

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICENATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM

FOR NPS USE ONLY

NOV 11 1975

RECEIVED

DATE ENTERED

MAR 15 1976

SEE INSTRUCTIONS IN HOW TO COMPLETE NATIONAL REGISTER FORMS
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS**1 NAME**

HISTORIC Medina Dam

AND/OR COMMON

2 LOCATION

STREET & NUMBER

N of Castroville
The Medina Dam is located 40 miles west of San Antonio on the
Medina River

___ NOT FOR PUBLICATION

CONGRESSIONAL DISTRICT

CITY, TOWN
Medina County

___ VICINITY OF Castroville

23

STATE

CODE

COUNTY

CODE

Texas

48

Medina

325

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE
<input type="checkbox"/> DISTRICT	<input checked="" type="checkbox"/> PUBLIC	<input checked="" type="checkbox"/> OCCUPIED	<input checked="" type="checkbox"/> AGRICULTURE <input type="checkbox"/> MUSEUM
<input type="checkbox"/> BUILDING(S)	<input type="checkbox"/> PRIVATE	<input type="checkbox"/> UNOCCUPIED	<input checked="" type="checkbox"/> COMMERCIAL <input type="checkbox"/> PARK
<input checked="" type="checkbox"/> STRUCTURE	<input type="checkbox"/> BOTH	<input type="checkbox"/> WORK IN PROGRESS	<input type="checkbox"/> EDUCATIONAL <input type="checkbox"/> PRIVATE RESIDENCE
<input type="checkbox"/> SITE	PUBLIC ACQUISITION	ACCESSIBLE	<input type="checkbox"/> ENTERTAINMENT <input type="checkbox"/> RELIGIOUS
<input type="checkbox"/> OBJECT	<input type="checkbox"/> IN PROCESS	<input type="checkbox"/> YES: RESTRICTED	<input type="checkbox"/> GOVERNMENT <input type="checkbox"/> SCIENTIFIC
	<input type="checkbox"/> BEING CONSIDERED	<input checked="" type="checkbox"/> YES: UNRESTRICTED	<input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> TRANSPORTATION
		<input type="checkbox"/> NO	<input type="checkbox"/> MILITARY <input type="checkbox"/> OTHER:

4 OWNER OF PROPERTYNAME
Water Improvement District Number One Bexar-Atascosa-Medina County

STREET & NUMBER

CITY, TOWN

Natalia

___ VICINITY OF

STATE

Texas

5 LOCATION OF LEGAL DESCRIPTIONCOURTHOUSE,
REGISTRY OF DEEDS, ETC.

Medina County Courthouse

STREET & NUMBER

CITY, TOWN

Hondo

STATE

Texas

6 REPRESENTATION IN EXISTING SURVEYSTITLE
Texas Historic Engineering Site Inventory

DATE

Fall, 1974

___ FEDERAL STATE ___ COUNTY ___ LOCALDEPOSITORY FOR
SURVEY RECORDS

Texas Tech University

CITY, TOWN

Lubbock

STATE

Texas

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
<input checked="" type="checkbox"/> EXCELLENT	<input type="checkbox"/> DETERIORATED	<input type="checkbox"/> UNALTERED	<input checked="" type="checkbox"/> ORIGINAL SITE
<input type="checkbox"/> GOOD	<input type="checkbox"/> RUINS	<input checked="" type="checkbox"/> ALTERED	<input type="checkbox"/> MOVED DATE _____
<input type="checkbox"/> FAIR	<input type="checkbox"/> UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

Dr. Fred Stark Pearson created the Medina Irrigation System as a private corporation with British financing in 1910. His plan was to impound a large quantity of water which would be carried south by a system of canals and used for irrigation where needed on company lands.

Construction of the dam began in 1911. When completed in 1912, its 292,000 cubic yards of concrete made it the fourth largest in the United States and the largest in Texas. It contains approximately 90% of the volume of concrete mass of the Roosevelt Dam on the Salt River in Arizona.

The Medina Dam is 1580 feet along its top and stands 164 feet above the Medina River bed. Its thickness ranges from 128 feet at the base to 25 feet at the top. The total capacity of the reservoir is over 250,000 acre-feet of water.

