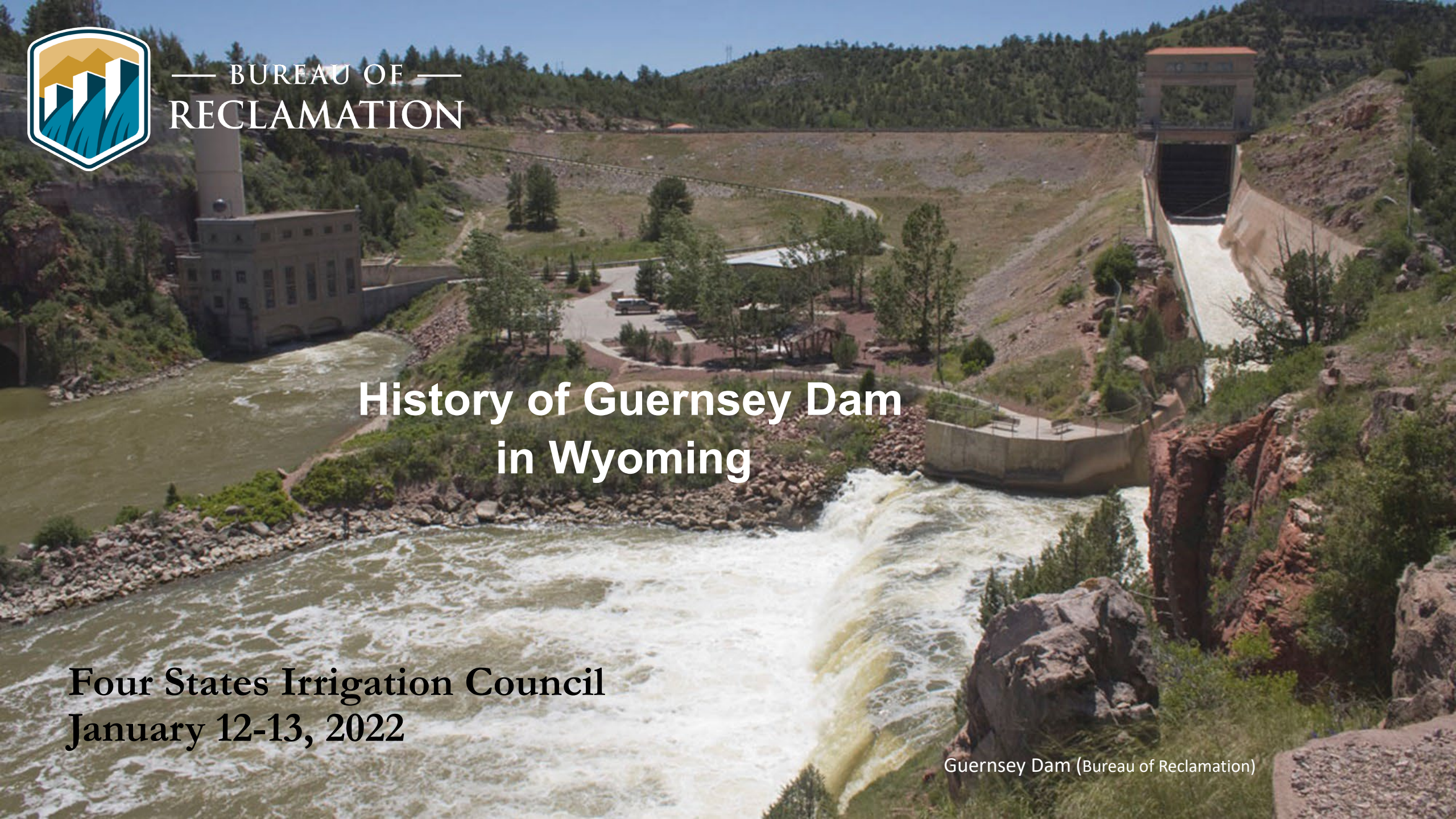
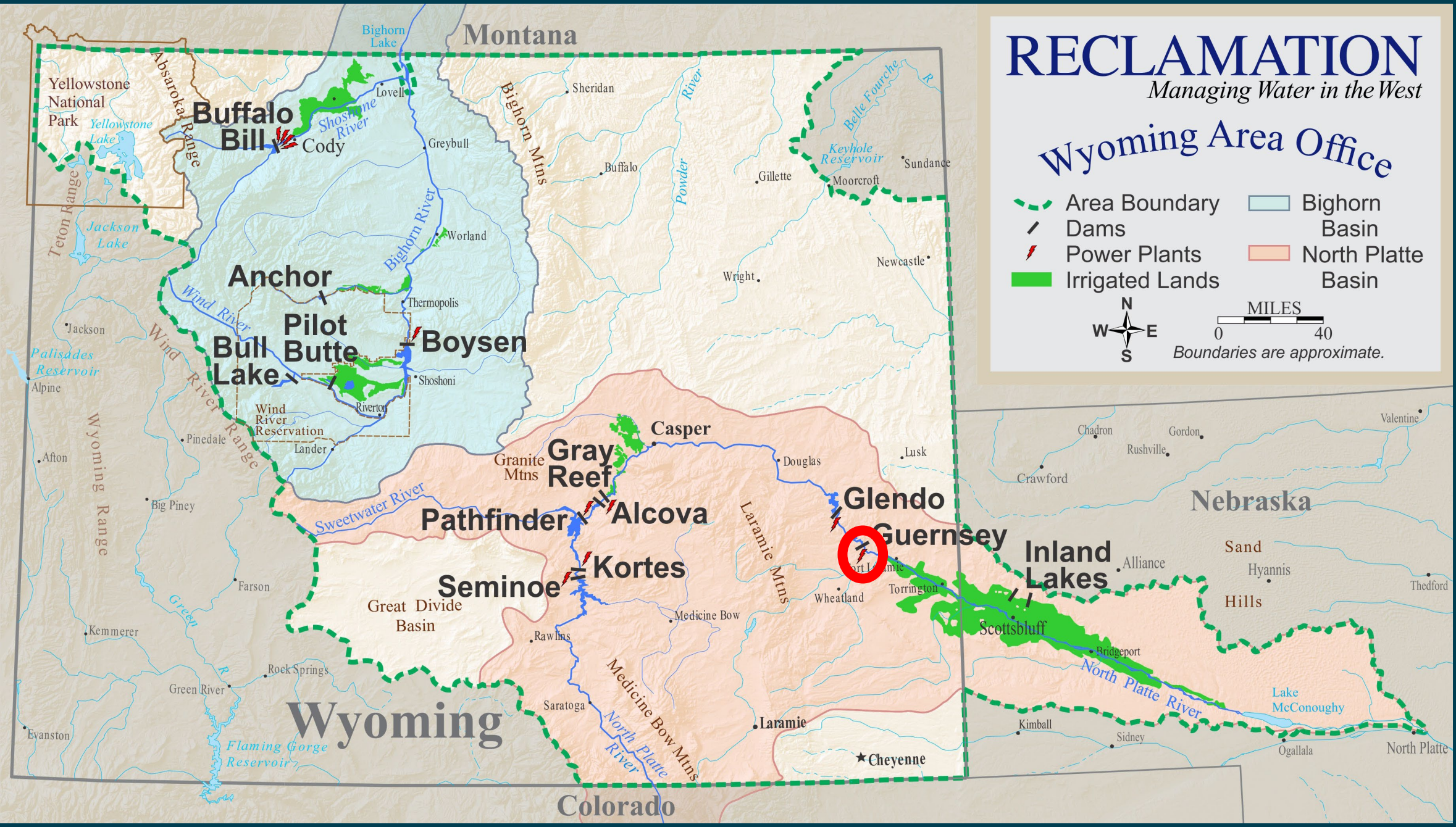
BUREAU OF RECLAMATION

