2040

SUSTAINABILITY ACTION PLAN

JANUARY 2026

GBD

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SLABTOWN NEW SEASONS LIVING WALL | PORTLAND, OR

PURPOSE OF THE PLAN

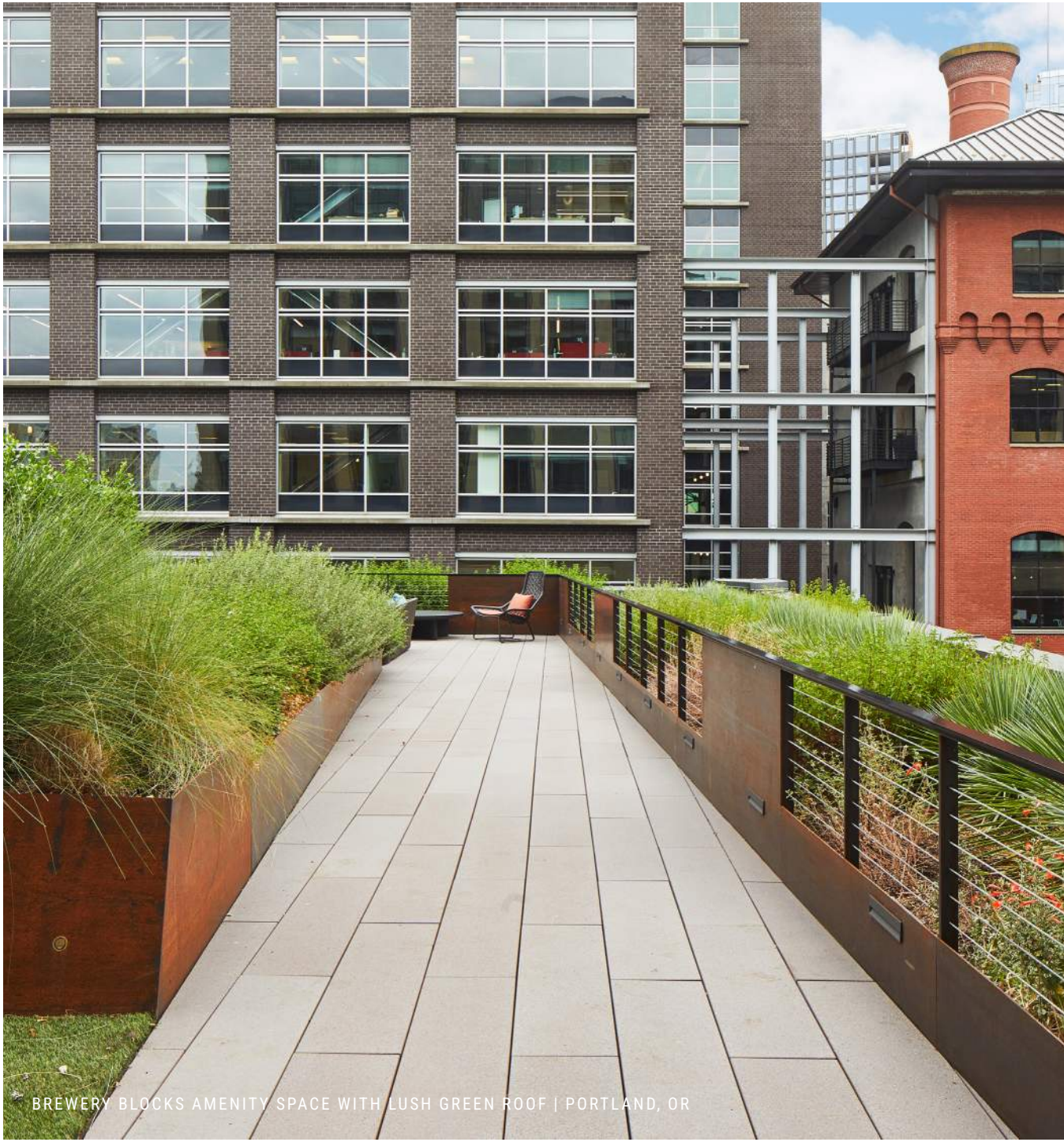
Purpose of the plan

Architecture plays a pivotal role in the global effort to combat climate change, as buildings account for approximately 40% of carbon dioxide emissions. To effectively manage climate change, the built environment must reach a reduction of approximately 50-65% in carbon emissions by 2030 and zero emissions by 2040, compared to 2010 levels. Architects and designers drive the transition to a lower-carbon future through the choices made in site planning, building orientation, building materials, and equipment.

The American Institute of Architects (AIA) has enacted an initiative called the 2030 Challenge to transform the practice of architecture with the goal of reducing the environmental impact of buildings. GBD Architects became one of 1,400 signatories to the AIA's 2030 Challenge in 2016, committing to collect and analyze data to help achieve the shared objective of a zero-emissions future.

GBD acknowledges the impacts of design and development on the environment, and this Sustainability Action Plan describes priorities to:

- Center the firm around its responsibility to help decarbonize the built environment.
- Establish goals and identify actions to advance interior, architectural, and master plan designs with zero emissions.
- Consolidate sustainable design processes to be implemented by project teams.
- Recognize the firm's achievements and identify areas for improvement.



BREWERY BLOCKS AMENITY SPACE WITH LUSH GREEN ROOF | PORTLAND, OR


GBD'S COMMITMENT

GBD's Commitment

GBD Architects was founded in 1969 in Portland, Oregon, part of the beautiful Pacific Northwest. The region's natural beauty has inspired a deep commitment to sustainability in our work and daily operations. In all our projects, we think carefully, listen closely, and design creatively to deliver the most sustainable project for the people who will occupy and inhabit the spaces and places for decades to come.

As an early adopter of green building design, GBD continues to push for more sustainable solutions in the built environment. Utilizing passive design strategies such as passive cooling, daylight harvesting, and natural ventilation helps reduce the demand on electricity and fossil fuels while also enhancing user comfort and productivity. We are proud to have designed the first and largest market-rate apartment building in the U.S. to achieve Passive House certification at the Kiln Apartments, and the nation's first United States Resiliency Council Platinum certification at the Oregon State Treasury building.

GBD strives to make a positive difference by creating beautiful buildings and places that will last, serving our clients and the community well, and achieving a more sustainable future. This is the backbone of GBD's commitment to the AIA 2030 Challenge and the firm's goal of reaching carbon neutrality for projects by the year 2040.

GBD DAY OF SERVICE EVENT
KELLY ELEMENTARY SCHOOL | PORTLAND, OR

GBD's Industry Firsts in Sustainability:

1 LEED Platinum Building on National Historic Register
Gerding Theater

1 LEED Platinum High-Rise Condo Project
The Casey Condominiums

1 LEED v.4 Platinum for Neighborhood Development
Hassalo on Eighth

1 LEED Platinum High-Rise Office Project
OHSU Center for Health & Healing

1 Market-Rate, Multi-family Development to Achieve Passive House Institute US (PHIUS) Certification
Kiln Apartments

1 Building to Achieve US Resiliency Council (USRC) Platinum in Oregon
Oregon State Treasury

GBD's Sustainable Design Process

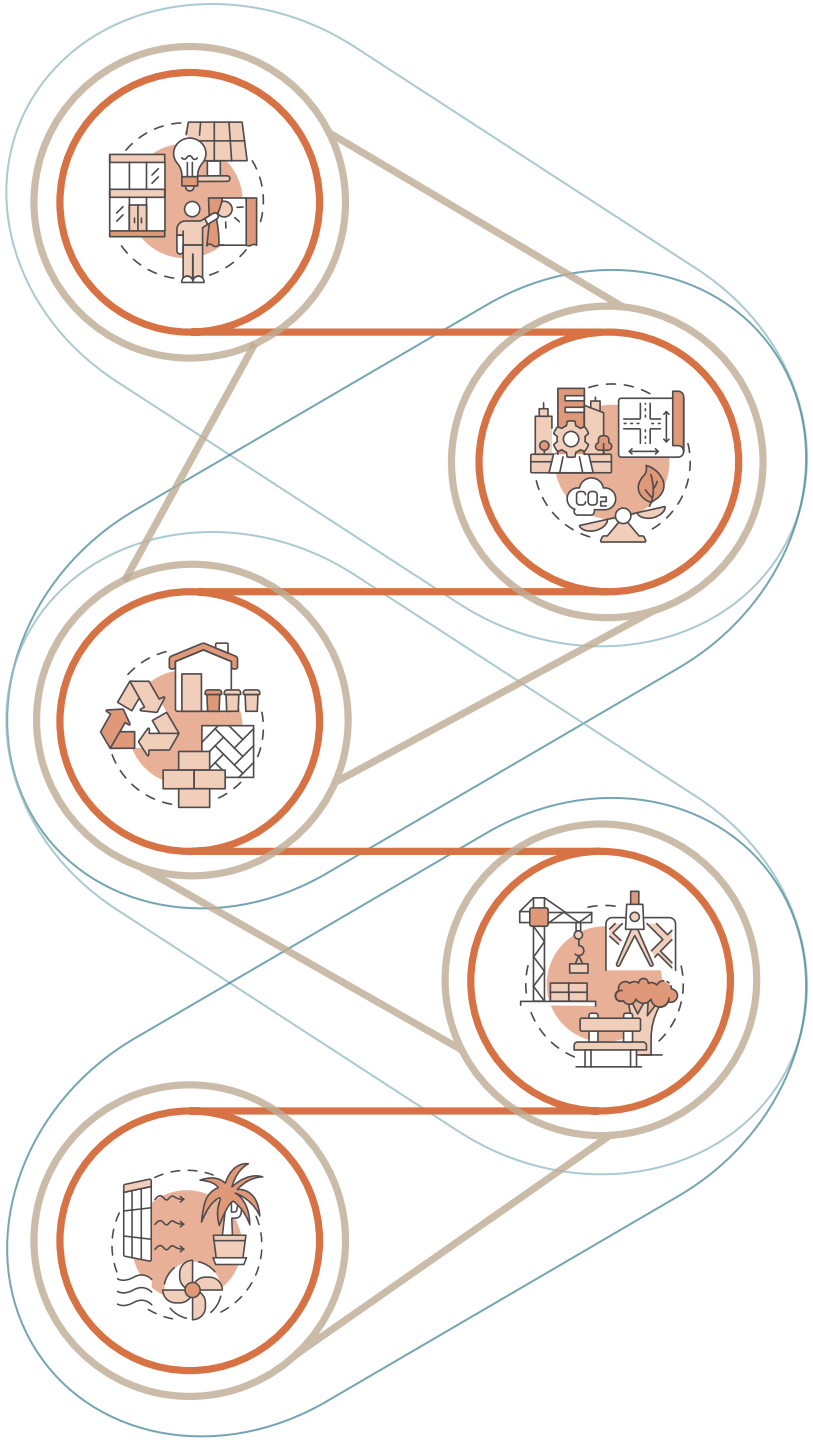
Designing buildings with zero emissions requires us to continually evolve our approach in step with advancements in technology, materials, and construction methods. As environmental stewards, we consider the impact of our work not only on the project site but within the larger ecological context. Our aim is to do more with less, and to integrate systems that harmonize measurable performance with thoughtful, holistic placemaking.

Our design process considers three facets to achieve net-zero buildings: **passive design solutions, energy-efficient systems, and the incorporation of renewable energy sources.** We understand that achieving zero-emission buildings cannot be reached without addressing these three facets in unison.

