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May 19, 2020

Lloyd Shoals Hydroelectric Project (FERC No. 2336-094)
Relicensing Study Reports

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Room 1-A- Dockets Room
Washington, D.C. 20426

Dear Secretary Bose:

On behalf of Georgia Power Company, Southern Company is filing with the Federal Energy Regulatory Commission (Commission) the Wallace Dam relicensing study reports in compliance with the Commission's Integrated Licensing Process regulations at 18 CFR § 5.15(c)(1).

This filing consists of the following parts:

Part 1 of 4 (Public)

1) Cover Letter
2) Geology and Soils Study Report
3) Water Resources Report
4) Fish and Aquatic Resources
5) American Eel Abundance and Upstream Movements Study Report

Part 2 of 4 (Public)

6) Cover Letter
7) Terrestrial, Wetland, and Riparian Resources Study
8) Rare, Threatened, and Endangered Species
9) Recreation and Land Use Study Report

Part 3 of 4 (Public)

10) Cover Letter
11) Cultural Resources Study Report
12) Historic Hydro Engineering Study Report

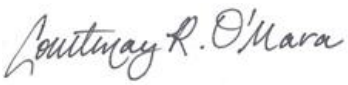
Part 4 of 4 (Non-Public, Privileged Filings)

13) Cover Letter - Public
14) Terrestrial, Wetland, and Riparian Resources Study – Privileged
15) Cultural Resources Study Report – Privileged

Ms. Kimberly D. Bose
May 19, 2020

If you require further information, please contact me at 404.506.7219 or cromara@southernco.com.

Sincerely,



Courtenay R. O'Mara, P.E.
Hydro Licensing & Compliance Supervisor

Enclosure

cc: FERC – Navreet Deo, Allan Creamer
Kleinschmidt – Steve Layman, Ph.D.
Troutman Sanders – Hallie Meushaw

Phase II Archaeological Assessment of Six Sites at the Lloyd Shoals Hydroelectric Project (FERC No. 2336), Butts, Henry, Jasper and Newton Counties, Georgia

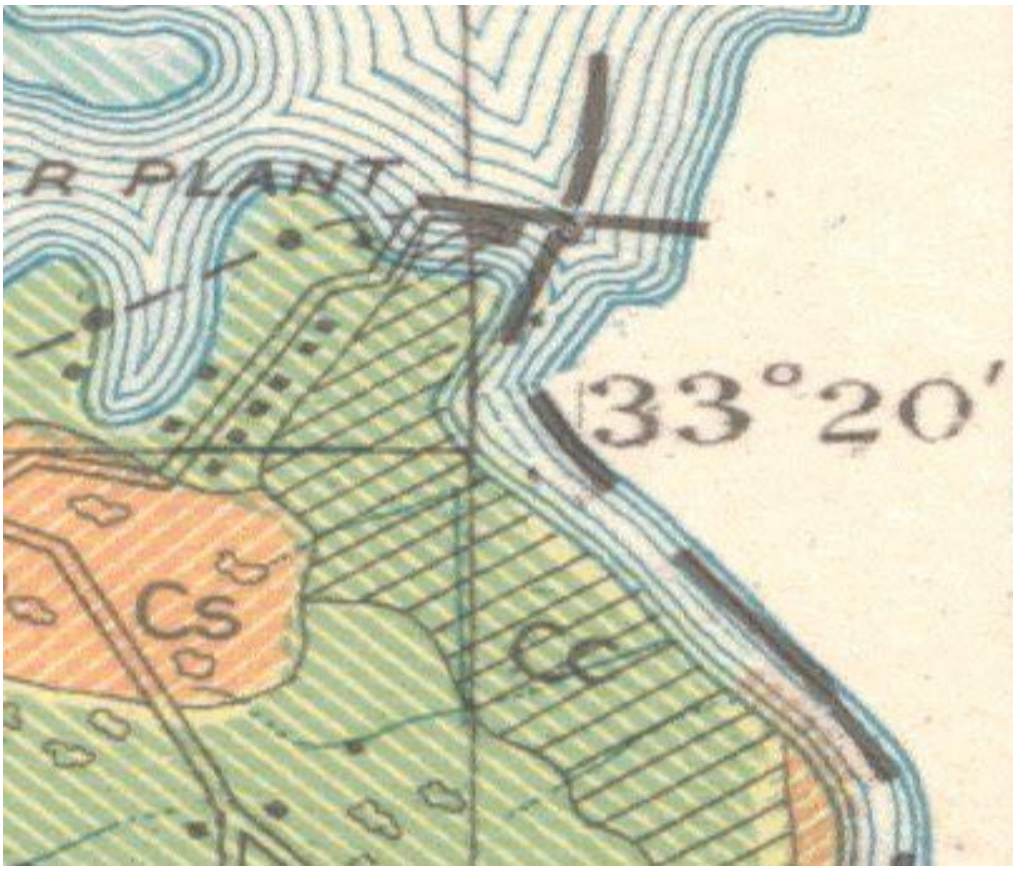
April 2020

Prepared For:

Georgia Power
Under Contract to Kleinschmidt

Prepared By:

TRC



Phase II Archaeological Assessment of Six Sites at the Lloyd Shoals Hydroelectric Project (FERC No. 2336), Butts, Henry, Jasper, and Newton Counties, Georgia

Prepared For:

Georgia Power
Under Contract to Kleinschmidt

Prepared By:

TRC

Sean Norris
Principal Investigator

Ramona Grunden
Author
March 2020

ABSTRACT

Under contract to Kleinschmidt, TRC Environmental Corporation (TRC) located and assessed six previously recorded sites at Georgia Power Company's (Georgia Power) Lloyd Shoals Hydroelectric Project (FERC No. 2336) (Project). Georgia Power is applying to FERC for a new license for the existing 18-megawatt (MW) Project, which is located on the Ocmulgee River in Butts, Henry, Jasper, and Newton counties, Georgia. The Project includes a dam, Lake Jackson, and a powerhouse. Georgia Power is not proposing to add capacity or make any major modifications to the Project under the new license, and the Project does not occupy any federal lands. The current license expires December 31, 2023.

The work described in this report was conducted in compliance with Section 106 of the National Historic Preservation Act of 1966 (as amended) as part of the FERC relicensing effort. Section 106 requires federal agencies to consider the effects of their actions on properties listed or eligible for listing in the National Register of Historic Places (NRHP) located within the Project's Area of Potential Effects (APE). The APE for archaeological resources is defined as the area between the Lake Jackson normal low pool elevation of 527 feet plant datum and the project boundary. The work meets the qualifications specified in the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (FR 48:44716-44742) the Georgia Council of Professional Archaeologists' *Georgia Standards and Guidelines for Archaeological Surveys* (Georgia CPA, 2014); and the Georgia State Historic Preservation Office's Archaeological Assessment Report Guidelines and Components (Georgia SHPO 2004). All supervisory personnel meet or exceed the Secretary of the Interior's Professional Qualifications Standards set forth in 36 CFR Part 61.

There are six previously recorded sites at the Project. All are historic sites associated with the construction and operation of the Project and were occupied from ca. 1910 to ca. 1967. Four sites are located at the Lloyd Shoals Park on Lake Jackson. Two other sites were inundated when Lake Jackson was created, were inundated during this study, and could not be re-evaluated.

Based on the results of the field work, TRC recommends that preservation and monitoring be continued for Sites 9BS17, 9BS18 and 9BS20. Site 9BS19 retains no integrity and is consequently being recommended as not eligible for the NRHP. Sites 9BS23 and 9JA223 were inundated at the time of the survey and it is recommended that these sites be evaluated during a lake drawdown period. There are currently no planned construction activities within the Lloyd Shoals project boundary as a result of the proposed FERC relicensing. TRC therefore finds there will be No Effect to the NRHP eligible archaeological sites as a result of the issuance of a new license for the Project by FERC.

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1. INTRODUCTION

Under contract to Kleinschmidt, TRC completed archaeological testing at a series of potentially significant sites that are currently being monitored at the Lloyd Shoals Hydroelectric Project (FERC No. 2336) (Lloyd Shoals Project, the Project) in Butts and Jasper Counties, Georgia. Georgia Power is applying to the FERC for a new license for the existing 18-MW Project. Georgia Power is not proposing to add capacity or make any major modifications to the Project, and the Project does not occupy any federal lands. The current license expires December 31, 2023.

The work was conducted in compliance with Section 106: 54 U.S.C. 306108 of the National Historic Preservation Act of 1966 (as amended) as part of the FERC relicensing effort. Section 106 requires federal agencies to consider the effects of their actions on properties listed or eligible for listing in the National Register of Historic Places (NRHP) located within the Project's APE.

In October of 2019, TRC was tasked with conducting an evaluation of the six sites currently being monitored by Georgia Power. These sites were recommended eligible for the NRHP in 1989 (Gardner 1989) (Table 1). TRC was able to locate and conduct limited archaeological testing at four sites: 9BS17, 9BS18, 9BS19, and 9BS20. Two of those (9BS23 AND 9JA223) are submerged and were not accessible for this evaluation. The sites that were tested are in close proximity to the operational facilities, at Lloyd Shoals Park and Lloyd Shoals Tailrace Fishing Pier, near the town of Jackson in Butts County, Georgia (Figure 1). The Lloyd Shoals Park is a recreational facility associated with Georgia Power's Lloyd Shoals Project, which includes a dam, Lake Jackson, and a powerhouse.The sites are bound on the north by Lake Jackson, to the east by the Ocmulgee River, and to the south and west by private property. Dam Road bisects the project lands in which the sites are located.

The study consisted of review of available information and limited field testing/site evaluation of the four previously recorded archaeological sites. These sites were recommended eligible for listing in the NRHP in 1989 (Gardner 1989) and are currently being monitored by Georgia Power. The limited field testing was designed to evaluate whether any additional impacts have occurred at the sites that would remove them from future monitoring efforts. The information developed will provide the basis for the development of a Historic Properties Management Plan (HPMP) for the Lloyd Shoals Project in accordance with the guidelines established by the Advisory Council on Historic Preservation and FERC. TRC Senior Archaeologist Sean Norris, M.A., RPA, directed the fieldwork and conducted background research. He was assisted in the field by Senior Archaeologist Ramona Grunden and Field Technician Pete Mayers.

This report presents the results of the archaeological investigations and the architectural assessments.

Table 1. NRHP Eligible Sites at Lloyd Shoals/Lake Jackson.

Site	Area	Description	Site Size in Meters	1989 Condition
9BS17	Lloyd Shoals Construction and Operator's Village	African American Housing area	80 N/S x 80 E/W	Disturbed, foundations may be present
9BS18	Lloyd Shoals Construction and Operator's Village	Construction Village, Numerous Features	450 N/S x 185 E/W	Disturbed, foundations may be present
9BS19	Lloyd Shoals Construction and Operator's Village	Landscape Feature, Construction Staging Pad.	30 N/S x 60 E/W	Disturbed to subsurface
9BS20	Lloyd Shoals Construction and Operator's Village	Plant Supervisor's Home Site	120 N/S x 30 E/W	Disturbed, foundations may be present
9BS23	Hendrick's Mill	Circa 1830-1910 Grist Mill		Partially submerged
9JA223	Dempsey Ferry	Circa 1859 River Ferry		Submerged

This report has been prepared in compliance with the National Historic Preservation Act of 1966 (as amended) and the Archaeological and Historic Preservation Act of 1979. Field investigations and the technical report meet or exceed the qualifications specified in the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (FR 48:44716–44742) and the Georgia Council of Professional Archaeologists' Georgia *Standards and Guidelines for Archaeological Surveys* (Georgia CPA, 2014); and the Georgia State Historic Preservation Office's Archaeological Assessment Report Guidelines and Components (Georgia SHPO 2014). All supervisory personnel meet or exceed the Secretary of the Interior's Professional Qualifications Standards set forth in 36 CFR Part 61.

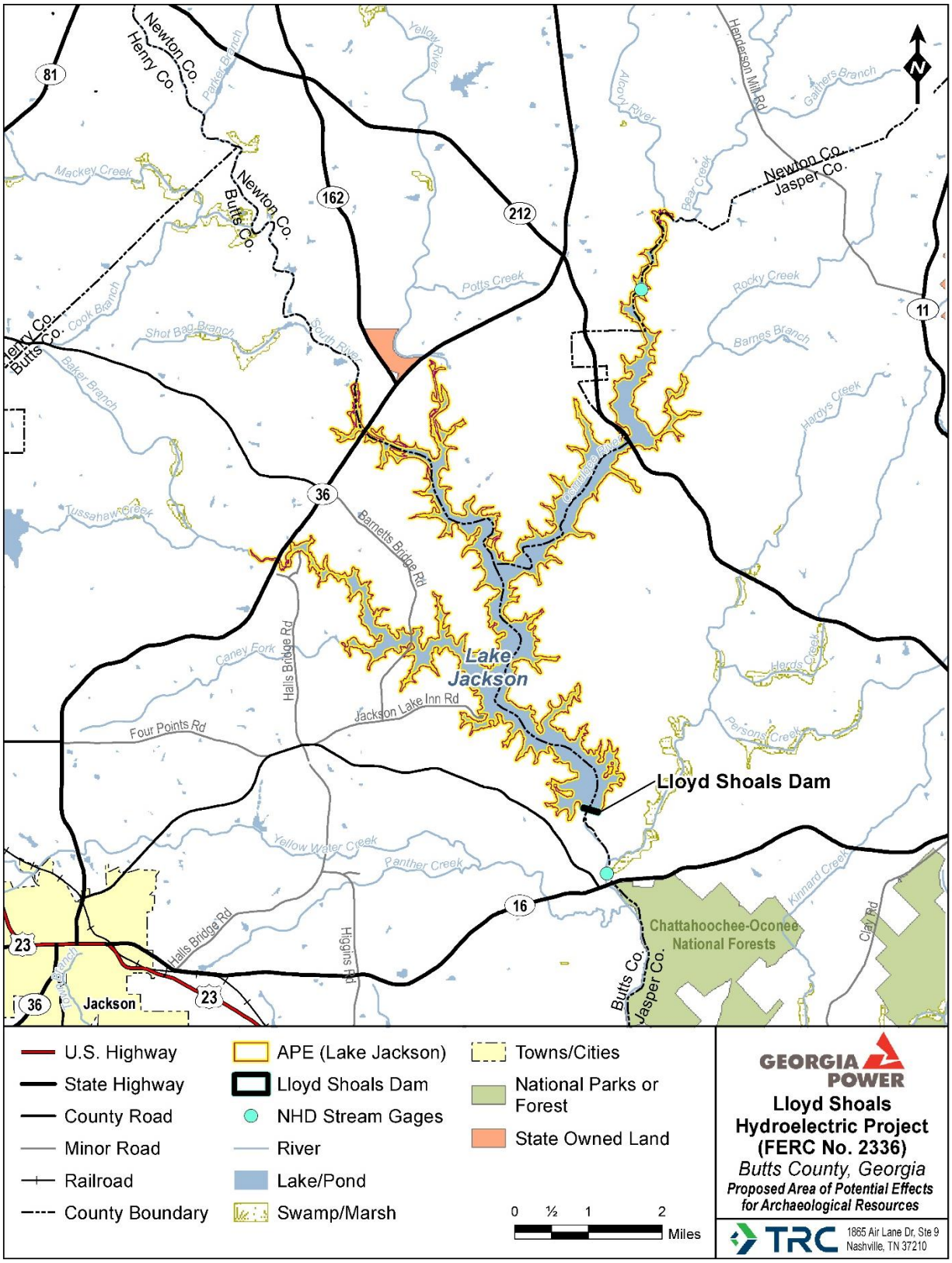

Figure 1. Lake Jackson.

