

# Bullitt Center

## Hycrete Waterproofs the World's Greenest Commercial Building



### HYCRETE WATERPROOFS CERTIFIED LIVING BUILDING BUILT TO LAST 250 YEARS

<b>Structure:</b> office, education facilities and below grade parking	
<b>Applications:</b> perimeter shotcrete walls, water tanks, and elevator pits	
<b>Developer:</b> Bullitt Center Foundation	<b>Architect:</b> Miller Hull
<b>General Contractor:</b> Schuchart Construction	<b>Engineer:</b> PAE Consulting Engineers
<b>Concrete Contractor:</b> LAB Construction	<b>Ready Mix Provider:</b> Cadman

#### Introduction

Bullitt Center is a six-story office building with one level of below-grade parking in Seattle, WA designed by Miller Hull and built by Schuchart Construction. The project owner and designer meet the goals of the Living Building Challenge,™ a rigorous building certification program for sustainable design and construction. The building was designed to produce as much electricity as it uses plus supply and treat all of its own water, capturing rainwater in a 56,000-gallon tank. The structure is designed to be self-sufficient, with a life expectancy of 250 years (versus a 40-year life span typically used in appraising commercial buildings).

#### Challenge

The below-grade parking level is in the water table and required a warranted solution, capable of protecting the garage from water infiltration and damage. As a part of the Living Building Challenge,™ it is also important that the solution contributed to the environmental goals of the project, including using materials that are not hazardous. In order to achieve a 250-year building life, the designer required a solution proven to provide long-term protection that would reduce required maintenance over the building's life.

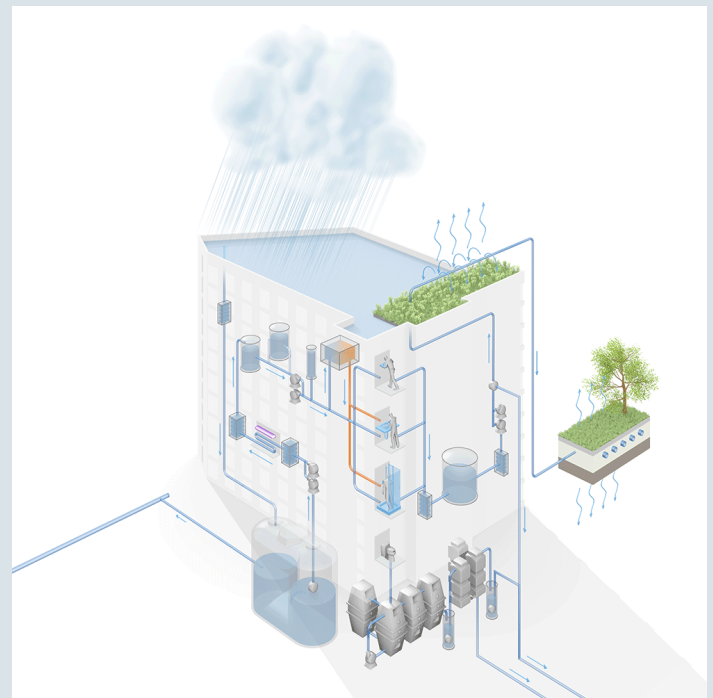


## Solution

Miller Hull selected Hycrete to waterproof the below-grade walls, water tank, and elevator pits because Hycrete provides superior waterproofing protection. Hycrete's solutions provide protection in the concrete and are as durable as the concrete itself. Hycrete's waterproofing solution is backed by an industry-leading performance warranty and was used in conjunction with a waterproofing membrane. In addition, Hycrete's admixtures are Cradle to Cradle Challenge™ Gold and safe for use in potable water tanks – critical for the long-term reuse of water in the building.

## Result

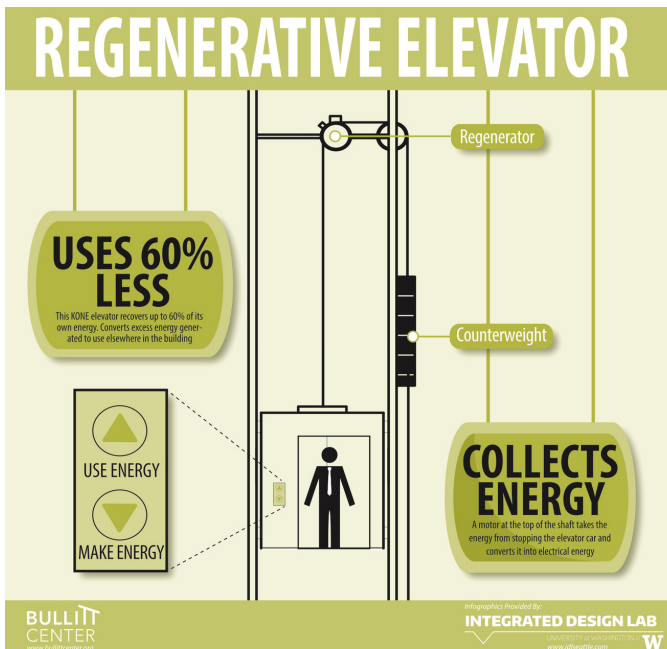
Bullitt Center is water-tight and backed by a Hycrete waterproofing performance warranty. And by using Hycrete, the project owners were able to pursue the objectives of the Living Building Challenge™. The Bullitt Center is now widely considered the greenest office building in the world. The project was completed in 2013.



## Building Feature

### Regenerative Elevator

The Bullitt Center includes a regenerative elevator that converts kinetic energy from braking into useable electricity, saving 60% of typical electrical use. The designer selected Hycrete to waterproof the elevator pit, a potentially challenging area to waterproof because of the complicated detailing involved, to protect the elevator shaft from moisture infiltration.



## Building Feature

### Rainwater Harvesting

The Bullitt Center is designed to operate with "net-zero" water, and rainwater harvesting is important to achieving this goal. Rainwater is captured onsite in a 56,000-gallon concrete cistern in the basement. Water is funneled through a filtration system, with the objective of feeding "ultra-filtered" water to a "day-use tank" holding clean, potable water as well as to other parts of the site for non-potable use. Hycrete was used to waterproof the concrete cistern, ensuring long-term performance. By using Hycrete admixtures, which are Cradle to Cradle Certified and safe for use in potable water applications, the designer was able to achieve a watertight design in a potable application.

