



Finance and Administration Committee
April 1, 2025

Information Item

FAC – 5 Selection of Designer – ITS Data Center Planning Assessment

Background Information

At the December 6, 2013, meeting of the Board of Trustees, the Board authorized the Chancellor, ex-officio, to appoint architects and engineers for projects whose authorized funding is \$2,000,000 or less and authorized the Chancellor to report all such appointments to the Board at its next meeting.

This project will evaluate and assess aging University Data Centers within three campus buildings and select main data closets within two other buildings. The goal is to obtain recommendations regarding the potential reuse and renovation of current physical facilities and analysis of on-site versus off-site cloud data storage options. The proposed planning assessment will be based on empirical evidence, surveys, data gathering, and thorough design analysis to inform the University of the highest and best use of existing space and data storage strategy.

Project Authorization: \$300,000

The following firms were invited to submit their letter of interest and qualifications. The Designer Selection Committee reviewed the letters of interest and invited three firms to interview on February 12, 2025, to present their qualifications and recommend the following in ranking order.

- Fitzmeyer & Tocci Associates, Inc.
- Deloitte Consulting, LLP
- HDR Architecture, Inc.

The firm of Fitzmeyer & Tocci Associates, Inc. is an engineering and construction management firm and is recommended as the Designer for the following reasons:

1. The Fitzmeyer & Tocci Associates, Inc. team and Information Technology consultant Leading Edge Design Group demonstrated the experience and expertise most closely aligned with the University's goals to successfully undertake the UNCG ITS Data Centers planning assessment.
2. The team presented the most comprehensive approach to the project, which included methodologies for reviewing existing data, requesting owner information, conducting

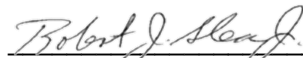
benchmarking evaluations, and performing on-site surveys of the current conditions to recommend appropriate options for implementation.

3. The designers demonstrated the greatest experience with higher-education research computing needs and the most thorough understanding of the requirements and challenges associated with on-site data storage, co-location, and cloud storage capabilities integral to the success of the ITS Data Center Planning Assessment.

Based on the above information, the Chancellor approved the selected firm on February 24, 2025, as indicated in the attached memorandum.

Attachments:

- Signed memorandum from Robert J. Shea, Jr. to Chancellor Franklin D. Gilliam, Jr. regarding the ITS Data Center Planning Assessment.
- Fitzmeyer & Tocci Associates, Inc. Letter of Interest.



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



UNC GREENSBORO

Finance and Administration
254 Mossman Building
P.O. Box 26170
Greensboro, NC 27402-6170
Phone: 336.334.4053

MEMORANDUM

TO: Chancellor Franklin D. Gilliam, Jr.

FROM: Robert J. Shea, Jr. *SK/TCJ 2/12/25*

DATE: February 17, 2025

RE: Designer Selection - ITS Data Center Planning Assessment

At the December 6, 2013 meeting of the Board of Trustees, the Board authorized the Chancellor, ex-officio, to appoint architects and engineers for projects with authorized budgets of \$2,000,000 or less, and authorized the Chancellor to report all such appointments to the Board at its next meeting.

The total project authorization of \$300,000 for the ITS Data Center Planning Assessment project is within the \$2,000,000 threshold. A solicitation for professional services was posted on the UNC System webpage. Seven firms submitted Letters of Interest for the above referenced project, zero of which are from Guilford County. The Designer Selection Committee interviewed three designers on February 12, 2025, and recommends the following ranking order:

1. Fitzmeyer & Tocci Associates, Inc.
Woburn, Massachusetts
2. Deloitte Consulting, LLP
Charlotte, North Carolina
3. HDR Architecture, Inc.
Raleigh, North Carolina

The Designer Selection Committee recommends Fitzmeyer & Tocci Associates, Inc. as the designer for this project for the following reasons:

1. The team of Fitzmeyer & Tocci Associates, Inc. and Information Technology consultant, Leading Edge Design Group demonstrated the experience and expertise most closely aligned with the University's goals to successfully undertake the planning assessment for the UNCG ITS Data Centers.

2. The team presented the most comprehensive approach to the project, which included methodologies for reviewing existing data, requesting owner information, conducting benchmarking evaluations, and performing on-site surveys of the current conditions in order to recommend appropriate options for implementation.

3. The designers demonstrated the greatest experience with higher-education research computing needs and the most thorough understanding of the requirements and challenges associated with on-site data storage, co-location, and cloud storage capabilities integral to the success of the ITS Data Center Planning Assessment.

If agreeable terms cannot be reached with the recommended designer, the Chancellor authorizes the Facilities Department to negotiate terms with the other firms in ranking order.

A formal reporting of our procedures and your selection will be made at the next meeting of the Board of Trustees. Please acknowledge your approval of the firm of Fitzmeyer & Tocci Associates, Inc of Woburn, Massachusetts by your signature below.

Approved: _____


Chancellor

Date: _____

2/24/25



Qualifications for:

UNC Greensboro
ITS Data Center Planning Assessment

Due: January 16, 2025



Submitted By:

Scott E. LeClair, PE, LEED AP
Principal | President

Fitzmeyer & Tocci Associates, Inc.
300 Unicorn Park Drive | 5th floor
Woburn, MA 01801

(C) 603.321.6603 | sleclair@f-t.com | www.f-t.com

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January 16, 2025

Jeff Manter

ITS Data Center Planning Assessment

SUBJ: FA875124R0011

**Address: UNC Greensboro Facilities Design & Construction, Gray Home Management House, 105 Gray Drive,
Greensboro, NC 27412**

Email: jamanter@uncg.edu

Dear Mr. Manter,

Fitzmeyer & Tocci Associates, and Leading Edge Design Group are pleased to submit our proposal for the University of North Carolina at Greensboro's (UNCG) ITS Data Center Planning Assessment. Our team brings a comprehensive blend of expertise, local knowledge, and a commitment to delivering innovative solutions that will support UNCG's goal of optimizing its aging data centers and data storage strategy.

F&T, a registered firm in North Carolina, has successfully completed several projects across the state, demonstrating our familiarity with the region's building codes, regulatory requirements, and unique market conditions. Our team's extensive experience in data center assessment, planning and design, combined with our in-depth understanding of North Carolina's infrastructure, ensures we can provide tailored, actionable recommendations for the reuse, renovation, and modernization of UNCG's data centers.

A key member of our team is Leading Edge Design Group (LEDG), a HUB-certified firm (HUB-4016525) and Certified Minority Business Enterprise (MBE). LEDG brings valuable experience in planning and designing mission-critical environments for leading research institutions, including peers of UNCG. Their work with the Impact Data "Dream Center" in North Carolina highlights their understanding of the local landscape and their ability to deliver innovative data solutions in collaboration with local stakeholders.

Our approach to this project will involve thorough data gathering, surveys, and empirical analysis to deliver an objective assessment of UNCG's current data center infrastructure. We will evaluate the potential for renovation and modernization of existing facilities while also providing an in-depth analysis of on-site versus off-site cloud data storage options. Our goal is to provide UNCG with a comprehensive, evidence-based roadmap to achieve the highest and best use of its existing spaces and to develop a resilient, future-ready data storage strategy.

We are enthusiastic about the opportunity to partner with UNCG on this important initiative. Our team is committed to leveraging our expertise to support the University's goals of operational efficiency, security, and sustainability in its data management infrastructure.

Thank you for your consideration. We look forward to the opportunity to further discuss how our team can contribute to the success of this project.

Sincerely,

Scott LeClair, PE, LEED AP

President of Fitzmeyer & Tocci Associates, Inc.

Phone: 603.321.6603

Email: sleclair@f-t.com

Section 1

Information Sheet and Company Overview



Information Sheet

Firm Name

HUB Certified If HUB, Specify Type Female American Indian Hispanic Socially & Economically Disadvantaged
 Disabled Asian-American Black

Point of Contact E-mail Address

Street Address

City State Zip Code County

Phone # Fax #

Type of Firm (e.g. Architectural, Civil Engineering, Surveying, Etc)

Consulting Firms

Architectural:	<input type="text"/>	<input type="checkbox"/> Check If HUB	Mechanical:	<input type="text"/>	<input type="checkbox"/> Check If HUB
Electrical:	<input type="text"/>	<input type="checkbox"/> Check If HUB	Plumbing:	<input type="text"/>	<input type="checkbox"/> Check If HUB
Structural:	<input type="text"/>	<input type="checkbox"/> Check If HUB	Civil:	<input type="text"/>	<input type="checkbox"/> Check If HUB
Landscape:	<input type="text"/>	<input type="checkbox"/> Check If HUB	Interior Design:	<input type="text"/>	<input type="checkbox"/> Check If HUB
Other (specify type):	<input type="text"/>				<input type="checkbox"/> Check If HUB
Other (specify type):	<input type="text"/>				<input type="checkbox"/> Check If HUB

WHO WE ARE

Fitzmeyer & Tocci (F&T) is a leading engineering and construction management firm that specializes in designing and building complex facilities for healthcare, academic, research, and science and technology institutions. Several of the biggest names in healthcare and health sciences rely on our services. F&T is the 'Owner's Engineer', providing innovative, practical engineering and construction leadership since 1961. Clients hire us because we're exceptional at what we do – engineer facilities that promote wellness and keep occupants safe. While the technical and regulatory requirements in these environments are steep, we've developed processes that make us fast and efficient. We help our clients understand how their facilities stack up against others in the industry, our proprietary benchmarking tool provides critical insights during critical decision making stages of a project. At F&T, our priorities are the same as yours: keep patients, staff and students safe.



SERVICES

- Mechanical Engineering
- Electrical Engineering
- Plumbing Engineering
- Fire Protection Engineering
- Life Safety Consulting
- Commissioning/Retro-commissioning
- Construction Management
- Building Information Modeling (BIM)
- Design / Build Integrated Project Delivery
- Energy Conservation Consulting
- Infrastructure Master Planning
- Infrastructure Assessments
- LEED Consulting
- Sustainability Design
- Information Technology & Communications Consulting
- Owner's Engineer and Project Support Services

MARKETS

- Healthcare
- Academic Institutions
- Medical Schools
- Research Laboratories
- Pharmaceutical
- Manufacturing

ASSOCIATIONS

- AABC Commissioning Group (ACG)
- American Society of Healthcare Engineers (ASHE)
- American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)
- Association of Energy Engineers (AEE)
- Georgia Chapter of APPA (GAPPA)
- New England Healthcare Engineers Society (NEHES)

CONTACT

(P) 781-481-0210 | (E) info@f-t.com
(W) www.f-t.com

ESTABLISHED

1961 | Massachusetts | Corporation

LOCATIONS

Headquarters:
300 Unicorn Park Drive
5th Floor
Woburn, MA 01801

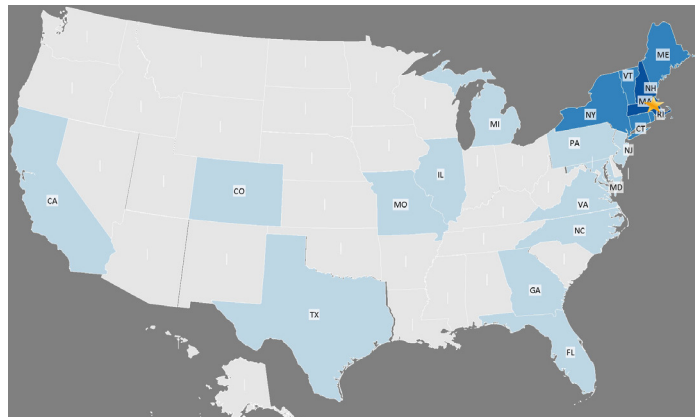
Southeast:
12460 Crabapple Rd
Suite 202-435
Alpharetta, GA 30004-6602

AWARDS



OUR TEAM

We provide leadership in engineering consulting through our Principal-led, multi-disciplinary project teams. Our team members are creative and flexible (we deal with projects that change continually). We value technical expertise, strong communication skills, teamwork, and involvement in industry organizations. The F&T team consists of Professional Engineers licensed throughout the nation.



Firm Profile - Leading Edge Design Group (LEDG)

LEDG empowers organizations investing in digital infrastructure through end-to-end expertise in data centers, smart buildings, and mission-critical facilities. Whether you're a developer, investor, institution, or commercial enterprise, we deliver tailored guidance to optimize your investments from site assessment and owner's representation to design-build execution and operational readiness. Committed to innovation and excellence, LEDG helps clients meet the demands of a connected, data-driven world.

LEDG is the leading subject-matter expert in planning and design for data centers in the higher-education space. Our work with research-based institutions is vast, including data center and high-performance computing work with organizations like **Harvard University, Emory University, University of Pennsylvania, Dartmouth College, University of Mississippi, Massachusetts Institute of Technology, University of Delaware, University of New Hampshire, Lehigh University, Yale University, and many more.**

Leading Edge Design Group – Areas of Expertise and Unique Qualifications

LEDG specializes in planning and design for complex data center projects in higher education and has worked extensively with University of North Carolina (UNC) peer research-based institutions to modernize their existing data centers. Our assessments, strategic plans, designs, and implementations have helped higher education institutions transform their data centers from legacy, low density environments into the dynamic, high-density facilities required by today's high performance and research computing environments. We are pleased to offer the following unique areas of expertise relevant to the services required by UNC for the data center design project:

- **Experts in Higher Education Data Centers** – Our team understands the unique challenges that higher education data centers at research-based institutions are faced with today. We have worked closely with UNC's peers to develop creative strategies that enabled their existing data centers to transform to support the demands of research, high-performance computing, artificial intelligence (AI) environments. This includes developing designs to support Generative AI workloads with liquid-cooled and direct-to-chip design methodologies.
- **Liquid Cooling Expertise & History** – As specialists in the data center industry, LEDG has been following the development of liquid cooling options like Direct-to-Chip and Rear-Door Heat Exchangers since their inception. We closely follow their progress, use cases, design requirements, and economic value propositions at different density levels. LEDG understands the market of cooling solutions available for AI and HPC applications like NVIDIA's Grace Hopper superchips and has worked with higher education customers to evaluate and select the right technologies for their high-performance computing applications. Our team will bring this history and perspective to help UNC make informed decisions on their strategy for supporting

both traditional IT workloads and high-performance computing environments.

