



# SCALE FACTOR

**HUMANIZING A UNIVERSITY CAMPUS  
IN SPRAWLING MONTERREY.**

BY JONATHAN LERNER

SWA GROUP/JONNU SINGLETON



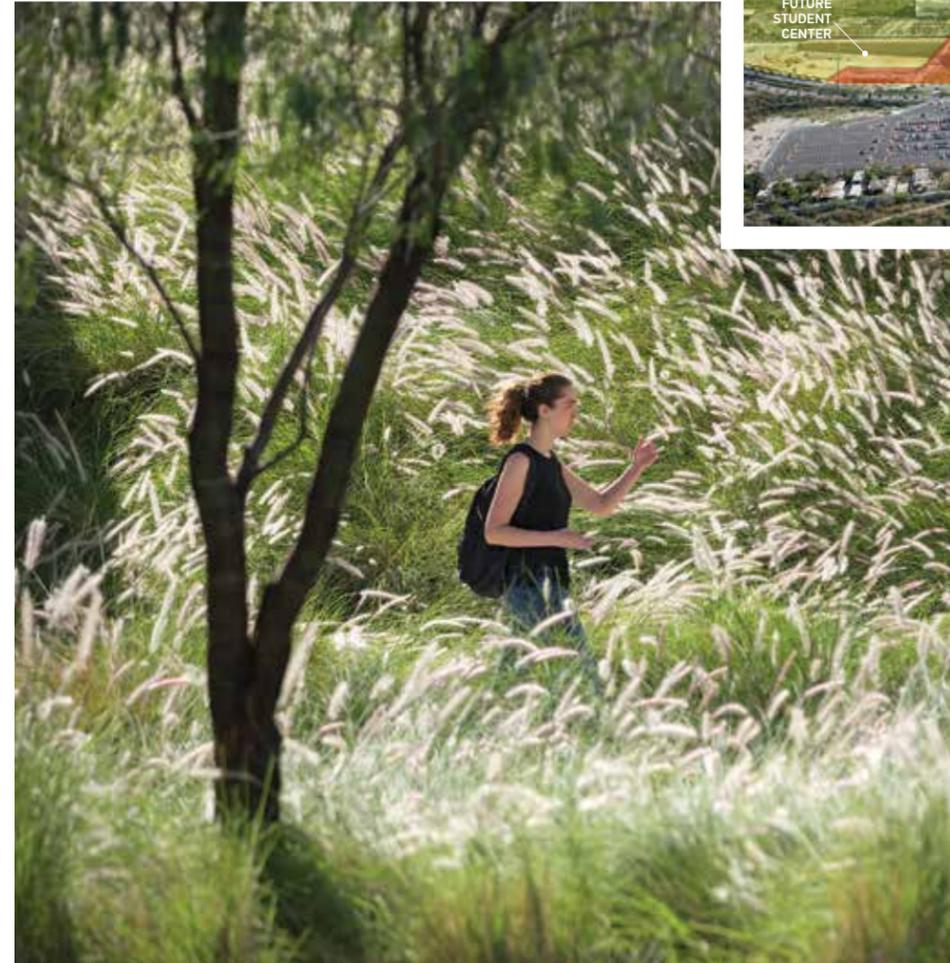
**ABOVE**  
SWA's first phase has softened the campus and made it kinder to pedestrians.

**D**IEGO GONZALEZ was driving through San Pedro Garza García, the poshest municipality in metropolitan Monterrey, one of the richest cities in Mexico. "When I was a kid, in the 1970s," he said, gesturing broadly through the windshield, "all of this was agricultural. I came here hunting rabbits." San Pedro is built out now. Its dominant typology is the single-family house, and its circulation patterns exist to serve cars, so it's not unlike any late 20th-century North American suburb, except that it has an orthogonal grid instead of a dendritic street plan. Also, almost every property is enclosed within a high security wall. Gonzalez's destination was the campus of the University of Monterrey (UEM).

UEM demarks San Pedro's narrow western border, at a point where lateral ridges off the soaring Sierra Madre mountains pinch close to the Santa Catarina River. West of the campus, where the valley opens out a bit, a new suburb is being developed; land prices there have quadrupled in the past decade. When the university campus was first established in 1981, "it was in the country," noted Gonzalez's passenger, René Bihan, FASLA. "Now they are landlocked. They have no choice but to be smart about how they infill." One of UDEM's smart choices was to hire the firm of which San Francisco-based Bihan is a principal, SWA, to create a landscape master plan for the campus. Gonzalez, whose Monterrey firm is Prohabitat, is his local collaborator.

The campus's problems reiterate Monterrey's sprawling urban form and reliance on cars. Nearly half of its 94 acres is surface parking. That consumes centrally located potential building sites and logical axes of circulation. SWA's landscape plan elaborates upon an earlier master plan by the architecture and engineering firm Page (formerly Page Southerland Page). Most of the parking will be relocated to the perimeter; much of it will go underground. That will free up space for infill construction and connective landscape intervention. SWA's goal, Bihan said, is placemaking that establishes "scale and engagement" and uses "regional expression." Those qualities should well distinguish the experience of UDEM from that of the rest of the city.

