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NPS FORM 10-900 (Rev. 8-86) OMB No. 1024-0018 [SD-SHPO # ECA-OH-597-1/89]
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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 "NA" 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.

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1. **Name of Property**
historic name: Sioux Falls Light and Power Hydro Electric Plant
other name/site number: Northern States Power (NSP) Building

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2. **Location**
street & number North Weber Avenue / / not for publication
city, town: Sioux Falls / / vicinity
state: SOUTH DAKOTA code: SD county: Minnehaha code:SD 099 zip code: 57104

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3. **Classification**

Ownership of Property:	Category of Property	Number of Resources within Property: Contributing	Noncontributing	
/ / private	/xx/ building(s)	1		buildings
/xx/ public-local	/ / district			sites
/ / public-state	/ / site			structures
/ / public-federal	/ / structure			objects
	/ / object	1	0	Total

Name of related multiple property listing: N/A
Number of contributing resources previously listed in the National Register: 0

Form Prepared by
name/title: Donald A. Seten, with technical assistance from Melissa A Dirr SDSHPO
organization: City of Sioux Falls, Planning Dept. date: November 6, 1992
street & number: 224 West 9th St telephone: 605-339-7130
city or town: Sioux Falls state: SOUTH DAKOTA zip code: 57102

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this / ✓ / 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 / ✓ / meets / / does not meet the National Register criteria. / / See continuation sheet.

Signature of certifying official — Date: 12/17/92

South Dakota SHPO

State or Federal agency or 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 or bureau

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5. National Park Service Certification

I, hereby, certify that this property is:

_____ entered in the National Register
_____ see continuation sheet
_____ determined eligible for the National Register
_____ see continuation sheet
_____ determined not eligible for the National Register
_____ removed from the National Register
_____ other, (explain)_____

Entered in the National Register — Helen M. Bye — 2/3/93

Signature of the Keeper — Date

6. **Function or Use** (enter categories from instructions)

Historic functions:	Current Functions:
INDUSTRY: Water Works	VACANT: Not In Use
(Hydroelectric Power Plant)	

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7. **Description**

Architectural Classification:
(enter categories from instructions)
OTHER:industrial architecture

Materials:
(enter categories from instructions)
foundation CONCRETE
walls STONE: granite
roof OTHER: tar and paper
other

Describe present and historic physical appearance: **/xx/ see continuation sheet**

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8. **Significance**

Certifying official has considered the significance of this property in relation to other properties: / / nationally / / statewide /xx/ locally

Applicable National Register Criteria /xx/A / /B / /C / /D

Criteria Considerations / /A / /B / /C / /D / /E / /F / /G

Areas of Significance (enter from instructions)
Industry

Period of Significance
1908-1913

Significant Dates
1908

Significant Person
N/A

Cultural Affiliation
N/A

Architect/Builder
Braun, E.C.
Engineer for A.M. Byllesby Company

State significance of property, and justify criteria, criteria considerations, and periods of significance noted above /xx/ see continuation sheet

9. **Major Bibliographical References** **/xx/ see continuation sheet**

Previous documentation by 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 # _____
/ / recorded by Historic American Engineering Record # _____

Primary location of additional data:
/xx/ State historic preservation office
/ / Other State agency
/ / Federal agency
/ / Local government
/ / University
/ / Other
Specify repository:
South Dakota State Historical Preservation Center

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10. **Geographical Data**
Acreage of property: less than 1 acre

UTM Reference:

	ZONE	EASTING	NORTHING		ZONE	EASTING	NORTHING
A =	/14/	/684-100/	/4824-990/	B =	/ /	/	/ / /
C =	/ /	/	/ / /	D =	/ /	/	/ / /

Quad: Sioux Falls East Scale: 1:24000

/ / see continuation sheet

Verbal Boundary Description:
The Sioux Falls Light and Power Hydroelectric Plant is located on Lot 4 of the Sioux Falls Light and Power Subdivision; in the northeast 1/4, northwest 1/4 of section 16, township 101 north, range 49 west

/ / see continuation sheet

Boundary Justification:
The nominated property lies within an imaginary rectangle with an easterly boundary ten feet out from the front (east) facade, parallel to and extending the entire length of that facade; and a northerly boundary ten feet from the north facade, parallel to and extending the entire length of that facade, and a westerly boundary ten feet from the exterior face of the rear (west) lower exposed foundation wall, parallel to and extending the entire length of that wall; and a southerly boundary ten feet out from the south facade, parallel to and extending the entire length of that facade.

