

WPA Pipe Culvert No. 5711
Macedonia Road
Spanning Intermittent Tributary of Akin Creek
Flannigan Township
Hamilton County
Illinois

IL HAER No. H-2011-1

PHOTOGRAPHS

PHOTOGRAPHIC KEY

SITE PLAN

SATELLITE AND USGS IMAGES

WEST ELEVATION DRAWING

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Illinois Historic American Engineering Record
Illinois Historic Preservation Agency
Old State Capitol
Springfield, Illinois 62701

ILLINOIS HISTORIC AMERICAN ENGINEERING RECORD

MACEDONIA ROAD PIPE CULVERT WPA PROJECT No. 5711

IL HAER No. H-2011-1

- Location:** Macedonia Road/County Line Road approximately two miles south of Macedonia, Hamilton/Franklin Counties, Illinois.
- Quad:** USGS Quadrangle Macedonia, Illinois – Hamilton County
NE ¼, NW ¼, Section 7, Township 6 South, Range 5 East, 3rd
P. M.
- UTM:** 16S 350269E 4209794N
- Present Owner:** Flannigan Township Road District
- Present Use:** Vehicular Conveyance and Watershed Drainage
- Significance:** Constructed in 1938, Work Projects Administration (WPA) Pipe Culvert No. 5711 is a locally significant mid-20th century engineering resource associated with drainage control in the Big Muddy River watershed. Locally, the construction of WPA Culvert No. 5711 was a catalyst for the permanent surfacing of Macedonia Road leading to the improvement of the vehicular transportation system in western Hamilton and eastern Franklin counties. WPA Culvert No. 5711 is also significant on the national level as a representative example of culverts financed and constructed, in concert with local project sponsors, by the WPA during the U. S. Great Depression of the 1930s.

PART I. HISTORICAL INFORMATION

A. Physical History

- 1. Date of construction:** 1938
- 2. Design Architect/Engineer:** Unknown
- 3. Constructor:** WPA Labor Force

4. Original and subsequent owners:

Original: Undefined

Current: Flannigan Township (Hamilton County, Illinois) Road District

5. Original plans and construction:

Original plans not on record or within investigated public archives. The culvert was constructed by the WPA during 1938.

6. Alterations

Late 20th century – Replacement of original cast iron pipe with a steel multi-plate component.

B. Historical Context:

Hamilton County, Illinois

Hamilton County is located in southeastern Illinois and is bounded by Wayne, White, Saline, Franklin and Jefferson counties. Hamilton County was created and sectioned out from White County in 1821 and was named for the first U.S. Secretary of the Treasury Alexander Hamilton. One of the first settlements and the county seat is McLeansboro. The most prominent industry in the county has always been agronomic crop production. Regional light industrial and retail sales also provide income for contemporary county residents. In 2009, the population of Hamilton County was 8,096.¹

The topography of Hamilton County is generally rolling, and, with the exception of two or three small prairies, was originally covered mainly with timber. There are no major waterways in the county, the most pronounced being the North Fork of the Saline River in the east and the headwaters of the Middle Fork of the Big Muddy River to the west. Geologically, Hamilton County contains material from the upper coal measures with a bed of limestone below. Sandstone deposits are located southwest of McLeansboro and have been extensively mined for building materials. Clay for brick production and sand for mortar and cement are also abundant in the county. Soils in the county are generally sandy loam variations. Substantial clay subsoils are present along forested ridge lines.²

The transportation network in Hamilton County is dominated by county township roads. These roads are of typical gravel over grade and are principally surfaced with

¹ "Hamilton County, Illinois." http://www.city-data.com/county/Hamilton_County-IL.html (28 April 2011).

² *History of Gallatin, Saline, Hamilton, Franklin and Williamson Counties Illinois*. (Chicago: Goodspeed Publishing Company, 1887), 242.

an oil and chip mix. Less improved township roads are surfaced with gravel. Numerous box and pipe culverts are integrated into the Hamilton County township road network to accommodate drainage in the oscillating terrain. Illinois state highways 14, 142 and 242 also traverse the county.

Franklin County, Illinois

Franklin County is located in south central Illinois and is bounded by Hamilton, Jefferson, Perry, Jackson, Williamson and Saline counties. Franklin County was created in 1818 from lands in the existing Gallatin, White and Jackson counties and was named for mid 18th century U.S. inventor and diplomat Benjamin Franklin. The creation of Williamson County in 1839 reduced Franklin County to its present borders and established Benton as the county seat.³ Initially, the Franklin County economy revolved around agronomic crop production. Coal mining became a large part of the local economy in the early 20th century and has remained a strong economic engine for the county. In 2009, the population of Franklin County was 39,312 divided almost equally between urban and rural areas.⁴

Approximately one forth of the original county area was rolling prairie and the remainder being dense timber. The major waterways of the county are the Big Muddy and Middle Fork of the Big Muddy Rivers. Rend Lake Reservoir, in the northern reaches of Franklin County, was constructed in the Big Muddy River watershed by the Illinois Department of Conservancy District and the U.S. Army Corps of Engineers in the late 1960s to provide a dependable domestic water supply for the region. After the reservoir was completed, the State of Illinois developed the Rend Lake State Fish and Wildlife Area to provide public hunting and recreational opportunities.⁵

Geologically, Franklin County possesses drift and coal measures. The drift deposits consist mainly of brown and yellow sandy clays containing gravel and small boulders. Coal No. 7 underlies the county at a depth of 150-500 feet. Sandstone and limestone suitable for construction are present in the northern and western reaches of the county. There are an abundant variety of soil types in the county, all with at least fair fertility characteristics. The rolling timber areas exhibit the richest soils in the county and bear continued cultivation without artificial manipulation for a longer duration than any other area in the region.⁶

The road network in Franklin County is dominated by county township roads of gravel base and oil and chip surfacing. Box and pipe culverts are common structures

³ "Franklin County, Illinois." http://en.wikipedia.org/wiki/Franklin_County,_Illinois (28 April 2011).

⁴ "Franklin County, Illinois." http://www.city-data.com/county/Franklin_County-IL.html (28 April 2011).

⁵ "Rend Lake History." <http://www.rendlake.com/pages/lake/history.htm> (28 April 2011).

⁶ *History of Gallatin, Saline, Hamilton, Franklin and Williamson Counties Illinois*. (Chicago: Goodspeed Publishing Company, 1887), 336.

associated with the township roads. Franklin County also contains State Roads 14, 37, 34, 148, 148, 154 and 184 as well as U.S. Interstate 57.⁷

Macedonia, Illinois

Macedonia, Illinois lies in both Hamilton and Franklin Counties with Macedonia/County Line Road being the line of demarcation. As of the 2000 U.S. Census, there were 51 people residing in the village.⁸ Macedonia was surveyed on 29 January 1858.⁹ The first set of village ordinances were passed on 18 May 1894. On 07 August 1923, the original ordinances were revised and it was determined that "...the business of the village be conducted in and on the Hamilton County side..." since a majority of the village population resided on the Hamilton County side of the community.¹⁰

During the late 19th and early 20th centuries, the village of Macedonia served as a support center for the population of western Hamilton County and eastern Franklin County townships which were primarily engaged in agricultural operations. During this period, the main road between McLeansboro and Benton passed directly through the village. At its period of prominence, the village had a population of up to two hundred people, most engaged in mercantile businesses or agricultural labor. As late as World War II, a three block corridor of the Old McLeansboro-Benton Road east of the Macedonia Road intersection contained a variety of general and agricultural-related stores. A hotel existed west of the Old McLeansboro-Benton Road/Macedonia Road intersection.¹¹ In 2011, the village center is limited to one general store, a U.S. Post Office, a church and a few private residences. Most of the 19th and early 20th century commercial buildings have been demolished. Apparently, the catalysts for the change of the community was the post-World War II construction of State Highway 14 about a mile north of the village and the relocation of village businesses to the McLeansboro and Benton areas.¹²

Culverts

Culverts have been a prominent engineering structure on the U.S landscape since the early 19th century and remain a common drainage edifice in the construction market of the 21st century. A culvert is defined as a small bridged passage for the conveyance of water across a road, railway or other way.¹³ When there are multiple

⁷ *Illinois Atlas & Gazetteer, First Edition, Third Printing.* (Freeport, ME: Delorme Mapping, 1991), 84, 85, 89 and 90.

⁸ "Macedonia, Illinois." http://en.wikipedia.org/wiki/Macedonia,_Illinois (29 April 2011).

⁹ *History of Gallatin, Saline, Hamilton, Franklin and Williamson Counties Illinois.* (Chicago: Goodspeed Publishing Company, 1887), 310.

¹⁰ David Goss, *A History of Macedonia, Illinois.* (Ewing, IL: Ewing-Northern School #115, 1991), 31.

¹¹ Everett Sullivan, interview by Stephen A. Thompson, Macedonia, Illinois, 07 April 2011.

¹² Hobert Campbell, Jr., interview by Stephen A. Thompson, Macedonia, Illinois, 07 April 2011.