SWA GROUP/JONNU SINGLETON, TOP AND OPPOSITE BOTTOM



SWA GROUP, TOP

**LEGEND**

- Master plan scope
- Gate of Creation project site



**ABOVE**

In this aerial view from the west, the area surrounding the Centro Roberto Garza Sada is in red.

**LEFT**

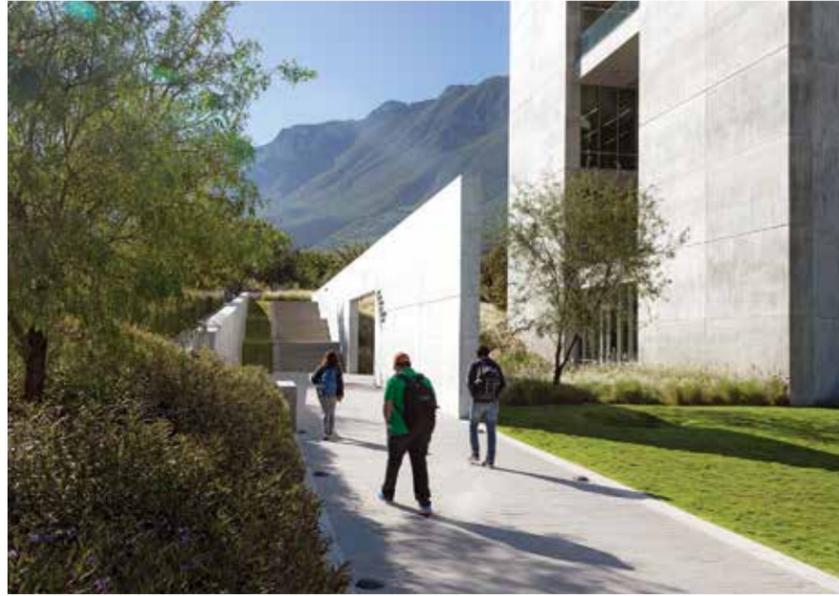
Native grasses and informal groves of trees are a central motif of the planting approach.

tom; no matter where you stand, there's a view. Just a mile and a half to the south, the escarpment of the Sierra Madre shoots up 1,000 meters over the bottom of the valley. Two and a half miles north, across the river, rises the even higher wall of the Cerro de las Mitras. Formed by tectonic uplift, not volcanism, these vertiginously steep exposed limestone

fins have an almost kinetic quality, as if they are just breaking through the earth's crust right now.

The first expression of the SWA plan has been put in place. It's the landscape surrounding the Centro Roberto Garza Sada (CRGS),

The plan will rely on native species, in relaxed sweeps of grasses and groves of trees, for example, to replace what's there—"lawns, and gardening with little shrubs and flowers," as Gonzalez characterized it. (Bihan said drily, "It's interesting, for a city like this, that they identify with the 'Home Depot landscape,' which is kind of this curator of the British landscape across the entire globe—boxwood, roses, privet.") And the SWA plan will acknowledge the magnificent setting. The valley floor is canted. The campus slopes an average of 10 percent from top to bot-



**ABOVE**  
Tucked between walls, this staircase alongside the Centro Roberto Garza Sada offers intimacy amid the dramatic topography.

