTON OVER RAINBOWS CREEK IN SECTS. 29 & 30, TWP. 2 NORTH, RANGE 6 WEST APPROX. 435 FT. NORTH OF THE SOUTH BOUNDARY OF SAID SECTIONS.

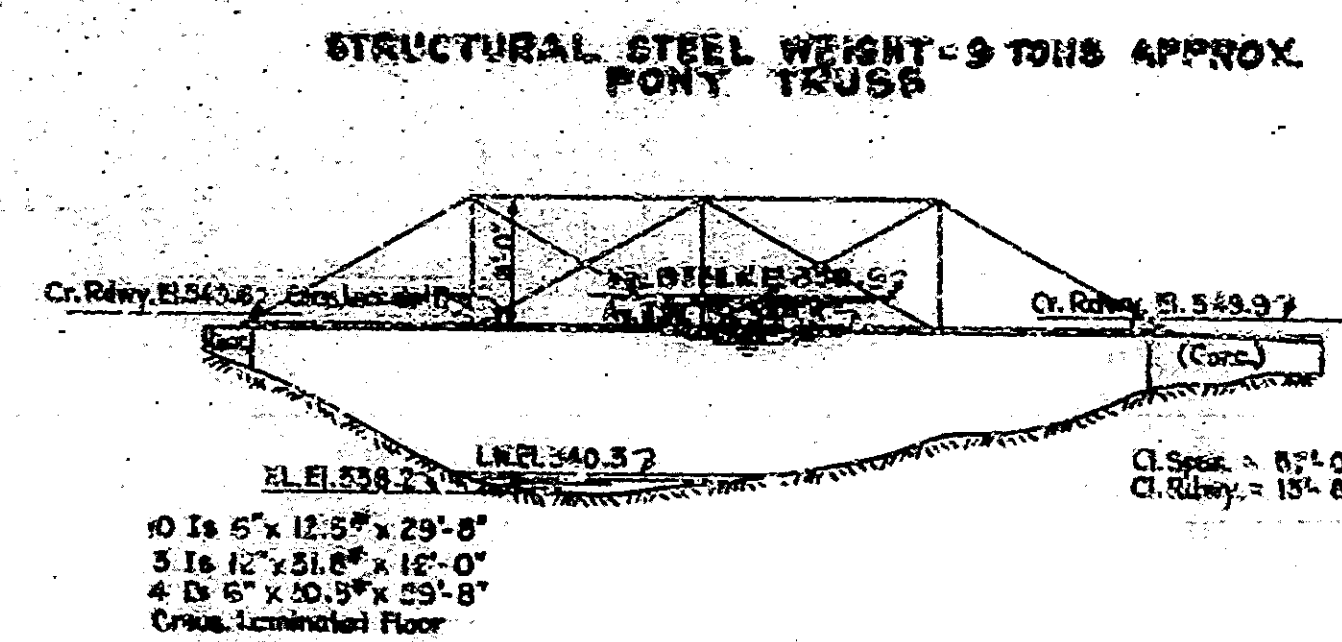
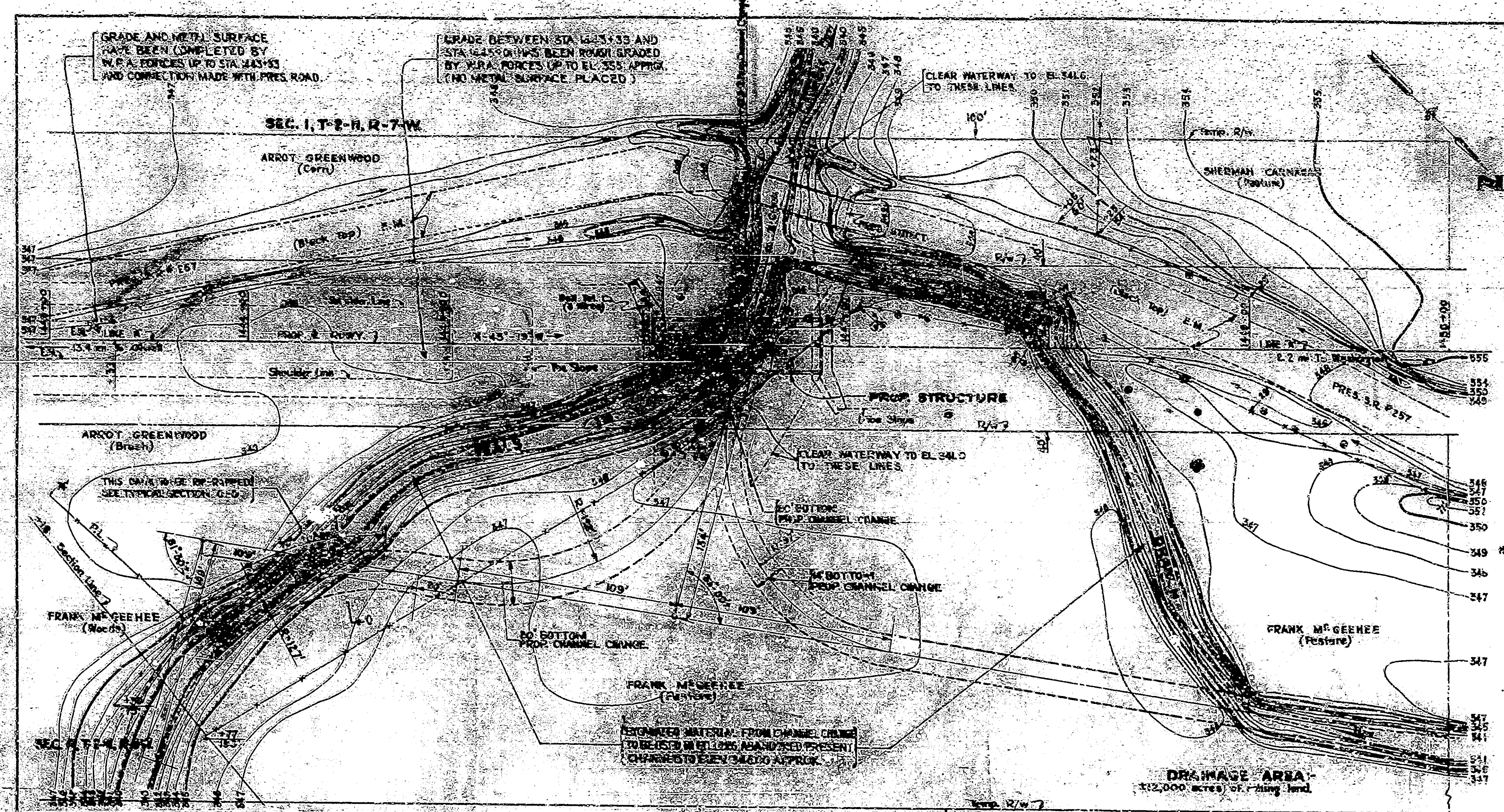
STRUCTURE 257-E-3017 IS LOCATED IN DAVIESS COUNTY ON STATE ROAD 257 APPROX. 2.2 MI. SOUTHEAST OF WASHINGTON OVER VEALS CREEK IN SECT. 1, TWP. 2 NORTH, RANGE 7 WEST, APPROX. 427 FT. NORTHWEST OF THE EASTERN BOUNDARY OF SAID SECTION.



STATE HIGHWAY COMMISSION
BRIDGE SPECIFICATIONS PART 2
TO BE USED WITH 1934 PLANS

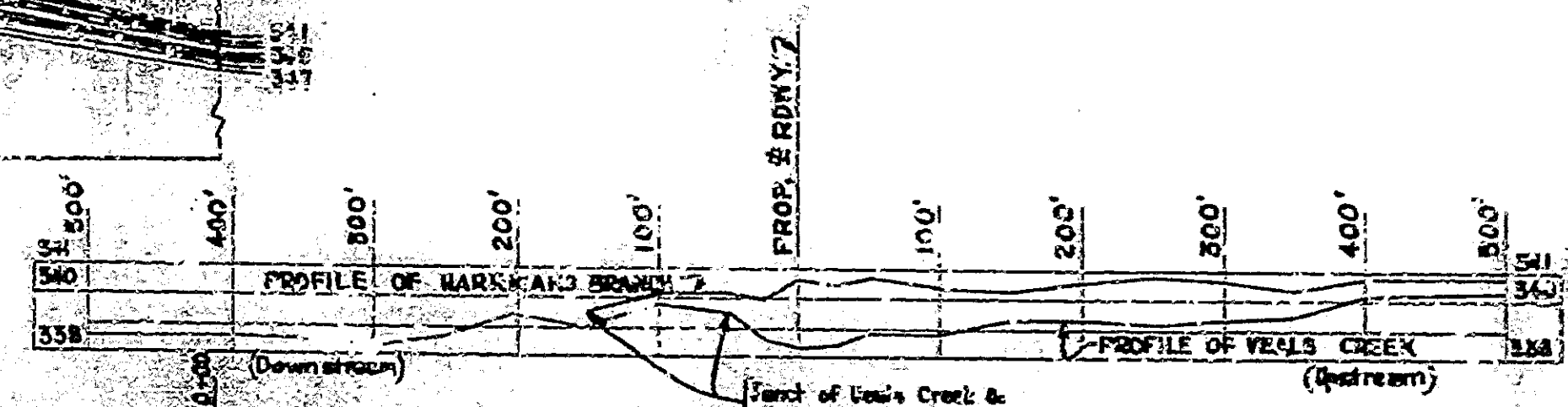
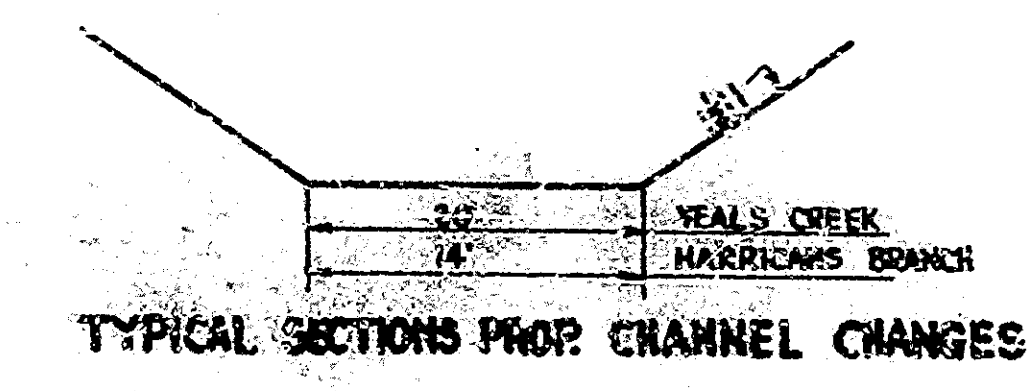
APPROVED JULY 8, 1935
[Signature]

BRIDGES OVER 20' SPAN					
STATE	NO.	YEAR	SPAN	TYPE	TOTAL
IND.	257	1933	8	ST	31



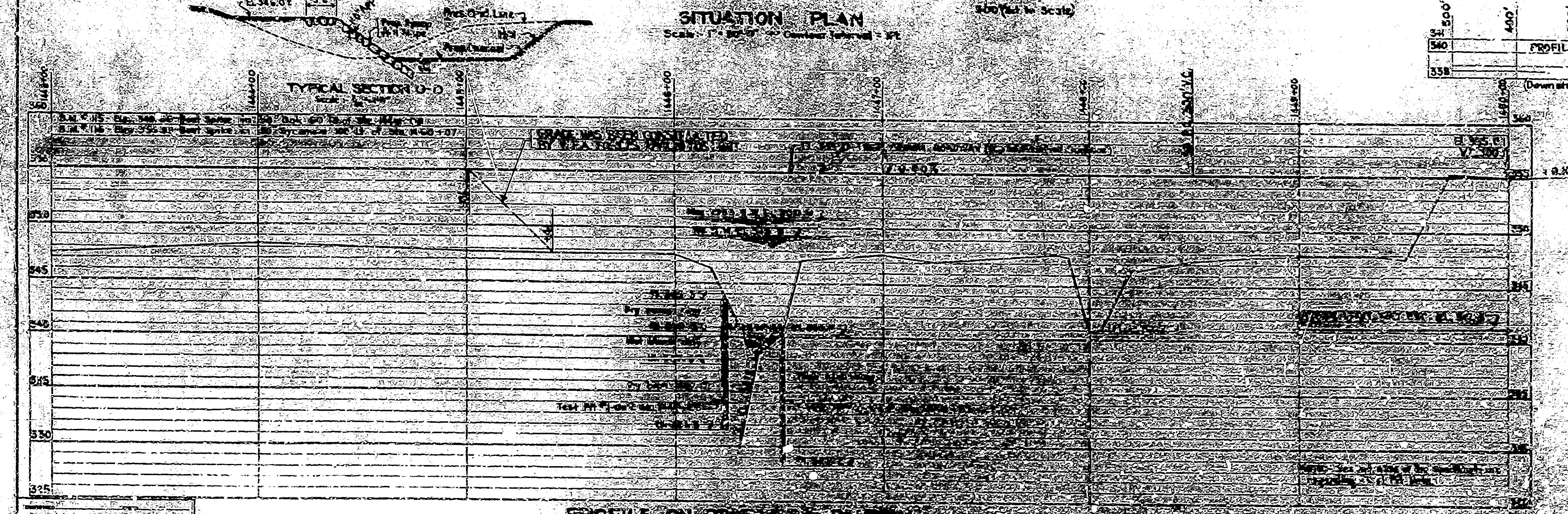
PRESENT STRUCTURE EAST ELEVATION
Scale: 1/8" = 1'-0"

NOTE: SEE ROAD PLAN FOR REFERENCES.



