

Bridge Street Bridge  
Spanning Little French Creek at Bridge Street  
Union City  
Erie County  
Pennsylvania

HAER No. PA-91

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PA,  
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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD  
MID-ATLANTIC REGION NATIONAL PARK SERVICE  
DEPARTMENT OF THE INTERIOR  
PHILADELPHIA, PENNSYLVANIA 19106

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HISTORIC AMERICAN ENGINEERING RECORD

Bridge Street Bridge

HAER No. PA-91

Location: Spanning Little French Creek at Bridge Street  
Union City, Erie County, Pennsylvania

UTM: 17.596605.4638480  
Quad: Union City

Date of Construction: 1897

Builder/Designer: Wrought Iron Bridge Company of Canton, Ohio

Present Owner: Pennsylvania Department of Transportation

Present Use: Carry traffic over Little French Creek (south branch)

Significance: The Bridge Street Bridge over Little French Creek in Union City is a Through Pratt Truss metal bridge. It crosses Little French Creek immediately below a dam and mill pond that provided water power to a series of grist, saw, and flour mills that occupied the banks of the creek below the bridge. Torrential rains in early June 1892 caused flooding that washed out Clark's Dam and the bridge there, and damaged the Main and High Street bridges farther downstream. Still saddled with heavy debts from replacing the other two bridges and other civic improvements, Union City let a contract for a new bridge at Bridge Street for a bid cost of \$2,562 in 1897, by which time the mill site had passed its economic peak. After 1900, Clark's Mill declined in economic vitality; it failed in the 1929 crash and was sold at a sheriff's sale in 1936. The reduced importance of Bridge Street and its bridge is reflected in the failure of the borough to pave the street until the 1950s. Repaired several times, the bridge continues to deteriorate and must be replaced. With its disappearance, Union City will lose another nostalgic reminder of a vital period in its history.

Project Information: This recordation project is a part of a program to document historically significant bridges that are to be replaced in Pennsylvania's Billion Dollar Bridge Improvement Program. Under contract to the Pennsylvania Department of Transportation, GAL Consultants,

Inc., prepared this documentation. The field work, measured drawings, and historical reports were prepared under the general direction of Dr. William P. McHugh, Staff Archeologist. The recording team consisted of John S. Prizner, Engineering Manager; Guy A. Yerace, Senior Draftsman; Harry J. Smeltzer, Senior Engineer; John Bauman, Project Historian; and Ms. Jean Clark, Local Historian.

Edited and

Transmitted by:

Jean P. Yearby, HAER, 1987

## PART I. HISTORY OF THE BRIDGE STREET BRIDGE

### Introduction

In 1892, Union City, Pennsylvania, experienced a devastating flood that either destroyed or severely damaged the town's three important bridges over Little French Creek. Between 1892 and 1897, all of these bridges were replaced. This report concerns one of those bridges, the Through Pratt Truss bridge over Little French Creek at the site of Clark's Mill dam (the present Bridge Street bridge). The Wrought Iron Company of Canton, Ohio, built this bridge in 1897 to replace the wooden bridge damaged in the 1892 flood. Wrought Iron Bridge's Through Pratt Truss bridge over Little French Creek is a typically simple, attractive structure. The important of the bridge is not in its design and technology, but rather in the fact that it exemplifies the progressive impulses that motivated Union City's reconstruction efforts, part of a series of civic improvements in the late 1800s. In fact, this report argues that within the context of the social and economic history of Union City, it is possible to interpret the building of the new Bridge Street bridge in 1897 as a crucial, albeit symbolic, event marking the end of a long era of town history in which water power dominated the economic development of the town, and the beginning of an era when manufacturing of wooden furniture, especially chairs, came to characterize the economy of Union City.

### Background

Square-shaped Union Township is nestled on the southern edge of once-glaciated Erie County. Drained by the flood-prone South Branch of French Creek (also called Little French Creek), and by countless meandering little runs, Union Township is anchored at its very center by Union City Borough, the site of the Bridge Street bridge. The name Union commemorates the Christian belief in spiritual wholeness experienced through salvation. The name originated amidst the eschatological rapture which swept New England and northern New York during the Second Great Awakening and washed down into northern Pennsylvania. This movement yielded a host of place names including Harmony, Unity, Concord, and Amity. In the 19th century, Union City frequently hosted revivals and actively supported the ministry of the popular evangelical minister Reverend Dewitt Talmadge. It was also a center of Women's Christian Temperance Union activity. As late as 1897, the moralistic play "Ten Nights in a Barroom" was considered the most popular entertainment in town (Nelson 1896: 352-353).

The fires of revival still burned brightly throughout young America in 1800 when William Miles, a young Scotch-Irish immigrant moved his family to the Union Township area of Pennsylvania. Miles had fought in the American

Revolution and had been captured by the Iroquois and imprisoned in Quebec. He built a dam on the south branch of French Creek and erected a grist and sawmill. In 1785, Miles had surveyed the donation district lands in northwestern Pennsylvania (lands set aside for payment to the veterans of the American Revolution), and in 1796 he built a storehouse in the region and traded furs and supplies. Miles' first mill burned in 1801 and, a year later, he rebuilt the mill and entrusted its management to Richard Shreve, an experienced miller who ran the mill during the 1820s and 1830s. Before founding the nearby town of Wattsburg and moving his family there, William Miles acquired and cleared hundreds of acres of Union Township land and opened numerous roads in the area including, very likely, part of the roadway which in the 1870s was named Bridge Street (Morris 1884: 690; Wilson 1881: 51); Nelson 1896: 353).

Among the earliest settlers in what was called Miles Mill was Hugh Wilson, an Irish immigrant who arrived in Union Township about 1797 (Wilson 1881: 15-30). Reminiscences of these early settlers to the Union Township region portray a rugged land and an equally rugged society. In addition to the Miles grain mill, small fulling and carding mills lined the banks of Little French Creek. By 1820, extensive logging operations were denuding the once lush forest of oak, ash, hemlock, and pine. With a young lumbering, farming, and grazing economy underway, Hugh Wilson helped carve out a serpentine roadway from Warren, Pennsylvania, to Waterford. The road passed through Miles Mill, and local historians conjecture that this early road may have snaked through the Miles Mill site along a route that included part of present Bridge Street, then along now-abandoned Miles Street (Jean Clark, per. comm.; Wilson 1881: 30-31).

Until 1855, Union Township and Miles Mill remained thinly settled. It was little more than a slender strand of small mills strung along the south branch of French Creek. All of these mills on Little French Creek and its tributaries operated by damming the stream, cutting a millrace, and harnessing the current to operate a saw or milling equipment. In 1850, the Census of Manufactures listed seven manufactories in Union Township: four sawmills, a grist mill, a lathe mill, and a tannery (U. S. Census of Manufactures 1850). On the cleared land surrounding Miles Mill, grazing and dairying had taken hold, and in time the township became a center for cheesemaking (Miller 1909).

