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Jeffrey Travis, P.E., S.E.

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Professional Profile

Mr. Travis has over 35 years of experience in structural engineering, with expertise in structural analysis and design, construction technology, large-scale collapse investigations, structural dynamics and blast analysis, construction failure analysis, and crane operations and safety practices. A majority of his work focuses on cause and origin investigations of building damage, building envelope performance, repair, and rehabilitation of structures, construction defect analysis, and construction disputes.

Mr. Travis has designed and analyzed a myriad of different structure types, including single family residences, commercial low and medium rise buildings, heavy industrial structures used in the power and manufacturing industries, transmission towers, bridges, and parking structures. He is experienced in the use of wood, reinforced/precast/post-tensioned concrete, structural steel, and masonry in construction.

Mr. Travis has acted as the Project Engineer for a variety of projects including the design and evaluation of post-tensioned, precast and cast-in-place concrete, steel framed, timber, and masonry structures. He has performed structural evaluations, developed plans, specifications, budgets and schedules, and provided construction administration.

Academic Credentials & Professional Honors

M.S., Civil Engineering, Michigan State University, 1987

B.S., Civil Engineering, Michigan State University, 1986

Chi Epsilon Civil Engineering Honor Society

Tau Beta Pi National Engineering Honor Society

DeVleig Fellowship, Case Center for Computer Aided Design, Michigan State University

Licenses and Certifications

Professional Engineer, Alabama, #27384

Professional Engineer, Arkansas, #15712

Professional Engineer Structural, Florida, #62237

Professional Engineer, Georgia, #PE041160

Professional Engineer, Illinois, #062046949

Professional Engineer Structural, Illinois, #081005355

Professional Engineer Civil and Structural, Kentucky, #24704

Professional Engineer Civil, Louisiana, #PE.0032997

Professional Engineer, Michigan, #6201057899

Professional Engineer, Mississippi, #17063

Professional Engineer, Missouri, #030003

Professional Engineer, Pennsylvania, #PE072210

Professional Engineer, Tennessee, #118916

Professional Engineer Structural, Texas, #86820

Prior Experience

Senior Director, Packer Engineering, Inc., 1999-2008

Project Engineer/Manager, Carl Walker, Inc., 1996-1999

Project Engineer, Raths, Raths & Johnson, Inc., 1994-1996

Project Engineer, Vectra Technologies, Inc., 1988-1994

Project Engineer, Newport News Shipbuilding, 1987-1988

Professional Affiliations

Structural Engineers Association of Illinois

Post Tensioning Institute—PTI

American Concrete Institute—ACI

American Society of Civil Engineers—ASCE

American Institute of Steel Construction—AISC

Precast/Prestressed Concrete Institute—PCI

Appointments

Structural Engineering Institute Standards Committee - ASCE/SEI 11 - Structural Condition Assessment of Existing Buildings, Vice Chairman

Structural Engineering Institute Standards Committee - ASCE/SEI 30 - Guideline for Condition Assessment of the Building Envelope, Vice Chairman

ASCE Construction Institute Task Committee on Crane Safety on Construction Sites

ASCE Forensic Engineering Division Committee on Forensic Investigations

Publications

ASCE/SEI 30-14 Guideline for Condition Assessment of the Building Envelope

ASCE Guidelines for Failure Investigation, 2nd Edition

ASCE Policy Statement 424 – Crane Safety on Construction Sites

Hardyniec A, DeVore C, Travis J. A comparison of approximate methods for period determination in rack structures. Proceedings of ASCE Structures Congress 2017, Denver, CO, April 6-8, 2017.

Presentations

Travis, JA. Standard of Care – What Does it Really Mean?, ABA Forum - Chicago, September 30, 2021

Travis, JA. Standard of Care – What Does it Really Mean?, ABA Division 3 Webinar, December 4, 2019

Beasley K.,Travis, JA Guidelines for Failure Investigation, ASCE/FED Forensic Congress, Austin, TX, 2018

Travis, JA. The Crane Accident that Wasn't!, SEAOI Forensic Forum, Chicago, IL, June 14, 2018.

Amundsen, RJ, Travis, JA. Jury swayed by sway in I-Beam. DRI Product Liability Conference, Las Vegas, NV, February 8, 2017.

Johnson DA, Travis JA. Legal realities of crane litigation, ASCE/CI Summit, Orlando, FL, March 10, 2016.

Davis CW, Travis JA. Risks associated with green buildings. Society of Illinois Construction Attorneys, Chicago, IL, December 2013.

Travis JA. When things go boom in the night: Case studies of civil engineering investigations. Kansas Society of Professional Engineers, Overland Park, KS, June 2012.

Peraza DB, Travis JA. Crane safety—An industry in flux. 5th Congress on Forensic Engineering, Washington, DC, November 2009.

Travis JA. Claims with Crane Operations. Houston Claims Association Continuing Education Seminar, Houston, TX, February 2009.

Travis JA. ASME and OSHA Minimum Mobile Crane Safety Requirements. Crane & Hoist Conference & Exhibition, Rosemont, IL, 2003.

