NPS Form 10-900-a
(8-86)

OMB Approval No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number _____ Page _____

SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 89000284 **Date Listed:** 4/20/89

Stairs Station Hydroelectric Power Plant Historic District
Property Name

Salt Lake — Utah
County — **State**

Electric Power Plants of Utah MPS
Multiple Name

This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.

Bruce J. Noble Jr. — 4/20/89
Signature of the Keeper — **Date of Action**

==========

Amended Items in Nomination:

The verbal boundary justification for this property states: "It was decided that the short underground portion of the penstock did warrant excluding the penstock from the district or creating a discontiguous district." Following a conversation with Roger Roper of the Utah State Historic Preservation Office, it was determined that this sentence contained a typographic error. The sentence should read, "It was decided that the short underground portion of the penstock did **not** warrant excluding the penstock from the district or creating a discontiguous district."

DISTRIBUTION:
National Register property file
Nominating Authority (without nomination attachment)

NPS Form 10-900
(Rev. 8/86)
Utah Word Processor Format (02731)
(Approved 10/87)

OMB No. 1024-0018

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
REGISTRATION FORM

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in Guidelines for Completing National Register Forms (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries. Use letter quality printer in 12 pitch, using an 85 space line and a 10 space left margin. Use only 25% or greater cotton content bond paper.

1. Name of Property Stairs Station Hydroelectric Power Plant Historic District

historic name

other names/site number Stairs, Stairs Plant, Big Cottonwood

2. Location

street & number State Highway 152 n/a not for publication

city, town Salt Lake City x vicinity

state Utah code UT county Salt Lake code 035 zip code 84100

3. Classification

Ownership of Property	Category of Property	No. of Resources within Property	
		contributing	noncontributing
x private	___ building(s)	1	___ buildings
___ public-local	x district	___	___ sites
___ public-State	___ site	4	3 structures
___ public-Federal	___ structure	___	___ objects
	___ object	5	3 Total

Name of related multiple property listing:

Electric Power Plants of Utah

No. of contributing resources previously listed in the National Register 0

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, 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. ___ See continuation sheet.

Max J Evans — 1-31-89

Signature of certifying official — Date

UTAH 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.

Signature of commenting or other official — Date

State or Federal agency and bureau

5. National Park Service Certification

I, hereby, certify that this property is:

✓ entered in the National Register. ___ See continuation sheet — Bruce J. Noble, Jr. — 4/20/89

___ determined eligible for the National Register. ___ See continuation sheet

___ determined not eligible for the National Register.

___ removed from the National Register.

___ other, (explain:) _____

for Signature of the Keeper — Date

6. Functions or Use

Historic Functions (enter categories from instructions)	Current Functions (enter categories from instructions)
Industry/Processing/Extraction: energy facility	Industry/Processing/Extraction: energy facility

7. Description

Architectural Classification (enter categories from instructions)	Materials (enter categories from instructions)
	foundation concrete
Renaissance (powerhouse)	walls brick
	roof asphalt
	other n/a

Describe present and historic physical appearance.

(see continuation sheet)

x See continuation sheet

Constructed in 1894-1895, Stairs Hydroelectric Power Plant is located in Big Cottonwood Canyon near Salt Lake City. The plant consists of a powerhouse, switchyard, dam, pipeline, standpipe, and penstock, as well as a few ancillary structures. Five of these features are contributing and three are non-contributing. Since its construction, Stairs has sustained alterations, such as the reconstruction of its original dam, changes to the standpipe, removal of the operator's camp, and replacement of the brick parapet around the top of the powerhouse. These alterations, however, do not compromise the plant's overall integrity of location, setting, design, materials, workmanship, feeling, and association. Stairs Station is still an outstanding example of a high-head hydroelectric plant dating from the late nineteenth and early twentieth centuries.

General Setting

Stairs Station is located approximately eight miles southeast of Salt Lake City, Utah in Big Cottonwood Canyon along state highway number 152. Stairs Station is about two and one-half miles upstream from the Granite Power Plant, and is surrounded by the Wasatch National Forest. Lying in a narrow part of the canyon, the Stairs powerhouse is squeezed between the highway, about 15 feet to the north, and Big Cottonwood Creek to the south. Moving in a westerly fashion, the creek flows past the powerhouse and pools behind a dam just below the plant which diverts water for the Granite Hydroelectric Power Plant. An asphalt driveway provides access to the highway on the west side of the station, crosses a wooden bridge over Big Cottonwood Creek and enters a flat area used as a recreation and picnic site. This open space is lined with shade trees as is the driveway into the plant. Originally a shop/garage stood where now picnic tables are circled around a fire pit. The recreation area was almost totally rebuilt after a major flood destroyed the previous facility in the early 1980s. To the east of the picnic area and sand volleyball pit are the foundations of two operators' houses, today almost covered with vegetation. These homes have been removed. Steep canyon walls rise behind the recreation area, to the south.