History of Guernsey Dam in Wyoming

Four States Irrigation Council
January 12-13, 2022



Guernsey Dam (Bureau of Reclamation)


RECLAMATION
Managing Water in the West
Wyoming Area Office
Area Boundary
Dams
Power Plants
Irrigated Lands
Bighorn Basin
North Platte Basin
N
W
E
S
MILES
0
40
Boundaries are approximate.
Montana
Wyoming
Colorado
Nebraska
Yellowstone National Park
Yellowstone Lake
Absaroka Range
Buffalo Bill
Cody
Shoshone River
Lovell
Bighorn Lake
Bighorn Mtns
Sheridan
Greybull
Buffalo
Powder River
Gillette
Belle Fourche R
Keyhole Reservoir
Moorcroft
Sundance
Teton Range
Jackson Lake
Bighorn River
Worland
Wright
Newcastle
Anchor
Wind River
Thermopolis
Pilot Butte
Bull Lake
Boysen
Shoshoni
Riverton
Wind River Reservation
Lander
Jackson
Palisades Reservoir
Alpine
Wind River Range
Pinedale
Afton
Wyoming Range
Big Piney
Casper
Granite Mtns
Gray Reef
Douglas
Lusk
Sweetwater River
Pathfinder
Alcova
Glendo
Guernsey
Laramie Mtns
Kortes
Seminoe
Great Divide Basin
Medicine Bow
Rawlins
Wheatland
Torrington
Farson
Kemmerer
Green R
Rock Springs
Green River
Saratoga
Medicine Bow Mtns
North Platte River
Laramie
Cheyenne
Evanston
Flaming Gorge Reservoir
Chadron
Gordon
Valentine
Rushville
Crawford
Alliance
Sand Hyannis Hills
Thedford
Inland Lakes
Scottsbluff
Bridgeport
Lake McConoughy
Kimball
Sidney
Ogallala
North Platte

North Platte Valley Settlement

- Trappers and Traders
- Immigrants
- Cattlemen
- Farmers

Early Immigrants example (first homes made of sod blocks cut from the prairie), Custer County, NE, 1892 (Solomon D. Butcher/Library of Congress, https://truewestmagazine.com/nebraska-homestead-settlement-trail/)

Early Immigrants example (waiting for water to farm), CO 1913 (Bureau of Reclamation)

