



North Carolina Department of Natural and Cultural Resources
State Historic Preservation Office

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Governor Roy Cooper
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Office of Archives and History
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July 30, 2020

Amanda Jones
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Wilmington District
Asheville Regulatory Field Office
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Asheville, NC 28801

Amanda.Jones@usace.army.mil

Re: Demolish Ward Mill Dam (SAW-2019-02297), Old Watauga River Road, Sugar Grove, Watauga County, ER 20-0338

Dear Ms. Jones:

Thank you for your email of July 20, 2020, transmitting the pre-construction notification and the requested Historic Structure Survey Report (HSSR), "Ward Mill Dam Removal, Ward Mill Dam, Sugar Grove, Laurel Creek Township, Watauga County, North Carolina". We have reviewed the documentation and offer the following comments.

We concur that the B.O. Ward Mill Complex and House (WT0358) is eligible for listing in the National Register of Historic Places under Criteria A and C for the reasons listed in the HSSR. We have no recommendations for revision and accept this version of the HSSR as final.

We also concur that the proposed removal of the dam, a contributing resource, will adversely affect the historic property. We note that you have notified the Advisory Council on Historic Preservation of the adverse effect. We look forward to the receipt of a draft Memorandum of Agreement for review.

During our consultation call of July 28, 2020, we discussed potential mitigation strategies which may include the development of a context document for dam sites along the Watauga River, within Watauga County, or another appropriately scaled study area, alternatively a historic structure survey of dam sites may be performed. Additionally, we would like to propose either installation of interpretive panels on-site, or a GIS story map that informs the public of the results of one of the studies previously mentioned and the relationship to the stream restoration activities in the western region.

We note that the appropriateness of placing interpretive panels depends on the future use of the property and likelihood for public interaction. Also, archival level recordation is a standard mitigation strategy required by us, however the level of documentation presented in the HSSR is sufficient for those purposes. Further recordation will not be required.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, Environmental Review Coordinator, at 919-814-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,



 Ramona Bartos, Deputy
State Historic Preservation Officer

cc Jake Mclean, Wildlands Engineering
Ellen Turco, Richard Grubb & Associates
Sarah David, NCHPO
Annie McDonald, NCHPO

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HISTORIC STRUCTURES SURVEY REPORT



WARD MILL DAM REMOVAL

**Ward Mill Dam, Sugar Grove, Laurel Creek Township,
Watauga County, North Carolina**

NCSHPO ER #: 20-0338

SUBMITTED TO:

Blue Ridge Resource Conservation and Development Council, Inc.
31 Cross Street, Suite 215
Spruce Pine, North Carolina 28777

July 2020

Technical Report # 2020-077NC

RICHARD GRUBB & ASSOCIATES

HISTORIC STRUCTURES SURVEY REPORT

WARD MILL DAM REMOVAL

Ward Mill Dam, Sugar Grove, Laurel Creek Township,
Watauga County, North Carolina

NCSHPO ER #: 20-0338

Principal Investigator:

Ellen Turco

Authors:

Ellen Turco

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Wake Forest, North Carolina 27587

Submitted to:

Blue Ridge Resource Conservation and Development Council, Inc.

31 Cross Street, Suite 215

Spruce Pine, North Carolina 28777

Date:

July 7, 2020

Technical Report # 2020-077NC

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1.0 MANAGEMENT SUMMARY

Richard Grubb & Associates, Inc. (RGA) completed a Historic Structures Survey Report (HSSR) of the B.O. Ward House and Mill Complex site at 443 Old Watauga River Road (Parcel ID No. 1961486427000) in Sugar Grove, Laurel Creek Township, Watauga County, North Carolina, for the proposed Ward Mill Dam Removal Project. The survey was conducted on behalf of the Blue Ridge Resource Conservation and Development Council, Inc. The proposed project is anticipated to require a United States Army Corps of Engineers (USACE) permit. The purpose of the HSSR was to identify and evaluate historic resources present within the Area of Potential Effects (APE) in order to comply with Section 106 of the National Historic Preservation Act, as amended.

The proposed project is located on the Watauga River in western Watauga County and encompasses the Ward Mill Dam, a 1964 concrete operated dam designed for manual starting and operating. The APE for the undertaking was defined as an approximate five-acre area encompassing the dam and buildings and structures associated with B.O. Ward within the viewshed of the dam.

In June 2020, RGA architectural historians recorded the B.O. Ward House and Mill Complex (Appendix A). The resource was evaluated using the National Register of Historic Places (NRHP) Criteria for Eligibility (Table 1.1; Appendix B). As a result of this assessment, RGA recommends the B.O. Ward House and Mill Complex eligible for the NRHP.

Table 1.1: Resources evaluated for the current undertaking.

Survey Site No.	Resource Name	NRHP Recommendation
WT0358	B.O. Ward House & Mill Complex	Eligible under Criteria A and C

2.0 PROJECT DESCRIPTION AND METHODOLOGY

In June 2020, on behalf of Blue Ridge Resource Conservation and Development Council, Inc., RGA completed a Historic Structures Survey Report (HSSR) and National Register of Historic Places (NRHP) Evaluation for the proposed Ward Mill Dam Removal Project. The purpose of the survey and this report is to identify and evaluate historic resources present within the project's Area of Potential Effects (APE) in order to comply with Section 106 of the National Historic Preservation Act, as amended. This report meets the requirements of Section 106 and the manual Report Standards for Historic Structure Survey Reports/Section 16/110 Compliance Reports in North Carolina (North Carolina State Historic Preservation Office [HPO], 2019).

2.1 Project Location and Setting

The project is located on the Watauga River in western Watauga County, 8.5 miles west of the county seat of Boone. The street address is 443 Old Watauga River Road, Sugar Grove, Laurel Creek Township, Watauga County, North Carolina (Parcel ID No. 1961486427000) (Figures 2.1 and 2.2). The Ward Mill Dam lies on the 59-acre subject parcel on the west side of the river, approximately one-half mile northwest of the confluence of Cove Creek and the Watauga River. The dam is situated in a steep river valley formed by Beaver Dam Ridge to the east and Long Ridge to the west. The area is rural and agricultural in character. The legal parcel is mostly wooded, except for the approximately five-acre area on the west bank of the river that contains the dam, buildings, and structures that make up the B.O. Ward House and Mill Complex (WT0358). The Ward Mill Dam impounds a 4.6-acre mill pond.

2.2 Project Description

The proposed Ward Mill Dam Removal Project involves the removal of a concrete and rock dam structure that is approximately 20 feet high, 110 feet wide across the spillway, and 21 feet wide at the base. The dam was completed in 1964 by Benjamin Oscar (B.O.) Ward to replace an earlier wood structure. The dam's electrical generation facilities were decommissioned as part of the recent (2017) forfeiture of a Federal Energy Regulation Commission (FERC) license.

The proposed project will include stream restoration activities to redefine the low flow and reshape the stream banks to reestablish a natural stream channel through the footprint of the existing structure and the immediate upstream and downstream areas shown on the project activities map (Figure 2.3). In these areas, and in other areas of the current impoundment, native riparian vegetation will be reestablished through seeding and live staking to enhance long-term stability. Minor grading may occur along banks within the immediate vicinity of the dam structure and stream restoration activities in order to stabilize currently submerged areas that are anticipated to be vertical or susceptible to bank sloughing. Staging and access will take place in the footprint of the existing rocky access area and, as needed, the adjacent grassy area. The dam removal will reconnect 140 miles of stream along the Watauga River and adjacent tributaries. The North Carolina Barrier Prioritization tool ranked Ward Mill Dam very highly amongst other barriers for removal benefits.

The 1941 machine shop that is attached to the west side of the dam will be preserved and protected in place. No disturbance to the machine shop superstructure will occur as part of the proposed project, although the foundation wall, which is exposed at the edge of the riverbank, will be buttressed with rock from demolition and riverbed material in order to ensure the long-term integrity of the structure.

2.3 Area of Potential Effects

Section 106 of the National Historic Preservation Act, as amended, defines the APE as "the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties. The area of potential effects is influenced by the scale and nature of

an undertaking and may be different for different kinds of effects caused by the undertaking.” The recommended APE for the project consists of approximately five acres of the 59-acre tax parcel and includes the limits of construction for the dam removal as well as the viewshed from the dam (Figure 2.4) (see Figure 2.3). The recommended APE was expanded beyond the limits of construction to encompass the historically associated buildings and structures visible from the dam. Together, these buildings and structures are known as the B.O. Ward House and Mill Complex (WT0358).

2.4 Background Research and Previous Surveys

In a letter to Wildlands Engineering, Inc. dated March 9, 2020, the HPO identified the B.O. Ward House and Mill Complex (WT0358) in the project area and requested it be evaluated for the NRHP and an HSSR be prepared (Appendix C).

Research was conducted to develop a background history for the B.O. Ward House and Mill Complex, to identify comparable resources, and to develop appropriate historic contexts for hydro-powered mills in Watauga County by which to evaluate the property using the NRHP Criteria for Evaluation (see Appendix B). Due to COVID-19 visitation restrictions, research at the Asheville HPO was conducted on RGA's behalf by Preservation Specialist Annie McDonald. Ms. McDonald was also helpful in identifying comparable mill properties for this report.

Several reports were of assistance in the preparation of this HSSR. An extensive article on B.O. Ward in the book *Foxfire 6* provided biographical information on Mr. Ward and detailed drawings and descriptions of his dam and sawmill (Wigginton 1981). The 2014 Document for a Subsequent License for a Minor Water Power Project, Ward Mill Dam, Watauga County, North Carolina (FERC Project #9842) was another source. The NRHP Multiple Property Documentation Forms Historic and Architectural Resources of Watauga County, North Carolina, ca. 1763-1952 and Historic and Architectural Resources of Ashe County, North Carolina, ca. 1799-1955, provided research materials for the present survey (Van Winkle 2003; Wyatt and Tolliver-Jones 2009; Ward 2017). The NRHP nomination for the Mary Grove/Rabb House in Caldwell County provided background on the Lyons Brothers, builders of the B.O. Ward House (Hood 2000).

2.5 Field Methods

On May 19, 2020, RGA staff visited the project area to document the B.O. Ward House and Mill Complex. Watauga Riverkeeper Andy Hill met RGA staff on site and provided a tour. The property was visually inspected, and the building exteriors were documented with notes and digital photographs. Current property owners, Ray and Virginia Ward, were unable to be interviewed in person due to COVID-19 safety precautions. The interior of the B.O. Ward House was not accessible for the same reason. Three local mills were visited to collect historic context for this report. Those mills include: Sugar Grove Mill (WT0406) and Winebarger Mill (WT0478), both in Watauga County, and Cockerham Mill (AH056) in Ashe County.

