



Unified
Investigations & Sciences, Inc.



Midwest Service Center

Grant T. Halvorsen, SE, PE, PhD, SECB, FACI
Senior Forensic Engineer

Bloomington, Illinois
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EDUCATION:

University of Illinois at Urbana-Champaign
Urbana, Illinois
Doctor of Philosophy
Civil Engineering
Structural Engineering and Concrete Materials

University of Illinois at Urbana-Champaign
Urbana, Illinois
Master of Science
Civil Engineering
(Structural Engineering)

Illinois Institute of Technology
Chicago, Illinois
Bachelor of Science (with High Honors)
Civil Engineering

EMPLOYMENT:

Unified Investigations & Sciences, Inc.
Bloomington, Illinois
Senior Forensic Engineer
August 2008 to Present.

TRC Engineers, Inc.
Bloomington, Illinois
Senior Principal Structural Engineer
November 2007-June 2008

EMPLOYMENT (CON'T):

EFI Global of Illinois, Inc.
Carol Stream, Illinois
Senior Structural Engineer
March 2006-October 2008

Grant T. Halvorsen, SE, PE
Wheaton, Illinois
Principal
October 2005-March 2006
January 2003-September 2003
January 1994-November 1999

LM Consultants, Inc.
Vernon Hills, Illinois
Associate/Principal Engineer
September 2003-September 2005

GLE Group
Chicago, Illinois
Principal Structural Engineer
August 2002-January 2003

LAW Engineering and Environmental Consultants
(MACTEC Engineering and Consulting)
Itasca/ Addison/ Chicago, Illinois
Senior Structural Engineer
November 1999-July 2002

The Aberdeen Group
Addison, Illinois
Engineering Editor
August 1992-December 1993

Carl A. Peterson and Associates, Inc.
Northbrook, Illinois
Senior Engineer/ Senior Structural Engineer/ Associate
May 1989-May 1992

EMPLOYMENT (CON'T):

United States Department of Health and Human Services
Centers for Disease Control
National Institute for Occupational Safety and Health
Division of Safety Research
Civil Engineer (full-time) June 1982-August 1982
Civil Engineer (part-time) August 1982-June 1983)

West Virginia University
Department of Civil Engineering
Morgantown, West Virginia
Assistant/ Associate Professor
August 1979-August 1989.

State University of New York at Buffalo
Buffalo-Amherst, New York
Department of Civil Engineering
Assistant Professor
August 1978-August 1979

University of Illinois at Urbana-Champaign
Department of Civil Engineering,
Urbana, Illinois,
Research and Teaching Assistant
August 1973-May 1978.

Rauenhorst (Opus) Corporation
Bloomington, Minnesota
Project Engineer
June 1973-August 1973

SPECIALIZED TRAINING:

- Structural Engineers Association of Illinois, Post-Disaster Safety Evaluation of Buildings, April 5, 2010, Glenview, Illinois, 6 Hours
- National Council of Structural Engineering Associations, “Guide to the Design of Diaphragms, Chords, and Collectors,” July 16, 2009, Chicago, Illinois, 4 Hours
- Illinois Section American Society of Civil Engineers Structural Group, “Load Testing and Reinforcement of a 1920’s Vintage Reinforced Concrete Building,” Chicago, Illinois, June 17, 2009, 1 Hour
- Structural Engineers Association of Illinois, Structural Design with Fiber Reinforced Plastics, June 17, 2009, Chicago, Illinois, 4 Hours

SPECIALIZED TRAINING (CON'T):

