Sustainability Action Plan

sageandcoombearchitects

The Native Plant Reserve Classroom in Highland Park, NJ, features a planted roof that tempers the indoor climate and retains storm water.

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The Rockaway Beach Open Up salvaged wood from the former boardwalk damaged by Superstorm Sandy to create stepped benches leading down towards the beach.

Our Commitment

Sage and Coombe Architects builds architecture that strengthens communities, and sustainability is integral to this mission. It is more important than ever that we be conscious of our work's impact on communities, climate, and the environment.

Mission

We understand sustainability broadly, encompassing **energy efficiency, carbon reduction, health and wellness, ecological impact, and social equity**. We are committed to extending these values beyond simply avoiding harmful practices—we must actively design projects that are both **sustainable and resilient**, by creating architecture that can protect, strengthen, and heal its community, both now and for future generations.

Vision

We must be effective advocates for sustainability:

- **By pursuing project work that aligns with our ideals.**
- By encouraging our professional colleagues to share our commitment to sustainability and be allies in our advocacy.
- By advocating beyond our office and work.
- By participating in professional organizations and educating our collaborators.

Process

This Sustainability Action Plan is an opportunity to build on our extensive experience by **making sustainability an integral part of the culture of the office and our design process**. Sustainable strategies will not only be applied to the design of projects but will also to our business operations. We are committed to minimizing harmful waste of materials and energy as part of our business operations. We are equally committed to a systematic design process that **champions sustainability at the earliest phases of design** through construction administration and post occupancy assessments. We pledge to provide all members of our team the necessary training, resources and support to be able to fully participate in the process.

Accountability

Accountability begins with establishing **tangible, specific, and well-articulated goals** and metrics to evaluate progress. This document establishes those goals and metrics by aligning our mission with the AIA 2030 vision for carbon neutral projects by 2030. Our **Sustainability Working Group** will be responsible for regular evaluation of our progress towards these goals, including project reporting in the AIA's DDx system. We will commit the time and resources necessary to regularly evaluate the effectiveness of our sustainable design work and make course corrections when we fall short.

Sage and Coombe Architects office

Our Office

Sustainability is a part of how our office runs from top to bottom. We will lead by example and practice what we preach, developing our office infrastructure to support our sustainable design efforts.

Location:

- We are located in a **LEED Silver O&M Building**.
- We are located within a quarter mile walk of several different subway lines.
- There is a bus stop a block and a half from our front door.
- We are two blocks from the Hudson River Park greenway.

Waste Reduction:

