

# GREC Architects on Designing a Mixed-Use Urban Landform

BY JESSICA MORDACQ NOVEMBER 2, 2022



The biggest challenge GREC Architects faced was balancing a new, high-density development with trying to remain a good neighbor to an adjacent, lower density neighborhood. This led GREC to include terraced patios in their design, bringing the building down to the street level. The project is a collaboration with Quanta Collective.

## Story at a glance:

**5 SE MLK BLVD was influenced by basalt columns in its design.**

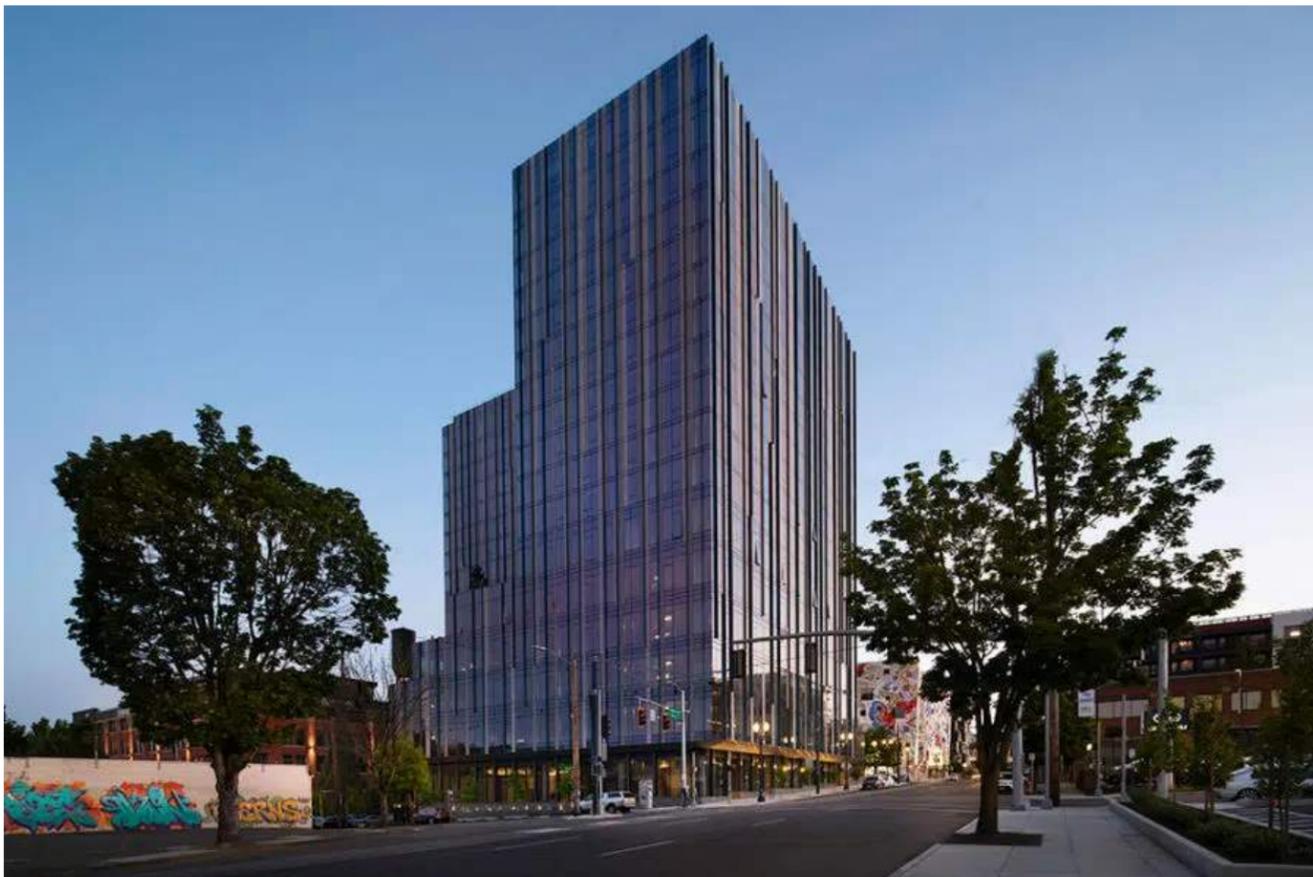
**GREC Architects designed the Portland, Oregon project to reconcile two forms.**

**“Urban landforms” are when design takes clues from the environment around it.**

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Burnside Street is one of Portland, Oregon’s main east-to-west thoroughfares, among the longest and busiest streets in the city. The historic Burnside Bridge sits where the road meets the Willamette River, its drawbridge designed by Joseph Strauss, who would become chief engineer of the Golden Gate bridge 11 years after finishing Portland’s.

