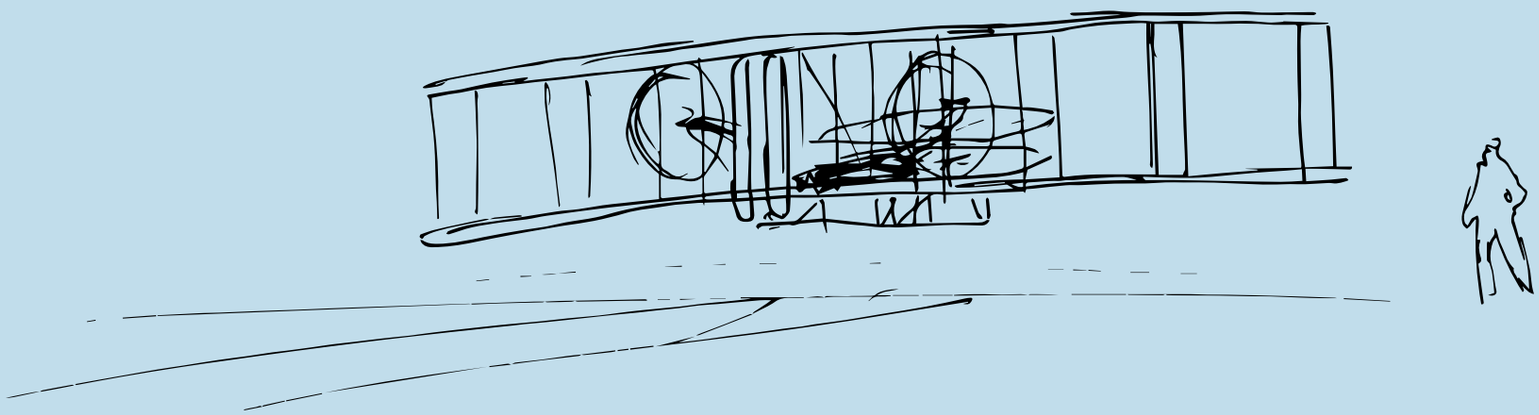
aeronautical destinations

a Brett Rathbone presentation

Can an airport serve not only as a means of travel, but as a destination itself?

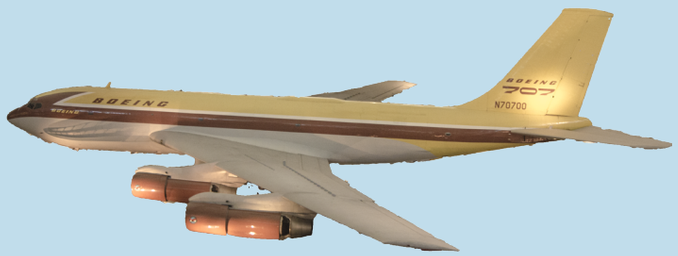
A brief bit of history of aviation and airports

First Flight in 1903 at Kitty Hawk, NC.



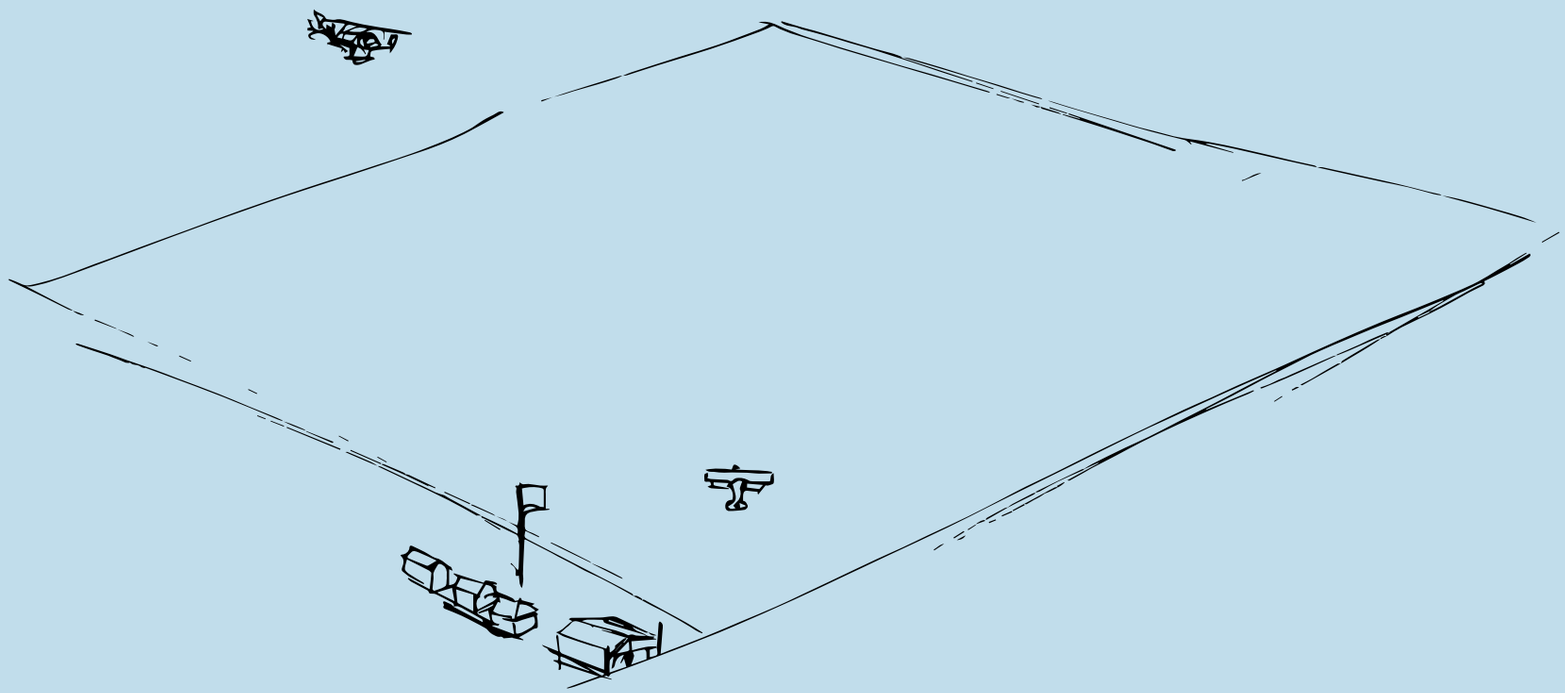
Air travel took off (ba dum tsss) after World War I.