1. Powerhouse

The only original remaining building at the Stairs Station is the powerhouse. Constructed in 1895, this structure reflects the Second Renaissance Revival architectural style. A two-story, rectangular-shaped brick structure, the powerhouse has a concrete foundation and an asphalt, slightly gabled roof with a concrete capped parapet wall rising above it. Corbelled brick belt courses extend around the structure at top of the first story and below the parapet wall. The building's facades are divided into bays by pilaster strips which on the north and south facades contain star-shaped tire rod anchors. The north and south facades are divided into 7 bays, each containing a single window or pair of 2/2 double hung windows with a brick corbelled semi-circular arched lintel in the first and second stories. The lower portion of windows on the first story have heavy metal screens.

On the north side of the building is a substation/switchyard enclosed in a cyclone fence. This facade has an entrance to the substation yard that has a 2-light transom over a wooden door and screen door in the westernmost bay. The central bay has a sign reading "The Big Cottonwood Power Co./Stairs Station *1895*" which is lit with globed lights on metal brackets fastened on either side of the sign. Both the east and west facades are divided by pilasters into 3 bays. The side bays contain single windows. The central bay has a pair of windows over an entrance with a brick corbelled semi-circular arched lintel, an arched wooden transom and a pair of wooden doors. The eastern entrance retains the original transom window of 6-lights radiating around a central semi-circular shaped light.

Water both enters and leaves the power plant on the building's south side. A metal receiver pipe for the penstock runs the length of the facade, bringing water to the turbines. Segmental arched openings in the foundation wall allow the waste water to enter the tailrace, which flows under the receiver pipe and into Big Cottonwood Creek.

Since construction, the Stairs powerhouse has sustained only minor exterior alterations. A new parapet wall and concrete cap similar

to the original has been added and new bricks have replaced deteriorating bricks. As the new brick is harder and darker in color, it is noticable, especially in the southeast corner. These alterations, however, do not overwhelm the building's original architectural style.

The interior of the Stairs powerhouse retains a level of integrity roughly compatible with its exterior, although some changes have been made over the years. The ground floor of Stairs powerhouse is the location of all generating equipment. Originally, the plant included four Pelton wheels attached to generators. These now have been replaced by one turbine-generator unit made up of a Francis reaction-type turbine (built by S. Morgan Smith) attached to a Westinghouse 2,300 volt a.c. generator, with field supplied by a General Electric 125 volt d.c. exciter. The unit has a capacity of about 1.2 megawatts. The turbine operates on a head of about 357 feet. Transmission equipment at Stairs is now mostly outside the powerhouse. The ground floor of the building, however, still includes a massive, air-cooled Westinghouse step-up transformer. The air cooling equipment, including a fan, is still in place. Other equipment at the ground-floor level of Stairs Station includes a modern switchboard, a sound-proof office, batteries, and an original 10-ton overhead traveling crane, probably built by the Silver Brothers of Salt Lake City (see the Hardesty article listed in the bibliography).

The second floor of the Stairs powerhouse is largely empty. This space originally housed transformers, bus bars, and switching equipment. The second floor is now used for storage of odd materials and tools. A few small machines, such as a drill press, are also still in place. Toward the west end of the second floor there is a wood balustrade with a small opening to allow passage. The purpose of this balustrade is unknown. Between the balustrade and the west wall there is a rectangular opening in the floor which allows ventilation for the ground floor and which is used to hoist materials between floors. Other than the features mentioned here the second floor is empty.

The ceilings over the first and second floors of the Stairs powerhouse feature a design similar to the ceiling of the Granite

powerhouse. The Stairs powerhouse ceilings first consist of steel beams laid crosswise between the north and south powerhouse walls. The areas between the beams are filled with arched brick vaults, covered with plaster, which extend over the length of the building.