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Figure 1a. NRHP Eligible sites on Lake Jackson, continued.

2. ENVIRONMENT

PROJECT SETTING

The investigated sites are on a peninsula (former ridge top) extending northeast to the Lloyd Shoals Dam, with Lake Jackson to the north and west and the Ocmulgee River to the east. This is within the Washington Slope of the Piedmont Province of Georgia (Hodler and Schretter 1986). The Washington Slope is a gently undulating surface with broad, shallow valleys, long, gentle slopes, and broad, rounded stream divides. Relief ranges from 50 to 100 feet, except along the steep-walled valleys of the Ocmulgee River, and elevations typically range from 500 to 700 feet above mean sea level (AMSL).

CLIMATE

The climate of the project area is temperate, with long, hot summers, and short, cool winters. The average summer temperature is 77 degrees F; the average winter temperature is 44 degrees F; and the overall annual average temperature is 60 degrees F. The average annual rainfall is 51.5 inches, with summer only slightly rainier (Lathem 2006).

FLORA

As early as the sixteenth century, Europeans and Africans have purposefully and inadvertently altered the native plant communities in central Georgia as a product of colonization and settlement of the area. During the Holocene, but before the arrival of Europeans, the landscape of the project area was likely forested with mixed hardwoods and pines in the uplands and species adapted to wetter floodplain contexts along the drainages. It is possible that some areas surrounding prehistoric settlements were cleared during the late prehistoric period and brought under cultivation. Any such cleared tracts around aboriginal villages likely became reforested prior to European settlement. The project area is characterized by loblolly-shortleaf pine forests and mixed deciduous forests (Hodler and Schretter 1986).

FAUNA

Numerous species of migratory and native fauna were available for exploitation by both historic and prehistoric populations. The species include beaver, black bear, bobcat, bobwhite, chipmunk, cottontail rabbit, fox squirrel, gray fox, gray squirrel, groundhog, mallard, mourning dove, muskrat, opossum, raccoon, red fox, red-tailed hawk, swamp rabbit, teal, turkey vulture, white-tailed deer, wild turkey, wood duck, and various amphibians, birds, fishes, invertebrates, mammals, and reptiles (Hally and Rudolph 1982).

PALEOENVIRONMENT

The contemporary climate and vegetation of the Piedmont are products of a long and complex process of natural and human-induced change. The earliest European settlers reported large stands of yellow pine in the oak-hickory forests of this region. Whether these were products of natural forces or the results of aboriginal hunting methods, which used fire to drive and concentrate game,

is unknown. Streams in the project area would have contributed to the American Indian population's diet by providing a variety of fish, freshwater mollusks, and waterfowl.

Average temperatures in the last full glacial period (ca. 23,000–13,000 B.C) were considerably cooler than at present. At that time, the study area was covered by a northern coniferous forest dominated by pines and spruce (Delcourt and Delcourt 1983; Whitehead 1973). Humans arrived in Georgia by the Late Wisconsin glacial period, ca. 13,000–8000 B.C., as the climate gradually warmed and precipitation increased. These trends occurred in conjunction with northern hardwoods replacing pine and spruce as the dominant overstory species.

This was a dynamic period for faunal communities as well. Many large mammals that inhabited Georgia during this time (mastodon, giant ground sloth, horse, camel, saber-toothed tiger, etc.) became extinct by 8000 B.C., part of a mass North American extinction that involved 33 genera of large mammals adapted to the cold, dry environmental systems of the Late Pleistocene (Martin 1984). The retreat of the Laurentide Ice Sheet, which induced a warmer, wetter climate throughout North America, and the arrival of humans heavily reliant on many of these animals for subsistence, are considered major factors in the megafauna's demise (Martin 1984).

The period ca. 8000–3000 B.C. is termed the Altithermal, a period of continued warming but decreased precipitation (Bryson et al. 1970; Watts 1975). The dominant overstory vegetation was oak-hickory forest (Watts 1975; Whitehead 1973). Since ca. 3000 B.C. the climate has cooled slightly and precipitation has possibly increased, leading to the conditions that exist today. The evolution to modern conditions preceding settlement by Euro-Americans involved a decrease in oak-hickory stands and an increase in the number of pines (Wharton 1977).

Faunal resources were much the same as today, though the numbers and geographical distribution of species have been greatly altered. Between ca. 8000 B.C. and A.D. 1540, animals inhabiting northern Georgia included bear, white-tailed deer, elk, bison, wolf, fox, bobcat, beaver, rabbit, mink, skunk, opossum, raccoon, and a variety of reptiles and amphibians. Migratory waterfowl, turkey, dove, quail, and bald and golden eagles were plentiful. Aquatic resources such as freshwater mussel and a variety of fish were also present (Golley 1962). Many animals, including bison, elk, cougar, and wolf, have been eradicated since the advent of the historical period. Many others, such as bear and beaver, have been greatly reduced in number (Golley 1962).

Vegetation in the Georgia Piedmont has experienced extensive alteration in the past two centuries, complicating any estimation of the relative quantities and distribution of original species. Originally, the land was mostly forested with a mix of hardwood trees and pine. Large-scale clearing and cultivation in the nineteenth century removed swaths of native forest and caused serious erosion. Thus, by the 1930s much of the Piedmont region was abandoned, with the result that up to 70 percent of the area now lies in secondary forest dominated by pine (Wharton 1977).

3. CULTURAL CONTEXT

The sites under evaluation are all twentieth century historic occupations. A brief overview of European activity in the region is provided with more emphasis on the creation of Lake Jackson and the construction of Lloyd Shoals Dam.

HISTORICAL CONTEXT

Initial European Contact

There is no clear separation between the prehistoric and early historic American Indian occupations of the interior of Georgia. Some of the late Mississippian manifestations such as Lamar are known to have continued into the period marked by European exploration and early colonization. However, American Indian societies were rapidly transformed by the effects of trade, disease, warfare, and forced population movements as a result of Euro-American presence in the southeast, even before actual contact.

The first Europeans to arrive in Georgia were the Spanish, who established missions and forts along the Georgia coast during the second half of the sixteenth century (Spalding 1977a). Although permanent settlements were confined to coastal areas, the Spanish carried on extensive trade with interior tribes. Several expeditions explored the interior, the most important of which was the De Soto expedition of 1540, which has several postulated routes through the interior of Georgia (Hudson et al. 1984). Research by Hudson et al. (1984) indicates that De Soto and his men likely followed the Ocmulgee River as far north as Macon, Georgia, then passed along the fall line northeast toward the American Indian village of Altamaha, south of Milledgeville on the Oconee River. The expedition then crossed the Savannah River into what is now South Carolina. Although direct or prolonged contact with interior tribes was rare during the seventeenth century, disruptions caused by the presence of Europeans on the continent altered the structure of American Indian societies across the southeast.

During the seventeenth century, the English began to expand their settlements south from Jamestown, seeking to influence the loyalties of the native populations in the process. By this time, two major American Indian groups inhabited interior Georgia, the Cherokee and the Creek. In general, Cherokee groups occupied northern Georgia, and the Creek lived in southern Georgia. The border between Creek and Cherokee was not precisely marked but ran roughly on a line between Athens and Lawrenceville and west through Marietta and across Alabama (Temple 1935). The project area was part of the Creek territory, with the tribe's major population centers located along the Ocmulgee River. During the late seventeenth and early eighteenth centuries, Georgia was a battleground of competing forces as the British in Carolina, the Spanish in Florida, and even the French, pushing east from the Mississippi Valley, fought for influence among the Creek and Cherokee in Georgia. British traders penetrated Cherokee lands from the Carolinas and Virginia; Spanish incursions against the Creek along the Chattahoochee pushed them eastward, closer to the British influence; and the British exerted steady pressure on the missions of the Georgia coast until the Spanish could no longer maintain their presence there (Spalding 1977a).

Hoping to establish a barrier colony between the Carolinas and Spanish Florida, the British crown granted a charter to James Oglethorpe in 1732. In 1733, Oglethorpe founded his Georgia colony at Savannah. Throughout the eighteenth century, Georgia exerted its influence over the Creeks, steadily increasing its territory through treaties and coercion. The desire of the citizens of Georgia for cheap land kept a steady pressure on native groups for further cessions of territory. With each cession, however, came demands for more land, and by the end of the eighteenth century, most Georgians favored total removal of the American Indian population from Georgia territory. Following the establishment of the U.S. Constitution, Georgians increasingly sought federal aid in expelling native groups. In 1802, in exchange for ceding its western territory to the United States, Georgia received a promise from the U.S. government to help speed the removal of the Creeks and Cherokees. In 1802 and 1804, the federal government secured from the Creeks the much-desired land between the Oconee and Ocmulgee Rivers (Coleman 1977, Spalding 1977b). By 1818 Jasper County (first named Randolph) had been established on the east side of the Ocmulgee River (Figure 2).

Figure 2. Project vicinity in 1818, showing county seats and unceded territory.

Resistance by the Creeks (especially among the Upper Creeks or "Red Sticks") increased, and their dissatisfaction was exploited by the British, who encouraged raids against frontier settlements. The Red Sticks were defeated by Andrew Jackson at Horseshoe Bend, Alabama, in 1814 and were forced to cede their territory between Georgia and Florida (Boney 1977). One of

the chiefs of the Lower Creeks was William McIntosh, a first cousin of then governor George Troup. He was more amenable to negotiation for Creek lands, particularly since he stood to profit from the deals. In 1821, McIntosh signed the first Treaty of Indian Springs, ceding the Creek territory between the Ocmulgee and Flint Rivers. McIntosh had a summer cottage at Indian Springs, in what is now Butts County, and he included in the treaty a reservation for himself of 640 acres at the spring, as well as other plantation lands that he controlled. This treaty did not have the support of the whole tribe and the federal government refused to recognize it. Nevertheless, five counties were formed from the land, including Henry and Monroe counties, from which Butts County was created in 1825. McIntosh and a partner built a hotel at Indian Springs; the waters there were recognized by the American Indian as well as Europeans for their healing qualities. Euro-Americans began arriving at the resort and camping out for extended periods or establishing farmsteads (McMichael 1978). (Dissenting Creeks later assassinated McIntosh for his betrayal [Boney 1977]).

1821 to Present

Land in the newly acquired Creek territory was distributed by lottery in 202.5-acre parcels to qualified Georgia residents. Early settlers of the area came primarily from the older counties of Georgia, the Carolinas and Virginia, but included others from New England, the British Isles, and continental Europe (Rainer 1971).

Butts County is located on the original line between Henry and Monroe counties, with the northern section originally part of Henry County and the southern section originally part of Monroe County (Figure 3). The project area is located near the southern boundary of what was originally Henry County. Butts County is named for Captain Samuel Butts, an officer of the State militia in the War of 1812. Soon after the establishment of the county, a centrally located site was chosen for the county seat. The town was laid out and designated as Jackson. By February 1828, Jackson included 17 houses, nine stores, two doctors, three law offices, nine mechanic shops, two houses of worship, a jail, a courthouse, and an “academy” (McMichael 1978).

Agriculture was the mainstay of the early settlers in the Piedmont region, with cotton the predominant staple crop (Bonner 1964). Other crops were grown primarily to support the family and any slaves, with surpluses sometimes sold at markets or used for barter at neighborhood stores. Corn, wheat, and barley were grown to feed humans and livestock, and the livestock provided meat and dairy products. To support the agricultural operations, settlers also established gristmills and sawmills along the county’s streams and rivers. White (1849) reported seven sawmills, seven gristmills, three flourmills, and one cotton factory in Butts County at that time. Site 9BS23, “Hendricks Mill” was one of the gristmills. The site is subject to monitoring by Georgia Power, but is typically submerged. These mills often served as community centers for the widely dispersed farms. The cotton factory mentioned in White was the Planters Manufacturing Company, a cotton mill on the Ocmulgee River east of Jackson and south of the project area. This was a substantial industrial operation owned by a group of investors that was made up primarily of wealthy plantation owners. It consisted of 3,200 spindles and 52 looms and employed 75 people. A village of 100 or so houses was located at the site (McMichael 1978).

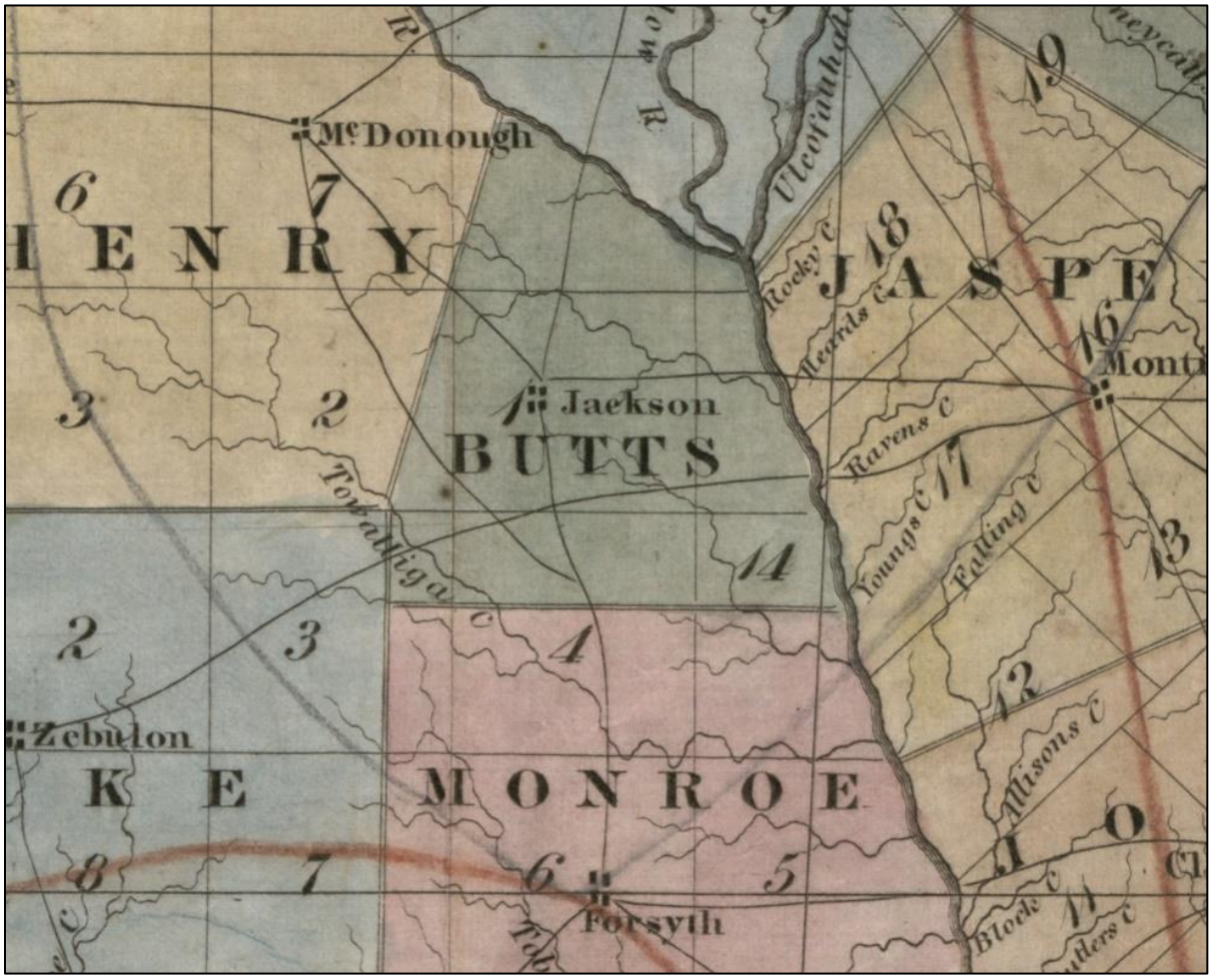

Figure 3. Butts County in 1830.

