Form 10-300
(July 1969)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY – NOMINATION FORM

(Type all entries – complete applicable sections)

STATE: Wyoming
COUNTY: Natrona
FOR NPS USE ONLY
ENTRY NUMBER: 71.8.56.0005 DATE: 8/12/71

SEE INSTRUCTIONS

1. NAME

COMMON: Pathfinder Dam
AND/OR HISTORIC: Pathfinder Dam

2. LOCATION

STREET AND NUMBER: Sec. 24, T.29N., R.84W., 6th P.M.
CITY OR TOWN: Casper --- 45 miles southwest

STATE	CODE	COUNTY:	CODE
Wyoming	56	Natrona	025

3. CLASSIFICATION

CATEGORY (Check One)	OWNERSHIP		STATUS	ACCESSIBLE TO THE PUBLIC
☐ District ☐ Building	☒ Public	Public Acquisition:	☒ Occupied	Yes:
☐ Site ☒ Structure	☐ Private	☐ In Process	☐ Unoccupied	☐ Restricted
☐ Object	☐ Both	☐ Being Considered	☐ Preservation work in progress	☒ Unrestricted
				☐ No

PRESENT USE (Check One or More as Appropriate)

☒ Agricultural	☒ Government	☐ Park	☐ Transportation	☐ Comments
☒ Commercial	☒ Industrial	☐ Private Residence	☒ Other (Specify) Recreational	
☐ Educational	☐ Military	☐ Religious		
☐ Entertainment	☐ Museum	☐ Scientific		

4. OWNER OF PROPERTY

OWNER'S NAME: U. S. Government, Department of the Interior, Bureau of Reclamation
STREET AND NUMBER:
CITY OR TOWN: Washington
STATE: District of Columbia
CODE: 11 08

5. LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC: City and County Building
STREET AND NUMBER: Center Street
CITY OR TOWN: Casper
STATE: Wyoming
CODE: 56

6. REPRESENTATION IN EXISTING SURVEYS

TITLE OF SURVEY: Wyoming Recreation Commission, Survey of Historic Sites, Markers & Mon.
DATE OF SURVEY: Summer-Fall 1967 ☐ Federal ☒ State ☐ County ☐ Local
DEPOSITORY FOR SURVEY RECORDS: Wyoming Recreation Commission
STREET AND NUMBER: 604 East 25th Street
CITY OR TOWN: Cheyenne
STATE: Wyoming
CODE: 56

STATE:
COUNTY:
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7. DESCRIPTION

CONDITION	(Check One)					
	☒ Excellent	☐ Good	☐ Fair	☐ Deteriorated	☐ Ruins	☐ Unexposed
	(Check One)		(Check One)			
	☐ Altered	☒ Unaltered	☐ Moved	☒ Original Site		

DESCRIBE THE PRESENT AND ORIGINAL *(if known)* PHYSICAL APPEARANCE

The physical appearance of the Pathfinder Dam is essentially the same today as when its construction was completed in 1909.

However, an understanding of the character of the North Platte River, throughout those aeons when its unimpeded flow dashed from side to side and down between the deep and narrow canyon-walls which subsequently became the dam's location site, will enhance any viewer's appreciation of the spectacular engineering achievement here under display. The dam takes its name from that "Pathfinder of the West," General John Charles Fremont. Fremont in 1842, following the then eighteen years old footsteps (or rather navigation route) of the fur trader Thomas Fitzpatrick---and with no better luck, made an attempt to run the river's turbulent course. A brief condensation of his account of that ill-advised adventure provides a graphic impression of primordial, unconquerable wild water:

"To go back was impossible; the torrent before us was a sheet of foam; and, shut up in the chasm by the rocks, which in some places seemed to almost meet overhead, the roar of waters was deafening. ...we cleared rock after rock, and shot past fall after fall, our little boat seeming to play with the cataract." But such dangerous "play" was of short duration for, still in keeping with Fitzpatrick's prior experience, "...the boat struck a concealed rock immediately at the foot of the fall, which whirled her over in an instant."