The excavation made for the foundation of the dam was 105 feet wide at the base and extended from bluff to bluff. Although solid rock was located 12 feet below the river bed in most places, the alluvial deposits required excavation to a depth of 25 feet. Large holes were drilled and filled with concrete to anchor the dam to the solid rock foundation.

Builders of the Medina Dam were fortunate in having a large quarry nearby. Large limestone boulders, called plums, were added to the concrete laid thus economically increasing the bulk of the dam. Due to the gravity type construction used in the Medina Dam, it contained little reinforcing material; its strength lies in its solid concrete mass.

Associated with the main dam, a diversion dam was built four miles downstream to divert water into canals which eventually lead to flumes and lateral ditches for irrigation. The diversion dam is of solid concrete construction and measures 44 feet wide at the base and 50 feet in height. It was built on a radius of 700 feet and is 440 feet in length. It is a massive weir structure with a spillway at its center.

Because of the quality of construction, the dam, the main canal, the flumes and the diversion dam are in excellent condition today. Minor repairs have been made, but these were primarily to stop seepage of water through the limestone formation. The entire system is in operation today, irrigating fields in Bexar, Medina, and Atascosa counties of Texas.

8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW			
<input type="checkbox"/> PREHISTORIC	<input type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input checked="" type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input type="checkbox"/> SCIENCE
<input type="checkbox"/> 1500-1599	<input checked="" type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> ARCHITECTURE	<input type="checkbox"/> EDUCATION	<input type="checkbox"/> MILITARY	<input type="checkbox"/> SOCIAL/HUMANITARIAN
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input checked="" type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input type="checkbox"/> TRANSPORTATION
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)
		<input type="checkbox"/> INVENTION		

SPECIFIC DATES

1911-12

BUILDER/ARCHITECT

Fred Stark Pearson

STATEMENT OF SIGNIFICANCE

The construction of the Medina Dam was the first phase of a master plan by professional engineers to irrigate agricultural land west of San Antonio, Texas. The dam was designed to impound water from the Medina River watershed, to release it to provide irrigation for farms in Medina, Bexar, and Atascosa counties. The long range plan was to establish town-sites, to lay out farms and ranches, to sell land, and to supply water to farmers commercially on a permanent basis. The Medina project is today providing water for local farms.

The system as built included a main dam to impound the water and a diversion dam four miles down stream to divert water into the canals. These canals and flumes flowed by gravity to laterals which provided water to individual farmers.

The excavation for the main canal and distribution canals was conducted by private contractors. Work on the project commenced November 1, 1911, and concluded in 1912. Canals and ditches measured a total of 300 miles in length. In order to avoid rough country, the main canal was routed beneath the Medina River twice by means of inverse siphons which consist of pairs of concrete pipes eight and seven feet in diameter. Collapsible wooden frames and wooden panels were used as forms for the construction of the siphon. One of the most striking structures of the canal are the flumes. Originally there were eleven such flumes from 122 to 1520 feet long. All flumes were made of No. 180 Hess galvanized Toncan steel semi-circular material.

Both the main dam and the diversion dam are constructed of monolithic rubble masonry with large limestone boulders embedded in the concrete. Both dams rest on excellent limestone foundations. The main dam stands 164 feet above the river bed with its foundation excavated to a depth of 12 feet and an upstream cutoff toe extending 13 feet deeper. The upstream face is vertical while the downstream face drops vertically 8 feet, then curves downstream on tangent curved surfaces with radii of 80 and 230 feet to a plane surface near the base with a 66 to 100 slope. From bluff to bluff the main dam measures 1580 feet with a thickness of 25 feet at the top and 128 feet at the base. 13 feet above the base is an inspection tunnel situated 23 feet behind the face of the dam.

The diversion dam located four miles downstream from the main dam, is an overflow or weir structure. Its purpose is to divert the water released from the main dam into the head of the main canal.

Upon completion the Medina Dam was the fourth largest dam in the United States and the largest in Texas. The massive bulk of the dam made it a significant engineering structure and has allowed it to remain in use for over sixty years. Although today it is operated by a local governmental body, the system represents one of the earliest projects of its size in Texas to be financed by private capital. For over half a century it has provided a solid base for irrigated agriculture in the counties west of San Antonio.