After World War II, the Jet Age came about with the advent of the De Havilland DH5 Comet, Boeing 707, and Douglas DC-8.



Boeing 707 protoype airframe, “Dash 80”

The airport as it is known today is an evolution. From the first airports that were a large open field so aircraft could take off from any direction.



Eventually, this wouldn't work as loads became heavier and aircaft required a dedicated path, first seen at the Ford Dearborn Field.

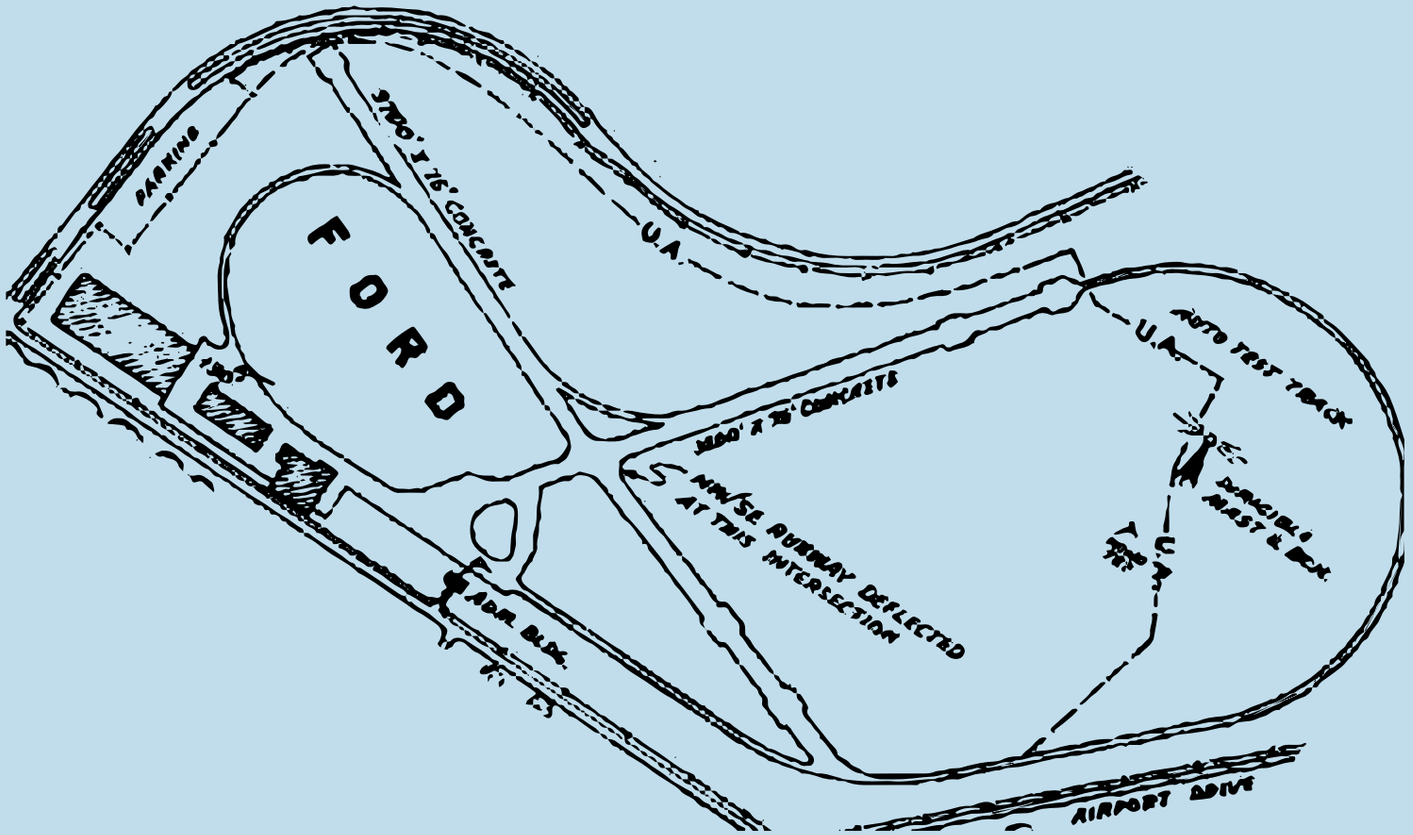
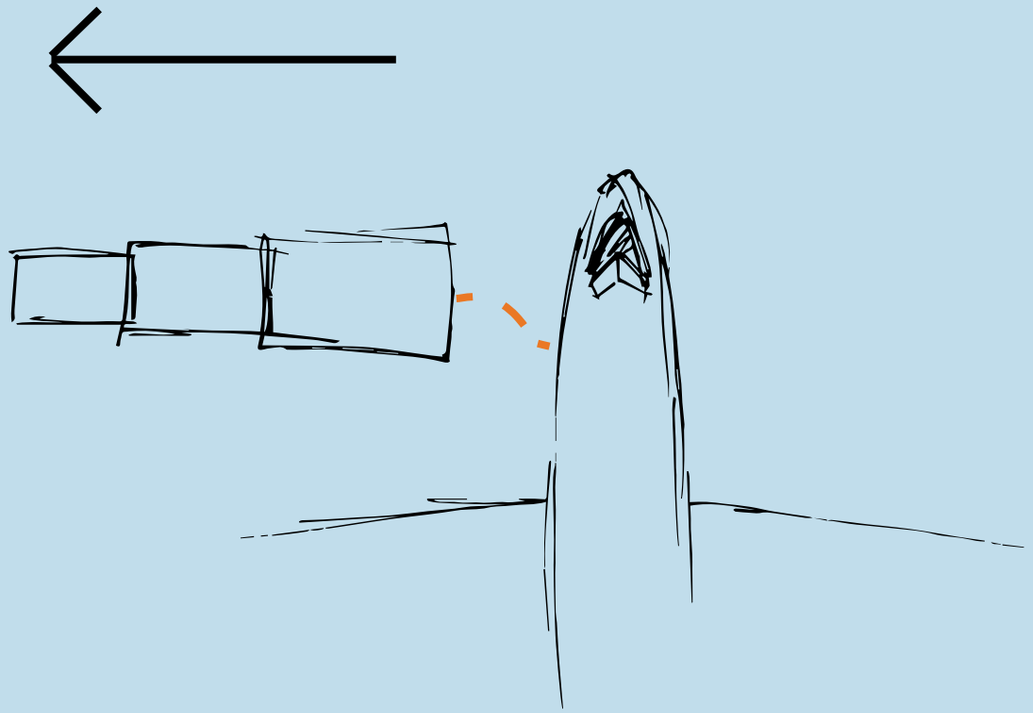


image courtesy of http://www.airfields-freeman.com/

Boeing’s Burbank Field was the first to feature a covered path to the aircraft, something that would be hard to live without in this area.