The plantation system, with cotton as the main cash crop and enslaved people as the labor force reached Griffin in 1842. Macon soon became the center of the Piedmont cotton market and was one of the largest towns in the state. Butts County was located to the east of the railroad and did not have direct rail connections until after the Civil War. As a result, its growth during the antebellum period was slow but steady. At the 1830 census, the first to include Butts County, there were 4,944 residents. That number increased slightly to 5,308 in 1840, and then jumped over 20 percent to 6,488 in 1850. This was likely a result of the opening of the Macon and Western Railroad, which improved accessibility. However, the population of Butts actually declined slightly during the 1850s (Walker 1990). Slaves made up more than 43 percent of the population in Butts County in 1850 and 47.5 percent in 1860. Although slaves made up a significant portion of the population, most farmers in Butts County did not own large plantations with large numbers of slaves. Thirty farms, representing 7.6 percent of those recorded in Butts County, contained over 500 acres. A significant proportion (47.4 percent) were medium-sized farms of 100 to 500 acres. Nearly two-thirds of Butts County slaveholders (64.3 percent) owned fewer than 10 slaves (DeBow 1990; Kennedy 1990).

Butts County was not a site of significant action during the Civil War; nonetheless, the county suffered significantly as a result of the conflict. During Union General William T. Sherman's Atlanta Campaign, battles around Atlanta and nearby Jonesboro for control of the railroads devastated the local community, as Federal units foraged the countryside for supplies. Griffin was a major supply point for the besieged Confederate troops, and many of the wounded were transported back over the Macon and Western Railroad to hospitals in the town.

After the fall of Atlanta in September 1864, General Sherman severed his supply lines and began moving his army south toward Savannah. The army moved in two columns, one of which (commanded by General O. O. Howard) marched south along the railroad to Stockbridge and on to McDonough, where it arrived on November 16, 1864. On November 17, 1864, the army passed through Jackson and burned the courthouse, jail, and other properties. The surrounding countryside was also ravaged as the armies tore up houses and churches for firewood, looted valuables, and carried off whatever provisions they found. The right wing of the army crossed the Ocmulgee River at the site of the Planter's Manufacturing Company, but did not destroy the mill, reportedly because a colonel in the Union army owned much of the surrounding land (McMichael 1978). They did destroy a mill at the Hendricks Mill complex (9BS23) (Gardner 1989).

Following the Civil War, cotton agriculture resumed its importance in the regional economy. An enthusiasm for the use of imported guano as a fertilizer revitalized exhausted fields and extended the cotton-growing region during the 1870s and 1880s (Range 1954; Wharton 1977). In 1880, Butts County reported 6,829 bales of cotton produced on 20,755 acres. This was more than the 5,434 bales produced in 1860, indicating a full recovery from the war and Reconstruction. The extension of the Macon & Brunswick Railroad through Jackson to Atlanta, planned since before the Civil War, was begun in 1881 after the East Tennessee, Virginia & Georgia Railroad (ETV&G) purchased the Macon & Brunswick. The line linking the ETV&G in Rome with the Macon & Brunswick in Macon was completed in 1882 and greatly improved Jackson's fortunes.

Despite such gains during the late nineteenth century, the region struggled to reconcile the cotton economy and free labor. Black farmers generally hoped to establish their independence from white control and eventually own land, while whites wanted to limit the social and economic independence of blacks and keep possession of the land. The sharecropping system emerged as the compromise between these positions. This system, by which the tenant worked a set parcel of land and shared a portion of the crop with the landowner, allowed freed blacks to be in charge of their own time and saved the landowner from the labor of overseeing the operation of the farm. Sharecropping, however, proved destructive to both the land and the people. It often led to increased debt for landowners and tenants alike, imposed a dependence on cotton, and resulted in neglected lands (Orser1988; Wynes 1977). Increasingly, white farmers became tenants, as well. In Butts County, nearly 77 percent of the county's farmers were tenants in 1910, an increase from 71.8 percent ten years earlier (U.S. Bureau of the Census 1902, 1913). Despite these difficulties, Middle Georgia's farmers continued to pursue cotton production until after World War I. Attempts were made during this period to decrease cotton crop dependency in the state by establishing a state department of agriculture to promote diversification and by encouraging scientific farming through local societies, agricultural journals, and universities. Although these efforts perhaps laid the groundwork for diversification and greater self-sufficiency on the farm, it was a combination

of factors, including the boll weevil destruction to the cotton crops of 1919–1923, depressed cotton prices, outmigration of tenant labor, and New Deal agricultural reform, that led to a steady decline in the importance of cotton in the local economy. By 1958, many gins had been dismantled and very little cotton was grown (Holmes 1977; Range 1954).

After World War II, peaches, livestock, and timber all became important agricultural products in the area (Bachtel and Boatright 1993). In recent years, Butts County has experienced peripheral growth from Atlanta. In 1969 the completion of Interstate 75 through the area promoted the growth of service industries such as hotels and restaurants along its corridor. In addition, the highway has improved access to Atlanta, drawing Butts County into the Atlanta metropolitan area (Bachtel and Boatright 1993).

Hydroelectric Development at Lloyd Shoals

The waterpower of the Ocmulgee River was harnessed in the antebellum period for Planter's Mill, a large cotton factory located on the Ocmulgee south of Lloyd Shoals. This endeavor employed 75 people who were housed in a workers' village on the site (McMichael 1978). The right wing of Sherman's army crossed the Ocmulgee at Planters Factory on their March to the Sea but did not destroy the mill (McMichael 1978). In the 1880s a nation-wide survey recognized Lloyd Shoals as a significant location for waterpower in the region, but it was not until the start of the twentieth century that hydro-electric power was seriously considered. By 1910 there were three operating hydro-electric plants on the Chattahoochee River and one on the Oconee. The Lloyd Shoals Project was begun in 1908 and was operational by 1910.

Construction crews for the Project lived in temporary housing near the dam and powerhouse (Monticello News 2005). A 1919 soil survey of the area shows nine structures in the project vicinity (Figure 4). Sites 9BS17-9BS20 were collectively recorded as the Lloyd Shoals Construction and Operator's Village (Gardner 1989) and represent various aspects of the village.

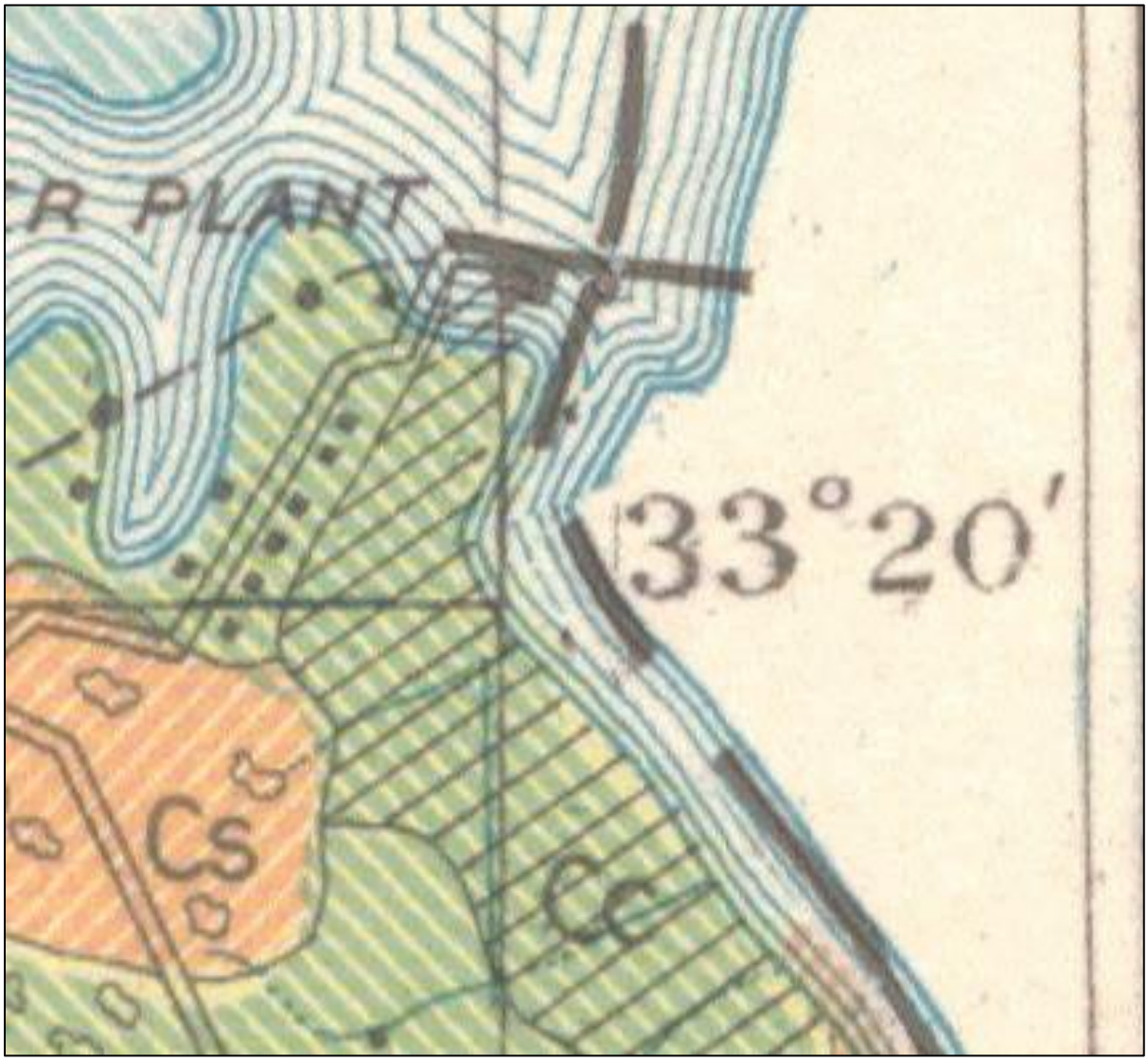

Figure 4. 1919 soil map of Butts County showing Lloyd Shoals Village.

The Lloyd Shoals community included an ice plant, “Bug House”, commissary, and (segregated) housing for some employees. At some point a clubhouse was built and local newspapers document social activities that took place in the clubhouse in the 1950s and 1960s. The houses were apparently frame structures on stone foundations, and landscaping included curbing on Dam Road, delineated driveways, and rock wall terraces. A 1951 aerial photograph shows houses along Dam Road, with the boat landings and recreation area not well-developed (Figure 5). The “Bug House” was used to mix and store chemicals used in mosquito control to prevent recurring outbreaks of malaria (Gardner 1989).

FIGURE REDACTED

Figure 5. 1951 Aerial Photograph of the Lloyd Shoals Village

A 1962 aerial shows the area unchanged except for a road circling the hill containing recreational facilities and boat landings (Figure 6). In 1968 one of the houses was struck by lightning and burned. The newspaper account described the house as a “substantial frame dwelling” (Jackson Progress June 20, 1968). Exactly where in the village it was located is not known. By the following summer the village was being demolished (Jackson Progress-Argus August 7, 1969).

Figure 6. 1962 Aerial View of the Lloyd Shoals Village

4. METHODS AND RESULTS

This study consisted of review of available information on six previously recorded archeological sites and limited field testing/site evaluation of four of the sites; 9BS17-9BS20. No excavations were carried out at the two inundated sites (9BS23 and 9JA223). The sites were recommended eligible for listing in the National Register of Historic Places (NRHP) in 1989 (Gardner 1989) and are currently being monitored by Georgia Power.

SITE EVALUATION METHODS

Shovel testing consisted of the excavation of 30-cm diameter shovel tests until subsoil was encountered. The soil from each shovel test was screened through ¼-inch mesh hardware cloth to ensure uniform artifact recovery.

Unit excavations consisted of 1 x 1 m test units placed in areas of (relatively) high artifact density or where architectural features were apparent. Detailed descriptions of the soils encountered in each test unit were made. Excavations within the test units proceeded natural zones based on soil stratigraphy. A local datum was established at the southwest corner of each unit at ground surface. Excavations continued until subsoil was encountered. All soil was screened through ¼-inch hardware mesh. Artifacts were placed in bags labeled with the site number, provenience, excavator's initials, date, and content. A unit level form was filled out for each level excavated, and a unit summary form was completed for each test unit. The unit forms contained information regarding excavation strategy, soil type and color (using the Munsell soil color chart), artifacts, and features encountered. Once excavation of the test unit was complete, a profile of one wall was drawn and photographed.

Artifacts were noted but not collected at sites 9BS18 and 9BS20 except for diagnostic container glass. Detailed notes on the methods, soils, and encountered features were kept for each excavated site.

Archaeological Laboratory Methods

All artifacts recovered were cleaned, identified, and analyzed using analytical techniques summarized below. Following analysis, all artifacts were bagged according to site, provenience, and specimen number. Following the Georgia guidelines established for artifact curation, only acid-free plastic bags and artifact tags were used.

Artifacts were washed or otherwise cleaned as appropriate. They were separated by material type and further sorted into functional groups; for example, glass was further sorted into window, bottle, or other glass. Temporal assignments were based on chronologically sensitive attributes (i.e., maker's marks; glass color) using established references for historic materials, including Noel Hume (1970), South (1977), and Miller (2000, 1991), among others.

The artifacts, field notes, maps, photographs, and other technical materials generated as a result of this study will be temporarily curated at the TRC office in Columbia. All of the materials will be delivered to an appropriate facility for final curation upon conclusion of the study.

National Register of Historic Places Eligibility Criteria

Sufficient data were compiled to make recommendations regarding eligibility for listing on the NRHP for each archaeological resource addressed during this study. According to 36 CFR 60.4, cultural resources eligible for listing on the NRHP are defined as buildings, structures, objects, sites, and districts that have "integrity," and that meet one or more of the criteria outlined below (CFR 2012; NRHP 2002).

- Criterion A (Event). Association with one or more events that have made a significant contribution to the broad patterns of national, state, or local history.
- Criterion B (Person). Association with the lives of persons significant in the past.
- Criterion C (Design/Construction). Embodiment of distinctive characteristics of a type, period, or method of construction; or representation of the work of a master; or possession of high artistic values; or representation of a significant and distinguishable entity whose components may lack individual distinction.
- Criterion D (Information Potential). Properties that yield, or are likely to yield, information important in prehistory or history. Criterion D is most often (but not exclusively) associated with archaeological resources. To be considered eligible under Criterion D, sites must be associated with specific or general patterns in the development of the region. Therefore, sites become significant when they are seen within the larger framework of local or regional development.

For a property to be eligible for the NRHP, it must exhibit qualities of integrity (NRHP 2002). This rule also applies to historic districts. The seven aspects of integrity are as follows:

- *Location:* the place where the historic property (or properties) was/were constructed or where the historic event(s) occurred;
- *Design:* the combination of elements that create the form, plan, space, structure, and style of a property (or properties);
- *Setting:* the physical environment of the historic property (or properties);
- *Materials:* the physical elements that were combined to create the property (or properties) during the associated period of significance;
- *Workmanship:* the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;

- *Feeling:* the property's (or properties') expression of the aesthetic or historic sense of the period of significance; and
- *Association:* the direct link between the important historic event(s) or person(s) and the historic property (or properties).

