

Irfan Ahmed, PE

Forensic Engineering Expertise

Structural Analysis/Design

Review appropriate documents, including project plans and specifications relating to the building structure for failure analysis and extent of resulting damages. In addition, being a licensed professional, replacement designs are provided upon request. Examples of past work include failure analysis of damaged/failed structures (concrete, wood) as well as damage assessment of building structures after a fire.

Origin & Cause

Determine the source and responsible party or element related to the failure of a structural or architectural element or water damage in a building. Examples of past work include failure of roofing and wall cladding due to storm-related damage, causing moisture entry, humidity, and condensation-related loss items.

Inspection and Evaluation of Roofing Systems

This includes steep and low-slope roofs and various types of roofing materials, including common and unique roofing applications. Past work involved offering opinions and repairs related to installation deficiencies and storm-related damage, including for hail and wind.

Education

Master of Engineering in Structural Engineering and Applied Mechanics
University of Texas at Arlington Engineering, Arlington, TX
May 2011

Bachelor of Engineering in Civil Engineering
Osmania University, Hyderabad, India
May 2008

Licenses & Certifications

PE - Professional Engineer
Licensed by the State of Texas

Employment History

Forensic Engineer
Nederveld, Inc.
2024 - Present

Duties include forensic engineering analysis relating to building pathology, structural damage due to fire, structural damage from vehicle impacts, storm damage (wind, snow, hail), seismic, and water loss events, calculations, and plan of repair design.

Structural Engineer
Summit Ridge Energy, Chicago, IL
2023

Performed structural surveys of buildings to evaluate the feasibility of adding solar panels for development of community solar energy. Developed survey process and templates to standardize the data obtained from survey. Analyzed the building based on the surveys performed and shared the findings with development team to assist

in financial modeling. Reviewed geotechnical reports and supervised field investigations for complex sites for solar farms. Assisted the larger engineer team with standardizing design documents and calculation files. Developed standard MathCAD and excel sheets to optimize the workflow. Reviewed all design documents received from racking vendors and EPC and provided the needed technical support. Prepared calculation packages for independent reviewers and assisted the engineering and project management team with RFIs. Managed and tracked projects through major milestones and provided technical assistance to mitigate risks. Assisted commissioning team with mechanical closings and cold commissioning. Prepared reports to document any on-site structural failures and develop remedy measures in collaboration with racking vendors. Presented the reports to the higher management and procurement team to establish processes for risk mitigation.

Senior Structural Engineer
PERI Formwork Systems Inc., Chicago, IL
2017 - 2023

Performed analysis of complex formwork systems, including core climber systems, cantilever carriage systems, and perimeter protection systems. Performed FEA analysis for connection design and analysis of complex parts. Prepared calculation packages for clients/external reviewers and communicated effectively during RFIs, drawing, and calculation reviews. Prepared Excel sheets and MathCAD templates for various calculations. Lead process improvement and optimization of workflow in engineering and implemented fabrication drawing and assembly standards. Worked collaboratively with nationwide engineering offices and clients. Trained new engineers/drafters and provided onboarding support. Worked on multiple product developments and provided research assistance. Provided technical support to sales, field engineers, project managers, and directors.

Project Manager
PERI Formwork Systems, Inc., Chicago, IL
2016 - 2017

Assisted sales in proposals with preliminary designs and estimates. Responsible for communication with client for formwork design. Managed and assigned tasks to members in the team. Prepared and checked all material lists. Planning and scheduling of design and material delivery of large projects. Supervised/prepared all assembly drawings and internal assembly. Site visit and technical support for installation/assembly of complex formwork. Provided technical support to site technicians, both internal and external. Provided support to logistics and billing department throughout the length of the project. Assisted sales in project closing.

Design Engineer
PERI Formwork Systems, Inc., Mansfield, TX
2014 - 2016

Designing of complex formwork/scaffolding solutions. Created shop/assembly/fabrication drawings. Prepared material lists and assigned billing units. Prepared structural calculations for formwork and scaffolding systems. Communicated and collaborated efficiently with internal and external customers.

Engineering Geologist
DHI Services, Inc., Midland, TX
2011 - 2014

Prepared well logs and final well reports, which include master log, composite logs, drilling parameters, bit details, gas analysis data, casing, and cementation data,

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etc. Acted as liaison with company geologist and rig manager to provide necessary input for safe and efficient drilling.

Structural Engineer Intern

El-Seif Engineering and Contracting, Riyadh, Saudi Arabia

Summer 2010

Assisted senior structural engineers with designs and models using Risa. Design of structural elements of various projects. Assisted Project Manager to prioritize tasks and scheduled project plan using MS Project. Reviewed and verified shop drawings. Documented procurement documents and partially verified the quality of materials.

Civil Engineer Intern

RMV Architects, Riyadh, Saudi Arabia

Summer 2009

Gathered data from site and performed checks. Designed various structural elements, such as roof, beams, and columns. Gained hands-on experience on drafting tools, such as AutoCAD and Revit.

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