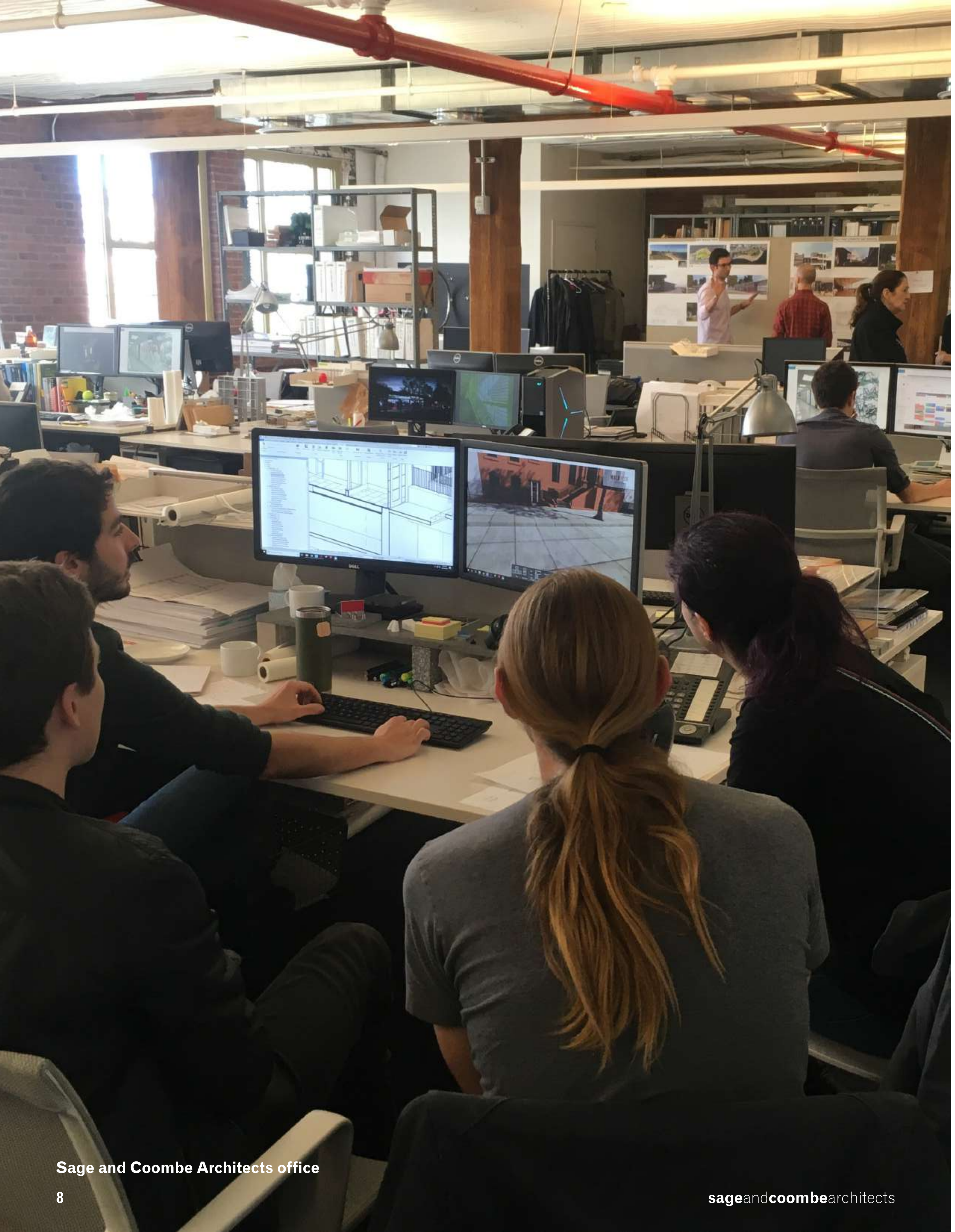
- We contract with Common Ground Compost to pick up our **compostable organic waste**, including both paper products and food scraps.
- We separate waste into different streams: trash, paper and metal and plastic.
- We offer filtered water and coffee (without the use of disposable pods).
- We discourage employees from bringing single use paper and plastic products into the office.
- We donate single use utensils, plates, and cups to local homeless shelters.
- We donate uneaten food to local homeless shelters.
- We participate in the **AIANY zero waste challenge**.

Transportation:

- We commute **via public transportation, on foot, or by bicycle.**
- We provide indoor bicycle parking.
- We provide bike share keys for office use.
- We will provide a shower and make cubbies available by the end of 2021.
- We pledge to continue to meet virtually to minimize unnecessary use of transportation, specifically cars.

Office Supplies

- We pledge to use paper more economically, favoring digital over physical copies.
- We will purchase 100% post consumer content for printer paper, 50% recycled 50% post consumer note-pads, and 30% post cycled content plotter paper.
- We will return or refuse manufacturers literature and samples.
- We will donate samples that cannot be returned to the vendor to programs such as Save A Sample or Materials for the Arts.
- We will use our social media platforms to promote sustainability.



Sage and Coombe Architects office

Jennifer Sage FAIA, Partner, leads a site walkthrough with Newark Mayor Ras J. Baraka

Training, Education, and Tools

All members of Sage and Coombe staff play an essential role in achieving sustainability goals. Of our current 14 design staff, four are LEED accredited professionals and two are Passive House certified professionals. We have recently named a **Sustainability Working Group** (including partners and employees of all levels) to monitor the firm's performance against the sustainability action goals set forth in this document. This team meets biweekly.

From initial job postings through the interview process, we will highlight the firm's commitment to sustainability to potential employees. We will strive to attract and recruit **employees who share our values around sustainability**. Previous experience with high-performing projects, engagement with the sustainable design community, and personal interest in sustainable practices will be considered in hiring. New employee onboarding practices will also include an introduction to office sustainability practices.

Sage and Coombe Architects supports employees in pursuing **professional sustainability training and accreditation** (such as LEED or Passive House), including maintaining a library of study materials for accreditation exams. We will encourage employees to pursue one such professional accreditation within the first 18 months of employment. We also intend to train at a minimum one employee on using whole building life cycle assessment tools such as Athena or Tally.

Moving forward, we will encourage employees to put more consideration into their continuing education selections and choose those with an emphasis on sustainable practices, reduction of embodied carbon, and relevant technologies. At the beginning of each month the Sustainability Working Group will circulate a calendar of upcoming relevant sessions and ask employees to contribute their own suggestions. We often arrange "lunch and learn" sessions hosted by product representatives. We pledge to schedule at least one in four of these sessions specifically addressing sustainable materials or construction methods, and will prioritize vendors with substantial commitments to sustainability.