It was in 1855 that H. L. Church, A. L. Somerton, and D. M. McLoed, entrepreneurs from Warren, Pennsylvania, moved to Miles Mill, purchased and rebuilt several of the mills, opened a store, and commenced speculation in town lots. James Miles, son of William Miles, hired David Wilson, the offspring of Hugh Wilson, and instructed him to plot a modern town. By 1865, A. L. Somerton, P. G. Stranahan, and Joseph Sill owned town subdivisions and profited from the sale of city lots.

Two important events sparked this flurry of real estate activity in Union City. First, in 1852 as a director of the Philadelphia and Erie Railroad, James Miles, owner of considerable land in the Union City area, persuaded the Philadelphia and Erie Railroad to route its right-of-way through Miles Mill rather than Wattsburg. The railroad entered the town in 1858 shortly before Edwin L. Drake successfully drilled for oil in Titusville, Pennsylvania. Until 1862, the year the completion of the Oil Creek Railroad diverted oil traffic from the rail head at Union City to rival Corry, Union City basked in oil-soaked prosperity (Nelson 1896: 355-356).

#### Union City as a Rail Head for Titusville Oil

The impact of oil on the young town was dramatic. While Union Township's manufacturing base had enlarged considerably by 1860, from seven establishments in 1850 to 14 in 1860, the town's economy remained dominated by the manufacturing of wood products. Seven firms, including those of H. S. Church, Caleb Thompson, F. E. Fenno, and John Lyons, produced hemlock, pine, and ash boards. Somerton and Church operated the newly-enlarged Miles Mill complex, while John B. Clark and Sherwood opened a shovel handle factory, the advance guard of Union City's future wood products industry (U. S. Census of Manufactures 1860).

Five years later, in 1865, the railroad and oil company profits were booming. In 1859, oil had been discovered in Oil City itself, just south of Church's Mill. By 1865, several wells were producing oil just south of Little French Creek (Nelson 1896: 356; Beers, Ellis, and Soule 1865). In 1876, oil drilling sites appeared just eastward of the Bridge Street bridge site (Everts, Ensign, and Everts Map 1876). The oil shipments from Titusville and Oil City transported on the Spartansburg Road (present Route 89) energized Union City's wood products economy. In 1860, Union Mills had 283 inhabitants and total real property valued at \$98,217. In 1862, the same year the Atlantic and Great Western Railroad was built through Union Mills, the town boasted three refineries and a barrel-making industry, in addition to its lumber and tool handle manufactories (Sanford 1894: 190-191). By 1865, both J. B. Clark Company (incorporated in 1862), and Stranahan and Sherwood produced oil barrels, while Fill, Stearns and Ely and Company, Parsons and Rand (Penn Rock Oil Refinery Company), and Everts and Cook, Jarvis and Ely, and H. M. Jarvis operated refineries. John B. Clark still manufactured shovel handles, H. L. Church continued to mill flour and meal, and P. H. Thompson and Cowden operated a machine shop and planing mill (Union Mills Tax Records 1864; Beers, Ellis, and Soule 1865).

Caught in the whirlwind of a booming oil economy, an exuberant Miles Mill population incorporated itself in 1863 as the town of Union Mills (Child 1873). The townspeople changed the name to Union City in 1871. The loss of the Titusville-Oil City freight to Corry after 1862 gradually extinguished the oil refinery business. Yet, what remained of the once-flourishing oil refining

business proved important for the town's future. Over time, barrel-making bequeathed a wood products industry that marked the town's economy until the present day. Throughout the economic history of Union City, the Bridge Street bridge site occupied an important place (Miller 1909).

#### From Rock Oil to Rocking Chairs

Union City's experience with the oil boom and decline and the restoration of wood products manufacturing as the leading industry was not unique. In fact, Titusville and Warren, Pennsylvania, experienced a similar economic cycle. The discovery and refining of oil represented a critical interlude in the evolution of a wood products-based economy (Weber 1976), and to this day wood products manufacturing remains the keystone of Union City's economic structure. By 1870, oil no longer reigned supreme in Union City, and the town's sawmill economy reemerged, having been eclipsed in 1865 as part of the scramble for oil riches.

The 1870 Census of Manufactures and the 1873 Erie County Business Directory reveal only two relics of the oil era. One was an individual named George Browning who described himself in the 1873 directory as an "oil refiner and plasterer." Six saw and planing mills appear in the 1870 census including both Haniel Clark's and Hunter and Wade's mills. Six more were listed in the 1873 directory. Three grist mills are listed in the 1873 director, among them H. L. Church's and Steenrod's. Barrels remained a major wood product after 1870, and their prominence increased in 1870 with the emergence of Wood and Johnson's barrel factory which was capitalized at \$25,000. It employed 70 workers and produced a barrel inventory valued at \$165,000. Wood and Johnson advertised itself as the largest producer of oil barrels in the United States of America.

Among the other wood products which helped buttress Union City's economy between 1870 and 1873 were J. W. Hunter's wooden pumps and Haniel Clark's shovel handle factory. Abbey Graser and Company were the only advertisers of chairs as a product in 1873 (Child 1873; U. S. Census of Manufactures 1870). Significantly, of Union City's 21 manufactories listed in the 1870 Census of Manufactures, ten were powered by water, only five by steam. Haniel Clark's shovel works employed both steam and water. Five of the water-powered mills, including Haniel Clark's, sat on the south branch of French Creek (U. S. Census of Manufactures 1870; Beers, Ellis, and Soule 1865). Despite Union City's impressive wood industry, the town's economy was predominantly agricultural in 1870. Most of the population listed farming as an occupation, and many of the town's sawmill workers also worked as farmers (Child 1873).

In 1880, the Census of Population for Union City revealed only modest changes in the town's socioeconomic profile. It paralleled, however, the inexorable demographic trend that was sweeping the Western World in the nineteenth century. The town's population rose from 1,500 in 1870 to 2,171 in 1880. As

the size and horsepower of Union City's manufacturing establishments increased, the number of persons listing themselves as farmers decreased and the laboring population rose (U. S. Bureau of the Census 1880; Weber 1899). Eight wood product firms appear in the 1880 Census of Manufactures for Union City. Haniel Clark's Mill, which used Day Turbines for power, employed 40 men, while Union Stave employed 30 men. Thomas Woods continued to manufacture barrels and Hunter still manufactured his wooden pumps. Wheeler operated a small chair works and Blanchard and Hansen made caskets and furniture. In 1880, Union City was on the threshold of becoming a small center of furniture making in Pennsylvania. Just one year later, the Union City Chair Company moved to the town from Jamestown, New York. Although it was destroyed by fire in 1882, the Union City Chair Company was rebuilt and helped establish Union City's reputation as a furniture center (Miller 1909; Nelson 1896).

