

United States Department of the Interior  
National Park Service

## National Register of Historic Places Continuation Sheet

\_\_\_\_\_  
Name of Property

\_\_\_\_\_  
County and State

Section number \_\_\_\_\_ Page \_\_\_\_\_

\_\_\_\_\_  
Name of multiple property listing (if applicable)

### SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 16000165

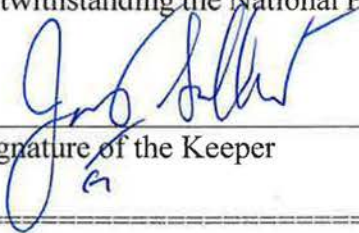
Date Listed: 4/12/2016

Property Name: Norris Hydroelectric Project (TVA Hydroelectric System, 1933-1979 MPS)

County: Anderson

State: TN

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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.

  
\_\_\_\_\_  
Signature of the Keeper

4-13-2016  
Date of Action

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Amended Items in Nomination:

#### Section 3: Level of Significance

This SLR is to clarify the levels of significance for the various areas of significance. The nomination is accepted at the national level in the areas of Architecture, Engineering, Industry, and Conservation.

The property is significant at the state and local levels in the areas of Recreation and Social History.

\_\_\_\_\_  
The TVA FPO and the Tennessee State Historic Preservation Office was notified of this amendment.

#### **DISTRIBUTION:**

**National Register property file**  
**Nominating Authority (without nomination attachment)**

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NAT. REGISTER OF HISTORIC PLACES  
NATIONAL PARK SERVICE

# National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register of Historic Places Registration Form. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.

## 1. Name of Property

Historic name Norris Hydroelectric Project  
Other names/site number Norris Dam  
Name of related multiple property listing Historic Resources of the Tennessee Valley Authority Hydroelectric Project, 1933-1979  
(Enter "N/A" if property is not part of a multiple property listing)

## 2. Location

Street & Number: 300 Powerhouse Way  
City or town: Norris State: TN County: Anderson and Campbell  
Not For Publication:  N/A Vicinity:  N/A Zip: 37828

## 3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, 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. I recommend that this property be considered significant at the following level(s) of significance:

national  statewide  local

Applicable National Register Criteria:  A  B  C  D

Wilbourne P. Winkler Jr., FPO 2/24/16  
Signature of certifying official/Title: \_\_\_\_\_ Date  
Tennessee Valley Authority  
State or Federal agency/bureau or Tribal Government

In my opinion, the property  meets  does not meet the National Register criteria.

Signature of Commenting Official: [Signature] Date 3/9/16  
Title: Deputy State Historic Preservation Officer, Tennessee Historical Commission State of Federal agency/bureau or Tribal Government

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**4. National Park Service Certification**

I hereby certify that this property is:

- entered in the National Register
- determined eligible for the National Register
- determined not eligible for the National Register
- removed from the National Register

other (explain:)

*John Salter*  
 Signature of the Keeper

4.12.2016

Date of Action

**5. Classification**

**Ownership of Property**

(Check as many boxes as apply.)

- Private
- Public – Local
- Public – State
- Public – Federal

**Category of Property**

(Check only **one** box.)

- Building(s)
- District
- Site
- Structure
- Object

**Number of Resources within Property**

(Do not include previously listed resources in the count)

Contributing	Noncontributing	
4	2	buildings
1	0	sites
2	1	structures
0	0	objects
7	3	Total

Number of contributing resources previously listed in the National Register N/A

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**6. Function or Use**

**Historic Functions**

(Enter categories from instructions)

INDUSTRY/PROCESSING/EXTRACTION/  
Energy Facility

RECREATION AND CULTURE/Outdoor  
Recreation

**Current Functions**

(Enter categories from instructions)

INDUSTRY/PROCESSING/EXTRACTION/  
Energy Facility

RECREATION AND CULTURE/Outdoor  
Recreation

**7. Description**

**Architectural Classification**

(Enter categories from instructions.)

MODERN MOVEMENT: Streamlined Moderne

OTHER: Hydroelectric Dam

**Materials:** (enter categories from instructions.)  
Principal exterior materials of the property:

CONCRETE; STEEL; GLASS; ROCK; EARTH;  
PORCELAIN

**Narrative Description**

The Norris Hydroelectric Project was constructed from 1933-1936 by the Tennessee Valley Authority (TVA). The primary purpose for construction of the Norris project was for hydroelectric power and flood control. The project takes its name from Nebraska Senator George Norris (1861-1944), a prominent advocate for public power facilities, rural electrification, and TVA. Located in Anderson and Campbell Counties, Tennessee, the Norris Hydroelectric Project straddles the Clinch River in Norris, Tennessee (2010 population 1,491). It is located in Anderson and Campbell Counties, seventy-nine miles from the mouth of the Clinch River near Kingston. The 265-foot-high Norris Dam has an overall crest length of 1,860 feet. The Norris Dam impounds Norris Reservoir (also called Norris Lake), with nearly 809 miles of shoreline and 33,840 acres of water surface. The reservoir has a total capacity of 2,552,000 acre-feet and a flood control capacity of 1,113,000 acre-feet. Above the dam, the Clinch River extends another 120 some miles into Virginia through rugged terrain in a sparsely populated landscape; Norris Reservoir spans seventy-three miles of the

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river from the dam. The reservoir also covers fifty-six miles of the lower Powell River, which joins the Clinch River ten miles above the dam. Below Norris Dam, the tailwaters are part of the Melton Hill Reservoir (created by the impoundment above TVA's Melton Hill Dam in the 1960s). Norris Hydroelectric Project has two generator units with a net dependable capacity (the daily average power produced minus the electricity used by the dam itself) of 110 megawatts. The town of Norris (NR 7/10/1975), built for the project to house workers, was a TVA planned community with features utilized in other towns across the nation. In 1948, the town was sold to the Epstein Group of Philadelphia, which sold the town in 1953 to the Norris Corporation, formed by Norris residents.<sup>1</sup>

## INVENTORY

Construction of the Norris Hydroelectric Project began October 1, 1933. The facility was put into operation March 4, 1936. The Norris Hydroelectric Project originally consisted of the dam, powerhouse and control building, and switchyard, which are interconnected and integral to one another (*see Photos 1-4*). To the south of the dam is a recreational area consisting of picnic tables, campground, a boat ramp, and restrooms. The recreational area was designed in 1936 as part of the TVA mission.

### **1. Norris Dam, 1933-36 (Contributing Structure)**

The Norris dam is a straight gravity concrete structure for 1,570 feet of its total length, which connects to the hillside via an earth embankment 290 feet in length.<sup>2</sup> The rolled embankment has a reinforced concrete core wall. The maximum height of the dam is 265 feet, from the foundation to top of deck. The maximum thickness is 208 feet. The exposed rock foundation of the dam is at elevation 818, while the roadway atop the dam is at elevation 1,061 feet (*see Photo 5*). The spillway spans the main river channel and has three (3) 100-foot openings at elevation 1,020 (*see Photo 6*). Each opening is equipped with a hydraulically operated steel drum gate. The gates can be raised to any elevation between 1,020 and 1,034 to retain flood peaks. Each drum gate unit consists of a structural steel buoyant drum shaped as a segment of a cylinder with a fifteen-foot radius. The chamber for each drum is recessed in the concrete spillway crest, which has a curved design. When open, the drum gates form a part of the spillway crest. Above the spillway is a concrete-encased steel girder bridge which carries a roadway across the dam. The roadway connects State Route 33 at Halls Crossroads with U.S. Highway 25 at Coal Creek.<sup>3</sup>

Through the base of the dam there are eight outlet conduits for discharge of approximately 36,500 cubic feet per second with the reservoir at elevation 1,020 (non-flood condition). The outlets are arranged in pairs (*see Photo 7*). Each outlet is equipped with two vertical sliding gates, one for service and one for emergency use, located within the dam. These gates are accessed via a gallery within the dam (*see Photo 8*). With water surface at elevation 1,034, discharge capacity is 54,000 cubic feet per second, and an additional discharge of 38,500 cubic feet per second is obtained by use of the eight outlets.<sup>4</sup>

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<sup>1</sup> Tennessee Valley Authority, "Norris Reservoir," webpage, accessed August 5, 2015, <http://www.tva.com/sites/norris.htm>.

<sup>2</sup> Commonly, dam design includes a section that permits the overflow of water from the reservoir (the spillway) and other sections that do not allow the passage of water (non-overflow). Together, these sections contribute to the total length of the dam structure that impounds the reservoir. A gravity type dam is one constructed of concrete or stone and uses the sheer weight of the structure to resist the horizontal pressure of the water pushing against it. Gravity dams are designed in sections that are independently stable.

<sup>3</sup> Tennessee Valley Authority, *The Norris Project: A Comprehensive Report on the Planning, Design, Construction, and Initial Operations of the Tennessee Valley Authority's First Water Control Project*, Technical Report No. 1, (Washington, D.C.: U.S. Government Printing Office, 1940), 71, 88.

<sup>4</sup> *Ibid.*, 71, 87, 93.

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The concrete section of the dam is divided into twenty-eight monoliths with joints vertical and normal to the axis of the dam. The joints allowed for proper shrinkage as heat dissipated from the concrete during construction. On the downstream side of the dam, the channel spillway is confined between two concrete training walls.<sup>5</sup> To the left (east) of the spillway, a watch tower rises above the roadway on the downstream face (*see Photo 9*).

An earth embankment was created on the east side of the river. It is rolled earth fill with a concrete core. Above the original ground line, the core is five feet thick. The earth portion is of clay from pits in the vicinity. Riprap was added to the upstream side of the core, while the downstream fill is protected by lespedeza grass ground cover.<sup>6</sup>

## **2. Powerhouse, 1933-1936 (Contributing Building)**

The powerhouse, located below the eastern section of the dam, is of reinforced concrete, with a substructure on foundation rock and a superstructure with structural steel framework. It is situated immediately adjacent to the downstream face of the dam (*see Photo 10*). The powerhouse measures sixty-nine-and-one-half feet wide and 205 feet in length. The powerhouse has two generator units, each served by its own penstock, twenty feet in diameter. Each penstock is closed by tractor-type gates when not in use. The gates operate under a maximum hydrostatic pressure of 167 feet and cannot be raised unless the penstock is filled with water. Each unit has a vertical-Francis turbine rated at 66,000 horsepower and connected to a generator rated at 56,000 kilovolt-ampere, 13,800 volt, 0.9 power factor and a speed of 1,125 revolutions per minute. The turbines were designed by Newport News Shipping and Dry Dock Company of Virginia. Normal gross head on the turbines is between 129 and 207 feet. The generators were manufactured by Westinghouse Electric and Manufacturing Company (*see Photo 11*). The generator room contains a Harnischfeger, indoor, overhead, traveling crane (*see Photo 12*).<sup>7</sup>

The powerhouse's exterior walls have an appearance of matched-joint, large stacked stone, obtained by using lumber rough-sawed on one face and alternated from horizontal to vertical in adjacent blocks (*see Photo 13*). The window dimensions emphasize the horizontal direction. On the downstream (south) elevation, windows are arranged in banks of eight columns of four rows, divided by concrete pilasters and courses (*see Photo 14*).

The east elevation of the powerhouse has a pair of over-sized aluminum doors, each with three pairs of square lights and a two-square-light transom (*see Photo 15*). These doors open onto the generator overlook mezzanine (Photo 16). At the northeast corner of the main block of the powerhouse is a projecting side bay, recessed from the south elevation wall of the powerhouse, which contains the main lobby entrance. This bay has three aluminum and full-light doors and six fixed lights transoms on south elevation. The lobby has a twenty-five-light fixed window on the east elevation. The interior south wall of the lobby has a mural of the Norris facility with aluminum letting above stating, "1933- BUILT FOR THE PEOPLE OF THE UNITED STATES OF AMERICA – 1936" (*see Photo 8*). The lobby has terrazzo floor, plaster on concrete walls, and a rectangular alcove ceiling. The door to the lobby restrooms are original aluminum and glass (*see Photo 19*). Lobby restrooms have original tile floors and walls; the stalls have been replaced.

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<sup>5</sup> Ibid., 82.

<sup>6</sup> Ibid., 97-98.

<sup>7</sup> Ibid., 71, 101, 105, 106, 126.

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The generator room has tile floors and poured concrete and steel structure walls (*see Photo 20*). Staircases throughout the powerhouse have steel treads and aluminum railing. Office spaces have linoleum flooring and plaster walls and ceilings. Original interior doors are solid metal with a central louvered vent strip and aluminum, vertical rail-type handles (*Photo 21*). The basement level contains the cable tray room, the tunnel to the switchyard, and storage.

