

### Summary of Qualifications

- More than 11 years as a Vice President with *Peter Erdelyi and Associates*, California.
- About 8 months as a project manager with *Peter Erdelyi and Associates*, California.
- About 5 months as a project Engineer with *BQ Engineering, Inc.*, California.
- 1 year plus as a structural consultant with *ADR Engineering, Inc.*, California.
- 4 years as an independent structural consultant in Alexandria.
- 5 years - *Structural Research & Analysis Corporation (currently Solid Works)*, California, USA.
- 7 years in analysis / design of major steel and reinforced concrete structures - *Dar Elmohandesien Consultants*, Alexandria, Egypt.
- Licensed California Structural Engineer (SE), PE and registered Structural Consultant in Egypt.

### Work Experience

*Peter Erdelyi and Associates, Inc., California, USA*

*Chief Engineer* 5/2005 -

Hands-on engineering work such as:

- Analysis, design and details of a state-of-the-art seismically stationary sloped curtain glazing wall system representing the envelope of the San Diego International Airport Terminal 2 addition that allows the main building to deform while keeping the glazing structure standing during an earthquake.
- Structural analysis and design of the main entrance landscape for the Mount Saint Mary College, Bundy campus that includes RC curved bridge, RC elevated walkways and stairs on piles in addition to several retaining walls and stepped amphitheater.
- Structural investigation, analysis and retrofit for a double level subterranean garage with punching shear type of failure.
- Seismic retrofit of an existing RC building built on 1926 to be the west coast headquarter for PETA organization. The building is upgraded to meet the current seismic code.
- Seismic retrofit and upgrade of several existing Multi-story Unreinforced Masonry bearing wall buildings in downtown LA area such as, Parkview, Vendome project, etc.
- Design of class addition to an elementary school.
- Shoring design for several one and two levels subterranean garages.
- Peer review of structural design of Fox Hills Mall addition/remodel, several concrete and steel structure buildings including multi-level parking.
- Peer review of Symantec Headquarter Buildings in Culver City – a 92 million dollar-three concrete multi story buildings with multi-level underground and above ground parking.
- Several reinforced concrete one and two level subterranean garages with 3 to 5 story multi-unit type V structures on top such as Temple Union 60 unit apartment building, Thornton Lofts on the Beach Walk of Venice beach, etc.
- Preparing structural layout and design of several residential and multi-story commercial buildings as well as providing technical support and structural observations for several multi-purposes projects.
- On site consultation and building evaluation in addition to structural observation.

Managerial work:

- Helping the company to handle bigger size type of projects and adding the expertise to perform seismic retrofit of existing buildings as well as earth shoring design. Providing daily technical assistance and guidance to engineers as well as management of the

- engineering activities with emphasis on trouble-shooting including design review of several buildings with different types.
- Preparing proposals for potential projects and preparing time schedule.
  - Direct contact with clients and architects.

*Project Manager 9/2004 – 5/2005*

Analysis, design, and detailing of different types of structures. Direct contact with clients and interaction with city plan checkers. Leading the design team and organizing work distribution.

Several 3 to 5 story multi-unit residential buildings on reinforced concrete subterranean garages such as Magnolia Garden Buildings, 4 buildings located in Magnolia Street, a 60 units building located in Van Nuys, Art Lofts- a 3-story contemporary wood floors with CMU walls in one direction and steel moment frames in the perpendicular direction located in Santa Monica, several other buildings located in Saint Vicente, Venice, and west Los Angeles areas. A special steel deck with glass floor on top of a swimming pool in a Beverly Hills area. Several conventional and hillside buildings including retaining walls and pile foundation. Structural observations and response to contractors' RFI's for different structures. Writing structural reports and preparing proposals for potential projects.

*4/2004 – 9/2004*

*Project Engineer – Breiholz Qazi Engineering, Inc. California, USA*

Analysis, design, and detailing of structures. Direct contact with clients and interaction with city plan checkers.

Two 4-story condominium buildings, about 100 units and a commercial space Bank Lofts, with subterranean garages that replace one of the oldest banks in the city of San Pedro while maintaining and retrofitting the surrounding old decorated façade. Preparing computer tools for seismic analysis and design of wood structures with rigid diaphragm behavior. Structural observations and response for contractors' RFI's for Masonic Temple Lofts, a multi-story steel structure with reinforced concrete slabs. A 30' high CMU large span garage with TJI roof. Several conventional and hillside residential buildings. Preparing proposals for projects in marketing.

*2003 - 2004*

*Structural Consultant – ADR, Inc. California, USA*

Analysis, design, and detailing of structures. Direct contact with clients and interaction with city plan checkers.

A 25,000 square feet-three story residence with two swimming pools and a lake located in Indian Spring Estate area. Special and ordinary moment steel frames. A 3 story-building located on steep Hollywood Hills with more than 40 feet of soft soil that required stabilizing the slope. Different single family 2 story structures on regular foundation located at different locations in LA.

Several swimming pools on piles with associated pool houses, several masonry and reinforced concrete retaining walls supported on deep or regular foundation. A steel dome on top of a temple.

Structural evaluation of an existing reinforced concrete building for seismic safety using FEMA handbooks. Technical report and structural observations of most designed structures.

1998 - 2003

Structural Consultant - *Aldar Alarabia for Consulting Engineering, Alexandria, EGYPT*

Analysis, design, and detailing of two model five story reinforced concrete buildings, two pre-school one-story buildings, and two-three-story reinforced concrete schools at the City of Alrehab, Cairo.