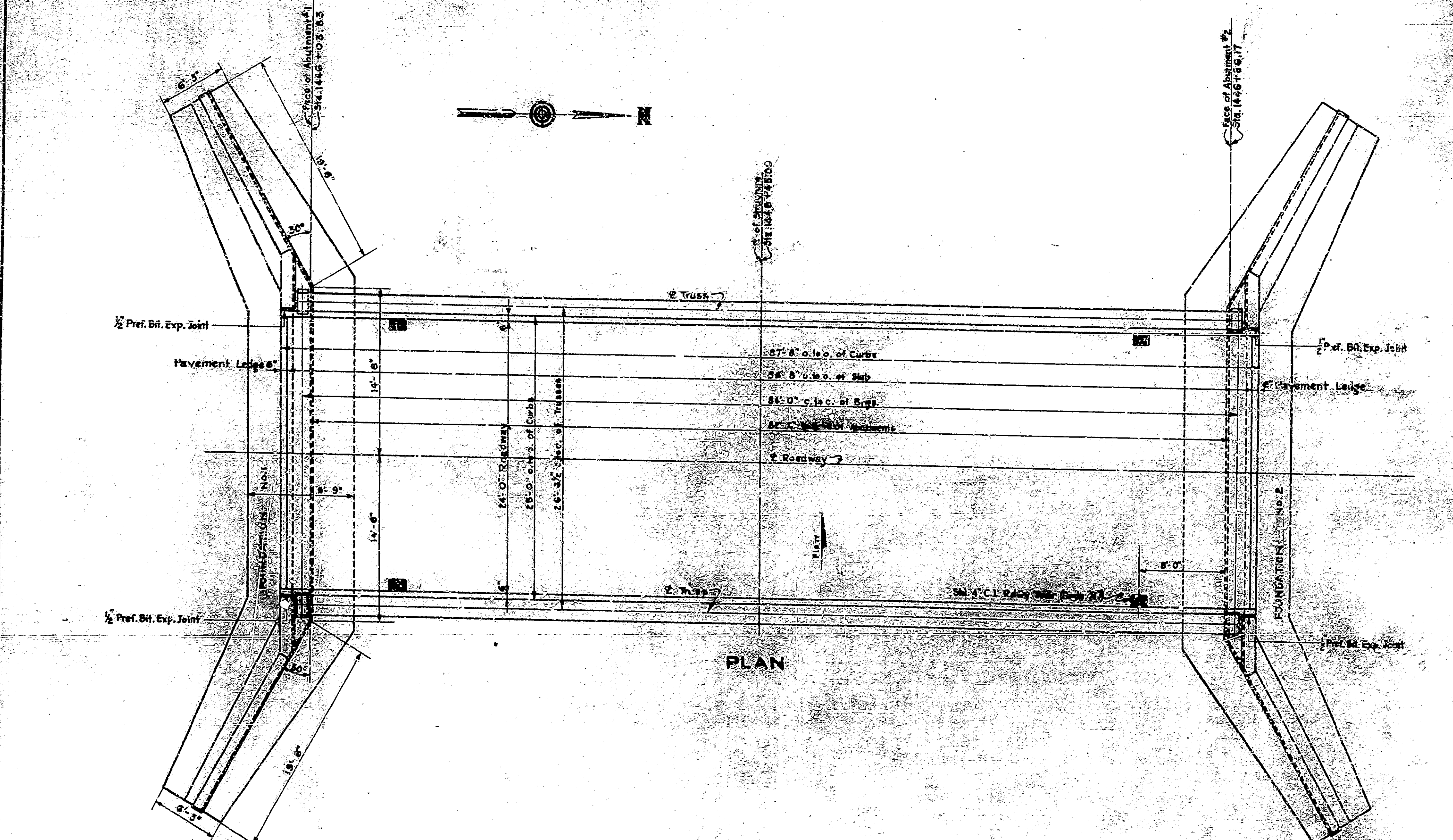
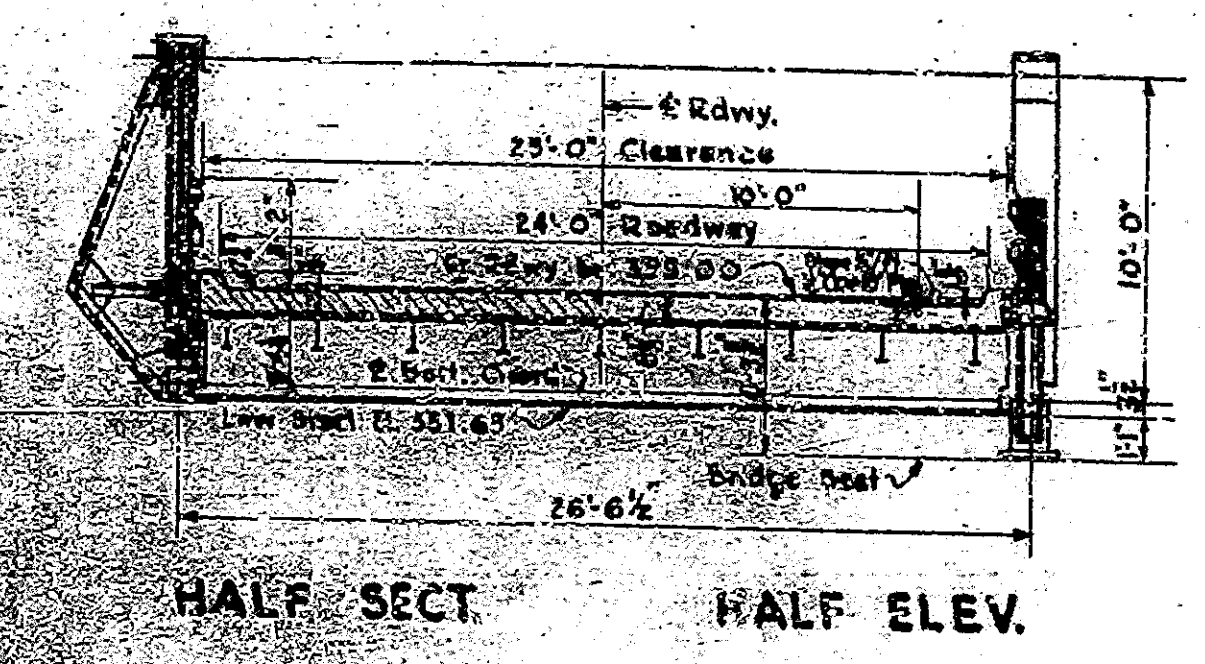
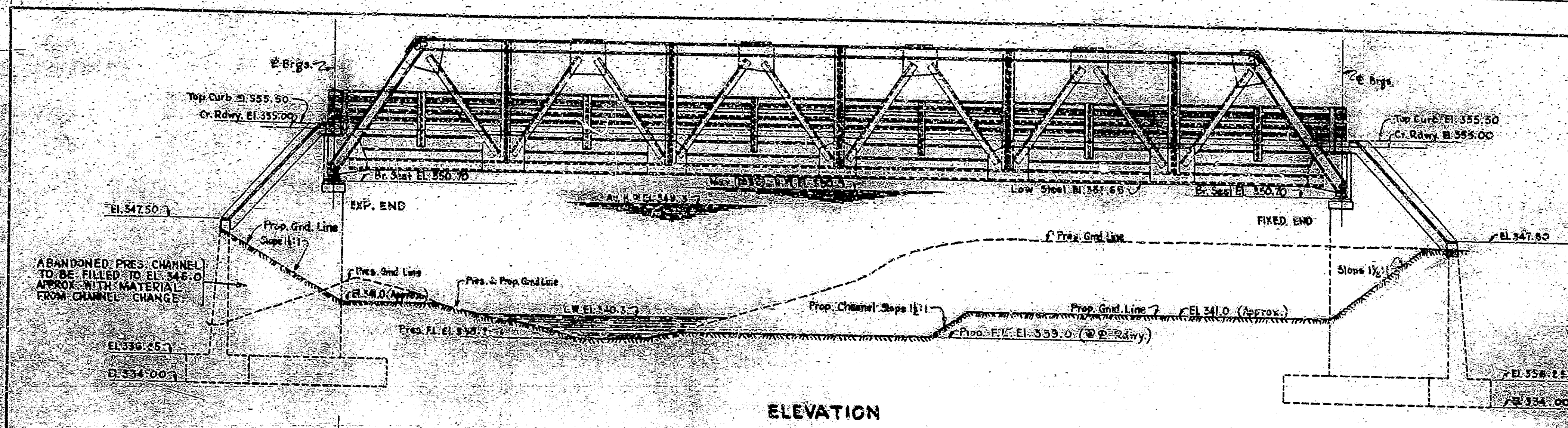
PROFILE OF STREAMS
Scale: Hor. 1" = 100'-0" Vert. 1" = 5'-0"

NOTE: This structure is on Section of Deed 257-E which has been graded & surfaced by U.S.A. forces as indicated. See Road Plan Sheet for Grade Line, Bench Marks, & References.



LAYOUT
STEEL TRUSS BRIDGE
1 SPAN @ 84'-0" OVER VEALS CREEK
24'-0" ROADWAY ON STATE ROAD 257E
STATE HIGHWAY COMMISSION OF INDIANA
DAVISS COUNTY
SCALE: AS NOTED
RECOMMENDED FOR APPROVAL: *[Signature]*
PROJECT: 257 STATION: 14+6.45
SECTION: E STRUCTURE: 103-3017
DRAWING: 51 OF 5
BRIDGE CONTRACT NO. 1711

BRIDGES OVER 30' SPAN					
FED. ROAD DIST. NO.	STATE	PROJ. NO.	SECTION	SHEET NO.	TOTAL SHEETS
7	IND.	257	933	9	31



GENERAL NOTES

Depth of footings to be checked if found necessary. See Art. 69.102 of the Specifications.

Reinforcing steel covering shall be one inch in floor slabs, three inches in footings and two inches in all other parts unless otherwise noted.

Concrete placement contracts and admixtures to be class "B".

Concrete shall be Class "A".

Water proofing shall be applied to all concrete surfaces with specifications.

Reveal from curb to pavement shall be 2 inches.

Unless otherwise specified, all steel shall be A36.

Structural steel shall be painted with zinc rich primer and two coats of red lead.

All dimensions shall be as shown unless otherwise specified. Some are assumed on castings.

See Special Provisions for items included in this contract.

STANDARD DRAWINGS

Superstructure: Use Standard Specifications for Bridges, 24'-0" Span Steel Truss, 20' Roadway, Design No. 400-A, Dated July 27, 1933.

Substructure: Use Standard Specifications for Bridges, 24'-0" Span Steel Truss, 20' Roadway, Design No. 400, Dated June 28, 1933.

TYPICAL CROSS SECTION FOR ROAD PROJECTS

See Road Project No. 2

(Except Grade Line, Stationing, Layout and Road Plan is Top of Metal Surface)

GENERAL PLAN

STEEL TRUSS BRIDGE

1 SPAN @ 34'-0" OVER VEALS CREEK

24'-0" ROADWAY ON STATE ROAD-257-E

STATE HIGHWAY COMMISSION OF INDIANA

DAVISS COUNTY

SCALE: 1/16"=1'-0" JUNE 30, 1938

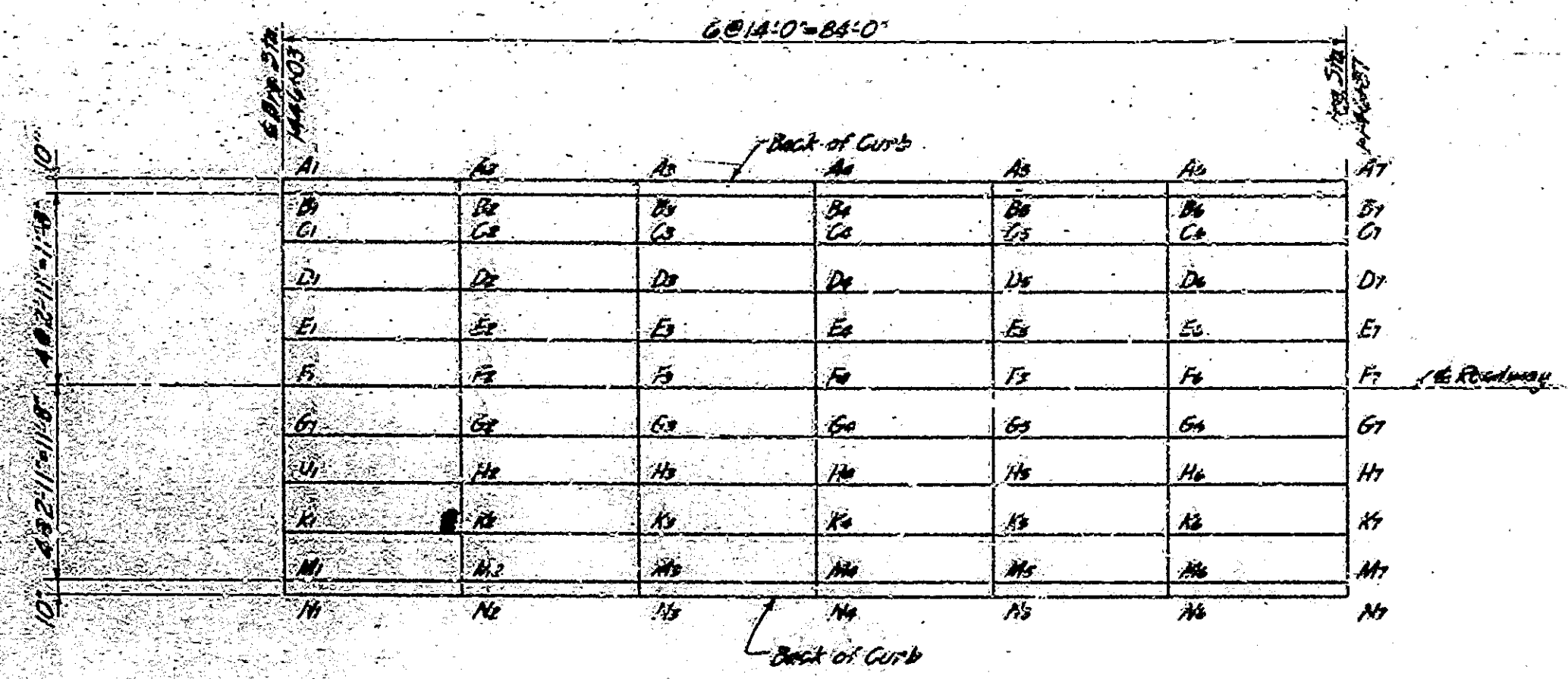
RECOMMENDED FOR APPROVAL: *[Signature]*

PROJECT: 257 (STATION: 1446+45)

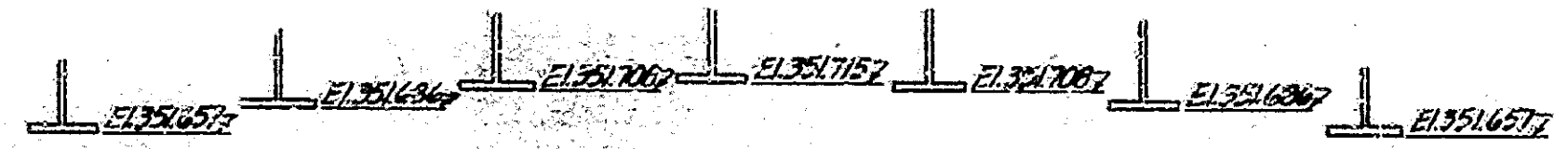
SECTION: E STRUCTURE NO. 3017

DRAWING: 53 OF 3 BRIDGE CONTRACT NO. 1711

DESIGNED BY: C. B. M. ALL. E. J. M.
CHECKED BY: W. M. S. E. J. M. ALL. E. J. M.



PLAN-SHOWING LOCATION OF SCREED BOARDS



BOTTOM OF FLOORBEAM ELEVATIONS (ON FALSEWORK)

TABLE OF ELEVATIONS								
POINT		1	2	3	4	5	6	7
A	Elev. Top of Curb Forms	355.500	355.518	355.531	355.534	355.531	355.518	355.500
	Elev. Top of Slab							
	Dist. Top of Slab to Top of Curb							
B	Elev. Top of Slab Forms	354.859	354.877	354.890	354.895	354.890	354.877	354.859
	Elev. Top of Slab							
	Dist. Top of Slab to Top of Slab							
C	Elev. Top of Slab Forms	354.922	354.940	354.953	354.958	354.953	354.940	354.922
	Elev. Top of Slab							
	Dist. Top of Slab to Top of Slab							
D	Elev. Top of Slab Forms	354.963	354.981	354.994	354.999	354.994	354.981	354.963
	Elev. Top of Slab							
	Dist. Top of Slab to Top of Slab							
E	Elev. Top of Slab Forms	354.990	355.008	355.021	355.026	355.021	355.008	354.990
	Elev. Top of Slab							
	Dist. Top of Slab to Top of Slab							
F	Elev. Top of Slab Forms	355.000	355.018	355.031	355.036	355.031	355.018	355.000
	Elev. Top of Slab							
	Dist. Top of Slab to Top of Slab							
G	Elev. Top of Slab Forms	354.990	355.008	355.021	355.026	355.021	355.008	354.990
	Elev. Top of Slab							
	Dist. Top of Slab to Top of Slab							
H	Elev. Top of Slab Forms	354.963	354.981	354.994	354.999	354.994	354.981	354.963
	Elev. Top of Slab							
	Dist. Top of Slab to Top of Slab							
K	Elev. Top of Slab Forms	354.922	354.940	354.953	354.958	354.953	354.940	354.922
	Elev. Top of Slab							
	Dist. Top of Slab to Top of Slab							
M	Elev. Top of Slab Forms	354.859	354.877	354.890	354.895	354.890	354.877	354.859
	Elev. Top of Slab							
	Dist. Top of Slab to Top of Slab							
N	Elev. Top of Slab Forms	355.500	355.518	355.531	355.534	355.531	355.518	355.500
	Elev. Top of Slab							
	Dist. Top of Slab to Top of Slab							

SCREED NOTES

The purpose of this drawing is to show a method for locating the proper elevation for the top of slab while pouring to finish the surface of the slab to the grade shown on the plans when all concrete has been poured. The method suggested is as follows:

The PLAN indicates a screed at the centerline of each floorbeam. Each point where a screed crosses a stringer line is numbered. The points where the screeds, if extended, would cross the back of curbs are also numbered.

The Table of Elevations shows an elevation for each point. These elevations are top of slab for points on all lines except A and N. On lines M and N these elevations are top of curb. In each of these elevations the horizontal distance due to the height of curb is not included.

When the time is coming and all steel has been set and concrete has been poured, elevations should be taken on top of floorbeams at all screed points and entered in the table. Subtracting the top of floorbeam elevation from the tabular elevation of the point gives the curb elevation for setting the top of screed at that point. This elevation is the screed elevation. If the screed is to be set under the slab it is important that the screed be set at the correct elevation. If the screed is to be set on top of the floorbeam, the screed should be set at the correct elevation. If the screed is to be set on top of the floorbeam, the screed should be set at the correct elevation.

ELEVATIONS FOR SETTING FLOOR BEAMS AND DATA FOR SETTING SCREEDS
STATE HIGHWAY COMMISSION OF INDIANA

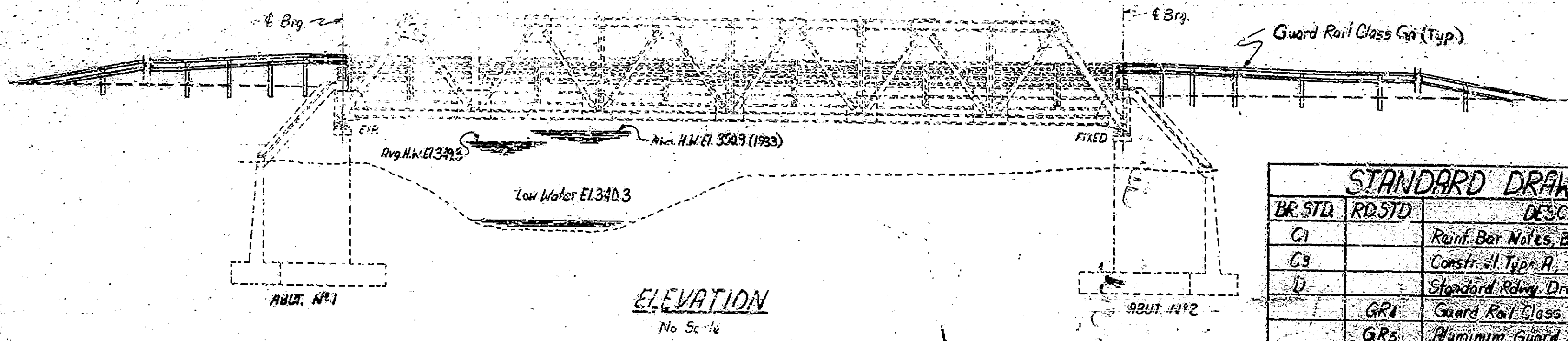
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RECOMMENDED FOR APPROVAL: [Signature]
PROJECT: 257 STATIONS: 445+25
SECTION: E STRUCTURE NO. 3017
DRAWING: 59 OF 8
BRIDGE CONTRACT NO. 1711
JUNE 30 1938

Appendix C – Copy of 1977 Plans

Utilities
Telephone - Indiana Bell Telephone Co.

