



**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

October 8, 2019

MEMORANDUM

TO: Shelby Reap  
Office of Human Environment  
NCDOT Division of Highways

FROM: Renee Gledhill-Earley *Renee Gledhill-Earley*  
Environmental Review Coordinator

SUBJECT: Historic Structures Survey Report, Replace Bridge 91 on US 29/74 over Catawba River,  
BR-0020, PA 17-12-0050, Gaston County, ER 19-2816

Thank you for your September 16, 2019, letter transmitting the above-referenced report. We have reviewed the report and concur that the North Carolina Vocational Textile School (GS3287) is eligible for listing in the National Register of Historic Places under Criteria A. The author is to be commended for assembling comparable properties to fully evaluate a "first and only of its kind" resource.

Additionally, please be aware that we've recently updated our report standards. The update can be found on our website at this address: <https://www.ncdcr.gov/about/history/division-historical-resources/nc-state-historic-preservation-office/environmental-0>.

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](mailto:environmental.review@ncdcr.gov). In all future communication concerning this project, please cite the above referenced tracking number.

cc: Mary Pope Furr, NCDOT, [mfurr@ncdot.gov](mailto:mfurr@ncdot.gov)

Received: 09/17/2019  
State Historic Preservation Office



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

ROY COOPER  
GOVERNOR

JAMES H. TROGDON, III  
SECRETARY

September 16, 2019

**ER 19-2816**

Ms. Renee Gledhill-Earley  
Environmental Review Coordinator, State Historic Preservation Office  
North Carolina Department of Natural & Cultural Resources  
4617 Mail Service Center  
Raleigh, North Carolina 27699-4617

Due -- 10/9/19  
ER letters  
10/3  
H- RSE

Dear Renee:

RE: Historic Structures Survey Report, Replace Bridge No. 91 on US 29/74 over  
Catawba River, Gaston County PA# 17-12-0050, TIP# BR-0020

The North Carolina Department of Transportation (NCDOT) proposes to construct a roundabout in Union County. NCDOT contracted WPS to evaluate one property in the Area of Potential Effects: the North Carolina Vocational Textile School (GS3287). We recommend the property is eligible for National Register listing.

The report and survey materials are enclosed for your review and comment per 36CFR.800. Please let me know if you have any additional questions regarding this project. I can be reached at (919) 707-6088 or by email at [sleap@ncdot.gov](mailto:sleap@ncdot.gov).

Sincerely,

A handwritten signature in black ink that reads "Shelby Reap".

Shelby Reap  
Historic Architecture Team

Attachments

Mailing Address:  
NC DEPARTMENT OF TRANSPORTATION  
PDEA-HUMAN ENVIRONMENT SECTION  
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Website: [www.ncdot.gov](http://www.ncdot.gov)

Location:  
1020 BIRCH RIDGE RD  
RALEIGH NC 27610

**Historic Architectural Resources Eligibility Report  
Replace Bridge No. 91 on US 29/US 74 over Catawba River  
Belmont, Gaston County, North Carolina**

**PA# 17-12-0050**

**TIP# BR-0020**

**WBS# 67020.1.1**

Prepared for:

North Carolina Department of Transportation  
Human Environment Section  
Raleigh, North Carolina 27699-1598

Prepared By:

Cultural Resource Analysts, Inc.  
Virginia Office  
1503 Santa Rosa Road, RM 127  
Henrico, Virginia 23229

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Historic Architectural Resources Eligibility Report  
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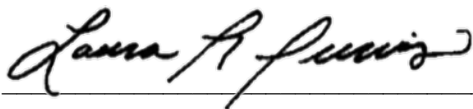
*Prepared for:*

North Carolina Department of Transportation  
Human Environment Section  
Raleigh, North Carolina 27699-1598

*Prepared by:*

Cultural Resource Analysts, Inc.  
Virginia Office  
1503 Santa Rosa Road, RM 127  
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August 26, 2019



08/09/2019

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Laura R Purvis, Principal Investigator  
Cultural Resource Analysts, Inc.

Date

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Mary Pope Furr, Supervisor  
Historic Architecture Group  
North Carolina Department of Transportation

Date

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# MANAGEMENT SUMMARY

In March 2019, Cultural Resource Analysts, Inc. (CRA) completed an eligibility determination for the North Carolina Vocational Textile School (GS3287) for the North Carolina Department of Transportation (NCDOT) in association with the proposed bridge replacement (No. 91) on U.S. 29/U.S. 74 over the Catawba River in Belmont, Gaston County, North Carolina. This project is subject to review under the Programmatic Agreement for Minor Transportation Projects (NCDOT/ NC HPO/ FHWA, 2015). NCDOT architectural historians reviewed the properties within the area of potential effects (APE) for the proposed project, defined as all parcels adjacent to the proposed project, along U.S. 29/U.S. 74 from Patterson Street to the Iswa Nature Preserve and determined that one resource warranted an eligibility evaluation for the National Register of Historic Places (NRHP): the North Carolina Vocational Textile School (GS3287), located at 7220 Wilkinson Boulevard (U.S. 74). Gaston Bridge No. 91 was included in the 2005 Historic Bridge Inventory and was determined NRHP-eligible at that time (See Appendix A). All other properties are not worthy of further study and evaluation due to the lack of historical significance and/or integrity.

In March 2019, Alyssa Reynolds, Architectural Historian for CRA, revisited the North Carolina Vocational Textile School (GS3287) for additional research and documentation. In addition to archival research, Reynolds met with Calvin Craig an Information Access Librarian for the Morris Library (Dallas Campus of Gaston College). Craig shared information about the North Carolina Vocational Textile School and identified repositories that may have archival resources concerning the school. Craig also provided access to the Gaston College archives, where, upon searching, no additional information was located.

Based on available research and documentation, CRA recommends that the Textile Technology Center (former) North Carolina Vocational Textile School, the primary resource of the North Carolina Vocational Textile School (GS3287), is NRHP-eligible under Criterion A.

	Address	Site Survey Number	NRHP Eligibility Recommendation	NRHP Criteria
North Carolina Vocational Textile School	7220 Wilkinson Boulevard, Belmont, NC 28012	GS3287	Eligible	A

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# I. INTRODUCTION

Cultural Resource Analysts, Inc. (CRA) completed the investigation between March 26 and March 28, 2019, with a combination of archival research, visual investigations, and photographic documentation of the extant building and structures, including their contextual setting. CRA performed the historic architectural analysis in compliance with the National Historic Preservation Act of 1966, as amended; the Archaeological and Historic Preservation Act of 1974; Executive Order 11593; and Title 36 of the Code of Federal Regulations, Parts 660-66 and 800 (as revised, 1999). The field research and report meet the requirements specified in the Secretary of the Interior's "Standards and Guidelines for Archaeology and Historic Preservation" (Federal Register 48: 190:44716-44742) (National Park Service 1983), as well as North Carolina Department of Transportation's (NCDOT) *Historic Architecture Group Procedures and Work Products* (2003) and the North Carolina Historic Preservation Office's (NC HPO) *Architectural Survey Manual: Practical Advice for Recording Historic Resources and Digital Photography for Historic Property Surveys and National Register Nominations, Policy and Guidelines* (2012).

# II. METHODOLOGY

Based on the nature of the proposed project and the character of the surrounding landscape, the area of potential effects (APE) for the historic architectural resource survey has been defined by the NCDOT to include properties adjacent to the proposed bridge replacement (No. 91) on U.S. 29/U.S. 74 over the Catawba River in Belmont, Gaston County, North Carolina (WBS# 67020.1.1). The APE took into account both direct and indirect effects for the proposed project. Before entering the field, CRA consulted the NC HPO's Historic Preservation Office WEB GIS Service (HPOWEB) to confirm the presence of any previously-recorded properties located within the APE. Gaston Bridge No. 91 (GS3298) was included in the 2005 Historic Bridge Inventory and was determined eligible for inclusion in the National Register of Historic Places (NRHP) at that time (See Appendix A). Another previously recorded resource lies just outside of the APE to the southwest, the Belmont National Guard Armory (GS1483). It was recorded as eligible for listing within the NRHP.

This project is subject to review under the Section 106 Programmatic Agreement for Minor Transportation projects (NCDOT/NCHPO/FHWA/USFS 2015). An NCDOT Architectural Historian defined an area of potential effects (APE) and conducted a site visit to identify and assess all resources of approximately 50 years of age or more within the APE. Only one resource, the North Carolina Vocational Textile School (GS3287), warranted an intensive NRHP eligibility evaluation, and it is the subject of this report. NCDOT Architectural Historians determined that all other properties are not worthy of further study and evaluation due to lack of historic significance and/or integrity.

