



2030

Wheeler Kearns Architects
Sustainability Action Plan

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We Pledge. Wheeler Kearns Architects is committed to conserving the environment and making intelligent use of our natural and cultural resources. Our firm pledges to strive to meet 2030 standards and will report on the progress of our projects and goals on an annual basis.

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Inspiration Kitchens - LEED GOLD

We Pledge. Commitment to Sustainability

Since our founding in 1987, Wheeler Kearns Architects has sought to design and build projects that engage, elevate, and house community. We aspire to building projects that are loved, nurtured, and hence sustained; to use our collective energies and resources wisely.

We believe that societies across the globe are experiencing a shift in attitude from one merely concerned with surviving on earth to one concerned with changing how we live so that the earth can survive.

We embrace this shift and seek to enhance the impact of sustainable design and development as a basic tenet of our practice. Rather than diminishing in meaning, the ideas of sustainability have the potential and power to enrich and broaden our culture as well as our architectural language.

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We Learn. Wheeler Kearns Architects is committed to retaining an environment that fosters life-long learning. In our office, every employee is an architect that equally shares the roles of designer, technician, and manager. Every individual is fully immersed in a project from inception to post-occupancy evaluations, cross-training over different market sectors to exercise our firm's comprehensive model.

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2018 Office Trip to Vancouver, BC touring the Indian Residential Centre

We Learn

Commitment to life-long learning.

For nearly 30 years the office has traveled to various cities throughout so we can collectively experience a place, its architecture, and its culture. Centered around learning, this annual tradition also develops common experiences we can refer to when discussing new projects. We spend long weekends touring a variety of projects as well as local architects offices. These trips build the culture of our firm, exposing us to new ideas and resources, and cementing our office as a cohesive team. Recent trips have been to Mexico City, Montreal, New Orleans, and Vancouver, BC. We have included tours of sustainable projects in the past and will continue to do so in the future.

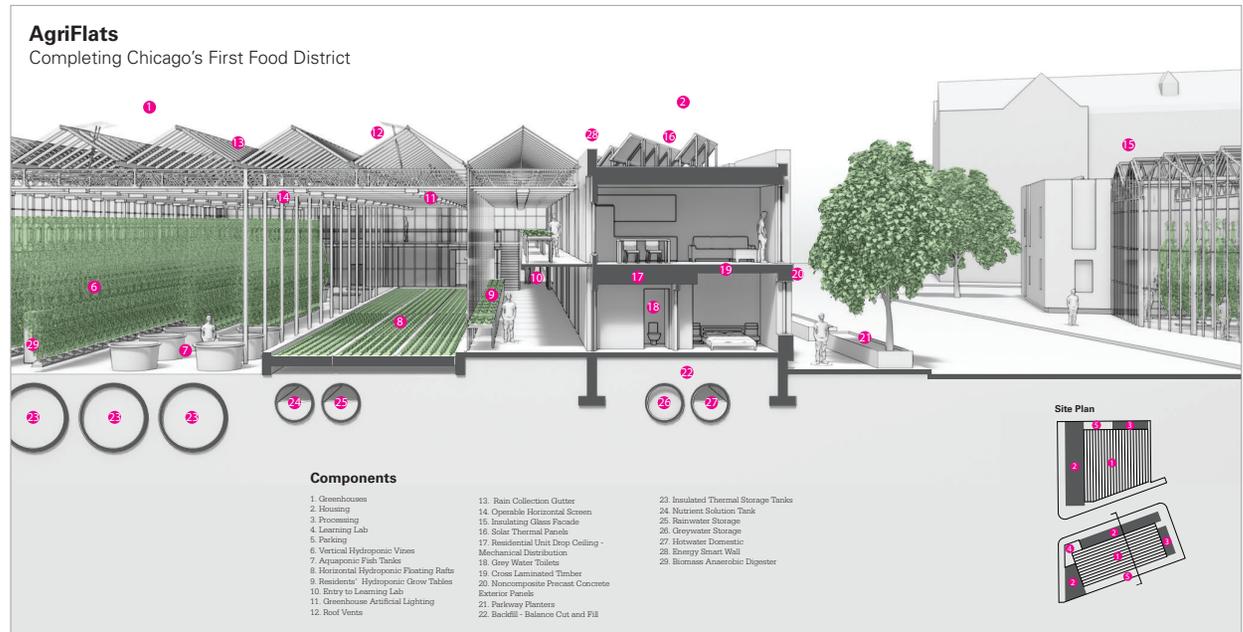
Staff development:

- **Integrated Design Process:** Team members are encouraged to develop skills related to sustainability and the integration of sustainable principles into the design process.
- **Energy Modeling:** Our team has trialed programs including IES, and will primarily use Rhino and Grasshopper tools moving forward.
- **Sustainable Certification Accreditations:** 26% of our employees are LEED accredited. Our goal is to increase LEED and other accreditations to 50% by 2025. We encourage staff to develop a diversity of accreditations using other rating systems.

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We Advocate. Wheeler Kearns Architects is committed to be an optimistic voice in advocating for environmental, community stewardship. We see ourselves in part as physicians, with the responsibility to heal, not harm. As such, promoting the narrative to build trust in others to commit to a restorative course of action is the first essential step.

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WKA's entry for C40 Reinventing Cities Competition

We Advocate.

Commitment to educate clients + community

We believe in maintaining a sustainable focus internally and projecting these ideas publicly via competitions which can grow into important green projects. Often, we insert additional opportunities centered around community, such as in our entry to C40 envisioning a combination of greenhouse aquaponics and housing. Another example is Tiny Town, a modest and sustainable response to young adult homelessness in Chicago.

These projects are not restricted to individual buildings, speaking to city wide patterns that can promote economic diversity in neighborhoods such as accessory dwelling units, or encouraging smart new public transit possibilities such as our various iterations on compact Hyperloop stations as an integral part of a resilient city system. An early competition winner that perhaps best showcases this commitment is Midwin, an off-the-grid design shaped by its climate and performance.

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Milwaukee Belden TOD - LEED Certified

We Advocate.

Commitment to educate clients + community

Our efforts working with specific clients begin with an open discussion relaying our responsibility to educate them on best practices and determine which of these resonate with them the most.

Schematic designs are subsequently produced, guided in part by checklists developed through years of practice working with green consultants. Using continually upgraded digital tools, preliminary schematic models are digitally constructed to test envelop performance, orientation. These findings become part of the narrative presented to the client.

Our commitment to advocacy is not limited to professional practices, but extends to being vocal advocates in architectural education, of students, colleagues, peers.

The WKA one-year Residency program has offered many interns from around the globe to be educated in the work of the office and its practices. The firm has supported staff to teach in Schools of Architecture since 1988. The firm also contributes yearly to AIA Chicago's Bridge (Peer Mentorship) Program.

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We Lead by example. We lead through an optimistic commitment to a design process which holds critical an Architecture which will sustain its occupants so that they may sustain it in turn. This begins as early as our initial conversation with each client. As we seek to understand the project's goals, we embark on an iterative exploration of all the "big ideas" which resonate with a project.

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We Lead. Our Operations

Wheeler Kearns Architects office space is in the Fisher Building—a Chicago Landmark building built in 1896 by Daniel Burnham. Our office location was strategically selected to promote active lifestyles and sustainable modes of travel while reducing carbon emissions and air pollution.

Centrally located in the Loop at the intersection of S. Dearborn Street and W. Van Buren Street, the site is less than 0.1 miles to a CTA Blue Line, Red Line, Brown Line, Pink Line, Orange Line, and Purple Line Station, as well as multiple bus routes and bike-lanes. WalkScore has rated it a “Walker’s Paradise” with a score of 99, a transit score of 100, and a bike score of 87, “Very Bikeable.”

Currently, 26% of employees use cycling as their primary method of transportation, 47% use public transit, and 5% use an electric vehicle. In 2018 + 2019 WKA participated in the ATA Bike Commuter Challenge and had 75% office participation.

Best practices/asures of reducing waste in our office include: environmentally friendly cleaning products, reusable kitchenware, fair-trade/organic coffee/tea products, bike storage, light sensors, power strips, utilizing the building’s operable windows for natural ventilation, and daylighting through large expanses of glass with photosensors on lights.

