GRAND PRIZE
Suffolk Theatre

RENOVATION

PHOTO COURTESY OF PETER VANDERWARKER / CBT

In the **Limelight**

This tricky theater restoration takes center stage

It's not every day that 1913 comes roaring back to life, but the Suffolk University Modern Theatre proudly displays a visionary combination of preservation and new construction.

The striking facade of the Modern Theatre in 1915.

For 20 years, the Modern Theatre lay in ruin. In its heyday, it was the first theater in Boston to show motion pictures and welcomed moviegoers in an elaborately decorated 800-seat auditorium. By the time cineplexes took root in the 1970s, the theater could no longer compete and was left vacant.

Decades of non-use left the building in severe disrepair – holes in the roof, crumbled plasterwork, and rotting woodwork. Only the striking marble and limestone facade could be salvaged. However, the university was committed to recreating the landmark while adapting the space for additional student housing.

The building's footprint and location posed a significant challenge. Nestled in the heart of downtown, the theater is adjacent to multiple businesses, dorms, and other historic working theaters that could not be disrupted by construction. The building's average width of only 34 feet and an 8-foot alley that had to be retained also made demolition and construction a tight squeeze.

To navigate the intricacies of the project, Suffolk Construction used BIM (building information modeling) to ensure the new building wouldn't get stage fright. This process involves using lasers to capture data points, which are then fed into a 3D model. This digital representation provides greater accuracy during design and construction.

PHOTO ABOVE and BELOW: **The theater interior after years of being exposed to the elements (below) was reborn with the help of a Tony Award-winning scenic designer (above).**

PHOTO COURTESY OF CBT

Prior to demolition, laser scanning captured the exact location of approximately 800 individual facade stones and the information was uploaded into the BIM model. This allowed the project team to identify dimensional conflicts with the facade interacting with the steel. The facade was then dismantled piece by piece and restored off site.

In addition to the ambitious facade restoration, a 10-story dormitory was added on top of the site to meet master planning goals. A footprint that once accommodated a 100-year theater layout was to now hold sophisticated performance equipment and dedicated mechanical systems for both the entertainment space and the dormitory portion.

Laser scanning was also used to ensure the new building meshed with the existing adjacent building structures. This was particularly critical when accounting for the exact

PHOTO COURTESY OF SUFFOLK CONSTRUCTION COMPANY

PHOTO COURTESY OF RENEE DEKONA / CBT

PHOTOS:
To restore the facade to its original grandeur, each piece was individually removed and laser scanned to ensure historical and structural integrity. The entire project took 2 years and $29 million.

PHOTO COURTESY OF RENEE DEKONA / CBT

location of the existing party walls, which contained significant horizontal and vertical variances. This information coupled with the BIM model allowed the project team to confirm the existing party walls wouldn't interfere with the new structure.

PHOTO COURTESY OF PETER VANDERWARKER / CBT

This BIM model shows how the 10-story dorm connects to the original facade. The recessed dorm allows the theater to stand tall amid other historic performance venues.

COURTESY OF SUFFOLK CONSTRUCTION COMPANY

"Using laser scanning and BIM really made this type of construction project more practical," says David Chapman, senior project manager for Suffolk Construction. "It expedites the process, making it more efficient and cost effective."

Because space was a valuable commodity, significant planning and coordination were required to install the various systems required by both the theater and dorm. The project team dedicated a penthouse on the residence hall's top floor to place the mechanical systems, which serves the needs of almost 200 students.

Given the tight parameters in the theater space below, accommodating modern theater technology was another design feat. The new auditorium retains the intimate performance space of the original movie house yet cleverly integrates key theater systems, such as a catwalk, orchestra pit and lift system, and sound equipment. A two-story lobby welcomes patrons with salvaged artifacts from the original movie house and displays gallery works as well.

In another era, a dilapidated building like the Modern Theatre may have had a wrecking ball taken to it. However, the advent of BIM is paving the way for these historical landmarks to land a second chance.

"When owners look at a building like the Modern Theatre and all the difficulties that come with it, they need to understand that these new technologies can help them," says Chapman. "It might look insurmountable, but if you integrate the project with BIM, it makes it much more practical to save these types of structures and reuse them."

PROJECT TEAM (partial list)

OWNER: Suffolk University
CONSTRUCTION FIRM: (Award Submitter): Suffolk Construction Company
ARCHITECT: CBT Architects
CIVIL ENGINEER: Nitsch Engineering
CONSULTANTS: Preservation Technology Associates, Inc. and Martin Vinik Planning for the Arts LLC

Suppliers for Project Innovations Award Winners

GRAND PRIZE

ROCKINGHAM MEMORIAL

(page 36)

DOORS: KAWNEER
HARDWARE: SARGENT; MCKINNEY; RIXSON-FIREMARK; SECU-RITRON; HES; ROCKWOOD
INSULATION: GUARDIAN (EXTERIOR WALLS)
WINDOWS/GLASS: PPG
FACADES/CURTAINWALL: KAWNEER; ARRISCRAFT; BELDEN BRICK
CHILLERS AND AIR HANDLERS: TRANE
HVAC CONTROLS: SIEMENS
PLUMBING/WASHROOMS: AMERICAN STANDARD FIXTURES; ZURN; SLOAN; CHICAGO FAUCETS
BLINDS/WINDOW TREATMENTS: BALI CONTRACT; MECHO-SHADES
CARPET: LEES
CEILINGS: ARMSTRONG
DOORS: VT INDUSTRIES
PAINT: SHERWIN WILLIAMS

WILLIAMS VILLAGE NORTH (UNIVERSITY OF COLORADO – BOULDER)

(page 38)

