



Licensures

Senior staff hold professional licenses in the following states:

- Connecticut
- Delaware
- Florida
- Georgia
- Iowa
- Maine
- Maryland
- Massachusetts
- New Hampshire
- New Jersey
- New York
- North Carolina
- Pennsylvania
- Rhode Island
- South Carolina
- Tennessee
- Vermont
- Virginia

Company Profile

Milone & MacBroom, Inc. is an employee-owned firm founded in 1984 and licensed for the practice of engineering, survey, and landscape architecture. The firm has developed a collaborative team of specialty planning and design practices in site design, water resource engineering & environmental science, transportation & traffic engineering, water & wastewater engineering, and construction phase services. We are one of the largest consulting firms in the Northeast, serving clients from Maine to South Carolina to Illinois. Our corporate headquarters is located in Cheshire, Connecticut, with regional offices in Maine, Massachusetts, New York, Vermont, and South Carolina.

Our Philosophy

Over the firm's history, we have developed an excellent reputation for technical innovation and award-winning designs. The depth and capabilities of our highly experienced staff allows the firm to meet complex project requirements and challenging schedules. Our success and future growth is founded on respect for our clients, colleagues, and the communities in which we live and work. We are proud of the diversity of our client base and the strong reputation that we have built.

Our Mission

The team of professionals at Milone & MacBroom Inc. is committed to building strong partnerships with our clients and to delivering technically sound, cost effective, and environmentally sensitive designs. We strive to integrate the disciplines of our firm and provide an exceptional work environment that is focused on providing quality service to each client we serve.

Management

The firm is managed by a 13 member Board of Directors:

- John M. Milone, P.E. - President
- James G. MacBroom, P.E. - Senior Vice President
- Vincent C. McDermott, FASLA, AICP - Senior Vice President
- Jeanine A. Gouin, P.E., Vice President
- Stephen R. Dietzko, P.E. - Vice President
- Robert A. Jackson, L.S. - Vice President
- Edward A. Hart, P.E. - Vice President
- John R. Gilmore, P.E. - Vice President
- Thomas R. Sheil, L.A. - Vice President
- Mark R. Arigoni, L.A. - Principal
- Nicolle E. Burnham, P.E. - Principal
- Anthony A. Ciriello, Jr., P.E. - Principal
- Thomas J. Daly, P.E. - Principal



Services

Milone & MacBroom, Inc. offers a wide range of multidisciplinary services, as well as professional experience in the following:

Civil Engineering

- Site Design/Planning
- Feasibility Studies
- Hydrologic & Hydraulic Analysis
- Stormwater Management
- Structural Engineering & Design
- Coastal Structure Design
- Flood Mitigation
- Land Use Permitting
- LEED Accredited Design

Landscape Architecture

- Master Planning
- Urban Design
- Parks, Playground & Recreational Facilities Design
- Bikeways & Greenways Design
- Athletic Facility & Field Design
- Streetscape Design
- Computer Visualizations

Water Resources Engineering & Environmental Science

- Watershed Planning
- River Management & Restoration
- Geomorphologic Based Design
- Dam Stability Analysis & Dam Removal Design
- Sediment Transport Analysis
- Scour Analysis
- Fish Passage Design
- Natural Resource Permitting
- Tidal & Inland Wetland Restoration
- Lake & Pond Restoration
- Habitat Assessment
- Environmental Impact Evaluations
- Wetland Delineation & Assessment

Water & Wastewater Engineering

- Water Supply Analysis & Planning
- Ground Water Supply & Development
- Water Treatment & Distribution Design
- Wellhead Protection
- Sewage Treatment & Distribution Design
- Pump Station Design
- Sanitary Sewer Design
- Infiltration & Inflow Studies
- CSO LTCP & Mitigation
- SCADA System Design
- Hydraulic Analysis and Modeling

Transportation & Traffic Engineering

- Highway & Roadway Design
- Traffic Impact Studies
- Traffic Calming Techniques
- Bridge Design & Inspection
- Traffic Control Signal Design
- Parking Lot Design & Studies
- Pavement Management
- "Complete Streets" Design
- Context Sensitive Design Solutions
- Corridor Management Planning
- Multimodal Transportation Integration
- Value Engineering

Construction Phase Services

- Construction Document Development
- Bidding Assistance
- Cost Estimating
- Resident Engineering
- Sediment & Erosion Control Inspections
- Project Administration Services
- Periodic Site Observation

Utility Engineering

- Communications Industry Design
- Siting Approvals & Permitting
- Gas/Power Main Layout
- Routing Analysis

Survey & Mapping

- Boundary, Topographic & Bathymetric Survey
- Construction Stakeout
- ALTA/ACSM Certifications
- GPS Survey
- GIS Based Mapping

Planning

- Regional, Community & Neighborhood Planning
- School Enrollment, Redistricting & Facility Planning
- Grant Application Preparation
- Community Outreach
- Economic & Market Analysis
- Fiscal Impact Analysis
- Federal Housing & Community Development
- Hazard Mitigation Planning
- Transit Oriented Development Planning
- GIS Applications

Swamp Rabbit Trail

Greenville, South Carolina

Milone & MacBroom, Inc. was retained by the City of Greenville to provide construction documents for an approximate 2.5 mile trail from the Reedy River on Cleveland Street to the Reedy River near I-85. The trail is located mostly within the right-of-way of the existing roads and varies from 10-14 feet in width. The site was complicated by existing utilities, the need for SCDOT lane shifting along parts of the alignment and the handling of storm water runoff. Passing by Greenville Technical College and two multi-family developments, the trail provides much needed safety and connectivity to pedestrians and bicyclists. Upon completion, the combined City and County effort will extend the Swamp Rabbit Trail from Lake Conestee to Travelers Rest and will be approximately 15 miles long.

SERVICES PROVIDED:

- Survey
- Civil Engineering
- Structural Engineering
- Landscape Architecture
- Construction Administration

CLIENT:

City of Greenville
Greenville, South Carolina



Renaissance Park

Spartanburg, South Carolina

Milone & MacBroom, Inc. was retained by the City of Spartanburg to design roadways and infrastructure to connect the Chapman Cultural Center, Renaissance Hotel and the USC Upstate George Dean Johnson Business School located in downtown Spartanburg. The work included the design of roadways, a water system, a sanitary sewer system, landscaping and storm drainage. Also included in the design was a regional detention basin to account for the improvements within the area bounded by Church Street, St. John Street, Daniel Morgan Boulevard, and Converse Street. The site was complicated by existing road locations, tight building confines, and a 50' elevation difference from one side of the site to the other.

As part of the City's ongoing bicycle connectivity plan, bike lanes were included on the streets. The City intends to retrofit some of the surrounding streets for bike lanes to provide commuters with a safe route to the development.