### **3. Switchyard, 1933-1936, (Contributing Structure )**

The switchyard is located between the powerhouse and the left (east) bank of the river. The current generated in the powerhouse is conveyed via underground cable tunnels to step-up transformers in the switchyard. A bank of three transformers connects each generator to the 154-kilovolt bus. The transformers are served by a transfer car and a motor-driven lift arranged so that the transformers can be rolled into the generator room for indoor servicing. The transformers were designed by the General Electric Company. They are the typical outdoor type, self-cooled, oil-insulated, with an inert gas seal. Each transformer has one high-voltage bushing of oil-filled porcelain type and two low-voltage bushings of solid porcelain type<sup>8</sup> (*see Photo 22*).

### **4. Visitor Building, 1950 (Contributing Building )**

The 1950 visitor building at Norris replaced the original, Streamlined Moderne-style visitor building. The 1950 design is more typical of mid-century Miesian architecture.<sup>9</sup> The building has a concrete butterfly roof with a wide eave overhang, facade walls of fixed-glass windows, textured concrete exterior walls, exposed steel frame, and panels of small, square tiles in a random-pattern color scheme (*see Photo 23*).

The current mid-century modern-style building can be approached from a walkway leading up from the powerhouse or from street-level parking. The three-bay building has a central open breezeway flanked by enclosed sections with river-side facade walls of four fixed-glass windows and four transom lights above. The building has a concrete, butterfly design roof with a wide eave overhang across the façade and rear elevation. The side elevations have wide central piers of concrete, textured similarly to the exterior walls of the powerhouse. To the rear of these central piers, the exterior walls of the visitor building have exposed steel frame containing sections of small, square tiles, in a random-pattern color scheme. Above the tile sections are asymmetrical clerestory windows. On the parking-lot façade, the exterior walls of the flanking bays have four steel-framed panels with the same tile as on the side elevations (*see Photo 24*). The building was once used as the safety patrol building. In 2010, the building was remodeled as a visitor center and retrofitted with interactive and static exhibits (*see Photo 22*).

## **Maintenance Area – 5 Utility Buildings (numbers 5-9)**

### **5. Office and garage, ca. 1950 (Contributing Building)**

Concrete-block building with an exterior of stucco and a side gable roof of asphalt shingles. The façade (north) has one garage bay opening and a pair of casement windows. The west elevation has two one-over-one, double-hung wood-sash windows (*see Photo 26*).

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<sup>8</sup> Ibid., 131-33.

<sup>9</sup> Named for German-born American architect Mies van der Rohe, this utilitarian, minimalist style utilized modern materials, such as industrial steel and plate glass, and emphasized “less is more” principles, shifting architecture away from extravagant decorative embellishment.

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**6. Flammable storage building, ca. 1950 (Contributing Building)**

Two-bay rectangular building of concrete block construction with a flat roof. The two bays are enclosed with chain-link fence gates.

**7. Equipment shed, ca. 1980 (Non-Contributing Structure)**

Structure has two open-air bays and one enclosed bay with an overhead-track door. The exterior walls have sheet metal siding.

**8. Main office building, ca. 1950, (Non-Contributing Building)**

Concrete block building with side gable roof of asphalt shingles. Façade has an integral porch and six open-air garage bays supported by steel posts. West elevation has four (4) one-over-one double hung aluminum-sash windows. The interior has wood panel walls, concrete floors, hopper wood windows along the rear elevation, and wood exterior doors (*see Photo 27*).

**9. Shed, ca. 1970, (Non-Contributing Building)**

Outbuilding has a gable-front roof and an exterior of corrugated sheet metal siding.

**10. Grounds/Picnic Area, ca. 1955 (Contributing Site)**

Though not original to the reservation, the grounds were developed for public use after World War II. These plans were in accordance with TVA's mission to provide for public visitation to the site. The grounds include sidewalks picnic areas with tables and benches, a canoe launch, and a picnic pavilion structure (*see Photos 28, 29*).



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**8. Statement of Significance**

**Applicable National Register Criteria**

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B Property is associated with the lives of persons significant in our past.
- C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D Property has yielded, or is likely to yield, information important in prehistory or history.

**Criteria Considerations**  
 (Mark "x" in all the boxes that apply.)  
 Property is:

- A Owned by a religious institution or used for religious purposes.
- B removed from its original location.
- C a birthplace or grave.
- D a cemetery.
- E a reconstructed building, object, or structure.
- F a commemorative property.
- G less than 50 years old or achieving significance within the past 50 years.

**Areas of Significance**

(Enter categories from instructions.)

ARCHITECTURE

CONSERVATION

ENGINEERING

INDUSTRY

RECREATION

SOCIAL HISTORY

**Period of Significance**

1933-1965

**Significant Dates**

1933-1936

**Significant Person**

(Complete only if Criterion B is marked above.)

N/A

**Cultural Affiliation**

N/A

**Architect/Builder**

Architect: Tennessee Valley Authority; U.S. Army Corps of Engineers; Roland Wank  
 Builder: Tennessee Valley Authority

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**Statement of Significance Summary Paragraph**

The Norris Hydroelectric Project meets National Register criteria A and C for its historical and architectural significance as an integral part of the Tennessee Valley Authority Hydroelectric Project. Under criterion A, the Norris Hydroelectric Project is significant in the expansion of energy for World War II manufacturing and improvement of quality of life through transmission of electricity, control of seasonal flooding, and creation of public recreational facilities. The Norris Hydroelectric Project was one of twenty-five (25) dam sites constructed by the Tennessee Valley Authority (TVA) for the purpose of generating electrical power from, improving navigation of, and controlling seasonal flooding of the river system of the region. The main objective of the 1933 Tennessee Valley Authority Act was the creation of a continuously navigable nine-foot channel from the mouth of the Tennessee River to Knoxville, as well as flood control, power generation, and public benefits. The Norris Hydroelectric Project was TVA's first completed hydroelectric project. It is significant at the local, state, and national level. For architecture, it is significant for its Streamlined Moderne style, embodying the TVA's mission of progress in its economy of adornment, as well as the industry of the machine age. The progressive ideology extended into conservation, another area of significance; TVA's Norris Hydroelectric Project not only harnessed the energy of the river, but involved reforestation of the land and introduction of progressive farming methods. The project's significance in engineering is reflected in TVA's overall plan for an integrated system of river management through site-specific designs tested on scaled models. The significance of the Norris project in Industry is seen through the increase of household electricity use and in war-related manufacturing. The Norris project is significant in recreation because of the extensive outdoor opportunities it fostered, both on the Norris reservation and through local government. Norris was significant in Social History as a model for planned communities at a time when the federal government sought solutions to urban problems; additionally, the Norris's workers' camp illuminated social and racial disparities between the TVA's ideological model and the local quality of life.

Under criterion C, the Norris Hydroelectric Project is a notable example of the Streamlined Moderne style of the twentieth century. This style is expressed in the design of the dam and the interior and exterior of the powerhouse. Few changes have occurred to the exterior of these structures, and they retain integrity of their original design. The Norris Hydroelectric Project meets the registration requirements set forth in the Multiple Property Documentation Form, "The Historical Resources of the Tennessee Valley Authority Hydroelectric Project. 1933-1979."

**Narrative Statement of Significance**

The Norris Hydroelectric Project takes its name from Nebraska Senator George Norris, who promoted the use of the existing, idle federal munitions base at Muscle Shoals, Alabama, as the foundation of a regional development plan, as well as the development of a power plant at Cove Creek, the present site of the Norris project. During World War I, the federal government had built Wilson Dam and two explosives-manufacturing plants at Muscle Shoals for manufacture of ammunition and explosives for the war effort. Interest in the Cove Creek site dated from as early as 1911, when planners and politicians eyed the Clinch River for large storage projects, specifically for the effect on the Wilson plant downstream. In 1922, Senator Norris noted the importance of flood control potential at Cove Creek in reducing dangerous overflow in the Ohio and Mississippi River valleys. In 1926, the U.S. Army Corps of Engineers produced a report on its

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extensive study of navigation, flood control, and hydroelectric possibilities of the Tennessee River. The report mentioned development of a Cove Creek Reservoir and an estimated cost. A more detailed report followed in 1928, in which there were design recommendations for a dam, powerhouse, barge lift, and spillway.<sup>10</sup>

Several measures before Congress between 1926 and 1930 attempted development at the Cove Creek site. During these years Presidents Calvin Coolidge and Herbert Hoover, respectively, vetoed the bills. However, through President Roosevelt's New Deal programs to revitalize the nation's economy during the Great Depression, Senator Norris found the opportunity to introduce legislation to improve navigation, provide flood control, aid in interstate commerce, reforest the land, and promote general welfare by creating the Tennessee Valley Authority.<sup>11</sup>

TVA was created under President Roosevelt's New Deal program as part of his "First One Hundred Days." Roosevelt envisioned "a corporation clothed with the power of government but possessed of the flexibility and initiative of a private enterprise." To this end, Congress passed the TVA Act on May 18, 1933.<sup>12</sup> The multi-purpose legislation sought to improve navigation and flood control of the Tennessee River, spur agricultural and industrial development in the Tennessee Valley, and provide for national defense via government facilities in the proximity of Muscle Shoals, Alabama (Sec. 1). The act authorized the TVA Corporation to acquire real estate for the construction of dams, reservoirs, power houses, transmission lines, or navigations projects at any point along the Tennessee River and its tributaries (Sec. 4i).<sup>13</sup>

TVA Board of Directors re-named the Cove Creek project as the Norris project, to honor the Senator. TVA signed a contract with the U.S. Bureau of Reclamation on September 15, 1933 under which the latter agency agreed to prepare engineering designs for the dam. Construction began October 1, 1933. The dam's outlet conduits were closed, and the reservoir began filling on March 4, 1936. The water level in the reservoir attained an elevation of 1000 feet, and the first release of water to increase flow for navigation downstream occurred on June 19, 1936. The project's first generator was placed in service on July 28, 1936.<sup>14</sup>

The Norris project required the purchase of approximately 152,000 acres of land in Union, Campbell, Grainger, Anderson, and Claiborne Counties. This area represented thirteen percent of the total land area of these five counties, whose collective population was 95,000 residents in 1930. Self-sufficient agriculture was the predominant livelihood among residents of these counties, which were ninety-seven percent rural. Mining was also important in the region, which produced three million tons of coal in 1929. Persons employed in the negligible manufacturing industry of the area numbered 1,153, or 18.5 percent of workers.

<sup>10</sup> Tennessee Valley Authority, *The Norris Project*, 7-8.

<sup>11</sup> *Ibid.*, 11.

<sup>12</sup> "History of the Tennessee Valley Authority," website, accessed April 16, 2015, [http://www.policyalmanac.org/economic/archive/tva\\_history.shtml](http://www.policyalmanac.org/economic/archive/tva_history.shtml).

<sup>13</sup> Tennessee Valley Authority Act of 1933, website, accessed April 16, 2015 [http://www.policyalmanac.org/economic/archive/tva\\_history.shtml](http://www.policyalmanac.org/economic/archive/tva_history.shtml).

<sup>14</sup> Tennessee Valley Authority, *The Norris Project*, 12.

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Some 3,500 families were affected to some degree by the reservoir; of that number, 2,500 relocated within the five-county area, which suffered a net population loss of five percent due to the project.<sup>15</sup>

Over 800 new homes were built as a result of family relocation in the area immediately surrounding the reservoir. The negative effects of the project were most sharply felt in Union County. More than 1,100 Union County families were directly affected, of which 600 relocated outside the county. This out-migration decreased the county population by twenty-five percent, diminishing tax revenue available for county-provided services. Relocation of families that remained in the county resulted in an increased density from forty-eight to sixty-three per square mile in non-TVA purchase areas.<sup>16</sup> TVA paid an average of fifty-five dollars per acre for the land it acquired, though the land was assessed at an average value of thirteen dollars per acre. Census records reflect an increase of forty-two percent in farm values in the area between 1930 and 1935.

In the course of the project, approximately thirty-nine miles of state highway roads, 278 miles of county highway roads, and eighty-eight miles of principal and tertiary roads were affected in the counties of Claiborne, Campbell, Union, and Grainger in Tennessee. In the re-building of affected roads, TVA agreed to upgrade and improve the relocated sections to modern standards, with better alignment and greater width. In some cases, it was more economical for TVA to purchase isolated farmlands than to build access roads to them. In the project area, seven bridges were constructed (three by TVA and four by the State). The most important bridge constructed as result of the project was the Clinch River Bridge on Highway 33. The 1,915-foot long bridge accounted for \$349,795 of direct construction costs of the total project.<sup>17</sup> The road and bridge improvements provided short-term employment and contributed to an upgrade in local infrastructure, benefitting commerce and quality of life for area residents.