¹³ International Correspondence School (ICS) Staff, *Culverts and Tunnels* (Scranton, PA: International Textbook Company, 1907), 1.

culvert openings exceeding 20' in width those structures are defined as bridges according to the Federal Highway Administration.¹⁴ The origin of the structure is unknown, but was first evidenced in mid-18th century England. Culvert is speculated to be the name of some forgotten English bridge engineer.¹⁵

While common culverts exist in great numbers, some culverts, and bridges previously classified as culverts, have been recognized for their association and significance with well known transportation corridors, business conglomerates and public entities. Near Medina, New York, a stone arch culvert, constructed in 1823, exists below the Erie Canal and still acts as a conveyance for vehicular traffic. In Rotterdam, New York in the Erie Canal corridor, the 1842 stone arch Culvert 31 still functions as a drainage structure for wetlands adjacent to the canal.¹⁶ The Old Croton Aqueduct Mill River 1838 stone arch culvert located at North Tarrytown, New York is associated with the New York City's first municipal water project.¹⁷ In Niobrara County Wyoming a 1901 stone arch culvert lays below and perpendicular to the grade of the Chicago and Northwestern rail line.¹⁸ In Duluth, Minnesota, the 1937 Bridge 5757 conveying Minnesota State Highway 23 is typical of large scale Depression-era culvert construction featuring multi-plate arch and rubble stone head walls.¹⁹

Contemporary culverts fulfill the same functions as their historic predecessors, but some recent examples have been installed for the specific purpose of channeling fish and aquatic organisms to favorable or restricted environments. Additionally, modern culvert openings have become more diverse than the historic circular, arched or boxed designs. It is not uncommon to use elliptical or trapezoidal openings in contemporary culvert structures.

Classes of Historic Culverts

Open Culverts

Open culverts consist of abutments, with possibly one or more intervening piers, on which stringers or beams rest. Open culverts, which are practically small bridges, are

¹⁴ "Question and Answers on National Bridge Inspection Standards 23 CFR 650 subpart C." <http://www.fhwa.dot.gov/Bridge/nbis/index.htm#5> (25 April 2011), Section 650.305.

¹⁵ *Online Etymology Dictionary*.

<http://www.etymonline.com/index.php?search=culvert&searchmode=none>. (25 April 2011), culvert search.

¹⁶ "The Travels of Tug 44: A Photo Tour of the Erie Canal." <http://www.tug44.org/erie.canal/>. (26 April 2011), Medina Culvert & Culvert 31.

¹⁷ Daniel Clement, *Historic American Engineering Record NY 112, Old Croton Aqueduct Mill River Culvert*. (Washington, D.C.: U.S. Department of the Interior, National Park Service, 1984), 2.

¹⁸ Robert Rosenberg, *Historic American Engineering Record HAER No. WY-53, Chicago and Northwestern Railroad Stone Culvert*. (Washington, D.C.: U.S. Department of the Interior, National Park Service, 1992), 2.

¹⁹ "Bridge No. 5757." http://en.wikipedia.org/wiki/Bridge_No._5757 (26 April 2011), 1.

used where the depth of fill is insufficient to allow of a cover with filling over the top. Objections to the use of these structures are the dangers arising from their being open and the interruption they cause in the smoothness of riding. Vehicles crossing these culverts pass from the ballast (standard roadbed) to a rigid support at the abutment, then to the elastic members comprising the bridging element, then another rigid support the to ballast once again.²⁰

Box Culverts

Box culverts have side walls supporting a horizontal covering over which fill is deposited. The waterway bed is paved with primary culvert material. Box culverts are generally built of stone or wood. Concrete, usually reinforced with steel, is often used.²¹

Arch Culverts

Arched culverts are similar to box culverts except that the horizontal roof is replaced by an arched cover and the side walls are designed to resist the thrust of the arch. Arch culverts may be used for much larger openings than box culverts, in that the limit of practical construction for an arched roof is far beyond the limits within which the name culvert is generally used. Arch culverts are most frequently made of standard or reinforced concrete, although wood and rubble stone are also common. Cut-stone masonry is also used in arched culvert construction, but generally in those structures possessing large openings.²²

Pipe Culverts

Pipe culverts are constructed by laying either cast iron or vitrified terra cotta pipe directly on excavated soil or in a bed of concrete and establishing an engineered embankment through terrain modification or the implementation of backfilled head walls. Pipe culverts are popular for openings five feet or smaller due to the ease of construction, the large amount of water they can convey and their small cost.²³ By the 1930s, multi-plate, galvanized steel became the industry standard for medium to large size pipe culvert applications.²⁴

Multiple Culvert

The majority of culverts have a single opening and are know as single culverts. Often, the character of the terrain to be drained is larger than would meet efficient

²⁰ International Correspondence School Staff, *Culverts and Tunnels*. (Scranton, PA: International Textbook Company, 1907), 3.

²¹ Ibid, 4.

²² Ibid.

²³ Ibid.

²⁴ Ibid, 5.

specifications implementing a single culvert. In such a scenario, multiple openings are specified and extended head walls are constructed to support the roof or contain the fill. These structures are called multiple culverts, with sub-classification of double or triple culverts applying, respectively to structures with two or three openings.²⁵

Works Progress Administration

Note:

All related financial information is either in 1938 or 1946 U.S dollars, depending on source publication dates. To convert to contemporary financial figures access consumer price index conversion tables at <http://oregonstate.edu/cla/polisci/faculty-research/sahr/cv2009.xls>.

Federal Program

When President Franklin D. Roosevelt took office in March of 1933, estimates of the number of jobless people in the United States ranged from thirteen million to as high as fifteen million – a quarter of the working population. The effects of the Great Depression had touched every class of American worker: laborers, factory workers, carpenters, plumbers, electricians, secretaries, teachers, clerks, architects, engineers, no one was immune. FDR put the unemployment issue before the country in his inaugural address. “Our greatest primary task,” he said, “is to put people to work.”

His first steps for job creation, however, were limited in scope, slow to gear up, or temporary. The Civilian Conservation Corps had limited affect as nationwide stimulus. The Public Works Administration would construct magnificent dams, bridges and other major projects that took a lot of long-range planning. The chief PWA administrator, interior secretary Harold Ickes, deliberated at length before approving projects. These factors assured that the PWA had a far greater impact on national infrastructure than on employment.

Roosevelt’s presidency was two years old before he launched his primary attack on national unemployment. The organizational instrument for this offensive was the Works Progress Administration (WPA).²⁶

The WPA was established by Executive Order 7034, dated May 6, 1935. This action was taken by President Roosevelt under the authority of the Emergency Relief Appropriation Act of 1935, approved April 8, 1935. Four years later in the

²⁵ International Correspondence School Staff, *Culverts and Tunnels*, 5.

²⁶ Nick Taylor. “The WPA: Antidote to the Great Depression?” *History Now Journal*, Issue 19, March 2009. http://www.gilderlehrman.org/historynow/03_2009/historian2.php.

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President's Reorganization Plan No. 1 (prepared pursuant to the Reorganization Act of 1939, and effective July 1, 1939) the Works Progress Administration was incorporated in the Federal Works Agency and was renamed the Work Projects Administration. At that time the title of the head of the WPA, Administrator of the Works Progress Administration, was changed to Commissioner of Work Projects.²⁷

As originally designed, the WPA was to have two major functions. First, it was to operate a nation-wide program of "small useful projects" designed to provide employment for needy employable workers. Secondly, it was to coordinate the activities of the "Works Program." More than forty federal agencies cooperated in the operation of projects under the Works Program. Coordination of the various activities of the Works Program by one of its constituent agencies, the WPA, was beset with obvious difficulties. In practice, the WPA was chiefly concerned with reviewing projects to see if whether they could be accomplished with principally relief labor and with recommending projects for which non-labor costs were not excessive. A provision of Executive Order No. 7046 of May 20, 1935 was that at least 90% of all labor on Works Program projects should be taken from those on the public relief rolls. Because of the requirements of this provision, employment/project labor became the chief emphasis of the WPA.²⁸

While employment for those on relief became the chief objective of the WPA programs, the WPA itself looked beyond its functions of providing jobs and income for its labor force. The human values of WPA activities were of the utmost importance to the WPA administrators. The WPA considered the basic human experience of those participating in the program psychologically beneficial and far outweighed the compensation for time on the job. These psychological benefits included:

1. A Chance to Develop and Use Talent and Skills
2. The Opportunity to Maintain Habits of Work
3. Sustaining the Will to Live
4. Readjustment to Community Life
5. Keeping Fit for Reabsorption into Business and Industry
6. Preserving Social Position in Community Life²⁹

The WPA was in operational existence until 1943. By that time, U.S. involvement in World War II had created the necessity for industry (jobs) supporting defense material objectives. The need for labor-based, depression-era government works programs became less important, at least from the perspective of public relief.

²⁷ *Final Report on the WPA Program, 1935 – 43.* (Washington, D.C.: U.S. Government Printing Office, 1946), 7.

²⁸ *Ibid.*

²⁹ Martin Hayes Bickham. *Achievements of W.P.A. Workers in Illinois, July 1st 1935 – June 30th 1938.* (Chicago: Works Progress Administration Information Service, 1938), 25-31.