A drainage study was also being performed for an approximate 20 acre developed area south of St. John Street that drains to the site. Due to flooding problems in the road, the existing culverts needed to be upsized and the City was proactive by performing the work during the development of the site.

SERVICES PROVIDED:

- Engineering
- Permitting
- Landscape Architecture
- Construction Administration

CLIENT:

City of Spartanburg
Spartanburg, South Carolina



Edgewood Avenue Relocation

Clemson, South Carolina

Milone & MacBroom, Inc. was retained by the City of Clemson to provide consulting services for the preparation of construction documents for the relocation of Edgewood Avenue. The project involved the relocation of a problem intersection by constructing approximately 500 linear feet of new road. A traffic signal was also installed at the newly created, four-way intersection.

College Avenue (SC 133) was narrowed from three lanes to two in order to provide additional parking and calm traffic. A traffic study was completed for the entire area reflective of the new lane arrangements and road relocation. As a result of the lane reduction on SC 133, a 1,000-foot section was removed from the State DOT system and converted to a City maintained road.

The project required an extensive public involvement process. Meetings were held with the downtown committee, neighborhood churches and the general public at the Concept, Preliminary, and Final Design phases.

A 600 linear foot section of existing sewer was replaced in conjunction with the work. This portion of the work was complicated by limited right of way and the need for bypass pumping of a significant sewer flow.

The project was complicated by a watercourse and wetland crossing, difficult topographic constraints, property issues, and high traffic volumes. The project was funded in part by ISTEA funds and SC DOT 'C' funds.

Construction administration services were provided for installation of retaining walls, stairs, roadways, storm drainage, box culverts, sidewalk, traffic signal, landscaping, and erosion control.

SERVICES PROVIDED:

- Survey
- Traffic Study
- Engineering
- Landscape Architecture
- Permitting
- Construction Administration

CLIENT:

City of Clemson
Clemson, South Carolina



College Avenue Improvements

Clemson, South Carolina

Milone & MacBroom, Inc. was retained by the City of Clemson to provide consulting services for the preparation of construction documents for the continued redevelopment of College Avenue. The scope of this phase is to provide streetscape improvements from Edgewood Avenue to US Highway 123. The concept plan will include travel lane reconfiguring and the addition of on-street parking. In conjunction with the roadway improvements, approximately 1700 linear feet of ductile iron was installed beneath College Avenue. The utility installation was necessary to replace aging and degraded existing service. The project is located in Clemson's downtown district and is part of their overall redevelopment plan. The project involves an approximate 1,560-foot extension of streetscape improvements along College Avenue. The streetscape will provide a gateway into the downtown and Clemson University. Stamped asphalt crosswalks were utilized in several locations on College Avenue and the side streets.

College Avenue (SC 133) was widened to accommodate specific traffic enhancements. In addition to the aesthetic improvements, among these were the development of widened medians and a delineated turning lane. Cross walks were delineated in the vicinity of two proposed bus stops. These were included into the design to promote a safer environment for the Clemson University students who regularly use the public transportation system.

The project required an extensive public involvement process. Meetings were held with the downtown committee and the general public at the Concept, Preliminary, and Final Design phases.

The project is complicated by property issues, high traffic volumes, and time constraints. The project was completed in the spring of 2004. The project was partially funded by the SCDOT.

SERVICES PROVIDED:

- Survey
- Public Meetings
- Engineering
- Permitting
- Landscape Architecture
- Construction Administration

CLIENT:

City of Clemson
Clemson, South Carolina



College Avenue Streetscape

Clemson, South Carolina

Milone & MacBroom, Inc. was retained by the City of Clemson to provide consulting services for the preparation of construction documents for streetscape improvements to College Avenue.

College Avenue (SC 133) was narrowed from three lanes to two to provide additional parking and calm traffic. A traffic study was completed for the entire area reflective of the new lane arrangements and road relocation.

The project required an extensive public involvement process. Meetings were held with the downtown committee, neighborhood churches and the general public at the Concept, Preliminary, and Final Design phases.

The project was complicated by a watercourse and wetland crossing, difficult topographic constraints, property issues, and high traffic volumes. The project was funded in part by ISTEAF funds and SC DOT 'C' funds.

Construction administration services were provided for installation of retaining walls, stairs, roadways, storm drainage, box culverts, sidewalk, traffic signal, landscaping, and erosion control.

SERVICES PROVIDED:

- Survey
- Public Meetings
- Engineering
- Landscape Architecture
- Permitting
- Construction Administration

CLIENT:

City of Clemson
Clemson, South Carolina



Downtown Revitalization Study

Saluda, South Carolina

The Town of Saluda retained Milone & MacBroom, Inc. to first evaluate opportunities to improve its downtown business sector. The goal was to identify improvements that the town could easily implement to revitalize its downtown area and make it more aesthetically pleasing, efficient and attractive to shoppers and pedestrians, and attractive to conduct retail business.

As monies become available, the Town desired to be in a position to have selected projects prioritized so it could quickly move into design and construction of improvements.

The downtown revitalization study area was Saluda's central business district (CBD) with the north-south Main, and east-west Church Streets being primary focus points.

The Saluda Downtown Revitalization Study prepared by Milone & MacBroom, Inc. evaluated all types of improvements, such as landscape buffering, traffic calming, reconstructing roads and sidewalks, aesthetic treatments to storefronts, and rerouting trucks.

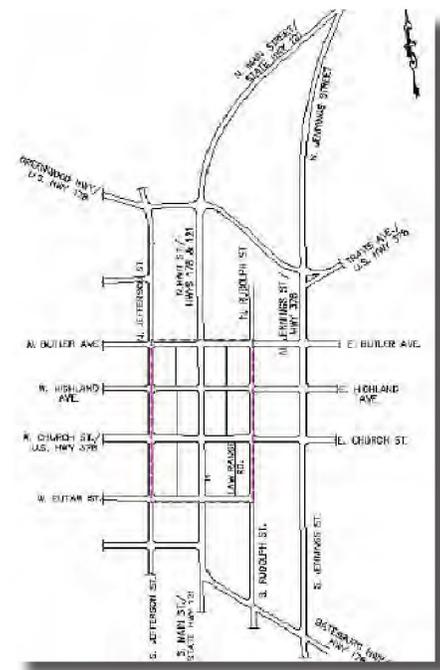
The study was approved by the SC Department of Commerce, and the Town of Saluda town is currently implementing the Church Street revitalization, which is the first of several projects that the study prioritized that the town should undertake.

SERVICES PROVIDED:

- Planning

CLIENT:

Town of Saluda
Saluda, South Carolina



Northside/Cleveland Park Redevelopment

Greenville, South Carolina

Milone & MacBroom, Inc. was retained by the City of Spartanburg to develop conceptual redevelopment plans of a distressed three-block neighborhood within the City limits. An assessment of existing roadways and infrastructure was performed. The plans were developed reflective of existing infrastructure and community input. The conceptual plans developed ranged from total demolition to preservation of existing structures. All plans implemented crime prevention design strategies.