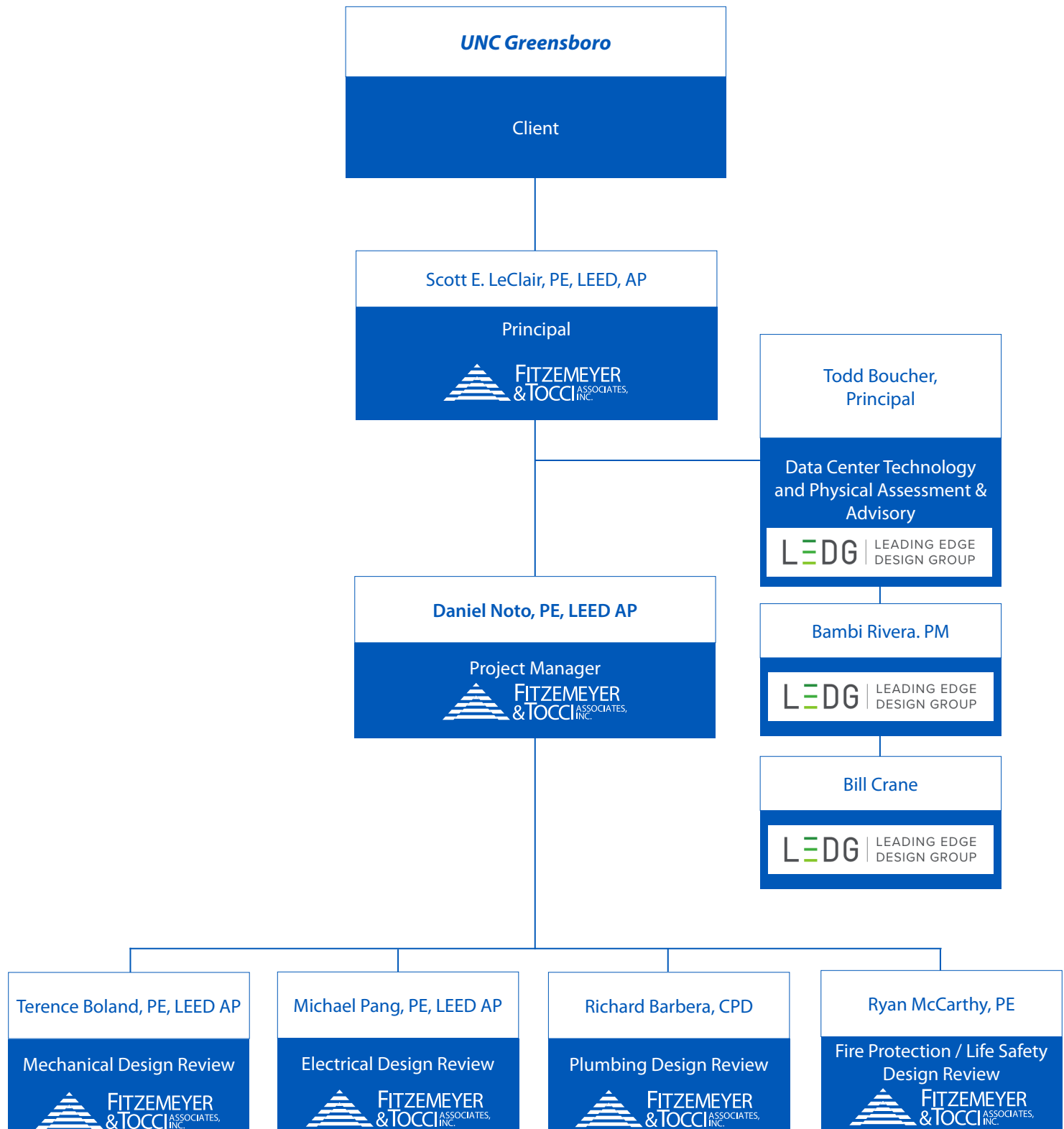
- ***We Speak ‘Computing’*** – Designing a data center facility modernization that supports today’s research computing needs is unlike any other project. A successful program and design strategy requires translating highly technical computing specifications from data center stakeholders into physical infrastructure requirements. LEDG speaks the language of ‘computing,’ enabling us to lead programming efforts with Information Technology and research computing stakeholders on topics like CPU vs. GPU processing, Generative AI, hyperconverged infrastructure, and spine and leaf topologies. Our team can skillfully translate processor and technology selections into facility and environmental requirements for design.
- ***Successful Active Data Center Renovations*** - LEDG has extensive experience in planning, designing, and executing upgrades to active data center environments in the higher education market. This experience gives us proven methodologies for mitigating risk, developing phasing and method of procedure (MOP) strategies, protecting and ensuring uptime to active equipment, working with diverse campus stakeholder groups, and planning migration and cutover activities.
- ***Commitment to Data Centers*** – LEDG is unique in our commitment to and love for data centers. We are not an architectural or engineering firm whose core business is to design buildings. By choice, LEDG’s primary focus and service set are planning and design of data center and mission critical environments. In choosing to work with LEDG, the University of North Dakota can be certain that our best and most experienced data center resources will be leading and managing your project and that those resources have deep experience working in higher education and high-performance computing environments.
- ***Resource Availability & Project Continuity*** – Our proposed project team are available to begin work with UNC immediately and hope for the opportunity to collaborate on this exciting project.

Global Expertise, Local Support

LEDG is proud of our global experience planning, designing, and implementing mission critical environments for the world’s most innovative research-based institutions. We believe strongly that our experience with UNC’s peers will elevate the outcome of this data center initiative. We also recognize the important role the local market and culture plays in a project’s success, and that knowledge and experience working with local customers, contractors, and regulating bodies is a critical element in a project ecosystem. Moreover, we have been working in North Carolina as advisors to the Impact Data “Dream Center”. As a Certified Minority Business Enterprise (MBE), LEDG is proud to be part of the development of this important project.

Section 2

Project Team and Organizational Chart





SCOTT LECLAIR, PE, LEED AP®

Principal

As Principal, Scott serves as the overall supervisor of the project management teams, being actively involved in the design and management of all projects within the firm, with particular experience working with healthcare clients. In his role as Principal, Scott directs, leads and ensures the incorporation of all client requirements, reviews all project deliverables and coordinates and monitors all design and construction activities. He has devoted his energy to leading multi-disciplined engineering groups within the firm. His primary goal is to consistently meet all client expectations by delivering successful and innovative solutions.

RELEVANT EXPERIENCE

Emory University | Data Center Master Plan | Atlanta, GA

Developed a long-term strategic plan for data center infrastructure, spaces, and services designed to best support the availability, growth, and service level agreement requirements. This includes: a main data center, a backup data center, and a research computing data center.

Lehigh University | EWFM Data Center Liquid Cooling | Bethlehem, PA

F&T provided engineering for the design and construction administration associated with the renovation and upgrade of approximately 3,600 SF of an existing data center facility for the EWFM Data Center for Lehigh University, in Bethlehem, PA.

Suffolk University | Data Center Assessment | Boston, MA

Engineering services for the development of a conceptual design and feasibility narrative to enhance the existing data centers cooling capability at Suffolk.

St. Joseph Hospital | Data Infrastructure Master Plan | Nashua, NH

MEP engineering services to develop a long-term strategic plan for data center infrastructure, spaces, and services designed to best support the availability, growth, and service level agreement requirements of the St. Joseph's Hospital system.

Tech Vault | Data Center Study | South Burlington, Vermont

Mechanical engineering design for the development of a conceptual design to expand the existing data center space and infrastructure at the Tech Vault Company.

Velco | Data Center | Rutland, VT

Mechanical, plumbing and electrical engineering design for the renovation of existing space for the construction of a new data center.

Lahey Health | Data Center Master Plan | Burlington, MA

F&T provided MEP/FP engineering services to evaluate existing conditions and create a master plan for upgrade and expansion of Lahey Health's main data center in Burlington, MA.

Southern Nevada Water Authority | Data Centers | Las Vegas, NV

F&T provided plumbing, fire protection and electrical engineering services to review, assess the conditions of the existing systems infrastructure, including HVAC system, of three separate functional data centers located at the Alfred Merritt Smith Water Treatment Facility in Boulder City, NV.

EDUCATION

University of Maine, Orono, ME
BS & MS, Mechanical Engineering

REGISTRATIONS

Registered Professional Engineer:
CA, CO, CT, MA, ME, NC, NH, NY, OH,
RI, TN, VA, VT

PROFESSIONAL AFFILIATIONS

American Society of Heating,
Refrigeration and Air Conditioning
Engineers

American Society of Military
Engineers

National Society of Professional
Engineers

New England Healthcare Engineers'
Society

New England Society for
Healthcare Strategy

New Hampshire Society for
Healthcare Engineers

Northern New England Chapter
Eastern Region of APPA

PROFESSIONAL CERTIFICATIONS

LEED Accredited Professional®



DANIEL NOTO, PE, LEED AP

Southeast Project Manager

Daniel Noto, PE, LEED AP, brings over 22 years of expertise in the MEP Engineering industry to his role as Southeast Market Leader. In this capacity, he serves as the lead supervisor for projects and as the primary point of contact for clients in the Southeast region. Daniel is a LEED Accredited Professional, emphasizing his commitment to delivering innovative and efficient mechanical design and construction solutions. His extensive experience spans various sectors, including healthcare, science & technology, and academic facilities. Notably, he has played a key role in the design of significant projects, including multiple endeavors at Northside Hospital and the renowned Children’s Hospital of Atlanta. As Southeast Market Leader, Daniel continues to shape the landscape of engineering excellence within the region.

EDUCATION

Georgia Institute of Technology
Atlanta, GA
BS, Mechanical Engineering
(Minor in Economics)

EXPERIENCE

22 years total
1 year with F&T

REGISTRATIONS

Registered Professional Engineer
(Mechanical): GA, AL, TX, CA, AZ

PROFESSIONAL AFFILIATIONS

LEED Accredited Professional

* With Previous Firm

RELEVANT EXPERIENCE

*Emory University | Clairmont Campus-Building A,C, E | Atlanta, GA

Provided MEP/FP engineering services for the design and construction administration for the renovation of Building A, C and E at the Emory Clairmont Undergraduate Residential Center in Atlanta, Georgia.

Southern Nevada Water Authority | Data Centers | Las Vegas, NV

F&T provided plumbing, fire protection and electrical engineering services to review, assess the conditions of the existing systems infrastructure, including HVAC system, of three separate functional data centers located at the Alfred Merritt Smith Water Treatment Facility in Boulder City, NV.

East Point Office Building | Facility Assessment / Energy Audit | East Point, GA

Provided engineering services to review and assess the existing conditions of the HVAC, Plumbing, Fire Protection, and Electrical systems infrastructure for a 30,000 SF office building located in East Point, Georgia.

Exeter Hospital | Data Center Planning Study | Exeter, NH

Engineering services for the development of a conceptual design and feasibility narrative to enhance the existing data centers cooling capability at Suffolk.

Safelite | Lakeland Renovation | Lakeland, FL

Provided MEP/FP engineering services for the design and construction of the renovation of a 2,700 SF existing space and addition of 500 SF for new bathrooms and breakroom at Safelife, Lakeland, Florida.

Delta Air Lines | In-Flight Services Lounge | Atlanta, GA

MEP/PF engineering services for the design and construction administration for the renovation of 26,000 SF for a Delta In-Flight Services Lounge located at Atlanta Hartsfield-Jackson Airport.

*Children’s Healthcare of Atlanta, Town Center | Imaging Addition | Kennesaw, GA

A 9,000 square foot addition to an existing outpatient facility, including MRI, CT Scan, Radiology, and R/F rooms and a new RTU to support the HVAC for the expansion.



TERENCE R. BOLAND, PE

Mechanical Engineering Manager

As Mechanical Engineering Manager, Terry serves as head of the mechanical discipline within the technical team. He has engineered and designed a broad spectrum of projects. Terry has complete responsibility for the mechanical systems of a project from schematic design through construction administration. With a strong understanding of a client's needs, Terry's main objective as Mechanical Engineering Manager is to consistently incorporate innovative resources into every design that exceed the client's expectations.

RELEVANT EXPERIENCE

Lehigh University | EWFM Data Center Liquid Cooling | Bethlehem, PA

F&T provided engineering for the design and construction administration associated with the renovation and upgrade of approximately 3,600 SF of an existing data center facility for the EWFM Data Center for Lehigh University, in Bethlehem, PA.

Emory University | Data Center Master Plan | Atlanta, GA

Develop a long-term strategic plan for data center infrastructure, spaces, and services designed to best support the availability, growth, and service level agreement requirements. This includes: a main data center, a backup data center, and a research computing data center.

Tech Vault | Data Center Study | South Burlington, Vermont

Mechanical engineering design for the development of a conceptual design to expand the existing data center space and infrastructure at the Tech Vault Company.

Velco | Data Center | Rutland, VT

Mechanical, plumbing and electrical engineering design for the renovation of existing space for the construction of a new data center.

Dartmouth-Hitchcock Medical Center | Off site Data Center | Lebanon, NH

HVAC, plumbing, fire protection, and electrical engineering services for the renovation of a 13,500 sf building into a back-up data center.

Lahey Health | Data Center Master Plan | Burlington, MA

F&T provided MEP/FP engineering services to evaluate existing conditions and create a master plan for upgrade and expansion of Lahey Health's main data center in Burlington, MA.

Southern Nevada Water Authority | Communication Rooms - SD Report | Las Vegas, NV

F&T provided plumbing, fire protection and electrical engineering services to review, assess the conditions of the existing systems infrastructure, including HVAC system, of three separate functional data centers located at the Alfred Merritt Smith Water Treatment Facility in Boulder City, NV.

Exeter Hospital | Data Center Planning Study | Exeter, NH

Engineering services for the development of a conceptual design and feasibility narrative to enhance the existing data centers cooling capability at Suffolk.

EDUCATION

Syracuse University, Syracuse, NY
BS, Mechanical Engineering

REGISTRATIONS

Registered Professional Engineer:
CT, MA, ME, NC, ND, NH, NY, PA, RI,
VT

PROFESSIONAL AFFILIATIONS

American Society of Heating,
Refrigerating and Air-Conditioning
Engineers

National Society of Professional
Engineers

Massachusetts Society of
Professional Engineers



MICHAEL PANG, PE, LEED AP BD+C

Electrical Engineering Manager

Michael Pang is an electrical engineer with over 20 years of building systems design experience. Mike leads teams through all aspects of integrated electrical solutions from concept and detailed design to construction documents, specifications, and safety standards. Michael has extensive experience with both new build and renovation projects. He is noted for expertise in seamlessly integrating complex design of electrical, fire alarm and other MEP systems while maintaining the integrity and elegance of the architect's design.

RELEVANT EXPERIENCE

Lehigh University | EWFM Data Center Liquid Cooling | Bethlehem, PA

F&T provided engineering for the design and construction administration associated with the renovation and upgrade of approximately 3,600 SF of an existing data center facility for the EWFM Data Center for Lehigh University, in Bethlehem, PA.

BAE Systems | Merrimack Building 15 – Area 8 | Merrimack, NH

Providing full mechanical, electrical, plumbing and fire protection services for the 30,000 SF renovation of an existing building at BAE Systems' Merrimack, NH campus.

MetaMagnetics | Laboratory and Office Expansion | Marlborough, MA

Provided full MEP/FP/FA engineering services for this fast-track project for MetaMagnetics new office and laboratory location in Marlborough.

Rochester Electronics | 16MH - Office Renovation | Newburyport, MA

Mechanical, electrical and fire protection engineering for the renovation of approximately 1,500 SF at the 16 Malcolm Hoyt in Newburyport, MA.

Framingham State University | McAuliffe Center | Framingham, MA

MEP/FP engineering services for a major redesign project at the Christa McAuliffe Center on the Framingham State University Campus in Framingham, MA.

Roxbury Community College | MEP House Doctor Contract | Roxbury, MA

MEP/FP engineering services for certifiable studies, schematic plans, final design documents, and construction administration services for a variety of renovations, improvements, and modernization of facilities operating systems and infrastructure.

Dartmouth College, Geisel School of Medicine | Remsen 4 Lab | Hanover, NH

MEP/FP engineering services for the renovation of a research laboratory located in the Remsen building at Geisel School of Medicine.

Village at Technology Hill | Londonderry, NH

MEP/FP engineering services for a new campus development for Envision Technologies in Londonderry, NH, including a main manufacturing facility, consisting of 150,000 sf of research/development and manufacturing space with expansion potential.

Lonza Biologics Group | Office & Cafe Expansion | Portsmouth, NH

Providing full mechanical, electrical, plumbing, fire protection/alarm engineering services for an exciting addition to Lonza Biologics main building in Portsmouth, NH.

EDUCATION

Bachelor of Engineering,
University of Salford (1997);

Business & Technology
Education Council, Electric &
Electrical Engineer, Oldham
College of Technology, Oldham,
UK (1990)

EXPERIENCE

22 years total
2 years with F&T

REGISTRATIONS

Registered Professional Engineer
(Electrical):
CT, MA, ME, PA, RI, VT

PROFESSIONAL AFFILIATIONS

Member (MIET), The Institution
of Engineering Technology

PROFESSIONAL CERTIFICATIONS

LEED Accredited Professional (AP)
Chartered Engineer (CEng)



RICHARD D. BARBERA, CPD **Plumbing Engineering Manager**

In his role as Plumbing Engineering Manager, Rich serves as head of the plumbing discipline within the technical team. With a diverse project-based background that includes chief plumbing engineer, he has served as a team leader, mentoring and training junior level staff. Rich monitors all aspects of a project's progress, ensuring timely and cost effective completion while also developing the plumbing engineering standards within the team. As Plumbing Engineering Manager, Rich's goal is to exceed all client expectations by delivering integrated solutions to every engineering effort.