RESULTS

Background Research

The background records and literature search involved a review of existing reports of archaeological and historical studies conducted within and near the Lloyd Shoals project area, as well as unpublished documents held by Georgia Power.

Sites 9BS23 (Dempsey Ferry) and 9JA223 (Hendricks Mill) were first recorded in 1989. Inundation precluded systematic shovel testing at that time, and both sites were recommended "potentially eligible" until they could be fully assessed (Gardner 1989). The sites were inundated in the fall and winter of 2019 and were not investigated during the current surveying effort. Based on recommendations of the Muscogee (Creek) Nation and others, if the lake pool level drops to expose these sites they should be surveyed.

In 1982 the site of the Lloyd Shoals power plant village was documented for Georgia Power, and assigned Georgia Power site numbers GP-BT-01 through GP-BT-03. The Lloyd Shoals village was recorded as GP-BT-01 and was recommended eligible for the NRHP (Gardner 1989). In the same year archaeological testing was conducted on GP-BT-02 and 03. These were described as elements of the village, with GP-BT-02 being the purported location of the commissary used during dam construction, and GP-BT-03 a bottle collectors' pit in the area containing houses (Gardner 1989). Both sites were found to be not eligible for the NRHP, although it was cautioned that they were part of the larger, eligible, village site. In 1989 a cultural resources assessment was conducted for the Lloyd Shoals Hydroelectric Project in Butts, Newton, Jasper, and Henry Counties, resulting in the recording of 28 sites, including the previously recorded GP-BT-01 – GP-BT-03.

In 1989 the village was re-examined and assessed, and GP-BT-01 was split into four sites and recorded with the state as sites 9BT17-20 in 1990. All four sites retained the 1982 NRHP status recommended for GP-BT-01. The map accompanying the 1989 report was compiled from field observations and a variety of maps on file at Georgia Power. By 1940 there were two houses at 9BS20; seven buildings at 9BS18, and two building at 9BS17. In 1956 several outbuildings were recorded at 9BS18 and one house was gone. The Bug House and a boat house were present in 1956 and removed by 1959.

The 1989 map of the village is reproduced as Figure 7. A 1961 aerial shows much of the village as shown on the 1989 map (see Figure 6). A manuscript on file at Georgia Power states that there were 11 houses in the village. The 1989 map shows 17 structures, not counting sheds and garages,

along with the icehouse (GP MS 1979). Almost all of these were razed prior to construction of the auxiliary spillway.

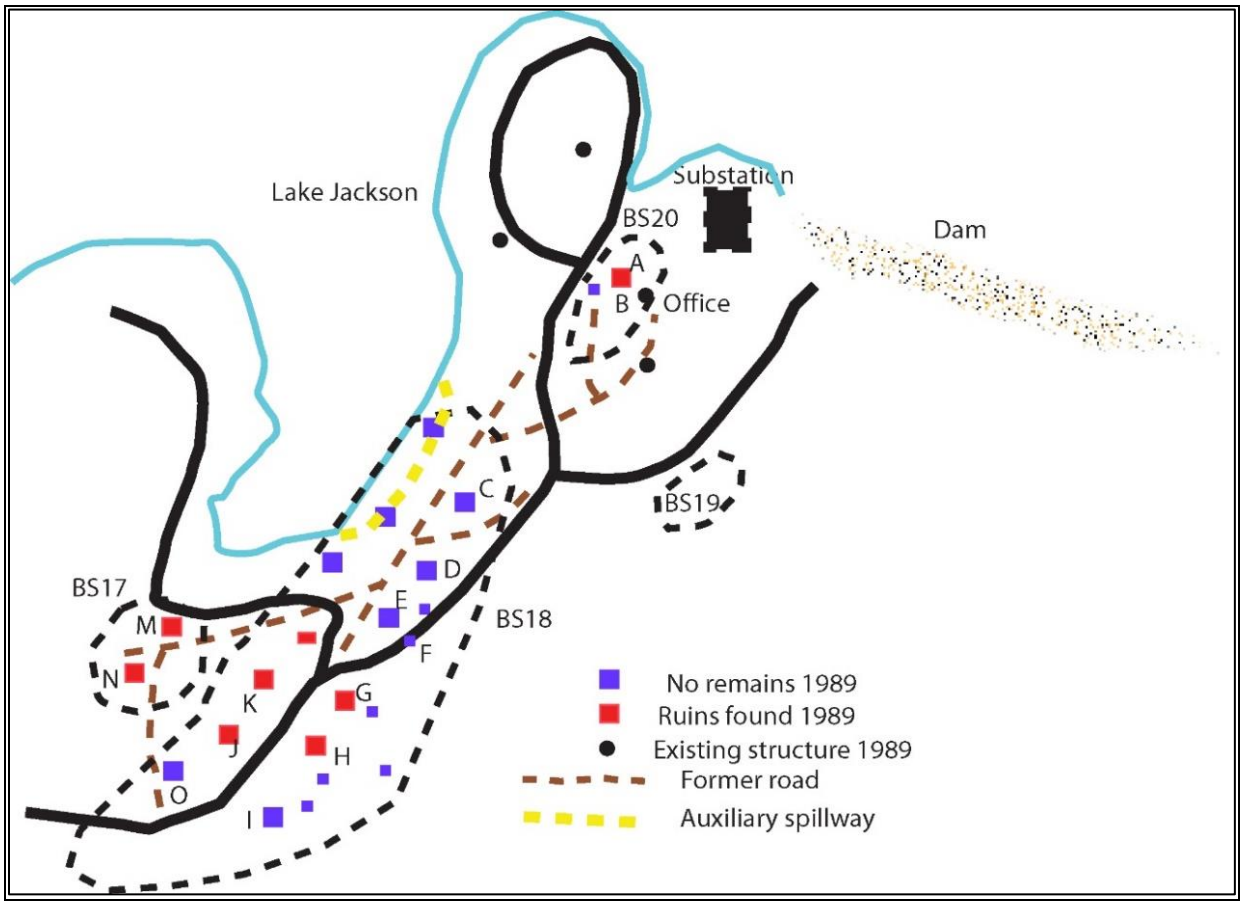

Figure 7. Adaptation of 1989 Lloyd Shoals Map (after Gardner 1989)

9BS17

Site 9BS17 was first described in a 1982 effort to record cultural resources near the dam and was recorded as part of GP-BT-01. Two "reported structure areas" (designated M and N on Figure 7) situated west of the main village area make up the site (Gardener 1989). These were thought to be housing for African American employees of the plant. One mention of African American occupants is found in the local newspapers, with a "card of thanks" from an African American family to their "white friends" at the time of a family member's death (Jackson Progress Argus April 3, 1947).

In 1989 the site location was described as a heavily wooded area on a ridge end that had been "extremely disturbed", "possibly bulldozed", and used as a dump (Gardener 1989). The dump area is not in the woods, and is not included in the mapped site location, perhaps excluded due to the level of disturbance. Portions of dry-laid walls were found at the recorded location of one of the structures, and "broken, displaced slabs of concrete" were noted "in the vicinity" (Gardner 1989). Figure 8 shows the structure (whether M or N is not known) as photographed in 1989. According to the site form the site is 80 m wide by 25 m long, presumably N-S by E-W.

Figure 8. Site 9BS17 in 1989 (from Gardner 1989).

The 2019 survey found a dump containing lumber, concrete tables and slabs, and miscellaneous debris (Figure 9) in a clearing at the documented location of 9BS17. At the edge of the area is a set of concrete stairs that may indicate the location of Structure M, based on the 1989 map (Figure 10). No other evidence for structures was found. The site location was shovel tested at 10 m intervals in order to locate intact deposits.

Figure 9. Site 9BS17 dump area.

Figure 10. Concrete stairs at Site 9BS17.

FIGURE REDACTED

Figure 11. Shovel tests excavated at Site 9BS17.

A total of 48 shovel tests were excavated across the site (Figure 11). No shovel tests were excavated in the area containing construction debris. Vegetation consists of a mixed pine and hardwood forest with dense underbrush. According to the USDA Web Soil Survey (WSS) application, soils on the site belong to the Pacolet-Saw complex, stony (PsD) with 6-15 percent slopes. Typical shovel tests contained 10-20 cm of sandy clay loam with rock inclusions over clay.

Shovel Test 17 contained artifacts recovered from 0- 15 centimeters below surface (cmbs), and a scatter of cut stone was present in the area. No intact walls or foundations were discovered. Two contiguous 1 x 1 m excavation units were placed near Shovel Test 17 in order to explore the integrity of the deposits and determine if any intact structural remains were present. The test units revealed dark brown (10YR 3/2) silty loam from 0-10 cmbs, over strong brown (7.5YR 5/6) sandy clay to clay from 1-30 cmbs.

Artifacts recovered from the unit excavation consisted of three fragments of window glass, two sherds of whiteware, one sherd of porcelain, and a brick fragment. The ceramics were not decorated. The scant collection does not contain artifacts that can be exclusively attributed to the nineteenth century or the latter part of the twentieth century and is in keeping with what is known about the occupation of the site.

Figure 12. Test Units 1 and 2 excavated at Site 9BS17, facing north.

Based on the 1989 description of 9BS17 there has been little change in the site conditions. Vegetation may be heavier in some areas, but there have been no ground-disturbing activities. The site is recommended for continued monitoring.

9BS18

This site was recorded in 1982 and described as the Lloyd Shoals Construction and Operators' Village (Gardner 1989). At that time Georgia Power site numbers GP-BT-01, GP-BT-02, and GP-BT-03 were assigned to the complex. GP-BT-02 was the site of the village commissary, located in what is now the recreation area; GP-BT-03 was a bottle collectors' pit located at the southern end of the village in a picnic area. Both the commissary and the collectors' pit were investigated and found not eligible for the NRHP in 1982, and in 1989 the main village portion of GP-BT-01 was recorded with the state as 9BS19.

Investigations in 1989 included mapping the extant remains and limited sub-surface excavations. A map produced as a result is re-created above as Figure 7. The 1989 report describes the site as "a linear arrangement … along Big Dam Road", with "readily observed remains" including curbing, stone foundations, ornamental plants, as well as concrete steps and slabs (Gardner 1989). The 1989 investigation did not locate nine structures shown on earlier maps of the village (see Figure 7). In the report Gardner notes that the "auxiliary spillway was added… sometime after 1968" which "removed evidence of Houses C, D, and E" (Gardner 1989). This construction also impacted the road to the powerhouse; a new segment was placed 46 m to the east and is the current approach.

Sub-surface investigations in 1989 consisted of shovel "cuts" and a 50 x 50 cm test unit. These revealed extremely shallow soils around the former structures, a presumed result of the razing of the village and continued landscape maintenance. The 1989 excavations contained 3-4 cm of soil over red clay and gravel (Gardner 1989). The only material recovered was found near structures J and K (see Figure 7) (Gardner 1989).

In 2019 few structural remains are apparent on the east side of Dam Road. A rubble pile may indicate the location of Structure H and a segment of foundation or curbing is visible at the posited location of Structure F. The foundation for the ice plant remains, and a cistern-like concrete block shaft situated along the shoreline may be part of the Bug House. Investigations in 2019 began with the excavation of 80 shovel tests in the mapped site area (Figure 13). No shovel tests were excavated in the vicinity of the Auxiliary Spillway. Shovel tests confirmed the 1989 description of extremely shallow soils, with typical shovel tests containing 5-10 cm of compact sandy clay over clay subsoil. The USDA Web Soil Survey (WSS) shows Pacolet-Saw complex, stony (PsD) with 6-15 percent slopes on most of the site, and udorthents (Ud) around the auxiliary spillway. The shovel tests did not contain artifacts that could be firmly ascribed to the village occupation.

FIGURE REDACTED

Figure 13. Shovel tests excavated at 9BS18.

Excavation units were placed near the extant walls where removal of the village might have had less impact on deposits. A total of eight 1 x 1 m units were excavated at the site. Four test units (TU 1-3 and TU 5)were placed in a block over a section of stacked stone wall and concrete curbing one unit (TU 4) was placed against the corner of a stacked stone wall; TU 6 was placed over a rubble scatter on the east side of Dam Road; and TUs 7-8 were placed over a segment of wall visible on the east side of Dam Road.

Test Units 1, 2, 3 and 5 were placed along a stacked stone retaining wall on the west side of Dam Road, in the vicinity of House K (see Figure 7). The units were placed to expose the area where a concrete wall or curbing segment met the stone wall (Figure 14). The units were uniformly shallow, containing 10 cm of dark brown (7.5 YR 3/2) sandy clay over strong brown (7.5 YR) clay. The excavations did not reveal subsurface structural elements.

Figure 14. Test Units 1, 2, 3, and 5 during excavations, facing west.

Test Unit 4 was placed 2 m to the north where the above-grade stone wall ends. The excavation revealed similar deposits and did not contain subsurface features.

TU 6 was placed in a grove of trees on the east side of Dam Road, where brick and concrete rubble were scattered. The 1989 map shows the remains of Structure G in this area (see Figure 7). No intact walls or foundations are currently visible. Soils in this part of the site are classified as udorthents (Ud) indicating the area is highly disturbed due to cutting and/or filling (WSS).

This1 x 1 m test unit contained 5-7 cm of dark brown (7.5YR 3/2) sandy clay over strong brown (7.5YR 5/6) clay subsoil. No artifacts were found in the unit, and no features or structural remains were present.

TU 7 and TU 8 were placed on the east side of Dam Road where a segment of cut stone protrudes from the road bank. The 1989 map places Structure G in the vicinity (see Figure 7) south of the re-alignment of Dam Road. Excavations revealed the area to contain a thin grass cover over highly disturbed soils (Figure 15), consistent with 1989 descriptions of the area (Gardner 1989). There were no artifacts found in the units. The wall fragment observed on the surface is not part of an undisturbed foundation.

Figure 15. Test units 7 and 8, facing north.

Artifacts found in the test units included fragments of asbestos siding which were discarded in the field. Collected materials span the occupation of the village up to the 1960s, in keeping with what is known about the site. No artifacts that pre-dated the Lloyd Shoals Project were present. Recovered material is shown by Test Unit in Table 2.

Other than changes in vegetation the site remains much as described in 1989. Visible ruins at 9BS18 include original curbing along Dam Road (Figure 16) and sections of the stone retaining wall on the west side of the village, a concrete slab from the icehouse, and a cistern-like structure associated with the Bug House (Figure 17). The ice plant foundation measures 13ft (4 m) E-W by 25 ft (7.5 m) N-S. The extant terrace wall is approximately 40 m in length, extending south from an old roadbed (Figure 18). The curbing is present along both sides of the road, extending from a picnic area to the intersection with Power Plant Road.

The 1989 assessment noted that there was little topsoil remaining, but that artifacts recovered were consistent with the occupation of the village. The 2019 survey found similar conditions, with little soil accumulations. The area is continually cleared of litter and debris, which has prevented any accumulation of modern materials, ensuring that the recovered artifacts unlikely to be modern trash. There have been no new impacts to structural remains, and the site is recommended for continued monitoring.

Table 2. Artifacts from 9BS18.

