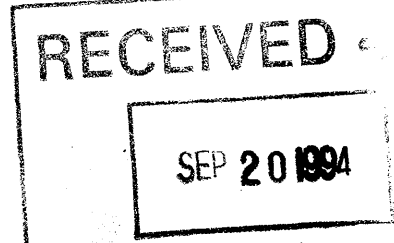


United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form



INTERAGENCY RESOURCES DIVISION
NATIONAL PARK SERVICE

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

1. Name of Property

historic name Maginnis Irrigation Aqueduct
other names/site number NeHBS # KM00-039

2. Location

street & number N/A not for publication [n/a]
city or town Kimball vicinity [x]
state Nebraska code NE county Kimball code 105 zip code 69145

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this [x] nomination [] request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property [x] meets [] does not meet the National Register Criteria. I recommend that this property be considered significant [] nationally [x] statewide [] locally. ([] See continuation sheet for additional comments.)

Lawrence Sommer Date 9/15/94
Signature of certifying official
Director, Nebraska State Historical Society
State or Federal agency and bureau

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

Signature of certifying official/Title Date
State or Federal agency and bureau

4. National Park Service Certification

- I, hereby certify that this property is:
 entered in the National Register.
[] See continuation sheet.
- determined eligible for the National Register
[] See continuation sheet.
- determined not eligible for the National Register.
- removed from the National Register.
- other, (explain): _____

Edson H. Beall Entered in the 10.21.94
National Register
Signature of Keeper Date of Action

5. Classification

Ownership of Property
(Check as many boxes as apply)

Category of Property
(Check only one box)

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

- private
- public-local
- public-State
- public-Federal

- building(s)
- district
- site
- structure
- object

| Contributing | Noncontributing | |
|--------------|-----------------|------------|
| _____ | _____ | buildings |
| _____ | _____ | sites |
| 1 | _____ | structures |
| _____ | _____ | objects |
| 1 | _____ | Total |

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

Number of contributing resources previously listed
in the National Register

N/A

0

6. Function or Use

Historic Functions
(Enter categories from instructions)

Current Functions
(Enter categories from instructions)

Agriculture/Subsistence: Irrigation Facility

Vacant/not in use

7. Description

Architectural Classification
(Enter categories from instructions)

Materials
(Enter categories from instructions)

No Style

foundation N/A
walls N/A

roof N/A
other N/A

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

Maginnis Irrigation Aqueduct
Name of Property

Kimball County, Nebraska
County and State

8. Statement of Significance

Applicable National Register Criteria

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

- A** Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B** Property is associated with the lives of persons significant in our past.
- C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D** Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations

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

Property is:

- A** owned by a religious institution or used for religious purposes.
- B** removed from its original location.
- C** a birthplace or a grave.
- D** a cemetery.
- E** a reconstructed building, object, or structure.
- F** a commemorative property.
- G** less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance

(Enter categories from instructions)

Agriculture
Engineering

Period of Significance

1912

Significant Dates

1912

Significant Person

(Complete if Criterion B is marked above)

N/A

Cultural Affiliation

N/A

Architect/Builder

Maginnis, Patrick

Narrative Statement of Significance

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

9. Major Bibliographical References

Bibliography

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

Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) has been requested.
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey # _____
- recorded by Historic American Engineering Record # _____

Primary Location of Additional Data:

- State Historic Preservation Office
 - Other State agency
 - Federal agency
 - Local government
 - University
 - Other
- Name of repository: _____

Maginnis Irrigation Aqueduct
Name of Property

Kimball County, Nebraska
County and State

10. Geographical Data

Acreege of Property Less than one acre.

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

| | Zone | Easting | Northing | | Zone | Easting | Northing |
|----|-------------|----------------|-----------------|----|-------------|----------------|-----------------|
| 1. | 13 | 602440 | 4564700 | 3. | | | |
| 2. | | | | 4. | | | |

[] See continuation sheet.

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

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

11. Form Prepared By

name/title Greg Miller, Historian

organization Nebraska State Historical Society date June 1994

street & number 1500 R Street telephone (402) 471-4775

city or town Lincoln state NE zip code 68501

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

- A **USGS map** (7.5 or 15 minute series) indicating the property's location.
- A **Sketch map** for historic districts and properties having large acreage or numerous resources.

Photographs

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

Additional items

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

Property Owner

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

name Terrestrial Ltd.