RELEVANT EXPERIENCE

Lehigh University | EWFM Data Center Liquid Cooling | Bethlehem, PA
F&T provided engineering for the design and construction administration associated with the renovation and upgrade of approximately 3,600 SF of an existing data center facility for the EWFM Data Center for Lehigh University, in Bethlehem, PA.

Exeter Hospital | Data Center Planning Study | Exeter, NH
Engineering services for the development of a conceptual design and feasibility narrative to enhance the existing data centers cooling capability at Suffolk.

Worcester Polytechnic Institute | Robotics Laboratory | Worcester, MA
MEP/FP engineering for the existing Robotics Lab, which had outgrown the space available for use on the 2nd floor of the building.

Roxbury Community College | MEP House Doctor Contract | Roxbury, MA
MEP/FP engineering services for certifiable studies, schematic plans, final design documents, and construction administration services for a variety of renovations, improvements, and modernization of facilities operating systems and infrastructure.

Johnson & Wales University | Harborside Academic Building Master Plan | Providence, RI
Provided engineering services to prepare and deliver an infrastructure master planning study for the Harborside Academic (HAC) Building at Johnson & Wales University in Providence, RI.

BAE Systems | Manchester Expansion | Manchester, NH
Providing full MEP/FP engineering services for the renovation of laboratory, research, office, conference/presentation and support spaces for the multinational defense, security, and aerospace company.

Lonza | Entrance & Office Renovation | Portsmouth, NH
Providing MEP/FP engineering for the renovation of the entrance and offices for Lonza Biologics at 101 International Drive in Portsmouth, NH.

Quanterix | Laboratory and Office Fit-Out | Billerica, MA
Providing full MEP/FP design for the renovation of approximately 75,000 SF of laboratory, clean room, testing, manufacturing, office and support space.

EDUCATION

Northeastern University
B.S., Mechanical Engineering

Franklin Institute of Boston
Certificate in Plumbing and Related
Sanitary Systems Design

EXPERIENCE

37 years total
6 years with F&T

REGISTRATIONS

Certified Plumbing Designer (CPD)
#1-12321

American Society of Plumbing
Engineers (ASPE)

PROFESSIONAL CERTIFICATIONS

ASPE - Boston, Certification in
Medical Gas System Design

Franklin Institute of Boston
Certificate in Plumbing and Related
Sanitary Systems Design



RYAN MCCARTHY, PE

Fire Protection Technical Specialist

As a Fire Protection Technical Specialist Ryan coordinates specialty fire protection and life safety engineering services including building and life safety code consulting, property condition assessments, NFPA 241 plans, fire and smoke modeling, egress and assembly plans, performance-based design, engineering equivalencies, and Authorities Having Jurisdiction (AHJ) negotiation. Ryan also coordinates all aspects of fire protection and life safety in even the most challenging buildings. Ryan has extensive expertise in the design and commissioning of traditional fire protection systems (fire alarm, sprinkler, standpipe), special hazard systems, fire pumps, and smoke control systems.

RELEVANT EXPERIENCE

Wentworth Institute of Technology | Dobbs Hall Ventilation Project | Boston, MA
Providing engineering manpower and engineering services for ventilation improvements and offer cooling to the 2nd, 3rd, and 4th floors of Dobbs Hall at the Wentworth Institute of Technology campus in Boston, MA.

Framingham State University | McAuliffe Center | Framingham, MA
MEP/FP engineering services for a major redesign project at the Christa McAuliffe Center on the Framingham State University Campus in Framingham, MA.

BAE Systems | Merrimack Building 15 – Area 8 | Merrimack, NH
Providing full mechanical, electrical, plumbing and fire protection services for the 30,000 SF renovation of an existing building at BAE Systems' Merrimack, NH campus.

Lonza | Entrance & Office Renovation | Portsmouth, NH
Providing MEP/FP engineering services for the renovation of the entrance and offices for Lonza Biologics at 101 International Drive in Portsmouth, NH.

Village at Technology Hill | Londonderry, NH
MEP/FP engineering services for a new campus development for Envision Technologies in Londonderry, NH, including a main manufacturing facility, consisting of 150K SF of research/development and manufacturing space with expansion potential.

UMass Memorial Health Care | Women's Health - Ambulatory Renovations | Worcester, MA
Currently providing MEP/FP engineering services for renovations to the North Building-1st Floor and Levine Building-2nd Floor, totaling approximately 12,000 sf.

Bluehawk Investments | ASC/MOB Fitout and Annex Building | Waltham, MA
F&T provided MEP/FP peer review and design services for a new design-build Ambulatory Surgery Center/Medical Office Building.

Safelite | Lakeland Renovation | Lakeland, FL
Provided MEP/FP engineering services for the design and construction of the renovation of a 2,700 SF existing space and addition of 500 SF for new bathrooms and breakroom at Safelite, Lakeland, Florida.

EDUCATION

Clarkson University
Potsdam, NY
BS, Mechanical Engineering

EXPERIENCE

15 years total
2 years with F&T

REGISTRATIONS

Registered Professional Engineer
(Mechanical):
CT, MA, ME, NH, RI, VT

Todd Boucher, Principal of Leading Edge Design Group, serves as a trusted consultant and advisor to LEDG's academic clients. Renowned for his expertise in higher education research computing and the evolving demands of AI compute, Todd also specializes in campus power infrastructure critical to supporting the rapidly growing technology needs of academic institutions. He collaborates with leadership teams to design advanced data center solutions and provides strategic consulting for organizations like Impact Data in North Carolina. He has worked with LEDG customers such as Dartmouth College, UNH, Lehigh University, University of Delaware, University of Mississippi, Emory University, and many others. Mr. Boucher is a Registered Communications Distribution Designer (RCDD) and certified by the United States Department of Energy

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DESIGN GROUP



TODD BOUCHER
Principal

EDUCATION

University of New Hampshire
BS, Business Administration and MIS

EXPERIENCE

20 years total
18 years with LEDG

CERTIFICATIONS

RCDD
DCEP

RELEVANT EXPERIENCE

***Emory University, Data Center Renovation
Atlanta, GA.***

Conducted comprehensive evaluation of their data center portfolio and developed a forward-thinking 10-year strategic plan to optimize Emory's data Center capabilities.

***Lehigh University, EWFm Data Center Liquid Cooling
Bethlehem, PA***

Renovation and upgrade of an existing data center facility for the EWFm Data Center for Lehigh University, in Bethlehem, PA

***University of Mississippi, Data Center & Research Computing Strategy, Design, Migration
Oxford, MS.***

Led the strategy and technology design for the new University of Mississippi - Mississippi Center for Supercomputing Research.

***Dartmouth College, Data Center Renovation
Hanover, NH.***

Spearheaded the assessment, strategy, budgeting, and design-build process for Dartmouth College's new data center. The project prioritized energy efficiency and sustainability.

***University of New Hampshire
Durham, NH***

Over 12-years guidance for their data center and high-performance research computing initiatives from strategy through design and implementation. LEDG's participation has been pivotal in the development of UNH'S cutting-edge research computing facility.

Bambi Rivera serves as the Practice Leader for LEDG’s Program Management Office (PMO) practice. With decades of expertise in the data center industry, she specializes in crafting strategic solutions and delivering complex, mission-critical projects. Her extensive experience spans multiple sectors, including higher education, utilities, healthcare, and life sciences, making her a trusted leader in driving innovation and operational excellence. Bambi’s leadership has been instrumental in delivering critical projects for high-performing organizations, including Dartmouth College, Dartmouth Medical School, and the University of Mississippi. She has spearheaded initiatives in software development, email systems, electronic medical records (EMR), IT service management (ITSM) deployments, and data center planning, construction, and migration.

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BAMBI RIVERA
Project Manager

EDUCATION

Northeastern University, Boston
BS, Information Systems

EXPERIENCE

30 years total
1.5 years with LEDG

CERTIFICATIONS

Scrum Master

RELEVANT EXPERIENCE

***Emory Univeristy, Data Center Renovation
Atlanta, GA.***

Conducted comprehensive evaluation of their data center portfolio and developed a forward-thinking 10-year strategic plan to optimize Emory’s data Center capabilities.

***Univeristy of Mississippi, Data Center & Research
Computing Strategy, Design, Migration
Oxford, MS.***

Led the strategy and technology design for the new University of Mississippi - Mississippi Center for Supercomputing Research.

***Dartmouth College, Data Center Renovation
Hanover, NH.***

Spearheaded the assessment, strategy, budgeting, and design-build process for Dartmouth College’s new data center. The project prioritized energy efficiency and sustainability.

***University of New Hampshire
Durham, NH.***

Over 12-years guidance for their data center and high-performance research computing initiatives from strategy through design and implementation. LEDG’s participation has been pivotal in the development of UNH’S cutting-edge research computing facility.

Bill Crane is the Director of Design-Build Services at Leading Edge Design Group (LEDG), bringing over 15 years of expertise in guiding strategy, design, and construction for LEDG's diverse portfolio of higher education clients. A seasoned leader in the data center industry, Bill excels in assessing and evaluating customer technology needs, site requirements, and future growth potential. His ability to provide tailored, innovative solutions empowers clients to make informed decisions that optimize efficiency, scalability, and long-term performance. Through his leadership, Bill has been instrumental in delivering high-performing data center solutions that meet the unique demands of academic institutions including Harvard, Emory, UNH, Dartmouth, and many others. Bill is a LEED Accredited Professional.

LEDG | LEADING EDGE
DESIGN GROUP



BILL CRANE

Director of Design-Build Services

EDUCATION

University of New Hampshire
BS, Business Administration

EXPERIENCE

21 years total
15 years with LEDG

CERTIFICATIONS

LEED

RELEVANT EXPERIENCE

***Emory Univeristy, Data Center Renovation
Atlanta, GA.***

Conducted comprehensive evaluation of their data center portfolio and developed a forward-thinking 10-year strategic plan to optimize Emory's data Center capabilities.

***Univeristy of Mississippi, Data Center & Research
Computing Strategy, Design, Migration
Oxford, MS.***

Led the strategy and technology design for the new University of Mississippi - Mississippi Center for Supercomputing Research.

***Dartmouth College, Data Center Renovation
Hanover, NH.***

Spearheaded the assessment, strategy, budgeting, and design-build process for Dartmouth College's new data center. The project prioritized energy efficiency and sustainability.

***University of New Hampshire
Durham, NH.***

Over 12-years guidance for their data center and high-performance research computing initiatives from strategy through design and implementation. LEDG's participation has been pivotal in the development of UNH'S cutting-edge research computing facility.

Section 3

Relevant Experience

Today's leading-edge data centers and mission critical facilities demand experienced specialists to design, construct and manage them. Fitzmeyer & Tocci understands these built environments and assigns specialized multi-disciplined MEP engineering teams to work with our clients to deliver integrated; state of the art solutions that fit their needs for reliable and energy efficient facilities.

Data center projects present many challenges, including; high reliability equipment, flexible and modular systems, and phasing to maintain mission critical operations. Our team's experience and success in these types of projects equip us to create the optimal solution for each project's unique challenges. Our mission is to deliver exceptional, innovative design solutions with reliability and uptime always in mind.



Our Approach:

Fitzmeyer and Tocci is a recognized expert in the planning and design of data centers. Our approach to this type of project includes specialized training of our engineering team and continuous collaboration with our clients, data specialists and facility operators.

Our team routinely provides training and seminars at regional and national conferences to highlight contemporary best practices and case studies in the design and operations of these facilities. We also participate in national strategy planning events with mission critical facility leaders and operators to improve current design methodologies and develop the future strategies for these environments.

As the industry grows and technology advances; Fitzmeyer and Tocci is committed to keeping up with this evolution by investing in the right tools and expertise. We take a proactive look at designs using current versions of Revit and BIM. Our team uses advanced modeling capabilities to study and challenge our designs resulting in an expedited project delivery.

Our Team

Our critical facilities team is comprised of a dedicated staff of engineers and project managers, some with over 30 years' experience working on various types of critical facilities and live environments all over the nation.

We believe that successful projects come from strong partnerships between Fitzmeyer & Tocci and our clients. Over the years, we have developed strong client partnerships with many institutions and organizations throughout the nation and have completed work at numerous data centers. From feasibility studies to renovations to new construction, we have become experts at integrating our team into the institution's facility team, resulting in repeat successes and strong partnerships.

Data Center Services:

- Mechanical, Electrical and Plumbing Design
- Fire Protection, Fire Alarm and Controls Design
- Telecom, Security and Audio-Visual Design
- LEED Certification and Sustainability Design
- Commissioning and Testing
- Design Peer Review
- Building/Data Center Assessments
- Master Planning
- Central Utility Plant Design
- Energy and Infrastructure
- Energy and Simulation Modeling
- Cost Estimating
- Balance Sheet Assessments
- Incident Root Cause Analysis
- Short Circuit, Gap and Coordination Analysis
- Arc Flash Analysis
- Operations and Maintenance (O&M) procedures
- Data Center Infrastructure Management Systems (DCIM)
- Computation Fluid Dynamics Analysis (CFDs)
- Facilities Management
- Methods of Procedure (MOPs) development

LOCATIONS

Headquarters:

Fitzmeyer & Tocci Associates, Inc.
300 Unicorn Park Drive, 5th Floor
Woburn, MA 01801
781.481.0210

Southeast:

12460 Crabapple Rd
Suite 202-435
Alpharetta, GA 30004-6602

DATA CENTER CLIENTS

Sun Microsystems

Key Data Corporation

Quanterix

Amdocs

Tech Vault, Inc.

NEN Life Sciences, Inc.

Vermont Electric Power Company

Massachusetts Department of Transportation

Springfield Redevelopment Authority

Boston University – Boston, MA

Bridgewater State University

Suffolk University

Lahey Health

Elliot Health System

Massachusetts General Hospital

Salem Hospital

Alice Peck Day Memorial Hospital

Dartmouth-Hitchcock Medical Center

St. Joseph Hospital

Harbor Care Health & Wellness Center

University of New Hampshire

BWH Real Estate & Facilities

Rutland Regional Medical Center

The University of Vermont Health
Network

Southern New Hampshire Medical
Center

Emory University

Catholic Medical Center

Franklin Memorial Health

Dartmouth College

Worcester Polytechnic Institute

McLean Hospital

Energy Modeling & Life Cycle Analysis

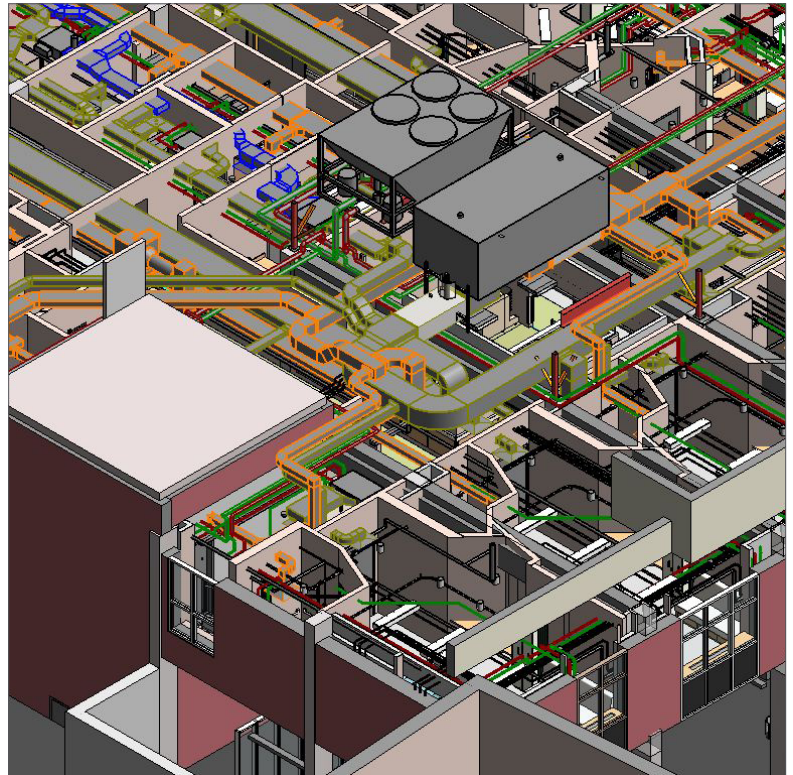
Fitzmeyer & Tocci has extensive experience with dynamic modeling of building and central plant systems' energy performance. We utilize state-of-the-art, hour-by-hour computer simulation tools to develop precision models of building systems and plant equipment, enabling us to accurately predict and analyze overall and component energy performance. Our standard modeling approach involves the development of multi-option models, calibration with available energy usage and billing data, and life cycle cost decision-making. Results from our analyses provide critical information for sound and informed decision-making with regard to building envelope systems, mechanical/electrical systems and other facility-related Energy Conservation Measures. Currently, F&T is using energy modeling and life cycle analysis in all new and major renovation projects as part of our standard process.