The historical development, architecture, cultural significance and physical integrity of the B.O. Ward House and Mill Complex was assessed and evaluated within its respective historic context according to the established NRHP criteria. The results of this HSSR are presented in the following chapters. This report meets the HPO's Standards for Historic Structure Survey Reports/Determinations of Eligibility/ Section 106/110 Compliance Reports in North Carolina

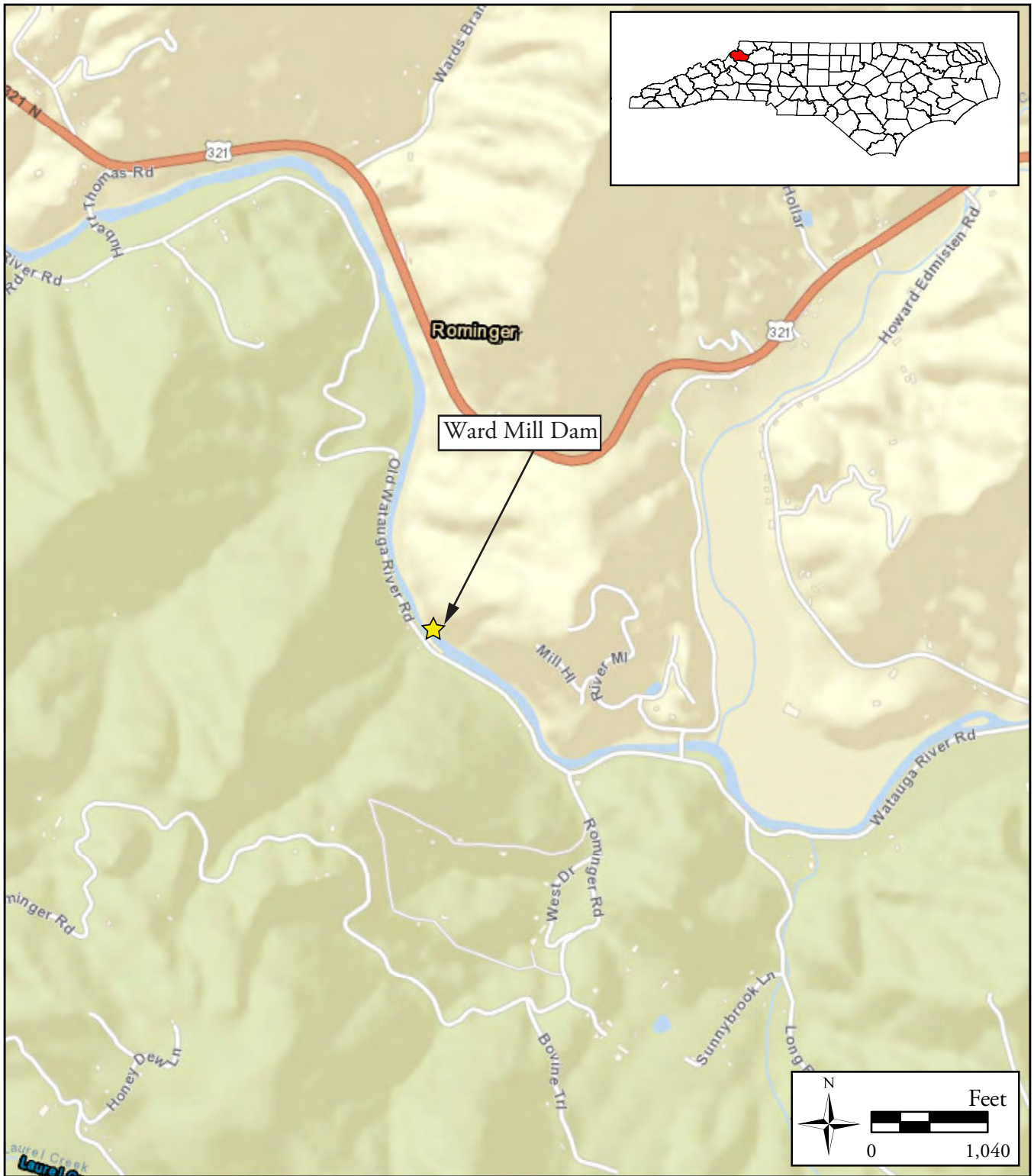


Figure 2.1: Road Map showing the project location (World Street Map, ESRI 2020).

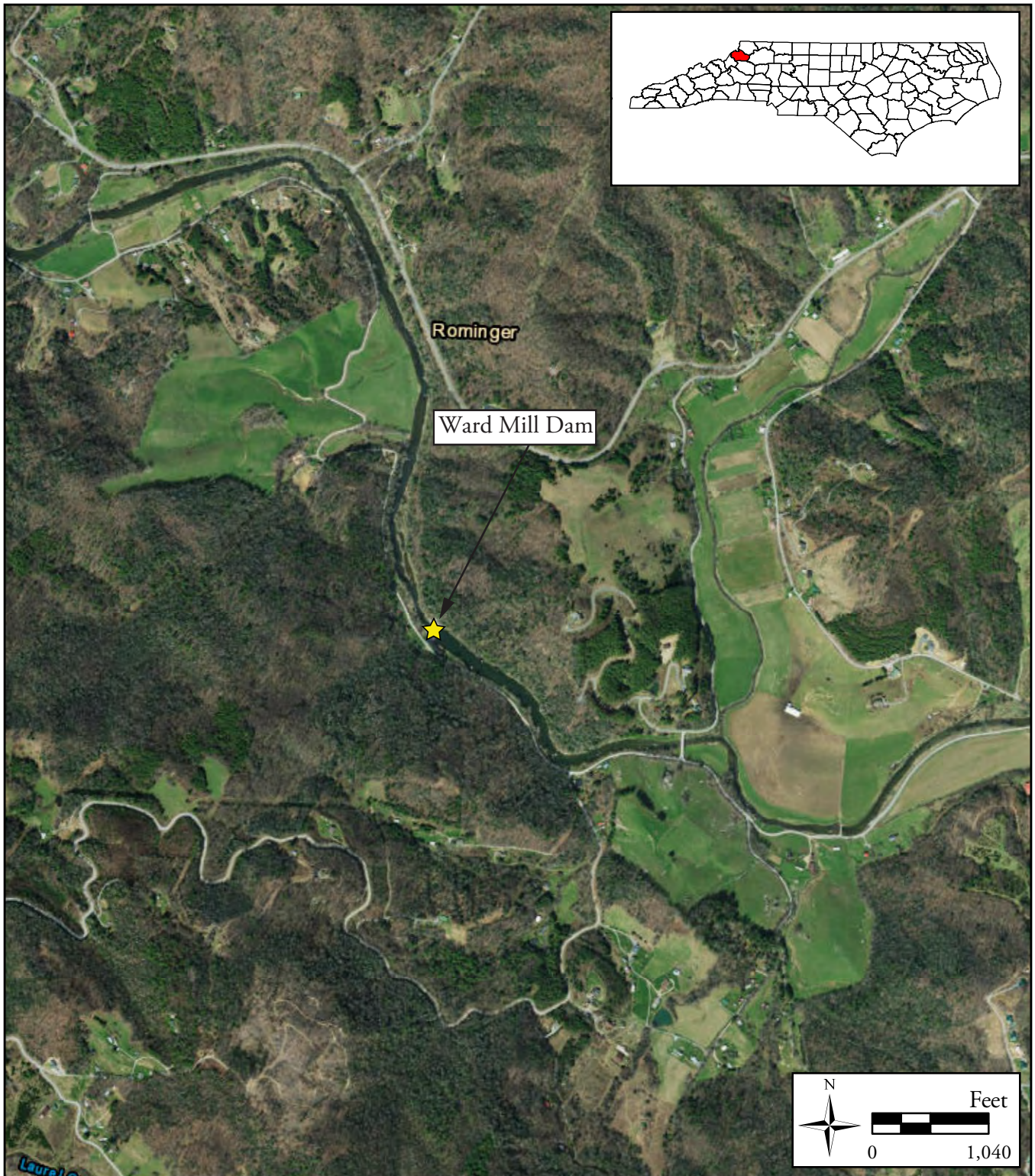


Figure 2.2: Aerial Map showing the project location (World Imagery, ESRI 2020).

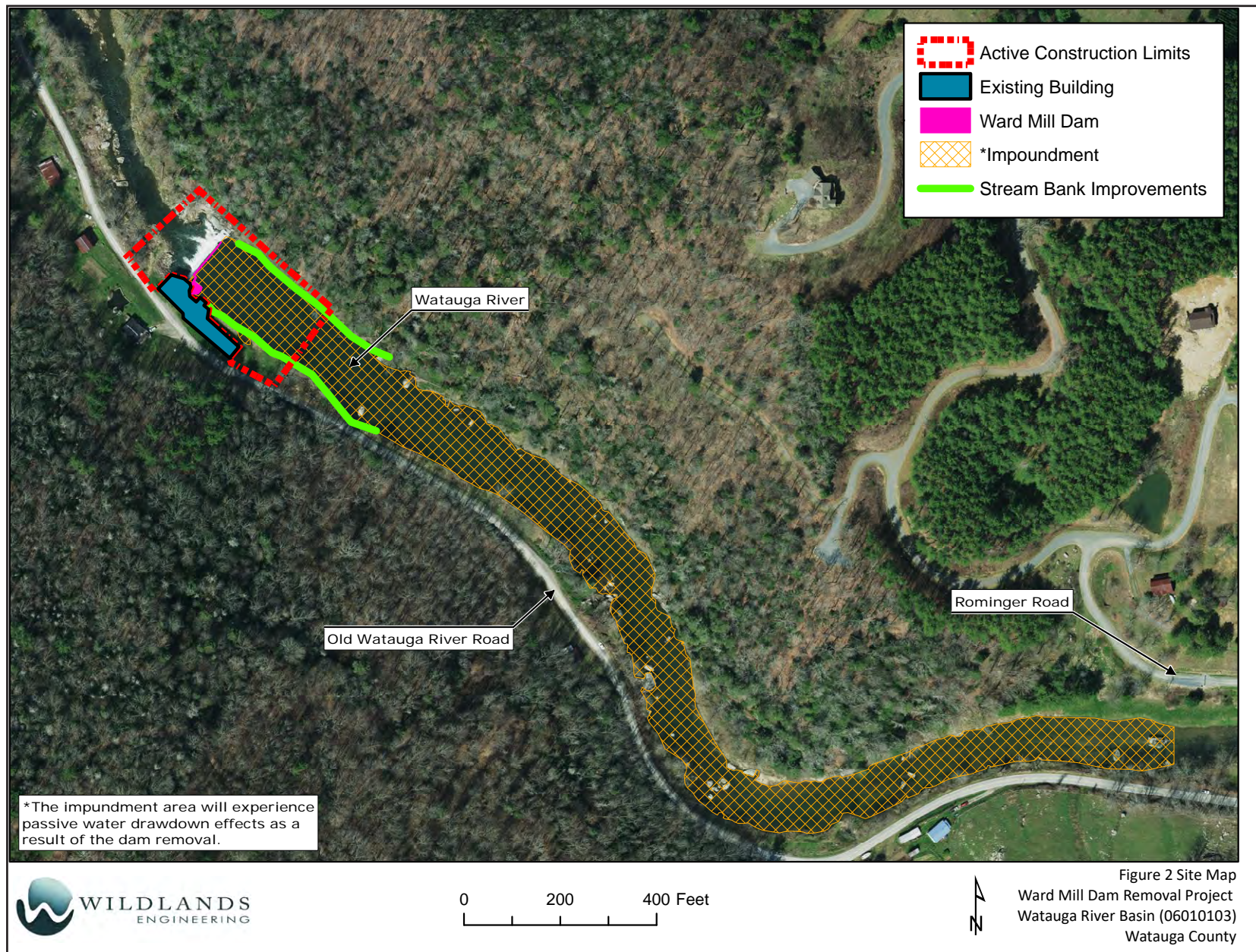


Figure 2.3: Proposed Project Activities Map
 (Courtesy Wildlands Engineering).



