



**Full Board Meeting  
July 13, 2022**

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**Action Item**

**BOT 2.2 – Approval of Construction Manager at Risk (CMR) for Campus Chilled Water Infrastructure & Equipment Improvements**

**Background Information**

This project will complete the main campus chilled water loop, allowing for better hydraulics and redundant pathways for delivering chilled water to campus and lowering operating and energy costs. Construction is envisioned to be sequenced to limit the overall disruption to the central campus's highly visible and occupied portion.

The University currently has buildings not tied to the campus chilled water loop. These buildings utilize remote chilled water systems, many of which are at or beyond their useful life. The project will connect a minimum of four (4) of these campus buildings to the chilled water loop to provide redundancy and overall energy savings. This project will also examine the feasibility of replacing an aging chiller at the McIver Deck and potentially adding capacity to the plant. All work will be fully integrated with the campus Building Automation Systems (BAS).

The selected Construction Manager at Risk (CMR) firm will closely work with the Architects and Engineers to provide a construction perspective and expertise to the design process. The CMR will be responsible for providing constructability reviews, market-based cost estimates, and realistic schedule development. At the appropriate point in the design process, the CMR will provide a guaranteed maximum price (GMP) for the project, ensuring the work can be accomplished within the budget. The selected CMR firm will be retained for pre-construction services and, at the discretion of UNC Greensboro, be contracted through construction.

The University of North Carolina System website advertised the request for qualifications and proposal for construction manager at-risk services for this project. Five (5) firms submitted letters of interest. There were none from Guilford County.

The Construction Manager at Risk Selection Committee reviewed the Request for Proposals and invited three (3) firms to an interview on June 21, 2022, to present their qualifications and recommend the following in ranking order.

1. Balfour Beatty
2. Greenland Enterprises
3. LeChase

The firm, Balfour Beatty, is a General Construction firm and is recommended as the Construction Manager at Risk for the following reasons:

1. The Balfour Beatty team provided the most thorough approach to pre-planning the project. This phase will be critical in defining the issues and constraints that must be addressed for successful outcomes in construction.
2. The core team presented the greatest depth of experience and understanding of the workings of this campus. Balfour Beatty demonstrated the most substantial local presence.
3. The project examples discussed most closely aligned with our project and demonstrated the successful navigation of similar challenges.

**Attachment:**

See Balfour Beatty's Letter of Interest below.

**Requested Action**

Based on the above information, the Board of Trustees of the University of North Carolina at Greensboro approves the firm of Balfour Beatty. If agreeable terms cannot be met with the recommended firm, then the Board authorizes the administration to negotiate terms with the other firms in ranking order.



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Robert J. Shea, Jr.  
Vice-Chancellor for Finance *and*  
Administration



# UNC-Greensboro Campus Chilled Water Infrastructure and Equipment Improvements

Response to Request for Proposal  
May 19, 2022



**UNC GREENSBORO**



**Balfour Beatty**



# Information Sheet

Firm Name	Balfour Beatty Construction						
<input type="checkbox"/> HUB Certified	If HUB, Specify Type	<input type="checkbox"/> Female <input type="checkbox"/> Disabled	<input type="checkbox"/> American Indian <input type="checkbox"/> Asian-American	<input type="checkbox"/> Hispanic <input type="checkbox"/> Black	<input type="checkbox"/> Socially & Economically Disadvantaged		
Point of Contact	Jimmy Anderson		E-mail Address	janderson@balfourbeattyus.com			
Street Address	406 S. McDowell Street, Suite 200						
City	Raleigh	State	NC	Zip Code	27601	County	Wake
Phone #	704.426.7573		Fax #	919.233.5002			



UNC GREENSBORO

#1 EDUCATION CONTRACTOR  
(ENR Southeast 2020)  
NC License # 22725

406 S. McDowell Street  
Suite 200, Raleigh, NC 26701  
t. 919.233.5001

### Proposer's Name and Principal Office Serving this Project

May 19, 2022

Mr. Bill Chatfield  
UNCG Facilities Design & Construction

Thank you for the opportunity to present our capabilities to UNCG. Balfour Beatty has picked a knowledgeable team of experts that know your campus and understand the complexities of a large infrastructure project such as this.

We recognize that this project impacts a vast amount of end users that include faculty, students, visitors, staff, and the general public. Our team is well positioned to successfully complete this Chilled Water Distribution Project.

#### **We know your campus and SCO projects.**

Project Manager Jimmy Anderson was heavily involved with the Quad renovation project and the Shaw Building.

#### **Our team understands working on heavily populated campuses.**

Both Jimmy and Colby have recently completed university projects that involved coordination with not only the school, but the surrounding city officials. Our team has spent countless hours working on the various types of buildings that are found on a university campus. We will use that strength to ensure the planning of this project is extensive. Early coordination will be required to minimize the impacts to your campus.

#### **We know how to work with RMF.**

We have executed many projects over the years with RMF as the engineer, and we are currently engaged with them on similarly complex university infrastructure package. This sets our team up for success from day one.

Please contact me with any related questions.

Jimmy Anderson  
Project Executive  
Balfour Beatty  
704.426.7573  
janderson@balfourbeattyus.com

**Balfour Beatty**



**Leaders in SCO  
CMAR Projects**



**Strong MEP  
/ Complex  
Infrastructure  
Experience**



**Experience  
on Occupied  
Campuses**



**Long-Standing  
UNCG and RMF  
Experience - No  
Learning Curve**



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8. Completed RFP Affidavit

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# COPY OF ADVERTISEMENT

5/18/22, 11:53 PM

[https://www.northcarolina.edu/apps/finance/vendors/opportunities.htm?code=cm\\_risk&mode=view&id=145136&PRINT\\_ME=Y](https://www.northcarolina.edu/apps/finance/vendors/opportunities.htm?code=cm_risk&mode=view&id=145136&PRINT_ME=Y)

## Construction Manager-at-Risk Solicitations

### Full Details

Institution	UNC Greensboro
Institution URL for Additional Information about this Project (Optional)	<a href="https://facdc.uncg.edu/wp-content/uploads/2022/04/Campus-Chilled-Water-Infrastructure-Equipment-Improvements_combined-CMR-RFP.pdf">https://facdc.uncg.edu/wp-content/uploads/2022/04/Campus-Chilled-Water-Infrastructure-Equipment-Improvements_combined-CMR-RFP.pdf</a>
Project Name	Campus Chilled Water Infrastructure and Equipment Improvements
Project Manager	Bill Chatfield
Phone Number	(336) 334-4545
Contact Email	wjchatfi@uncg.edu
Pre-proposal Date	04/21/2022
Pre-proposal Time	2:30 pm
Pre-proposal Location	Via Zoom Meeting - See URL above for details
Closing Date	05/19/2022
Project Budget	\$ 10,400,000
Project Description	One-Two Sentences

UNC Greensboro is seeking proposals from qualified Construction Manager at Risk firms for the project entitled, Campus Chilled Water Infrastructure and Equipment Improvements.

This project will complete the main campus chilled water loop, allowing for better hydraulics and redundant pathways for delivering chilled water to campus as well as lowering operating and energy cost. Construction is envisioned to be sequenced to limit overall disruption to the highly visible and occupied portion of central campus.

The University currently has buildings that are not tied to the Campus chilled water loop. These buildings utilize remote chilled water systems, many of which are at or beyond their useful life. The project will connect a minimum of five (5) of these campus buildings to the chilled water loop to provide redundancy and an overall energy savings.

This project will also replace an aging chiller and potentially add capacity to the plant. The new chiller and associated equipment will provide reliable chilled water production for the next 20-25 years.

All work will be fully integrated with the campus Building Automation Systems (BAS).

