

bids were too high. Previous river flow records indicated the reservoir would fill slowly, it was decided to put off building the dike. Unexpectedly water flowed into the reservoir much faster than it could be released. It appeared the rising floodwaters would breach the low place and cut a new channel, leaving the dam useless.

Workmen hastily built a temporary dike across the gap. But just in case it failed to hold the water back, there was a plan to blow off the top of the dam at the last possible moment rather than allow a new channel to form. Several dynamite charges were actually placed in the dam. Fortunately, the dike succeeded and the dam was saved. Maximum storage occurred on July 10 with water lapping against the dike. Workmen capped the explosives with mortar and there they remained until 1949 when an explosives expert removed them prior to installation of the elevator.

A permanent dike was built during 1910-1911. A Marion steam shovel and a traction engine were used in its construction. The dike measures 1,650 feet long and 38 feet high, and has a concrete corewall.

6. Swinging Bridge

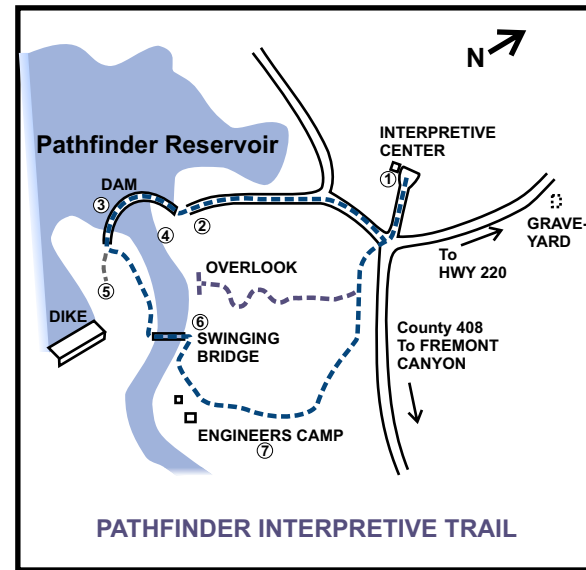
The trail continues down towards the river where you will come upon the Swinging Bridge. The Bridge was originally built during construction of Pathfinder Dam to provide easy access from the damsite to the Engineer's Camp which lies ahead. The bridge has been rebuilt several times, most recently in 1995. Early photographs show the bridge looking much the same now as when it was first built. The bridge is 5 feet wide and spans 100 feet.

Anchors and portions of cable are all that remain of the original structure. The trail continues along the river and east to the Engineer's Camp. Look for the stone steps built by the Youth Conservation Corp (YCC) in the 1980's on the North side of the bridge.

7. Engineer's Camp

Foundations in this area show where the engineer's offices and residences were located. The single standing building is believed to have been the jail. The area also provided a Post Office, barn, carriage house, cistern, and pump house. Laborer's lived in a separate area north of the dam. Some women accompanied their husbands to Pathfinder during the construction. At least one baby was born in a tent a few hundred yards from the dam. Living conditions varied from snug homes of the Engineer's Camp to tarpaper shacks and tents of the Contractor's Camp. Groceries and all other supplies had to be freighted in from Casper. Wagonloads of slaughtered beef, supplied by local ranchers, were hauled across the river on the tramway to the camps.

The trail continues uphill and to the west approximately 0.4 miles to the overlook parking area. On the way you may see remnants of a garbage dump the dambuilders used. You may wish to take the 0.2 mile overlook trail to the canyon rim. Follow the road to the end of the trail which ends 0.3 miles west of the overlook parking area, at the Pathfinder Interpretive Center.



The North Platte Project

Pathfinder Dam is the major storage dam for the Bureau of Reclamation's North Platte Project. Other facilities on this project include Guernsey Dam and Powerplant, Whalen Diversion Dam (eight miles downstream from Guernsey), the Interstate Canal, the Fort Laramie Canal, and the Northport Canal. The main purpose of the project was to reclaim arid lands into productive farmland. Since 1908, lands irrigated by Pathfinder water have produced crops valued at over \$2 billion. The tremendous significance of Pathfinder Dam has been recognized by placement on the National Register of Historic Places and by designation as a Wyoming Historic Civil Engineering Landmark. Although the dam is about 100 years old, its appearance has changed very little since workmen placed the last mortar and stone.



RECLAMATION
Managing Water in the West

Pathfinder Dam Interpretive Trail

**A Self-Guided Tour
1.7 Miles**

**U.S. Department of the Interior
Bureau of Reclamation
Wyoming Area Office
PO Box 1630
Mills, WY 82644**



The Pathfinder Interpretive Trail

Text is keyed to map

1. Damtender's House (Trailhead)

Pathfinder Dam Interpretive Center, formerly the damtender's house, contains exhibits relating to the construction of Pathfinder Dam and Dike. Access to the interpretive center may be arranged by contacting the Natrona County Roads, Bridges and Parks Department at 307-235-9325.