Leadership in Energy and Environmental Design. (LEED)

In all our work, we are continually vigilant to implement technologies and operating schemes that lower the built environment's energy consumption by completing energy evaluations, life cycle costing and specifying high efficiency engineered systems.



With a strong basis in facility design and energy evaluation, Fitzmeyer & Tocci is continuing its engineering leadership by focusing on sustainable design implementation for our clients. By using the principles of LEED as a foundation for our work, we have successfully brought sustainability into many of our projects.



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With a strong basis in facility design and energy evaluation, F&T is continuing its engineering leadership by focusing on sustainable design implementation for our clients. By using the principles of LEED as a foundation for our work, we have successfully brought sustainability into many of our projects.

LEED Consulting

The Leadership in Energy and Environmental Design (LEED) rating program helps building owners create and maintain sustainable and high performing buildings. Whether you are working on new construction or renovating an existing building, you need an engineering company with expertise in sustainable design and LEED certification.

Sustainability

We look at all our engineering projects holistically, with an eye toward sustainability. In addition to our technical expertise, we want to understand how a building impacts the environment and the people who live and work there.

Continuing Leadership in Sustainable Design



Fitzmeyer & Tocci, as a member of the United States Green Building Council (USGBC), is actively involved in the investigation, conceptual development, detailed design and construction administration of high performance, low environmental impact facilities. In keeping with our client's vision, along with our own sense of responsibility and awareness, we strive to integrate sustainable concepts throughout every phase of design.

By using the principles of LEED as a foundation for our work, we have successfully brought sustainability into our projects. Our project portfolio includes projects ranging from LEED Certified to LEED Platinum level. The following are several of the projects we have completed.

LEED PLATINUM

- TD Bank | New 3,800 sf bank
- PTC New Headquarters

LEED GOLD

- Brigham & Women's Hospital | New 62,000 sf administration building
- Brown University | \$13M historic campus center renovation
- Presentation School | \$2M renovation
- University of Massachusetts | \$42M Claire T. Carney Library
- Massachusetts Institute of Technology | Building 4 Level 4
- Stoughton High School | New \$98.3M school

LEED SILVER

- Alice Peck Memorial Hospital
- Brigham & Women's Hospital | New 21,000 sf psychiatric services day hospital
- East Middle School Renovation & Expansion | 184,400 sf addition and renovation project
- EMD Millipore Renovation | 280,000 sf initial fit-out and a 75,000 sf expansion.
- Eustis Street Firehouse | 3,000 sf historic restoration
- Greenfield High School | \$54M new high school
- Harvard University | Cronkhite Graduate Center renovation

- Hurld-Wyman Elementary School | New 71,000 sf elementary school
- Lynn Community Health Center | \$7.2M renovation
- Mass Mental Health Center
- Medford Arts Public Library | \$22M renovation, first Net-Zero energy use freestanding public library in the Commonwealth
- Northeastern University, 117 Huntington Ave |
- Northbridge Elementary School | New \$77.5 million construction of a new three-story school
- Southern New Hampshire University - School of Engineering, Technology and Aeronautics (SETA)
- Springfield Union Station | \$50M multi-modal transportation center
- St. Mary's Bank | \$7.7M new bank headquarters
- W. Edward Balmer Elementary School | New 167,350 sf elementary school, one of the largest in MA
- Wellesley College | \$6.4M renovation to the Schneider Center

LEED CERTIFIED

- Barre Family Health Center | 20,000 sf primary care clinic
- Mt. Holyoke College | 40,000 sf addition/renovation to Blanchard Hall
- Wellesley College | \$3.5M addition/renovation to Whitin Observatory

Emory University Data Center Master Plan Atlanta, Georgia

Fitzmeyer & Tocci provided mechanical and electrical engineering services for the feasibility assessment of condensing four (4) separate data centers into a single location for Emory University in Atlanta, Georgia. The intended location had separate connections to the University's campus distribution loops as well as existing generators, UPS's, and chiller plant. Fitzmeyer & Tocci conducted a comprehensive study of the proposed data center location's existing conditions and provided recommendations of alterations to accommodate the redundancy desired for the data center. Fitzmeyer & Tocci worked closely with Leading Edge Design Group to provide findings and recommendations for betterments of the building's electrical services, generator upgrades, electrical distribution and chilled water system. F&T was an integral part of several meetings with the University to walk thru the analysis, findings and ultimate recommendations.

Construction Cost: N/A

Project Size: N/A

Year Completed: 2017



Lehigh University EWF Data Center Liquid Cooling Bethlehem, Pennsylvania

Fitzmeyer & Tocci provided electrical, plumbing and HVAC engineering services for the design and construction administration associated with the renovation and upgrade of approximately 3,600 SF of an existing data center facility for the EWF Data Center for Lehigh University, in Bethlehem, PA.

The HVAC work consisted of design for extension and upgrade of the existing cooling and building control systems for support of the proposed renovations, which was supported by the design for the reconfiguration and modification of existing plumbing and electrical systems.

Construction Cost: \$1,500,000.00

Project Size: 3,600 sf

Year Completed: 2025 Est.



Suffolk University Data Center Renovation Boston, Massachusetts

Fitzmeyer & Tocci Associates (F&T) and Leading Edge Design (LEDG) Provided planning and engineering for the design and construction administration to enhance the existing data center cooling capability at Suffolk University's Frank Sawyer Building in Boston. The design effort's goal was to expand existing systems for new cooling at a level consistent with project planning and budgeting.

Construction Cost: \$1,000,000.00

Project Size: 2,500 SF

Year Completed: 2016



Lahey Health Data Center Master Plan Burlington, Massachusetts

Fitzmeyer & Tocci provided MEP/FP protection engineering services to evaluate existing conditions and create a master plan for upgrade and expansion of Lahey Health's main data center in Burlington, MA. The results of the master plan work provided a conceptual design and an implementation roadmap for upgrade to dual utility power services, a third paralleled generator, and phased upgrade to in-row cooling.

The master plan also provided evaluation and phased implementation of load/power balancing of racks in the existing data center and a plan for new equipment installation to maintain balanced power and cooling performance.

Construction Cost: N/A
Project Size: 10,000 sf
Year Completed: 2017



St. Joseph Hospital Data Infrastructure Master Plan Nashua, New Hampshire

Fitzmeyer & Tocci provided MEP engineering services to develop a long-term strategic plan for data center infrastructure, spaces, and services designed to best support the availability, growth, and service level agreement requirements of the St. Joseph's Hospital system. As part of the project, Fitzmeyer & Tocci reviewed existing facility and infrastructure documentation and performed onsite review of existing data center spaces and supporting infrastructure systems. To determine if an augmented strategy should be employed, we reviewed existing cooling methodologies as compared to IT profile.

Construction Cost: N/A
Project Size: 2,000 sf
Year Completed: 2014



Velco Data Center Rutland, Vermont

Fitzmeyer & Tocci provided mechanical, plumbing and electrical engineering design for the renovation of existing space for the construction of a new data center. The project included renovated data center whitespace and a new out-building for utility greyspace. HVAC work consists of design for a complete new heating/cooling, ventilation, exhaust and building control systems to support the process and environmental requirements of the new data center. Systems were designed to provide N+1 redundancy as required by the mission critical nature of the data center operations.

Velco maintains the electric grid for the State of Vermont and thus has very high security, to include Electromagnetic Pulse (EMP) protection measures.

Construction Cost: \$2,250,000
Project Size: 2,000 sf
Year Completed: 2019



Emory University Data Center Master Plan Atlanta, Georgia

LEDG collaborated with Emory University's IT team to conduct a comprehensive evaluation of their data center portfolio, addressing technology requirements, research computing demands, physical infrastructure, hybrid models, and energy efficiency. LEDG developed a forward-thinking 10-year strategic plan to optimize Emory's data center capabilities. This plan, initially crafted to align with the university's long-term goals, was later refined to adapt to evolving needs and challenges brought on by the COVID-19 pandemic, demonstrating LEDG's ability to deliver resilient and flexible solutions in a dynamic landscape. The latest revisions incorporated adaptability to meet the growing demands of AI, further demonstrating LEDG's commitment to delivering innovative and future-ready solutions.

Construction Cost: \$1,800,000.00
Project Size: 8000 SF
Year Completed: In progress



University of Mississippi Data Center & Research Computing Strategy, Design, Migration Oxford, Mississippi

LEDG led the strategy and technology design for the new University of Mississippi - Mississippi Center for Supercomputing Research. The year-over-year project is still underway with data migration and go-live slated for academic year 2025 or 2026.

Construction Cost: \$20 M (Est.)
Project Size: 18,000 SF
Year Completed: Academic year of 2025-2026 (Est.)



University of New Hampshire Data Center and High-Performance Research Computing Initiatives Durham, New Hampshire

LEDG has had a strategic partnership with the University of New Hampshire (UNH) for over 12 years, guiding their data center and high-performance research computing initiatives from strategy through design and implementation. LEDG's expertise has been pivotal in the development of UNH's cutting-edge research computing facility, driving equipment revitalization projects, and conducting comprehensive power, network, and cooling assessments. LEDG also oversees the implementation of advanced infrastructure solutions and provides annual advisory services to ensure UNH and its statewide campuses consistently maintain state-of-the-art, future-ready

Construction Cost: \$TBD
Project Size: N/A
Year Completed: 2025 Est.



Proximity to and Familiarity with the Area

Our team is based in Woburn, Massachusetts and Alpharetta, Georgia, enabling us to provide both remote and on-site support. Additionally, our sub-consultant, Leading Edge Design Group (LEDG), brings valuable local knowledge and experience to the project, thanks to their Data Center Project Manager in Cummings, Georgia, and Data Center Maintenance/MBRS Service Specialist in Charleston, South Carolina, further enhancing our team's expertise and presence in these key locations.

F&T is a registered firm in North Carolina and has completed more than 10 projects across the state. Our familiarity with the geography, local building codes, regulatory requirements, and market conditions ensures that we can easily navigate this project's specific needs and nuances. This experience positions us well in contributing to the success of the ITS Data Center Planning Assessment.

LEDG is proud of its global experience planning, designing, and implementing mission-critical environments for the world's most innovative research-based institutions. Their experience with UNC's peer institutions will elevate the outcome of this data center initiative by incorporating best practices and cutting-edge solutions.

The F&T and LEDG team also recognize the important role that the local market and culture play in a project's success. Collectively, the knowledge and experience working with local customers, contractors, and regulatory bodies are critical elements of a successful project ecosystem. Moreover, both firms have been actively involved in projects in North Carolina, including LEDG serving as advisors to the Impact Data "Dream Center." As a Certified Minority Business Enterprise (MBE), LEDG takes pride in contributing to the development of important projects in the region, further demonstrating their familiarity with and commitment to the local community.

Record of successfully completed projects without major legal or technical problems

Our team has a strong record of successfully completing projects without major legal or technical issues. Fitzmeyer & Tocci and Leading Edge Design have delivered more than 20 projects jointly nationwide, all completed on time and within budget. Our focus on thorough planning, proactive risk management, and clear communication with clients has consistently resulted in smooth project execution. We take pride in our ability to navigate complex technical requirements and regulatory landscapes, ensuring that our projects meet or exceed client expectations. Projects in our relevant experience section, as well as SF330 Section F, demonstrate some of our successful teaming efforts together.

Section 4

Current Workload and Approach

Fitzmeyer & Tocci currently has—and typically maintains—an eight-month backlog of work. This assures stability and balance in our work force. Our technical services delivery team projects out the resources needed both short and long term to meet all current and anticipated client commitments. To meet short term commitments and inevitable changes in scheduling and client priorities, we have organized delivery teams by discipline to meet client deliverables. For long range commitments where additional resources are required, we utilize an efficient hiring system to recruit top-notch engineering resources. To provide effective, efficient and timely deliverables, F&T utilizes LEAN concepts perfected in the manufacturing industry. We have a motto of “Do Your Job. Improve Your Job.” by which to instill a commitment to continuous improvement.

1. PROJECT APPROACH

The team of Fitzmeyer & Tocci and Leading Edge Design has successfully worked to help institutions like UNC plan, design and implement upgrades to their existing facilities to create resilient, flexible, and efficient data centers. Our team regularly conducts reviews of institutional data centers with regular cadence, reviews new technologies coming to market and evaluates lessons learned from recently completed projects. This commitment to data centers makes our team unique and well positioned to lead UNC through your assessment and planning efforts for improvement and modernization of your data infrastructure.

To ensure successful project outcome for the University's data center planning and assessment project, our team's process include:

Phase I - Preliminary Data Review

To develop a perspective on the University's existing data infrastructure, our first phase will include the review of all available electronic information – drawings, IT equipment profiles, technology master plans, growth calculations, previous reports, and more. The preliminary data review will allow our team to be well prepared with a baseline understanding of the University's existing environment prior to arriving onsite for our evaluation of the existing infrastructure.

Phase II – Owner Requirements Collection

We believe the data center assessment and planning process should be inside out a deep understanding of the existing and forthcoming technology profiles in the data center(s) needs to be developed before design work can begin. We will conduct meetings with IT and research computing stakeholders to understand their expectations for present and future technologies and how existing and planned future infrastructure can support their work. We will also work with the University's facilities staff to understand their experience with the current data centers' electrical and mechanical systems, identify any issues that they have encountered and any constraints they believe exist in the current infrastructure. We will seek to understand their requirements for maintainability and their preferences for construction approach so we can accommodate these preferences in the planning and design strategies.

Phase III - Benchmarking

After reviewing existing documentation and developing a detailed understanding of the University's requirements, our team will conduct a benchmarking evaluation of the University's data centers' needs as compared to other research-based peers. As a team focused on the mission critical space and with deep experience in higher education, we have access to relevant project strategies from other institutions. We will leverage this data to help UNC understand how their peers are approaching similar challenges in their datacenters, and we will use the benchmarking to help inform our evaluation of the current data centers' systems when onsite for assessment activities.

Phase IV – Onsite Survey of Existing Data Centers

Our team will use our documentation review, owner requirements collection, and baseline research as the foundation for our first site survey. This survey will place a specific emphasis on the existing infrastructure condition evaluation and understanding existing capabilities for systems for potential future improvements. Systems to be evaluated include (but are not limited to): electrical distribution, airflow management and strategy, cooling and heat rejection, white space allocation, network topology, rack systems and equipment, and more. We will work with UNC's IT and Facilities teams to ensure we understand the existing capabilities and constraints such that we can accurately assess the existing systems and begin the development of our planning recommendations and strategies.

The assessment and evaluation phase for the University's data center planning represents a critical step in the recommendation development process, during which we will develop options to explore how to maximize the efficient use of existing infrastructure while maintaining uptime to data center operations. After completing our initial

site survey, our team will complete a comparative analysis of options and recommendations for the recommended upgrades associated with the data center planning assessment. Our comparative analysis will include system details for each option, lifecycle considerations, and expected pros and cons of each recommendation being considered. We will continue to refine and develop the options matrix as a tool to assist the University in selecting the optimal set of solutions for their data centers.