A single composite plan was compiled from the alternatives and detailed cost estimates prepared along with plans for implementation. The project is part of a continuing City community redevelopment initiative. It was funded by a Community Development Block Grant.

SERVICES PROVIDED:

- Planning

CLIENT:

City of Spartanburg
Spartanburg, South Carolina



Gilder Creek Multi-Use Trail

Mauldin, South Carolina

Milone & MacBroom, Inc. was retained by the City of Mauldin to prepare construction plans for 9,000 LF of multi-use paved trail to be used for biking, running, walking, and skating. The trail runs parallel to the Gilder Creek and is to be used for both recreation and alternate transportation. The access points are planned with the middle one having a parking lot to serve those using the trail. The easy access to Mauldin High School and a number of subdivisions will make it effortless for people to use the trail daily. Milone & MacBroom, Inc. has conducted numerous public meetings of the City Council that were open to the public. Design of the trail was completed in 2005 and construction is pending due to obtaining property easements.

SERVICES PROVIDED:

- Survey
- Master Plan
- Engineering
- Landscape Architecture
- Public Outreach

CLIENT:

City of Mauldin
Mauldin, South Carolina



Bikeways and Greenways Master Plan

Mauldin, South Carolina

Milone & MacBroom, Inc. prepared a comprehensive greenways and bikeways study for the City of Mauldin, South Carolina and surrounding areas to further develop plans that identify opportunities for greenways and bikeways in the Mauldin area. The study analyzed all feasible on and off-road possibilities for a system of walking, jogging, and bicycling routes for recreation and alternative transportation.

The study first addressed the major greenway corridors, and determined the feasibility of developing each greenway as a recreation and alternative transportation route. The study then identified all major points of interest or destination such as existing recreation areas, schools, cultural and business centers, and historic sites. Neighborhoods were analyzed for possible connections as well. Possible routes of connection were then analyzed ranging from off road paths to shared road options. G.I.S. mapping was utilized to identify utility corridors, property ownership, etc., in an effort to better understand all options. Once initial concepts had been developed they were tested by performing field reconnaissance, which identified opportunities and constraints that do not show up in mapping. Once routes had been field tested, and required improvements noted, a concept level plan was developed with descriptions of each segment and opinions of probable costs associated with their development. The final component was an Action Plan outline that established an approach for implementation of the plan.

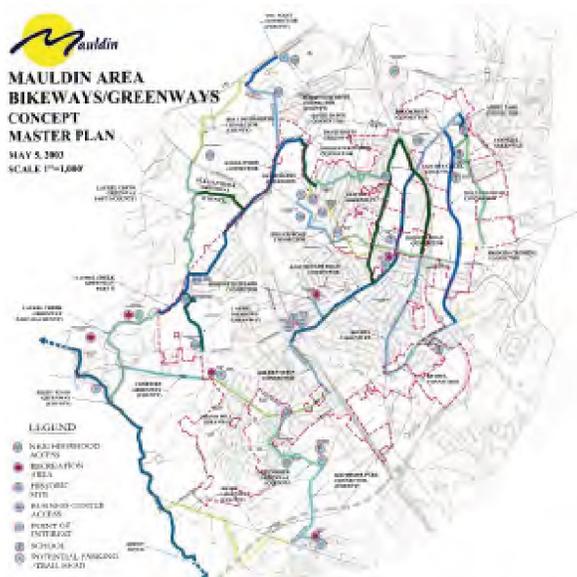
Milone & MacBroom, Inc. conducted periodic public meetings of the City Council and project committee that were open to the public.

SERVICES PROVIDED:

- Survey
- Master Plan
- Engineering
- Landscape Architecture
- Public Outreach

CLIENT:

City of Mauldin
Mauldin, South Carolina



Downtown Revitalization

Central, South Carolina

Milone & MacBroom, Inc. was retained by the Town of Central to provide master planning and design services for the downtown area comprising Main Street north from Werner Street to Church Street. The plan encompassed sidewalk improvements, landscaping, and re-configuration of travel lanes, on-street parking, and crosswalks, overhead utility relocation and lighting design. The Town desired to relocate building water service connections on the south side of Main Street to the rear of the structures. A water main was designed from Main Street to Werner Street with an extension on the adjacent rear alley.

In 2010 Milone & MacBroom, Inc. completed the design of the Bank Street Sidewalk Improvements project for the Town.

SERVICES PROVIDED:

- Survey
- Planning Study
- Engineering
- Landscape Architecture

CLIENT:

Town of Central
Central, South Carolina



Inman Downtown Revitalization

Inman, South Carolina

Milone & MacBroom, Inc. was retained by the City of Inman to provide master planning and design services for the downtown area comprising Main Street and Mill Street. The plan encompassed sidewalk improvements, public spaces, traffic and parking reconfiguration, overhead utility relocation and landscaping with the grant they received the City was able to install the street lighting, a new traffic signal, and new sidewalk on Main Street. Milone & MacBroom, Inc. provided construction administration services for the project.

SERVICES PROVIDED:

- Planning Study
- Survey
- Engineering
- Landscape Architecture
- Construction Administration

CLIENT:

City of Inman
Inman, South Carolina



Town Square Redevelopment

Belton, South Carolina

Milone & MacBroom, Inc. was retained by the City of Belton to provide design services to prepare construction documents for the re-development of the Town Square. The square, located at the heart of Belton's historic downtown was reconfigured to minimize asphalt, reconfigure parking, provide landscaping and lighting. Canopies built on the building facades were removed and the sidewalks replaced with a concrete and unit paver pattern. The project also addressed handicap access, traffic calming, and SC DOT coordination for crosswalks, traffic signals, and roadway reconfiguration.

Milone & MacBroom, Inc. provided construction administration services for demolition, installation of new sidewalks, drainage, asphalt, striping, and ancillary improvements. Milone & MacBroom, Inc. also assisted the City of Belton with a TEA 21 grant application for extension of the project. Milone & MacBroom, Inc. completed the design of phase 2 of the downtown improvements.

SERVICES PROVIDED:

- Survey
- Engineering
- Permitting
- Landscape Architecture
- Construction Administration

CLIENT:

City of Belton
Belton, South Carolina



East Main Street Improvements

Spartanburg, South Carolina

Milone & MacBroom, Inc. was retained by the City of Spartanburg to design streetscape improvements to a 1,800 foot section of Main Street in downtown Spartanburg. The area has experienced a recent increase in new construction and improvements to existing buildings. Main Street has limited parallel parking and is four lanes wide. Traffic speeds are too high for a downtown area but due to the wide lanes and number of lanes, traffic calming is difficult. The existing street trees are older and which are showing signs of distress.