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The WPA program was officially liquidated on 04 December 1942. Projects physically underway were allowed to be completed during 1943.³⁰

The number of people employed through the WPA during its existence was in the neighborhood of 8.5 million people. Although WPA administrative personnel were diligent record keepers, employment statistics were affected by the fact that some laborers may have been counted more than once as they would leave and then return to the WPA workforce as seasonal and private opportunities vacillated. At its peak in November of 1938, the WPA carried 3.3 million personnel on its labor rolls.³¹

The federal government expenditures for WPA programs between 1935 and 1943 was \$10,750,500,969. The largest outlay of capital by the government took place during 1938 and 1939. Of the \$10.75 billion invested, approximately \$10.2 billion was expended on projects and the remainder was used for WPA operational costs.³²

WPA Administrative Organization

In carrying out its responsibilities, the WPA operated as an independent agency of the federal government until July 1939 when it was incorporated as a unit of the Federal Works Agency. From the beginning, the WPA operated at four levels; (1) the central administration in Washington, D.C, (2) regional offices, (3) State administrations, and (4) district offices. WPA officials at each level were under the direct authority of the administrative head of each level.³³

The special administrative responsibilities at these levels were:

Central Administration – responsibility for determination of WPA policies in accordance with law and the regulation of WPA activities in accordance with established policies.

Regional Offices – responsibility for the direction and coordination for the program in the States of each region in accordance with the policies and regulations prescribed by the Central Administration.

State Administration – responsible for the general administration of the program within the State, including securing the Federal approval and funds for project operations and the authorization of project operations in accordance with local needs.

District Offices – responsible for the direct management of project operations and of related activities, including the process of assigning of certified workers to projects;

³⁰ *Final Report on the WPA Program, 1935 - 43*, 15.

³¹ *Ibid*, 28.

³² *Ibid*, 99.

³³ *Ibid*, 10 & 11.

timekeeping; scheduling the initiation, termination and completion of projects; and cooperation with local sponsors in the timing and management of local operations.

At the peak of the WPA program in the fall of 1938, nearly 36,000 persons were on staff at the central, regional, State and district offices.³⁴

Harry Hopkins

The Chief Administrator of the WPA was Harry Hopkins. Hopkins was one of Franklin Roosevelt's closest advisors and one of the principal architects of the New Deal. Hopkins was appointed the U.S. Secretary of Commerce in 1938 and during World War II, served as Roosevelt's chief diplomatic advisor and troubleshooter.

A native of Sioux City, Iowa and a graduate of Grinnell College, Hopkins worked in administrative positions with social welfare institutions in New York City, New Orleans and Atlanta prior to taking the executive director position with the New York Tuberculosis Association. In 1931, Hopkins began his association with Roosevelt when he was appointed the executive director of New York State's Temporary Emergency Relief Association.

During his time as Chief Administrator with the WPA (1935-1938), Hopkins demonstrated superior organizational skills, by creating the nation's largest employer and its administrative apparatus in a very short period of time. Hopkins was burdened with all matter of trails common to CEOs in private and public positions. Strikes, charges of political patronage/corruption and questionable allocation of project funds were common issues placed before Hopkins for resolution.³⁵

WPA Project System

WPA projects encompassed a variety of brick and mortar and cultural endeavors which included, but were not limited to, projects within the following categories:

1. Highways, Roads and Streets
2. Public Buildings
3. Recreational Facilities
4. Conservation
5. Publically Owned and Operated Utilities
6. Transportation
7. Sanitation and Health
8. Education
9. Library Services
10. Sewing Rooms

³⁴ *Final Report on the WPA Program, 1935 - 43*, 11.

³⁵ "Harry Hopkins." http://en.wikipedia.org/wiki/Harry_Hopkins (03 May 2001).

11. The Federal Art Project
12. Historical Records Project
13. The Federal Music Project
14. The Federal Theater Project

Projects sponsored by state and federal agencies were only a small part of the WPA program. The vast majority of WPA projects were planned and undertaken by county, city, township and village governments and their subordinate agencies. Projects had to be proposed by a legitimate government agency legally empowered to sponsor the work. A sponsor's project proposal had to show the estimated cost of the work, what part of the cost the sponsor was willing to bear and the amount/kind of labor required. A project proposal to the WPA had to be accompanied by architectural/engineering plans and specifications as the local sponsor was responsible for the architectural/engineering aspects of potential projects. Projects upon completion became the property of the local sponsor, who also had to agree to maintain the finished product in perpetuity.³⁶

All proposals were forwarded by the sponsors to the state WPA office. The state office reviewed applications for appropriateness under WPA program guidelines. Proposals found acceptable formed the basis for applications by the State Administrator to make a formal request to spend federal funds on the proposed project. Project applications were then submitted to the WPA Office in Washington, where they met with final approval or were disapproved. Ultimate approval of each project was in the hands of the President.³⁷

Approved projects were released for operations at suitable times by the State Administrator in cooperation with the local sponsors. Working drawings and job schedules were frequently prepared by local sponsors in the period of time between approval in Washington and the release of projects for operation by the State Administrator. The release of projects for operation, the temporary suspension of project operations and the termination of projects all depended on the number of needy unemployed persons within the project community and the amount of federal funds available to carry out WPA programs.

To secure approval, projects had to provide employment for needy, unemployed people in the project community. Many projects were held in reserve until local projects already underway were completed and the local WPA labor force was freed-up. The vast majority of WPA workers were classified as unskilled and local sponsors in many cases had to expend additional funding to hire skilled labor for projects. This was especially true of projects involving the construction of schools and public buildings.

³⁶ *Final Report on the WPA Program, 1935 - 43*, 9.

³⁷ *Ibid.*

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Sponsors shared in the fiscal aspects of projects by obligating funds for project execution. No fixed minimum percentage was set by the WPA for the individual sponsor's contribution until 1940, when a state aggregate for all projects was required to equal 25%. Sponsor's fiscal contributions for projects were generally non-labor related. A sponsor's funding contributions were often applied to project materials, tools, equipment, office space, supplies, and technical supervision.³⁸

The chief incentive of sponsorship of WPA projects was the desire of state and local governments to secure useful public improvements and services of various types. The need for construction projects was easily recognized. Projects for the improvement or construction of highways, roads, streets, water supply/sewage systems and public buildings were widely in demand. Service projects were ordinarily sponsored by local governments and those sponsored at the state level were closely related to local governments which acted as cosponsors. Cultural projects were initially organized under federal sponsorship, but eventually were sponsored at the state and local levels.³⁹

WPA district offices were generally the entities responsible for the execution of projects. A superintendent or supervisor was the executive project lead. Superintendents were administrative staff in district divisions of engineering and construction, service projects and training and reemployment. Project superintendents were responsible for coordinating and supervising every phase of a project within the parameters of WPA rules and regulations. In actual production of work on a project, the superintendents were assisted by engineers, technicians, foremen and other subordinate supervisory personnel. WPA finance officers assisted superintendents with time keeping and authorization of federal expenditures. On larger projects, an employment officer assisted superintendents.

Actual scope of project organization and the relationship of the project to the sponsor's staff and organization were determined for each project in relation to the number of employees working on the project, the technical features of the project, the time schedule for completion of the project and various other factors. The WPA Central Administration delegated all responsibility for organizing and completion of projects to the WPA State Administrations. For larger projects, engineers, finance officers, consultants and other administrative personnel at the WPA Regional and Central Administrative offices reviewed/monitored project operations.⁴⁰

State of Illinois WPA Program

The WPA Program for the state of Illinois was headquartered in the Merchandise Mart in Chicago. The state was divided into seven WPA districts. District headquarters were located in Chicago, Joliet, Rockford, Peoria, Decatur, East Saint

³⁸ *Final Report on the WPA Program, 1935 - 43*, 9.

³⁹ *Ibid*, 10.

⁴⁰ *Ibid*, 14.

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Louis and Herrin.⁴¹ The administrative leadership for the Illinois WPA Office in 1938 was as follows:

Charles E. Miner, Administrator
L.H. Jacobson, Deputy Administrator
A.R. Lord, Assistant Administrator
A.M. Crain, Director of Operations
Mary G. Moon, Director of Women's and Professional Projects
Earl W. Clark, Director of Employment
Otto Beckwith, Director of Finance
Paul R. Kerschbaum, State Statistician⁴²

Charles E. Miner was a public health care administrator. He was in charge of the venereal disease control program in all extra-cantonment areas in five southeastern states during World War I and later served as an executive in public health agencies in Buffalo, N.Y., Missouri and Chicago. After the liquidation of the WPA, Miner accepted a field consulting position in one of the Army Service Commands.⁴³

The Illinois District 5 WPA Administrator from 1935 to July of 1937 was Walter Williams. District 5 encompassed 22 southern Illinois counties including Hamilton and Franklin. Williams's notoriety centers on a political patronage controversy within the southern Illinois WPA organization. The issue was so significant that it came to the attention of and had to be acted upon by WPA Chief Administrator Harry Hopkins.

