



# Mechanical | Electrical | Plumbing (MEP)

IMPROVING, MAINTAINING & PRESERVING YOUR BUILDING SYSTEMS

Marx|Okubo's in-house Mechanical/Electrical/Plumbing (MEP) group knows that your real estate portfolio is a substantial investment and must have high-performing building systems. We work with building owners and operators to ensure that the building system assets are well maintained and work at peak performance.

 Owner's Representation

 Property Condition Assessment

 Project Management

 Constructability Reviews

 Repair | Reconstruction

 Facility Condition Assessment

 Construction Loan Monitoring

 Accessibility

 Building Enclosure

 Fire | Life Safety

 **Mechanical | Electrical | Plumbing**

 ESG | Sustainability & Resiliency

 Structural Engineering

 ASAP® - Automated Structure Alert Program



*We consult to limit your exposure now, giving you greater confidence in your decisions for the future.*

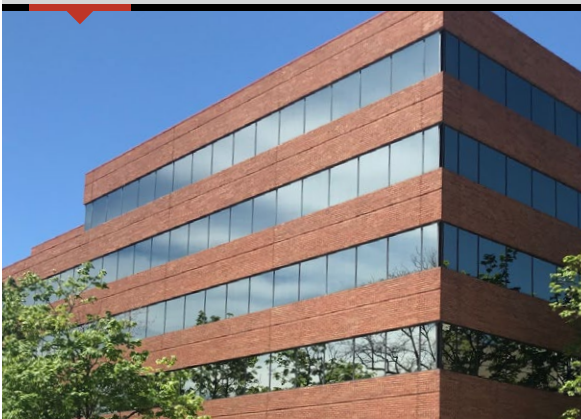
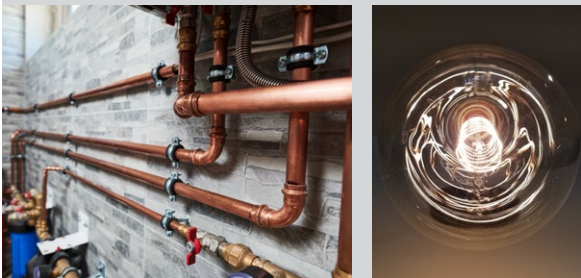
## Key MEP services:

- > Property condition assessments
- > Facility condition assessments
- > Energy, water and greenhouse gas assessments
- > Building diagnostics and forensic investigations
- > Operations and maintenance reviews
- > Design peer reviews
- > ENERGY STAR benchmarking
- > LEED consulting and LEED GAP Analysis
- > Indoor air quality complaint response, mitigation and proactive monitoring
- > Commissioning of new and existing buildings

MEP systems are among the most complex and expensive building components to install, maintain, and replace. Marx|Okubo brings in-depth knowledge of MEP system operating characteristics, expected service life, failure modes, and costs to help minimize risk for clients who are purchasing or are maintaining a property throughout the building's lifecycle.

We use our own in-house licensed engineers to evaluate the building systems—helping clients identify, evaluate, and implement solutions for the maintenance, repair, and replacement of system assets. Building systems have a large impact on energy consumption and operating expenses to keep a building in peak performance. By evaluating the building energy consumption or looking at the operations and maintenance practices of MEP systems, we can improve building performance resulting in a beneficial return on investment.

Marx|Okubo has extensive knowledge of national and local regulatory and code requirements to actively keep clients in compliance with national, state, and local building codes and regulatory statutes that have become increasingly important in the pursuit of green technology alternatives.



# Project Examples

## 100 North Tampa

Client: **PGIM Real Estate**

Location: **Tampa, Florida**

Marx|Okubo was engaged to complete an ASHRAE Level III Energy Audit on an approximately 853,336-square-foot, 42-story office building located in Tampa, Florida. We reviewed the physical condition of the building systems, equipment, and components related to the building infrastructure accessible or visible during several site visits. Following the energy audit, we performed an evaluation for replacement of the existing Trane centrifugal chillers, which included three alternate chiller scenarios. The three alternatives were evaluated on the basis of energy usage, lifecycle cost, and environmental impact.