Farming

- Irrigation
  - Dug canals

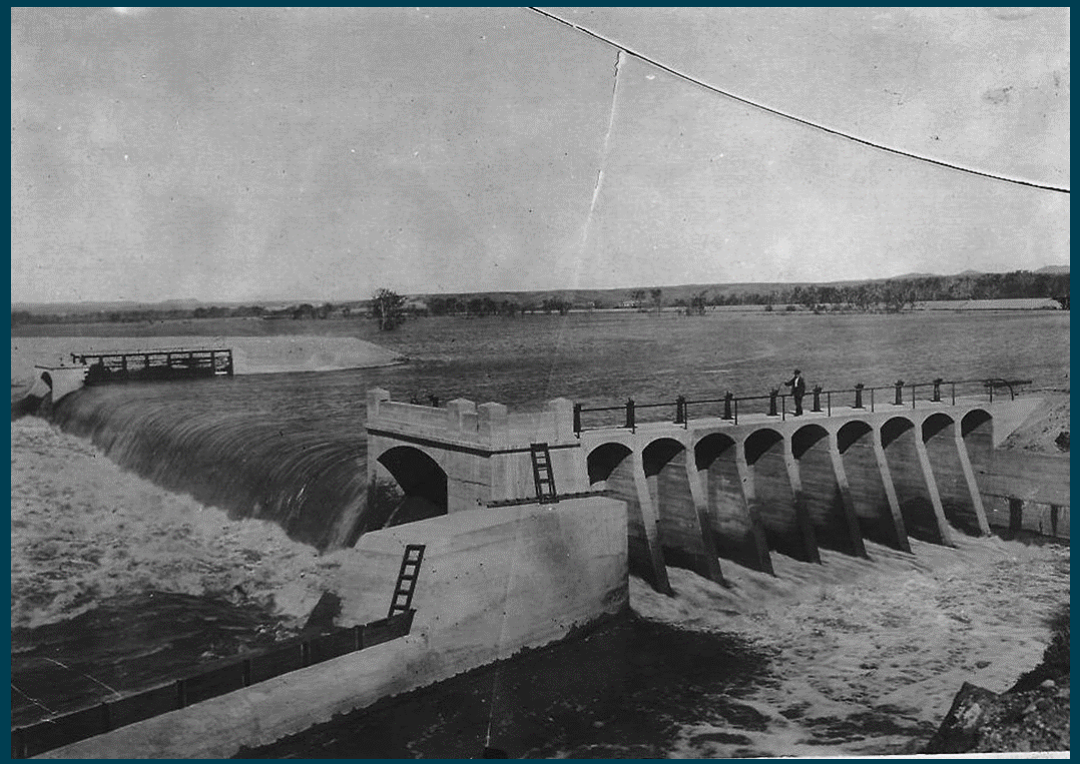
- Early limitations
  - Fluctuating water supply
  - Limited capital for large projects

Workers take a break from ditching an alfalfa field near Lingle, 1912. J.E. Stimson photo, Wyoming State Archives (WyomingHistory.org)

North Platte Project

- Reclamation Act of 1902
  - Sweetwater (North Platte) Project
    - authorized by the Secretary of the Interior on March 14, 1903