The streetscape project included narrowing the road from 4 lanes to two 11' lanes, adding parallel parking along the south side, installing bike lanes on both sides of the road, and installing new landscaping. Most of the side streets do not line up with one another north to south making crosswalks difficult to place. By placing the crosswalks between some of the offset roads and installing pedestrian refuge islands in the median, pedestrians will be able to cross Main Street safely without having to cross the entire street at once.

SERVICES PROVIDED:

- Survey
- Engineering
- Landscape Architecture

CLIENT:

City of Spartanburg
Spartanburg, South Carolina



US Hwy 123/Tiger Boulevard Improvements Clemson, South Carolina

Milone & MacBroom, Inc. was retained by the City of Clemson to provide consulting services for the US Highway 123, Tiger Boulevard enhancement project. The Tiger Boulevard project involved the relocation and widening of sidewalks away from the road edge, decorative lighting and installation of landscaping.

The desired first phase of work on Tiger Boulevard spans from Lake Hartwell eastward to the KFC. The second phase spans from KFC to just past the Ramada Inn. Construction documents were prepared for both these sections. The span from the Ramada Inn to Highway 93 was designed at concept level only to match the proposed improvements to the west.

SERVICES PROVIDED:

- Survey
- Engineering
- Permitting
- Landscape Architecture

CLIENT:

City of Clemson
Clemson, South Carolina



Major Rudolf Anderson, Jr. Bridge

Greenville, South Carolina

Milone & MacBroom, Inc. was retained by the City of Greenville to provide professional consulting services for the design of a pedestrian bridge associated with the Swamp Rabbit Trail on McDaniel Avenue. The Continental style bridge spans 118 linear feet with the abutments sitting outside of the floodway. The bridge will match the design of the existing bridge that crosses the Reedy River in downtown.

Due to flooding this area experiences, the bridge will be elevated above the 25 year floodplain to lessen the impacts of storm events. A conditional letter of map revision CLOMR has been submitted to FEMA and a letter of map revision LOMR will be submitted upon completion of the project.

To allow the bridge to stand out and to provide added safety, it will be lit with uplights and rail lights. The lighting was designed to not adversely affect surrounding users and wildlife while still being functional.

SERVICES PROVIDED:

- Survey
- Civil Engineering
- Structural Engineering
- Landscape Architecture
- Construction Administration

CLIENT:

City of Greenville
Greenville, South Carolina



Cleveland Street Pedestrian Bridge

Greenville, South Carolina

Milone & MacBroom, Inc. was retained by the City of Greenville to provide professional consulting services for the design of a pedestrian bridge for the Swamp Rabbit Trail on Cleveland Street. The Continental style bridge spans 170 linear feet with the abutments sitting outside of the floodway. The bridge matches the design of the existing bridge that crosses the Reedy River in downtown.

The bridge is parallel an existing SCDOT bridge on Cleveland Street. Milone & MacBroom, Inc. coordinated closely with the SCDOT to ensure compliance with the regulations and bridge design requirements. The abutments are located in the 100-year floodplain but the low chord of the bridge is above the floodplain level. A conditional letter of map revision (CLOMR) has been submitted to FEMA and a letter of map revision (LOMR) was submitted upon completion of the project.

To provide added safety, the bridge is lit with acorn style lights and rail lights. The lighting was designed to not adversely affect surrounding users and wildlife while still being functional.

SERVICES PROVIDED:

- Survey
- Engineering
- Permitting
- Landscape Architecture
- Construction Administration

CLIENT:

City of Greenville
Greenville, South Carolina



CC Woodson Trail

Spartanburg, South Carolina

Milone & MacBroom, Inc. designed an outdoor classroom facility adjacent to the new CC Woodson Recreation Center in the City of Spartanburg, South Carolina. The classroom features a stone dust gathering area with seven stone benches. The stone was reclaimed from various sites around the City during other construction projects. They provide durable and attractive places for people to gather and for the neighboring schools to offer outside teaching. A stone dust trail leads into the woods to a new pedestrian bridge. Milone & MacBroom, Inc. designed the bridge to replace an older bridge that had been damaged from weather and time and was no longer safe. The trail connects the CC Woodson Center to the Phyllis Goins Subdivision. This access will allow the residents to reach the recreation center much easier than before the new bridge and trail were constructed.

SERVICES PROVIDED:

- Civil Engineering
- Structural Engineering
- Landscape Architecture
- Construction Administration

CLIENT:

City of Spartanburg
Spartanburg, South Carolina



Spartanburg Regional Medical Center Walking Trail

Spartanburg, South Carolina

Milone & MacBroom, Inc., in conjunction with Innocenti & Webel, designed a walking trail for the Spartanburg Regional Medical Center. Located on approximately 5 acres of barren land, the trail was designed to assist in cardiac rehabilitation as well as recreational use by patients, employees, and the general public. The walking trail encircles several newly constructed ponds connected by waterfalls. The trail connects the hospital campus on one end to the campus of Wofford College, creating a vast network of pedestrian greenways within the urban environment of Spartanburg. Noble trees accentuate the landscape, providing an idyllic garden setting for rehabilitation and recreation. The park has been designated as one of the first Liberty Gardens, an initiative of Keep America Beautiful to create 400 parks and gardens across America in remembrance of September 11th. The project was primarily funded by the Spartanburg Regional Foundation Heart Board who obtained donations from over 530 employees by the giving of a portion of their paychecks.

SERVICES PROVIDED:

- Engineering
- Landscape Architecture
- Construction Administration

CLIENT:

Spartanburg Regional Medical Center
Spartanburg, South Carolina



Lyman Downtown Park

Lyman, South Carolina

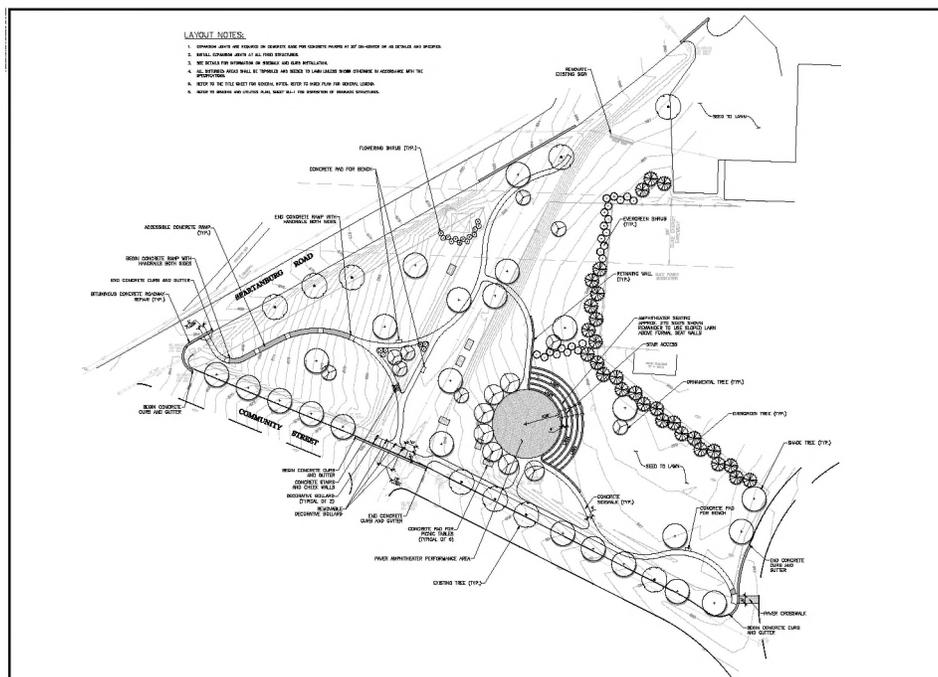
Milone & MacBroom, Inc. was retained by the Town of Lyman to develop construction documents for a new park in downtown. The park will be located behind Town Hall and comprises approximately three acres. The feature element of the park will be an amphitheater that will seat 350-400 people. The Town anticipates holding festivals and concerts at the new amphitheatre. A playground, picnic shelters, and sidewalks will also be included in the design. The park connects to the new multi-use trail the Town is constructing to help bring nearby residents into the downtown area. The Town is also in the process of renovating an existing building to create a farmers market which will be connected to the park via sidewalks. The connectivity of the three projects will provide users with better walking routes and new destination points.

SERVICES PROVIDED:

- Planning
- Engineering
- Landscape Architecture

CLIENT:

Town of Lyman
Lyman, South Carolina



Parks & Recreation Master Plan

Pickens County, South Carolina

Milone & MacBroom, Inc. was selected by Pickens County to undertake an evaluation of the municipal parks within the County and to identify the conditions at each of the parks and to make recommendations for their improvements. The County's residents were surveyed to learn their thoughts on the existing facilities and what they desired in future facilities. Public workshops were also held to foster open discussions and brainstorming to help define the future of the parks and recreation department. Meetings were also held with the park and recreation directors for each City within the County to determine how the County could help them achieve their goals.

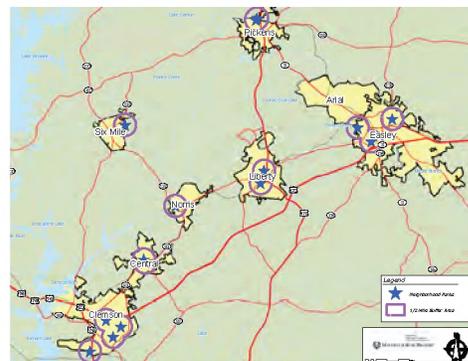
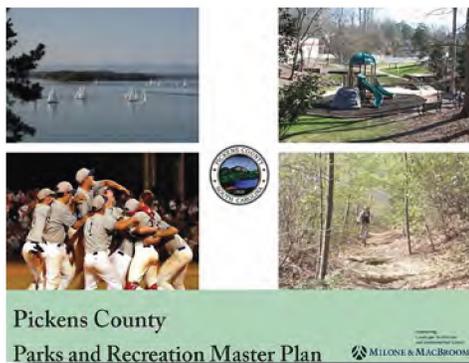
As part of the plan, the existing conditions at each park were identified in order to help determine if there were enough fields, restrooms, and parking. Facilities such as lighting, safety fencing, public announcement systems and concession stands were also evaluated. Based on a demographic analysis and recommendations from the National Parks and Recreation Association, facilities to fulfill the Counties needs were calculated. Potential locations were also proposed based on locations of existing facilities, areas of growth, and existing underserved areas. The master plan will serve as the planning document for future improvements by the County.

SERVICES PROVIDED:

- Master Plan
- Landscape Architecture
- Community Meetings
- Public Opinion Survey

CLIENT:

Pickens County
Pickens, South Carolina



Parks Enhancement Plan

Spartanburg County, South Carolina

Milone & MacBroom, Inc. was selected by the Spartanburg Parks Department to prepare a Park Enhancement Plan for Spartanburg County, which includes the review of seven existing county parks and four existing parks owned by other entities that the county wishes to improve. The plan will help ensure that the parks are safe, legally compliant, and family friendly. Milone & MacBroom, Inc.'s team evaluated sites for issues such as lack of picnic facilities, benches, shade, lighting, water fountains, and other needed improvements. Additionally, the team identified currently underutilized spaces that can be used to enhance the parks recreational experience. The project team investigated the playing fields of each park to gain an understanding of the physical characteristics and to observe existing conditions. The last plan was dated 1999-2009. This master plan will lead the county through the next five to seven years of capital improvement planning.

SERVICES PROVIDED:

- Planning

CLIENT:

Spartanburg Parks Department
Spartanburg, South Carolina



Holston Creek Regional Park

Inman, South Carolina

The Holston Creek project involves the master planning of a 152-acre parcel on New Cut Road west of Inman, South Carolina. The gently rolling property includes a storm water pond and two farm ponds. The larger farm pond is situated at the lower portion of the site and will make a wonderful amenity to the park. The intent of the park is to provide amenities that are not found elsewhere in the park system. As such, it will be a passive use park that may include hiking and equestrian trails, camping facilities, an equestrian arena, and fruit orchards. The park will provide residents a place to congregate and enjoy nature at a location close to their home.

SERVICES PROVIDED:

- Planning

CLIENT:

Spartanburg Parks Department
Spartanburg, South Carolina



Cleveland Park

Spartanburg, South Carolina

Milone & MacBroom, Inc. was retained by the Spartanburg County Parks & Recreation Department to design improvements to Cleveland Park. The park, located just outside downtown Spartanburg, was originally built in the 1930s, but over the years had fallen into disrepair. The plan included the construction of several new buildings, dam and pond improvements, waterfront esplanade and amphitheater, restoration of a miniature train system, landscape improvements, and a parking and circulation plan. The park facilities are comprised of passive recreation enhancements, playgrounds, and a nature trail.

Milone & MacBroom, Inc. provided landscape architectural and civil and structural engineering services for the following:

- Project administration
- Master planning and program development
- Design development
- Construction documents
- Construction administration

SERVICES PROVIDED:

- Planning Study
- Survey
- Civil Engineering
- Structural Engineering
- Landscape Architecture
- Construction Administration

CLIENT:

Spartanburg Parks Department
Spartanburg, South Carolina



Catherine J. Smith Plaza

Clemson, South Carolina

Milone & MacBroom, Inc. was retained by the City of Clemson to provide consulting services for the design of the Catherine J. Smith Plaza project. The project is located on a portion of Jaycee Park in downtown Clemson where the newly realigned Edgewood Avenue meets College Avenue.