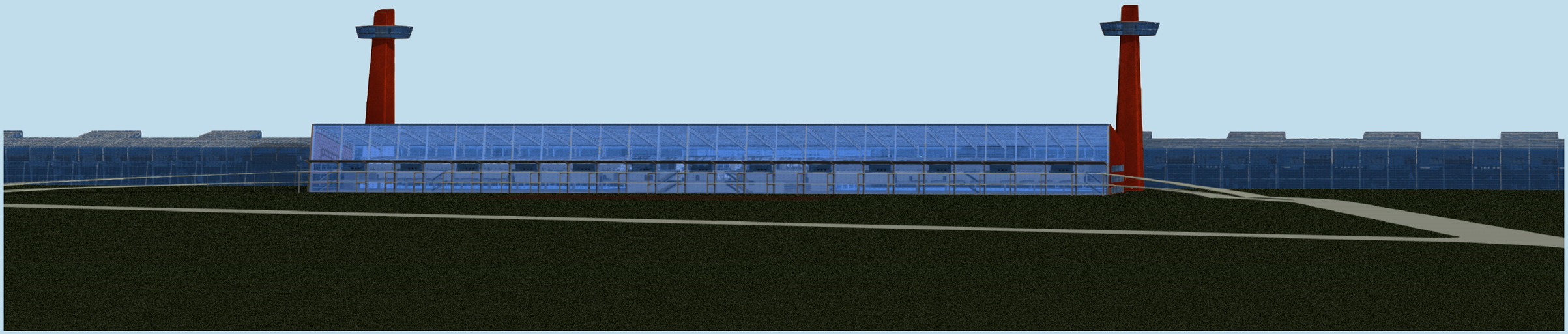


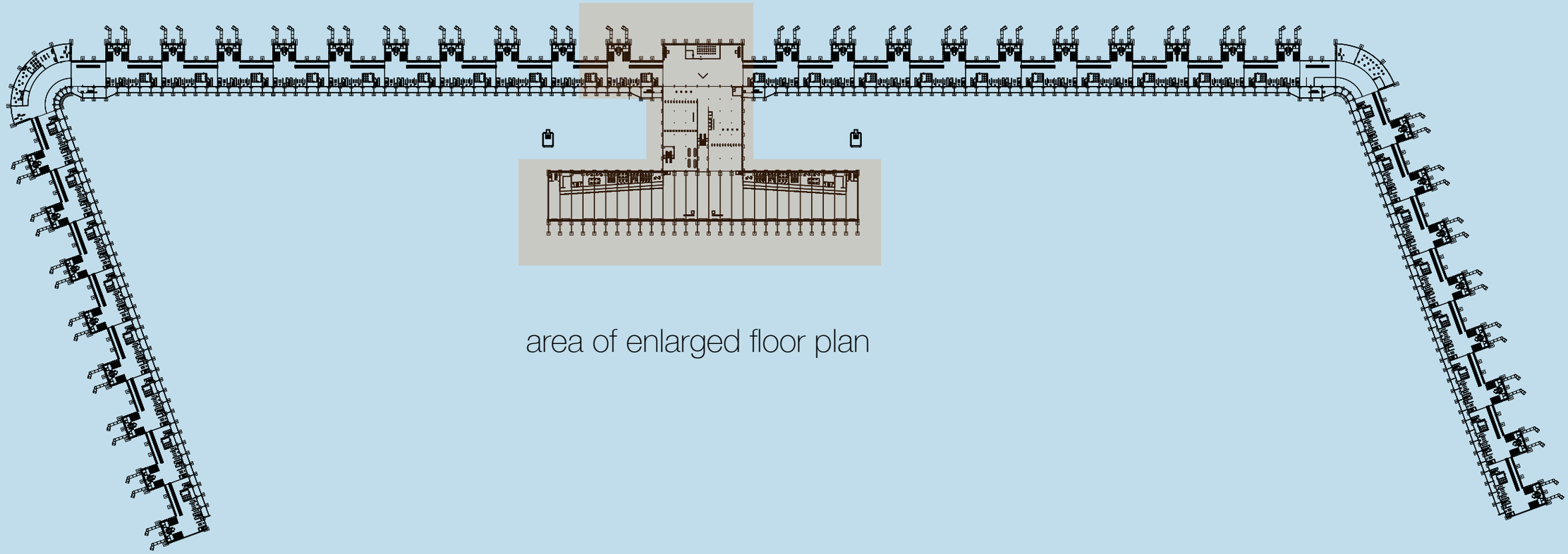
This and the advent of “superairports” in the 1960’s allowed airports to handle much more aircraft.

Minneapolis built their current airport in the 1960s. The Lindbergh Terminal has subsequently been expanded many times. The current terminal has five runways, 128 gates, and has an expansion plan to 2030. The current airport cannot expand anymore runways.