The project area is characterized by areas of slightly increased grade as U.S. 29 travels from the lower area of the Catawba River toward Belmont. The APE is within the eastern city limits of Belmont. The rear of the parcel is characterized by a wooded area that separates the school from a suburban neighborhood. This portion of the highway is now partially lined with modern commercial development from the late 1990s to early-2000s as the area transitioned from woodland into suburban outcroppings of Belmont. This relatively recent development activity is supported by the increased usage of U.S. 29, connecting Belmont to Charlotte.

## Archival Research

Prior to fieldwork, CRA conducted background research on Gaston County's development patterns, including the role of textile vocational schools in western North Carolina's textile production and industrial histories. CRA consulted the NC HPO's online HPOWEB GIS Service to ascertain the level of existing documentation of the North Carolina Vocational Textile School (GS3287), or of other properties within the area that might share a similar context. There were 33 resources within HPOWEB that returned with the keyword "school" in Gaston County. None of these resources were comparable as these were a mix of primary and secondary schools that did not involve vocational training. A wider search resulted in 10 resources that returned with the keyword "industrial school" in North Carolina. Of them, eight individual resources associated with three distinct properties were considered to be comparable to the vocational school. These schools are the Memorial Industrial School (FY0686, FY4265, FY4266, FY4267, FY4268, & FY4269), Morrison Industrial School (MA0275 & MA0276), and the Clarkton Normal Industrial School (BL0037). Another search was completed within Cleveland, Gaston, Lincoln, and Mecklenburg Counties using the keywords "school" and "1940." This search returned only two resources, James A. Gray High School (FY1209) and Parks-Hutchinson School (MK2221). These schools are comparable resources in terms of Neoclassical and Moderne stylistic influences along with their construction dates. The rectilinear plan and scale of these buildings are somewhat similar to the North Carolina Vocational Textile School. With the keyword "Moderne school" only two resources were found in the entire state: the (former) Shelby High School (CL0656); and Houses and Schools (James Craig Braswell) (NS0994). The former Shelby High School was determined to be the only comparable because of its similar, Moderne style with the elongated horizontal lines formed by windows, coping course, and elevated foundation. The only NRHP-listed resources are: Memorial Industrial School (FY0686); Lincoln Heights School (WK0314); Cleveland County Training School (CL0989); Franklin County Training School (FK0554); Warren County Training School (WR0313); and Casewell County Training School (CS0081). The (former) Shelby High School (CL0656) is part of the Central Shelby Historic District. Despite a detailed search of HPOWEB, no comparable vocational schools dedicated to the instruction of textile manufacture were located in any other county within North Carolina. The comparable resources are listed in Table 1.

During fieldwork, CRA completed extensive photographic documentation of the property according to NC HPO standards and guidelines. Digital photographs were taken of the site as well as of the contextual setting and the exterior of all buildings and structures. Emphasis was placed on capturing building forms, character-defining features, and changes that have occurred throughout the property's history.

Archival research included investigations at the Morris Library at the Gaston College Dallas Campus and the library at the Gaston College – Kimbrell Campus. An inspection of archival resources, published histories, historical aerial images, historic photographs, topographical quadrangle maps, and historical map collections available through local facilities, such as the Gaston County Public Library Main Branch & Belmont Branch. The North Carolina Maps Project and the North Carolina Digital Collections, a partnership between the State Library of North Carolina and the State Archives of North Carolina, was also searched. Newspapers.com was a helpful source concerning the textile school as there were articles discussing the daily, educational routine of the textile school students. Researchers also consulted the Millican Pictorial History Museum for any historic images of the school.

Table 1. List of Industrial/1940 School Resources located in HPOWEB GIS Service for Gaston County.

Resource Name	County	Site Survey Number	NC HPO Status Code
<b>Industrial Schools</b>			
Memorial Industrial School	Forsyth	FY0686	National Register Listed (NR)
Morrison Industrial School	Macon	MA0275	Study List Individual Entry (SL)
Clarkton Normal Industrial School	Bladen	BL0037	NR
<b>1940 school</b>			
James A. Gray High School	Forsyth	FY1209	Surveyed Only (SO)
Parks – Hutchinson School	Mecklenburg	MK2221	SL
<b>Moderne</b>			
(former Shelby High School)	Cleveland	CL0656	Part of a National Register Historic District

United States Geological Survey (USGS) topographical maps and historic road maps were referenced in order to assess changes in the area. The 1973 USGS Belmont, North Carolina map shows an increase in residential areas near the school compared to the 1947 USGS Clover, South Carolina map (USGS 1973; USGS 1947). However, both indicate the continued use of the site for a textile training facility.

Available data for the textile history of Gaston County and of western North Carolina was researched online, but revealed no mention of the North Carolina Vocational School in any of the sources narratives. Historic maps show mill villages in the area as well as the locations of mills and industries in Gaston County available online from NC Live. Local mill history, such as the Loray Mill, located in nearby Gastonia, North Carolina, was discussed, especially when a large strike happened. Larger textile trends are referenced, specifically in the Piedmont region of North Carolina beginning in the late nineteenth century and lasting until the late twentieth century (North Carolina Business History 2006).

Architectural Historian Laura Purvis emailed Elizabeth Atterberry of the Belmont Historical Society on March 26 to check for historical records regarding the school. Atterberry replied on April 24 stating that she did not find any information. The North Carolina State University Special Collections were also contacted on March 26. They searched for records, but it was ultimately revealed that there were none associated with the school in their holdings. Between April 8 and 13, the Government and Heritage Library with the State of North Carolina gave Purvis a list of possible files related to the school which were located at the State Archives of North Carolina. On April 23, Purvis travelled to the State Archives where access was denied due to restrictions on the requested documents. NCDOT emailed the DOA along with the State Archives to discuss the restrictions. Digital scans of the records were requested on May 9 since it was discovered that these documents were not restricted. The North Carolina Archives notified Purvis that the scans would be available on May 24.

## II. PROPERTY DESCRIPTION

### North Carolina Vocational Textile School (GS3287)

Resource Name: Textile Technology Center/ (former) North Carolina Vocational Textile School

Site Survey #: GS3287

Address: 7220 Wilkinson Blvd, Belmont, North Carolina 28012

PIN No.: 3595707640

Construction Date(s): 1943 with additions ca. 1956 and ca. 1973. New classroom building dates to 2003.

NRHP Recommendation: Eligible, Criteria A



#### *Property Description*

**Setting:** The 18.51-acre parcel for the North Carolina Vocational Textile School (GS3287) is located along the eastern city limits of Belmont immediately to the south of U.S. 29, Wilkinson Boulevard. Parcels to the west are a mix of commercial and residential properties. A National Guard facility is located to the southwest. Residential properties are located to the south with more commercial properties to the east. The parcel is bounded by Wilkinson Boulevard to the north (Figures 1 and 2).

The North Carolina Vocational Textile School (GS3287) sits on a flat, grassy parcel next to Wilkinson Boulevard (Figure 3). The southern, eastern, and western portions of the parcel gradually slope down toward the residential development and commercial development, respectively. The school does have some scattered trees, creating a buffer, but mainly, the area is open due to a parking lot surrounding the school. To the south of the school is a wooded area that separates the facility from the residential area. An asphalt driveway connects from Wilkinson Boulevard to the parking lots east, south, and west of the facility (Figure 4).

**School, exterior:** The Moderne school with Art Deco and Neoclassical influences, sits approximately 106 feet south of U.S. 29, Wilkinson Boulevard. Constructed in 1943, most elements of the original construction remain, although some renovations have occurred. A 1953 photograph shows original, eight-light, paired casement windows. These have been replaced at an unknown date with four-light, metal stationary windows (Figures 5 and 6) (Millican Pictorial History 2019). Some side and rear elevation windows were infilled with brick at an unknown date. Two additions were constructed. The east elevation addition was built between 1956 and 1968. The west elevation addition was constructed in 1973; it is likely that most changes to the main structure date to this period.

The building is presented as two stories at the façade but opens to three stories at the rear, with the grade descending away from the building. The flat roof school has a symmetrical façade defined by nine bays with a two-story, cast concrete veneer surround framing a metal frame glass door. The recessed arched entry is flanked by fluted pilasters, mimicking the window spandrels. Above the entryway is the name "HARNEY HALL." Concrete steps with metal railings provide access to this central entry. Flanking the stairs are cast concrete planters that replaced earlier, metal lamp posts that are visible in a 1953 photograph (see Figure 5) (Millican Pictorial History 2019). The cast concrete base is original and mimics the door surround and spandrels. Carved, cast concrete spandrels rest below façade windows. The second-story spandrels are more decorative with ribbed detailing, while the first-story spandrels are flat. A concrete walkway leads to the entrance from the eastern parking lot via a set of concrete steps and a rusticated brick planter wall. The school partially sets on a cast concrete foundation. The building is clad in a brick veneer with a common bond. Darker, two course brick belt

courses are present every twelfth course. Visual rhythm continues onto the west elevation addition as areas of recessed brick mimic the window placement on the original portion of the building (Figure 7).