Our team fully develops and evaluates viable options for the data systems upgrades we will produce detailed narratives and conceptual drawings to accompany the finalized planning assessment and associated options matrices. The planning assessment will ultimately create a project roadmap for use in moving forward into detailed design phases for future overall data infrastructure improvements.

2. PROJECT MANAGEMENT

The Fitzmeyer & Tocci and Leading Edge Design team will assign a Principal-in-Charge (PIC), as the primary point of contact for the client. This role assures the client that a commitment is being made by a Principal of the firm and ensures that the resources are properly allocated to execute the commitment. Our model of a Principal-Led team improves coordination, quality, consistency and timely decisions. A firm's Principal serving as the project's PIC also guarantees prompt attention to any issues that may arise during the course of a given project. This project management structure is a cornerstone and proven formula for success, resulting in over a 95% repeat business rate. Our market focused multi-discipline engineering teams tightly integrate with all project stakeholders and provide a hands-on engineering representation from project inception through construction closeout and beyond.

The PIC, in concert with the Project Manager (PM), will develop a letter proposal that documents our understanding of the project: establishes the objectives and schedule; and defines the scope of services along with a proposed fee. We will collaborate with the Owner to reach mutual agreement on the scope and fee proposal. Once an approved proposal is established the PIC and PM will coordinate with the Owner to kick off the project. This could be a simple virtual conference or a formal kick off meeting on site with all project stakeholders, depending upon the project type and complexity. The PM will be responsible for internal and external coordination with the owner and other project stakeholders throughout the project phases. Additionally, our PM will be responsible for all project reporting throughout the project phases and for issuing meeting minutes after each team design/coordination meeting attended by engineering personnel, highlighting issues affecting the project.

All highly successful teams strive for continued improvement. Our team is no different and seeks to build upon our past successes and improve based on lessons learned. At the conclusion of each project our PIC and/or PM will seek input from the Owner's personnel on our performance. We recognize that responsiveness is a key element of client satisfaction throughout a project. This responsiveness extends beyond project closeout activities as we try and understand what was successful on a given project and where we may need to do things differently on the next assignment.

Section 5

Minor Business Participation Plan

Minor Business Participation Plan

To support the University of North Carolina at Greensboro's (UNCG) HUB (Historically Underutilized Business) goals for the ITS Data Center Planning Assessment, our team is committed to meaningful engagement with certified HUB firms throughout the design and planning process. We recognize the importance of promoting diversity, equity, and inclusion within the business community and are aligned with UNCG's objectives to enhance opportunities for historically underrepresented groups.

We are proud to include Leading Edge Design Group (LEDG) as a key partner in our project team. LEDG is a HUB-certified business (HUB-4016525) with certification valid through November 18, 2028. LEDG's extensive expertise in data center planning and design ensures that they bring significant value to this project, while their HUB certification aligns with UNCG's goals to foster minority business participation. We have completed numerous successful projects with LEDG.

In addition to their HUB certification, LEDG holds several other relevant designations:

- Certified by the U.S. Small Business Association (SBA) as an 8(a) company, a program aimed at helping small, disadvantaged businesses compete in the marketplace.
- Certified by the National Minority Supplier Development Council (NMSDC) as a Minority Business Enterprise (MBE), further confirming their commitment to diversity and inclusion.

Our approach to meeting UNCG's HUB goals includes the following strategies:

Active Engagement: We will ensure that LEDG has a substantial and active role in the project, particularly in the areas of data center design, planning, and assessment.

Capacity Building: We aim to support LEDG's growth and development by providing opportunities for meaningful participation and skill-building through collaborative project efforts.

Reporting and Accountability: We will provide regular updates to UNCG on our HUB engagement activities, including LEDG's contributions to the project, to demonstrate compliance with UNCG's HUB participation requirements.

By including LEDG in our project team and leveraging their specialized expertise, we are confident that we will meet UNCG's HUB participation goals while delivering a successful and impactful ITS Data Center Planning Assessment.

Section 6

Required forms: SF-330

ARCHITECT - ENGINEER QUALIFICATIONS

PART I - CONTRACT-SPECIFIC QUALIFICATIONS

A. CONTRACT INFORMATION

1. TITLE AND LOCATION *(City and State)*

UNC Greensboro, ITS Data Center Planning Assessment, Greensboro, North Carolina

2. PUBLIC NOTICE DATE

December 17, 2024

3. SOLICITATION OR PROJECT NUMBER

N/A

B. ARCHITECT-ENGINEER POINT OF CONTACT

4. NAME AND TITLE

Scott LeClair, PE, LEED AP

5. NAME OF FIRM

Fitzmeyer & Tocchi Associates, Inc.

6. TELEPHONE NUMBER

781-285-2276

7. FAX NUMBER

781-481-0203

8. E-MAIL ADDRESS

sleclair@f-t.com

C. PROPOSED TEAM

(Complete this section for the prime contractor and all key subcontractors.)

<i>(Check)</i>				9. FIRM NAME	10. ADDRESS	11. ROLE IN THIS CONTRACT
PRIME	J-V PARTNER	SUBCONTRACTOR				
a	X			Fitzmeyer & Tocchi Associates, Inc. UEI : XURBN8SGZ1T7 CAGE Code: 7X2C4 Tax ID: 04-2282546 NC Firm Number F-1079 CHECK IF BRANCH OFFICE	300 Unicorn Park Drive, 5th Floor Woburn, MA 01801 12460 Crabapple Rd, Suite 202-435 Alpharetta, GA 30004-6602	Prime Firm, Mechanical, electrical, plumbing, and fire protection (MEP/FP) Engineering
b			X	Leading Edge Design Group (LEDG) UEI: EFQPM651Q7J7 8A, SBA CHECK IF BRANCH OFFICE	86 Chosen Vale Ln Unit 201, Enfield, NH 03748 603-632-4507	Data Center Technology and Physical Assessment & Advisory

UNC Greensboro Facilities Design & Construction

Fitzemeyer & Tocci Associates, Inc.
Prime Firm

Scott LeClair, PE, LEED AP, Major – USAF (ret.)
Principal in Charge

Daniel Noto, PE
Project Manager

Terry Boland, PE, LEED AP
Lead Mechanical Engineer

Michael Pang, PE, LEED AP
Lead Electrical Engineer

Richard Barbera, CPD
Lead Plumbing Engineer

Ryan McCarthy, PE
Lead Fire Protection Technical Specialist

Leading Edge Design Group
Data Center Technology and Physical Assessment & Advisory

Todd Boucher
Principal-in-Charge

Bambi Rivera
Project Manager

Bill Crane
Director of Design Build Services

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Scott LeClair, PE, LEED AP, Major – USAF (ret.)	13. ROLE IN THIS CONTRACT MEP/FP (Prime) Principal-in-Charge	14. YEARS EXPERIENCE	
		A. TOTAL 32	B. WITH CURRENT FIRM 21

15. FIRM NAME AND LOCATION (City and State)

Fitzmeyer & Tocci Associates, Inc. (Woburn, Massachusetts)

16. EDUCATION (Degree and Specialization)

**BS, Mechanical Engineering
MS, Mechanical Engineering**

17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

Professional Engineer- Mechanical: CA #32085, CO #52137, CT #P22432, FL #89893, GA #44087, MA #51914, ME #11519, MI # 6201070732, NC #38502, NH #11302, NV #027646, NY #083189, OH #62430, PA #93802, RI #0011210, SC #42720, TN #1202-109255, VA #0402-039967, VT #18.0009055

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

As a professional mechanical engineer, engineering instructor, retired Air Force veteran, and infrastructure strategist; Scott draws on his experience of over 33 years to help his clients achieve highly efficient and profitable facilities. He is an expert in complex infrastructure systems and advocate for sustainable design. Scott serves as the overall leader and oversees the design and management of F&T's projects.

19. RELEVANT PROJECTS

(1) TITLE AND LOCATION (City and State)		(1) YEAR COMPLETED	
a.	St. Joseph Hospital, Data Infrastructure Master Plan, Nashua, NH	PROFESSIONAL SERVICES 2013	CONSTRUCTION (If applicable) NA
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm <input checked="" type="checkbox"/>		
	Principal-in-Charge. MEP engineering services to develop a long-term strategic plan for data center infrastructure, spaces, and services designed to best support the availability, growth, and service level agreement requirements of the St. Joseph's Hospital System. Project size: 2,000 sf, Construction Cost: \$NA		
b.	Emory University Data Center Master Plan Atlanta, GA	PROFESSIONAL SERVICES 2020	CONSTRUCTION (If applicable) 2022
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm <input checked="" type="checkbox"/>		
	Principal-in-Charge. Developed a long-term strategic plan for data center infrastructure, spaces, and services designed to best support the availability, growth, and service level agreement requirements. This includes: a main data center, a backup data center, and a research computing data center. Project Size: 10,000 sf; Construction Cost: \$1M		
c.	Velco, Data Center, Rutland, VT	PROFESSIONAL SERVICES 2015	CONSTRUCTION (If applicable) 2019
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm <input checked="" type="checkbox"/>		
	Principal-in-Charge. MEP engineering design for the renovation of existing space and new addition for the construction of a new critical utility Data Center in Rutland, VT. Project Size: 3,000 SF; Construction Cost: Est. \$2.25M		
d.	Lehigh University, EWFM Data Center Liquid Cooling, Bethlehem, PA	PROFESSIONAL SERVICES 2022	CONSTRUCTION (If applicable) 2023
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm <input checked="" type="checkbox"/>		

Principal-in-Charge. Engineering for the design and construction administration associated with the renovation and upgrade of approximately 3,600 SF of an existing data center facility for the EWFM Data Center for Lehigh University, in Bethlehem, PA. Project Size: 3,600 sf; Construction Cost: \$1.5M		
(1) TITLE AND LOCATION (<i>City and State</i>)		(1) YEAR COMPLETED
Suffolk University, Data Center Renovation, Burlington, MA		PROFESSIONAL SERVICES 2014 CONSTRUCTION (<i>If applicable</i>) 2016
e.	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE	Check if project performed with current firm <input checked="" type="checkbox"/>
Principal-in-Charge: Provided engineering for the design and construction administration to enhance the existing data center cooling capability at Suffolk University's Frank Sawyer Building in Boston, MA. Project Size: 2,500 sf; Construction Cost: \$1M		

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Daniel Noto, PE, LEED AP	13. ROLE IN THIS CONTRACT Project Manager	14. YEARS EXPERIENCE A. TOTAL 22	B. WITH CURRENT FIRM 1
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15. FIRM NAME AND LOCATION (City and State)

Fitzemeyer & Tocci Associates, Inc., Alpharetta, Georgia



16. EDUCATION (Degree and Specialization)

BS, Mechanical Engineering

17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

Professional Engineer- Electrical: AL #PE23599, AZ #48152, CA #33945, GA #PE036288, TX #114836

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

As Project Manager, Daniel Noto serves as the overall supervisor of the technical team, being actively involved in the design and management of all projects within the firm. Daniel directs, leads and ensures the incorporation of all client requirements, reviews all project deliverable and coordinates and monitors all design and construction activities. His primary goal is to consistently meet all client expectations by delivering successful and innovative solutions.

19. RELEVANT PROJECTS

a.	(1) TITLE AND LOCATION (City and State) Southern Nevada Water Authority, Data Centers, Las Vegas, NV	PROFESSIONAL SERVICES 2020	CONSTRUCTION (If applicable) 2024
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm X		
	Construction Administration. Plumbing, Fire Protection and electrical engineering services to review and assess the conditions of existing systems infrastructure, including HVAC system of three separate functional data centers located at the Alfred Merrit Smith Water Treatment Facility in Boulder City, NV, and to construct a new data center. Project Size: N/A; Construction Cost: Est. \$5M		
b.	(1) TITLE AND LOCATION (City and State) Exeter Hospital, Data Center Planning Study, Exeter, NH	PROFESSIONAL SERVICES 2021	CONSTRUCTION (If applicable) 2024
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm X		
	Project Manager. Fitzemeyer & Tocci provided comprehensive engineering services for the master planning of a data center in the Exeter Hospital in Exeter, New Hampshire. Project Size: 1,500 sf, Construction Cost: \$1.5 M		
c.	(1) TITLE AND LOCATION (City and State) Emory University, Clairmont Campus-Building A, C, E, Atlanta, GA	PROFESSIONAL SERVICES 2021	CONSTRUCTION (If applicable) 2022
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm X		
	Project Manager. Provided MEP/FP engineering services for the design and construction administration for the renovation of Building A, C and E at the Emory Clairmont Undergraduate Residential Center in Atlanta, Georgia. Project Size: 50,000 sf, Construction Cost: \$1M		
d.	(1) TITLE AND LOCATION (City and State) East Point Office Building, Facility Assessment/Energy Audit, East Point, GA	PROFESSIONAL SERVICES 2024	CONSTRUCTION (If applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm X		
	Project Manager. Provided engineering services to review and assess the existing conditions of the HVAC, Plumbing, Fire Projection, and Electrical systems infrastructure for a 30,000 SF office building located in East Point, Georgia. Project Size: 30,000 sf, Construction Cost: N/A		
e.	(1) TITLE AND LOCATION (City and State) Safelite, Lakeland Renovation, Lakeland, FL	PROFESSIONAL SERVICES 2024	CONSTRUCTION (If applicable) Current
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm X		

	<p>Project Manager. MEP/FP engineering for the design and construction administration for the renovation of a 2,700SF existing space and an addition of 500SF for new bathrooms and breakroom at Safelite, Lakeland, Florida. Project Size: 3,200; Construction Cost: \$975,000.00</p>
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E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Terry Boland, PE, LEED AP	13. ROLE IN THIS CONTRACT Lead Mechanical Engineer	14. YEARS EXPERIENCE A. TOTAL 21	B. WITH CURRENT FIRM 15
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15. FIRM NAME AND LOCATION *(City and State)*

Fitzmeyer & Tocci Associates, Inc., Woburn, Massachusetts



16. EDUCATION *(Degree and Specialization)*

BS, Mechanical Engineering

17. CURRENT PROFESSIONAL REGISTRATION *(State and Discipline)*

Professional Engineer – Mechanical CT PE # 34585, MA PE # 50514, ME PE # 15305, NC PE # 049258, ND PE # 28220, NH PE # 15425, NJ PE #24GE05739200, NY PE #098638, PA PE #089574, RI PE # 13060, TX PE # 147101, VT PE # 018.0134080

18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

As Director of Mechanical engineering, Terry serves as head of the mechanical discipline within the firm, as well as overseeing the plumbing and fire protection departments. In his role, Terry is accountable for operations of the engineering discipline including financial performance and planning; client relationships; technical leadership through thought leadership and complex problem solving; and the overall project delivery methodology (standards, quality, tools, templates, etc.) for the practice area.