For us, sustainability is an inclusive term that incorporates a significant human health component, requiring special attention to the diverse communities in the cities where we work. Our designs focus on the comfort and well-being of everyone who uses a building, place, room, or structure, ensuring that each development enhances people's lives, supports its local community, and benefits the surrounding environment.

SITE ANALYSIS

ECOLOGICAL SYSTEMS
CLIMATIC SYSTEMS
SUN PATH & SOLAR EXPOSURE
RAINFALL, WATER & DRAINAGE
TOPOGRAPHY & ELEVATIONS
VEGETATION & LANDSCAPE
EXISTING INFRASTRUCTURE
SURROUNDING CONTEXT
WIND PATTERNS



MASSING, ORIENTATION, & PROGRAMMING

CLIMATE & MICROCLIMATE
SOLAR & H20 HARVESTING
CONTEXTUAL INTEGRATION
MIXED OR OVERLAPPING USES
ACCESS TO DAYLIGHT
SHARED SPACES
VIEWS

STRUCTURE & SKIN

GLOBAL WARMING POTENTIAL
RE-USED/SALVAGED MATERIALS
EMBODIED ENERGY
THERMAL PERFORMANCE
ORGANIZATION & LAYOUT
SYSTEMS FIT

HEATING, VENTILATION, & COOLING SYSTEMS

ENERGY EFFICIENCY
RENEWABLE SOURCES
PASSIVE DESIGN
LIFE CYCLE COSTING
HEAT RECOVERY
INDOOR AIR QUALITY

INDOOR ENVIRONMENTAL QUALITY

THERMAL COMFORT
ACOUSTICS
DAYLIGHTING
AIR QUALITY
EMPLOYEE RETENTION
AVOID MATERIAL RED LISTS
OPERABLE WINDOWS
BIOPHILIA

GBD's Sustainable Design Values

Conservation

We value resource conservation in all of our work. We are careful to protect lands of natural value and even make them focal points for new communities, helping to grow the next generation of environmental stewards. Resource conservation for us includes being thoughtful of the life cycle of materials, finding synergies in building systems, focusing on reducing reliance on fossil fuels, reusing buildings, and salvaging materials to reduce environmental degradation.

Density

We believe in growing up, not out. GBD's office is located near the center of downtown Portland, the densest place in the State of Oregon. Compact, vibrant, and livable high-density urban places that bring more people closer to shared infrastructure are more sustainable than lower-density alternatives. GBD has a long and successful history of designing and delivering some of Portland's most compelling, high-density urban communities, including the Brewery Blocks, Hassalo on Eighth, South Waterfront, and Slabtown.

Creativity

At GBD, we are creative thinkers. It is this creativity that has helped shape and frame some of the most compelling places for people to work, live, and play. We approach every design challenge as an opportunity to integrate sustainability—whether it's shaping the curve of a new road, siting a building for optimal performance, or selecting materials for an entrance lobby. We focus on creative solutions to everyday design challenges, resulting in more sustainable and healthier outcomes by considering life-cycle assessments, encouraging non-driving trips, or enjoying a framed view from a strategically placed window.

Connectivity

Transportation is one of the biggest generators of carbon emissions. We specialize in designing high-density, transit-oriented buildings and places, offering short walks for building tenants, residents, and visitors to the nearby bus, streetcar, or light rail facilities. Our portfolio includes North America's largest bicycle parking facility, a key feature of the multi-block Hassalo on Eighth development, which also incorporates a central pedestrian promenade and a vibrant public plaza. This emphasis on connectivity supports walking, biking, and public transit, creating seamless links between destinations.

Sensitivity

Every project is unique, shaped by its distinct site and circumstances. At GBD, we approach each one with curiosity and care, listening closely and seeking to understand the physical, cultural, and economic context, considering both strengths and challenges. We recognize the many forces that influence design and work proactively to identify potential obstacles early, giving us the space to craft thoughtful, sustainable solutions.

Humanity

We design buildings and spaces with people at the center, always considering comfort, accessibility, and equity. We recognize that a benefit to one group can sometimes place a burden on another, and we strive to balance these dynamics thoughtfully. By taking a holistic approach, we aim to ensure that development not only serves its users but also supports and enhances the surrounding communities and the diverse populations that inhabit them.

WALKING OUR TALK

Walking Our Talk
Evaluation & Reporting

Evaluating opportunities to conserve energy throughout all phases of the design process is crucial to achieving our carbon reduction goals. Many GBD staff members are LEED Accredited Professionals and often collaborate with strategic design partners to leverage their expertise and achieve low-energy buildings. As part of our commitment to the 2030 Challenge, we track the projected Energy Use Intensity (pEUI) and Lighting Power Density (LPD)s for architecture and interiors projects and report them to the AIA.

By evaluating the building's orientation and surface-to-volume ratio early in the design process, we can make more informed decisions about passive strategies, equipment selection, system synergies, and onsite renewable energy opportunities.

We have set a course to help the firm achieve its emissions-reduction goals for the buildings we design over the next 15 years. The graph at right plots Projected Energy Use Intensity (pEUI) over time. pEUI is a metric used to estimate a building's energy consumption. It represents the amount of energy predicted to be consumed per square foot of a building over a year.

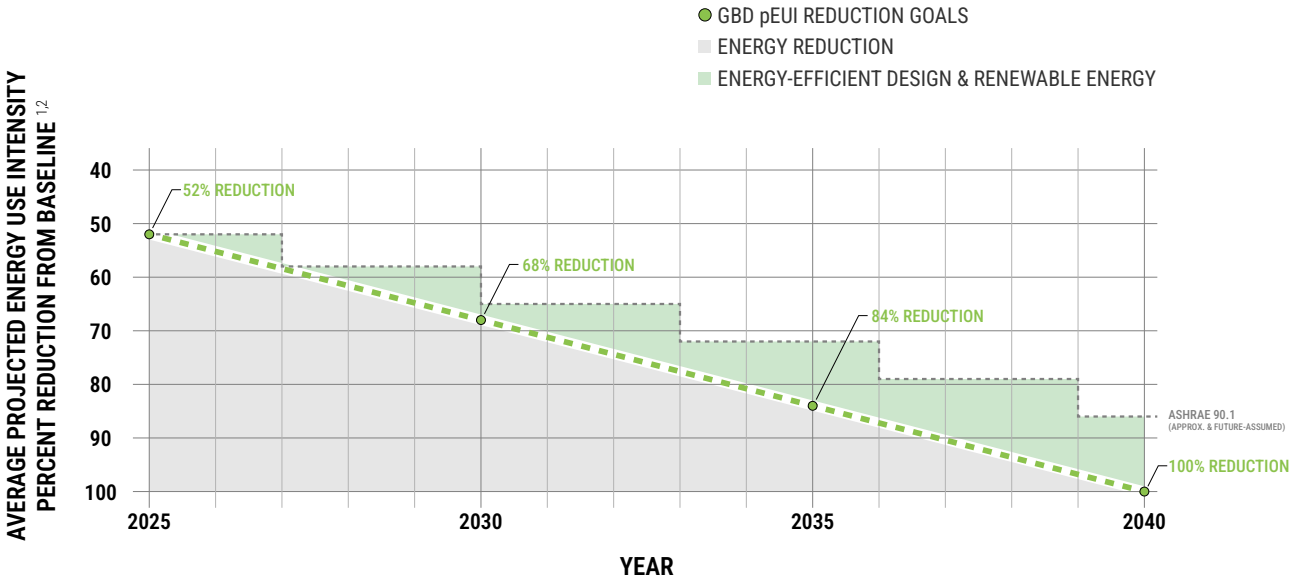
A lower pEUI indicates a more energy-efficient building. Predictive modeling helps to benchmark and set an optimization strategy towards the project's energy goals. Designing more passive buildings, advancing HVAC technology, implementing airtight envelopes, supplementing renewable energy, and utility providers transitioning to all-electric, non-combustible grid energy will enable reductions in building emissions by 2040.

To that end, GBD's aspirational, but quantifiable, goals are as follows:

- ☑ Submit Design Data Exchange (DDX) reporting for projects to the American Institute of Architects via DDX.
- ☑ Achieve Projected Energy Use Intenstiy (pEUI) percent reduction on new construction projects by 52% in 2025, 68% by 2030, 84% by 2035, and 100% by 2040, based on CBECS baseline.
- ☑ Achieve an 80% pass rate on internal "GBD Project Scorecards".

** See following page for Project Scorecard overview.*

- ☑ Hold up to four GBD sustainability-focused events a year. Commit to at least one sustainability-focused GBD-U per year for all employees.
- ☑ Reduce carbon emissions from employee commutes by 10% by 2030.
- ☑ Commit to sending two individuals to at least one sustainability-focused conference a year.



[1] (Σ target pEUI / Σ baseline EUI) / active new construction projects = average pEUI percent reduction from baselines.

[2] Baselines are represntative of a typical modern building, which is based on 2003 CBECS data, normalized by climate, weather, space type, building size, occupancy, and schedule. CBECS dataset is an industry baseline that has been agreed upon by most building sector organizations including Architecture 2030, ASHRAE, AIA, and the USGBC.

DDX REPORTING

Tracking Metrics

GBD has developed two internal tools to help guide and track sustainability metrics for projects, pushing us towards meeting our 2030, 2035, and 2040 goals and achieving carbon neutrality: The Sustainability Checklist and The Project Scorecard.

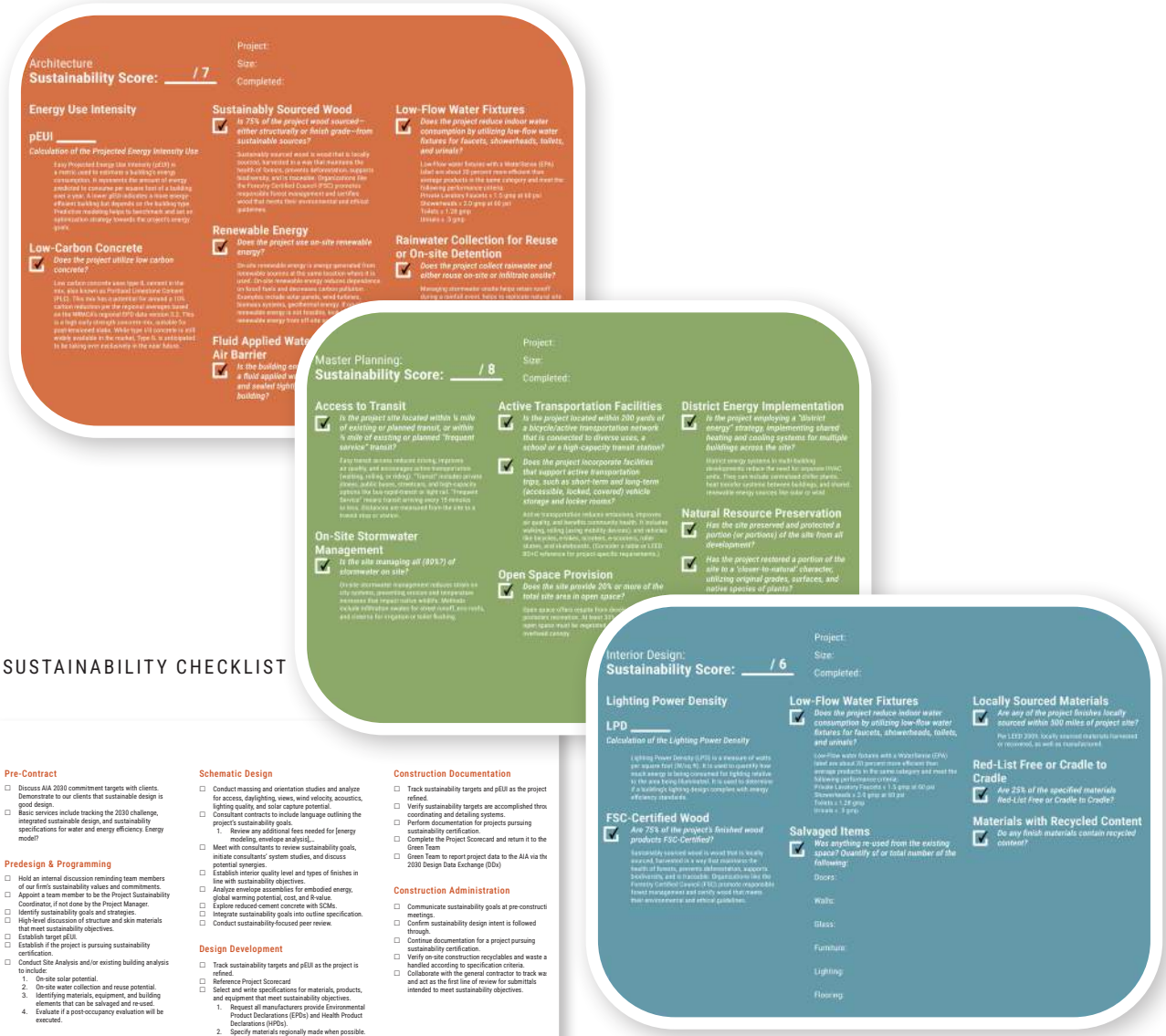
The Sustainability Checklist guides interiors and architectural design teams on sustainability-focused actions that will occur during each design phase. This tool is intended to provide reminders of key analysis points and to inform design solutions that support more sustainable outcomes.

