

FORREST E. ROBBINS

Senior Designer/Project Manager



Education: AAS, Computer-Aided Drafting Technology, ITT Technical Institute, 1993
Hazard Mitigation, Disaster Recovery
Emergency Management Institute (FEMA), 1998

Registrations: Certified NBIS Bridge Condition Inspector, 2001
Recertified by National Highway Institute, 2008
Recertified by National Highway Institute, 2013
A/E/C Project Management Bootcamp, 2009

Professional Summary: Forrest is a senior designer and project manager responsible for civil and structural plan development, construction administration and QA/QC. His transportation experience consists of all aspects of roadway design, including NBIS bridge inspection. He is an NBIS-certified bridge inspector and has experience with inspecting buildings and other structures. His construction administration experience consists of assistance with bidding, meetings, inspections, submittal review, payment review, project closeout, and building certification.

Experience:

Bridges

Fayetteville Bridge Repairs, Fayetteville, NC, 2020 Structural repair plan development and construction administration for structural repairs to three city-owned bridges. Repairs needed were mostly structural items, including some retaining wall and rails repairs. The bridges consisted of a single span reinforced concrete, a two-span timber, and a single span prestressed concrete cored slab bridge. Construction administration duties included inspections of work progress, pay application review and approval and reporting to the City.

Mortimer Campground Bridge Replacement, Caldwell, NC, 2020 Construction administration for the realignment of 400 feet of roadway, including the installation of a 35-foot concrete cored slab bridge, in the Pisgah National Forest Service campground. Duties included bid assistance, inspections of work progress, pay application review, review change order requests and approval, and reporting to the owner.

Rumbling Bald Resort Bridge Replacements, Rutherford County, NC, 2019 Construction administration for the replacement of two simple span, prestressed, precast, concrete cored slab bridge on reinforced concrete end bents with steel piles for a private resort.

Lake Royale POA Bridge Replacement, Franklin County, NC, 2019 Construction administration for the replacement of a two span, prestressed, precast, concrete cored slab bridge on drilled pile end bents with galvanized drilled piles interior bent for a private property owners association.

Dismal Swamp Bridge, NCDENR, Camden County, NC Structural plan and specification development and construction administration of an 85-foot movable floating barge bridge, including bascule ramps and a steel fixed section with a timber fender system. This project, for the NC State Parks, accommodates the Dismal Swamp Visitors Center.

West Back Creek Bridge, Alamance County, NC Structural plan development and construction administration of a 180-foot, three, simple span, prestressed, precast, concrete cored slab bridge on steel piles end bents and reinforced concrete post and beam interior bents for a private developer.

Black Creek Pedestrian Bridge, Wake County, NC Structural plan development and construction administration of a 150-foot replacement bridge, approximately 150 feet in length, with a span of 50 feet over Black Creek, supported by concrete footings and timber posts.

Municipal Bridge Inspection (2004, 2006, 2008, 2010, 2012, 2014, 2016) Coordinated all field inspections and report preparation in the municipal bridge inspection program. Bridges were located throughout North Carolina.

Assisted with the preparation of approximately 250 bridge reports with inspection notes and photographs to describe the existing physical condition of bridges.

Buck Hill Creek Bridge, Alamance County, NC Structural plan development and site inspection of a 50-foot, single span, prestressed, precast, concrete cored slab bridge on steel reinforced concrete abutments for a private developer.

NCDOT Division 12 Bridge Preservation Project, Gaston, Cleveland, Lincoln, Catawba, and Iredell Counties, NC Structural plan development for repairs to 21 bridges in Division 12. Plans were developed for the restoration of the structures in accordance with NCDOT guidelines.

Municipal

Water Level Monitoring Design, Morrisville, NC Responsibilities included coordination of design, development of plans and specification for the installation of a remote monitoring station with data logger, water level and flow sensors, and video all powered by solar power. Provided construction administration for the Dam 23 Lake Crabtree facility. Duties included inspections of work progress, pay application review and approval and reporting to Wake County General Services.

Crabtree Creek Site #3 Dam Erosion Protection, Cary, NC, 2020 Responsibilities included coordination of design, development of civil plans and specification, multiple agency permitting, project management, and construction administrator to repair the protective berm along the lake side of a 1,000-foot earthen high-hazard dam.

