

# Building for a Net-Zero Future at Boston University



**ECO Pact**  
The Green Concrete

In the heart of Boston University's central campus, a new Computing and Data Sciences Center like no other is rising. Designed by KPMB Architects as a platform for innovation and collaboration, the iconic building starts with a four-story base topped by floors slightly placed off center so that the structure resembles a stack of books. The 19-story vertical campus will consolidate the mathematics, statistics, and computer science departments under one roof to further interdisciplinary research in data sciences.

The innovative design of the dramatic learning center is essential to meeting Boston University's climate action plan of net zero emissions by 2040.

The 100 percent fossil fuel-free and zero net energy facility will rely on geothermal wells for heating and cooling, solar and wind renewable energy for electricity, and many other sustainable elements. Encompassing 350,000 square feet, it will be the largest carbon-neutral building constructed in Boston since the city's climate action plan update in 2019.



## THE CHALLENGE

In support of Boston University's climate action ambitions, the project team is committed to incorporating exemplary levels of sustainability throughout the construction of the signature building, which is anticipated to open in 2023.

With concrete representing a significant portion of the structure, the use of eco-friendly high-performance mixes was of paramount importance to minimize the environmental footprint.

The challenge was to come up with ideal sustainable concrete solutions for the wide range of construction applications while attaining the best possible balance in meeting the project's structural performance and constructability goals.

With the job site located on one of the busiest thoroughfares in Boston, logistical problems needed to be addressed to ensure continuous on-time deliveries from off-site concrete batch plants, as well as maintaining social distancing within the work zone to keep crews safe during the COVID-19 pandemic.

## THE SOLUTION

With sustainability being a high priority for the university, the Computing and Data Sciences Center project offered an ideal opportunity for using ECOPact green concrete—the industry's broadest range of low-carbon concrete mixes for high-performing, sustainable, and circular construction.

Incorporating a high level of supplementary cementitious materials to lower clinker content, custom-designed ECOPact mixes significantly reduce the carbon footprint of a project while providing equal or better performance than conventional concrete. For the new university tower, the team developed two proprietary ECOPact products containing 20 percent recycled materials. These innovative mixes were designed to reduce the global warming potential (GWP) by about 30 percent compared to standard concrete.

To ensure all concrete pours went smoothly and safely, the team depended on Holcim's ConcreteDirect digital project coordination tool throughout the construction process. This transparent and real-time mobile application is a simple way to manage concrete orders, track the progress of ongoing deliveries to the job site, and provide touchless ticketing to help work crews keep their social distance.



## THE RESULT

**“Boston University’s reliance on the ECOPact green concrete to help reduce the environmental footprint of this iconic new building demonstrates their strong commitment to reducing carbon emissions and making their communities more sustainable.”**

Ryan McCormack  
Sales Manager  
Holcim

In late 2020, Holcim’s US ACM Northeast region partnered with S&F Concrete and Suffolk Construction to plan and execute North America’s largest ECOPact pour to date. It was critical that the pours be continuous to ensure that the massive foundation for the building was free of imperfections.

Starting in the early morning hours of December 5, 60 ready-mix concrete trucks continuously delivered an impressive 4,200 cubic yards of ECOPact over 15 hours. Throughout this enormous operation, ConcreteDirect was instrumental in ensuring just-in-time deliveries of more than 400 truckloads of concrete and providing real-time emission savings—totaling 350,000 kilograms of carbon dioxide reductions. It also allowed everyone to perform their tasks independently and safely on the job site.

Even more impressive is that the ECOPact green concrete mixes used in the project offered the university a 30 percent reduction in carbon dioxide emissions when compared to traditional concrete. This is the equivalent to taking 50 average passenger cars off the road for one year.

“With innovative product and digital process solutions, the project team was able to successfully execute one of the largest and most sustainable pours Holcim has ever done,” said Ryan McCormack, sales manager for Holcim. “Boston University’s reliance on the ECOPact green concrete to help reduce the environmental footprint of this iconic new building demonstrates their strong commitment to reducing carbon emissions and making their communities more sustainable.”



Learn about ECOPact at  
[www.holcim.us](http://www.holcim.us)