The Project Scorecards evaluate projects using a set of sustainability metrics across the three design disciplines: Interiors, Architecture, and Master Planning. Interiors scorecards are intended to be used quickly and efficiently, while those for architecture projects are to be referenced at key intervals and then returned to the Green Team at the end of construction document production. Scorecards for master planning projects will be recorded upon completion of the project.

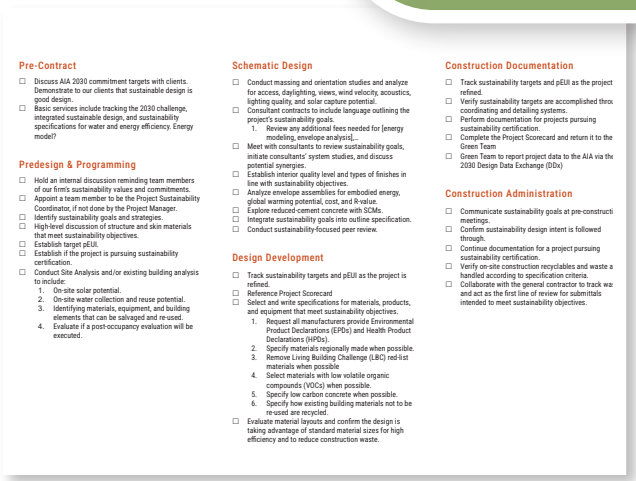
The scorecards are designed to be both achievable and focused, rather than encompassing all sustainability measures. They highlight items chosen for their significant impact on reducing global warming, conserving resources, and enhancing human health. The quantitative feedback will ensure GBD is making progress toward our internal goals, allow GBD to set future benchmarks, and reveal opportunities for projects.

** See appendix for Sustainability Checklist & Project Scorecards.*

PROJECT SCORECARDS BY TYPOLOGY



SUSTAINABILITY CHECKLIST



STAYING INFORMED

Staying Informed

We recognize that the world is constantly changing, regulations are expanding , material technology is advancing, and construction practices are evolving. We firmly believe that the only way to stay ahead of the industry and meet expectations is to continue fostering internal education. We need to review our work critically, identify key issues across different communities, and study the strategies others use to address similar challenges—often achieving more sustainable outcomes. Ongoing education and mentorship are major components of GBD's DNA. Our team's sustainability knowledge base is continually evolving thanks to a range of internal resources and practices.

GBD encourages staff to pursue accreditations in sustainability by reimbursing exam fees for those who successfully complete a program. LEED (Leadership in Energy and Environmental Design) and Living Future Accreditation are two accreditations our team sponsors.

24
LEED Accredited Professionals on Staff
51% of Design Staff

61
LEED Certified Projects
84% Achieving LEED Gold or Platinum

GBD GREEN TEAM

Internal Resources for Sustainability

Green Team: The committee serves as a vehicle for creating and implementing sustainability standards, championing and organizing internal sustainability efforts, and providing educational opportunities for our team. The Green Team also hosts an annual sustainability progress check-in lunch to review our progress in meeting the 2030 Challenge and to establish sustainability goals for the year ahead.

"Tough Talks" Sessions: Tough Talks is a forum where our team comes together to discuss the challenging issues and topics facing the architecture and design community today. Topics generally focus on the ethics and sustainability of projects and practices within our industry. These sessions foster a healthy dialogue around challenging topics in our profession, helping to establish a collective understanding of these issues. Tough Talks also requires us to be critical, introspective, and honest with ourselves, ensuring that we practice what we preach.

Brown Bag Sustainability Sessions: This lunch-hour event takes place regularly and allows project teams to present lessons learned and best practices from past projects. This is also an opportunity to bring in experts in sustainable fields to enhance our team's knowledge base.

Equity by Design: This internal group works to expand the firm's understanding and responsibilities in creating more equitable outcomes for staff and the broader community, and has developed numerous policies, guidelines, and events centered on equity and inclusion. The firm has established an Equitable Purchasing framework to prioritize selecting local and BIPOC-owned businesses to support GBD events. The committee is integral in educating the firm on the sensitivities involved in designing and creating equitable and socially sustainable human spaces for everyone.

GETTING THE WORD OUT

Getting the Word Out

Our team's commitment to the value of education extends beyond the walls of our office, as we readily seize opportunities to gain experience from others and share our knowledge. Here are a few examples:

AIA Oregon Committee on the Environment (COTE): Our staff regularly attends monthly COTE meetings to ensure our practices align with those of the local design community and to report on sustainability issues and upcoming events.

Intra-firm Bike Month Challenge: The Green Team organizes a friendly competition among local architecture firms to see who can ride their bikes the most in May, which is celebrated internationally as 'Bike Month', to educate participants on the benefits of healthy and sustainable transportation. Our team takes the opportunity to organize programming for competition participants and local students to join bike tours led by our staff, showcasing sustainable GBD projects and successful sustainable urban planning initiatives in Portland.

Participation at National Sustainability Conferences: Staff attend and speak at numerous sustainability conferences and workshops, including the USGBC Greenbuild, the Mass Timber Conference, and the Design-Resilience Reynold's Symposium.

Collaborating with Design Departments at Local Universities: We host occasional quarter-long architecture studios at local universities, such as the University of Oregon and Portland State University, in line with the GBD goal to share and participate in sustainability discussions outside of our office environment.

SABIN-SCHELLENBERG MENTORSHIP

People

Employment in architecture is underrepresented by women, minorities, and people of color. We have a responsibility to promote future diversity in our profession by removing barriers and introducing the field to the next generation.

GBD actively promotes future diversity in architecture through participation and support of earlier learning programs for women and minorities while they are in elementary or high school by providing direct educational assistance in many programs: United Neighborhoods Program at Kelly Elementary School, ACE Mentorship Program, De La Salle Internship program, Rotary Club of Portland's Enterprise Academy, and Sabin-Schellenberg Mentorship.


CONSTANTLY GROWING

Constantly Growing

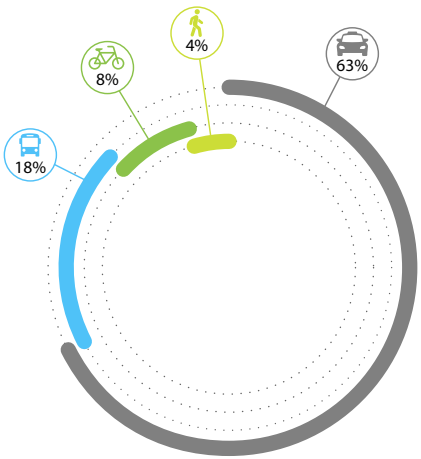
At GBD, we are not satisfied with the "status quo." We recognize that our world and our profession are constantly evolving. We work hard to keep pace with an evolving community and help make sustainable practices more commonplace. For example:

GBD EMPLOYEES DURING BIKE MONTH

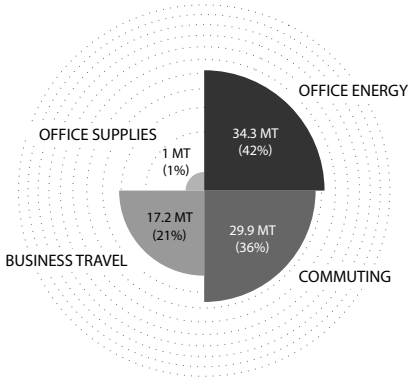
Waste Reduction: GBD adopted an electronic document policy that requires projects to minimize paper usage. One way we accomplish this is by utilizing BIM cloud-based model generation, review, and markup of all design phase documents. This allows full collaboration with all design parties without needing massive print sets. In addition, GBD has internal procurement policies that require paper used in the office to contain a minimum of 30% recycled content and be FSC certified. Lastly, it is common practice for GBD to collect and repurpose printed paper for note and sketch pads.

Composting: Our office participates in a building-wide composting program, where we separate our food scraps for collection separately from garbage and recycling. Keeping biodegradable waste out of landfills and redirecting it for composting and reuse around Portland exemplifies circular sustainability at its best.

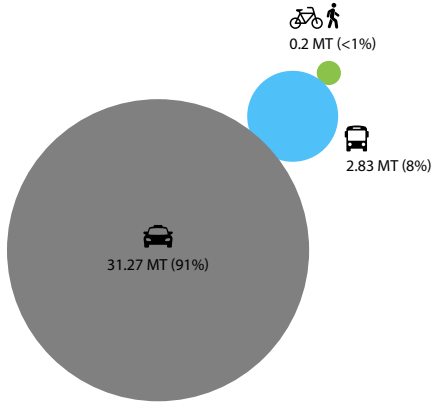
Active Transportation & Public Transit Stipend: To "walk the walk" of holistic sustainability, we encourage our employees to walk, commute by other active modes, or use public transit to and from the office. In addition to the physical and mental benefits, GBD reimburses employees who commute by foot, bike, public transit, or other active means through our Active Transportation and Public Transit stipend.



STAFF COMMUTE METHODS



CARBON EMISSIONS FROM OPERATIONS
METRIC TONS (CO_2e)



COMMUTING EMISSIONS
METRIC TONS (CO_2e)

APPENDIX

Pre-Contract

- ☐ Discuss AIA 2030 commitment targets with clients. Demonstrate to our clients that sustainable design is good design.
- ☐ Basic services include tracking the 2030 challenge, integrated sustainable design, and sustainability specifications for water and energy efficiency. Energy model?

