



Achieving Affordable Green Housing Through An Integrated Approach

Presenters:

Heather Gay, Kandiyohi Development Partners

Brad Kruse, Weis Builders, Inc.

Joel Salzer, Lutheran Social Service of MN

Gretchen Camp, BKV Group



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Learning Objectives

- Understanding the basic elements of Integrated Design, along with benefits
- Putting together the right team structure
- Setting achievable goals for your green building program
- Researching materials and sourcing green products
- Balancing cost, durability and green criteria when exploring design options/alternatives
- How to implement and manage green criteria during construction



Presentation Panel

Developer:

Joel Salzer, Lutheran Social Service of MN

Green Consultant:

Heather Gay, Kandiyohi Development Partners

Architect:

Gretchen Camp, BKV Group

Contractor:

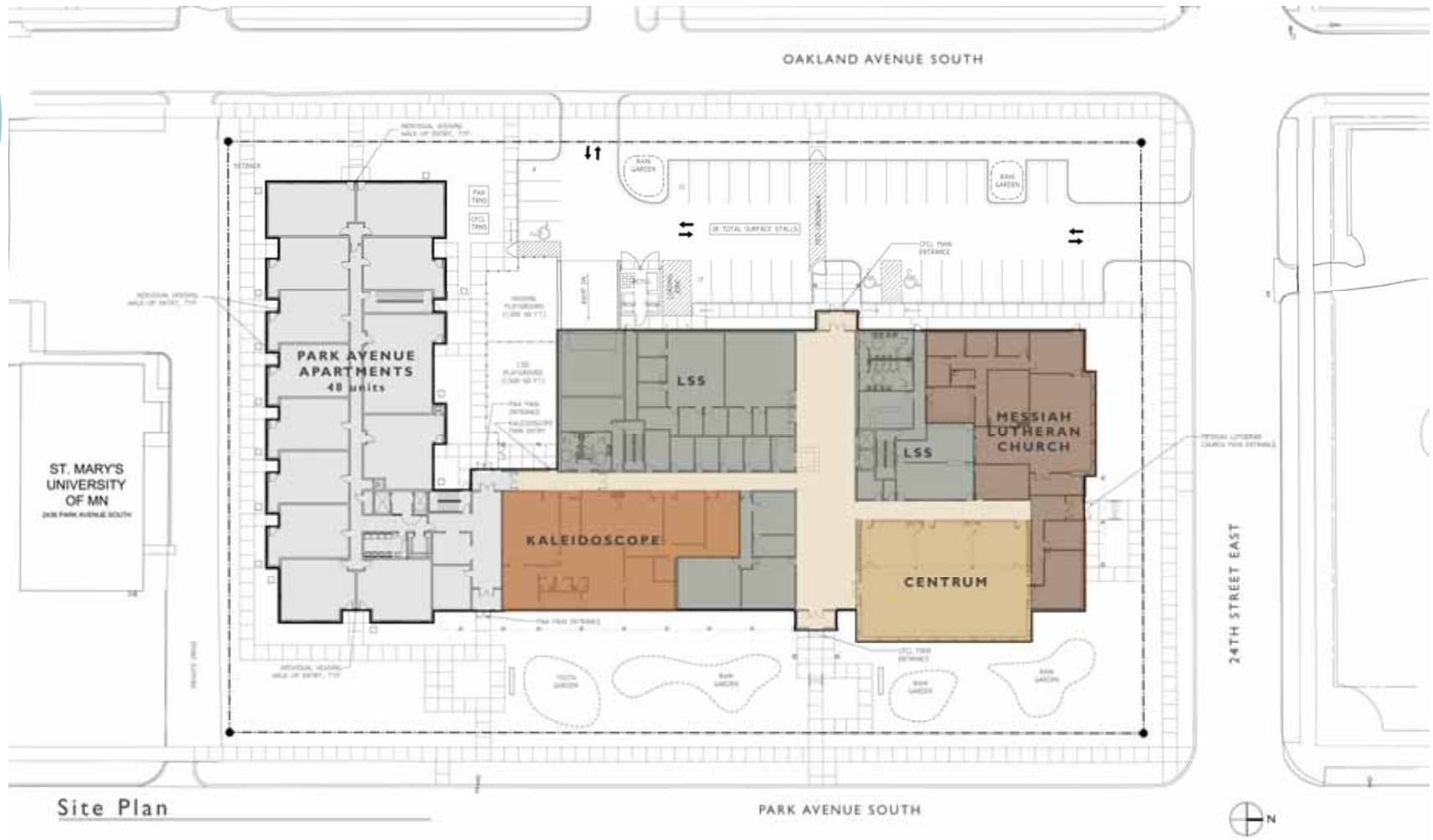
Brad Kruse, Weis Builders, Inc.