Community listening session at the Maplewood Memorial Library

We will expect our team to take responsibility for educating other members of the office as well as sharing knowledge with clients about the value of using long-lasting materials that have low-embodied carbon and are produced locally.

Our staff should also be supported by the **latest tools, technologies, and resources**. Within the next six months, we will invest in early-phase energy modeling tools such as Sefaria, Cove,Tools, or similar, which will allow us to rapidly and quantitatively evaluate early design options. Within a year, every project will utilize this tool during the early design phases. Two staff members will each be trained to use this software to ensure mutual support and the most effective use of the tool within all projects.

The Sustainability Working Group will systematically review the regulatory landscape to confirm projects are following the most recent standards and codes, and that teams are aware of governmental or third party credits, incentives, funding and support.

Business Development

We see Our Sustainability Action Plan as a critical component of future business development and how we present the vision of our office to the public. We will strive to make new clients aware of our commitments and ideals and reaffirm these beliefs to existing clients. **We will actively pursue opportunities where we can further our sustainability goals and advocacy**—conversely, we will avoid projects that run counter to the vision outlined in this document. Our longstanding relationships with institutional clients and our work on master plans afford us a unique opportunity to implement sustainable design practices at a broad scale. We will continue to pursue these relationships, making sustainability a key component of our pitch and identity.

We will emphasize that **sustainability is a core component of our design approach**. We will work to build consultant teams that share this belief, including specialty sustainability consultants as needed. We will follow these same principles when working as a subconsultant on other project teams, pushing for sustainability goals to remain a core focus of the project team's efforts even when we are not the prime.

Social Equity and Community Engagement

We believe sustainability encompasses more than energy use and carbon footprints. **Designing sustainably promotes social equity, diversity, inclusion, and belonging**. All projects should respond to the surrounding community's particular needs while still prioritizing performance and countering climate change. We believe that a well-used and long lasting project is the most sustainable of all.

We are guided by the following principles:

- Project teams should be inclusive and diverse.
- Community engagement is critically important for all projects, particularly in early design phases.
- We evaluate project programs and find opportunities to rethink traditional solutions.
- We prioritize projects with social benefits.
- We design for accessibility and approachability to all.

Advocacy

Beyond our own commitment to sustainability, our advocacy must be outward-facing. We will highlight sustainability on our website and through our social media posts. We will seek opportunities to present our work, both within professional organizations and to the public more broadly. We will use these tools to demonstrate our commitment and share our evolving knowledge base.

In all our projects we will advocate for the more sustainable design or strategy. During early design phases (as appropriate to the scale and scope of the project) we will recommend to our clients that they chose the most sustainable outcome. In order to communicate effectively with our clients, we will:

- Provide our clients with the quantitative information including life cycle costs.
- Develop a persuasive library of images, tools, and language to explain significant sustainable design elements and approaches.

We will continue to encourage and support our employees to advocate for sustainability outside the office. In the past, our employees have been members of industry groups pursuing sustainable design practices, and have taken part in events such as the 2019 NYC Climate Strike. Our Sustainability Working Group will keep employees informed of such opportunities and encourage participation.

FDNY Marine 9 features a planted roof, thermal hot water system, and photo voltaic panels—highlighting the FDNY's commitment to sustainability and serving as a shining example for thoughtful design in public infrastructure.

Our Work

Meeting the AIA 2030 Challenge requires that sustainability be a fundamental part of every phase of our design process. **For every project, we must set goals early, and track our progress from the design phases through construction, and occupancy.** The following sections lay out key considerations for each phase of a project and will serve as a guide for our project teams.

The Sustainability Working Group will develop checklists to allow for an internal third-party review of every project in the office at the completion of each of these phases. This regular and structured review will enable us to identify areas in need of course correction and ensure that decisions made at earlier phases of the project do not hamstring the project during later phases.