#### Clark's Mill as a Manufacturing Site

Furniture manufacturing became concentrated on Union City's Main and Crooked streets near the town's rail lines. These furniture makers utilized steam power and were located near the center of the population. Meanwhile, Haniel Clark and the Caflisch brothers (who operated the old P. H. Thompson saw and planing mill) persevered, using a combination of water and steam power from the dammed Little French Creek to operate their lumber and flour mills. The Clark's Mill site probably dates to the 1820s or 1830s. In his history of Erie County, John Miller traced the mill of Clark and Sherwood to the site as early as 1842 (Miller 1909: 537). The 1850 Census of Manufactures contain a barely legible reference to a saw and grist mill which can be read as John B. Clark (U. S. Census of Manufactures 1850). Very possibly, it was Caleb Thompson who first dammed Little French Creek at the Bridge Street site and established a mill there. However, the first clear reference to Clark and Sherwood appears in the 1860 Census of Manufactures which states that the firm produced shove handles from ash bolts (U. S. Census of Manufactures 1860). In 1859, Barret M. Sherwood and John B. Clark purchased from Caleb Thompson the seven and one-half acres of land situated on the corner of Willow Street and the present Bridge Street. The deed includes a clear reference to the tailrace and dam but mentions only "the road" and not Bridge Street. The deed from Caleb Thompson allowed Clark and Sherwood to raise the water on the dam belonging to him so they could have "eight feet and fall" if they required it. It also allowed them to clean out and widen the tailrace on the south side of the race below their line and to "secure all privileges of the water to and from the mill as it is now and also to raise the head two feet above what is now considered a full head if they wish to." The present head is seven feet, ten inches, including fall (Mercer County Recorder of Deeds DB 12: 611).

No mention of a bridge appears in the 1859 deed which was registered in the Erie County Courthouse in March 1861. However, the designation Bridge Street does appear in the 1865 Beer, Ellis, and Soule map (Figure 2), strongly suggesting that the Clarks built a wooden bridge at the site after they had

enlarged and heightened the dam (Beer, Ellis, and Soule 1865). In 1886, John B. Clark conveyed the Clark's Mill site to his son, Haniel Clark. Between 1865 and 1886, the Clark family had acquired over fifty acres surrounding the mill dam and in 1887, on a site just southwest of the mill dam, Haniel Clark erected a flour mill equipped with both steam and water power, an office building, dwelling house, barns and storage shed (Erie County Recorder of Deeds DB 450: 152; Erie County DB 86: 193; Erie County DB 12: 611; Miller 1901) (Photographs 1-3). Clark's 1887 feed and flour mill boasted a capacity of 100 barrels of flour a day, a capacity which Clark increased to 200 barrels. By 1890, Haniel Clark's Union City flouring mill was advertised as the "best equipped Full Roller Flouring Mill in Northwestern Pennsylvania" (Union City Times, June 30, 1892).

In 1885, Hugh Caflisch purchased the sawmill on Willow Street near the Clark's Mill site. The mill had belonged to P. H. Thompson and later W. Hunter. The Caflischs, who had been a farming family, enlarged the sawmill and added a planing and bending shop.

#### The Bridge Street Bridge Site in 1890

Although not associated with furniture making, the Bridge Street Bridge-Clark's Mill dam site continued to have economic and social significance for Union City. The site was distinguished in 1890 by the presence of Clark's saw mill and large flouring mill. The Clark family residence (Photograph 4) stood on the southwestern corner of Bridge and Willow Streets. The Caflischs' large lumber mill (Photograph 5) was nearby, and the Caflisch family's stately Victorian residence sat at the intersection of Willow and Bridge streets. Other residences, the Culbertsons', Huntleys', and Cronins', lined Bridge and Willow streets. By 1890, Maplewood Park, a small amusement park, graced the banks of the large mill pond. A steampowered excursion boat sailed from the park wharf for a relaxing sightseeing cruise of the pond and Little French Creek (Photograph 6). It takes very little imagination to recreate the mood of this romantic setting as it might have appeared on a summer's evening in the early 1900s; moonlight bathed the pond, the pier glowed with the light of Japanese lanterns and youths in love swooned to the strains of the mandolin. No far from this romantic setting was Evergreen Cemetery, located at the intersection of Bridge Street and Spartansburg Road. The beautiful and prestigious cemetery, which contained the graves of the town's most prominent families, added a note of further distinction to the Bridge Street site (Erie County Historical Society; Union City Historical Museum photographs).

The mill dam and the bridge (Photograph 2) afforded access to these beautiful places, and yet the importance of the site went even further. The Bridge Street route across the dam had independent significance as a thoroughfare. Historically, many of the goods produced in Union City, the boards, wooden pumps, shovel handles, chairs, and barrels, were transported south along Bridge Street, across the dam, to Titusville, Oil City, and beyond. Moreover,

truckers and others traveling north and south to Titusville, Spartansburg, Erie, and Wattsburg, customarily bypassed Union City, using the Bridge Street route. Therefore, although sparsely settled compared to the cluster of streets and avenues off Main Street, the Clark's Mill site occupied an important place in the social and economic life of Union City (Jean Clark, per. comm., November 15, 1894).

#### The 1892 Flood

The spring of 1892 found Union City a prosperous wood products manufacturing community. Haniel Clark's and Sherwood and Dunmeyer's mills continued to exploit the water power of the south branch of French Creek. Several dams dotted the length of Little French Creek as it snaked westwardly into Union City from Corry. But the overdammed Little French Creek with its exposed banks was highly vulnerable to flood. Catastrophe struck in early June 1892. Within hours, two torrential rainstorms deluged northwestern Pennsylvania. The succession of heavy rains swelled Little French Creek, sending the raging waters over its treeless banks and on a path of destruction. Seventy-five people died from flood and fire in Titusville, which lost a third of its businesses and residences (Union City Times, June 9, 1892).

While none died in Union City, the flood damage in 1892 was extensive. Ordinarily, wrote the Union City Times, "French Creek is as significant a stream as ever meandered in pastoral significance." But after the second deluge hit Union City, laments the Times, "the stream turned into a crushing monster." (Union City Times, June 2, 1892). First, Dunmeyer's Dam broke, sweeping heavy water into Clark's Pond. Then Clark's Dam gave way and a wall of logs, lumber, and debris formed a dam against the Philadelphia and Erie Railroad's new double-track iron bridge. The Philadelphia and Erie Railroad's abutment created a channel for the raging water which coursed down Willow and Crooked Street, swirling and churning against Church's Mill Dam, then crashing into the High Street Bridge and hurling it a thousand feet downstream. While the Main Street Bridge survived, it was seriously weakened.

Several businesses along Main Street were destroyed, forcing the Union City Times to pronounce the disaster "a serious blow to our thriving town which has been prospering so nicely for the past few years and has justly earned the reputation for being the busiest and pleasantest and most hospitable little city to be found in this great Commonwealth" (Union City Times, June 5, 1892).

