



ENGINEER: CIVIL/STRUCTURAL

EDWARD M. DEEGAN, JR., M.S., P.E.

Engineering Design & Testing Corp.
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EDUCATION

- 2009 **Master of Science, Civil Engineering**
Drexel University, Philadelphia, Pennsylvania
- 2002 **Bachelor of Science, Civil Engineering**
Northeastern University, Boston, Massachusetts

EXPERIENCE

- May 2009
to Present **Engineering Design & Testing Corp.**
Cherry Hill, New Jersey
- Consulting Engineer, District Engineering Manager*
Specialized consulting, with an emphasis on root cause, scope, and value of damage. Investigations include property damage to residential, commercial, industrial, institutional and government buildings, bridges, and other structures. Systems include gravity and lateral load-resisting structures, building envelopes, and stormwater conveyance. Types of damages include, but are not limited to, wind, fire, water intrusion, storm surge, snow, earthquake, explosion, foundation settlement, deterioration, corrosion, impact and construction defect. Investigations also include construction site and pedestrian accidents, involving the built environment.
- January 2016
to Present **New Jersey Task Force One**
Wall Township, New Jersey
- Structures Specialist*
Assess structures for damaged conditions, monitor damaged structures, and mitigate structural hazards to ensure responder safety and successful rescues in support of post-disaster search and rescue operations. Services provided through the Federal Emergency Management Agency's National Urban Search and Rescue Response System and the New Jersey State Police's Homeland Security Branch/Office of Emergency Management.
- September 2019
to Present **Drexel University**
Philadelphia, Pennsylvania
- Adjunct Faculty*
Instruct students in the Architecture Department of Westphal College of Media Arts and Design on the fundamentals of structural engineering. Courses include Structural Systems I and II, which address topics of measurements, mechanics of materials, structural failure, factors of safety, structural loading, structural systems, load path, and static analysis of trusses, beams, and frames.

August 2007
to May 2009

CMX, Inc.
Voorhees, New Jersey

Project Engineer

Provided civil engineering services for wireless telecommunication sites including the evaluation of existing structures and the design of structural modifications in compliance with the International Building Code and other applicable codes. Structures included monopoles, self-support towers, guyed towers, utility structures, water towers and buildings. Provided engineering testimony for wireless telecommunication site applications at municipal zoning hearings. Also provided evaluation of existing structures for support of photovoltaic systems (solar panels).

July 2002
to August 2007

Cornell & Co., Inc.
Woodbury, New Jersey

Project Engineer

Developed and engineered solutions for temporary support structures and erection crane installations related to building and bridge erection and rehabilitation. Equipment included tower cranes, truck cranes, crawler cranes and derricks. Projects included widening of highway bridges, girder bearing replacements, elevated subway bridge reconstruction, building rehabilitation and new construction. Conducted field monitoring for compliance with temporary support and erection specifications. Analyzed structures for stresses and deflections due to hoisting, jacking and loads induced by cranes and derricks. Evaluated bridge girder stability for steel erection operations. Designed rigging and erection crane schemes for critical lifts (heavy-lift planning). Developed erection crane layouts and provided on-site project management services for efficient field production.

January 2002
to April 2002

Natgun Corp.
Wakefield, Massachusetts

Co-Op Engineer

Construction management services for pre-stressed concrete water storage tanks, including coordinating requests for quotes and preparation of site layout drawings of construction operations.

March 2001
to June 2001

Weidlinger Associates, Inc.
Cambridge, Massachusetts

Engineer-in-Training

Bridge rating calculations and reports for local and state authorities. Field visits for bridge rating projects and other project proposals.

June 2000
to January 2001

S&F Concrete Contractors, Inc.
Boston, Massachusetts

Field Engineer

Engineering and construction management support during the construction of three reinforced concrete high-rise office, hotel and residential buildings in downtown Boston, including establishing building control lines with electronic survey equipment and accurately measuring, calculating and ordering concrete.

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- January 2000
to March 2000 **Kiewit/Atkinson/Cashman, A Joint Venture**
Boston, Massachusetts
Co-Op Engineer
Contributed to construction operations, on-site safety and quality control for Central Artery/Tunnel Project, including formwork design for concrete bridge deck, field monitoring of ground water levels, and mass concrete differential temperature analysis.
- January 1999
to June 1999 **HDR Engineering, Inc.**
Boston, Massachusetts
Engineering Aide
Provided construction phase services for Central Artery/Tunnel Project (Big Dig) including conflict resolution, submittal review and contract drawing revisions. Drafting and computer programming for New York Interstate-287 bridge rehabilitation.
- June 1998
to September 1998 **Cornell & Co., Inc.**
Woodbury, New Jersey
CAD Operator
Crane layout plans for steel and precast concrete erection operations. Calculations for critical lifts and temporary support design.

