

# Cal State University, Sacramento – Award Winner with a Vision

• By Jeff Pinyot



Located at the main entrance of the campus, Cal State University, Sacramento's new Parking Garage 5 has been given four prestigious awards for its innovative design and sustainable features. Those awards include:

- Sustainable Parking Garage of the Year – National Parking Association
- Best Project Delivery – California State University system
- Best Concrete Structure – American Concrete Institute, California chapter
- Design Award/Sustainability – Precast Concrete Institute

In parking garage design, there are two schools of thought, pre-cast or cast-in-place. The benefits can be debated, however, builder Clark Pacific in West Sacramento, California, is clearly a master of precast. When visiting their massive projects, it's easy to see their commitment to state-of-the-art design and off-site construction methods.

Not afraid of big challenges, Clark Pacific provided all the precast for Apple's headquarters, Apple Park, for both the one mile in circumference office building and the two, quarter mile long parking structures. Apple Park is one of the largest pre-cast concrete projects in the world.

Sustainable features of the CSU Sacramento project included using local materials and manufacturing the structural system and façade near the project that resulted in reduced material waste. One of its most prestigious recognitions is the targeted and anticipated earning of Park Smart Gold certification by the United States Green Building Council.

At the entrance of the parking structure, several industry firsts are revealed that include revolutionary new technologies that the campus has embraced with open arms.

## Positioning one fixture down the center will result in an average fixture count reduction of about 40 percent.

Despite huge advances in lighting technologies with the advent of LED that include better control of traditionally hard to manage light output, many new structures are still using two light fixtures in parallel down the drive lane of a parking garage. Designers talk of the need for redundancy and even distribution.



With LED light fixtures specifically designed for a wide spread type II distribution in the 60+ foot wide span now available, only a single row of light fixtures is needed down the center of the drive lane in order to fall within the IESNA lighting requirements of a parking structure.

One fixture down the center provides easy access for repair and illuminates the most critical parts of the garage the best (pedestrian and vehicular paths). And light output isn't blocked by vans or SUVs, and it's the perfect location to house an integral Parking Guidance System (PGS).

Let's make sure the air is clear on a couple of items before we move on. As for redundancy, with one fixture down the middle at 80 or 100 watts at full output, even taking every other fixture down in simulation of a massive outage, the garage is still within IESNA lighting levels.

Also consider the (un)likelihood of failure. Old Metal Halide and High-Pressure Sodium lights did fail. Not so with new high-quality domestic LED parking fixtures. Parking garages with these new fixtures can go literally months or years without a single failed fixture and it can be fixed in minutes should one go out. Also consider before we had key-FOBs that today we press to unlock our car doors, we used to use an actual key to unlock our doors and our vehicle key holes needed to be illuminated well, thus another old reason to put fixtures close to vehicles.

The new norm, one type II (wide) distribution down the center of a parking structure saves money in fixture cost as

*Continued on page 38*

## Cal State University, Sacramento – Award Winner with a Vision

*Continued from page 36*

well as in installation costs, with greatly reduced conduit, power wiring, and less labor. Positioning one fixture down the center will result in an average fixture count reduction of about 40 percent overall.