The flood provoked a serious reassessment of the use of Little French Creek for water power. At the same time, the disaster sparked interest in public improvements in general. For example, while such mills as Clark's continued to exploit Little French Creek for water power, Clark did so by employing pumps, not millrace-turned turbines. Indeed, after 1892, the town launched a campaign to outlaw all dams on Little French Creek. The borough paid Dunmeyer \$500 to abandon his dam and race (Union City Borough Minutes, July 5, 1892).

Furthermore, the town raised \$1,800 to purchase and demolish H. L. Church's old race and dam (Union City Borough Minutes, September 1, 1892). Meanwhile, Edwin P. Clark obtained \$299 to help the borough repair the extensive flood damage on Bridge Street, and Clark consented not to repair the break in the dam (Union City Borough Minutes, June 30, 1892). The fractured dam wall remained as late as 1927 when it was recorded on a Sanborn Insurance Map for Union City (Figure 3; Sanborn 1927).

Immediately after the devastating 1892 flood, Union City addressed the pressing business of replacing its lost and damaged bridges. On June 21, the borough council received bids from the Wrought Iron Bridge Company, the Pittsburgh Bridge Company, the Massillon Bridge Company, and the Groton Bridge Company of Groton, New York, for the job of replacing the High Street Bridge. Groton's low bid of \$2,870 won the contract (Union City Borough Minutes, June 6 - June 21, 1892). After rebuilding the masonry abutments for the High Street Bridge, Groton's full bill for the cost of the bridge came to \$16,857 (Photograph 7). In February 1896, the borough council advertised bids for the rebuilding of the Main Street Bridge and its abutment. Once again, the contract for a one span, eight-foot long, eight-foot wide bridge went to the Groton Bridge Company, whose bid of \$9,510 again proved the lowest (Union City Borough Minutes, February 28, 1896).

"A Progressive Town:" 1892-1897

The flood notwithstanding, on October 2, 1892, the Union City Times observed that an article in rival Corry's newspaper had praised Union City as "a progressive town" whose citizens try every means to make it boom. "Right you are neighbors," printed the Times, "and it does boom" (Union City Times, October 2, 1892). Evidence of Union City's industrial prosperity abounded during the 1890s. The Caflisch family's expanded lumber and planing mill experienced difficulty in 1897 keeping up with all the orders for homebuilding supplies (Union City Times, November 4, 1897). W. D. Brunstetter's new home in Union City featured a massive stone veranda, while at the same time C. M. Shreve erected an attractive Victorian style residence on Concord Street. Elsewhere in town, builders advertised lots and moderately priced Queen Anne residential designs in large new subdivisions (Union City Times, October 27, 1892; July 14, 1892; August 5, 1897).

Union City's inelastic chair and wood products economy helped enable the town to weather the crippling national depression of 1892. Historian David Thelen has described the depression of 1892 as the second worst economic cataclysm in American history, the worst being the Great Depression of 1929. High unemployment and rampant wage-cutting triggered the labor strife and talk of radicalism that punctuated the years 1892-1894, and, according to Thelen, helped engender the Progressive Era (Thelen 1972). The depression notwithstanding, Union City's economy not only survived, it prospered. Not surprisingly, in 1892, Union City sent several of its sons to fight the

Amalgamated Iron and Steel Workers Union during the bloody Homestead Strike (Union City Times, July 14, 1892). During these years, Keystone Chair added a 40-foot by 100-foot addition to its works. While Keystone produced "fancy chairs," its booming cheap chair business (some of which were used in New York City sweat shops) kept its 180 workers engaged 13 hours a day into 1897. Most of Keystone's large chair orders were sold through its catalog (Union City Times, July 28, 1892; July 14, 1892; August 12, 1897).

Keystone's "busy as a bee" work force was not alone. Blanchard and Hansen, a firm which combined casket making with furniture production, added a third floor to its Main Street factory in 1892. That same year, Novely Wood's increased orders forced the company to put on a night shift (Union City Times, September 15, 1892). It was in 1897 that E. P. Clark installed a 125-horsepower Simpson Water Wheel, which saved the mill five dollars a day when water was plentiful in Little French Creek. With it, Clark's Flour Mill could produce 90 to 100 barrels of flour a day (Union City Times, November 2, 1897).

As elsewhere in the Western World, industrialization bred modernization. In Union City's case, the trend toward modernization manifested itself most clearly in the town's efforts to improve sanitation, pave its streets, and install such modern conveniences as electric lighting. Despite the whirl of industry, Union City's wood products-based economy proved too insufficient to buttress the town's tax base. Much to the chagrin of the Union City Times, the town could not pursue a vigorous program of public improvements. Still, in 1892, Union City opened its new waterworks and electricity began to illuminate more and more Union City homes, although the town lacked its own generating station. By 1897, both Main Street and Crooked Street (which led to the Caflisch sawmill) had sewers.

Bicycles were becoming increasingly popular and the public became outraged by the hazard they had caused on the town's wooden sidewalks. The Union City Times launched a campaign to have the city pave Main Street (Union City Times, March 25, 1897). Despite the Times' crusade, Main Street would not be paved until 1899 (Photograph 8), and Bridge Street was still unpaved in the 1920s (Union City Ordinance 1922). Although there was heady talk of modernization, Union City retained a strong, rural personality (Photograph 9). An 1897 ordinance, for example, required leashes on all cows being led through the town on their way to pasture (Union City Times, June 10, 1897).

#### The Bridge Street Bridge

Union City overstretched its limited taxing ability by modernizing its sewerage system and purified water system (called the "best in the World" by the Union City Times, October 7, 1897) and replacing the Main and High Street bridges. Therefore, talk in late 1896 about rebuilding yet another bridge, the one over Clark's Dam on Bridge Street, left the borough council nonplussed. As early as 1892, the borough council had balked at the suggestion that it

erect a new bridge at the Clark's Mill site. The Union City Times reflected a growing sentiment in late 1892 when it urged Erie County to follow the example of Crawford County and assume responsibility for building all public bridges (Union City Times, December 8, 1892). Yet, no matter how desperately pressed for money, Union City faced the truth that the old wooden bridge over Clark's Dam begged for replacement (Photograph 10). By 1896, the condition of the weathered old bridge had worsened, leaving the borough council no alternative but to build a new one despite the town's bulging bridge building debt (Union City Borough Minutes, June 1, 1896; July 17, 1896).

As if Union City's debt burden was not enough, another consideration soured the town on assuming a further bridge obligation. The town experienced difficulty with both the Groton Bridge Company's work and its delays on the Main Street bridge project. In fact, the town seriously contemplated not accepting the new Main Street bridge, but then relented at the last moment (Union City Borough Minutes, July 17, 1896). Nevertheless, in early 1897, public demand for a new bridge at Clark's Dam overcame the borough's hesitancy and it conceded the exigency of a new bridge there even if a special tax had to be levied to build it. "The fact of the matter is," reiterated the Union City Times, "that the county should build all bridges . . ." (Union City Times, February 25, 1897).