REGISTRATIONS and CERTIFICATIONS

- Registered Professional Engineer (Civil) in Arizona (#48045)
Registered Professional Engineer in Connecticut (#28208)
Registered Professional Engineer in Delaware (#16493)
Registered Professional Engineer in District of Columbia (#PE905202)
Registered Professional Engineer in Kentucky (#26315)
Registered Professional Engineer in Maine (#PE15284)
Registered Professional Engineer in Maryland (#36855)
Registered Professional Engineer in Michigan (#6201068176)
Registered Professional Engineer (Civil) in Nevada (#19379)
Registered Professional Engineer in New Hampshire (#15166)
Registered Professional Engineer New Jersey (#24GE04713800)
Registered Professional Engineer New York (#088683)
Registered Professional Engineer North Carolina (#044284)
Registered Professional Engineer in Pennsylvania (#PE074225)
Registered Professional Engineer in Virginia (#45955)
Registered Professional Engineer in West Virginia (#18734)
National Council of Examiners for Engineering and Surveying (NCEES) (Record #35213)

PROFESSIONAL ORGANIZATIONS

American Society of Civil Engineers (ASCE)

- Forensic Engineering Division
- Construction Safety Committee – Crane Safety Subcommittee
- Temporary Structures Committee

Structural Engineers Association of Pennsylvania (SEAOP)

Delaware Valley Association of Structural Engineers (DVASE)

International Code Council (ICC)

National Roofing Contractors Association (NRCA)

PUBLICATIONS

“The History and Significance of Star Bolts,” The Stress Point, December 2018, pg. 14.

“The Five “Ws” of Construction Subrogation,” Subrogator, Spring/Summer 2013, pg. 50, with Dana R. Bowling.

“Spare Part Storage Optimization Onboard Deployable Military Support Assets,” Naval Engineers Journal, Vol. 122, No. 1, 2010, pg. 137, with J. A. Goshorn and B. E. Layton.

PRESENTATIONS

“Watch Your Head: Standard of Care Examined Through a Warehouse Roof Collapse,” Engineering Design & Testing Corp.: Annual Engineers’ Meeting, February 8, 2020, Savannah, Georgia.

“Stiffleg Derricks: What Are They?,” American Society of Civil Engineers: Construction Institute Summit 2019, March 8, 2019, Atlanta, Georgia.

“Construction Engineering: A Focus on the Use of Cranes in Construction Operations,” Engineering Design & Testing Corp.: Annual Engineers’ Meeting, February 8, 2019, Charlotte, North Carolina.

“Structural Collapse Refresher & Hurricane Michael Review,” Gloucester County Technical Rescue Team, October 25, 2018, Washington Township, New Jersey.

“Basics of Building Construction for the First Responder,” Gibbstown Volunteer Fire Company No. 1, September 11, 2018, Gibbstown, New Jersey.

“A Mock Administrative Licensing Hearing Focusing on Structural Engineering Ethics and the Code of Conduct,” Delaware Valley Association of Structural Engineers, February 14, 2018, Plymouth Meeting, Pennsylvania.

“A Primer Regarding Blast Loads on Structures,” Engineering Design & Testing Corp.: Annual Engineers’ Meeting, February 5, 2016, Columbia, South Carolina.

“To Fall or Not To Fall? That is the Question: A Guide to Investigation of Imminent Collapse,” Engineering Design & Testing Corp.: Annual Engineers’ Meeting, February 7, 2014, Salt Lake City, Utah.

“Property Case Studies Involving Structural Engineering Issues,” National Association of Subrogation Professionals: New Jersey Chapter Meeting, September 6, 2012, Mount Laurel, New Jersey.

CONTINUING EDUCATION

- 2019 *FEMA/USACE US&R Advanced Structures Specialist Training Course – StS2*, US Army Corps of Engineers, Moffett Field, Mountain View, California
- 2018 *FEMA/USACE US&R Structures Specialist Regional Training*, US Army Corps of Engineers Miami, Florida
- 2017 *FEMA National US&R Response System, Heavy Equipment and Rigging Specialist – Computer-Based Training*, Lakehurst Naval Air Station, Lakehurst, New Jersey
FEMA National US&R Response System, Structural Collapse Specialist – Computer-Based Training, Lakehurst Naval Air Station, Lakehurst, New Jersey
- 2016 *FEMA/USACE US&R Structures Specialist, 56-Hour Basic Training Course – StS1*, US Army Corps of Engineers, Moffett Field, Mountain View, California
- 2015 *Structural Design for Bomb Blast Loads and Accidental Chemical Explosions*, American Society of Civil Engineers, Secaucus, New Jersey
- 2014 *Earthquake-Induced Ground Motions*, American Society of Civil Engineers, Philadelphia, Pennsylvania
- 2013 *Energy Efficient Building Envelope Design & Construction*, HalfMoon Education Inc., Cherry Hill, New Jersey
Seminar on Shear Walls, Engineered Wood Beams, Connections and Special Design Provisions for Wind and Seismic Loads, American Wood Council, Philadelphia, Pennsylvania
- 2012 *California Emergency Management Agency Safety Assessment Program*, Delaware Valley Association of Structural Engineers, Philadelphia, Pennsylvania
Seismic Loads for Buildings and Other Structures, American Society of Civil Engineers, Baltimore, Maryland
- 2011 *Moisture and the Building Envelope: How to Avoid Problems*, Construction Specifications Institute, Philadelphia, Pennsylvania
Workshop on Conducting Period Façade Inspections, ASTM International Committee E06, West Conshohocken, Pennsylvania
- 2009 *Confined Spaces Training*, National Safety Council, Charlotte, North Carolina
Design & Renovation of Wood Structures, American Society of Civil Engineers, Philadelphia, Pennsylvania
National Advanced Fire Arson and Explosion Investigation Training Program, National Association of Fire Investigators, Sarasota, Florida
Structural Condition Assessment of Existing Structures, American Society of Civil Engineers, St. Louis, Missouri
- 2005 *Steel Design After College*, American Institute of Steel Construction, Philadelphia, Pennsylvania
- 2003 *OSHA 30 Hour Training Course — Construction Safety & Health*, Cornell & Co., Inc. Safety Department, Woodbury, New Jersey