Stairs powerhouse has sustained a number of alterations since its construction. A new parapet wall has been installed. The original turbine-generator units have been replaced. Transformers have been moved outside, leaving the second floor empty. Overall, however, the powerhouse still appears much as it did about ninety years ago. Moreover, the powerhouse is still a key part of a basically intact, functioning, high-head hydroelectric plant. Stairs, despite its alterations, still retains integrity of location, design, setting, materials, workmanship, feeling, and association. The powerhouse is a contributing feature of the historic district.

2. Switchyard

The Stairs transmission equipment, consisting of modern switchrack and transformers, is now located outside the building, on its north side, between the building and Utah Highway 152. The switchrack does not contribute to the historic district.

3. Storm Mountain Dam

Big Cottonwood Creek water for Stairs Station is impounded behind Storm Mountain Dam, located about one half mile above the powerhouse in Big Cottonwood Canyon. The dam is situated in a natural basin at the head of a cascade called "the Stairs," which over a quarter mile section drops 200 ft. Storm Mountain Dam is an earth-fill structure faced on its upstream side with concrete. The dam is approximately 500 ft. in length and is approximately 10-20 ft. tall. About the northern two-thirds of the dam is straight, lying on a north-south axis. However, the rest of the dam angles toward the southeast. This portion of the dam has a reinforced concrete spillway about 35 ft. wide and 20 ft. tall on the downstream side. The spillway includes a flashboard gate system. Flashboards are set horizontally between steel I-beams

supported by steel stanchions. A walkway made of wood planks, with steel posts and cables for a handrail, is perched on top of the flashboard structure. The southerly end of the dam abuts a rock outcropping. The north end of the dam abuts the north side of Big Cottonwood Canyon. The intake at Storm Mountain Dam is located at about the middle of the dam, adjacent to its straight section, about 10 feet from its upstream face. The intake is a reinforced concrete structure with a valve and trashrack. The intake is enclosed by a small wood-frame shed covered with corrugated metal.

Storm Mountain Dam in its present configuration was built in 1921. The dam actually no longer functions. A small amount of water pools behind the dam, but Utah Power and Light no longer maintains a reservoir. The dam was officially retired in ca. 1955-1958, apparently because water impounded behind it somehow became unsuitable for Salt Lake City's Big Cottonwood Treatment Plant located near the mouth of the canyon, just below the Granite hydroelectric plant.

Other features at Storm Mountain Dam include portions of low retaining wall adjacent to the former reservoir area. These low walls, 1-3 ft. tall, consist of rubble and concrete. The walls are most visible on either side of Big Cottonwood Creek where Utah Highway 152 crosses the stream just east of Storm Mountain Dam.

As originally constructed in the 1890s, Storm Mountain Dam consisted of a curved, earth fill-structure, roughly situated on an east-west axis adjacent to the position of the current dam. A spillway, cut into bedrock, was located at the east end of this dam. A drain tunnel was bored through rock just east of the dam. The original dam created a much larger reservoir than the 1921 dam. The low retaining walls described above may have been associated with the original dam. Otherwise, the principal features of the original dam are no longer visible.

Storm Mountain Dam, as built in 1921, has sustained little alteration. Some weathering of the dam has occurred, such as the cracking and flaking of the upstream concrete face. Otherwise, storm mountain dam retains integrity of setting, location,

feeling, association, design, materials, and workmanship. Storm Mountain Dam is a contributing feature in the Stairs Station Historic District.

4. Conduit

Water entering the Storm Mountain Dam intake is first carried west through a welded steel pipe about 1,200 ft. long. Roughly the western half of the steel pipeline lies in a tunnel that was bored through a rock formation that extends from the north side of Big Cottonwood Canyon. Both ends of this tunnel have been closed with concrete, so the interior of the tunnel is not visible. Between the dam and the tunnel, the pipeline lies underground except for a short section just before it enters the tunnel. However, the course of the pipeline is apparent because earth was merely deposited over the pipeline so that it now appears as a long, low mound lying between the dam and the tunnel. After exiting the west end of the tunnel, the pipeline is now visible because Utah Power and Light has recently replaced a section of it between the tunnel and the top of the penstock. The original conduit, erected in the mid-1890s, was probably either replaced or renovated in 1921, at the time Storm Mountain Dam was built. Therefore, the conduit component of Stairs Station best represents the historic associations of a 1921 date.

Except for minor alteration, the steel pipeline conduit retains integrity of setting, location, feeling, materials, association, design, and workmanship. The conduit contributes to the historic district.