Project Overview

Center for Changing Lives and Park Avenue Apartments



Project Overview – First Floor



Site Plan



Project Overview

- Park Avenue Apartments
 - 38 Units affordable housing
 - 10 Units “Long Term Homeless” housing
 - 5-stories, 65,000 square feet
- Center for Changing Lives
 - Social Service Programming
 - Messiah Lutheran Church
 - Kaleidoscope
 - Phillips West Neighborhood Organization

Project Overview

- Site of existing LSS offices (2+ acres)
- Improve the fabric of the neighborhood
- Community center emphasis
- Environmental Remediation



Project Overview

○ Green Goals

- Minnesota Green Communities Grant
- LEED Certification
- Saved operational costs
- Response to neighborhood environmental activism
- Telling the “story” for fundraising
- Not just build...but build it right
- Showcase project
- Educate about green building





Integrated Design

Definition

“Integrated building design is a process of design in which multiple disciplines and seemingly unrelated aspects of design are integrated in a manner that permits synergistic benefits to be realized.”

US Department of Energy



Integrated Design

Definition

“The “integrated” design approach asks all the members of the building stakeholder community, and the technical planning, design, and construction team to look at the project objectives, and building materials, systems, and assemblies from many different perspectives.”



Integrated Design

Process Intent

Bringing the project team and their individual expertise together for collaboration early in the design process, creating a seamless project delivery.

Setting the stage for building lifecycle planning and long-term goal fulfillment.

Integrated Design

Team

- Owner/Developer
- Architect/Engineers
- Contractors
- Consultants
- Financing Partners



Integrated Design

Benefits

- Collaborative partnering ethic
- Synthesis of diverse ideas
- Synergy in outcomes
- Accurate and updated project costs
- Feedback on impacts of decisions
- Project team buy-in to decisions
- No surprises...well, almost no surprises



Putting the Right Team Together

- Identify owner's expectations and goals related to green
- Include green expectations in all RFQs
- Recognize uncharted territory
- Process is evolving
- Identify team member roles
 - Individual
 - Company



Putting the Right Team Together

- Team Member Characteristics:
 - Proponents of sustainability
 - Knowledgeable
 - Creative
 - Collaborative
 - Proactive
 - Flexible
 - **Patient** and **willing**



Setting Green Goals

- Understand what you already do
 - How green is your typical project?
 - Where are opportunities to go beyond?
- Set realistic goals as well as “wishes”
- Learn from other projects (+ and -)
- Manage expectations
- Manage risks
- Evaluate throughout design & construction



Setting Green Goals

- Owner
 - Company mission/vision/culture
 - Public perception
 - Traditional Funding Sources
 - Building operations



Setting Green Goals

○ Consultant

- Act as a resource for the project team
- Identify green funding sources
- Selection of green rating systems





Setting Green Goals

- Architect
 - Advise owner on appropriate consultants/engineers/contractors
 - Establish green benchmarks
 - Identify wants/needs

Setting Green Goals

- Contractor
 - Constructability Analysis
 - Will it work?
 - How will it be built?
 - Has this been done before?
 - What are the alternatives?
 - How will this affect quality?
 - How could this be improved?



