Case Study #1
Center for Parks and People

Intro
What is POE?/Process
Case Studies
Recap
## Case Study #1
Center for Parks and People

Energy Conservation Measures:

- High-performance envelope
- Green Roof
- Low Flow Plumbing Fixtures
- Composting Toilets
- Photovoltaic Array
- Electrical vehicle charging station
- Daylighting optimization
- Geothermal Variable Refrigerant Flow (VRF) System
- Natural ventilation
- Energy recovery ventilation
- Expanded thermal comfort conditions
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- Mechanical Highlights:
  - Geothermal VRF system
  - Natural ventilation backed up by mechanical energy recovery ventilation

Building-side-loop | Geothermal wellfield
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- Electrical Highlights:
  - PV array
  - CFL lighting
  - Daylight optimization
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- **Plumbing Highlights:**
  - Low-flow fixtures
  - Composting toilets in the Superintendent’s building
Certified LEED Platinum!

- 49.3% energy cost savings compared to ASHRAE 90.1-2004
- Energy Star score of 100
- Metered energy use of 43.1 kBtu/ft² (March 2015 through February 2016)
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Post Occupancy Evaluation
Utility Data Analysis:

Electric Consumption (Avg. kWh/day)

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 369 | 362 | 393 | 228 | 140 | 253 | 412 | 455 | 495 | 411 | 309 | 358 |

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Post Occupancy Evaluation
Utility Data Analysis:

Energy Use per Square Foot (EUI; kBtu/ft²)

- U.S. Office Median EUI: 67
- Modeled Energy Use: 51
- Actual Energy Use: 43

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POE Highlights:

• The organization is thrilled overall with their new building

• Thermal comfort in open office, conference, and corridor spaces

• Daylight and views

• Headquarters building energy use
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Issues raised:

• Occupant comfort in private offices
• Superintendent’s house A/C use
• Ceiling fan control
• Groundwater pump shut-off
• Composting toilets
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Lessons Learned:

• Thermal comfort generally worked, ceiling fan controls

• Contractor availability and training

• Composting toilets: design vs. actual frequency of use

• Occupants moving into a new building are generally satisfied, but there is always room for improvement.
Agenda

Introduction

What is Post-Occupancy Evaluation?
  ◦ Value Proposition
  ◦ Process

Case Studies
  ◦ Non-Profit: Parks & People
  ◦ Multifamily Residential: Radian

Wrap-Up / Recap