Pathfinder Dam under construction 1908



Whalen Diversion Dam 1909

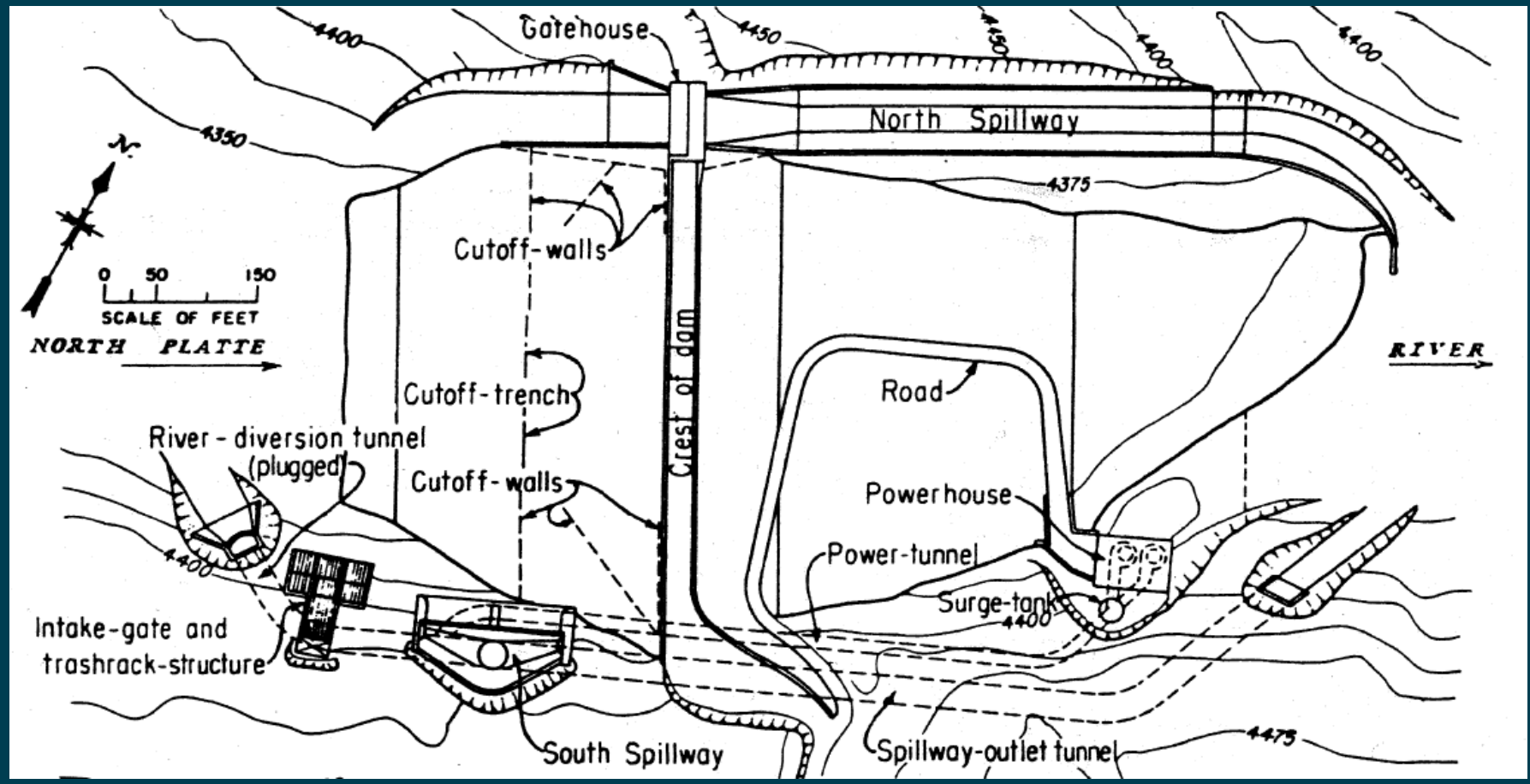
Planning of Guernsey Dam

- Regulating reservoir
- Located in “The Narrows”

Guernsey Dam, panorama from west 9/30/1925
(Bureau of Reclamation)

Guernsey Dam

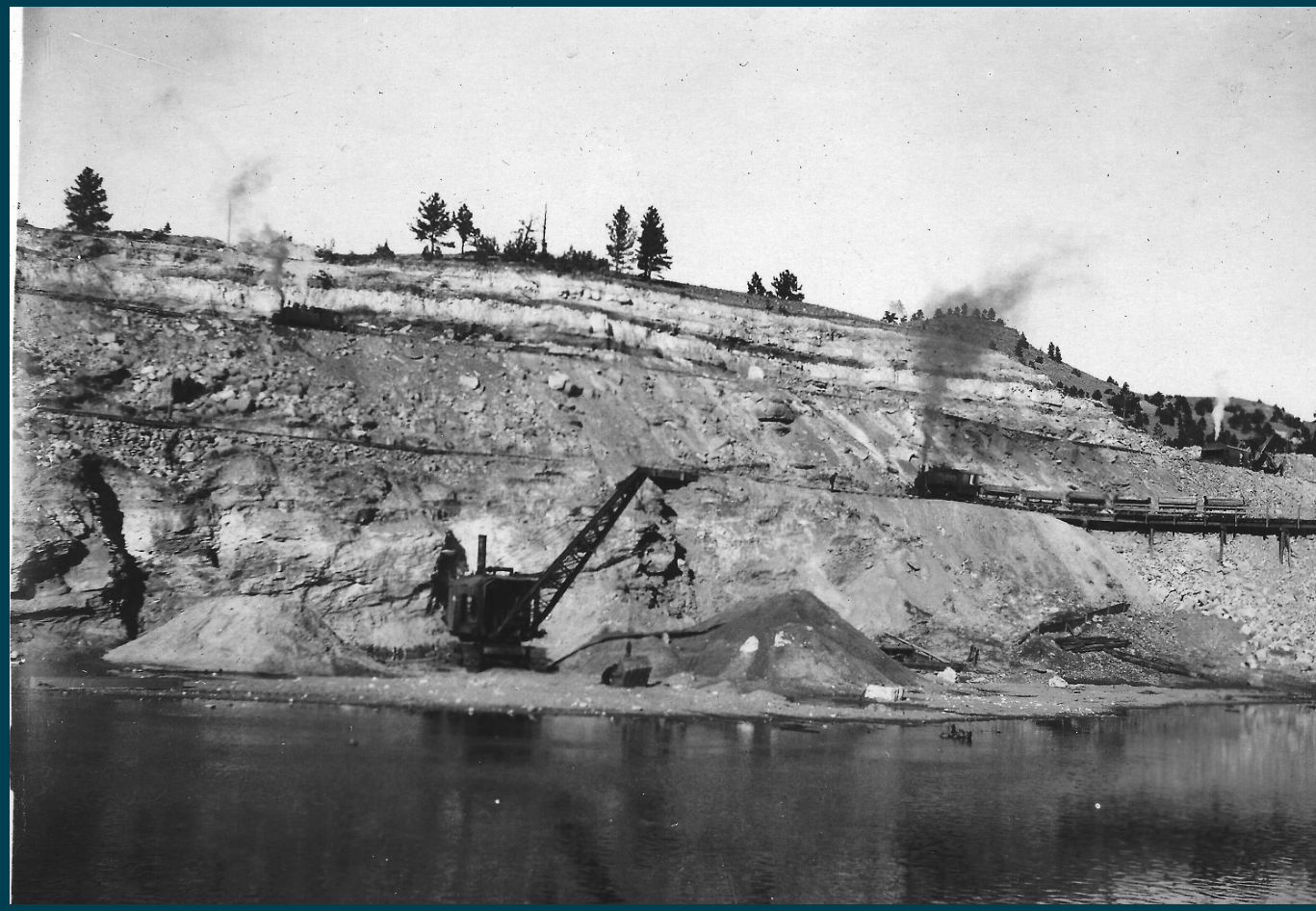
- Construction Contract awarded May 2, 1925
- Utah Construction Company bid was $1,288,121
- 135 ft tall
- 940 ft wide base
- 560 ft crest length