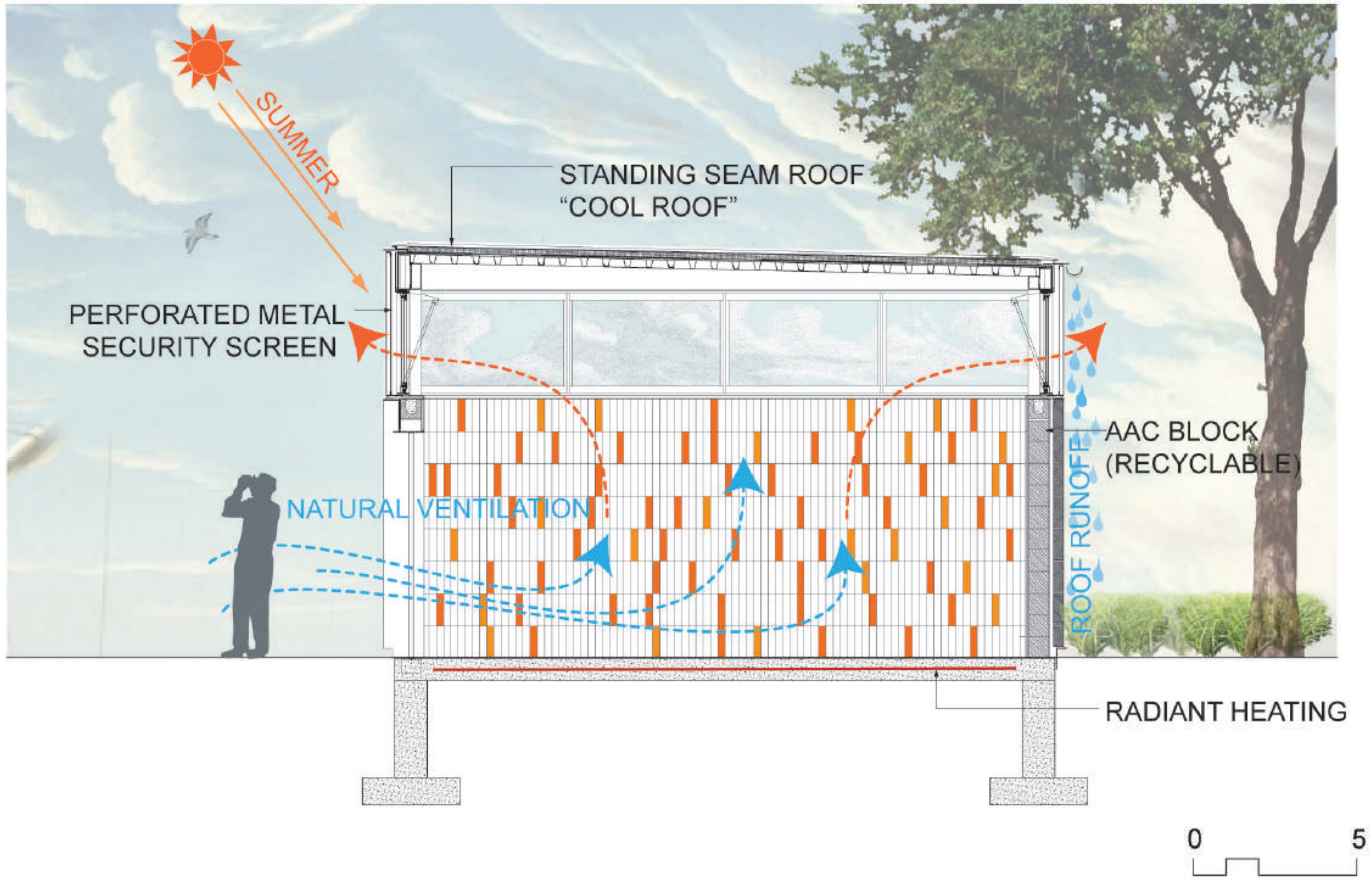
The Bronx River Art Center, an adaptive reuse of a former warehouse building, was certified LEED Silver.

Concept Design

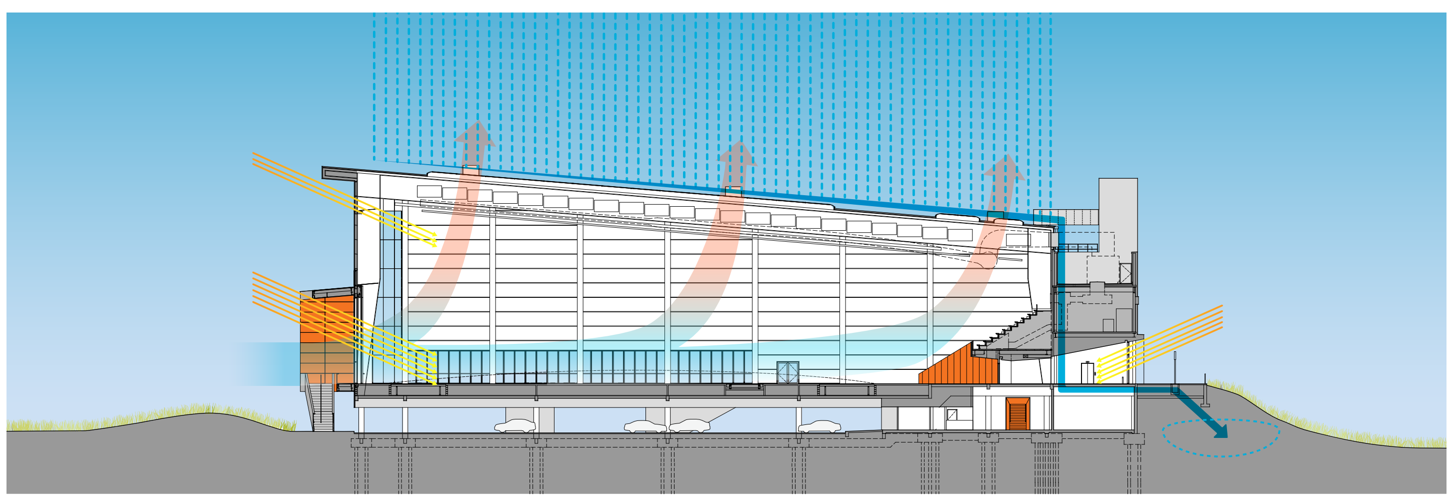
It is essential to consider sustainability even before formal drawing begins. During the concept phase, we must establish goals, opportunities, and constraints. At this stage, certain projects may benefit from the early involvement of specific consultants.