Sustainable Operations to Implement



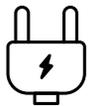
The WKA “Green Team”

Responsible for accessing, strategizing and implementing sustainable strategies into all aspects of the design process and office operations.



Sample/Materials Recycling System

Creation of a policy/protocol for unwanted or unused material samples and proper recycling.



Energy Efficient Equipment Office Standards

Mandatory computer shutdown, energy efficient monitor/printer settings, and reminder stickers on switches.



“Green” Office Signage

Recycling tips, reminders, and 2030 goals posted in key locations around the office.



Upgrade Daylight Harvesting Sensors

Upgrade photosensors to improve measurement of natural light and automatically adjust lighting zones.



Sustainable Consumer Goods

A pre-approved list of office supplies that emphasizes products made of recycled material, post-consumer content, and employ environmentally safe processes.



Renovation and Expansion projects

Office renovations and expansion projects are committed to using sustainable materials including: cork floor, Interface Carpet Tiles made of recycled content, and Low VOC Benjamin Moore paints.



Participation in sustainability events

Encourage more participation in annual events such as Green Apple Day of Service, and Active Transportation Alliance Bike-to-work week.

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We Lead. Our Process

We aspire to achieve energy-efficiency and resilience through well-designed and thoughtfully coordinated designs.

After we establish the “big idea” of each project, we reflect on various idea-driven schemes and condense similar concepts until we have distilled three to five trajectories a project may take. Throughout this process, a critical reflection on sustainable practices and products remains key. We consider large moves such as building orientation and location within the site as well as smaller articulations such as the depth of overhangs and the opportunities for ventilation within spaces.

The buildings and spaces within must be viewed through the lens of climate impact and what resources are available to the project.

As we develop the project through schematic design, we use digital tools such as Grasshopper, Rhino, Revit, IES VE and Wufi to test our initial assumptions against more specific parameters. This could be anything from massing and shading strategies to the impact glazing percentages have on solar heat gain.

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We Lead. Our Process

As we continue to refine the building during this process, we engage consultants such as mechanical, electrical and plumbing engineers to further evaluate the performance of the building. During this collaborative evaluation, passive heating, cooling and venting strategies are discussed as well as renewable methods of energy production such as photovoltaics, geothermal or wind.

We also often work with the general contractor early on to understand any upfront cost increases for these systems versus traditional methods of construction. Through an open dialogue with the contractor, we work to adapt the details according to design intent to maintain the better performance wherever possible. That information is then weighed by the client with our counsel, balancing building optimization with desired vistas, comfort, and the payback period.

As we begin the later design phases, we look to streamline our process to further encourage efficiencies within the design. We do this by linking green materials with our digital Revit model and specification library, so we begin from sustainable, low maintenance and long-lasting materials and move to other products only when necessary.

Also during this phase, we use energy modeling software to simulate more advanced parameters such as insulation values, window properties, roof construction and specific lighting fixtures to better understand the building's performance. This gives us one last opportunity before construction starts to work with the client to place real value metrics on sustainable options versus the budget, allowing even low-cost projects to achieve some levels of sustainability.

During construction administration we work with the contractor on sustainable methods of construction and waste management through the specifications we write and conversations on the job site. We prescribe blower door tests to be performed to compare our anticipated performance levels versus actual results and then work with the general contractor to further develop building details and construction methods. After building completion, we follow up with clients to learn of any issues that need attention and to gauge to degree to which the design is performing as intended.



Wheeler Kearns Architects has been a member of the U.S. Green Building Council since May 2002. Our projects have achieved LEED-Certified, LEED-Silver, and LEED-Gold.