Project Experience

Palau Bridge Collapse—Performed post-collapse cause and origin investigation of a post-tensioned, box girder, concrete bridge structure. Conducted field investigation of collapse site, coordinated with other consultants and contractors to document the scene, retrieved artifacts, and observed demolition activities. Performed design review and structural analyses of the collapse under a variety of loading conditions to determine the mechanism of collapse.

Kaiser Aluminum Explosion—Performed post-explosion event investigations on commercial, industrial, governmental, and residential structures. Investigative findings were used to identify building components requiring demolition, shoring, and/or repair.

Texas A&M Bonfire Collapse—Performed post-collapse cause and origin investigation of a wood timber bonfire structure. Conducted field investigation of collapse site, coordinated with other consultants and contractors to document the scene, retrieved artifacts, and performed materials testing activities. Performed design review and structural analyses of the collapse under a variety of loading conditions to determine the mechanism of collapse.

Notre Dame Football Stadium—Conducted field investigation of stadium site, coordinated with other consultants and contractors to document the scene, retrieved artifacts, and performed materials testing activities. Performed design review and structural analyses of the subject structure under a variety of loading conditions to determine the mechanism of the observed structural distress.

Homer City Duct Collapse—Performed post-collapse cause and origin investigation of a steel framed duct support structure. Conducted field investigation of collapse site, coordinated with other consultants and contractors to document the scene, retrieved artifacts, and performed materials testing activities. Performed design review and structural analyses of the collapse under a variety of loading conditions to determine the mechanism of collapse.

Hancock Scaffold Collapse—Performed post-collapse cause and origin investigation of a steel/aluminum framed scaffold and scaffold support structure. Conducted field investigation of collapse site, coordinated with other consultants and contractors to document the scene, retrieved artifacts, and performed materials testing activities. Performed design review and structural analyses of the collapse under a variety of loading conditions to determine the mechanism of collapse.

Hurricane Katrina Damage Investigations—Performed post-hurricane event investigations on commercial, industrial, religious, governmental, and residential structures. Investigative findings were used to identify building components requiring demolition, shoring, and/or repair. Damages were categorized as being the result of wind and/or storm surge.

Concrete Structures Tower Crane Collapse—Performed post-collapse cause and origin investigation of a steel framed tower crane support structure. Conducted field investigation of collapse site, coordinated with other consultants and contractors to document the scene, retrieved artifacts, and performed materials testing activities. Performed design review and structural analyses of the collapse under a variety of loading conditions to determine the mechanism of collapse. Conducted a peer review of the crane foundation design.

Great River Energy Collapse—Performed post-collapse cause and origin investigation of a post-tensioned concrete floor slab and aluminum shoring system. Conducted field investigation of collapse site, coordinated with other consultants and contractors to document the scene, and established an artifact retention facility. Performed design review and structural analyses of the collapse under a variety of loading conditions to determine the mechanism of collapse

Jay Dee/Affholder Vibration Damage Investigations—Performed post-blasting event investigations on residential structures. Compared blasting records of particle velocity with established thresholds for structural damage, and pre-blasting videos and condition assessments with post-blasting conditions. Prepared reports of investigative findings that were used for arbitration hearings.

KC Iatan Crane Collapse—Performed post-collapse cause and origin investigation of a lattice boom mobile crane tipover. Conducted field investigation of collapse site, coordinated with other consultants and contractors to document the scene, and documented artifacts. Performed a review of the crane setup, operating procedures, and lift plan to determine the mechanism of collapse.

Boise Bridge Collapse—Performed post-collapse cause and origin investigation of a pre-assembled

bridge structure with precast concrete girders and cast-in-place concrete deck. Conducted field investigation of collapse site, coordinated with other consultants and contractors to document the scene, retrieved material samples, performed material testing, performed a design review and structural analyses of the collapse under a variety of loading conditions to determine the mechanism of the collapse.

Indiana State Fair Stage Collapse—Performed post-collapse cause and origin investigation of a temporary stage structure collapse. Conducted field investigation of collapse site, and coordinated with other consultants and contractors to document the scene. Performed design review and structural analysis of the collapse to determine the mechanism of collapse.

Additional Education & Training

OSHA Qualifications

- OSHA 10 Hour
- Overhead Crane Operator Safety Course, Safety Provisions, Inc., 2019
- Crane Signal Person Safety Training, Chicagoland Construction Safety Council, 2018
- OSHA Regulations and Other Standards, ASCE 2016
- Fall Protection Competent Person Class, The Chicagoland Construction Safety Council, 2002
- Supported Scaffold Hazard Awareness Class, The Chicagoland Construction Safety Council, 2002
- Suspended Scaffold Hazard Awareness Class, The Chicagoland Construction Safety Council, 2002

Crane Related Training Courses

- Current Issues in Crane Safety, ASCE 2016
- How to Review a Lift Plan, ASCE, 2016
- ASCE/OSHA Crane Safety Seminar, ASCE, 2014
- Crane Risk Management, ENR/McGraw Hill, 2011
- Crane Safety for Engineers and Supervisors, ASCE, 2010
- Managing Crane and Rigging Operations to Improve Safety and Eliminate Accidents, University of Wisconsin - Madison, 2002