The city’s prominent business district emerges on Burnside Bridge’s west side, and most everyone working there uses Burnside Street in their daily commutes. On the other side of the river, residential neighborhoods start cropping up, along with Portland’s old warehouse district, now transformed into breweries, restaurants, and shops. Also on the east side of the river is 5 SE MLK Boulevard—a 450,000-square-foot, mixed-use structure designed by GREC Architects. “We are a gateway to the eastside of Portland,” says Don Copper, managing principal at GREC.



The mixed-use 5 SE MLK Boulevard in Portland has offices on its lower levels and residential spaces on the top floors. The outside of the building’s panels pay homage to nearby volcanic basalt cliffs. Photo by Quanta Collectiv

The lower five levels of the building serve as 100,000 square feet of commercial office space, each with a private landscaped terrace and river and downtown views. Above them are 11 floors of 230 apartments. The sixth floor, between the office and residential levels, consists mostly of amenities available to everyone in the building, like another outdoor terrace, a conference center, fitness space, yoga studio, locker rooms, and dog wash and play area.

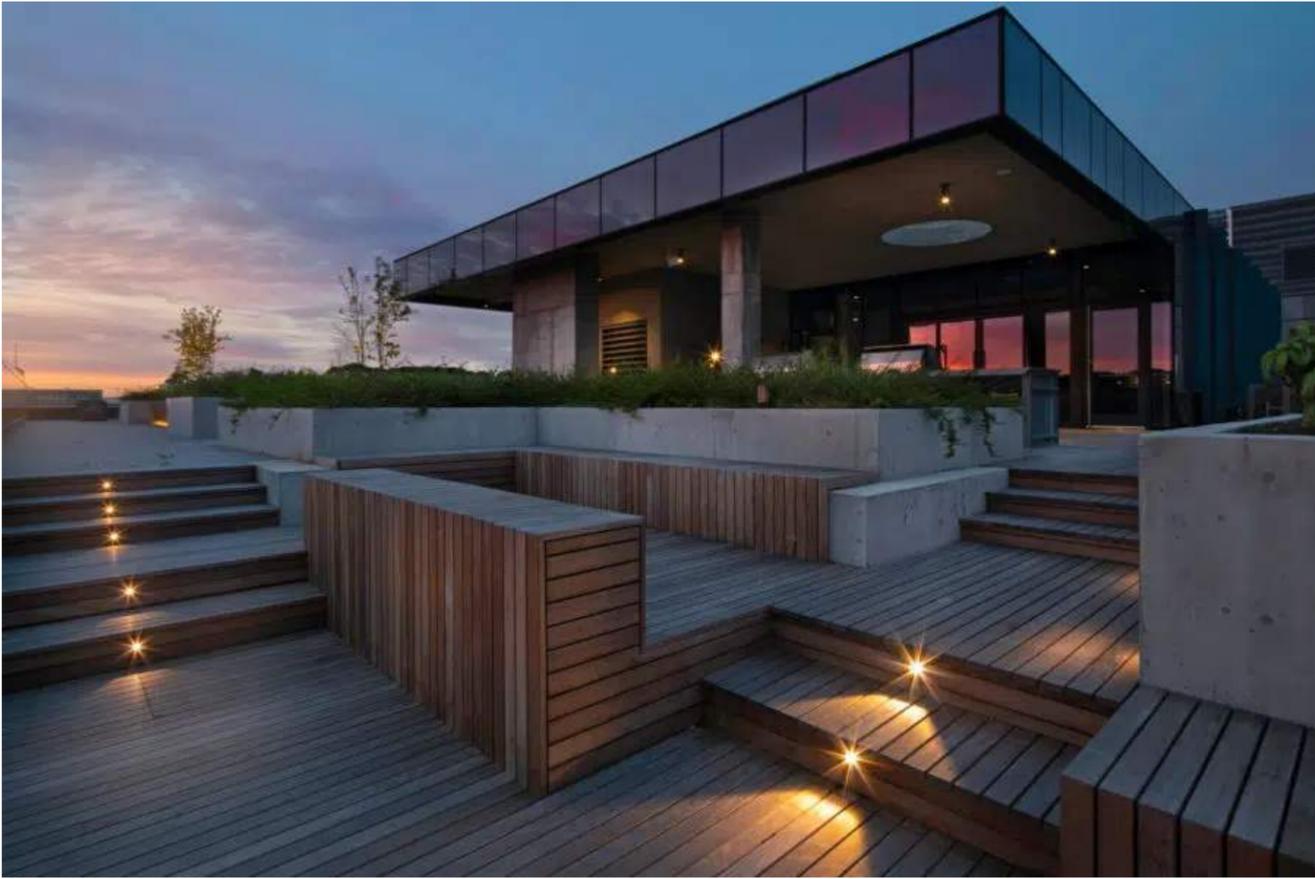


The two-story lobby at 5 MLK makes an impact on the intersection of East Burnside Street and SE MLK Jr. Boulevard. Because of its position on the busy streets, the lobby is one of the building's most energized spaces, frequented by workers and residents up to 20 hours a day, according to Don Copper, managing partner at GREC. Photo by Cheryl McIntosh

But creating a mixed-use space isn't structurally easy. Offices tend to require as much open area as possible to accommodate the maximum number of desks and cubicles. But in apartments, hallways with units on either side often create a square on every floor, with an elevator and staircases in the middle of the building.

"We had to somehow reconcile the two forms with each other," Copper says, adding that they had to do so in a way that was visually appealing from outside of the building. GREC carved away the edges of the office floors to create outdoor patios that waterfall down toward the river.

"When you're on this corner, though you perceive the tower, what you're really feeling as your streetscape is this three-story [terraced] space, keeping with the local scale," he says.



The 5 MLK Boulevard project has been certified for LEED Gold, Salmon Safe, and is the first mixed-use building in the US with a Fitwel certification, according to GREC Architects. Photo by Quanta Collectiv

The terrace also represents what GREC calls urban landform—when design elements take clues from the natural environment around them, like waterfalls and, in this case, rock formations emerging from vegetated riverbanks. “The Columbia River Gorge (15 miles outside the city center) has these beautiful cliffsides made from volcanic basalt that we wanted to try to reference in our facade treatment here.” GREC built up from the terraced, vegetated patios and glazed porcelain panels into the window wall to resemble basalt.