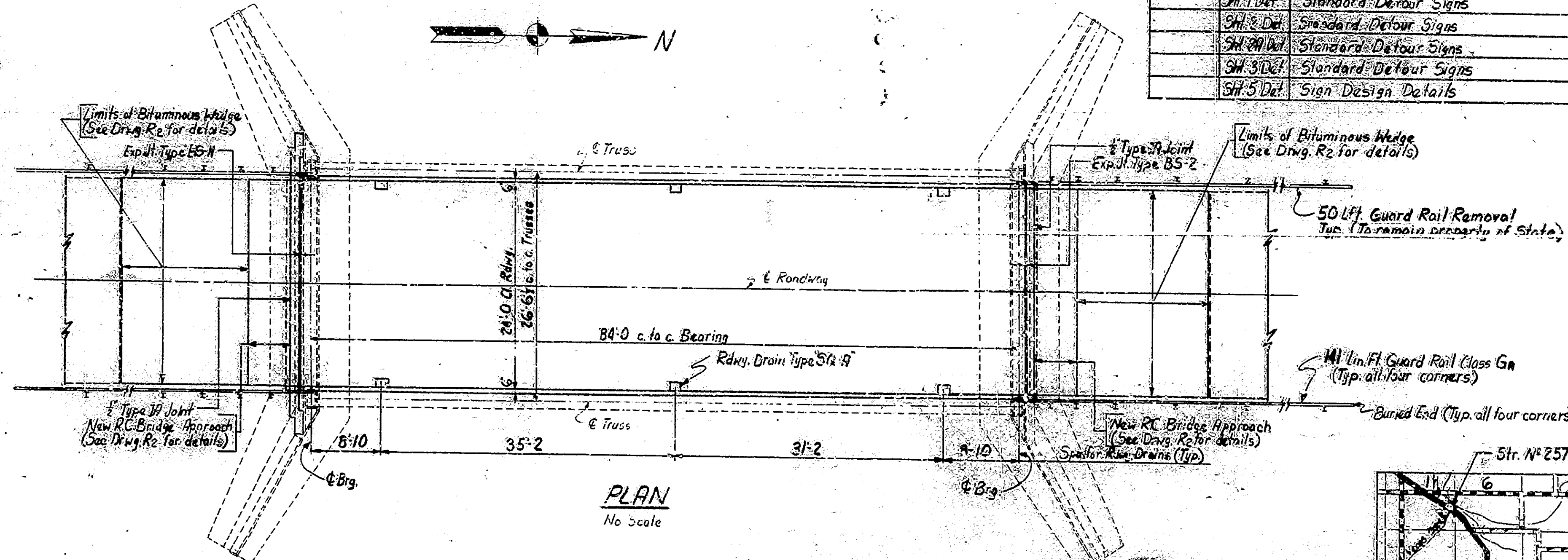
INDEX

PROJECT	STRUCTURE	TYPE	SPAN	OVER	CONTRACT
ST-414-A	257-14-3017A	STEEL TRUSS BRIDGE	1084'-0"	WEALS CREEK	B-10992
SHEET NO.	SHEET DESIGNATION	SUBJECT	A-ADOPTED	R-REVISED	
1	R1	TITLE SHEET & GENERAL PLAN			
2	R2	ABUTMENT #1 - BILL OF MATERIALS			
3	R3	ABUTMENT #2 - BILL OF MATERIALS			
4	R4	FLOOR DETAILS & BILL OF MATERIALS			
5	R5	MISCELLANEOUS DETAILS			
6	ONE SHEET	BRIDGE SUMMARY			
7	ONE SHEET	ESTIMATE OF QUANTITIES			
8	BR STD C1	MISCELLANEOUS DETAILS			R-3-1-77
9	BR STD C3	MISCELLANEOUS DETAILS			R-3-1-77
10	BR STD D	CASTING DETAILS ROADWAY DRAINS			R-1-1-76
11	RD STD G1A	GUARD RAIL			R-3-1-77
12	RD STD G1S	GUARD RAIL DETAILS			R-3-1-76
13	RD STD G1O	BURIED ENDS			R-3-1-77
14	SHEET 1 DETOURS	STANDARD DETOUR SIGNS			R-12-1-76
15	SHEET 2 DETOURS	STANDARD DETOUR SIGNS			R-4-1-77
16	SHEET 3 DETOURS	STANDARD DETOUR SIGNS			R-4-1-77
17	SHEET 4 DETOURS	STANDARD DETOUR SIGNS			R-4-1-77
18	SHEET 5 DETOURS	SIGN DESIGN DETAILS			R-6-1-76



STANDARD DRAWINGS

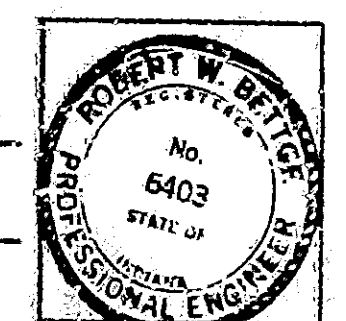
BR. STA.	RD. STD.	DESCRIPTION
G1		Rein. Bar Notes, Bar Bending Details
G3		Constr. of Type A, & Type II Joint
D		Standard Roadway Drain Type SQ, Grate A
	G1A	Guard Rail Class G1
	G1S	Aluminum Guard Rail
	G1O	Buried Ends
	SH-1 Det	Standard Detour Signs
	SH-2 Det	Standard Detour Signs
	SH-3 Det	Standard Detour Signs
	SH-4 Det	Standard Detour Signs
	SH-5 Det	Sign Design Details



- CONSTRUCTION PROCEDURE
1. Close the bridge to traffic and remove existing floor slab, part of mudwalls, concrete diaphragms, and parts of approach slabs as shown on detail drawings.
 2. Cut existing Anchor Bolts at Abut. #1 and jack truss. Reset shoes as indicated on Drwg. R2.
 3. Clean and paint structure. Place riprap along channel using existing floor materials.
 4. Install roadway drains over the concrete floor slab and curbs. Install BS joints and welded steel diaphragms. See Drwg. R4 and R5.
 5. Construct concrete support side walls as shown on Drwg. R2 and R3.
 6. Construct concrete bridge approaches and bituminous wedge at Abut. #1 and #2 as detailed on Drwg. R2 and R3.
 7. Install Guard Rail at all four corners as detailed on Drwg. R5.
 8. When all work is completed, open bridge to traffic. Bridge speed not to be posted.
 9. The above procedure does not necessarily indicate the exact sequence of operations required for repair of this structure.

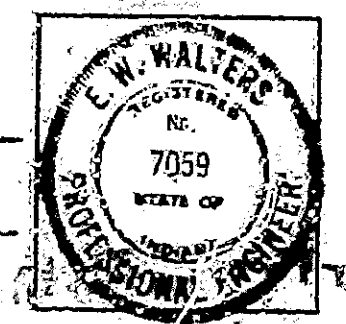
RECOMMENDED FOR APPROVAL 1-18-77

Robert W. Boster
ASSISTANT ENGINEER OF BRIDGE DESIGN
INDIANA STATE HIGHWAY COMMISSION



RECOMMENDED FOR APPROVAL 3-1-77

E. W. Walters R.W.B.
ENGINEER OF BRIDGE DESIGN
INDIANA STATE HIGHWAY COMMISSION



DATE: 3-2-77
G. L. Hallen
CHIEF ENGINEER, INDIANA STATE HIGHWAY COMMISSION

TITLE SHEET & GENERAL PLAN

REPAIRS TO STEEL TRUSS BRIDGE
1084'-0" 24'-0" CL. ROADWAY
OVER WEALS CREEK ON STATE ROAD 257

INDIANA STATE HIGHWAY COMMISSION
DAVIESS COUNTY

SCALE: AS NOTED DATE: January 18, 1977

DESIGNED: C.F.D.
DRAWN: D.M.L. 10-12-76
CHECKED: C.F.D.
PROJECT: ST-414-A
CONTRACT NO. B-10992
BRIDGE FILE: 257-14-3017A



GENERAL NOTES

The existing structure is a steel truss bridge with 24'-0" clear roadway. It was built by the State in 1940 as ST-414-A. All AT&T Plans are to be in the Bridge Design Office.

Reinforcing steel sections shall be in line and minimum diameter of 1/2" and 2" shall be used, and shall be placed as shown on drawings.

Concrete in all structures to be Class 'A'.

When any part of mudwalls in accordance with Art. 102.22 of the Specs. shall be removed, the top and bottom edges shall be finished and shall be protected with a 2" concrete curb. The curb shall be placed as shown on drawings.

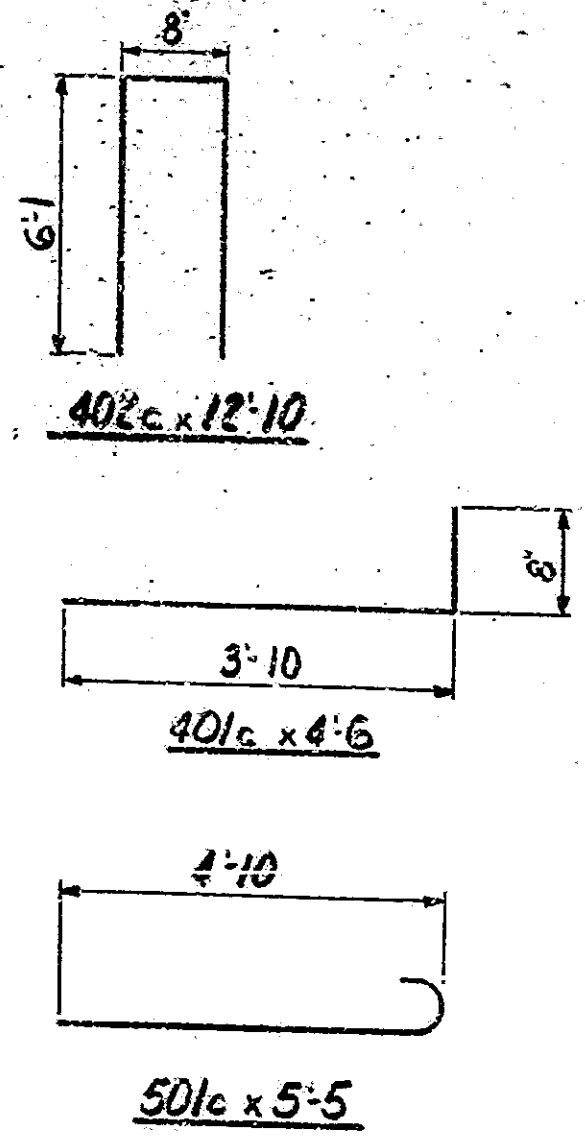
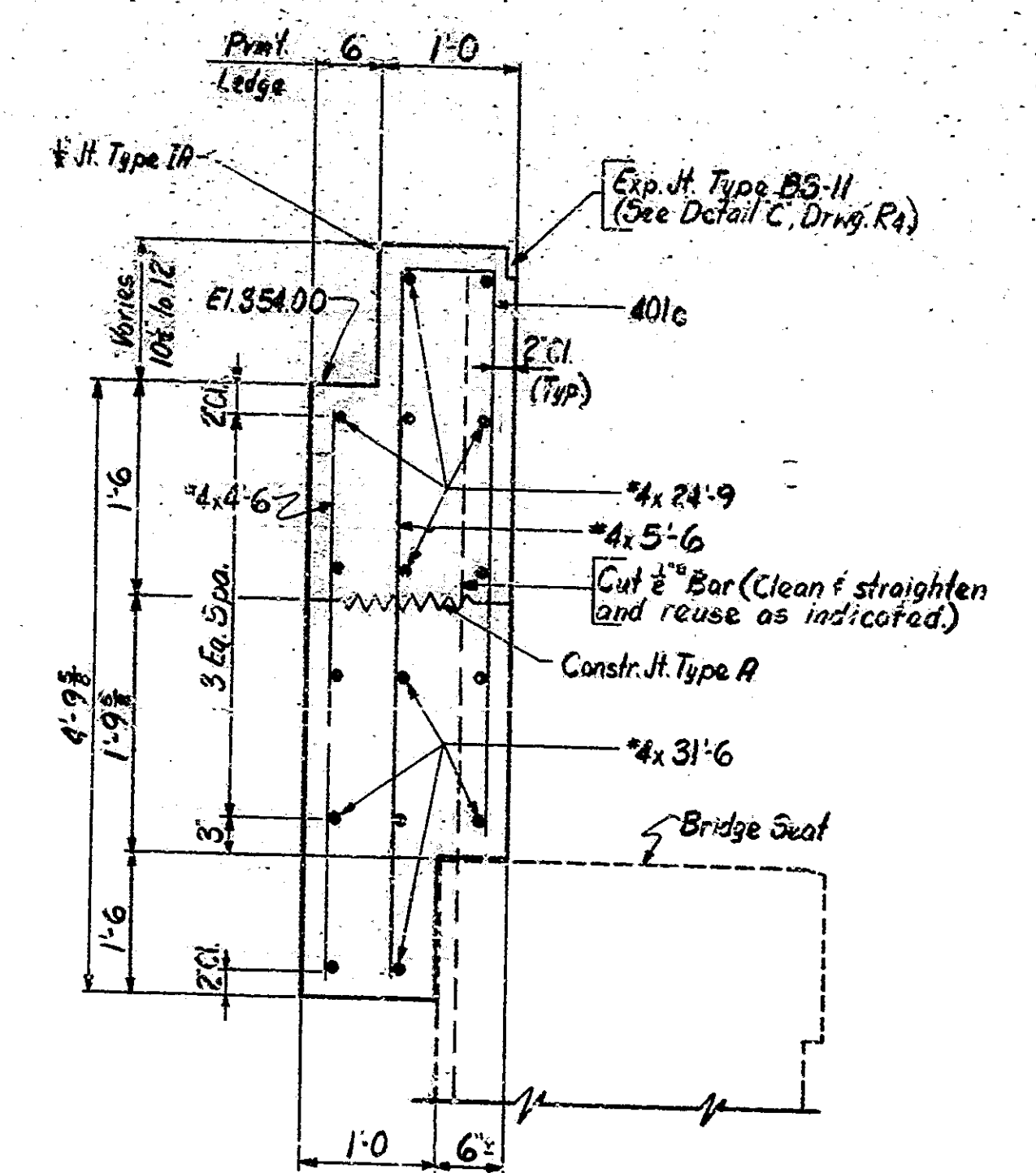
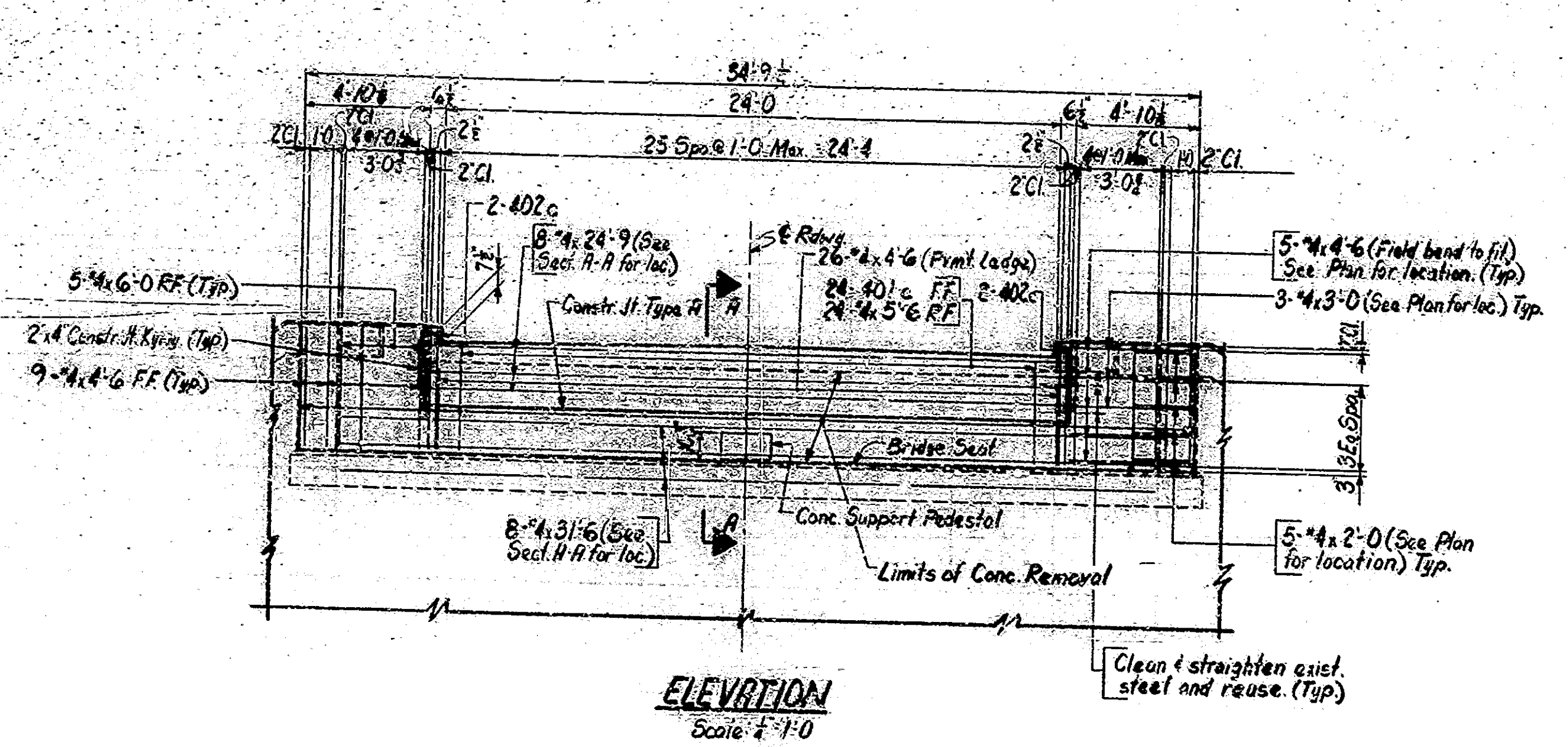
When any part of the structure is to be sealed, the sealant shall be applied in accordance with the Special Provisions. The sealant shall be applied in accordance with the Special Provisions. The sealant shall be applied in accordance with the Special Provisions.