5. Penstock

The penstock is original, and was fabricated by Fraser and Chalmers of Chicago. It consists of a riveted steel pipe approximately 1,750 ft. in length. At its top, the penstock has a 50 in. diameter and is made of steel 1/4 in. thick. The penstock gradually decreases in diameter and increases in thickness as it descends toward the powerhouse. At the bottom, the penstock has a 49 in. diameter and is made of steel 1/2 in. thick. The penstock is above ground except for about the last 150 ft., which now lies

underneath Utah Highway 152. The Stairs penstock is a particularly well-preserved and visible (except for about the last 150 ft.) example of a late-1890s penstock.

The Stairs Station penstock maintains integrity of design, setting, workmanship, location, feeling, materials, and association. The penstock is a contributing feature of the historic district.

6. Standpipe

At the top of the penstock is a steel standpipe, built in 1939. The standpipe structure rests on a concrete block which is located at the point where the steel pipeline meets the top of the penstock. The top half of the standpipe was recently added by Utah Power and Light. Because of this recent addition, the standpipe no longer retains integrity of materials and design. It does not contribute to the Stairs Station Historic District.

7,8. Ancillary Structures

Other structures at the Stairs Station include a small, concrete block outhouse with a flat metal-covered roof and a wooden door which sits just north of the powerhouse. East of the powerhouse, is a rock-terraced opening which extends into the hillside. This was the original oil shed (no. 7), but is currently unused because it has partially collapsed. Despite the collapse the oil shed from the outside appears intact. The oil shed still retains overall integrity of location, design, materials, workmanship, setting, feeling, and association. It is a contributing element of the historic district. Similar rock terracing as was used for the oil shed acts as riprap along the highway embankment just north of the powerhouse. Adjacent to the powerhouse and crossing Big Cottonwood Creek is a modern bridge (no. 8) which provides access to the UP&L picnic grounds. This is a modern structure made of steel with a wood deck and concrete abutments. It is a non-contributing feature of the historic district.

8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties: ____nationally ____x__statewide ____locally

Applicable National Register Criteria __x__A ____B __x__C ____D

Criteria Considerations (Exceptions) ____A ____B ____C ____D ____E ____F ____G

Areas of Significance (enter categories from instructions)	Period of Significance	Significant Dates
Industry	1894-1921	1896, 1921.
Engineering		

Cultural Affiliation
n/a

Significant Person
n/a

Architect/Builder
Jones, R.M. (engineer)/Big Cottonwood Power Company

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

(see continuation sheet)

__x__See continuation sheet

Stairs Station is historically significant under Criteria A and C. Under Criterion A, Stairs Station is historically significant within a statewide context because of its association with the first long-distance transmission of alternating current in Utah. Built in 1894-1896, in 1896 Stairs Station generated a.c. power and transmitted it over a 14-mile line to a substation in Salt Lake City. This inaugurated the widespread use in Utah of a.c. power generated from hydroelectric stations. Within a local context, Stairs Station is significant under Criterion A as the first hydroelectric power plant to supply electricity to Salt Lake City, Utah's largest urban/industrial center. Under Criterion C, Stairs Station is significant within a local context because it embodies the distinctive characteristics of a late nineteenth-century hydroelectric power plant (with later modifications). Situated in Big Cottonwood Canyon of the Wasatch range, Stairs Station's engineering features were ideally suited to its mountainous setting. Power companies built numerous high-head plants in Utah during the late nineteenth and early twentieth centuries. They were the most efficient type of hydroelectric technology for generating power on Utah's relatively small mountain streams.

Engineer Robert M. Jones originated the idea for Stairs Station, designed the facility, supervised its construction, and formed a company to oversee its operation. Jones was an experienced technician who had worked as a surveyor and mining engineer throughout the West, including New Mexico, Arizona, Colorado, Wyoming, and Utah. He also had assisted in the organization of the Laramie (Wyoming) Electric Light Company and had supervised the construction of its generating station. In 1889, Jones worked

on the installation of electrical equipment for the Salt Lake City Railway. His acquaintance with the Salt Lake City area no doubt led him to consider the feasibility of establishing a hydroelectric plant on one of the numerous streams that emerged from the Wasatch Mountains just east of Salt Lake City. Certainly the Salt Lake area offered a prime market for electricity generated from such a station. Jones scouted the canyons along the Wasatch range, and in September 1891 he located and filed an appropriation for water from Big Cottonwood Creek, along a cascade known as the Stairs.