Predesign & Programming

- ☐ Hold an internal discussion reminding team members of our firm's sustainability values and commitments.
- ☐ Appoint a team member to be the Project Sustainability Coordinator, if not done by the Project Manager.
- ☐ Identify sustainability goals and strategies.
- ☐ High-level discussion of structure and skin materials that meet sustainability objectives.
- ☐ Establish target pEUI.
- ☐ Establish if the project is pursuing sustainability certification.
- ☐ Conduct Site Analysis and/or existing building analysis to include:
    1. On-site solar potential.
    2. On-site water collection and reuse potential.
    3. Identifying materials, equipment, and building elements that can be salvaged and re-used.
    4. Evaluate if a post-occupancy evaluation will be executed.

Schematic Design

- ☐ Conduct massing and orientation studies and analyze for access, daylighting, views, wind velocity, acoustics, lighting quality, and solar capture potential.
- ☐ Consultant contracts to include language outlining the project's sustainability goals.
    1. Review any additional fees needed for [energy modeling, envelope analysis],…
- ☐ Meet with consultants to review sustainability goals, initiate consultants' system studies, and discuss potential synergies.
- ☐ Establish interior quality level and types of finishes in line with sustainability objectives.
- ☐ Analyze envelope assemblies for embodied energy, global warming potential, cost, and R-value.
- ☐ Explore reduced-cement concrete with SCMs.
- ☐ Integrate sustainability goals into outline specification.
- ☐ Conduct sustainability-focused peer review.

Design Development

- ☐ Track sustainability targets and pEUI as the project is refined.
- ☐ Reference Project Scorecard
- ☐ Select and write specifications for materials, products, and equipment that meet sustainability objectives.
    1. Request all manufacturers provide Environmental Product Declarations (EPDs) and Health Product Declarations (HPDs).
    2. Specify materials regionally made when possible.
    3. Remove Living Building Challenge (LBC) red-list materials when possible
    4. Select materials with low volatile organic compounds (VOCs) when possible.
    5. Specify low carbon concrete when possible.
    6. Specify how existing building materials not to be re-used are recycled.
- ☐ Evaluate material layouts and confirm the design is taking advantage of standard material sizes for high efficiency and to reduce construction waste.

Construction Documentation

- ☐ Track sustainability targets and pEUI as the project is refined.
- ☐ Verify sustainability targets are accomplished through coordinating and detailing systems.
- ☐ Perform documentation for projects pursuing sustainability certification.
- ☐ Complete the Project Scorecard and return it to the Green Team
- ☐ Green Team to report project data to the AIA via the 2030 Design Data Exchange (DDx)

Construction Administration

- ☐ Communicate sustainability goals at pre-construction meetings.
- ☐ Confirm sustainability design intent is followed through.
- ☐ Continue documentation for a project pursuing sustainability certification.
- ☐ Verify on-site construction recyclables and waste are handled according to specification criteria.
- ☐ Collaborate with the general contractor to track waste and act as the first line of review for submittals intended to meet sustainability objectives.

Resources

https://andrewmarsh.com/apps/staging/sunpath3d.html
An interactive tool to visualize sun movements for any day. Supports OBJ file uploads for shading and harvesting analysis.

https://patternguide.advancedbuildings.net/patterns.html
An interactive tool for the design of proven daylighting strategies in a variety of building types.

http://solardata.uoregon.edu/SunChartProgram.html
Creates sun path charts for specified locations.

https://www.zerotool.org/zerotool/
A tool to compare an existing or new building's Projected Energy Use Intensity (pEUI) with similar building types.

https://zero-code.org/energy-calculator/
A tool to generate a building's estimated energy consumption and the renewable energy required to meet net zero or International Energy Conservation Code (IECC) target.

https://newbuildings.org/resource/new-construction-guide/
Offers a prescriptive approach to new commercial construction projects that achieves efficiencies up to 30% higher than conventional buildings.

https://pvwatts.nrel.gov/
Estimates the energy production of grid-connected photovoltaic energy systems throughout the world.

Architecture
Sustainability Score: ____ / 7

Project:

Size:

Completed:

Energy Use Intensity

pEUI _____

Calculation of the Projected Energy Intensity Use

Easy Projected Energy Use Intensity (pEUI) is a metric used to estimate a building's energy consumption. It represents the amount of energy predicted to consume per square foot of a building over a year. A lower pEUI indicates a more energy-efficient building but depends on the building type. Predictive modeling helps to benchmark and set an optimization strategy towards the project's energy goals.

Low-Carbon Concrete

☐ ***Does the project utilize low carbon concrete?***

Low carbon concrete uses type IL cement in the mix, also known as Portland Limestone Cement (PLC). This mix has a potential for around a 10% carbon reduction per the regional averages based on the NRMCA's regional EPD data version 3.2. This is a high early strength concrete mix, suitable for post-tensioned slabs. While type I/II concrete is still widely available in the market, Type IL is anticipated to be taking over exclusively in the near future.

Sustainably Sourced Wood

☐ ***Is 75% of the project wood sourced—either structurally or finish grade—from sustainable sources?***

Sustainably sourced wood is wood that is locally sourced, harvested in a way that maintains the health of forests, prevents deforestation, supports biodiversity, and is traceable. Organizations like the Forestry Certified Council (FSC) promotes responsible forest management and certifies wood that meets their environmental and ethical guidelines.

Renewable Energy

☐ ***Does the project use on-site renewable energy?***

On-site renewable energy is energy generated from renewable sources at the same location where it is used. On-site renewable energy reduces dependence on fossil fuels and decreases carbon pollution. Examples include solar panels, wind turbines, biomass systems, geothermal energy. If on-site renewable energy is not feasible, look to purchase renewable energy from off-site sources.

Fluid Applied Water Resistive Air Barrier

☐ ***Is the building envelope constructed with a fluid applied water resistive air barrier and sealed tightly around the entirety of building?***

Low-Flow Water Fixtures

☐ ***Does the project reduce indoor water consumption by utilizing low-flow water fixtures for faucets, showerheads, toilets, and urinals?***

Low-Flow water fixtures with a WaterSense (EPA) label are about 20 percent more efficient than average products in the same category and meet the following performance criteria:
Private Lavatory Faucets ≤ 1.5 gmp at 60 psi
Showerheads ≤ 2.0 gmp at 60 psi
Toilets ≤ 1.28 gmp
Urinals ≤ .5 gmp

Rainwater Collection for Reuse or On-site Detention

☐ ***Does the project collect rainwater and either reuse on-site or infiltrate onsite?***

Managing stormwater onsite helps retain runoff during a rainfall event, helps to replicate natural site hydrology processes, and helps to reduce burdening city stormwater systems.

Heat Pump Water Heaters

☐ ***Does the building use heat pumps for domestic hot water heating?***

Master Planning:
Sustainability Score: ____ / 8

Project:

Size:

Completed:

Access to Transit

☐ ***Is the project site located within ¼ mile of existing or planned transit, or within ½ mile of existing or planned "frequent service" transit?***

Easy transit access reduces driving, improves air quality, and encourages active transportation (walking, rolling, or riding). "Transit" includes private jitneys, public buses, streetcars, and high-capacity options like bus-rapid-transit or light rail. "Frequent Service" means transit arriving every 15 minutes or less. Distances are measured from the site to a transit stop or station.

On-Site Stormwater Management

☐ ***Is the site managing all (80%?) of stormwater on site?***

On-site stormwater management reduces strain on city systems, preventing erosion and temperature increases that impact native wildlife. Methods include infiltration swales for street runoff, eco-roofs, and cisterns for irrigation or toilet flushing.

Active Transportation Facilities

☐ ***Is the project located within 200 yards of a bicycle/active transportation network that is connected to diverse uses, a school or a high-capacity transit station?***

☐ ***Does the project incorporate facilities that support active transportation trips, such as short-term and long-term (accessible, locked, covered) vehicle storage and locker rooms?***

Active transportation reduces emissions, improves air quality, and benefits community health. It includes walking, rolling (using mobility devices), and vehicles like bicycles, e-bikes, scooters, e-scooters, roller skates, and skateboards. (Consider a table or LEED BD+C reference for project-specific requirements.)

Open Space Provision

☐ ***Does the site provide 20% or more of the total site area in open space?***

Open space offers respite from development and promotes recreation. At least 30% of designated open space must be vegetated, including an overhead canopy.

District Energy Implementation

☐ ***Is the project employing a "district energy" strategy, implementing shared heating and cooling systems for multiple buildings across the site?***

District energy systems in multi-building developments reduce the need for separate HVAC units. They can include centralized chiller plants, heat transfer systems between buildings, and shared renewable energy sources like solar or wind.

Natural Resource Preservation

☐ ***Has the site preserved and protected a portion (or portions) of the site from all development?***

☐ ***Has the project restored a portion of the site to a 'closer-to-natural' character, utilizing original grades, surfaces, and native species of plants?***

Preserving or restoring land helps manage stormwater, lower emissions, improve air quality, and support wildlife. Greenfield sites should preserve at least 25% of their area, enhancing it to align with its ecological character using native plant species. Alternatively, a portion of a given site will be improved and enhanced according to the local ecological conditions, using native species of plant materials.

Interior Design:
Sustainability Score: ____ / 6

Project:

Size:

Completed:

Lighting Power Density

LPD _____

Calculation of the Lighting Power Density

Lighting Power Density (LPD) is a measure of watts per square foot (W/sq ft). It is used to quantify how much energy is being consumed for lighting relative to the area being illuminated. It is used to determine if a building's lighting design complies with energy efficiency standards.

FSC-Certified Wood

☐ *Are 75% of the project's finished wood products FSC-Certified?*

Sustainably sourced wood is wood that is locally sourced, harvested in a way that maintains the health of forests, prevents deforestation, supports biodiversity, and is traceable. Organizations like the Forestry Certified Council (FSC) promote responsible forest management and certify wood that meets their environmental and ethical guidelines.

Low-Flow Water Fixtures

☐ *Does the project reduce indoor water consumption by utilizing low-flow water fixtures for faucets, showerheads, toilets, and urinals?*

Low-Flow water fixtures with a WaterSense (EPA) label are about 20 percent more efficient than average products in the same category and meet the following performance criteria:
Private Lavatory Faucets ≤ 1.5 gmp at 60 psi
Showerheads ≤ 2.0 gmp at 60 psi
Toilets ≤ 1.28 gmp
Urinals ≤ .5 gmp

Salvaged Items

☐ *Was anything re-used from the existing space? Quantify sf or total number of the following:*

Doors:

Walls:

Glass:

Furniture:

Lighting:

Flooring:

Locally Sourced Materials

☐ *Are any of the project finishes locally sourced within 500 miles of project site?*

Per LEED 2009, locally sourced materials harvested or recovered, as well as manufactured.

Red-List Free or Cradle to Cradle

☐ *Are 25% of the specified materials Red-List Free or Cradle to Cradle?*

Materials with Recycled Content

☐ *Do any finish materials contain recycled content?*

Inn the Ground
Carlton, OR

Inn the Ground is a nine-room bed and breakfast in rural Oregon. Its design draws inspiration from the surrounding agrarian community, embracing simple forms and single-slope roofs reminiscent of our region's agricultural sheds. By reflecting the local architecture, the bed and breakfast creates a sense of familiarity and belonging for guests, making them feel immediately comfortable within its walls: a building of low pretense, authentic to the region, where a guest can enjoy removing their muddy work boots and sitting for breakfast.

Intended to reflect the client's passion for regenerative agriculture, where the land is host to all of the planet's species, the building was designed to be recessive to the land. Two-thirds of Inn the Ground was discreetly developed underground within the site's sloping topography. This approach reduces the building's presence allowing it to appear much smaller than it is. The fusing with the land fosters a sense of oneness with nature and reinforces the idea of living in harmony with the environment.