- National Council of Structural Engineering Associations, “Sustainable Design and Disaster Resilience (live webinar),” Bloomington, Illinois, June 16, 2009, 2 Hours
- National Council of Structural Engineering Associations, “Structural Integrity (live webinar),” May 18 2009, 1.5 Hours—Tested.
- Structural Engineers Association of Illinois, “Blast Resistant Design,” March 31, 2009, Chicago, Illinois, 7.5 Hours
- Structural Engineers Association of Illinois, “Overview of Legal Issues of Structural Engineering Practice,” Chicago Illinois, March 2009, 4 Hours
- Haag Engineering, “Hail Certified Roof Inspector—Residential,” Rosemont, Illinois, December 2008, 20 Hours—Tested
- International Masonry Institute and Ryan-Biggs Associates, “Design and Details of Hybrid Masonry Structures,” Chicago, Illinois, November 2008, 3.5 Hours
- American Society of Mechanical Engineers, Skokie Valley Branch, “Independent Analysis of the I-35W Bridge Collapse, Schaumburg, Illinois, May 2008, 1 Hour
- Illinois Structural Engineers Foundation Lecture, “Khan’s Vision,” Chicago, Illinois, November 2007, 1 Hour
- City of Wheaton Fire Department, AED Heartsaver CPR, Wheaton, Illinois, September 2007, 4 Hours – Tested
- American Institute for Steel Construction, “Manual of Steel Construction 13th Edition,” Chicago, Illinois, November 2007, 7.5 Hours
- Structural Engineering Institute of the American Society of Civil Engineers, Building Security Certified Professional Training, DesPlaines, Illinois, November 2007, 13.5 Hours
- University of Missouri, Columbia, Center for Explosion-Resistant Design, Explosion Effects and Structural Design for Blast, St. Louis, Missouri, July 2007, 15 Hours
- EFI Global, Inc., “Wind Effects and Hurricane Training,” Atlanta, Georgia, May 3-4, 2006, 10 Hours
- Haag Engineering, “Inspection and Evaluation of Residential Roofing, Bloomington, Minnesota, 8 Hours
- HalfMoon Seminars, Illinois Professional Engineering Practice: Complying with Laws and Regulations, Naperville, Illinois, April 29, 2005, 6 Hours

SPECIALIZED TRAINING (CON'T):

- American Welding Society Illinois Section and Structural Engineers Association of Illinois, “Designing Effective Steel Connections,” Joint Meeting, Westmont, Illinois, April 13, 2005, 1 Hour
- University of Illinois at Urbana-Champaign, Department of Civil Engineering, 6th Annual UIUC Structural Engineering Conference, Urbana, Illinois, April 7, 2005, 6 Hours
- Chicago Committee on High-Rise Buildings, “High-Rise Fire and Life Safety: Recent Developments and Directions,” Chicago, Illinois, March 24, 2005, 6 Hours
- Research Engineers International, “STAAD Pro Computer Software,” Chicago, Illinois, March 11, 2005, 4 Hours
- Structural Engineers Association of Illinois, “Earth Retention and Deep Foundations,” Seminar, Chicago, Illinois, March 3, 2005, 4 Hours
- Structural Engineers Association of Illinois, “Chicago Porch Ordinance—Background and Field Studies,” Chicago, Illinois, March 1, 2005, 1 Hour
- Chicago Building Department, City of Chicago Life Safety and High-Rise Ordinance,” Chicago, Illinois, March 1, 2005, 2 Hours
- American Society of Civil Engineers Illinois Section, “Illinois Accessibility Code: Civil-Related Requirements,” Schaumburg, Illinois, November 11, 2004, 4 Hours
- Precast Prestressed Producers of Illinois and Wisconsin, “Hollow Core Design Seminar,” Precast University, Chicago, Illinois September 23, 2004, 3 Hours
- Steel Joist Institute, Specifying Steel Joists and Joist Girders, Seminar, Oakbrook Illinois, July 13, 2004, 7.5 Hours
- Structural Engineering Institute of the American Society of Civil Engineers, Designing and Detailing Masonry, Livonia, Michigan, May 18, 2004, 7.5 Hours
- Office of the Illinois Attorney General, “Accessible Parking,” Seminar, Schaumburg, Illinois, May 7, 2004, 2 Hours
- Hoover Treated Wood Products, Inc., “Hoover Treated Wood Products,” Downer’s Grove, Illinois. January 21, 2004, 3 Hours
- University of Wisconsin Engineering Extension, “Asphalt Pavement Maintenance,” Madison, Wisconsin, January 5-6, 2004, 12 Hours
- University of Wisconsin Engineering Extension, “Low-Slope Roofing,” Madison, Wisconsin, December 15-17, 2003, 18 Hours