Figure 2.4: Area of Potential Effects Map
(World Imagery, ESRI 2020). The limits of construction depicted as a blue line on this map reflects the most recent limits provided Wildlands Engineering in July of 2020.

3.0 BACKGROUND HISTORY AND HISTORIC CONTEXT

The history of the B.O. Ward House and Mill Complex is a physical document of the life of Benjamin Oscar Ward, an inventor and self-taught engineer. The complex is exceptional for its intact mid-twentieth-century hydro-powered sawmill.

Benjamin Oscar (B.O. or “Ben”) Ward was born on January 2, 1896, the fourth of 13 children born to William Lorenzo Ward (1865-1932) and Rebecca Louise Harman Ward (1869-1937), in the Sugar Grove community of Watauga County. The Ward family had resided in the Watauga River Valley since the late 1700s and had operated mills since their arrival (VanWinkle 2003, E.5; F.68). Lorenzo was a resourceful and inventive man who worked as a blacksmith and miller, setting up a community gristmill in 1890 that was powered by a Pelton wheel-type turbine. A 1901 flood washed the gristmill away. By 1906, Lorenzo Ward had completed a replacement dam of hemlock logs across the Watauga River and installed a 26-inch Samson turbine to power his small circular sawmill and grist and hammer mills, the latter for the purpose of removing corn from the cob to produce cattle feed (Givens 2014: E.5) (Figures 3.1 and 3.2). This log dam was the only one on the Watauga River that survived the flood of 1940. Lorenzo ran the milling concern until his death in 1932. At that time, Ben Ward took over and fashioned the property into the B.O. Ward House and Mill Complex that is present today.

Ben Ward received his earliest education attending the small, one-room Johnson School near his home in Sugar Grove. Ward inherited inventive traits from both his mother’s and father’s families, and these traits were manifested in buildings and structures that he built on his property and in his inventions that were eventually patented. Ben’s father, William, invented a stirrup with a spring that would release a rider’s foot if he fell off his horse. William had plans to patent the idea and sell it to the military, but after World War I, local cavalry units were not employed. He also built a small water wheel on a branch that powered a washing machine he built. Ben’s inventiveness came to light in 1914 with a small steam engine he built to power a small “circle” (circular blade) sawmill for sawing small pieces of soft, rotten wood.¹

Upon finishing grammar school, Ward attended Appalachian Training School, now Appalachian State University, for a short time before joining the Navy and serving in World War I. Ray Ward, Ben Ward’s only son, recalled in *Foxfire 6* that his father had only nine years of formal schooling, and that “most of it was just self-education” (Wigginton 1980: 326-327). Ward enlisted in the U.S. Navy in Raleigh, North Carolina on July 14, 1917 (U.S. National Homes for Disabled Volunteer Soldiers, 1866-1938 [NHDVS]). He received his basic training in Newport, Rhode Island and served on the troop ship, U.S.S. Powhatan. Ward worked in the ship’s boiler room passing coal from storage to the boiler room and putting it into the boilers. After getting sick from moving between the hot boiler room and cold weather on the deck of the ship, he began doing electrical work and stayed in this position until the war’s end. He was discharged from the military in Hampton Roads, Virginia, on September 10, 1919 (NHDVS). In 1920, at the age of 23, Ward was living with his parents in Sugar Grove and was working as a sawyer at a stone sand mill (US Census 1910; 1920). Around 1920, he was admitted to the U.S. National Home for Disabled Volunteer Soldiers in Johnson City, Tennessee, and was discharged on February 17, 1922 (NHDVS). He worked at a sawmill in Silverstone and other towns in Watauga County before moving to the Cable Cove section of Graham County in 1925 to work for a large lumber company, likely Bemis Lumber Company, that had a circle mill. By the late 1920s, Ward left the lumber company and built his own band mill with parts from decommissioned mills. On May 25, 1928 from his address in the Cheoah community in Graham County, Ward filed for patent for a “power transmission means” which was granted in November of the same year (Wigginton 1980: 384-389). Ward applied for a second patent, this time for a “Log Turner,” on June 16, 1937 (Wigginton 1980: 382-383).

The Great Depression was a tumultuous time for Ben Ward and his family. The joy of his son Ray’s birth on July 1, 1930 was mitigated by the death of his wife, Lillie Millsaps, two months later. Ward had

¹Appalachian State University exhibited this sawmill for a number of years. It was destroyed when the building where it was exhibited burned during the early 1940s.

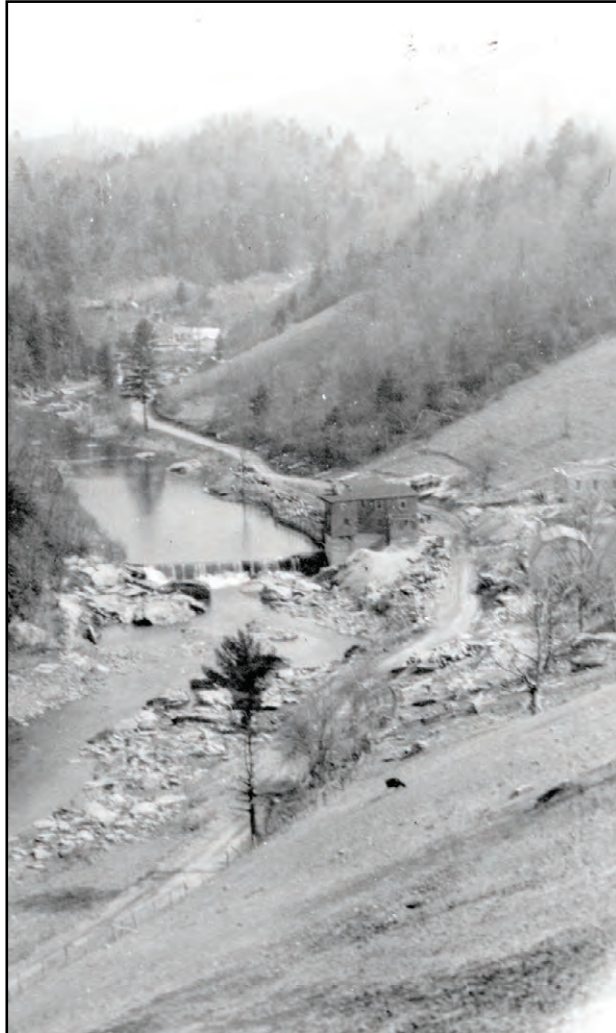


Figure 3.1: Original Hemlock Dam across Watauga River
(Courtesy of The Foxfire Museum).

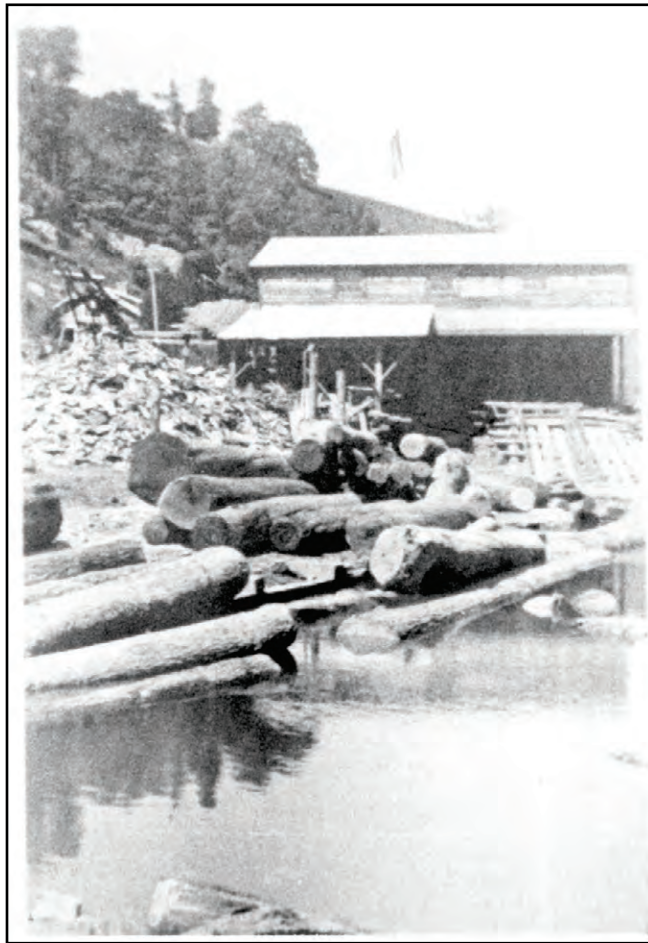


Figure 3.2: Ben Ward's Original Sawmill, prior to 1940
(Courtesy of The Foxfire Museum).

married Millsaps on February 1, 1930 (North Carolina, Marriage Records, 1741-2011). In response to his wife's death, Ben Ward had a nervous breakdown and was admitted to Veterans Administration hospitals several times over the next few years. As a result of his hospitalizations, he was given a service-related full-disability pension.

After being released from a Veterans Administration hospital at Perry Point, Maryland, Ward returned to western North Carolina to retrieve his band mill from Graham County. He returned it to Sugar Grove around 1932 and rebuilt it on the spot on the Watauga River where his father had operated the circle mill years before. Over the decades that followed, Ward employed 10 to 20 local men to fell trees, haul timber, help run the sawmill, and transport the finished product to market. Slab and edging was cut into scrap firewood and was burned by people in many parts of the county. The mill's planed lumber was used on local homes for exterior weatherboards and interior plank finishes (Givens 2014: E.6). Ward also ran unprofitable grist and hammer mills onsite as a community service through the late 1940s.

In addition to milling, timbering, and farming, Ward sold excess electricity from the mill to 15 local households for \$1 per month until the power companies restricted this practice (Wigginton 1980: 334-335; Givens 2014: E.6). Ward also purchased timber rights from local landowners (Wigginton 1980: 332). Later he purchased land outright, cut and sold the timber, and used the profits to purchase more land. While others depleted their properties of timber, over his lifetime, Ward claimed to have replanted 100,000 trees and cut about five million feet of timber (Wigginton 1980: 332). By the mid-1950s, he was working with the U.S. Forest Service to obtain seedlings. Eventually, he earned enough money to purchase the family homeplace from the heirs who had inherited it from his parents.

Ward must have been doing well because around 1938, he hired the Lyons Brothers of Watauga County to build a stone house of his own design for him and his son. The Lyons Brothers were well-known local stonemasons who built residential, governmental, and commercial buildings in Watauga and Caldwell counties. They have been referred to as the most accomplished stonemasons in these two counties in the 1920s and 1930s (Hood 2000). Their work includes the 1938 United States Post Office in Boone (WT0049; NRHP 1996) and the 1941 Cove Creek High School (WT0048; NRHP 1998) in Watauga County (Plates 3.1 and 3.2).

Ward's circa 1906 sawmill washed away in the 1940 flood. He used the loss to rebuild and retool the mill, replacing it with new buildings, machinery, and the county's first turbine mill wheel (VanWinkle 2003: E:46: F.68). Drawing on his mechanical skill and creative ingenuity, Ward developed a one-of-a-kind water-powered sawmill of standard and handcrafted machinery and recycled parts including truck engines. He would continue to improve this sawmill throughout his life. Of the complicated system his son Ray Ward once said, "I don't think anyone but him understood how that mill worked. I didn't know what was going on" (Wigginton 1985: 344).