But these terraces aren’t just aesthetically pleasing. Because the Pacific Northwest gets so much rain, the building treats that water and returns it to Portland’s water system. Scuppers and downspouts spill rainwater from the above terrace into storage tanks on each level. The rainwater then percolates through four feet of soil in a catch basin, cleaning itself before going into an aquifer or the Willamette River. When it’s raining tenants can watch mini waterfalls spill from the terrace above into cisterns.



Cascading terraces at the 5 MLK building in Portland, Oregon. Photo courtesy of GREC Architects

Part of the building's LEED Gold achievement is seen in its natural ventilation in office spaces. The design team worked with engineers to install high-efficiency systems to achieve energy savings, particularly around water usage. All plumbing fixtures are low-flow, too. The mixed-use complex also reused materials already onsite from the previous building in minor elements of this structure. GREC saved columns and beams from the previous timber construction plant, reusing them as furniture inside 5 SE MLK.

Of course, the terrace and its role in wastewater treatment also helped the building achieve LEED Gold. Plus it contributed to its Salmon Safe certification, given for treating rainwater before diverting it back into the environment. 5 SE MLK is the first urban, mixed-use building to receive Fitwel honors, according to GREC. "The terrace concept triggered the urban landform concept, which guided most of our design decisions subsequent to that," Copper says.



5 SE MLK Boulevard is comprised of 11 floors of rental residences above five levels of commercial office space, each with private landscaped terraces. The building lobby and amenities are shared by both. Photo by Quanta Collectiv

The lobby's porcelain tile floor, for example, was meant to be basalt to reflect Portland's surrounding volcanic landscape but was too expensive. Instead GREC incorporated basalt into one of the lobby's walls in hexagonal columns to reflect the natural way basalt forms when it cools. The first office level overlooks the lobby, semi-screened with cut pieces of wood, simultaneously providing privacy and resembling the region's mountainous terrain.

### **Project Credits:**

Project: 5 SE MLK BLVD  
Location: Portland, OR  
Completion: December 2021  
Size: 450,000 square feet  
Architect: GREC Architects  
Developer: The Green Cities Company  
Structural Engineer: KPFF Consulting Engineers  
MEP/FP Engineer: GLUMAC  
Civil Engineer: KPFF Consulting Engineers  
Landscape Designer: PLACE  
Lighting Designer: Charter Sills  
General Contractor: Hoffman Construction  
Certifications: LEED Gold, Salmon Safe, Fitwel

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