### **BADAR UL ALI ZEESHAN**

### Summary

In 11 years of practice, the large body of my work is about seismic-resistant Reinforced Concrete (RC) buildings. Their safe, economical, functional, and practical design was delivered as per US building codes. I have completed the design of mid-to-high-rise buildings located in Pakistan, Thailand, the Philippines, and Bangladesh. In addition, I also have experience in delivering code-compatible RC silos, Seismic evaluation/retrofit of RC buildings, RC water tanks, Masonry houses, and steel trusses. Moreover, I can verify the structural scheme of RC buildings, falling out of the domain of prescriptive approach of the building codes, through a Performance-based design approach. I have also completed two design review jobs of segmental, precast, and post-tensioned box-girder bridges.

### **Core Competencies**

- Reinforced Concrete buildings of up to 50 stories (seismic and wind).
- Grip on US design codes such as ACI 318-2002 TO 2014, ACI 350.3-06, ACI 350-06, ACI 313-16, ACI 352R-02, UBC 97, ASCE-SEI 7-10, AISC 360, and European code for silos and tanks (EN 1991-4).
- Seismic risk assessment and seismic performance evaluation of non-prescriptive buildings through the application of a Performance-Based Design approach involving nonlinear time history analysis.
- Design for the anchorage in concrete.
- Special structures: Reinforced concrete Silos, seismic analysis of overhead water tanks.
- Steel trusses and steel moment-resisting connections.
- Monitoring compliance of construction activities with Structural drawings and guidelines.
- Proficient in the use of ETABS, SAFE, SAP2000, PERFORM 3D, STAAD PRO; I have used Revit as well.
- Proficient in the use of Autocad, EXCEL, WORD, and PowerPoint.
- Rich experience in performing detailed design calculations and design reports.
- Experience of calculating sectional strength of segmental pre-cast box girder bridges as per BS code.

#### Education

## Politecnico Di Torino, Italy

2010-2013

Pursued masters leading to **Ph.D**. program in **Structural Engineering**. It was funded by the Higher Education Commission of Pakistan after the award of a scholarship through a merit-based selection criterion. I quantified the damage of one to two-story masonry structures owing to the subsidence caused by multiple tunneling activities underneath their foundation with the help of nonlinear finite element analysis in DIANA (By TNO).

## National University of Science and Technology, Pakistan

2002-2006

B.E Civil engineering with CGPA of 3.27 out of 4.

**Experience** 

#### AIT Solutions, Pathum Thani, Thailand

**AUG 2019-PRESENT** 

As a Senior Project Engineer, I take lead in the development of the conceptual and detailed design of structural schemes, compatible with architectural concepts and satisfy the functional requirement. Additionally, I:

- Review the structural design of tall buildings for their compliance with codes (code-based reviews).
- Perform detailed calculations for components of RC buildings.
- Play my part in Performance-based-seismic-design and design review of tall buildings.
- Formulated design reports for various projects.
- Attend meetings with clients to work out project-related issues.
- I have completed a design review of post-tensioned box-girder bridges.
- Delegate work to junior engineers, answer their queries and review their work.
- Initiate, and maintain, correspondence with the client thus fostering the relationship.
- Ensure that we have the required data to complete the job.

# Arif Consulting Engineers, Islamabad, Pakistan 2018

**FEB 2014- JUNE** 

As a Vetting/Lead Structural Engineer, I was responsible for the conceptual, preliminary, and detailed structural design of buildings. During my time in Arif Consulting Engineers, I have:

- Developed the structural framing of buildings of up to 25 stories (conceptual design).
- Delivered code compatible structural designs.
- Performed manual design calculations for structural components of RC buildings (detailed design).
- Supervised the drafting section to ensure timely and error-free delivery of drawings (quality control).
- Reviewed the design of RC buildings for their compliance with relevant codes (design review jobs).
- Prepared technical specifications and formulated design reports for various building structures.
- Mentored junior engineers and helped them with software models and design calculations.
- Conducted site visits to ensure compliance of seismic details of rebars with structural drawings.
- Liaised with architect and design reviewer to get the approval of design and structural framing plans.
- Kept myself abreast of developments related to the practice and applied them where possible. I changed the way shear walls and girder-beam connections were detailed in the office.

# Arif Consulting Engineers, Islamabad, Pakistan 2009

**DEC 2008- NOV** 

As a Structural Engineer, I was responsible for:

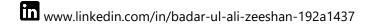
- Completing ETABS, STAAD Pro, or SAFE models for mid-rise RC buildings.
- Preparation of manual calculations to cross-check the results of the software model.
- Keeping an eye on the drafting section to ensure timely delivery of structural drawings.
- Preparation of design reports for one to two-story masonry buildings as well as RC buildings.

# AN Associates, Rawalpindi, Pakistan 2008

**OCT 2006- NOV** 

Junior Structural Engineer

- Finalized the layout of confining columns, structural columns, and beams of masonry residential buildings.
- Performed manual calculations to determine the size of structural members.



• Liaised with the drafting section to ensure timely delivery of structural drawings.

### **Certifications/Memberships**

- Pakistan Engineering Council as "Professional Structural Engineer"; PEC No: 25982
- Graduate Member with IStructE; Member ID: 072006129
- Attended a weeklong summer school in Germany at Bauhaus University (Weimar) on the topic of Model Simulation and Validation, 2011)
- Attended and presented a paper in the "9<sup>th</sup> International Conference on Earthquake Resistant Engineering Structures" in A Coruna, Spain in 2013.
- 1 day seminar on Performance-based seismic design and evaluation of tall buildings (2017)
- One-day seminar on Validity of Code-based design (2017).

#### Languages

- English- Fluent- Scored 8 band in IELTS in 2019
- Urdu and Punjabi- Native

#### **Engineering Forum**

An active member of "Structural Engineering Forum of Pakistan" <a href="https://www.sepakistan.com/">https://www.sepakistan.com/</a> Handle: Badar (BAZ)