What was unconquerable for an explorer possessing no other resources than he could carry along or find within the bounds of a vast, distant wilderness was within the power of capable engineers supported by a growing civilization. How those engineers accomplished their task is properly the subject of a different heading in this nomination form; but the result of their accomplishment is there for all who come to see.

The Pathfinder Dam is a masonry arch dam which completely blocks, from bedrock to canyon rim, the course of the North Platte River. Fashioned from huge blocks of granite (quarried nearby from the same formation into which the river had trenched its canyon course) the dam stands 214 feet high; has a crest length which, including wings extending slightly above and beyond the canyon lip, reaches to 432 feet; and tapers from a base 97 feet wide to a top which is no more than 11 feet in width. Viewed from the down stream side, where the eye can measure the imposing height and at the same time take in a great volume of water cascading from a mid-level diversion tunnel, the Pathfinder Dam is truly an awe inspiring structure---a monument to engineering ingenuity.

SEE INSTRUCTIONS

8. SIGNIFICANCE

PERIOD *(Check One or More as Appropriate)*

☐ Pre-Columbian	☐ 16th Century	☐ 18th Century	☒ 20th Century
☐ 15th Century	☐ 17th Century	☒ 19th Century	

SPECIFIC DATE(S) *(If Applicable and Known)* August 1, 1903 - June 14, 1909 but continuing

AREAS OF SIGNIFICANCE *(Check One or More as Appropriate)*

Aboriginal	☐ Education	☐ Political	☐ Urban Planning
☐ Prehistoric	☒ Engineering	☐ Religion/Philosophy	☒ Other *(Specify)*
☐ Historic	☒ Industry	☐ Science	Settlement of the arid lands, otherwise not feasible.
☐ Agriculture	☐ Invention	☐ Sculpture	
☒ Architecture	☐ Landscape Architecture	☐ Social/Humanitarian	
☐ Art	☐ Literature	☐ Theater	
☐ Commerce	☐ Military	☐ Transportation	
☐ Communications	☐ Music		
☒ Conservation			

STATEMENT OF SIGNIFICANCE

Pathfinder Dam, though differing in construction technique because of materials used (granite block masonry as opposed to poured concrete), was in design of structure, date of construction, character of stream and terrain at location site and in other such matters as availability of labor force, remoteness of supply base and a wilderness-caused difficulty of logistics, one of a pair of first born twins. The other one of that pair, Buffalo Bill Dam, is also a Wyoming structure. Because of its premier engineering and agronomic features and because of its particular significance to a continuously developing general national-culture, Buffalo Bill Dam has already been nominated for enrollment in the National Register of Historic Places. Since much of the significance on which that nomination was based is common with the significance of Pathfinder Dam, all of the details are not repeated here. They can, if desired, be found in the Buffalo Bill Dam nomination forms.

In seeking the significance of an earliest date installation effectuating a large scale reclamation of western arid lands, such as is Pathfinder Dam, it quickly becomes apparent that two widely differing factors are involved. The first factor is a socio-political one; the second factor is a techno-professional one.

The socio-political factor stems from a philosophy only commencing to emerge toward the end of the 19th century. This was the idea that the government of a free society should concern itself directly with the economic development of the nation and with active emphasis on problems peculiar to individual regions. An early and singular phenomenon arising from this emerging philosophy concerns a brilliant scientist-engineer, John Wesley Powell, and his theory of "arid lands reclamation". The building of Pathfinder Dam was a successful testing of both the emerging philosophy and the singular phenomenon. How Powell persuaded (indoctrinated is a more descriptive verb) important people of the private sector and in the government to give his theory a trial, and how successful that trial has proved out over succeeding years, is a rather long history which has already been told in the Buffalo Bill Dam nomination.

SEE INSTRUCTIONS

9. MAJOR BIBLIOGRAPHICAL REFERENCES

James, George Wharton. Reclaiming the Arid West. New York, Dodd, Mead, and Co. 1917.

Cassai, Nello. (Region 7 Information Officer). First Dam on the Wild North Platte. Reclamation Era (Magazine), November, 1968. United States Department of the Interior, Bureau of Reclamation.

North Platte Project, Nebraska and Wyoming, 7 counties, Region 7, Bureau of Reclamation, Project Headquarters, Guernsey, Wyoming. Pamphlet - G.P.O. 1961 0-530191.