A new airport will have to be built.

movement



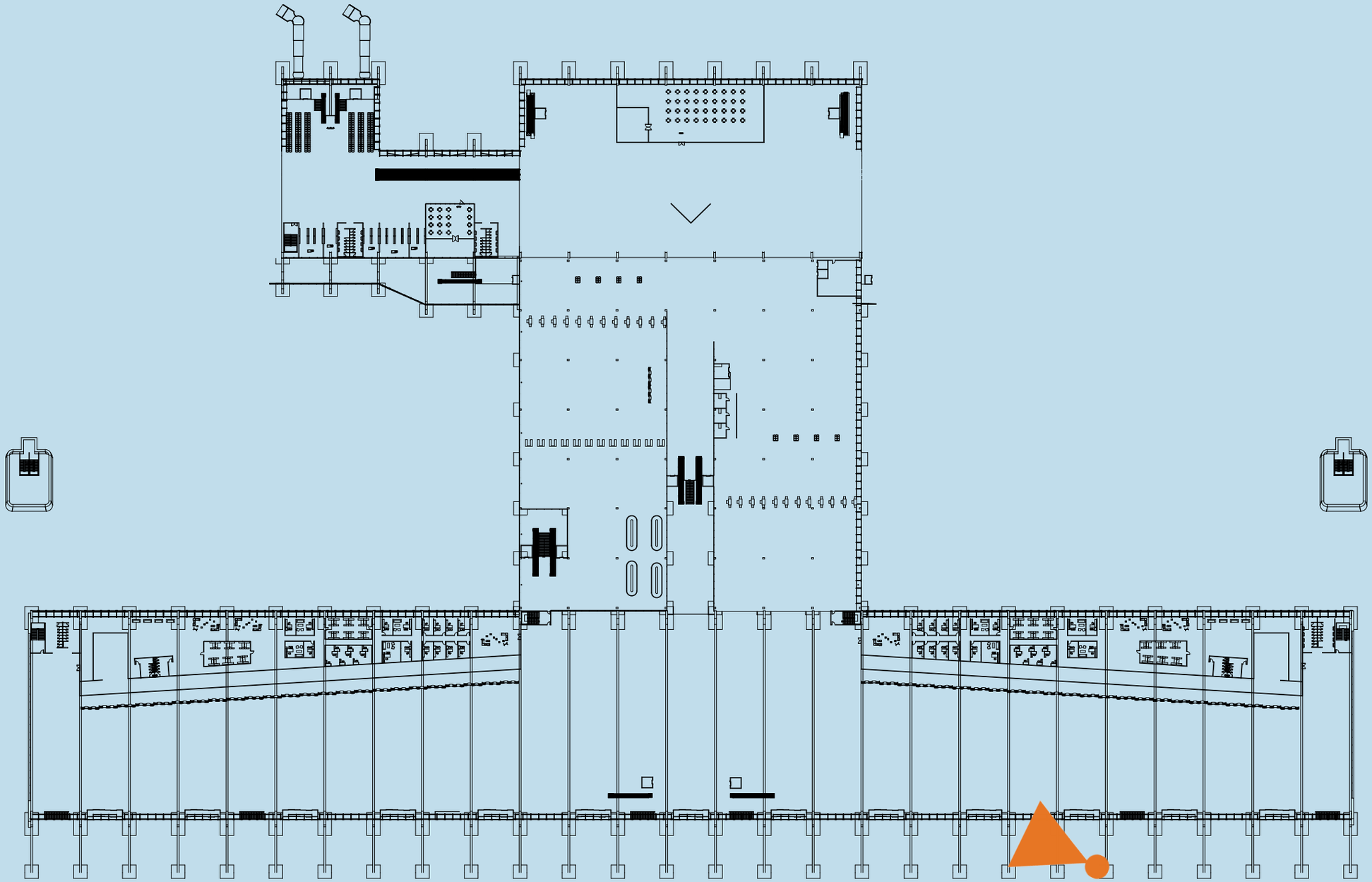


area of enlarged floor plan

