

# ENR California

2022 California Best Projects

## Award of Merit – Office/Retail/Mixed-Use: Lilia Waikiki

By Greg Aragon



*Photo courtesy of Brookfield Properties Development*

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The 28-story, mixed-use Lilia Waikiki is the first building in Hawaii to achieve the Fitwel Certification, a green building certification system focused on improving, enhancing and

**Lilia Waikiki**

**Honolulu**

**AWARD OF MERIT**

safeguarding the health and wellbeing of tenants and residents in office buildings, multi-family residential buildings and retail space.

Waikiki is the number one tourist destination in Hawaii and building there, with so much auto and pedestrian traffic, can be a logistical nightmare. On top of this, soil conditions made it difficult for crews to install the auger-cast piles as originally designed. To overcome this, the project team worked closely with engineers and specialty subcontractors to extend the

schedule and relocate the piles to mitigate voids while meeting the project's structural needs. In the end, the project needed the same amount of concrete underground as it did above ground.

Contractors used Bluetooth-enabled SmartRock temperature sensors placed in the post-tensioned suspended slabs to monitor concrete curing temperatures. To meet the construction cycle, high early breaks were essential to begin stressing the post-tension tendons the day after the pour. The project team worked with the structural engineer to create strength curves for the concrete based on temperature and break data. Once the engineer was satisfied with the data and the curves, the team could rely solely on the temperature readings to confirm concrete strength. They did not have to wait for a test lab to break cylinders and report the data to the engineer. This shaved hours off each pour cycle and saved on lab costs associated with each cycle.

**Submitted By: PCL Construction**

**Owner: Brookfield Properties**

**Lead Design Firm/Architect: SBC;  
Benjamin Woo Architects**

**Contractor: Nordic PCL**

**Civil Engineer: R.M. Towill Corp.**

**Structural Engineer: Magnusson  
Klemencic Associates**

**MEP: Notkin Hawaii, Inc.**

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