

## Charles T. Jones | Forensic Engineer, P.E.

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### Professional Summary:

Mr. Jones has 30 years of combined professional experience in the fields of construction management, building design, civil and structural engineering and forensic investigation. His forensic structural engineering and investigation experience includes building envelope failures, construction and design defects, building code compliance, roof truss failures, mold and moisture damage and water losses. Mr. Jones has investigated flood claims caused by municipal sewer backups, surface drainage trespass and improper site grading. He has provided mechanical engineering expertise and support in fire and explosion investigations involving commercial cooking appliances, commercial kitchen exhaust hood and fire suppression system failures, and lightning induced failures of CSST gas pipe.

### Licenses and Certifications:

Professional Engineer, Michigan #6201062866

Residential Builder, Michigan #2101211181

Professional Engineer, Ohio, #85489

Professional Engineer, Florida, #89470

### Project Experience:

#### Forensic Structural:

##### **Kammaraad Residence, Ada, MI**

Lower foundation, slab and brick columns were failing due to erosion and uneven settling on a steep, sandy lot. A repair design was successfully implemented. The foundation was underpinned and stabilized horizontally with helical ties. The slope was stabilized with the installation of a modular block retaining wall. Existing concrete deck piers were replaced with helical piers.

##### **Forest Hills Presbyterian Church, Ada, MI**

Representatives of the church had concerns about excessive utility bills, roof leaks and cracks in ceiling drywall. Wireless data loggers were installed at key locations to monitor heat loss. The structure was examined and found to have insufficient insulation and excessive air infiltration-exfiltration. Structural defects were found on some of the open-web wood roof trusses. A repair design was implemented to improve building envelope performance and repair structural defects.

##### **City of Grandville, Police Department & Courthouse. Grandville, MI.**

Water infiltration and interior condensation was reported by the maintenance staff. Examination of the structure revealed a failure of the Exterior Insulation and Finishing System

(EIFS) frieze and cornice panel at numerous locations. Leaks from eavestroughs amplified the problem. Recommendations for repairs and modifications were provided to the client.

**Log Home, Lewiston, MI.**

A large, custom-built log home suffered a series of failures including partial collapse of stacked log walls, excess deflection and cracking of structural log roof components, distortion and breakage of windows, and advanced decay from water infiltration. The owners sued the fabricator of the log home package. I conducted a detailed structural investigation on behalf of the log home builder's liability insurance company. Although many log construction defects were noted, the findings of the investigation were favorable to the insurance company. Many of the defects outlined in the complaint against the log builder were proven to be the responsibility of other parties.

**Forensic Mechanical:**

**Restaurant, Ironwood, MI.**

Investigation into the failure of a kitchen hood fire suppression system. Cook line was changed but the fire suppression system was not updated to contain new hazards. Improper modifications were discovered during the site investigation and laboratory exam. The hood exhaust was not compliant with NFPA standards at the time of construction. This case is currently in litigation.

**Night Club, Detroit, MI**

Investigation into the cause of a kitchen fire that breached exhaust hood. Fire suppression failed to activate. Construction and design defects contributed to flame spread and structural damage. Provided litigation support. This case is currently in litigation.

**Residential Gas Explosion, Ann Arbor, MI.**

Litigation support, research and testing related to the arc failure of CSST gas pipe induced by a nearby lightning strike. Conducted ignition tests with exemplar tubing to challenge the defendant's theory. Successfully demonstrated plaintiff's theory of ignition.

**Civil Engineering and Site Development:**

**Self-Storage Complex and Industrial Building, Norton Shores, MI.**

Site planning and civil engineering design for two new proposed developments on adjoining 5-acre parcels. Resolved drainage trespass onto client's property from MDOT property. Produced site plans for planning commission acceptance. Produced civil construction drawings including survey, grading, erosion control and utility plans.

**Driveway Grading, 11350 Grand River Drive, Lowell, MI.**

Produced grading and erosion control plans for a steep access road to a hilltop property.

**Onsite Wastewater Treatment Design, Outlet Pointe Campground, Gowen, MI.**

Developed MDEQ compliant wastewater treatment design for a 20-site private campground on Lincoln Lake. Surface water from the lake and a nearby marsh constrained the treatment area.

**Onsite Wastewater Treatment Design, Group Home, Cedar Springs, MI.**

Developed MDEQ compliant wastewater treatment design with advanced aerobic treatment for a 24-person adult foster care facility.

### **Project Management and Site Supervision:**

**Marina Bay Sands, Singapore, SG.** Design Coordination & Project Management. Design coordination and project management of custom-designed architectural components and water features including the award-winning Skypark swimming pool. Coordinated design and construction with project architect and project structural engineer. Participated in bid review and contractor selection related to five separate design contracts. Inspected fabrication facilities in Japan, Thailand, China and Malaysia where various components were being constructed off site.

**Stag's Leap Wine Cellars, Napa, CA.** Project Management. Site supervision and project management of improvements at wine production and visitor facilities. The work involved finishing parts of a wine cave complex that included a catering kitchen, a 120-seat banquet room and bathrooms. Three ventilation stacks were located at separate locations within the caves and drilled through 50' to 75' of rock to the surface above. Plumbing vaults, trenches and forced drains were installed.

**Ridge Winery, Healdsburg, CA.** Project Management & Site Supervision. Supervised crew installing straw bale walls and clay-based plaster on an 18,000 SF wine production facility and visitor center. Tasks included project management for major subcontractor, site supervision, development of innovative mixing and material handling equipment and quality assurance.

**Methane Digester, Diamond K Dairy Farm, Minnesota.** Project management of a new 400 kW dairy digester facility in Minnesota.

### **Court Qualifications/ Depositions:**

Litigation CV available upon request.

### **Professional Experience:**

Williams & Beck, Inc, Civil & Forensic Engineer, 2014 - 2019  
RCM Digesters Inc, Project Engineer, 2013 - 2013  
HFAI Singapore, Project Engineer, 2008 - 2011  
Hardin & Jones Design, Managing Partner 2006 - 2008

### **Specialized Education:**

Onsite Wastewater Treatment Design, Norweco, Inc. 2018  
ASCE 7 Design for Wind Loads, Web Seminar, 2016

### **Education:**

Masters, Civil & Environmental Engineering, California Polytechnic, San Luis Obispo, CA, 2013  
Bachelor of Science, Engineering, University of Michigan, Ann Arbor, MI, 1986