Renvation of a Landmark
Alumni Memorial Hall is Mies van der Rohe’s first classroom building on the I.I.T. campus. While the building as a whole is not under historical preservation status the exterior element, are and the University has decided to extend the historic status of the campus as a whole to the treatment of all the existing buildings of the original Mies master plan.

Renovation Issues Addressed:
- Design of green roof system
- Design of rain water run off and retention
- Design of efficient HVAC system
- Design of elevator for ADA compliance
- Design of building and space access for ADA compliance
- Design of building layout to client specifications
- Design of electrical and lighting systems for code compliance
- All system design to fulfill requirements for Silver Certification from LEED EB

Lighting Systems
Qualify for the following LEED credits
- Sustainable Sights
- Light Pollution Reduction
- Energy & Atmosphere
- Minimum Energy Performance
- Optimize Energy Performance
- Measurement and Verification
- Indoor Environmental Quality
- Controllability of Systems-Perimeter
- Innovation & Design Process

Elevator Design Development
- Design a 2-story elevator that...
  - minimizes energy consumption
  - suitable location
  - incorporate design as Meisian

HVAC Redesign
- Current
  - Heated hydronically by steam
  - Entire building is not air conditioned
- Needed
  - Updated heating and air conditioning system to improve comfort and balance temperature throughout the building
- Process
  - Room loads were calculated
  - Duct sizes were determined
  - The building was divided into zones.
  - Loads for each room were calculated using computer software.
  - The air handler must be able to push 100 tons of air through the building

Recommended Air Handler:
Trane M Series 100 ton capacity

Green-roof Addition And Stormwater Reduction
- Cover 50% of roof with green roof
- Roof to show reduction of at least 15% stormwater management
- Impervious area on site will be reduced to 43% from 64%
- Stormwater runoff reduced 17%; LEED point available
- Total volume of water leaving site will be reduced from 3252 cubic feet to 2686 cubic feet

Checking Available Strength
- Loads
  - Dead: decking and green roof
  - Live: Rain
- Member Capacity
  - Ultimate Load vs. Design Strength
  - Beams: bending strength
  - Columns: axial strength

Typical Cross-Section
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