The controversy emerged as a result of district qualification criteria for WPA workers employed on a road project in Williamson County in late 1935. Williams made a public statement that, "WPA county road building projects will only be staffed by loyal and deserving democrats."⁴⁴ The statement applied to not only WPA supervisory personnel, but also general laborers. Evidently, the political influence issue remained a concern in the district even after Williams resigned in 1937 and was replaced by A.G. Foote. On 20 May 1938, each District 5 WPA worker received a form letter with their pay envelopes signed by Harry Hopkins saying, "Vote any election for any candidate you choose." Hopkins further emphasized that, "...no WPA worker is required to contribute to any political party or any campaign fund in order to hold his job." "No (WPA) supervisor or administrator may attempt to influence the vote of a worker or solicit contributions to campaign funds for those who work under him." "Anyone who uses his WPA position to influence votes will

⁴¹ *Better Illinois Communities Through W.P.A. Projects*. (Chicago: Works Progress Administration Information Service, 1936), 18.

⁴² Bickham, 31.

⁴³ *American Journal of Public Health*, Vol. 33, July 1943, 765.

⁴⁴ "WPA to Permit Party Pet Plan of Naming Staff," *Chicago Daily Tribune*, 25 November 1935.

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be dismissed.” “Your personal opinions and politics are nobody’s business but your own.”⁴⁵

Illinois political practices aside, the Illinois WPA put hundreds of thousands of citizens to work on thousands of federal/local sponsor projects throughout Illinois. By June of 1938, the WPA had expended \$307.5 million in federal funds on Illinois projects. Local sponsors had contributed an additional \$62 million.⁴⁶

Projects in Illinois ran the gambit of WPA program authorized/promoted undertakings, but, by far, the highest percentage of projects, 40%, fell under the classification of Highways, Roads and Streets. Of these projects, many came under the category of Farm-to-Market Roads. The Farm-to-Market roads were almost exclusively dirt roads in rural agricultural areas of the state. Improvements for these byways included drainage, grading and surfacing. Up to June 1938, the Illinois WPA backed improvements to 11,846 miles of existing rural roads and constructed an additional 4,425 miles of new roads in rural areas. This is equivalent to eleven highways like number 51 across the length of the state from South Beloit to Cairo. Additionally, these Farm-to-Market Road projects included the construction of 1,895 new bridges and 25,189 new drainage culverts.⁴⁷

Well known Illinois WPA construction projects included:

Brookfield Zoo, Brookfield
Outer Drive (Lake Shore Drive) Bridge, Chicago
State Police Armory, Springfield
Crab Orchard Lake, Williamson County
Chicago (Midway) Airport Runway Extensions
Mattoon and Danville Brick Streets Rehabilitation
Spaulding Dam, Springfield
Lake Benton Dam and Reservoir, Franklin County
Lincoln Park Zoo Rookery, Chicago
Rockford National Guard Armory
Hamilton County Courthouse, McLeansboro

Other Illinois WPA projects:

Federal Art Project – 4,400 oil paintings, water colors, etchings and lithographs
Federal Writers Project – Illinois State Guide and The Encyclopedia of Illinois
Federal Music Project Activities - Cicero Concert Band, Herrin Dance Orchestra,
Illinois Philharmonic Choir and Chicago Symphony Orchestra
Federal Theater Project – 32 plays and 2,632 vaudeville performances in the
Chicago area

⁴⁵ “Local WPA Gets Hopkins’ Vote As You Please Form,” *Benton Evening News*, 21 May 1938.

⁴⁶ Bickham, 31.

⁴⁷ Bickham, 8.

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The WPA in Hamilton County

In May of 1934, 1,383 or 10.7% of the Hamilton County population of 12,905 were on public relief. The first Hamilton County WPA workers came from this relief pool and started working on county projects in the latter half of 1935. By the end of August of 1938, 512 WPA employees from the Hamilton County relief roster were working on local projects. Through June of 1938, funds invested in the Hamilton County WPA effort by the federal government and local sponsors totaled \$486,178. A majority of these funds were wages and were reinvested by the WPA workers into the local economy and assisted in sustaining local businesses.

Hamilton County WPA projects were diverse, the most prominent being the construction of the Hamilton County Courthouse. In that most county residents lived on or near to rural unimproved roads, the primary focus was on the improvement of county township roads. The objective of the Hamilton County WPA Farm-to-Market Road projects was to provide an all-weather, rural road network principally to support agriculture operations. This was accomplished through grading, drainage and resurfacing projects. By June of 1938, 91.9 miles of rural county roads had been improved. Related projects on the rural road network included the construction of 110 new bridges, 554 drainage culverts and 26 miles of right-of-way drainage ditches. Transportation projects in McLeansboro and other county towns and villages included the rehabilitation of 2.3 miles of streets and over 25,000 linear feet of new sidewalks.

Other Hamilton County projects included the improvement of water supply and sanitary sewer systems and installation of over 400 sanitary, fly-proof toilets throughout the county. Fourteen branch libraries were created. The WPA trained a dozen local recreational leaders and set them to organizing and directing recreational activities which included crafts, athletics, drama and music. Women were trained and employed as Housekeeping Aides charged with assisting county residents with child/geriatric care, home sanitation and dietary requirement education. Women also were employed in Sewing Rooms that produced clothing, sheets and pillow cases for county relief families.⁴⁸

1938 Macedonia Road WPA Culvert No. 5711

Note:

No extant local documentation (Hamilton & Franklin counties) could be located concerning this culvert, the manner in which it became a WPA project or which government entity sponsored its construction. Detailed project documentation from the WPA perspective is most likely to be found at the National Archives and Records

⁴⁸ "Three Years of WPA Operations in Hamilton County," *McLeansboro Times Leader*, 03 November 1938.

MACEDONIA ROAD PIPE CULVERT
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Administration repository in College Park, Maryland. Much of the following context is a result of second-hand information and contemporary speculation. It is the opinion of the principal researcher, Thompson, that the subject WPA project was most likely a Farm-to-Market Road project under the sponsorship of Franklin County's Eastern Township.

Need and Construction

Macedonia/County Line Road has served the rural residents of Flannigan (Hamilton County) and Eastern (Franklin) Townships since the 19th century. Principally this road has supported local agricultural operations and been a link to state highways 14 to the north of Macedonia and 34 to the south. Macedonia Road traverses rolling terrain which is influenced by the tributaries of the Middle Fork of the Big Muddy River watershed. It is an oil and chip/gravel surfaced, all-weather road in 2011, but was likely a dirt road with drainage deficiencies prior to the 1930s, making it a likely candidate for WPA Farm-to-Market Road improvement projects. The culvert itself may have been classified as a WPA bridge project, as it is much larger than typical culverts integrated into township roads in the area and replaced an existing timber bridge.

Flannigan and Eastern Township residents who were children in 1938 reflected on the construction of the culvert. Edith Cutright, who still lives on her family's 1938 Flannigan Township farm ground about a half a mile southeast of the subject culvert, recalled, in the era before WPA improvements were made to Macedonia Road, every time her father would take a horse drawn wagon the three miles to Macedonia with produce or to retrieve supplies, "... the wagon would be up to the wheel hubs in mud after traveling but a short distance on Macedonia Road." Ms. Cutright also reflected that the prior structure at the culvert site "...was a wooden bridge with no trusses or guard rails and that the approach grades were much steeper than today." "The WPA culvert was constructed over a few weeks during the summer and most of the labor force was not from the immediate area." Ms. Cutright said, "...most of the local folks she knew that were working for the WPA were on other projects like distant county roads, the Hamilton County Courthouse and Lake Benton."⁴⁹

Macedonia resident Everett Sullivan remembers, "...the construction of the bridge (culvert) south of town was a big deal." "Macedonia Road down there was always underwater and people experienced much difficulty getting to town." "The use of stone in the construction was unusual for a township road." Sullivan said he tried to get his brother, who had a car, to drive him to the site during construction. His brother said he would if paid with a candy bar. Sullivan gave up the candy bar, but

⁴⁹ Edith Cutright, interview by Stephen A. Thompson, Hamilton County, IL, 07 April 2011.

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his brother reneged. Sullivan said, “I finally had to walk down there on my own after the bridge was finished.”⁵⁰

Keith Finney, who currently resides southwest of the culvert site, relayed a story of an encounter he had at the culvert in 2008 with a man in his 80s who said he worked on the construction crew. Finney recalls the former WPA worker told him that, “...the culvert was constructed with fill scrapped off the top of the bluff southeast of the site.” “Workers moved the fill with side-discharging wheel barrows that were assembled on site.” According to Finney’s source, some skilled labor was involved in the construction, primarily masons and stone cutters assembling the head walls, side walls and parapets.⁵¹

2011 Environmental Review, Assessment and Mitigation

In 2011, M-Class Mining land agent Ben Cox undertook environmental compliance requirements in accordance with The National Environmental Policy Act of 1969 (NEPA) and Section 106 of the National Historic Preservation Act of 1966 (Section 106) in regard to permitting requirements for proposed area sub-surface coal mining operations by Sugar Camp Energy, LLC (SCE). Cox proceeded to notify the Tennessee Valley Authority (TVA), the owner of the mineral rights for the area to be mined, and the Illinois Department of Natural Resources (IDNR), governmental agencies with regulatory functions under federal and state environmental statutes, of the impending mining activities by SCE. IDNR, with undertaking notification requirements under Section 106, notified the Illinois State Historic Preservation Office (IL SHPO) of SCE’s intent. The principal concern of the government agencies involved was potential effects on historic and natural resources within the project area through terrain subsidence. One of the historic resources identified as potentially affected by subsidence was the Macedonia Road 1938 WPA Culvert

Review and comment by these agencies resulted in a Memorandum of Agreement (MOA) between the participating agencies, TVA, IL SHPO and SCE, concerning the SCE undertaking. The principal stipulation in the MOA was for the production of Illinois Historic American Engineering Record (IL HAER) documentation of the culvert and eventual deposit of the completed documentation in the IL HAER Collection at the Abraham Lincoln Presidential Library in Springfield, Illinois. Archival research, field work and production of the required IL HAER Documentation were undertaken in April and May of 2011.