9 MAJOR BIBLIOGRAPHICAL REFERENCES

Kuehne, Reverend Cyril Matthew, S. M. Ripples from Medina Lake. San Antonio: The Naylor Company, 1966.
 Wegmann, Edward. The Design and Construction of Dams. New York: John Wiley and Sons, Inc., 1927.
 Miller, Walter Bedell. "The Medina Valley Project." Junior Historian, IX, No. 2 (November, 1948), pp. 23-24.

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY 4.75 acres

UTM REFERENCES

A	14	506400	3267670	B	9		
	ZONE	EASTING	NORTHING		ZONE	EASTING	NORTHING
C				D			

VERBAL BOUNDARY DESCRIPTION

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME / TITLE

John E. Moore, Research Assistant

ORGANIZATION

History of Engineering Program, Texas Tech University, May 15, 1975

STREET & NUMBER

P.O. Box 4089 (806) 742-1231

CITY OR TOWN

Lubbock

STATE

Texas

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL STATE LOCAL

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

SIGNATURE

John E. Moore

TITLE

Texas State Historic Preservation Officer

DATE

June 4, 1975

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

Acting

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

ATTEST:

Robert B. Ketting

DATE

3/15/96

DATE

3-14-76

KEEPER OF THE NATIONAL REGISTER

Acting

Property

Medina Dam

7600 2050

Medina

State

Tx

Working Number

11.11.75 2028

TECHNICAL

Photos

3

Maps

1

CONTROL

OK ^{pl} 11.12.75

send to HAER.

HISTORIAN

Accept
E. Smith
12-15-75

ARCHITECTURAL HISTORIAN

Accept
H. Paul
12/22/75

ARCHEOLOGIST

OTHER

well written and informative nomination!