SPECIALIZED TRAINING (CON'T):

- Structural Engineers Association of Illinois, “New Guidelines for Concrete Design,” Oakbrook, Illinois, November 20, 2003, 7.5 Hours
- Precast-Prestressed Concrete Producers of Illinois and Wisconsin, “Total Precast Structures,” Chicago, Illinois, November 12, 2003, 2.5 Hours
- LS Contracting, Inc. and Stone Mountain Systems, Inc., “Sky Climber Safety and Applications Training,” Hillside, Illinois, March 28, 2003, 4 Hours
- Steel Structures Technology Center, Inc., “Structural Welding: Design and Specifications,” Elk Grove Village, Illinois, November 19, 2002, 4 Hours
- Chicago Department of Buildings, “Chicago Façade Ordinance, Scaffold Act, Energy Permitting,” Chicago, Illinois, November 1, 2002, 4.5 Hours
- Simpson Strong-Tie, “Anchoring Workshop,” Willowbrook, Illinois, August 29, 2002, 7 Hours
- Chicago Department of Buildings, “City of Chicago Energy Code (Chicago Energy Professional Training and Certification)” Chicago, Illinois, May 3, 2002, 6 Hours
- Precast Prestressed Concrete Producers of Illinois and Wisconsin, Precast Parking Decks, Naperville, Illinois, April 10, 2002, 2.5 Hours
- Chicago Committee on High Rise Buildings and City of Chicago Department of Buildings, Building Exterior Inspection and Maintenance Requirements in Chicago, Chicago, Illinois, January 2001, 4 Hours
- College of DuPage, AED Heartsaver CPR, Glen Ellyn, Illinois, 2000, 4 Hours—Tested
- College of DuPage, Heartsaver CPR, Glen Ellyn, Illinois, 2000, 4 Hours—Tested
- Radiofrequency Safety International Corporation, Radiofrequency Radiation Site Safety Awareness One-Day Course, Elmhurst, Illinois, September 14, 2001, 8 Hours
- American Institute for Steel Construction and Structural Engineer's Association of Illinois, LRFD-Based Design, Oakbrook, Illinois, April 2000, 16 Hours
- LAW Engineering and Environmental Services, Inc., Risk Management, Raleigh, North Carolina, March 2000, 12 Hours—Tested
- LAW Engineering and Environmental Services, Inc., Project Management, Houston, Texas, February, 2000, 12 Hours—Tested
- LAW Engineering and Environmental Services, Inc., Quality Management, Itasca, Illinois, December 1999, 2 Hours—Tested
- American Society of Civil Engineers, “Effects of Malevolent Vehicle Explosions,” Chicago, Illinois, 1997, 4 Hours

SPECIALIZED TRAINING (CON'T):