19. RELEVANT PROJECTS

a.	(1) TITLE AND LOCATION <i>(City and State)</i> Emory University, Clairmont Campus-Building A, C, E, Atlanta, GA	PROFESSIONAL SERVICES 2021	CONSTRUCTION <i>(If applicable)</i> 2022
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Project Manager. Provided MEP/FP engineering services for the design and construction administration for the renovation of Building A, C and E at the Emory Clairmont Undergraduate Residential Center in Atlanta, Georgia. Project Size: 50,000 sf, Construction Cost: \$1M		
	Check if project performed with current firm X		
b.	(1) TITLE AND LOCATION <i>(City and State)</i> Lahey Health, Data Center Master Plan, Burlington, MA	PROFESSIONAL SERVICES 2016	(1) YEAR COMPLETED CONSTRUCTION <i>(If applicable)</i> 2017
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Mechanical Engineering Lead MEP/FP engineering services to evaluate existing conditions and create a master plan for the upgrade and expansion of Lahey Health’s main data center in Burlington, MA. Project size: 10,000 sf; Construction Cost: Study Only		
	Check if project performed with current firm X		
c.	(1) TITLE AND LOCATION <i>(City and State)</i> Southern Nevada Water Authority, Data Centers, Las Vegas, NV	PROFESSIONAL SERVICES 2020	(4) YEAR COMPLETED CONSTRUCTION <i>(If applicable)</i> 2025 Est
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Mechanical Engineering Lead. Plumbing, Fire Protection and electrical engineering services to review and assess the conditions of existing systems infrastructure, including HVAC system of three separate functional data centers located at the Alfred Merrit Smith Water Treatment Facility in Boulder City, NV. Project Size: 3,000 sf; Construction Cost: Est. \$4.5M		
	Check if project performed with current firm X		
d.	(1) TITLE AND LOCATION <i>(City and State)</i> Exeter Hospital, Data Center Planning Study, Exeter, NH	PROFESSIONAL SERVICES 2021	(2) YEAR COMPLETED CONSTRUCTION <i>(If applicable)</i> Current
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Mechanical Engineer. Fitzmeyer & Tocci provided comprehensive engineering services for the master planning of a data center in the Exeter Hospital in Exeter, New Hampshire. Project Size: 1,500 sf, Construction Cost: \$1.5 M		
	Check if project performed with current firm X		
e.	(1) TITLE AND LOCATION <i>(City and State)</i>	(1) YEAR COMPLETED	

Lehigh University, EWFm Data Center Liquid Cooling, Bethlehem, PA	PROFESSIONAL SERVICES 2022	CONSTRUCTION <i>(If applicable)</i> 2025 Est
<small>(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE </small>	Check if project performed with current firm X	
Mechanical Engineering Lead. Engineering for the design and construction administration associated with the renovation and upgrade of approximately 3,600 SF of an existing data center facility for the EWFm Data Center for Lehigh University, in Bethlehem, PA. Project Size: 3,600 sf; Construction Cost: \$1.5M		

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Michael Pang, PE	13. ROLE IN THIS CONTRACT Lead Electrical Engineer	14. YEARS EXPERIENCE	
		A. TOTAL 22	B. WITH CURRENT FIRM 2

15. FIRM NAME AND LOCATION (City and State)

Fitzmeyer & Tocci Associates, Inc., Woburn, MA

16. EDUCATION (Degree and Specialization)

BS, Electrical Engineering

17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

Professional Engineer – Electrical

CT # 0036243, MA # 48461, ME # 17753, NH # 17466, PA # PE086140, RI # PE.0011501, VT # 018.0135416

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Michael Pang, PE, LEED Ap BD+C, Associate and Electrical Engineering Manager, serves as head of the electrical discipline. Michael monitors all aspects of a project’s progress, ensuring timely and cost-effective completion while also developing the electrical engineering standards within the team. He ensures the team’s electrical designs are fully code compliant and up to date with industry standards. Michael has been with F&T for 2 years and has worked on a multitude of projects both public and private clients. **Michael is a U.S. citizen.**

19. RELEVANT PROJECTS

(1) TITLE AND LOCATION (City and State)		(1) YEAR COMPLETED	
a.	Lehigh University, EWFM Data Center Liquid Cooling, Bethlehem, PA	PROFESSIONAL SERVICES 2022	CONSTRUCTION (If applicable) 2025 Est
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm <input checked="" type="checkbox"/>		
	Electrical Engineering Lead. Engineering for the design and construction administration associated with the renovation and upgrade of approximately 3,600 SF of an existing data center facility for the EWFM Data Center for Lehigh University, in Bethlehem, PA. Project Size: 3,600 sf; Construction Cost: \$1.5M		
b.	BAE Systems, Merrimack Building 15 – Area 8, Merrimack, NH	PROFESSIONAL SERVICES 2022	CONSTRUCTION (If applicable) 2024
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm <input checked="" type="checkbox"/>		
	Electrical Engineering Lead. MEP/FP engineering services for the 30,000SF renovation of an existing building at BAE System’s Merrimack, NH campus. Project size: 30,000 sf; Construction Cost: \$15M		
c.	MetaMagnetics, Laboratory and Office Expansion, Marlborough, MA	PROFESSIONAL SERVICES 2021	CONSTRUCTION (If applicable) 2022
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm <input checked="" type="checkbox"/>		
	Electrical Engineering Lead. MEP/FP/FA engineering for this fast-track project for MetaMagnetics new office and laboratory location in Marlborough. Project Size: 25,000sf ; Construction Cost: Est. \$1M		
d.	Framingham State University, McAuliffe Center, Framingham, MA	PROFESSIONAL SERVICES 2022	CONSTRUCTION (If applicable) 2024
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm <input checked="" type="checkbox"/>		

	Electrical Engineering Lead. Mechanical, Electrical, Plumbing and Fire Protection engineering for for a major redesign project at the Christa McAuliffe Center on the Framingham State University Campus in Framingham, MA. Project Size: 10,000 sf, Construction Cost: \$5M	
	(1) TITLE AND LOCATION (<i>City and State</i>)	(2) YEAR COMPLETED
e.	Dartmouth College - Geisel School of Medicine, Remsen 4 Lab, Hanover, NH	PROFESSIONAL SERVICES 2016
		CONSTRUCTION (<i>If applicable</i>) 2019
	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE	Check if project performed with current firm <input checked="" type="checkbox"/>
	Electrical Engineering Lead. Mechanical, plumbing, fire protection and electrical engineering services for the renovation of a research laboratory located in the Remsen building at Geisel School of Medicine. Project Size: 13,500 sf; Construction Cost: \$6M	

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Richard D. Barbera, CPD	13. ROLE IN THIS CONTRACT Plumbing and Fire Protection Engineer Manager	14. YEARS EXPERIENCE	
		A. TOTAL 37	B. WITH CURRENT FIRM 6

15. FIRM NAME AND LOCATION (City and State)

Fitzmeyer & Tocci Associates, Inc., Woburn, MA

16. EDUCATION (Degree and Specialization)

BS, Mechanical Engineering Certification in Plumbing Engineer

17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

Professional Engineer – Mechanical
Certification in Plumbing Engineer # 1-12321, ASPE Boston,
Certification in Medical Gas System Design # 40181

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Richard CPD, Associate and Plumbing Engineering Manager, serves as head of the plumbing discipline within the technical team. Richard monitors all aspects of a project’s progress, ensuring timely and cost-effective completion while also developing the plumbing engineering standards within the team. His goal is to exceed all client expectations by delivering integrated solutions to every engineering effort. Richard has been with F&T for 6 years and has worked on a multitude of projects, both public and private clients.

19. RELEVANT PROJECTS

(1) TITLE AND LOCATION (City and State)		(2) YEAR COMPLETED	
a.	Exeter Hospital, Data Center Planning Study, Exeter, NH	PROFESSIONAL SERVICES 2021	CONSTRUCTION (If applicable) Current
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Plumbing Engineering Lead. Provided engineering services for the development of a conceptual design and feasibility narrative to enhance the existing data centers cooling capability at Suffolk. Project Size: 1,500 sf, Construction Cost: \$1.7 M		
b.	Lehigh University, EWFM Data Center Liquid Cooling, Bethlehem, PA	CONSTRUCTION (If applicable) 2022	CONSTRUCTION (If applicable) 2025 Est.
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Plumbing Engineering Lead. Engineering for the design and construction administration associated with the renovation and upgrade of approximately 3,600 SF of an existing data center facility fir the EWFM Data Center for Lehigh University, in Bethlehem, PA. Project Size: 3,600 sf; Construction Cost: \$1.5M		
c.	Worcester Polytechnic Institute, Robotics Laboratory, Worcester, MA	PROFESSIONAL SERVICES 2018	CONSTRUCTION (If applicable) 2019
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Plumbing Engineering Lead. Mechanical, electric, plumbing and fire protection engineering services for the existing Robotics Lab, which had outgrown the space available for use on the 2nd floor of the building, including the data room. Project size: 30,000 sf, Construction Cost: \$1M		
d.	Roxbury Community College, MEP House Doctor Contract, Roxbury, MA	PROFESSIONAL SERVICES 2023	CONSTRUCTION (If applicable) Current
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm <input checked="" type="checkbox"/>		

<p>Plumbing Engineering Lead. MEP/FP engineering services for certifiable studies, schematic plans, final design documents, and construction administration services for a variety of renovations, improvements, and modernization of facilities operating systems and infrastructure. Project size: Multiple Projects, Construction Cost: \$1M+</p>		
(1) TITLE AND LOCATION (<i>City and State</i>)		
<p>Johnson & Wales University, Harborside Academic Building Master Plan, Providence, RI</p>	<p>PROFESSIONAL SERVICES 2020</p>	<p>CONSTRUCTION (if applicable) 2021</p>
e.	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE	
<p>Check if project performed with current firm <input checked="" type="checkbox"/> X</p>		
<p>Plumbing Engineering Lead. E engineering services to prepare and deliver an infrastructure master planning study for the Harborside Academic (HAC) Building at Johnson & Wales University in Providence, RI. Project Size & Construction Cost: Study only</p>		

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Ryan McCarthy, PE		13. ROLE IN THIS CONTRACT Fire Protection Technical Specialist	14. YEARS EXPERIENCE A. TOTAL 15 B. WITH CURRENT FIRM 2	
15. FIRM NAME AND LOCATION <i>(City and State)</i> Fitzemeyer & Tocci Associates, Inc., Woburn, MA				
16. EDUCATION <i>(Degree and Specialization)</i> BS, Mechanical Engineering		17. CURRENT PROFESSIONAL REGISTRATION <i>(State and Discipline)</i> MA (Mechanical) #57438		



18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*

Ryan PE, Associate and Fire Protection Technical Specialist, coordinates specialty fire protection and life safety engineering service including building and life safety code consulting, property condition assessments, NFPA 241 plans, fire and smoke modeling, egress and assembly plans, performance-based design, engineering equivalencies, and Authorities Having Jurisdiction (AHJ) negotiation. Ryan has extensive expertise in the design and commissioning of traditional fire protection systems, special hazard systems, fire pumps, and smoke control systems. **Ryan is a U.S. citizen.**

19. RELEVANT PROJECTS

	(1) TITLE AND LOCATION <i>(City and State)</i>	(2) YEAR COMPLETED	
a.	St. Anslem College New Nursing Building Manchester, NH	PROFESSIONAL SERVICES 2023	CONSTRUCTION (If applicable) Ongoing
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Fire Protection Technical Specialist. MEP/FP engineering services for a new 44,000 sf Nursing and Health Professions Building facility for Saint Anselm College, in Manchester, NH. Project size: 44,000 sf, Construction Cost: \$22M		
b.	Framingham State University, McAuliffe Center, Framingham, MA	PROFESSIONAL SERVICES 2022	CONSTRUCTION (If applicable) 2023
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Fire Protection Technical Specialist. MEP/FP engineering services or a major redesign project at the Christa McAuliffe Center on the Framingham State University Campus in Framingham, MA. Project size: 10,000 sf, Construction Cost: \$5M		
c.	Safelite, Lakeland Renovation, Lakeland, FL	PROFESSIONAL SERVICES 2024	CONSTRUCTION (If applicable) Current
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Fire Protection Technical Specialist. MEP/FP engineering for the design and construction administration for the renovation of a 2,700SF existing space and an addition of 500SF for new bathrooms and breakroom at Safelite, Lakeland, Florida. Project Size: 3,200; Construction Cost: \$975,000.00		
d.	BAE Systems, Merrimack Building 15 – Area 8, Merrimack, NH	PROFESSIONAL SERVICES 2022	CONSTRUCTION (If applicable) 2024
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Plumbing Engineering Lead. MEP/FP engineering services for the 30,000SF renovation of an existing building at BAE System’s Merrimack, NH campus. Project size: 30,000 sf; Construction Cost: \$15M		

	(1) TITLE AND LOCATION <i>(City and State)</i>	(1) YEAR COMPLETED	
e.	Lonza, Entrance & Office Renovation, Portsmouth, NH	PROFESSIONAL SERVICES 2023	CONSTRUCTION <i>(If applicable)</i> 2024
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Fire Protection Technical Specialist. MEP/FP engineering services for the renovation of the entrance and offices for Lonza Biologics at 101 International Drive in Portsmouth, NH. Project Size: 15,000 sf, Construction Cost: \$Unknown		

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Todd Boucher, RCDD	13. ROLE IN THIS CONTRACT Principal-In-Charge of Data Center Technology and Physical Assessment & Advisory	14. YEARS EXPERIENCE	
		A. TOTAL 20	B. WITH CURRENT FIRM 18

15. FIRM NAME AND LOCATION (City and State)
Leading Edge Design Group (LEDG), Portsmouth NH

16. EDUCATION (Degree and Specialization)
BS, Business Administration, Management Information Systems – University of New Hampshire

17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)
Registered Communications Distribution Designer (RCDD), DCEP

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)
Todd Boucher, Principal of Leading Edge Design Group, serves as a trusted consultant and advisor to LEDG’s academic clients. Renowned for his expertise in higher education research computing and the evolving demands of AI compute, Todd also specializes in campus power infrastructure critical to supporting the rapidly growing technology needs of academic institutions. He collaborates with leadership teams to design advanced data center solutions and provides strategic consulting for organizations like Impact Data in North Carolina. He has worked with LEDG customers such as Dartmouth College, UNH, Lehigh University, University of Delaware, University of Mississippi, Emory University, and many others. Mr. Boucher is a Registered Communications Distribution Designer (RCDD) and certified by the United States Department of Energy as a Data Center Certified Energy Practitioner (DCEP).

19. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED	
a.	Emory University, Data Center Renovation, Atlanta, GA	PROFESSIONAL SERVICES 2016, 2019, 2023	CONSTRUCTION (If applicable) In Progress
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm <input checked="" type="checkbox"/>		
	Principal. Conducted comprehensive evaluation of their data center portfolio and developed a forward-thinking 10-year strategic plan to optimize Emory’s data Center capabilities. Project Size: 8,000 sf, Construction Cost: \$1.8 M		
b.	Lehigh University, EWFM Data Center Liquid Cooling, Bethlehem, PA	PROFESSIONAL SERVICES 2012	CONSTRUCTION (If applicable) 2025 Est.
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm <input checked="" type="checkbox"/>		
	Principal. Renovation and upgrade of an existing data center facility for the EWFM Data Center for Lehigh University, in Bethlehem, PA. Project Size: 3,600 sf; Construction Cost: \$1.5M		
c.	University of Mississippi, Data center & research, Computing, Design, Migration, Oxford MS	PROFESSIONAL SERVICES 2022-2024	CONSTRUCTION (If applicable) In Progress
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm <input checked="" type="checkbox"/>		
	Principal. The team led the strategy and technology design for the new University of Mississippi - Mississippi Center for Supercomputing Research. Project Size: 18,000 sf, Construction Cost: \$20M (Est.)		
d.	Dartmouth College, Data Center Renovation, Hanover, NH	PROFESSIONAL SERVICES 2021-2024	CONSTRUCTION (If applicable) 2023-2024

	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE		Check if project performed with current firm X
	Principal. Spearheaded the assessment, strategy, budgeting, and design-build process for Dartmouth College's new data center. The project prioritized energy efficiency and sustainability. Project Size: 2,500 SF, Construction Cost: \$2.1 M		
	(1) TITLE AND LOCATION (<i>City and State</i>)	(2) YEAR COMPLETED	
	University of New Hampshire	PROFESSIONAL SERVICES 2012-2025	CONSTRUCTION (<i>If applicable</i>) Multi-Year
e.	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE		Check if project performed with current firm X
	Principal. Over 12-years guidance for their data center and high-performance research computing initiatives from strategy through design and implementation. LEDG's participation has been pivotal in the development of UNH'S cutting-edge research computing facility. Project Size: N/A, Construction Cost: TBD		

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Bambi Rivera	13. ROLE IN THIS CONTRACT Project Manager of Data Center Technology and Physical Assessment & Advisory	14. YEARS EXPERIENCE	
		A. TOTAL 30	B. WITH CURRENT FIRM 1.5 years

15. FIRM NAME AND LOCATION (City and State)

Leading Edge Design Group (LEDG), Portsmouth, NH

16. EDUCATION (Degree and Specialization)

BS, Information Systems – Northeastern University – Boston

17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

Scrum Master Certifications

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Bambi Rivera serves as the Practice Leader for LEDG’s Program Management Office (PMO) practice. With decades of expertise in the data center industry, she specializes in crafting strategic solutions and delivering complex, mission-critical projects. Her extensive experience spans multiple sectors, including higher education, utilities, healthcare, and life sciences, making her a trusted leader in driving innovation and operational excellence. Bambi's leadership has been instrumental in delivering critical projects for high-performing organizations, including Dartmouth College, Dartmouth Medical School, and the University of Mississippi. She has spearheaded initiatives in software development, email systems, electronic medical records (EMR), IT service management (ITSM) deployments, and data center planning, construction, and migration.