Completed LEED Projects:

The Alice at Goodman Theatre

Location: Chicago, IL
Year Completed: 2016 (Phase I), 2017 (Phase II)
LEED Silver 2018

UChicago Child Development Center

Location: Chicago, IL
Year Completed: 2011
LEED Gold 2013

Inspiration Kitchens

Location: Chicago, IL
Year Completed: 2011
LEED Gold 2012

Exelon Gymnasium

Location: Chicago, IL
Year Completed: 2011
LEED Gold 2012

Chicago Children's Theatre

Location: Chicago, IL
LEED Gold 2017

Milwaukee-Belden TOD

Location: Chicago, IL
Year Completed: 2017
LEED Certified 2017

Current LEED Projects:

Mansueto High School

Location: Chicago, IL
Year Completed: 2017
pending LEED certification

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We Measure Success as the emotional resonance with the client, and the resilience of their space over time. A great many metrics feed this understanding, and a human-centered goal best informs our self critique and improvement. Accordingly, a comprehensive review of building performance undergirds our core mission, providing the crucial foundation for a sustained inhabiting of space.

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Chicago Children's Theatre -Thermal Comfort Verification

Thermal Comfort Survey

This anonymous survey assesses staff and occupant comfort in the Chicago Children's Theatre. Your response helps Facilities and Operations staff learn more about where the building needs improvement, and where it is performing well. The long-term vision for the building includes energy efficient spaces with good indoor environmental quality, in which all staff and occupants can work comfortably.

This survey is part of data-gathering for the Facilities and Operations team, which will lead the way to cost savings, improved environmental impact and enhanced staff comfort and wellness.

Thank you for your participation.

* 1. What is your primary role (staff, patron, actor, Board member, etc)?

* 2. In what type of room do you mainly spend your time (your primary space)?

Box Office Lobby Upstairs Classrooms Studio Theatre Actor's Suite

* 3. In what type of room do you spend your time when not in your primary space (secondary space)?

Box Office Lobby Upstairs Classrooms Studio Theatre Actor's Suite

* 4. The following questions refer to the current conditions / your comfort level at the time you are completing this survey. Please rate your level of satisfaction with the following items:

	Very Dissatisfied	Mostly Dissatisfied	Somewhat Dissatisfied	Neutral	Somewhat Satisfied	Mostly Satisfied	Very Satisfied
Temperature / Thermal Comfort	<input type="radio"/>						
Background Noise / Acoustical Comfort	<input type="radio"/>						
Lighting Comfort / Quality	<input type="radio"/>						

Thermal Comfort Verification Survey
Chicago Children's Theatre

LEEDuser
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REUSE CALCULATIONS FOR MRc1

Structure / Envelope Element	Existing Area (SF)	Reused Area (SF)	Percentage Reused (%)
Foundations / Slab on Grade	5,852	3,990	68%
Floor Deck	11,410	11,410	100%
Interior Structural Walls (basement)	2,943	2,875	98%
Interior Structural Walls (Level 1)	2,558	2,466	96%
Interior Structural Walls (Level 2)	1,232	1,200	97%
Roof Deck	7,566	5,705	75%
North Exterior Wall (excl. windows)	3,354	3,064	91%
South Exterior Wall (excl. windows)	3,668	3,155	86%
East Exterior Wall (excl. windows)	1,913	1,557	81%
West Exterior Wall (excl. windows)	2,135	1,495	70%
TOTALS	42,632	36,917	86.6%

The following guidelines would assist the team in carrying out the calculations for Building Reuse

- Include the following in the calculations: one side surface area of all structural floors, roof decks, exterior walls
- Count and include both side surface areas of interior structural walls, for example an elevator shaft support
- Exclude the following from the overall table of calculation: hazardous materials, non-structural envelope, etc
- Exclude surface areas of structural supports like columns and beams from all the calculations, existing or not

Reuse Calculation
Chicago Children's Theatre

We Measure Success. Evaluation + Reporting

A human-centered design process requires understanding the perspective of the ultimate user of the space, and designing a solution specific to their needs.

We believe that a project's success revolves less around appearance and more around the empathy of the end user. As such, we focus on a variety of metrics that determine the success of a project in service to the occupants. Metrics of performance clarify intent, but ultimately must be achieved and confirmed.

For many of our LEED certified projects, such as the Chicago Children's Theatre, metrics such as percent of building reused, efficiency of the HVAC system, and recycled content in new materials were vital for the success of the project. Further, we invest in a post-occupancy program to monitor energy, comparing actual energy consumption to initial estimates. Through blower door tests, occupant comfort surveys, and utility measurements among other related testing, we investigate the efficacy of our assumptions to improve our future projects on the path to 2030.