Wake County Fire Training Facility Dam Repair, New Hill, NC, 2019 Responsibilities included coordination of design, development of civil plans and specification, project management, and construction administrator to repair a failing 200-foot earthen low-hazard dam of a main storage pond that provides water to the facility's fire hydrants. (anticipated completion 9/2019)

Cary Sidewalk Improvement, Town of Cary, NC, 2019 Construction Administration and site inspections for the construction of a 96-foot prefabricated steel pedestrian bridge including the construction of 570 feet of new ADA - accessible sidewalk including wheelchair ramps, segmental block wall, and approach safety rail. Submittal review, payment request review and coordination with the subconsultant for the completion of the work. Provided closeout document review and as-built drawings.

Bond Lake Pedestrian Improvements, Town of Cary, NC, 2016 Construction manager for the replacement of two bridges and a section of boardwalk at Cary's Bond Lake Park, damaged from flooding during the summer of 2016. The structures were built over 24-inch sanitary sewer lines that were at risk because of the damage. The two bridges were replaced with culverts. A&O provided data collection, hydrologic and hydraulic analysis, grading and erosion control design, structural design, and construction documents on these projects.

Educational Facilities

NCSU Avent Ferry Balcony Repairs, Raleigh, NC, 2010 Coordinated the development of construction documents and provide construction administration to oversee the concrete repairs to the balconies at the school's dormitory. Provided shop drawing review, conducted weekly site visits, and attended monthly progress meetings.

NCSU Research II Building HVAC platform, Raleigh, NC, 2015 Coordinate the development of construction documents and provide construction administration to oversee the installation of a structural steel platform to support new air handling units (not constructed) and structural wall penetrations for HVAC ducts and access in the basement of the building. Provided shop drawing review, conducted three site visits, and attended monthly meetings.

Fort Macon Coastal Education Center, Fort Macon State Park, Atlantic Beach, NC Duties included weekly inspections and reporting, monthly progress meetings and review of pay applications. Reviewed RFIs, C.O. and coordinated responses. Project consisted of a concrete pile foundation on a concrete slab-on-grade with masonry walls, and steel framing with metal roofing. Fort Macon is the largest state park with the most annual visitors in the NC state park system.

Garages, Parking Decks

UNC Parking structure inspections (three buildings), Chapel Hill, NC Structural field condition assessment of the parking structures and assisting in preparation of a reports, including structural repair recommendations.

High Point Regional Hospital Parking structure inspections, High Point, NC Structural field condition assessment of the parking structure and preparation of a report, including structural repair recommendations.

Raleigh-Durham International Airport Parking structure inspections, Raleigh, NC Structural field condition assessment of the parking structures and assisting in preparation of a reports, including structural repair recommendations.

Historic Preservation

Blount Street House Inspection, City of Raleigh, NC

Structural and site investigation and assessment of a two-story timber framed house (circa 1900), report preparation for long-term structural repair recommendations and site drainage recommendations.

UNC Old East/Old West, Chapel Hill, NC

Structural investigation and assessment of two dormitories, report preparation, and immediate and long-term structural repair recommendations. Assisted the University in contracting and site inspection of the recommended repairs.

Boykin Theater Truss Repair, City of Wilson, NC

Field investigations and structural condition assessment on the roof trusses and supporting masonry structure. Documented deteriorated condition of structural elements and performed a structural analysis on the roof truss to determine repair method. Developed an engineer's opinion of construction cost for budgeting purposes and prepared an assessment report. Developed structural plans and specification and performed construction administration, including weekly inspections of the work progress.

Historic Oak View, Wake County, NC From previous assessments, duties included structural plans and specification development and construction administration for the repairs to the Historic Oak View Kitchen, Carriage House, Farmhouse, and Cotton Mill.

Historic Yates Mill, Wake County, NC From previous feasibility study, duties included repair plan development and specification for the modification of the Historic Yates Mill to accommodate an ADA Ramp to the facility.

Haywood Hall, City of Raleigh, NC Structural investigation and assessment of a two-story timber framed house (circa 1800), report preparation for long-term structural repair recommendations. Assisted the architect in contracting and site inspection of the recommended repairs.

Handy House, City of Raleigh, NC Structural investigation and assessment of a timber framed two-story Colonial Revival house (circa 1900), report preparation for long-term structural repair recommendations.