19. RELEVANT PROJECTS

(1) TITLE AND LOCATION (City and State)		(2) YEAR COMPLETED	
a.	Emory University, Data Center Renovation, Atlanta, GA	PROFESSIONAL SERVICES 2016, 2019, 2023	CONSTRUCTION (If applicable) In Progress
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		Check if project performed with current firm <input checked="" type="checkbox"/>
<p>Project Manager. Conducted comprehensive evaluation of their data center portfolio and developed a forward-thinking 10-year strategic plan to optimize Emory’s data Center capabilities. Project Size: 8,000 sf, Construction Cost: \$1.8 M</p>			
b.	University of Mississippi, Data center & research, Computing, Design, Migration, Oxford MS	PROFESSIONAL SERVICES 2022-2024	CONSTRUCTION (If applicable) In Progress
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		Check if project performed with current firm <input checked="" type="checkbox"/>
<p>Project Manager. The team led the strategy and technology design for the new University of Mississippi - Mississippi Center for Supercomputing Research. Project Size: 18,000 sf, Construction Cost: \$20M (Est.)</p>			
c.	Dartmouth College, Data Center Renovation, Hanover, NH	PROFESSIONAL SERVICES 2021-2024	CONSTRUCTION (If applicable) 2023-2024
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE		Check if project performed with current firm <input checked="" type="checkbox"/>
<p>Project Manager. Spearheaded the assessment, strategy, budgeting, and design-build process for Dartmouth College’s new data center. The project prioritized energy efficiency and sustainability. Project Size: 2,500 SF, Construction Cost: \$2.1 M</p>			
d.	University of New Hampshire	PROFESSIONAL SERVICES 2012-2025	CONSTRUCTION (If applicable) Multi-Year

(3) BRIEF DESCRIPTION (*Brief scope, size, cost, etc.*) AND SPECIFIC ROLE

Check if project performed with current firm

Project Manager. Over 12-years guidance for their data center and high-performance research computing initiatives from strategy through design and implementation. LEDG's participation has been pivotal in the development of UNH'S cutting-edge research computing facility. **Project Size: N/A, Construction Cost: TBD**

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Bill Crane, LEED	13. ROLE IN THIS CONTRACT Data Center Technology and Physical Assessment & Advisory	14. YEARS EXPERIENCE	
		A. TOTAL 21	B. WITH CURRENT FIRM 15

15. FIRM NAME AND LOCATION (City and State)

Leading Edge Design Group (LEDG), Portsmouth, NH

16. EDUCATION (Degree and Specialization)

BS, Business Administration. University of New Hampshire

17. CURRENT PROFESSIONAL REGISTRATION (State and Discipline)

LEED Certified

18. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.)

Bill Crane is the Director of Design-Build Services at Leading Edge Design Group (LEDG), bringing over 15 years of expertise in guiding strategy, design, and construction for LEDG’s diverse portfolio of higher education clients. A seasoned leader in the data center industry, Bill excels in assessing and evaluating customer technology needs, site requirements, and future growth potential. His ability to provide tailored, innovative solutions empowers clients to make informed decisions that optimize efficiency, scalability, and long-term performance. Through his leadership, Bill has been instrumental in delivering high-performing data center solutions that meet the unique demands of academic institutions including Harvard, Emory, UNH, Dartmouth, and many others. Bill is a LEED Accredited Professional.

19. RELEVANT PROJECTS

(1) TITLE AND LOCATION (City and State)		(2) YEAR COMPLETED	
a.	Emory University, Data Center Renovation, Atlanta, GA	PROFESSIONAL SERVICES 2016, 2019, 2023	CONSTRUCTION (If applicable) In Progress
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm <input checked="" type="checkbox"/> Consultant. Conducted comprehensive evaluation of their data center portfolio and developed a forward-thinking 10-year strategic plan to optimize Emory’s data Center capabilities. Project Size: 8,000 sf, Construction Cost: \$1.8 M		
b.	University of Mississippi, Data center & research, Computing, Design, Migration, Oxford MS	PROFESSIONAL SERVICES 2022-2024	CONSTRUCTION (If applicable) In Progress
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm <input checked="" type="checkbox"/> Consultant. The team led the strategy and technology design for the new University of Mississippi - Mississippi Center for Supercomputing Research. Project Size: 18,000 sf, Construction Cost: \$20M (Est.)		
c.	Dartmouth College, Data Center Renovation, Hanover, NH	PROFESSIONAL SERVICES 2021-2024	CONSTRUCTION (If applicable) 2023-2024
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm <input checked="" type="checkbox"/> Consultant. Spearheaded the assessment, strategy, budgeting, and design-build process for Dartmouth College’s new data center. The project prioritized energy efficiency and sustainability. Project Size: 2,500 SF, Construction Cost: \$2.1 M		
d.	University of New Hampshire	PROFESSIONAL SERVICES 2012-2025	CONSTRUCTION (If applicable) Multi-Year
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Check if project performed with current firm <input checked="" type="checkbox"/>		

Consultant. Over 12-years guidance for their data center and high-performance research computing initiatives from strategy through design and implementation. LEDG's participation has been pivotal in the development of UNH'S cutting-edge research computing facility. **Project Size: N/A, Construction Cost: TBD**

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER

1

21. TITLE AND LOCATION (City and State)

Exeter Hospital
Data Center Cooling and UPS Study & Upgrades
Exeter, New Hampshire

22. YEAR COMPLETED

PROFESSIONAL SERVICES

2021

CONSTRUCTION (if applicable)

2024

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

Exeter Hospital

b. POINT OF CONTACT

Phil Chaput

c. POINT OF CONTACT TELEPHONE NUMBER

603.778.7311

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Fitzemeyer & Tocci provided comprehensive engineering services for the master planning of a data center in the Exeter Hospital in Exeter, New Hampshire. Our focus was on a feasibility study for a new primary data center within the hospital campus and concept design development for the replacement of an end-of-life-HVAC system and repairs for existing and partially damaged UPS.

The F&T team partnered with the hospital's US/IT department to develop the data system plan and define current and future data center needs, growth and reliability requirements. We also evaluated the general hospital infrastructure for the electrical system and chilled water capacity, as well as the system's reliability. This work provided Exeter Hospital with a strategic roadmap for its data center development, balancing immediate needs with future growth and technological advancements.

From the study, F&T and LEDG were contracted by Exeter Hospital to perform the upgrades identified in the study, including:

- A new data center in the lower level of the Northwest wing
- New mechanical and electrical systems to support the data center
- Consolidation of network core equipment into the new data center; including new fiber backbone to all existing data rooms in the hospital
- Minor renovations to existing HIM space to re-arrange the open office to accommodate the new data center; including the existing staff break space at the entrance to the proposed data center.

Project Relevance

- Assessment of Data Center Cooling and UPS
- Planning for future expansion and redundancy.
- Implemented upgrades identified in study (follow on project).
- F&T prime with LEDG team as subconsultant.

Project Data

- Contract period of performance: 04/2021 - 05/2024
- Date of Project Completion: May 2024
- Construction Cost: \$1,500,000
- Contract Value: \$250,000
- Project Size: 1,500 sf

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a	(1) FIRM NAME Fitzemeyer & Tocci Associates, Inc.	(2) FIRM LOCATION <i>(City and State)</i> Woburn, MA	(3) ROLE MEP/FP Engineering and Construction Administration
b	(1) FIRM NAME Leading Edge Design Group	(2) FIRM LOCATION <i>(City and State)</i> Enfield, NH	(3) ROLE Data Center Technology and Physical Assessment & Advisory

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER <div style="text-align: center; font-size: 1.2em;">2</div>
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21. TITLE AND LOCATION (City and State) Southern Nevada Water Authority Data Centers Las Vegas, Nevada	22. YEAR COMPLETED <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">PROFESSIONAL SERVICES 2020</td> <td style="width: 50%; padding: 2px;">CONSTRUCTION (if applicable) 2025 (est.)</td> </tr> </table>	PROFESSIONAL SERVICES 2020	CONSTRUCTION (if applicable) 2025 (est.)
PROFESSIONAL SERVICES 2020	CONSTRUCTION (if applicable) 2025 (est.)		

23. PROJECT OWNER'S INFORMATION

d. PROJECT OWNER Leading Edge Design Group	e. POINT OF CONTACT Todd Boucher	f. POINT OF CONTACT TELEPHONE NUMBER 603-632-4507
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24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Fitzmeyer & Tocci and Leading Edge Design Group provided MEP/FP and low voltage engineering to review, assess, and consolidate the existing data systems infrastructure, including HVAC systems, of three separate functional data centers located at the Alfred Merritt Smith Water Treatment Facility in Boulder City, Nevada.

As part of this effort, we developed a recommended concept for upgrade, modernization, and consolidation of these systems.

Phase 2 included the design component for the new data center as recommended in the review.

Project Relevance

- Review, assess, and consolidate the conditions of the existing systems infrastructure of 3 separate functional data centers.
- F&T (consultant) and LEDG (prime) team.

Project Data

- Contract period of performance: 08/03/2020 – 2025 (est).
- Date of Project Completion: 12/2025 (est.)
- Construction Cost: \$5,000,000
- Contract Value: \$235,000
- Project Size: 3,000 sf

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a	(1) FIRM NAME Fitzmeyer & Tocci Associates. Inc.	(2) FIRM LOCATION <i>(City and State)</i> Woburn, MA	(3) ROLE MEP/FP Engineering and Construction Administration
b	(1) FIRM NAME Leading Edge Design Group	(2) FIRM LOCATION <i>(City and State)</i> Enfield, NH	(3) ROLE Data Center Technology and Physical Assessment & Advisory

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER <div style="text-align: center; font-size: 1.2em;">3</div>
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21. TITLE AND LOCATION (City and State) Lehigh University EWFM Data Center Liquid Cooling Bethlehem, Pennsylvania	22. YEAR COMPLETED <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">PROFESSIONAL SERVICES 2022</td> <td style="width: 50%; padding: 2px;">CONSTRUCTION (If applicable) 2025 (est.)</td> </tr> </table>	PROFESSIONAL SERVICES 2022	CONSTRUCTION (If applicable) 2025 (est.)
PROFESSIONAL SERVICES 2022	CONSTRUCTION (If applicable) 2025 (est.)		

23. PROJECT OWNER'S INFORMATION

g. PROJECT OWNER Leading Edge Design Group	h. POINT OF CONTACT Todd Boucher	i. POINT OF CONTACT TELEPHONE NUMBER 603-632-4507
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24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Fitzemeyer & Tocci provided electrical, plumbing and HVAC engineering services for the design and construction administration associated with the renovation and upgrade of approximately 3,600 SF of an existing data center facility for the EWFM Data Center for Lehigh University, in Bethlehem, PA.

The HVAC work consisted of the design for extension and upgrade of the existing cooling and building control systems for support of the proposed renovations, which was supported by the design for the reconfiguration and modification of existing plumbing and electrical systems.

Project Relevance

- High Performance Computing upgrade project for a University
- Renovation and upgrade of existing data center facility to support an additional 60-tons of cooling by bringing liquid cooling
- F&T (consultant) and LEDG (prime) team.

Project Data

- Contract period of performance: 6/2022-12/2023
- Date of Project Completion: Dec 2025 (est.)
- Construction Cost: \$1,500,000
- Project Size: 3,600 SF

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a	(1) FIRM NAME Fitzemeyer & Tocci Associates. Inc	(2) FIRM LOCATION <i>(City and State)</i> Woburn, MA	(3) ROLE MEP/FP Engineering and Construction Administration
b	(1) FIRM NAME Leading Edge Design Group	(2) FIRM LOCATION <i>(City and State)</i> Enfield, NH	(3) ROLE Data Center Technology and Physical Assessment & Advisory

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER

4

21. TITLE AND LOCATION (City and State)

Vermont Electric Power Company | VELCO
Data Center Renovations
Rutland, Vermont

22. YEAR COMPLETED

PROFESSIONAL SERVICES
2015

CONSTRUCTION (if applicable)
2019

23. PROJECT OWNER'S INFORMATION

j. PROJECT OWNER

Vermont Electric Company

k. POINT OF CONTACT

Lori Amerio

l. POINT OF CONTACT TELEPHONE NUMBER

802-773-9161

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Fitzemeyer & Tocci Associates (F&T) provided mechanical, plumbing and electrical engineering design for the renovation of existing space and new generator building for the construction of a new critical utility data center. The project included renovated data center whitespace and a new out-building for emergency generators. HVAC work consists of design for a complete new heating/cooling, ventilation, exhaust and building control systems to support the process and environmental requirements of the new data center. Systems were designed to provide N+1 redundancy as required by the mission critical nature of the data center operations.

Velco maintains the electric grid for the State of Vermont and thus has very high security, to include Electromagnetic Pulse (EMP) protection measures.

Project Relevance

- Engineering design for renovation of existing space and new data center.
- Energy efficient infrastructure systems with focus on environmental requirements, maintainability, resiliency, security, and cost effectiveness.
- F&T (consultant) and LEDG (prime) team.

Project Data

- Contract period of performance: 10/30/2015 – 08/13/2019
- Date of Project Completion: 08/2019
- Construction Cost: \$2.25M
- Contract Value: \$112,000
- Project Size: 2,000 SF

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
a	Fitzemeyer & Tocci Associates. Inc.	Woburn, MA	MEP/FP Engineering and Construction Administration
b	Leading Edge Design Group	Enfield, NH	Data Center Technology and Physical Assessment & Advisory

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER

5

21. TITLE AND LOCATION (City and State)

**Dartmouth Hitchcock Medical Center
Off Site Data Center
Lebanon, New Hampshire**

22. YEAR COMPLETED

PROFESSIONAL SERVICES

2016

CONSTRUCTION (if applicable)

2019

23. PROJECT OWNER'S INFORMATION

m. PROJECT OWNER

Dartmouth-Hitchcock Medical Center

n. POINT OF CONTACT

David Stiger

o. POINT OF CONTACT TELEPHONE NUMBER

603-650-5741

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Fitzmeyer & Tocci provided full mechanical, electrical, plumbing, fire protection and commissioning services to construct a new, fully redundant backup data center for the DHMC (Dartmouth Hitchcock Medical Center). The project was designed to be expandable in the future and have the redundancy and resiliency concepts appropriate to become the system's primary data center in the future.

The MEP/FP systems were designed for a day 1 data center build out was capable of 500kW of IT load, with approximate day 1 loading of approximately 300kW; and the systems were designed with the capability to be expanded to support 1,000kW of IT load in the future.

The facility and infrastructure systems were all designed with the ability for zero-downtime capacity expansion. The electrical system was designed with full 2N redundancy, including on-site generator systems with the capacity for full facility backup. The data center cooling systems was designed with full 2N redundancy; with air-cooled, modular chiller equipment with integral air-side free cooling; and heating systems are N+1 redundant. The data center white spaces are protected by Novec 1230 clean agent fire suppression systems, with pre-action wet sprinkler backup. Electric rooms are also protected with pre-action system. Fire detection is provided by VEWFD air sampling and Very Early Warning Fire Detection (VEWFD) systems. The data center white space was designed in pods with hot-aisle containment enclosure systems with 2N in-row cooling. The project also included coordination with the electric utility for utility level upgrades to their distribution to improve reliability and resiliency for the geographic area of the project.