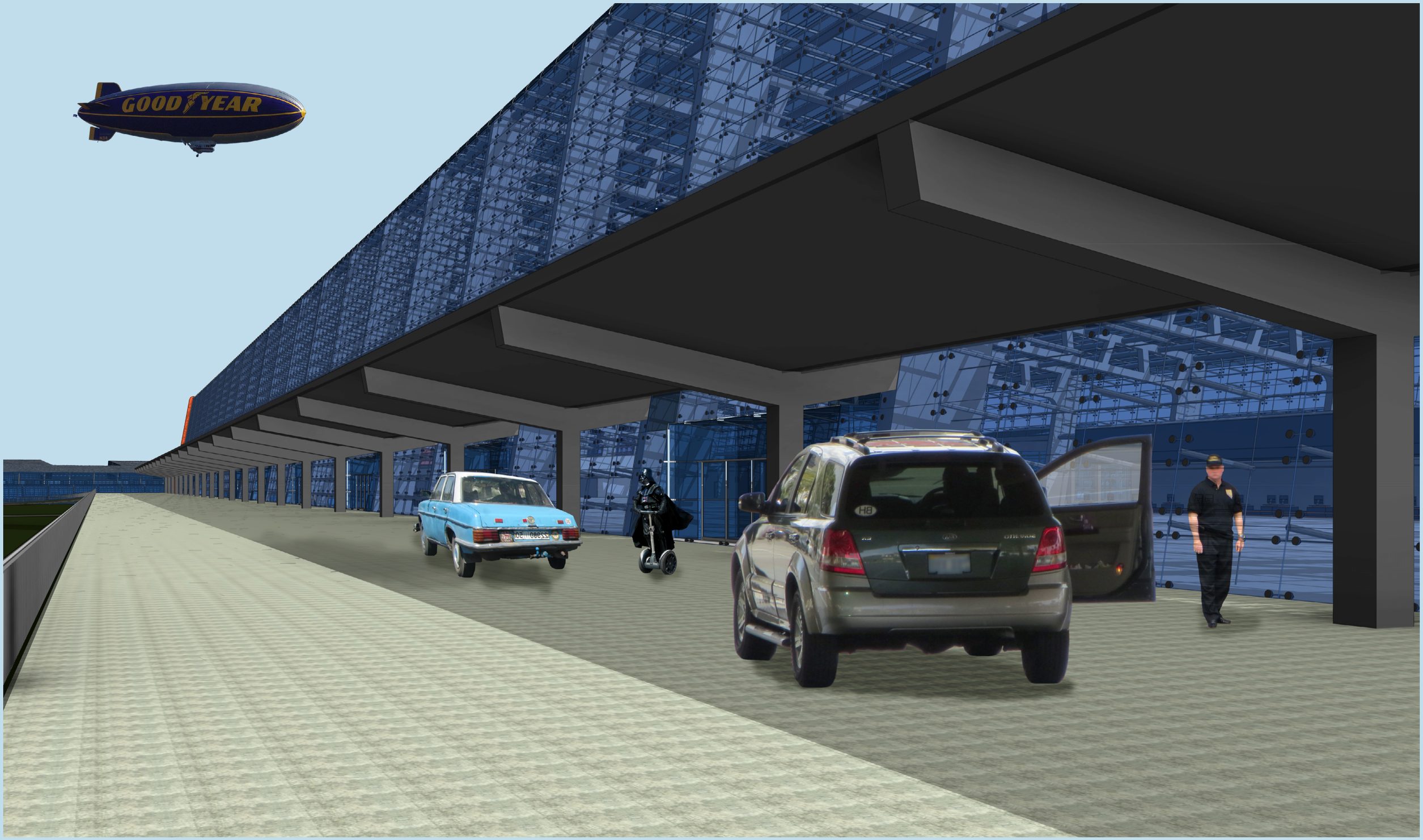
Approach to the terminal

Approach to the terminal

LEVEL 2

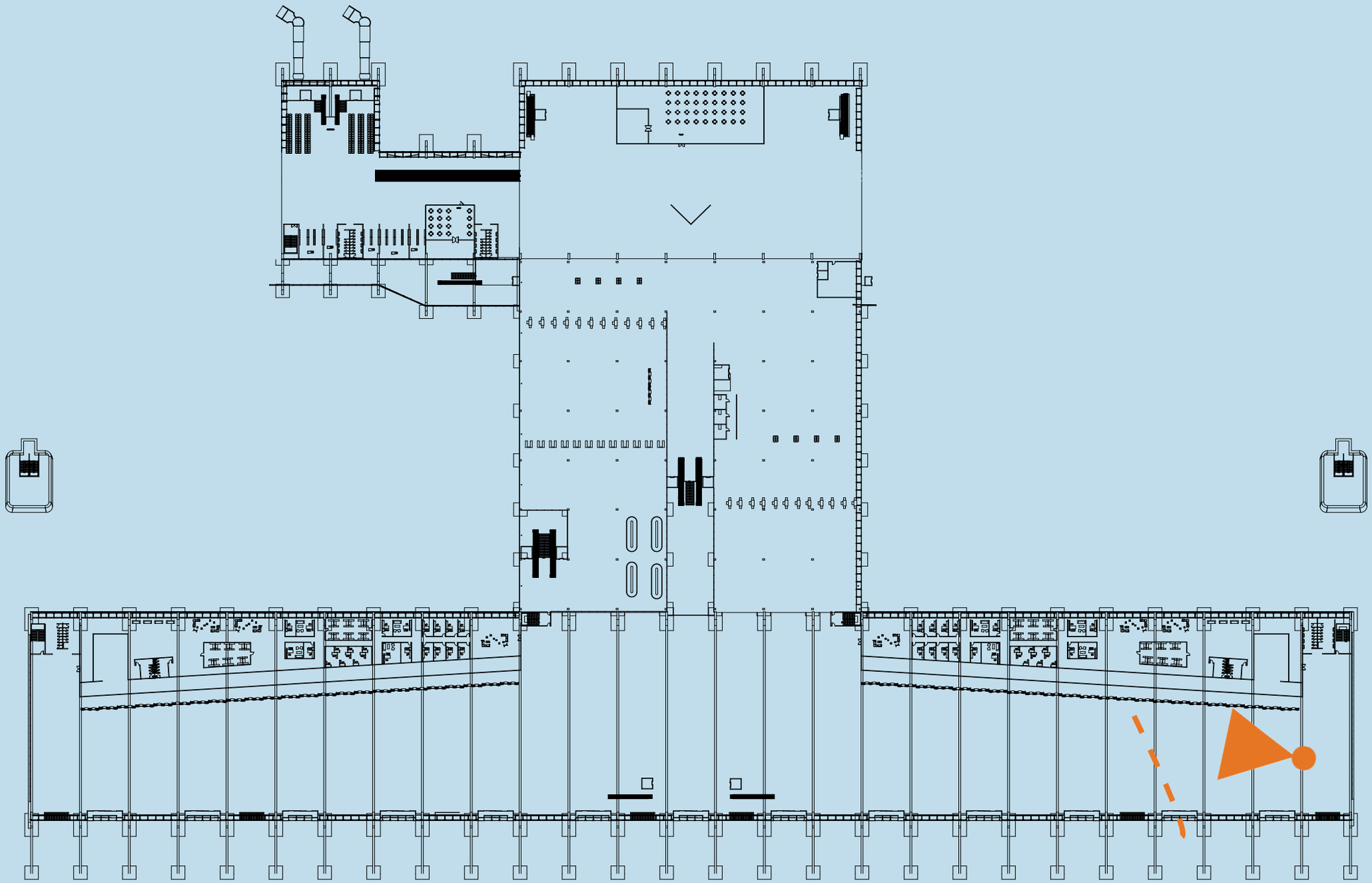