The building is capped with a rolled asphalt clad roof. Rectangular vent openings rest below a metal ridge that covers a cast concrete coping course throughout the structure. A cast concrete belt course is featured on the original portion of the building. Located in the center of the roof is a parged brick chimney.

A two-story, three-bay, rectangular addition is located on the east elevation. This was constructed between 1956 and 1968. The east elevation windows are original. A six-light window set includes four-light casements surrounding two, six-light stationarys. The other windows are two-light stationary. The addition is similar to the main school building, as it is clad in brick veneer and capped coping course with a metal ridge covering. A metal covered south (rear) elevation entrance leads to a stairwell and the library for the school (Figure 8). A recessed entrance is located on the façade at its juncture with the original building. Concrete stairs lead to a glass door with a metal surround (Figure 9).

There is a three-story, one-bay, rectangular addition to the west with a covered façade stoop. This was constructed circa 1973. A set of metal stairs is located on the south elevation next to an elevator shaft. The entrance contains a metal frame glass door with surrounding side lights resting below a three-light stationary window opening. The addition mimics the exterior treatments of the main structure, including the visual continuation of the windows through the use of large areas of recessed bricks and the extension of the water table line (Figure 10). A new loading dock on the rear elevation of the addition has been placed to the west of the original loading dock. As the new loading dock is on the ground level, it would have been easier to move equipment into and out of the school. However, the large opening for the loading dock has been infilled with brick. The original loading dock is constructed from concrete. Concrete stairs to the east of the dock lead to a recessed entry filled with a single-leaf, metal frame, glass door. Side lights flank the arched entry. To accommodate for the lack of a large opening to the rear of the structure, a metal, folding garage door has been placed to the east of the original loading dock (Figure 11).

**School, interior:** Photographs were not allowed of the interior of the school. The school tests and produces textiles for large companies and taking photographs would be a violation of privacy and trade secrets. Heavy machinery is located in almost every room, which further prohibited access. However, CRA was able to enter through the main façade door into an entry vestibule where a receptionist was located. The following interior description will only describe what could be seen from this area.

The walls are covered with carved wood wainscoting on the lower portion with plaster above. A wood receptionist desk is placed near the end of the entry, flanked by two corridors leading west and east. These corridors are also covered in plaster with carpeting lining the floor. Various openings into classrooms are placed along the hallway. At the end of the corridor are stair accesses.



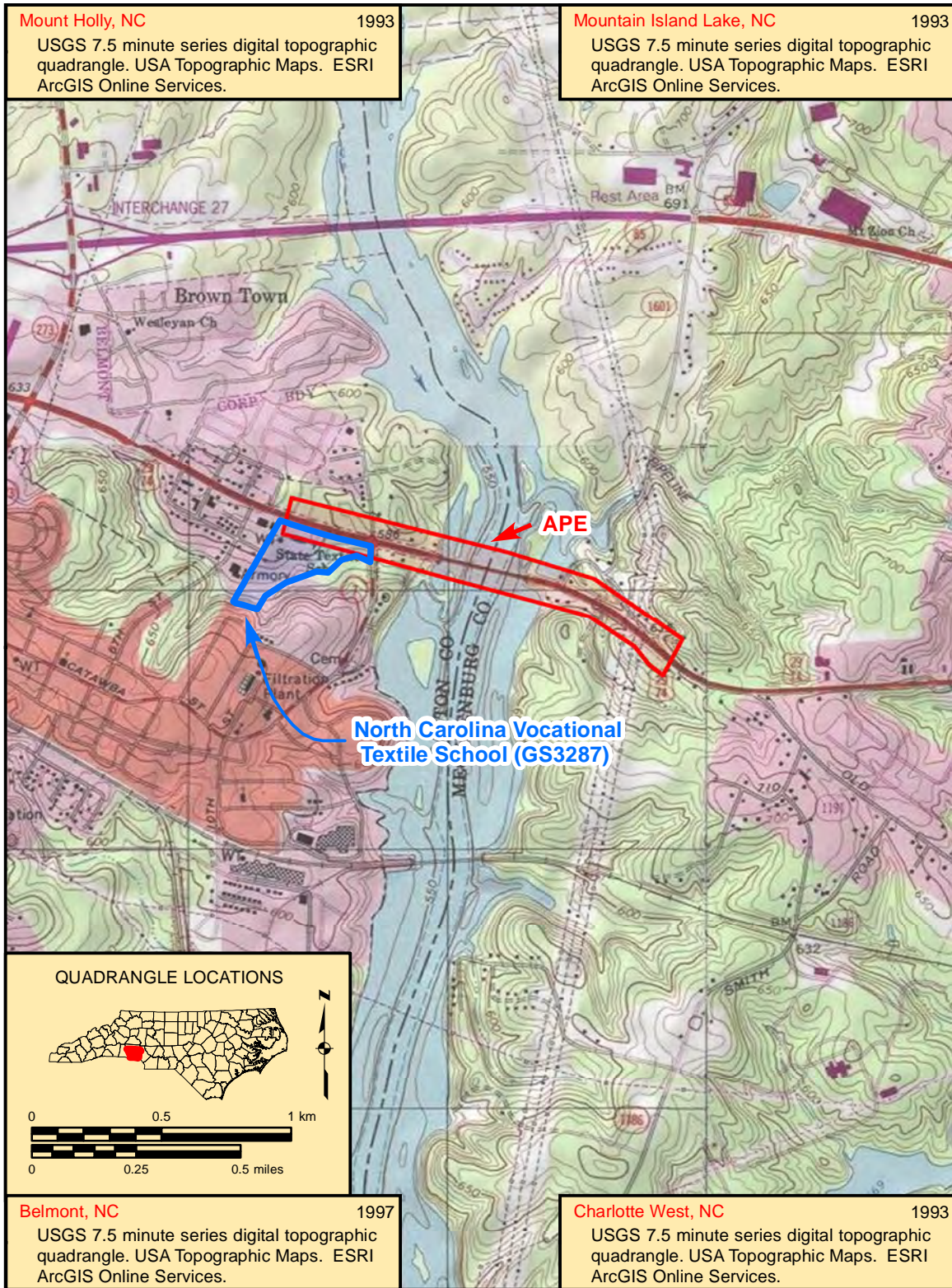


Figure 1. Map of Belmont, North Carolina showing the APE and the location of the North Carolina Vocational Textile School (GS3287).



