



foresight

MANAGEMENT

Integrative Design Services

WHY

We live in an era of multiple crises, and buildings contribute significantly to many of them. Where and how we design and construct buildings directly contribute over 50% of global greenhouse gas emissions (40% with how and 14% with where). In the US, buildings consume over 70% of the electricity generated, and Americans spend over 90% of their lived experience within these buildings. Nearly 60% of what determines our state of health is associated with the physical environment, leading some folks to say that our facilities contribute more to our well-being than our doctors do.

We can no longer design and engineer solutions with singular, isolated benefits; we need systems-based solutions with synergistic and plentiful co-benefits. Building users and investors are beginning to demand that new buildings perform in new and better ways. And the only way to discover what better looks like is to deploy the Integrative Design Process.

The first one percent of a building's professional costs determine seventy percent of the life-cycle impacts associated with the project. Thus, any investment in the early phase of any project is the most critical and impactful. Sadly, this phase is often the most under-resourced of all. Integrative design is THE approach to changing this paradigm by discovering and integrating the most cost-optimized impacts into design solutions.

HOW

Deeply rooted in ecological literacy, the integrative design process starts with curiosity and empathy, asking the right questions of the right people at the right time and leaning into what there is to learn from the shared lived experience of those in the room. From there, we can cultivate consensus on values and desired outcomes. Indicators of success emerge, and thus, a framework for meaningful impact is co-discovered.

We work with teams to identify organizational values, map out historical contexts, present challenges and ideal future states, and ask who is missing and how to engage with them. This process is all in service of the web of life (and decisions) that connect everything. Creating a resilient process for the project makes the right choices the easiest ones to accomplish.

While every project integrative design process needs to be tailored specific to its unique opportunities and constraints, the general steps include:

1. Project Initiation and Goal Setting

Clearly define the project goals, objectives, and performance targets. Identify key stakeholders and establish an engagement and collaboration plan to ensure that different disciplines and expertise are represented throughout the design process.

2. Establishing a Design Charrette

Conduct an initial design charrette, which is a collaborative workshop that brings together all stakeholders to establish a shared understanding of project goals, define ESG/sustainability/carbon objectives, identify challenges, and brainstorm innovative solutions.

HOW, CONTINUED

3. *Whole-Team Collaboration*

Encourage active participation and open communication from all team members, including key stakeholders, architects, engineers, contractors, and other specialists through regular team meetings.

4. *Early and Ongoing Analysis*

Perform comprehensive analyses and evaluations at the early stages of the design process to inform design decisions and, identify opportunities for improvement and align with established goals. These include energy modeling, daylighting studies, life cycle cost analysis, and other assessments.

5. *Iterative Design Process*

Embrace an iterative design approach, where concepts, ideas, and solutions are continuously refined based on feedback, analysis, and input from all stakeholders. Explore multiple design options, evaluate their performance, and iterate on the design to optimize energy efficiency, resource conservation, occupant comfort, and other sustainability factors.

6. *Performance-Based Design*

Focus on performance-based design rather than prescriptive solutions. Set performance targets and use metrics to continuously measure and evaluate design choices.

7. *Systems Thinking*

Adopt a systems thinking approach to understand the interconnectedness of building components and systems.

8. *Continuous Commissioning and Feedback*

Regularly monitor and measure the performance of building systems and occupant satisfaction. Use the feedback to fine-tune systems, address issues, and optimize performance.

9. *Documentation and Evaluation*

Document the project's design decisions, strategies, and performance outcomes. Maintain a record of design charrettes, analysis reports, design iterations, and performance evaluations.

10. *Post-Occupancy Evaluation*

Conduct post-occupancy evaluations to assess the actual performance of the building concerning the initial design intent. Gather feedback from occupants, measure energy consumption, and compare it with predicted values. Use this feedback to refine the design further and inform future projects.

This paradigm change within the architectural design process doesn't happen by accident. Bringing people together in the same room doesn't equate to collaboration. Cultivating meaningful co-creation takes specialized tools, facilitation expertise, empathy, and systems thinking. We leverage our broad experience with various sustainability, regenerative, and well-being frameworks to identify and recommend meaningful, value-aligned indicators of project success.

