



Areas of Expertise

Structural Design
Structural Analysis
Structural Assessments
Expert Witness
Project Management

Education

BS, Civil Engineering-Structural, University
of Illinois Urbana-Champaign 12/90
Worked toward Master of Fine and Applied
Arts, University of Illinois Urbana-
Champaign 05/93

Registration

Licensed Structural Engineer - IL
Licensed Professional Engineer
Alabama
Arkansas
Colorado
Connecticut
Florida
Georgia
Hawaii
Indiana
Iowa
Louisiana
Maryland
Michigan
Minnesota
Mississippi
Missouri
Montana
Nevada
New Hampshire
New York
North Carolina
Ohio
Pennsylvania
South Dakota
Tennessee
Texas
Wisconsin
Wyoming

Memberships

American Institute of Steel Construction
Structural Engineer's Assoc. of Illinois
American Concrete Institute
National Forest Products Association
National Roofing Contractor Association
American Forest & Paper Association
National Society of Professional Engineers
American Society of Civil Engineers
International Code Council



THE STRUCTURAL SHOP LTD

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Experience

Kenneth Veach is experienced in all phases of commercial, industrial, educational and municipal projects, including conceptual, preliminary, and final designs, and construction coordination. Veach develops plans and specifications, and construction cost estimates on rehabilitation as well as new facilities.

Veach applies extensive knowledge of structural systems and materials to develop, expand, or renovate concrete, steel, masonry, and timber structures. He is responsible for primary structural design and overall project coordination, with typical duties such as investigative studies and research; field inspections and investigations including survey, technical assessments, and report writing; feasibility studies; cost estimates; conceptual, preliminary, and final design calculations; computer design analysis; development of plans, specifications, and contract documents for bidding and construction; and bid evaluations. He reviews shop drawings and coordinates and inspects construction.

Veach has considerable experience in all phases of industrial projects with responsibilities that include conceptual, preliminary, and final design as well as construction coordination, develops plans and specifications and prepares construction cost estimates. Responsible for planning, design and construction duties to develop, expand, or renovate concrete, steel, masonry, and timber structures.

Veach is versed in providing quality assurance and guidance to project teams for the delivery of quality products. He is responsible for assignment of resources on all planning, design, and construction projects to assure that well qualified personnel are available at appropriate times and to facilitate smooth operation.

Project Types

Design

Steel Design
Concrete Design
Aluminum Design
Masonry Design
Wood Frame/Timber Design
Deep Foundation
- Caissons
- Piles
Mat Foundation
Earthquake/Seismic Design
Retaining Walls
Foundations
Specifications
Construction Documents
Shop Drawing Review
Finite Element Analysis

Building Types

Residential
- Multi-Family
- Single Family
- Mixed Use
- High Rise
Commercial
- Office
- Mixed-Use
- Retail
- Dealerships
- Healthcare
- Restaurant
Institutional
- Civic
- Education
- Government
- Religious
- Museums
Industrial
- Manufacturing
- Food
- Warehouse
- Processing

Special Services

Structural/Façade
Evaluations
Critical City Inspection
Yearly City Inspection
Earth Retention Systems
Expert Witness Services
Forensic Services
Equipment Foundations
Stairs and Railings
Exhibit Design
Connection Design
Sustainable Design (Green)
Foundations/Stabilization
Renovation
Additions
Historic Preservation
Design/Build

Related Projects

Chicago Cubs Wrigley Field

Chicago, Illinois



As the restoration engineer for the stadium, a full study and report was made for the Chicago National League Ball Club Inc. for presentation to the City of Chicago. The inspection entailed performing 100% hands-on inspection of all concrete structural and architectural elements. Without interruption to the 2004 home game schedule, the park was inspected and safety systems were designed and implemented to satisfy the City of Chicago requirements. Additional inspections and designs were completed during the next 20 years to keep the park up to current building code requirements and ensure safety for patrons. A detailed evaluation of the condition of the park for the purposes of repair or replacement was provided each year. Inspections were made with short and long-term repair cycles in consideration. Structural capacities of the park were calculated for each system and area. Repair details and prioritization were made based on a 100-year life cycle. Repairs in excess of \$50 million were made until the final full park renovation was undertaken.

Soldier Field

Chicago, Illinois



Over the course of the last 20 years numerous projects have been undertaken in the stadium to improve design deficiencies, as well as point of sales stores for both the Bears and concert merchandising. Yearly inspections and maintenance are needed to keep the stadium in good condition as the major use is during the fall and winter when de-icing agents are utilized. The chlorides create the need for constant repairs and replacement. The auxiliary uses of the stadium for concerts create the need for specialty stage reviews and non-typical loading to the stadium for concert rigging.