All structural steel to be painted in accordance with the Special Provisions. The paint shall be applied in accordance with the Special Provisions. The paint shall be applied in accordance with the Special Provisions.

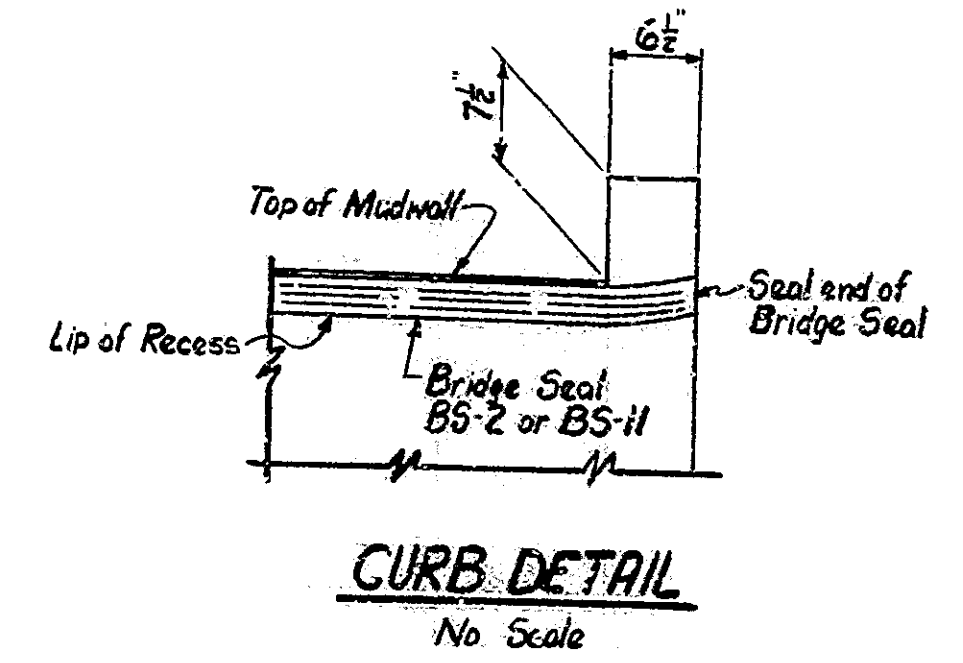
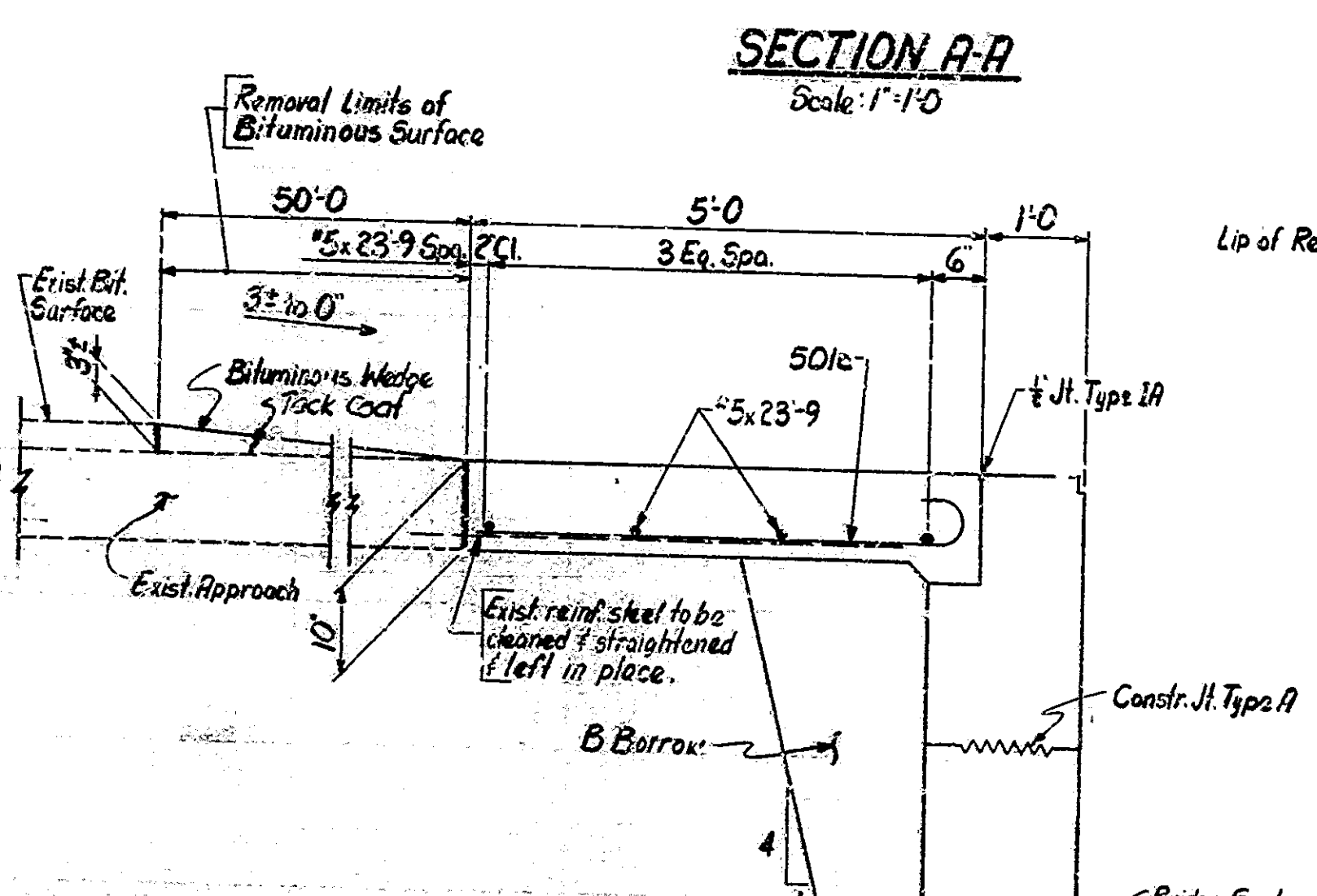
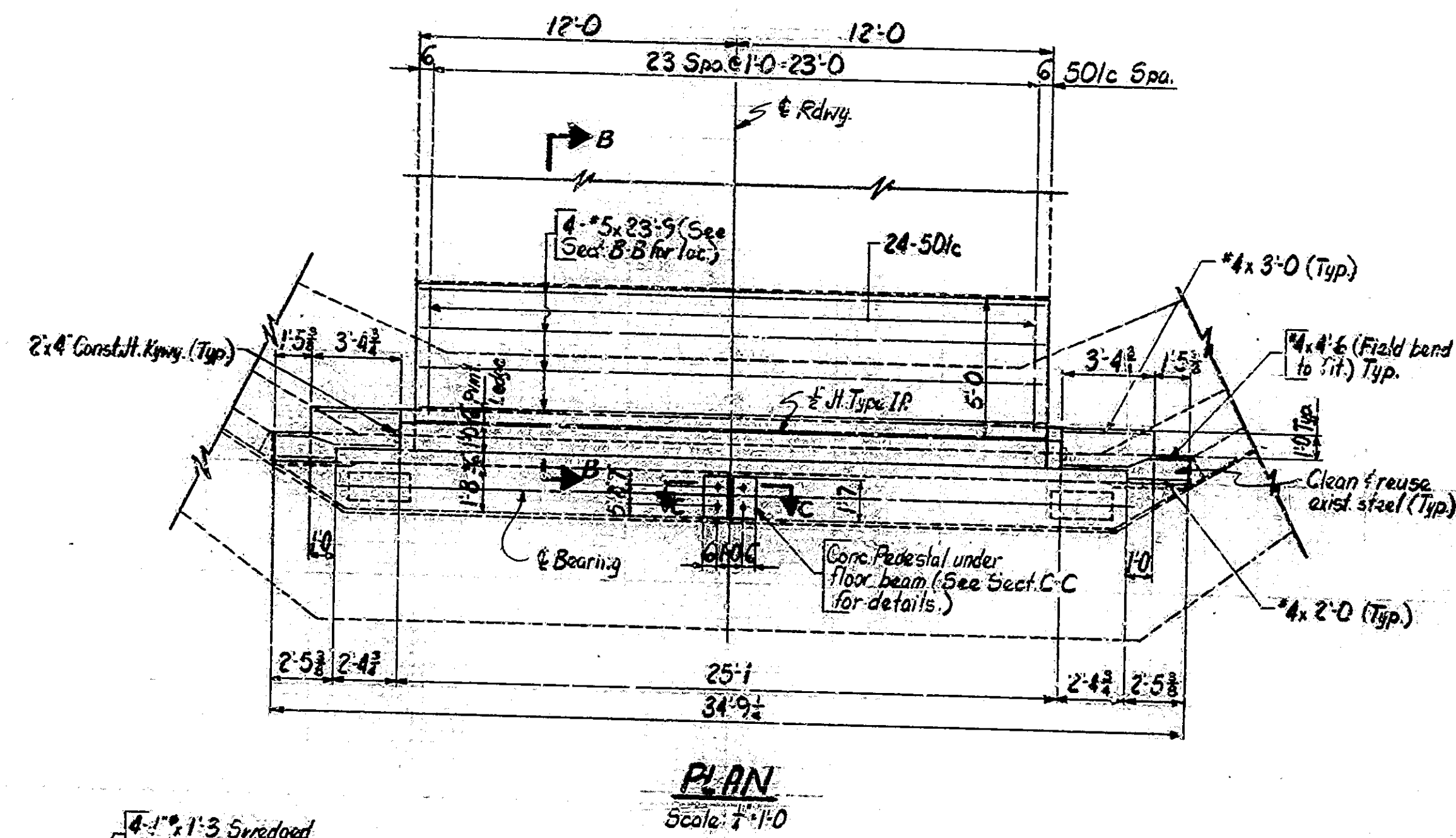
INDIANA STATE HIGHWAY COMMISSION
STANDARD SPECIFICATIONS DATED 1974
TO BE USED WITH THESE PLANS.

DESIGNED: C.F.D.
DRAWN: D.M.L. 10-12-76
CHECKED: C.F.D.

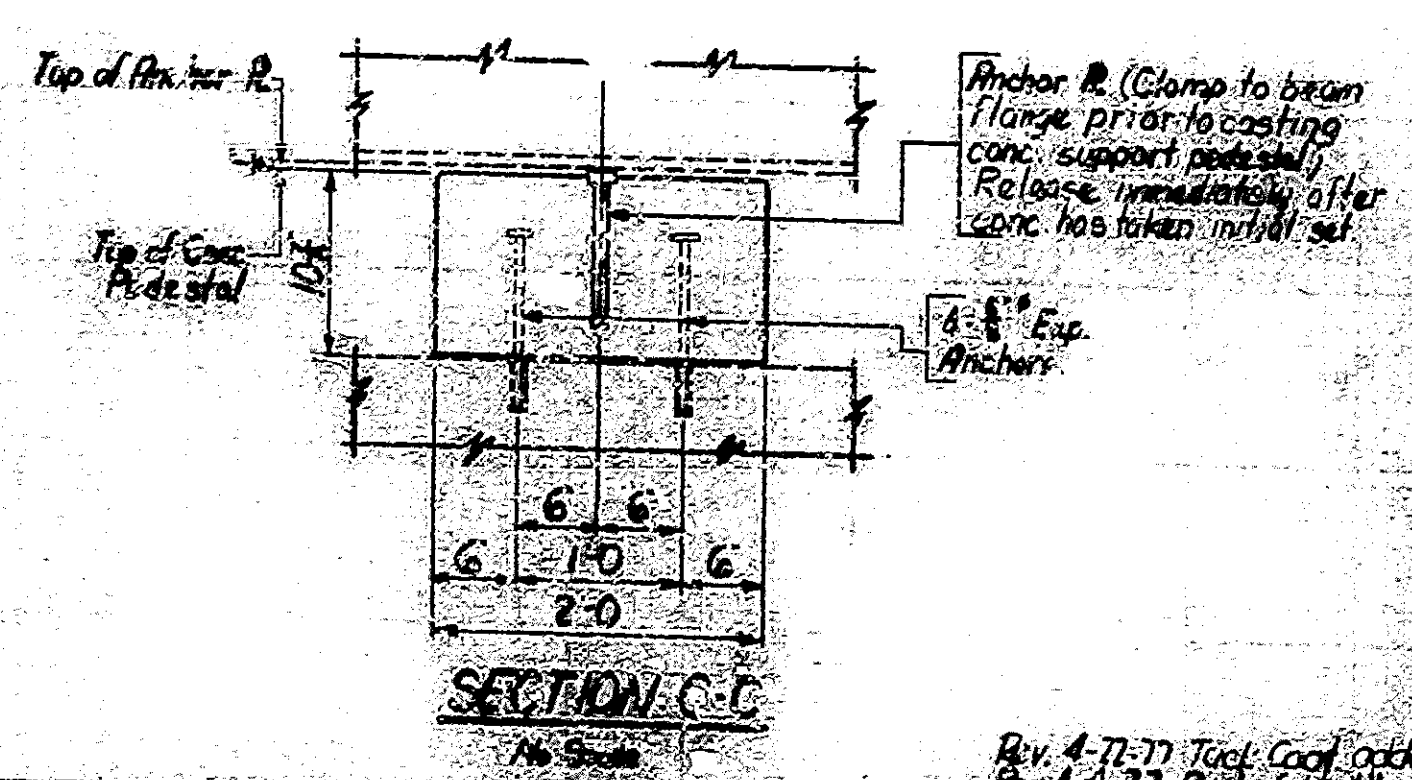
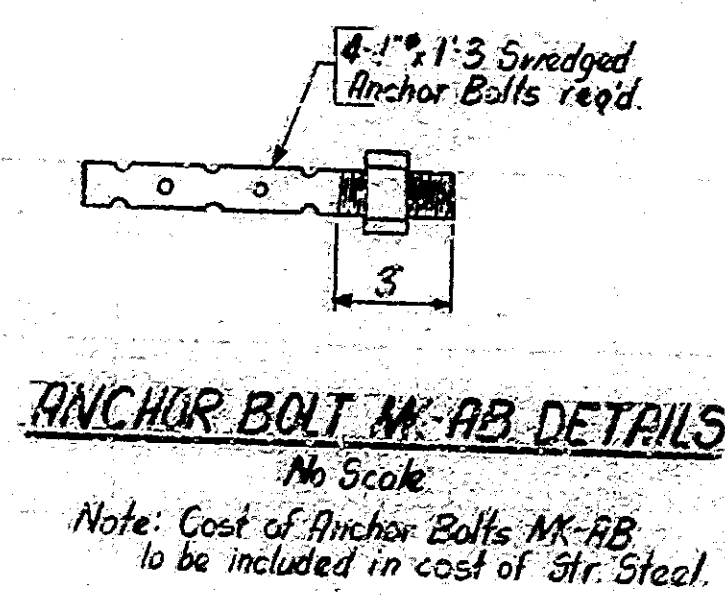
THIS SHEET IS TO BE USED ONLY