Ward was lifelong baseball fan and declared, "when I go up to the Pearly Gates if they don't have a ball field, I am going to apply for a transfer" (Lindau 1957). In 1947, while attending the Yankees-Dodgers World Series in New York, Ward purchased equipment for his machine shop that enabled his continual improvement to the mill. It was in 1947 that he installed two 30-inch replacement turbines. Perhaps inspired by his New York trip, in 1947 he stripped off 30 feet from a mountain top near his house and constructed a baseball field modeled on a favorite, Cleveland Stadium. This endeavor cost him \$15,000. The field was the home of the Ben O. Ward Company team of the Watauga-Avery County league and Ward played into his late 50s.

Between 1941 and 1963, Ward ran the sawmill. In 1957, he replaced the 1941 four-foot sawblade with a larger six-foot blade he made himself in the shop (Givens 2014: E.6). In August of 1963, Ward shut off the turbines, dismantled the 1905 log dam and began construction on the current rock and concrete dam which he designed and built himself with the labor of 18 local men. The dam was completed along with the machine shop just short of a year later in June 1964 (Wigginton 1985: 336-338) (Figures 3.3 and 3.4).



Plate 3.1: United States Post Office, Boone, North Carolina.

Photo view: North

Photographer: Ellen Turco

Date: May 20, 2020



Plate 3.2: Cove Creek High School.

Photo view: Northwest

Photographer: Jason Harpe

Date: May 21, 2020

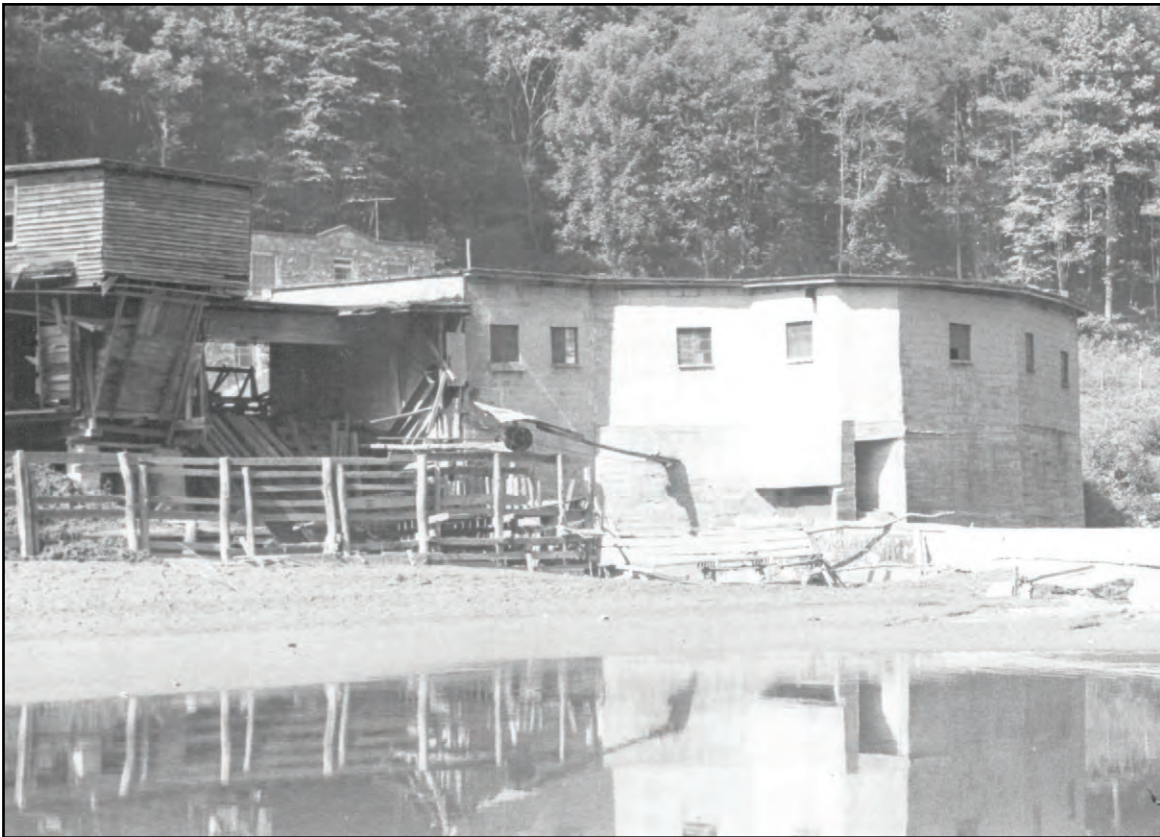


Figure 3.3: View of the Machine Shop's Waterhouse Section looking west from the Watauga River, circa 1975 (Courtesy of The Foxfire Museum).

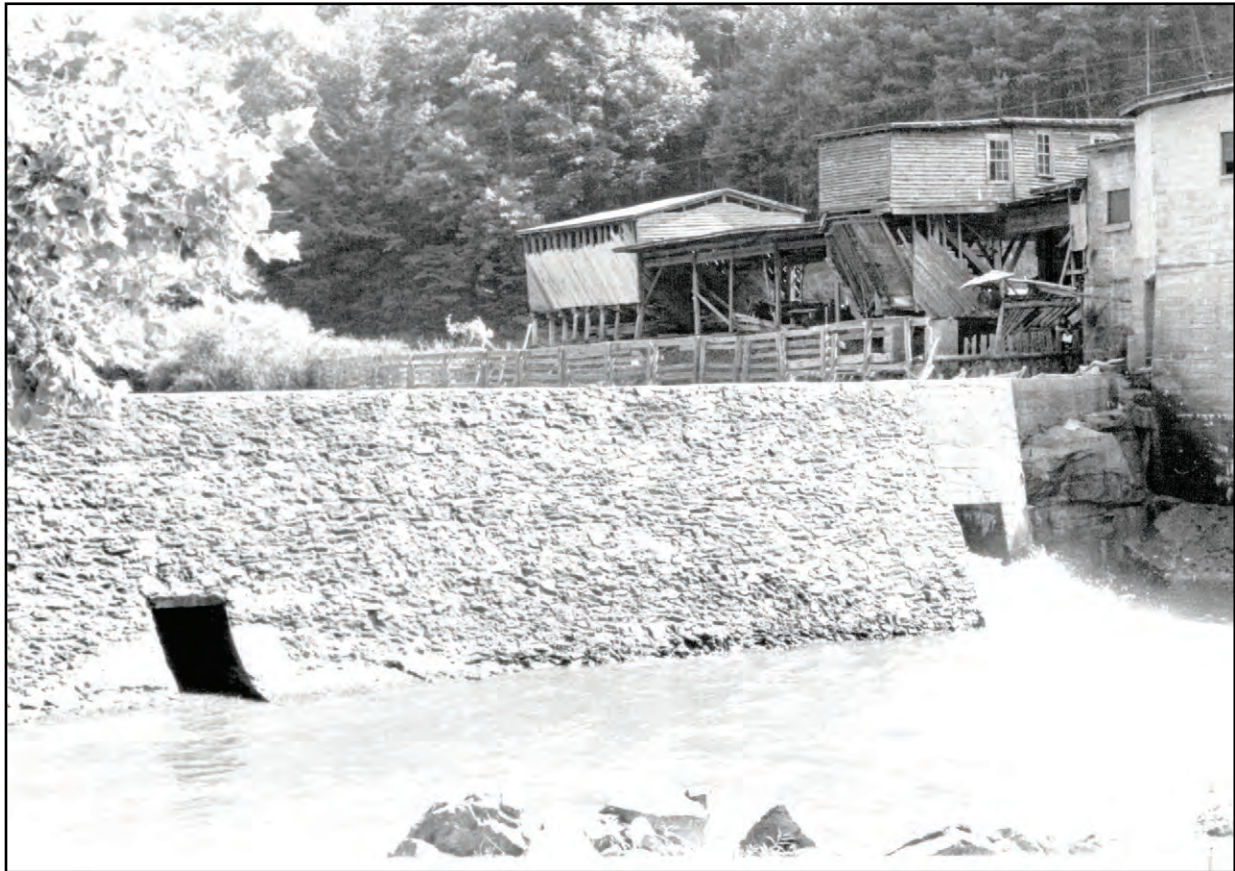


Figure 3.4: View of the Sawmill, Log Pond, and Machine Shop looking south from the Watauga River (Courtesy of The Foxfire Museum).

In the mid-1960s, the demand for sawn lumber declined. The mill produced its final load of commercial lumber in 1968.

Sadly, Ben Ward's life came to an end when he died by suicide in the summer of 1970. His cremated remains were distributed across his beloved hilltop baseball field. He left behind a note for his son, Ray Ward. In it was a set of instructions to complete the rock walls that stand in front of the house today. Below the instructions, Ward wrote, "the way the house will look when finished" (Wigginton 1980:359). Ward specified the walls were to be embellished with millstones and engraved plaques with quotations by Ward and the writers and philosophers he admired.

Ben's heir and son Ray Ward and his wife Virginia Ward have occupied the property since 1970 and reside in the stone house designed by Ben Ward. Although the sawmill has not operated commercially since 1968, Ray Ward has maintained the equipment and runs it sporadically. He last recalls operating it around 2005.

In 1986, Ray Ward received a license from the FERC to generate hydroelectric power at the dam. The total capacity was for 168 kW. Based on the variations in stream flow, the dam generated between 290,000 kWh and 599,000 kWh. The facility was connected to the distribution system of Blue Ridge Electric Membership Corporation through a three phase, 12 kV line (Givens 2014). In 2017, the FERC approved another 30-year license for the dam; however, Ray and Virginia Ward surrendered the license shortly after it was issued in part because the labor required to maintain the complex was becoming more challenging as the couple got older. The forfeiture of the FERC license requires the dam to be removed (Wood 21 June 2020). The Wards have been working with several local non-profit environmental groups to remove the dam and restore the natural stream flow and channel (Hessler 2020).

Mills and Industrial Buildings in Watauga County

Settlers built water-powered mills along North Carolina's rivers and streams upon their arrival in the eighteenth century. Grist mills, an essential part of virtually every rural community, ground locally grown corn, wheat, and other grains into flour and meal. Millers dammed and channelized waterways to control water velocity and to power the waterwheels that turned massive circular grinding stones. Waterside mill structures had to be constructed of heavy timber-framing to withstand the forces of water and to support milling machinery. After 1876, the millstones were replaced by more efficient cylindrical "rollers." Most North Carolina grist mills erected after 1876 are of the roller mill variety (Powell 2016).