Recreation Facilities

North Lakes SF-7 Boardwalk, Fuquay Varina, NC, 2017 Responsibilities included coordination of the development of structural design and sealed permit drawings for two timber-frame structures for a contractor (JC Edwards, Inc.).

Walnut Creek Feasibility Study, Structures 6, 7, 88, 89, 90, City of Raleigh, NC, 2019

Responsibilities included coordination of paving assessment, construction estimates for each structure, including fee for: topographic survey, hydraulics, environmental permitting, geotechnical investigation, development of construction documents, and construction administration. Deliverable is a report for the evaluation of recommendations for budgeting and construction project in upcoming years.

Lake Crabtree Greenway Bridges, Town of Cary, 2018 Provided construction administration services, as a consultant to WithersRavenel, for three pedestrian bridges along this new greenway trail in Cary. Reviewed and responded to contractor RFIs, reviewed shop drawings for conformance to design plans, and performed construction observation and reporting.

Andrews Chapel and North Lakes Boardwalks, Durham, NC, 2017 Structural plan development for two separate timber boardwalks with at grade abutments and timber pile post and beam construction for a contractor who was building for a private developer.

Lake Crabtree Boathouse Deck, Wake County, Morrisville, NC Responsibilities included structural plans and specification development, and Project Manager and construction administrator to replace existing timber deck with composite decking material and fabricate a new metal safety rail. (anticipated completion 03/2019)

Yates Mill Wetland Boardwalk Repair, Wake County, Wake County, NC, 2019 Responsibilities included coordination of design, development of structural plans and specification, project management, and construction administration to replace the existing timber deck with composite decking material, new timber rail system, and add wildlife viewing pavilions to a 450-foot-long boardwalk over a marsh within the Historic Yates Mill Park's trail system.

Structure 37 Replacement Project, City of Raleigh, NC Responsibilities included assembling a production schedule, oversight and coordination of subconsultants to perform and deliver topographic survey and flood study information and permitting, coordinate design, development of structural plans and specification, Project Management, and construction administrator to replace the existing timber bridge with 60-foot prefabricated bridge as part of the Lake Crabtree trail system. (anticipated completion 11/2019)

Yates Mill Boardwalk Assessment, Wake County, 2016 Project manager for the structural condition assessment and load rating analysis of existing boardwalks in this Wake County historic park. Examined as-built drawings; determined repair options, along with timelines and an engineer's opinion of construction cost; and prepared an assessment report for Wake County.

Crabtree Creek Greenway Structure 104 Repair, City of Raleigh Parks, Recreation and Cultural Resources, 2017 Assisted with structural plan development, specifications, and estimates for boardwalk structure damaged during hurricane flooding. Assisted City of Raleigh with bid and award. Performed construction administration to close out the project.

Shelly Lake Bridge 17 Repair, City of Raleigh Parks, Recreation and Cultural Resources, 2017 Project manager and construction administrator for project to repair an existing pedestrian bridge at Shelly Lake Park. Coordinated with subconsultant (WithersRavenel) for surveying and environmental services. Reviewed as-built plans and inspection reports, conducted field investigation to determine repairs needed for glulam beams, decking, and metal handrails. Oversaw development of civil and structural plans for the repair and provided an engineer's opinion of construction cost. Will assist with bidding and provide construction administration services.

Shelley Lake Bridge 19 Replacement, City of Raleigh Parks, Recreation and Cultural Resources, 2017 Project manager for project to replace an existing pedestrian bridge at Shelley Lake park in Raleigh. Coordinated surveying and environmental services through WithersRavenel, and geotechnical subsurface investigation through Froehling & Robertson. Oversaw development of construction drawings and civil plans. Submitted construction details and documents for the City's review.

Riverwalk Phase II Flood Study for Four Pedestrian Bridges, Hillsborough, NC Monthly inspections, construction observation and reporting for the City of Hillsborough, NC.

Mayo River State Park Interim Facilities, Rockingham County, NC Responsibilities include monthly inspections, construction observation and reporting for the park project. The work included a 3,500-foot park entrance roadway with public utilities. Inspection of the potable water service and the onsite sanitary septic system, erosion control devices and reporting.