Total land costs for the project amounted to \$8,740,240, which included acquisition by fee or condemnation proceedings, flowage easements, and highway relocation. Direct construction costs, such as labor, materials, equipment, transportation, totaled \$18,584,745. Indirect construction costs, including accounting, timekeeping, office supplies, and police service, came to \$1,741,590. Design and engineering expenditures, which included salaries and expenses of executive engineers, technicians, and inspectors, amounted to \$1,827,494. These amounts plus other categorized costs brought the total project to \$32,209,027.<sup>18</sup>

After World War II the planned recreational facilities were finally completed and included a campground, picnic area and boat launch ramp. A maintenance area was also built to provide upkeep and regular maintenance for the facility and grounds.

Since its construction, the powerhouse has not been significantly altered and retains its original exterior and interior design and detailing. Of particular note is the intact original lobby with its doors, windows, murals, terrazzo floors, and alcove ceiling.

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<sup>15</sup> Ibid., 59-60.

<sup>16</sup> Ibid., 61, 63.

<sup>17</sup> Ibid., 519-21.

<sup>18</sup> Ibid., 612-13.

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## SIGNIFICANCE IN ARCHITECTURE

TVA's hydroelectric projects were designed to embody its mission for social progress. The goals and achievements of these projects - power production, navigation, flood control, malaria prevention, reforestation, and erosion control - reached across the Valley region, penetrating America's social and economic strata. Project architect Roland Wank impressed upon a receptive board of directors that government projects were beholden to their real stockholders, the American taxpayers, and should be open for public viewing. Further, Wank stated that the design of powerhouses should both welcome the public and convey strength in purpose. Thus, TVA powerhouses were designed as massive monoliths with visitor reception areas.<sup>19</sup> A prominently displayed message in every TVA powerhouse would emphasize the project as "Built for the People of the United States of America."

Wank's ideology of a socialist transformation of America informed his architectural design for TVA structures, producing heated debate from the outset of the Norris project. Wank dismissed the Army Corps of Engineers' preliminary neo-classical-style sketches for the Norris project. TVA officials rejected Wank's avant garde tendencies for Norris' residences, which, they insisted, should emulate local tradition. Some at TVA, however, were open to Wank's utilitarian vision for the Norris powerhouse and dam. Chief Engineer Theodore Parker objected to Wank's plan of massing the structures as concrete monoliths. Chairman Arthur Morgan went outside TVA, asking nationally respected architect Albert Kahn to settle the dispute. Kahn, who designed Henry Ford's River Rouge plant, decided in favor of Wank's design.<sup>20</sup> At Norris and other pre-World War II projects, TVA utilized Wank's Streamlined Moderne style, a late version of the Art Deco style popular during the period. Streamlined Moderne was an expression of progress, a particularly important underpinning of the New Deal agenda. Stylistic elements that manifested this ideology include the use of geometric shapes, basic and pure in form, sleek and shiny materials evoking machinery and movement, and restrained décor suggesting an economical design ethic. Streamlined Moderne architecture often emphasized curved forms and horizontal lines, sometime including nautical motifs.

The design of the Norris dam and powerhouse reflects the "modernism" that the TVA architects and engineers strived for in the 1930s and early 1940s. The Norris powerhouse lobby retains original terrazzo and glazed tiles surfaces, sleek, aluminum handrails, glass and aluminum doors to the exterior, and interior doors of metal with narrow rectangular, louvered insets. These elements express the polished minimalism of the Streamlined Moderne architectural style. On the exterior, the powerhouse's block form is modern in its utilitarian simplicity. The massive concrete wall surface is broken into regular blocks with deep seams and banks of glass composed of rows and columns of fixed, aluminum-frame windows. The treatment emphasizes the rectangular form in its repetition and breaks the massive wall into smaller units on a human scale. The dam itself embodies progress, in its engineering and its design. Its massive scale represents the

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<sup>19</sup> North Callahan, *TVA - Bridge Over Troubled Waters: A History of the Tennessee Valley Authority*, Cranbury, NJ: A. S. Barnes and Co., Inc., 1980, 33; and Erwin C. Hargrove, *Pioneers of Myth: The Leadership of the Tennessee Valley Authority, 1933-1990*, Princeton, NJ: Princeton University Press, 1994, 30-33.

<sup>20</sup> Christine Macy, "The Architect's Office of the Tennessee Valley Authority," in *The Tennessee Valley Authority: Design and Persuasion*, Tim Culvahouse, ed., New York: Princeton Architectural Press, 2007, 38, 41.

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immensity of the project, spatially and philosophically. The architectural design of the dam employs smooth surfaces of concrete.

The Norris Dam served as the prototype for the other fifteen hydroelectric projects designed by Wank and his office from 1933 to 1945. The Norris project was widely praised at the time and in later evaluations of its impact on American architecture. Author Walter Creese argued that Norris Dam's "outstanding achievement was in establishing a bold beginning for future cooperation among architecture, engineering and landscape architecture. The dam materialized itself, represented democracy in a noble way, and engaged the attention of many of the best thinkers of the time."<sup>21</sup>

Norris Dam was the centerpiece of a planned landscape. TVA engineers and architects used the natural rural setting as a backdrop, blending Moderne design with wooded hills, flowing creeks, and open lawns to create an experience aimed to impress visitors. The site design intentionally dramatized the visual effect, as the visitor approaches on roads of sweeping curves or winding switchbacks, with glimpses of water, in anticipation of a bold panorama featuring the stunning dam rising above the river and holding back its massive reservoir. Architectural historian Paul Zucker described Norris Dam's simultaneous "clarity of form" and "kinship with nature" as striking as the interior of a cathedral. Landscape architect Phoebe Cutler noted that from TVA's creation and earliest designs, the agency became the "spiritual home" for the nation's growing bank of planners of landscape architecture.<sup>22</sup> The plan of the Norris site offers views from river level, atop the dam itself, and even overlooking the dam, depending on the direction of approach. In this sense, TVA designers kept public visitation a priority, and the experience of visitors today mimics that of the project's earliest visitors.

## SIGNIFICANCE IN CONSERVATION

The far-reaching impacts of the TVA's hydroelectric projects achieved regional and national proportions. TVA's programs are credited with promoting growth, development, and stability of the region. By the 1930s, it was clear that much of the nation's farmland had not been properly managed. Soil erosion was a serious problem on the buffer land TVA acquired surrounding the Norris Reservoir. TVA worked with the Civilian Conservation Corps (CCC) in planting 50 million trees across the TVA region, including at Norris, by 1939, further assisting in soil conservation.<sup>23</sup>

As TVA's first project, Norris served as a testing ground for erosion control techniques and reforestation methods that could be applied at future project sites, as well as on private lands. Some area soils were so deficient, engineering treatment was required before reforestation could take place, while other areas were sufficient for planting beginning in 1934. The Reforestation and Soil Erosion Section of the Forestry

<sup>21</sup> Walter L. Creese, *TVA's Public Planning: The Vision, the Reality*, Knoxville, Tennessee: The University of Tennessee Press, 1990, 182.

<sup>22</sup> Michael Conan, *Environmentalism in Landscape Architecture*, Washington, D.C.: Dumbarton Oaks Research Library and Collection, 2000, 87.

<sup>23</sup> Carroll Van West, *Tennessee's New Deal Landscape*, Knoxville: University of Tennessee Press, 2001, 212-214.

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Division was assigned to concentrate on reseeded and reforested sub-marginal land not suitable for agriculture.

The TVA Forestry Division had test plots at Norris, in order to determine the best mix of tree species for reforestation of the region. The experiment was one of the most carefully designed in the country, as well as the most extensive with over 100,000 trees planted.<sup>24</sup> To provide stock, TVA established a nursery on 147 acres in Clinton, Tennessee, with an annual capacity of twelve million seedlings. Between 1934 and 1938, TVA worked with the United States Forest Service and the CCC to plant 11,899,300 trees (approximately seventy-two percent Pine, twenty-five percent Black Locust, and three percent other varieties) across almost 10,000 acres in 24,380 man-days. Another means of controlling erosion was the installation of nearly 3,000 masonry check dams and 2,187,303 square yards of bank protection. TVA set aside ten forest experimental and demonstration areas on a total of 5,586 acres for conducting various methods of forestry practices.<sup>25</sup>

Hand in hand with land management were efforts to support species important to the local food supply, as well as biodiversity, in the Valley ecosystem. TVA instructed the CCC in the building of fish hatcheries for stocking the Norris Reservoir, especially in large-mouth bass. Under the direction of the United States Bureau of Fisheries, three (3) two-acre ponds were used to grow fry that were transferred to a series of pools around Norris Reservoir. The pools were strategically located where small streams kept levels constant. When the fish attained the appropriate size, they were transferred into the main body of water. Game conservation was also important in the land surrounding Norris Reservoir, with planned game management and refuge areas. These areas were planned with food, shelter, cover, and protection in mind, as well as restricting the introduction of exotic species, in order to perpetuate an indigenous balance of biodiversity. In total, some 10,000 acres in four large tracts were established for game birds and deer, in addition to the study of rehabilitation of flora and fauna.<sup>26</sup>

## SIGNIFICANCE IN ENGINEERING

The Norris Hydroelectric Project is an integral part of the overall engineering design of the TVA system. The dam was built utilizing the most advanced methods of its time. The Norris dam's release provides power to the Melton Hill Hydroelectric Project downstream. Downstream from Melton Hill, the Clinch River merges with the Tennessee River, and the Norris facility becomes integral with the overall TVA system. With its first two projects (Wheeler and Norris), TVA became a leader of landmark civil engineering works of the twentieth century through unprecedented collaboration of many expert individuals in engineering design. Engineers were carefully selected for their previous engineering work as well as a progressive principle. (Many of these early TVA engineers had previous employment with TVA Chairman Arthur Morgan).<sup>27</sup>

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<sup>24</sup> Patricia Bernard Ezzell, *TVA Photography: Thirty Years of Life in the Tennessee Valley*, (Jackson: University Press of Mississippi, 2003), 61.

<sup>25</sup> Tennessee Valley Authority, *The Norris Project*, 549-52.

<sup>26</sup> *Ibid.*, 553, 555.

<sup>27</sup> A.B. Liel, "The Influence of Engineering Organization on Design and Construction Processes at Tennessee Valley Authority Dams of the 1930s," Las Vegas: University of Colorado, n.d.

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Working with the Bureau of Reclamation on these two projects, TVA developed complete designs and specifications that became master plans for large-scale concrete dams across the TVA river system.

In designing the Norris Dam, TVA used model studies to determine hydraulic characteristics and architectural effects of various components, such as the spillway, apron, drum gates, and outlet conduits. The United State Bureau of Reclamation conducted the tests for TVA. Use of a model allowed for study and solution of many engineering problems specific to the site that could not be solved simply mathematically. The model was built on a scale of 1:72 and constructed of steel structural pieces, sheet metal, concrete, and lumber. Topographical features were simulated with concrete, sand, and fine gravel.<sup>28</sup>

Spillway studies were done to determine the characteristics of the stilling pool, calibration of the drum gates, pressures on the drum gates, velocity of discharge, and size of and pressures on the training walls below the spillway. Engineers calculated that a probable maximum discharge of 240,000 cubic feet per second and a fall of 246 feet could create a maximum of 6,700,000 horsepower, forces that had to be made harmless to the foundation of the dam. The possible solutions included one or more of the following: 1.) create a slope that would throw falling water away from the base of the dam; 2.) raise the tailwater level by a secondary dam; 3.) deepen the pool below the dam; and 4.) install various forms of baffles. Studies determined that throwing water away from the dam would still result in scour and collection of debris that would impede flow from the powerhouse; a secondary dam of forty feet in height would be cost prohibitive; baffles of such great size would be required as to be subjected to large impacts from logs. The best solution was to deepen the pool by excavation, thirteen feet below the stream bed level.<sup>29</sup>

The design of the stilling pool had to meet the varied discharge of individual or combined outlet conduits with and without the spillway discharging. Model flows were conducted at seven different discharge rates, between 20,000 and 240,000 cubic feet per second. The slope of the dam's downstream face was also experimented upon, which in turn changed the length of the training walls below the spillway. Calibration of drum gates required studying the effects on the gates at elevations between 1,020 (open) and 1,034 (closed). All of these laboratory tests on a small-scale model were used to determine the most satisfactory final design.<sup>30</sup>

## SIGNIFICANCE IN INDUSTRY

The Norris Hydroelectric Project was completed in 1936, and much of its electricity went to industries essential to the military during World War II. The electricity produced at Norris was transmitted directly to either Oak Ridge or the Aluminum Company of America (ALCOA) at its plants in Blount County. At the nation's peak of war-time activity in 1942, the TVA had completed or was in the process of building twelve

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<sup>28</sup> Ibid., 693.