⁵⁰ Everett Sullivan, interview by Stephen A. Thompson, Macedonia, IL, 07 April 2011.

⁵¹ Keith Finney, interview by Stephen A. Thompson, Culvert Site, 07 April 2011.

PART II. ENGINEERING INFORMATION

A. General Statement:

The Macedonia Road WPA Pipe Culvert is a 20th century, single span, sandstone and fill structure with a steel, multi-plate drainage opening, supporting a gravel roadbed with an oil and chip surface. The culvert is oriented north to south and spans an unnamed intermittent tributary of Akin Creek in the Middle Fork of the Big Muddy River watershed. Macedonia Road north of the culvert has an approximately 3% grade. To the south of the culvert Macedonia Road has an approximately 5%. The culvert was constructed with locally quarried sandstone and fill stripped from the area adjacent to the creek bluff to the southeast of the structure. The sandstone is bonded with mortar high in Portland cement content and is tooled flush to the sandstone block components. The parapet members are capped with rectangular, formed-concrete elements.

The Macedonia Road WPA Pipe Culvert is in fair condition. The parapets and wing walls are in good condition and exhibit only minor signs of stone and mortar deterioration. The side walls show evidence of mortar failure and herbaceous flora established within the joints. Large areas of lichens are evident on the tops of the wing walls. Large stone facing areas above the multi-plate steel drainage pipe on both the east and west elevations are missing. Both the facing stone and the culvert fill in the area above the drainage pipe are slowly eroding into the creek bed.

B. Description:

Note:

Dimensions given are a result of contemporary field measurements as no original plans and specifications were available for reference.

1. Culvert Type: Arched Pipe

2. General Dimensions

- a. Length (Right-of Way, Wing Wall Projections) – 27 feet = 27'
- b. Width (Perpendicular to Right-of Way, Wing Wall Projections) – 46'
- c. Height (Grade Level Side Walls to top of Parapet End Posts) – 19'

3. Materials:

a. Pipe

Semi-circular, multi-plate, approximately eight-gauge, galvanized steel assembled with 1' bolts with 1.5" nuts. The pipe is approximately 28' in length, 10'6" in diameter and rests on bedrock.

The aforementioned component is not original and appears to have been replaced in the late 20th century. Part of the original cast iron pipe is visible and exhibits evidence of being cut with a torch approximately one foot above its intersection with the bedrock. The original pipe is overlaid with an approximately 1" layer of concrete. Field investigations were inconclusive as to whether the original pipe was circular and put in place after excavations of the bedrock or was semi-circular like its successor.

b. Masonry

1) Stone

Stone blocks used for the head/wing walls and the parapets are square-cut, quarry-faced, yellow sandstone. The contemporary stone exhibits exterior hues of brown and gray, due to decades of environmental affects on the porous stone. Typical sizes of the stone block are 12" or 24" width, 8" height and 12" depth. Capstones on the wing walls have been cut to incorporate a 45 degree slope for the down wall. The stone is laid in regular courses for all structural components.

The culvert's sandstone blocks likely came from a local quarry as the stone blocks are almost identical in texture and hue to the stream bedrock and area streambed outcroppings. A search of vicinity streambeds and ravines presented no evidence that the amount of stone used in construction of the culvert was mined in the adjacent environs.

2) Concrete

Concrete used in construction of the culvert exists in three areas; the parapet caps, the covering over the original cast iron pipe and the name WPA project number nameplates on the northeast and southwest parapet columns. The concrete composition of the parapet caps is high in very small aggregate. The layer over the original cast iron pipe as well as the WPA signage shows hardly any aggregate in the mix. The latter area may well be a mix of pure Portland cement.

3) Mortar

The sandstone blocks of the side/wing walls and parapets are bonded with mortar high in Portland cement content. The joints are flush with the stone and appear not the work of experienced masonry craftsmen. Mortar is roughly applied and covers stone areas outside a normal joint boundary. It is possible some, if not all, of the stone was dry laid and the mortar was only applied to the exterior part of the joints.

Examination of stone debris from the deteriorating side walls above the pipe evidenced negligible mortar residue on the areas considered bonding surfaces.

c. Fill

Fill used is a combination of earth and stone rubble. The yellowish soil is high in clay content indicating it is a result of forest decomposition and typical of the immediate area's topsoil. The stone rubble observed in the headwall openings above the pipe may have been debris from on-site stone cutting.

d. Roadbed

The roadbed is established on a north to south axis in the center of the culvert structure. The roadbed is 4"-6" of gravel overlaid with multi-layers of oil and chip surfacing. The road itself is 16' in width and has 5'6" shoulders.

4. Culvert Structural Components:

a. Side Walls

Culvert sandstone side walls are approximately 16' in height from stream grade to the lower parapet projection. The width of the side walls from their intersection with the flared wing walls is approximately 15'. The side walls are approximately 24" in thickness. There is substantial deterioration of the stone courses above the multi-plate drainage pipe on both the east and west elevations.

b. Wing Walls

The culvert's four sandstone wing walls are flared at an angle of approximately 60 degrees from the side walls and parapets. The wing walls are 16' in height at their intersection with the side walls and are 8'4" wide at their base. The cap surface is laid at a 45 degree slope angle from their juncture with the parapet end columns for a distance of 9'6".

MACEDONIA ROAD PIPE CULVERT
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The height from grade-level to the termination point of the angled cap surface is 10'. The wing walls are 24" in thickness.

c. Parapets

The culvert's two, side wall parapets are 18'4" in length. Stone parapet center sections are 14" in length, 40" high, 24" in width and are covered by rectangular, 14" x 28" concrete caps of 3.5" thickness. The center sections have 8" high projection extending 2" from the primary parapet face. The 4' high stone parapet end posts are 28" x 28" and are covered by 36" x 34" concrete caps. The northeast and southwest end posts contain 28" x 14" section of Portland cement inscribed inside of rectangle with the following:

W.P.A.NO.5711
1938.

The tooled alpha-numerics were either executed by a professional stone carver or with a template device.

C. Site

1. General Orientation and Setting

- a. Orientation** – The 1938 Macedonia Road WPA Pipe Culvert is located on a county line township road shared by Hamilton and Franklin counties. The culvert is sited in Flannigan Township in southeastern Hamilton County and Eastern Township in east central Franklin County in the Middle Fork of the Big Muddy river floodplain approximately two miles south of Macedonia, Illinois.

The culvert traverses an unnamed tributary of Akin Creek on a north to south axis. The culvert's approach grades begin at ridge lines north and south of the structure. The ridge where the 3% northern approach slope begins is approximately 600' north of the structure. The ridge where the 5% southern approach slope begins is approximately 350' to the south of the structure.

- b. Setting** – The setting of the 1938 Macedonia Road WPA Pipe Culvert is rural and typical of a small south central Illinois watershed. The site topography consists of small, 20'-30' deep ravine with smaller ravines perpendicular to the primary streambed. The floodplain of the stream adjacent to the culvert varies between 75' to 150' feet in width. The streambed is sandstone bedrock. Numerous sandstone outcroppings exist adjacent to the stream within the floodplain. Northeast of the culvert is an

unimproved access road off Macedonia Road leading to woodlots and agricultural fields to the east. Residential and storage structures exist on the ridges northeast and southwest of the culvert.

The flora elements in the bridge vicinity are typical of an unmolested south central Illinois watershed. The flood plain is populated with oak, cedar, box elder and hickory trees, as well, woody vines and prairie grasses. An agricultural field, hay, is located between the culvert site and the ridge line to the northwest. During site field work, fauna examples observed were red tailed hawks, turkeys, ticks and red spider mites.

PART III. SOURCES OF INFORMATION

A. Original Engineering Drawings: None

B. Early Views: None

C. Interviews:

Campbell Jr., Hobert. Macedonia Village Trustee. Interview by Stephen A. Thompson, Macedonia, IL, 07 April 2011.

Cox, Ben. Land Agent, M-Class Mining. Interview by Stephen A. Thompson, Benton, IL, 08 April 2011.

Cutright, Edith. Culvert Area Resident. Interview by Stephen A. Thompson, Rural Hamilton County, IL, 07 April 2011.

