

LD+A

LIGHTING DESIGN and APPLICATION

White Light Mismatches
Façade Rescue in Detroit
Jobs Roundtable

There's More
To This **Bridge**
Than Meets
The **Eye**



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Photo: Brad Nelson

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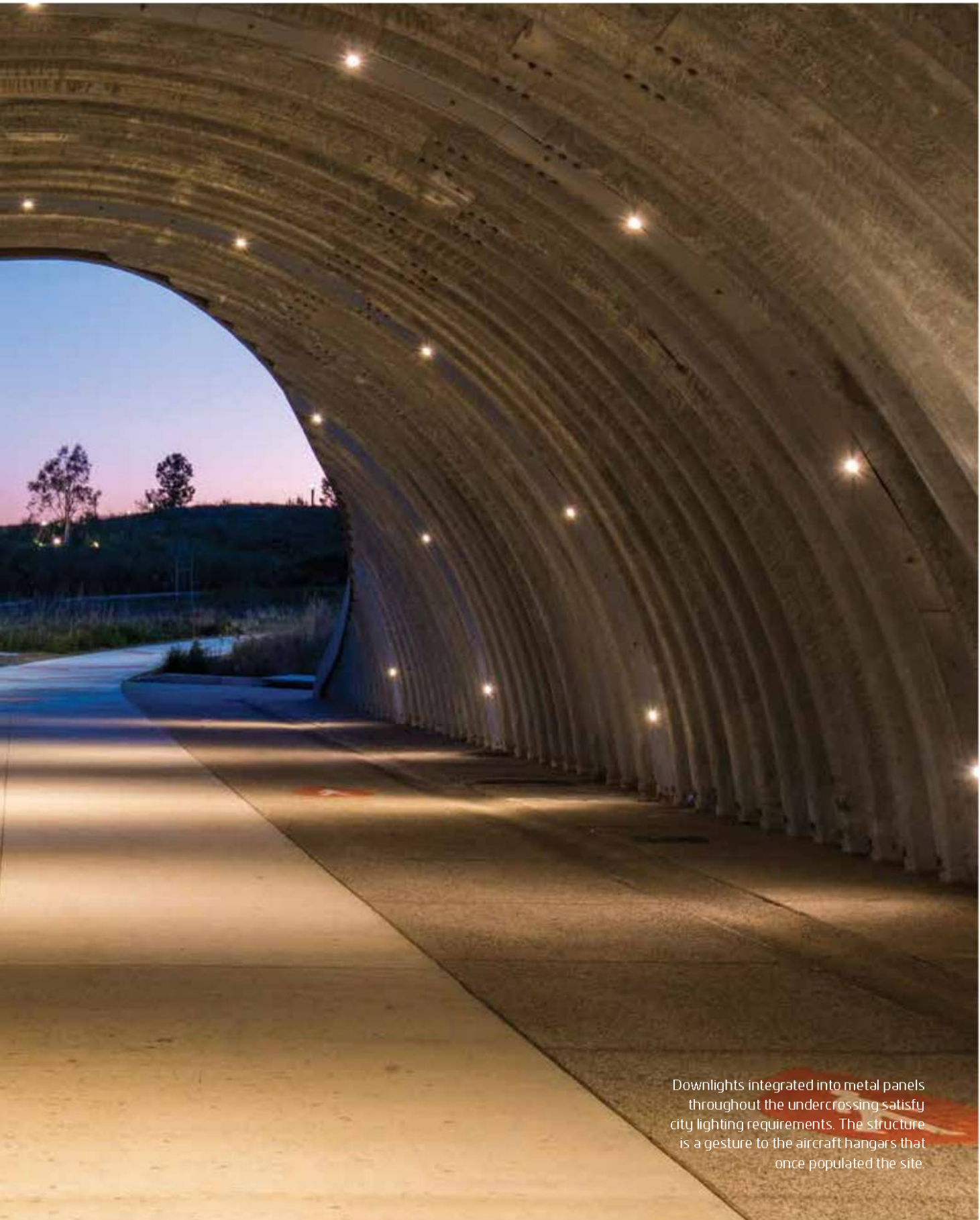
On The Cover

As a gateway to the city of Montreal, the Samuel De Champlain Bridge is an architectural treat for the city and a navigational aid for the birds overhead (p. 24). Photo: Lauren Davis/Feinknopf Photography

SAFE LANDING

A minimalist design that plays off the past helped transform a former air base into a memorable landscape for outdoor enthusiasts

By Katie Nale



Downlights integrated into metal panels throughout the undercrossing satisfy city lighting requirements. The structure is a gesture to the aircraft hangars that once populated the site.



Beaches, sunshine and surfing are among the first images that come to mind when one mentions Southern California, but there is more to the region than just its celebrated coastline. Good weather year-round encourages various forms of outdoor activities like walking, running and biking—all of which promote an awareness of the state's unique wildlife alongside healthy living. The Great Park Trails in Irvine are no exception, with the Upper Bee and Bosque bike and pedestrian trails winding through a 53-acre site intended to connect visitors with the southern California landscape. "The goal of the project was to create a natural relief in an otherwise suburban city while keeping its impact to the area extremely low," says lead lighting designer Brad Nelson of local firm StudioK1.