/ / see continuation sheet

The Sioux Falls Light and Power Hydroelectric Plant, located in Sioux Falls South Dakota, is a one story rectangular stone building with a full basement that abuts the Big Sioux River. The building rests upon a natural Sioux Quartzite outcropping which forms the falls of the river. Rising from a reinforced poured concrete foundation, the main floor towers approximately 40 feet above the river. Outlets for water flowing through the turbines are visible in the concrete foundation at the water line.

The load bearing masonry walls are clad with rusticated random coursed Sioux quartzite blocks. The gable roof is constructed of a concrete slab covered with built up tar and paper. The roof form is un altered, although the materials are replacements installed sometime after 1938. Five galvanized sheet metal ventilators are evenly spaced along the ridge line of the roof.

The building is oriented on a roughly east-west axis, with narrower facades at the gable ends serving as the front and rear elevations. The top of these two gable ends extend above the actual roof line. This gives each end the resemblance of a false front form typical of late 19th century main street retail buildings. The two "false-front" facades, however, differ in architectural ornament.

The front (east) facade appears as a three-bay block-like design that extends above the gable end. The horizontal ridge line is broken by a small triangular jut in the center which resembles a miniature pediment. The four openings present on this facade are blocked off. Large slightly recessed sections of the wall encompass the three bays which include a central door with a circular window above it in the center, and two long rectangular windows on either side. Each recession surrounding the rectangular windows extends up to end in a corbeled step design with the highest step towards the center of the building. The center recession outlines the door and the small circular window above it, and rises once more toform a final step the width of the circular window, which caps the stepped design.

The ridge line of the rear (west) three-bay facade follows the form of the gable roof, but extends approximately 18 inches above the actual roofline. This facade reveals the massive foundation that extends to the river. Rising from the foundation the quartzite facade houses four openings similar to the east elevation. Three large 48 light rectangular windows, and a space for one small round window located directly above the center rectangular one are

present. Many of the small glass window panes are broken and the round window as well as the window closest to the south wall were bricked over in a 1945 renovation project. Three recessed bays surround the windows and form the same geometric stepped design as stated above on the east facade.

The north five bay wall rises from the basement level where the outlets for the water flowing through the turbines can be seen in the concrete foundation. Above this in the main floor, the evenly spaced fenestration which consists of four large 64 light windows, is divided by pilasters running the entire height of the building made of the same Sioux quartzite. The eastern bay of the north wall reveals the ghost of a later addition which has since been removed. Cement block, bricks and Sioux quartzite take the place of the former addition.

The five bay southern elevation has no windows and is divided into five sections by quartzite pilasters which run the entire height of the building. The eastern one-third of this wall also has the ghost of a former addition which has since been removed. This is revealed by a rectangular section of lighter colored stone. Also located on the south facade is a dedication plaque that states "H.M. Byllesby and Co., Engineers, Chicago 1908".

The interior of the building is a single, large open space with exposed iron trusses, and direct basement access. The basement, where the hydroelectric turbines had been housed prior to their removal in 1950, remains flooded with water. Old iron crane rails are located along the north and south walls. Based on the way the crane rails sit in front of the upper portion of some of the windows, they appear to be an interior alteration installed within 12 years of the building's initial construction. This date is derived from photographic evidence.