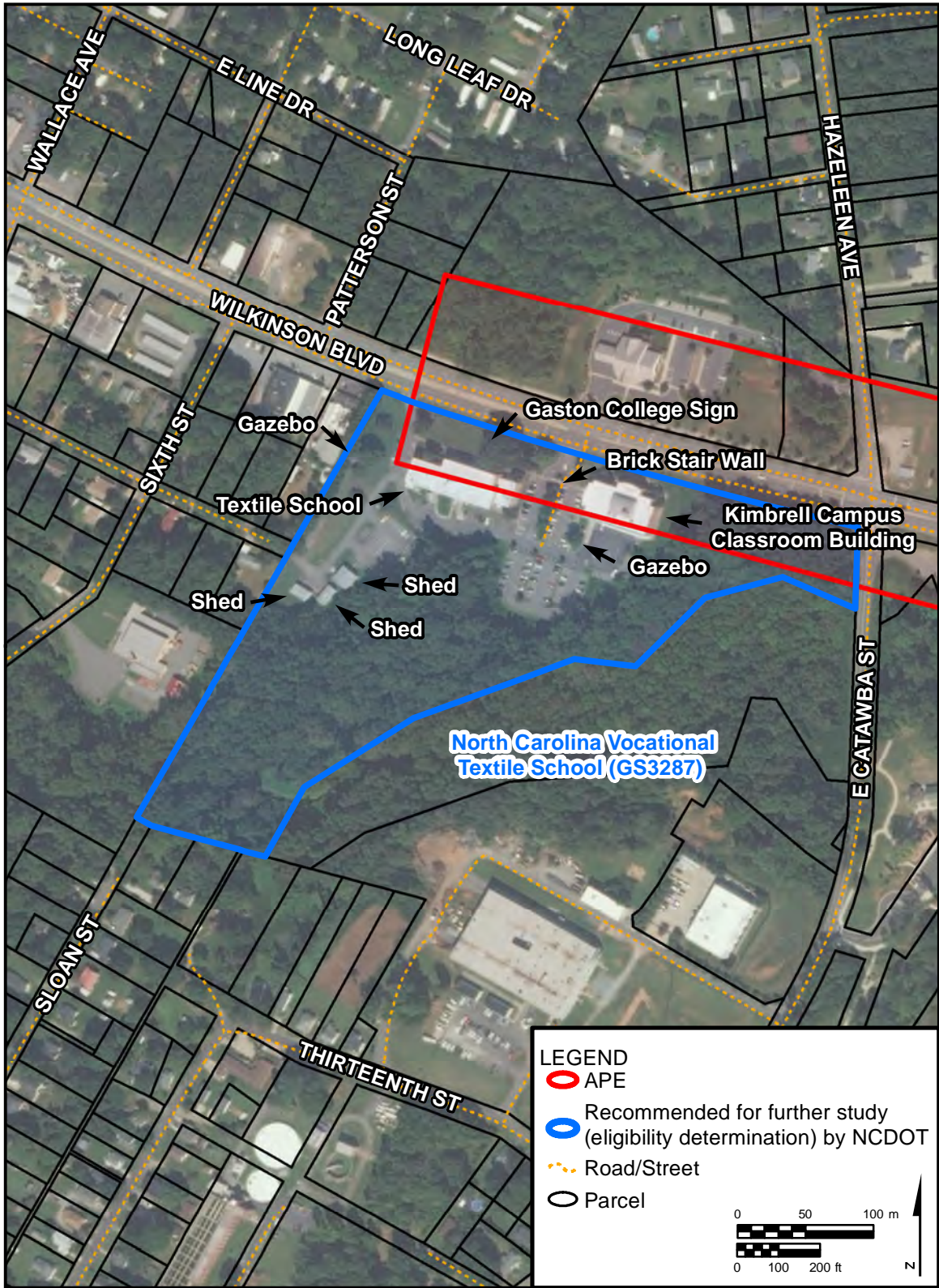


Figure 2. Aerial showing the location and parcel boundary of 7220 Wilkinson Boulevard, North Carolina Vocational Textile School (GS3287).





Figure 3. Overview of the school property, looking southwest.



Figure 4. Overview of the school property, looking northeast.

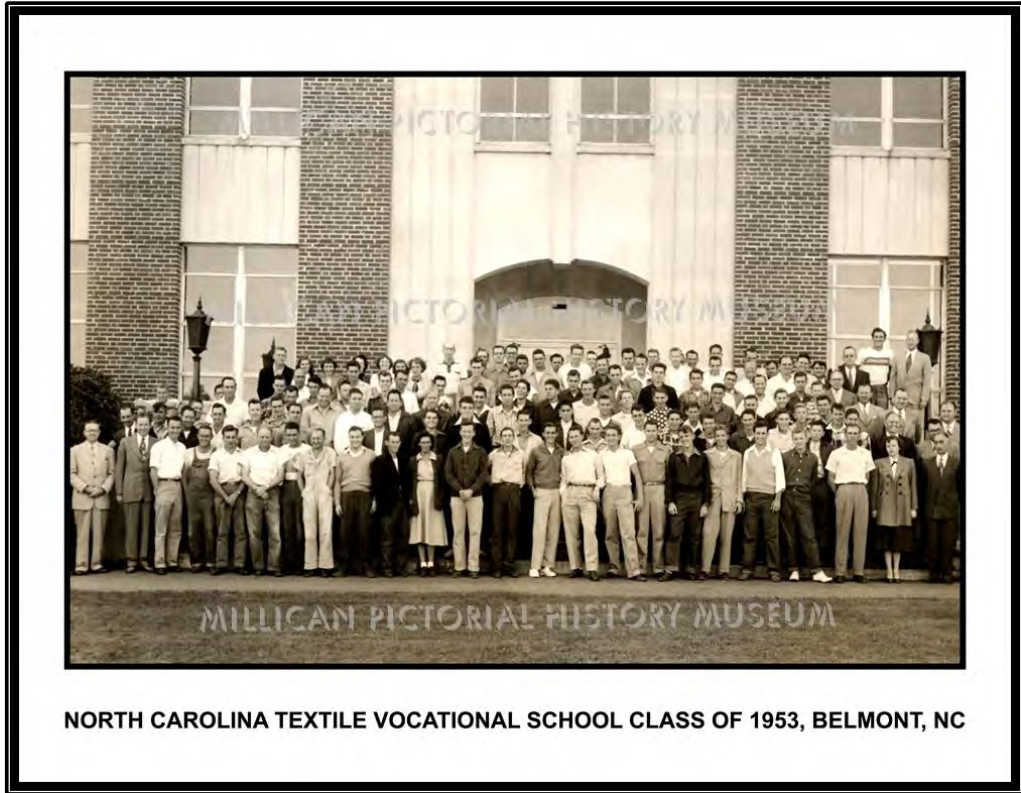


Figure 5. North Carolina Vocational Textile School façade view in 1953 (Millican Pictorial History 2019).



Figure 6. Rear (south) elevation showing infilled windows, looking northeast.





Figure 7. View of façade (north) elevation, looking south.



Figure 8. View of east elevation, looking northwest.



Figure 9. View of façade (north) elevation with east addition, looking southwest.



Figure 10. View of west elevation, looking southeast.





Figure 11. View of rear (south) elevation, looking northwest.

**Kimbrell Campus Classroom Building:** Located across the parking area to the east of the main building is a classroom building, constructed in 2003 (Figure 12). Here, classes are taught in a typical setting while the main building houses machinery classrooms. This two-story, three-bay building is clad in a brick veneer with a running bond. Rectangular in plan, the building features a curvilinear projection on the façade, facing Wilkinson Boulevard. A covered entryway has four, oversized, cast concrete columns. Decorative, lighter colored, double brick courses are present on each elevation. Metal windows throughout are a combination of paired, single-light stationary, and four-light stationary. The west elevation features a curvilinear portico with four, oversized, cast concrete columns. A double-entry features a metal and glass door assemblage with a double brick soldier course surround (Figure 13). The rear, south elevation has a metal awning covering a concrete walkway (Figure 14). The building is capped by a flat, rolled asphalt roof. A rectangular, arched roof is present in the center of the roof. A cast concrete coping course covered by a metal ridge surrounds the top of the building. Below this is a cast concrete belt course.

Interior access was denied due to school and student privacy.

**Gazebo:** A gazebo was built directly to the south of the new classroom building circa 2008 (Figure 15). It is a wood frame structure with decorative ornamentation. An asphalt shingle roof rests below a metal cupola.

**Gazebo:** Another gazebo is situated to the west of the school, across the parking area (Figure 16). Built circa 2000, it is of frame construction and rests below a wood shingle roof.



Figure 12. View of classroom building, façade (north) and west elevation, looking southeast.



Figure 13. View of classroom building, west elevation, looking southeast.





Figure 14. View of classroom building, rear (south) and west elevation, looking northeast.



Figure 15. View of gazebo located south of the classroom building, looking northeast.





Figure 16. View of gazebo located west of Textile Technology Center, looking southwest.

**Gaston College sign:** A circa 2008 rectangular sign is placed in front of the façade of the school. The sign is constructed from concrete and rests on a concrete block foundation (Figure 17). The words “GASTON COLLEGE KIMBRELL CAMPUS & TEXTILE TECHNOLOGY CENTER” are carved into the sign. A brick lined flower bed surrounds the sign with spotlights.

**Brick stair wall:** A circa 1998 rusticated brick stair wall is located to the east of the main school building (Figure 18). The wall is utilized to match the sloping landscape up to the main building. The wall also functions as a planter.

**Metal sheds:** Between 1993 and 1998, three metal clad sheds were built to the southwest of the school (Figures 19 and 20). The gabled roofs are covered in metal. Large, metal garage doors are located on each shed. These are used to store landscaping and textile equipment.

### *Historic Background*

CRA examined property tax assessment records available online through the Gaston County, North Carolina GIS website and deed records also available online through the Gaston County, North Carolina Deed Search website. CRA also spoke with administrative officials from the Textile Technology Center to request access to the interior of the college. Access was granted to the main lobby, but not to other interior spaces. An original deed was not found during archival research. A lease agreement was signed between the North Carolina Vocational Textile School and the North Carolina Department of Conservation & Development on April 1, 1960 (Gaston County Deed Book 754, Page 357). On April 26, 1974, the Trustees of the North Carolina Vocational Textile School bought 33.47 acres of land to allow for the school to continue (Gaston County Deed Book 1136, Page 842). On February 7, 1989, the North Carolina Vocational Textile School Foundation created an article of incorporation to firmly established itself as a company (Gaston County Deed Book 55, Page 310). The North Carolina Vocational Textile School was sold to Gaston College on August 12, 2008 (Deed Book 386, Page 468). It has continued to be an integral part of Gaston College – Kimbrell Campus providing training for textile manufacturing.