10. GEOGRAPHICAL DATA

LATITUDE AND LONGITUDE COORDINATES DEFINING A RECTANGLE LOCATING THE PROPERTY						OR	LATITUDE AND LONGITUDE COORDINATES DEFINING THE CENTER POINT OF A PROPERTY OF LESS THAN TEN ACRES					
CORNER	LATITUDE			LONGITUDE				LATITUDE			LONGITUDE	
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds		Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
NW	°	'	"	°	'	"		42 °	28 '	05 "	106 °	51 '	12 "
NE	°	'	"	°	'	"							
SE	°	'	"	°	'	"							
SW	°	'	"	°	'	"							

APPROXIMATE ACREAGE OF NOMINATED PROPERTY: 4 acres

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

STATE:	CODE	COUNTY	CODE
STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE

11. FORM PREPARED BY

NAME AND TITLE:
Nedward M. Frost

ORGANIZATION
Wyoming Recreation Commission

DATE

STREET AND NUMBER:
604 East 25th Street

CITY OR TOWN: Cheyenne

STATE: Wyoming

CODE: 56

12. STATE LIAISON OFFICER CERTIFICATION

As the designated State Liaison 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. The recommended level of significance of this nomination is:

National [x] State [ ] Local [ ]

Name Paul H Preistadt

Title Director

Date 4-7-71

NATIONAL REGISTER VERIFICATION

I hereby certify that this property is included in the National Register.

Ernest A Connally

Chief, Office of Archeology and Historic Preservation

AUG 12 1971

Date

ATTEST:

William Murtagh

Keeper of The National Register

JUN 21 1971

Date

SEE INSTRUCTIONS

Form 10-300a
(Dec. 1968)

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

(Continuation Sheet)

STATE: Wyoming
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(Number all entries)

Statement of Significance - page 2

The techno-professional factor itself breaks into two parts: the first, of basic importance to the engineering profession, is the advancement from theory to proved practical-knowledge gained through experience in building Pathfinder Dam; the second is the individual site problems presented at the Pathfinder location and peculiar to the building of that dam itself.

Again, as regards the first of these two parts, reference is made to the Buffalo Bill Dam nomination papers. As stated before, the Pathfinder Dam and the Buffalo Bill Dam were built simultaneously and they were, in that simultaneousness, the first two such large scale arch dams built by the Reclamation Service (Bureau of Reclamation) or, seemingly, by anyone else. As such they were, and remain, archetypes not only worthy of careful study in preparation for the building of following and even larger dams but also because, in their very existence, previous theory became proven and practical fact. Therefore what is said on this subject in the Buffalo Bill Dam nomination forms applies equally to Pathfinder Dam.

Yet the two dams are not alike, one is masonry and the other concrete. Nor were they built in exactly similar circumstances, one site was seven, albeit difficult, miles from a rail head while the other (Pathfinder) was seven times as far distant and this in the day of horse drawn freight. There are other differences: Buffalo Bill Dam was and has remained the key structure in a single unit reclamation project; Pathfinder Dam was merely the first dam in a series. A series which has tamed more than 200 miles of wild mountain river race and provided an intricate interchange of reclamation waters so managed as to serve large sections of two states, Wyoming and Nebraska, extending for several hundred miles along the valley of the North Platte River.

Probably the difference in horse drawn freight distance---7 miles versus 47 miles---was one of the considerations resulting in Buffalo Bill Dam being built of poured concrete while Pathfinder Dam was built of adjacently quarried granite blocks and mortar. It just wasn't feasible to freight enough barrels of cement to build an outright concrete structure at Pathfinder. Even so, a 1907 photograph showing an 11 span (22 horses) jerk line team hitched to three wagons drawn tandem, all loaded with barrels of cement, indicates the difficulty of the material supply problem at the Pathfinder construction site. Especially so when it is understood that such a "jerk line outfit" required more than two long, arduous days to bring freight from the rail head at Casper. Average cost of this wagon haulage was about one dollar per hundred weight although hay and explosives ran somewhat higher.

