

## INSTALLATIONS – PROJECT OF THE MONTH

An inside look at recent projects completed by NECA Greater Boston Chapter members

### J. & M. Brown Completes \$20M Electrical Construction of Museum of Fine Arts Boston New American Wing Project

**Architects: Foster & Partners, London; CBT Architects, Boston, MA; GC: John Moriarty and Associates, Winchester, MA; EE: SEI Companies/WSP Flack & Kurtz, Boston, MA**

Jamaica Plain, MA – In the most significant museum expansion and renovation project currently under construction in the U.S., J. & M. Brown Co., Inc. (JMB) of Jamaica Plain has completed electrical construction of the new American Wing, Sharf Visitor Center, and Ruth and Carl J. Shapiro Family Courtyard at the Museum of Fine Arts Boston (MFA). The project also included renovation of the MFA's historic Huntington and Fenway entrances and galleries. JMB provided the 133,500 sq. ft. museum with comprehensive new power distribution, life safety, lighting, and lighting control systems. A key requirement was the NECA contractor's ability to keep all museum systems operational at all times throughout construction.

#### Primary & Emergency Power Challenges

Primary power included installation and wiring of six (6) major pieces of Cutler Hammer electrical switchgear. Emergency power for the new American Wing and the existing MFA building is provided via a Cummings 1500kW generator. The enabling work provided for the new building footprint was extensive, requiring the removal of old distribution equipment, lighting control, and fire alarm from areas now within the new building footprint. The new generator ties in all systems, including life safety circuits. "The museum never shuts down so a parallel installation process was critical," Project Manager Robert Carabia said.

Planning and coordination of MEP equipment was crucial, as all equipment was delivered to the basement level of the new building and intricate rigging was necessary to transport systems. Electrical switchgear and the massive generator were first rigged into electrical rooms, which are the farthest from the basement level rigging point. Air handler units, boilers, and plumbing skids were then transported, as coordinated as planned.

A significantly accelerated work schedule was required for the west end switchgear installation. Here, the existing NSTAR vault required decommissioning and JMB coordinated a plan with NSTAR, installing a separate NSTAR transformer to refeed the existing west end equipment.

The project required four power shutdowns to enable cutovers to new systems. The first occurred with the reenergization of the existing 480V switchgear, which provides power to all utilities, including chiller and heating systems for the MFA's galleries and exhibitions. Power shutdowns and cutovers were scheduled overnight, during off-hours for the museum. JMB's foreman and night crew of 10 to 12 electricians managed the shutdowns without incident. Concurrently, JMB installed and energized the new NSTAR vault for the new American Wing during mid-winter 2009, as temperature and humidity control

were necessary for installation of wood floors.

#### Life Safety System & Tie-Ins

JMB installed and wired the MFA's new EST bi-directional fire alarm system in the Fenway and Huntington entrances, the Sharf Visitor Center, and the new American Wing. The contractor integrated the facility's existing Honeywell system and the new EST system. Both systems report to the new EST fire alarm command center in the MFA's Fenway entrance. The existing command center, which had been located more than 600 feet away at the Huntington entrance, was kept fully operational throughout the installation.

The MFA's life safety system installations, which included new annunciators, atrium fan control, and a fuel annunciator, coincided with completion of the Huntington entrance project phase. JMB also provided

#### Extensive Lighting Package

Facility lighting was elaborate, as the project incorporated more than 100 different types of fixtures, including nearly three (3) miles of specialty museum track lighting from Litelab. A sophisticated Lutron lighting control system provides total function control of lighting in galleries, floor outlets for displays, shade control, and AV systems. JMB handled lighting installations with close cooperation from lighting supplier Yale Electric Supply of Boston.

At peak construction in the three year project, JMB managed a field crew of 50 IBEW Local 103 electricians headed by Project Superintendent Jim Reidy.

#### Budge Upton, Director of Project Development and Construction for the MFA, commends electrical construction.

Upton commented on the project, "J. & M. Brown has been a vital part of the project team. They are very much a team player and assembling the right project team is a key to every project's success. The project was especially difficult, as renovation of the existing MFA building was ongoing with construction of the new building, making integration of systems demanding.

J. & M. Brown handled their work diligently and adeptly, both from a construction standpoint and administratively." Upton added, "The standards for the MFA are very high. The architect, Norman Foster, has great expectations for his firm's design of the facility and the project required an electrical contractor that could meet those standards. J. & M. Brown has done just that."



PHOTOGRAPH: SEYMOUR LEVY

#### The MFA's New Wing for the Art for the Americas

ed fire alarm system programming and testing. Revitalized Fenway and Huntington Entrances The fast track construction of the revitalized Fenway entrance was a critical milestone for the project, as

the historic MFA structure is an integral part of Boston's Emerald Necklace and it had been closed for two years. JMB's museum quality work on the Fenway entrance included fountain lighting, pump control and wind control system, parapet and railing LED lighting, and banner lighting. Sharf Visitor Center electrical installations included track lighting, digital screens displaying ticketing and exhibit information, and life safety. Fenway entrance electrical construction began in January 2009 and was complete by mid-June when it opened to the public.

The next phase, the Huntington grand entrance renovation, which preserves the grandeur of the building's classic Beaux Arts architecture, began in June. Here, JMB provided parapet, facade and entrance LED lighting, and life safety system installations to meet the aggressive project schedule. The Huntington entrance reopened in August 2009.



State Street Corporation Fenway Entrance Sharf Visitor Center

At peak construction in the three-year project, J. & M. Brown managed a field crew of 50 IBEW Local 103 electricians headed by Project Superintendent Jim Reidy.

When it opens in November 2010, the MFA's new American Wing will feature 60,000 sf of gallery space encompassing 53 galleries designed by Pritzker Prize-winning architects Foster + Partners of London.

J. & M. Brown Company, Inc., founded in 1921, is one of New England's oldest electrical contracting firms. Company principal, David Noon, serves on the NECA Boston Chapter Board of Directors and is a past Treasurer. JMB provides electrical construction, telecom, fire alarm, and security system services for commercial, industrial, healthcare, pharmaceutical and educational facilities throughout Eastern MA. ■