- American Society of Civil Engineers, “Quality in the Constructed Project,” Atlanta, Georgia, February, 1987, 6 Hours
- FEMA Emergency Management Institute, Multi-Protection Design Summer Institute: Blast Effects and Design, Emmitsburg, Maryland, July 1988, 36 Hours
- University of Wisconsin-Madison / USDA Forest Products Laboratory, Clark C. Heritage Memorial Series on Structural Uses of Wood, Wood: Engineering Design Concepts, Madison, Wisconsin, 1987, 30 Hours
- FEMA Emergency Management Institute, Multi-Protection Design Summer Institute: Wind Engineering, Emmitsburg, Maryland, July 14-18, 1986, 36 Hours
- FEMA Emergency Management Institute, Multi-Protection Design Summer Institute, Fire-Resistive Design, Emmitsburg, Maryland, July 7-11, 1986, 36 Hours
- American Society of Civil Engineers, Engineer as Expert Witness, San Francisco, California, 1984, 7.5 Hours
- University of Wisconsin-Madison / USDA Forest Products Laboratory, Clark C. Heritage Memorial Series on Structural Uses of Wood, Wood: Engineering Design Concepts, Clark Heritage Workshop III, Madison, Wisconsin, 1983, 36 Hours
- Earthquakes and Earthquake Engineering: The Eastern United States, Knoxville, Tennessee, 1981, 15 Hours
- George Washington University and the Architectural and Engineering Performance Information Center, International Conference on the Engineering Performance Information Center, Washington, D.C., May 1981
- Polish Academy of Sciences—*Study Session on Mechanics of Concrete-Like Composites*, Jablonna, Poland, December 1979
- American Society of Civil Engineers, “Behavior and Design of Reinforced Masonry, Boston, MA, April 1979, 14 hours National Bureau of Standards—*Regulatory Aspects of Building Construction*, Gaithersburg, Maryland, 1978

FOREIGN ASSIGNMENTS:

Dr. Halvorsen has lectured at conferences in Poland and England, and at universities or research laboratories in Norway, Sweden, England and Wales. He has performed structural investigations or property condition assessments in Ontario, Canada, and 36 states.

**PROFESSIONAL
ORGANIZATIONS:**

American Concrete Institute
American Society for Engineering Education
American Society for Testing and Materials
Order of the Engineer
Precast/Prestressed Concrete Institute
Structural Engineering Institute
Structural Engineers Association of Illinois

CERTIFICATIONS:

Structural Engineer, State of Illinois, 081-004952 (Expires November, 2012)
Professional Engineer, State of Illinois, 062-037500 (Expires November 2011)
Professional Engineer, State of Maryland, 18236 (Expires July 2010)
Professional Engineer, State of Minnesota, 41533 (Expires June 2012)
Professional Engineer, State of Wisconsin, 35697-6 (Expires July 2012)
Practice of Structural Engineering, Structural Engineering Certification Board (SECB), (Expires November 2011)
Certified Energy Professional (Commercial), City of Chicago (2002)

COURT QUALIFICATIONS: DuPage County, Illinois, Deficient Construction
County Courts and Arbitration Proceedings State of West Virginia, Structural Engineering and Performance of Structures
Arbitration Proceeding (State Court), Nevada, Concrete Durability
Arbitration Proceedings (State Court), Illinois, Hail Damage Effects on Residential Roofing.

**GUEST LECTURER-
INSTRUCTOR &
PRESENTATIONS:** Shelter Insurance, Earthquake Hazards in the Midwestern United States, Columbia, Missouri, December, 2006
Erie Insurance, "Engineering Services," Chicago, Illinois, August 2006
LM Consultants, Inc., "Evaluation of Parking Structures," Vernon Hills, Illinois, December 2004
LM Consultants, Inc., "Façade Evaluations," Vernon Hills, Illinois, December 2004
Illinois Institute of Technology ,"Strength of Materials," IIT Rice Campus, Spring Semester, 1998 and 1999
American Concrete Institute El Paso International Chapter, "Understanding and Controlling Concrete Cracking," November 1991
University of Illinois at Urbana-Champaign, "Control of Cracking and Corrosion Through Design and Construction Practice," School of Architecture, Champaign, Illinois, November 1988
American Concrete Institute Fall Convention, "Equivalent Frame Analysis for Construction Loads: Review of the Harbour Cay Collapse," Open Paper Session, Houston, Texas, November, 1988

**GUEST LECTURER-
INSTRUCTOR &
PRESENTATIONS (CON'T):**

American Concrete Institute Fall Convention, "Multi-bay Equivalent Frame Analysis of Reinforced Concrete Buildings During Construction," Daniel M. Vanderbilt Memorial Symposium, Houston, November 1988

University of Kansas, "Tests of Prestressed Concrete Columns," Department of Civil Engineering Seminar, Lawrence, February 1988

Transportation Research Board Annual Meeting, "Crack Control Requirements Re-Examined," Session on Excessive Cracking in Concrete Bridge Decks, January 1988.

