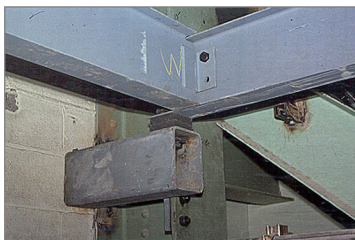


### Talbot Laboratory Crane Bay In-Fill

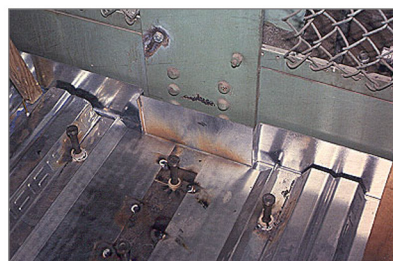
University of Illinois  
Urbana, Illinois

Client: University of Illinois, Urbana-Champaign, IL  
Architect: Isaksen Glerum Architects, Urbana, IL  
Contractor: English Brothers Company, Champaign, IL



Vibration isolation connections off of existing columns are shown at the top. Auger cast pile installation is shown above at left. Pumping of concrete for floors is shown above at right.

Typical steel erection is shown at the west of the infill at the upper and lower portion of the first bay in the first two photos below. Vibration isolation connections shown in the bottom row of photos were made to the new columns. The bottom row, far right photo illustrates the isolation of the new floor from the existing construction.



#### Range of Services

- Structural planning; preliminary design; design development
- Construction administration; observation; coordination

#### Project Overview

Talbot Laboratory, which houses the Department of Theoretical and Applied Mechanics, was built in 1930. It is a four story steel framed building with a large open center crane-bay space that extends from the basement through to the gable trussed roof. A walkway surrounds the perimeter of that open space at each of the three floor levels to observe the movement of materials to the 3 million pound testing machine that occupies a central location and extends the full four stories. Additional space for offices, classrooms, a theater-style lecture room for 126 students and new laboratories were created by in-filling the crane-bay space at each of the three floor levels. An investigation of the existing steel columns and footings showed that additional capacity was available. New steel framing was installed on new auger cast pier foundations, and connections of new steel were made to the existing steel columns. It was necessary to vibration isolate the three floors from the occasional use of the testing machine. This was done by the use of seated connections with rubber isolation pads as bearing pads for all the beams and girders that connected to the existing columns as shown in the photos to the left, and to the new columns as shown below. Rubber washers were also used. The new floors were kept free of the existing floor perimeters, and all partitions were similarly acoustically isolated for sound with appropriate batt insulation and isolation sealants.

integrating  
**STRUCTURAL**  
design  
focused on  
quality