NPS Form 10-900
(Oct. 1990)

OMB No. 10024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

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This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name **Feeder Dam Bridge**

other names/site number Eel River Bridge; Clay County Bridge #208 021-113-45006

2. Location

street & number Towpath Road (CR 55W) over Eel River N/A ☐ not for publication

city or town Clay City ☒ vicinity

state Indiana code IN county Clay code 021 zip code 47841

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this ☒ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36CFR Part 60. In my opinion, the property ☒ meets ☐ does not meet the National Register criteria. I recommend that this property be considered significant ☐ nationally ☐ statewide ☒ locally. (☐ See continuation sheet for additional comments.)

Signature of certifying official/Title — Date 1/25/00

Indiana Department of Natural Resources
State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. (☐ See continuation sheet for additional comments.)

Signature of certifying official/Title — Date

State or Federal agency and bureau

4. National Park Service Certification

I hereby certify that the property is:

☒ entered in the National Register.
☐ See continuation sheet.
☐ determined eligible for the National Register
☐ See continuation sheet.
☐ determined not eligible for the National Register
☐ removed from the National Register
☐ other, (explain:) _____

Signature of the Keeper — Date of Action

Edson H. Beall 3/15/00

Feeder Dam Bridge — Clay IN
Name of Property — County and State

5. Classification

Ownership of Property
(Check as many boxes as apply)

- ☐ private
- ☒ public-local
- ☐ public-State
- ☐ public-Federal

Category of Property
(Check only one box)

- ☐ building
- ☐ district
- ☐ site
- ☒ structure
- ☐ object

Number of Resources within Property
(Do not include previously listed resources in the count)

Contributing	Noncontributing	
0	0	buildings
0	0	sites
1	0	structures
0	0	objects
1	0	Total

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing.)

N/A

Number of contributing resources previously listed in the National Register

0

6. Function or Use

Historic Functions
(Enter categories from instructions)

TRANSPORTATION: Road-Related (vehicular)

Current Functions
(Enter categories from instructions)

VACANT Not in use

7. Description

Architectural Classification
(Enter categories from instructions)

OTHER: Whipple through truss

Materials
(Enter categories from instructions)

foundation
walls
roof
other METAL
STONE

Narrative Description
(Describe the historic and current condition of the property on one or more continuation sheets.)

Feeder Dam Bridge
Name of Property

Clay IN
County and State

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

☒ **A** Property is associated with events that have made a significant contriibution to the broad patterns of our history.

☐ **B** Property is associated with the lives of persons significant in our past.

☐ **C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

☐ **D** Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations
(Mark "x" in all the boxes that apply.)

Property is:

☐ **A** owned by a religious institution or used for religious purposes.

☐ **B** removed from its original location.

☐ **C** a birthplace or grave.

☐ **D** a cemetery.

☐ **E** a reconstructed building, object, or structure.

☐ **F** a commemorative property.

☐ **G** less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance
(Enter categories from instructions)

TRANSPORTATION

Period of Significance

1894-1949

Significant Dates

1894

Significant Person
(Complete if Criterion B is marked above)

N/A

Cultural Affiliation

Architect/Builder

C.F. Hunt Company, Indianapolis

Narrative Statement of Significance
(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographic References

Bibliography
(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS):

☐ preliminary determination of individual listing (36 CFR 67) has been requested

☐ previously listed in the National Register

☐ previously determined eligible by the National Register

☐ designated a National Historic Landmark

☐ recorded by Historic American Buildings Survey # _____

☐ recorded by Historic American Engineering Record # _____

Primary location of additional data:

☒ State Historic Preservation Office

☐ Other State agency

☐ Federal agency

☒ Local government

☐ University

☐ Other

Name of repository:

Feeder Dam Bridge
Name of Property

Clay IN
County and State

10. Geographical Data

Acreage of Property Less than 1 acre

UTM References
(Place additional UTM references on a continuation sheet.)

	Zone	Easting	Northing
1	16	490220	4353850
2			
3			
4			

☐ See continuation sheet

Verbal Boundary Description
(Describe the boundaries of the property on a continuation sheet.)

Boundary Justification
(Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title John Warner

organization _____ date 6-1-99

street & number 5018 Broadway Street telephone (317) 283-5450

city or town Indianapolis state IN zip code 46205

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

A **USGS map** (7.5 or 15 minute series) indicating the property's location.

A **Sketch map** for historic districts and properties having large acreage or numerous resources.

Photographs

Representative **black and white** photographs of the property.