Jones then set about developing the site. In 1893, he applied for a franchise from Salt Lake to furnish electricity to the city. He also led a group of citizens to the proposed power site and told them of his plan. But Jones met with failure as the mayor vetoed the council's approval of his franchise. Undaunted, Jones tried again. In support of his cause, he submitted a petition bearing the signatures of 126 Salt Lake City businessmen. The council then passed the franchise over the mayor's veto. Several months later, in December 1893, Jones organized the Big Cottonwood Power Company. Officers included president John W. Donnellan, vice president W.H. Rowe, secretary George M. Cannon, and treasurer George M. Downey. In 1894, workers employed by the Big Cottonwood Power Company began erecting the plant, but work was frequently halted because of construction difficulties and quarrels over water rights. In June 1895, the Big Cottonwood Power Company found some investors in the East and construction work continued. Stairs Station was finally completed in May 1896 at a cost of $325,000.

Stairs Station was an outstanding example of a small, late nineteenth-century high-head plant. Jones had chosen an ideal site for the facility. The location of the dam at the top of the Stairs and the sharp drop in elevation (350 ft. in about 1/4 mile) at the site provided a high head for the turbines. Of equal importance, the short distance of the Stairs cascade necessitated only a minimum expenditure of materials and energy for the construction of a pipeline and penstock. In contrast, many high-head facilities had lengthy water delivery systems that were expensive to build and maintain (the wood flume and steel penstock for Granite Station, for instance, totalled about 1.75 miles in

length).

While construction of Stairs Station was underway, the Big Cottonwood Power Company looked for customers to purchase electricity from the plant. In January 1895, the company signed an agreement with the Salt Lake and Ogden Gas and Electric Light Company to supply the latter with power, purchased wholesale. Apparently the Salt Lake and Ogden Company's steam plant, located in the business section of downtown Salt Lake City, had drawn the ire of the local citizenry because it polluted the air. By drawing power from Stairs Station, the Salt Lake and Ogden Company hoped to abate the smoke problem caused by its coal-fired facility. But before Big Cottonwood Power could begin generating electricity, competition between the two companies arose. Big Cottonwood Power entered a bid for the Salt Lake City municipal street lighting contract, which the Salt Lake and Ogden Company wanted to keep. Apparently the ensuing squabble between the firms led to the nullification of their earlier contract.

Potential competition from power companies outside the Salt Lake area soon brought Big Cottonwood Power and the Salt Lake and Ogden Company back together. By 1896, L.L. Nunn of Provo and the Pioneer Electric Power Company of Ogden threatened to build lines to Salt Lake. Out of self-defense, the Big Cottonwood Power Company and the Salt Lake and Ogden Company entered into another agreement. A contract, dating from about June 1896, stipulated that Big Cottonwood Power would supply the Salt Lake and Ogden Company with electricity for ten years. R.F. Hayward, general manager of the Salt Lake and Ogden Company, supervised the construction of a transmission line, made of wood poles, from Stairs to a substation in Salt Lake City. Stairs Station began sending power over the 10,000 volt line on 2 June 1896. Stairs was the first hydroelectric power station to supply electricity to Salt Lake City. The transmission was the first in Utah to use alternating current over a long distance.

Big Cottonwood Power Company remained an independent business for only a short while. By 1897, owners of recently built hydroelectric power plants, including Stairs and Pioneer, instead of competing against each other merged their companies into one firm, the Union Light and Power Company. In 1899, Union Light and

Power underwent reorganization and was renamed Utah Light and Power. Shortly thereafter, Utah Light and Power began operating the Pioneer, Stairs, and Granite plants in conjunction with each other. As part of an integrated system, these plants served Salt Lake City and Ogden as well as a number of smelters south of Salt Lake. In 1904, Utah Light and Power merged with Consolidated Railway and Power to form Utah Light and Railway. Ten years later, in 1914, Utah Light and Railway and the Salt Lake Light and Traction Company merged to form Utah Light and Traction. In 1915, Utah Light and Traction came under the management of Utah Power and Light Company.

Since UP&L acquired Stairs Station, a number of changes have been made to the facility. Most importantly, in 1921 UP&L built Storm Mountain Dam, replacing the original structure which had rendered poor service because of its porosity. The construction of Storm Mountain Dam reflected UP&L's overall goal during the 1910s and 1920s of improving existing hydroelectric power plants so that each could function as a more reliable, efficient component in a huge network of electrical generating facilities. Another major alteration made to Stairs Station involved the replacement (date unknown) of the original generators and Pelton wheels with another unit featuring a Francis reaction turbine. Finally, at an undetermined date the company demolished the operator's quarters at the station. Despite these changes, the major technological components of Stairs Station--the dam, conduit, penstock, and powerhouse, remain essentially intact. Thus they still represent the historic associations of the period of significance and they still exhibit the important characteristics of an early high-head hydroelectric plant.

