

Professional Summary

Mr. O'Higgins specializes in investigation, testing, evaluation, and design of repairs for non-performing building mechanical systems including hot water and steam heating systems, central chilled water cooling systems, direct expansion air conditioning systems, exhaust systems, geothermal systems, plumbing (water, sanitary and storm) systems for Institutional, Educational, Pharmaceutical, Manufacturing, Hospitality, and Residential buildings.

Expertise

- Heating systems investigation
- Cooling systems investigation
- Building energy use modeling
- Piping (hot water/chilled water) investigation
- Building control systems investigation
- HVAC system air flow investigation
- Building energy surveys
- Building comfort conditions analysis
- Plumbing thermal hot water piping and heater investigations
- Plumbing sanitary piping investigation
- Mechanical code/standards analysis and review
- Design of Repairs, Development of Drawings and Specifications
- Construction Contract Administration

Education

<u>Year</u>	<u>College or University</u>	<u>Degree</u>
1971	Valparaiso University	B.S. Mechanical Engineering

<u>Year</u>	<u>Continuing Education</u>
2004	LEED AP Accreditation Course and Exam, USGBC
2004	Certified Forensic Consultant, CFC Program and Exam, American College of Forensic Examiners International, Chicago, IL
2005	Preventing Moisture and Mold Problems: Design and Construction Guidelines, ASHRAE Orlando, FL
2007	Healthcare Facilities – Best Practices HVAC Design Considerations and Criteria, ASHRAE, Dallas, TX
2007	Introduction to Ground Source Heat Pumps, ASHRAE, Dallas, TX
2007	Designing “State of the Art” Green LEED Laboratories, Flow Safe, Inc., Buffalo Grove, IL
2008	Mock Arbitration Seminar – Part I & II, ASHRAE, New York, NY

- 2008 Time Management, Strategic Coach, Rosemont, IL
- 2008 Geothermal Heat Pump Systems Part I & II, ASHRAE, Itasca, IL
- 2009 Fundamental of High Efficiency Hot Water Heater Design & Application, Lochinvar Corp., Reading, PA
- 2009 Condensing Issues in Cast Iron Broilers, Callahan, Elgin, IL
- 2009 Design of Chilled Beam Systems and Applications, Trox Technik, Nashville, TN
- 2010 Contract Negotiations, Willis A&E, Chicago, IL
- 2010 Design Professionals Errors and Omissions, AIA, Oak Brook, IL

Professional Experience

Organization: Packer Engineering Group

- 2011 - Present **Title:** Collaborating Consultant
Summary: Provide oversight, leadership, and management of investigation practice related to mechanical (HVAC), electrical, and plumbing.

Organization: O'Higgins and Arnold Sustainability, LLC

- 2013 - Present **Title:** Principle
Summary: Provide direction and management for multidiscipline consulting engineering firm specializing in HVAC, plumbing, and electrical design related to new and renovation building projects. Specific experience in due diligence investigation of building infrastructure systems and forensic examination of building system problems and failures.

Organization: Metro Design Associates, Inc., Elgin, IL

- Titles:**
1994 - 2013 President
1989 - 1994 Vice President

Summary: Provide direction and management for multidiscipline consulting engineering firm specializing in HVAC, plumbing, and electrical design related to new and renovation building projects. Specific experience in due diligence investigation of building infrastructure systems and forensic examination of building system problems and failures.

Organization: Owens Services Corporation – Bloomington, MN

- 1985 - 1989 **Title:** Vice President Contracting

Summary: Provided oversight and management of the design-build construction division of the company. Areas of expertise covered HVAC systems for Data Centers and manufacturing facilities.

Organization: **Beling Consultants, Inc. – Moline, IL**

Titles:

1979-1985 Manager of MEP/Principal

1975-1979 Project Manager

Summary: Provided oversight and management of MEP consulting department specializing in hospital and educational buildings.

Organization: **Stanley Consultants, Inc. – Muscatine, IA**

1974-1975 **Title:** Mechanical Engineer

Summary: Responsible for the design of HVAC and plumbing systems for higher education and manufacturing facilities.

Organization: **Austin Co. – Des Plaines, IL**

1971-1974 **Title:** Mechanical Engineer/Estimator

Summary: Responsible for the design of HVAC systems for pharmaceutical and manufacturing facilities. GMP estimating of scope design documents.

Professional Affiliations, Achievements & Presentations

Professional Affiliations:

• **Registrations/Certifications**

- Licensed Professional Engineer in the States of Illinois, Indiana, Iowa, Minnesota, Ohio, Texas, and Wisconsin.
- National Council of Examiners for Engineering and Surveying (NCEES) Certification

• **American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc. (ASHRAE), Member**

- Distinguished Services Award (DSA)
- Vice Chairman Professional Development Committee
- Chairman of PDC sub-committee
- Past Director and Regional Chair of Region VI (two terms)
- Past Chairman of Honors and Awards Committee
- Reviewer ASHRAE 62.1 Electronic Course

- Past Regional Vice Chairman of Promotion
- **American Board of Engineering and Technology – American College of Forensic Examiners**
 - Diplomat
 - Certified Forensic Consultant
- **US Green Building Council**
 - LEED AP
- **Environmental Testing and Balancing for Air and Hydronic Environmental Systems**
 - Past Certified Supervisor
- **Illinois Society of Professional Engineers, Member**
- **National Society of Professional Engineers, Member**
- **Service Associate Illinois Association of School Board Officials**
 - Member, Professional Development Committee

Achievements & Awards:

- **Junior Engineer of the Year, Quad City**
- **Joint Engineering Council, 1979**
- **Energy Design Award, ASHRAE, 1985**
- **Distinguished Service Awards, ASHRAE, 1999**
- **Distinguished Service Recognition, Baxter Pharmaceuticals, 2000**

Presentations & Workshops:

- **“Design of Educational Facility Infrastructure Systems”**, Presenter, Illinois School Board Association, Chicago, Illinois, November 21-22, 2006
- **“Energy Conservation in Schools”**, Presenter, Wisconsin Tri-Conference Schools Meeting, Wisconsin Dells, Wisconsin, 2009