In 2003, Tony VanWinkle's historic architectural survey identified three surviving water-powered mills in Watauga County: Sugar Grove Mill (WT0406), Winebarger Mill (WT0478; Study List 2003; Determined Eligible 2004) and the B.O. Ward House and Mill Complex (WT0358). Ward's sawmill was the only intact twentieth-century industrial building identified in the county. Sugar Grove Grist Mill (WT0406) is situated on Cove Creek approximately three miles northeast of the B.O. Ward House and Mill Complex (Plate 3.3). The two-story, front-gable frame grist mill was built in the 1930s or 1940s, although a mill was on the site before the Civil War and the remnants of a nineteenth-century stone dam is visible on the west bank of Cove Creek (Elizabeth Wilson, Personal Communication with Ellen Turco). In 2004, the mill's foundation was severely damaged by Hurricanes Ivan and Frances and the original rock foundation was rebuilt with reinforced concrete. The mill's original windows have been replaced and a deck overlooking the river added to the rear. The interior has been converted to a residence. The Winebarger Grist Mill in the Meat Camp community is a severely deteriorating two-and-a-half story, heavily framed, side-gable grist mill built in 1873 (Plate 3.4). The exterior walls are covered with a combination of horizontal weatherboards and diagonal sheathing. The mill is listing significantly to the southeast toward the flume that flows off Camp Creek. The impressive mill house and several other structures and outbuildings survive but are also in deteriorated condition.



Plate 3.3: Sugar Grove Grist Mill.

Photo view: Southwest

Photographer: Jason Harpe

Date: May 21, 2020



Plate 3.4: Winebarger Grist Mill.

Photo view: Southeast

Photographer: Jason Harpe

Date: May 21, 2020

Sawmills, or lumber mills, were where logs were cut into lumber, were another essential industrial building type built along the state's waterways. These could be large-scale commercial mills or small community ones that served local construction. There were even portable machines that could be moved between jobsites and were not water dependent. Due to the ephemeral nature of portable sawmills, not many historical ones are known to survive, although modern ones can still be purchased today (Jennifer Cathey, Personal Communication with Ellen Turco). The HPO survey files indicate that a small 1950s sawmill survives under a frame shed at Dunn's Rock (TV0184) in Transylvania County. This property was not inspected as part of this report.

During the late nineteenth and early twentieth centuries, western North Carolina's great stands of white pine, chestnut, cherry, and other valuable hardwoods were logged and transported to sawmills either by river or rail. Driving timber by rivers to sawmills soon gave way to the more efficient and reliable railroad transport, particularly after the completion of the Western North Carolina Railroad in 1891. With the arrival of rail, commercial timbering rose to become western North Carolina's chief industry, although run primarily by large, out-of-state companies.

Like other industries, logging often shaped the development of local communities. Logging companies would erect company towns adjacent to the sawmill factory complex, with company-owned worker housing and schools, churches, and a general store (Starnes 2006). In the mid-1920s, the Bemis Lumber Company built a large commercial milling operation, complete with a village of modest worker housing, in Robbinsville, the county seat of Graham County. It is thought that Ben Ward worked for Bemis in the mid-1920s, before returning to Watauga County.

The sawmill at the B.O. Ward House and Mill Complex fits neither into the large-scale commercial mill nor the portable mill categories. Ward's 1941 mill was a medium-sized, owner-operated, site-built mill. The mill consists of the 1941 mill structure; the mill's power source and equipment, which was first conceived by Ward in the early in the 1940s, and was tinkered with and improved by Ward until his death in 1970; and the dam and machine shop which were finished in 1964. Logging and milling provided Ward a significant portion of his family income—the 1940 US Census lists his occupation as “operator”—but he also was a farmer who ran an 800-acre farm, owning and managing much of the wooded hillsides along the river and farming the valley above the dam. The B.O. Ward Mill is a rare surviving example of medium-sized sawmill in which Ward processed logs harvested from his land as well as timber he purchased from his neighbors. It is unknown how many comparable twentieth-century water-powered mills of this size survive, but no similar ones have been identified at this time in western North Carolina (Jennifer Cathey, Andy Hill, Personal Communications with Ellen Turco). Clearly, Ben Ward's engineering expertise, acquired with little formal instruction or training, enabled this particular milling operation to evolve beyond what would have been typically present on a mid-twentieth-century farm.

4.0 NATIONAL REGISTER EVALUATION OF THE B.O. WARD MILL COMPLEX AND HOUSE (WT0358)

Table 4.1: Ward Mill Site Information Table.

Resource Name	B.O. Ward House and Mill
HPO Survey Site Number	WT0358
Location	443 Old Watauga River Road, Sugar Grove, Watauga County
PIN	1961486427000
Date of Construction	1939-1970
NRHP Recommendation	Eligible under A and C



Setting (Plates 4.1-4.2)

The B.O. Ward House and Mill Complex is situated on the slopes of the west bank of the Watauga River (Figure 4.1). The complex of seven buildings and structures straddles Old Watauga River Road. The site is anchored by the stone B.O. Ward House, erected circa 1939 on the downward slope of Long Ridge on the west side of the road. On the east side of the road is the hydroelectric and milling complex, which is comprised of the dam, machine shop and powerhouse, and the band sawmill (Figure 4.2). Two frame barns are in a pasture north of the house.

Inventory List

B.O. Ward House, 1939; 1970; circa 1975 (Plates 4.3-4.10)

The Benjamin Oscar Ward designed this house the late 1930s based on a house he had observed at Lake Cheoah in Graham County (Wigginton 1985: 330). Watauga County stone masons Leslie and Clarence Lyons constructed it. The dwelling's fanciful personalization are a tribute to the Ward family's milling past and illustrate Ben Ward's inventiveness and imagination.

The house is a one-story, side-gable dwelling on a partial basement built into the hillside. It faces east overlooking the Watauga River. Its character-defining features are its exterior masonry of local irregular granite with raised mortar joints and the grist milling stones that are integrated into the design. The milling stones were installed after Ben Ward's death in 1970, but at his request and based on his directions (Wigginton 1985: 359). The gable roof is covered with composite shingles. Sometime after 1975, the original shallow-pitched roof was replaced with the present one with a higher ridgeline extended with overhangs on all four sides. The eaves are covered with vinyl siding. On the south side of the house is a concrete terrace under which is a below grade one-bay garage constructed of poured concrete and faced with granite.

The three-bay front (east) elevation consists of a slightly off-center wood multi-light door flanked by original wood eight-over-eight windows. The door is positioned under a slight front gable peak. The entry is accessed by a concrete and granite split stair landing that leads to a landing and is inset with large stone millstones on the east wall. These are three of the nine mill stones that are used as decorative elements on the exterior, an eccentric feature of the house. South of the stairs is a basement door that functions as the house's day-to-day entry. One of two, four-over-four wood sash windows and one replacement window are set between the door and the front entry stair. The other four-over-four woodsash windows is north of the front entry stair.

A wing wall projecting from the north, front elevation contains millstones and granite-inscribed plaques with quotes from B.O. Ward, Thomas Jefferson, and Voltaire. The date on the inscriptions is 1967 indicating that the wall is not original, although it is in keeping with the house's theme. Three



Figure 4.1: Aerial map showing the B.O. Ward House and Mill Complex and House (WT0358) (World Imagery, ESRI 2020).

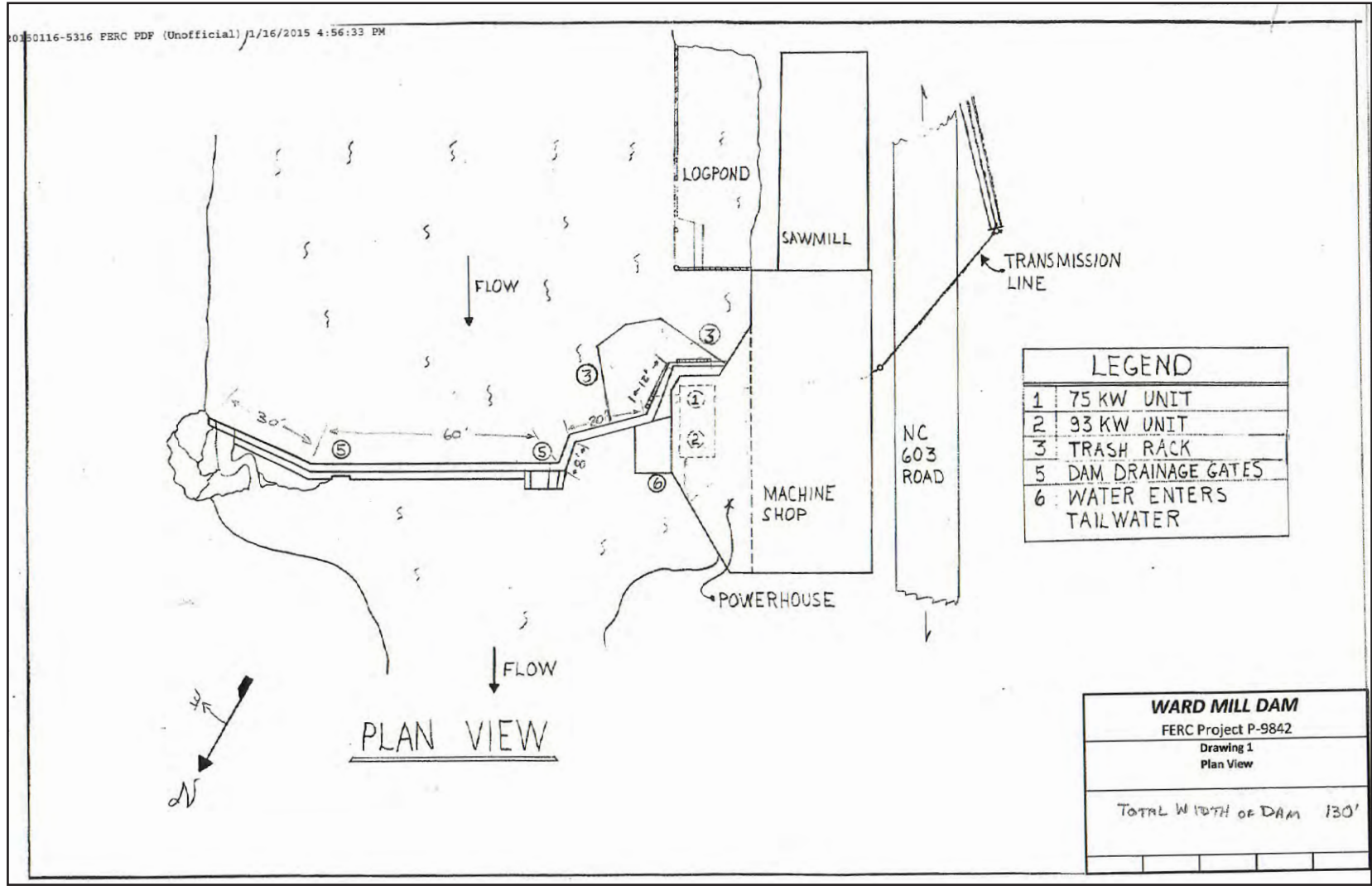


Figure 4.2: Plan of the Dam, Machine Shop, and Sawmill
(from Application Document for a Subsequent License for a Minor Water Power Project 2014).



Plate 4.1: Setting from Old Watauga River Road.

Photo view: Southeast

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.2: Setting from the hillside south of gambrel roof barn.

Photo view: Southeast

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.3: View of the House.

Photo view: West

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.4: View of the House.

Photo view: Northwest

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.5: View of the House.

Photo view: Southwest

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.6: View of the House.

Photo view: Southeast

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.7: View of the House.

Photo view: East

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.8: View of the House.

Photo view: North

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.9: Millstone wall at the front entrance.