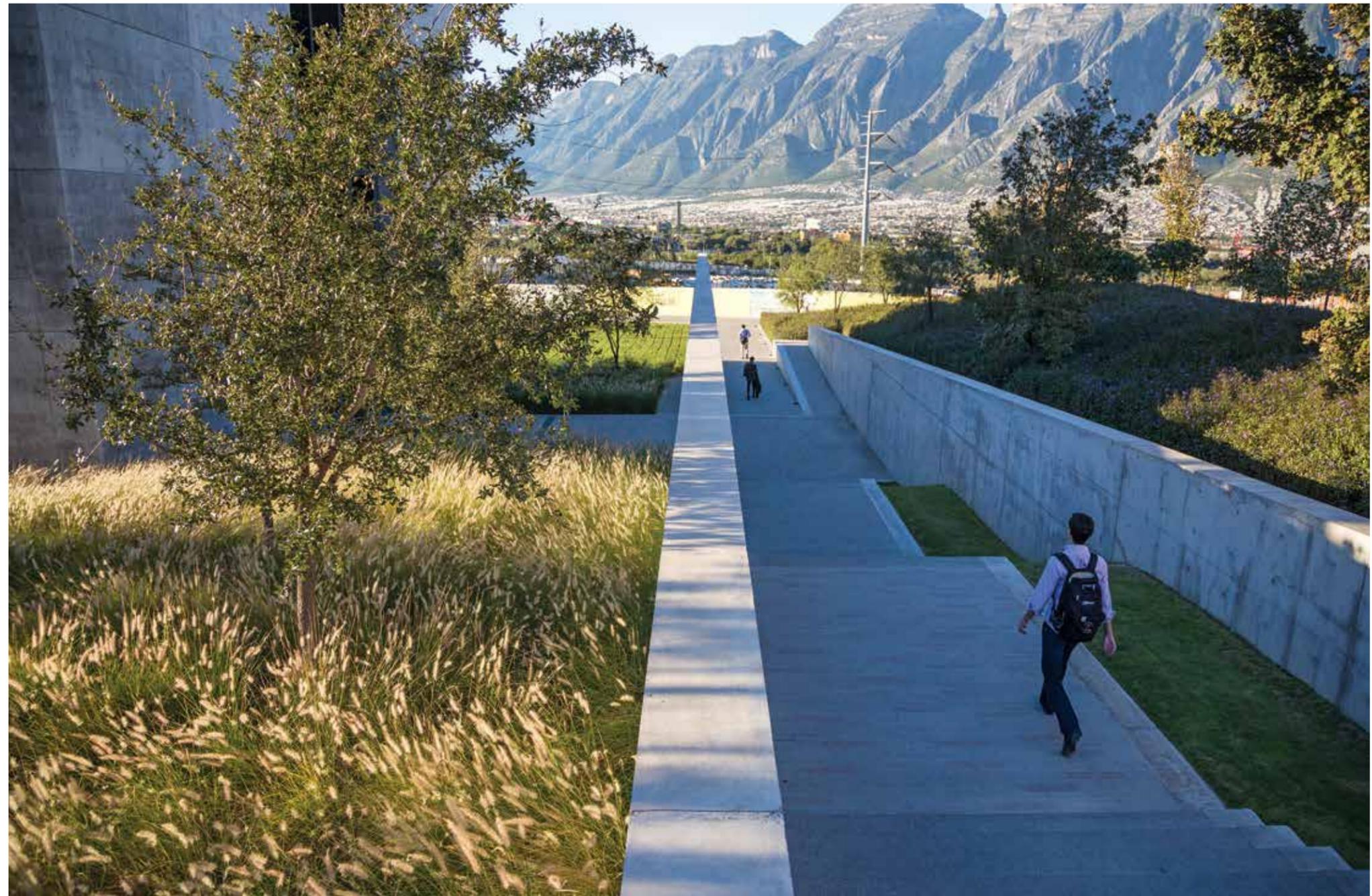
**OPPOSITE**  
The valley is framed by soaring, finlike ridges.

a monumental 2013 building designed by Tadao Ando that houses the university's design faculties. The building is a long concrete slab, slit with narrow ribbon windows and cut out underneath to form a low arch whose undersides are tightly pleated and oppositionally angled. It has a massive, sharp-edged quality similar to that of the mountains. (The CRGS is also called the "Gate of Creation," which sounds grandiose, but once you observe the studios upstairs where young people are busy learning things like graphic, interior, textile, and industrial design, it seems less so.) Surrounding the building and flowing beneath the arch are soft swaths of vegetation and a rather intimate plaza where students display their architecture

projects and sculptures. The arch frames dramatic vistas, but it also delimits them. It shades you from Monterrey's intense sunlight. And the softness and seeming randomness of the planting, a foretaste of what is envisioned as a predominant treatment for the campus, is a humanizing response to both the building and the surrounding topography, which together verge on the overwhelming.

The next effort toward implementing the campus landscape master plan is immediately adjacent: a plaza between the CRGS and a new student center currently under construction. This project embodies many of the complexities inherent in transforming the UDEM cam-

pus. Located where a boulevard forms the campus boundary, it incorporates a drop-off zone and the principal pedestrian entry. (The student center is being built over a parking deck sunk into the slope; vehicles will enter it on the other, downhill side.) At the plaza level,



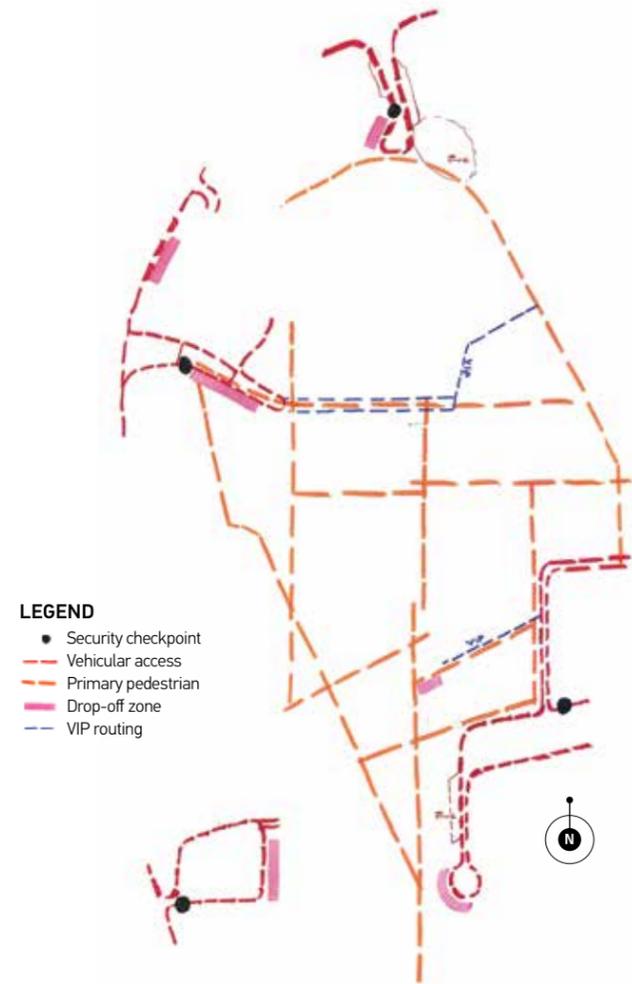
SWA GROUP/JONNU SINGLETON, LEFT AND OPPOSITE