Presently no outbuildings remain, although there have been a few such structures during the evolution of this power plant. A free standing 220 foot concrete smoke stack, stood along the south side of the building. A brick coal storage shed approximately eight feet by ten feet was built shortly after 1913. At the same time a major brick addition to the east of the original structure was added. This addition housed a steam powered electrical generating plant, as the water flows for the hydroelectric power plant proved to be too capricious and unreliable. A large, long cooling tower building, constructed adjacent to the river in 1941, has since been

demolished. A penstock to carry river water into the hydroelectric plant, which included a tall cylindrical surge tower, is a later alteration that has also been removed.

Alterations affecting the original (and remaining) building have been numerous. These changes, required by increased power demands and new technology and equipment directly affected the evolution of this building. Many of the alterations have been removed, and the overall impact of the alterations on the character of the original structure have not substantially reduced the integrity of its original form, design and appearance.

The largest impact to the building was the construction of the massive steam generating plant addition in 1913. It was attached to the original building's front (east) facade, and also along the eastern one fifth of the north facade. This addition dwarfed the original building. It held two coal cranes, two smoke stacks, a water tower, and was serviced by an elevated rail spur adjacent to the building. It was taller and had a footprint roughly twice as large as the original building. The property was given to the City of Sioux Falls in 1976, and the City removed all improvements to the site in the mid 1980's, leaving the original quartzite building in place.

A small one story addition, about twelve feet by twelve feet, had been on the easterly one fourth of the building's southerly facade. This addition was about five feet lower than the overhanging roof eave of the original building, and originally held the maintenance/blacksmith shop. A small poured concrete basement addition on the west facade and adjacent to the river remains in place. It was constructed to house water pumps associated with the surge tower.

The scars of these additions, both long since removed, are evident on the affected facades. The bottom three-fourths of a large window on the south facade was filled in to accommodate a new iron I-beam lintel which was installed here, with smaller window areas retained above it. Below the I-beam a new doorway was constructed. The stone wall has weathered, and thus colored differently at the portion of the facade that was covered by this addition. The original front doorway, and the three windows on the front facade have all been filled in with brick and covered with a layer of concrete. The original quartzite lintels and quartzite wall forming the rough opening of the window have been retained. The

shape and location of the windows are readily apparent and could be reinstalled without great difficulty.

Other minor impacts to the original wall material are evident on the south facade. Multiple penetrations of the wall for pipes, conduits and flues were made, connecting generating equipment inside the building with large transformers set on the ground outside the building. These penetrations vary in size, but are generally four to six inches in diameter.

The building has been vacant and unused for more than a decade. Neglect and vandalism have had an impact on the building. The large industrial rectangular windows were boarded up from the inside. Individual window lights have been broken out, for the most part by thrown stones. There is no graffiti, however.

The adverse impacts to the building done by weathering are negligible due to the hardness of the native quartzite. This material is so dense and so hard that it is virtually vandal proof, and helps discourage alterations which require removal of the material. The building standing today is what was originally built and intended for use in 1908.

Under Criteria A of the National Register Criteria the Sioux Falls Light and Power Hydroelectric Plant is significant in the area of industry. It represents the modernization of Sioux Falls power sources, and the ever changing need for modern more efficient electricity. The period of significance of the nominated building extends from the date of construction in 1908 to 1913 when domestic electrical power became more popular. Many alterations were made to the building to accommodate greater generation capabilities. The period of significance ends at 1913 because additions added after this time no longer exist. However, the original structure still stands today. Under the South Dakota Historic Preservation Plan the building relates to the following historic context; V. Depression and Rebuilding, B. Evolution of Modern Industrial Structures.

The Plant's materials, design and construction are excellent examples of turn of the century architecture in Sioux Falls. The building is one of the last industrial structures located along the falls of the Big Sioux River, taking advantage of the water power opportunities. The production and distribution of electrical power had a profound impact on the lifestyle of Sioux Falls residents and on the ability of the city to grow through effectively recruiting new industries. The technology of hydroelectric power generation was in its infancy, with engineering knowledge and techniques rapidly growing in sophistication.