Honeycutt Creek Greenway, Raleigh, NC Assisted with structural plan development, specifications, and estimates for 16 boardwalk structures and eight retaining walls for a 4.7-mile greenway trail. Performed construction administration, which consisted of weekly inspections of the work progress, monthly progress meetings, pay application review and approval, and reporting to the City of Raleigh project manager.

Blue Jay Point Boardwalk, Wake County, NC Project manager and construction administrator for project to modify a boardwalk at Blue Jay Point Park in Wake County to conform to ADA standards. Developed schematic design and construction drawings and construction cost estimates, assisted with bidding, coordinated with the contractor, and prepared project closeout documents.

Wake County Structural Assessments, Wake County, NC Field investigations and structural condition assessment for three separate county park facilities: Blue Jay Point Park retaining wall, Oakview Park timber sill replacement,

and Crowder Park boardwalk. Determined existing conditions and determined repair/modification options of the existing structures. Developed an engineer's opinion of construction cost for budgeting purposes and prepared an assessment report. Developed structural plans and specifications and provided construction administration for one of the facilities. Duties included weekly inspections of work progress, pay application review and approval and reporting to Wake County Facilities Design and Construction.

Dismal Swamp State Park Phase 1, (Bridge), NCDENR, Camden County, NC

Structural plan and specification development and construction administration of an 85-foot movable floating barge bridge, including bascule ramps and a steel fixed section with a timber fender system. Duties included weekly inspections of the work progress, monthly project meetings, pay application review and approval and reporting to the Office of State Construction.

West Back Creek Bridge, Alamance County, NC Structural plan development and site inspection of a 180-foot, three, simple span, prestressed, precast, concrete cored slab bridge on steel piles end bents and reinforced concrete post and beam interior bents for a private developer.

Raven Rock Pedestrian Bridge, NCDENR, Harnett County, NC Structural plan and specification development, and construction administration of a pedestrian replacement bridge, approximately 184 feet in length, with a span of 50 feet over Campbell Creek, supported by concrete footings and timber posts. Duties included weekly inspections of the work progress, monthly project meetings, pay application review and approval and reporting to the Office of State Construction.

Black Creek Pedestrian Bridge, Wake County, NC Structural plan and specification development, and construction administration of a pedestrian replacement bridge, approximately 150 feet in length, with a span of 50 feet over Black Creek, supported by concrete footings and timber posts. Duties included weekly inspections of the work progress, monthly project meetings, pay application review and approval and reporting to Wake County Facilities Design & Construction.

Blue Jay Point Playground Wall Replacement, Wake County, NC Structural plan and specification development, and construction administration of a decorative CMU wall, approximately 200 feet in length, around the playground area. Duties included weekly inspections of the work progress, monthly project meetings, pay application review and approval and reporting to Wake County Facilities Design & Construction.

Structure Design Special

Knightdale Station R-3 Bridge and Boardwalk Framing Inspection, Private Contractor

Performed structure final framing inspection and prepared a certificate of completion to be submitted to the Town of Knightdale, NC for two timber structures over wetlands in a new subdivision.

Wake County Dam 13 Shelly Lake Sluice Gate Replacements, Raleigh, NC Responsibilities included structural plans and specification development, and Project Manager and construction administrator to replace sluice gates and trash racks for dam 13 in 2020. Responsibilities included coordinating the design team, serving as liaison with Wake County, perform contract administration. (anticipated completion 9/2020)

Wake County Dams 20A Sluice Gate Replacements, Raleigh, NC (2018-2020)

Responsibilities included structural plans and specification development, and Project Manager and construction administrator to replace sluice gates and trash racks for dam 20A in 2019. Responsibilities included coordinating the design team, serving as liaison with Wake County.

Wake County Dams Sluice Gate Replacements, Raleigh, NC (2016-2017)

Project manager and construction administrator to replace sluice gates with gate valves and trash racks for dams 1, 2, 3, and 18 in 2016 and 5A, and 11A in 2017. Responsibilities included coordinating the design team, serving as liaison with Wake County, assisting with bidding and award of construction, site inspection and close-out documentation.

Wake County High Hazard Dam Assessment, Wake County, NC, 2018 Conduct site inspections for three earthen dams owned by Wake County and document the high hazard assessment in accordance with U.S. Department of Agriculture requirements.