Additional items
(Check with the SHPO or FPO for any additional items)

Property Owner

(Complete this item at the request of SHPO or FPO.)

name Board of Commissioners, Clay County

street & number 609 East National Ave. telephone 812-448-9001

city or town Brazil state IN zip code 47834

National Register of Historic Places Continuation Sheet - Feeder Dam Bridge #208

Section 7 Description

The C. F. Hunt Company of Indianapolis, Indiana built this single-span double intersection Pratt (Whipple) through truss (photo 1). Positioned on its original stone abutments, the 206' long span contains 11 panels, has an 18' 3' roadway and 15' 5" portal clearance. The intermediate verticals are constructed of two different sizes of latticed channels (channels on the outer panels nearer the abutments are of a heavier gauge), which are riveted to pin plates at the upper end and reinforcing pin plates at the lower end. The upper pins on the two center verticals carry cylindrical diagonals with turnbuckles. Diagonals stretching across two panels (Whipple design) are pinned at the midpoint of the center of the three verticals involved. The deck, now covered by asphalt, was originally oak planks fixed to stringers spanning the space between the floor I-beams. The floor I-beams are suspended below and at 90% angle to the lower chord and from the panel pins through the use of double U-shaped bolts.

Although over 100 years old and despite a lack of maintenance over the last 44 years, the bridge's integrity is excellent. The decorative portal detailing (photo1) and the lacey visual appearance of its verticals, diagonals, and counters (photo 2) present an image that is both delicate and enduring, qualities not found in more recent examples of the bridge-building craft.

The abutments of bridges of this period were generally built using dressed stone with stone wing walls to protect the shoulder of the abutments from damage from flood and/or debris (photo 3). Often, local stonemasons under separate contract built these abutments with the county commissioners and bridge companies supplied and supervised the erection of the superstructure.

Bridges possess two distinct ends, the fixed end and the expansion end to allow for temperature changes and other expansion and contraction-inducing factors. Expansion/ contraction stress relief was accomplished by including roller bearing nests under the same endposts of each truss; together they form the expansion end of the bridge. The roller bearing nests on the Feeder Dam Bridge are on the east end (photo 4). In the photo, the endpost is at the very top center of the frame; the connecting pin that holds the endpost to the shoe is visible above an angled, riveted plate with an elongated hole. The flat bedplate fixed to the abutment provides the surface upon which the roller bearings move. The bearings are held in place by raised edges on the bedplate and the retainers along the sides of the roller nest.

Photo 5 shows the addition of a layer of asphalt over the last oak flooring on the deck of the bridge. The upper right limit of the hole allows a view of a portion of metal stringer supporting the decking.

The floor beam, lower chord, and vertical arrangements vary in truss bridges. In photo 6, center frame, is a typical example the floor I-beam, lower chord, panel connecting-pin, and vertical configuration found in many pin-connected truss bridges. The round bar appearing in the center left of the frame is part of the floor diagonal bracing system; the convex fitting and threaded nut are also part of the same system. The convex fitting provides a flat surface against which the nut can be turned to tighten

or loosen that particular diagonal brace. Above the connecting pin/lower chord junction is a latticed vertical; the lighter gauge of the channels indicates that it is a vertical near the center of the truss.

Section 8 Significance

Now abandoned, County Bridge #208, AKA Feeder Dam Bridge is significant under Criterion A for its association with events that defined the settlement and economic development of Clay County, Indiana. As the major crossing point of the Eel River for east-west traffic in the region, the bridge served the townships of Perry, Sugar Ridge, and Harrison for over six decades and provided access to local farmers and coal producers to their local communities and distant markets. Feeder Dam Bridge is one of only four county-owned metal truss bridges extant and the only known work of the C. F. Hunt Company remaining in existence.

Clay County, Indiana, named for the noted statesman Henry Clay, was originally a part of a land cession from the Delaware, Potawatomie, and Miami Indians in 1809. This elevated portion of the Wabash Valley was heavily forested with burr oak, ash, beech, elm, black walnut, and gum trees when the General William H. Harrison marched through the area in 1812 on his way to Fort Harrison on the Wabash from Vincennes, Indiana, on the lower Wabash River. With Harrison's command was a private soldier by the name of Samuel Rizley, who liked the land around Bowling Green so much he later returned to become one of the county's earliest white settlers.