Among the many industrial buildings originally clustered in the area of the falls were the Drakes Polishing works, a stone polishing plant and processor of polished petrified wood; The Cascade Mill, a flour milling company that also produced some electrical power for streetlights for a short time; and the Queen Bee Mill, a six story grain and flour mill. The Polishing Works and the Cascade Mill have since been razed. The Queen Bee Mill was gutted by fire, its ruins added to the National Register of Historic Places in 1984. Aside from the ruins of the Mill, the Power Plant is one of the only remaining buildings located at the falls of the Big Sioux River.

A description of electrical power generation and use is helpful in providing a clear understanding of the engineering and technological significance of the sioux Falls Light and Power Hydroelectric Plant. During most of the 19th century, central power plants were capable of producing just a few hundred kilowatts of power. The first large scale electrical generation capabilities

put into service were at Niagra Falls in 1895, which produced 5,000 kilowatts of electricity. The first steam turbine electric generators were introduced in 1904.

Throughout this early period of electrical technology, domestic electricity was not widely used. Various home electrical appliances were demonstrated at Chicago's Columbian Exposition in 1893. Items such as irons, toasters, waffle irons, soldiering irons, and coffee pots were introduced, but were not aggressively marketed for domestic electrical use until A.L. Marsh produced a nickel-chromium alloy in 1906. This alloy helped produce sufficiently durable electric heating elements. The first electric range to make a serious bid for a place in the kitchen was manufactured by Geo. A. Hughes in 1910. Public interest in electric refrigeration for domestic use was not widespread until 1920. Lightweight electrical motors were developed in 1909, finally allowing for such conveniences as vacuum cleaners. Water heaters debuted in 1922, electric clothes dryers in 1933. Fluorescent bulbs were developed in 1938.

Thus the 1908 Sioux Falls Light and Power Hydroelectric Plant was built at a period when electrical generating plants in much of the nation were very small operations, generally using DC currents to power just a few street lights in a limited area. Moderate and large cities typically had a number of these small plants operating in competition with one another, and with the more established gas companies. These companies usually consolidated as the service areas grew in size. The situation was much the same in Sioux Falls until the Light and Power Company arrived with large amounts of capital.

Controversy over electrical power was intense just prior to the arrival of the Sioux Falls Light and Power Company. The city contracted with the Cascade Milling Company for electrical streetlights from 1887 to 1905. In addition, the city had a small municipal plant of its own, constructed in 1901. The Bennett/Sioux Falls Electric Light and Power Company incorporated in 1905, built a power plant at the Drakes Polishing Works site, and submitted a bid in competition with the Cascade Milling Company's proposal to provide electrical power. During September of that year, the city resolved to contract with the Bennett/S.F. Electric Light and Power Company, provided they operate the city plant as well as their own private plant. The city contract with the gas company for street lighting expired in 1906 and was not renewed.

Controversial issues of the time included: whether gas or electric power should be used for street lighting; whether electrical power should be provided by a private company or a municipal power plant; and whether electrical power should be expanded to service homes and businesses as well as street lights. Days after the city's action to choose the Bennett/S.F. Electric Light and Power Company over the Cascade Milling Company, South Dakota's first U.S. Senator, R.F. Pettigrew, began an initiative to place the question of public versus private electric power generation to a public vote. Pettigrew advocated municipal ownership and expansion of the system to include both streetlighting and commercial service. The referendum petition was filed, ended up in Circuit Court where it was ruled that the contract was not subject to referendum, and appealed to the Supreme Court, who on August 2, 1906 sustained the Circuit Court's decision. F.W. Pillsbury, an opponent to the Bennett contract, defeated incumbent George W. Burnside in the next mayoral election in 1906. With numerous newspaper editorials and much publicized complaints regarding the quality of street lighting service, the city rescinded the contract on the basis of poor performance in 1907. A ground swell of support for the municipal power plant began, but the city nonetheless granted a franchise to the Cascade Milling Company to use the streets to erect electric lines.