Barclay Center

Brooklyn, New York



Working with the Center and Chicago Flyhouse, specialty house rigs were designed to self-climb the complex interior structure of the arena. In the value engineering the sound attenuation was eliminated from the ceiling and had to be installed after the stadium was constructed. The custom rig was utilized at night and between games and concerts to facilitate installing the sound attenuation system and other upgrades in the roof/ceiling of the arena. The system is still in use today.

Raider's Stadium

Las Vegas, Nevada



Working with the general contractor and Chicago Flyhouse we were retained to design specialty house rigs that similar to Barclay, were designed to self-climb the complex interior structure of the arena. The system was used to install many of the infrastructure in the roof/ceiling and by the Flyhouse to install sound attenuation in the arena.

Moody Center

Univ. of Texas Austin, Texas



Working with the Center and the general contractor an automated dual purpose blackout panel and sound attenuation system was designed for the arena. Often in smaller shows visible empty seating at the second and/or third levels is not desired. An automated panel system that when up is sound attenuation but when down is a visual backdrop and sound attenuation. The system served two purposes with a high level of success.



Warehouse Distribution Center

Manteno, Illinois

A 93,000 m² warehouse facility south of Chicago was designed and constructed for a major chain store. The building was 15 m tall steel frame with insulated metal siding and an automated high rack system. The facility was subdivided into four non-equal sections with varying temperature zones which proposed difficult temperature gradients for expansion and contraction, condensation, differential movement and roofing.

Retail Center

Chicago, Illinois

A 70,000 m² retail facility was designed and constructed on the south side of Chicago for a major retail chain store. The building was 15 m tall reinforced masonry. Building has a high R value roof insulation and full green roof which creates thermal stability for the roof and membrane once built. The issue was that during construction the building will see a high temperature swing with Chicago weather and controlling the expansion/contraction of the 250 m x 250 m roof. Special handling and erecting was designed and performed to minimize the risk of the structure sustaining damage during construction.



Blommer Chocolate

Chicago, Illinois

Fourth Floor Addition Evaluate the central and west portions of the building for an addition of a floor for office space. Buildings are collectively one built of the original and five additions. All of the structures are cast-in-place concrete.

Roaster Room Explosion Major explosion shifted steel framing structure off of walls and collapsed roof onto roaster equipment. Evaluation of safety of area for demolition crews, created procedure for structure removal.

Roaster Room Addition We evaluate the existing roaster room substructure/loading dock to support a new five story addition. Also, we evaluate the adjacent building section for new superimposed snow drift loads.

Silo Additions Evaluate roof structure and building cast-in-place concrete system to support new cocoa bean silos. The central building section was further analyzed for new silo array to eliminate cocoa bean hoppers.

Master Plan We programed a master plan for the industrial campus expansion and consolidation of process into a 70,000 m² two story addition and an additional 4-story parking structure for increased employee count.



Ferrara Pan Candy

Bellwood, Illinois

This is one of five facilities in the Chicago area, a 21,000 m² warehouse facility west of Chicago. We evaluate the existing structure, design mezzanines and additions for all five facilities. We worked with the plant engineering department to program and plan the additions at both a master plan and short-term level.



Alpha Baking Company

Chicago, Illinois

One of four facilities in the Chicago area, a 22,000 m² industrial baking facility just west of Chicago. We evaluate, design process structures, reinforced floors and roofs for new equipment and designed additions for all four facilities. We work with the operations department to plan the additions and ancillary structures at the facility.





Pacific Garden Mission

Chicago, Illinois

Worked with Tigerman McCurry Architects to design a new 3-story 156,000 SF shelter and outreach facility. The facility had the capacity to shelter 1,000 men, women and children and a dining facility for 600 persons. The structure consisted of a flat slab cast-in-place concrete system with a glazed curtain wall envelope. The roof structure was designed for the implementation of greenhouses, solar panels for heating water, as well as a green roof to help manage storm water and mediate heat gain/loss. Project cost was \$40 million.



Illinois Holocaust Museum & Education Center

Skokie, Illinois

The village of Skokie, Illinois contained the largest group of Holocaust survivors outside of Israel when in 1977 the Nazis attempted their much-litigated “march”. The community response to this wounding event marshaled a reaction characterized by its focus on education and memory. Holocaust survivors, liberators, scholars, public officials and concerned citizens created the Holocaust Memorial Foundation of Illinois in 1981. Their goal, encapsulated in the refrain “never again,” continues to use education as its strategy to enlighten, educate, and memorialize the Holocaust. We worked with Tigerman McCurry Architects to design a new 3-story 60,000 SF museum and educational facility. The structural system consisted of load bearing masonry and cast-in place concrete walls supporting steel framed floor and roof structures. Total project cost is estimated at \$31 million.