American Concrete Institute Fall Convention, "Code Requirements for Crack Control," Lewis H. Tuthill Symposium, Seattle, Washington, November 1987

University of Illinois, "Cracking and Deflections of Beams with Epoxy-Coated Reinforcement," Department of Civil Engineering Seminar, Urbana, April 1987

American Concrete Institute Annual Convention, "Control of Flexural Cracking with Epoxy-Coated Reinforcement", Session on Crack Control Through Proper / Improved Construction Practice, San Antonio, Texas, March 1987.

American Concrete Institute, "Crack Control Through Proper Design and Construction Practice," Pittsburgh Area Chapter, January 22, 1986.

University of Minnesota, "Crack Control Through Proper Design and Construction Practice," 35th Annual Concrete Conference, St. Paul, Minnesota, December 13, 1985

University of Minnesota, "The Willow Island Cooling Tower Collapse," Department of Civil Engineering Structures Seminar, December 12, 1985

Third North American Masonry Conference, "Concrete Masonry Foundation Repair," Arlington, Texas, June 3-5, 1985

The University of Texas at Arlington, "Tie Requirements for Prestressed Concrete Columns," Department of Civil Engineering Seminar, Arlington, Texas, May 31, 1985

American Concrete Institute, "Design With Microcomputers" Seminar, Salt Lake City, Utah, May 1985

**GUEST LECTURER-
INSTRUCTOR &
PRESENTATIONS (CON'T):**

American Concrete Institute "Design With Microcomputers"
Seminar, Baltimore Maryland, May 1985

Prestressed Concrete Institute, "Tie Requirements for
Prestressed Concrete Columns," PCI Committee Days,
Chicago, Illinois, April 9, 1985

American Concrete Institute Annual Meeting,
"Microcomputer-Generated Design Aids for Reinforced
Concrete," Denver, Colorado, March 1985

American Society of Civil Engineers, "Tie Requirements for
Prestressed Concrete Columns," Structures Congress III, San
Francisco, California, October, 1984

American Concrete Institute Annual Meeting, "Tie
Requirements for Prestressed Concrete Columns," Research
in Progress Session, Phoenix, Arizona, March 1984

American Concrete Institute Fall Meeting, "R.C. COLUMN
- Reinforced Concrete Column Design for the Apple 11+,"
Design Seminar on Mini/Microcomputers in Structural
Design, Kansas City, September 1983

Forest Products Research Society 37th Annual Meeting,
"Theoretical and Experimental Studies of Timber
Diaphragms Subject to Earthquake Loads," Norfolk,
Virginia, June 1983

Forest Products Research Society 37th Annual Meeting,
"Design Aid for Timber Beam-Columns," 37th Annual
Meeting, Norfolk, Virginia, June 1983

University of Wales, "Concrete Maturity Study of the
Willow Island Cooling Tower Collapse," Department of
Civil and Structural Engineering, University College Cardiff,
Cardiff, Wales, April 1983

University of Wales, "Microcomputer Analysis of
Prefabricated Tubular Scaffolding," Department of Civil and
Structural Engineering, University College Cardiff, Cardiff
Wales, April 1983

University of Wales, "Concrete Maturity Study of the
Willow Island Cooling Tower Collapse," Department of

**GUEST LECTURER-
INSTRUCTOR &
PRESENTATIONS (CON'T):**

Civil Engineering, University College Swansea, Swansea, Wales, April 1983

Imperial College, ENGSOFT 83: Third International Conference and Exhibition on Engineering Software, "Microcomputer Analysis of Prefabricated Tubular Scaffolding," London, United Kingdom, April 1983

American Concrete Institute "Preliminary Concrete Maturity Study of the Willow Island Cooling Tower Collapse," Research Session, American Concrete Institute Annual Meeting, Atlanta, Georgia, January 1982.