Photo view: West

Photographer: Jason Harpe

Date: May 21, 2020

mill stones are set within a freestanding triangular-shaped granite wall that sits on the south terrace above the garage opening. These plaques are inscribed with quotations from the bible and Winston Churchill.

The north elevation has three six-over-six windows as well as three small horizontal windows above grade that light the basement. The rear (west) elevation has an original wood glazed and paneled entry door. South of the door is a set of paired two-over-two windows, a stone chimney flue, and a six-over-six sash. The south elevation has one six-over-six window, two four-over-four windows separated by an exterior granite chimney, and five basement windows.

Swimming Pool, circa 1957 (Plates 4.11 and 4.12)

B.O. Ward built this concrete, spring-fed swimming pool around 1957. Spring water is piped from the hillside into the pool. Overflow that drains from a spillover in the east wall is piped under the Old Watauga River Road into the Watauga River. A large rock outcrop is incorporated into the pool. On top of the outcrop is a sunning platform with granite walls with four mill stones, one incorporated into each side.

Dam, 1964 (Plates 4.13-4.14)

The 1964 concrete and rock dam is approximately 20 feet high, 110 feet wide across, and 21 feet wide at the base. It sits on a foundation of natural bedrock. One-inch diameter vertical steel rods are placed approximately every four feet across the interior structure of the dam. These rods are imbedded two-and-one-half feet into the bedrock with reinforced steel running horizontally through the interior of the dam (Givens 2014). The west end of the dam attaches to the waterhouse section of the machine shop building.

Machine Shop, 1964 (Plates 4.15-4.19)

Ben Ward built the machine shop in conjunction with the concrete dam. The bi-level building contains two, 1947 30-inch turbines on the bottom, below grade level. The at-grade level was Ward's machine shop that housed his shaper, key cutter, drill press, generator, work bench and other equipment that kept his sawmill and farm running and was the place where he worked on his various projects and inventions.

The machine shop has a base of poured concrete reinforced with steel rods, concrete block walls, and a shallow shed roof of steel I-beams and wood decking. The sturdy steel sash windows are set between concrete sills and metal lintels. The seven-sided utilitarian building has a three-sided bay on the east side that projects into the river. This section is known as the "waterhouse" and houses the turbines, which were controlled via a manually-operated, iron waterflow gate in the waterhouse. Once water passes through the turbines, the water flows back into the river at the base of the dam through a six-foot-by-five-foot opening beneath the waterhouse (Givens 2014).

Interior access to the machine shop is provided by a set of wood sliding doors on the west side of the building with easy access to Old Watauga River Road. The interior is one large space with a concrete floor and exposed concrete block walls. The steel and wood roof structure is also exposed. Three concrete pyramidal piers support the additional length of the I-beams that extend into the waterhouse.

Sawmill, 1941; 1947; 1953 (Plates 4.20-4.31)

The lumber sawmill was constructed by Ben Ward to replace an earlier one destroyed by floodwaters in 1940. The heavily framed, four-part structure has metal covered shed and gable rooflines, which are arranged in a linear fashion. Each section sits on trapezoidal piers of poured concrete which elevate the building above the wet and flood-prone riverbank. The open shed at the north end attaches to the machine shop and three subsequent sections extend to the south. The two-story file room section comes next. It is an open shed surmounted by a shed-roofed, weatherboard-covered file room with original six-over-six windows that light the interior work room. This room, which was accessed from a wood staircase in the shed, contains the saw grinder, a tool vitally important to the mill's function. The saw blade was pulled up for maintenance through a trap door in the file room floor. South of the file



Plate 4.10: Millstone wall on the north side of the House.

Photo view: West

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.11: View of the Swimming Pool.

Photo view: Southwest

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.12: View of the Swimming Pool.

Photo view: South

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.13: Dam from
Watauga River.

Photo view: Southeast

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.14: View of the Dam
and Machine Shop.

Photo view: South

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.15: Machine Shop
from riverbank with
waterhouse section on right
side.

Note, the Ward House in the
background.

Photo view: South

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.16: Machine Shop
from Old Watauga Road.

Photo view: Northeast

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.17: Machine Shop
and Sawmill.

Photo view: Southeast

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.18: Machine Shop
interior showing the
pyramidal piers that support
waterhouse section.

Photo view: East

Photographer: Jason Harpe

Date: May 21, 2020

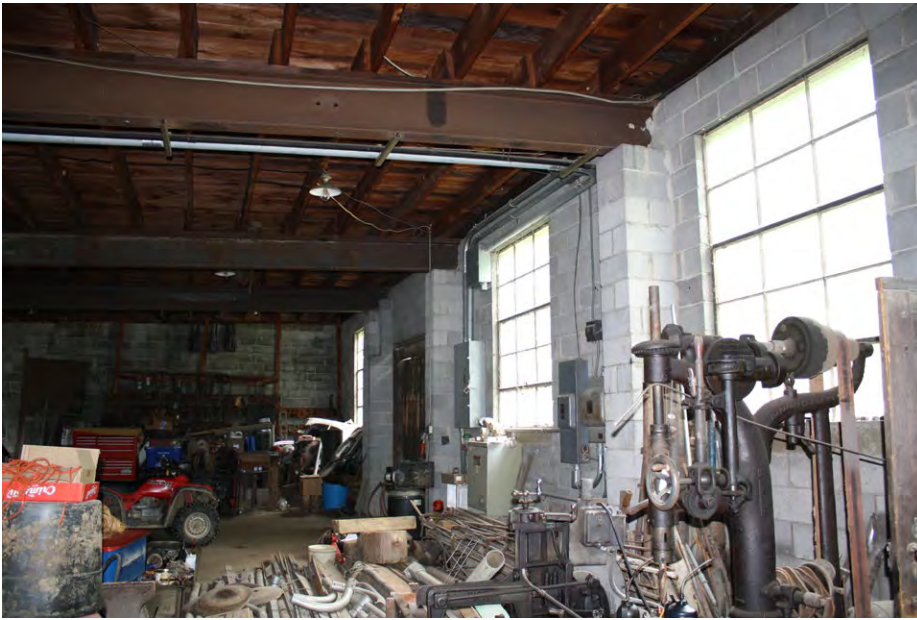


Plate 4.19: Machine Shop interior showing I-beams and wood roof decking.

Photo view: South

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.20: Sawmill with the Machine Shop in foreground.

Photo view: Southeast

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.21: Sawmill north the shed and file room sections.

Photo view: Northeast

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.22: Sawmill storage bin section from the roadside.

Photo view: Northwest

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.23: Sawmill storage bin section from the riverside.

Photo view: Northwest

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.24: View of the Mill Pond.

Photo view: Northwest

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.28: Sawmill interior looking toward the Machine Shop.

Photo view: North

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.29: Sawmill carriage tracks which transported the logs to the saw blade on a sled.

Photo view: East

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.30: View of the saw blade.

Note, tracks on floor that carried the logs to the blade on sleds. Also note stair to file room.

Photo view: East

Photographer: Jason Harpe

Date: May 21, 2020

room section is an open shed with a shed roof. This section houses the V-shaped wood chute, which carried scraps to the next and final section, the storage bin, via a conveyor chain. The storage bin has a gable roof, is sheathed on the exterior with heavy diagonal sheathing and has a V-shaped floor system for the catching and storage of wood scraps. While the sawmill has four, visually discrete sections, it is one structure that operates as a unit.

The four-part sawmill structure houses Ben Ward's milling machinery. Originally, a four-foot saw blade was powered by a system of wheels, belts, pulleys, shafts, and recycled truck transmissions that were mechanized by the turbines at the base of the waterhouse, a complex and clever system devised and built by Ward. Power was conveyed along the main line drive which ran under the floor of the sawmill structure and operated the machinery, including the incline-operated log buggy, which plucked logs from the "log pond" sectioned off from the river; the carriage, which transported the logs to the saw blade on a sled; the saw blade itself; Ward's patented log turner; and edgers and rollers that shaped the logs into lumber (Figures 4.3 and 4.4). In 1953, Ward replaced the original four-foot 1941 saw blade with a larger six-foot blade he crafted in the adjacent machine shop (Wigginton 1985: 335). The six-foot blade remains in place today as does most of the other sawmill machinery.²

Today, the interior of the sawmill retains virtually all its original lumber milling machinery well as logs, cut lumber, and wood scraps.

Shed Roof Barn, circa 1980 (Plates 4.32-4.34)

The shed roof barn is accessed by two open bays in the south wall. The roof has exposed rafter ends and is covered with metal and the walls are covered with diagonal wood sheathing. The barn sits on a poured concrete foundation.

Gambrel Roof Barn, circa 1940 (Plate 4.35.)

This frame gambrel-roofed frame barn sits on a poured concrete foundation that is partially built into the hillside. Plain weatherboards cover the exterior walls and the roof slopes are covered with 5-V metal. The interior has a central hall flanked by livestock stalls on the first level and hay lofts on the upper level. The loft is ventilated by lattice in the gable ends. A stream, bridged by a concrete slab, passes under the barn's north entry. The stream continues downhill, under Old Watauga River Road, and into the Watauga River.

Integrity

To be eligible for the NRHP a property must possess several, usually most, of the seven aspects of integrity (location, setting, design, materials, workmanship, feeling, and association) in addition to possessing significance under at least one of the four NRHP evaluation criteria. Except for minor changes, the B.O. Ward House and Mill Complex retains a high degree of overall physical integrity. The buildings and structures that make up the complex remain on their original location, and the property's essential rural, riverside setting remains intact. Ben Ward's design aptitude is evident in the dam, machine shop, the sawmill structure, and the milling machinery. The stone house and its folky millstone decorative motifs which Ward designed himself, remains substantially intact. The durable stone, concrete, and heavy timber building materials chosen by Ward are in good condition. The labor and skill of Ward's hands are evident in the workmanship displayed throughout the complex, as is the work of Lyons Brothers masonry team who Ward employed to build the granite house. Lastly, the complex and its current setting today reflect its historical appearance. As the only surviving twentieth-century hydro-powered lumber mill in Watauga County, the B.O. Ward House and Mill Complex provides a direct link to this important economic activity.

The only non-historic alteration to the complex is the circa 1975 reconfiguration of the dwelling's roofline and the concomitant application of vinyl to the eaves and gables. This change is relatively minor when considered within the larger visual context of the site, and it does not detract overall from the historic appearance of the complex.

² Detailed descriptions and schematic drawings of the sawmill equipment and processes can be found in the 1980 *Foxfire 6* publication.



Figure 4.3: Log Buggy in the Sawmill Building after Picking Up Logs from the Log Pond, circa 1975
(Courtesy of The Foxfire Museum).