Figure 17. View of Gaston College sign, looking west.



Figure 18. View of rusticated brick stair wall, looking northwest.





Figure 19. View of metal shed, looking southeast.



Figure 20. View of metal shed, looking south.



## *Historic and Architectural Context*

The textile industry in North Carolina played a significant role in the development of western North Carolina. Gaston County, North Carolina, specifically, was home to over 150 textile mills between 1848 and 1950, making it “the combed yarn capital of the world” (North Carolina Business History 2006). More mills were located in this county alone than any other county in the entire nation. The small towns of Belmont and Gastonia, had multiple mills, many with their own villages, allowing for a previously unmatched industrial culture to thrive. By the 1920s, North Carolina was the center of the United States textile business as they were producing more textile products by hand than the New England region with its factory system (North Carolina Business History 2006).

Belmont, North Carolina, became an important milling area during the Industrial Revolution. Situated between the Catawba River, Lake Wylie and the South Fork of the Catawba River, Belmont became a prime location for textile production as goods could easily be shipped via the river. The construction of the railroad in 1871 allowed Belmont to be connected to larger towns within Gaston County and Charlotte. These two modes of transportation transformed Belmont from an agricultural town to a manufacturing suburb of Charlotte.

The Chronicle Mill (GS0351), constructed in 1901, was the first textile facility within the city limits of Belmont (Figure 21). Other investors soon realized the prime location of the town for transportation purposes and began to build their mills. Some of the larger mills in Belmont that are still visible on the landscape include the Majestic Mill (1907) and the Vision Hosiery Mill (1945–1946) (Figures 22 and 23). Over twenty textile mills were located in Belmont by the 1930s. The population soared from 145 people during the late nineteenth century to over 4,000 near the turn of the twentieth century. The mills were planned with associated villages which included churches, residences, and stores, allowing for the mill to function as a city within a city (Michael 2010). Remnants of these neighborhoods can still be seen today, reflecting Belmont’s early roots as a textile epicenter.



Figure 21. Overview of Chronicle Mill, Belmont, North Carolina.



Figure 22. Overview of Majestic Mill, Belmont, North Carolina.



Figure 23. Overview of Vision Hosiery Mill, North Carolina.

An interest in vocational training was beginning to gain momentum in the early twentieth century across the state of North Carolina. The idea of supplementing standard educational classes with industrial training appealed to lawmakers, industry leaders, and the public as the state was known for its large number of textile production facilities. Having trained textile employees before entering the workforce was seen as ideal in the general public's eyes as well as employers (North Carolina Vocational Textile School Belmont 1941). A trained workforce helped to increase production while also providing a job for emerging professionals.

Members of the General Assembly of 1941 began to make provisions for the operation of a vocational school for training textile workers. Belmont was chosen for the creation of this school by Governor J. Melville Broughton as it was in the heart of the North Carolina textile production. An amount of \$50,000 was initially given with an amendment in 1943 approving another \$75,000. The textile industry of Gaston County gave another \$50,000 and 20 acres of land for the school's construction. The architects chosen for the project were Breeze and Rivers of Shelby, North Carolina. V. W. Breeze was a prominent local architect in Shelby (Breeze & Rivers Architects 1941). Unlike other vocational/training/industrial schools within the state, the North Carolina Vocational Textile Center only focused on textile production, which included, among others, weaving and knitting (North Carolina Vocational Textile School Belmont 1941). Other training facilities focused on agricultural and domestic trades. "As the greatest opportunity for employment in this State is [was] in the field of textiles," the school opened in 1943 as the first and only of its kind in North Carolina (North Carolina Vocational Textile School Belmont 1941)

The North Carolina Vocational Textile School was built in the Moderne style with Art Deco and Neoclassical inflections, popular during the 1930s through the 1950s. The school has a smooth, brick veneer cladding. Horizontal emphasis was a large part of the Moderne style. Character defining features on the school illustrate this trait. Two rows of windows are present throughout the building, providing symmetry and horizontality, allowing the building to be the main focus of its setting. The symmetry created by the windows alludes to Neoclassical influences. A cast concrete belt course and coping course near the roofline and brick belt courses on each elevation create long, horizontal lines, elongating the building.

Some decoration is present on the façade through the use of cast concrete. Curved cast concrete is used for the entry surround and spandrels, emphasizing the building's verticality, a feature of the Art Deco style. Through the use of these spandrels, the eye is drawn upward and then out, as the windows and belt courses led toward the edge of the building. The two-story, central, façade entry is the focal point of the building, giving a nod to Neoclassicism. Here, the cast-concrete surround, with its carved, curvilinear features, commands attention as the vertical lines lead the eye from the first to second story.

A Board of Trustees and an Advisory Committee comprised of esteemed men from surrounding mills and educational facilities created the school curriculum. The curriculum was aimed at students, men and women, in high school or professionals, who needed more training (North Carolina Vocational Textile School Belmont 1941). For those students in high school, the vocational studies were to supplement their formal studies at public schools (Gastonia Gazette 1969). Thus, the Textile Center and public school systems created a modified schedule for students attending both institutions. Students would attend vocational school in the morning and public school in the afternoons. Professionals would attend the school during the evening or schedule a time that was best convenient for their work schedule. The school also provided classes for veterans during the morning to early afternoon and late afternoon through the evening (North Carolina Vocational Textile School Belmont 1941).

The vocational school acted as a full-fledged mill operating under an educationally appropriate curriculum, acceptable for students trainees. Large, open classrooms imitated the work spaces in textile mills. Equipment such as looms, spinning machines, and carding machines were continuously operating, providing students with invaluable experience. The school was a well-oiled machine

intended to provide future employers with a trained workforce capable of work at a capacity previously unmatched.

Five main departments in the school were Yarn Manufacturing, Weaving and Designing, Knitting, Mill Maintenance, and Tailoring. Each department advertised as having the most modern equipment that was similar to those used in local industries. This allowed for students to already be familiar with the machinery upon entering the workforce. In a brochure from 1941, each department is listed with its type of equipment. For instance, the Yarn Manufacturing Department had Saco-Lowell frames that were within a testing laboratory specifically for this process. Each department had a first year (fundamental) and second year (advanced) program, lasting 11 months per program. Approximately 1150 credit hours were required for each year (North Carolina Vocational Textile School Belmont 1941).

During the decline of textile manufacturing in late twentieth century, the North Carolina Vocational Textile School's (GS3287) enrollment was down. However, the Center continued to operate under the name of the North Carolina Vocational Textile School. In the nearby town of Dallas, a new institution was being created that would eventually save the Center. The Gaston College – Dallas Campus was created in 1964 to “serve Gaston County and contiguous counties by providing education opportunities for both young people and adults and by cooperation with business and industry in establishing training programs to increase the efficiency of employed personnel” (Sanford 1999). Ormand and Vaughn were selected as the architects for the first buildings on campus (Sanford 1999).

Gaston College merged three public institutions in Gaston County to create satellite campuses. On March 29, 1965, the Department of Community Colleges voted to merge the Gaston Technical Institute and the Gaston Industrial Education Center, establishing a united Gaston College. The three campuses are located in Belmont, Dallas, and Lincoln (Sanford 1999). In 1972, the North Carolina Community College System operated the school. It was renamed again in 1991 as the North Carolina Center for Applied Textile Technology as it became the fifty-ninth institution in the Community College system (Gaston College 2019). In 2008, Gaston College became the new owners of the textile center, becoming the East Campus and Textile Technology Center (Gaston County Register of Deeds 2019). The building received its current name in 2010, the W. Duke Kimbrell Campus & Textile Technology Center, as a result of a large donation from Kimbrell to Gaston College (Sanford 1999). Kimbrell was an important leader in the textile industry in Gaston County. He became co-owner of the Parkdale Mills, the largest manufacturer of spun yarn in the world. He was named the second most influential textile executive of the twentieth century by Textile World Magazine (Legacy.com 2014). As was a part of his vision, the Textile Technology Center fits perfectly into Gaston College's industrial focused program as it continues to train young professionals and students in the art of textile manufacturing.

Upon evaluating the school resources listed in the HPO Web, eight resources associated with three distinct properties were considered to be comparable. These “industrial” schools are the Memorial Industrial School (FY0686, FY4265, FY4266, FY4267, FY4268, & FY4269) (Figure 24), Morrison Industrial School (MA0275 & MA0276), and the Clarkton Normal Industrial School (BL0037). Using the keywords of “school” and “1940,” in Cleveland, Gaston, Lincoln, and Mecklenburg Counties, only two resources were comparable: the James A. Gray High School (FY1209) and Parks-Hutchinson School (MK2221) (Figures 25 and 26). Using the keywords of “Moderne School” for the entire state, only one resource was comparable, the (former) Shelby High School (CL0656) (Figure 27).