Analysis, design, and detailing of a 50 m clear span steel truss factory roof, several one and two story villas. Analysis, design, and detailing of a 12-story commercial-residential building over an area of about 2500 m<sup>2</sup>.

Retrofit of an existing three-story reinforced concrete pharmaceutical factory in addition to other consulting tasks. Worked as a manager of the quality control department and a trouble-shooter in Golden Pyramids, a major international project consisting of several multi-story buildings for a hotel, hotel apartment building, residential, and commercial buildings.

Associate. Professor - *Department of Structural Engineering, University of Alexandria, EGYPT*

Teaching undergraduate and graduate courses. The undergraduate courses were Design of Metallic Structures, Design of Steel Bridges, and Senior Steel Project. The graduate courses were Plastic Analysis and Design of Composite Structures. In addition to participating in providing technical advices for organizations through the Community Development Center at the Faculty of Engineering as well as performing analysis and design of steel and reinforced concrete structures for different clients.

1993 - 1998

Application and Support Engineer - *Structural Research & Analysis Corp. California, USA*

Consulting services in the field of structural analysis and finite element modeling for aerospace and automobile industries. Specialty in dynamics of structures including modal analysis, modal time history, direct integration time history (with possible nonlinear nature), harmonic analysis, random vibration, and response spectrum analyses.

Providing technical assistance in heat transfer and nonlinear analysis types of problems including different material models, large deformation, and contact problems. Linear static and Euler buckling, stability, types of problems are extensively covered.

Providing technical support to COSMOS/M, a widely used finite element analysis software, users in modeling, transferring models from different CAD packages into COSMOS/M, and meshing of different types of structures.

Performing quality assurance for the program modules. Helped in transferring the program manuals from the traditional hard printed books to electronic documentation.

1983 - 1990 Design Engineer - *Dar Elmohandesien Consultants, Alexandria, Egypt*

Analysis, design, and detailing of large capacity water reinforced concrete tanks, high rise residential and commercial reinforced concrete buildings, steel factories, rail-way and pipeline

steel bridges, a reinforced concrete tunnel, reinforced concrete retaining walls, a university stadium, university student housing, machine foundations, raft and pile foundations. Promoted to a senior engineer in 1988. Reviewed structural design, in site consulting and evaluation of existing buildings for possible retrofitting.

## Education

1992 - 1997 PhD - *University of Southern California* Los Angeles, California with GPA 3.85  
1985 - 1988 MS - *University of Alexandria*, Egypt (with honor degree)  
1979 – 1983 BS - *University of Alexandria* Egypt (with honor degree)

## Licenses, Membership and Awards

- Licensed Structural Engineer (SE) in California, USA.
- Licensed Professional Civil Engineer (PE) in California, USA.
- Registered Structural Consultant in Egypt.
- Associate Member in ACI Committee 352 and beer reviewer for ACI Structural Journal.
- American Concrete Institute (ACI) 1994-present.
- Associate Member, ASCE.
- Government Award for Outstanding Undergraduate Students 1979-1983
- USC Teaching and Research Assistantships 1993-1996

## Publications and Membership

### Journal Papers:

- "Deformation Compatibility Model for Seismic Design of Special Steel Plate Shear Walls", in progress.
- "Inelastic Buckling of Unsymmetrical Tapered Plates Under Different In-Plane Compressive Stresses", *Journal of Advances in Structural Engineering*, Vol. 5, No. 3, 2002.
- "Deformation Characteristics of Reinforced Concrete Beam-Column Joints under Earthquake Loading", *Journal of Advances in Structural Engineering*, Vol. 6, No. 1, Feb. 2003.
- "Performance of Interior Beam-Column Joints Cast from High Strength Concrete Under Seismic Loads", *Journal of Advances in Structural Engineering*, Vol. 7, No. 2, 2004.
- "General Analytical Model for Nominal Shear Stress of Type 2 Normal and High Strength Beam-Column joints", *ACI Structural Journal*, Vol. 101, No.1, January-February 2004.
- "Analytical Model for Shear Characteristics of Reinforced Concrete Beam-Column Joints under Earthquake Loading", submitted for publication, 2004.
- "Seismic Shear Performance of Steel Fiber Reinforced Concrete Beam-Column Joints with Columns Under Tensile Loads", submitted to ASCE 2004.

### Conference Papers:

- "Effects of Stiffener's Length on the Stress Distributions in Rigid Frame Corners", the First International Conference in Civil Engineering, Ain Shams University, Cairo, Egypt, May 1989.
- "Experimental Study on the Behavior of Open Web Steel Joists", Special publication, Department of Civil Engineering, University of New Brunswick, New Brunswick, Canada, July 1991.
- "Evaluation of Beam Loads in the Egyptian Code for Reinforced Concrete Buildings", The 8th Arab Structural Engineering Conference, Cairo, October 2000.
- "Dilation of Beam-Column Joint Core in RC Frame Buildings under Seismic Loading", 4th Alexandria International Conference in Structural and Geotechnical Engineering, Alexandria, April 2001.

- "Comparative Study on Codes for Seismic Design of Beam-Column joints in Multi-Story RC Frame Structures", submitted for publication, 2003.
- "Elastic Stability of Tapered Plates Subjected to Various In-Plane Compressive and Shearing Stresses", submitted for publication, 2003.