Darnell, Lloyd. Flannigan Township Road Commissioner. Interview by Stephen A. Thompson, Rural Hamilton County, IL, 30 March 2011.

Dean, Chris. Culvert Area Resident. Interview by Stephen A. Thompson, Culvert Site, 06 April 2011.

Finney, Keith. Culvert Area Resident. Interview by Stephen A. Thompson, Culvert Site, 06 & 07 April 2011.

Gibbs, Donnie. Engineering Technician, Hamilton County Highway Department. Interview by Stephen A. Thompson, Culvert Site, 06 April 2011.

McDaniel, Mark. Supervisor, Flannigan Township, Hamilton County, Illinois. Interview by Stephen A. Thompson, Phone, 09 May 2011.

Phillips, Kevin. County Engineer, Hamilton County Highway Department. Interview by Stephen A. Thompson, Culvert Site, 06 April 2011.

Sullivan, Everett. General Store Proprietor. Interview by Stephen A. Thompson, Macedonia, IL, 07 April 2011.

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E. Likely Sources Not Yet Investigated:

Eastern Township (Franklin County, Illinois) Commissioners Records

National Archives and Records Administration, College Park, Maryland.
Record Group 69 - Records of the Works Progress Administration

F. Supplemental Material:

Site Plan

Façade Drawing (West Elevation)

Satellite Image – 28 June 2009

Topographic Image – 1974

PART IV. METHODOLOGY OF RESEARCH

A. Research Strategy:

The primary objective of this IL HAER documentation project was to provide a written and graphic record of the 1938 Macedonia Road WPA Culvert No. 5711 in mitigation of potential subsidence from area underground coal mining operations prior to commencement. Preliminary research strategy for this project included the use of archival and field approaches designed to identify resource historic contexts and verify the original/contemporary physical attributes of the culvert and its surrounding environs. Archives and repositories associated with the administration and operations of the Hamilton and Franklin Counties, Illinois

MACEDONIA ROAD PIPE CULVERT
WPA PROJECT No. 5711
IL HAER No. H-2011-1

Highway Departments, the Hamilton and Franklin County's Board of Supervisors, Flannigan Township (Hamilton County) Commissioner's Records and Eastern Township (Franklin County) Commissioners Records were identified as primary repositories for contextual information concerning the subject resource.

B. Actual Research Process:

The executed research process fundamentally followed the proposed preliminary research plan. No reference to the subject resource or execution of the associated construction project was identified at any of the records repositories cited above. All of the primary information gathered about the culvert is a result of interviews with local residents and government officials. Budgetary restrictions did not allow for full investigation of WPA records concerning the culvert potentially on file at the National Archives in Maryland. Eastern Township (Franklin County) Commissioners' Records were unavailable for review.

C. Archives and Repositories Used:

Benton Public Library, Benton, IL.

Franklin County, Illinois Clerk's Office, Benton, IL.

Franklin County, Illinois Highway Department, McLeansboro, IL.

Flannigan Township Commissioner's Records, Flannigan Township Office, Rural Hamilton County, IL.

Hamilton County, Illinois Clerk's Office, McLeansboro, IL.

Hamilton County, Illinois Highway Department, McLeansboro, IL.

Illinois State Library, Springfield, IL

McCoy Memorial Library, McLeansboro, IL.

D. Research Staff:

1. Primary Researcher/Preparer: Stephen A. Thompson

2. Photographer: Stephen A. Thompson

3. Delineator: Brian Albrecht

4. Additional Staff:

Ben Cox, M-Class Mining – Facilitation

Mary Anne Hopfinger, Hamilton County Clerk & Recorder – Research

Mark McDaniel, Flannigan Township Supervisor – Research

PART V. PROJECT INFORMATION

This IL HAER documentation project was undertaken by Sugar Camp Energy, LLC and was associated with the project to mine sub-surface coal in Hamilton County, Illinois. Additionally, this IL HAER documentation project was undertaken to fulfill Stipulation 1.F, Recordation, included in the Memorandum of Agreement executed on 05 May 2011 between the Tennessee Valley Authority, the Illinois State Historic Preservation Office and Sugar Camp Energy, LLC regarding project regulatory compliance by the participating agencies under Section 106 of the National Historic Preservation Act of 1966, as amended.

MACEDONIA ROAD PIPE CULVERT
WPA PROJECT No. 5711
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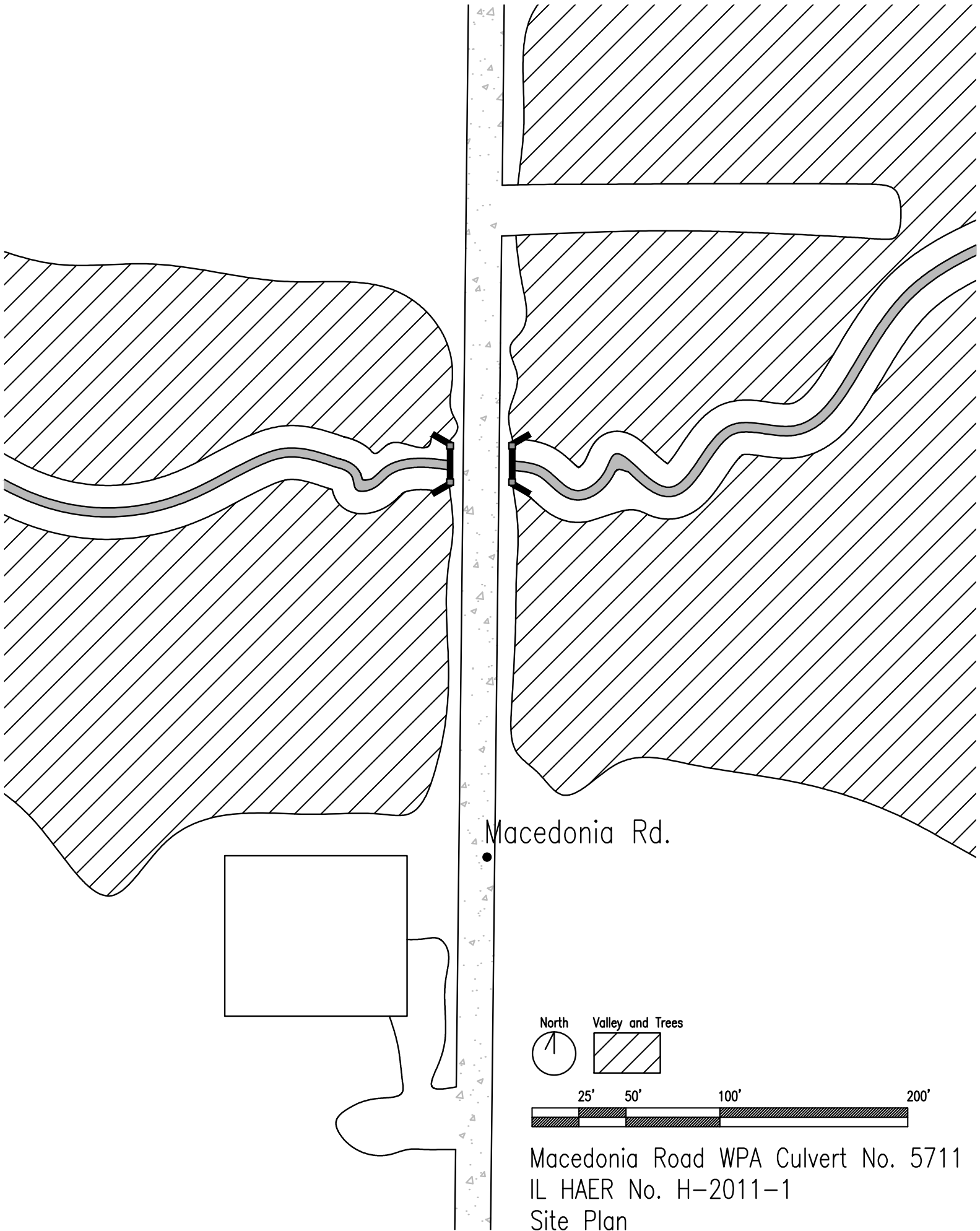
Index to Photographs