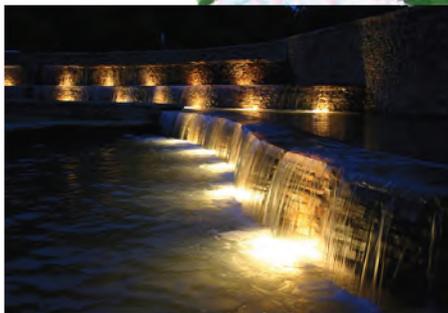
The project's main features include a multilevel fountain, public plaza, stage and seating. The area provided opportunities for donor contributions of various components including brick pavers. The area is extensively landscaped and irrigated providing a unique public space in the heart of Clemson's central business district. The project was designed in 2005 with construction being completed in 2007.

SERVICES PROVIDED:

- Survey
- Civil Engineering
- Structural Engineering
- Landscape Architecture
- Construction Administration

CLIENT:

City of Clemson
Clemson, South Carolina



Vedado Lane & Fourth Street Drainage Improvements

Greenville, South Carolina

Milone & MacBroom, Inc. was retained by Greenville County to provide topographic survey, engineering design and permitting for two proposed drainage improvement projects in Greenville County. The Vedado Lane improvement project consisted of upgrading an existing culvert under Vedado Lane, making minor roadway modifications, removing upstream channel obstructions, making channel improvements and stabilizing the stream bank on adjoining properties.

The Fourth Street project consisted of upgrading the existing structure under Fourth Street and making minor roadway modifications. MMI had to verify existing field conditions, provide a topographic survey, perform design and specify the sizes for all new drainage structures. A sanitary sewer line was relocated as part of the design.

SERVICES PROVIDED:

- Survey
- Engineering
- Permitting
- Landscape Architecture

CLIENT:

Greenville County
Greenville, South Carolina



South Carolina FEMA Map Modernization Project

Greenville, South Carolina

Milone & MacBroom, Inc. was selected as part of a multidisciplinary team to assist the State of South Carolina in their Statewide Floodplain Mapping Program. South Carolina is sixth in the nation in the number of active flood insurance policies. Development pressures in previously rural areas compound the potential flood damage risk. The project, funded by FEMA and the State of South Carolina will update all currently delineated floodplains, provide mapping in 94 unmapped communities and eliminate unnumbered A zones in the state over a period of 5 years at an estimated cost of \$40 million to complete the initiative. Major components of the initiative are the acquisition of topographic data using state of the art LIDAR technology, updated digital flood insurance rate maps for each county, and a state of the art information management system allowing for access and distribution of all information over the internet. The end product will be a web-based Flood Insurance Rate Maps as issued by the Federal Emergency Management Agency (FEMA).

The team is one of two that will develop updated hydrologic and hydraulic data and provide web based digital floodplain mapping for all communities in the state. Milone & MacBroom, Inc. was responsible for the mapping in Spartanburg County and Aiken County. Milone & MacBroom's task responsibility included riverine analysis.

SERVICES PROVIDED:

- Survey
- Engineering
- Permitting

CLIENT:

URS Corporation / South Carolina
Department of Natural Resources
Columbia, South Carolina



Henderson Drainage Basin Improvements

Greenville, South Carolina

Milone & MacBroom, Inc. was retained by the City of Greenville to prepare a hydrologic study of six existing roadway culverts and to design the replacement of culvert crossings at two roadways. The proposed plan involves the construction of two roadway ConSpan culverts to preclude roadway overtopping that currently occurs under the 25 year flood event. The subject area being analyzed for hydraulic information consisted of the Reedy River Tributary 2 from the Reedy River to Laurens Road. The project area is approximately 1,065 acres. While the City plans to eventually upgrade all six roadway culverts, Halidon Road and Parkins Mill Road were analyzed for replacement of existing culverts at this time. Analyzing the entire watercourse and constructing a comprehensive model provided an excellent means of uniform basin analysis and flood mitigation. It allows the City to measure the impact of multiple improvements upon flood levels, roadway overtopping, and private structures.

SERVICES PROVIDED:

- Engineering
- Permitting
- Landscape Architecture
- Construction Administration

CLIENT:

City of Greenville
Greenville, South Carolina



Reedy River Basin Master Plan & FEMA Restudy Greenville, South Carolina

Milone & MacBroom, Inc. was retained by the City of Greenville to provide professional engineering services to the City of Greenville for the Reedy River Basin Master Planning Project. The City of Greenville has invested in studying all major drainage basins in the City. The Reedy River is the last remaining basin and the most complicated. The Reedy River watershed is significantly urbanized, has a large outside drainage area, is the focal point of the City, and has a broad and significant floodplain, which encroaches on numerous businesses and prime real estate. The accuracy of the record FEMA mapping has been questioned, and has hindered expansion of downtown area improvements. The study serves both to recommend capital improvement projects within the basin as well as to study and redefine the Reedy River floodplain through an updated analysis. A hydraulic model of the river was prepared utilizing the US Army Corps of Engineer's HEC-Geo RAS software which integrates Geographic Information System Technology. The model covered 10 miles of river with 240 cross sections and 3 hydraulic structures. The model was complicated by 2 waterfalls, numerous large buildings in the floodway, significantly undersized bridges and a remnant levee and railroad embankment system. A physical map review will be submitted to FEMA to replace current floodplain maps.

SERVICES PROVIDED:

- Planning Study
- Engineering
- Permitting

CLIENT:

City of Greenville
Greenville, South Carolina



University Center Regional Detention Basin

Greenville, South Carolina

Milone & MacBroom, Inc. was retained by the City of Greenville for the design of a regional detention area at the upper end of a commercially developed, highly urbanized 420-acre watershed to control peak flows in the downstream watercourse that has a history of flooding. The improvements to the site include removal of existing vegetation, excavation, construction of an earthen dam with concrete overflow section and associated drainage improvements. The project is complicated by existing surrounding improvements and difficult topography. This project is publicly funded by a stormwater utility.

SERVICES PROVIDED:

- Engineering
- Permitting
- Landscape Architecture
- Construction Administration

CLIENT:

City of Greenville
Greenville, South Carolina



Bus Rapid Transit & TOD Feasibility Analysis

Greenville, South Carolina

In the Fall 2010, the City of Greenville was awarded a Sustainable Communities Challenge Grant by the U.S. Housing and Urban Development (HUD), which provides Greenville a unique opportunity to create a more livable community, promote access to jobs and a robust economy, support effective and efficient land use patterns for defined study area, and improve mobility for residents and businesses.

