

SEI

STRUCTURAL ENGENUITY, INC.

MICHAEL W. WHITNEY, PH.D., P.E.

Principal



EDUCATION

Doctor of Philosophy in Civil Engineering
University of Kentucky 1996

Master of Science in Civil Engineering
University of Kentucky 1988

Bachelor of Science in Mining Engineering
University of Kentucky 1986

PROFESSIONAL REGISTRATION

Texas, Kentucky, Alabama

PUBLICATIONS AND CONFERENCES

"Barge Collision Design of Highway Bridges"
ASCE Journal of Bridge Engineering, Vol. 1, No.2

*"Design of the Longest Fiber Reinforced Cable Suspended Bridge
in the World"*
50th Annual Conference of SPI Composites Institute

"Built to Burn- Fire Training Center"
Structural Engineer, April 2005

"Design Guidelines for Impact Design of Bridges"
12th International Bridge Conference
Pittsburgh, Pennsylvania

"Dynamic Design of Bridges Susceptible to Barge Impact"
International Conference on Structures Under Shock & Impact
Udine, Italy

PROFESSIONAL EXPERIENCE

COLLEGE AND UNIVERSITY FACILITIES

- **Baptist Shared Services Campus**, Memphis, Tennessee
- **UTSWMC North Campus Phase 4 - Research & Garage**, Dallas, TX
- **TCCD Fire Training Center**, Fort Worth, TX
 - 3 level classroom facility, 50,000 sq. ft.
 - Composite steel framing
 - 3 dimensional elliptical light gage entry truss
 - 6 burn simulation facilities including a 6 level office high rise training tower
 - Fire station
 - Swift water rescue channel - 80,000 gpm
 - \$14,000,000.00 project cost
- **Texas A&M Science Building**, Commerce, TX (Under Construction)
 - 3 levels, 120,000 sq. ft.
 - Cast-in-place concrete pan form system
 - Structural steel mechanical penthouse with steel dome
 - Planetarium with steel dome
 - Designed for seismic
 - \$20,000,000.00 project budget

ELEMENTARY AND SECONDARY EDUCATIONAL FACILITIES

- **River Trails Elementary School**, Hurst, Euless, Bedford ISD
- **Carpenter Middle School**, Plano ISD, Plano, TX
- **South Waco Middle School**, Waco ISD, Waco, TX
 - \$7,000,000.00 project cost

MEDICAL EDUCATIONAL FACILITIES

- **UTSWMC North Campus Phase 4 - Research & Garage**, Dallas, TX

MEDICAL FACILITIES

- **Mayo Clinic Hospital**, Phoenix, Arizona
- **Jackson Hospital**, Montgomery, Alabama
- **Carolinas Hospital System Replacement Hospital**, Florence, South Carolina
- **Pikeville Methodist Hospital**, Pikeville, Kentucky
- **Baptist Memorial Hospital**, Collierville, Tennessee
- **Memphis Baptist Memorial Hospital East Hospital Expansion**, Memphis, Tennessee
- **Scott Air Force Base Hospital Seismic Upgrade**, Scott Air Force Base, Illinois

SPORTS AND RECREATIONAL FACILITIES

- **Blues City AAA Ballpark**, Memphis, TN
- **Allen Natatorium**, Allen ISD, TX
- **Keller Natatorium**, Keller ISD, TX
- **Murphy Stadium**, Plano ISD, Murphy, TX
 - 10,000 seat multi-use stadium
 - Long-span concrete raker beams
 - Drop-in precast “L” beams for seating areas
 - 3 level cantilevered press box
 - \$16,000,000.00 project cost
- **DISD Arena (Field House)**, Dallas ISD, Dallas, TX (Under Design)
 - 7,500 seat multi-use arena
 - 170 foot span steel roof trusses over event floor and lower seating bowl
 - Steel roof structure
 - Composite steel concourse level
 - Drop-in precast “L” beams on steel raker beams at upper seating bowl
 - \$17,000,000.00 project cost