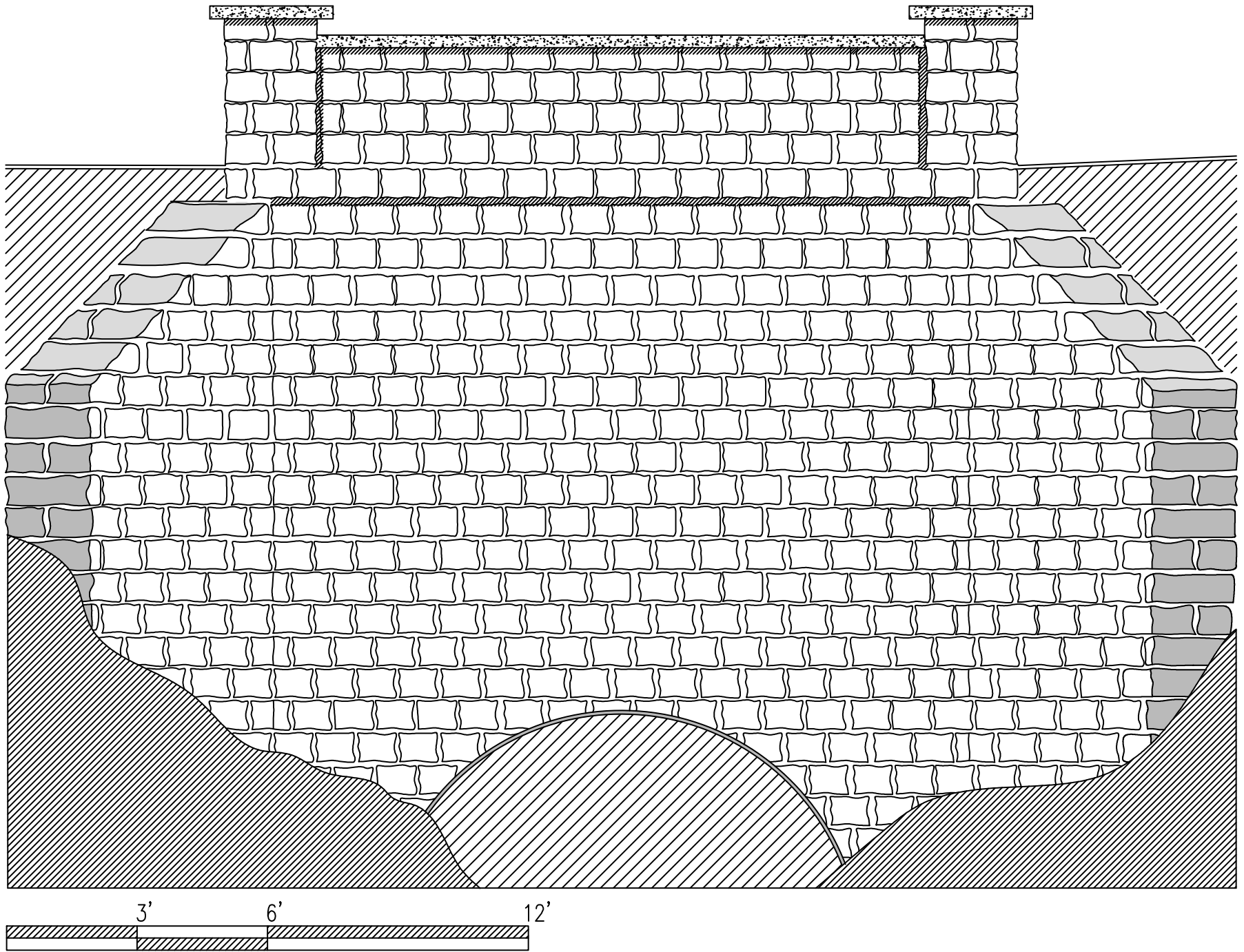
Macedonia Road Pipe Culvert
WPA Project No. 5711

IL HAER No. H-2011-1
Rural, Hamilton County, Illinois

Documentation: 14 Photographs

H-2011-1.1	Macedonia Road and culvert parapets looking north
H-2010-1.2	Macedonia Road and culvert parapets looking south
H-2010-1.3	east parapet looking southeast
H-2010-1.4	east parapet WPA culvert project identification carving looking southeast
H-2011-1.5	west parapet looking northwest
H-2011-1.6	culvert west elevation looking southeast
H-2011-1.7	culvert west elevation looking east
H-2011-1.8	culvert west elevation side wall and parapet
H-2011-1.9	culvert west elevation pipe opening
H-2011-1.10	culvert west elevation, southwest wing wall and parapet column looking southeast
H-2011-1.11	culvert west elevation looking northeast
H-2011-1.12	culvert east elevation looking northwest
H-2011-1.13	culvert east elevation looking northwest from bluff
H-2011-1.14	culvert east elevation looking west

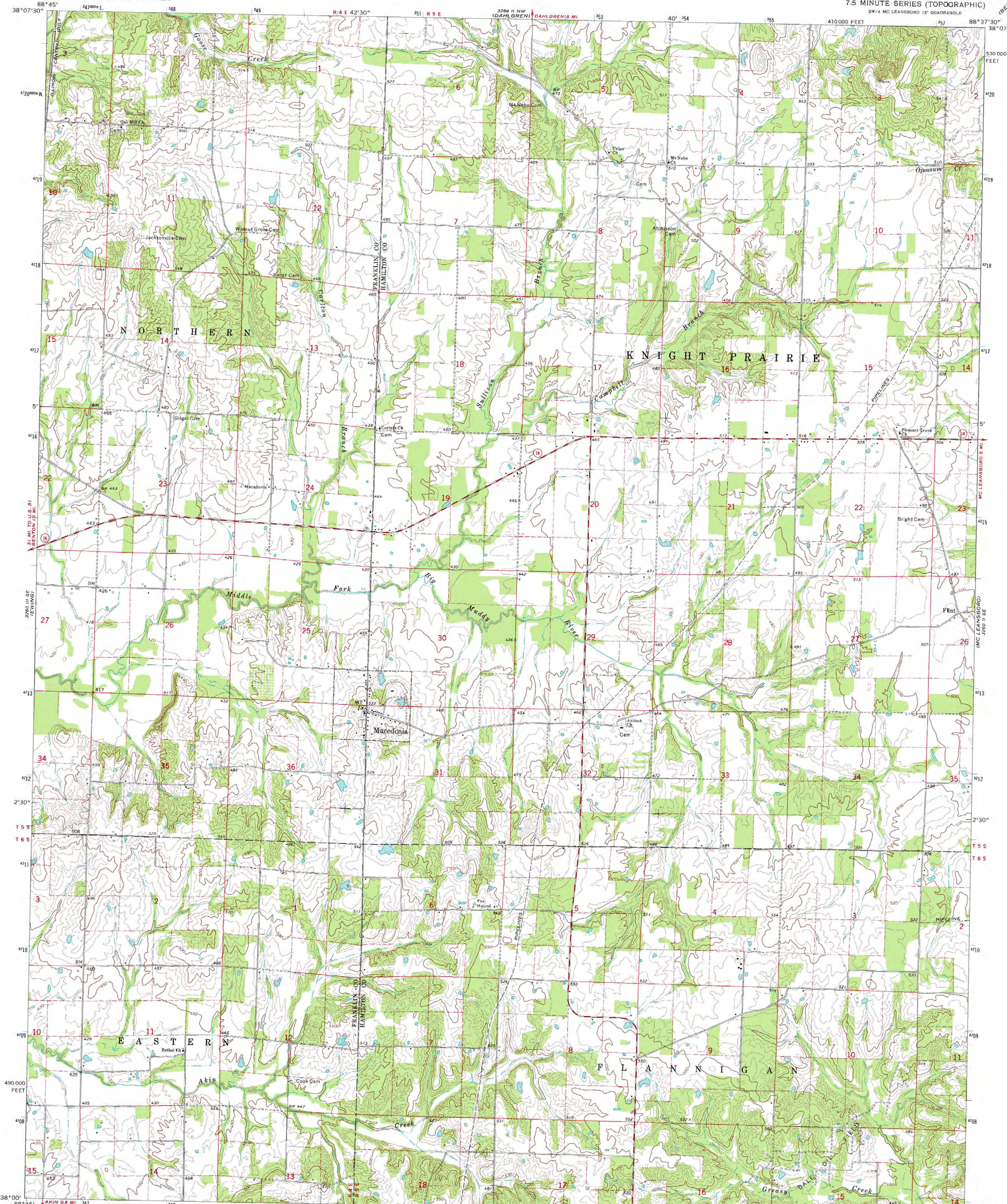




Macedonia Road WPA Culvert No. 5711
IL HAER No. H-2011-1
West Elevation

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MACEDONIA QUADRANGLE
ILLINOIS
7.5 MINUTE SERIES (TOPOGRAPHIC)
SW 1/4 MC LEANSBORO 15' QUADRANGLE



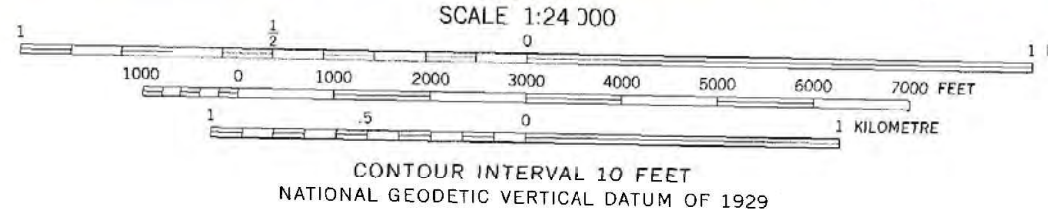
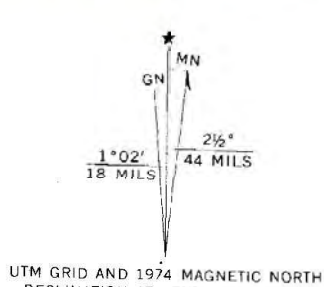
Mapped, edited, and published by the Geological Survey
Control by USGS and NOS/NOAA