The experience of a stay at Inn the Ground is intended to be transformative for a guest and an introduction to the client's philosophy: the land is host to us all, the awareness that humans are, in fact, part of nature and like nature, we're constantly evolving, ensuring each experience is a fresh opportunity to connect and grow.

Awards & Certifications
- AIA Oregon 2030 Award

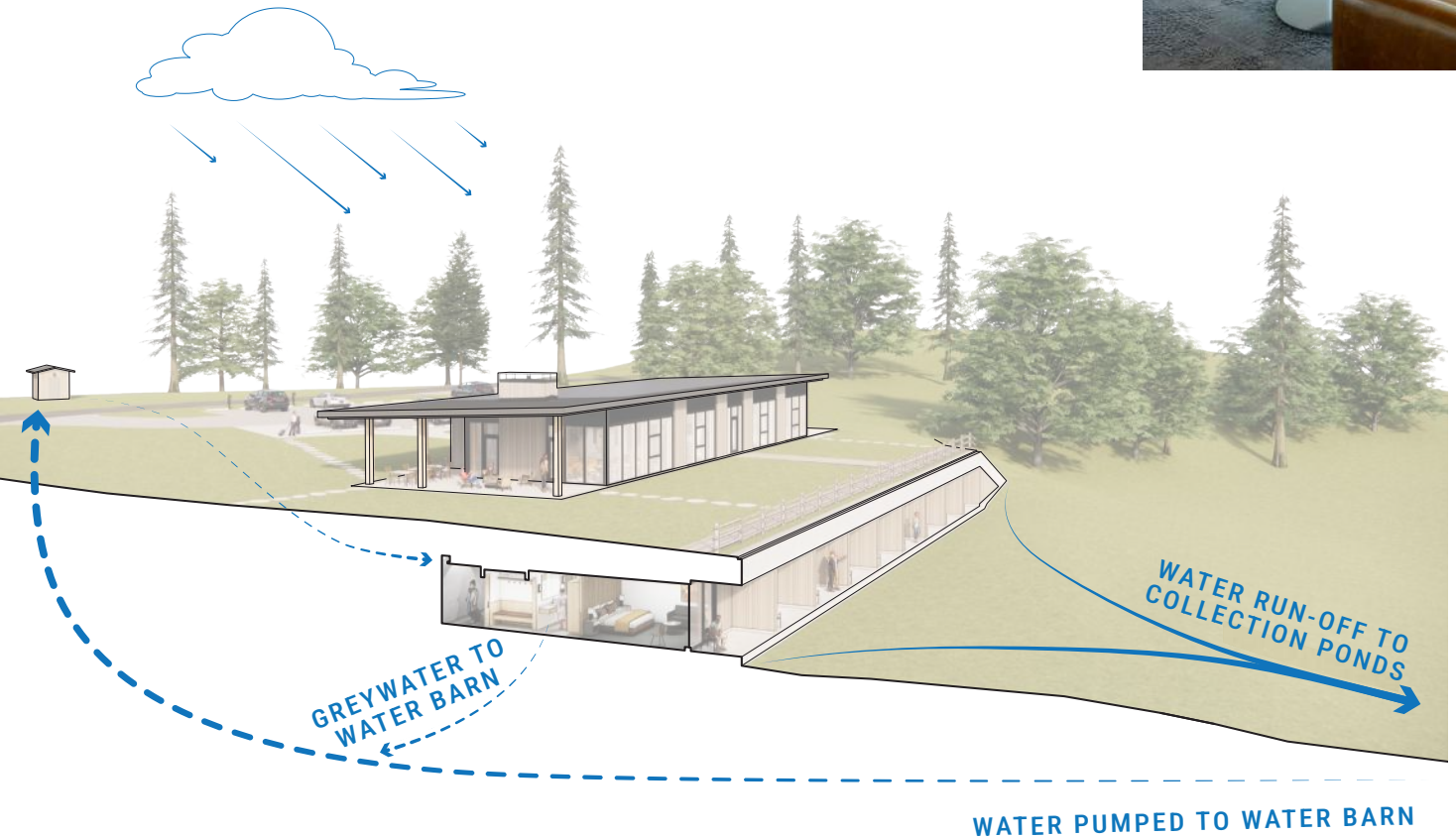
Completed
July 2023

Size
10,098 sf

Typology
Hospitality

Sustainable Features Include:

- Earth-sheltered design stabilizes building temperatures and reduces energy consumed for heating and cooling
- Generates 85% fewer carbon Emissions than the average US building of the same type and size
- On-site water sourcing: Well water, spring water, rain water collection, and municipal water
- Green Roof
- Water Heat Recovery
- PV Array generates 25% of the building's energy demand
- HVAC system utilizes on-site water in a closed-loop system for cooling



Sustainability Score

54.7 EUI

- [x] Low-carbon Concrete
- [x] Sustainably Sourced Wood
- [x] On-site Renewable Energy
- [ ] Low-flow Water Fixtures
- [x] Fluid-applied Water Resistive Air Barrier
- [x] Rainwater Collection Re-use or On-site Detention
- [x] Heat Pump Water Heaters

Portland Community College Willow Creek Center

Hillsboro, OR

Portland Community College (PCC) Willow Creek is a three-story, 100,000-square-foot Workforce Training Center offering workforce training, computer education, GED testing, and specialized labs for medical, nursing, and EMT programs. It also houses the State of Oregon's Employment Department and WorkSource Oregon, reinforcing its role as a career development hub.

A Center for Learning and Community: Adjacent to the TriMet Willow Creek Transit Center, the facility serves as both a transportation hub and a vital community anchor. A newly designed multipurpose space supports large gatherings, while diverse educational offerings foster career growth, skill development, and lifelong learning.

The building itself demonstrates sustainable design, integrating passive ventilation, a rooftop photovoltaic array, and visible rainwater harvesting and greywater reuse systems. These features provide students and visitors firsthand insight into sustainable practices.

With complex programmatic needs and sustainability goals, the project required an integrated design approach. Close collaboration between engineers, contractors, architects, and PCC led to the college's first LEED-certified project. Originally targeting LEED Silver, strategic design solutions elevated it to LEED Platinum—without exceeding budget.

Awards & Certifications

- USGBC LEED Platinum
- Sustainable Buildings Industry Council, Beyond Green™ High-Performance Building Awards, Citation Award

Completed
2009

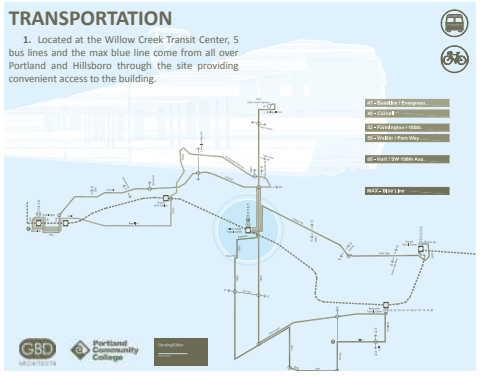
Size
100,000 sf

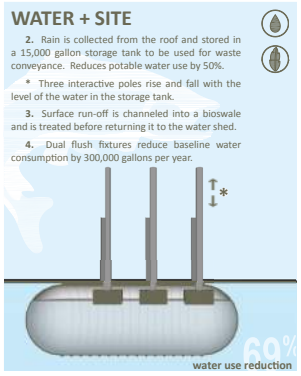
Typology
Higher Education/ Institutional

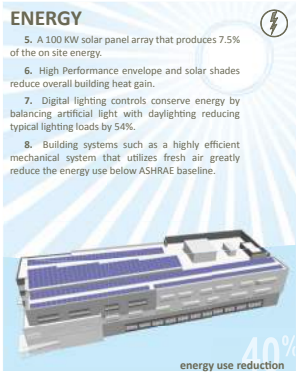
Sustainable Features Include:

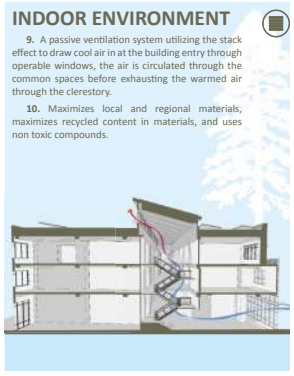
- FSC-certified wood used
- 75% water savings compared to a typical building due to water-efficient fixtures
- 28% of building materials contain recycled content
- 37% energy cost savings due to roof-mounted solar photovoltaic panels
- 94% of construction waste was diverted from landfill by being recycled or reused
- 56% reduction in potable water consumption compared to a typical building due to landscaping and irrigation systems
- Passive ventilation
- Readily accessible by public transport
- Bicycle parking and changing facility on-site

PCC WILLOW CREEK **workforce training center**









Sustainability Score

59.1 EUI

- ☐ Low-carbon Concrete
- ☑ Sustainably Sourced Wood
- ☑ On-site Renewable Energy
- ☑ Low-flow Water Fixtures
- ☑ Fluid-applied Water Resistive Air Barrier
- ☑ Rainwater Collection Re-use or On-site Detention
- ☑ Heat Pump Water Heaters

Kiln Apartments
Portland, OR

The client for Kiln Apartments was looking to achieve a next-generation level of energy efficiency and targeted Passive House certification as an idea to explore.

Kiln Apartments is a 16,256-square-foot building located in a pedestrian- and bicycle-friendly neighborhood in North Portland, featuring 19 for-lease apartments and ground-floor retail. It was a research and design effort to develop the most energy-efficient market-rate apartment building possible meeting a traditional developer's financial model. It is a good demonstration of GBD's ability to maximize budgetary constraints and achieve aspirational energy performance.

Inspired by pleasant childhood memories in the Pacific Northwest, the apartments were designed to evoke the comfortable qualities of a well-crafted, single-family home with an eclectic mix of personal touches. At the same time, the Owner was interested in developing relatively small apartments (true one-bedroom apartments, ranging from 550 to 700 square feet) that live and feel much larger.

The project achieved an aggressive energy efficiency program called "Passive House." Energy performance goals for the project were ambitious—Kiln Apartments was the first and largest new construction market-rate apartment building in the United States to achieve Passive House certification. As a point of reference, certification for this building required energy performance to be approximately 65–75% better than Portland's already industry-leading code requirements.

Awards & Certifications

- Passive House Institute US (PHIUS) Certification
- AIA Oregon 2030 Award

Completed
2014

Size
16,256 sf

Typology
Multi-family Residential

Sustainable Features Include:

- Generates 69% fewer carbon emissions
- PV Array generates up to 20% of required energy
- Passive house strategy to minimize the need for energy used on heating or cooling
- Energy Star rated appliances
- Low-flow plumbing fixtures
- Locally-sourced materials
- Ample bike parking
- Recycled concrete on-site and around the development
- Flow-through stormwater planters

CONTINUOUS INSULATION & AIR BARRIER

Similar to the Stay Puft Marshmallow Man, Kiln Apartments has uninterupted layers comprising the buildings exterior skin to dramatically reduce air infiltration.

ULTRA HIGH-PERFORMING SKIN

Ultra high-performing glazing and high levels of insulation are key ingredients to both surviving in outer space and Kiln Apartment's passive house design.

ELIMINATE THERMAL BRIDGING

Unlike Billy Idol's punk rock leather jacket where metal rivets, studs, and zippers come into direct contact with his body's skin, Kiln Apartment's exterior skin reduces thermal bridging where heat transfer can reduce energy efficiency.