Unit	Artifact	Qty	Unit	Artifact	Qty
1	Whiteware	1	4	Whiteware	3
1	Clear container glass	5	4	Porcelain doll limb	1
1	Wire nail	1	4	Clear container glass	12
			4	Aqua container glass	1
2	Clear container glass	2	4	Embossed tin	1
2	Whiteware	1	4	Wire nail	1
3	Clear container glass	2	5	Whiteware	4
3	Window glass	3	5	Porcelain	2
3	Porcelain	1	5	Clear container glass	6
3	Can fragments	2	5	Brown container glass	2
3	UID metal	1	5	Milk glass	2
3	Wire nail	4	5	Clear window glass	4
			5	Insulator	2
			5	Wire nail	1

Figure 16. Curbing along Dam Road associated with 9BS18.

Figure 17. Possible remnant of the Bug House noted within 9BS18, facing north.

Figure 18. Northwest terrace wall corner at sit 9BS18.

9BS19

This site was included in the 1982 GP-BT-01 site boundaries and given the state site number 9BS19 in 1990. The 1989 evaluation of the Lloyd Shoals property described the site as being on an "artificially leveled terrace" and suggested the site was used as a staging area during dam construction. Subsurface investigations revealed no soil, consistent with past clearing and grading (Gardner 1989). The site is currently paved (Figure 19). No subsurface investigations were conducted at 9BS19.

Figure 19. Location of 9BS19, facing west.

It is unlikely that 9BS19 is a domestic site related to the other components of Lloyd Shoals village. It contained no artifacts or structural remains in 1989, and the conditions remain the same. The site does not contribute anything to our understanding of Lloyd Shoals Construction and Operators' Village and continued monitoring is not necessary.

9BS20

This site was first recorded in 1982 as part of GP-BT-01, and later given the state site number 9BS20. It is located at the northern end of the GP-BT-01 site and was the location of the plant supervisors' house from 1911 until ca. 1967 when the Lloyd Shoals village was demolished. The site contained the house (Structure A on Figure 7) and a garage (Structure B). By 1989 the location was the office complex and contained a field office, shop buildings, and parking areas (Gardner 1989). Foundations visible near the field office were ascribed to the house (Figures 20 and 21). Subsurface investigations in 1982 and 1989 found domestic artifacts west of the foundations, but they were recovered from deflated and disturbed contexts.

Vegetation is a maintained lawn and scattered shade trees. Soils on the site consist of Pacolet-Saw complex, stony (PsD) with 6-15 percent slopes. Other than the foundations there is no above-

ground evidence for the earlier occupation. Two (contiguous) 1 x 1 m units were placed in what would have been the yard area for the 9BS20 occupation. The excavations revealed a shallow root mat over strong brown (7.5YR 5/6) sandy clay subsoil (Figure 22). No evidence for subsurface features was discovered.

Recovered artifacts include a fragment of cobalt glass, two wire nails, three pieces of clear container glass, and a fragment of window glass. Nothing that predates the Lloyd Shoals occupation was recovered.

Other than vegetation there has been little change to site conditions since the 1989 assessment. The foundations remain and recovered artifacts are consistent with the Lloyd Shoals village occupation. The site is recommended for continued monitoring as it contributes to the NRHP eligible Lloyd Shoals Construction and Operators' Village.

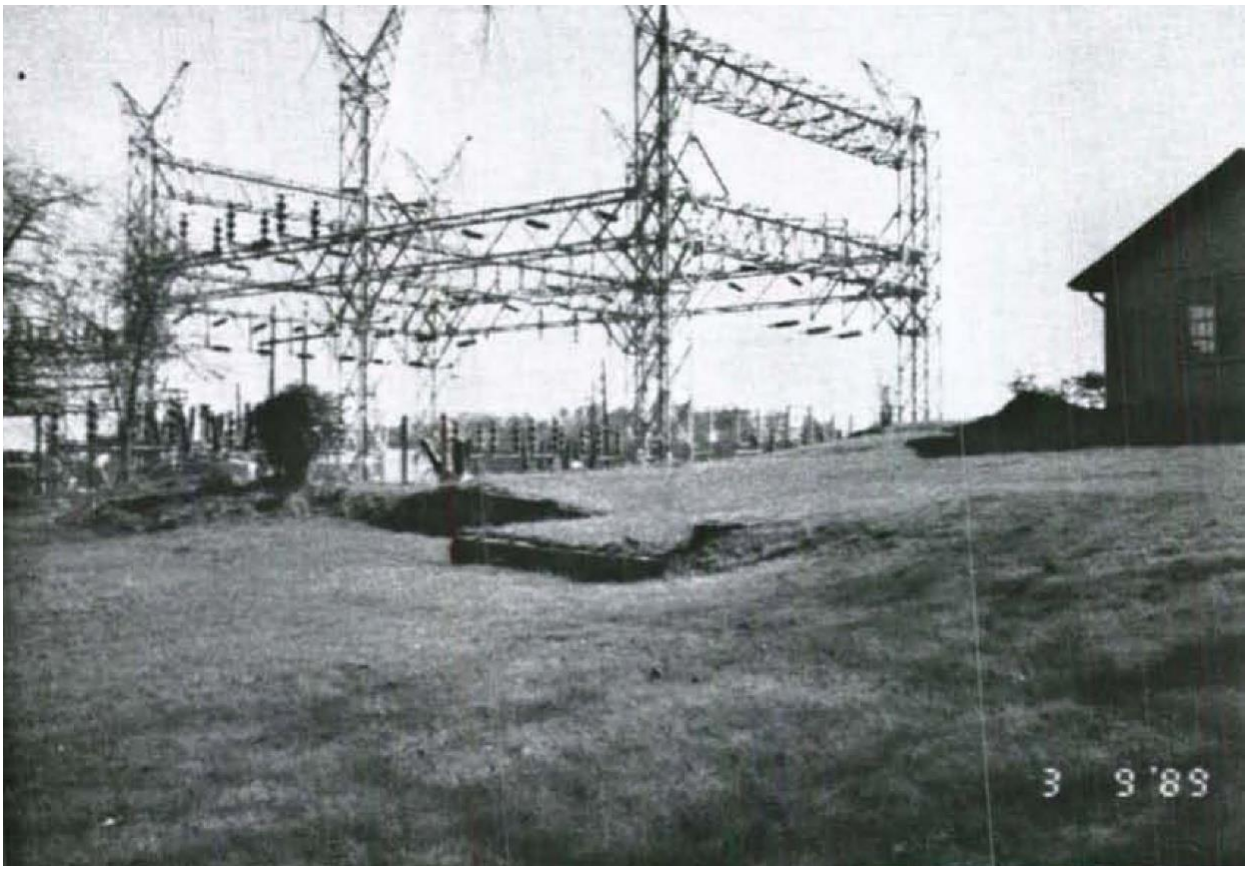

Figure 20. 9BS20 in 1989, facing north (from Gardner 1989).

Figure 21. 9BS20 in 2019, facing east.

Figure 22. Excavations at 9BS20, facing east.

5. RECOMMENDATIONS AND CONCLUSION

Six sites on Lake Jackson were recommended eligible or potentially eligible to the NRHP in 1989. The sites have been avoided by construction/development activities since that time. Two of the sites (9BS23 and 9JA223) are typically inundated. These sites were not exposed, and no evaluations were made during the 2019 study. The four sites that comprise the Lloyd Shoals village were first recorded as a single unit (GP-BT-01) containing various elements related to the domestic lives of people working at the Lloyd Shoals Project from the early to mid-twentieth century. The village was recommended eligible for the NRHP. In 1989 the site was examined as part of a larger cultural resource evaluation of the Project and was recorded as four separate sites based on locations and purpose. The recommendations made in 1982 for GP-BT-01 were kept for the individual sites; all four were recommended eligible for the NRHP and protection in place and monitoring were recommended (Gardner 1989).

When recorded in 1989 9BS17 was described as "two reported structure areas" in an extremely disturbed context on a landform that had been altered. Minimal subsurface investigations were undertaken (Gardner 1989). 2019 investigations did not locate *in situ* structural remains. Shovel tests contained 10-15 cm of soil with artifacts recovered from a single test. Disturbances on and near the site appear to be limited to areas observed in 1989. The site contributes to the Lloyd Shoals Construction and Operators' Village. Continued preservation and monitoring are recommended for this site.

The area encompassing site 9BS18 remains largely unchanged from the 1989 description. The domestic vegetation has disappeared, and the concrete steps associated with razed structures have been removed, but the curbing, piers, and foundation walls remain. Limited excavations in 1989 found 3-4 cm of soil over clay and gravel. The 2019 excavations found somewhat deeper soils along extant walls, but the site is generally unchanged from the 1989 description. The site contributes to the Lloyd Shoals Construction and Operators' Village. Continued preservation and monitoring are recommended for this site.

Site 9BS19 was documented as a construction area of unknown function. The site was graded down to subsoil prior to the 1989 assessment. The 2019 survey of the site determined that this area has been completely covered by a parking lot. The site holds little information potential. It is recommended that this site no longer be considered Eligible for the NRHP. This site can be removed from the monitoring list.

Site 9BS20 was the location of the Lloyd Shoals plant supervisors' house and operations offices. Prior to the 1989 evaluation new facilities were built in the same location. Foundations were visible in 1989 and other than vegetation there is little change to the area. Excavations indicate that foundation features remain intact at this location. The site contributes to the Lloyd Shoals Construction and Operators' Village. Continued preservation and monitoring are recommended for this site.

In 1989, while acknowledging the "severe impacts of post-occupation development" it was noted that the westerly area of the Lloyd Shoals village was less disturbed than elsewhere (Gardner 1989). The four sites comprising the Lloyd Shoals Construction and Operators Village (1907-1968) were collectively recommended eligible for the NRHP, based on the potential to answer questions about material culture and life in an industrial village setting (Gardner 1989). The 2019 survey of the sites found that other than changes in vegetation the village remains much as it was in 1989. Nothing was found to suggest occupation prior to the Lloyd Shoals era and continued maintenance of landscaped areas around the sites means that few artifacts recovered are the result of post-1968 activity. Table 3 presents the 1989 and 2019 findings and current NRHP recommendations.

Table 3. NRHP Recommendations for the Archaeological Sites Evaluated at Lloyd Shoals/Lake Jackson.

Site	Area	Description	1989 Condition	1989 Condition	NRHP Recommendation
9BS17	Lloyd Shoals Construction and Operator's Village	African American Housing area	Disturbed, foundations may be present	Disturbed, foundations are present	Eligible
9BS18	Lloyd Shoals Construction and Operator's Village	Construction Village, Numerous Features	Disturbed, foundations may be present	Disturbed, foundations are present	Eligible
9BS19	Lloyd Shoals Construction and Operator's Village	Landscape Feature, Construction Staging Pad.	Disturbed to subsurface	Disturbed to subsurface	Not Eligible
9BS20	Lloyd Shoals Construction and Operator's Village	Plant Supervisor's Home Site	Disturbed, foundations may be present	Disturbed, foundations are present	Eligible
9BS23	Hendrick's Mill	Circa 1830-1910 Grist Mill	Partially submerged	Partially submerged	Eligible
9JA223	Dempsey Ferry	Circa 1859 River Ferry	Submerged	Submerged	Eligible

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Historic Hydro-Engineering Assessment of the Lloyd Shoals Hydroelectric Project (FERC No. 2336), Butts and Jasper Counties, Georgia

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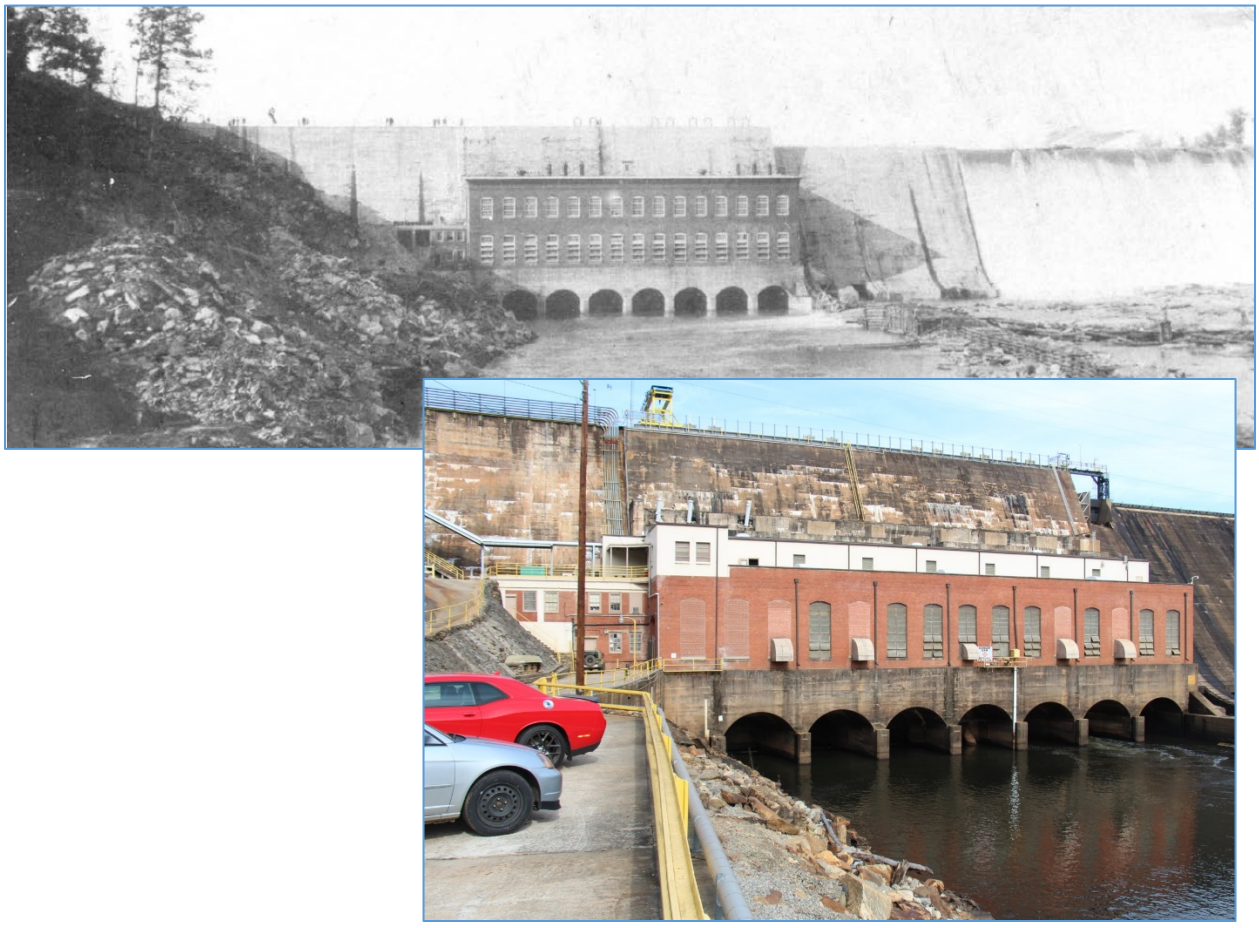
Under Contract to
Kleinschmidt

April 2020



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April 2020

Abstract

Under contract to Kleinschmidt, TRC Environmental Corporation (TRC) completed a historic hydro-engineering assessment of the Lloyd Shoals Hydroelectric Project (FERC No. 2336) (the Project) in Butts and Jasper Counties, Georgia. Built in 1910 by the Central Georgia Power Company, the Project began producing power in 1911 and was later bought by the Georgia Power Company (Georgia Power) in 1928. Georgia Power is applying to the Federal Energy Regulatory Commission (FERC) for a new license for the existing 18-megawatt (MW) Project. Georgia Power is not proposing to add capacity or make any major modifications to the Project and the Project does not occupy any federal lands. The current license expires December 31, 2023.