Topography by photogrammetric methods from aerial
photographs taken 1973. Field checked 1974

Projection and 10,000-foot grid ticks: Illinois coordinate
system, east zone (transverse Mercator)

1000-metre Universal Transverse Mercator grid ticks,
zone 16, shown in blue. 1927 North American datum

Fine red dashed lines indicate selected fence and field lines where
generally visible on aerial photographs. This information is unchecked



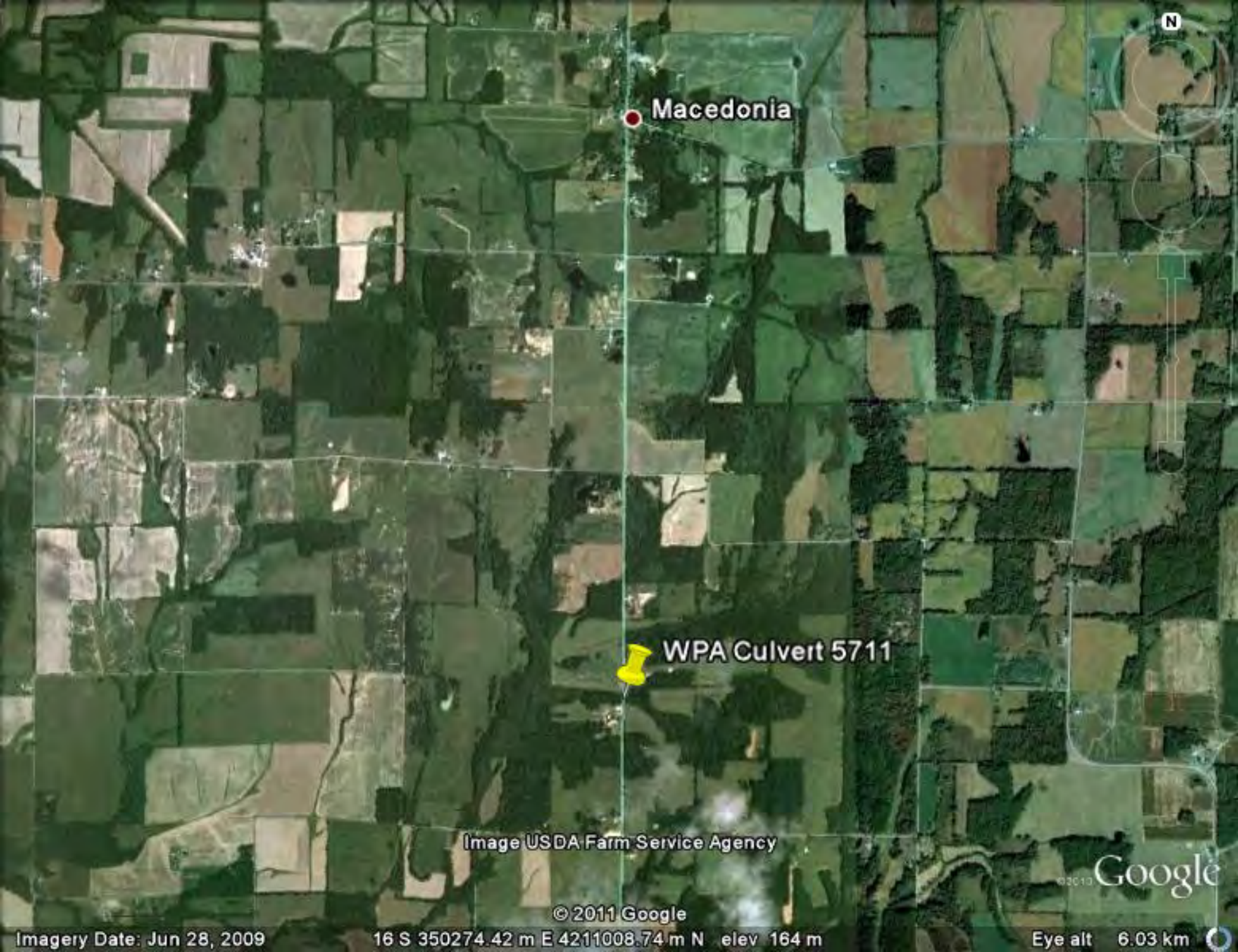
ROAD CLASSIFICATION	
Primary highway, hard surface	Light duty road, hard or improved surface
Secondary highway, hard surface	Unimproved road
Interstate Route	U.S. Route
	State Route

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092
AND BY THE STATE GEOLOGICAL SURVEY, URBANA, ILLINOIS 61801
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

MACEDONIA, ILL.
SW 1/4 MC LEANSBORO 15' QUADRANGLE
N3800-W8837.5/7.5

1974

AMS 3260 II SW-SERIES V863



Macedonia

WPA Culvert 5711

Image USDA Farm Service Agency

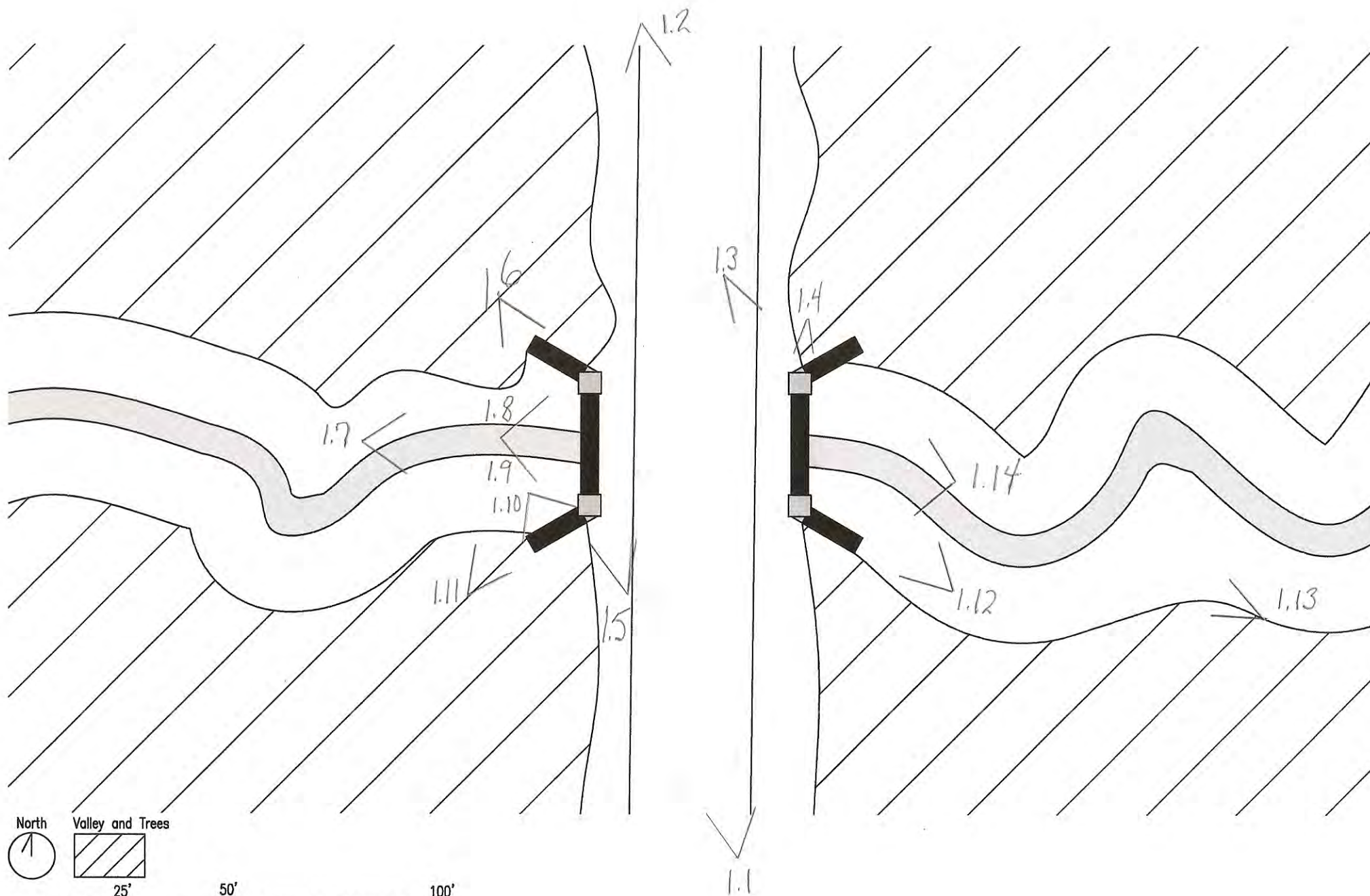
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Google

Imagery Date: Jun 28, 2009

16 S 350274.42 m E 4211008.74 m N elev 164 m

Eye alt 6.03 km



Macedonia Road WPA Culvert No. 5711
IL HAER No. H-2011-1
Photo Key







W.P.A. NO. 5711
1938

W.P.A. NO. 5711
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W.P.A. NO. 5711
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