<sup>29</sup> Ibid., 693, 696-97.

<sup>30</sup> Ibid., 698-703.



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hydroelectric facilities. Of the 12 billion kilowatt hours of energy produced among the TVA system, sixty-six percent was devoted to the war effort.<sup>31</sup>

Norris was one of several dams providing hydroelectric power to the region in the early 1940s and TVA's reliable amounts of electricity was a primary reason for the selection of Oak Ridge as part of the Manhattan Project. An official with the Atomic Energy Commission later said about selecting the site in Tennessee, "But most of all we needed electric power, an enormous amount of electric power to supply the electric-magnetic process involved in producing the atomic bomb. And the Tennessee Valley Authority gave us that."<sup>32</sup> Over the next year, the city of Oak Ridge was created along with the three nuclear production plants code named Y-12, X-10 and K-25. Powered by TVA electricity, these three plants slowly produced the uranium and plutonium necessary for the production of atomic weapons.

The Norris project's contribution to industry was soon evident at the consumer level in use of electricity and purchase of appliances during 1939. In that year, the Norris Hydroelectric Project and three contemporary TVA projects (Wheeler, Pickwick Landing, and Guntersville) caused a sixty-three percent rise in electricity production across TVA's seven-state region. Access to reliable electricity encouraged TVA customers to increase kilowatt usage from 104 kilowatt hours to 113 kilowatt hours per household. Purchases of household appliances totaled \$7,072,000 among TVA customers in 1939 alone.<sup>33</sup>

The Norris project resulted in hundreds of new jobs. The county seat of Clinton almost doubled its population, and the Norris Dam was credited with being "...one of the major turning points which determined the ultimate direction Anderson County's social, economic, and political development would take."<sup>34</sup>

## SIGNIFICANCE IN RECREATION

Following World War II, as middle class American households gained wealth and indoor electricity, a by-product was outdoor leisure time. TVA's contribution to recreational activities is noteworthy. The agency's hydroelectric projects' reservoirs attracted outdoor enthusiasts who enjoyed fishing, boating, camping, and hiking in the environs TVA helped create, re-forest, and conserve.

The relatively short length (seventy miles) of Norris Reservoir belies its potential for recreation. With numerous deep coves and cliffs, the reservoir has over 700 miles of shoreline. During the summer of 1937 after closing the dam, more than 600 privately owned boats were counted on the reservoir; that number doubled by the following summer. While TVA was not authorized to develop recreational facilities, the

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<sup>31</sup> Patricia Bernard Ezzell, "Tennessee Valley Authority in Alabama (TVA)," webpage, accessed April 22, 2015, <http://www.encyclopediaofalabama.org/article/h-2380>.

<sup>32</sup> Don McBride, *TVA and the National Defense*, Knoxville, Tennessee: The Tennessee Valley Authority, 1975, ch. 4 16.

<sup>33</sup> Zella Armstrong, *History of Hamilton County and Chattanooga, Tennessee Volume 2*, Chattanooga: The Lookout Publishing Co. 1931-1940, 196-97.

<sup>34</sup> Katherine B. Hoskins, *Anderson County*, Memphis, Tennessee: Memphis State University Press, 1979, 78.

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agency worked within its purview to guide a unified plan, working with the National Park Service (NPS) and the Civilian Conservation Corps (CCC). Two demonstration parks were developed, as well as a boat harbor. TVA contributed land it had acquired, design, labor, and construction supervision. The demonstration facilities were to serve as a guide for other shoreline line development ventures. These efforts spurred the Tennessee State Legislature to pass an act creating the State Department of Conservation, including a Division of State Parks.<sup>35</sup> This act represented the beginning of a new era of park building and recreational development, boosting commercial tourism in state and local economies.

Tennessee's Division of State Parks moved forward on the development of Norris Park, 3,887 acres along three miles of the south shoreline of the reservoir. Plans for the park included parking areas, shelters, toilets, picnic facilities, drinking fountains, campgrounds, bathhouse, electricity, a lodge, cabins, a riding stable, and an outdoor theater seating 500 people. A separate area was planned for African Americans.<sup>36</sup> Big Ridge State Park, comprising 4,500 acres of land, was planned on an arm of the reservoir that would be dammed so as not to lose water with the seasonal draw-down of the reservoir. The dam was fifty feet in height and 200 feet in length. Cabins in Big Ridge State Park were constructed of selected timber cut during clearing of the reservoir. The installation of the dam created an excellent beach for swimming and wading. The park also had a small riding stable. During 1937, some 50,000 people visited the park.<sup>37</sup>

A demonstration park at TVA-owned land near the town of Caryville in Campbell County was also planned. It was to be developed by the NPS and the CCC. This park would be operated by the Tennessee Department of Conservation and serve as model recreational facility. The philosophy and implementation of planning models was an important aspect of the entire Norris project, including the planned town of Norris.

## SIGNIFICANCE IN SOCIAL HISTORY

TVA's Norris project helped create new employment opportunities in a rural, isolated area and also provided instruction to farmers on improving soil and developing long-term farming practices. As TVA's first of twenty-five hydroelectric projects, the Norris plan served as a prototype for protocol regarding family relocation and grave removals, powerhouse and dam design, assistance to local government planning, and recreational development. TVA officials saw in their projects an opportunity to affect a new architecture in the design of both the plant facilities and employee housing. TVA's first chairman, Arthur E. Morgan, elaborated his vision of TVA as a social laboratory in a 1933 nationwide radio broadcast, stating that "TVA is established in an effort to bring about orderly wholesome development of economic and social life."<sup>38</sup> Morgan saw TVA as the architect of social remedy to unemployment and urban blight. TVA officials believed the agency was a tool of progressivism through public planning, stating that the Norris project would create a decent environment through modest means. Many of the architectural designs and community plans implemented at Norris manifested TVA's progressive mission and served as models for future projects.

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<sup>35</sup> Tennessee Valley Authority, *The Norris Project*, 556-57.

<sup>36</sup> *Ibid.*, 558-59.

<sup>37</sup> *Ibid.*, 559-561.

<sup>38</sup> Callahan, 30-31.

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Through planning, TVA would avoid the vice-ridden pitfalls of work towns, whose typical accommodations consisted of temporary, sub-par workers' housing. To that end, the Norris Project included structures and sites for wholesome leisure activities including outdoor sports, carefully selected movies, and a library stocked with informative periodicals. Night classes were also available in academic and vocational courses.<sup>39</sup> While typical construction camps of the period located workers' dormitories away from permanent housing, the Norris plan grouped all residence types, aiming to achieve a unified community spirit. TVA envisioned Norris as a model for future projects, in its hydroelectric structures and its workers' camp. Dormitory and community buildings at Norris did become models used again at other TVA projects. Yet the idealized town, with model houses featuring experimental materials and electrical and heating installations, created a setting unlike Norris' predecessor (Wheeler) and TVA subsequent workers' camps. The upscale design models illuminated the inherent difficulty in housing low-income employees, separating Norris from the native residents, economically, physically, and sociologically.<sup>40</sup>

At Norris, TVA interviewed the occupants of 2,841 local households during the summer of 1934. Data from detailed questionnaires provided the basis for assisting in the relocation of affected families and for future TVA planning purposes. Compared to the overall demographics of Tennessee, as a group, the residents of the reservoir area had a higher landowner rate, with a ratio of approximately two-thirds owners to one-third tenants. More than one-third of the tenants received some form of welfare or relief in 1933 or 1934. Over fifty three percent of owned land was valued between \$1,000 and \$3,900, with nearly equal percentages valued at under \$1000 as at \$4,000 or over.<sup>41</sup>

The Norris project was completed with force account, meaning TVA hired its own labor rather than contracting the job to private firms with their own employees. TVA officials felt hiring its own labor force directly would better serve the local community. As with later TVA projects, the Norris project was intended to alleviate unemployment as extensively as possible. To that end, TVA hired part-time labor in several shifts, rather than hiring strictly full-time employees. This plan included four (4) five-and-one-half-hour shifts and three (3) eight-hour shifts. Between September 1933 and March 1938, the Norris project employed an average 912 workers annually.<sup>42</sup>

There are discrepancies in the historical record regarding the employment of African Americans at Norris. Subsequent TVA projects did report the construction of segregated single-family housing, dorms, cafeterias, and community buildings for African-American workers. The Norris project report lacks any mention of "Negro" facilities, typical of other reports, suggesting a homogenous workforce. Other accounts state that TVA did, in fact, quietly hire a number of African Americans at a ratio reflecting the local demographics.

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<sup>39</sup> Tennessee Valley Authority, *The Norris Project*, 30-33.

<sup>40</sup> *Ibid.*, 174-75, 178.

<sup>41</sup> *Ibid.*, 65.

<sup>42</sup> *Ibid.*, 333, 335.

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This claim of twenty percent at Norris,<sup>43</sup> however, would have far exceeded that of the local population, where fewer than six families among the nearly 3,000 affected were African American.<sup>44</sup>

In most ways, the Norris reservation represented a stark contrast to local conditions. The five-county area of the reservoir was ninety-seven percent rural. Most residents subsisted through farming off their own land, with no surplus for sale. Less than twenty percent of the working population earned an income via mining, a dangerous, unhealthful livelihood. Few manufacturing opportunities existed. Displacement of merely 1,000 residents turned one county's tax revenue upside down. The collective population (95,000) of the five-county area in 1930 did not even approach that of the nearest metropolis of Knoxville, with over 105,000 residents at the time. The sparse demographics accentuated the isolation of the native population, socially and economically. The Norris project did not connect with the indigenous regional community. Upon completion of the project, construction workers were transferred to other TVA projects, and the town of Norris was inhabited by federal forestry personnel, TVA powerhouse employees, and scientists commuting to the Atomic Energy Commission in Oak Ridge.<sup>45</sup>

Arthur E. Morgan's progressive vision of TVA fit with New Deal ideology, wherein planning was considered a force against market failure. Articulation and coalescence of this idealism proved elusive. Norris attempted to fit workers into a static model. Yet, blueprints could not convey the organic experience of town building. Morgan envisioned the planned town fostering small business and agricultural pursuits.<sup>46</sup> In reality, Norris was but a bedroom community for TVA employees. The town could not sustain itself fiscally, requiring regular financing for operational support. Congress was eager for TVA to divest itself of the town, but the housing stock became useful for workers at Oak Ridge during World War II. Finally in 1948, Congress insisted that the town of Norris sustain itself or be cut loose from TVA and Philadelphia investors purchased Norris for \$2.1 million.<sup>47</sup>

## Summary

The Norris Hydroelectric Project was one of twenty-five (25) constructed by the Tennessee Valley Authority (TVA) for the purpose of generating electrical power from, improving navigation of, and controlling seasonal flooding of the river system of the region. The project brought construction jobs and later electricity to the rural area. The Norris Hydroelectric Project brought new opportunities to and spurred economic development in the surrounding counties. The Norris facility is an important component in the vast TVA system of flood control and power generating, as well as contributing to management of river navigation.

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<sup>43</sup> Callahan, 33.

<sup>44</sup> Tennessee Valley Authority, *The Norris Project*, 65. Further, it did not appear to be TVA's set policy to hire proportionally along racial lines. For the contemporary Wheeler Hydroelectric Project, the report booklet quantifies a fifty percent black population among reservoir families, with an inequitable twenty-percent African-American dormitory capacity.

<sup>45</sup> Callahan, 34-35.

<sup>46</sup> Hargrove, 30, 38.

<sup>47</sup> Patricia Bernard Ezzell, "Norris", Tennessee Encyclopedia of History and Culture webpage, website, accessed August 11, 2015, <http://tennesseencyclopedia.net/entry.php?rec=1001>.

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The Norris Hydroelectric Project retains much of its integrity from its original design in the 1930s and later improvements in following decades. The dam and powerhouse control building have not been significantly altered, and the control building displays its original Streamlined Moderne design in its exterior and interior detailing. The project continues to be an integral part of the TVA system. The Norris Hydroelectric Project meets the registration requirements set forth in the Multiple Property Documentation Form (MPDF), "Historical Resources of the Tennessee Valley Authority Hydroelectric Project, 1933-1979," and this MPDF contains additional contextual information concerning TVA and its hydroelectric system.

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[http://www.policyalmanac.org/economic/archive/tva\\_history.shtml](http://www.policyalmanac.org/economic/archive/tva_history.shtml).