BENEFITS

The integrative design process offers several key benefits that help companies align their corporate goals and commitments to architectural design decisions effectively:

1. Holistic Alignment
2. Enhanced Sustainability
3. Optimal Resource Utilization
4. Improved Employee Well-being
5. Cost Savings
6. Corporate Image and Branding
7. Long-Term Value
8. Regulatory Compliance

CASE STUDY

Client Profile

New 12,000 ft² Student Center for a State University in the Midwest

The Problem

While it was relatively new to the market, diverse project stakeholders needed to be engaged while attempting LEED v4 Silver Certification. The project team needed more experience with LEED and its associated sustainable design strategies.

The Solution

Through our team's leadership and recommendation, the project team deployed the Integrative Design Process to co-create and cultivate shared buy-in to cost-optimized sustainable design strategies. Through rigorous early-phase engagement (in which clarity was pursued over ego), our team created a framework in which everyone clearly understood how their expertise contributed to the project's success. This investment meant that later phases went more smoothly, without contentious "surprises."

The project achieved a 50% energy-cost savings and a higher LEED certification threshold than was initially targeted — on time and within budget. And, more importantly, the entire project team is eager to work with each other on future projects.

FREQUENTLY ASKED QUESTIONS

How does the integrative design process differ from traditional design approaches?

Unlike traditional design approaches focusing primarily on aesthetics and programmatic functionality, the integrative design process emphasizes collaboration, holistic thinking, and performance-based outcomes. It encourages interdisciplinary collaboration and considers the environmental, economic, and social aspects of a building throughout its lifecycle.

How does the integrative design process impact project timelines and costs?

While the integrative design process can require more upfront time and investment compared to traditional design approaches, it has the potential to yield cost savings in the long run. That said, an Integrative Design Process can also be more time efficient across all phases of design (including construction administration). If done well, it saves more money and time than it adds, by streamlining future, more detailed phases and reducing errors and omissions while increasing operational efficiency.

That said, it intentionally can disrupt the initial design phase because this is where 70% of any given project's impacts are determined. By addressing design considerations early on, identifying efficiency opportunities, and optimizing system integration, the process can reduce operating costs and improve return on investment. The typical ROI of the Integrative Design Process is less than one year.

“Matthew VanSweden (Foresight Management) has exceeded our expectations on a recent project requiring LEED v4 Silver certification. His integrative approach, deep knowledge of the requirements, advice on design strategies, guidance on documentation submittals, and facilitation of coordination efforts have been incredibly valuable to our project's success. The result of this collaboration exceeded project goals and allowed the team to achieve LEED v4 GOLD certification on time and within budget! I can't imagine designing a LEED project without him on our team!”

Tim Jensen, Principal, TSP

FAQS, CONTINUED

How does the integrative design process address sustainability goals?

The integrative design process prioritizes sustainability by considering energy efficiency, renewable energy integration, water conservation, materials selection, indoor environmental quality, and site design. It enables identifying and implementing strategies to achieve sustainability goals and certifications such as LEED (Leadership in Energy and Environmental Design) or the WELL Building Standard.

Can the integrative design process be applied to existing buildings or retrofit projects?

The integrative design process can apply to existing buildings or retrofit projects. It allows for evaluating existing systems, identifying opportunities for improvement, and implementing sustainable retrofit strategies to enhance the performance and sustainability of the building.

How does the integrative design process address regulatory compliance?

The integrative design process ensures that regulatory compliance is considered from the early stages of design. By involving experts who know local building codes and regulations, the process ensures that the design meets the required standards and minimizes the risk of non-compliance.

What is the best time to engage with the Foresight team?

Ideally, our team is engaged as soon as you consider expanding your organization's physical footprint. We can help evaluate options (even (especially) if it means avoiding the need to build anything new), assist with the initial needs assessment and feasibility of various sustainable design outcomes, and even help facilitate the request for proposal (RFP) process.

“The Foresight team has been our LEED consultant for a significant carbon neutral industrial facility in Ann Arbor pursuing LEED v4 Gold Certification.

They have done an amazing job from early sustainability strategy development to construction administration. We highly recommend them as an exceptional authority on holistic sustainable design and construction.”

***Thom Phillips, Vice President,
Hobbs+Black Architects***