Oceanarium Reimagined-John G Shedd Aquarium

Chicago, Illinois

The opening of the Oceanarium was transformational—adding an entirely new collection of animals, doubling Shedd’s attendance and setting a standard for visitor experiences that both educate and entertain. The time came for pool maintenance and upgrades, and with that, the opportunity to bring about another transformation—renewing the Oceanarium with new exhibits. In the Pacific Northwest exhibit, with increased opportunities for interactions with animals, and education. Total project cost is estimated at \$50 million.



PCC Health Center

Chicago area, Illinois

The PCC Community Wellness Center is a non-profit network of health care providers who have provided affordable health care to underserved Westside communities for over 25 years. With the construction of the Austin Family Health Center, essential services like pediatric care, diagnostic testing, women’s health care, HIV testing and family planning are offered in a building that is healthier for staff, visitors and the environment. The standard 18,000 square-foot facility, is providing care for up to 32,000 patients each year and has 15 examination rooms.

The health centers features ground-source heating and cooling, energy recovery ventilators to temper fresh air with heat from exhausted air and low-VOC paints and sealants for better indoor air quality. Water for the public restrooms is heated by a solar thermal system and stall partitions are constructed from the plastic of recycled milk jugs. Structural Insulated Panels (SIPs) were selected as the optimal insulation on the second floor. SIPs are rigid insulating substrate layers that eliminate the heat loss that occurs with traditional metal stud construction. Low-E glazed windows reduce energy conductivity and radiation. Total project cost is at \$32 million for the four facilities.



Millennium Tower

Chicago, Illinois

A fourteen-story tower of mixed use development. There are 120 units on top of a three-story parking garage on top of a commercial first floor level. The mixed-use building shares the first level of parking with the commercial tenants on the first floor. The building is cast-in-place concrete. The project cost of the tower is \$30 million



3237 North Ashland

Chicago, Illinois

A four-story tower of mixed-use development. There are 24 units on top of a four unit commercial first floor level. There is a one-story parking garage at the rear. The building is steel and cast-in-place concrete base with open web trusses for the upper level framing. The project cost of the tower is \$16 million.



2200 Patriot Blvd

Glenview, Illinois

A three-story senior residential development was constructed in City of Glenview. There are 144 units in the complex. There is a one-story parking garage below grade. The building is precast concrete base/plynth over the cast-in-place concrete basement. The upper levels are wood framed with open web wood trusses. The project cost of the complex is \$ 19 million

Chicago Federal Reserve

Chicago, Illinois

Various projects to the building with UPS rooms, chillers, and grillages to incorporate technology center loading. Building is comprised of structural steel framing systems from the 1920's, 50's, and 80's, and clay tile arches.



Facade Evaluations

Provide detailed inspection and documentation per the City of Chicago façade ordinance for 64 high-rise buildings, such as;

2 North Riverside	161 North Clark	8500 West Bryn Mawr
20 North Wacker	30 North LaSalle	8600 West Bryn Mawr
101 North Wacker	200 West Adams	8700 West Bryn Mawr
10 South Wacker	300 West Adams	19 East Ohio
30 South Wacker	1 North Franklin	

Building Engineer

Provide structural engineering evaluation for management companies for proposed tenant renovations, floor openings and loading changes. Determine the effect on the individual floor and the overall structure. Track all changes of the various tenants as an overall effect on the building servicing 48 buildings such as;

Chicago

2 North Riverside	161 North Clark	8500 West Bryn Mawr
30 North LaSalle	101 North Wacker	200 West Adams
10 South Wacker	300 West Adams	19 East Ohio
30 South Wacker	1 North Franklin	

Suburban

- Oakbrook Tower- 1 Tower Lane Oakbrook, Illinois
- Commerce Plaza 2001-5 Spring Road Oakbrook, Illinois
- Westbrook Corp Center Buildings 1-5 Westchester, Illinois
- 500, 510,520 and 540 Lake Cook Road, Deerfield, Illinois
- Tristate International Plaza, 200 Westminster, Lincolnshire, Illinois
- 1111 22nd Street, Oakbrook, Illinois
- 1700 West Higgins, Rosemont, Illinois