HAER

Inventory BNB 1/2/76

✓ Review Accept Eudy
1/4

REVIEW UNIT CHIEF

Accept
Cole
1/30/76

BRANCH CHIEF

Accept
Bump
3-11-76

KEEPER

Accept
Rettig (for Murtagh)
3-14-76

National Register Write-up _____

Send-back _____

Entered

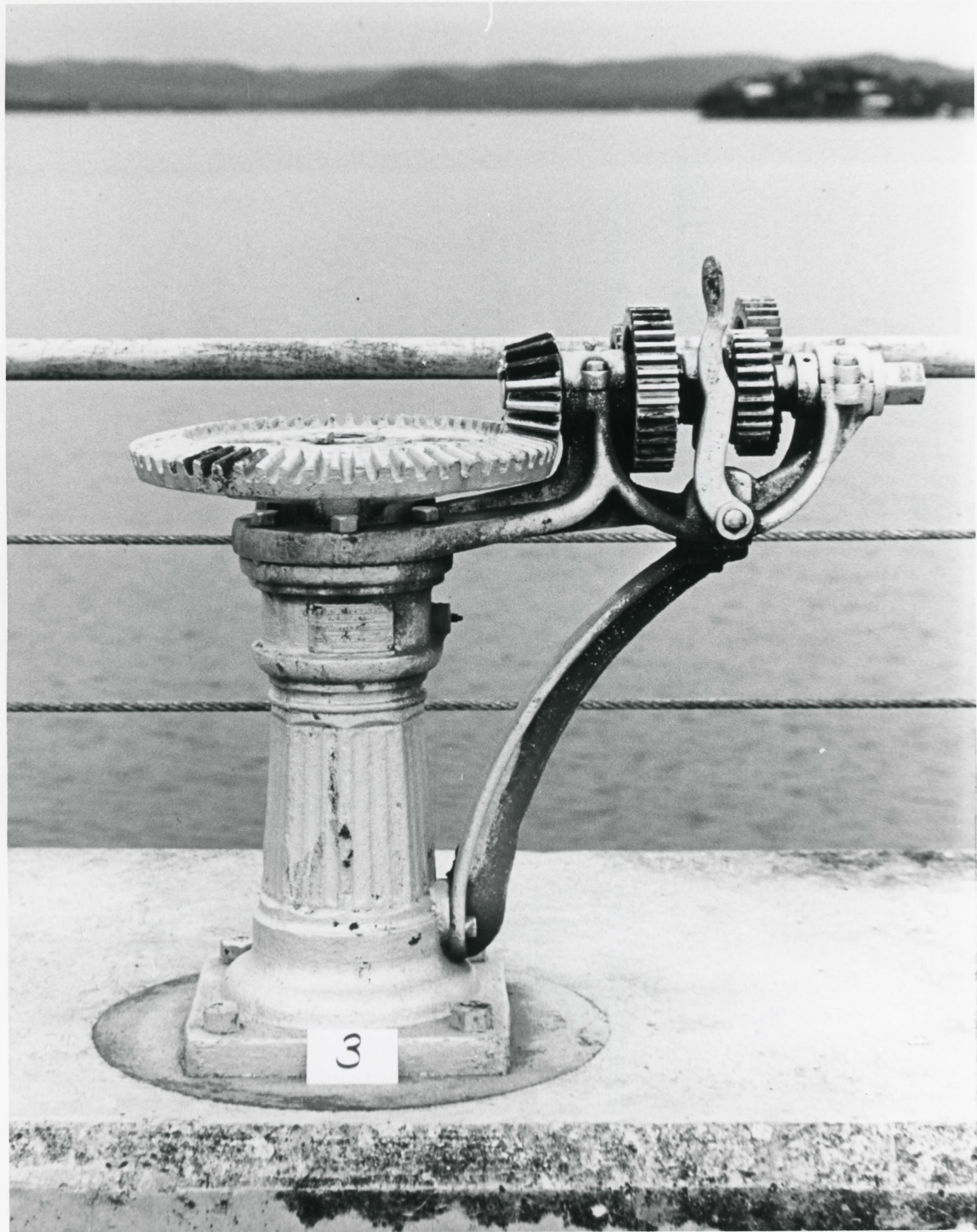
MAR 15 1976

Federal Register Entry

4-6-76

Re-submit _____

INT:2106-74



3

PROPERTY OF THE NATIONAL REGISTER

NPS Number 3/15/76

Title: Medina Dam

Medina County, Texas

Loc. Details of gate controls on top of Medina
Dam. Note metal label on controls

Medina Dam

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES
PROPERTY PHOTOGRAPH FORM**

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NOV 11 1975
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DATE ENTERED MAR 15 1976

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES ENCLOSE WITH PHOTOGRAPH

1 NAME

HISTORIC

Medina Dam

AND/OR COMMON

2 LOCATION

CITY, TOWN

____VICINITY OF
Castroville

COUNTY

Medina

STATE

Texas

3 PHOTO REFERENCE

PHOTO CREDIT

History of Engineering Program, Texas Tech University

DATE OF PHOTO

November 6, 1971

NEGATIVE FILED AT

History of Engineering Program, Texas Tech University

4 IDENTIFICATION

DESCRIBE VIEW, DIRECTION, ETC. IF DISTRICT, GIVE BUILDING NAME & STREET

Details of gate controls on the top of the Medina Dam. Note
metal label on the controls reading "Coffin Valve Co."

PHOTO NO.

1 43



PROPERTY OF THE NATIONAL REGISTER

NPS Number 3/15/76

Title: Medina Dam

Medina County, Texas

Loc. North to Medina Dam and Lake

Medina, showing the downstream

face of the Medina Dam

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES
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1 NAME