Drawing of Guernsey Dam (Bureau of Reclamation)

Guernsey Dam Construction (1925-1927)

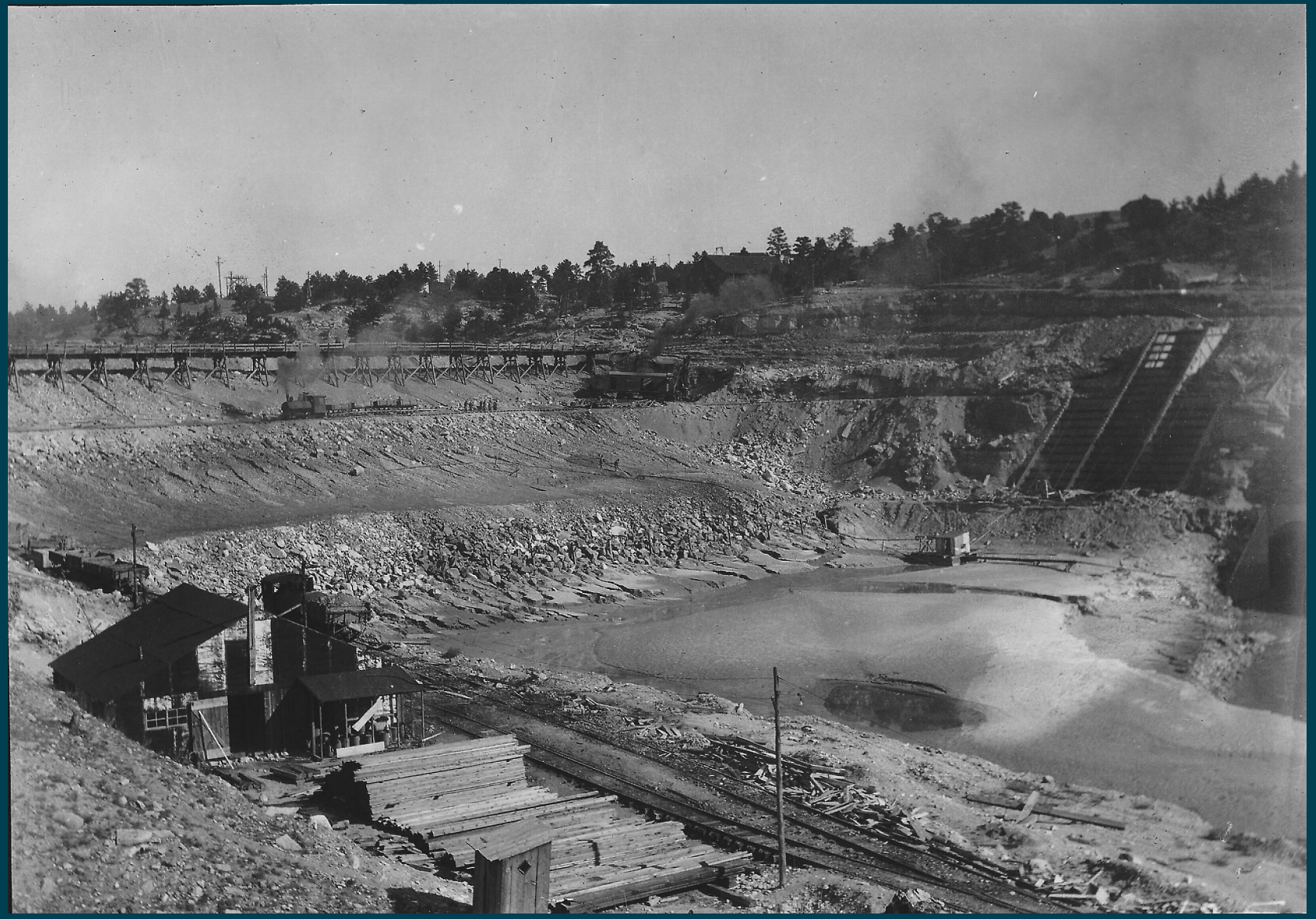
- Construction camp
  - Office buildings, warehouse, pool hall, mess house, bath house, root cellar, 12 cottages and 16 bunk houses
- Equipment
  - A plant and crane, rail line and locomotives, dump cars, steam shovels and other rolling stock



Excavation for north cut-off trenches; dumping rock on north side 12/8/1925
(Bureau of Reclamation)

Guernsey Dam Construction (1925-1927)