the new building—actually, a cluster of pavilions looking more like a bit of a village than a single building—will include retail spaces such as restaurants, a bookstore, and a barber shop. These will be accessible to both the general public and the university community. And that's

a challenge, because access to the campus, as to many places in Monterrey, is controlled. (Security is an issue in the region because of drug trafficking but also, and especially in this affluent part of the city, because of opportunistic kidnappings for the purpose of extorting ransom.)

"The tricky thing is where you draw the security line," Bihan said. Plus, of course, the aesthetics of that barrier. SWA came up with a visually porous fence design, the elements of which actually but subtly form the letters of the acronym UDEM. Finished in a shiny goldenrod hue, it's distinctive,

CIRCULATION DIAGRAM



- LEGEND**
- Security checkpoint
  - - - Vehicular access
  - - - Primary pedestrian
  - - - Drop-off zone
  - - - VIP routing

**ABOVE**  
Early concept drawings of circulation (left) and the campus master plan (right).

MASTER PLAN SKETCH



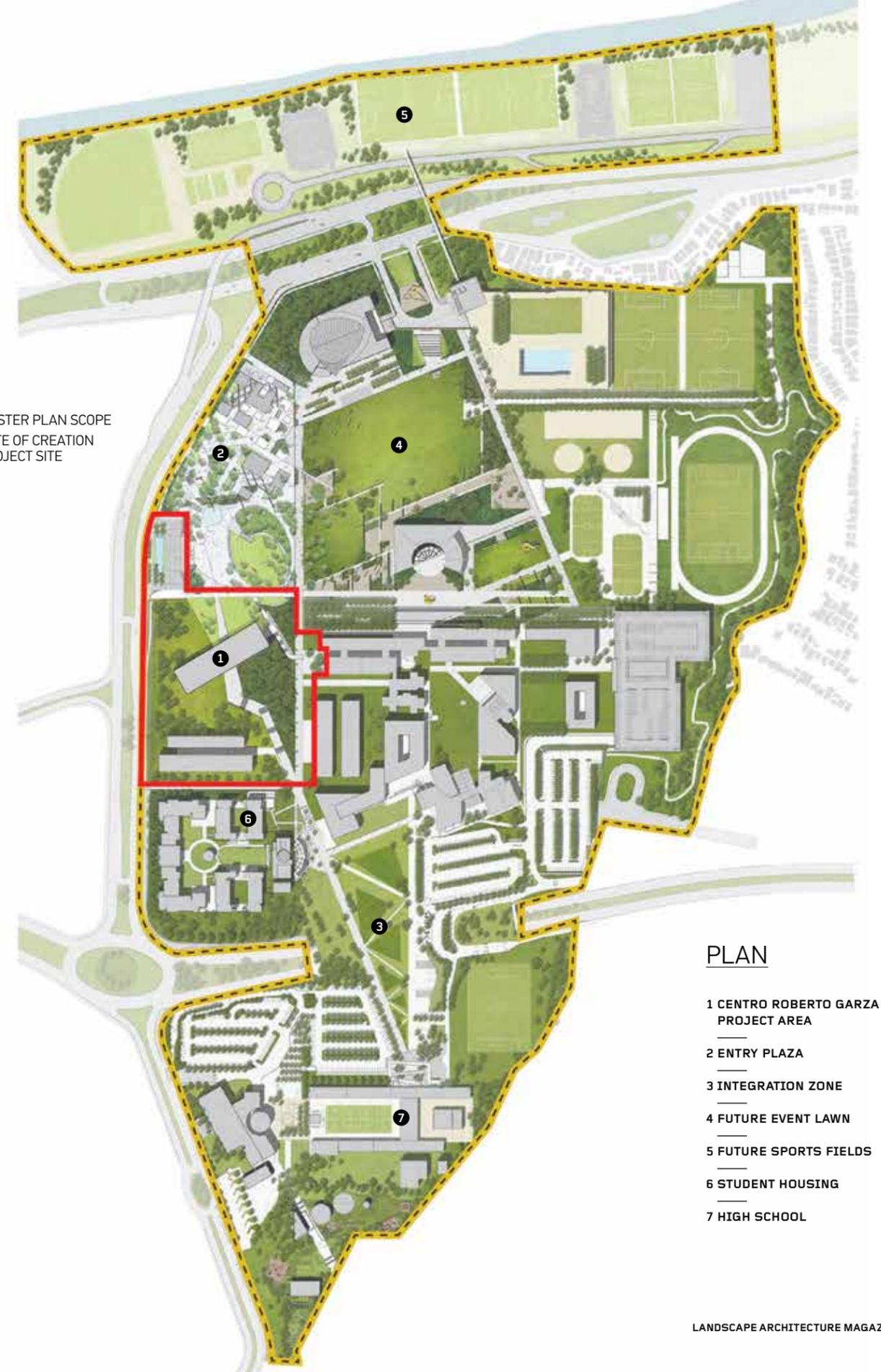
and has the virtue of not pretending it isn't there. "In the United States when you design something like that, specialty construction, a contractor does shop drawings, you review those drawings, there are several levels of refinement. Here they just build it. The first version of that fencing was a disaster, too heavy, and not sized properly for the gates," he said. But on this site visit, he noted with satisfaction that a version had been recently installed at one of the existing campus entries. "It looks like they haven't given up."