level 2 departures access

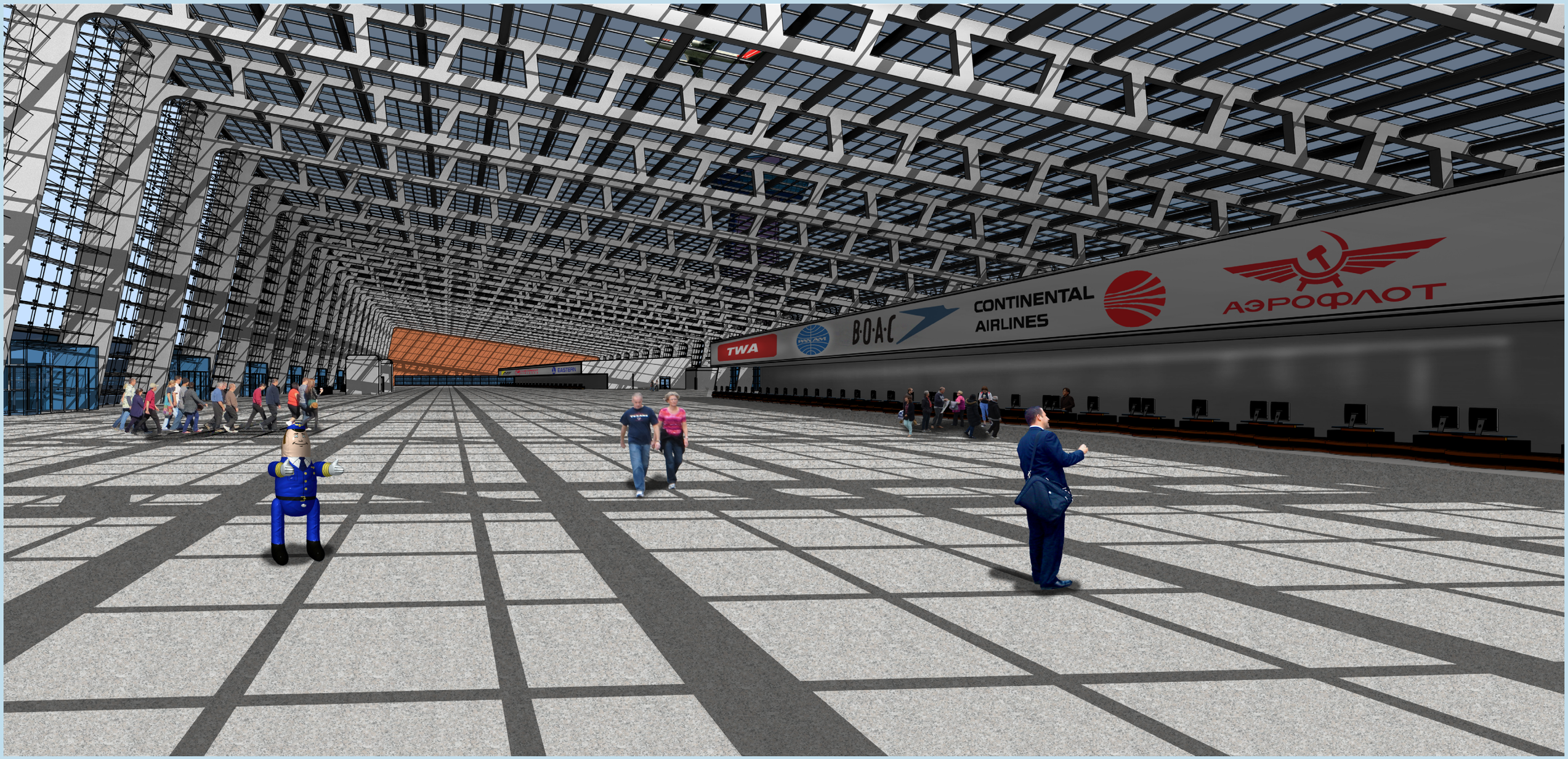


level 2 departures access

LEVEL 2

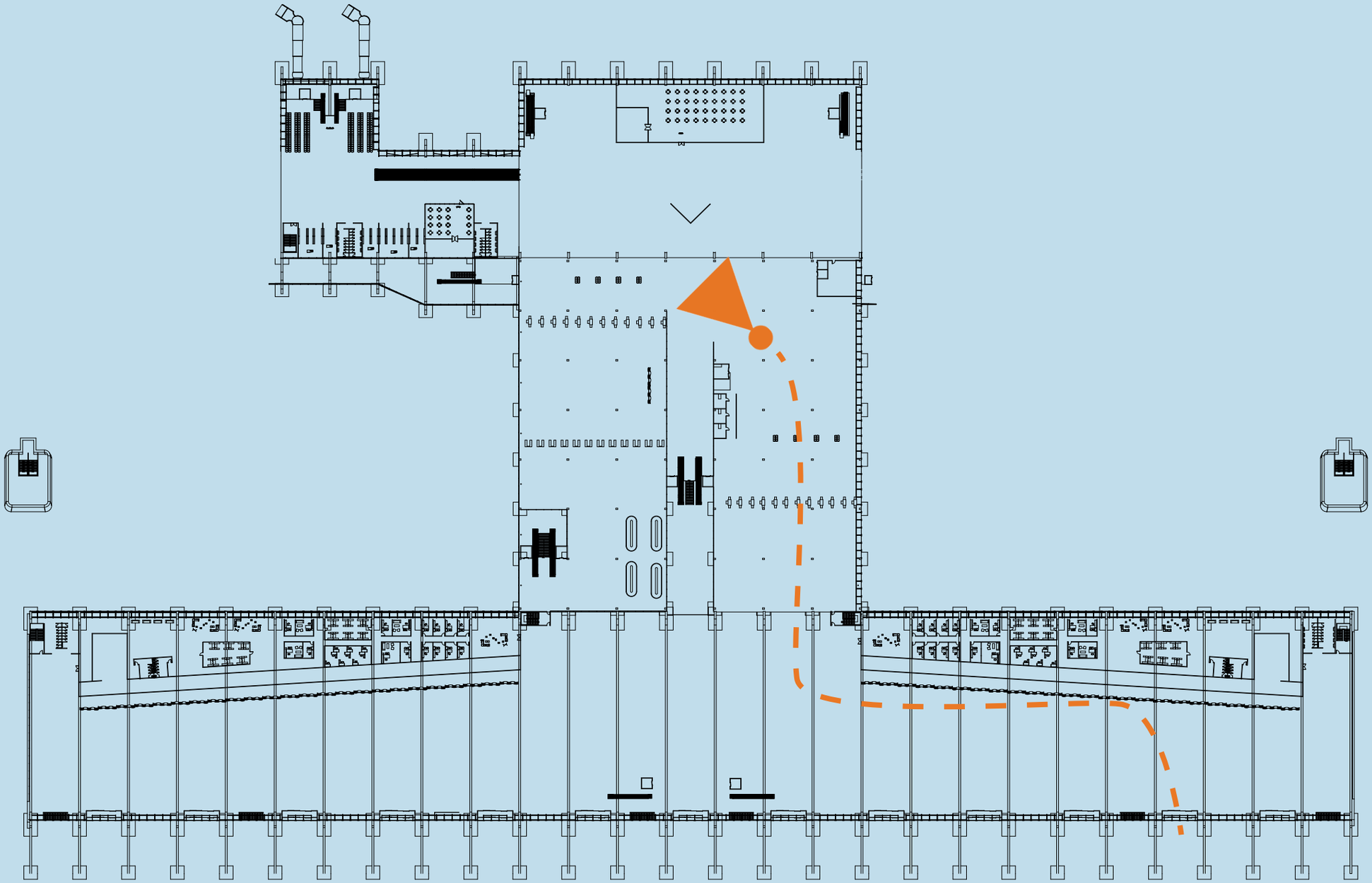