9. Major Bibliographical References

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 # _____

_x_ recorded by Historic American Engineering Record # UT-3

_x_ See continuation sheet

Primary location of additional data:

_x_ State Historic preservation office

____Other State agency

____Federal agency

____Local government

_x_ University

_x_ Other

Specify repository:

Utah Power and Light Company

Marriott Library, University of Utah

10. Geographical Data

Acreage of property 6.37 acres

UTM References

	Zone	Easting	Northing		Zone	Easting	Northing
A	1/2	4/3/7/1/2/0	4/4/9/7/2/6/0	B	1/2	4/3/7/8/0/0	4/4/9/7/1/7/0
C	1/2	4/3/6/4/4/0	4/4/9/7/1/3/0	D	1/2	4/3/6/3/8/0	4/4/9/7/0/3/0

____See continuation sheet

Verbal Boundary Description

_x_ See continuation sheet

Boundary Justification

_x_ See continuation sheet

11. Form Prepared By

name/title Mark Fiege/Janet Ore, Consulting Historians

organization for Utah Power and Light Co. date November 1988

street & number 144 South 900 East #10 telephone (801) 532-5456

city or town Salt Lake City state Utah zip code 84102

"A Salt Lake City Transmission." The Electrical Engineer 31 (20 May 1896): 525.

Cravath, J.R. "Power Transmission in Utah." Electrical World and Engineer 37 (30 March 1901): 503-508.

Guy, George Heli. "Electrifying Zion: The Big Cottonwood Power Transmission, Salt Lake City, Utah." The Electrical Engineer 20 (11 September 1895): 245-249.

Hardesty, W.P. "The Water Power and Electric Transmission Plant of the Big Cottonwood Power Company." Engineering News 36 (1 October 1896): 220-222.

Utah Historical Society. Stairs Station Historic Photographs.

Utah Power and Light Company, Property Accounting Department. Expenditure Requisition File, Stairs Station.

Utah Power and Light Company. "Utah Light and Traction Company, History of Origin and Development." Unpublished report prepared in connection with Federal Power Commission Request Order dated May 11, 1937.

Verbal Boundary Description:

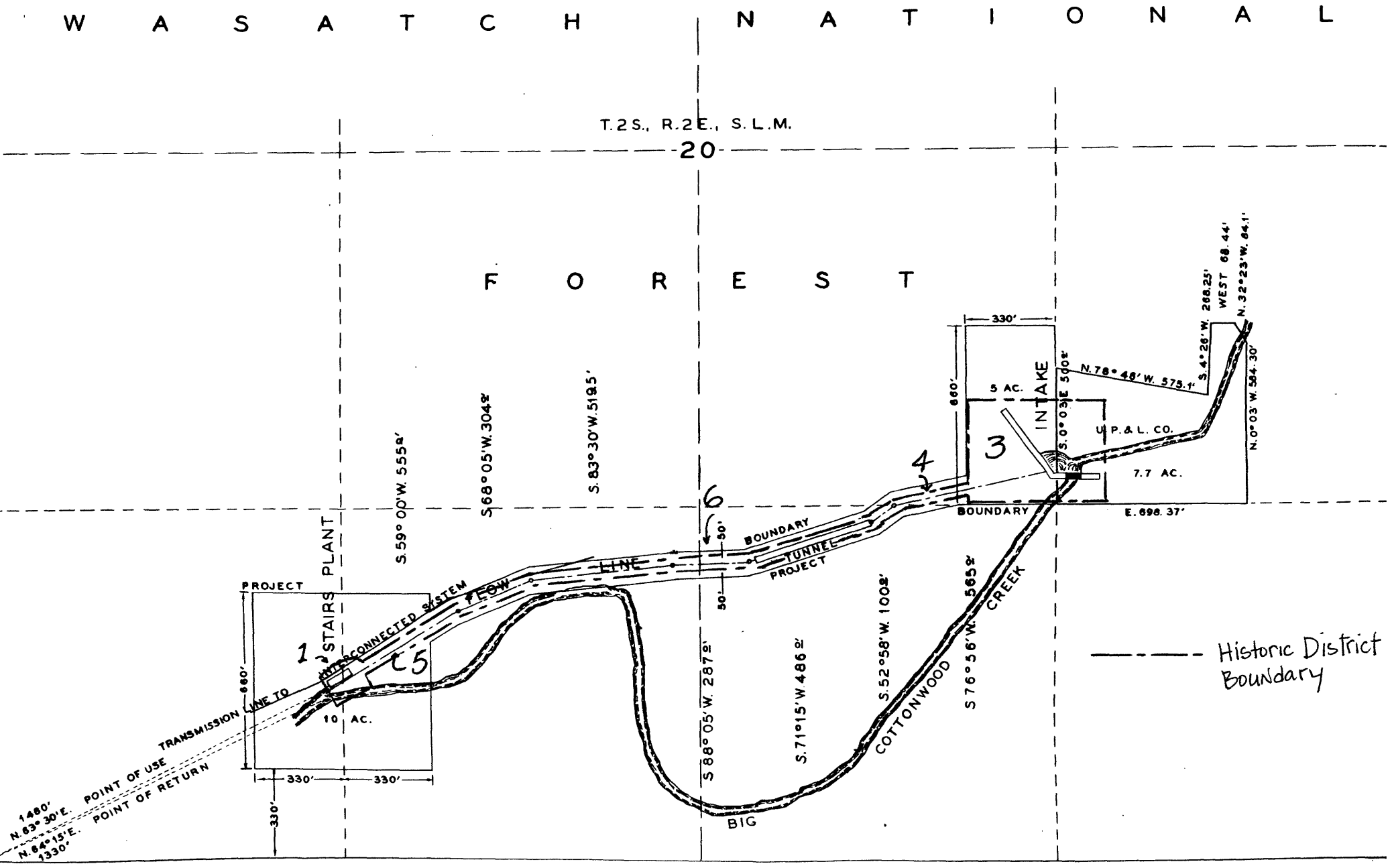
The Stairs Station Hydroelectric Plant Historic District is located in the SW corner of section 20, T3S, R2E, on the USGS topo map labelled Draper, Utah. The Dam component is located on eastern edge of section 20, T3S, R2E, on the USGS Quadrangle labelled Mount Aire, Utah.

The boundaries for the district begin at a point 40 ft. directly NW of the NW corner of the powerhouse which lies at the south edge of State Highway 152. The boundary then follows the south side of the highway 228 ft. to 10 ft. N of the penstock at the south edge of the highway. The boundary extends 10 ft. N of the penstock and conduit the total length of the conduit--2650 ft.--to within 300 ft. of Storm Mountain Dam. The boundary then proceeds directly N for 263 ft. along the FERC project boundary line where it then makes a right angle and travels due E for 525 ft., then makes another 90 degree angle and proceeds due S for 375 ft., then makes another right angle and proceeds due W for 525 ft. At this point, the boundary follows 10 ft. S of the conduit and penstock for 2650 ft. towards the powerhouse. Within 67 ft. E of the powerhouse, the boundary makes a 90 degree angle, proceeds SE for 57 ft., then makes a 90 degree angle and proceeds SW 110 ft. At this point, the boundary makes another 90 degree angle and proceeds 143 ft. to Point of Beginning. Total acreage is 6.37 acres.