Into this rather tempestuous situation stepped the newly formed Sioux Falls Light and Power Company, headed by Eugene W. Coughran and backed by Chicago financiers and an impressive $750,000 capital stock. This new company painted a rosy picture of employing wasted water power at the Sioux River to provide plentiful, inexpensive power. This would allow recruitment of tremendous industrial development. They proposed providing a steady year round flow of water by building an impoundment 100 miles north at Lake Poinsett. Business leaders and newspaper editorials, previously supporting a public power plant system, now supported this new private entity. The Sioux Falls Press printed an enthusiastic article on May 21, 1907 quoting Coughran as follows: "We will spend $100,000 in this city between now and the first of the year,...Maybe the [vacant] Queen Bee Mill will be fitted out for small manufacturers,...but one way or another the Queen Bee walls will soon be shaking with the throbbing of machinery whirling within them."

The Sioux Falls Light and Power Company purchased the Queen Bee Mill for its water rights and the Cascade Mill (and thus the Bennett/Sioux Falls Electric Light and Power Company and its power

plant). The city appointed a special committee to study the proposal versus expanding the city power plant, which then recommended contracting with the new company. The city agreed and signed contracts in 1907 with the H.M. Byllesby Co. of Chicago, who set up the local company operating under the Sioux Falls Light and Power Company name and built the dam, tail race and the quartzite hydroelectric power plant building. The company expanded service for commercial, residential and farm purposes in 1911, changed its name to Consumers Power Company in 1914, and later changed its name again to the Northern States Power company. The Company expanded the Hydroelectric plant with the huge steam plant in 1913, and dismantled the Bennett/Cascade plant in 1915.

Controversy continued for a few years, however. George Burnside, an early proponent of municipal power, was again elected mayor in 1909. The contract with the Byllesby/S.F. Light and Power Company was renewed in 1910 and in 1913. The city added power generating equipment to the municipal water plant in 1915, Senator R.F. Pettigrew again spearheaded an effort for municipal ownership of the electrical power system in 1916, and the city did not renew the contract in that year. The city provided its own power and street lighting, despite the election defeat of two bond issues for municipal power plant expansion, also during 1916. The Light and Power Company continued to expand and supply electricity to its private customers. In 1918 the city finally got $300,000 in bonds approved and expanded its power facilities in 1920. The city efforts were extremely effective in controlling the rates charged by the private company, and both Northern States Power and the city provide electricity yet today. The demands for electricity far exceeded safe generating capacity during 1950, however, and arrangements were made in 1922 for Northern States Power to supply electricity for part of the City's requirements.

The role of the Sioux Falls Light and Power Company, in addition to supplying inexpensive power for industrial expansion, was critical to the city's transportation system. The building housed additional electrical generators installed and dedicated solely to operating the city's on-street passenger railway system. Two motor generators totaling 200 kilowatts were added to the hydroelectric plant building in 1910 for the street railway system. Another 300 kilowatt motor generator was added in 1917, again dedicated to street railway operations.

The Sioux Falls Light and Power Hydroelectric Plant shows its

significance through the contributions it made to the city's early development of domestic electric power. Leading the way for greater production capabilities, it spurred the expansion of other electrical companies in the area. This resulted in the Plant's period of significance ending at 1913. Additions and more intense competition took over at this time. The Power Plant is significant under Criterion A and provides a good glimpse at the evolution of electrical power generation in Sioux Falls.

Bragstad, R.E. Sioux Falls in Retrospect. Sioux Falls; Center for Western Studies, 1975.