Funding problems aside, the chairman of the borough bridges committee reported at a March 1, 1897, council meeting that the Erie County firm of Bean Briggs had been retained to make soundings and drawings for a new Bridge Street bridge and its abutments (Union City Borough Minutes, March 1, 1897). In a possibly deliberate move to circumvent the ill-favored Groton Bridge Company, the borough consulted only two bridge building companies, the Wrought Iron Bridge Company of Canton, Ohio, and the Youngstown Bridge Company of Youngstown, Ohio. Union City requested from these two companies price information for a bridge one hundred feet in length, having an eighteen-foot wide roadway and a six-foot wide sidewalk. The bridge was to rest on cylinder steel piers made of three-eighths inch steel. Youngstown submitted a bid of \$2,598, and Wrought Iron bid \$2,562. The borough asked both companies to submit more fully detailed drawings of the bridge and its abutments. It is unclear whether or not Youngstown complied. In any case, the Wrought Iron Bridge Company won the contract, and the borough council estimated that the final cost of the bridge would be about \$3,000 (Union City Borough Minutes, June 28, 1897; June 30, 1897).

With the \$3,000 estimate, the borough council convened a special meeting in late June to consider the new Bridge Street bridge (Union City Borough Minutes, July 1, 1897). A few weeks later, the council filed a petition with the Erie County Court of General Sessions stating that "the bridge over Little French Creek is unfit and unsafe for travel and it is necessary for the convenience of the public at large to erect a new one in its place" (Erie County Court of General Sessions, July 26, 1897). The above exceedingly

general statement by Burgess Gerrett Smith and council members G. I. Hatch and Frank McClean, concerning the unfit condition of the wooden bridge at Clark's Mill represents the most graphic description of the old bridge. An old and inadequate photograph of the bridge site affords a partially obscured glimpse of the wooden bridge. The photograph merely serves to confirm the general indictment of dilapidation (Union City Historical M Museum photograph collection; Photograph 10).

Union City's petition to the Erie County General Court stated that the new bridge at the Clark's Mill site "will require more expense than it is reasonable that the Borough of Union City should bear, and it is desired," continued council's memorial, "that the same be constructed in whole or in part, by the County of Erie as provided by the Act of Assembly approved July 9, 1897." Indeed, it appears that at the proverbial "eleventh hour," the Pennsylvania State Assembly acted to facilitate county assistance for local bridge construction (Erie County Court of General Sessions, July 26, 1897).

The General Court approved "a view of the [Bridge Street bridge]," which subsequently took place at 11:00 A.M., April 21, 1897. This viewing not only confirmed that a new bridge was necessary for the Clark's Mill site, but also that "the cost [of the bridge was] too expensive for the borough." On November 11, 1897, the General Court at last awarded Union City \$1,000 (Erie County Court of General Sessions, November 13, 1897; Union City Times, November 2, 1897). The borough had hoped for at least \$1,500 or \$2,000 (Union City Times, November 2, 1897).

Work on the new Bridge Street bridge commenced as early as October 28, 1897. That day, the Times proudly carried an artist's sketch of the new bridge "now being erected." Photograph 11 is an early view of the bridge during near flood conditions. A few months earlier, the Times had bragged that with our new waterworks, and the new bridge at Clark's Mill, "all we lack is Main and Grooked streets paved and our own electric light plant to make us a city of the first class" (Union City Times, July 22, 1897).

#### Pratt Truss Bridges and the Wrought Iron Bridge Company

In 1897, the Wrought Iron Bridge Company built a Through Pratt Truss bridge over Little French Creek at Clark's Mill in Union City. As early as 1844, Thomas and Galeb Pratt had patented this simple truss bridge design in which the vertical web members of the truss acted in compression, while the diagonal members acted in tension. Originally designed for construction in wood, Pratt Truss bridges were being built of iron by 1879 and of steel by 1890 (Tyrell 1911: 42; Waddell 1916: 468-469).

By the 1880s, the Pratt, Warren, and Petite Truss designs had emerged as the principle forms for road and highway bridges, and by the turn of the century these basic bridge designs had vanquished their often more eccentric

competition including the Fink, Bollman, Howe, Lenticular, Whipple, Kellogg, Baltimore, and Camelback designs (Waddell 1916: 468). In Virginia, for example, 90 percent of the truss highway bridges built after the Civil War were of the Pratt Truss design (Ohio Department of Transportation, 1983).

Founded in 1870 by David Hammond, the Wrought Iron Bridge Company of Canton, Ohio, was one of the foremost builders of Pratt Truss bridges in post-Civil War America. In 1862, he patented a truss bridge design and opened a small 18 x 30-foot blacksmith shop where he first produced his strictly wrought iron bridges. Hammond argued that the tensile strength and superiority of wrought iron when compared to wood and cast iron made it an ideal bridge-building material (American Pictorial Monthly 1902: 25-27). Its 1872 Descriptive Pamphlet of the Wrought Iron Bridges Built by the Wrought Iron Bridge Company recommended Pratt Truss bridges "for locations in towns and cities where there is a heavy and constant traffic and where elaborate and finished architectural appearance in the approach to the bridge is desired" (Wrought Iron Bridge Company 1872: 16).

In 1890, David Hammond left the Wrought Iron Bridge Company to help organize the Canton Bridge Company. He took with him many talented agents and engineers. By 1900, the Wrought Iron Bridge Company had been absorbed by the American Bridge Company of Pennsylvania (American Pictorial Monthly 1902: 25-26; Heald 1949). The Wrought Iron Bridge Company left behind a rich heritage of wrought iron and steel bridges, many indelibly marked by the distinctive cresting and richly ornamented portals that characterized the company's product (Heald 1949; Ohio Department of Transportation 1983).

#### The Bridge Street Bridge as Distinctive?

There is nothing particularly exceptional about the ornate design of the Union City Bridge Street bridge. In the late 19th and early 20th centuries, numerous small roadway bridges were built using the Pratt Truss design, first in response to the bicycle craze, second to the recreational use of the automobile, and then to the "good roads movement" (Condit 1968: 214; Shank 1980; Ohio Department of Transportation 1983). Among the major 19th century bridge builders of small roadway bridges in Pennsylvania were the Nelson and Buchannon, Key Bridge, Youngstown Bridge, Massillon Bridge, Penn Bridge and Wrought Iron Bridge companies. Many of these small bridges built in the late 19th century were characterized by fairly ornate portals replete with finials, crested nameplates, and elaborate latticework. For example, in addition to the Wrought Iron Bridge Company's Bridge Street bridge in Union City, they built similarly embellished bridges in Wellsville in York County, and Millers Corners in Bedford County in 1887. In addition, the Cleveland Bridge Company's Pratt Truss span built in Greenville, Pennsylvania, in 1898, the Massillon Bridge Company's 1891 Pratt Truss bridge in Titusville, and the Smith Bridge Company's 1887 bridge at Eau Clair, Pennsylvania, illustrate the application of Victorian design to 19th century bridge building. Among the

most popular 19th century bridge builders in Pennsylvania, Nelson and Buchannon matched the Wrought Iron Bridge Company's predilection of ornate, crested nameplates and lattice-bedecked portals. Nelson and Buchannon's 1896 Pratt Truss bridge at Hampton in Huntingdon County featured an impressive lattice portal (Pennsylvania Bureau for Historic Preservation 1984).