The sloping terrain is another challenge for the plaza, as for the entire campus. In this spot, "the topography is moving in two directions." The plaza's signal gesture is an oval berm, 84 by 57 meters in plan, rising to six meters at its peak. "The idea is

you're mitigating the topography," Bihan explained. "It's also to give a big landscape presence." It's complemented by a fountain 18 meters in diameter, flush with the ground plane, with a thin water skin. The plaza "is bookended by two beautiful buildings, and then there's this landscape move that works as an amphitheater if they want to stage the plaza, with the mountains as a backdrop." Depending on an event's

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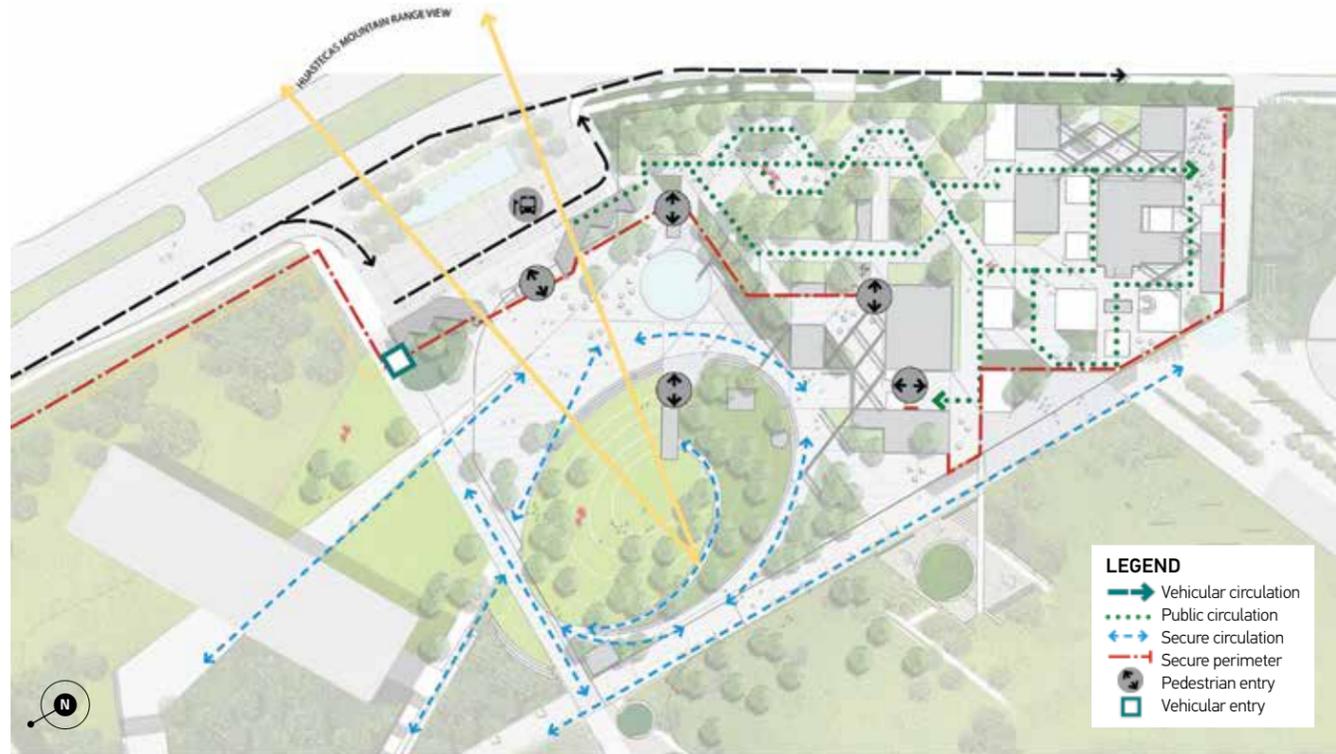


- LEGEND**
- - - MASTER PLAN SCOPE
  - - - GATE OF CREATION PROJECT SITE

PLAN

- 1 CENTRO ROBERTO GARZA SADA PROJECT AREA
- 2 ENTRY PLAZA
- 3 INTEGRATION ZONE
- 4 FUTURE EVENT LAWN
- 5 FUTURE SPORTS FIELDS
- 6 STUDENT HOUSING
- 7 HIGH SCHOOL

ENTRY PLAZA CIRCULATION



ENTRY PLAZA RENDERING



THE PLAZA'S SIGNATURE GESTURE IS AN OVAL BERM, TO MITIGATE THE COMPLEX TOPOGRAPHY AND "GIVE A BIG LANDSCAPE PRESENCE."