NCSU Masonry Repairs, Raleigh, NC Structural plans and specification development for repairs to three existing classroom buildings on the North Carolina State University campus. Provided weekly inspections of the work progress, material submittals and pay application review and approvals.

Lake Crabtree Assessments, Wake County, NC Field investigations and structural condition assessment of five buildings at the county park to determine existing conditions and determine repair/modification options of the existing structures, including associated repairs. Developed an engineer's opinion of construction cost for budgeting purposes and prepared an assessment report. Duties included periodic inspections of the work progress, monthly project meetings, and pay application review and approval.

Lake Crabtree Decking Repairs, Wake County, NC Responsibilities included structural plans and specification development, and construction administration for the repairs to the Crabtree Lake floating boat docks and observation deck. The work included replacement of the existing timber decking with composite decking, removing and replacing the existing railing with new galvanizing, and replacing the timber stairs with concrete. Duties included weekly inspections of the work progress, monthly project meetings, pay application review and approval and reporting to the Wake County Facilities Design & Construction.

Lake Crabtree Assessments and Decking Repairs, Wake County, NC Field investigations and structural condition assessment of five buildings at the county park to determine existing conditions and determine repair/modification options of the existing structures, including associated repairs. Developed an engineer's opinion of construction cost for budgeting purposes and prepared an assessment report. Decking repairs included structural plans and specification development, and construction administration for the repairs to the Crabtree Lake floating boat docks, and observation deck. The work included replacement of the existing timber decking with composite decking, removal and replacement of the existing railing with new galvanizing, and replacement of the timber stairs with concrete. Duties included periodic inspections of the work progress, monthly project meetings, and pay application review and approval.

Dismal Swamp State Park Phase 2, Building, NCDENR, Camden County, NC Structural plans and specification development, and construction administration of the 5600-square-foot building which includes timber pile foundation with boardwalks to access the facility. An on-site septic system was part of the utilities. This was opened for park rangers and public use in spring of 2008. Duties included weekly inspections of the work progress, monthly project meetings, pay application review and approval and reporting to the Office of State Construction.

Wake County Convenience Centers, Wake County, NC Structural plans and specification development for repairs to five existing convenience sites owned by Wake County Solid Waste in 2009 and five additional sites in 2010. Provided weekly inspections of the work progress, material submittals and pay application review and approvals.

Bridge Inspection

City of Jacksonville Municipal Pedestrian Bridge Inspection NCDOT, part of Rails-to-Trails, 2018

Responsibilities included project management and coordination Bridge Inspection, Load Rating, and report preparation of a pre-fabricated steel pedestrian bridge for the City of Jacksonville over NC 24 (660316).

NCDOT Gates, Greene, Johnston, Wayne County State Bridge Inspection, 2018 Inspected 21 state-owned highway bridges along secondary roads and reported physical conditions for maintenance repairs.

Cumberland County Municipal Bridge Inspection NCDOT, Cumberland County, NC, 2018

Responsibilities included project management and coordination, team leadership, and report preparation for 21 Fayetteville-owned highway and secondary road bridges.

NCDOT Iredell County State Bridge Inspection, 2018 Inspected 43 state-owned highway bridges along secondary roads and reported physical conditions for maintenance repairs.

Bridge/Structures Condition Inspection, Raleigh-Durham Airport Authority, RDU Provided bridge condition inspections of sign structures, runway and roadway bridges, high mast luminaires, traffic control plans and written inspection reports.

Herbert C. Bonner Bridge NBIS Inspection, NCDOT, Dare County, NC Project management and coordination, team leadership, and report preparation of this 2.5-mile structure over the Oregon Inlet with navigational clearance

above the water. Involved with the preparation of structural repair plans to extend the life of the structure to allow for the design of the replacement structure.

Neuse and Trent River NBIS Inspection, NCDOT, Craven County, NC Project management and coordination, team leadership, and report preparation for nine highway bridges and associated merge ramps with three structures that span over waterways and have navigational clearance above the water.

Municipal Bridge Inspections (2004), NCDOT, throughout eastern NC Assisted with the field inspections and report preparation for 122 state-owned highway and secondary road bridges located in Raleigh and eastern North Carolina.