HISTORIC

Medina Dam

AND/OR COMMON

2 LOCATION

CITY, TOWN

—VICINITY OF
Castroville

COUNTY
Medina

STATE
Texas

3 PHOTO REFERENCE

PHOTO CREDIT

History of Engineering Program, Texas Tech University

DATE OF PHOTO

November 6, 1971

NEGATIVE FILED AT

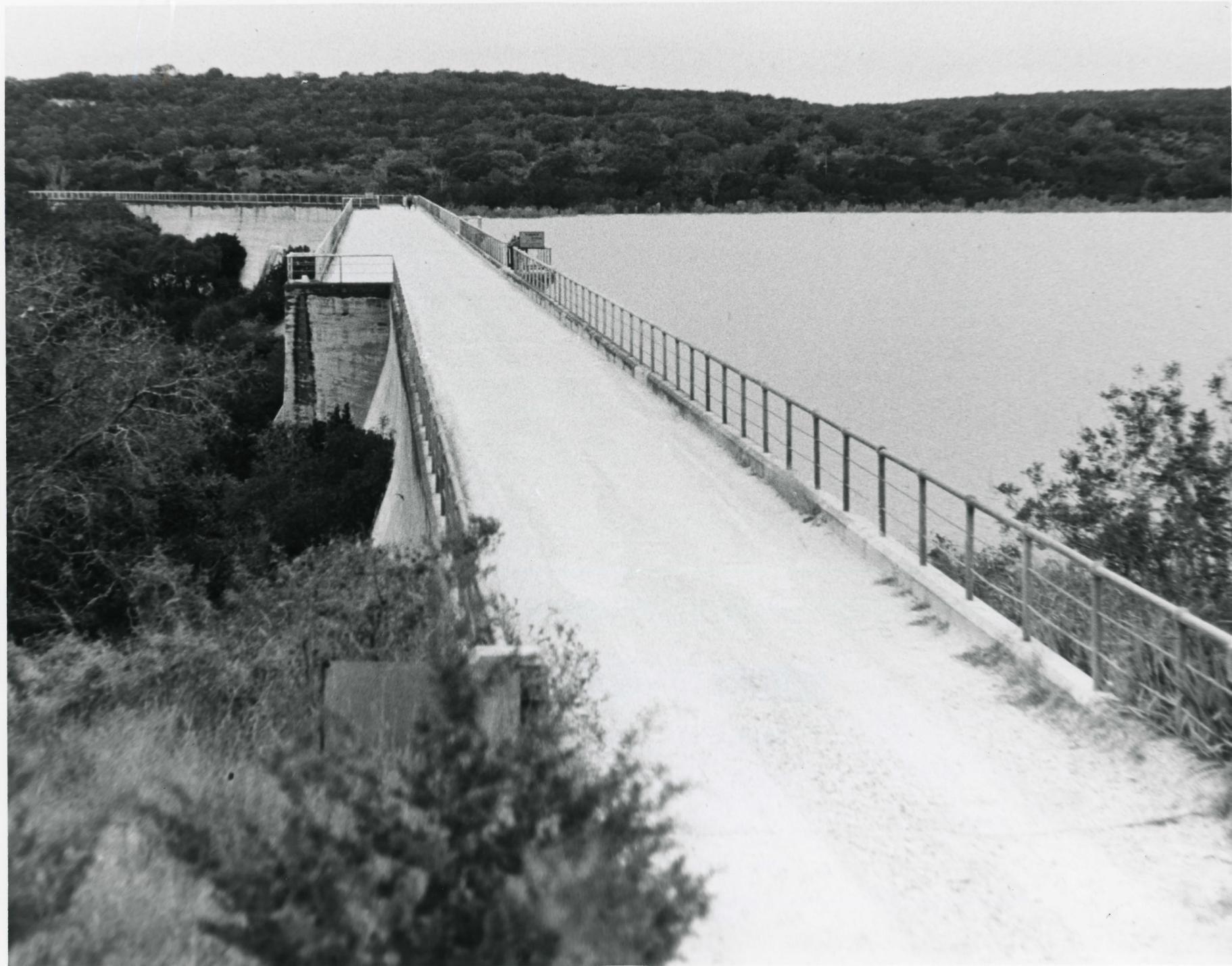
History of Engineering Program, Texas Tech University

4 IDENTIFICATION

DESCRIBE VIEW, DIRECTION, ETC. IF DISTRICT, GIVE BUILDING NAME & STREET

PHOTO NO. 2 ²/₃

North to Medina Dam and Lake Medina, showing the downstream
face of the Medina Dam.