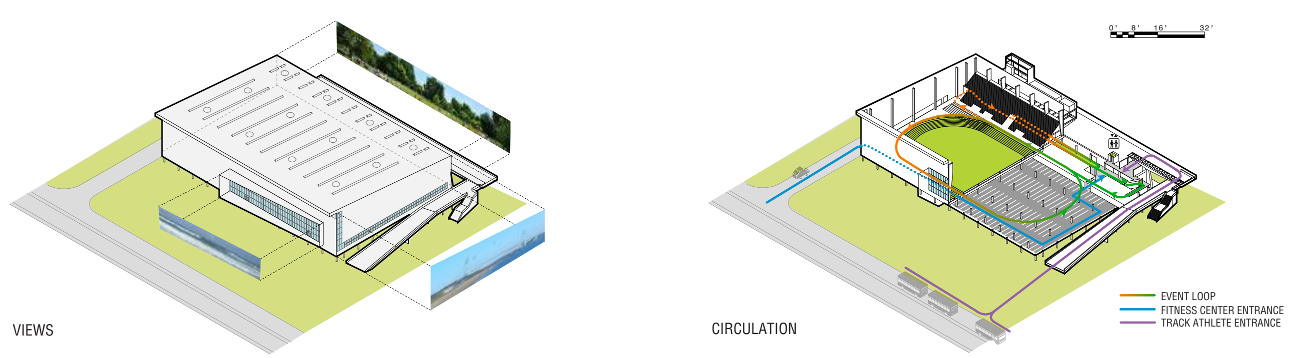
Key considerations and processes during the Concept Design Phase include:

- Initial discussions with the client to **establish major sustainability goals.**
- Specific evaluation of project size and scope in relation to identified sustainability goals.
- Initial climate and site analysis to identify opportunities and constraints relative to sun exposure, prevailing winds, precipitation, topography, microclimate, etc.
- Evaluation of existing site elements for potential reuse.
- Evaluation of basic **passive energy strategies**, including building form, orientation, window-to-wall ratio, etc.
- Internal use of simple block-model energy simulation for all projects.
- Identification of potential options for on-site renewable energy generation.
- Gathering of initial input from broader community groups.
- Evaluation of construction delivery method most appropriate for the project.



PS 197 Park Facility (Queens, NY)





Ocean Breeze Athletic Complex (Staten Island, NY)

Schematic Design

During schematic design, earlier studies and decisions begin to shape the project design. At this point, we will have the opportunity to further involve the full consultant team. We will draw on their expertise and confirm that earlier sustainability decisions are reflected in their work. During Schematic Design goals should be quantified, and design decisions should support these goals.

A key component of our process during Schematic Design will include a **whole-team sustainability charrette** involving the consultant team and client group. This charette will include:

- Determination of appropriate sustainability opportunities related to program, siting, construction type, detailing, and materials, renewable energy and offsite energy offset possibilities, and budget.
- Establishment of baseline 2030 Challenge goals, stretch goals, and accounting strategies such as energy models.
- Preliminary agreement on which sustainable design strategies should be considered for the project.
- Evaluation of which third-party rating system might be used such as LEED, Passive House, WELL, etc..
- Establishment of working process and clear responsibilities for sustainability, including documentation of any decisions in a memorandum distributed to all participants.