Figure 24. Overview of Memorial Industrial School, Rural Hall, North Carolina (Daniel 2018).



Figure 25. View of James A. Gray High School, Winston-Salem, North Carolina.





Figure 26. View of Parks-Hutchinson School, Charlotte, North Carolina (Lost Charlotte 2015).



Figure 37. View of (former) Shelby High School, Shelby, North Carolina (Gailius 2015).

Other resources in the town of Belmont that were not listed in HPOWeb, but are similar in function to the school included the Majestic Mill and the Vision Hosiery Mill. Although not a mill itself, the daily functions that took place within the school are similar to operations within the local mills. Students operated the machinery just like they would in their professional careers at the mills. The mills and the school share similar forms and massing with large spaces suitable for the production of textiles. The ambience at the school was essentially the same as that within the textile mills, except under the guise of an educationally appropriate variation.

The architectural historian was able to visit and photograph the James A. Gray High School in Winston-Salem, North Carolina and other resources were compared using publicly available photography. However, the other resources were located a great distance from the project area so internet photographs were used in their place. Research was conducted to confirm construction dates and original uses of each school. The setting for each school was noted as well, in particular to assess the somewhat secluded natures of each. Due to the uniqueness of the Textile Technology Center, this research had to be expanded to include industrial and training schools focusing on agricultural training. Of these resources, the following were determined to be the most comparable (Table 2).

Table 2. Resources comparable to the Textile Technology Center (former) North Carolina Vocational Textile School GS3287, located on HPO Web.

Comparable Resource	Date	County	Address	Site Survey Number
<b>Industrial Schools</b>				
Memorial Industrial School Girls' Cottage	c. 1929	Forsyth	100 Horizons Ln, Rural Hall, NC 27045	FY4266
Memorial Industrial School Boys' Cottage	c. 1929	Forsyth	100 Horizons Ln, Rural Hall, NC 27045	FY4268
Memorial Industrial School Baby Cottage	c. 1929	Forsyth	100 Horizons Ln, Rural Hall, NC 27045	FY4267
Memorial Industrial School Administration Building	c. 1929	Forsyth	100 Horizons Ln, Rural Hall, NC 27045	FY4265
Memorial Industrial School Superintendent's House	c. 1929	Forsyth	100 Horizons Ln, Rural Hall, NC 27045	FY4269
Memorial Industrial School	1929	Forsyth	100 Horizons Ln, Rural Hall, NC 27045	FY0686
Clarkton Normal Industrial School	c. 1900	Bladen	66 Booker T Washington Rd, Clarkton, NC 28433	BL0037
Morrison Industrial School Girls Dormitory	c. 1910	Macon	175 Highhaven Ln, Franklin, NC 28734	MA0276
Morrison Industrial School	c. 1910	Macon	175 Highhaven Ln, Franklin, NC 28734	MA0275
<b>1940 school</b>				
James A. Gray High School	1930, 1950s	Forsyth	De Mille Dr, Winston-Salem, NC 27127	FY1209
Parks-Hutchinson School	1926	Mecklenburg	1400 N Graham St, Charlotte, NC 28206	MK2221
<b>Moderne School</b>				
(former) Shelby High School	1938	Cleveland	400 W Marion St, Shelby, NC 28150	CL0656

The Memorial Industrial School (FY0686, FY4265, FY4266, FY4267, FY4268, & FY4269), Morrison Industrial School (MA0275 & MA0276), and the Clarkton Normal Industrial School (BL0037) were industrial schools for agriculture and domestic trades. Built between 1920 and 1930, these schools served as training facilities for African-American and Caucasian youths (North Carolina Historic Preservation Office [NCHPO] 2019). Similar to the North Carolina Vocational Textile School, vocational education was at the core of the Morrison Industrial School. African-American students learned trades including shoe repair, electrical work, carpentry, masonry, barbering, and agricultural arts. These were all desirable workforce skills creating a highly trained labor force benefiting both student and employer.

The Lincoln Heights School (Wilkes County Training School), (Lincoln Heights High School) (WK0314); Pender County (Rocky Point) Training School (PD0205); Cleveland County Training School (CL0989); Franklin County Training School – Riverside Union School (FK0554); Warren County Training School (WR0313); and Caswell County Training School (N.L. Dillard Junior High School) (CS0081) are all training schools in North Carolina. Vocational training was at the core of each of these schools. Class schedules were set up similar to the North Carolina Vocational Textile School with core classes in the morning and vocational training in the afternoons. Local educational facilities worked in collaboration with these vocational oriented schools in hopes of creating a more rounded, and skilled individual. However, agricultural and domestic trades were taught at these schools as opposed to an in-depth curriculum focused solely on textile training. (NCHPO 2019).

The Parks-Hutchinson School (MK2221), now the Performance Learning Center, was constructed in 1926 and is an example of Neoclassical architecture with some Moderne tendencies (NCHPO 2019). The Textile Technology Center, while less ornately decorated, shares the same symmetry and materials

as the Parks-Hutchinson School. Cast concrete belt-courses rest below the roofline while a central, cast concrete entry allows access to the interior. Horizontal emphasis is expressed, following the lines of the belt courses and window placement. Both rectangular in plan, the original portion of the Textile Technology Center is larger at approximately 130 feet compared to the Performance Learning Center at approximately 115 feet. The James A. Gray High School (FY1209), now a part of the North Carolina State School of Art, is also similar in plan, but with more additions. The 1930 school with a 1950 Neoclassical Revival brick veneer has more ornamentation than the Textile Technology Center (NCHPO 2019). However, Moderne influences are present. The rear of the building is mostly undecorated besides the cast concrete entry surround and spandrels below the windows. Verticality is emphasized through these spandrels as the eye is drawn upward along the spandrels and then outward, following the long, horizontal lines created by the belt courses and window placement.

The (former) Shelby High School (CL0656) is similar in style to the North Carolina Textile Vocational School (GS3287). The Moderne style is exemplified through the use of the cast concrete coping and belt course near the roofline, elongated the building. Brick pilasters are used to create vertical lines around the main, façade projected entry as opposed to cast concrete. However, both the Shelby High School façade and the Textile Technology façade are both undecorated. Long rows of windows illustrate the horizontal plain, similar to the Textile Technology Center, although without the use of brick belt courses. Cast concrete is used to create the high water table foundation at both schools.

Collectively, these 12 resources are the best representations of a type of vocational facility with Moderne style influences in the surrounding region of Gaston County. Review of newspaper articles and documentation available through Digital NC reveals that there is no evidence for another vocational textile center in North Carolina. Based on these comparable resources and archival research, it is evident that the Textile Technology Center is a unique facility within the state of North Carolina.

### *NRHP Eligibility Evaluation*

**NRHP Recommendation:** CRA recommends that the North Carolina Vocational Textile School (GS3287) is NRHP Eligible under Criterion A. The proposed NRHP-eligible boundary encompasses the immediate vicinity around the main building to preserve the terrain that retains the character of the 1943 campus despite encroachment from surrounding commercial and residential entities. The boundary does not include the modern additions to campus (Figure 28).

#### **Integrity:**

The Textile Technology Center has a high level of integrity, retaining integrity of location, design, materials, workmanship, feeling, and association.

**Location** – The school, while expanding over time, has not moved from the current location since its formal establishment in 1943 (Gaston College 2019).

**Setting** – Residential and commercial development has intensified surrounding the Textile Technology Center parcel, converting woodland into development. A new classroom building was constructed in 2003 to accommodate the growth of the school and need for quieter classrooms. While similar materials were utilized and its placement to the side of the historic building, the construction has altered the wooded parcel. A larger parking area had to be built for the increase of students, further resulting in deforestation. As a result, development has diminished the integrity of setting, although elevation and plantings surrounding the immediate, main building retain references to the formally wooded character of the area.

**Design** – The school has been altered over time but retains most of its character-defining features from the mid-twentieth century. The school features shop classrooms that continue to be visible on the interior of the school. The school has maintained its approximate floorplan and exterior features since the mid-twentieth century. Original features include the ribbed, cast concrete spandrels, cast concrete

and brick belt courses, cast concrete coping course, and cast concrete carved entry surround. Original door assemblages have been replaced with metal and glass assemblages. Windows have been replaced and infilled, but the historic locations still remain. While circa 1956–1968 and circa 1973 additions have been constructed on the east and west elevation respectively, these were done so as not to mimic, but be sympathetic to the historic fabric of the school. Additions are set back from the main façade, use similar materials, and mimic the water table line. While no windows are present on the west elevation, the rhythm and symmetry of window openings is kept throughout due to recessed brick imitating window placement.

**Materials** – The school retains most materials from the 1943 construction period. The school retains its historic brick veneer, cast concrete foundation, spandrels, and cast concrete entryway.