Investigations, Failures and Repairs of Existing Structures, SEAOI, 2015

ACI 318-14: Reorganized for Design Building Code Seminar, ACI, 2015

School of Masonry - A Hands on Approach, SEAOI, 2014

Evaluation, Repair, Protection and Strengthening of Existing Concrete Structures, NCSEA/Vector Construction, Inc., 2014

Seismic Design Manual and Application of the 2010 AISC Seismic Provisions, AISC, 2013

Occupant Caused Floor Vibrations, SEAOI, 2013

Significant Changes from ACI 318-08 to ACI 318-11, Structures and Codes Institute, 2013

Back to the Future: Relearning Passive Fire Resistant Design. PCI, 2013

Troubleshooting Concrete Forming and Shoring, ACI, 2012

Design and Construction of Steel Sheet Piling, ASCE Geo-Institute/SEI, 2012

Ground Modification, Earth Retention, and Deep Foundations, SEAOI, 2011

Nondestructive Tools and Techniques for SEs, SEAOI, 2011

Effective Steel Design: Step-by-Step Design for Commercial and Industrial Buildings, AISC, 2010

Practical Design of Structures for Blast Effects, SEAOI, 2009

Development and Splicing of Flexural Reinforcement Based on ACI 318-08, PCA, 2009

Practical Design of Bolted and Welded Steel Connections, ASCE, 2009

Torsion Design of Structural Concrete Based on ACI 318-05, PCA, 2009

Design and Renovation of Wood Structures, ASCE, 2008

ATC 20 Post Earthquake Safety Evaluation of Buildings, 2007

ATC 45 Safety Evaluation of Buildings After Wind-Storms and Floods, 2007

Analysis and Design of Post-Tensioned Structures, PTI, 2007

Wind Loading and Wind Engineering, SEAOI, 2006

Design Steel Your Way with the 2005 AISC Specification, AISC, 2006

PCI 6th Edition Design Handbook Seminar, 2006

Contract Change Order Seminar, Lorman, 2006

ASCE Structural Vibration Analysis, Design and Troubleshooting, 2005

Bridge Design Workshop, SEAOI, 2005

Structural Steel Inspection Seminar, Steel Structures Technology Center, 2003

ACI/PCA 318-02 Building Code Seminar, 2002

Fall Protection Competent Person Class, The Chicagoland Construction Safety Council, 2002

Supported Scaffold Hazard Awareness Class, The Chicagoland Construction Safety Council, 2002

Suspended Scaffold Hazard Awareness Class, The Chicagoland Construction Safety Council, 2002

Structural Engineering Winter Institute, NCSEA, 2001

Wind Loads for Buildings and Other Structures, ASCE, 2000

Lateral Framing Systems East of the Rockies, AISC, 2000

Engineered Wood Products in Building Design, The Engineered Wood Association, 1999

Project Management Workshop, Northwestern University, 1998

Designing Masonry Using the 1995 MSJC Code, The Masonry Society and the ACI, 1998

Structural Engineers Refresher Course, SEAOI, 1994

Steel Erection - Engineering and Execution, AISC, 2020

Steel Framed Stairway Design, AISC, 2020

Composite Construction - 101, AISC, 2020

T.R. Higgins Lecture - Structural Stability, AISC, 2020

Seismic Design of Buildings, SEAOI, 2020

Investigation and Repair of Wood Structures, SEAOI, 2020

Fire & Blast Seminar, SEAOI, 2019

Determining Component and Cladding Wind Pressures for Roofs, NCSEA, 2019

Permanent Bracing for Metal Plate Connected Wood Trusses, NCSEA, 2019

Wind Tunnel Testing for Structural Engineers, NCSEA, 2019

Overhead Crane Operator Safety Course, Safety Provisions, Inc., 2019

Crane Signal Person Safety Training, Chicagoland Construction Safety Council, 2018

Design of Strengthening for Existing Steel Members, AISC, 2018

Effective Bracing of Flexural Members and Systems, AISC, 2018

Design of Lateral Load Resisting Systems in Masonry Buildings, ASCE, 2018

Structural Design for Wind Loads: An Overview of Engineering Considerations for Wood Buildings, Wood Products Council, 2017

Foundation Design Primer, SEAOI, 2017

What Structural Engineers Should Know About Fire Design, AISC, 2017

Load Ratings of Highway Bridges, SEAOI, 2017

Advisory Appointments

Structural Engineering Institute Manual of Practice Committee - ASCE/SEI 11 - Structural Condition Assessment of Existing Buildings

Structural Engineering Institute Manual of Practice Committee - ASCE/SEI 30 - Guideline for Condition Assessment of the Building Envelope

ASCE Construction Institute Task Committee on Crane Safety on Construction Sites

ASCE Forensic Engineering Division Committee on Forensic Investigations