This 19th century proclivity for ornate bridge designs disappeared in the 20th century when bridge engineers stressed that efficient function was itself the guide to perfect form (Ketchum 1920: 177; Waddell 1916: 1154-1155).

### Conclusion

The Wrought Iron Bridge Company's 1897 Pratt Truss bridge served as a functional solution to the need for a span across Little French Creek at Clark's Mill, and signifies the importance of good roads and bridges in a late 19th century progressive American community. At another and equally important level, the bridge commemorates a place of historical, industrial, and economic importance to 19th century Union City. The site fared badly in the 20th century, and the crippled and unused Clark's Mill dam mouldered in disuse after 1900. Although the dam appeared in the 1927 Sanborn Map for Union City, much of the Mill Pond had already vanished (Sanborn 1927).

Likewise, in the 20th century, the Clark's Mill site diminished in importance as an industrial site. The 1927 Sanborn Insurance Map identified the Caflisch and Sons Lumber Company as a thriving concern occupying over 800 feet of frontage on Willow Street. Caflisch's sawmill sat on the corner of Willow and Bridge streets. Logs were floated from the log pond above Willow Street to the planing mill fronting Willow Street. Wood kilns and numerous sheds dotted the extensive Caflisch lumber mill site (Sanborn 1927).

In 1916, the Edwin Clark family conveyed its Bridge Street holdings to the H. Clark Company, at which time the deed acknowledged that the mill still utilized the "flowage rights" of Little French Creek for water power (Erie County Recorder of Deeds DB 213: 772-774). In 1927, the once-vast Clark's Mill complex operated only as a grain storage facility (Sanborn 1927).

But, while the Clark family fortune had survived the depression of 1892, it failed to do so during the Great Depression of 1929. In 1936, the bulk of Clark property holdings on Bridge Street were sold by the Erie County Sheriff to the Security Peoples Trust Company of Erie, Pennsylvania, in lieu of \$16,692 in unpaid taxes (Erie County Recorder of Deeds DB 450: 152). The Clark's Mill property passed through several owners when, in 1968, Union City acquired ownership (Erie County Recorder of Deeds DB 1086: 385). By that date, only the Lyons Mill, located south of Clark's Mill and the Penn Central/Amtrak right-of-way did business along Bridge Street. Already present in 1927, Lyon's Mill produced ash bolts for Louisville Slugger baseball bats and, for a time, sold finished baseball bats under its own name. The firm still existed in 1984 (Sanborn 1927; Union City Historical Museum).

If anything, the Clark's Mill site and the Bridge Street bridge signify the enduring importance of Little French Creek in the history of Union City. From 1800, when William Miles erected his first grist mill in Union Township, to 1916 when the Clark family still claimed the right to use the stream and its water power, to the 1930s when the Caflisch's utilized the log pond formed by the stream's tributary, Little French Creek represented a vital element in the Union City economy.

However, as a thriving center of saw and flour milling, the Bridge Street site in Union City clearly enjoyed its sunlite hour in the late 19th century. This era can be considered Union City's mill and mansion age, a period in its economic history when such prosperous mill owners as Caleb Thompson and Haniel Clark located their stately Victorian homes in the shadow of the mill.

The great flood of 1892 signalled the beginning of the end for Clark's Mill as a major industrial site in Union City. Caflisch's sawmill operated into the twentieth century, but despite the Clarks' investment in sophisticated pumps to tap the Little French Creek water, the Clark milling empire declined after 1892. Ironically, therefore, the 1897 Bridge Street bridge symbolized not only a phase in Union City's struggle to modernize its infrastructure and become a progressive community, but also the closing of an era when the town's water-powered saw and grist mill rivaled or at least complemented its wood products industry of barrel and chair-making. After 1900, however, the chair, rather than Caflisch's logs, truly came to symbolize the Union City economy. The Union City Chair Company continues to produce hardwood chairs and furniture to this day in a factory just two blocks east of the Bridge Street bridge.

## PART II. ARCHITECTURAL INFORMATION

### Setting

The Bridge Street bridge crosses the westerly-flowing south branch of (Little) French Creek about a half-mile east of the heart of Union City (Photographs 12-14). It provides a route across the creek, bypassing the main business district. Little remains to remind one of the former commercial and industrial nature of the locale. A minor remnant of the former Clark's Dam stands as a detached pier near the center of the bridge; it supports a gas line and retains evidence of the places where timbers were once inserted to control the height of the dam. Nothing else of the dam is visible, but the limits of the mill pond can be imagined by the contours of the terrain bordering the creek east of the bridge. No evidence of the former buildings that formed the milling complex once located downstream of the bridge exist any longer. There is some evidence of a millrace on the southern edge of the creek about 40 yards downstream from the bridge. A coarse stone wall is still visible, but this remnant is being covered by fill and will be undetectable in a few years.

### Physical Description

The Bridge Street bridge carries Legislative Route 25139 over the south branch of French Creek in Union City, Pennsylvania. The bridge is a Through Pratt Truss type bridge and was constructed in 1897 by the Wrought Iron Bridge Company of Canton, Ohio. The truss members, floor beams, and roadway and curb stringers are made of iron, and the deck, sidewalk, and three sidewalk stringers are made of wood (Photographs 15-24). The clear roadway width is 16 feet, 10 inches between the curbs, which consist of iron angles, the clear sidewalk is 6 feet, 4 inches, and the vertical clearance over the deck is 15 feet, 0 inches. The minimum vertical clearance between the bottom of the bridge and the concrete spillway in the stream is 13 feet, 5 inches. A seven and one-half-inch diameter gas line located on the upstream side of the bridge is supported in the center by a concrete pier which is independent of the bridge, and at several intermediate points by means of steel brackets which are attached to the bridge sidewalk bracket (Photograph 17). Bridge Street consists of a bituminous surface 18 feet in width.

Reference is made to the HAER drawing of the bridge. This drawing is used as the basis for the numbering system used in the description of member types and section properties contained in this report. All measurements and section types were confirmed in the field for the preparation of this report.

The members of the east (upstream) truss consist of section types and plates which are slightly larger than those on the corresponding members on the west truss. This is probably due to the presence of the sidewalk on the east side of the bridge, which imposes an additional load on the members of the east truss.