airport terminal interior 2nd floor

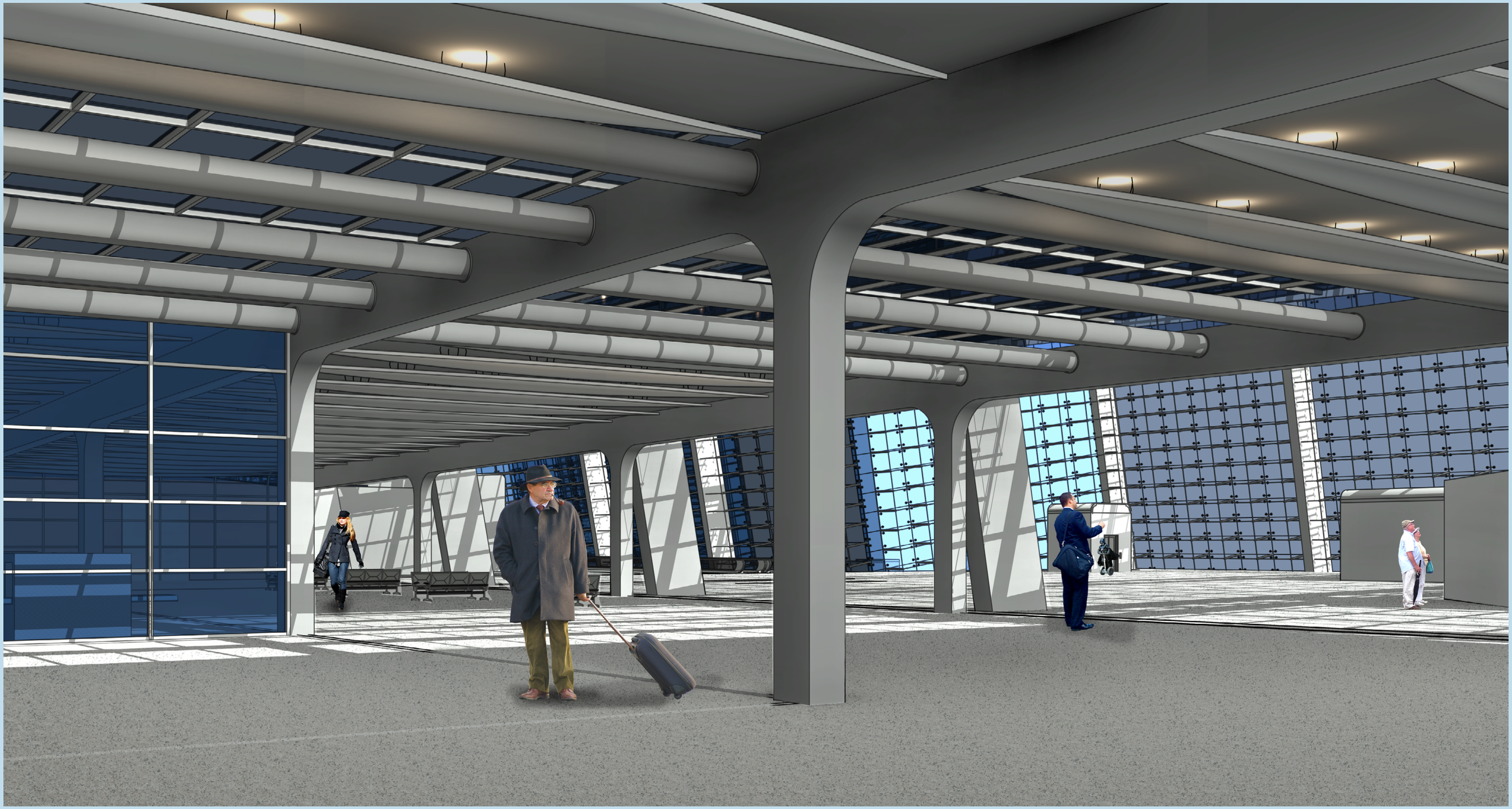


airport terminal interior 2nd floor

LEVEL 2