PROPERTY OF THE NATIONAL REGISTER

NPS Number 3/15/76

Title: Medina Dam

Medina County, Texas

Loc. Looking northeast across

the top of Lake Medina

Dam

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
PROPERTY PHOTOGRAPH FORM

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TYPE ALL ENTRIES ENCLOSE WITH PHOTOGRAPH

1 NAME

HISTORIC

Medina Dam

AND/OR COMMON

2 LOCATION

CITY, TOWN

—VICINITY OF

COUNTY

STATE

Castroville

Medina

Texas

3 PHOTO REFERENCE

PHOTO CREDIT

History of Engineering Program

DATE OF PHOTO

November 6, 1971

NEGATIVE FILED AT

History of Engineering Program, Texas Tech University

4 IDENTIFICATION

DESCRIBE VIEW, DIRECTION, ETC. IF DISTRICT, GIVE BUILDING NAME & STREET

Looking northeast across the top of Lake Medina Dam.

PHOTO NO. 343

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

**NATIONAL REGISTER OF HISTORIC PLACES
PROPERTY MAP FORM**

FOR NPS USE ONLY

NOV 11 1975

RECEIVED

DATE ENTERED

MAR 15 1976

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- ENCLOSE WITH MAP

1 NAME

HISTORIC Medina Dam

AND/OR COMMON

2 LOCATION

CITY, TOWN Castroville

VICINITY OF

COUNTY Medina

STATE Texas

3 MAP REFERENCE

SOURCE USGS

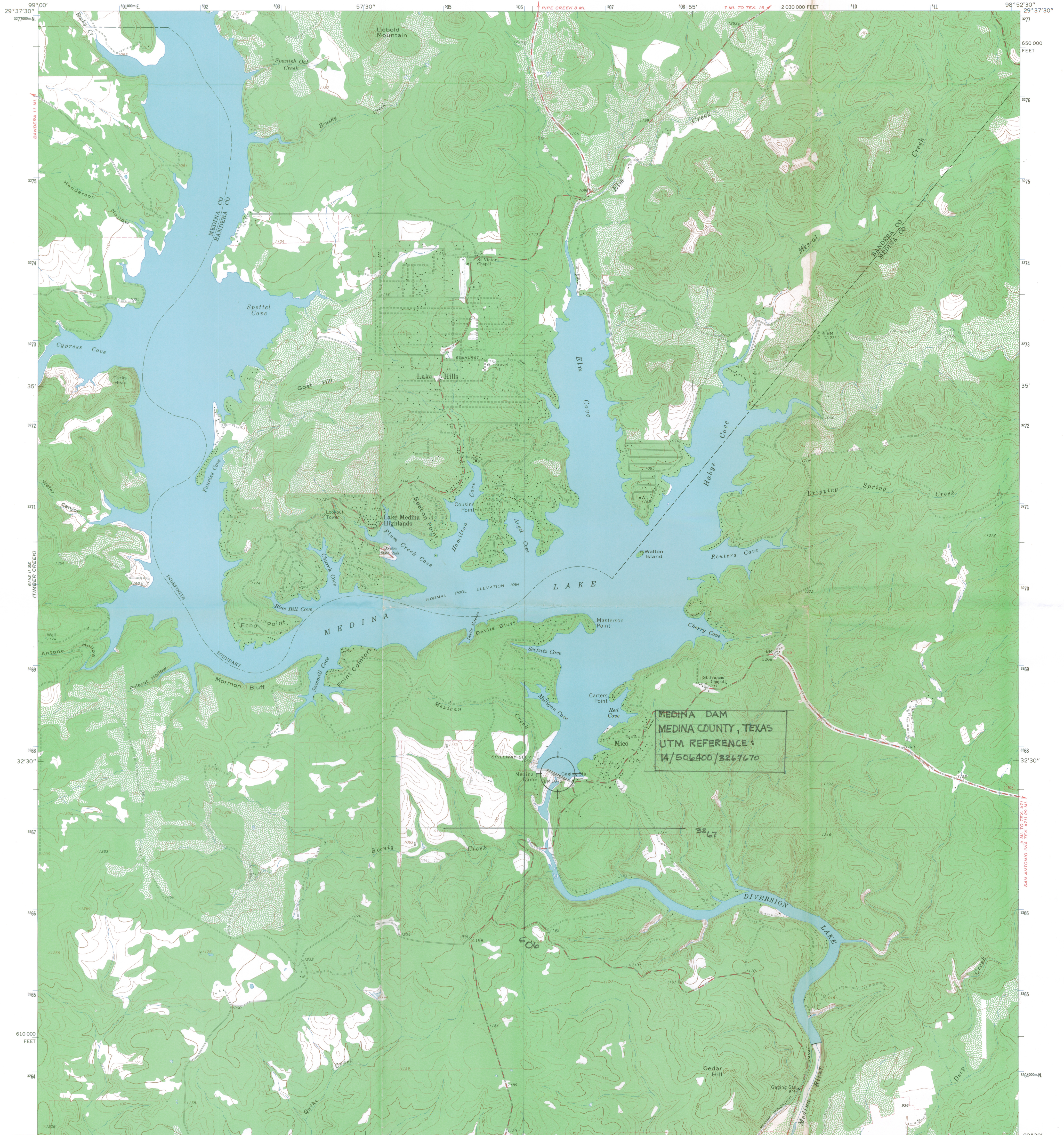
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DATE 1964

