

Ronald C. Prevost Jr. | Forensic Engineer, P.E., HCI-C, HCI-R

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Professional Summary:

Mr. Prevost has been involved with the construction industry since 1986. He has held positions at all levels of responsibility from carpenter's helper to design engineer and now forensic engineer. His most recent forensic structural engineering experience includes investigations into structural failures of post and frame buildings, building envelope failures, moisture intrusion, design/construction defects, structure fire salvageability, flood damage, and roofing hail and wind damage, along with many other causes of damage. Mr. Prevost also has experience in environmental/water resource engineering studies including hazardous waste remediation, contaminated site assessments, ground and surface water modeling, stormwater management design, indoor air quality, and mold assessment and remediation. He is proficient in the use of multiple modeling software packages including AutoCAD 3D, SketchUp Pro, HEC-RAS, HEC-HMS, and ArcGIS. He deploys these tools when needed in the design or analysis of complex problems or to assist in communicating solutions.

Licenses and Certifications:

Professional Engineer (P.E.), State of Michigan, #6201067875

Professional Engineer (P.E.), State of Wyoming, # PE 16830

Certified Commercial Roofing Inspector (HCI-C), Haag Engineering, # 201912334

Certified Residential Roofing Inspector (HCI-R), Haag Engineering, # 201912334

Project Experience:

Environmental / Water Resource Engineering

Private Residence, Lansing, MI

Indoor Hazardous Materials Contamination

Single family residence sustained a substantial accidental release of raw sewage into a soil floor crawlspace. An initial hazard assessment was performed, and emergency mitigation plan implemented to allow access to the confined, contaminated space. A subsequent remediation plan was developed including soil and swab sampling and subsequent testing. Final abatement protocols were then developed and implemented.

County Soil Conservation District, WY

Groundwater Contamination

The Soil Conservation District commissioned a county wide, multi-year study into potential groundwater contamination after observed degradation of water quality in a Class I Outstanding Stream (DEQ). The study included development of a groundwater elevation model to identify high priority contaminant sources such as septic systems located within one foot of high ground water. The model was developed using groundwater elevation data collected from a continuously

monitored network of legacy monitoring wells combined with surface water elevation data from HEC-RAS stream hydrologic models. These data were then integrated into 3D groundwater models using advanced ArcGIS interpolation routines and statistically tested against known groundwater elevations.

County Governmental Agency, ID

FEMA Flood Hazard Risk Map Updates

Teton County Idaho, in partnership with the Federal Emergency Management Agency (FEMA), commissioned a floodplain revision study of all major flooding sources within the county. Detailed two-dimensional HEC-RAS models were developed using high definition one-meter DEM data, ground surveyed bathymetry, and HEC-HMS hydrology discharge models. The final models were nationally peer reviewed and are currently in a public comment phase awaiting adoption.

County Road & Bridge Department, Teton County, ID

County Road Culvert/Bridge Design

Teton County Idaho Road and Bridge Department commissioned the design and construction of a culvert upgrade for County Road 2000 South where it crossed Darby Creek. HEC-RAS hydraulic models were developed using a combination of ground survey data and three-meter DEM data combined with HEC-HMS modeled 1% chance and 0.2% chance discharge rates. These models were then used to assess culvert vs bridge design alternatives and ultimate design specifications.

Forensic Structural/Civil Engineering

Nature Center, Midland, MI

Commercial Roof Hail Investigation

An early spring hailstorm in the Midland area contained hail reported up to two-and one-half inch diameter. An investigation of the Duro-Last PVC membrane revealed extensive impact damage. Observations of damage to HVAC components confirmed size and directionality of hail stone impacts.

Rural Golf Course & Country Club, West Branch, MI

Structural Repair Design

Significant damage to the clubhouse floor system was sustained as the result of a kitchen fire. A post fire salvageability investigation was requested by the remediation company to determine scope of required demolition and subsequent reconstruction.

Mid-Michigan Farming Operation, Memphis, MI

Design/Construction Defect Investigation

A recently constructed post and frame structure displayed signs of structural roof failure with no apparent external influence. An investigation of the roof truss system revealed damage to truss top chord members where the lumber delaminated and failed in axial compression. Inadequate insulation and ventilation led to severe and repeated roof condensation and freezing of the saturated truss members. The continuous cycle resulted in structural instability and ultimate failure of the trusses.

Modular Home, Clare, MI

Construction Defect Investigation

Shortly after a modular home was installed near Clare, MI some of the exterior walls began to show signs of outward deformation initially thought to be related to a defect in the siding material. An investigation of the building envelope revealed a lack of adequate air exchange that limited

the buildings ability to dry itself. Photos of in progress construction revealed high moisture content in the soils of the crawlspace and an undersized primary exhaust fan. It was determined the moisture inside the envelope condensed on the backside of the exterior sheathing causing differential expansion and deformation.

Highschool Campus Complex, MI

Moisture Intrusion Investigation

Upon returning from a summer break the staff of a large high school complex found significant water damage to a multi-media center in the library including damage to the computer server center. Multiple maintenance contractors had been working in the facility, each with multiple uncontrolled discharges of water, in areas directly above the impacted area. The assignment was to determine cause of damage. After in-depth personnel interviews and an extensive investigation of the impacted structure it was determined that a maintenance contractor stripping and polishing floors was using an improper method that included discharging up to 50 gallons of water on the floor which leaked through to the media center below.

Court Qualifications/ Depositions:

Litigation CV available upon request.

Professional Experience:

EFI Global, Inc., Forensic Structural Engineer, 2020 - Present
Paragon Forensic, Managing Member/Sr. Forensic Engineer, 2017 – 2020
Harmony Design & Engineering, Design Engineer, 2014 – 2017
Rainmaker, Inc., CEO/Founder & CEO, 1989 – 2018

Specialized Education:

Haag Certified Commercial Roof Inspector Certification, Haag Engineering, 2019
Haag Certified Residential Roof Inspector Certification, Haag Engineering, 2019
Design of Onsite Wastewater Treatment Systems, State of Idaho, 2016
Environmental Engineering – Water Resources Interdisciplinary Studies,
University of Wyoming, 2013 - 2014
AutoCAD 3D, Western Wyoming Community College, 2012

Education:

Bachelor of Science, Civil Engineering, University of Wyoming, Laramie, WY, 2013
Associates of Science, Engineering Sciences, Western Wyoming Community College, Rock Springs, Wyoming, 2011

Affiliations:

American Society of Civil Engineers (ASCE)
National Society of Professional Engineers (NSPE)