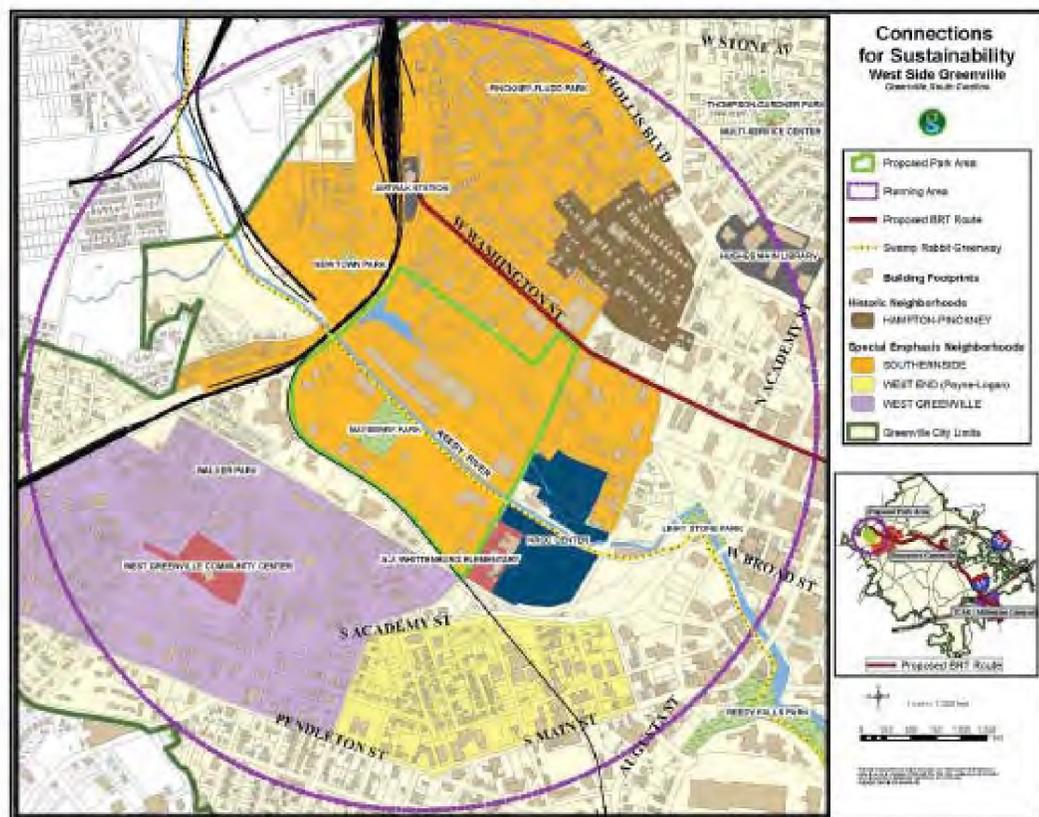
Milone & MacBroom, Inc., as part of a larger project team, assisted the City of Greenville with a feasibility study focusing on BRT concepts and TOD viability and opportunities along the West Greenville/Reedy River Corridor. Milone & MacBroom, Inc.'s role includes TOD site identification and analysis, public agency and stakeholder coordination, and geographic information system (GIS) analysis and mapping.

SERVICES PROVIDED:

- Feasibility Study
- GIS

CLIENT:

City of Greenville
Greenville, South Carolina



Cherokee County Administration Building

Gaffney, South Carolina

Milone & MacBroom, Inc. was retained to develop construction documents for the new Cherokee County Administration Building. Working with Agnew Rincon Architects, a plan was developed for the parcel located in downtown Gaffney, South Carolina. The 17 acre site was previously home to a textile mill and had many improvements that needed to be demolished, including multiple buildings, parking, and extensive underground utilities. The design was complicated by the topography of the site and the building architecture. The 80,000 square foot building features two stories above grade plus a walkout basement. Two out parcels were provided for future expansion of the county services or for commercial rental purposes. Milone & MacBroom, Inc. provided limited construction administration services.

SERVICES PROVIDED:

- Engineering
- Permitting
- Construction Administration

CLIENT:

Adeptus Architecture
Greenville, South Carolina



Arcadia Hill Redevelopment

Greenville, South Carolina

Milone & MacBroom, Inc. provided civil engineering, landscape architecture, traffic engineering, rezoning/permitting assistance, and construction administration services for the redevelopment of the former Woodland Pearce public housing site. Milone & MacBroom, Inc. was responsible for the complete site and infrastructure design and permitting for Arcadia Hills, and construction administration as Phase I and Phase II infrastructure was constructed. Demolition of existing site infrastructure (roads and curbs, water, sewer, utilities, etc.) also fell under Milone & MacBroom, Inc.'s design responsibilities.

Milone & MacBroom, Inc. continued its services during the construction of Phase III, in which roads were completed. The Arcadia Hills success story is important because it replaced the former out of date public housing with new residences based on the Traditional Neighborhood Development concept. It provides a range of housing options, including apartments, town homes, rental homes, and market rate single-family residences. The Arcadia Hills plan also includes a commercial business and retail segment for the surrounding neighborhood. The new development is occupied by residents, and instills a sense of ownership and pride for its residents. The project design was challenged by difficult grades, existing structures and utilities to be demolished, and specimen trees.

SERVICES PROVIDED:

- Survey
- Engineering
- Permitting
- Landscape Architecture
- Construction Administration

CLIENT:

Cornerstone Housing
Columbia, Maryland



Episcopal Church of the Advent Spartanburg, South Carolina

Milone & MacBroom, Inc. services were retained to design the campus extension for the Episcopal Church of the Advent's Life Center. Craig, Gaulden, Davis Architects designed the 32,500 square foot facility while New York based firm, Innocenti and Webel created the Episcopal Church's campus master plan.

This project presented a unique opportunity to build within the constricted boundaries north and west of the Life Center. The project consists of grading, stormwater management, street relocation, parking, and vehicular and pedestrian circulation.

Construction administration services were provided for installation of stairs, roadways, storm drainage, sidewalk, landscaping, erosion control, and site improvements.

SERVICES PROVIDED:

- Engineering
- Landscape Architecture
- Construction Administration

CLIENT:

Byington Landscape Architects
Tryon, North Carolina



Habitat for Humanity Blitz Build Clemson, South Carolina

Milone & MacBroom, Inc. was retained by the City of Clemson to provide engineering design and construction administration for a 14-lot subdivision for Habitat for Humanity houses. The property is located just off of U.S. 123 and the topography of the site made the design a challenge with 20-30% slopes and sanitary sewer easements at the top and bottom.

Milone & MacBroom, Inc. provided bid documents depicting subdivision layout, stormwater, sanitary sewer and water system design. The firm obtained DHEC permits for the sewer and water system construction.

Construction administration was provided for the grading, sanitary sewer and water, storm drainage, sidewalk, roadway, and erosion control activities.

Funding was provided in part by a Community Development Block Grant.