Setting Green Goals

- Contractor (cont.)
 - Cost Analysis
 - Sourcing/availability of products/subcontractors
 - What is the cost impact compared to the alternatives?
 - Most “Bang for the Buck”



Understanding Design & Cost Impacts

○ Architect

- Green Choices
 - Developing strategies
 - Bundling your green package
- Green Impact Areas
 - Aesthetics
 - Sustainable Sites
 - Water Efficiency
 - Energy and Atmosphere
 - Materials and Resources
 - Indoor Environmental Quality
 - Innovation





Understanding Design & Cost Impacts

- Architect (cont.)
 - Owner Cost Impacts
 - Design Time
 - Design and re-design
 - Engineering and modeling
 - Documenting for 3rd party certification (LEED)
 - Staff and consultant coordination
 - Construction Features and Learning Curve
 - Testing and Commissioning Services
 - Certification/Documentation



Understanding Design & Cost Impacts

- Green Consultant
 - Experience
 - Fees
 - Consultant
 - Commissioning
 - Design/Engineering
 - Changes
 - “Evolving” Certification Standards (LEED)

Creating Balance

- Initial Cost
- Life Cycle Cost
- Durability
- Aesthetics
- Sustainability



Implementing During Construction

- Establish “Best Practices”
- Education – trades and management
- Specification compliance and construction monitoring
- Project specific training
- Intents and expectations
- Job site recycling



Post Construction

- Third party certification
- Owner training process
- Owner operating manuals
- Building occupant orientation
- Education and marketing opportunities
- Debriefing
 - Cost analysis
 - Accomplishments
 - Setbacks



Lessons Learned

- Owner
 - Teamwork Trust / Patience
 - Cost
- Consultant
 - Communication is key
 - Timing





Lessons Learned

○ Architect

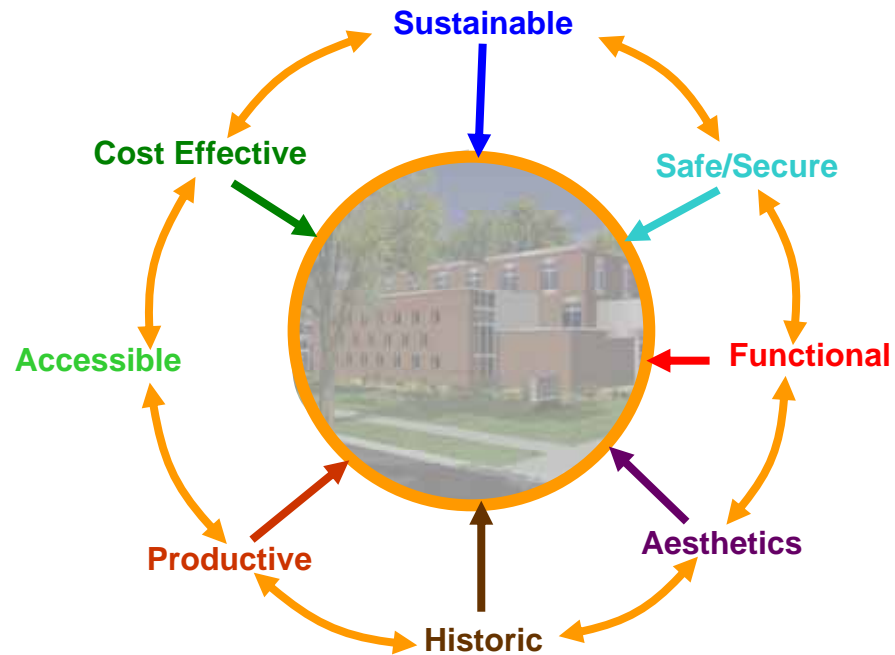
- Green process = good design process
- Early modeling facilitates later decisions
- Limits and compromises are essential

○ Contractor

- Preconstruction cost analysis key for decisions
- Subcontractor buy-in is critical

Conclusion

Integrated Design Process



It Works



Questions

This concludes the American Institutes of Architects Continuing Education Systems Program.

Contacts:



Joel Salzer
p: 612.879.5303
joel.salzer@lssmn.org



Heather Gay
p: 612.455.2177
heatherg@kandiyo.com



Gretchen Camp
p: 612.373.9122
gcamp@bkvgroup.com



Brad Kruse
p: 612.243.5000
bradkruse@weisbuilders.com