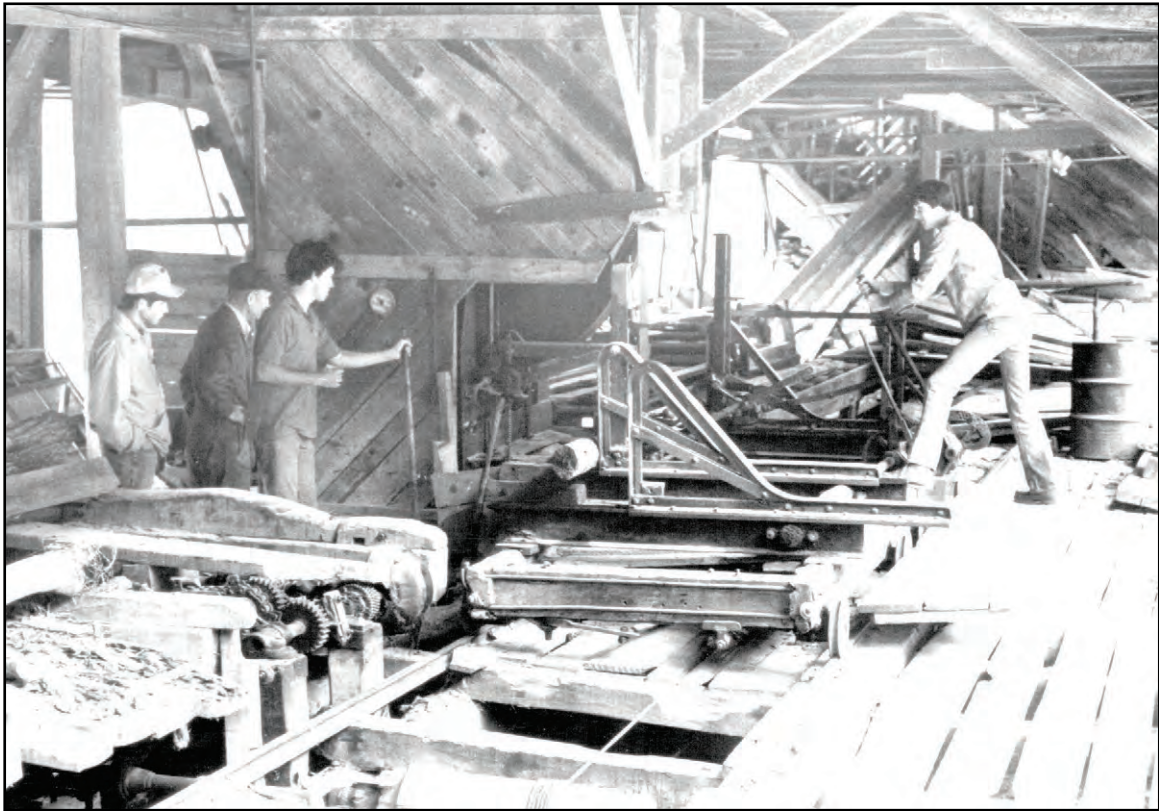


Figure 4.4: Interior of the Sawmill looking south, circa 1975
(Courtesy of The Foxfire Museum).



Plate 4.25: Storage bin floor system.

Note, v-shaped floor and pyramidal concrete piers.

Photo view: West

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.26: Storage bin and wood chute section.

Photo view: Southeast

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.27: V-shaped wood chute leading up to the storage bin.

Photo view: northeast

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.31: View of Ben Ward's patented log turner.

Photo view: North

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.32: Gambrel Roof Barn (left) and Shed Roof Barn (right) from Old Watauga River Road.

Photo view: Northwest

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.33: Gambrel Roof Barn with creek (right).

Photo view: West

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.34: View of the
Gambrel Roof Barn.

Photo view: South

Photographer: Jason Harpe

Date: May 21, 2020



Plate 4.35: View of the Shed
Roof Barn.

Photo view: Northwest

Photographer: Jason Harpe

Date: May 21, 2020

NRHP Evaluation

Properties can be eligible for the NRHP under Criterion A if they are associated with a significant event or pattern of events that have made contributions to history at the local, state, or national level. The B.O. Ward House and Mill Complex is strongly associated with the sawmilling industry in mid-twentieth-century Watauga County. The complex is an outlier, representing medium-scale, individually-owned commercial production, when much of North Carolina's lumber was milled by massive commercial mills owned by large corporations, many of which were headquartered out of state. Based on interviews and a review of the HPO reports and files, the property is thought to be the only identified hydro-powered stationary sawmill complex from this period known to survive in western North Carolina. Although future survey work may identify similar resources, the physical integrity of the Ward site will remain notable. Various structures have been added, and upgrades to the power source and milling machinery were made within the property's period of significance; however, these changes are typical of heavily used industrial properties that experience intense wear and tear and must constantly be adapted for peak efficiency. The entire site tells the story of medium-scale commercial sawmilling between 1941 and 1968, from the date of the frame sawmill structure, to the year the mill ended commercial production. The 1939 stone house, 1957 swimming pool, circa 1940 and circa 1980 barns and riverside setting contribute to the rural mountain setting. The B.O. Ward House and Mill Complex is recommended eligible for the NRHP under Criterion A as an intact example of a rare economically significant property type.

Properties can be eligible for the NRHP under Criterion B if they are proven to be associated with the lives of persons significant in our past. The B.O. Ward House and Mill Complex is associated with Benjamin Oscar Ward (1896-1970). Ward was a military veteran, farmer, miller, inventor, holder of U.S. patents, baseball lover, and amateur philosopher who was well known in the local Sugar Grove community. While essential to operating his sawmill, Ward's patents are not known at this time to have been widely adopted by, or significant to, the sawmilling industry. During his lifetime, Ward was locally prominent for his many roles including as an employer and baseball aficionado. Ward was clearly a brilliant character whose "demonstrable importance" to the local community as it pertains to NRHP Criterion B may be investigated more deeply in the future. However, at this time the B.O. Ward House and Mill Complex is recommended not eligible for the NRHP under Criterion B.

Properties may be eligible under Criterion C if they embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values. The B.O. Ward House and Mill Complex exemplifies all of these qualities except for high artistic values.

The property contains a rare and historically significant property type, a mid-twentieth-century hydro-powered lumber sawmill. The attached machine shop and dam provided power and are integral to the mill's function and essential parts of the site. Ben Ward was a mostly self-taught inventor and engineer who not only designed the mill-associated buildings and structures, but also his vernacular stone house. He was responsible for the design of the dwelling's decorative millstone-embedded walls that were erected in tribute to him shortly after his death. The Ward House also is notable as an example of the work of the Lyons Brothers, a masonry company that worked widely across western North Carolina in the 1930s and 1940s, and whose more substantial works have been listed in the NRHP.

Ben Ward's natural inventiveness and self-taught engineering skill are exemplified in the complex, which he built and improved between 1939 the completion date of the house and the site's earliest building, and his death in in 1970. His confidence with reinforced concrete as a building material is evident in the 110-foot wide dam, the massive base and waterhouse section of the machine shop, and his whimsical 1957 swimming pool. The complex's landscape, with its riverside location and agricultural barns, are a strong unifying element of the property and further define its character as a rural farm. For these reasons, the B.O. Ward House and Mill Complex is recommended eligible for the NRHP under Criterion C.

The history, construction, and operation of the of the B.O. Ward House and Mill Complex is well documented in the 1980 Foxfire 6 publication, the 2014 and 2017 FERC filings, and other sources. Therefore, it is unlikely that additional study of this property would yield any unretrieved data not already discoverable through these sources. Therefore, the B.O. Ward House and Mill Complex is recommended not eligible for the NRHP under Criterion D.

NRHP Boundary Recommendation and Justification

The recommended NRHP boundary for the B.O. Ward House and Mill Complex contains approximately five acres and includes the house, swimming pool, dam, machine shop, sawmill structure, sawmilling equipment, and two barns (Figure 4.5). These buildings straddle the east and west sides of Old Watauga River Road, which parallels the west bank of the Watauga River. The recommended boundary is drawn to capture the historical and natural setting of the property.

Ben Ward farmed an 800-acre tract and other buildings and landscape features associated with his occupation survive. This study focused on the area around the dam, which is proposed for removal. However, it is possible that with additional documentation and evaluation, a larger area encompassing these other features could be considered for NRHP eligibility in the future.



Figure 4.5: Recommended NRHP boundary for the B.O. Ward House and Mill Complex (WT0358) (World Imagery, ESRI 2020).

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- 1) Ben Shelton, Great grandson of B.O. Ward, May 19, 2020. Personal communication.
- 2) Annie McDonald, Preservation Specialist HPO, May 28, 2020; June 26, June 29, 2020. Email communications.
- 3) Jennifer Cathey, Restoration Specialist HPO, May 28, 2020. Email communication.
- 4) Andy Hill, Watauga Riverkeeper, Mountain True, May 19, 2020. Personal communication.
- 5) Elizabeth Wilson, Owner of Sugar Grove Mill (WT0406), May 20, 2020. Personal communication.
- 6) Virginia and Ray Ward, Owners of B.O. Ward House, July 6, 2020

APPENDIX A: STAFF QUALIFICATIONS



YEARS OF EXPERIENCE

With this firm: 2018-Present

With other firms: 23

EDUCATION

MA 1995

North Carolina State University
Public History

BA 1992

Eckerd College
Philosophy

PROFESSIONAL TRAINING

Section 106 for Experienced
Practitioners

Preparing Section 106
Agreement Documents

Section 106 Review for
Planners and CRM
professionals

Innovative Approaches to
Section 106 Mitigation

Project Budgeting for CRM
Professionals

PROFESSIONAL SOCIETIES

(former) Director, American
Cultural Resources Association

Chair, Wake Forest Historic
Preservation Commission

Voting Member, Capital Area
Preservation Anthemion
Awards Committee

ELLEN TURCO

PRINCIPAL SENIOR HISTORIAN (36 CFR 61)

Ellen Turco has over 20 years' experience in cultural resources management across multiple industries such as transportation, telecommunications, oil and gas infrastructure, and land development. Her experience includes historical research and writing, architectural surveys and analysis, National Register of Historic Places evaluations for individual resources, districts and landscapes, both state and federal Historic Preservation Tax Credit applications, and the preparation of both Memorandum of Agreement and Programmatic Agreement documents. She has conducted and directed cultural resources surveys in accordance with Sections 106 and 110 of the National Historic Preservation Act, as amended, NEPA, and other municipal and state cultural resource regulations. Ms. Turco exceeds the qualifications set forth in the Secretary of Interior's Standards for an Historian and Architectural Historian [36 CFR 61].

REPRESENTATIVE PROJECT EXPERIENCE

Improvements to U.S. 70, James City, NC (Sponsor: NCDOT) Principal Investigator and Historian for a Phase I and II Historic Architectural Resource Inventory and National Register evaluation of 250 resources in a post-Civil War African American freedmen's community in eastern North Carolina. Authored background history and historic contexts for James City and evaluated resources under the NRHP Criteria both individually and as a historic district. The identification of NRHP eligible resources was a key element of the planning process in this historically sensitive community where environmental justice issues were a factor.

Mount Ararat African American Episcopal Church, Wilmington, New Hanover County, NC (Sponsor: NDOT) Principal Investigator and Historian for this multi-part mitigation of a Reconstruction-era African American church and cemetery. Authored NRHP nomination text for the church, former school site, and adjacent cemetery. Provided background on folk burial practices in the eastern Coastal Plain for the ground-penetrating radar cemetery survey and authored an illustrated public history booklet about the history of the Middle Sound community entitled "Kin, Kindred, Relatives and Friends." Work on this project identified a potentially eligible resource, the Nixon Oyster Plant, that had been omitted in previous planning surveys. The Oyster Plant was treated in a subsequent document to ensure that all Section 106 and NEPA requirements were met.