PLAZA EVENT STUDY: CONCERT

Maximum Event Occupancy: 5,000 People

PLAZA EVENT STUDY: GRADUATION

Maximum Event Occupancy: 3,500 People

- LEGEND**
- Event Space
  - 1 m<sup>2</sup>/Person
  - 2 m<sup>2</sup>/Person
  - 5 m<sup>2</sup>/Person
  - 15 m<sup>2</sup>/Person



SWA GROUP

SWA GROUP

configuration, with the fountain drained, the plaza could accommodate 5,000. "And it also works on a more garden scale, as it faces into the university." With fence, gates, fountain, planted plots, and the cluster of pavilions, "it's composed," he said. "But it's very large-scaled."

UDEM is a private institution that receives major support from several prominent Monterrey families, whose members occupy powerful roles on university boards. In its current effort to re-create the campus, the university is leaning toward showcase buildings by famous architects. This creates another particular set of conditions. Tadao Ando, the architect of the CRGS, had designed the home of one such donor. Tatiana

Bilbao, the architect of the new student center, had done the home of another. "That creates a personal bond, over the years," Bihan said. "The donor picks the architect. And sometimes the architects rule."

Bilbao's design replaced an earlier concept. "The old plan was more conventional, a building on top of a podium. Tatiana's improvement was wrapping its edge" with the more dispersed ensemble of the pavilions. "What it does is much better," Bihan said. But SWA had designed the plaza earlier, concurrently with the Ando building's planning; construction documents were complete. Modifications to long-term projects must be taken in stride, of course. And Bilbao's concern—or, perhaps, sensibility—

was not primarily focused on the landscape architecture. "She's a good architect. There's a storyline there. But it doesn't translate into public space," Bihan said. Bilbao's design didn't address the grading issues. At one point, she proposed a recessed exit corridor from the underground garage, open to the sky, slicing in several directions through the oval berm—treating the berm as a simple landform more than a functional element with programmatic purposes.

This reliance on deep-pocket donors funding high-visibility buildings has another, surely unintended, consequence: Other elements of the plan can become deprioritized. For example, at the southern, uphill point of the campus is UDEM's

**ABOVE**  
The plaza "is bookended by two beautiful buildings," the student center's cluster of pavilions, left, and the "Gate of Creation."

**OPPOSITE**  
The plaza can accommodate up to 5,000 people for special events.



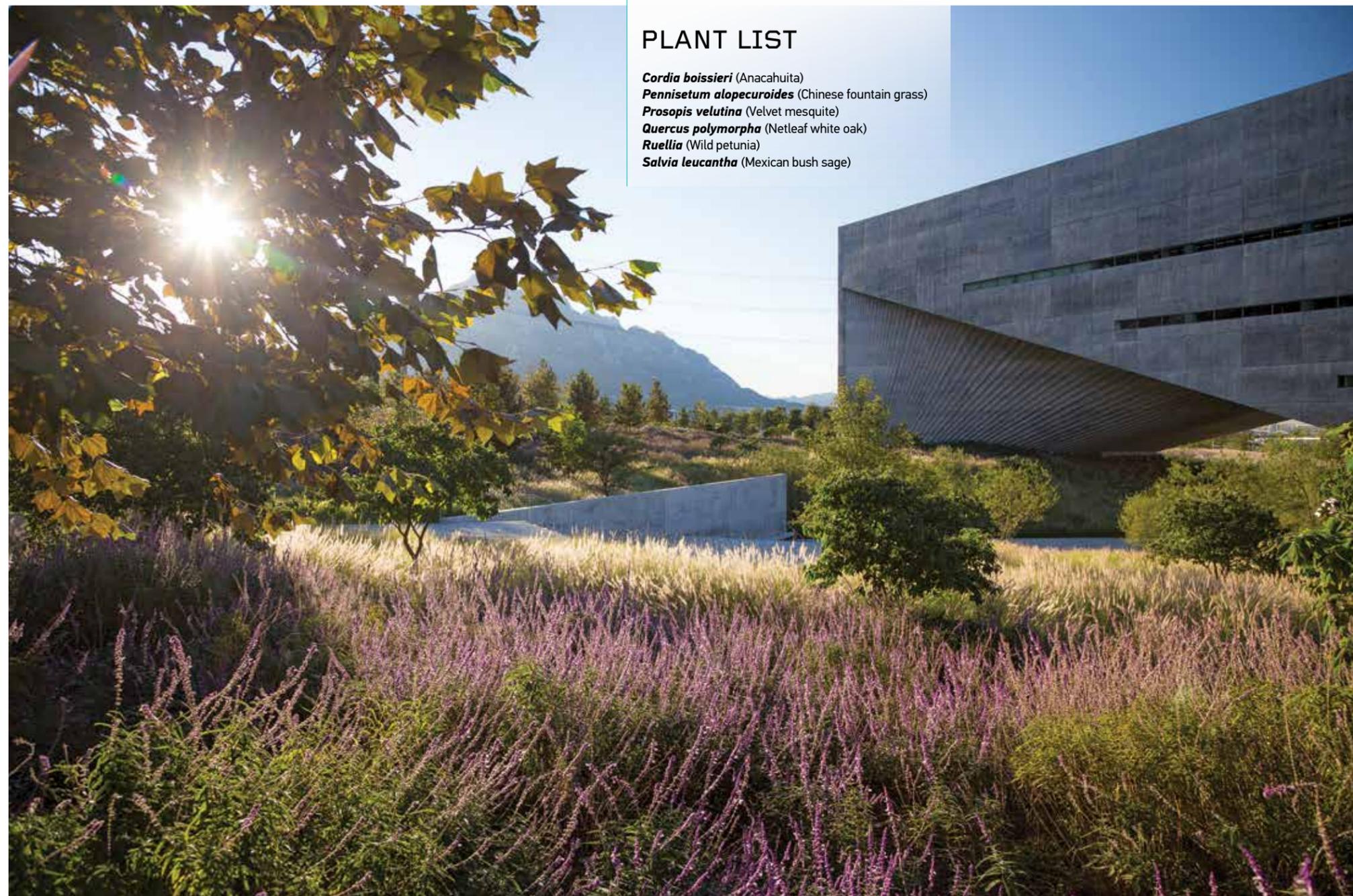
**ABOVE**  
SWA's goals are "scale and engagement," "regional expression," and pedestrian culture.