Project Relevance

- Engineering planning, design, and commissioning services for construction of new data center with a focus on resiliency.
- Design for a day 1 data center build out with 500kW capacity and zero-downtime capacity expansion.
- Cooling systems design with full 2N redundancy and heating systems are N+1 redundant
- F&T (Prime) and LEDG (consultant) team.

Project Data

- Contract period of performance: 6/2016 - 2/2019
- Date of Project Completion: 02/05/2019
- Construction Cost: \$6,000,000
- Contract Value: \$400,000
- Project Size: 13,500 sf

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a	(1) FIRM NAME Fitzmeyer & Tocci Associates. Inc.	(2) FIRM LOCATION <i>(City and State)</i> Woburn, MA	(3) ROLE MEP/FP Engineering and Construction Administration
b	(1) FIRM NAME Leading Edge Design Group	(2) FIRM LOCATION <i>(City and State)</i> Enfield, NH	(3) ROLE Data Center Technology and Physical Assessment & Advisory

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER

6

21. TITLE AND LOCATION (City and State)

**Lahey Health
Data Center Master Plan
Burlington, Massachusetts**

YEAR COMPLETED

PROFESSIONAL SERVICES
2016

CONSTRUCTION (if applicable)
2017

23. PROJECT OWNER'S INFORMATION

p. PROJECT OWNER

Lahey Health

q. POINT OF CONTACT

Paul Cantrell

r. POINT OF CONTACT TELEPHONE NUMBER

781-744-5100

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Fitzmeyer & Tocci provided MEP/FP protection engineering services to evaluate existing conditions and create a master plan for upgrade and expansion of Lahey Health's main data center in Burlington, MA. The results of the master plan work provided a conceptual design and an implementation roadmap for upgrade to dual utility power services, a third paralleled generator, and phased upgrade to in-row cooling.

The master plan also provided evaluation and phased implementation of load/power balancing of racks in the existing data center and a plan for new equipment installation to maintain balanced power and cooling performance.

Project Relevance

- Evaluate existing conditions and create a master plan for upgrade and expansion of Lahey Health's main data center
- Design for dual utility power services, third paralleled generated, and phased upgrade to in-row cooling.
- F&T (prime) and LEDG (consultant) team.

Project Data

- Contract period of performance:
10/2023 – 01/2017
- Date of Project Completion: January 2017
- Construction Cost: N/A
- Contract Value: \$32,000
- Project Size: 10,000 SF

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a	(1) FIRM NAME Fitzmeyer & Tocci Associates. Inc.	(2) FIRM LOCATION <i>(City and State)</i> Woburn, MA	(3) ROLE MEP/FP Engineering and Construction Administration
b	(1) FIRM NAME Leading Edge Design Group	(2) FIRM LOCATION <i>(City and State)</i> Enfield, NH	(3) ROLE Data Center Technology and Physical Assessment & Advisory

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER

7

21. TITLE AND LOCATION (City and State)

**Suffolk University
Data Center Renovation
Boston, Massachusetts**

22. YEAR COMPLETED

PROFESSIONAL SERVICES
2014

CONSTRUCTION (if applicable)
2016

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER

Suffolk University

b. POINT OF CONTACT

Michael B. Duggan

c. POINT OF CONTACT TELEPHONE NUMBER

617.994.6806

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Fitzemeyer & Tocci Associates (F&T) and Leading Edge Design (LEDG) Provided planning and engineering for the design and construction administration to enhance the existing data center cooling capability at Suffolk University's Frank Sawyer Building in Boston. The design effort's goal was to expand existing systems for new cooling at a level consistent with project planning and budgeting.

Project Relevance

- Development of a conceptual design and feasibility narrative to enhance the existing data centers' cooling capability
- F&T (consultant) and LEDG (prime) team.

Project Data

- Contract period of performance: 8/2013 – 5/2014
- Date of Project Completion: 5/2014
- Construction Cost: \$1M
- Contract Value: \$36k
- Project Size: 2,500 sf

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a	(1) FIRM NAME Fitzemeyer & Tocci Associates, Inc.	(2) FIRM LOCATION <i>(City and State)</i> Woburn, MA	(3) ROLE MEP Engineering and Construction Administration
b	(1) FIRM NAME Leading Edge Design Group	(2) FIRM LOCATION <i>(City and State)</i> Enfield, NH	(3) ROLE Data Center Technology and Physical Assessment & Advisory

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER

8

21. TITLE AND LOCATION (City and State)

**Emory University
Data Center Master Plan
Atlanta, Georgia**

22. YEAR COMPLETED

PROFESSIONAL SERVICES

2016

CONSTRUCTION (if applicable)

2017

23. PROJECT OWNER'S INFORMATION

d. PROJECT OWNER

Emory University

e. POINT OF CONTACT

David Hauenstein

f. POINT OF CONTACT TELEPHONE NUMBER

**david.hauenstein@emory.edu
404.727.6123**

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Fitzemeyer & Tocci and LEDG provided mechanical and electrical engineering services for the feasibility assessment of condensing four (4) separate data centers into a single location for Emory University in Atlanta, Georgia. The intended location had separate connections to the University's campus distribution loops as well as existing generators, UPS's, and chiller plant. Fitzemeyer & Tocci conducted a comprehensive study of the proposed data center location's existing conditions and provided recommendations of alterations to accommodate the redundancy desired for the data center.

Fitzemeyer & Tocci worked closely with Leading Edge Design Group to provide findings and recommendations for betterments of the building's electrical services, generator upgrades, electrical distribution and chilled water system. F&T was an integral part of several meetings with the University to walk through the analysis, findings and ultimate recommendations.

Project Relevance

- Full facility and infrastructure conceptual design for an upgraded data center.
- Energy efficient infrastructure systems with focus on maintainability, resiliency, security, and cost effectiveness.
- F&T (consultant) and LEDG (prime) team.

Project Data

- Contract period of performance: 10/24/2016 – 05/11/2017
- Date of Project Completion: May 2017
- Construction Cost: N/A
- Contract Value: \$15,000
- Project Size: N/A

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a	(1) FIRM NAME Fitzemeyer & Tocci Associates. Inc.	(2) FIRM LOCATION <i>(City and State)</i> Woburn, MA	(3) ROLE MEP/FP Engineering and Construction Administration
b	(1) FIRM NAME Leading Edge Design Group	(2) FIRM LOCATION <i>(City and State)</i> Enfield, NH	(3) ROLE Data Center Technology and Physical Assessment & Advisory

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>	20. EXAMPLE PROJECT KEY NUMBER 9
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21. TITLE AND LOCATION (City and State) St. Joseph Hospital Data Infrastructure Master Plan Nashua, New Hampshire	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES 2013	CONSTRUCTION (if applicable) 2014

23. PROJECT OWNER'S INFORMATION		
g. PROJECT OWNER St. Joseph Hospital - Nashua	h. POINT OF CONTACT Bob Kennedy	i. POINT OF CONTACT TELEPHONE NUMBER 603.595.3760

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

Fitzemeyer & Tocci provided MEP engineering services to develop a long-term strategic plan for data center infrastructure, spaces, and services designed to best support the availability, growth, and service level agreement requirements of the St. Joseph's Hospital system. As part of the project, Fitzemeyer & Tocci reviewed existing facility and infrastructure documentation and performed onsite review of existing data center spaces and supporting infrastructure systems. To determine if an augmented strategy should be employed, we reviewed existing cooling methodologies as compared to IT profile.

Project Relevance
<ul style="list-style-type: none"> Initial study and master plan (followed later by implementation projects). Full facility and infrastructure design for an upgraded data center. Fast-track project with varying requirements and a variety of infrastructure demands F&T (prime) and LEDG (consultant) team.
Project Data
<ul style="list-style-type: none"> Contract period of performance: 8/2013 – 1/2014 Date of Project Completion: 1/2014 Construction Cost: \$NA Contract Value: \$10,000 Project Size: 2,000 sf

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a	(1) FIRM NAME Fitzemeyer & Tocci Associates. Inc.	(2) FIRM LOCATION <i>(City and State)</i> Woburn, MA	(3) ROLE MEP Engineering and Construction Administration
b	(1) FIRM NAME Leading Edge Design Group	(2) FIRM LOCATION <i>(City and State)</i> Enfield, NH	(3) ROLE Data Center Technology and Physical Assessment & Advisory

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)

20. EXAMPLE PROJECT KEY NUMBER

10

21. TITLE AND LOCATION (City and State)

**University of New Hampshire
Data center and high-performance research computing initiatives
Durham, New Hampshire**

22. YEAR COMPLETED

PROFESSIONAL SERVICES

2012-2025

CONSTRUCTION (if applicable)

Multi-Year

23. PROJECT OWNER'S INFORMATION

j. PROJECT OWNER

University of New Hampshire

k. POINT OF CONTACT

Randy Carver

l. POINT OF CONTACT TELEPHONE NUMBER

randy.carver@unh.edu
603- 862-3424

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

LEDG has had a strategic partnership with the University of New Hampshire (UNH) for over 12 years, guiding their data center and high-performance research computing initiatives from strategy through design and implementation. LEDG's expertise has been pivotal in the development of UNH's cutting-edge research computing facility, driving equipment revitalization projects, and conducting comprehensive power, network, and cooling assessments. LEDG also oversees the implementation of advanced infrastructure solutions and provides annual advisory services to ensure UNH and its statewide campuses consistently maintain state-of-the-art, future-ready computing environments. LEDG leadership has positioned UNH at the forefront of innovation in academic and research technology.

Project Relevance

- Guiding a university's data center and high-performance research computing initiatives from strategy through design and implementation.
- Oversees the implementation of advanced infrastructure solutions and provides annual advisory services

Project Data

- Contract period of performance: 2021 – 2025 (est)
- Date of Project Completion: Est. 2025
- Construction Cost: TBD
- Project Size: N/A

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
a	Leading Edge Design Group	Enfield, NH	Data Center Technology and Physical Assessment & Advisory

G. KEY PERSONNEL PARTICIPATION IN EXAMPLE PROJECTS

26. NAMES OF KEY PERSONNEL (From Section E, Block 12)	27. ROLE IN THIS CONTRACT (From Section E, Block 13)	28. EXAMPLE PROJECTS (Fill in "Example Projects Key" section below before completing table. Place "X" under project key number for participation in same or similar role.)											
		1	2	3	4	5	6	7	8	9	10		
Name	Role												
Scott LeClair, PE, LEED AP, Major – USAF (ret.)	Principal-in-Charge, MEP/FP	X	X	X	X	X	X	X	X	X	X	X	X
Daniel Noto, PE, LEED AP	Project Manager (MEP)							X	X	X			
Terence Boland, PE,	Mechanical Engineer	X	X	X	X	X	X	X	X	X	X	X	X
Michael Pang, PE, LEED AP	Electrical Engineer								X	X			
Richard D. Barbera, CPD	Plumbing Engineer							X	X	X			
Ryan McCarthy,	Fire Protection Technical Specialist								X	X			
Todd Boucher	Principal-in-Charge, Data Center Technology and Physical Assessment & Advisory	X	X	X	X	X	X	X	X	X	X	X	X
Bambi Rivera	Project Manager, Data Center Technology and Physical Assessment & Advisory		X							X			X
Bill Crane	Data Center Technology and Physical Assessment & Advisory		X							X			X

29. EXAMPLE PROJECTS KEY

NO.	TITLE OF EXAMPLE PROJECT (FROM SECTION F)	NO.	TITLE OF EXAMPLE PROJECT (FROM SECTION F)
1	St. Joseph Hospital Data infrastructure Nashua, New Hampshire	6	Southern Nevada Water Authority Communication Rooms – SD Report Las Vegas, Nevada
2	Emory University Data Center Master Plan South Burlington, Vermont	7	Exeter Hospital Data Center Cooling and UPS Upgrades Exeter, New Hampshire
3	Velco Data Center Rutland, Vermont	8	Lehigh University EWF M Data Center Liquid Cooling Bethlehem, Pennsylvania
4	Dartmouth Hitchcock Medical Center Off Site Data Center Lebanon, New Hampshire	9	Suffolk University Data Center Renovation Boston, Massachusetts
5	Lahey Health Data Center Master Plan Burlington, Massachusetts	10	University of New Hampshire Data Center & High-Performance Computing Initiatives Durham, NH

H. ADDITIONAL INFORMATION

30. PROVIDE ANY ADDITIONAL INFORMATION REQUESTED BY THE AGENCY. ATTACH ADDITIONAL SHEETS AS NEEDED.



NORTH CAROLINA BOARD OF EXAMINERS FOR ENGINEERS AND SURVEYORS

4601 Six Forks Rd Suite 310
Raleigh, North Carolina 27609

Fitzmeyer & Tocci Associates, Inc.
300 Unicorn Park Drive, 5th Floor
Woburn, MA 01801

This is to Certify that:

Fitzmeyer & Tocci Associates, Inc. is licensed with the North Carolina Board of Examiners for Engineers and Surveyors, and is authorized to practice **engineering** under the provisions of Chapter 89C and 55B of the General Statutes of North Carolina.

This authorization must be renewed annually, and **expires on June 30, 2025**

License No. : F-1079



THE NORTH CAROLINA BOARD OF EXAMINERS FOR ENGINEERS AND SURVEYORS

Executive Director

POST IN PLACE OF BUSINESS

Issued 06/05/2024

8 . AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

31. SIGNATURE

32. DATE

1/13/2024

33. NAME AND TITLE

Scott LeClair, PE, LEED AP, President

ARCHITECT-ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER (If any)

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)


2a. FIRM (OR BRANCH OFFICE) NAME			3. YEAR ESTABLISHED	4. UNIQUE ENTITY IDENTIFIER
Fitzemeyer & Tocci Associates, Inc			1961	XURBN8SGZ1T7
2b. STREET			5. OWNERSHIP	
300 Unicorn Park Drive, 5 th Floor			a. TYPE	
2c. CITY	2d. STATE	2e. ZIP CODE	Corporation	
Woburn	MA	01801	b. SMALL BUSINESS STATUS	
6a. POINT OF CONTACT NAME AND TITLE			Small Business	
Scott LeClair, PE, LEED AP, President			7. NAME OF FIRM (If block 2a is a branch office)	
6b. TELEPHONE NUMBER		6c. E-MAIL ADDRESS		Fitzemeyer & Tocci Associates, Inc
781.779.5093		sleclair@f-t.com		
8a. FORMER FIRM NAME(S) (If any)			8b. YR. ESTABLISHED	8c. UNIQUE ENTITY IDENTIFIER

9. EMPLOYEES BY DISCIPLINE				10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS		
a. Function Code	b. Discipline	c. No. of Employees		a. Profile Code	b. Experience	c. Revenue Index Number (see below)
		(1) FIRM	(2) BRANCH			
02	Administrative	8		F03	Fire Protection	5
21	Electrical Engineers	13		H04	Heating; Ventilation; Air Conditioning	6
25	Fire Protection Engineers	4		L05	Lighting (Interiors; Display; Theatre)	5
42	Mechanical Engineers	12		P07	Plumbing and Piping Design	5
45	Commissioning Engineer	4		P12	Power Generation, Transmission, Distribution	6
16	Construction Administration	2			Commissioning	2
	Plumbing Engineers	4				
	Other Employees	5				
	Total	52				

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS (Insert revenue index number shown at right)		PROFESSIONAL SERVICES REVENUE INDEX NUMBER			
a. Federal Work	3	1. Less Than \$100,000	6. \$2 million to less than \$5 million		
b. Non-Federal Work	6	2. \$100,000 to less than \$250,000	7. \$5 million to less than \$10 million		
c. Total Work	7	3. \$250,000 to less than \$500,000	8. \$10 million to less than \$25 million		
		4. \$500,000 to less than \$1 million	9. \$25 million to less than \$50 million		
		5. \$1 million to less than \$2 million	10. \$50 million or greater		

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE	b. DATE
	3/13/2023

c. NAME AND TITLE
 Scott LeClair, PE, LEED AP, President