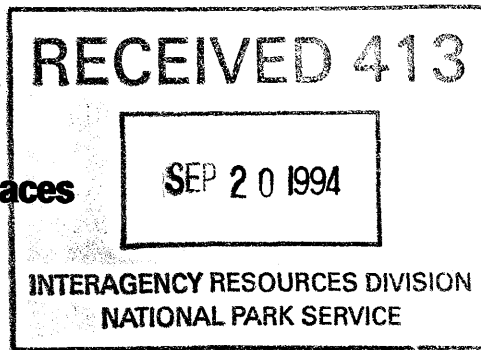
street & number 1400 O Street telephone (308) 436-3750

city or town Gering state NE zip code 69340

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Project (1024-0018), Washington, DC 20503.

United States Department of the Interior
National Park Service



**National Register of Historic Places
Continuation Sheet**

| |
|------------------------------|
| Maginnis Irrigation Aqueduct |
| Name of Property |
| Kimball County, Nebraska |
| County and State |

Section 7,8 Page 1

Description

Located in rural Kimball County, the Maginnis Irrigation Aqueduct was built in 1912. The aqueduct consists of a trestle that supports the flume through which the water flows. The flume was constructed of galvanized steel and the trestle primarily of wood. It was part of the Bay State Irrigation Canal and designed to carry water over rough terrain. The nomination includes one contributing structure, the aqueduct.

The Maginnis Irrigation Aqueduct is situated near Highway 30 about five miles west of Kimball, the county seat of Kimball County. It was built, along with several others, to connect the canal on either side of a draw of Lodgepole Creek. The nominated aqueduct is the best preserved and most visible of the several which were formerly part of the Bay State system. Measuring approximately 55m (approx. 180 feet 5 inches) in length and about 4.5m (approx. 14 feet 9 inches) in maximum height, each end connects to concrete abutments which are part of the canal. A trestle of eleven spans between these two abutments supports the flume.

The configuration of each trestle varies according to the height of the span above the draw; one design occurs at center spans, where the greatest height of span occurs, while another design occurs where the slope of the draw lessens the height near each concrete abutment. Each trestle utilizes the same members, even though the configuration varies. In general, each trestle (or bent) has two 20 x 20cm (approx. 8 x 8 inches) principal supports, set on concrete footings in an angular position toward each other. Bolted to these are two criss-crossed 5 x 15cm (approx. 2 x 6 inches) wooden diagonals. At the end spans the diagonal braces assist in supporting the flume itself; at the center spans they are located well below the flume. A 5 x 10cm (approx. 2 x 4 inches) horizontal tie also connects the principal supports, located above the diagonals at center spans and below the diagonals at end spans.

Two parallel 10 x 20cm (approx. 4 x 8 inches) beams approximately 2m (approx. 6 feet 7 inches) apart rest on each bent. The beams are spliced at the bearing point with 5 x 20cm (approx. 2 x 8 inches) boards. Each beam is supported at 1/3 span by a 5 x 15cm (approx. 2 x 6 inches) diagonal brace, which also functions as lateral stability for the trestles. All diagonal braces abut a 5 x 10cm (approx. 2 x 4 inches) stop attached to the underside of each beam in the horizontal plane, but abut the vertical plane in different places depending on location in the draw. At center spans the diagonals abut the horizontal tie of the trestle; at end spans it is anchored to the footing of the trestle.

The flume itself is semi-circular and made of galvanized steel with an inside diameter of about 2.2m (approx. 7 feet 3 inches) and a depth of just over 1m (approx. 3 feet 3 inches). The flume is carried by semi-circular metal rods which are secured with bolts to 10 x 10cm (approx. 4 x 4 inches) wooden hangars. The hangars--approximately 10 per span--rest atop the parallel, 10 x 20cm (approx. 4 x 8 inches) wooden beams which form the spans.

Significance

The Maginnis Irrigation Aqueduct is located about five miles west of Kimball, Kimball County, Nebraska. It is eligible at the state level under Criterion A for its important association with irrigation and agriculture; and Criterion C in the area of engineering as an excellent example of a structure designed to

United States Department of the Interior
National Park Service

**National Register of Historic Places
Continuation Sheet**

Maginnis Irrigation Aqueduct

Name of Property

Kimball County, Nebraska

County and State

Section 8 Page 2

Significance (continued)

overcome a topographical obstruction, in this case a draw. The period of significance is 1912, the year the aqueduct was constructed and the canal was placed into use.

Surface water irrigation has been used in Nebraska for over 100 years. Since it was first employed in 1859 near present-day North Platte, this type of irrigation has spread to many areas. It first came to Kimball County when the Bay State (now Bickel) Canal was built on the Little Lodgepole Creek in 1876. Although this project and others similar to it showed that irrigation was possible, it was not a popular practice. However, severe droughts in 1887 and again in the early 1890s changed the minds of many people and resulted in the construction of more canals in western and central Nebraska.