Sustainability Score

18.9 EUI

- ☐ Low-carbon Concrete
- ☑ Sustainably Sourced Wood
- ☑ On-site Renewable Energy
- ☑ Low-flow Water Fixtures
- ☑ Fluid-applied Water Resistive Air Barrier
- ☑ Rainwater Collection Re-use or On-site Detention
- ☑ Heat Pump Water Heaters

Oregon State Treasury
Salem, OR

In response to the Oregon State Treasury's (OST) need for a modern, future-ready headquarters, a public-private partnership was formed to develop a facility that prioritizes resilience, sustainability, and operational continuity. The resulting two-story, 36,000-square-foot building is designed to withstand a 9.0-magnitude earthquake and remain fully functional within 24 hours—ensuring uninterrupted financial services for state and local agencies.

The all-electric building integrates passive design strategies such as operable windows, daylight harvesting, and natural ventilation to enhance comfort and efficiency. Energy-saving systems—including LED lighting, VRF heat pumps, heat recovery ventilators, and a micro-grid with backup storage—contribute to its exceptional performance.

Designed to foster a strong sense of place, the building balances structural strength with warmth, featuring exposed structural elements, natural wood finishes, and lush living walls. OST also prioritized public art, commissioning local artists to enhance the space. In 2021, the project earned the nation's first US Resiliency Council Platinum certification for a base-isolated structure.

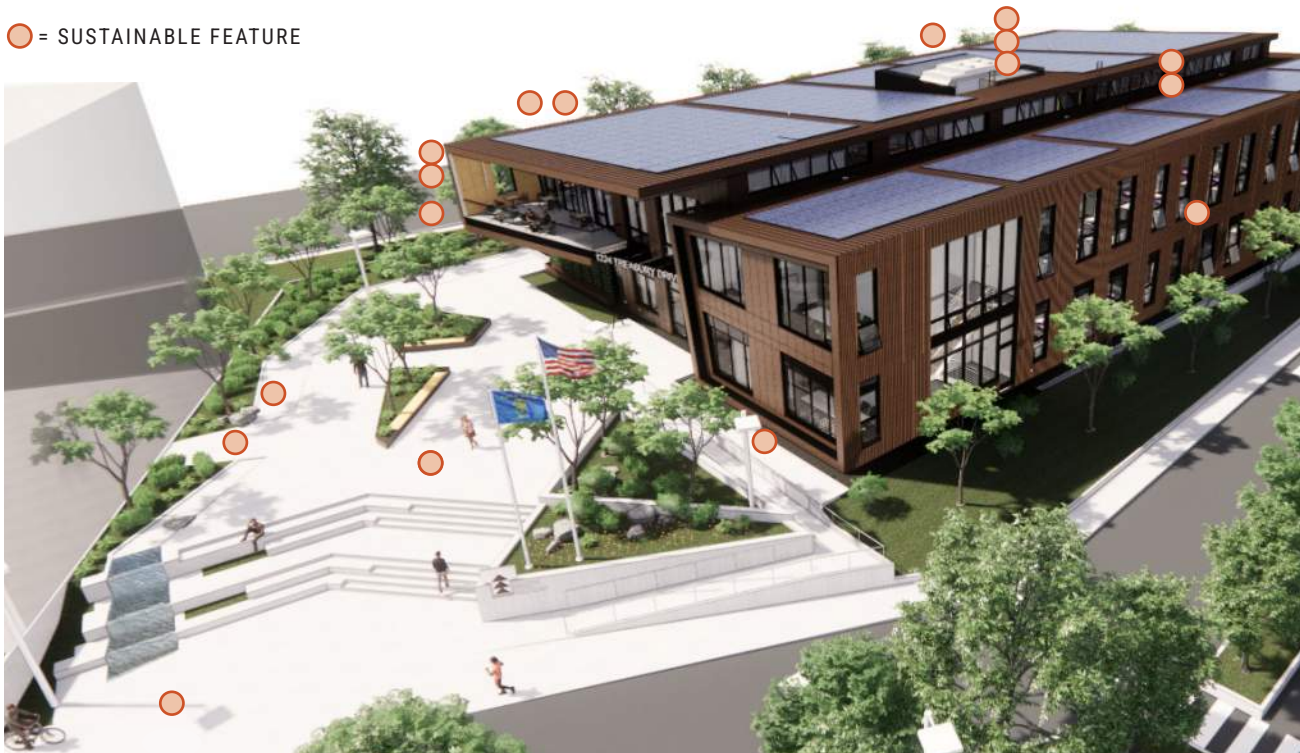
Awards & Certifications
- USGBC LEED Gold
- US Resiliency Council Platinum

Completed
2022

Size
36,000 sf

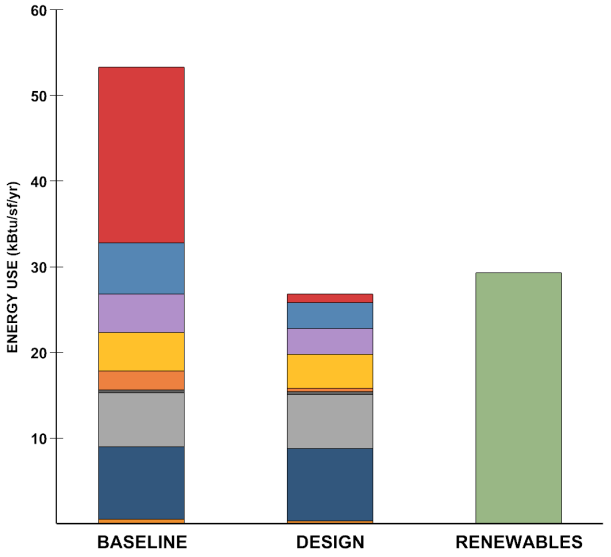
Typology
Office/Institutional

= SUSTAINABLE FEATURE



Sustainable Features Include:

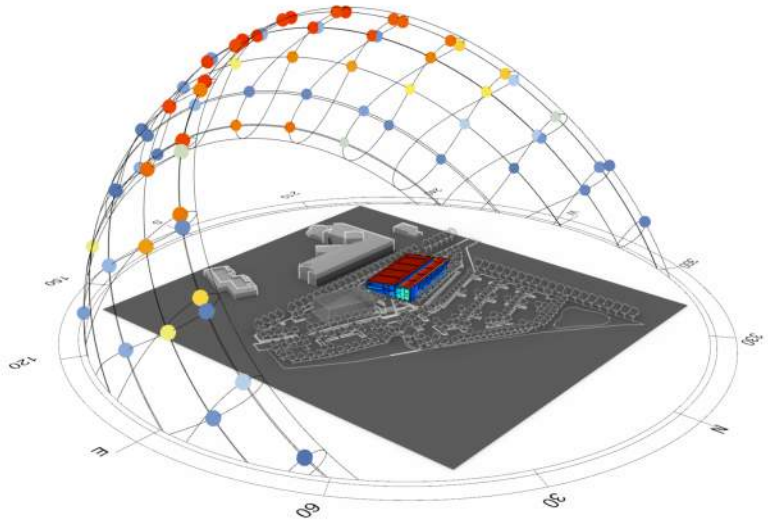
- 238kW PV array with battery storage allows the building to operate without a grid connection for at least 96 hours
- Net Zero Energy – the rooftop PV array generates more power than the building consumes
- The building's energy consumption is modeled to be 43% lower than the ASHRAE 90.1-2016 baseline, surpassing the 30% reduction target
- Base Isolation structure allows the building to move and withstand a magnitude 9.0 earthquake
- Carbon reduction of 40%, equivalent to to preserving 10 acres of forest
- Radiant Floor Heating & Passive Ventilation linked to DOAS (Dedicated Outdoor Air Systems)
- High-performance HVAC system – 30% above code
- Server room heat recovery system to maximize energy efficiency
- Locally-sourced Oregon white oak
- Alternate and independent water and septic systems
- Rainwater irrigation systems – 100% of stormwater is captured and infiltrated on-site
- Lower part of building is designed to allow water to flow in and out in case of a flood
- Low-flow water fixtures



ENERGY END-USE COMPARISON CHART

MOVING SCULPTURE

The moving sculpture is connected to the base isolation system. As building capacity increases or decreases, the statue moves on a track.



SUN PATH SOLAR STUDY

Sustainability Score

26.8 EUI

- [x] Low-carbon Concrete
- [x] Sustainably Sourced Wood
- [x] On-site Renewable Energy
- [x] Low-flow Water Fixtures
- [ ] Fluid-applied Water Resistive Air Barrier
- [x] Rainwater Collection Re-use or On-site Detention
- [x] Heat Pump Water Heaters

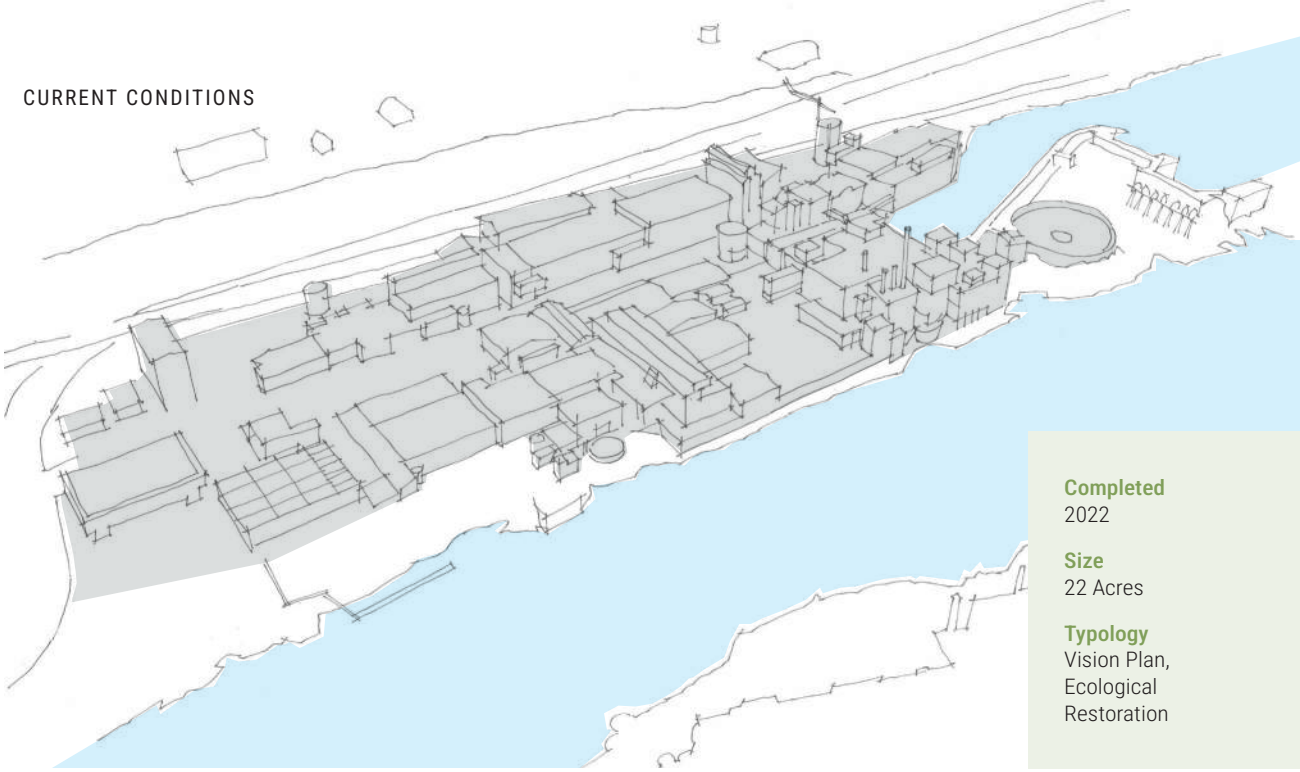
tumwata village
Oregon City, OR

GBD supported the Confederated Tribes of Grand Ronde to envision the future of the 22-acre former Blue Heron mill site in Oregon City. The site is at the threshold of Willamette Falls – a dramatic horseshoe-shaped waterfall and a deeply spiritual place – one of the signature moments along the Willamette River in Oregon.