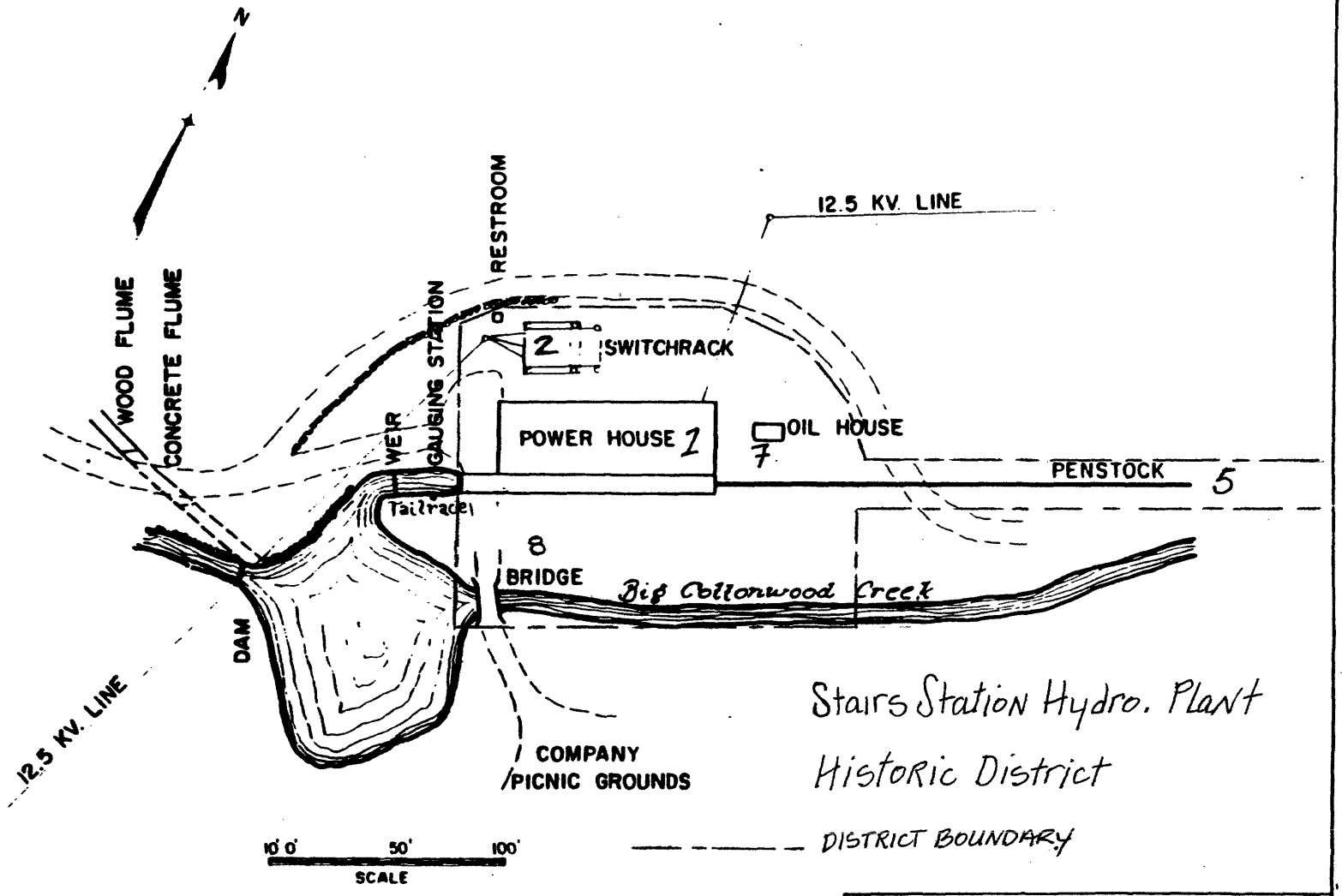
Boundary Justification:

The boundary for Stairs Station Historic District encompasses all of the structures directly associated with the operation of the facility. The boundary encompasses the cleared, engineered ground upon which the powerhouse is situated and which Utah Power and Light uses to operate and maintain the plant. The boundary also encompasses the narrow corridor of ground upon which the penstock and conduit are located. A short portion of the penstock crosses under the highway adjacent to the powerhouse. Even though the penstock is hidden at this point, the rest of the structure is visible. It was decided that the short underground portion of the penstock did warrant excluding the penstock from the district or creating a discontiguous district. Thus the boundary follows the penstock as it runs under the highway and into the plant.

Finally, the boundaries are extended to include the general setting of Storm Mountain Dam, a prominent feature which is situated in a large, open area at the top of the Big Cottonwood Creek cascade known as the Stairs.



Stairs Station Hydro. Plant Historic District



DRAWN BY V R HUGHES
CHECKED BY J.L.T.
CORRECT

APPROVED: J. R. Kunz
CIVIL ENGINEER

STAIRS DEVELOPMENT
GENERAL MAP OF GROUNDS

UTAH POWER & LIGHT COMPANY
SALT LAKE CITY, UTAH

SCALE AS SHOWN DATE 12/02/74

UB-20167

Stairs Station Photograph Log:

Stairs Station Hydroelectric Power Plant Historic District Photos
near Salt Lake City, Utah
Mark T. Fiege, photographer
July 1988
original negatives at Utah SHPO

Photo #:

1. Powerhouse (no. 1), view to southeast, with switchyard on left (no. 2).

2. Powerhouse (no. 1) interior, showing overhead crane, turbine-generator unit, view to east.

3. Storm Mountain Dam (no. 3), view to south.

4. Same, showing spillway, view to northeast.

5. Same, view to north.

6. Penstock (no. 5), view to east.