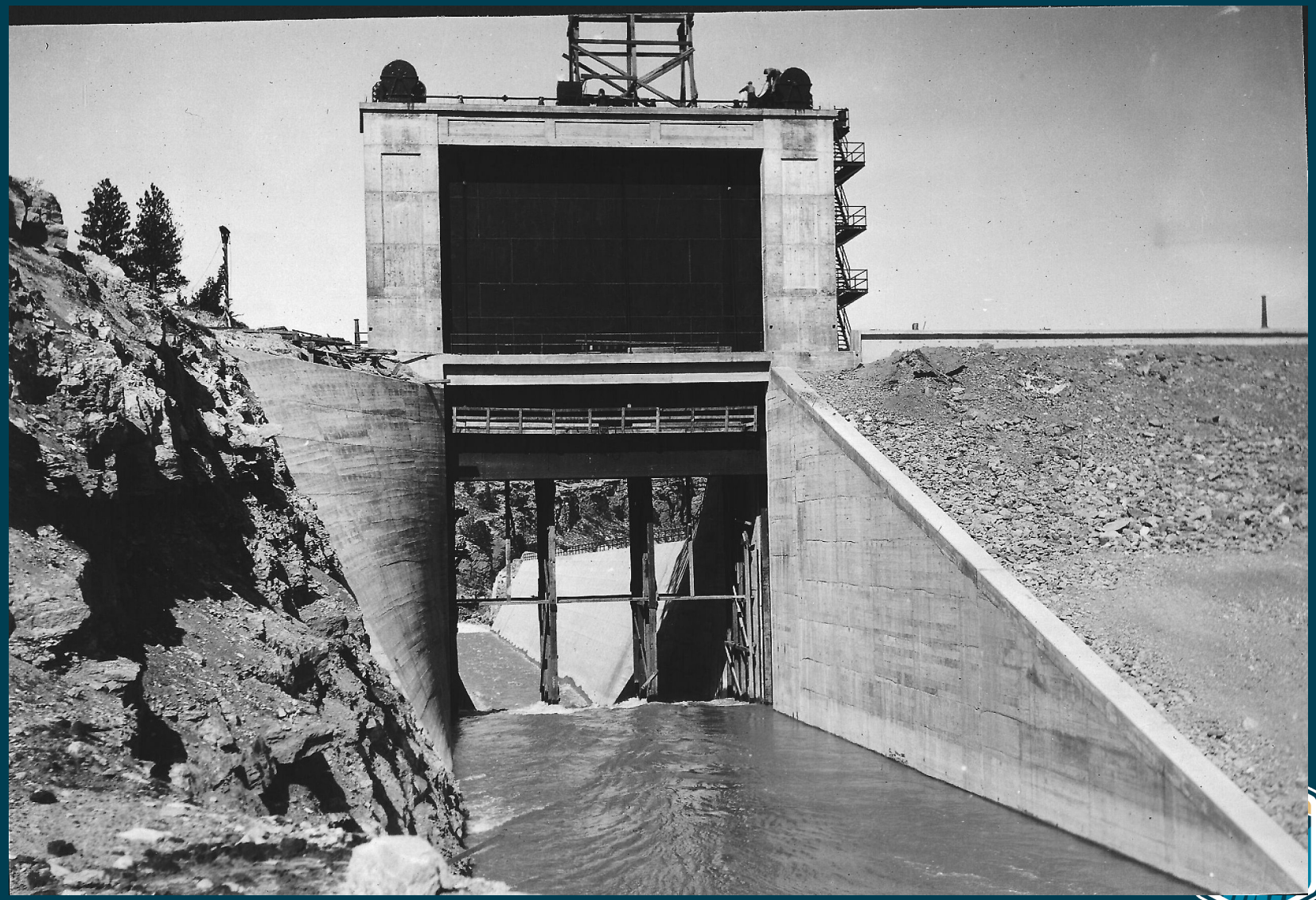
- Earth Embankment
- Sluiced clay core



Placing rip rap on dam from south spillway; work on upstream face
10/9/1926
(Bureau of Reclamation)

Guernsey Dam Construction (1925-1927)

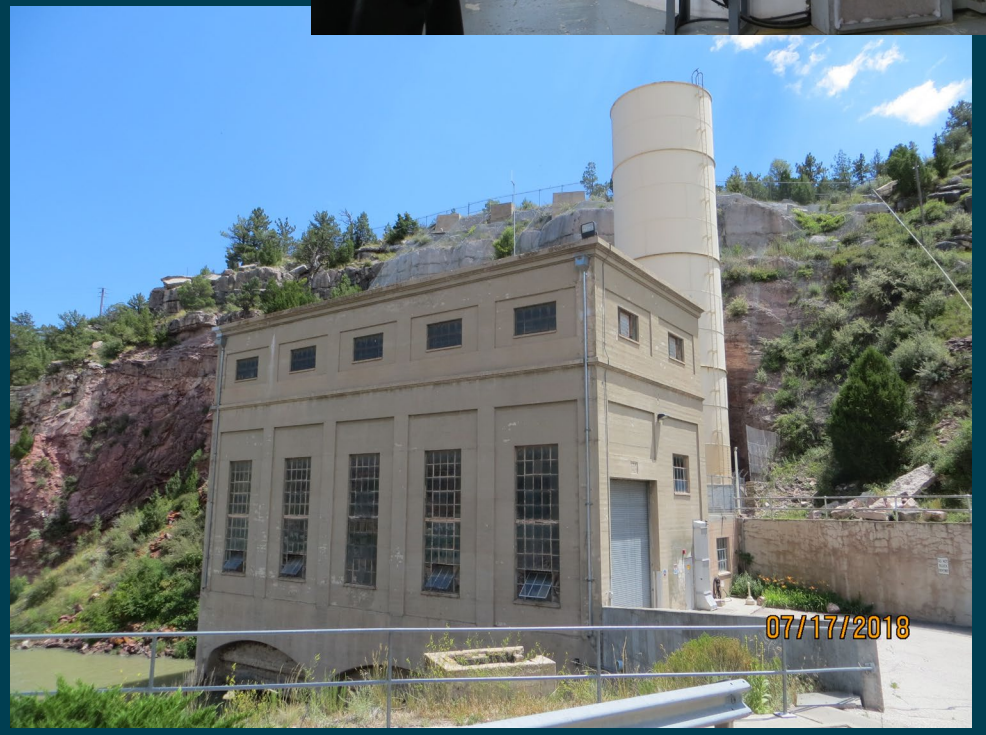
- North Spillway 50’X50’ steel gate
- South Spillway two 64 ft long X 14.5 ft tall drum gates