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Previous documentation on file (NPS):		Primary location of additional data:	
<input checked="" type="checkbox"/>	preliminary determination of individual listing (36 CFR 67 has been requested)	<input checked="" type="checkbox"/>	State Historic Preservation Office
<input type="checkbox"/>	previously listed in the National Register	<input type="checkbox"/>	Other State agency
<input checked="" type="checkbox"/>	previously determined eligible by the National Register	<input checked="" type="checkbox"/>	Federal agency
<input type="checkbox"/>	designated a National Historic Landmark	<input type="checkbox"/>	Local government
<input type="checkbox"/>	recorded by Historic American Buildings Survey #	<input type="checkbox"/>	University
<input type="checkbox"/>	recorded by Historic American Engineering Record #	<input type="checkbox"/>	Other
<input type="checkbox"/>	recorded by Historic American Landscape Survey #	Name of repository: Tennessee Valley Authority Knoxville, TN	
Historic Resources Survey Number (if assigned):			

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**10. Geographical Data**

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**Acreege of Property** 128 acres **USGS Quadrangle** Norris 137 NE

**Latitude/Longitude Coordinates**

Datum if other than WGS84:

(enter coordinates to 6 decimal places)

A. Latitude: 36.227360	Longitude: -84.099581
B. Latitude: 36.227487	Longitude: -84.082462
C. Latitude: 36.218748	Longitude: -84.099695
D. Latitude: 36.210510	Longitude: -84.082462

**Verbal Boundary Description**

The boundary for the Norris Hydroelectric Project is depicted as a dashed line on the accompanying site plan map (below, in Section 11). It is drawn at a scale of 1" = 200'. The boundary includes property to encompass the adjacent recreational facilities as well as the immediate environs of the dam and powerhouse. The boundary omits buildings located to the southeast of the hydroelectric facility which were built after 1979.

**Boundary Justification**

The boundary includes all facilities necessary for the operation of the hydroelectric project and/or associated with the mission of TVA, which includes power generation, navigation, and public recreation. The boundary omits other TVA lands not directly associated with hydroelectric production.

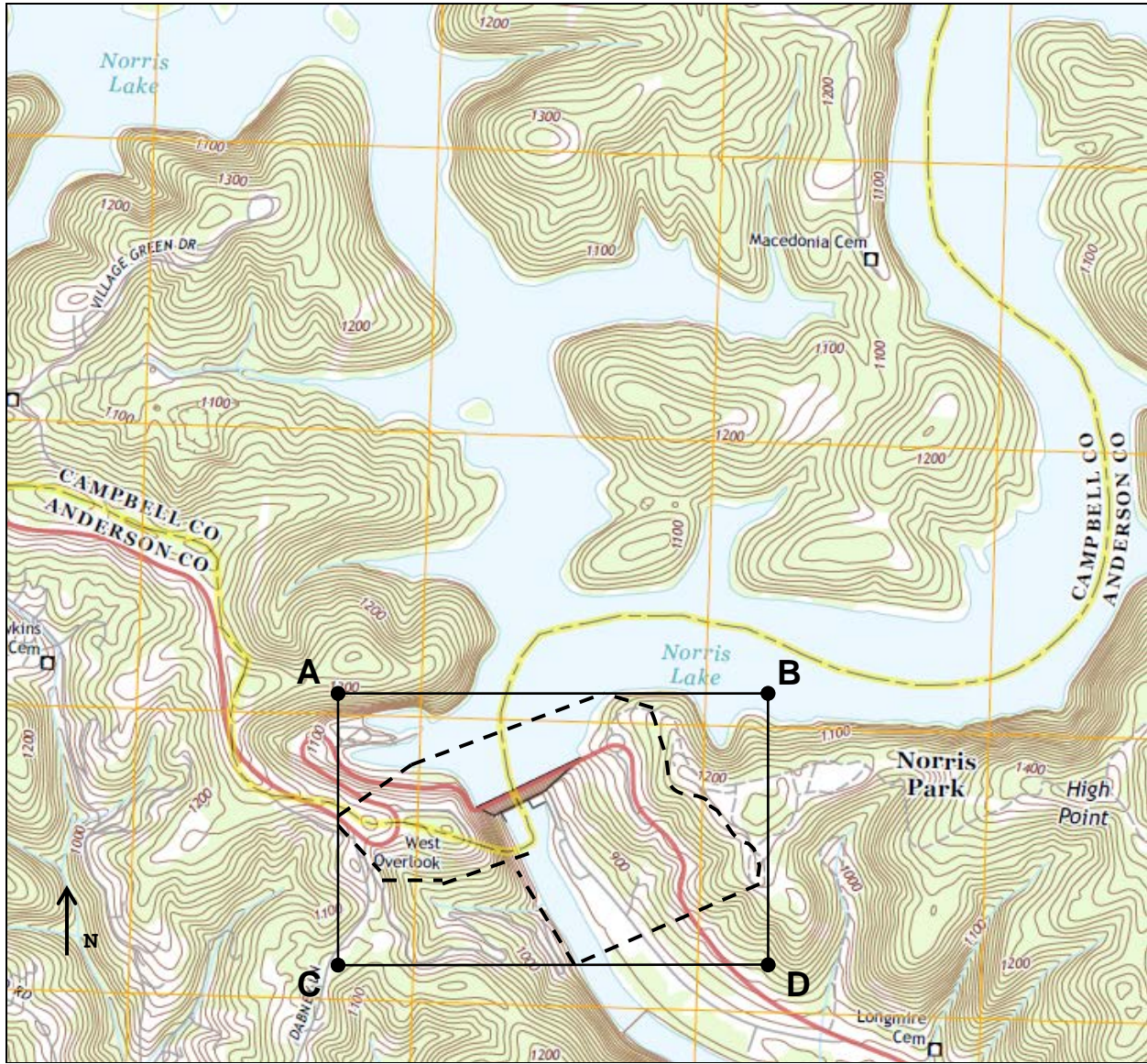


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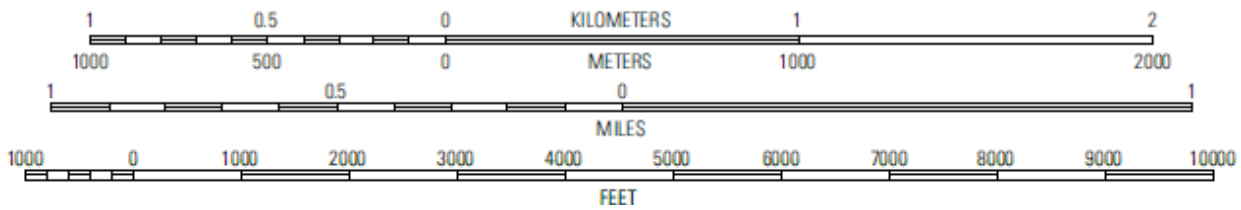
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USGS Topographical Map – Norris, revision 2013



SCALE 1:24 000

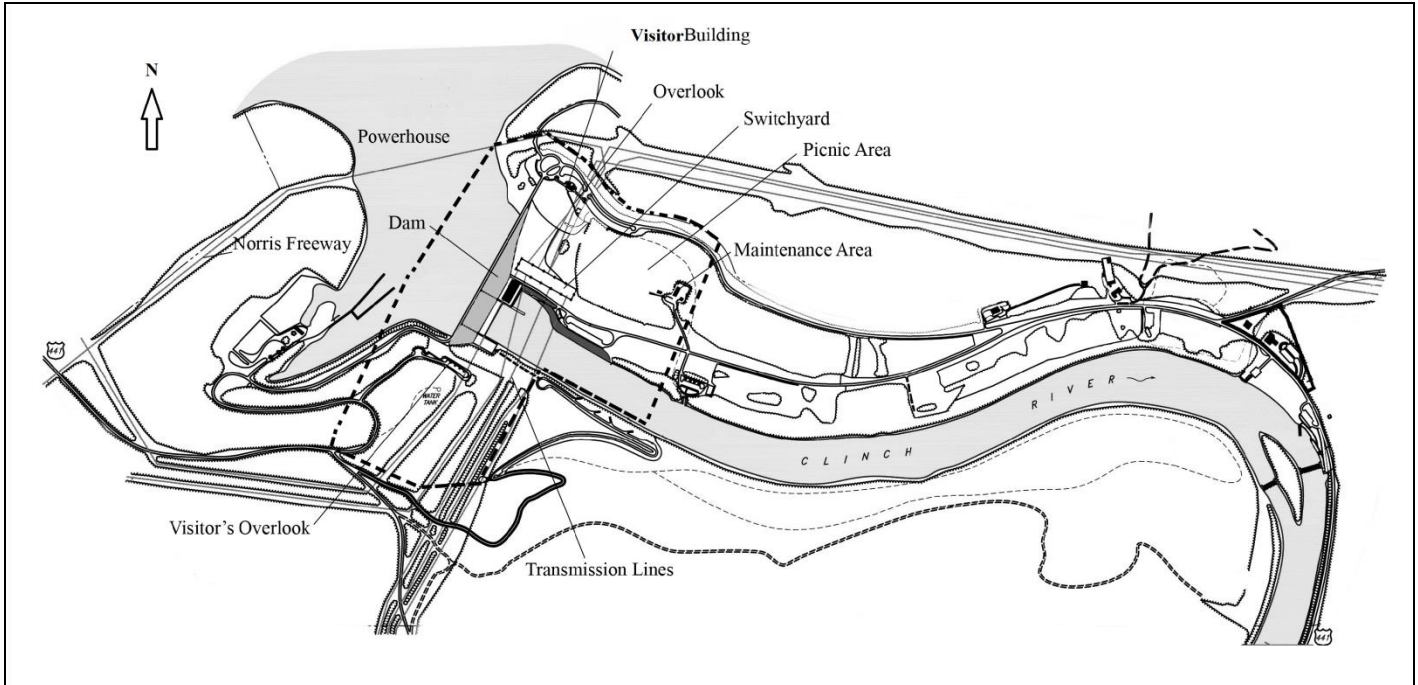


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Name of Property

**SITE PLAN**



<p><b>Norris Hydroelectric Project</b></p>	<p>Legend National Register Boundary: - - - - -</p>	<p>Map Scale: 1"=200' NORTH</p>
--	---	-------------------------------------

(see accompanying 11x17 map)

Norris Hydroelectric Project

Anderson & Campbell  
Counties, Tennessee  
County and State

Name of Property

**11. Form Prepared By**

Name Andra Kowalczyk; Phil Thomason

Organization Thomason and Associates

Street & Number P.O. Box 121225

Date November 16, 2015

City or Town Nashville

Telephone 615-385-4960

E-mail thomason@bellsouth.net

State TN Zip Code 37212

**Additional Documentation**

Submit the following items with the completed form:

- **Maps:** A **USGS map** or equivalent (7.5 or 15 minute series) indicating the property's location.
- **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to map.
- **Photographs** (refer to Tennessee Historical Commission National Register *Photo Policy* for submittal of digital images and prints)
- **Additional items:** (additional supporting documentation including historic photographs, historic maps, etc. should be included on a Continuation Sheet following the photographic log and sketch maps)

**Paperwork Reduction Act Statement:** This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).

**Estimated Burden Statement:** Public reporting burden for this form is estimated to average 100 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management, U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

Norris Hydroelectric Project

Anderson & Campbell  
Counties, Tennessee  
County and State

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Name of Property

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**Photo Log**

Name of Property: Norris Hydroelectric Project

City or Vicinity: Norris

County: Anderson and Campbell Counties State: Tennessee

Photographer: Philip Thomason

Date Photographed: July 22, 2015

- Photo 1 of 30. Powerhouse and dam, view to northwest.
- Photo 2 of 30. General view of dam, powerhouse, and spillway, view to northwest.
- Photo 3 of 30. Dam, switchyard, and visitor building from overlook, view to northeast.
- Photo 4 of 30. Dam and powerhouse from overlook, view to north.
- Photo 5 of 30. Roadway on top of dam, view to southwest.
- Photo 6 of 30. Dam from visitor parking, view to west.
- Photo 7 of 30. South side of dam, view to northwest.
- Photo 8 of 30. Interior, dam gallery to sluice gates.
- Photo 9 of 30. Dam tower from roadway, view to southwest.
- Photo 10 of 30. Powerhouse, southeast elevation, view to northwest.
- Photo 11 of 30. Powerhouse interior, generator room, Unit 1.
- Photo 12 of 30. Powerhouse interior, crane above generator room.
- Photo 13 of 30. Powerhouse exterior concrete detail.
- Photo 14 of 30. Powerhouse southeast elevation, view to southwest.
- Photo 15 of 30. Powerhouse east elevation entrance, view to south.
- Photo 16 of 30. Powerhouse interior, generator mezzanine, view to southwest.
- Photo 17 of 30. Powerhouse visitor lobby wing on east elevation, view to northwest.
- Photo 18 of 30. Powerhouse lobby interior, south elevation.
- Photo 19 of 30. Powerhouse lobby interior, west elevation.