The construction of the dam involved facing stones cut about two to three feet thick and layed in two inches of mortar. Behind these facing stones the engineers, with that carefulness due in new and previously untried

construction procedures, ordered the placing of huge (up to ten weighted tons) irregular shaped granite blocks. Then in the center, between those gradually rising upstream and downstream facing walls, a filling mixture of quarry tailings and binding mortar was made to keep pace with the ever heightening revetments.

This work had its inception in an original field reconnaissance, dating from 1902, which recommended the building of a storage dam with a resultant reservoir at the Sweetwater River site known as Devil's Gate. The Devil's Gate was, as it remains, a site made famous through its connections with fur trade activities and overland emigrations along that natural transcontinental route which is so widely known as the Oregon Trail. But the Sweetwater only flows a comparatively limited annual acre foot volume while, only a few miles below the Devil's Gate site, it empties into its parent stream the North Platte---a much greater river.

In consequence of the Sweetwater's small flow, plans for the construction of the Devil's Gate Project remained in abeyance. Then, in 1903, Wyoming State water specialists drew the attention of Reclamation Service engineers to a site on the North Platte just below the mouth of the Sweetwater and thus offering the advantage of catching runoff from both river basins. Here, it was pointed out, a high but narrow dam blocking the river gorge to its full height would back water into a potential reservoir basin possessing an indicated shore line greater than 75 miles in extent and affording opportunity for storage of more than one million acre feet of irrigation and industrial waters.

Reclamation Service engineers were quick to act on this advice. By August of the year 1903 diamond drilling crews were probing the Pathfinder site; in February 1905 a contract was let for the first necessity---a diversion tunnel; and, within months, a second contractor was starting excavation for the dam's foundation. Inherent to the western climate and its influence on mountain fed but desert crossing rivers, and inherent in the unfamiliarity of engineers and contractors not only with such capricious rivers but with the very type large scale hydrologic works which they themselves were practically originating, both the tunnel and foundation contractors experienced vexatious and costly troubles. As at the Buffalo Bill Dam work, only perhaps to a less severe degree, each job---tunnel and foundation hole---were flooded by debris laden waters which resulted in many days of added work.

However progress continued in spite of troubles and on June 14, 1909 the dam itself stood completed. But then developed, despite, or rather because, of this stage of completeness, the greatest crisis of the entire construction period.

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INVENTORY - NOMINATION FORM

(Continuation Sheet)

STATE	
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Statement of Significance - page 4

It is not unusual in the geologic history of a river that some factor of terrain which once influenced the direction of flowing water may cease to exist but the river itself, confirmed in its channel, still follows its no longer reasonable course. Such was the case with the North Platte, a place along the shore line of the now filling reservoir was lower than the dam crest and now there came, on a great summer flood, more water than all the gates, diversion tunnels and spillways could accommodate. The vision was of the low spot being topped, of waters cutting a new channel quickly through soft earth and thus leaving the Pathfinder structure daming a forever dry channel. Then, while dyke makers worked frantically but appeared to be losing their race, explosive experts crawled twenty feet down from the dam's top, drilled holes and set charges. It was intended to blow the top off the dam rather than to allow the reservoir waters to surmount and then breach the low spot.

Finally the dyke builders prevailed, the rising waters were contained, the floods subsided and all was saved. But then it was considered too dangerous to remove the blasting charges set within the dam, they were left in place and the holes capped with mortar. Forty years later, during construction of an elevator at the dam, it became necessary to remove the by that time deteriorated and so far more dangerous explosives. An oil field blasting expert from Casper, a cool headed, steady handed professional, was sent for and he did the job.

Pathfinder Dam was built at a cost of two and one forth million dollars. Although the original one, it is now only a single division in the five major storage dams located along the North Platte River in Wyoming. A total of just over one third of a million previously arid lands acres receive water from this complex reclamation installation. Many thousands of people, living on farms and in small cities, make their livings directly and indirectly from this development. By 1969 the total project crop values, measured in current money values as the years have in turn gone by, amount to approximately one billion dollars. But that is the pure agricultural return, taking no account of either spinoffs or the other direct profits from this water use. The latter including, of course, besides industrial and domestic waters sold, the sale of many millions of dollars worth of electric energy produced by power generated from water flow at the several dam sites.