Developed with crushed concrete from the runways of the Marine Corps air base that previously occupied the area, the trails wrap around rolling hills and valleys featuring California-native species of plants and the wildlife they beckon. Between June 2015 and the park's opening in June 2019, Nelson crafted a minimalist design using uniform light levels across various areas of the park. Rather than creating a

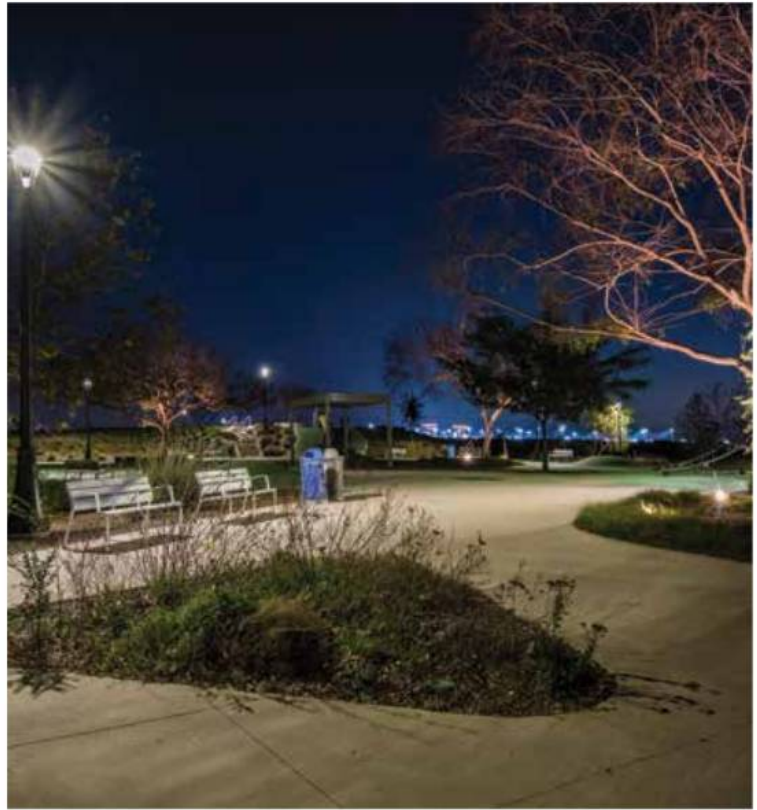
Pedestrian poles illuminate the hardscape surfaces with minimal spill light and relatively tight uniformity.

homogenous look throughout the park, the lighting enhances the diversity of its landscape. "We wanted there to be moods, contrast and identifying features throughout the parks that make them visually interesting," says Nelson.

A notable feature of the park (which is divided into four segments by major roadways) are the three half-domed undercrossings that lead the paths below the busy car-filled streets. "The undercrossings posed a design challenge because the goal was to create something completely different," recalls Nelson. Constructed out of large culvert-like metal structures, the undercrossings integrate core drill downlights at a regular patterned interval to mimic the appearance of the nearby historical airfield hangars.

Beyond the undercrossings and along the trails, pedestrian poles illuminate the hardscape surfaces with minimal spill light and relatively tight uniformity. On a mission to select a trail fixture that was unobtrusive during daylight hours, yet highly functional at night, Nelson chose the Signify UrbanScape LED Post-Top to replace the previous high-pressure sodium "pumpkin heads."

Outside of the required trail illumination, lighting was used sparingly to accentuate the location and



create destinations that visitors could identify. “We subtly took advantage of the abundant landscape at night by focusing our lighting efforts on the heritage trees that were saved from the Marine Corps air base,” says Nelson. Soft illumination celebrates the trees as well as the playgrounds and sitting areas they surround. In keeping with the theme of minimalism, two simply constructed restroom facilities with soft linear illumination marry perfectly with the trail lighting.

The project was subject to Irvine’s Uniform Security Code, which mandates specific lighting levels be maintained for all outdoor, hardscaped areas for safety and security. These codes exceed the IES lighting recommendations, keeping in-line with Irvine’s reputation as one of the safest cities in America. “The City of Irvine requires a minimum of 0.25 footcandles with an average of 1 fc for all paved trail systems not directly serving buildings,” says Nelson, who also notes the city’s 1-fc minimum on all hardscape areas including parking, sidewalks, building entries and recreational areas. “Gaining the approval of the city required thorough documentation of photometrics, construction details, specification of long-life materials, and

Left:
Even the restroom was incorporated into the lighting plan: Soft linear illumination helps it blend in with the trail’s lighting.

Right:
Large heritage trees saved from the Marine Corps air base are illuminated to highlight the natural landscape.

ease of replacement to satisfy their needs as eventual owners of the park.”

The design also adheres to California’s 2016 Title 24 Energy Code and CALGreen regulations for outdoor lighting. “Meeting both the higher lighting levels with the restrictive energy codes drove the design toward maximum efficiency for trail lighting,” says Nelson, who notes other examples of sustainability on the project. “The design team we worked with was extremely driven to reduce, reuse and recycle whatever we could from the previous air base. Changing this area from a giant concrete series of runways into parks and sports fields is a dramatic transformation, but not displacing the concrete in landfills or destroying the existing trees is a big accomplishment in this climate.” ☺

At A Glance

- The project is entirely LED.
- The design strategy creates moods and contrast.
- The design earned a 2020 IES Illumination Award of Merit.

THE DESIGNER | Brad Nelson, Member IES, is a director at StudioK1.