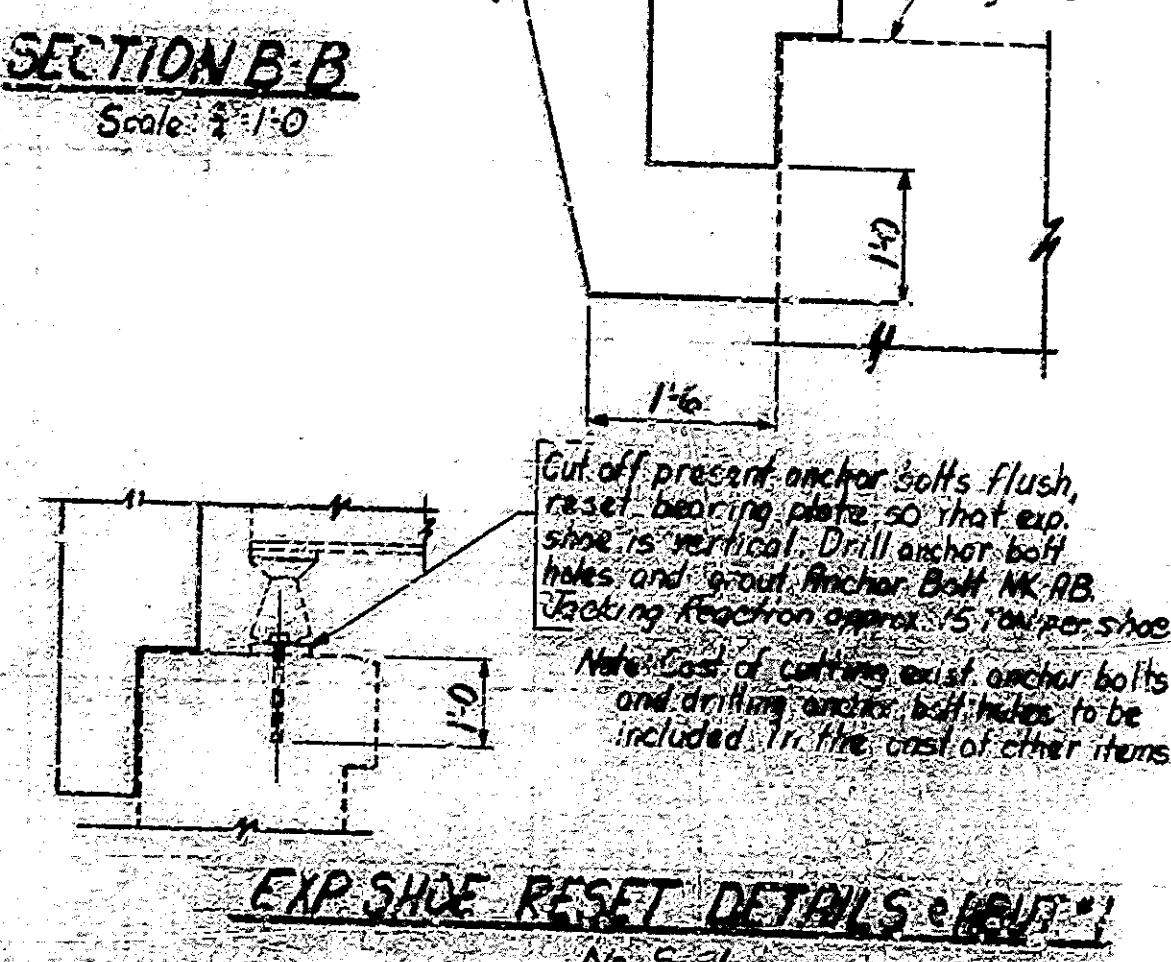
BILL OF MATERIALS			
REINFORCING STEEL			
SIZE & MARK	N ^o of BARS	LENGTH	WEIGHT
401c	24	4'-6"	
402c	4	12'-10"	
#4	8	31'-6"	
#4	8	24'-9"	
#4	10	6'-0"	
#4	24	5'-6"	
#4	54	4'-6"	
#4	6	3'-0"	
#4	10	2'-0"	
Total #4			723*
CONCRETE			
Conc. Class C in Superstr.		3.0 cys	
Conc. Class A in Substr.			
Mudwall		6.8 cys	
Pedestal		.1 cys	
Total Class A in Substr.		6.9 cys	
MISCELLANEOUS			
Anchor Plate		1 ea.	
5/8" Exp. Anchors		4 ea.	



NOTES:
 For Reinforcing Bar Notes, see Br. Std. C1.
 For Constr. Jt. Type A and Type B, see Br. Std. C3.
 The Expansion Anchors shall be capable of a pull out test of 3000 lbs.
 For Anchor Plate Detail, see Drwg. R2.
 For Estimate of Quantities, see Sheet 7.
 The top portion of mudwall at Abut. No. 1 and Abut. No. 2 shall not be poured until floor slab is poured.

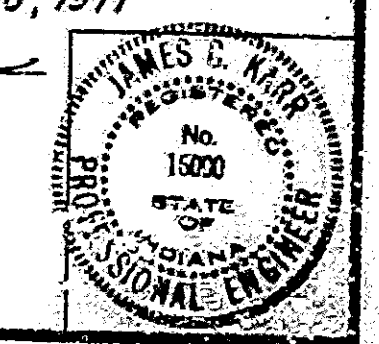


BILL OF MATERIALS			
REINFORCING STEEL			
SIZE & MARK	N ^o of BARS	LENGTH	WEIGHT
501c	24		
#5	4	13'-9"	
Total #5			235*
MISCELLANEOUS			
Conc. Pedestal (1' x 1')		1.13 cys	
Miscellaneous castings in form		2.0 lbs	
Removal of bituminous surface		14.3 sq ft	
Removal of bituminous surface		128 sq ft	
B Barrow		13.6 hrs	
Sawed Bolt Removal		108 lb	



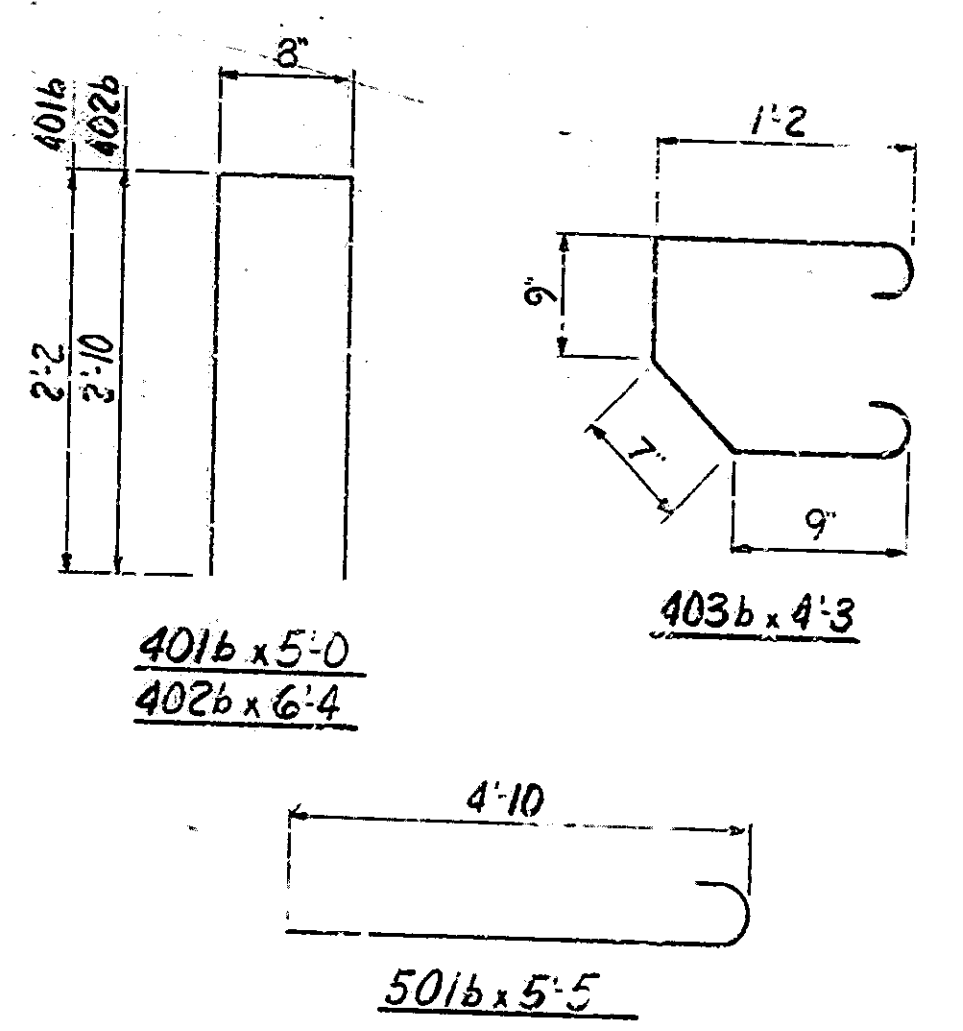
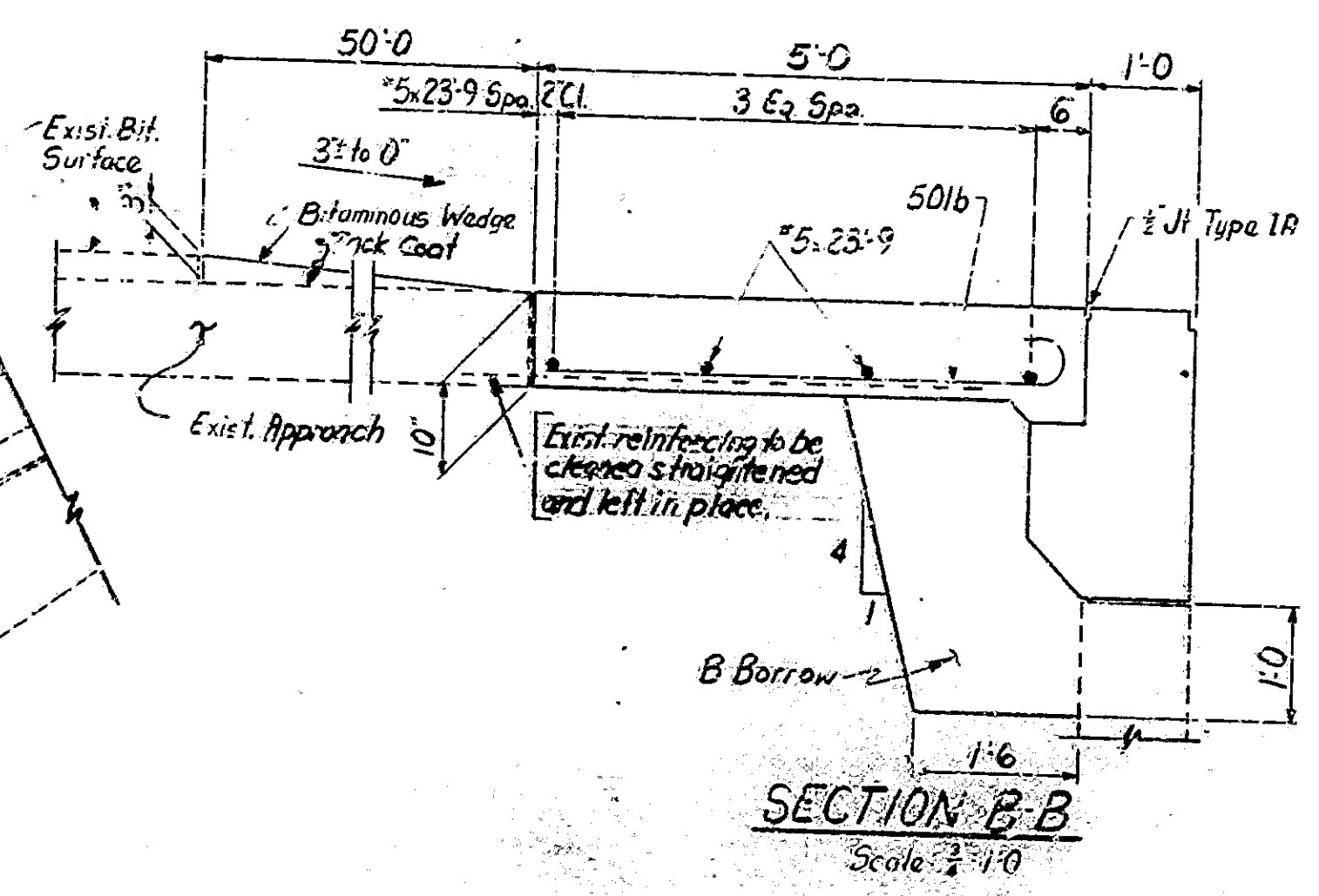
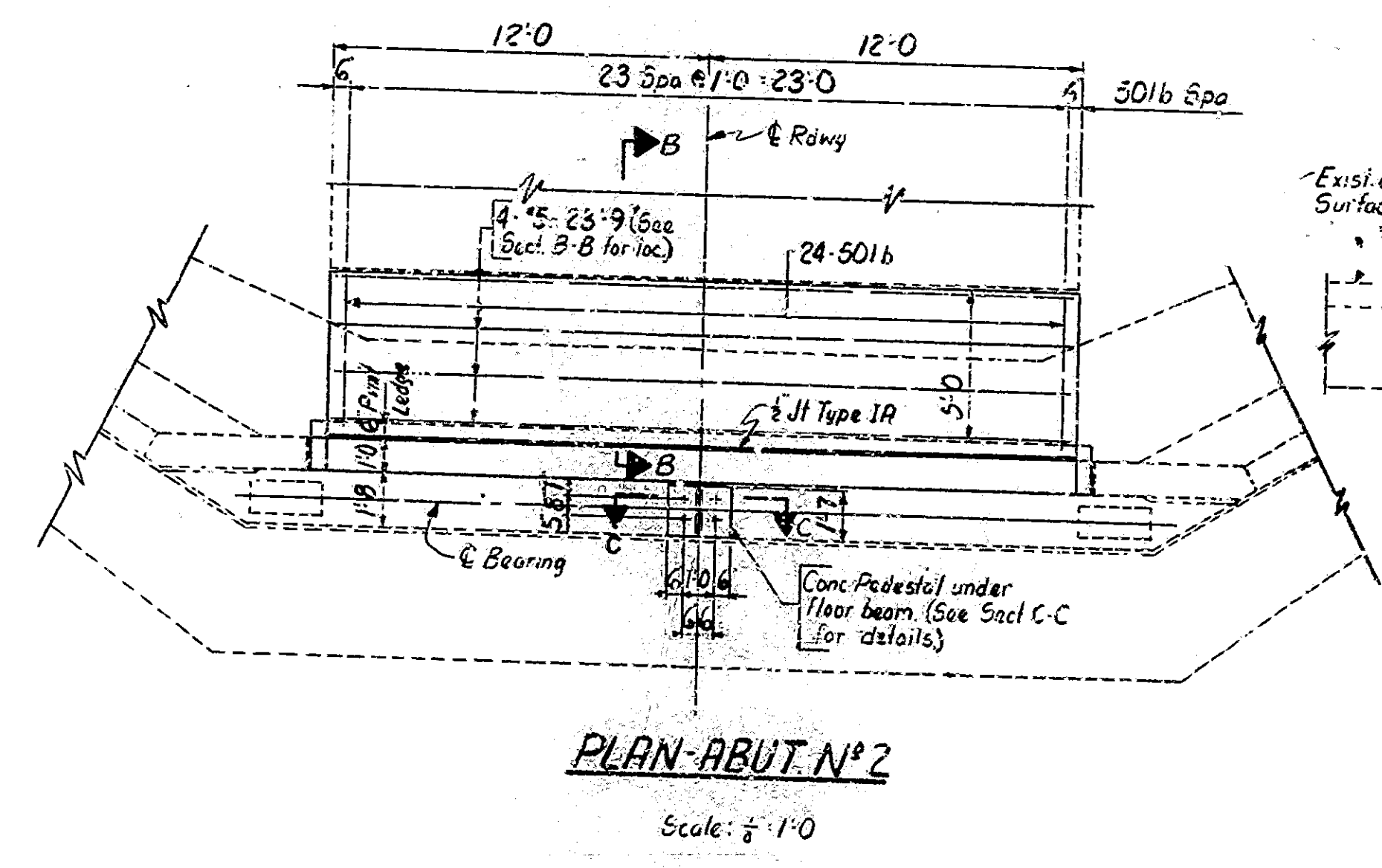
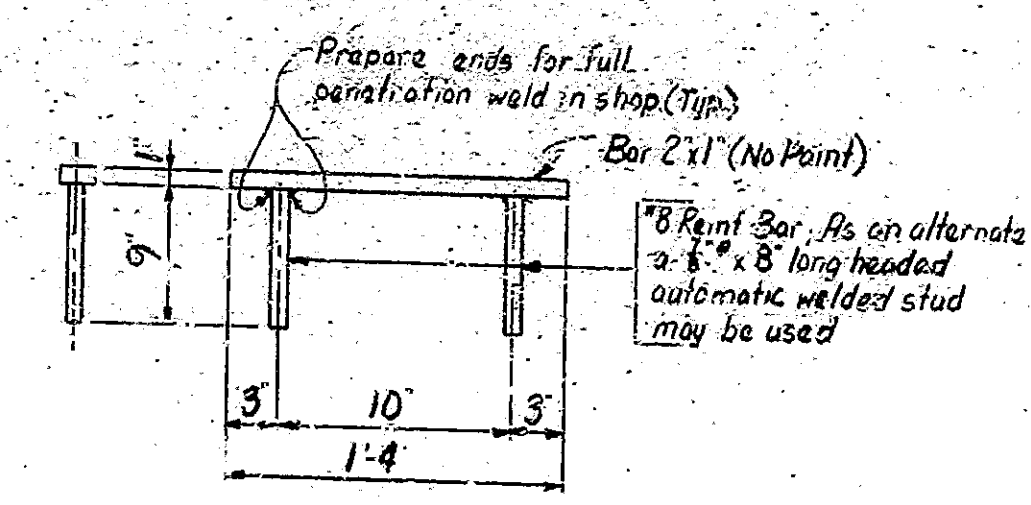
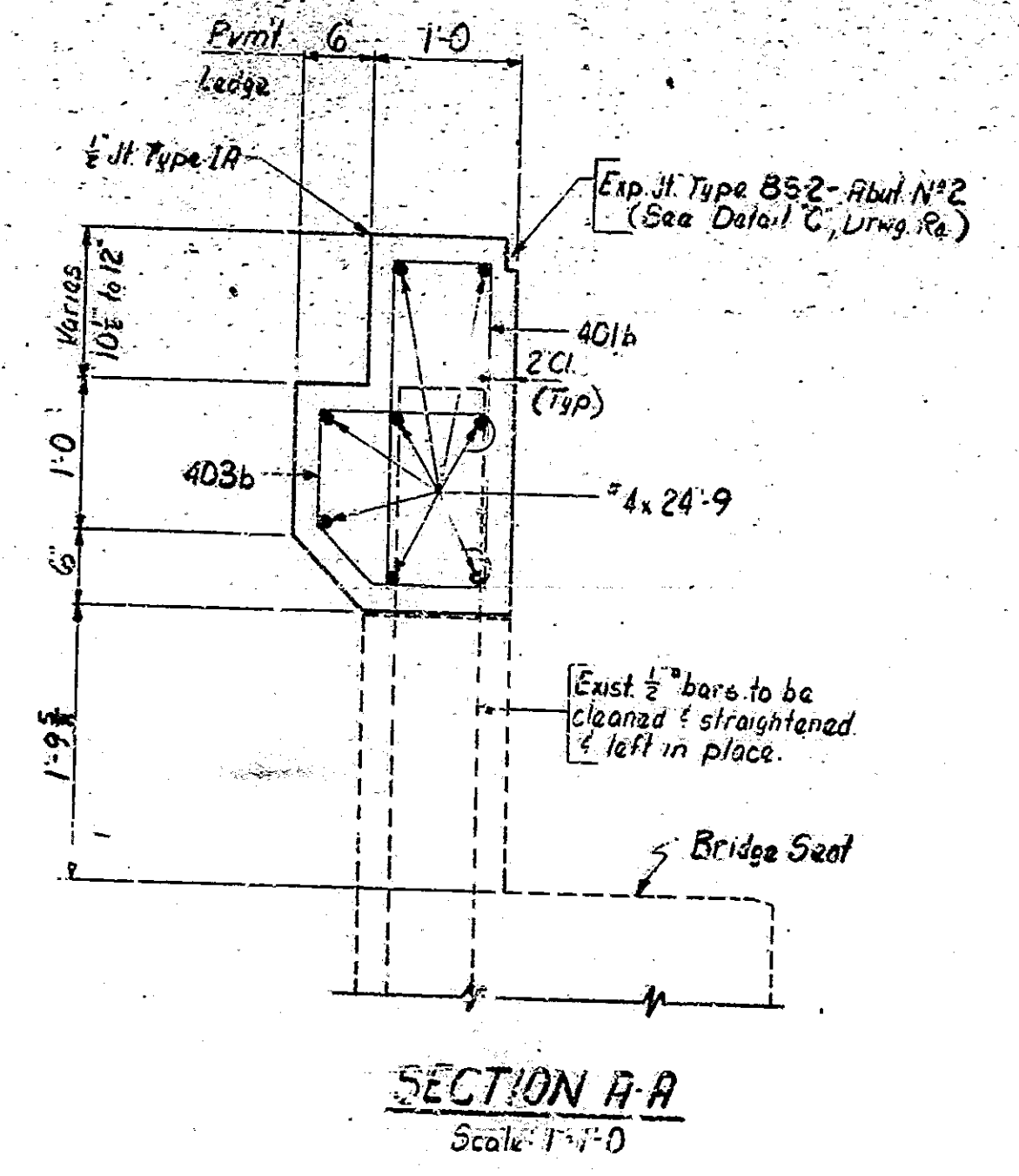
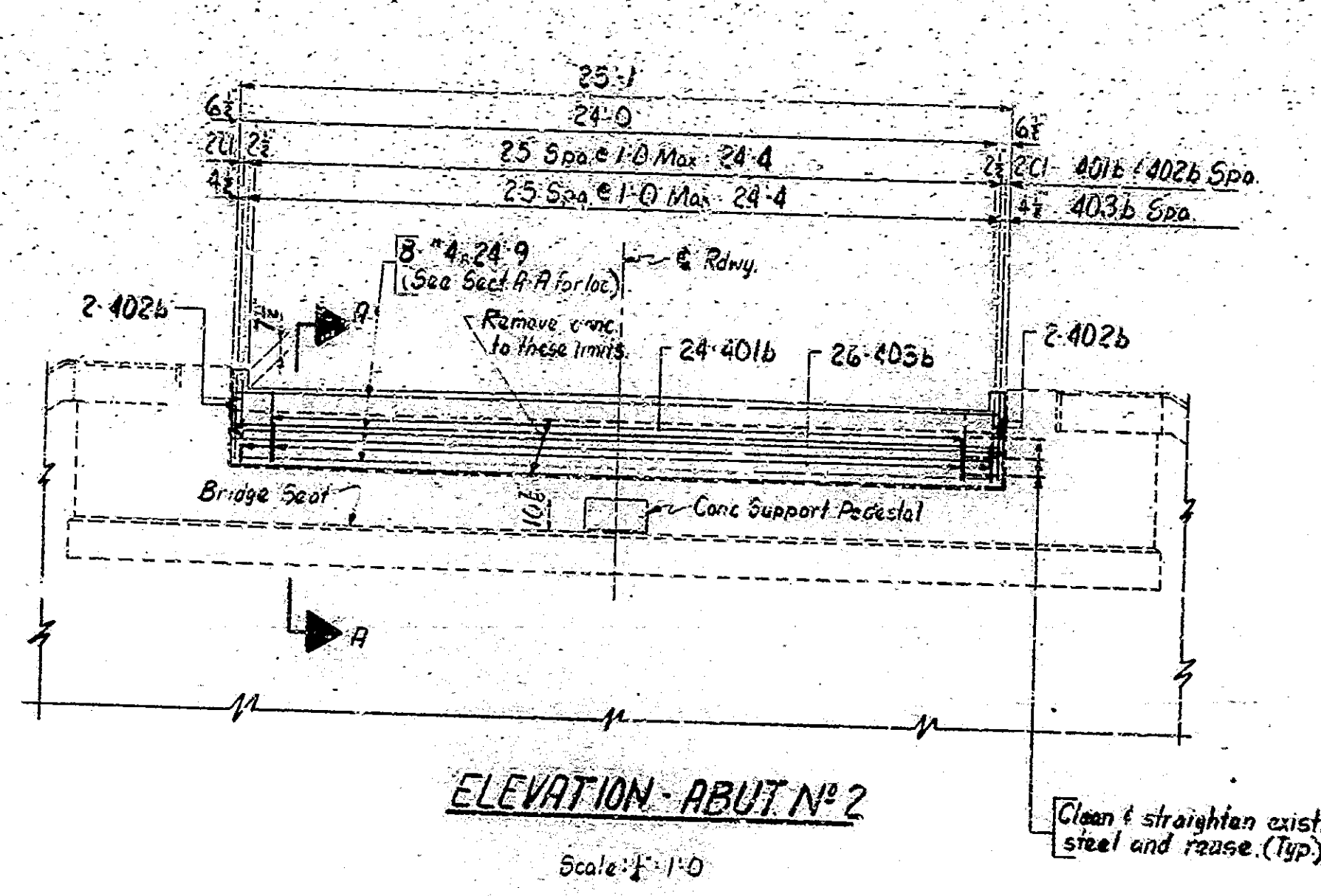
ABUT. NO. 1 DETAILS
 BILL OF MATERIALS
 INDIANA STATE HIGHWAY COMMISSION