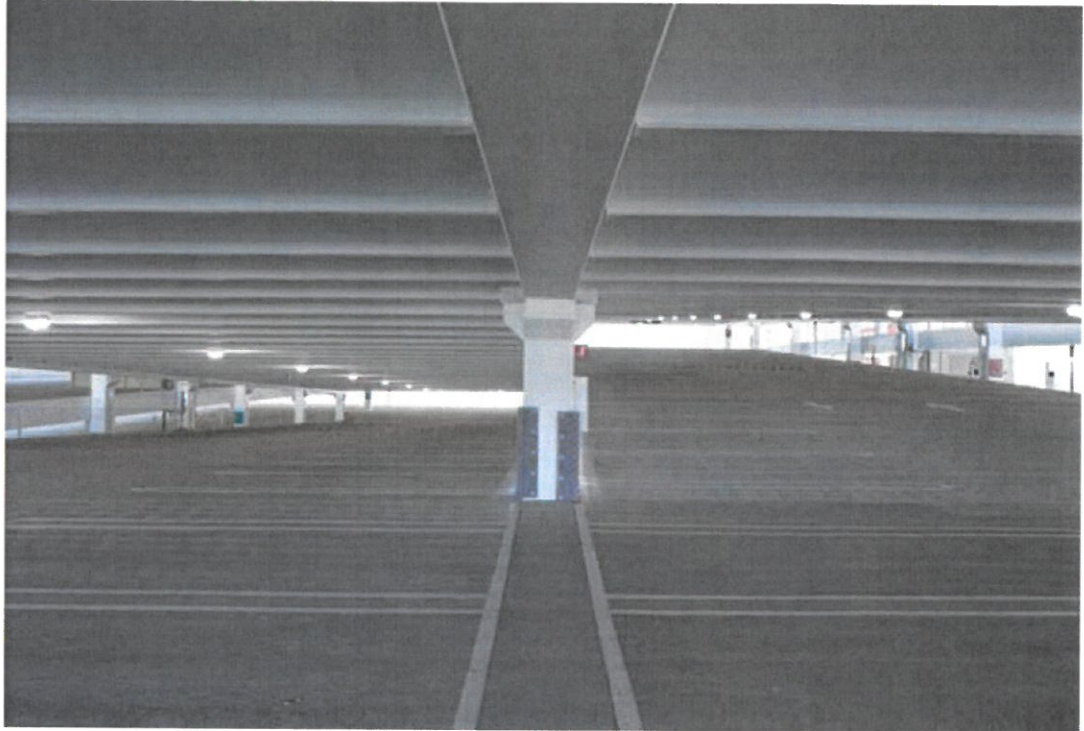
Clark Pacific and CSU Sacramento recognized the benefits of the single fixture and embraced it on this project, using 80-watt fixtures down the center of the drive lanes. That's an 80 percent energy savings from the way lighting used to be done with dual 175-watt HID's.

Another new technology that the owner was presented with, was an opportunity to integrate a Parking Guidance System into their new light fixtures. After receiving the price add from Clark Pacific and comparing it to other methods that they were considering for keeping vehicle counts, the owner felt that the value proposition was excellent and proceeded to add the ECO Falcon Vision option to the ECO FlexTech LED type II light fixtures.

By integrating the PGS into the light fixtures, the entire lighting system now fell under control of the PGS and the Falcon Vision became a lighting control system that was approved by the state of California to meet the Title 24 lighting control compliance.

Using vision as its method of control, the on-board cameras (integrated into the light fixtures), recognize an open space versus an occupied space. They also recognize vehicular and pedestrian motion to advise the lights to go to full output upon motion and to report to the LED indicators located on the bottom of the light fixture as to space availability through color changes.

The onboard Falcon Vision system is also the world's first wireless camera based PGS system. The PGS came pretested, factory mounted, and integrated into the light fixtures so the installing contractor didn't experience any additional installation cost of the lighting portion of the project. The system does require the creation of a private and secure WiFi network in the garage through a Gateway and a series of wired and wireless Access Points.



Another feature that the university liked was the image capture stored onboard as video for forensic use should it become necessary to review negative activity inside the parking structure.

T2 Systems is working with the university to publish the parking availability by category (attribute) on the university's website through their T2 Flex package.

**JEFF PINYOT** is the CEO of Eco Parking Lights. He can be reached at [jspinyot@ecoparkinglights.com](mailto:jspinyot@ecoparkinglights.com)

### INDIANAPOLIS, HOTBED OF PARKING INNOVATION

Innovation in parking is a quiet, but steady part of the Indianapolis community. At least two were involved in the Sacramento project, T2 Systems and Eco Parking Technologies. But other significant players in the industry call Central Indiana home. Parker Video Intercoms, Denison Parking, Flexware Innovation, Evans Time, Walker Consultants, WGI, Kimley-Horn, and others are all major influencers in the parking industry and all reside in the Indianapolis metro area.

**PT**