



mahlum

LIVING BUILDING CHALLENGE

# Portland Studio

1380 SE 9TH AVENUE | PORTLAND, OREGON 97214 | (503) 224-4032 | MAHLUM.COM

## WALK THE TALK: DESIGNING OUR PORTLAND STUDIO

As an architecture firm with three national AIA COTE Top Ten awards, we are adept at working hand-in-hand with our clients in translating their sustainable values into architecture.

When presented with the task of charting the course for our new Portland Studio, we became our own client. As we do with many of our projects, we began by asking questions. **The first question we asked ourselves was, “are we going to walk the talk?”**

Learn more about this project at:  
[mahlum.com/projects/portland-studio](https://mahlum.com/projects/portland-studio)

The answer was an unequivocal yes, as we chose to lead with our values in hopes of transforming both our practice and our place—and in doing, create a path for others to follow.

The result is our new studio which is Portland, Oregon’s first Living Building Challenge (LBC) certified project. LBC is hailed as the most rigorous sustainable building program in the world. In the words of International Living Futures Institute (ILFI), LBC is “a philosophy first, an advocacy tool second, and a certification program third.”

As a certification program, it defines the most advanced measure of sustainability—providing a framework for design, construction and the symbiotic relationship between people and all aspects of the built environment. Our Portland studio project attained certification in the Materials Petal, in addition to the Place, Equity and Beauty Petals. We also fulfilled the imperatives from the Health & Happiness Petal.

**WALK THE TALK:  
PLACE**

A street level connection had been part of our office culture for 20 years and maintaining a strong linkage to the surrounding neighborhood was a non-negotiable characteristic of site selection. This aspect was surprisingly difficult to find. After many months of searching, we fell in love with an existing metal stamping shop in an 80-year old building in the Central Eastside of Portland, Oregon. **By occupying an existing building, we helped preserve the history of our city and avoided creating additional embodied carbon associated with a new building, therefore aligning with our values at the project outset.**







Our Community Room is available to local non-profits for meetings, lectures, and social events.

### WALK THE TALK: MATERIALS

Over 350 unique materials were vetted during the design of our new studio, resulting in the use of 31 Declare label, 77 Material Inventory, 74 Letter of Affidavit, 40 Due Diligence, and 8 Salvaged materials. In addition, all regulated materials were screened for VOC emissions testing compliance and over 40% of all the materials for the project were sourced from within 500 km of the site.

We also looked at materials beyond traditional LBC scope for compliance with the Red List whenever possible, including fasteners, coatings, and FFE. In addition, all wood used on the project was either salvaged or FSC certified. Nearly all the new FSC wood was sourced from the state of Oregon. The result was an exemplary use of Declare label products utilizing a total of 31 labeled products amounting to ~38% by cost of all materials used on the project. By specifying Declare products, we are helping revolutionize the material industry.

### MAINTENANCE OF MATERIALS

All materials and products selected for this project were chosen for their durability, long life span, and ease of maintenance. If, in the future, any material or product needs to be replaced or modified, the replacement product must meticulously be vetted through the five layers of transparency (see Manifesto above) to ensure and maintain the healthy work environment.



### BIOPHILIA

Windows comprise nearly 50% of our perimeter walls, bringing a wealth of daylight and views – but also a challenge: how can we celebrate this new bounty of sunlight while providing a sense of security from those passing along the building? Our solution? Plants strike the right balance of creating a sense of security while not eliminating light and views.

## MATERIALS TRANSPARENCY MANIFESTO

Below are all the materials currently used in our office, all of which have been meticulously vetted through at least one of the following five layers of transparency that ensure a healthy work environment:

### DECLARE LABEL

The gold standard for “nutrition labels” for building materials, Declare Labels clearly indicate whether a product is eligible for inclusion in Living Buildings and which Exceptions apply, if any. No additional documentation is required.

### MATERIAL INVENTORY

A material inventory is when a manufacturer has provided a signed and dated ingredients list with 100% of the ingredients disclosed down to 100ppm. All ingredients must include a Chemistry Abstract Services (CAS) number and must be listed as a percentage of the whole.

### LETTER OF AFFIDAVIT

A letter from a manufacturer stating that a product does not contain Red List ingredients.

### DUE DILIGENCE

There are instances when Red List ingredients are either unknown, or unavoidable. Teams must prove they have researched alternatives by providing documentation that they have reached out to at least three competing manufacturers. In addition, teams must advocate to the selected manufacturer for elimination of the Red List ingredients from their product.

### SALVAGED

Diverting building materials from the landfill by reusing them on new projects is encouraged. Salvaged materials cannot have Red List materials as the primary ingredient or create a secondary market for Red List materials.

All products in this office must comply with the Living Building Challenge (LBC) v3.1 project certification standard. Materials may not intentionally include 22 of the worst-in-class offenders (also known as the Red List) for human and ecosystem health:

Alkylphenols / Asbestos / Bisphenol A (BPA) / Cadmium / Chlorinated polyethylene / Chlorosulfonated polyethylene (CSPE) / Chlorofluorocarbons (CFCs) / Chlorobenzene / Chloroprene (neoprene) / Chromium VI / Chlorinated Polyvinyl Chloride (CPVC) / Formaldehyde / Halogenated flame retardants (HFRs) / Hydrochlorofluorocarbons (HCFCs) / Lead / Mercury / Polychlorinated Biphenyls (PCBs) / Perfluorinated Compounds (PFCs) / Phthalates / Polyvinyl Chloride (PVC) / Polyvinylidene Chloride (PVDC) / Short Chain Chlorinated Paraffins / Wood treatments containing creosote, arsenic or pentachlorophenol / Volatile Organic Compounds (VOCs) in wet applied products



### WALK THE TALK: EQUITY

When designing our new studio, it was imperative that the space be truly equitable for all employees, including our shortest and tallest staff members. Therefore, we focused on creating innovative workstations with sit-stand operability that were custom fabricated to service everyone, ultimately allowing for long-term flexibility and capacity fluctuations within the studio.

Producing our own custom workstations proved to be a consequential design decision. By taking on the design and overseeing the production of the workstations instead of specifying a Declare labeled manufactured system, we needed to construct mock-ups, tally an inventory of what was used, and ultimately track the production of the workstations through all five aspects of the Equity petal. In the end, the result is a huge win for the project and for the occupants.

ABOVE: Sit-Stand workstations


### MAINTENANCE OF WORKSTATIONS

If, in the future, additional workstations need to be installed, it is imperative that the station has sit-stand functionality and its location has equal access to outside views, daylight, and fresh air.




### BEAUTY


The entry sequence is an important design element since opening the door to a space is the first interaction one has with a building. We wanted this experience to feel human and celebrate a sense of place. Working with Salvage Works, we were able to acquire salvaged Doug Fir tongue and groove floorboards once used at Fort Vancouver. We also created a shelving system, affectionately dubbed the curio cabinet, that is filled with memorabilia of staff. It aims to greet each visitor with an introduction to who we are and what we value.



71  
TRANSIT  
SCORE



100  
BIKE  
SCORE



94  
WALK  
SCORE

DID YOU KNOW?

It was imperative that our new office location earn high mobility scores while also easing commute time for the majority of our staff.