Proposals due by 12:00 p.m. on May 19, 2022

Submit To	Bill Chatfield UNC Greensboro fdc@uncg.edu wjchatfi@uncg.edu
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## RFP DATASHEET

<b>RFP DATA SHEET</b>	
<b>Item</b>	<b>Datum</b>
Short Description of Project	This project will complete the main campus chilled water loop, replace an aging chiller and connect chilled water loop to 5 buildings.
Issuing Office	UNC Greensboro Facilities Design and Construction
Department, Agency/Institution, Location where the Project will be constructed	UNC Greensboro main campus
Project Overview	Complete main chilled water loop, connect to 5 buildings and replace one chiller. All work will be integrated with the campus automation system (BAS). Construction is envisioned to be sequenced to limit overall disruption to the highly visible and occupied portion of central campus
Website address (URL) for posting of notices regarding this project	<a href="https://facdc.uncg.edu/solicitations/">https://facdc.uncg.edu/solicitations/</a>
Expected Date of Completion of Design	August 7, 2023
Project Designer & Consultants	Designer Contract Pending
Construction Manager at Risk Selection Schedule	Post Advertisement – April 11, 2022 Pre-Submittal Meeting - April 21, 2022 Proposals Due - May 19, 2022 Interview - June 21, 2022 Selection (BOT approval) – July 13, 2022
Construction Management Fee (Section II Paragraph E.2)	The Construction Management Fee will be a fixed number based on a percentage of the Cost of Work. For this project, the fee will be reasonably negotiated in concurrence with the Owner and the State Construction Office.
Project Construction Cost	Total Project Budget: \$10,400,000  Estimated Available for Construction (GMP): \$7,525,000



## CMR QUALIFICATIONS QUESTIONNAIRE

**A. Give corporate history of the company including organizational structure, years in business and evidence of authority to do business in North Carolina.**

### Balfour Beatty

**HISTORY |** Balfour Beatty's roots date back to 1933, when two regional construction businesses merged. Both were founded by talented people committed to meaningful community involvement, excellent relationships with clients and subcontractors, and innovative industry leadership.

**ORGANIZATIONAL STRUCTURE |** LLC

**YEARS IN BUSINESS |** 88 years

**EVIDENCE OF AUTHORITY TO DO BUSINESS IN NC |**

License provided in Appendix

**B. Provide annual workload for each of the last five (5) years; number of projects and total dollar value.**

Year	Number of Projects	Total Dollar Value
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]

**C. List projects for which the company is currently committed including name & location of each project, time frame to complete & dollar volume of each project.**

Project Name & Location	Time Frame to Complete	Dollar Volume
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
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[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]

**D. Financials – Attach latest balance sheet and income statement if available, based on company type. Audited statements preferred. If not available, attach a copy of the latest annual renewal submission to the relevant licensing board. Indicate Dunn & Bradstreet rating if one exists. (Firms must submit financial data and may clearly indicate a request for confidentiality to avoid this item becoming part of a public record.)**

Confidential financials are included in the appendix.

**E. Attach letter from Surety Company or its agent licensed to do business in North Carolina verifying proposer's capability of providing adequate performance and payment bonds for this project.**

Surety letters verifying Balfour Beatty's bonding capabilities can be found in the Appendix.

**F. List all construction projects performed by the proposer for agencies and institutions of the State of North Carolina during the past 10 years.**

### Balfour Beatty's Experience

- ✓ UNCW Suites & Schwartz Life Safety Improvements
- ✓ NCCU School of Nursing
- ✓ Central Prison Medical Center Phase A&B
- ✓ UNC Greensboro Quad Renovation
- ✓ UNCW Wagoner Dining Hall Renovations
- ✓ ECU Ross Hall School of Dental Medicine
- ✓ Appalachian State University Plemmons Student Union
- ✓ NCSU Wolf Ridge Apartments at Centennial
- ✓ UNC Charlotte Laurel Residence Hall
- ✓ UNC Charlotte Holshouser Residence Hall Renovation
- ✓ UNCW Social & Behavioral Sciences Renovation
- ✓ The Hub at UNCW
- ✓ WSSU H. Douglas Covington Hall
- ✓ UNCW Housing Repairs & Renovations
- ✓ UNC Charlotte Scott Residence Hall Renovations
- ✓ NC A&T State University Student Center
- ✓ UNCW Dobo Hall
- ✓ UNCW Veterans Hall
- ✓ UNCW Central Parking Deck
- ✓ UNC Charlotte Integrated Science Building
- ✓ UNCW Student Village Phase 1
- ✓ NC A&T State University Engineering Building
- ✓ NCCU Student Center
- ✓ Port of North Carolina Chiller Facility

**G. Litigation/Claims.** *If yes to any of the questions below, list the project(s), dollar value, contact information for owner and designer and provide a full explanation with relevant documentation.*

QUESTION	Balfour Beatty
1. Has your company ever failed to complete work awarded to it?	No
2. Has your company ever failed to substantially complete a project in a timely manner (i.e. more than 20% beyond the original contracted, scheduled completion date)?	No
3. Has your company filed any claims with the North Carolina State Construction Office within the last five years?	No
4. Has your company been involved in any suits or arbitration within the last five years?	*See note.
5. Are there currently any judgments, claims, arbitration proceedings or suits pending or outstanding against your company, its officers, owners, or agents?	No
6. Has your present company, its officers, owners, or agents ever been convicted of charges relating to conflicts of interest, bribery, or bid-rigging?	No
7. Has your present company, its officers, owners, or agents ever been barred from bidding public work in North Carolina?	No

*\*In the last five years, the Raleigh operations of Balfour Beatty has not been involved in any suits or arbitration.*

*\*\* Please see Appendix.*



## Project Spotlight

***A complex infrastructure project with RMF encompassing NC State's Campus***



The NC State Electrical Upgrade Distribution Project involves the construction of a modern, self-healing 15kV Power Distribution system, to serve the main campus of NC State for the next 40 years, in fidelity with the campus electrical distribution master plan, using robust processes to ensure human safety and system quality with minimized campus impact. This project will provide a complete upgrade for the 15kV electrical distribution system for the main (Central and North) campus. ***The project includes five miles of duct bank trenching, 54 new pad-mounted switches, over 100 building transformer tie-ins, and 11 building replacement transformers. Please scan the QR code on page 25 to see our team's traffic plan for this project.***



**SERVICES PROVIDED**

Preconstruction and construction services

**DELIVERY METHOD**

CM at Risk

**GMP VS. COST AT COMPLETION**

\$46,744,284.00 vs \$48,938,855.00

*\* Cost overruns due to unforeseen conditions which required additional structural renovation.*

**ORIGINAL VS. ACTUAL SCHEDULE**

Completed on schedule

**OWNER REFERENCE**

Ken Pearce

Director of Facilities + Design Construction

910.521.6374

**PROJECT HIGHLIGHTS**

- ✓ Higher Education Campus
- ✓ SCO Project
- ✓ Complex Infrastructure
- ✓ Active Campus
- ✓ UNC Greenboro Campus

**UNC GREENSBORO QUAD RENOVATION**

The UNCG Quad Project included renovations to seven existing residence buildings, originally constructed between 1920 and 1923, located in an area on campus know as the Quad. Work included the complete interior demolition and comprehensive renovations to approximately 610-bed/241,000 square feet of space with primarily single and double bed living spaces. The project included two additions to one of the buildings, Shaw Hall, which incorporated a Living/Learning Center into the Quad.

*Improvements were also made to the existing site and underground utilities, and campus chilled water was extended into the buildings, allowing for a new central air conditioning system. Every building received new utilities, including plumbing, fire sprinkler, and steam systems.* The project scope also encompassed the removal and abatement of hazardous materials such as asbestos and lead paint.





**SERVICES PROVIDED**

Preconstruction and construction services

**DELIVERY METHOD**

CM at Risk

**GMP VS. COST AT COMPLETION**

\$55,833,125 vs \$56,480,597

\*Cost due to scope changes

**ORIGINAL VS. ACTUAL SCHEDULE**

Completed 71 days early!

**OWNER REFERENCE**

Barry Olson  
Director Business Administration  
University Housing  
Riddick Stadium West, Box 7519  
Campus Box 7315  
919.515.3703  
barry\_olson@ncsu.edu

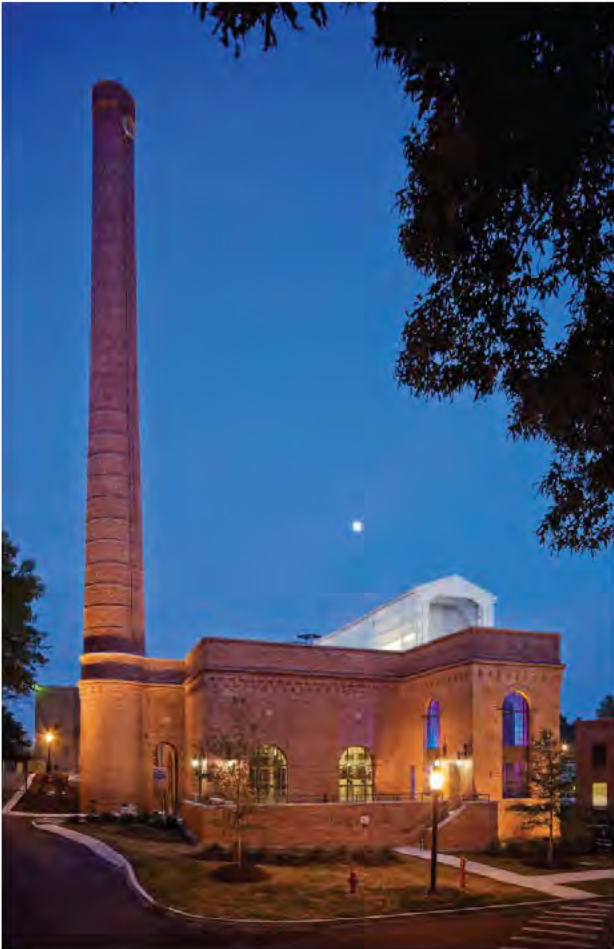
**PROJECT HIGHLIGHTS**

- √ Higher Education Campus
- √ SCO Project
- √ Complex Infrastructure

# NC STATE UNIVERSITY MULTIPLE RESIDENCE HALL RENOVATION

This project consisted of a comprehensive renovation of eight residence halls located on NC State University’s central and north campus. The residence halls included the Gold, Syme, Welch, Turlington, Alexander, Wood Hall A, B and C, Tucker and Owen. In addition to the renovation work, Balfour Beatty was also contracted with the construction of the First Year College building and a connecting parking lot. This 21,800-square-foot facility contained administrative space for the NC State Housing Department.