**OPPOSITE**  
The architectural monumentality of the CRGS is balanced by the naturalism of its plantings.

preparatory high school. It used to be separated from the rest of the campus by a road. The Page plan proposed depressing the roadway and creating a broad land bridge on top. SWA's concept for this "integration zone" is a walkway on an axis from the high school's main entrance, down the slope, right under the arch of the CRGS and into the entry plaza. Another walkway will lead down from the high school into the campus's center on a line to the atrium of the Rectoría, UDEM's prominent administration building. In the integration zone, a sequence of smaller paths will zigzag between these two axes, addressing the grade change to provide universal access and creating a chain of graduated triangular lawns.

The tunnel was completed in 2008. The landscape plan was completed in 2011. But the integration zone, though identified as part of the plan's first phase, remains a blank. Implementation there is to be directed by Gonzalez. "They asked me a while ago, can't you put a little something there?" he mentioned to Bihan, "so I said, uh, what about following the master plan?" Bihan replied, "I thought this would be the first project to go because when we started, they were building the tunnel, sinking the road. But then for whatever reason they never completed this part. I think it probably has to do with funding. If there's not a building to amortize the cost of the site work, it's very hard to fund-raise for a landscape."

"In Mexico, people are not interested in investing in landscape. They just build a building and don't have landscape around it," Gonzalez said. Only one university in the country offers a landscape architecture degree, "so you don't have landscape architects being trained." In that con-



## PLANT LIST

- Cordia boissieri* (Anacahuita)
- Pennisetum alopecuroides* (Chinese fountain grass)
- Prosopis velutina* (Velvet mesquite)
- Quercus polymorpha* (Netleaf white oak)
- Ruellia* (Wild petunia)
- Salvia leucantha* (Mexican bush sage)