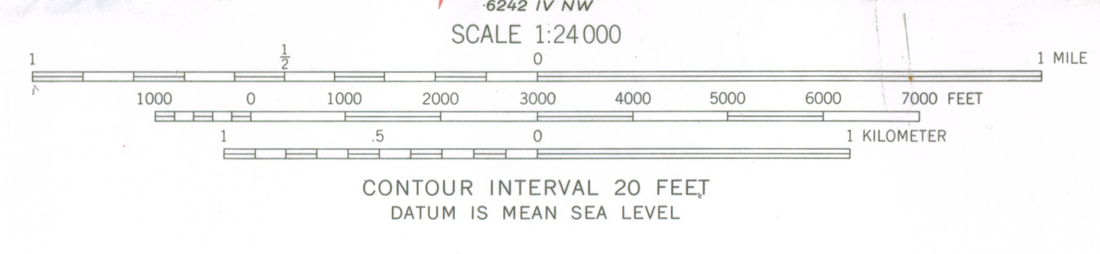
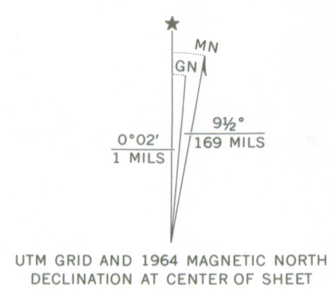
4 REQUIREMENTS

TO BE INCLUDED ON ALL MAPS

1. PROPERTY BOUNDARIES
2. NORTH ARROW
3. UTM REFERENCES



Mapped, edited, and published by the Geological Survey
Control by USGS and USC&GS
Topography by photogrammetric methods from aerial
photographs taken 1963. Field checked 1964
Polyconic projection. 1927 North American datum
10,000-foot grid based on Texas coordinate system,
south central zone
1000-meter Universal Transverse Mercator grid ticks,
zone 14, shown in blue
Fine red dashed lines indicate selected fence lines



THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR WASHINGTON, D.C. 20242
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



ROAD CLASSIFICATION

- Medium-duty
- Light-duty
- Unimproved dirt
- State Route

RECEIVED
NOV 11 1975
NATIONAL REGISTER

MEDINA LAKE, TEX.
N2930-W9852.5/7.5
1964
AMS 6243 III SW-SERIES V882

ENTRIES IN THE NATIONAL REGISTER

STATE TEXAS

Date Entered MAR 15 1976

Name

Location

Paddock Viaduct

Fort Worth
Tarrant County

Medina Dam

Castroville vicinity
Medina County

Also Notified

Hon. John G. Tower
Hon. Lloyd M. Bentsen
Hon. James C. Wright, Jr.
Hon. Abraham Kazen, Jr.