One of the main reasons for the project was due to state laws requiring residence halls to be brought up to code with fire alarms and sprinklers. To accomplish this, Balfour Beatty was contracted to update and install fire sprinklers, alarms, cooling units (HVAC) and re-routing the mechanical piping in such a way that enabled reduced piping costs to each hall. NC State also wanted each residence hall room to include air conditioning, which did not exist at the time. This project also included a laundry facility of about 700 sf containing about 20 washers and dryers.



**SERVICES PROVIDED**

Preconstruction and construction services

**DELIVERY METHOD**

CM at Risk

**GMP VS. COST AT COMPLETION**

\$16,129,173.00 vs \$21,089,370.00

\*Cost due to scope changes

**ORIGINAL VS. ACTUAL SCHEDULE**

Completed on schedule!

**OWNER REFERENCE**

Dudley Willis

Assistant Director of Project Management

919-660-4224 (office)

919-398-3639 (cell)

dudley.willis@duke.edu

**PROJECT HIGHLIGHTS**

- ✓ Higher Education Campus
- ✓ SCO Project
- ✓ Complex Infrastructure
- ✓ Active Campus

**DUKE UNIVERSITY EAST CAMPUS STEAM PLANT**

The original intent of the project was to build an unmanned peaking plant—described as a stand-alone set of boilers that would maintain system steam pressure during times of highest demand. The Owner initiated significant changes to the project scope to build a manned, full boiler plant to operate 24/7/365. This change in project philosophy required a redundant controls system to communicate with the existing campus steam system, increased condensate storage capacity, necessitated upgrades to the types of equipment, pumps, tanks, drives, etc., and the addition of an elevator from the basement to the roof mechanical room.

This revised scope involved the removal of three massive brick boilers and the renovation of the existing structure to accommodate 15 new quick-fire, low nox 10,000-lb boilers. The scope included a highly complicated infrastructure—substantial duct banks—and the relocation of the building feeds step-down transformers from the street to behind the building. A 15KVA transformer was added to an existing building also located behind the plant to provide power for the newly relocated transformers and plant. The project also involved installation of a buried 30,000-gallon fuel storage tank, which further complicated the logistics of the new duct bank installation on such a small site.

Throughout the duration of the project, the existing duct banks and underground piping feeding into the four surrounding buildings, as well as the ongoing steam plant operations supporting Duke University Medical Center, remained uninterrupted.

List of key personnel who will be assigned to the project. Attach sworn statement that the above persons will be exclusively assigned to this project for its duration. For each person listed above, list what aspects of design, pre-construction or construction the person will handle. For those persons who will divide their time between phases, indicate what percentage of their time will be devoted to each phase. For each person listed in response to A & B above, list his/her experience with firm, other prior and relevant experience with projects of similar size and scope in construction/design, and the person's location. Attach the resumes and references for each person listed. Attach project organizational chart indicating the placement of each of the persons listed in response to A & B above.

- ✓ Tony Stoneking, Project Executive, Constructability | Preconstruction - 25% / Construction - 25%
- ✓ John Katschkowsky, Preconstruction Lead | Preconstruction - 100% / Construction - 0%
- ✓ Jimmy Anderson, Project Manager | Preconstruction - 50% / Construction - 100%
- ✓ Colby Willis Superintendent | Preconstruction - 50% / Construction - 100%

Please find the project team's resumes on the subsequent pages.





**Tony Stoneking**  
EXECUTIVE LEADERSHIP  
JV COMMITTEE  
CONSTRUCTABILITY

**SHARED SERVICES**



**Randy Hart**  
SCHEDULING



**Katherine Boumenot**  
BIM + TECHNOLOGY



**Marc Junker**  
SAFETY

**PRECONSTRUCTION**



**John Katschkowsky**  
PRECONSTRUCTION LEAD

**CONSTRUCTION**

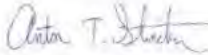


**Jimmy Anderson**  
PROJECT MANAGER



**Colby Willis**  
SUPERINTENDENT

The above persons will be exclusively assigned to this project for its duration.

  
Tony Stoneking, Balfour Beatty

## Key Personnel

# Tony Stoneking

LEED AP BD+C  
Project Executive, Constructability

## PROJECT ROLE

Tony will provide the necessary leadership from project award through project start up to ensure the overall project is set up for success from the very beginning. His detailed constructability reviews, scheduling and phasing expertise as well as his knowledge of State Construction and working on the UNCG campus will enable the team to develop solutions specific to the needs of UNCG and the goals of this project. Tony sets a very high performance standard for himself and his team and then provides the leadership and direction to meet and exceed those standards. He takes ownership of challenges and finds solutions. As one of the most knowledgeable and proficient builders in our industry, he places a priority on making smart business decisions on his projects.

## PROJECT EXPERIENCE

(Partial List)

Duke Medical MSRB III, Durham, NC **CEP • New Construction • Technical Space**

BCBS Chilled Water Upgrade **Extensive Sitework and Infrastructure • New Construction • Chilled Water Plant**

UNCG Quad Renovation **UNCG • Occupied Campus • New Construction**

Duke University East Campus Steam Plant **High Education • Extensive Sitework and Infrastructure • CEP • RMF**

City of Raleigh Central Communications Center **CEP • Complex MEP Coordination**

NC State Electrical Distribution Upgrades **Higher Education • Complex MEP Coordination • Multiple User Groups • Occupied Campus • RMF**

UNCW Freshman Village **New Construction • Design-Build • CEP • Complex MEP Coordination**

UNCW Wagoner CEP Upgrades **CEP • Extensive Sitework and Infrastructure • Large, Higher Education Campus • Multiple User Groups**

NC A&T University Engineering Research and Innovation Complex **Extensive Sitework and Infrastructure • Large, Higher Education Campus • Multiple User Groups • 43% Participation • RMF**

NC A&T University Student Center **CEP • Extensive Sitework and Infrastructure • Large, Higher Education Campus • Multiple User Groups • 43% Participation • RMF**



**27 YEARS** with Balfour Beatty  
**35 YEARS** of experience

## EDUCATION / CREDENTIALS

Bachelor of Science, Building Construction  
Purdue University

NC GC License #48828  
OSHA 30-Hour  
CPR / First Aid / AED  
LEED AP BD+C

## LOCATION

Raleigh, NC

## REFERENCE

Rachel Patrick  
UNC Wilmington  
910.962.3869  
patrickr@uncw.edu

## HIGHLIGHTS



Complex Infrastructure Experience



North Carolina SCO Experience



CM at Risk Experience

**UNCG** Proven ability to deliver for UNCG

**RMF** Experience with RMF

# Jimmy Anderson

Project Manager / Primary Point of Contact

## PROJECT ROLE

Jimmy has been in the industry for more than four decades, and has been working exclusively in the Triad region over the past decade. He is known for managing complex projects with tight schedule for the NC State Construction Office, and using the CM at Risk delivery method. Being based in Greensboro, Jimmy brings local relationships, recent experience working with UNCG, and various complex infrastructure experience that will prove invaluable as he manages your chilled water infrastructure project. As your Project Manager, he will provide on-site, day-to-day project direction and leadership, and fully implement and manage the operation, cost and administration of the project. He will develop the construction schedules with support from the project team and trade partners.