Still, water problems continued to exist. The lack of rain during the summer months, which caused the need for irrigation, also resulted in a lower water level in the rivers (and consequently the canals) during this same time. To solve this problem it was determined that the flow of a river during the non-irrigation season could be stored in large reservoirs for use when needed. Because of the expense it was necessary for either the government or privately owned irrigation districts to provide the means to finance these projects.

A surface water irrigation system, like the former Bay State Canal, is gravity operated and requires building main canals or ditches extending out from the site of the primary water supply. Smaller canals, called laterals, carry the water from the main canal to the farms being irrigated. Where the topography is rough, aqueducts are used to carry the water to the next level land. Once the water reaches the farm, small dams, called checks (made of heavy canvas), are used in regulating the flow of water in the laterals. The sides of the laterals are opened to irrigate the soil. When one area has been irrigated another check is placed further down the lateral and the first check is removed to let the water flow down to the new check. Another opening in the lateral is then made. This procedure is repeated until the field is irrigated.

In Kimball County, the Kimball Irrigation District Board held its first organizational meeting on November 17, 1909. Subsequent meetings resulted in plans for an irrigation system, the development of procedures for buying water rights, and estimates on the cost of the project. After reviewing the various proposals and estimates, the Board voted to proceed with the project on April 11, 1910. The estimated cost of \$250,000 would be paid for through the sale of bonds. Work on the canal began on June 8, 1911 and was completed by July 18, 1912. The design of the canal called for a reservoir (Oliver), and a north and south ditch. Because of the rough topography a number of aqueducts were required especially on the south canal; however, the nominated aqueduct is on the north ditch. The canal remained in operation until the Kimball Irrigation District was dissolved in 1975.

The aqueducts used on this canal are of particular significance because the flumes used in them were manufactured in Kimball by Patrick Maginnis. He began building flumes used in aqueduct systems in the late 1890s, but his initial attempts resulted in crude and expensive products. After additional refinements, however, he developed the Galvanized Steel Flume that was patented on May 20, 1902. The Maginnis Flume Factory opened shortly thereafter and produced flumes for many projects in western Nebraska and later filled orders from outside the state. Eventually, Mr. Maginnis sold his patent and closed the factory.

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National Register of Historic Places Continuation Sheet

Maginnis Irrigation Aqueduct

Name of Property

Kimball County, Nebraska

County and State

Section 8,9,10 Page 3

Significance (continued)

The Maginnis Irrigation Aqueduct is significant under National Register Criterion A for its association with irrigation and agriculture in the area. The irrigation water provided by the Bay State Canal was integral to agriculture in the area. As stated in the Historic Context Report "Surface Water Irrigation in Nebraska" (08.13) without it a successful harvest was questionable from one year to the next. But with irrigation, farmers had a dependable water supply that allowed agriculture to be a viable option. Just as irrigation was necessary for the success of agriculture, the Bay State Canal could not have functioned without the aqueducts. The rough terrain required the use of aqueducts to carry the water from sections of the ditch separated by draws and other obstacles. This early aqueduct is an important extant feature of an irrigation system which contributed substantially to agricultural development and practices in western Nebraska.

The Maginnis Irrigation Aqueduct is also significant under National Register Criterion C. Although there are other aqueducts in the region they do not retain the high degree of integrity of the nominated aqueduct. It is an exceptionally well preserved example of a type of early 20th century engineering that was essential to the irrigation system in areas of rough terrain. For this reason it is the only one that has been intensively documented. These structures are important elements in the canal system that provide the irrigation water. While a canal system as a whole is easily identified and its history related, the individual engineering features often go unnoticed. Yet without these structures the canal could not function. The documentation of this aqueduct helps to reveal the importance of these features and adds to the history of the entire canal system.

Bibliography

Lincoln: Nebraska State Historical Society. File KM00-039.

Miller, Gregory. "Surface Water Irrigation in Nebraska," Historic Context Report 08.13. Lincoln: Nebraska State Historical Society, 1992.

Plains Genealogical Society of Kimball County. Kimball County, Nebraska: 100 Years, 1888-1988. Dallas: Curtis Media Corp., 1988.

Western Nebraska Observer.