Workmen built this stone building in 1906 to house a reservoir superintendent, or damtender, and his family. The duties of the damtender included maintenance work and operation of the outlet works.

Walk from the stone house south along the county road to the spillway area and the dam.

2. Spillway Area

As you walk across the spillway, try to imagine water flowing over it toward the canyon below. The elevated footwalk provides access to the dam during periods of high water. When Pathfinder was the only reservoir on the North Platte River, water spilled frequently. It spills rarely now, most recently in 1986. The three buildings near the dam contain gate-operating equipment for releasing water from the reservoir. The square concrete building is the intake gate structure for the Fremont Canyon Powerplant tunnel. The two smaller

buildings contain gates which control water releases through the river outlet jet flow gates.

3. The Dam

Pathfinder Dam, built without benefit of modern machinery, took four years to complete. The dam contains 60,000 cubic yards of stone and over 50,000 barrels of cement. Larger rocks placed in the dam weighed several tons each. Stone quarries near the dam site provided ample rock, and the cement was hauled by "string teams" from Casper, the nearest railhead. Engineers from the U.S. Reclamation Service (now the Bureau of Reclamation), an agency created by the 1902 Reclamation Act, supervised the construction.

Most of the laborers came from Denver. Extreme weather, isolation and severe working conditions and the hard work led many of the men to leave before they had worked off their transportation advances. Despite labor problems and poor weather, the dam itself was finished June 14, 1909. The dike and several minor jobs remained.

Pathfinder Dam Information

Masonry Arch Dam

Construction Period: 1905-1909

Height: 214 Feet

Crest Length: 432 Feet

Maximum Base Width: 97 Feet

Reservoir Capacity: 1,016,000 Acre-Feet, or 331 billion gallons

Surface Area: 22,014 Acres at elevation 5850.1

Cost: \$1,800,000 up to 1913 (includes dam, dike, north and south tunnels)

4. Outlet Works

On the North side of the canyon downstream of the dam you can see tunnel outlets for two jet flow gates. During the summer, water releases through the 60-inch gates help supplement the Fremont Canyon Powerplant flows to meet the heavy irrigation demand downstream. The gates are operated by hydraulic pumps controlled remotely from the Casper Control Center. The gates were installed in 1987 replacing two needle valves which were installed in 1927. Water stored in Pathfinder is used to irrigate 335,000 acres of cropland in eastern Wyoming and western Nebraska. Major crops grown include sugar beets, corn, dry beans such as pintos, and alfalfa hay.

The furthest downstream north tunnel outlet was the original outlet when the dam was built. Uses of this tunnel evolved as the outlet works were changed over the years. Look for the abandoned south tunnel outlet opposite the jet flow gates. This outlet was fed by six Ensign valves and operated from 1912 to 1958. The tunnel was plugged when the new Fremont Canyon powerplant tunnel was built. The Fremont tunnel, three miles long and 18 feet in diameter, was built in 1958 and links Pathfinder Reservoir with the hydroelectric plant located in Fremont Canyon on the headwaters of Alcova Reservoir.

Prior to the installation of the elevator on the face of the dam, the concrete ladderway on the south canyon wall provided access to the canyon floor. On February 9, 1912, five men fell to their deaths while constructing the ladderway. The men were working near the top of the canyon wall when the 1 5/8 inch tramway

cable anchorage directly above them broke, and in falling, the cable swept them to the bottom. Three of the bodies were sent east for burial. Since the other two had no family in the United States, they were buried nearby in a small graveyard, located off the paved road leading to Highway 220, approximately 1 mile northeast of the Dam. You may wish to visit this graveyard which contains three marked and four unmarked graves. One of the graves belongs to an infant and another to the postmistress at the dam during the construction period.

As you continue down the trail notice the black stripe of igneous rock intruded into the surrounding granite. Watch for wildlife. You may see golden eagles, hawks, Canada geese, and many species of smaller birds including hundreds of cliff swallows which nest on the canyon walls. If you watch closely you may see a sagebrush lizard, chipmunk, and a few species of rodents and snakes.

5. Earthen Dike

A crisis occurred shortly after the dam was completed: floodwaters exceeding all predictions poured 1,000,000 acre-feet into the reservoir in June alone. Because of a low place 1/4 mile south of the dam, the capacity of the reservoir was only 725,000 acre-feet. Ordinarily the spillway would permit the excess water to safely bypass the dam. But the spillway was designed for use when the reservoir reached its potential capacity, after a dike had been built across the low spot. The spillway elevation was too high to be of any use in 1909.

Engineers had planned to build the dike while the dam was under construction. The government advertised the work, but the