SCALE: AS NOTED
 DATE: January 18, 1977
 DRAWING: R2 OF 5 SHEET: 2 OF 18
 PROJECT: ST-4114 R
 CONTRACT NO. B-10992
 BRIDGE FILE: 257-14-3017A



DESIGNED: CTD
 DRAWN: CTD
 TRACED: CTD

Rev. 4-7-77: Total Cost added
 Rev. 4-4-77: Bill of Materials



BILL OF MATERIALS			
ABUTMENT N° 2			
REINFORCING STEEL			
SIZE & MARK	N° of BARS	LENGTH	WEIGHT
401b	24	5'-0"	
402b	4	6'-4"	
403b	26	4'-3"	
#4	8	24'-9"	
Total #4			303*
CONCRETE			
Concrete Class C in Superstr.			
Midwell			29 cys.
Pedestal			1 cys.
Total Class C Conc. in Superstr.			30 cys.
MISCELLANEOUS			
Anchor Plate			1 ea.
8" Exp. Anchors			4 ea.

NOTES:
For Reinforcing Bar Notes, see Br. Std. C.
For Type 1A Jt., see Br. Std. C.
The 8" Expansion Anchors shall be capable of a pull out test of 9000 lbs.
For Estimate of Quantities, see Sheet 7.
For Sect. C-C & Curb Detail, see Drwg. R.2.

BILL OF MATERIALS			
APPROACH QUANTITIES			
REINFORCING STEEL			
SIZE & MARK	N° of BARS	LENGTH	WEIGHT
501b	24	5'-5"	
#5	4	23'-9"	
Total #5			235*
MISCELLANEOUS			
Conc. Permanent Reinf. 10" dia.			13.9 cu yd.
Bituminous Mixture for Appro.			11.0 Ton.
Removal of Permanent			13.9 cu yd.
Removal of Bituminous Surface			13.9 cu yd.
B Borrow for Structure Backfill			1.5
Guard Rail Removal			100.0 LF.

ABUT. N° 2 DETAILS
BILL OF MATERIALS
INDIANA STATE HIGHWAY COMMISSION

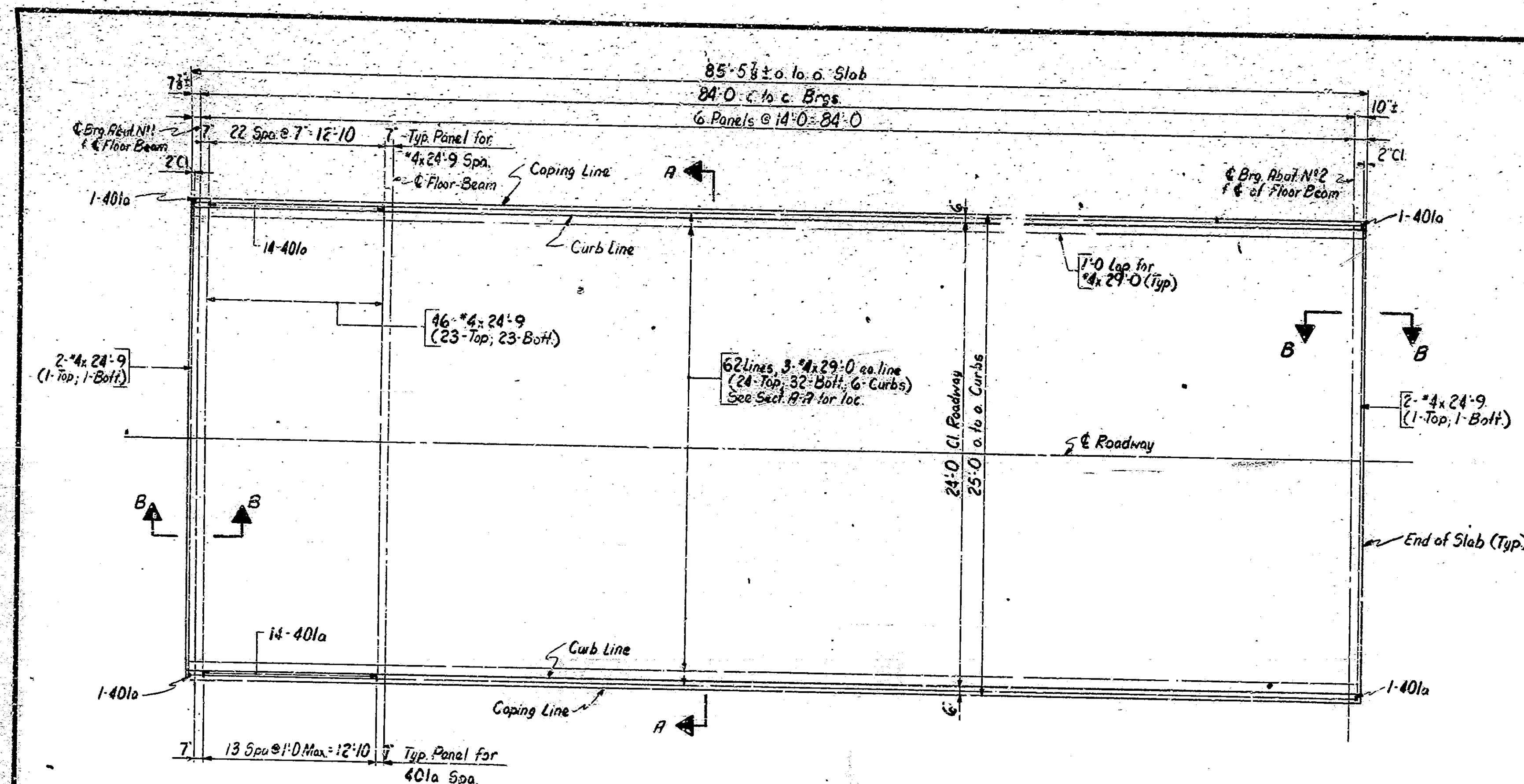
SCALE: AS NOTED
DATE: January 18, 1937

DRAWING: R3 OF 5 SHEET: 3 OF 18
PROJECT: 57-4114 A
CONTRACT NO. E-10-992
BRIDGE FILE: 257-14-3017A

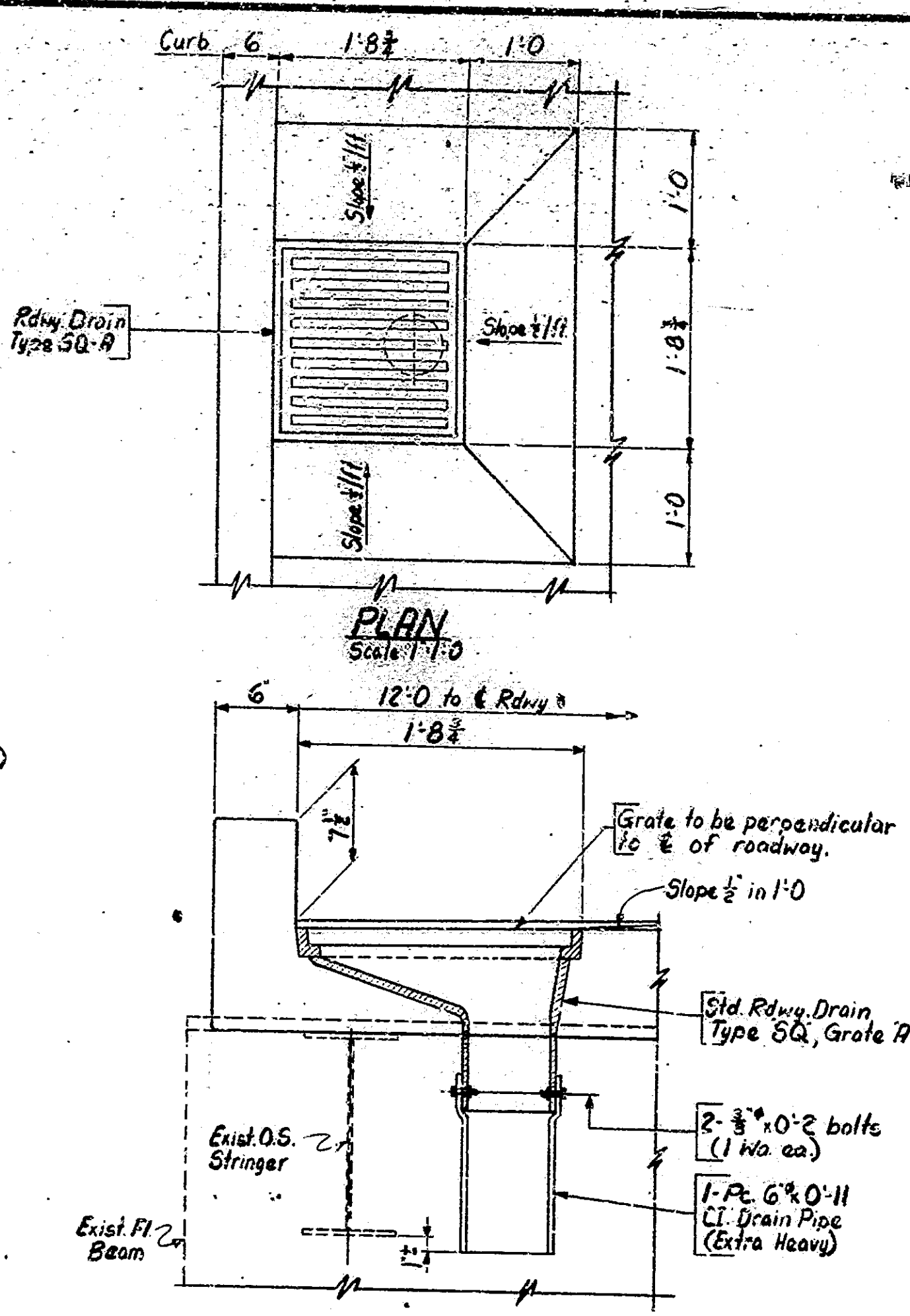


DESIGNED: D.M.A. 2/27/37
DRAWN: L.M. 10-28-36 C.V.D. D.E.M. 11-9-36
TRACED: C.T.G.