Additional important processes during Schematic Design include:

- Incorporation of previously discussed passive energy strategies into design. Building form, walls, overhangs, roofs, etc. should be preliminarily shaped and sized to support these strategies.
- For select projects, internal use of more specific energy model simulation. Consultants may begin to perform load modeling, and even full energy modeling. Energy Use Intensity (EUI) baselines should be established, and initial EUI projections made for the current design.
- Identification of major building systems including evaluation of their implications for energy use.
- **Review of relevant energy codes** and confirmation that the project is on track to comply.
- Public meetings and/or focus groups with potential users of the project as well as the broader community.
- Initial reporting of the project in the AIA 2030 DDx portal.

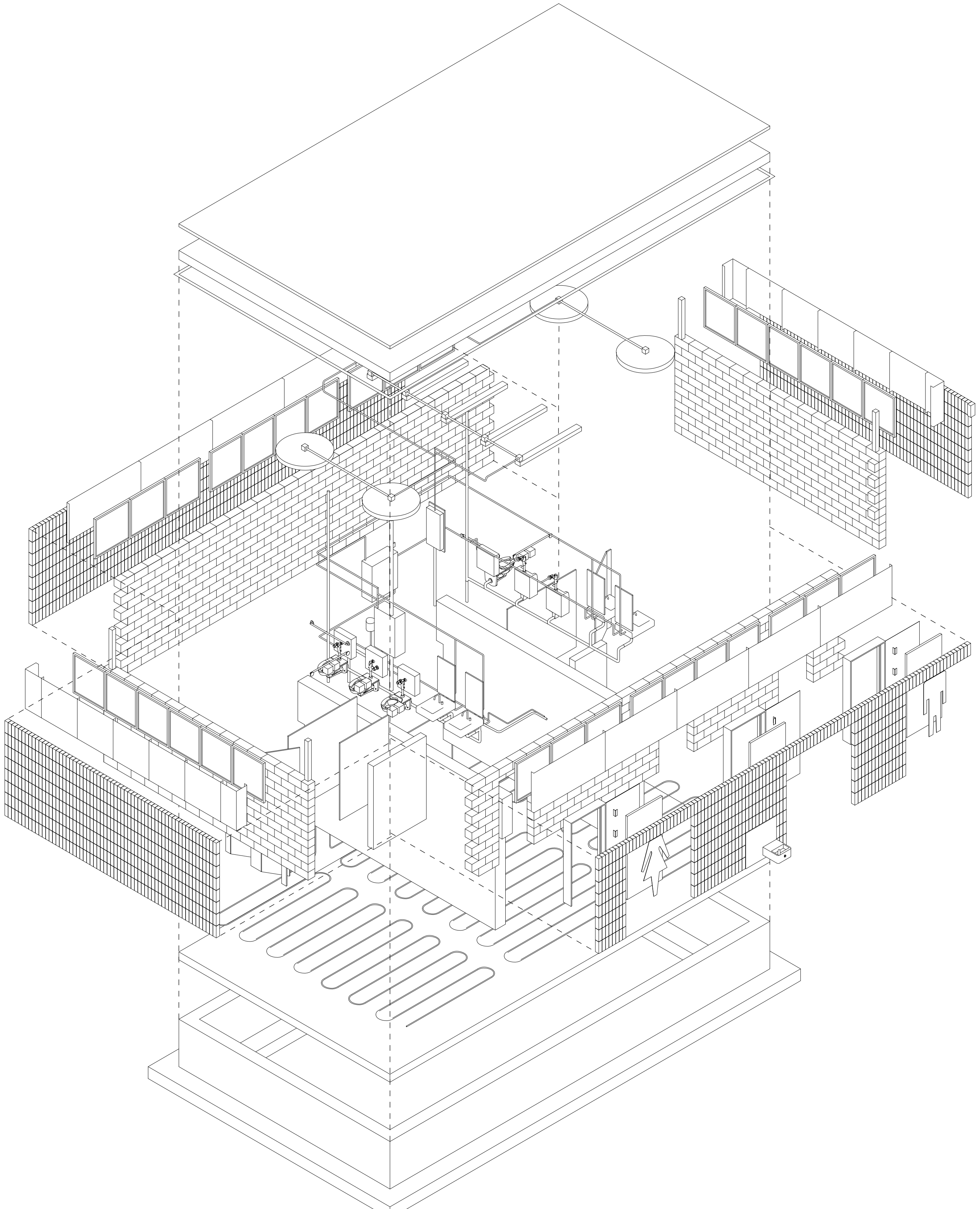
Located in Queens, the Rockaway Institute for a Sustainable Environment features the adaptive reuse of a decommissioned firehouse, providing community resources and opportunities.

Design Development

Design Development serves as an important bridge between strategies developed during Schematic Design and their implementation through specific detailing during the Construction Documents phase. With sustainability goals and broad-stroke design established in Schematic Design, we will integrate these goals and design concepts with data from our schematic site analysis to refine our work during this phase.