Our team was able to model the entire building and match energy usage in it with detailed historical utility billing. This energy model then allowed us to evaluate each alternative for the best property-specific recommendation. Our evaluation determined the most cost-effective solution for the client. For the installation, we worked with a local mechanical contractor to determine reduced tonnage equipment sizes as well as disassembled chiller components that could be transported by rigging contractors down the elevator shaft to the basement central plant. Once transported, the chillers required reassembly in the basement by manufacturer's technicians. Solving this challenge this way avoided the only alternative installation, which would have been far more disruptive as it included cutting the concrete sidewalk with both traffic and flood insurance implications.

With this creative approach, we worked collaboratively with the entire team to develop a complex-but-workable solution. Our solution saved the client project installation costs, and the new equipment will ultimately reduce operating costs with an attractive ROI.



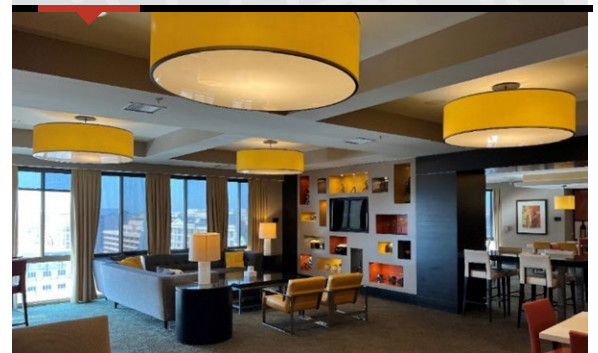
## UBS Energy Audit Portfolio

Client: **UBS Realty Investors**

Location: **Various cities and states throughout the US**

Our team worked with UBS to complete an ASHRAE Level II energy audit on 39 buildings, spread out over seven properties, totaling more than 2,209,000 square feet. Our survey included a review of the physical conditions related to systems, equipment, and components of the building infrastructure to determine potential energy conservation measures (ECMs) and improve building operations.

The energy audit identified approximately \$470,000 in potential savings from reduced energy consumption and annual maintenance savings.



## Children's Hospital Los Angeles

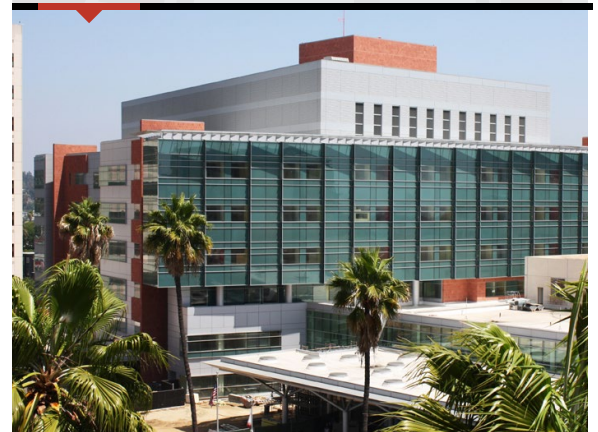
Client: **Children's Hospital Los Angeles**

Location: **Los Angeles, California**

Marx|Okubo completed a facility condition assessment, life cycle analysis (LCA), and an ASHRAE Level II energy audit of the Children's Hospital Los Angeles, which included 23 buildings totaling approximately 2,182,390 square feet. Our survey included a physical condition review of the building systems, equipment, and components related to the building infrastructure to determine potential energy conservation measures (ECMs) and improve building operations.

The LCA considered age, condition, and remaining useful life to determine equipment replacement period for key equipment and to prioritize when equipment replacements were warranted.

The energy audit resulted in approximately \$3,000,000 of potential annual cost savings with a projected overall payback period of 5.6 years which equates to a 17.7% return on investment. The energy audit results were coordinated with the LCA to optimize planning of equipment replacements.







Marx|Okubo is a national AEC consulting firm that works with real estate owners, investors and lenders—at every point of the property lifecycle—to **evaluate** their building projects, **solve** complex challenges and **implement** tailored solutions.

We help clients understand their projects' complexities, so they can make more informed decisions and, ultimately, mitigate their risk.

Denver • Seattle • San Francisco • Pasadena • Orange County • Dallas • Atlanta • New York

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