## PROJECT EXPERIENCE

*(Partial List)*

UNCG Quad Renovation **UNCG • Occupied Campus • New Construction**

NC A&T University Engineering Research and Innovation Complex **Extensive Sitework and Infrastructure • Large, Higher Education Campus • Multiple User Groups • 43% Participation • RMF**

NC A&T University Student Center **CEP • Extensive Sitework and Infrastructure • Large, Higher Education Campus • Multiple User Groups • 43% Participation • RMF**

Guilford County Detention Center **Extensive Sitework and Infrastructure • New Construction • Local**

UNC Chapel Hill Science Complex Phase 1 **High Education • Extensive Sitework and Infrastructure • CEP**

UNC Chapel Hill Science Complex Phase 2 **Extensive Sitework and Infrastructure • Large, Higher Education Campus • Multiple User Groups**

UNC Charlotte Student Union **Extensive Sitework and Infrastructure • Large, Higher Education Campus • Multiple User Groups**

**41 YEARS** with Balfour Beatty  
**41 YEARS** of experience

## EDUCATION / CREDENTIALS

Bachelor of Science, Construction Management, Clemson University

OSHA 30-Hour  
CPR / First Aid / AED

## LOCATION

Greensboro, NC

## REFERENCE

Andy Perkins  
Associate Vice Chancellor of Facilities  
NC A&T University  
336.285.4510  
perkins@ncat.edu



Complex Infrastructure Experience



North Carolina SCO Experience



CM at Risk Experience

**UNCG** Proven ability to deliver for UNCG

**RMF** Experience with RMF



# John Katschkowsky

## Preconstruction Lead

### PROJECT ROLE

John has been in the construction industry for over 35 years and will be responsible for leading the preconstruction and estimating effort. John specializes in analyzing, budgeting and coordinating the mechanical, plumbing, electrical and commissioning which will bring the right mix of expertise for the Randall Library project. His impressive background and expertise in preconstruction and MEP coordination from very logistically complex projects will create a level of understanding that ensures all trade packages have ZERO scope gaps.

### PROJECT EXPERIENCE

(Partial List)

**BCBS Chilled Water Upgrade** *Extensive Sitework and Infrastructure • New Construction • Chilled Water Plant*

**UNCG Quad Renovation** *UNCG • Occupied Campus • New Construction*

**Duke University East Campus Steam Plant** *High Education • Extensive Sitework and Infrastructure • CEP • RMF*

**NC Museum of Art Expansion** *CEP • Extensive Sitework and Infrastructure • New Construction • Large Campus • Multiple User Groups*

**UNCW Wagoner CEP Upgrades** *CEP • Extensive Sitework and Infrastructure • Large, Higher Education Campus • Multiple User Groups*

**NC State Electrical Distribution Upgrades** *Higher Education • Complex MEP Coordination • Multiple User Groups • Occupied Campus • RMF*

**UNCW Freshman Village** *New Construction • Design-Build • CEP • Complex MEP Coordination*

**UNCW Wagoner CEP Upgrades** *CEP • Extensive Sitework and Infrastructure • Large, Higher Education Campus • Multiple User Groups*

**NC A&T University Engineering Research and Innovation Complex** *Extensive Sitework and Infrastructure • Large, Higher Education Campus • Multiple User Groups • 43% Participation • RMF*

**NC A&T University Student Center** *CEP • Extensive Sitework and Infrastructure • Large, Higher Education Campus • Multiple User Groups • 43% Participation • RMF*



**19 YEARS** with Balfour Beatty  
**36 YEARS** of experience

### EDUCATION / CREDENTIALS

Bachelor of Science, Building Construction  
Iowa State University

NC GC License #48828  
OSHA 30-Hour  
CPR / First Aid / AED  
LEED AP BD+C

### LOCATION

Raleigh, NC

### REFERENCE

Rachel Patrick  
UNC Wilmington  
910.962.3869  
patrickr@uncw.edu

### HIGHLIGHTS



Complex Infrastructure Experience



North Carolina SCO Experience



CM at Risk Experience

### UNCG

Proven ability to deliver for UNCG

### RMF

Experience with RMF

# Colby Willis

LEED AP BD+C

## Superintendent

### PROJECT ROLE

Colby has over 30 years of construction experience and joined Balfour Beatty in 2005. Colby's wide range of industry experience includes completion of projects with the State Construction Office and large scale project operations. His duties include the oversight of all trade contractors, job site safety, field coordination, project logistics, quality control, weekly job site trade meetings, schedule adherence and the daily supervision of job site construction activities. **Colby has worked on some of the region's most complex, high-profile infrastructure projects during the past decade.**



### PROJECT EXPERIENCE

(Partial List)

Duke University East Campus Steam Plant **High Education • Extensive Sitework and Infrastructure • CEP • Occupied Campus**

NC State University Multiple Resident Hall Renovation **CEP • Extensive Sitework and Infrastructure • Occupied Campus • Multiple User Groups**

UNCW Wagoner CEP Upgrades **CEP • Extensive Sitework and Infrastructure • Large, Higher Education Campus • Multiple User Groups**

NC State Electrical Distribution Upgrades **Higher Education • Complex MEP Coordination • Multiple User Groups • Occupied Campus**

UNCW Freshman Village **New Construction • Design-Build • CEP • Complex MEP Coordination • Occupied Campus**

UNCW Wagoner CEP Upgrades **CEP • Extensive Sitework and Infrastructure • Large, Higher Education Campus • Multiple User Groups**

UNCW Allied Health Building **Extensive Sitework and Infrastructure • Large, Higher Education Campus • Multiple User Groups • Occupied Campus**

NC Museum of Art Expansion **CEP • Extensive Sitework and Infrastructure • New Construction • Large Campus • Multiple User Groups**

**17 YEARS** with Balfour Beatty  
**31 YEARS** of experience

### EDUCATION / CREDENTIALS

Associate of Science, Construction Engineering Management  
Utah Valley State College

OSHA 30-Hour  
CPR / First Aid / AED  
LEED AP BD+C


### LOCATION

Raleigh, NC

### REFERENCE

Rachel Patrick  
UNC Wilmington  
910.962.3869  
patrickr@uncw.edu

### HIGHLIGHTS

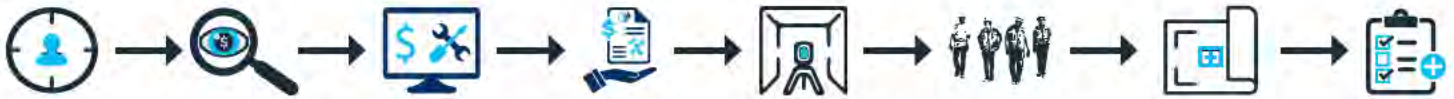
 Complex Infrastructure Experience

 North Carolina SCO Experience

 CM at Risk Experience

**UNCG** Proven ability to deliver for UNCG

**RMF** Experience with RMF



### Project Kickoff

We understand that this is a crucial project for UNCG. Balfour Beatty takes this very seriously. We'll do our part to ensure that clear avenues of decision making are determined, project goals are established, project milestones are identified and a communication strategy is implemented. Our team proposes our "Smart Start Workshop" to facilitate this alignment. This strategy has proven successful when implemented at the beginning of many other large-scale projects. From this workshop, we will identify a needs list from all stakeholders and incorporate this list into our "living cost model" for further discussion and tracking. Jimmy Anderson will lead our team's collaborative effort with the designers and all stakeholders at the earliest possible stage in preconstruction. Jimmy will continue to facilitate collaboration and team alignment until project completion.

**a. Value Engineering** During preconstruction and throughout construction we will continually search for suggestions to increase efficiency and value in the best interest of UNCG's bottom line. We rely on our team's experience, extensive local market relationships, and broad reach with industry partners to find the most cost-efficient approach while still maintaining UNCG's definition of value.

For this project, the best time to search for value options is during early design where we look at cost reducing and value improving measures. It is important that in the beginning of the VE study, we understand the key features that govern and influence the project program. This is the time to define the core scope of the project and analyze the value-add options.



**Our team will provide an early concept / planning estimate to verify that the project budget is accurate.**

We keep a record with value analysis options throughout the entire preconstruction process and into construction and present them as workable solutions. We include:

1. An executive summary with the recommended design change.
2. A descriptive evaluation of the advantages/disadvantages of the proposed recommendation.
3. A cost log (an overall list of value analysis studies, life cycle cost analysis, and design decisions).
4. A cost proposal summary sheet with detailed estimates for each value analysis study.
5. Copies of the meeting minutes taken by our project team after each work session.

**b. Constructability Issues** A thorough and complete constructability review will enable us to limit change orders and schedule impacts while providing a more predictable outcome limiting the use of contingency. It will provide our team, UNCG, and the designers with a working knowledge of drawings prior to the start of construction. This will support more accurate estimates with less allowance and assumptions. Ultimately, we believe that the constructability review will open a forum for comments and constructive communication early in the project, benefiting the outcome going forward.