Upgrades to U.S. 70, Johnston and Wayne Counties (Sponsor: NCDOT) This fast-tracked report evaluated the National Register eligibility of the Waverly H. Edwards House in a compressed timeframe. The house was the one resource located within alternative corridors so determining National Register status early on in project planning was essential. The house was recommended not eligible and a historic architecture survey of the larger areas around the alternative corridors was undertaken subsequently.

Improvements to NC 42 Interchange with I-40, Johnston County, (Sponsor: NCDOT) Principal Investigator and Historian for a Phase I Historic Architectural Resource Inventory of a formerly rural but now heavily developed 5-mile long corridor. The Phase I work eliminated 25 resources from intensive study and identified 4 resources that required Phase II National Register evaluations. The phased approach allows project planning and design to proceed in areas without historic sensitivity.

Corridor K, Graham County (Sponsor: NCDOT) Principal Investigator and Historian for Phase I and II Historic Architecture studies. Supervised field crews to complete surveys of large project corridors with a combined resource count of over 200. Work conducted within a compressed time frame requested by NCDOT. The Phase I work eliminated resources from intensive study and identified resources that required Phase II National Register evaluations. Digital data capture and the early identification of potentially historic properties supported DOT's public involvement efforts and the development of avoidance plans and feasible alternatives.

**YEARS OF EXPERIENCE**

With this firm: 2019-Present
With other firms: 23

EDUCATION

MA 2006
University of North Carolina at
Charlotte
Public History

BA 1996
University of North Carolina at
Charlotte
History

PROFESSIONAL TRAINING

Campbell Center for Historic
Preservation Studies,
Preservation of Gravestones
and Monuments, Basic and
Advanced Techniques 2013

Edgecombe Community
College, Preservation Trades
School, 2008

PROFESSIONAL SOCIETIES

Member, American Cultural
Resources Association

Professional Associate,
American Institute of
Conservation

Member, Association of
Gravestone Studies

Member, National Trust for
Historic Preservation

Past President, Charlotte
Regional History Consortium,
Charlotte Region, NC

Member, Charlotte Regional
History Consortium

Member, Association for
Preservation Technology

Past President, Lincoln County
Historic Properties
Commission

JASON L. HARPE

SENIOR HISTORIAN (36 CFR 61)

Jason Harpe has over twenty years of experience in the field of historic preservation. His experience includes historical research and writing, architectural surveys and analysis, the preparation of National Register of Historic Places nominations and local landmark reports, and facilitating the acquisition, preservation, restoration, and maintenance of historic structures, buildings, cemeteries, and historic sites. Mr. Harpe has worked on cultural resources surveys in accordance with Section 106 of the National Historic Preservation Act and other municipal and state cultural resource regulations. He is also a certified Gravestone and Monument Conservator and has prepared conditions assessments for cemeteries and has worked on numerous projects involving the conservation and restoration of gravestones and monuments. His educational and professional experience meet the qualifications set forth in the Secretary of Interior's Standards for an Architectural Historian and Historian [36 CFR 61].

REPRESENTATIVE PROJECT EXPERIENCE

US 74 New Improvements and New Alignment, Graham County; Improvements to NC 115, Wilkes County (Sponsor: NCDOT) Historian and survey crew leader for two Phase I Historic Building Inventories. The projects documented approximately 250 resources to the standards of the North Carolina State Historic Preservation Office (NCSHPO) and NCDOT.

National Register of Historic Places Nominations, North Carolina (Sponsors: Funded by grants and privately-funded) Consultant for researching, writing, and submitting National Register of Historic Places nominations to the North Carolina SHPO for the Reinhardt-Craig House, Kiln, and Pottery Shop (Lincoln County), Holly Springs Masonic Lodge (Holly Springs), Eureka Manufacturing Company Cotton Mill (Lincoln County), Burt-Arrington House (Nash County), Oakdale Cemetery (Henderson County), and the Lincoln Recreation Department Youth Center (Lincoln County).

National Register of Historic Places Nomination and Gravestone and Monument Conservation, Shiloh Presbyterian Church Cemetery, Town of Grover, Cleveland County, NC, and Town of Blacksburg, Cherokee County, SC (Sponsor: Privately-funded) Lead on a privately-funded project that included reports for the Shiloh Presbyterian Church Cemetery to be listed in the National Register of Historic Places and designated as a local historic landmark. Conserved professionally all the gravestones and monuments in the cemetery. The National Register nomination had to be submitted to both the North Carolina SHPO and the South Carolina SHPO. Upon completion of the conservation work, all the photographs of conserved gravestones and monuments were uploaded to Findagrave.com.

Preservation Plan for the City of Pelzer, Anderson and Greenville Counties, SC (Sponsor: City of Pelzer) Served as principal staff for a Historic Preservation Plan for the City of Pelzer that was funded by a grant from the National Trust for Historic Preservation. The project included public meetings to gather community input, documenting buildings, objects and sites of historic and cultural significance, and developing a plan to guide the town's future historic preservation efforts.

National Register of Historic Places Nominations, City of Fountain Inn, Greenville County, SC (Sponsor: City of Fountain Inn) Consultant for researching, writing, and submitting National Register of Historic Places nominations to the South Carolina State Historic Preservation Office (SHPO) for the Robert Quillen Office and Library, Fountain Inn Principal's House and Teacherage, McDowell House, and the F. W. Welborn House. Presented all National Register Nominations to the South Carolina National Register Advisory Committee.

APPENDIX B: NATIONAL REGISTER OF HISTORIC PLACES CRITERIA FOR EVALUATION

1. State and National Registers of Historic Places Criteria
2. Criteria of Adverse Effect

1. State and National Registers of Historic Places Criteria

Significant historic properties include districts, structures, objects, or sites that are at least 50 years of age and meet at least one National Register criterion. Criteria used in the evaluation process are specified in the Code of Federal Regulations, Title 36, Part 60, National Register of Historic Places (36 CFR 60.4). To be eligible for inclusion in the National Register of Historic Places, a historic property(s) must possess:

the quality of significance in American History, architecture, archaeology, engineering, and culture [that] is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

- a) that are associated with events that have made a significant contribution to the broad patterns of our history, or
- b) that are associated with the lives of persons significant in our past, or
- c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components lack individual distinction, or
- d) that have yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

There are several criteria considerations. Ordinarily, cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register of Historic Places. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- a) a religious property deriving primary significance from architectural or artistic distinction or historical importance, or
- b) a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event, or
- c) a birthplace or grave of a historical figure of outstanding importance if there is no other appropriate site or building directly associated with his/her productive life, or
- d) a cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events, or
- e) a reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived, or

- f) a property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historic significance, or
- g) a property achieving significance within the past 50 years if it is of exceptional importance. (36 CFR 60.4)

When conducting National Register evaluations, the physical characteristics and historic significance of the overall property are examined. While a property in its entirety may be considered eligible based on Criteria A, B, C, and/or D, specific data is also required for individual components therein based on date, function, history, and physical characteristics, and other information. Resources that do not relate in a significant way to the overall property may contribute if they independently meet the National Register criteria.

A contributing building, site, structure, or object adds to the historic architectural qualities, historic associations, or archeological values for which a property is significant because a) it was present during the period of significance, and possesses historic integrity reflecting its character at that time or is capable of yielding important information about the period, or b) it independently meets the National Register criteria. A non-contributing building, site, structure, or object does not add to the historic architectural qualities, historic associations, or archeological values for which a property is significant because a) it was not present during the period of significance, b) due to alterations, disturbances, additions, or other changes, it no longer possesses historic integrity reflecting its character at that time or is incapable of yielding important information about the period, or c) it does not independently meet the National Register criteria.

2. Criteria of Adverse Effect

Whenever a historic property may be affected by a proposed undertaking, Federal agency officials must assess whether the project constitutes an adverse effect on the historic property by applying the criteria of adverse effect. According to the Advisory Council on Historic Preservation, the criteria of adverse effect (36 CFR 800.5), is as follows:

- (1) An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that would qualify it 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 for 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 cumulative.
- (2) Adverse effects on historic properties include, but are not limited to (36 CFR 800.5(a)(2)):
 - 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.

A finding of adverse effect or no adverse effect could occur based on the extent of alteration to a historic property, and the proposed treatment measures to mitigate the effects of a proposed undertaking. According to 36 CFR 800.5(3)(b):

The agency official, in consultation with the SHPO/THPO, may propose a finding of no adverse effect when the undertaking's effects do not meet the criteria of § 800.5(a) (1) or the undertaking is modified or conditions are imposed, such as the subsequent review of plans for rehabilitation by the SHPO/THPO to ensure consistency with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines, to avoid adverse effects.

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Little, Barbara J., Erika Martin Seibert, Jan Townsend, John H. Sprinkle, Jr., and John Knoerl

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APPENDIX C: HPO LETTER



North Carolina Department of Natural and Cultural Resources
State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary Susi H. Hamilton

Office of Archives and History
Deputy Secretary Kevin Cherry

March 9, 2020

Jordan Hessler
Wildlands Engineering, Inc.
1430 South Mint Street, Suite 104
Charlotte, North Carolina 28203

jhessler@wildlandseng.com

Re: Proposed Ward Mill Dam removal project, Laurel Creek Township, Watauga County, ER 20-0338

Dear Mr. Hessler,

Thank you for your February 7, 2020, letter concerning the above-referenced undertaking. We have reviewed the materials submitted and offer the following comments.

There are several archaeological sites along this part of the Watauga River, including the National Register-eligible Ward Site (31WT22). Most of these sites are adjacent to the proposed impoundment area, which will experience passive water drawdown effects as a result of the dam removal. We do not believe that any archaeological sites will be impacted by the water drawdown or by the removal of the dam structure.

The submitted plans indicate that there will be improvements on about 300 meters of stream bank directly up- and downstream of the Ward Mill Dam that may include minor grading. Given the nature of this landscape and its proximity to other archaeological resources, we have determined that there is a high probability that additional archaeological resources may be present within the proposed area of disturbance for stream bank improvements.

Prior to initiation of any ground disturbing activities within the project area, we recommend that a comprehensive archaeological survey of the areas where stream bank grading is proposed be conducted by an experienced archaeologist to identify and evaluate the significance of any archaeological remains that may be damaged or destroyed by the proposed project.

Our office now requests consultation with the Office of State Archaeology Review Archaeologist to discuss appropriate field methodologies prior to the archaeological field investigation. A list of archaeological consultants who have conducted or expressed an interest in contract work in North Carolina is available at <https://archaeology.ncdcr.gov/archaeological-consultant-list>. The archaeologists listed, or any other experienced archaeologist, may be contacted to conduct the recommended survey.

One paper and one digital copy of all resulting archaeological reports, as well as one digital copy of the North Carolina site form for each site recorded, should be forwarded to the Office of State Archaeology through this office for review and comment as soon as they are available and in advance of any ground disturbance activities.

We are unable to accurately assess impacts to historic properties within the proposed Area of Potential Effect. The B. O. Ward House & Mill (WT0358) complex, which includes the dam proposed for demolition, should be evaluated by a Secretary of the Interior qualified Architectural Historian and a report submitted to us for review and comment.

Please be sure to review our Historic Structure Survey Report Standards (<https://www.ncdcr.gov/about/history/division-historical-resources/nc-state-historic-preservation-office/environmental-0>) to ensure timely review. Missing deliverables will cause a delay in processing.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,



for Ramona Bartos, Deputy
State Historic Preservation Officer

cc: Annie McDonald, NCHPO