**Workmanship** – The school maintains a high level of workmanship. The tooling involved in the carving of the spandrels and door surrounds is an essential character-defining feature of the school. The detailed carving of the wainscoting on the interior exhibits fine craftsmanship.

**Feeling** – The school retains a high level of feeling due to the school’s overall preservation. Even with the two side additions, the school maintains its original look and layout. The exterior has undergone very little changes besides the windows. This is a minimal change that is hardly noticeable upon first glance due to the remaining historic fabric and symmetry. Within the building, the sounds of textile manufacturing can still be heard throughout, as this process is still at the heart of the Textile Technology Center.

**Association** – The school continues to function in its original capacity as a textile vocational center, under community college ownership. Companies still bring their new products to be tested and developed at the school, allowing trainees to gain valuable workforce experience. As a result, the property retains a high level of association as a historic place of education and vocational training.

#### **Criterion A:**

For a property to be eligible for significance under Criterion A, the resource must retain integrity and must be associated with events that have made a significant contribution to the broad patterns of our history, either at the local, state, or national level.

The North Carolina Vocational Textile School (GS3287) contributes to broad patterns of history by demonstrating the importance of vocational training to support the growing textile manufacturing industry in western North Carolina, especially Gaston County, which began in the mid-nineteenth century. At its height, Gaston County had over 150 textile mills between 1848 and 1950 with employees of varying skill degrees (Michael 2010). The North Carolina Vocational Textile School was created in 1943 to provide the industry with skilled laborers, both male and female, capable of increasing productivity while also supplementing their education. The first of its kind in the state of North Carolina, the school continues to operate today as the Textile Technology Center as part of the Gaston College – Kimbrell Campus.

The school offered students two-year courses in classes pertaining to yarn manufacturing, carding, spinning, weaving, designing, mill maintenance, and knitting. These courses were structured to provide hands-on, practical training to be used in the workforce. As textile manufacturing was still a prominent industry in North Carolina during the early to mid-twentieth century, students wanted to be prepared to succeed in the professional setting. Soon, students from the surrounding areas of Charlotte, Mt. Holly, Gastonia, Kings Mountain, Cliffside, Shelby, and Maiden began to flock to the area. Classes were open to students seventeen or older looking to support their high school education, university studies, or supplement their skills as a continuing professional. Enrollment soared as local employers, such as the Loray and Chronicle Mills, took interest in these trained individuals, hiring them to work at their facilities. By 1949, enrollment was so high that there were 375 people on the waiting list. The course

catalog expanded to fit the industry trends of the area. Tailoring was the newest course offered with twenty-three students enrolled (Gastonia Gazette 1949).

Despite the decimation of textile production in the state during the late twentieth century, the Textile Technology Center persevered thanks to the Gaston Community College, who took over the Center in 2008. The Center continues North Carolina's legacy of textile manufacturing and innovation. Large textile manufacturing firms use the Center to test new products, product control analysis, worker training, consulting services, and product innovation as this is one of the few institutions still available for these services due to the downsizing of the textile industry in the state. The Center has served 195 different North Carolina manufacturers dispersed throughout 50 North Carolina counties since 2005. The Center was awarded an additional \$150,000 allotment for textile industry training for the 2014 – 2015 state budget to aide in revitalizing the textile industry, further cementing its purpose as an epicenter of textile production training in North Carolina (State Board of Community Colleges 2014). The original goal of the Textile Technology Center still remains relevant in North Carolina's current textile industry as it continues to, "turn out textile workers of the largest order" (Gastonia Gazette 1949).

#### **Criterion B:**

For a property to be eligible for significance under Criterion B, it must retain integrity and be associated with the lives of persons significant in our past, either at the local, state, or national level. Research has not revealed any associations with persons significant in our past. Therefore, the Textile Technology Center is not eligible for listing under Criterion B.

#### **Criterion C:**

For a property to be eligible for significance under Criterion C, it must retain integrity and embody distinctive characteristics of a type, period, or method of construction, or represent the work of a master, possess high artistic values, or represent a distinguishable entity whose components may lack individual distinction. The Textile Technology Center is not a significant example of Moderne architecture nor is it an example of a work of a master. Windows have been replaced or infilled throughout the building. However, the replacement windows do respect the original windows and their placement. Two additions have been constructed since 1957 on the west and east elevation. Research has not yielded any evidence of architects.

#### **Criterion D:**

For a property to be eligible for significance under Criterion D, it must either have yielded or be likely to yield information important to prehistory at the local, state, or national level. The Textile Technology Center is ineligible for listing in the NRHP under Criterion D.

#### **NRHP Proposed Boundary Description:**

The proposed NRHP-eligible boundary for the North Carolina Vocational Textile School (GS3287) begins at the western most edge of the driveway on the west side of the school. Then, traveling southeast, following the NCDOT right-of-way along Wilkinson Boulevard, the boundary makes a turn to the south, following the parking lot boundary. The boundary makes a right turn at the street light, following the southern edge of the driveway, heading northwest. Finally, the boundary takes another right turn at the last parking spot on the western edge of the west driveway, to complete the boundary.





Figure 28. Proposed NRHP Boundary.

# Appendix A

Historic Bridge Inventory Report  
Sloans Ferry Bridge (GS3298)



**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION****HISTORIC BRIDGE INVENTORY REPORT****LICHTENSTEIN CONSULTING ENGINEERS, INC.**

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**Bridge ID No:** 350091 **County:** GASTON **Div:** 12 **City:** \*NORTH BELMONT  
**Location:** 0.2 MI. E. JCT. SR2083 **UTM:** 17 499127 390030 **Owner:** STATE  
**Bridge Name:** SLOANS FERRY BRIDGE  
**Facility Carried:** US 29/US 74 (ANDREW JACKSON HIGHWAY)  
**Carried/Feature Intersected:** US 29/US 74 OVER CATAWBA RIVER  
**Type:** STRINGER/MULTI-BEAM **Design:** CONTINUOUS  
**Material:** STEEL **# Spans:** 17 **Length:** 1124 **Width:** 43.3 **# Lanes:** 4  
**Railing Type:** CONCRETE BALUSTRADES  
**Date of Construction:** 1933 **Alteration:** **Source:** PLAQUE  
**Designer/Builder:** STATE HIGHWAY COMMISSION

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**Current National Register Status of Bridge:** Not Previously Evaluated.

**Local, Determined Eligible, or NR Historic District/Status:**

**Name/Date:**

**Located in Potential Historic District/Historic Context?** No

**Adjacent to Identified or Potential Historic Properties?**

No National Register, Study List, D.O.E., locally designated, or previously surveyed properties appear to be located adjacent or close to the bridge.

**Inventory NR Recommendation:** Eligible

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**Setting/Context:**

The bridge carries a 4 lane road over the Catawba River at the Mecklenburg-Gaston county line. At the SE quadrant is a NCDOT weigh station and roadside parking area. At the NE quadrant is the Y-shaped intersection with a local road and beyond it a modern restaurant. At the SW quadrant is a modern convenience store and a boat launch. At the NW quadrant is an automobile repair shop in a modern, 1-story cinderblock building.

**Physical Description:**

The 17 span, 1,124' long, steel stringer bridge is composed of 2, 6-span continuous side units (6 @ 60') flanking a 5 span continuous center unit (5 @ 80'). The continuous design has rolled steel beams that continue uninterrupted over the piers. The 7 lines of 33"- and 36"-deep, wide-flange beams are made continuous by riveted splice plates. The beams are stiffened by channel diaphragms. The bridge is supported on octagonal-section, reinforced-concrete pile and cap bents with rocker bearings for the beams. It has a concrete deck and state-standard concrete balustrades. The flat-panel end posts are stepped back from the road and flared. The bridge appears to be complete.

Attached to the northwest and southeast end posts are matching, oversized plaques with American Legion medallions and the date, "1917-18." The plaques read, "Erected as a Memorial to the Men of the Counties of Mecklenburg & Gaston who Served in the World War." The builders plaque (attached to the opposite end posts) reads, "Sloans Ferry Bridge, Mecklenburg-Gaston Counties, State Project No. 631, Built by North Carolina State Highway Commission with Federal Aid, 1933."

**Summary of Significance:**

The 1933 steel stringer highway bridge ranks as the earliest, complete, long multiple span example of the continuous design in the state (Criterion C). As such, it represent an important step in the evolution of the long-lived steel stringer technology. The bridge was a technically ambitious design for the state bridge unit, using the recently developed principles of stress analysis for continuous structures and making economical use of rolled wide flange beams of the then deepest available sections. This was one of the bridge unit's first major applications of continuous design, achieving greater economy of material and design than simple spans of comparable lengths, but requiring more complex stress analysis. The state bridge unit began applying continuous design principles to standard bridge types in



Bridge ID No: 350091 County: GASTON Div: 12 City: \*NORTH BELMONT

the mid 1930s, and they were common by the 1950s.