This hydro-engineering assessment was conducted in compliance with Section 106 of the National Historic Preservation Act of 1966 (as amended) as part of the FERC relicensing effort. Section 106 requires federal agencies to consider the effects of their actions on properties listed or eligible for listing in the National Register of Historic Places (NRHP) located within the Project's Area of Potential Effects (APE). The APE for this hydro-engineering assessment is defined as the area immediately around the dam, powerhouse, and operations areas within the Project boundary (the Project works). The purpose of this assessment was to survey the Project works to evaluate their eligibility for listing in the NRHP and assess the potential for effects on them by continued operation under the new license.

Based on the results of background research and field survey, TRC finds the Project retains good integrity and recommends that it is eligible for listing in the NRHP under Criterion A for its significance in the history of hydroelectric development in Georgia, and under Criterion C as a distinctive example of an early-twentieth century hydroelectric dam. There are no planned rehabilitations, alterations, or demolitions of structures or buildings within the Lloyd Shoals Hydroelectric Project boundaries as a result of the proposed FERC relicensing. TRC therefore finds there will be No Effect to historic properties as a result of the issuance of a new license for the Project by FERC.

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1. Introduction

Under contract to Kleinschmidt, TRC completed a historic hydro-engineering assessment of the Lloyd Shoals Hydroelectric Project (FERC No. 2336) (the Project) in Butts and Jasper Counties, Georgia. Built in 1910 by the Central Georgia Power Company, the Project began producing power in 1911 and was bought by the Georgia Power in 1928. Georgia Power is applying to the FERC for a new license for the existing 18-MW Project. Georgia Power is not proposing to add capacity or make any major modifications to the Project, and the Project does not occupy any federal lands. The current license expires December 31, 2023.

This hydro-engineering assessment was conducted in compliance with Section 106 of the National Historic Preservation Act of 1966 (as amended) as part of the FERC relicensing effort. Section 106 requires federal agencies to consider the effects of their actions on properties listed or eligible for listing in the NRHP located within the Project's APE. The APE for this hydro-engineering assessment is defined as the area immediately around the dam, powerhouse, and operations areas within the Project boundary (the Project works). The purpose of this assessment was to survey the Project works to document their current condition and evaluate their eligibility for listing in the NRHP, and to assess the potential for effects on them by continued operation under the new license. A map showing the APE and location of the Project works is provided below in Figure 1.

To complete this study, TRC conducted background research, an architectural survey, and data analysis, the results of which are presented in this report.

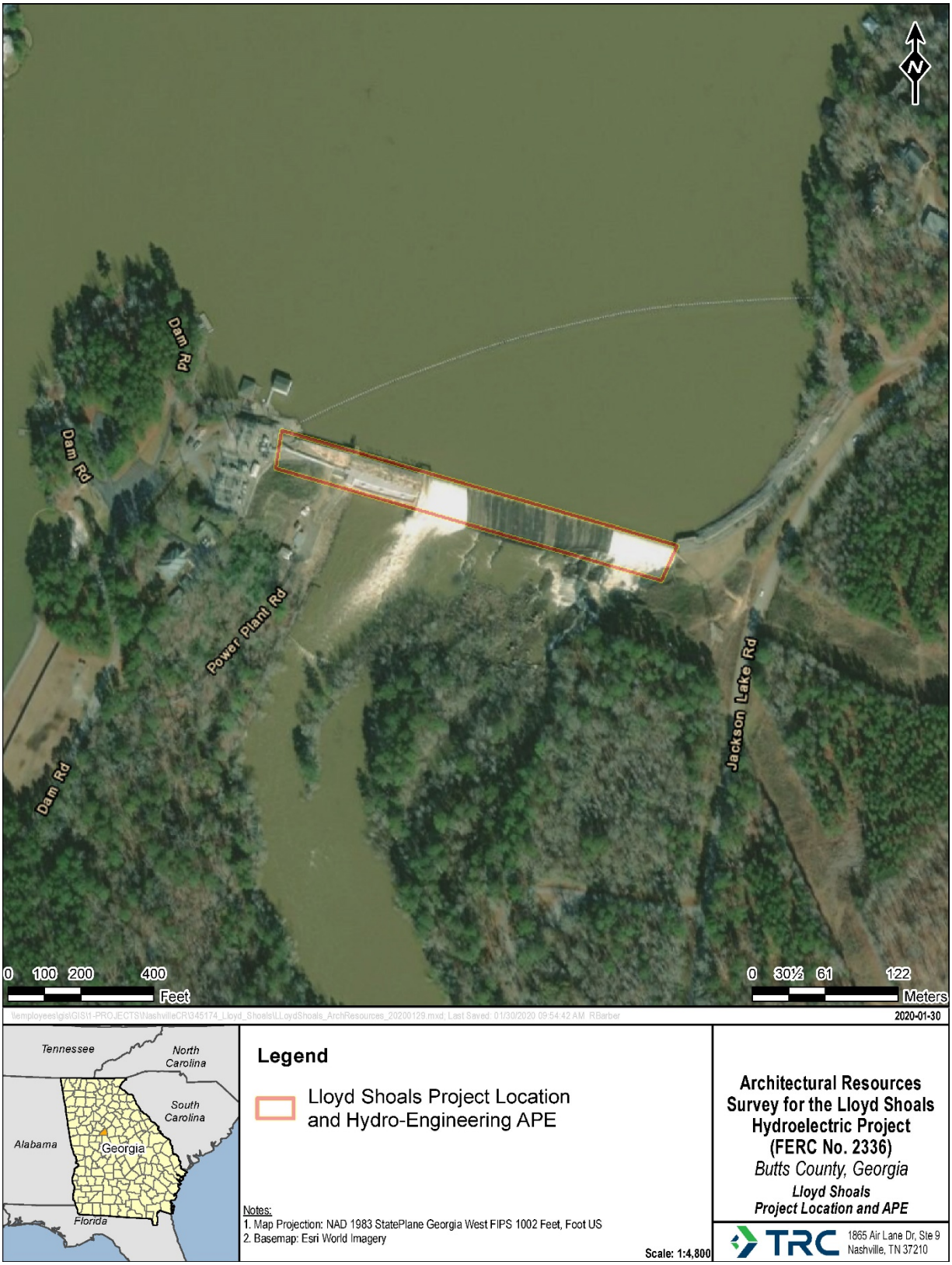

Figure 1. Lloyd Shoals Hydroelectric Project location and Hydro-Engineering APE.

2. Survey Methods

Architectural Survey

TRC completed the background research and field work for this assessment during the week of December 2, 2019, under the direction of David L. Price, Senior Architectural Historian. The Project works were photographed with a high-resolution digital camera, including multiple views of the dam, powerhouse, and operations area within the APE. At the powerhouse, all accessible interior spaces, equipment, and architectural details were documented with digital photographs and written notes on their functions and histories. Information recorded in the field included a brief description of the main resource, identification of secondary or related structures, dates of construction, physical integrity, and historic context. Survey information maintained throughout the course of the inventory included field notes, sketch maps, and photographs.

NRHP Eligibility Criteria

Sufficient data were compiled during background research and survey to make recommendations regarding eligibility for listing in the NRHP for the Project works. According to 36 CFR 60.4, cultural resources eligible for listing on the NRHP are defined as buildings, structures, objects, sites, and districts that have "integrity," and that meet one or more of the criteria outlined below.

- Criterion A (Event). Association with one or more events that have made a significant contribution to the broad patterns of national, state, or local history.
- Criterion B (Person). Association with the lives of persons significant in the past.
- Criterion C (Design/Construction). Embodiment of distinctive characteristics of a type, period, or method of construction; or representation of the work of a master; or possession of high artistic values; or representation of a significant and distinguishable entity whose components may lack individual distinction.
- Criterion D (Information Potential). Properties that yield, or are likely to yield, information important in prehistory or history. Criterion D is most often (but not exclusively) associated with archaeological resources. To be considered eligible under Criterion D, sites must be associated with specific or general patterns in the development of the region. Therefore, sites become significant when they are seen within the larger framework of local or regional development.

For a property to be eligible for listing in the NRHP it must exhibit qualities of physical integrity. This rule also applies to historic districts. The seven NRHP aspects of integrity are as follows:

- Location: the place where the historic property (or properties) was/were constructed or where the historic event(s) occurred;

- Design: the combination of elements that create the form, plan, space, structure, and style of a property (or properties);
- Setting: the physical environment of the historic property (or properties);
- Materials: the physical elements that were combined to create the property (or properties) during the associated period of significance;
- Workmanship: the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;
- Feeling: the property's (or properties') expression of the aesthetic or historic sense of the period of significance; and
- Association: the direct link between the important historic event(s) or person(s) and the historic property (or properties).

Section 106 Assessment of Effect

Sufficient data were compiled during background research and survey to make a recommendation regarding a Section 106 Assessment of Effect for this relicensing effort. Pursuant to the Section 106 Regulations set forth by the Advisory Council on Historic Preservation (ACHP) at 36 CFR § 800.5 (Assessment of Adverse Effects), TRC applied the criteria of adverse effect to the proposed Project and the resources located in the APE that are listed or eligible for listing in the NRHP (ACHP 2004). The Assessment of Effect is provided for NRHP-listed or eligible properties in Chapter 5.

§ 800.5 Assessment of adverse effects.

> *Apply criteria of adverse effect*. In consultation with the SHPO/THPO and any Indian tribe or Native Hawaiian organization that attaches religious and cultural significance to identified historic properties, the agency official shall apply the criteria of adverse effect to historic properties within the area of potential effects. The agency official shall consider any views concerning such effects which have been provided by consulting parties and the public.

(1) *Criteria of adverse effect*.

> An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National

Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

(2) *Examples of adverse effects*.

Adverse effects on historic properties include, but are not limited to:

(i) Physical destruction of or damage to all or part of the property;

(ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines;

(iii) Removal of the property from its historic location;

(iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;

(v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;

(vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and

(vii) Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

3. Historic Context

Hydroelectric Development at Lloyd Shoals

In his two-volume work, *Hydroelectric Development in the United States, 1880-1940*, Duncan Porter Hay defined three broad periods in the evolution of hydroelectricity in the United States prior to World War II: a pioneering period (1880-1895); a period of innovation and experimentation (1895-1915); and a period of standardization (1920-1930) (Hay 1991). It was during the second period of innovation that hydroelectric projects were developed in Georgia, including Lloyd Shoals. The standardization of hydroelectric development continued through the World War II and post-war periods as small private power companies consolidated into large corporations such as Georgia Power to create the foundation of modern power transmission and distribution systems.

Following the early pioneering period in the late-nineteenth century, the period of hydroelectric innovation and experimentation led to the construction of new hydroelectric plants across the nation. Key to this pattern of events was the development of alternating current (AC) electrical generation in 1895 and its first commercial use at Niagara Falls, New York. Unlike early direct current (DC) generation, AC current showed it was no longer necessary for a power supply to be located immediately adjacent to a factory or community. AC could be generated at one voltage, increased through transformers to a higher voltage for transmission, and then decreased through transformers for distribution to consumers via copper wires over long distances. This allowed for the possibility of electrical generation at one source and transmission to consumers in distant urban areas or to industrial clients (Hay 1991:22, 24–25).

Georgia's first venture into AC hydroelectric power was in 1904, when the Georgia Railway and Electric Company, a precursor of Georgia Power, entered into an agreement with the S. Morgan Smith Company to purchase power from the Atlanta Water and Electric Power Company's Bull Sluice Hydroelectric Plant, which was then under construction on the Chattahoochee River. Prior to that time, the Georgia Railway and Electric Company had relied on steam-powered DC generators to power the city of Atlanta's street cars and streetlights, as well as provide electrical service to a limited number of commercial and residential customers. The growing demand for electricity, however, strained the capacity of these units and made it clear that new power sources were necessary (Georgia Power 2016).

Located on the Ocmulgee River approximately 35 miles above the fall line at Macon, the Lloyd Shoals site was ideally suited for a modern hydroelectric power plant. The site was just below the point where the Ocmulgee is formed by the confluence of Tussahaw Creek and the South, Yellow, and Alcovy Rivers. Grist and sawmills were established along these rivers during the nineteenth century. As early as 1885 Lloyd Shoals was identified for its water power potential as "the most important shoal above Macon… the total fall being over 39 feet in less than 2 miles, the principal part of which occurs at the head, in a distance of 2,000, but the whole of which is probably available" (Swain 1885). The site featured two high bluffs at a narrow neck of the river with a solid granite bed offering an ideal foundation for the dam and its abutments.

In 1907, the Central Georgia Power Company began purchasing property in the area for construction of a hydroelectric dam at Lloyd Shoals. Plans for the development caught the attention of industry technical journals *The Engineering Record* and *Electrical Review and Western Electrician*, which noted it was "the largest hydroelectric development in Georgia and one of the most perfect of its size and nature in the world. Even to the layman it provides a striking example of the thrift, enterprise and rapid development of the New South" (*The Engineering Record* 1909; *Electrical Review and Western Electrician* 1911). With its advantages of size and engineering, the Lloyd Shoals dam was poised to transform the power market of central Georgia by replacing many of the independent steam plants that powered the region's cotton mills, cities, and towns (Georgia Power 2018a).

Construction at Lloyd Shoals began in October of 1908 under the supervision of J. G. White and Company, Inc., of New York, with Lane Brothers, Inc., of Altavista, Virginia, contracted to build the facility. The consulting engineering firm was Lockwood, Greene and Company of Boston. The project was funded by investors from New York as well as a $3 million mortgage from the Windsor Trust Company of New York (Lynn 1979; EDAW 1990; *Butts County Progress* 1909a).

By early 1909 there were over 500 men working in round-the-clock shifts clearing trees and undergrowth from the reservoir area, mixing concrete, and laying the dam foundations on granite bedrock. With the exception of cement, all materials needed to build the dam were sourced from the project vicinity, including sand, quarried granite, and timber needed for construction of coffer dams, railways, and bridges (*Electrical Review and Western Electrician* 1911). An average of 500 cubic yards of concrete was laid per day for a total of 175,000 cubic yards of masonry in the dam. The dam was first built to a height of 30 feet to make it secure from annual spring flooding before it was raised in sections to its final height of 105 feet. Construction contractors built a six-mile long standard gauge railroad to transport materials and equipment from the nearby Southern Railroad, and workers lived at an on-site temporary construction camp with segregated housing areas for black and white workers (EDAW 1990). A local newspaper reported that African-American labor was in short supply at the time, so the Central Georgia Power Company hired a crew of over 65 Eastern European and Italian immigrants from northern states to work on the dam (*Butts County Progress* 1909b). The historic photographs in Figures 2 and 3 show the construction progress in the summer of 1909.

Figure 2. Lloyd Shoals dam construction, looking east, August 1909 (Courtesy of Georgia Power).