With our experience in constructability reviews for similarly complex MEP infrastructure upgrades, we have outlined the following points to discuss during our document review process:

- Safety
- Schedule
- Logistics
- Shutdowns
- Managing Unknowns
- Sidewalks
- Hazardous Materials
- Ground Penetrating Radar
- Laydown

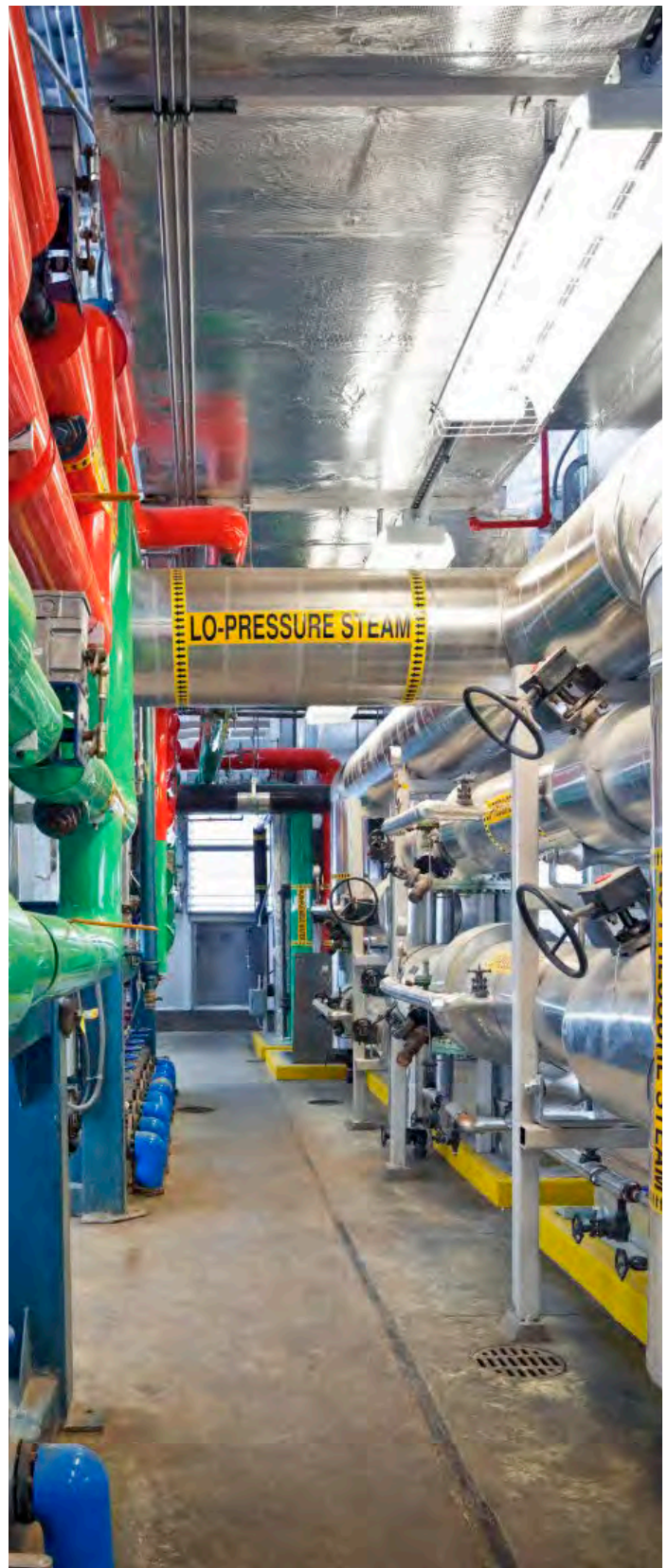
## D. Project Tracking/Reporting

In order to effectively track and forecast costs during construction, our team will use Procore, a product that enforces standardized cost management practices across multi-project programs. **Procore** tracks cost updates and project statuses in real time helping our project teams quickly identify and mitigate any challenges early before they become issues.

All financial controls are viewable in one platform. Our system is interactive, meaning that as updated cost revisions are entered into any part of the system, all related budgets and contracts are automatically updated throughout the system, at the same time. Our cost tracking allows for transparency. As the fiduciary to UNCG, open and honest financial tracking is key to maintaining a proper cost control. Our approach is one of “no surprises.” We will ensure that project data is accurate, up to date, and clear to the entire team. In addition, comprehensive project reports generated from our program will be distributed to members of the project team monthly outlining overall project progress.

Once procurement has been completed and our team begins to mobilize on site, UNCG will be kept informed on the progress and status of the project through the following reporting systems:

- ✓ **Monthly Reports:** During construction, a monthly report and a calendar of events will be distributed to all team members during the State Construction meeting. This report will include design, procurement and construction activity updates, CPM schedule status, narrative job cost accounting and progress photographs.
- ✓ **Superintendent’s Daily Log:** This log will record on a daily basis all work activities, working personnel, status of materials, deliveries, schedule progress and inspections.
- ✓ **Weekly Jobsite Meeting Minutes:** Minutes will be kept of weekly jobsite meetings with subcontractors, major material suppliers and the project partners. This helps with planning and scheduling upcoming work, material delivery and coordination.
- ✓ **Post Bid:** Preconstruction and pre-installation conferences will be held with all trade contractors with our fully integrated team in attendance.
- ✓ **Construction and Data Tracking Logs**
- ✓ **Real-time Documentation** using Open Space



Our team will use Procore personal organizer, reporting, project information, cost management, document management and file management components of the program with future plans to incorporate bid solicitation, risk management, and design collaboration.

### e. Request for Information (RFI) and Shop Drawings

The project team recognizes the value of a streamlined and collaborative RFI, submittal and shop drawing process. It sets the stage for working through system coordination, overlapping details, conformance to the specifications and ensuring the design intent is achieved in all aspects of construction. It also mitigates issues that may arise during construction, which costs the project unnecessary time and money.

Project Manager Jimmy Anderson will manage and drive this process using the following approach:

- Clear communication on submittal schedules that are coordinated with procurement needs to allow the design team the appropriate review time in the proper order.
- Thorough advance review of subcontractor submittals and shop drawings to ensure compliance with the contract documents.
- Proactive and well-written RFIs (Requests for Information) to clarify design intent and mitigate issues from occurring in the field.

## CASE STUDY: WAKE COUNTY JUSTICE CENTER

**METICULOUS PLANNING = 6 MONTHS HEAD OF SCHEDULE; \$30 MILLION UNDER BUDGET**



Cost savings and schedule shortening was accomplished by minimizing re-work through the development of a thorough site logistics plan as well as the use of Building Information Modeling (BIM).

The logistics plan revealed that the site could sustain three tower cranes for the first half of the job, which expedited getting the concrete structure out of the ground. There was a need for shoring due to the proximity of existing downtown roads and the logistics of constructing a new building within two feet of the existing Public Safety Center. The team also created 3D models of all MEP systems prior to fabrication as well as the underground tunnel, courtrooms, and the vast amount of technologically advanced security systems such as the camera angles and rotations. BIM facilitated early collaboration between the CM at-Risk, owner, and end-user groups on this

highly complex project. The constructability efforts allowed the team to move the generators from the basement of the Justice Center with remote cooling to a tradition generator arrangement on the roof of the adjacent building's parking deck. This allowed the project to save considerable cost and space in the building.

The team also created detailed mock-ups of all critical finishes including precast/curtain wall mockup as well as a full scale courtroom and boardroom daiz mockup, further eliminating the need for costly re-work as well as enhancing the quality control process. These mock-ups served as a testing lab for the project, enabling the owner and architect to make design decisions and determine the viability of different approaches, materials, and finishes before implementing them on-site.

Using our project management program, Procore, the UNCG stakeholders will be able to access project information from a secured web-based system to track the progress and status of all aspects of the this project, including RFIs and shop drawings.

### f. Quality Control

#### Quality Control Begins in Preconstruction

Subcontractors are short-listed based on how they scored on their qualifications and experience on 10 key project criteria. Included in these criteria are; proposed project team, similar project experience, preconstruction experience, safety, quality control, BIM experience, LEED/Sustainability, HUB, Balfour Beatty prequalification and acknowledgment of subcontract exhibits. These short-listed subcontractors will then be interviewed jointly by The designers, UNCG and Balfour Beatty and a joint decision will be made on which subcontractors to bring on early to assist with the design. This early subcontractor involvement will help

design quality into the documents by utilizing subcontractor input when completing the design documents.

The subcontractors will have a vested interest in providing a quality building as they will be involved early on in the process. Our team will develop a QA/QC program for testing and inspection services. To monitor the quality of the project, the QA/QC program will involve all project participants during the construction phase, including design professionals from The designers, specialty consultants, UNCG, and our team. Weekly quality control meetings will be conducted to monitor and maintain an active role in the testing and inspection of the project.