Key considerations and processes during this phase include:

- Design (including details) of appropriate wall, floor, and roof assemblies to meet insulation performance requirements.
- Specification of window and shading systems to meet required U-values and Solar Heat Gain Coefficient appropriate for each elevation of the building.
- **Evaluation of details to minimize energy loss through thermal bridging**, evaluate necessity and frequency of penetrations in thermal envelope.
- Evaluation of assemblies and details for air tightness.
- Evaluation of assemblies and details for water control and vapor transfer appropriate to the project's climate zone.
- **Identification of a materials palette** including primarily materials with low-embodied carbon in concert with project consultants and clients.
- Identification of any conditions that will be unreasonably difficult to detail properly in the Construction Documents Phase.
- Development of an energy model (internally and by consultants) to track predicted EUI against established goals as the design develops.



The PS 197 Park Facility features a durable materials palette that reduces life-cycle costs, natural ventilation, and stormwater collection via an adjacent rain garden.

Construction Documents

The Construction Document phase is an opportunity to confirm our assumptions and complete accurate detailing. It allows further refinement of details and specifically evaluation of conditions requiring thermal breaks. Special care will be taken to ensure that earlier sustainability decisions are maintained and executed at both the macro and micro level of a project.

Key considerations and processes during the Construction Documents phase include:

- Analysis of the exterior envelope to confirm continuous air tightness, insulation, and waterproofing are provided at all conditions.
- Final review of details adjacent to specifications to confirm alignment.
- Review of details with consultants and manufacturers.
- **Confirmation that what is drawn meets or exceeds the goals established in the final energy model.**
- Careful specification of the materials palette identified during Design Development to ensure alignment with project's sustainability goals.
- Development of the energy model to incorporate all building systems to track EUI of final design against established goals.

The renovation of the Buckley School's Walsh Buidling created additional classroom space and modernized the building with modern ventilation and energy efficient systems.

Bidding and Negotiation

Meeting a project's sustainability goals depends just as much upon the contractor as it does upon the design team. In this phase, we will advocate for engaging **contractors that prioritize sustainability** and demonstrate a track record of delivering sustainable designs on budget and on schedule. We will advise the owner and, when possible, assist with bid evaluation through a sustainability lens.

As part of a bid submission, all project contractors will be asked to provide:

- A plan for managing information related to third party rating systems and testing.
- A construction waste management plan (even if the project does not have rating system requirements).
- A plan for minimizing the ecological and community impact of construction.

This will allow the owner to eliminate any bidders who do not have a clear understanding of the project's sustainability requirements.

The Greenpoint Park Facility was designed using modular construction, built nearby in the Brooklyn Navy Yard, and craned on to the site, creating an efficient, sustainable prototype that can be deployed to a variety of different sites.

Construction Administration

Construction Administration is a crucial phase in determining the real world success of a sustainable design. During this phase, we will work with the contractor, client, and project team to **ensure that the design is built as envisioned and that construction proceeds sustainably**. We will work with the contractor to prioritize efficient construction techniques while minimizing ecological and community impact.

Before construction starts we will hold a Sustainability Charrette with the contractor, client and project team to outline project goals, address any third-party rating system used, and call attention to any pertinent construction issues.

During construction, key processes include:

- Review of all submittals for alignment with sustainability goals.
- Regular site visits to confirm details are constructed as drawn.
- Representation on site when energy related testing (such as blower door tests) occurs.

Sage and Coombe Architects completed a three phase renovation and reimagining of the Noguchi Museum in Queens, NY, a testament to embracing and adapting challenging site contexts to maintain an institution's charm and history.

Post-Occupancy

Post-occupancy evaluations are a valuable way for us to determine how our projects are performing. These evaluations then inform our future design work.