GBD led the development of a Vision Plan calling for extensive restoration of the site – "healing the land" – starting with the removal of the industrial complex currently on the site. Leading a multi-disciplinary design team that included architects, planners, landscape architects, and civil engineers, GBD helped focus the primary goal of returning the site to its natural form as a rough basalt shelf crisscrossed with channels and inlets where water from the falls used to (and may one day again) flow.

A new street grid will allow multimodal access to the site, and there is the potential for a new connection across 99E to the bluff trail from the site and improved access to the water in the lagoon from the southern end of the site. The site was a place of prosperity and commerce for the Tribes, and development opportunities were determined in this study for a mixture of uses on the blocks most adjacent to Downtown Oregon City.

CURRENT CONDITIONS



Completed
2022

Size
22 Acres

Typology
Vision Plan, Ecological Restoration

RESTORATIVE CONDITIONS

Sustainable features include:

- On-site energy production
- Naturalized stormwater management
- Removal of industrial materials and structures to enable the site's ecology to re-emerge
- Development of an integrated storm-water cleaning system that will naturally lessen toxins and enable water to be used to hydrate plants
- Removal of industrial fill and daylighting much of the native basalt riverbank
- Re-establishing shallow water refuge for migratory fish to assist in their movements up and downstream
- Improving site soils to support vegetation and natural ecological systems
- Planting of native riparian plants for improved habitat for birds, animals, and insects as well as to enhance the river's ecological functions
- Planting of native plants on site to provide shade, habitat and improved air quality
- Nurturing the site's restoration to ensure long term success

From Time Immemmorial:

Tumwata Village was centered on healing—healing the land scarred by decades of industrialization, and healing the spirit and history of the Confederated Tribes of Grand Ronde. This place, once a powerful and sacred landscape, had been profoundly altered by Euro-American development. Through the Tribe's reclamation of the site and their leadership in shaping its future, the vision for Tumwata became one of restoration—of culture, ecology, and identity.

Sustainability Score

- ☑ Multi-Modal Transit Options
- ☑ Active Transportation Infrastructure
- ☐ District Energy Plant
- ☑ On-Site Stormwater Management
- ☑ Open Space
- ☑ Natural Resource Restoration or Protection

Hassalo on Eighth
Portland, OR

Hassalo on Eighth spans four city blocks and includes three mixed-use residential and retail buildings of varying density, a new outdoor urban plaza, and an existing office tower. The development has transformed the formerly commercial Lloyd Blocks into a vibrant neighborhood where people live, work, and play.

The numbers are impressive: over one million square feet of new construction across three buildings, 657 apartments, 1,200 below-grade parking stalls, an outdoor plaza, and North America's largest bike hub—Lloyd Cycle Station—with space for 900 bicycles. Each new building—The Elwood Building, Aster Tower, and Velomor—earned USGBC's LEED for Homes Platinum certification.

Hassalo's on-site sustainability strategies have not only defined its identity but also attracted new residents, helping establish it as one of Portland's most sustainable neighborhoods. The project earned LEED for Neighborhood Development v4 Built Platinum certification for implementing practical, measurable strategies focused on sustainable site development, community connectivity, resource efficiency, education, green infrastructure, and building performance. Site-specific strategies include rainwater harvesting and treatment, on-site wastewater treatment and reuse through infiltration, district energy, natural daylighting, and access to public transportation.

Awards & Certifications

- LEED for Neighborhood Development v4 Built Platinum certification
- LEED for Homes Platinum certification for all new buildings
- Catalyst Award, Natural Organic Recycling Machine, Lloyd EcoDistrict

Completed
2015

Size
1,000,000+ sf

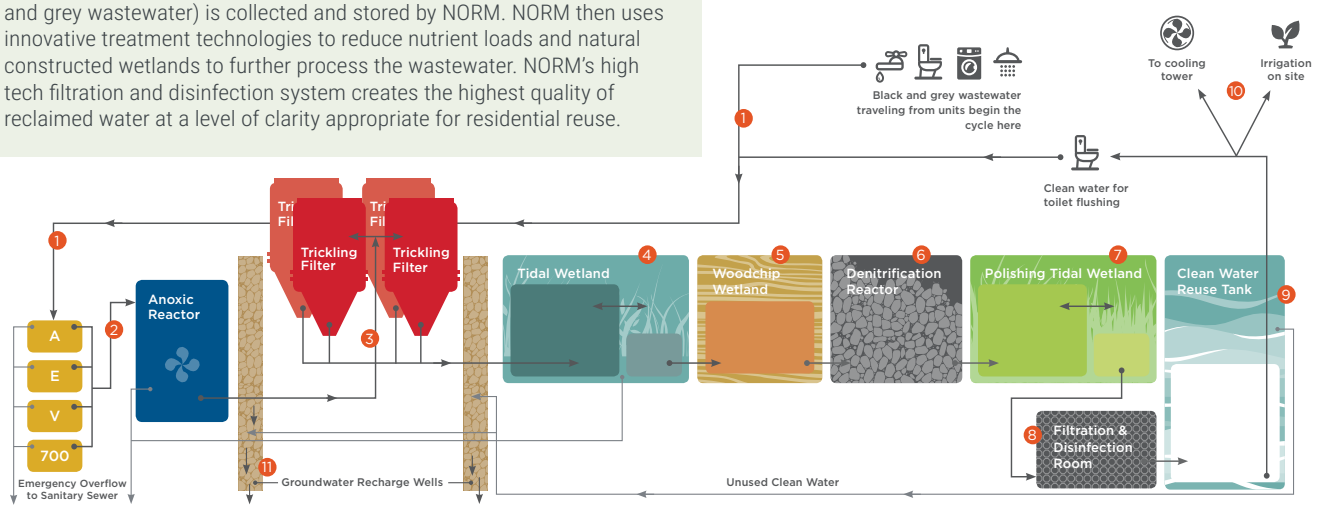
Typology
Master Plan, Housing, Retail, Office

Sustainable features include:

- Rainwater harvesting and treatment
- A constructed tidal wetland – excess water is infiltrated through three on-site drywells
- District energy system
- Natural daylighting
- Access to public transportation
- North America's largest bike hub (900-bike capacity)
- Outdoor urban plaza enhancing green space and connectivity

NORM Diagram in Motion

Every used drop of water from sinks, toilets, showers and laundry (black and grey wastewater) is collected and stored by NORM. NORM then uses innovative treatment technologies to reduce nutrient loads and natural constructed wetlands to further process the wastewater. NORM's high tech filtration and disinfection system creates the highest quality of reclaimed water at a level of clarity appropriate for residential reuse.



1. Primary Tanks collect and store wastewater from each building.
2. The Anoxic Reactor helps to reduce nutrient loads from the wastewater.
3. Trickling Filters further reduce nutrient loads and eliminate odor.
4, 5, 6 and 7. Natural Treatment Wetlands work using a tidal-flow (fill and drain) process to foster naturally occurring microbial organisms used to
8. Mechanical filters screen out fine particles. Ultraviolet (UV) and ozone technology is used to kill pathogens and improve water clarity.
9. and 10. Clean water is stored and distributed for reuse.
11. Any unused treated water is infiltrated into the ground via groundwater recharge wells.

Sustainability Score

- ☑ Multi-Modal Transit Options
- ☑ Active Transportation Infrastructure
- ☑ District Energy Plant
- ☑ On-Site Stormwater Management
- ☑ Open Space
- ☑ Natural Resource Restoration or Protection

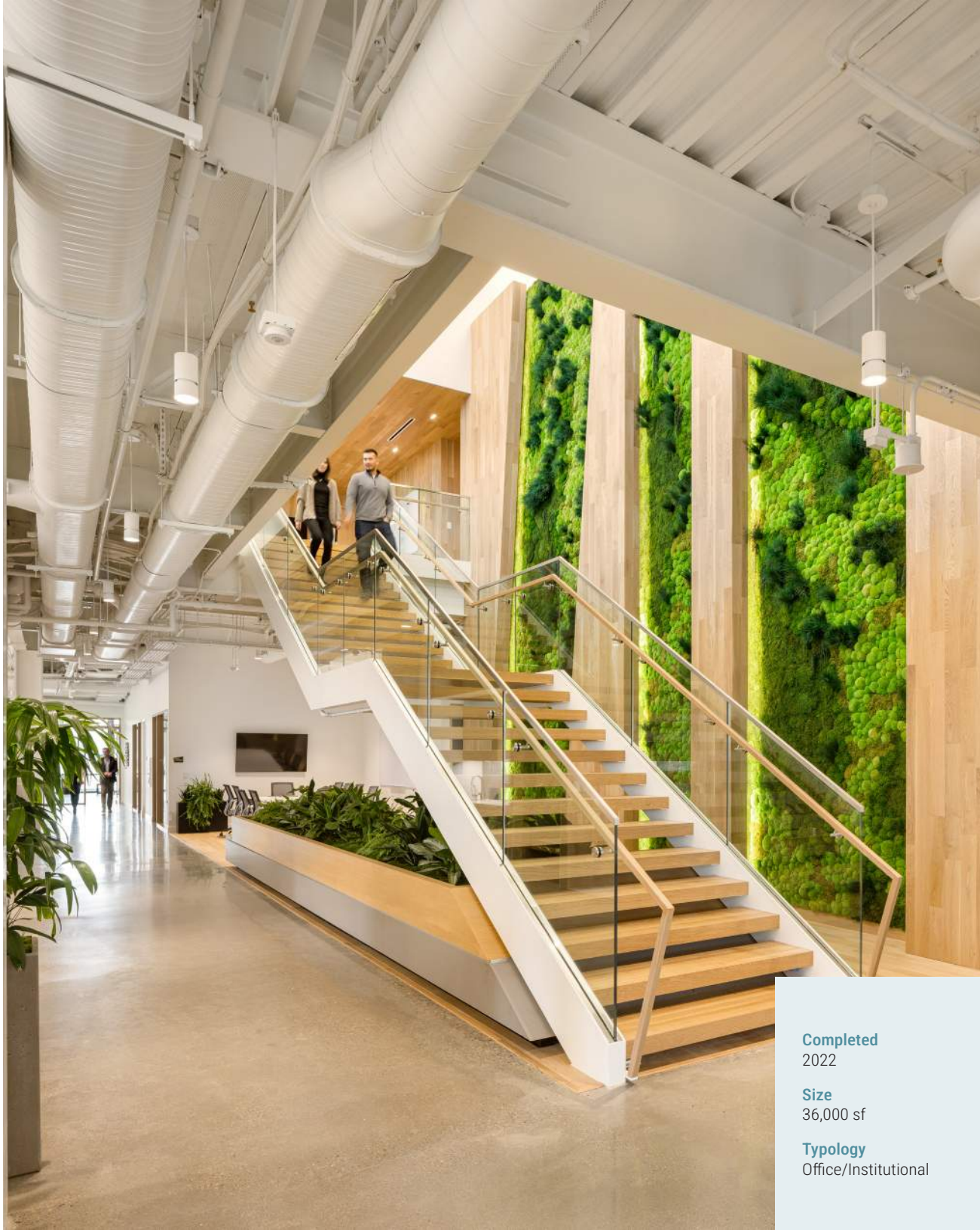
Oregon State Treasury
Salem, OR

In response to the Oregon State Treasury's (OST) need for a modern, future-ready headquarters, a public-private partnership was formed to develop a facility that prioritizes resilience, sustainability, and operational continuity. The resulting two-story, 36,000-square-foot building is designed to withstand a 9.0-magnitude earthquake and remain fully functional within 24 hours—ensuring uninterrupted financial services for state and local agencies.