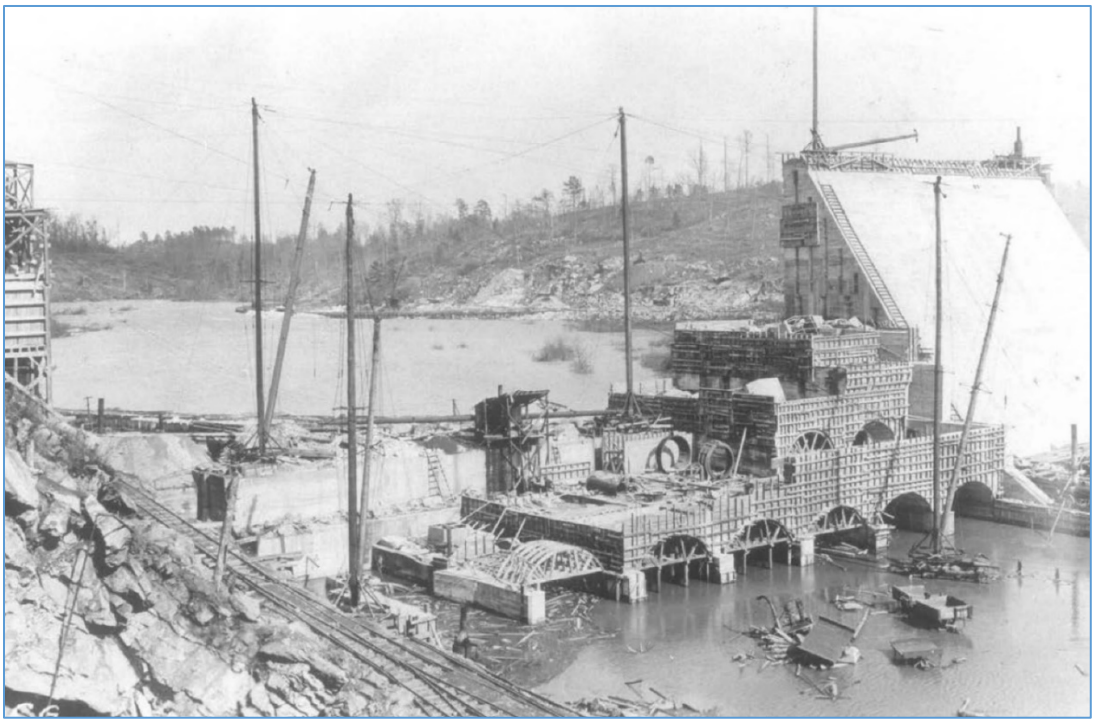

Figure 3. Lloyd Shoals dam and powerhouse under construction circa 1909, looking northeast (Courtesy of Georgia Power).

The two-story powerhouse was built on the west non-overflow end of the dam (Figure 4). Featuring a steel frame with brick curtain walls on a reinforced concrete substructure, the powerhouse was integrated into the downstream side of the dam. The water intake structure was built directly behind the powerhouse in the upstream face of the dam to minimize penstock length, and the turbines were encased in the dam structure. The powerhouse featured a common early-twentieth century industrial design with its rectangular block shape and a flat roof with corbeled cornice. The downstream façade was divided into 15 bays containing arched awning windows on the first and second stories (EDAW 1990). On the roof of the powerhouse were the original electrical transmission towers, and on west end of the main powerhouse block was a recessed two-story administration building.

The main floor of the powerhouse housed the generator equipment with the switches and transformers located on the second floor. All turbines and hydraulic equipment inside the powerhouse were supplied by the S. Morgan Smith Company of York, Pennsylvania, and the generators and electrical equipment furnished by Westinghouse Electric and Manufacturing Company of Pittsburgh. Units 1, 2, 3, and 4 were installed in 1910, featuring 39-inch horizontal, Francis-type McCormick turbines with double runners that were connected to horizontal, alternating current Westinghouse generators. Unit 5 was added in 1916, followed by Unit 6 in 1917, both of which featured 42-inch turbines. A historic photograph showing the installation of Unit 6 and the original interior of the powerhouse is shown below in Figure 5. A vertical cross section drawing showing the overall design of the dam, powerhouse, penstocks, draft tubes, and generator unit is provided below in Figure 6.

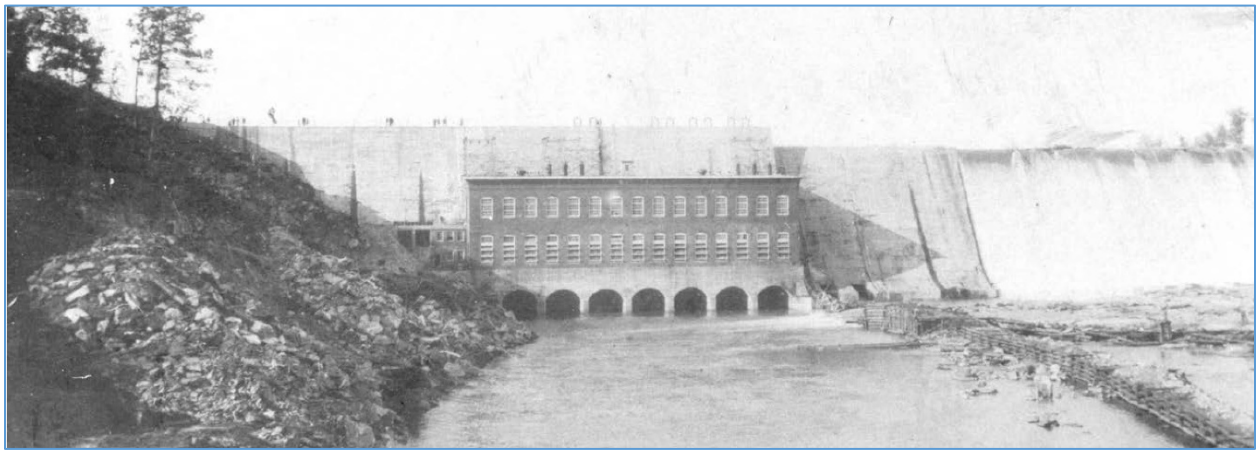

Figure 4. Powerhouse and dam shortly after completion, looking northeast, circa 1910 (Courtesy of Georgia Power).

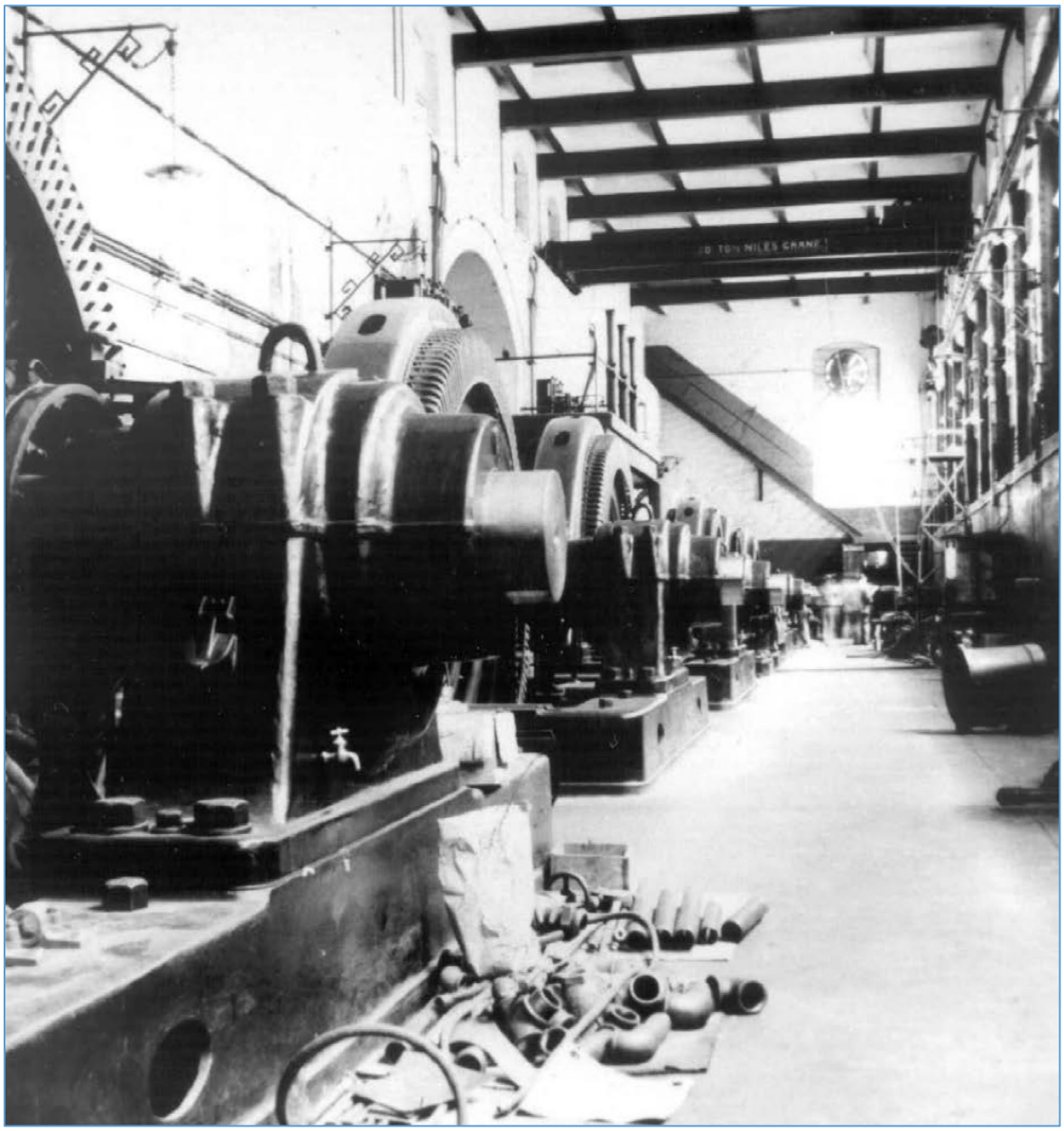

Figure 5. Interior of the powerhouse showing installation of generator Unit 6, looking east, 1917 (Courtesy of Georgia Power).

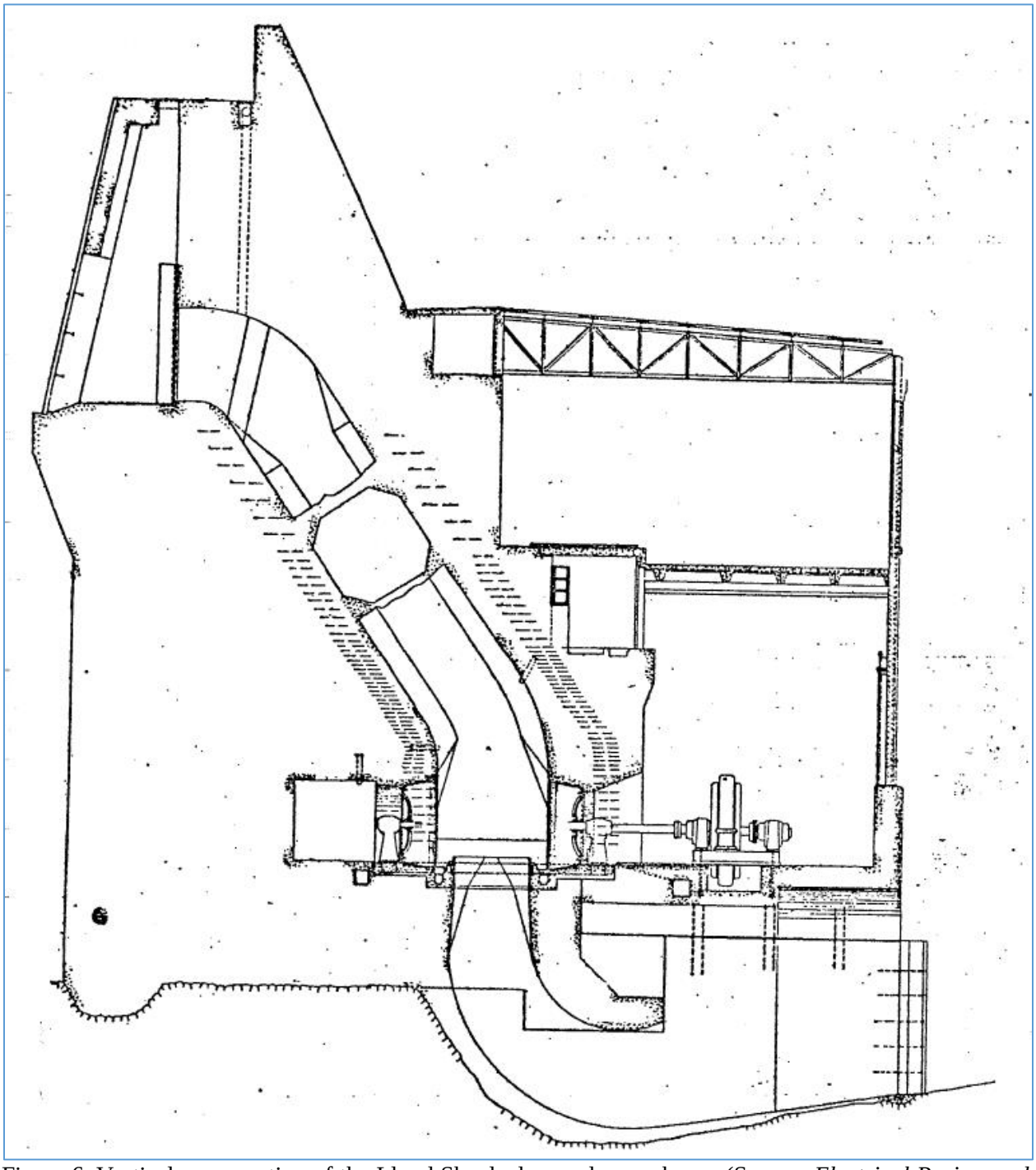

Figure 6. Vertical cross section of the Lloyd Shoals dam and powerhouse (Source: *Electrical Review and Western Electrician* 1911).

The dam floodgates were closed in 1910, creating the Lake Jackson reservoir with a surface area of 4,750 acres and a normal pool elevation of 530 feet above sea level. In 1911, the Central Georgia Power Company began commercial operation of its four generating units and transmitting power from Lloyd Shoals to Forsyth and Macon to the south and Griffin to the west. The company soon expanded its service area and linked its transmission system to other power suppliers. In 1914, the company extended a transmission line north to the outskirts of Atlanta where it linked with the Georgia Railway and Power Company. The expansion of the transmission system reflected the diverse and growing industrial base of central Georgia, which included "cotton mills, knitting mills, cotton-seed oil mills, wood working mills, railway plants, fertilizer plants, breweries, flour mills, brick plants, packing plants, etc." (*Electrical Review and Western Electrician* 1911). A 1917 map of the Lloyd Shoals transmission network is shown below in Figure 7.

During an era of power company consolidation in the 1910s-1920s the Atlanta-based Georgia Railway and Power Company bought other locally oriented power suppliers, fueling its growth into the regional supplier now known as Georgia Power. In 1928, the Lloyd Shoals plant was acquired by Georgia Power (EDAW 1990; Georgia Power 2018a).