North Spillway Gate in raised position 6/9/1927
(Bureau of Reclamation)

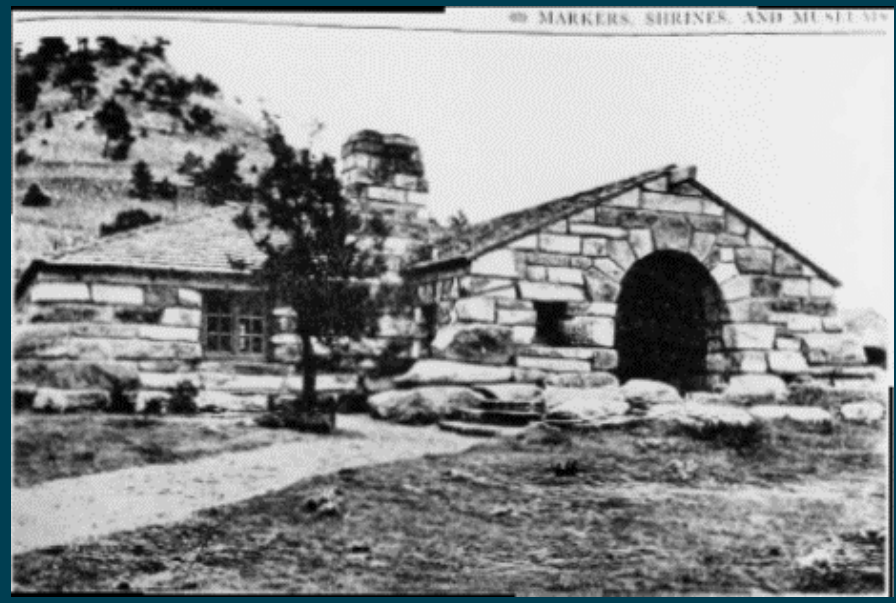
Guernsey Powerplant

- Constructed between 1925 through 1928
  - Two generators
    - Originally 4,800 kilowatts
    - Currently 6,400 kilowatts
  - Combined release capability of approximately 1,340 cfs



Guernsey State Park

- Development began in 1934
  - Joint effort
    - Reclamation and Civilian Conservation Corps (CCC)
  - Features
    - lakeshore and skyline drive, overlook and picnic shelters, extensive trails, and a museum
      - built with rough-cut stone and heavy timbers
  - An example of recreational development around Reclamation reservoirs in the West
  - Placed under state management in 1957



CCC museum, NHL Nomination (Begley and Carr)

CCC Castle overlook, NHL Nomination (Begley and Carr)

Significance of Guernsey State Park

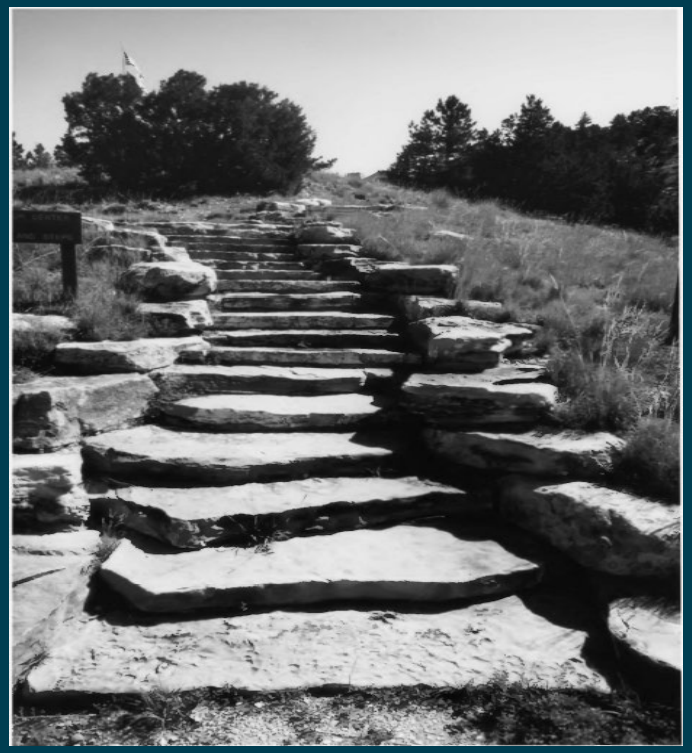
- Example of collaboration
  - National Park Service, Reclamation and Civilian Conservation Corps
- Example of development
  - “recreation areas” around reservoirs
- Example of preservation
  - artistic building quality of the Civilian Conservation Corps

CCC constructing trail steps (1935), NHL Nomination
(Begley and Carr)