AUDITORIUMS AND THEATERS

- **Richardson Performing Arts Center**, Richardson, Texas

CONVENTION CENTERS

- **Dallas Convention Center**, Dallas, TX
 - World’s largest column-free exhibit space (210,000 sq. ft.) with roof supported by two-pairs of 400 foot long parabolic pipe tied-arches
 - Trusses will be erected on the deck and raised as a single unit onto its support columns
 - 4’ diameter pipe arches connect to 400 ft long primary pipe trusses using unique five foot diameter connection hemispheres
 - Vibration isolation of the exhibit floor over the five railroad lines (425 psf design dead load and 350 psf design live load) using spring isolators
 - \$148,000,000 project budget.
- **Northern Kentucky-Cincinnati Convention Center**, Cincinnati, OH

MUSEUMS

- **National Civil Rights Museum**, Memphis, TN

MUNICIPAL FACILITIES

- **Colleyville City Hall & Public Library**, Colleyville, TX

LIBRARIES

- **Colleyville Public Library**, Colleyville, TX

RELIGIOUS FACILITIES

- **Friendship Church**, Dallas, TX
 - 300' clear-span roof trusses over column free sanctuary
 - 60' cantilever balcony trusses designed to meet 8hz fundamental frequency floor vibration requirement
 - Unique cantilever support truss designed as a box to increase torsional stiffness and improve floor system vibration frequency characteristics.
- **All Saints Tensegrity Sculptures**, Dallas, TX

HOTELS

- **Sandestin Hotel and Convention Center**, Destin, FL
 - 20 levels
 - Concrete flat plate
 - Post-tensioned
 - Hurricane zone
- **Tides at Tops'1 Hotel**, Destin, FL
 - 24 levels
 - Concrete flat plate
 - Post-tensioned
 - Hurricane zone
- **Opryland U.S.A. Hotel & Convention Center**, Nashville, TN

PARKING FACILITY REPAIRS

- **UTSWMC - St. Pauls POB Parking Garage Repairs**, Dallas, TX
- **UTSWMC - Garage I Repairs**, Dallas, TX
- **UTSWMC - Garage II Repairs**, Dallas, TX
- **UTSWMC - Garage III Repairs**, Dallas, TX
- **UTSWMC - Locke Garage Repairs**, Dallas, TX
- **UTSWMC - St Paul Employee Garage Repairs**, Dallas, TX

RESTORATIONS, REPAIRS AND RENOVATIONS

- **UTSWMC - St. Pauls POB Parking Garage Repairs**, Dallas, TX
- **UTSWMC - Garage I Repairs**, Dallas, TX
- **UTSWMC - Garage II Repairs**, Dallas, TX
- **UTSWMC - Garage III Repairs**, Dallas, TX
- **UTSWMC - Locke Garage Repairs**, Dallas, TX
- **UTSWMC - St Paul Employee Garage Repairs**, Dallas, TX
- **St. Paul Medical Center - Replacement of Deteriorated Marble Fascia**, Dallas, TX
- **Plummer Elementary Repairs**, Cedar Hill ISD, Cedar Hill, TX

FACILITY ASSESSMENTS

- **Collin County Facilities Assessment**, McKinney, TX
- **UTSWMC - St. Pauls POB Parking Garage Assessment**, Dallas, TX
- **Michael Clark and Company Building Assessment**, Dallas, TX
- **Cedar Hill ISD Facility Assessments, Cedar Hill ISD**, Cedar Hill, TX

- **IHS of the Gardens at Carrollton Damage Assessment**, Carrollton, TX
- **DeSoto ISD Facility Assessments**, DeSoto ISD, DeSoto, TX
- **UTSWMC - Garage I Assessment**, Dallas, TX
- **UTSWMC - Garage II Assessment**, Dallas, TX
- **UTSWMC - Garage III Assessment**, Dallas, TX
- **UTSWMC - Locke Garage Assessment**, Dallas, TX
- **UTSWMC - St Paul Employee Garage Assessment**, Dallas, TX

RESTAURANTS

- **Fogo de Chao**, Beverly Hills, CA
- **Starbucks**, Oklahoma City, OK
- **ESPNZone, Anaheim**, California

RESIDENTIAL

- **Bill Stevens Residence**, Argyle, TX