Project Description

From the outset, JCVI—a biological laboratory engaged in genomic research—was designed to be environmentally friendly, from its materials selection to its achievement of net-zero-energy status, the first biological laboratory in the world to do so.

The exposed architectural concrete on the building’s exterior was essential to the desired look, yet posed one of the greatest structural challenges for the building team. Architectural as-cast concrete is one of the most demanding concrete finishes, but adding 30% fly ash to meet LEED Platinum standards gave the process an additional challenge. During initial testing, the fly ash composition produced a marbling effect, making it challenging to create the intended aesthetic quality of the exposed concrete walls.

To ensure the desired aesthetics of the architectural concrete, McCarthy performed all of the concrete work, drawing on the expertise of the same concrete specialists who developed a pioneering concrete mix and installation procedure for the nearby Salk Institute East Building. Similar to the Salk Institute project, the concrete craftsmen created several generations of mock-ups to refine the mix design and fine-tune the finishing and forming techniques to produce the concrete’s smooth and flawless finish.

McCarthy ultimately performed all the concrete work, including the concrete walls, columns, footings, slab on grade, slabs on metal deck, and podium deck. Use of 30% fly ash in the architecturally exposed concrete walls, columns, footings, slabs, and podium deck contributed to the LEED credits in the category of recycled content—and its eventual certification at the Platinum level.