

Institute for Translational Medicine and Therapeutics The Clinical and Translational Research Center

Philadelphia, Pennsylvania

Owner

University of Pennsylvania Health
System and School of Medicine

Client/Architect

Rafael Viñoly Architects PC

Completion Date

2011

Construction Cost

\$370 million

Total Area

530,000 sf



Thornton Tomasetti provided structural design services for a new research tower, a collaboration between the University of Pennsylvania's Health Systems and the School of Medicine. The 260-foot tower sits above the Roberts Proton Therapy Center, a four-story cancer treatment facility also engineered by Thornton Tomasetti. The lower five floors of the tower act as a westward extension of the Perelman Center for Advanced Medicine. The upper eight floors are used by the School of Medicine and are designed to accommodate two vivarium floors and five laboratory research floors. The two programs are separated by a 33-foot-high mechanical plant. This project is currently seeking a LEED Silver rating.

The five laboratory floors have 17-foot floor-to-floor height and a 30-foot square column grid. The laboratory floors are designed to meet industry standard vibration criteria. The 42-foot-wide laboratory and vivarium bays are transferred to lower 30-foot-wide clinical bays through a series of 15-foot-deep floor trusses. The auditorium at Level One required transferring columns by means of plate girders and trusses to create a 60-foot-by-60-foot column free area.

This fast-track project required the steel bid package to be issued one year prior to the architectural construction. From the time of issue, several high-impact changes were incorporated as the building evolved into its final form. A proactive design approach was taken to anticipate steel tonnage impacts while minimizing potential cost and scheduling implications.