SERVICES PROVIDED:

- Survey
- Engineering
- Landscape Architecture
- Permitting
- Construction Administration

CLIENT:

City of Clemson
Clemson, South Carolina



During Construction



During Construction



Post Construction



Post Construction

Swamp Rabbit Trail Railroad Bridge Inspections

Greenville, South Carolina

Greenville County's plan for the Swamp Rabbit Tram Trail is to connect suburban Greenville County to the downtown area. The connection will allow people a safe route to bike or walk between these areas, and will help alleviate parking problems in urban areas.

Milone & MacBroom, Inc. was retained to inspect eight bridges which varied in length from 55 feet to 225 feet. All of the bridges were constructed with timber trestles except for one which was constructed of concrete. The inspection followed the guidelines of the National Bridge Inspection Standards (NBIS). The timber bridge decks were inspected for decay, parasitic activity, weathering, and indicating physical damage. An inspection was also conducted for abutments, wingwalls, bents, sleepers, bearing seats, girder connections, and scour.

A separate bridge inspection report for each bridge was published containing cover page, field notes, sketches, completed NBIS standard inspection forms, supporting photographs, executive summary, and load rating calculations.

SERVICES PROVIDED:

- Bridge Inspection

CLIENT:

Greenville County Recreation District
Greenville, South Carolina



Lake Cunningham Dredging

Greer, South Carolina

Acting on recommendations contained in a sedimentation study prepared by Milone & MacBroom, Inc., the CPW proceeded with measures to remove existing sedimentation and preclude future impairment of Lake Cunningham. The lake is located on the South Tyger River and is the only withdrawal point for the CPW water system.

Improvements proposed for the vicinity of the raw water intake included dredging 10,000 CY of sediment, placing a submerged gabion / riprap filter berm upstream at the intake, and relocation of the settling pond discharge to below the dam. Dredging of 70,000 CY of material from the upper end of the lake was proposed where significant sedimentation had occurred. The dredging restored access to the boat ramp and fishing pier, as well as removed significant areas of invasive aquatic vegetation.

Milone & MacBroom, Inc. conducted sediment sampling, prepared construction documents, administered the bid and is providing construction administration services. The project required an Army Corps permit, SCDHEC Navigable Waters Permit, and a SCDHEC Water Facilities Construction Permit.

The dredging was conducted hydraulically due to the requirement to maintain full lake levels.

SERVICES PROVIDED:

- Engineering
- Permitting
- Construction Administration

CLIENT:

Greer Commission of Public Works
Greer, South Carolina



Morrison Annex Renovation

Clemson, South Carolina

Milone & MacBroom, Inc. was retained to provide civil engineering and landscape architectural design services for the renovation and expansion of the existing school building into an improved public use and community site within the Calhoun Bridge Neighborhood. Our efforts on the project involved the design of a piped storm drainage system with curb and gutter as well as improvements to the existing parking lot and the design of a new parking area.

The old Morrison Annex, located on Butler Street, was purchased for \$100,000 by the City of Clemson from the Pickens County School District in August of 2003. Renovation to the building, now known as “The Calhoun Bridge Center”, was completed in 2006.

This building is unique because it was originally an African American school known as Calhoun Elementary School. It was not the first African American school building, as it was preceded by a one room school house that stood near the current site of the Goldenview Baptist Church. This building was built in the 1940s to better serve the needs of the African American population. Both the name and the use of the Calhoun Elementary School changed after desegregation in 1970.

In 1971, the building was converted to use as a kindergarten and first grade facility, with grades two through five attending Margaret Morrison Elementary School. The building became known as Morrison Annex with this change in use. The building continued to be used as a kindergarten and first grade facility until the opening of Clemson Elementary School in 2001.



SERVICES PROVIDED:

- Engineering
- Landscape Architecture
- Construction Administration

CLIENT:

DP3 Architects
Greenville, South Carolina



Spartanburg Methodist College Dormitory

Spartanburg, South Carolina

Milone & MacBroom, Inc. was a member of a design team retained by Spartanburg Methodist College in Spartanburg, South Carolina to prepare construction drawings for a new campus dormitory site. The approximate 3 acre site is gently sloping and is bounded by an existing gymnasium, a South Carolina Department of Transportation road, a City road and vacant College property. The design included situating the dormitory on the site, designing parking, storm drainage, water service and sanitary sewer service. Due to the increased impervious area of the site, a detention basin was designed to capture the 10 year storm. A water feature is planned for the plaza between the dormitory and gymnasium.

SERVICES PROVIDED:

- Engineering
- Permitting

CLIENT:

Spartanburg Methodist College
Spartanburg, South Carolina



Dellwood Channel Restoration

Greenville, South Carolina

Milone & MacBroom, Inc. was retained by the City of Greenville to design channel improvements to a tributary of the Reedy River. The stream channel, which is located in a residential section of the City, has collapsing banks and an eroding bed due to increased runoff from upstream development. The channel is also crossed by thirteen suspended house sewer laterals.

The proposed design restores and stabilizes the channel utilizing a low flow pilot channel with capacity for over bank flood flows. The banks are stabilized with a series of structural, vegetative and geotextile measures. Nine suspended sewer crossings were eliminated by construction of a parallel ductile iron sewer. River modeling was conducted using the HEC-RAS hydraulic model. The project is currently in the final phases of construction. The channel has a FEMA designated floodplain and floodway. Prior to construction a no-rise analysis was conducted to demonstrate compliance with FEMA criteria.

Milone & MacBroom, Inc. provided construction administration services throughout the duration of construction to monitor installation of channel stabilization measures, storm sewer, sanitary cover removal, erosion control, stabilization, and landscaping.

SERVICES PROVIDED:

- Engineering
- Permitting
- Landscape Architecture
- Construction Administration

CLIENT:

City of Greenville
Greenville, South Carolina



Lake Cunningham Dredging

Greer, South Carolina

Acting on recommendations contained in a sedimentation study prepared by Milone & MacBroom, Inc., the CPW proceeded with measures to remove existing sedimentation and preclude future impairment of Lake Cunningham. The lake is located on the South Tyger River and is the only withdrawal point for the CPW water system.

Improvements proposed for the vicinity of the raw water intake included dredging 10,000 CY of sediment, placing a submerged gabion / riprap filter berm upstream at the intake, and relocation of the settling pond discharge to below the dam. Dredging of 70,000 CY of material from the upper end of the lake was proposed where significant sedimentation had occurred. The dredging restored access to the boat ramp and fishing pier, as well as removed significant areas of invasive aquatic vegetation.

Milone & MacBroom, Inc. conducted sediment sampling, prepared construction documents, administered the bid and is providing construction administration services. The project required an Army Corps permit, SCDHEC Navigable Waters Permit, and a SCDHEC Water Facilities Construction Permit.

The dredging was conducted hydraulically due to the requirement to maintain full lake levels.

SERVICES PROVIDED:

- Engineering
- Permitting
- Construction Administration

CLIENT:

Greer Commission of Public Works
Greer, South Carolina