The topography of the Eel River Basin proved to be one major factor in developing the transportation and industrial history of the county. At the time of settlement, the county contained as many as thirty streams, large and small, and the Eel River that traverses the county from Cass Township in the northeast, meanders through Washington, Sugar Ridge, Harrison, Perry, and Lewis Townships and exits the county in the southeast corner. With a very small change of elevation throughout its length, the river tended to flood at regular intervals and created an obstacle to travel even at its lowest depth in the dry months of the year. The Eel River, along with its major tributary, Birch Creek that drains much of the center of the county, often confounded personal travel and transportation of goods by early settlers. Birch Creek gained early historic significance in the county as a feeder stream to the Wabash and Erie Canal. On a positive note, streams like Jordan Creek, situated in some places in rugged terrain, provided enough fall to power mills, both saw and flouring. Another topographical factor in county development was the presence of a number of sloughs and marshy areas that once drained and controlled made accessible fertile land suitable for farming.

After 1816 and Indiana's statehood was a fact, the General Assembly and other private citizens sought ways to make Indiana a place attractive to settlers and entrepreneurs searching for opportunities. Indiana, like the other states carved from the Northwest Territory, lacked even a rudimentary infrastructure that would spur the influx of settlement. More importantly, an infrastructure to serve as the means to import goods

these new citizens would need to live and export excess production that would result from the burgeoning economy. Debate on a solution continued until in 1827, the US Congress offered Indiana a substantial land grant to build a canal, the Wabash and Erie Canal, that when completed would connect Lake Erie with the Ohio River via the Wabash River. The canal would impact the history of Indiana and Clay County.

In 1832, construction on the canal began at Fort Wayne, Indiana, and progressed fitfully through the next two decades and reached Evansville, Indiana, in the early 1850s. Part of the canal system was the Cross-cut Canal that was to connect the Wabash and Erie with the never-constructed Central Canal in the vicinity of Worthington in Greene County. The Cross-cut Canal traversed the south west quadrant of Clay County and accounts for the names of well-known county historic assets/ events such as Feeder Dam Bridge, Aqueduct or Towpath Bridge, Towpath Road, and the Reservoir War of 1855. The Wabash and Erie Canal only operated over its full length of 459 miles for approximately a decade, but its short existence belies its importance in the growth of the Wabash River Valley and the State of Indiana.

Water transportation was not the only element of infrastructure developing in the county in the 1850s. The first railroad survey for the Terre Haute & Richmond Railroad was made in 1849. In 1850, construction of the rails began with work commencing from both ends of the line – Indianapolis and Terre Haute – simultaneously. By 1852, daily freight and passenger trains were crossing the county. By 1872, railroad tracks from the Terre Haute & Cincinnati Railroad and the Brazil branch of the Evansville & Indianapolis Railroad also crisscrossed the county.

Starting with privately-financed/built turnpikes and continuing through the latter decades of the 19th century, Clay County made steady progress in improving its ground system of transportation. Private individuals like David Thomas, who started and operated a ferry across the Eel River west of Bowling Green for almost 50 years, provided a service to the casual traveler, the farmer going to market, and the wagons carrying coal from the small mines in the county. Parker's Ferry, named for its owner/operator William B. Parker, crossed the Eel River west of Poland, carried folks and wagons across the stream for approximately 35 years before a bridge was built north (upstream) of the ferry site. As population increased, more acres were farmed, and more products needed to get to market, the necessity for more permanent solutions to transportation problems in the county became more apparent.

The 1870s and 1880s in Clay County witnessed many changes. The extensive coal reserves in the county were identified early in the development of the county. From initial estimates, the coal area was found to encompass roughly 300 square miles in the south half of the county. Its positive economic potential for the county was obvious to many but one source defined a problem that could thwart progress because, "for want of suitable transportation ... only a small portion of it [coal reserves] ... can be made available for mining purposes." While railroads would eventually haul the majority of the coal mined in the county, mines not near a railhead or those earliest mines were dependent on wagon transportation to get their coal to the consumers. For example, the

pig iron furnaces around Brazil would have ceased to function without adequate supplies of coal.

The need to transport agricultural products to market also spurred development of a more all-weather infrastructure. Clay County's farmers were hard at work to raise more corn and wheat to move to market as grain or as flour processed in some of the local flouring mills. The 790,000 bushels of corn produced in the county in the 1880s nearly doubled to 1,346,160 bushels in the 1890s; a significant achievement but without purpose unless the grain reached market. Wheat, another county-grown grain, increased from 165, 600 bushels in the 1880s to 267, 590 bushels in the 1890s; another admirable achievement. County officials harkened to the needs of the taxable public and moved forward to resolve transportation issues.