Engineers had long understood that continuous designs offered economy, but the indeterminate and difficult nature of the stress analysis caused most American engineers to shy away from their use in the late 19th and early 20th century. In 1917, Gustav Lindenthal completed the first major continuous-design bridge in the U.S. -- the mammoth Sciotoville Bridge through truss bridge for the C&O Railroad over the Ohio River between Ohio and Kentucky. The Sciotoville Bridge raised professional interest in continuous designs, but it was some years before continuous designs would be built in numbers. Professor Hardy Cross of the University of Illinois published the first widely-accepted calculations for moment distributions in continuous structures in 1932. Thereafter, continuous designs became increasingly popular, especially given the Depression and the need that many highway departments felt to economize. The continuous designs also had the advantage of reducing the number of deck joints, a frequent location of deterioration, and thus cutting down on maintenance costs.

The North Carolina State Highway Commission was in step with national trends when it adopted a continuous design for the 1933 Sloans Ferry Bridge. The bridge is the earliest extant, continuous, steel stringer/multi-beam or girder-floorbeam bridges in the state, and represents the introduction of a bridge type/design that was used for many major river crossings through the 1950s. The economical continuous-design bridges often replaced the truss and arch bridges of earlier decades.

The bridge was built in 1933 to replace an open spandrel arch bridge on the same alignment. The bridge is at a crossing known as Sloans Ferry, after the ferry operation that predated the open spandrel arch bridge. Historically, the ferry and bridge have served two of the state's primary cross-state routes: the north-south route from Charlotte to Greenville, SC (US 29), and the east-west route from Charlotte to Asheville (US 74).

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#### **Boundary Description and Justification for Eligible Bridges:**

The bridge has been evaluated individually significant. The boundary is limited to the superstructure and substructure of the bridge.

**Reviewed By/ Date:** JPH (6/03)

**Notes:**



191:21. Underneath view.



191:22. Through view looking east.

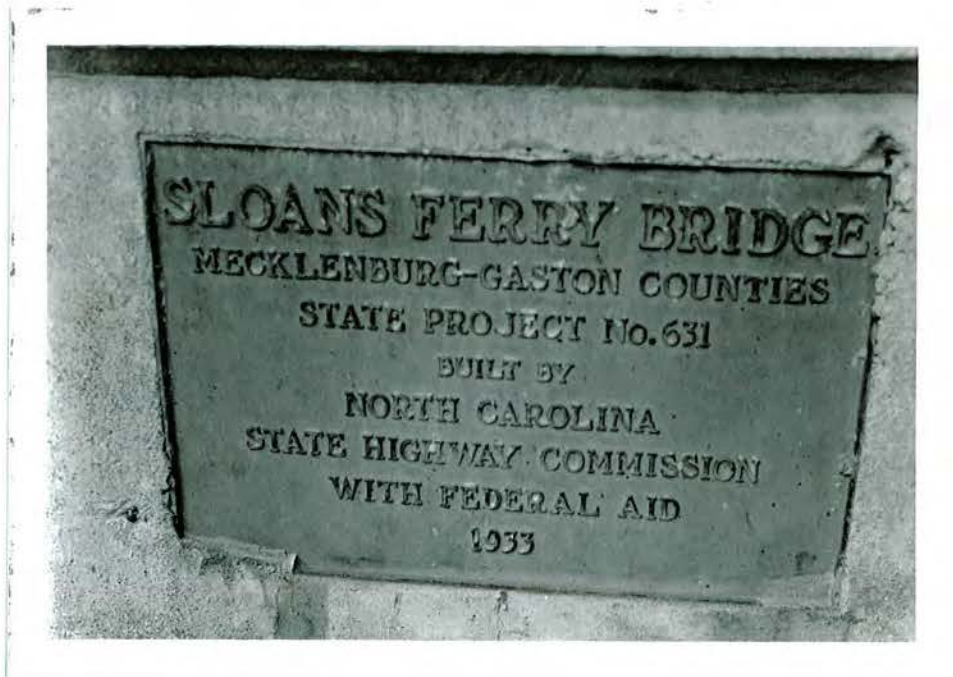




191:15. South elevation.



191:16. Through view looking west.



191:17. Plaque (northeast end post). "Sloans Ferry Bridge, Mecklenburg-Gaston Counties, State Project No. 631, Built by North Carolina State Highway Commission with Federal Aid, 1933."



191:18. WW I veterans memorial plaque at northeast end post.



191:23. Memorial plaque and parapet at southwest corner.





191:19. American Legion plaque at northeast end post.



191:20. Underneath view of east span.

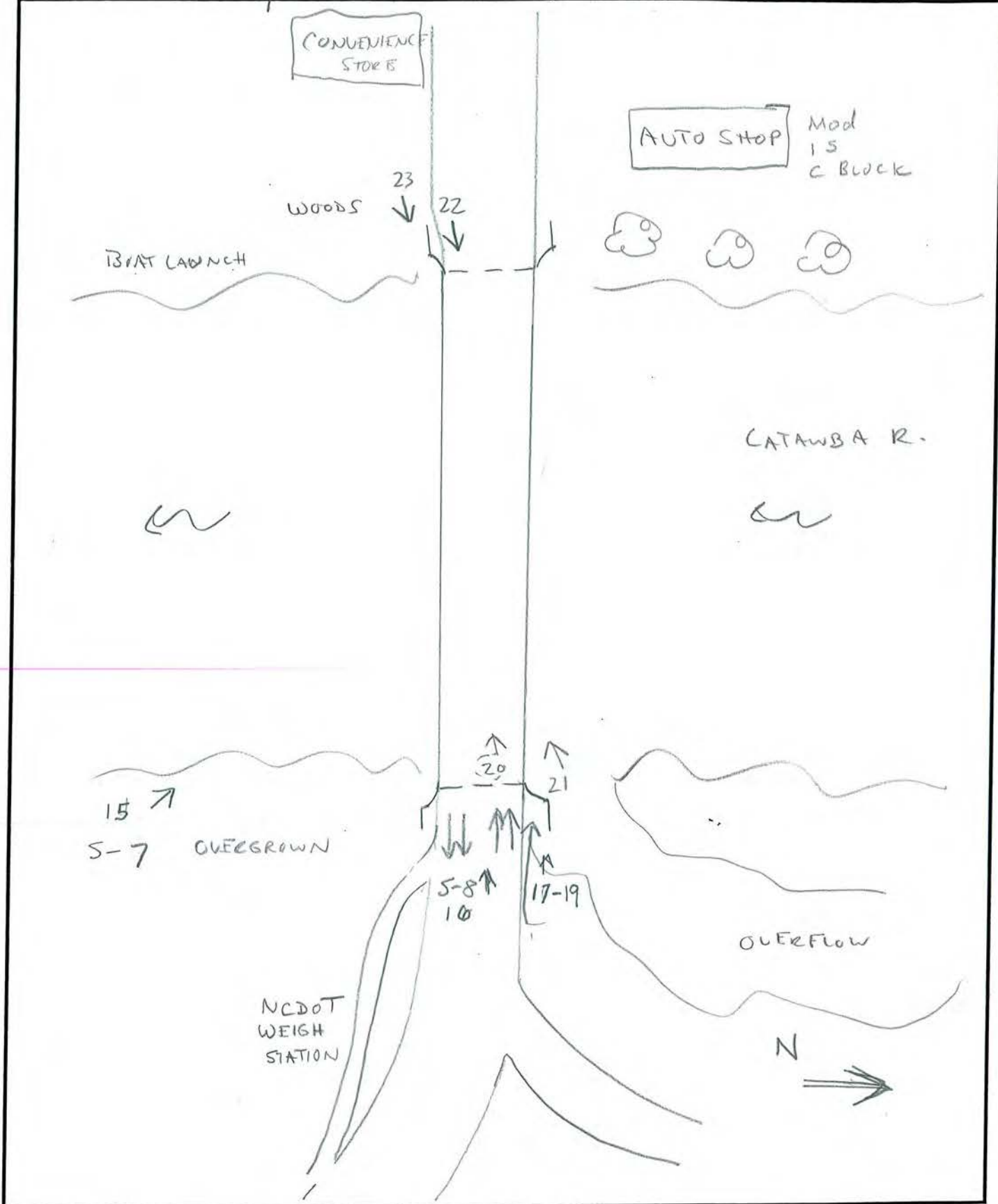
BRIDGE #: 350091

TOWN:

BRIDGE NAME:

FEATURE ON:  
US 29 / US 74

FEATURE UNDER:  
CATAWBA RIVER



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