## CASE STUDY: UNC-CHAPEL HILL SCIENCE COMPLEX GOING THE EXTRA MILE TO ENSURE A SAFE, WELCOMING CAMPUS



Balfour Beatty worked with UNC-Chapel Hill's Department of Public Safety to distribute a university-approved safety plan campus-wide in order to properly inform all impacted students and faculty of the new traffic patterns. Balfour Beatty had implemented several safety measures above and beyond what is called for on the contract documents, such as painting yellow warning stripes on pedestrian walkways at construction entrances, installation of mirrors so drivers can see pedestrians as they cross sidewalks, installation of numerous detour and warning signs, and the daily monitoring of public walkways and roads outside the construction fence for construction debris.

Quality control on this project will follow our six step program to ensure consistency and reliability:

### Quality Control Begins in Preconstruction

Planning for a quality project begins in preconstruction. During preconstruction, our team will set the stage for the methods and procedures that will be used to maintain a quality project. Included in this is the thorough constructability review that is done on the project documents.

The full plan will be coordinated with the project participants to determine the inspection requirements.

We approach quality control in a proactive manner. Clearly defined expectations are established at the beginning of the project. Corrective actions for insufficient quality or rework slow down construction.

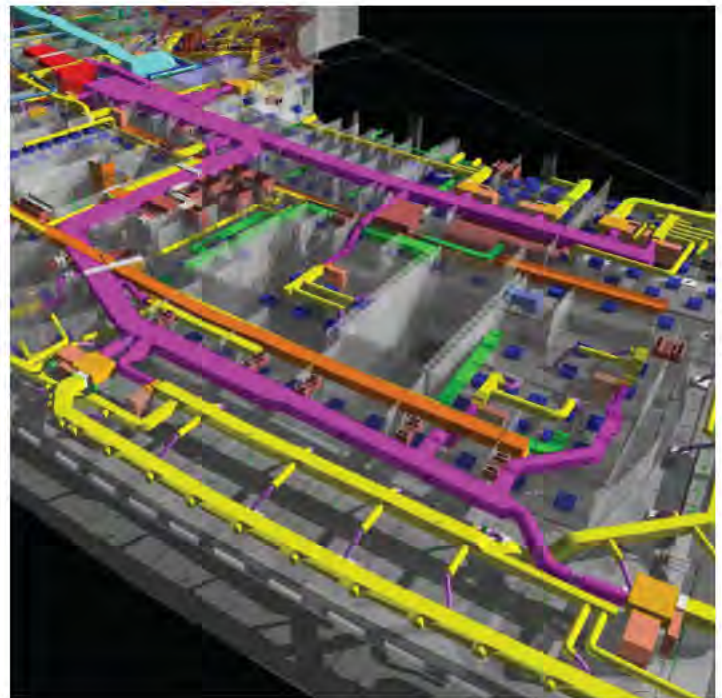
- 1 FACTORY TESTING** | This testing includes demonstration of features, attributes and capacity of the equipment at the factory, witnessed by the UNCG and the factory engineer for the chiller equipment.
- 2 COMPONENT VERIFICATION** | Individual system components are verified at the site for compliance to the design specifications, drawings and approved submittals or shop drawings.
- 3 SYSTEMS CONSTRUCTION** | Verification of the construction of the overall system at the site including an evaluation of interconnection between components, physical arrangement, support and anchoring and access and clearance.
- 4 INDIVIDUAL SYSTEM OPERATION SITE TEST** | Site acceptance testing of the individual systems following start-up and commissioning of the system by the contractor, the manufacturer's factory representatives and the vendor.
- 5 INTEGRATED SYSTEMS TESTING** | Simulated operation of the entire system as a whole including simulated failures, unexpected events and sequential changes to the operating
- 6 OPERATIONAL TRAINING COMPLETE** | Training for building operations personnel, allowing for proper familiarity prior to the formal training program and turnover of the final documentation.

**We use BIM on projects to help avoid obstacles and added costs and delays; this saves our clients time and money.**

The model created by our in-house BIM staff was used by the entire building team as a blueprint for project certainty and success.

We utilize the latest technologies to enable our project teams the ability to preplan and coordinate the work. Quality will utilize these tools to ensure consistency and reliability throughout the project:

- BIM 360 FIELD:** Our team believes the use of Autodesk/BIM/360/Field will be a great benefit. It will be used to consolidate field identification of quality controls issues with documentation, while accelerating critical field activities. Autodesk/BIM/360/Field will enable us to identify, flag, document, communicate and expedite the completion of punch lists in a single, integrated step. It will also allow the project team to track QA/QC items, safety, daily reporting and the working construction documents using iPads in the field. Information is maintained in the "cloud," allowing users to be working within the same environment.
- ALL INCLUSIVE QC LOG:** At 90 days from completion, our team will include all closeout and final inspection requirements on the punch list to ensure timely closeout.
- MOCK-UPS AND BASELINE INSTALLATIONS:** Our team will create mock-ups, if applicable, for approval by the engineer and facilities partners to preemptively address any potential issues.
- FACILITIES MAINTENANCE MEETINGS:** Our team will facilitate meetings with maintenance personnel to assess and support the training requirements needed.



# SITE LOGISTICS: COMMUNICATION IS KEY



**Coordination with multiple departments will be implemented (facilities, maintenance, students, transportation) to ensure all parties are aware of current construction activities.**



**g. Schedule and Staffing Plan**

**Since 2004, our team successfully completed 500+ CM-at-Risk projects in North Carolina. This proven track record will ensure a smooth and efficiently run project and an on-time project delivery for UNCG.**

Balfour Beatty is familiar with UNCG’s preliminary schedule and general timeline. To ensure that the project is completed on time, we must work diligently with all user groups to track equipment and any owner-supplied items. We will begin this process early on in preconstruction.

**Staffing**

Before Balfour Beatty pursues any project, we carefully review our staff and resources to verify availability. We plan far in advance for upcoming projects and strategically place team members on projects where their talents will provide our clients with the most benefit. A large part of Balfour Beatty’s success has been based around our careful examination of projects and the resources needed. We don’t overextend our team or our resources.

We look at each project based on historical information we have available to us not only locally, but regionally and nationally. It is important to have the right staff who have experience on similar projects and who have worked with the same team members and meets the needs of the project complexities.



**OUR TEAM MEMBERS HAVE A LONG, SUCCESSFUL HISTORY OF WORKING WITH RMF OF COMPLEX MEP INFRASTRUCTURE PROJECTS**

**PROJECT COLLABORATIONS WITH RMF**

- Duke University East Campus Steam Plant
- Wake Tech North Campus Regional Plant
- NC A&T Engineering Research and Innovation Complex
- NC A&T Student Center
- Wake Tech Montague Hall
- NCSU Wolf Village Apartments
- RDU Airport Campus Upgrades
- NC State University Electrical Distribution Upgrades
- NCCU Science Building
- NCSU Wolf Village
- WSSU Covington Hall
- Bank of America Upgrades (multiple projects)



Wake Tech North Campus Regional Plant

### h. Advanced Technology Solutions

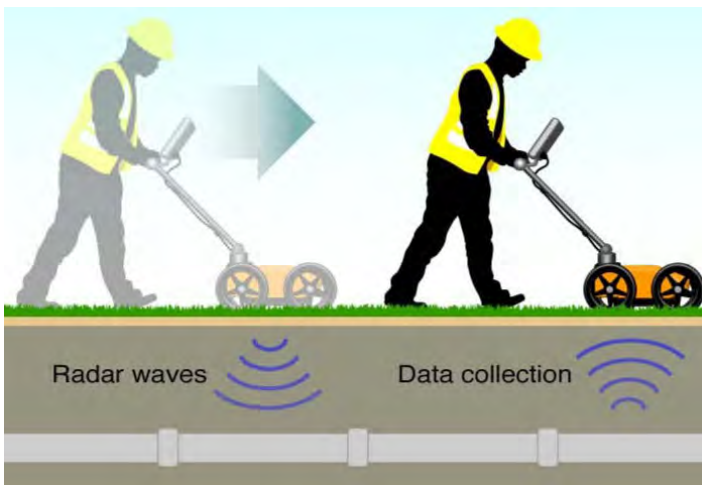
Due to the complex nature of the Chilled Water Infrastructure project, we believe it will be vital to utilize advanced technology to identify and track both existing and new underground utilities; and be able to quickly communicate project updates to all Stakeholders, UNCG Faculty and Student Body.

#### Subsurface Scanning

We understand that every large campus has had additions and upgrades to its infrastructure throughout the decades as the campus has grown and evolved. We also realize that historical documentation of these underground utility systems may be inaccurate or even non-existent due to the age of the systems in place.