Municipal Bridge Inspections (2008), NCDOT, throughout NC Responsibilities included project management and coordination, team leadership, and report preparation for 161 state-owned highway and secondary road bridges throughout 11 counties in North Carolina.

Municipal Bridge Inspections (2009), NCDOT, Wake and Northampton Counties, NC Responsibilities included project management and coordination, team leadership, and report preparation for 44 state-owned highway and secondary road bridges.

Cherry Point Culvert Inspection, MCAS, Havelock, NC Assisted with the confined space culvert condition inspections and report preparation for four five-foot diameters by 260-foot-long culverts under the Lima taxiway at the Cherry Point Marine Corps Air Station.

Bridge/Structures Condition Inspection, Raleigh-Durham Airport Authority, RDU Performed bridge condition inspections, preparation of traffic control plans, and preparation of written inspection reports.

Municipal Bridge Inspection (2004) North Carolina Department of Transportation Assisted with field inspections, and report preparation in the twelfth cycle bridge inspection program. Bridges were located in Raleigh and the eastern part of North Carolina. Assisted with the preparation of approximately 122 bridge reports with inspection notes and photographs to describe the existing physical condition of bridges.

NCDOT Iredell County State Bridge Inspection Inspected 14 state-owned highway bridges along Interstate 77 and reported physical conditions for maintenance repairs.

NCDOT Madison County State Bridge Inspection Inspected 20 state-owned highway bridges along secondary roads and reported physical conditions for maintenance repairs.

NCDOT Rockingham County State Bridge Inspection Inspected 20 state-owned highway bridges along secondary roads and reported physical conditions for maintenance repairs.

NCDOT Wake County State Bridge Inspection Inspected 21 state-owned highway bridges along secondary roads and reported physical conditions for maintenance repairs.

NCDOT Northampton County State Bridge Inspection Inspected 13 state-owned highway bridges along secondary roads and reported physical conditions for maintenance repairs.

NCDOT Rowan County State Bridge Inspection Inspected 13 state-owned highway bridges along secondary roads and reported physical conditions for maintenance repairs.

NCDOT Albemarle Sound Bridge Inspection Responsibilities included project management and coordination, team leadership, and report preparation of this 3.5 mile structure over the Albemarle Sound with navigational clearance above the water.

NCDOT Guilford County State Bridge Inspection Inspected 20 state-owned highway bridges along secondary roads and reported physical conditions for maintenance repairs.

NCDOT Emerald Isle Bridge Inspection and Assessment Responsibilities included project management and coordination, team leadership, and report preparation of this .6-mile-long structure over the Intracoastal Waterway with navigational clearance above the water. Coordination and oversight of the field sampling and testing for the structure assessment.

NCDOT Chatham and Randolph County State Bridge Inspection Inspected 23 state-owned highway bridges along secondary roads and reported physical conditions for maintenance repairs.

NCDOT Wilkes County State Bridge Inspection Inspected 36 state-owned highway bridges along secondary roads and reported physical conditions for maintenance repairs.

NCDOT Davidson and Rowan County State Bridge Inspection Inspected 18 state-owned highway bridges along secondary roads and reported physical conditions for maintenance repairs.

NCDOT Avery County State Bridge Inspection Inspected 16 state-owned highway bridges along secondary roads and reported physical conditions for maintenance repairs.

NCDOT Halifax and Warren County State Bridge Inspection Inspected 27 state-owned highway bridges along secondary roads and reported physical conditions for maintenance repairs.

Inspections:

Metal Traffic Signal Pole Inspections, NCDOT, Guilford County, NC Engineer for inspections of signal poles for NCDOT Divisions: 8, 7 & 9 (318 poles), 4 (99 poles), and 2 (193 poles).

Metal Traffic Signal Pole Inspections, NCDOT Open Ended Bridge Inspections, NCDOT, throughout NC
Professional services for condition inspection of steel mast arm traffic signal poles and steel strain traffic signal poles. Hands-on, visual field inspection and report preparation for state-owned steel traffic signal poles. Elements inspected: pole foundations, pole anchorage, weldments, bolted connections, and attachments. Reports included Pole Inspection Record and Summary, written field report, maintenance recommendations, condition photographs. Always maintained a clearance of 10 horizontal feet to overhead power lines. The proximity of the overhead power lines sometimes prohibited the inspection of the pole tops and overhead attachments.