The bottom chord of the trusses consist of two looped eyebars. The end posts and top chords (Photographs 18 and 19) consist of two channels connected by a top cover plate and lacing bars on the bottom. The vertical members L2U2, L3U3, and L4U4 consist of two channels connected by lacing bars. Vertical members L1U1 and L5U5 consist of looped eyebars; on the west truss, these members contain one bar each, but on the east truss, there are two bars per member (Photograph 19). Diagonal members L2U1, L3U2, L3U4, and L4U5 each consist of two looped eyebars. Diagonal members L2U3 and L4U3, which serve as counters in the Pratt truss, consist of two 7/8-inch diameter rods which have threaded turnbuckles to adjust the amount of tension in these members (Photograph 20). The top and bottom chord lateral bracing consist of rods with turnbuckles, while the top lateral struts are channel sections with top and bottom cover plates. The truss portals consist of angles connected by lacing bars (Photograph 21). At the center of the north portals, there is a decorative nameplate (Photograph 15) bearing the inscription "Wrought Iron Bridge Company, Canton, Ohio." There is no such plaque on the south portal. At panel points U1 and U5 on both trusses, there are small decorative spires, approximately two feet in height, bearing the construction date of 1897 (Photograph 16). The trusses are spaced horizontally at 19 feet, 2 inches.

center-to-center, with a height of 18 feet, 0 inches center-to-center of chords. There are six panels, each 17 feet, 2-1/2-inches long center-to-center, for an overall length from center-to-center of bearings of 102 feet, 3 inches. The truss members are connected at each panel point by a 2-7/16-inch diameter pin, with a thread and nut on each end. The truss members that consist of built-up sections (such as the top chords) are connected by rivets, but the connections of the top lateral struts to the top chord are bolted.

The five floor beams are 20I75 sections. The nine roadway stringers are 10WF33 sections, and the two curb stringers are 8WF17 sections. The stringers bear upon the top flanges of the floor beams (Photograph 17), and the floor beams are connected to the trusses by means of an inverted U-shaped bar which loops over the pins connecting the truss members and straps to the bottom flanges of the floor beams with a plate and nuts. The cantilever sidewalk on the east (upstream) side (Photographs 17 and 18) consists of 2" x 6" wood planks, supported three 3" x 8" wood planks which are laid on their ends. These sidewalk stringers are supported by brackets consisting of four 2" x 2" x 1/4" flange angles, connected by a 1/2" web plate, which are riveted to the ends of the floor beams. The wood deck consists of 2" x 6" planks which are clipped onto the top flanges of the stringers. A 3-1/2" x 5" x 3/8" angle on each side serves as a curb, and there is a railing, made of angles and lacing bars, on the inside (roadway) face of the west truss and on the outside of the sidewalk (Photograph 22).

The gravity-type abutments (Photographs 12, 13, 14, 23, and 24) are constructed of concrete with steel reinforcing bars. In addition, the north abutment breastwall contains a series of vertical steel wide flange beams, with a concrete and brick fill between the beams, and beneath each truss bearing there is a three-foot diameter steel caisson extending through the abutment down to the foundation. The wing walls are also constructed of concrete with steel reinforcing bars. The centerline of each abutment is on a 90° angle to the centerline of the roadway.

#### Structural Condition

The bridge is currently posted with a 3-ton weight limit, which reflects the fact that deterioration has changed the integrity of the structure. Over the years, several repairs have been performed. In 1965, a new floor system was installed on the bridge. No records are available as to when the following repairs were made. Lacing bars were removed and replaced with plates, 14-1/2" x 8" x 3/8", on the bottom sides of the end posts as follows: two plates on U5L6, east truss; three plates on LOU1, west truss; three plates on U5L6, east truss. In addition, several lacing bars on U5L6, west truss, are rusted through and should be repaired in a similar manner. On the top side of U5L6, west truss, a four foot, seven inch long section of the top cover plate has been replaced with a new plate which was welded and bolted in place. There are several holes in the top cover plate of U4U5, west truss, and a patch plate



Bridge Street Bridge  
HAER No. PA-91  
(Page 20)

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Erie County Historical Society	Postcard Photographs of Union City, Pennsylvania
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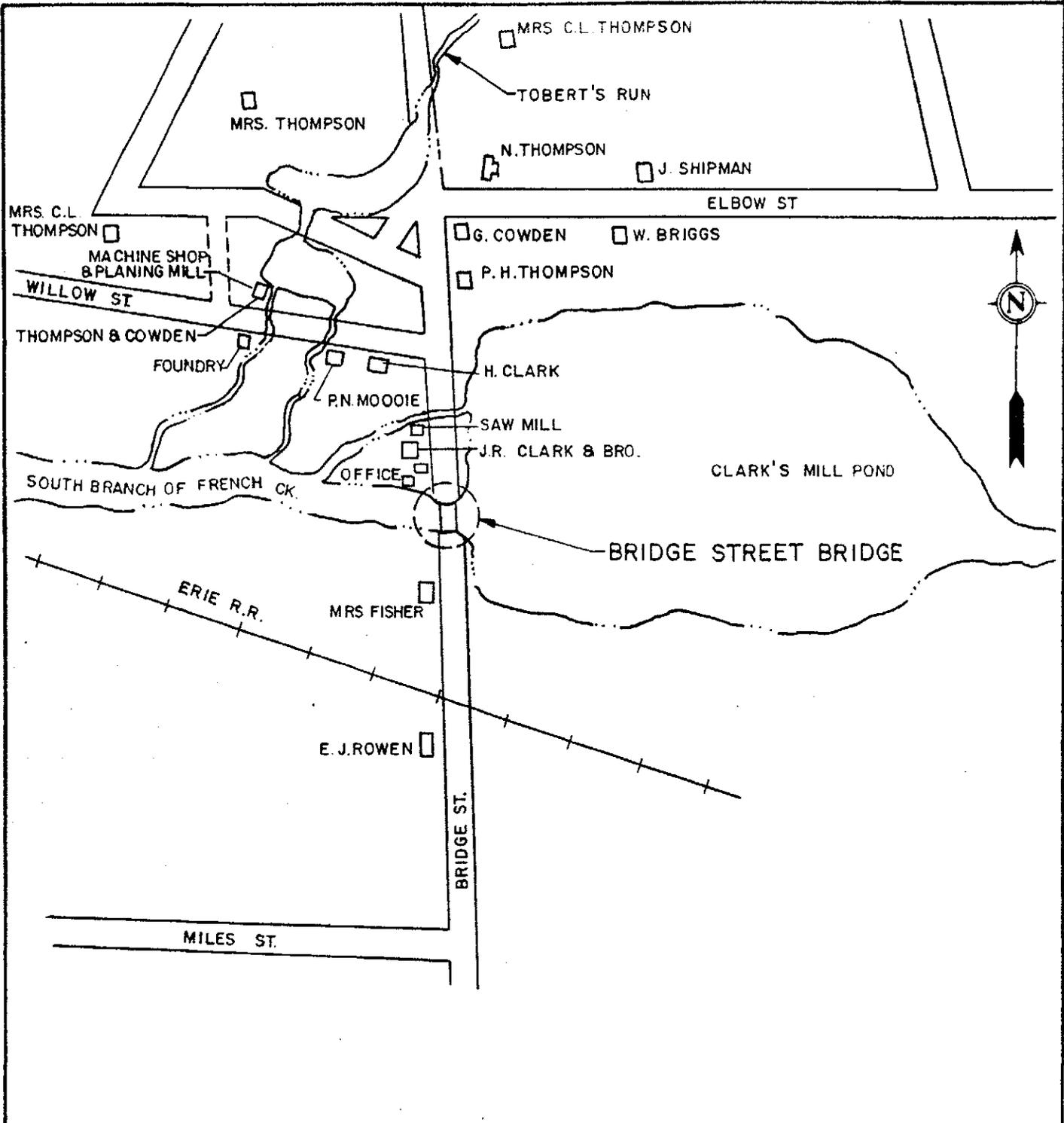
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E. Likely Sources Not Investigated: Business records and correspondence might shed light on the use of the dam and hydropower. Newspapers may contain additional information on the bridge and its locale.