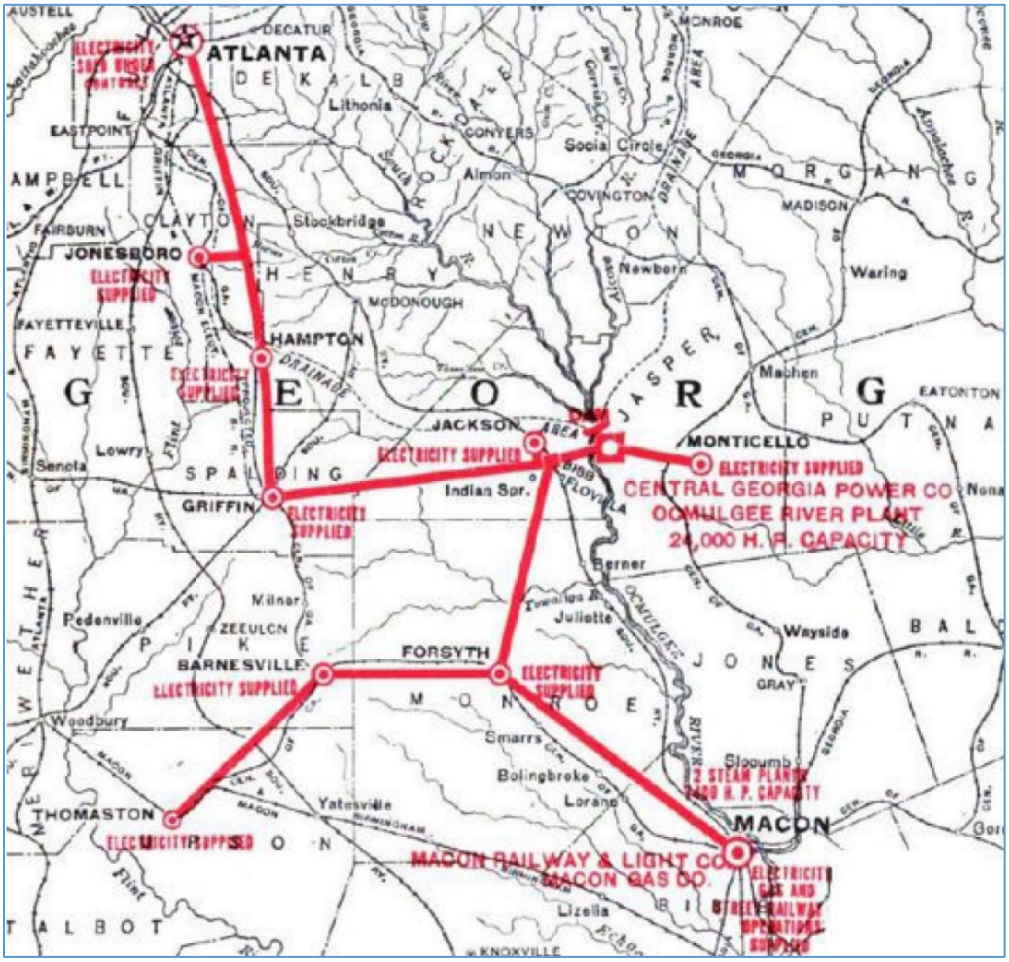

Figure 7. Lloyd Shoals power distribution map, 1917 (Courtesy of Georgia Power).

The Project underwent minor alterations during its first 70 years of operation as it shifted from its original function of providing base load power to its current role as a producer of peak-load power. The dam received routine maintenance and machinery upgrades, including the replacement of the original turbines and shafts with duplicate parts, rewinding of the generators, and upgrading of governors and other electrical equipment (EDAW 1990). Six of the original awning windows on the ground floor of the powerhouse were enclosed with brick at an unknown date for the installation of hooded ventilation fans. A vertical lift spillway gate was added to the west end of the dam spillway section in 1971 to regulate reservoir levels and clear out trash, and in 1972 a 500-foot wide emergency spillway was built 1,000-feet to the southwest of the dam on the west side of Dam Rd.

On January 20, 1983, a transformer exploded in the powerhouse causing a fire that destroyed the building's upper level (Figure 8), including auxiliary electrical and mechanical equipment on that level, and damaged the Unit 6 generator. Georgia Power soon rebuilt the upper level with an L-shaped concrete block structure that is set back from the original façade and has a lower roof height than the original building (EDAW 1990). In 2012, the wooden flashboard assemblies on the crest of the spillway were replaced with an Obermeyer gate system.

Figure 8. Lloyd Shoals powerhouse damaged in 1983 fire (Courtesy of Georgia Power).

4. Survey Results

Background Research

Background research showed the Lloyd Shoals Hydroelectric Project is well documented in the historic record and the site files at the Georgia State Historic Preservation Office (GA SHPO). The Project was inventoried in 1975 for the Historic American Engineering Record (HAER) as part of the *Inventory of Historic Industrial and Engineering Sites in Georgia* (Brittain 1975). In 1976, the GA SHPO proposed nominating Lloyd Shoals to the NRHP along with four other hydroelectric developments in the state, but it was never listed (GA SHPO Correspondence File).

The Project was next surveyed by consulting firm EDAW in 1990 for a previous FERC relicensing effort and recommended eligible for listing in the NRHP under Criterion A for its significant association with the development of hydroelectric power in Georgia and under Criterion C for significance in architecture and engineering (EDAW 1990). Background research did not reveal any SHPO correspondence concurring with EDAW's eligibility recommendation, and the Project has not been entered into Georgia's Natural, Archaeological, and Historic Resources GIS (GNAHRGIS). Additional research was gathered from available Georgia Power corporate historic resource files, including previous studies, historic photographs, and historical information about the Project.

Project Description

The Lloyd Shoals Hydroelectric Project is located on the Ocmulgee River in Butts and Jasper Counties, Georgia, at river mile 250.2, just south of the confluence of Tussahaw Creek, and the Alcovy, Yellow, and South Rivers. The Project works consist of a concrete gravity dam and an integral powerhouse. The spillway portion of the dam is on the east side of the river, mostly in Jasper County, while the powerhouse and non-overflow section of the dam are on the west side of the river in Butts County. The dam reservoir, Lake Jackson, has a surface area of 4,750 acres at the normal full pool elevation of 530 feet and has 135 miles of shoreline. Exterior and interior views of the Project works are shown below in Figures 9-19.

Dam

The dam has a maximum height of approximately 105 feet and is 1,599 feet long. It is 11-feet wide at the crest and 95 feet wide at the base of the spillway. It is constructed of cyclopean concrete, which is characterized by the placement of large boulders in the structure as the concrete was poured. The dam consists of the following sections listed from west to east (and length):

- West concrete non-overflow section (143 feet);
- Powerhouse intake section (198) feet);
- Concrete spillway with three Obermeyer pneumatic spillway gates and one trash gate (728.5 feet);

- East earth embankment with concrete core wall (530 feet).

The powerhouse intake section of the dam contains six, 12-foot by 12-foot octagonal, cast-in-place concrete penstocks that supply water to the turbines. In front of the intake on the upstream side of the dam is a steel trash rack with vertical bars. There is a 2,100-foot long saddle dike located along Jackson Lake Road, approximately 3,000 feet upstream from the east end of the dam, and a 500-foot long auxiliary spillway located about 900 feet southwest of the dam. The auxiliary spillway contains 10-foot high flashboards (Georgia Power 2018b).

Powerhouse

The two-story powerhouse is integrated in the southern downstream face of the dam, on the non-overflow section at its western end. Completed in 1910, the building originally had a rectangular form with two full stories that measured 65 feet high from the generator floor and 194.5 feet long. It was built with brick curtain walls on a steel frame, with reinforced concrete floors carried on steel beams. The brick walls were laid in a common bond pattern with four header rows creating the window arches.

Today, the ground level includes the remains of the original 1910 building, which is topped by a concrete block section built after a 1983 fire destroyed the original upper level (see Figure 7). The concrete substructure contains seven water discharge tunnels. The ground floor façade is divided into 15 bays that originally contained arched metal awning windows. Of the 15 original window openings, six have been enclosed with brick to support the installation of hooded ventilation fans. On the west end of the powerhouse is an original two-story brick wing that serves as the administration and office area. It features original eight-over-eight wood sash windows and modern metal replacement doors. Adjacent to the administration wing on the powerhouse west elevation is an original arched high-bay door.

The interior of the main floor looks much like it did originally with its concrete floor, exposed I-beam ceiling, brick and concrete walls, and original 20-ton Niles gantry crane. The space contains six original turbine-generator units, numbered 1 through 6 from west to east. The turbines are horizontal, Francis-type, double-runner units each rated 5,650 horsepower at 96.8 feet of head and 550 cubic feet of water per second. Each of the six turbines is directly connected to a horizontal alternating current generator. Most of the associated electrical equipment has been replaced over time as it became obsolete or was destroyed in the 1983 fire. The interior of the rebuilt second floor is smaller than the original space and features modern equipment and concrete block walls.

The 1983 upper story has an L-shaped plan formed by a single projecting bay on the west end that is flush with the original façade and a rear portion that is stepped back from the facade. It contains modern electrical and control equipment, including transformers, generator breakers, exciters, and air compressors. Power generated by the plant is transmitted from the west end of the upper floor to the substation located west of the dam, outside the Project APE.

Figure 9. Lloyd Shoals Hydroelectric Project dam and powerhouse, looking east, December 2, 2019.

Figure 10. View of the powerhouse and non-overflow section of dam, looking northeast, December 2, 2019.


Figure 11. Administration area at west end of powerhouse, looking northeast, December 2, 2019.


Figure 12. View of the dam and top of powerhouse from west end, looking east, December 2, 2019.

Figure 13. View of spillway face and spillway trash gate, looking northeast, December 2, 2019.

Figure 14. Crest of dam and spillway, December 2, 2019.

Figure 15. View of powerhouse main generating floor, looking southeast, December 2, 2019.

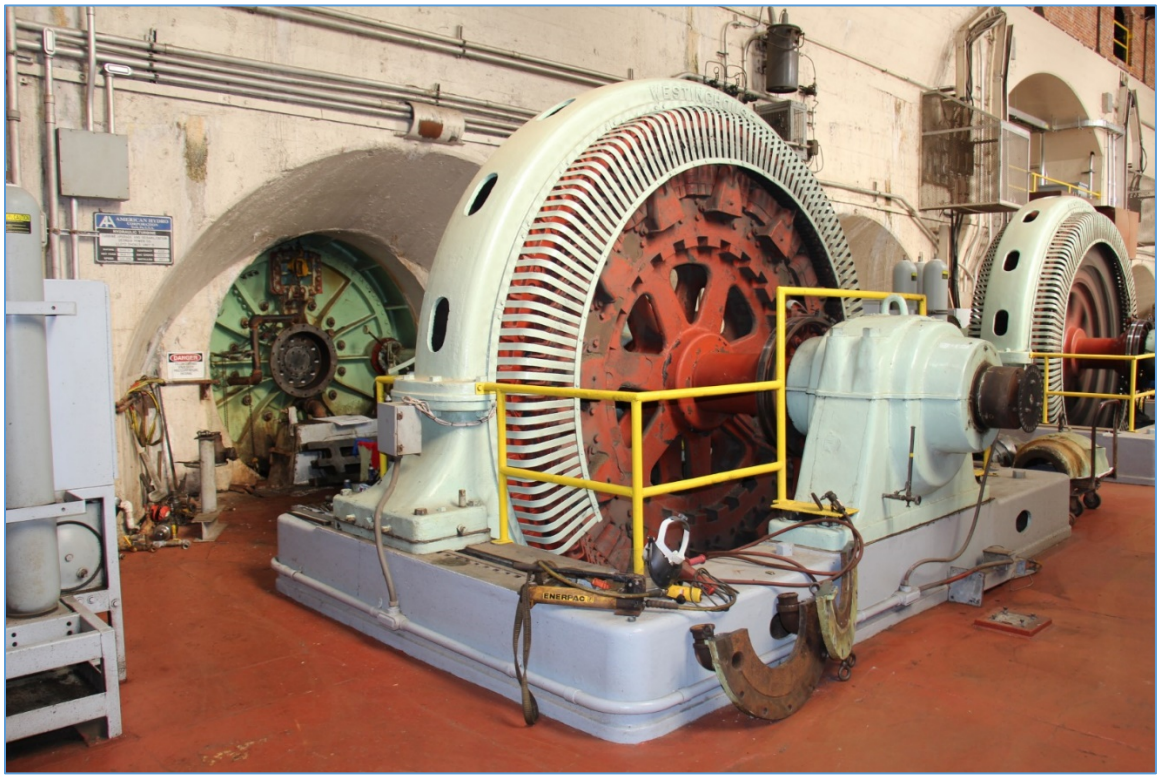

Figure 16. Generating Unit 1, looking northeast, December 2, 2019.

Figure 17. View of main floor, looking northwest, December 2, 2019.

Figure 18. Exterior view of second floor, looking northwest, December 2, 2019.

Figure 19. Interior view of second floor showing electrical equipment, looking northeast, December 2, 2019.

5. Recommendations and Conclusion

NRHP Evaluation

Background research shows the Lloyd Shoals Hydroelectric Project has long been recognized as a significant historic resource associated with the early development of hydroelectric power production in Georgia. The Project was inventoried in 1975 for the National Park Service's HAER program and in 1976 was recommended for nomination to the NRHP by the GA SHPO but was not formally listed (Brittain 1975; GA SHPO Correspondence File).

The Project was next surveyed and evaluated for listing in the NRHP in 1990 during a previous FERC relicensing effort (EDAW 1990). The EDAW report provided a detailed historic context and description of the Project, and concluded it was "significant to both local and state developments in engineering, industry and commerce (EDAW 1990:6-2)" Though its level of architectural significance was compromised by a partial loss of integrity due to the 1983 fire that destroyed the upper story of the powerhouse, EDAW found the loss of integrity did not wholly disqualify the Project from NRHP eligibility. The damage caused by the fire was limited to the upper portion of the powerhouse, which otherwise continued to function in its original capacity. The ground floor of the powerhouse remained largely intact and the dam retained its original character. In conclusion, EDAW recommended the Project eligible for listing in the NRHP at the local level under Criterion A for its significant association with the history of hydroelectric development in Georgia, and under Criterion C as a distinctive example of an early-twentieth century hydroelectric dam.

TRC conducted additional field work and background research to assess the current conditions of the Project and recommends it remains eligible for listing in the NRHP under Criteria A and C. Aside from the 2012 installation of the Obermeyer gate system on the dam spillway, the Project has undergone no major alterations or additions since the 1990 study and it retains integrity of location, setting, workmanship, feeling, and association. The GA SHPO found that the Obermeyer gate installation had No Adverse Effect on the historic dam (Anderson-Cordova 2011). Its integrity of design and materials were somewhat diminished by the fire damage to the powerhouse, but overall the Project retains good integrity and continues to express its historic character and function.

Section 106 Assessment of Effect

In accordance with Section 106 of the NHPA (as amended), TRC completed an assessment of effects from the proposed FERC relicensing on the Project. Guidelines for this evaluation are set forth in the ACHP's regulations at 36 CFR, Part 800. According to 36 CFR 800.5 (a)(1), an Adverse Effect occurs when an undertaking may directly or indirectly alter the characteristics of a historic property that qualify it for listing in the NRHP. Reasonably foreseeable effects caused by the undertaking may occur later in time, be farther removed in distance, or be cumulative also need to be considered. Examples of adverse effects include, but are not limited to, physical destruction or damage, alteration not consistent with the Secretary of the Interior's Standards; relocation of a

property; change of use or physical features of a property's setting; visual, atmospheric, or audible intrusions; neglect resulting in deterioration; or transfer, lease, or sale of a property out of federal ownership or control without adequate protections. A finding of No Adverse Effect occurs when the undertaking's effects do not meet the criteria listed above. Where the effect is nonexistent or negligible, a No Effect Finding occurs (ACHP 2004).

There are no planned rehabilitations, alterations, or demolitions of structures or buildings within the Lloyd Shoals Hydroelectric Project boundaries as a result of the proposed FERC relicensing. TRC therefore finds there will be No Effect to historic properties as a result of the issuance of a new license for the Project by FERC.

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