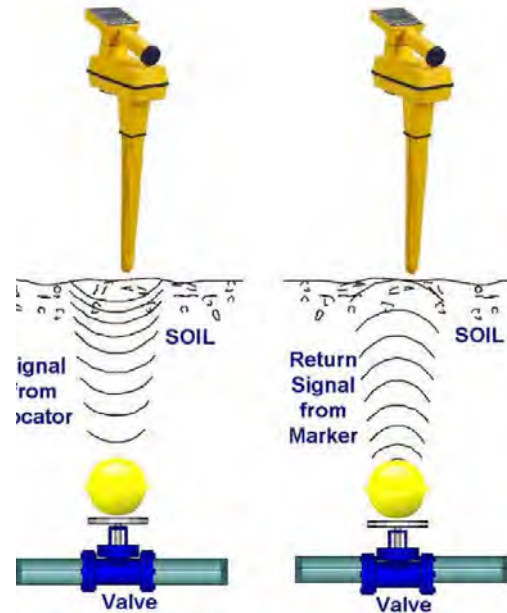
This is where we see value in utilizing Ground Penetrating Radar (GPR) to locate and identify existing utilities before we excavate for any new project. Sending pulses of radar energy into the ground, we are able to detect underground pipe, conduit and concrete, giving our teams a level of confidence and understanding of what lies just below the surface before digging in any area of your campus.

This allows us to mitigate the risk associated with excavating on an active campus where there is potential to negatively affect surrounding buildings and assets.



#### RFID Electronic Marking System (EMS)

To ensure your infrastructure can be easily located and identified for future reference, we recommend installing RFID Electronic Marking Systems (or tracking balls) to each new system installed on campus.



These RFID tracking balls are physically attached to each underground system as it is being installed. Each system has a unique identifier within the tracking balls to provide accurate identification when a scan is performed in the area. We also recommend installing the RFID tracking balls to any existing systems that may be exposed during excavation.

We will provide the scanning equipment and training to ensure a high level of certainty in locating your underground utilities and eliminate risk on your future projects. We will also provide accurate Building Information Models identifying each system and the location of the installed RFID tracking balls upon completion of installation.

#### Building Information Modeling (BIM)

Logistical planning will be critical to properly phase the work for the Chilled Water Infrastructure project on campus. To ensure accurate transparency in communication of the phasing of work, we will create a campus wide logistical plan based on 3D BIM.

This will help to identify areas and assets that may be affected during any period of work and will be used as a clear communication tool in all our campus wide stakeholder meetings.

**i. Safety**

Safety Manager, Marc Junker, along with Superintendent Colby Willis, have outlined a preliminary Safety, Health and Environmental Overview (SH&E) for UNCG’s Campus Chilled Water and Infrastructure and Equipment Improvements project, based on our current understanding of the project.

**SH&E Risk Assessment**

- 1 PROJECT SCOPE REVIEW** | Review the project scope of work, drawings, and specifications for specific impacts to all surrounding structures, underground utilities and services, as well as, unusual conditions when formulating plans to eliminate or mitigate the associated risks. Include a review of the site use history when the information is available.
- 2 PROJECT SITE SURVEY** | Survey the path of new chilled water distribution to identify and document unusual or hazardous conditions such as: overhead and underground utilities, contaminated soils, stored hazardous waste, public buildings and rights-of-way, and environmentally sensitive areas (e.g., wetlands and surface waters).
- 3 SITE LOGISTICS PLAN** | Prior to the start of construction, create a Site Logistics Plan (SLP) that separates and protects jobsite personnel and the public from construction equipment and vehicles. Review the SLP with new-to-site workers as part of the orientation process. Update as necessary throughout the project. The SLP includes, but is not limited to:
  - Primary construction vehicle access, temp storage and laydown areas, detours during excavation, etc.
  - Emergency Action Plan items such as providing access to first responders or campus emergencies.
  - Traffic Control Plans for separation of excavations and workers/public and vehicular
  - Specific signage providing safety and/or detour info where walkways cross work areas.

*Scan here to see an example of a traffic communication plan for a similarly complex infrastructure project*



**Site Specific Safety Plan**

Once a full safety risk assessment has been completed for the project, a site-specific safety plan will be completed that includes, but is not limited to, the following:

- 1 COMMISSIONING, DE-COMMISSIONING & SHUTDOWN CONTROL**
  - Work on energized equipment/pressurized systems (e.g. Electrical, Fluid, Air, Mechanical, etc.) is prohibited unless a plan is submitted to and authorized by a Balfour Beatty Construction executive or SH&E Director.
  - Specific safety documentation is required to be submitted by subcontractors who will engage in hazardous energy control (in addition to other applicable safety documents). Balfour Beatty Construction project teams will review the submitted documents for adequacy and may leverage the SH&E department as needed. Required documentation consists of the following:
    - Complex and specific LO/TO plan procedures shall be developed, documented and utilized for the control of potentially hazardous energy. The procedures shall clearly and specifically outline the scope, purpose, authorization, rules, and techniques to be utilized for the control of hazardous energy.
    - A Method of Procedure will be developed to detail out the work activities.
    - Contingency plans will be developed for all activities in order to manage unusual or unknown conditions.



**WE HAVE SEEN A SIGNIFICANT INCREASE IN ENGAGEMENT WITH SAFETY OBSERVATIONS ON OUR PROJECT SINCE IMPLEMENTING THIS APP.**

## 2 CAMPUS: PUBLIC EXPOSURE / PROTECTION

- Provide temporary perimeter fencing and/or other appropriate measures as necessary for separating and protecting the general public from construction activities.
- Guard or close site access gates when not in use to prevent access by unauthorized persons.
- Create specific traffic control plans that are coordinated with the city. Provide an adequate number of properly trained and equipped flaggers while working near any public spaces such as sidewalks, roadways, etc. to ensure public safety.
- Inspect traffic control areas daily. Inspections include signage, fencing, barriers and barricades, walkways and walking surfaces, overhead protection, etc.



## 3 EXCAVATION CONTROL & UTILITY STRIKE PREVENTION PROGRAM

- The name(s) of the designated “Competent Person” with supporting documentation indicating training and competency type.
- A Balfour Beatty Dig Permit (see Forms and Templates) associated with the task.
- Excavation plans showing “worst case” section and plan view sketches (detailed plan view sketch at cross sections and a general site location) are submitted to, and authorized by a Balfour Beatty Construction Representative prior to starting new excavations over four feet (1’) in depth (or less, dependent upon soil conditions). Anticipated potential impacts on other utilities and/or the general public along with control measures should be included in a JHA, logistics plans

and daily PTPs.

- Use all available means to locate and identify known and unknown underground utilities/services. Use of potholing and vacuum trucks are recommended.
- Protective systems are required for excavations four feet (4’) or more in depth (or less, dependent upon soil conditions) on Balfour Beatty Construction Projects.
- Provide fall protection that prevents or arrests a fall where there is a free-fall exposure of greater than six feet (6’) at excavations.
- Provide effective means to separate and protect others from excavation activities.

## 4 CONFINED SPACE PROGRAM

Since potential hazards related to confined space work may consist of explosions, fire, and/or asphyxiation, it is paramount to safety and health that confined space work is carried out in a safe manner. This standard identifies proven best practices and procedures for confined space work.

- Submit an advance notification and an entry plan to the Balfour Beatty Construction representative for review prior to entry into a confined space. Entry into a permit-required confined space is prohibited without authorization by the Balfour Beatty Construction SH&E Director.
- Including but not limited adequate ventilation/exhausting to prevent worker overexposure for activities that may create a hazardous atmosphere, such as high levels of carbon monoxide from equipment using combustion engines (e.g. welding machines, lifts, heaters, etc.). Use gas monitoring using devices with audible alarms in enclosed areas.



**j. Tree Line**

Should the installation of the new chilled water system impact the established trees on your campus due to its routing, we will work with an arborist. Balfour Beatty will work with an arborist to analyze each tree’s health and growing conditions. UNCG will then receive recommendations on whether to retain the tree, and if so, actions to support the tree immediately, throughout construction, and to help it recover from construction impacts. These treatments will help give UNCG’s trees the best chance of surviving the project and thriving in future landscape.

**Categories of Tolerance**

**Low Tolerance**

Tree will need aggressive root and soil protection. Tree will not tolerate impacts within its critical root zone.

**Medium Tolerance**

Tree will be able to tolerate some impacts within its critical root zone.

**High Tolerance**

Tree will tolerate extensive root impacts and will likely recover with proper support.