As population grew and production of agricultural items and coal increased in the post Civil War decades, county officials and citizens realized that without good roads and all-weather stream crossings real limits to economic success existed in the region. Around 1868, the county commissioners appear to have taken a major step in resolving some stream crossing problems when they directed construction of a covered wooden bridge over the Eel River west of Bowling Green. Built by the firm of Rarick & Black the bridge cost $12,000 to complete. Next, around 1871, the commissioners engaged contractors Ernst Muehler and David Notter, a firm that operated in Clay County during the 1870s and 1880s, to build a bridge across Jordan Creek north of Bowling Green. The firm was associated with the construction of many of the stonework abutments on Clay County bridges of that era. It might be worthy to note that Bowling Green was the county seat until 1877, when the seat of government was moved to the city of Brazil.

Once committed to furnishing permanent over-water crossings, the county commissioners moved rapidly to contract with Muehler & McNamar for the Poland covered wooden bridge over Eel River for $7,200 (1872), and with William Graber and Levi Fair for the Hooker's Point bridge for $6,300 (1876). Later destroyed in 1883 by an act of nature, this bridge was replaced by an iron bridge from the Canton Iron Bridge Company, Canton, Ohio, at a cost of $5,120. Muehler & Notter furnished the stone abutments for $600.00. Muehler & Notter also built the first Feeder Dam Bridge over the Eel River, a wooden structure (1878) at a cost of $8,700. The first iron bridges built over Birch Creek were built by Muehler & Notter on the Bowling Green & Brazil Road (1878), the Birch Creek Reservoir bridge near Saline City (1880), and the abutments for the aqueduct bridge (1880).

Advances in technology, reduced cost of wrought iron, and the availability of rolled products in desired sizes, shapes and lengths, in the second half of the 19th century, lead to a greater use of metal in building bridges. By the 1880s, the use of pin-connected iron bridges became standard practice in the United States. When the wooden Feeder Dam Bridge burned one evening in July 1893, a Pratt (Whipple) through truss, pin-connected bridge replaced it.

Before it could be replaced, the county commissioners, as required by law, gave notice of letting a contract to rebuild the bridge. Published in the *Clay County Enterprise,* the notice called for sealed bids to be received until one o'clock, 15

September, 1894, for construction of the earthworks, stone abutments, and superstructure under one contract. Plans and specifications for the work were available in the County Auditor's office. Two bidders presented sealed bids for the job, the Canton Iron Bridge Company, Canton, Ohio, and the C.F. Hunt Company, Indianapolis. Award of the contract to the C.F. Hunt Company was announced on 27 September 1894 in the *Enterprise*. The description of the bridge, which accompanied the award notice, was as follows: "all steel, 204 feet in length, from centre to centre of pins, 32 feet high, and a double quadrangular Pratt truss, capable of standing a live load of 1,800 pounds per lineal foot and 500 pounds dead load per lineal foot." The cost of this modern bridge was $5,000.

Although the contract with the C.F. Hunt Company was approved, the location of this new bridge was not a done deal. Petitioners in the county filed suit against the Board of County Commissioners to restrain them from "making payment of public moneys" on the contract for the new bridge. The petitioners wanted the location of the new bridge to be moved to a point directly south of Cherokee near the railroad crossing. After the Board's chairman, Mr. Hoffman, informed the complainants that the bridge "would be rebuilt on the old site, whatever the outcome of the litigation instituted," the petitioners withdrew their suit and construction of the bridge was completed.

After serving the county for approximately 60 years, the Feeder Dam Bridge was abandoned in 1955 and both ends of the bridge were blocked to preclude its use for vehicular traffic. Today, the bridge stands as a stately presence over the Eel River; a symbol of the industrial prowess of the iron and steel manufacturers of the United States in the last half of the 19th century and that use of their products by American bridge builders of the period.

Section 9 Bibliography

Blanchard, Charles, ed. *Counties of Clay and Owen, Indiana, Historical and Biographical Atlas.* (Chicago, Ill.: F. A. Battey & Company, 1884).

Brazil Daily Times, 6 July 1926.

Brazil Weekly Democrat, 12 March 1917.

Bridge Papers, Clay County, Indiana. County Auditor's Files, 1897-1926.

Clay County Enterprise, 16 August 1894, 27 September 1894, and 7 February 1895.

Commissioner's Records. Clay County, Indiana, 1880-1926.

Edwards, Llewellyn N. *A Record of the History and Evolution of Early American Bridges.* (Orono, Me.: University Press, 1959.

Hool, George A. and W. S. Kinne, eds. *Steel and Timber Structures.* (New York: McGraw-Hill Book Company, 1942).

Travis, William. *History of Clay County, Indiana. Vols. 1&2.* (Chicago, Ill.: Lewis Publishing Company, 1909).