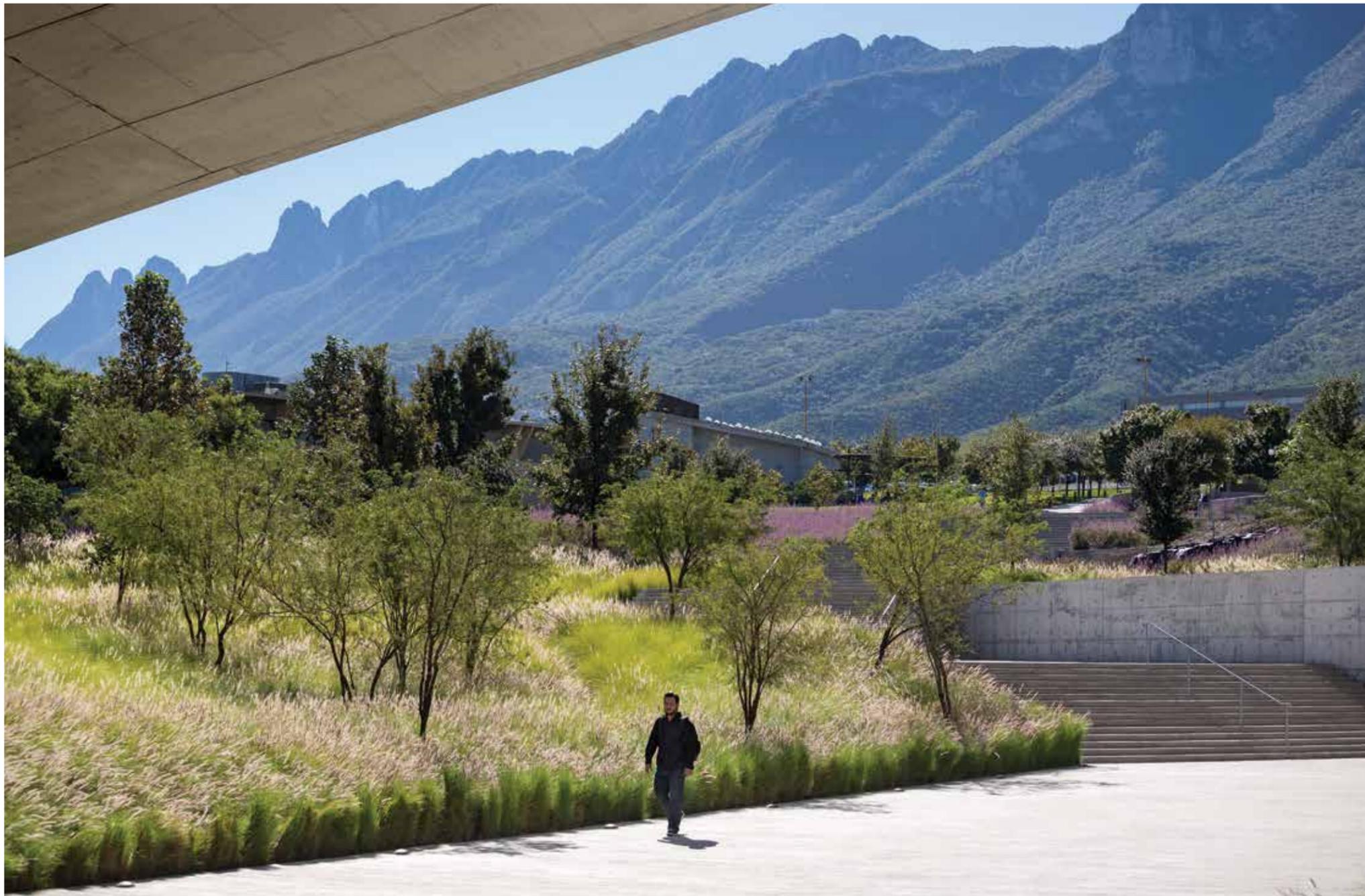
SWA GROUP/JONNU SINGLETON, TOP AND OPPOSITE

text, UDEM's engagement with landscape architecture in its long-range planning may be not only laudable but exemplary.

The ambitious reconfiguring of an entire campus can't be accomplished in a single stroke. It is hoped

the new plaza's programming and design elements will introduce the animation and sense of place that is currently lacking, and perhaps it will spur the overall project onward. Given the terrain, though, delay implies a particular risk. "The planting makes it humane, but the

grading makes it functional, and it's also very expensive and difficult to do here. When they're doing it piecemeal, it's not like doing an entire district," Bihan said. "The thing I'm concerned most about is that they're going to give up on the grading plan." He added, "If they don't



**ABOVE**

Native species such as velvet mesquite reunify the campus with its setting.

**OPPOSITE**

Intimate spaces balance the terrain's magnitude.

get this right, then the master plan will never work. You'd always have these jarring interruptions."

Even if the plan is fully and perfectly realized, there will be the irony of it having created a pedestrianized, human-scale island in a metropolis

where walking is discouraged by urban form, perhaps by culture—and by danger. People in Monterrey say that the security situation is less dire than it was a few years ago, though it must mean something that U.S. government personnel are still required to stay within the upscale

and safer enclaves of San Pedro and the new suburb west of UDEM between 1:00 a.m. and 6:00 a.m. That suburb is being developed relatively densely with town houses, apartment complexes, and mixed-use nodes, though its neighborhoods are mostly gated. "The city is ex-

SWA GROUP/JONNU SINGLETON, TOP AND OPPOSITE



ment of the city. You need some kind of physical interface, which should not be just a fence. Probably the fact of having certain urban context all around will facilitate the reduction of security measures."

At the least, that's a reasonable pedagogical challenge, and students' imaginations should be encouraged. What would it look like to open up the campus, even incrementally? "When we were first doing the master plan it was, 'It has to be bombproof.' If someone can drive a car through it, that's not good enough," Bihan said. "It also shows why master plans need to be flexible—and it's a barometer of improved conditions, the fact that we're even talking about it" ●

JONATHAN LERNER IS THE AUTHOR OF THE 1960S MEMOIR *SWORDS IN THE HANDS OF CHILDREN: REFLECTIONS OF AN AMERICAN REVOLUTIONARY*.

**Project Credits**

**LANDSCAPE ARCHITECT** SWA, SAN FRANCISCO (RENÉ BIHAN, FASLA, PRINCIPAL IN CHARGE; JUSTIN WINTERS, ASLA; YE LUO; SEHGYUNG KANG; DANIEL CUNNINGHAM; MARIANA RICKER, ASSOCIATE ASLA). **ARCHITECT** TADAO ANDO, KITA-KU, OSAKA, JAPAN; TATIANA BILBAO, MEXICO CITY. **CIVIL + HORTICULTURE** PROHABITAT, SAN PEDRO GARZA GARCÍA, MEXICO (DIEGO GONZALEZ).