F. Supplemental Material: None.

DWG. NO.



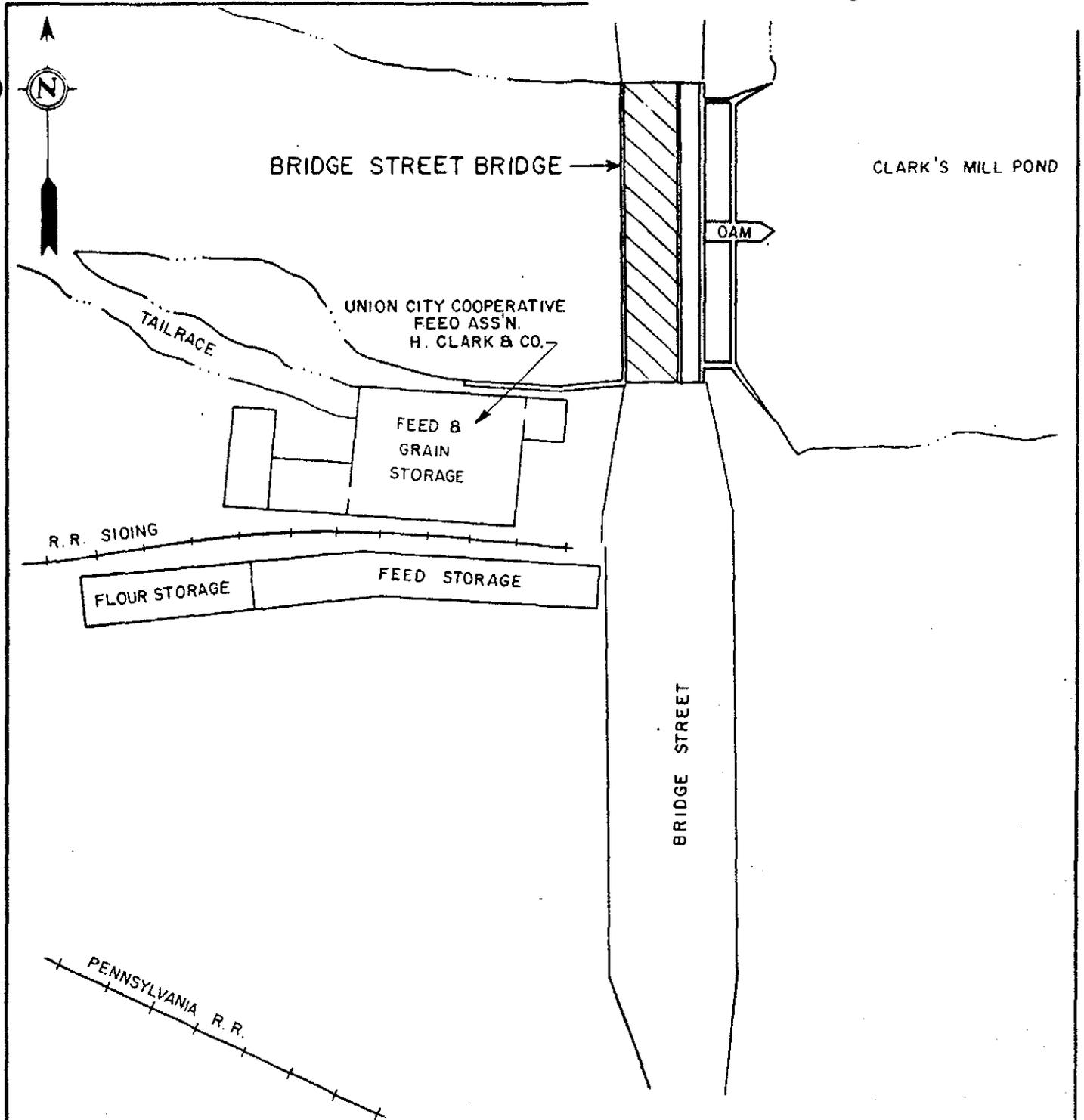
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FIGURE 1

 Engineers • Geologists • Planners Environmental Specialists 570 Beatty Rd. • Pittsburgh, Monroeville, Pa. 15146 412-866-6400	BRIDGE STREET BRIDGE AND CLARK'S MILL LOCALITY IN UNION CITY IN 1865		DWN. TEJ	CHKO. _____
			APPD. _____	DATE _____
	PENNSYLVANIA DEPARTMENT OF TRANSPORTATION DISTRICT I-O, FRANKLIN, MERCER COUNTY, PENNSYLVANIA		SCALE: NONE	
			DRAWING NUMBER 83-148-121-A1	



DWG. NO.



REFERENCE:

D.A. SANBORN & COMPANY,  
 INSURANCE MAP OF UNION CITY, 1927

FIGURE 2

 <p>Engineers • Geologists • Planners                  Environmental Specialists                  570 Beatty Rd. • Pittsburgh,                  Monroeville, Pa 15146                  412-858-8400</p>	LOCATION OF CLARK'S MILL DAM AND POND AND THE BRIDGE STREET BRIDGE IN UNION CITY		OWN. <u>TEJ</u>	CHKD. _____
			APPD. _____	DATE _____
	PENNSYLVANIA DEPARTMENT OF TRANSPORTATION DISTRICT 1-0, FRANKLIN, MERCER COUNTY, PENNSYLVANIA		SCALE: <u>NONE</u>	
			DRAWING NUMBER 83-148-121-A2	
			 REV	