

OZER

STRUCTURAL · ENGINEERING



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EXISTING BUILDING RENOVATIONS

Adaptive Reuse

The Right Structural Specialist for Your Project

Marrying new and existing structural systems is a significant challenge – one that not all structural engineers are equipped to perform. With a knowledge of historic structural systems, archaic materials, and conventional and cutting-edge construction and repair technologies, the OZER team has the years of experience necessary for success.



Committed to Architecture

At OZER, we love and appreciate architecture and find meaning in the work that architects do. Supporting the beauty of design with reliable structure is crucial for optimizing the potential of any adaptive reuse project. Our skilled team can creatively integrate new and old elements with efficient connection methods, allowing us to retain the structure's architectural character.

Economic Options that Expand What's Feasible

Adaptive reuse is often considered a compromise to demolition and only agreed to if cost-effective. OZER specialists begin by determining a structure's material conditions and connections. Getting our hands dirty, we grind, probe, and crawl to fully assess what's present. From there we analyze existing capacities compared to desired demands. This allows us to determine what it makes sense to reinforce or repair, and what to replace. Often we find economies by substituting alternate materials for what's typically used. Timber for steel. Shallow monolithic mat for deep piles.

Strengthen the Weakest Links

Lateral load continuity and redistribution are the keys to resilient, damage-resistant buildings. And these load-paths are only as strong as their weakest connections. At OZER, we create hybrid systems that fuse old and new elements with strong connections to make structures tougher and more resilient. Opening up spaces can compromise

structural continuity. Our job includes stitching these elements back together into a stable, usable whole.

Adaptability Through Team Work

Adaptive reuse projects, like the ones OZER has completed in Memphis, require focus and innovation. In addition to financial constraints, these projects evolve due to findings in the field and ideas from the architect and contractor. We develop custom solutions for each building based on findings, substituting alternate approaches when necessary.

Protecting Your Investment

Historic buildings and materials are particularly sensitive to moisture. OZER's job isn't done until the building envelope is protected from moisture's destructive effects. While a new generation of sealers and coatings are available to address these issues, they require correct preparation and application. We research these new technologies in our outdoor wet lab to develop hands-on experience.

Working Closely with Contractors from Start to Finish

Each of our past adaptive reuse projects had contractors whose trust and respect we earned. They became committed to building it right as we helped them through the process by providing pre-construction meetings, clear communication, site visits, and mock-ups so the crew knew exactly what to do.

To Make Your Concepts a Reality – Follow The OZER Approach



STEP 1 Identify/Analyze

We begin every project with a few critical questions: How was the building built? What materials were used? How much has the material strength deteriorated, and what was the cause? A thorough integrity assessment is then made of the structural components, individually and as interlocking systems. The structure's strengths and weaknesses are identified, material conditions surveyed, and compared against benchmarks and regulations. Then we analyze the findings to determine existing structural capacity, including the ability to resist seismic and wind stresses.

STEP 2 Collaborate/Design

Every renovation is unique. We consider individual factors such as client brief, historical and local precedents, and local codes and regulations for every project. We work closely with the design team to express the architect's aesthetic vision and save money by relying on existing capacities where possible. Our most successful projects stem from effective clear communication and a spirit of collaboration and common goals. Design can take many directions, using a variety of materials and technologies. We start with a broad palette of options, and expect to come up with some new ones along the way. Our engineers skillfully design renovations in the mid-South within tight budgets, balancing economic feasibility with structural requirements.

STEP 3 Document/Specify

Central to every project are the construction documents, consisting of drawings and written specifications. They serve as the guide for everyone involved. Ours are clear and comprehensive. The specifications for survey, treatment, repair, protection and QA are developed over the course of the project, from schematic design to bid documents, permit drawings, and construction documents.

STEP 4 Build/Verify

Especially with the complexities inherent to adaptive reuse projects, even with the best construction documents it can be a challenge to keep contractors on track. Having the experienced OZER team on-board throughout construction ensures quality workmanship. Our skills and guidance add overall value to the project, no matter what surprises there are along the way and what adjustments need to be made.



“Sensitive structural design allows the architectural character to shine and last. We’ve opened up spaces more than the architect thought practical.”

- Dmitry Ozeryansky



Our Team of Experts

The OZER team is not only made up of highly trained engineers, we're well versed in the unique needs of existing buildings. We have decades of experience identifying and resolving their specific challenges.

We regularly see buildings that have been weakened and further damaged by careless renovations from those in the industry who are not trained in **working with archaic structural systems**. Even well-meaning engineers can harm an old structure if they don't have the expertise to address their unique issues.

Our engineers have a deep knowledge of existing building renovations that most in the industry simply don't.

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88 Union Ave. Ste 530, Memphis, TN 38103

901-305-6540 www.ozeng.com