***Our team will work with arborists to ensure minimal impact to UNCG’s tree-lined campus.***

***Describe the program (plan) that your company has developed to encourage participation by HUB firms to meet or exceed the goals set by North Carolina General Statute 143-128.2. Attach a copy of that plan to this proposal. Please explain how the firm will address minority participation in the management levels of the company.***

**OUR HUB PLAN**

**OUR COMMITMENT TO DIVERSITY**

Our team’s approach to diversity and inclusion is governed by two guiding principles: (1) adopt an unparalleled commitment to diversity and (2) execute our mission, goals and objectives with full accountability. The end result is HUB participation that consistently exceeds goals and promotes the long-term viability and economic success of HUB firms. We see the value in creating strategic partnerships with smaller HUB firms in our community as a means of mentorship. More importantly, we understand that a diverse and inclusive team makes for a stronger team experience and we want to ensure that the very best team delivers the school project for you.

**DIVERSE PROJECT TEAM AND WORKFORCE**

Diversity is a part of our team’s corporate culture and is reflected in the diverse group of men and women managing this project both in the office and field. While our team will lead our diversity and inclusion program, diversity is a collective effort and all of our team members are responsible for contributing to our program’s success. It is important that everyone at Balfour Beatty understands that training and mentoring the next generation of construction industry leaders and HUB businesses is paramount to our continued success. ***Please see the following page for the rest of our HUB Plan.***

**DIVERSITY + INCLUSION ARE EMBEDDED IN EVERYTHING WE DO**

Our commitment permeates all aspects of our organization. Individually, and collectively, we have excellent track record. We look forward to working with UNCG to establish and fulfill your participation goals.

**GOALS AND OBJECTIVES**

Our team is committed to achieving UNCG’s diverse business participation goals on this project. We fully intend on meeting or exceeding client participation goals. Just as important to our team, is the growth of the HUB firms while entrusted to us on our jobsites. Our team is committed to furthering the development of the leadership team of our HUB partners. We want to ensure that each subcontractor is given all the necessary tools to flourish. We work with our partners and provide the following:

- Goal Setting
- Personalized Support Plans
- Workshops
- Trainings
- Mentorship

**UNDERSTANDING CURRENT MARKET TRENDS**

With over \$1billion in HUB project experience, our team understands what it takes to maximize HUB participation. We recognize the importance of:

- Communicating with our HUB subcontractor partners and getting them engaged early.
- Recognizing opportunities to involve and track strong 1st and 2nd tier HUB subcontractors.
- Being purposeful with bid package creation so that smaller HUB subs are able and encouraged to participate.
- Ensuring that engaged HUB firms are getting the support they need throughout the bid and construction process.

**UNDERSTANDING TODAY’S CHALLENGES**

We are committed to exceeding your HUB participation goal for UNCG by fulfilling the following objectives:

Achieving authentic HUB partnering with a focus on growing the capacity and abilities of our HUB partner;

- Maximizing Tier 2 HUBs;
- Holding Tier 1 trade contractors accountable to ensure they purchase supplies and services from HUB firms;
- Hosting outreach and training sessions to bring awareness, preparation and information on bid opportunities to HUB firms;
- Conducting an open prequalification process and tailoring bid packages to the HUB market;
- Reducing bonding barriers through our Subguard program, and offering quick pay and joint check options; and
- Documenting, monitoring and reporting results on a monthly basis – in other words, accountability.

***Provide documentation of HUB participation that the firm achieved over the past three (3) years on both public and private construction projects.***

In the past three years, we have exceeded Minority and HUB participation goals on numerous projects. The list below features our history exceeding NC SCO participation goals. For this project, we are committed to a 10% participation goal.

PROJECT NAME	GOAL	ACTUAL
Southeast Raleigh YMCA Elementary	20%	<b>30.4%</b>
City of Durham Parking Deck	20%	<b>43%</b>
UNCW Dobo Hall	15%	<b>28.25%</b>
UNC-W Allied Health Building	15%	<b>24.85%</b>
UNCW Student Village	15%	<b>18%</b>
UNCW Parking Deck	15%	<b>19.2%</b>
NC A&T State University Engineering Building	20%	<b>22%</b>
NCCU Student Union	20%	<b>24%</b>
Duke Energy	-	<b>36.03%</b>
Bank of America	-	<b>20.8%</b>
Wells Fargo	-	<b>43%</b>



***Over the past 10 years, we have awarded \$1.08 billion in contracts to minority firms.***

**b) Describe your outreach program to increase project HUB contractors and subcontractors** Upon award, our team will work closely with UNCG to tailor a comprehensive diversity plan specifically designed to achieve the project goal. The following approach is typical to our SCO projects. This unique opportunity will require a more tailored plan in conjunction with the University due to the nature of the work and how it will be subcontracted.

### 1. Outreach

It is important that our team encourages interest within the HUB community regarding the project. We will plan community-focused outreach meetings and information sessions aimed at informing HUB businesses and local citizens of work opportunities. We will be available to address any questions or concerns and encourage goodwill amongst our team and the community.

### 2. Prequalification

Our prequalification process is a great indicator of the strengths and weaknesses of our subcontractors as well as an indicator of their needs. With that information, we are then able to provide the correct support to reduce the barriers of participation.

### 3. Public Bidding

Reducing the barriers of entry is vital to broadening our reach with HUB contractors. Careful consideration goes into bid package breakdown of smaller and more manageable work bundles to encourage participation. We enable and encourage partnerships between first tier firms and lower tier HUB subcontractors.

### 4. Technical Assistance and Compliance

We're committed to complying with UNCG's goals and expectations. We will make the project plans, specifications and all pertinent documents available for review and bidding.

### 5. Mentorship and Training

Strengthening and building capacity within our HUB community is a priority. At the onset of the project we goal set and provide trainings and workshops to address any administrative and/or technical deficiencies identified in the prequalification process. Our HUB partners are then mentored in areas such as estimating, pay applications, safety, or scheduling all in an effort to ensure they leave our projects better equipped than when they started.

### 6. Reporting

We will provide monthly HUB and community engagement reports to UNCG for review. We will monitor performance of our HUB Partners working on the project and offer necessary guidance to aid in each firm's successful completion of the project.

### 7. Virtual Outreach

Being flexible is vital to successfully navigating the changing construction climate. Seeing a need for additional methods of connecting and communicating with HUB firms, we have created a virtual meeting platform that allows for project information to be shared, questions to be answered, and relationships to be made.

***"Balfour Beatty has done a tremendous job at achieving the highest minority participation ever on a UNCW Construction Manger at Risk project. We look forward to future opportunities to partner with Balfour Beatty Construction."***

- Cheryl Sutton, (Former) University Program Specialist  
UNC Wilmington



# BALFOUR BEATTY'S VERIFICATION FORM

## VERIFICATION

I HEREBY CERTIFY THAT THE RESPONSES OF BALFOUR BEATTY CONSTRUCTION, LLC ARE CORRECT AND TRUTHFUL TO THE BEST OF MY KNOWLEDGE AND FOR THOSE RESPONSES GIVEN WHICH ARE BASED ON INFORMATION AND BELIEF, THOSE RESPONSES ARE TRUE AND CORRECT BASED ON MY PRESENT BELIEF AND INFORMATION.

This the 16th day of May 2022



By: [Signature] Anton T. Stoneking  
Sr. Vice-President

Attested: [Signature]  
Secretary

STATE OF NORTH CAROLINA  
COUNTY OF Wake

I, Kimberly M. Woods, a Notary Public in and for the County and State aforesaid, hereby certify that Anton Stoneking personally came before me this day and acknowledged that he/she is secretary of Balfour Beatty and that by authority duly given and as the act of the corporation, the foregoing instrument was signed in its name by its president, sealed with its corporate seal, and attested by him/herself as is secretary.

Witness my hand and official seal, this the 16th day of May, 2022.



[Signature]  
Official Signature of Notary

Kimberly M. Woods, Notary Public  
Notary's Printed or Typed Name

July 31, 2025  
My Commission Expires:



# BALFOUR BEATTY'S NORTH CAROLINA LICENSE

License Year

2022

License No.

22725

## North Carolina

### Licensing Board for General Contractors

This is to Certify That:

Balfour Beatty Construction, LLC  
Goldsboro, NC

is duly registered and entitled to practice

## General Contracting

Limitation: Unlimited

Classification: Building

until

December 31, 2022

when this Certificate expires.

Witness our hands and seal of the Board.

Dated, Raleigh, N.C.

January 01, 2022

This certificate may not be altered.



*J. E. Rimmer*  
Chairman

*C. Hank Wimer*  
Secretary-Treasurer



**Balfour Beatty**

**Balfour Beatty**  
406 S. McDowell Street Suite 200  
Raleigh, NC 27601