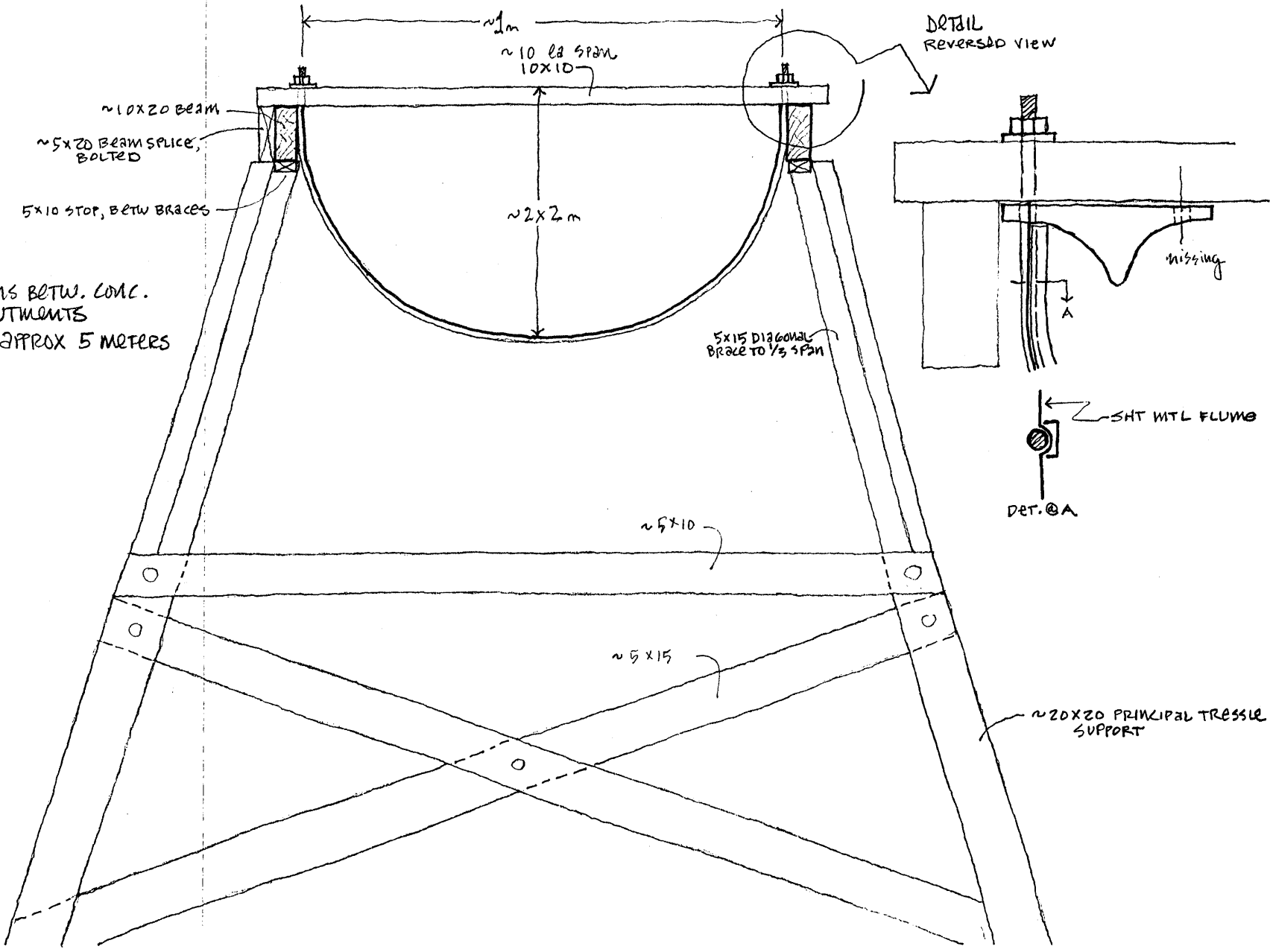
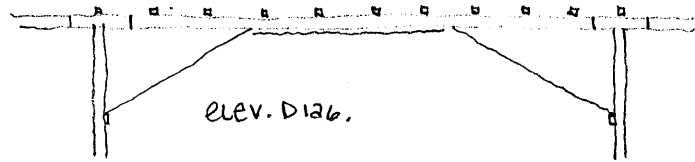
Verbal Boundary Description

The nominated property is a narrow, rectangular shaped parcel measuring 55m (approx. 180 feet 5 inches) by 2.3m (approx. 7 feet 6 inches), which is oriented east and west centered on the UTM point listed above. Included within this rectangular parcel is the entire aqueduct system.

Boundary Justification

This parcel is the area that immediately encompasses the Maginnis Irrigation Aqueduct.

KM00-039
 MAGINNIS FLUME
 D. MURPHY 18 FEB 94



- NOTES
1. ELEVEN SPANS BETW. CONC. FLUME & BUTMENTS
 2. EACH SPAN APPROX 5 METERS

~4.5m
 ↓
 Max to grade