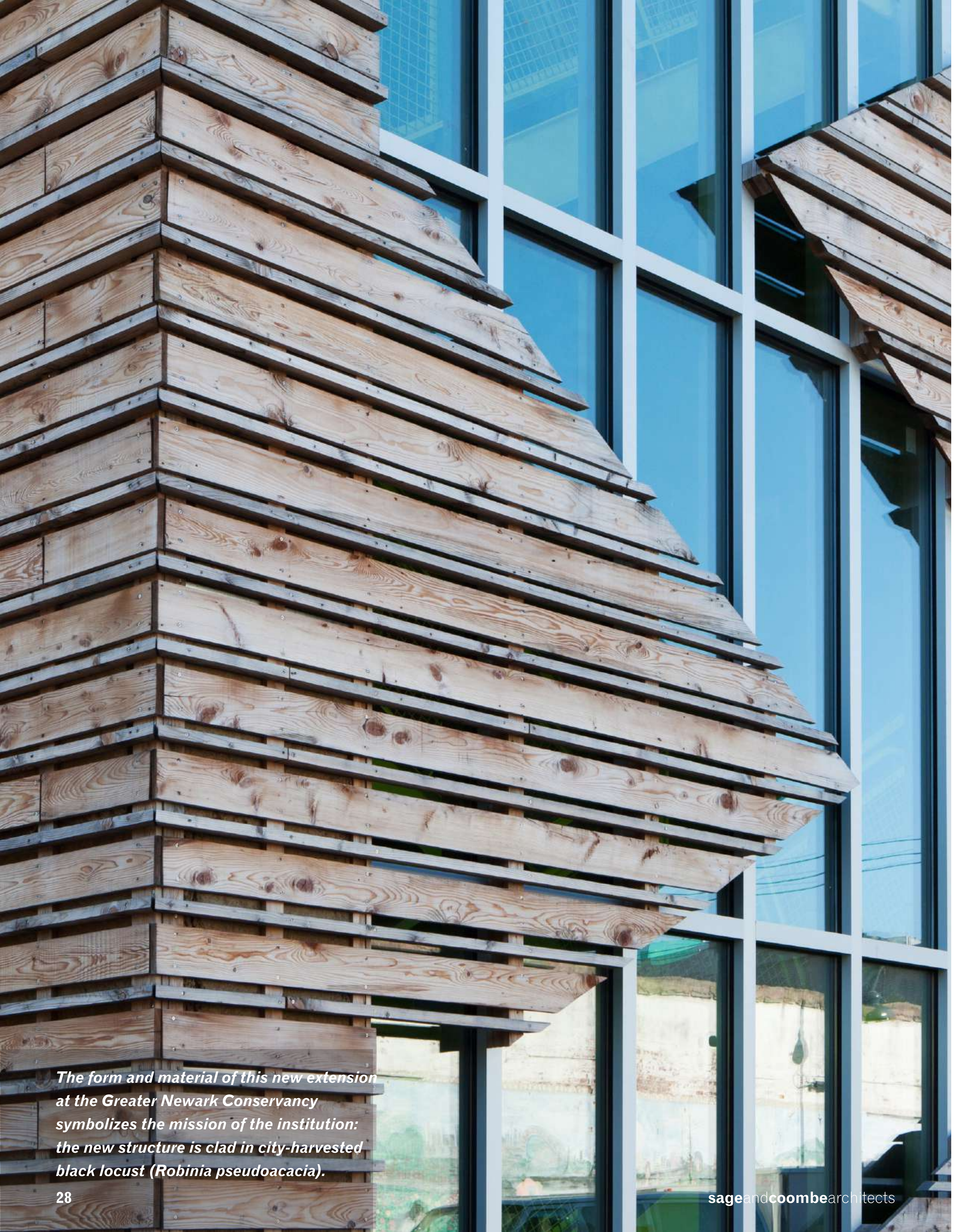
We must convince our clients that **post-occupancy evaluations are a critical step in any sustainability design strategy**. A description of how these evaluations will be conducted should be a part of the contract for design services. Post- occupancy access to the project and its users is critical to the success of evaluations, and is an important way for all parties to demonstrate their ongoing commitments to sustainability.

Evaluations should be conducted at a standard interval (e.g. 1 year post occupancy) and should include:

- Occupant surveys to better understand the ongoing impact of the project and comfort/satisfaction of its users with regards to thermal comfort, acoustics, lighting, air quality, etc.
- Site visits for observation and photography, including:
  - Thermal imaging to identify discontinuities in the thermal envelope.
  - Promotional photos to highlight successful sustainable design.
- Sustainability Working Group internal audits to identify successes, challenges, lessons learned, etc., that can inform future work. These will be presented to the full office.

More in-depth evaluations may include:

- Review of the project's energy performance vs. modelled performance one year post occupancy.
- Continuous monitoring of energy performance whenever possible.
- Identification of any systems that are not running as efficiently as designed.
- Identification of any weaknesses in the building envelope.



The form and material of this new extension at the Greater Newark Conservancy symbolizes the mission of the institution: the new structure is clad in city-harvested black locust (Robinia pseudoacacia).

Looking Forward

Our Sustainability Action Plan must be a living document: as our knowledge and understanding of sustainability grows and changes over time, so will we amend this plan to represent best practices. The Sustainability Working Group will meet regularly to update and revise our protocols as we work together towards a better, more sustainable future.

Revision History:

Draft 1.0 - March 2021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