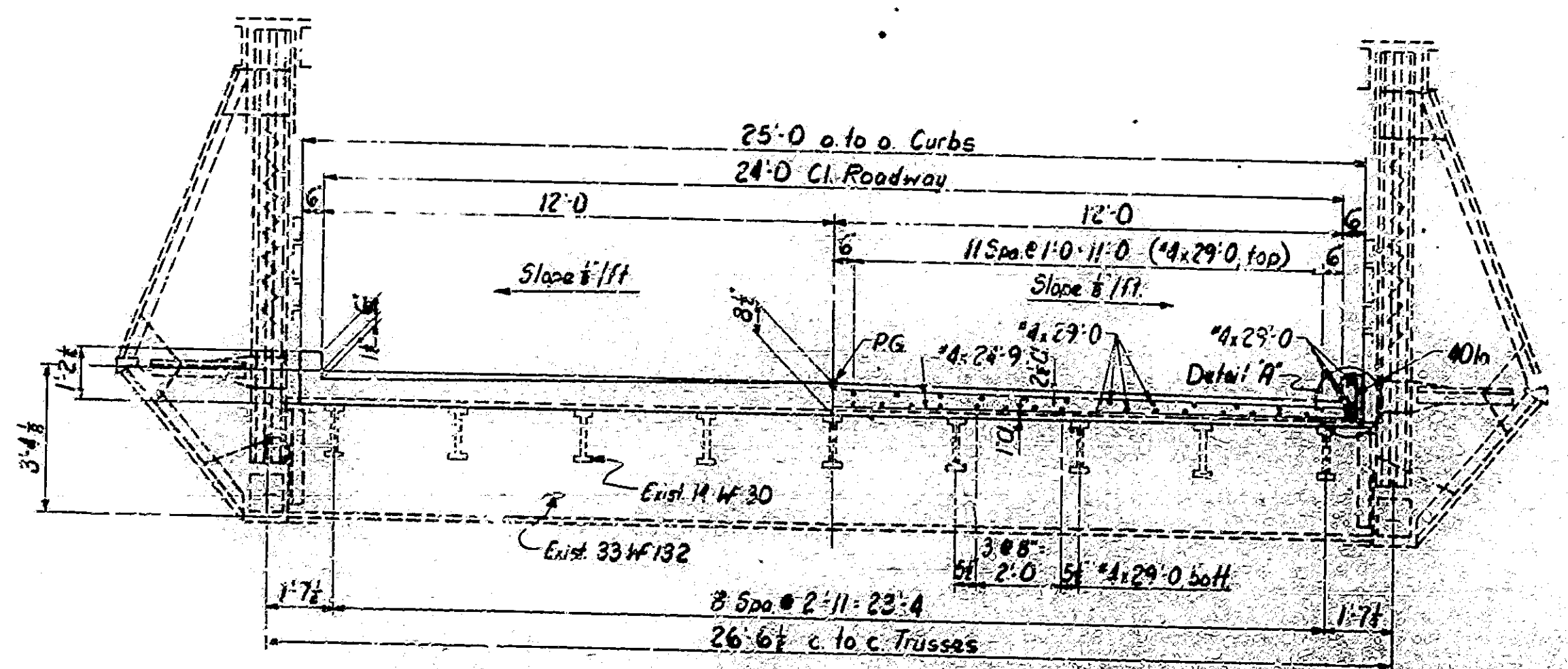
By: 4-21-37 Jack Coat added
By: 4-27-37 C.V.D. 11/15



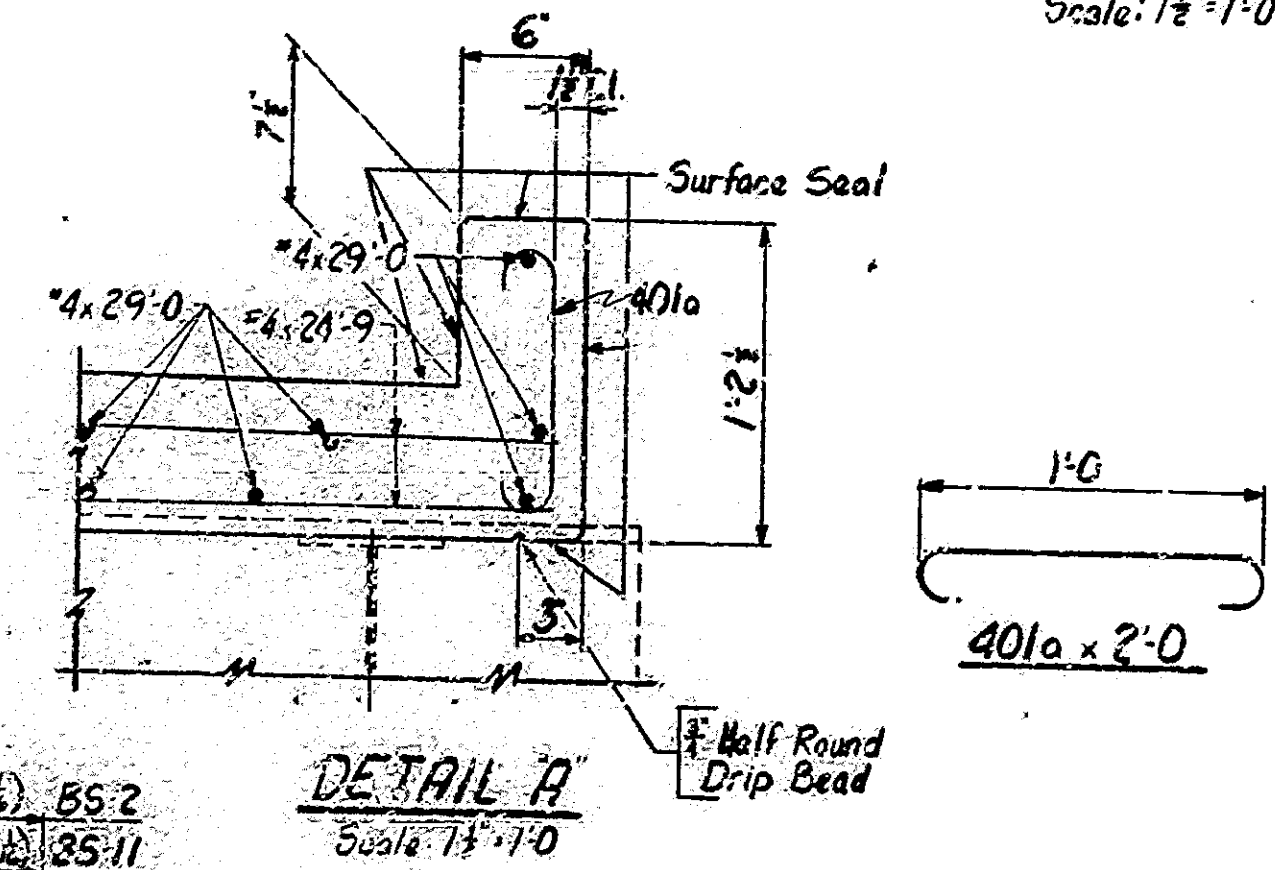
FLOOR PLAN
Scale: Longit. $\frac{1}{16}$ " = 1'-0", Trans. $\frac{1}{16}$ " = 1'-0"



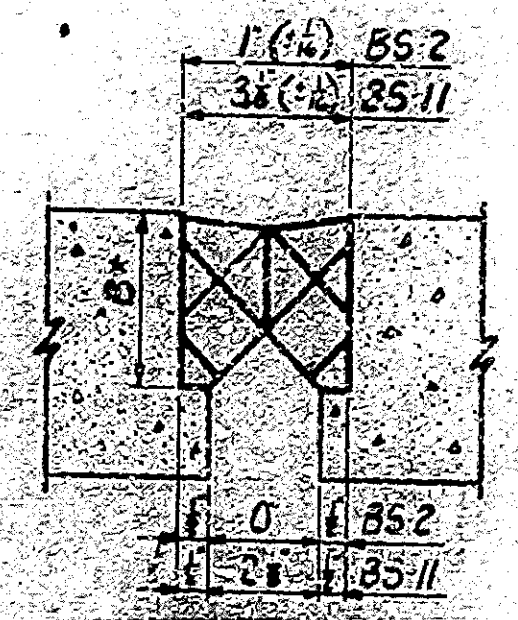
DRAIN DETAIL
Scale: $\frac{1}{2}$ " = 1'-0"



SECTION A-A
Scale: $\frac{1}{8}$ " = 1'-0"



DETAIL A
Scale: $\frac{1}{4}$ " = 1'-0"



DETAIL C
Scale: $\frac{1}{4}$ " = 1'-0"

BILL OF MATERIALS			
SUPERSTRUCTURE			
REINFORCING STEEL			
SIZE & MARK	N ^o of BARS	LENGTH	WEIGHT
#4	172	2'-0"	
#4	186	0	
#4	280	2'-9"	
Total #4			3462*
CONCRETE			
Conc. Class C in Superstr.			52.5 cu yds
MISCELLANEOUS			
Surface Seal			2547 sq ft
Expansion Jt. Type BS-2			250 Lf
Expansion Jt. Type BS-11			250 Lf
Cl. Grates, Basins & Fillings			
6 Std. Rdwy. Drains Type 50			1152 lbs.
Grate #7 @ 192 lbs. ea.			
6 Pcs. 6" x 10" 11" CI. Drain Pipe (Extra Heavy) @ 17 lbs. ea.			102 lbs.

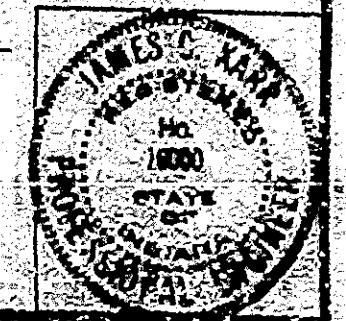
NOTES: For Sect. B-B, see Draw. R₅.
For Reinforcing Bar Notes, see Br. Sld. C1.
For Roadway Drain Details, see Br. Sld. D.
For Location of Roadway Drains, see General Plan, Draw. R₁.
The Contractor may subdivide floor slab by using transverse construction joints provided the joints are located at the center of floor beams.
The top reinforcing in the deck shall be securely tied down to the deck forms and/or the beams to prevent lifting during concrete placement.
The Contractor will have the option of using permanent metal forms for the concrete bridge deck in lieu of removable forms in this contract. See Special Provisions.
For Estimate of Quantities, see Sheet 7.
All reinforcing steel required in superstructure shall be Epoxy Coated Reinforcing Steel.

FLOOR DETAILS
BILL OF MATERIALS
INDIANA STATE HIGHWAY COMMISSION

SCALE: AS NOTED DATE: January 18, 1977

James C. Kamm

DRAWING No. OF 5 SHEET 4 OF 18
PROJECT: ST-414-R
CONTRACT NO. B-10992
BRIDGE FILE: 257-14-3017-R



DESIGNED: D.M.R. & C.O. H. & M. W. B.
DRAWN: D.M.R. & C.O. H. & M. W. B.
CHECKED: C.R.D.

Rev. 4-77 Surface Seal, Sheet 10/11

ESTIMATE OF QUANTITIES

STRUCTURE ITEMS		STRUCTURE	TOTAL QUANTITY
CODE NO.	DESCRIPTION		
51002	CONCRETE CLASS C IN SUPERSTRUCTURE		58.5
51003	CONCRETE CLASS A IN SUPERSTRUCTURE		
51004	CONCRETE CLASS A IN SUBSTRUCTURE		6.9
51010	CONCRETE CLASS B ABOVE FOOTINGS		
51015	CONCRETE CLASS B IN FOOTINGS		
51020	SPECIAL CLASS 3 CONCRETE		
51025	CONCRETE STRUCTURAL MEMBERS		
51030	REINFORCING STEEL EPOXY COATED REINFORCING		1496
51035	STRUCTURAL STEEL		6080
51040	BRONZE PLATES		
51050	ANCHOR BOLTS (MC-AR 1)		
51060	ANCHOR BOLTS (MC-AR 2)		
51070	ANCHOR BOLTS (MC-AR 3)		
51080	ANCHOR BOLTS (MC-AR 4)		
51090	ANCHOR PLATES (MC-AP 1)		
51100	ANCHOR PLATES (MC-AP 2)		
51110	ANCHOR PLATES (MC-AP 3)		
51120	ANCHOR PLATES (MC-AP 4)		
51130	ANCHOR BOLTS		
51140	STEEL BOLTS ASSEMBLY MC-BA		
51150	ANCHOR PLATE		
51160	ANCHOR WELDS		
51170	CAST IRON DRAIN PIPE 4 INCH		
51180	CAST IRON DRAIN PIPE 6 INCH		
51190	CAST IRON DRAIN PIPE 8 INCH		102
51200	CAST IRON GRATES, BASINS		
51210	FITTINGS		
51220	REMOVAL OF PRESENT RAILING		1122
51230	RAILING (TYPE 1 OR C)		
51240	RAILING (TYPE 2 OR D)		
51250	RAILING (TYPE 3 OR E)		
51260	RAILING (TYPE 4 OR F)		
51270	RAILING (TYPE 5 OR G)		
51280	RAILING (TYPE 6 OR H)		
51290	RAILING (TYPE 7 OR I)		
51300	CLASS C CONCRETE RAILING		
51310	CLASS C CONCRETE RAILING		
51320	CLASS C CONCRETE RAILING		
51330	CLASS C CONCRETE RAILING		
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51500	CLASS C CONCRETE RAILING		
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51580	CLASS C CONCRETE RAILING		
51590	CLASS C CONCRETE RAILING		
51600	CLASS C CONCRETE RAILING		
51610	CLASS C CONCRETE RAILING		
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51920	CLASS C CONCRETE RAILING		
51930	CLASS C CONCRETE RAILING		
51940	CLASS C CONCRETE RAILING		
51950	CLASS C CONCRETE RAILING		
51960	CLASS C CONCRETE RAILING		
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51990	CLASS C CONCRETE RAILING		
52000	CLASS C CONCRETE RAILING		

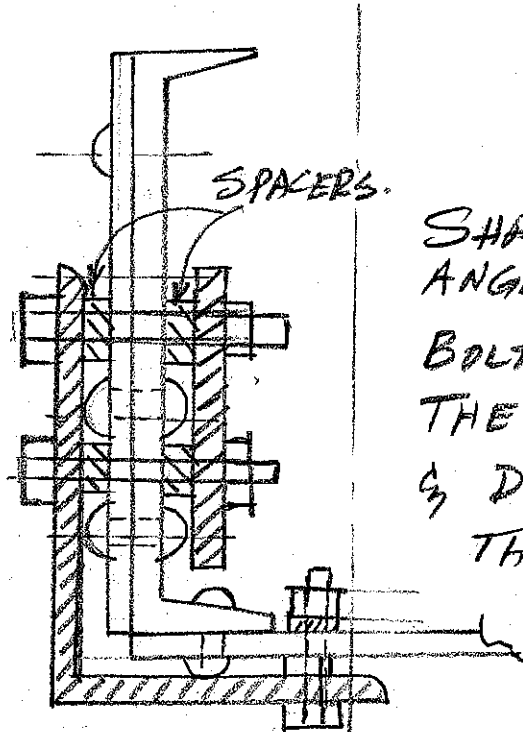
STRUCTURE PAY ITEMS		STRUCTURE	TOTAL QUANTITY
CODE NO.	DESCRIPTION		
51133	TIMBER PILES FURNISHED, UNTREATED		
51140	TIMBER PILES DRIVEN, UNTREATED		
51145	TIMBER PILES FURNISHED, TREATED		
51150	TIMBER PILES DRIVEN, TREATED		
51155	PILE SHIELDS FURNISHED AND DRIVEN (12 INCH)		
51160	PILE SHIELDS FURNISHED AND DRIVEN (14 INCH)		
51165	STEEL PILES FURNISHED AND DRIVEN (8" X 36")		
51170	STEEL PILES FURNISHED AND DRIVEN (10" X 42")		
51175	STEEL PILES FURNISHED AND DRIVEN (12" X 48")		
51180	STEEL PILES FURNISHED AND DRIVEN (14" X 54")		
51185	STEEL PILES FURNISHED AND DRIVEN (16" X 60")		
51190	STEEL PILES FURNISHED AND DRIVEN (18" X 66")		
51195	STEEL PILES FURNISHED AND DRIVEN (20" X 72")		
51200	PILE ENCASEMENT (CONCRETE)		
51205	REMOVAL OF PRESENT STRUCTURE (FOOTING)		
51210	REMOVAL OF PRESENT STRUCTURE (COLUMN)		
51215	REMOVAL OF PRESENT STRUCTURE (WALL)		
51220	REMOVAL OF PRESENT STRUCTURE (SLAB)		
51225	REMOVAL OF PRESENT STRUCTURE (PIERCING AND APPROACHES JACKING AND SUPPORTING)		
51230	STEEL TRUSS		
51235	CONCRETE SLOPEWALL 5 INCH		
51240	CONCRETE SLOPEWALL 6 INCH		
51245	CONCRETE SLOPEWALL 7 INCH		
51250	CONCRETE SLOPEWALL 8 INCH		
51255	CONCRETE SLOPEWALL 9 INCH		
51260	CONCRETE SLOPEWALL 10 INCH		
51265	CONCRETE SLOPEWALL 11 INCH		
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51275	CONCRETE SLOPEWALL 13 INCH		
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51285	CONCRETE SLOPEWALL 15 INCH		
51290	CONCRETE SLOPEWALL 16 INCH		
51295	CONCRETE SLOPEWALL 17 INCH		
51300	CONCRETE SLOPEWALL 18 INCH		
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51310	CONCRETE SLOPEWALL 20 INCH		
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51680	CONCRETE SLOPEWALL 94 INCH		
51685	CONCRETE SLOPEWALL 95 INCH		
51690	CONCRETE SLOPEWALL 96 INCH		
51695	CONCRETE SLOPEWALL 97 INCH		
51700	CONCRETE SLOPEWALL 98 INCH		
51705	CONCRETE SLOPEWALL 99 INCH		
51710	CONCRETE SLOPEWALL 100 INCH		