Norris Hydroelectric Project

Anderson & Campbell  
Counties, Tennessee  
County and State

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Name of Property

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County and State

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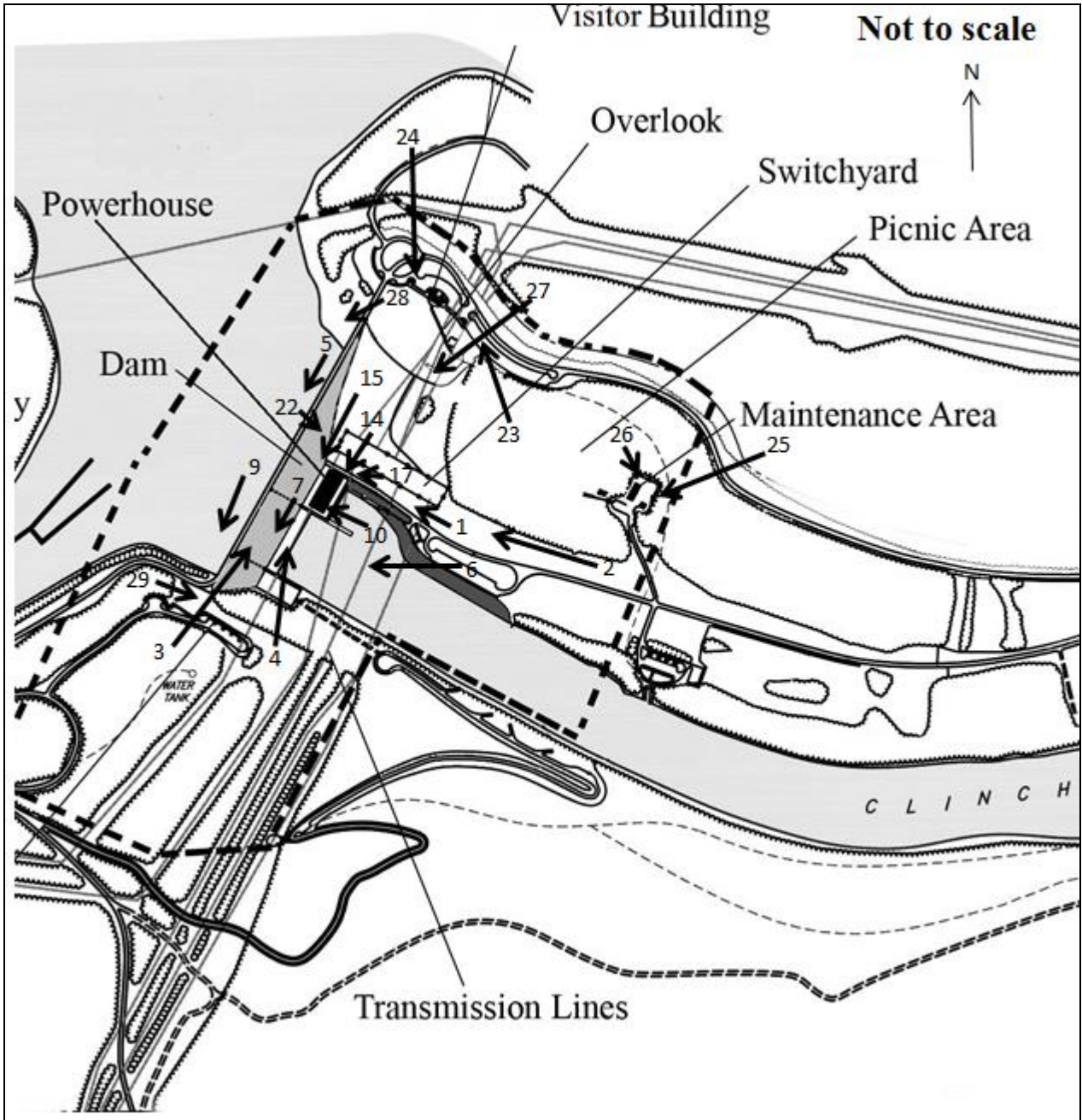
- Photo 20 of 30. Powerhouse interior, generator ground floor, view to northeast.
- Photo 21 of 30. Powerhouse interior, lobby women's restroom interior door.
- Photo 22 of 30. Switchyard from powerhouse, view to southeast.
- Photo 23 of 30. Visitor building, southeast elevation, view to northwest.
- Photo 24 of 30. Visitor building, northeast elevation, view to southeast.
- Photo 25 of 30. Interior of Visitor Building
- Photo 26 of 30. Maintenance main building, view to southwest.
- Photo 27 of 30. Maintenance office and garage, view to south.
- Photo 28 of 30. Picnic area by visitor center, view to southwest.
- Photo 29 of 30. Northeast entrance of roadway across dam, concrete bench, view to southwest.
- Photo 30 of 30. Visitor overlook at south end of dam, view to southeast.
- .

Norris Hydroelectric Project

Anderson & Campbell  
Counties, Tennessee  
County and State

Name of Property

**SITE PLAN WITH PHOTO KEY**



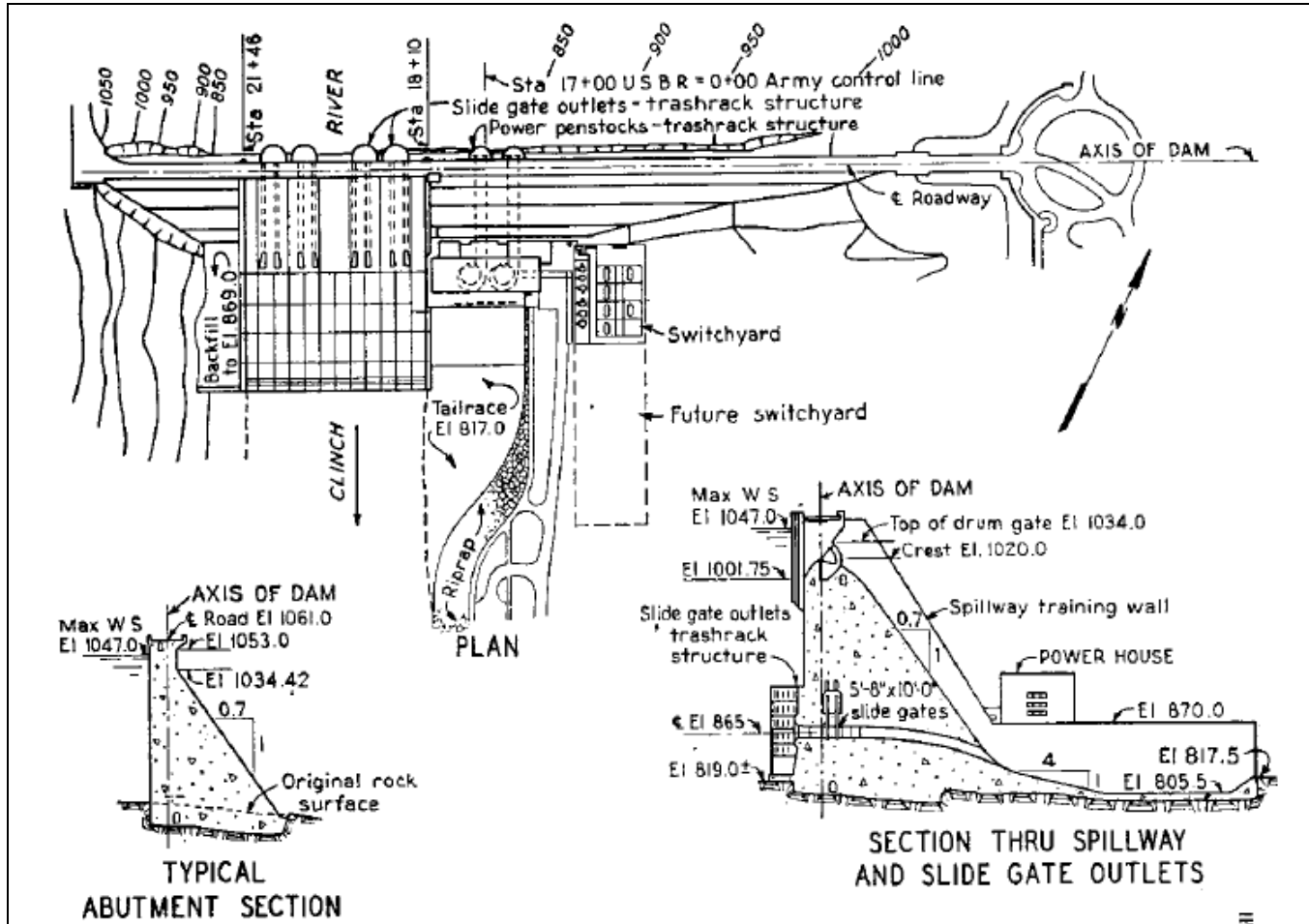
*(Interior photos not marked - Powerhouse Interior-Photos 11-13, 16, 18-21 and Dam Interior-Photo 8)*