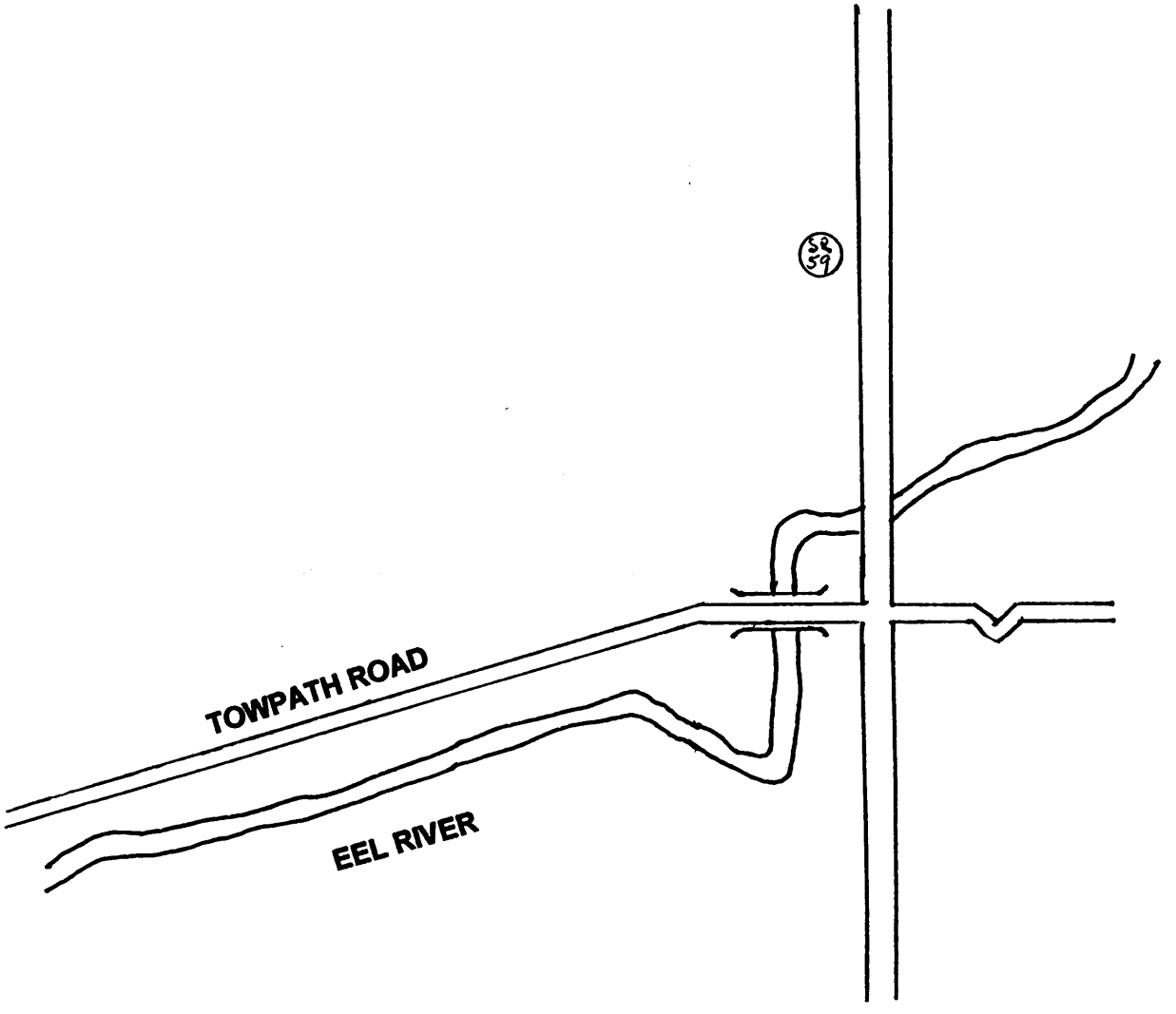
Section 10 Geographical Data

Verbal Boundary Description

From a point 50 feet east and 10 feet north of the northeast endpost of the bridge; turn south and proceed across Towpath Road to a point 50 feet east and 10 feet south of the southeast endpost of the bridge; turn west and proceed across the river to a point 50 feet west and 10 feet south of the southwest endpost of the bridge; turn north and proceed across Towpath Road to a point 50 feet west and 10 feet north of the northwest endpost of the bridge; turn east and proceed across the river to close on the start point.

Boundary Justification

The boundary as described includes the approaches, abutments, wingwalls, and span, and the immediate environs of the bridge.



N

FEEDER DAM BRIDGE
CLAY COUNTY, INDIANA
N ½, NW ¼, S 10, T 10N, R 7W

Not to Scale