DOORS/STOREFRONTS: KAWNEER, MARSH-FIELD, CURRIES, ANE-MOSTAT, JELD-WEN
FACADES/CURTAINWALLS/SUNSHADES: KAWNEER, ROBINSON BRICK
ROOFING: LUDOWICI
WINDOWS: ARMACLAD
SIGNAGE: AVALANCHE SIGNS
GLAZING/FILM: CARDINAL GLASS
HARDWARE: IVES, ONITY, SCHLAGE, KAWNEER, DON-JO, VON-DUPRIN, LCN CLOSERS, GLYNN JOHNSON, NATIONAL GUARD PRODUCTS, PEMKO, CURRIES
BUILDING CONTROLS: ANDOVER CONTROLS, SCHNEIDER, KELE, VERIS, DWYER, HONEYWELL, PRECON, JOHNSON CONTROLS, SIEMENS
ELECTRICAL: TYCO, AFC CABLE SYSTEMS, WHEAT-LAND TUBE COMPANY, THOMAS AND BETTS, APPLETON, THE AMERICAN FITTINGS CORPO-RATION, CONDUIT PIPE PRODUCTS COMPANY, BRIDGEPORT, SOUTHWIRE, CHATSWORTH, HUB-BELL, SYSTIMAX, COMMSCOPE, CABLE DESIGN TECHNOLOGIES, MOTOROLA, TIMES FIBER COM-MUNICATIONS, COOPER
ELEVATORS: THYSSEN KRUPP
FIRE/LIFE SAFETY: TYCO, SIMPLEXGRINNELL, CAT-ERPILLAR
HVAC: CLIMATE CRAFT, GREENHECK, GRUNDFOS, APOLLO, KEYSTONE
LIGHTING: PHILIPS, LITHONIA, GOTHAM, FOCAL POINT, LUMINAIRE LIGHTING CORPORATION, BETALED, KW INDUSTRIES, HINKLEY LIGHTING, WINONA LIGHTING, SIDE-LITE, HUBBELL, KICHLER
PLUMBING/WASHROOMS: KOHLER, TOTO, BRASSCRAFT, SMITH, AQUAFLO, DELTA, HAWS, ELKAY, FIAT, NIAGARA CONSERVATION, TRUEBRO, WATCO, EMERSON, IPS CORPORATION, DEAR-BORN BRASS, WATER PURIFICATION SPECIALISTS
SECURITY: TYCO, SIMPLEXGRINNELL
BLINDS/SHADES: MECHOSHADE, SWF CONTRACT
FLOORING: ARMSTRONG, AMTICO, ROPPE, SHAW, CROSSVILLE
CEILINGS: ARMSTRONG
FURNITURE: TRANSFORMATIONS, SAUDER, THURSTON
PAINT: SHERWIN-WILLIAMS, SCUFFMASTER
WALLCOVERINGS: DALTILE, 3FORM
WALLS/PARTITIONS: AMERICAN GYPSUM, GEOR-GIA PACIFIC, NATIONAL GYPSUM, HILTI, CEMCO

SUFFOLK THEATER
(page 40)

DOORS: OLDCASTLE
FACADES/CURTAIN-WALL: OLDCASTLE; AVENERE CLADDING
HARDWARE: SCHLAGE; MEDCO
INSULATION: DOW
ROOFING: CARLISLE SYNTEC
WINDOWS/GLASS: CHAMPION WINDOWS; CARDINAL IG COMPANY
BUILDING CONTROLS: JOHNSON CONTROLS
ELEVATORS: OTIS
LIGHTING: OMNILITE
PLUMBING/WASHROOMS: AMERICAN STANDARD; SYMMONS
CARPET: COLLINS & AIKMAN
CEILINGS: ARMSTRONG
DOORS: VT INDUSTRIES
FLOORING: ROPPE
PAINT: BENJAMIN MOORE; MODERN MASTERS

MCWHORTER HALL (page 42)

CARPET: TANDUS; LEES
CEILINGS: ARMSTRONG CEILINGS
FLOORING: AZROCK, MANNINGTON, ARM-STRONG
PAINT: PORTER PAINTS
WALLCOVERINGS: WOLF GORDON; COLOUR AND DESIGN, EVANS & BROWN
LOCKERS: LYON
DRAPERIES/BLINDS: DRAPER
LIGHTING/INDOOR: LUTRON
WALLS/PAINT: IDEA PAINT, SHERWIN WILLIAMS
WALLS/WALL COVER-INGS: SANFOOT

WASHROOM FIXTURES: TOTO, KOHLER, ELKAY
FIRE/SPRINKLERS: RELIABLE, TYCO

SANDY BRIDGES
(page 43)

LIGHTING: LUMAX INDUSTRIES
PLUMBING: ELKAY
HVAC SYSTEMS: TRANE

ADLER SCHOOL
(page 44)

FURNITURE/CAFETERIA/FOOD COURT: COALESSE
FURNITURE/CLASSROOM: NEVINS, HAWORTH, ALLERMUIR
PARTITIONS AND ROOM DIVIDERS: RACO

WORLDWIDE FINANCIAL
(page 45)

BLINDS/WINDOW TREATMENTS: DRAPER, 3M FILM
CARPET: INTERFACE & BENTLEY PRINCE ST, KARASTAN RUG
CEILINGS: ARMSTRONG, DECOUSTICS
DOORS: KARAS & KARAS GLASS CO., DE LA FON-TAINE, FRAMEWORKS, VT INDUSTRIES.
OFFICE FRONTS: KARAS & KARAS GLASS CO.
FABRICS/TEXTILES: HBF, CARNEGIE FABRICS, SINA PEARSON, SPINNEYBECK, ARC-COM
FLOORING: CERES, ALTRO DOLCE, STATICWORX
FILING/STORAGE: KNOLL