Norris Hydroelectric Project

Anderson & Campbell  
 Counties, Tennessee  
 County and State

Name of Property

**Plan and section of Norris Hydroelectric Project.**

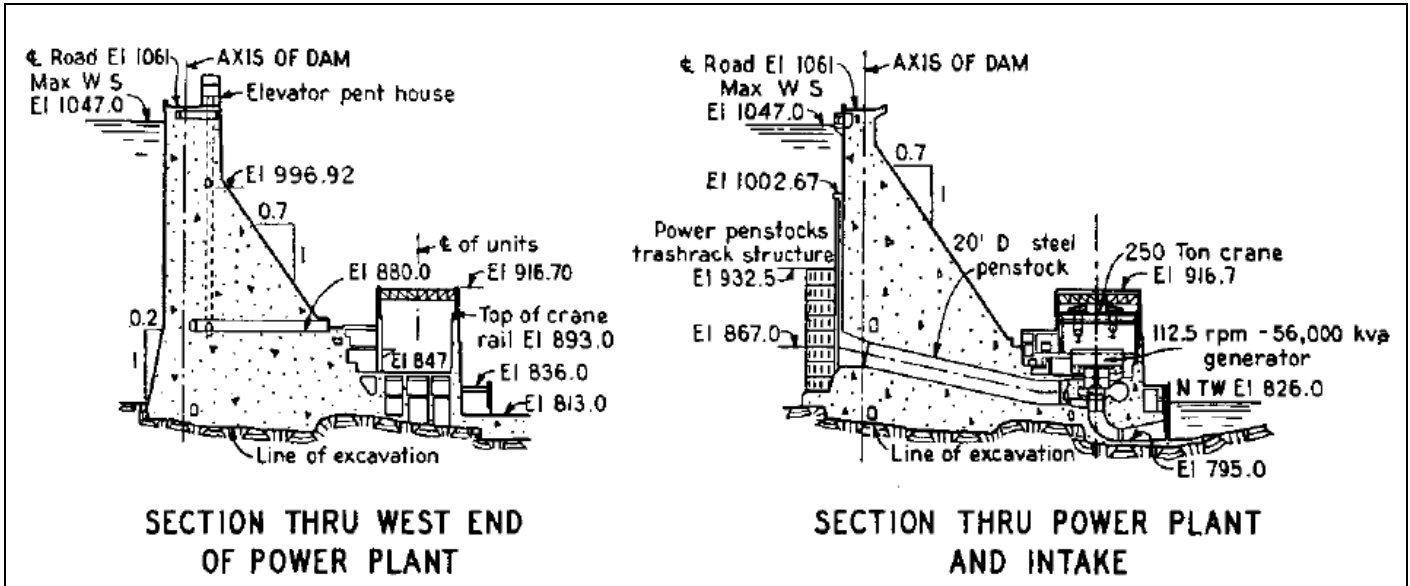


Norris Hydroelectric Project

Anderson & Campbell  
Counties, Tennessee  
County and State

Name of Property

**Cross sections through powerhouse**



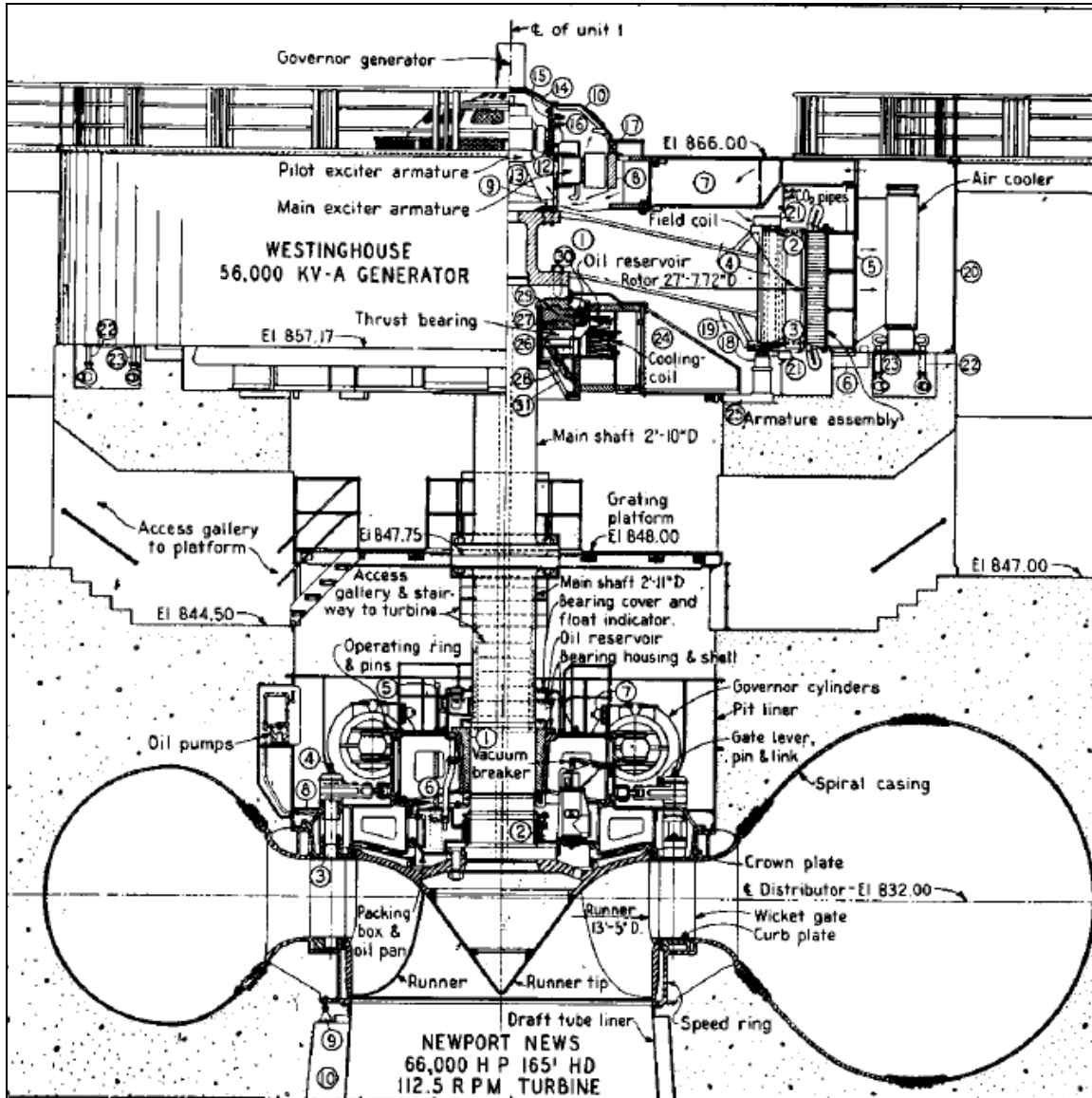


Norris Hydroelectric Project

Anderson & Campbell  
 Counties, Tennessee  
 County and State

Name of Property

Section through generator and turbine.



DESCRIPTION OF PARTS

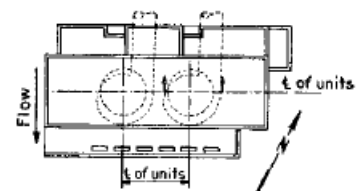
GENERATOR

- ① Spider
- ② " upper end plate
- ③ " lower " "
- ④ " rim " "
- ⑤ " rim punching
- ⑥ Frame
- ⑦ " sole plate
- ⑧ Upper bracket
- ⑨ Main exciter frame
- ⑩ " " shaft
- ⑪ " " support
- ⑫ " " W.A.F.
- ⑬ Pilot exciter frame
- ⑭ " " shaft
- ⑮ " " support
- ⑯ " " W.A.F.
- ⑰ Collector

- ⑱ Platform
- ⑲ Brake
- ⑳ " rim
- ㉑ Air housing
- ㉒ blowers
- ㉓ Water inlet
- ㉔ " outlet
- ㉕ Lower bracket
- ㉖ " sole plate
- ㉗ Thrust bearing shoe
- ㉘ " " runner
- ㉙ " " support
- ㉚ Guide bearing runner
- ㉛ " " shoe
- ㉜ Oil pot

TURBINE

- ① Guide bearing
- ② Packing
- ③ Gate stem
- ④ Alemite connection
- ⑤ Oil level indicator
- ⑥ Oil overflow
- ⑦ Governor cylinder
- ⑧ check valve
- ⑨ floor plate
- ⑩ Leveling jacks
- ⑪ " " pedestals

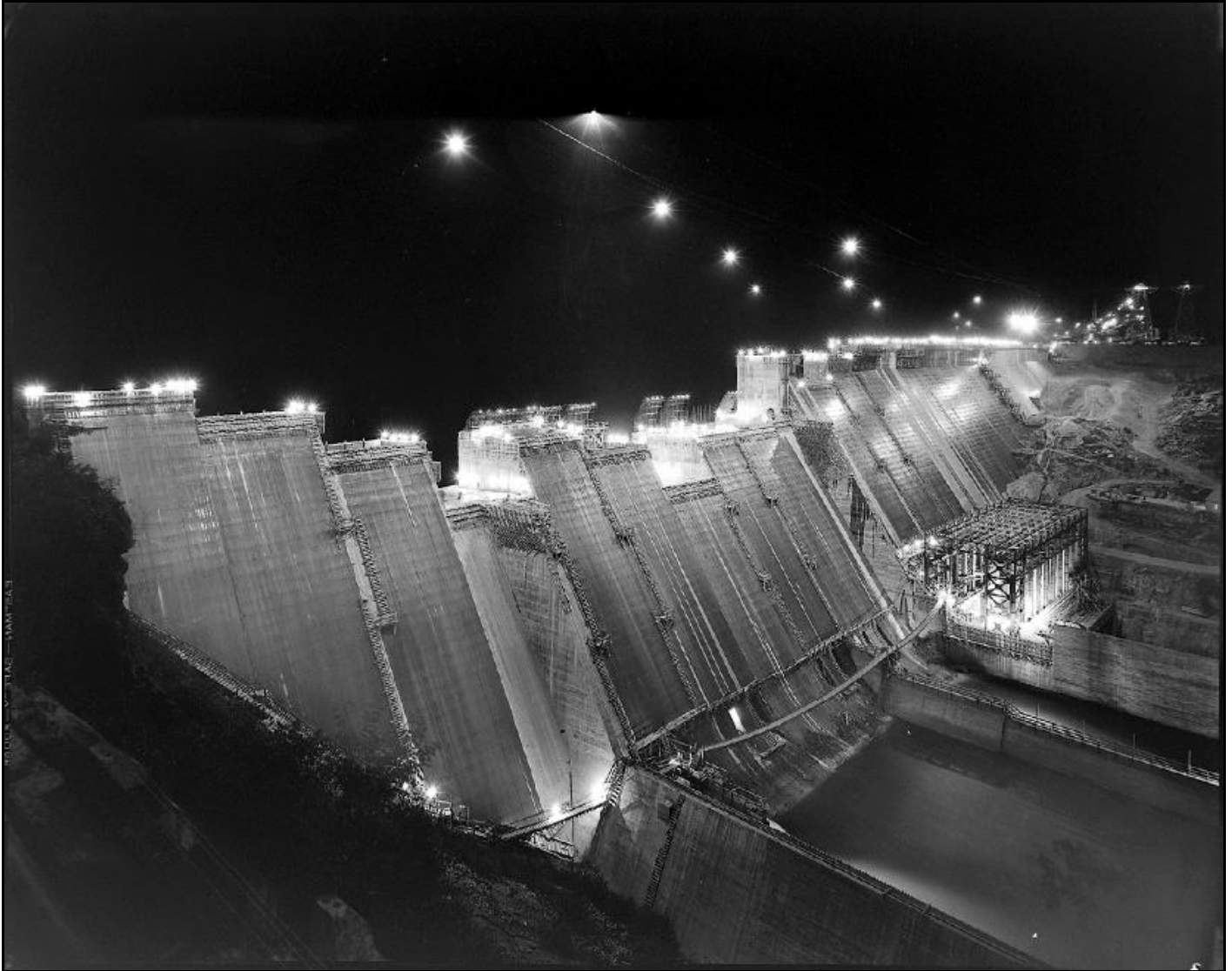


United States Department of the Interior  
National Park Service

**National Register of Historic Places  
Continuation Sheet**

Section number Figures Page 33

Norris Hydroelectric Project
----- Name of Property
Anderson & Campbell Counties
----- County and State
Historic Resources of the Tennessee Valley Authority Hydroelectric Project, 1933-1979
----- Name of multiple listing (if applicable)



**Figure 1: Norris Dam as construction occurred around the clock, 1933.**  
*(Photo courtesy of TVA).*

United States Department of the Interior  
National Park Service

National Register of Historic Places  
Continuation Sheet

Section number Figures Page 34

Norris Hydroelectric Project
Name of Property
Anderson & Campbell Counties
County and State
Historic Resources of the Tennessee Valley Authority Hydroelectric Project, 1933-1979
Name of multiple listing (if applicable)

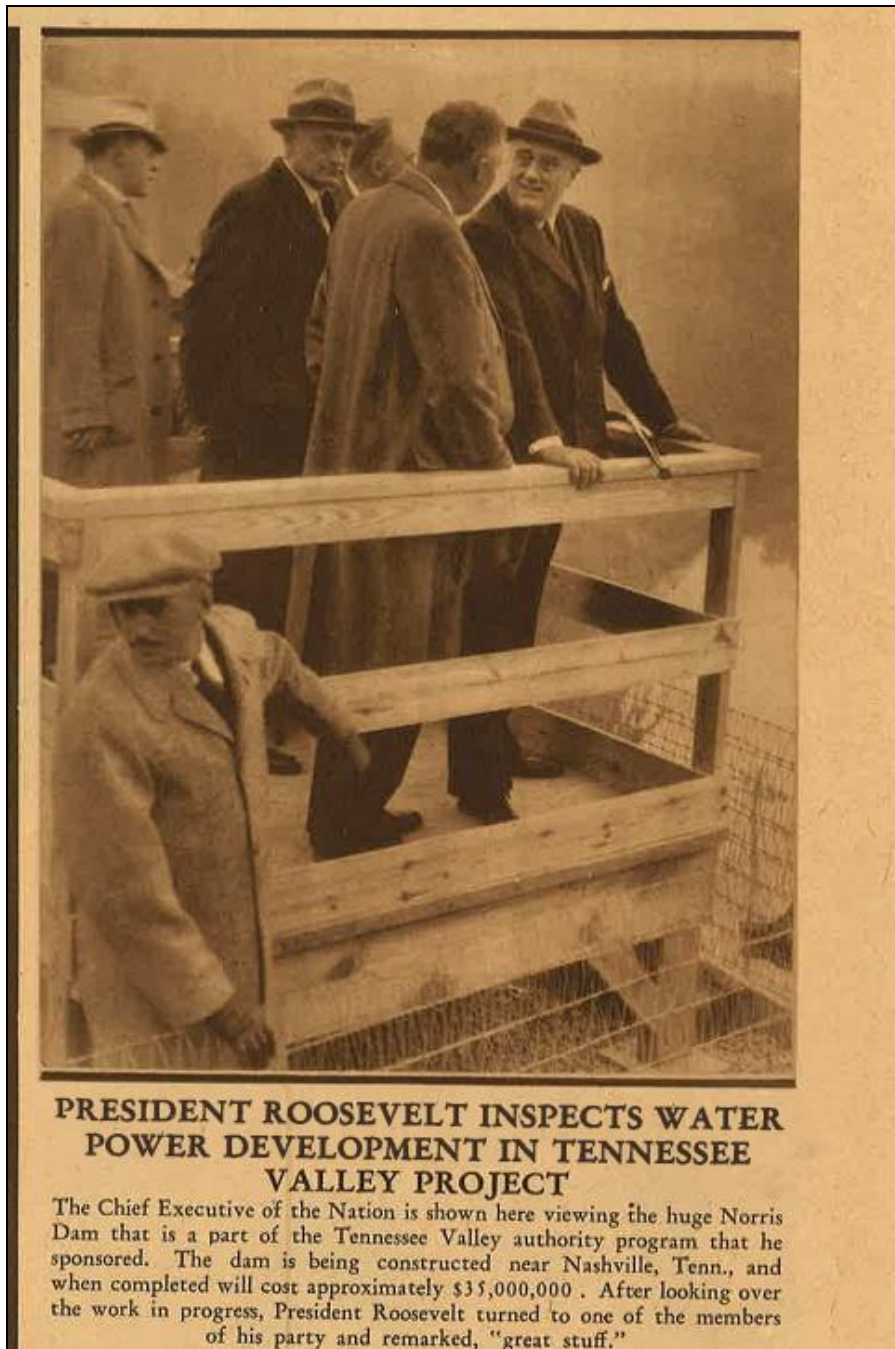


Figure 2: Article from the *Detroit News*, November 25, 1934.  
(Photo courtesy of Wayne and Barbara Maynard)