Regional Director, Southwest
Region

State Historic Preservation Officer
Mr. Truett Latimer
Executive Director, Texas
Historical Commission
P.O. Box 12276, Capitol Station
Austin, Texas 78711

PR

MOTT:djb

3/22/76

136

NATIONAL REGISTER DATA SHEET

1 NAME as it appears on federal register: **Medina Dam** ①
 2 OTHER NAMES:
 3 date of entry: **3-15-76** 4 county code: **325**

5 LOCATION street & number **W of Castroville on the Medina River** city / town **Castroville** vicinity of **Castroville** state **TX** county **Medina** 6 NPS REGION: **S.W.**

7 OWNER PRIVATE STATE MUNICIPAL COUNTY MULTIPLE FEDERAL (agency name) 8 ADMINISTRATOR:
 9 EXISTING SURVEYS HABS HAER NHL 10 FUNDED? YES NO 11 CONGRESS. DISTRICT **23** 12 SOURCE of NOMINATION STATE FEDERAL if state who prepared form?

13 WITHIN NATIONAL REGISTER HISTORIC DISTRICT? YES, NAME NO 14 WITHIN NATIONAL HISTORIC LANDMARK? YES, NAME NO ACREAGE **4.75** 15 LOCAL PRIVATE ORGANIZATION

16 CONDITION excellent good fair deteriorated ruins unexposed unexcavated altered unaltered reconstructed excavated original site moved unknown
 17 features: INTERIOR SUBSTANTIALLY INTACT-1 NOT INTACT-0 UNKNOWN-4 NOT APPLICABLE-7 EXTERIOR SUBSTANTIALLY INTACT-2 NOT INTACT-0 UNKNOWN-5 NOT APPLICABLE-8 ENVIRONMENTAL SUBSTANTIALLY INTACT-3 NOT INTACT-0 UNKNOWN-6 NOT APPLICABLE-9

18 ACCESS YES-Restricted YES-Unrestricted No Access Unknown 19 ADAPTIVE USE YES NO 20 SAVED? YES NO 21 IS PROPERTY A HISTORIC DISTRICT? yes no

21 AREAS OF SIGNIFICANCE: ENGINEERING-11 LANDSCAPE ARCH.-15 POLITICS/GOVT.-21 RECREATION-28 ARCHEOLOGY-prehistoric-2 COMMERCE-6 ENTERTAINMENT-26 LAW-16 RELIGION-22 SETTLEMENT-29 ARCHEOLOGY-historic-1 COMMUNICATIONS-7 EXPLORATION-12 LITERATURE-17 SCIENCE-23 URBAN PLANNING-31 AGRICULTURE-3 CONSERVATION-8 HEALTH-27 MILITARY-18 SOCIAL/HUMANITARIAN-24 OTHER (SPECIFY) ARCHITECTURE-4 ECONOMICS-9 INDUSTRY-13 MUSIC-19 SOCIAL/CULTURAL-30 TRANSPORTATION-25 ART-5 EDUCATION-10 INVENTION-14 PHILOSOPHY-20
 22 CLAIMS: explain 'first' 'oldest' 'only'

23 functions WHEN HISTORICALLY SIGNIFICANT: **DAM** CURRENTLY: **DAM** 24 dates of initial construction: **1911/1912** major alterations: historic events: 25 ETHNIC GROUP ASSOCIATION

26 architectural style(s): 27 architect: 28 master builder: 29 engineer:

30 landscape architect / garden designer: 31 interior decorator: 32 artist: 33 artisan: 34 builder/contractor: **Fred Stark Pearson**
Fred

35 NAMES give role & date ③ PERSONAL: Dr. Fred Stark Pearson--created Medina Irrigation System with British financing in 1910/
 EVENTS:
 INSTITUTIONAL:

36 NATIONAL REGISTER WRITE-UP
 Rubble masonry construction; 1,580' long, 25' wide at top, 128' wide at base, ~~25~~ 164' tall, creates reservoir of 250,000 acre-feet. ~~Part of an irrigation system which also includes a solid concrete diversion dam four miles downstream, 44' wide at base, 50' tall, spillways canals, and flumes.~~ One of the earliest projects of its size in Texas to be financed by private capital; the first phase of a masterplan to irrigate and develop land west of San Antonio; Nation's fourth largest dam at time of construction.