APPROACH PAY ITEMS		STRUCTURE	TOTAL QUANTITY
CODE NO.	DESCRIPTION		
02030	UNCLASSIFIED EXCAVATION		
02040	COMMON EXCAVATION		
02050	BORROW		
02060	B BORROW		
02070	B BORROW FOR STRUCTURE BACKFILL		18.1
02080	REMOVAL OF PAVEMENT		26.6
02090	REPAIRING PAVEMENT		
02100	REMOVAL OF BITUMINOUS SURFACE		266
02110	REMOVAL OF BITUMINOUS SURFACE		
02120	REMOVAL OF BITUMINOUS SURFACE		
02130	REMOVAL OF BITUMINOUS SURFACE		
02140	REMOVAL OF BITUMINOUS SURFACE		
02150	REMOVAL OF BITUMINOUS SURFACE		
02160	REMOVAL OF BITUMINOUS SURFACE		
02170	REMOVAL OF BITUMINOUS SURFACE		
02180	REMOVAL OF BITUMINOUS SURFACE		
02190	REMOVAL OF BITUMINOUS SURFACE		
02200	REMOVAL OF BITUMINOUS SURFACE		
02210	REMOVAL OF BITUMINOUS SURFACE		
02220	REMOVAL OF BITUMINOUS SURFACE		
02230	REMOVAL OF BITUMINOUS SURFACE		
02240	REMOVAL OF BITUMINOUS SURFACE		
02250	REMOVAL OF BITUMINOUS SURFACE		
02260	REMOVAL OF BITUMINOUS SURFACE		
02270	REMOVAL OF BITUMINOUS SURFACE		
02280	REMOVAL OF BITUMINOUS SURFACE		
02290	REMOVAL OF BITUMINOUS SURFACE		
02300	REMOVAL OF BITUMINOUS SURFACE		
02310	REMOVAL OF BITUMINOUS SURFACE		
02320	REMOVAL OF BITUMINOUS SURFACE		
02330	REMOVAL OF BITUMINOUS SURFACE		
02340	REMOVAL OF BITUMINOUS SURFACE		
02350	REMOVAL OF BITUMINOUS SURFACE		
02360	REMOVAL OF BITUMINOUS SURFACE		
02370	REMOVAL OF BITUMINOUS SURFACE		
02380	REMOVAL OF BITUMINOUS SURFACE		
02390	REMOVAL OF BITUMINOUS SURFACE		
02400	REMOVAL OF BITUMINOUS SURFACE		
02410	REMOVAL OF BITUMINOUS SURFACE		
02420	REMOVAL OF BITUMINOUS SURFACE		
02430	REMOVAL OF BITUMINOUS SURFACE		
02440	REMOVAL OF BITUMINOUS SURFACE		
02450	REMOVAL OF BITUMINOUS SURFACE		
02460	REMOVAL OF BITUMINOUS SURFACE		
02470	REMOVAL OF BITUMINOUS SURFACE		
02480	REMOVAL OF BITUMINOUS SURFACE		
024			

Appendix D – Copy of 2009 Plans

Structure/Project No. DES #0100917

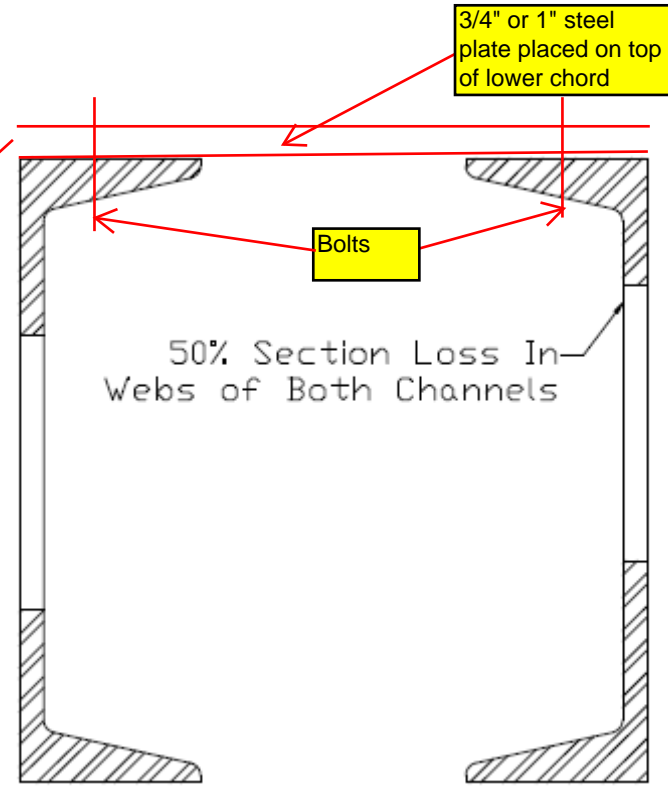
Design Computations for: PROPOSAL, POSSIBILITY OF REPAIRS



SHADED IS NEW
 ANGLES OR SPACERS
 BOLTS ARE THROUGH
 THE NEW MEMBERS
 & DRILLED HOLES IN
 THE EXISTING MEMBERS.

IF ANGLES ARE
 USED ON BOTH
 CHANNEL OPPOSITE TO
 EACH OTHER, WE
 CAN CONSIDER
 LONG THROUGH BOLTS
 WITH SPACERS ONLY ON THE
 OUTSIDE.

⊕ BUILT-UP MEMBERS.



Appendix E – Copy of 1936 Photographs of Project Site



0-6550



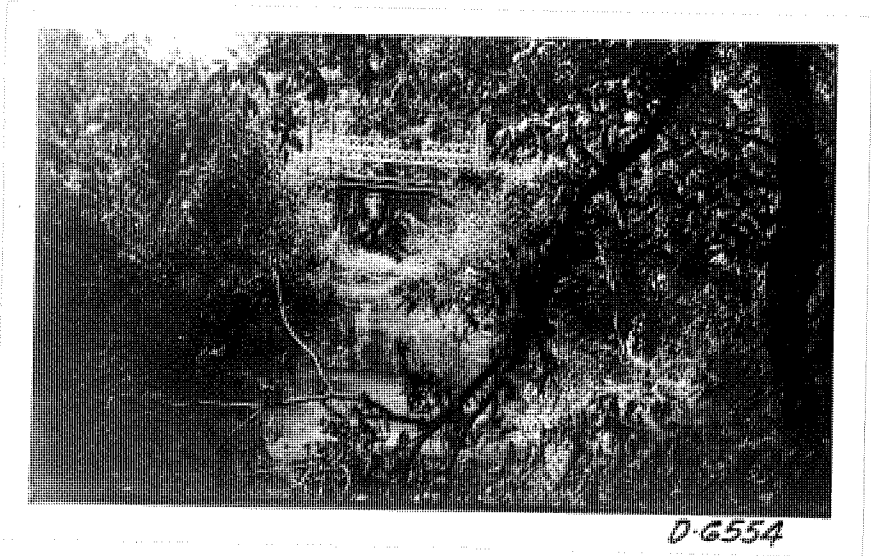
0-6551



0-6552



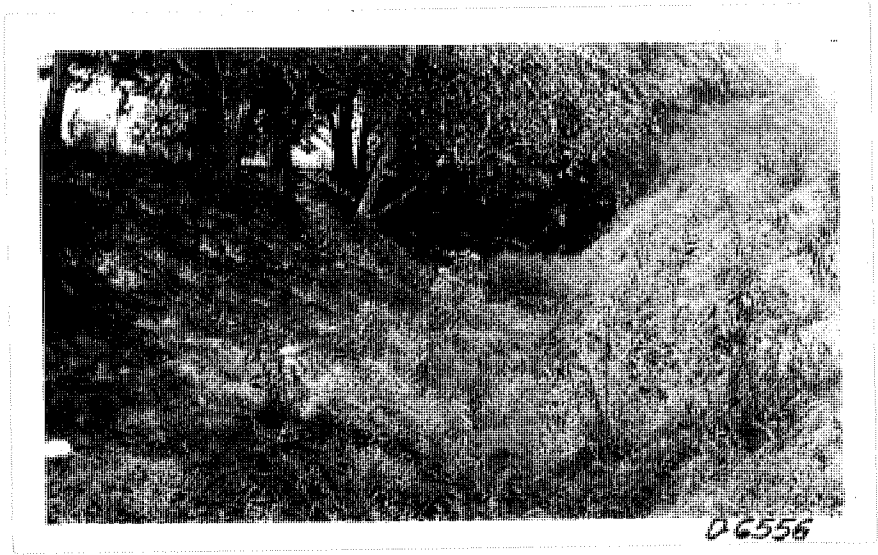
D-6553



D-6554



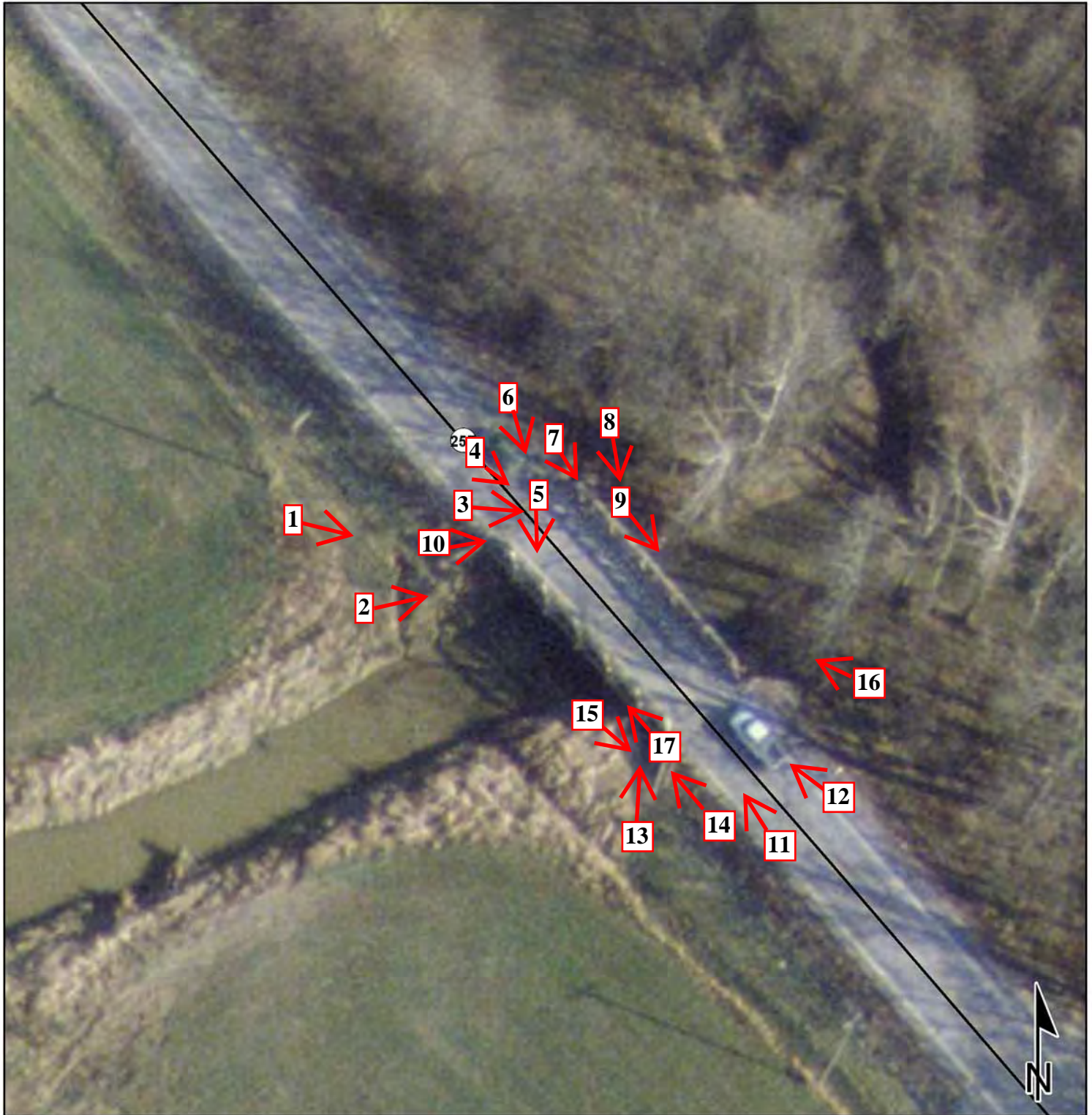
D-6555



06556

Appendix F – Copy of 2009 Photographs

INDOT Des. No. 0100917
Bridge No. 257-14-03017A
SR 257 over Veale Creek
Daviness County, Indiana
Photo Key



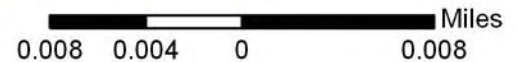
Sources: Non Orthophotography

Data - Obtained from the State of Indiana Geographical Information Office Library

Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)

Map Projection: UTM Zone 16 N Map Datum: NAD83

Scale 1:506



This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.

DIGITAL PHOTO LOG

Bridge #257-14-03017A
SR 257 over Veale Creek
Washington Township, Daviess County
Des. No. 0100917
Photographs Taken March 18, 2009
Patrick Carpenter

Photo #	Image File #	Description
1	IN_DaviessCounty_Bridge#257-14-03017A_0001.tif	Looking southeast; west elevation of truss
2	IN_DaviessCounty_Bridge#257-14-03017A_0002.tif	Looking east; west elevation of truss
3	IN_DaviessCounty_Bridge#257-14-03017A_0003.tif	Looking southeast; interior of east truss
4	IN_DaviessCounty_Bridge#257-14-03017A_0004.tif	Looking southeast from roadway; towards south approach
5	IN_DaviessCounty_Bridge#257-14-03017A_0005.tif	Looking south; interior of west truss
6	IN_DaviessCounty_Bridge#257-14-03017A_0006.tif	Looking south from shoulder; towards south approach
7	IN_DaviessCounty_Bridge#257-14-03017A_0007.tif	Looking southeast; northeast end of east truss with view of cantilevered braces
8	IN_DaviessCounty_Bridge#257-14-03017A_0008.tif	Looking south from northeast abutment; exterior of east truss
9	IN_DaviessCounty_Bridge#257-14-03017A_0009.tif	Looking southeast; exterior of east truss, looking through braces
10	IN_DaviessCounty_Bridge#257-14-03017A_0010.tif	Looking east; northwest corner abutment
11	IN_DaviessCounty_Bridge#257-14-03017A_0011.tif	Looking northwest towards bridge from west side of road; north approach
12	IN_DaviessCounty_Bridge#257-14-03017A_0012.tif	Looking northwest towards bridge from east side of road; north approach
13	IN_DaviessCounty_Bridge#257-14-03017A_0013.tif	Looking north; exterior of west truss; from southwest corner
14	IN_DaviessCounty_Bridge#257-14-03017A_0014.tif	Looking northwest; exterior of west truss; from southwest corner
15	IN_DaviessCounty_Bridge#257-14-03017A_0015.tif	Looking southeast; southwest corner abutment
16	IN_DaviessCounty_Bridge#257-14-03017A_0016.tif	Looking northwest; exterior of east truss from southeast corner
17	IN_DaviessCounty_Bridge#257-14-03017A_0017.tif	Looking northwest; exterior of west truss through braces; from southwest corner



Photograph 1



Photograph 2



Photograph 3



Photograph 4



Photograph 5



Photograph 6



Photograph 7



Photograph 8



Photograph 9



Photograph 10



Photograph 11



Photograph 12



Photograph 13



Photograph 14



Photograph 15



Photograph 16



Photograph 17

“129 Highway Employees to be Dismissed.” *Washington Democrat*, April 27, 1939.

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