Polish Academy of Sciences, "J-Integral Study of Steel Fiber Reinforced Concrete," Workshop on Mechanics of Concrete-Like Composites, Institute for Fundamental Technical Studies, Jablonna, Poland, December 1979

Polish Academy of Sciences, "Flexural Behavior of Concretes Reinforced with Plain and Deformed Steel Fibers," Workshop on Mechanics of Concrete-Like Composites, Institute for Fundamental Technical Studies, Jablonna, Poland, December 1979

American Ceramics Society 81st Annual Meeting, "Toughness of Portland Cement Concrete," Symposium on Fracture Mechanics of Refractories, Concrete and Rocks, Cincinnati, Ohio, April 1979

**PRINCIPAL
PUBLICATIONS:**

"Joints in Concrete Construction (American Concrete Institute Committee 224)," ACI 224.3R-95

"Construction Load Analysis of Slabs and Shores Using Microcomputers," Concrete International, 1992

"Equivalent Frame Analysis of Concrete Buildings During Construction," Concrete International, 1991.

"Causes, Evaluation, and Repair of Cracks in Concrete Structures (American Concrete Institute Committee 224)," ACI 224.1R-90

Control of Cracking in Concrete Structures (American Concrete Institute Committee 224)," ACI 224R-90

**PRINCIPAL
PUBLICATIONS (CON'T):**

"Shoring/Reshoring Operations for Multistory Buildings," ACI Structural Journal, 1990

"Recommended Practice for the Design of Prestressed Concrete Columns and Wall Panels, (PCI Column Committee)," PCI Journal, 1988.

"Code Requirements for Crack Control," Proceedings of the Lewis H. Tuthill International Symposium on Concrete and Concrete Construction, SP-104, 1987

"Tie Requirements for Prestressed Concrete Columns," PCI Journal, 1987

"Cracking of Concrete Members in Direct Tension (American Concrete Institute Committee 224)", ACI 224.3R

"The Willow Island Collapse: A Maturity Case Study," ASTM Special Technical Testing Publication 858, Philadelphia, 1985

"Causes, Evaluation and Repair of Cracks in Concrete Structures (ACI Committee 224)," Journal of the American Concrete Institute, 1984.

Analytical Studies of the Effects of Movements on Steel and Concrete Bridges," Public Roads, USDOT/FHWA, December 1980

"Jm Toughness Comparison for Some Plain Concretes," International Journal of Cement Composites, 1980

"J-Integral Study of Steel Fiber Reinforced Concrete," International Journal of Cement Composites, 1980

"Fiber Reinforced Concrete - Workable and Economical," The Military Engineer, 1979

"Moment-Curvature Relationships for Concrete Beams with Plain and Deformed Steel Fibers," Journal of the American Concrete Institute, 1979

"Fibrous Concrete for the Extruded Liner System," Tunnels and Tunneling, 1976.

HONORS AND AWARDS:

Chi Epsilon Civil Engineering Honor Society, Member, 1971

Tau Beta Pi Engineering Honor Society, Member 1972

Sigma Xi, The Scientific Research Society, Associate
Member 1976, Full Member, 1980

Illinois Section ASCE, Student Award, 1973

Chicago District ASTM, Student Award, 1973

American Concrete Institute (ACI), Fellow, 1988

ACI, Leonard C. Wason Medal for Materials Research, 1990

ACI, Delmar L. Bloem Distinguished Service Award, 1993

Prestressed Concrete Institute, Certificate of Merit Award

BIOGRAPHICAL LISTINGS:

SEAK, Inc. Expert Witness Directory- 2010