The all-electric building integrates passive design strategies such as operable windows, daylight harvesting, and natural ventilation to enhance comfort and efficiency. Energy-saving systems—including LED lighting, VRF heat pumps, heat recovery ventilators, and a micro-grid with backup storage—contribute to its exceptional performance.

Designed to foster a strong sense of place, the building balances structural strength with warmth, featuring exposed structural elements, natural wood finishes, and lush living walls. OST also prioritized public art, commissioning local artists to enhance the space. In 2021, the project earned the nation's first US Resiliency Council Platinum certification for a base-isolated structure.

Awards & Certifications
- USGBC LEED Gold
- US Resiliency Council Platinum



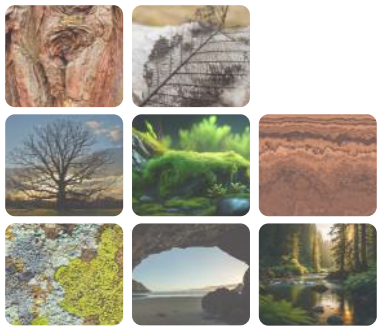
Completed
2022

Size
36,000 sf

Typology
Office/Institutional

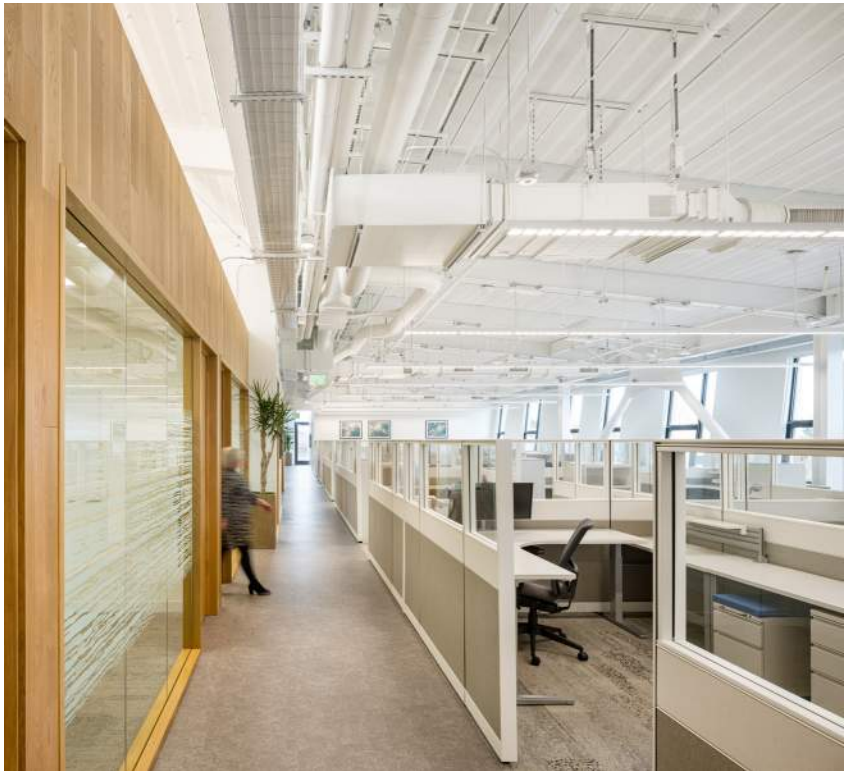
Sustainable features include:

- Incorporating biophilic elements for a seamless transition from inside to out, the interior features several living walls of local vegetation and preserved moss.
- The interior design concept was inspired by the idea of refuge. A place that is peaceful and welcoming for its inhabitants.
- Locally-sourced Oregon white oak
- Radiant Floor Heating & Passive Ventilation linked to DOAS (Dedicated Outdoor Air Systems)
- Low-flow water fixtures



SENSE OF PLACE

A goal for the Oregon State Treasury was to connect the building to Oregon's natural environment and local community. The design integrates various features to reinforce these connections, including locally sourced materials, Pacific Northwest art, and ample views of the outdoors.



Sustainability Score

0.762 W / sf LPD Score

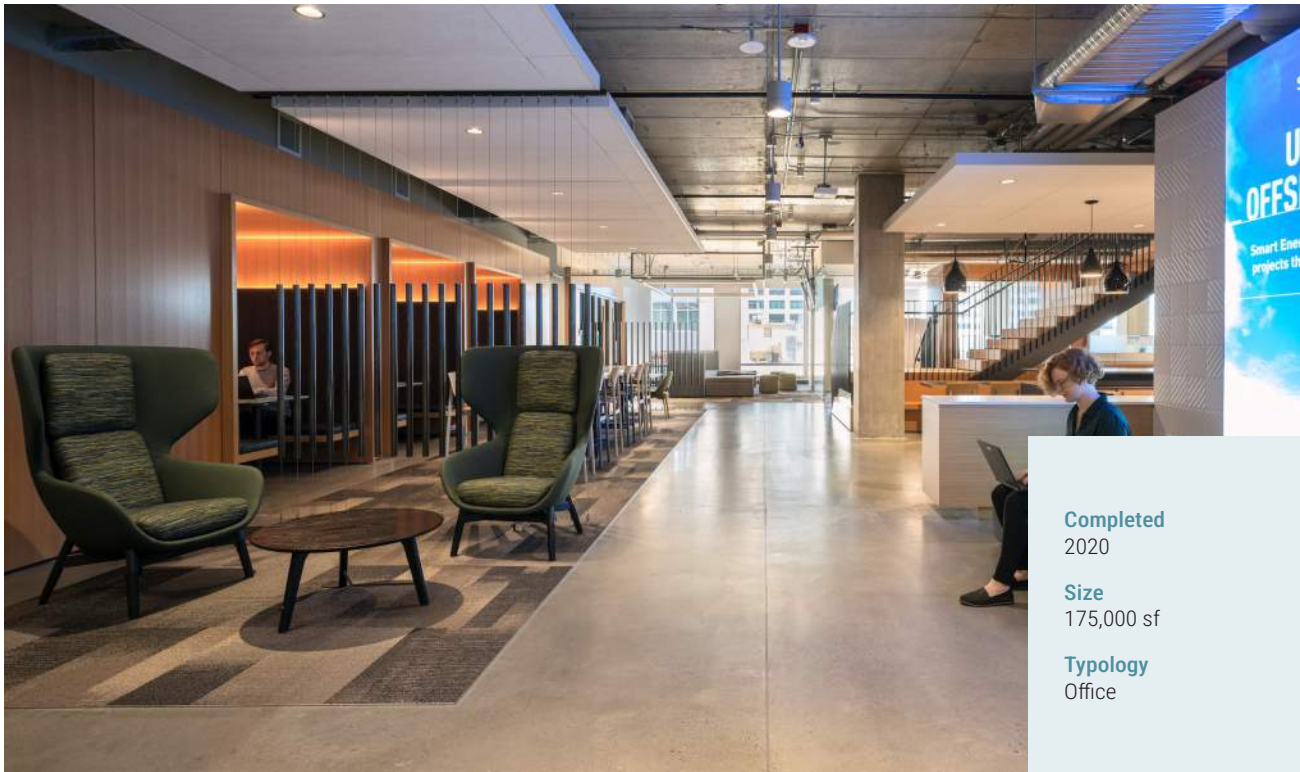
- [x] FSC-Certified Wood
- [x] Low-Flow Water Fixtures
- [ ] Salvaged Items
- [x] Locally Sourced Materials
- [x] Red-List Free or Cradle to Cradle
- [ ] Recycled Content Materials

NW Natural
Portland, OR

For more than 160 years, NW Natural has served the Pacific Northwest. When they sought to create a new Head Quarters that balanced the refinement of an office with the grittiness of pipeline construction, the GBD team created an interior build-out design that met the energy goals, reaching LEED standards, and functionality of a critical, 24/7 operation; including efficient HVAC and back-up generators all housed within a new building, designed for seismic resiliency that allows it to withstand a 9.0 earthquake.

GBD worked closely with NW Natural to determine the key requirements for their new location, assisting with site analysis, preliminary test fits of short-listed buildings, and into final design, consultant coordination, and construction administration, ensuring every detail came together to form a cohesive and resilient design.

Awards & Certifications
- IIDA Award: Honorable Mention, People's Choice
- Fitwel Certified



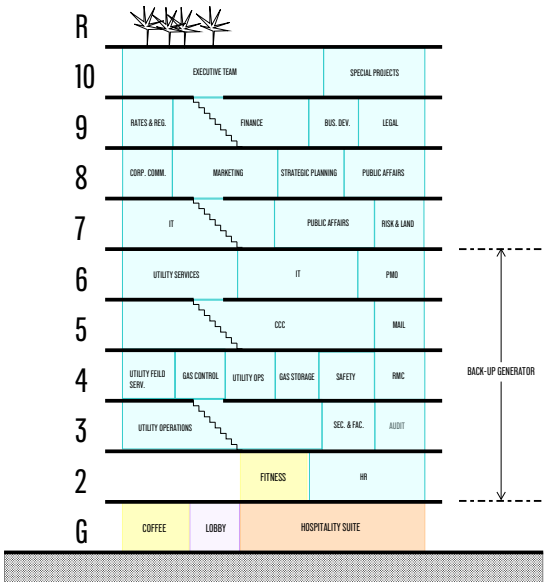
Completed
2020

Size
175,000 sf

Typology
Office

Sustainable features include:

- Encourages active transportation, including indoor secure bike parking with a separate accessible entrance directly off the street for employees.
- During design, NW Natural was working on construction at another one of their properties in Oregon. They inventoried the trees that would need to be removed from the site. We chose to reclaim all of the Douglas Fir trees and work with a local kiln to dry them. We then had them fabricated into the treads for the 4 communicating stairs in the building.
- This building has a four-pipe HVAC system, one of the more sustainable systems due to the continual loop of hot and cold water to each air unit.
- This building is a category IV resilient building with a generator. This allows the building to maintain function during and after a seismic event. Designing a resilient building extends the life of a building.
- Includes green cleaning protocol for the building janitorial team.
- Fitwel certified. Employees are encouraged to take the stairs by making them lighter and brighter, adding pops of colors and fun activity facts at each landing. There are also 4 communicating stairs in the center of the building to encourage employees to use stairs in lieu of elevators.



Sustainability Score

0.64 W / sf LPD Score

- [x] FSC-Certified Wood
- [x] Low-Flow Water Fixtures
- [ ] Salvaged Items
- [x] Locally Sourced Materials
- [x] Red-List Free or Cradle to Cradle
- [ ] Recycled Content Materials

GBD