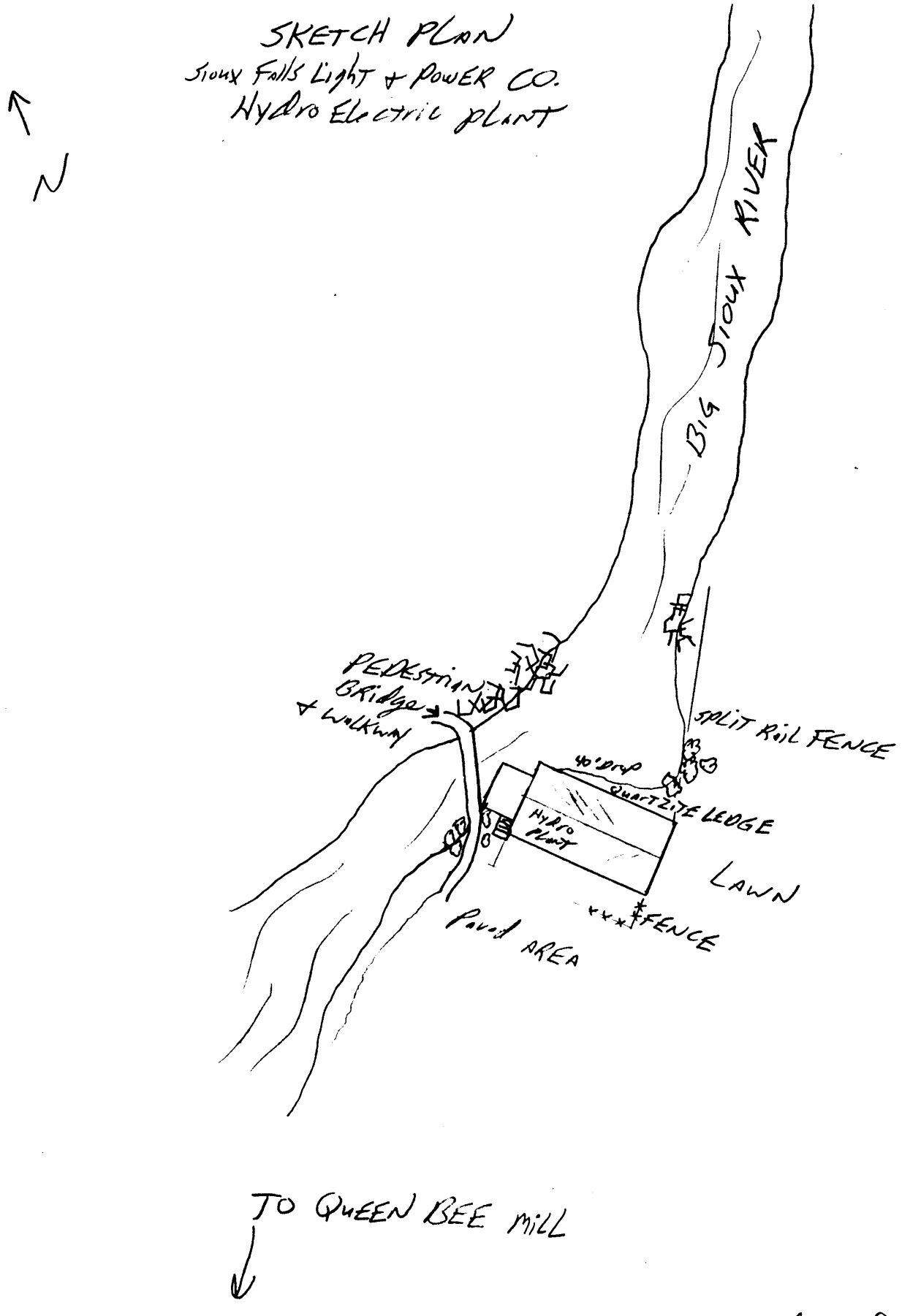
Meyer, H. The Building of the Northern States Power Company. 1957.

Northern States Power Company. Chronological records of maintenance and operations on file with the company, provided by Kenneth L. Heeren, Maintenance Supervisor and District Planning.

Olson, Gary D. and Erik L. Olson. Sioux Falls, South Dakota: A Pictorial History. Norfolk, Virginia: Donning Company, 1985.

"The Story of Light in Sioux Falls," 1941, a WPA Writers Project sponsored by City Commissioner Joseph S. Nelson, cover the period of 1882 to 1918.

SKETCH PLAN
Sioux Falls Light & Power Co.
Hydro Electric plant



Prepared By Don Deter

Sioux Falls Light and Power Co.
Hydro Electric Plant

Floor Plan