United States Department of the Interior  
National Park Service

**National Register of Historic Places  
Continuation Sheet**

Section number Figures Page 35

Norris Hydroelectric Project
----- Name of Property
Anderson & Campbell Counties
----- County and State
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----- Name of multiple listing (if applicable)



**Figure 3: Original Norris Visitor Building which was replaced in 1950.**

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**Property Owner:**

(This information will not be submitted to the National Park Service, but will remain on file at the Tennessee Historical Commission)

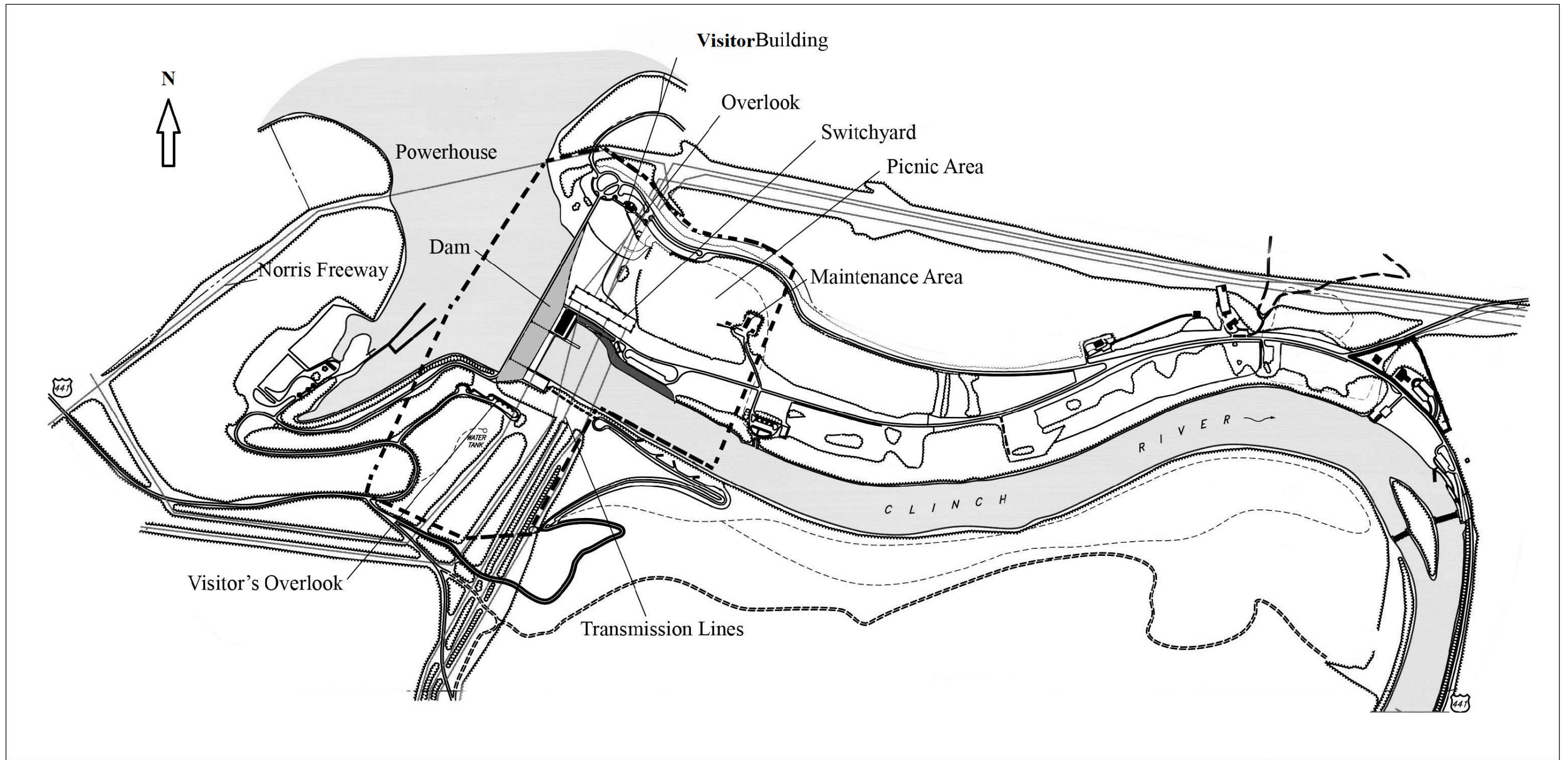
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Name Tennessee Valley Authority – Pat Ezzell

Street &

Number 400 West Summit Hill Drive 460WT7D-K Telephone 865-632-6461

City or Town Knoxville State/Zip TN 37902



**Norris Hydroelectric Project**

**Legend**

National Register Boundary: - - - - -

Map Scale:  
1"=200'























NORRIS

1936







UNIT 2







NO  
PERSONAL  
VEHICLES





**NORRIS**

NOTICE  
PROPERTY OF  
THE UNIVERSITY OF  
MICHIGAN

UNIVERSITY OF  
MICHIGAN



NO PARKING

1933 - BUILT FOR THE PEOPLE OF THE UNITED STATES OF AMERICA - 1934



EXIT



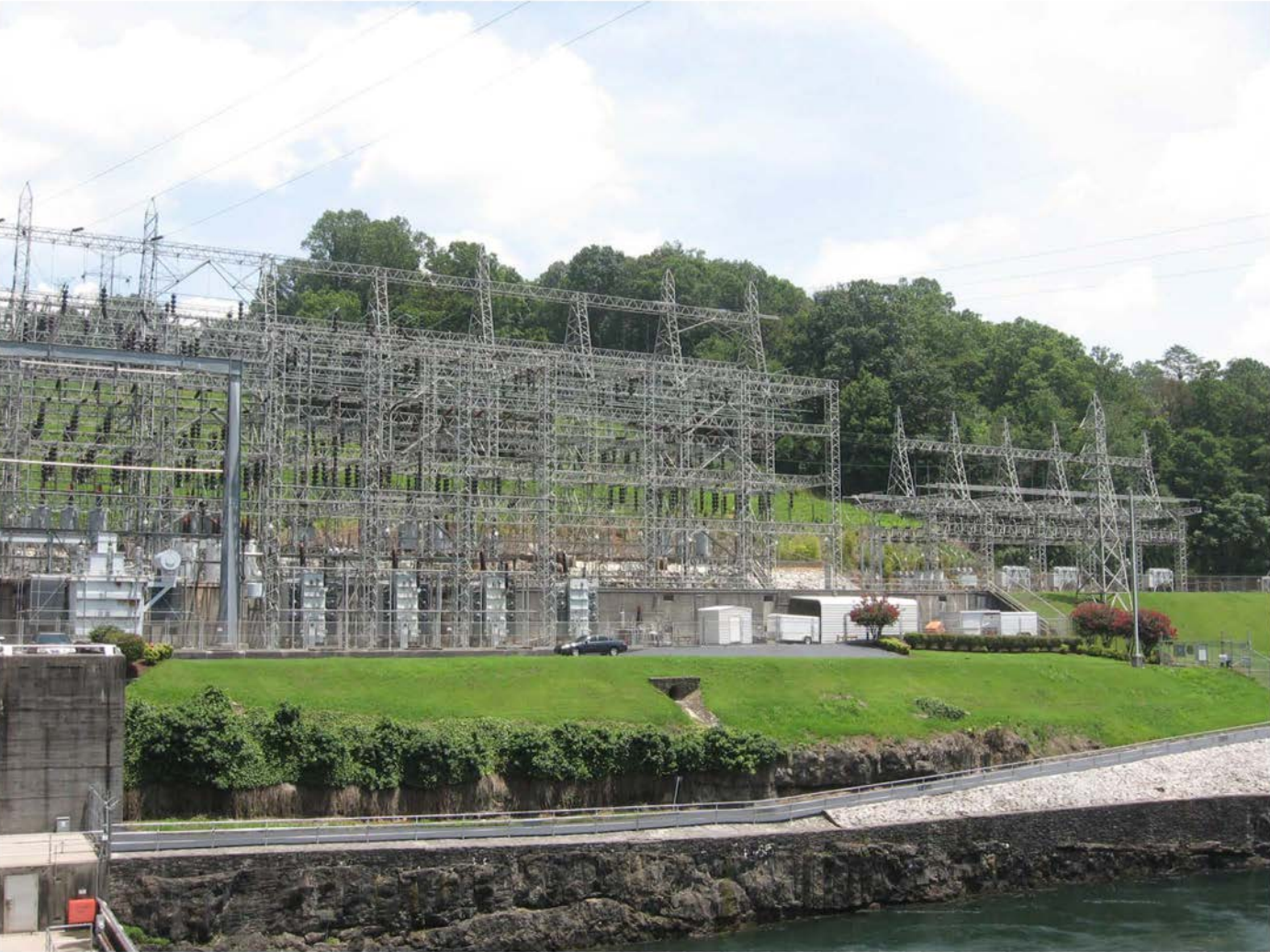


STATES OF AMERICA - 1936













Norris Dam  
Visitor Center















UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES  
EVALUATION/RETURN SHEET

REQUESTED ACTION: NOMINATION

PROPERTY NAME: Norris Hydroelectric Project

MULTIPLE NAME: Tennessee Valley Authority Hydroelectric System, 1933-1979

STATE & COUNTY: TENNESSEE, Anderson

DATE RECEIVED: 2/26/16 &pw DATE OF PENDING LIST: 3/28/16  
DATE OF 16TH DAY: 4/12/16 &pw DATE OF 45TH DAY: 4/12/16  
DATE OF WEEKLY LIST:

REFERENCE NUMBER: 16000165

REASONS FOR REVIEW:

APPEAL: N DATA PROBLEM: N LANDSCAPE: N LESS THAN 50 YEARS: N  
OTHER: N PDIL: N PERIOD: N PROGRAM UNAPPROVED: N  
REQUEST: N SAMPLE: N SLR DRAFT: N NATIONAL: N

COMMENT WAIVER: N

ACCEPT  RETURN  REJECT 4-12-2016 DATE

ABSTRACT/SUMMARY COMMENTS:

*Meets Registration Requirements of MPS  
SLR = not nationally significant for all Areas of Significance*

&a4L

RECOM./CRITERIA Accept A & C

REVIEWER \_\_\_\_\_ DISCIPLINE \_\_\_\_\_

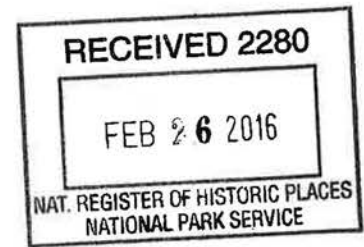
TELEPHONE \_\_\_\_\_ DATE \_\_\_\_\_

DOCUMENTATION see attached comments  see attached SLR /N

If a nomination is returned to the nominating authority, the nomination is no longer under consideration by the NPS.



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, TN 37902



February 24, 2016

Ms. Stephanie Toothman  
Keeper of the National Register of Historic Places  
National Park Service  
National Register of Historic Places  
1201 Eye Street, NW (2280)  
Washington, DC 20005

Dear Ms. Toothman:

Enclosed please find the National Register nomination for the Norris Hydroelectric Project in Anderson County, Tennessee, prepared for the Tennessee Valley Authority (TVA). This nomination was prepared to accompany the enclosed Multiple Property Documentation Form (MPDF) "Historic Resources of the Tennessee Valley Authority Hydroelectric System, 1933-1979" which was recently approved and accepted by TVA.

The nomination and the MPDF were submitted to the Tennessee Historical Commission staff, and revisions were made based on their comments. The nominations were then presented to the Tennessee State Review Board on January 6, 2016, and both nominations were met with enthusiastic approval.

The TVA recognizes the historical and architectural significance of its hydroelectric projects, and it is our intention to submit twenty-four additional National Register nominations to the Alabama, Georgia, Kentucky, North Carolina and Tennessee SHPOs for their review and comment. Once we have made appropriate revisions in coming months, these will be sent to your office for final review.

I am pleased to send you the MPDF form and the Norris nomination as part of TVA's efforts to identify and honor its historic resources and heritage.

Sincerely,

Wilbourne C. (Skip) Markham, Jr.  
Director, Environmental Permit & Compliance and  
Federal Preservation Officer

PBE:CSD  
Enclosures