CCC foot bridge, NHL Nomination
(Begley and Carr)

NRHP/NHL Listings

- National Register of Historic Places (NRHP)
  - Listed on August 26, 1980
- National Historic Landmark (NHL)
  - Listed on September 25, 1997
  - Guernsey Dam and Powerplant are each considered contributing resources to the NHL

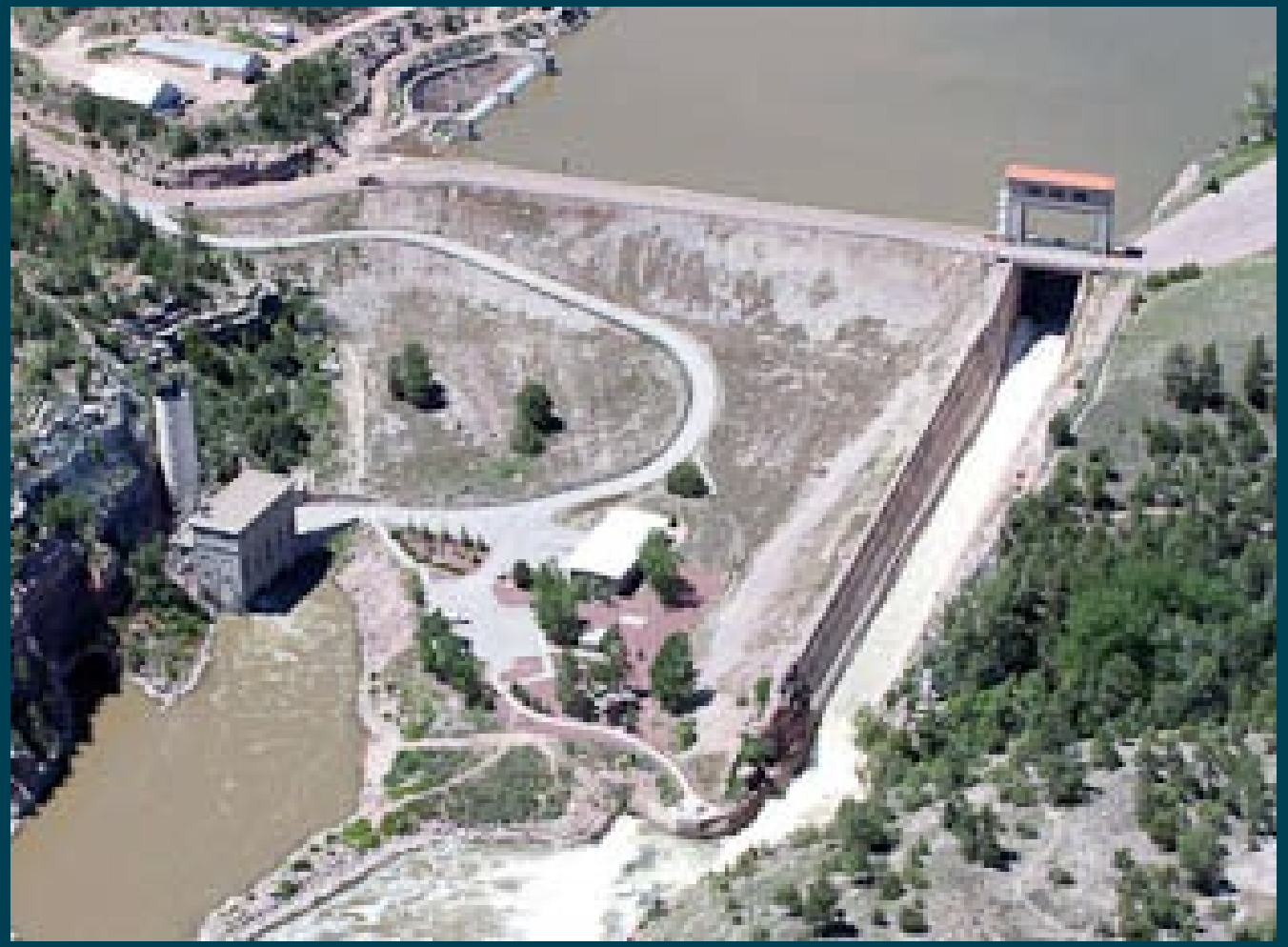


CCC museum steps, NHL Nomination (Begley and Carr)

View from the Castle, NHL Nomination (Begley and Carr)

Guernsey Dam and Powerplant Operations

- North Platte River regulation
- Irrigation
- Electrical Power
- Recreation



Aerial View of Guernsey Dam, powerplant, spillway
(Bureau of Reclamation)

Recent Work Completed at Guernsey

- Dam Safety modifications 2013-2014

View of S. Spillway 2014
(Bureau of Reclamation)

- North Spillway gate refurbishment 2016-2017

Refurbished N. Spillway gate 2017
(Bureau of Reclamation)

Guernsey State Park

Recreation

- Managed by the Wyoming State Parks, Historic Sites and Trails Division

(top, left to right) scenic landscape, trail head, museum
(bottom, left to right) trail footbridge, picnic area, yurt camping, the castle
(Bureau of Reclamation)

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RECLAMATION

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Special Thanks to Denise Tugman for historical research and to Matt Wells and Hailey Glarrow for sharing Bureau of Reclamation photographs.