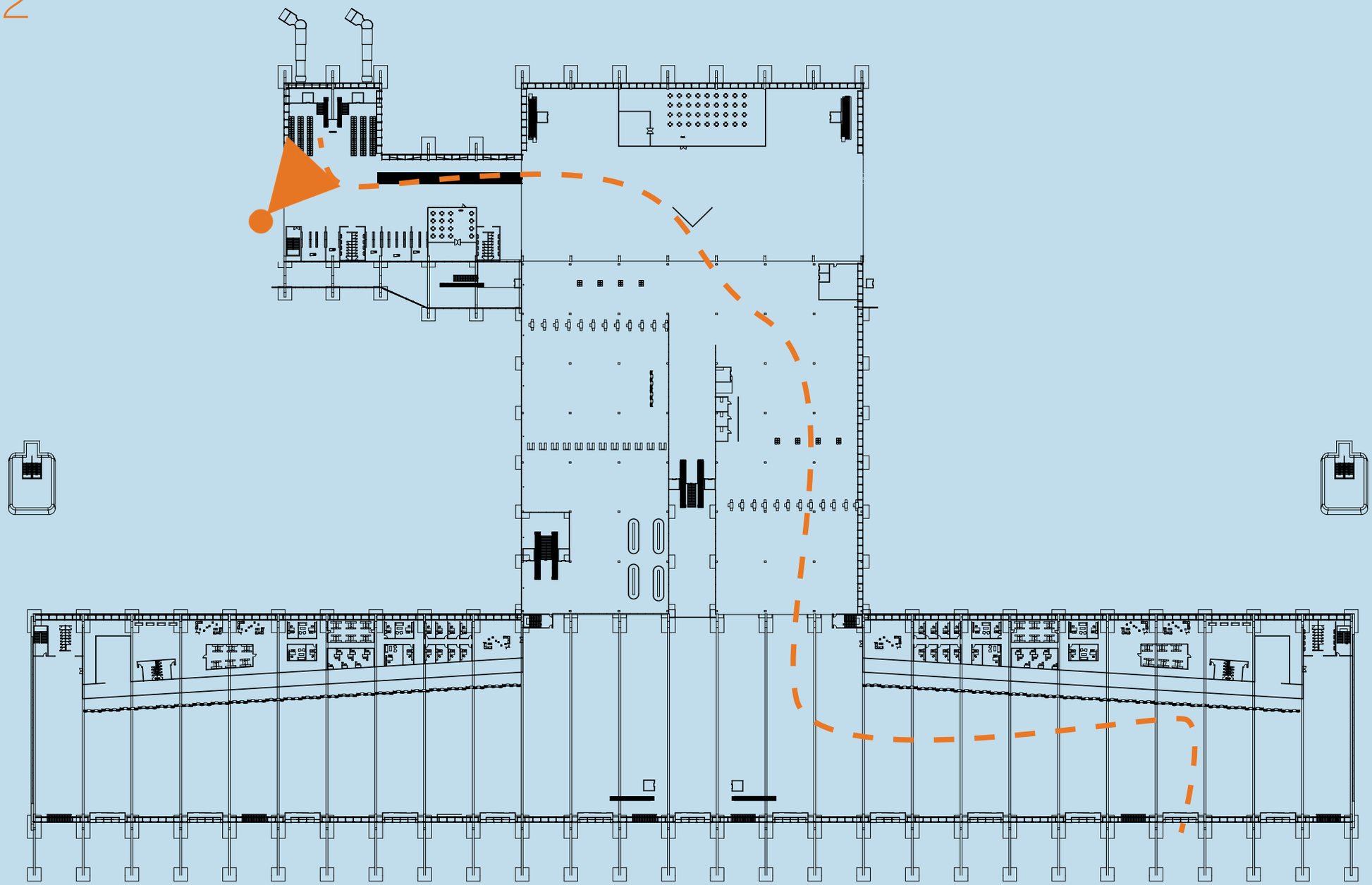


view to concourse from security

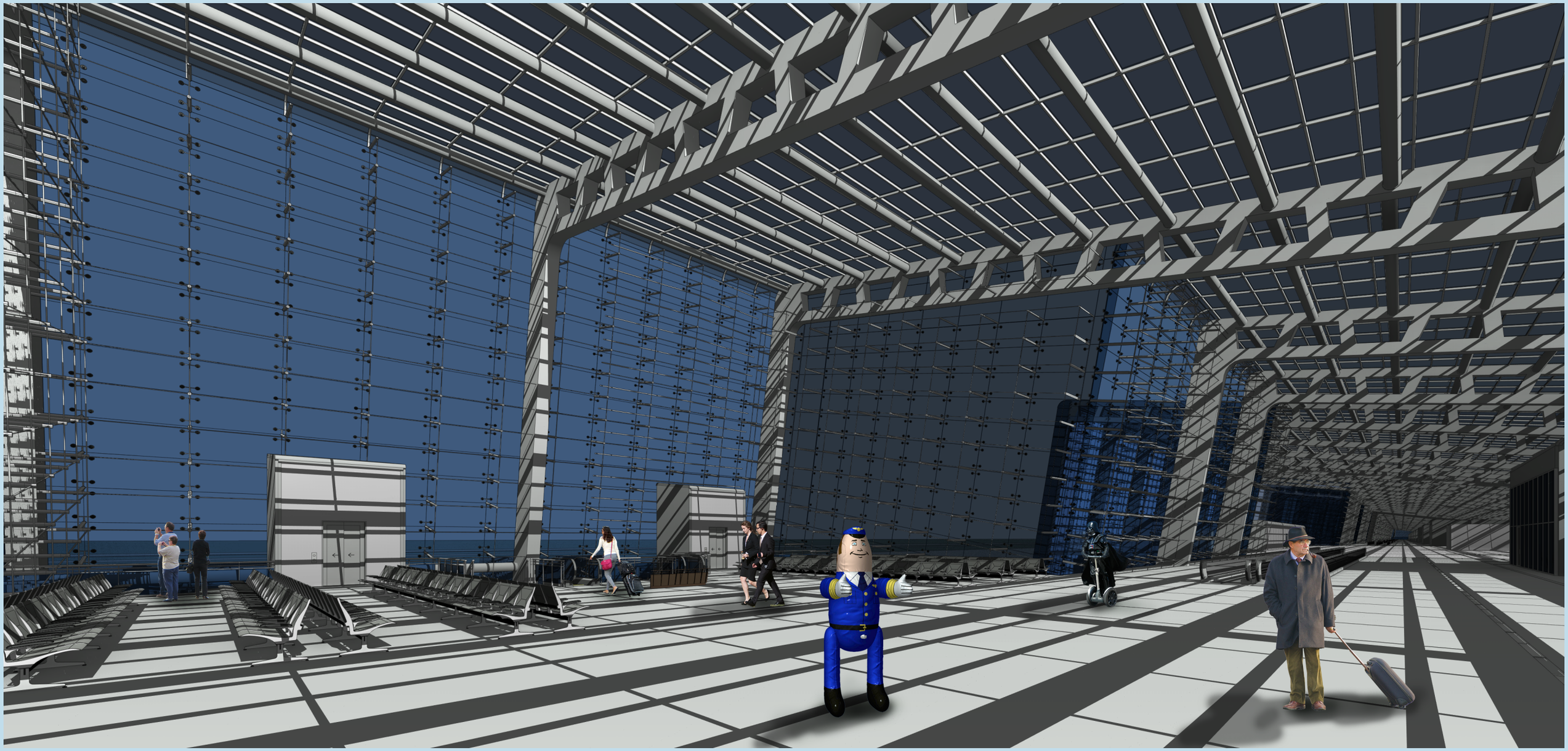


view to concourse from security

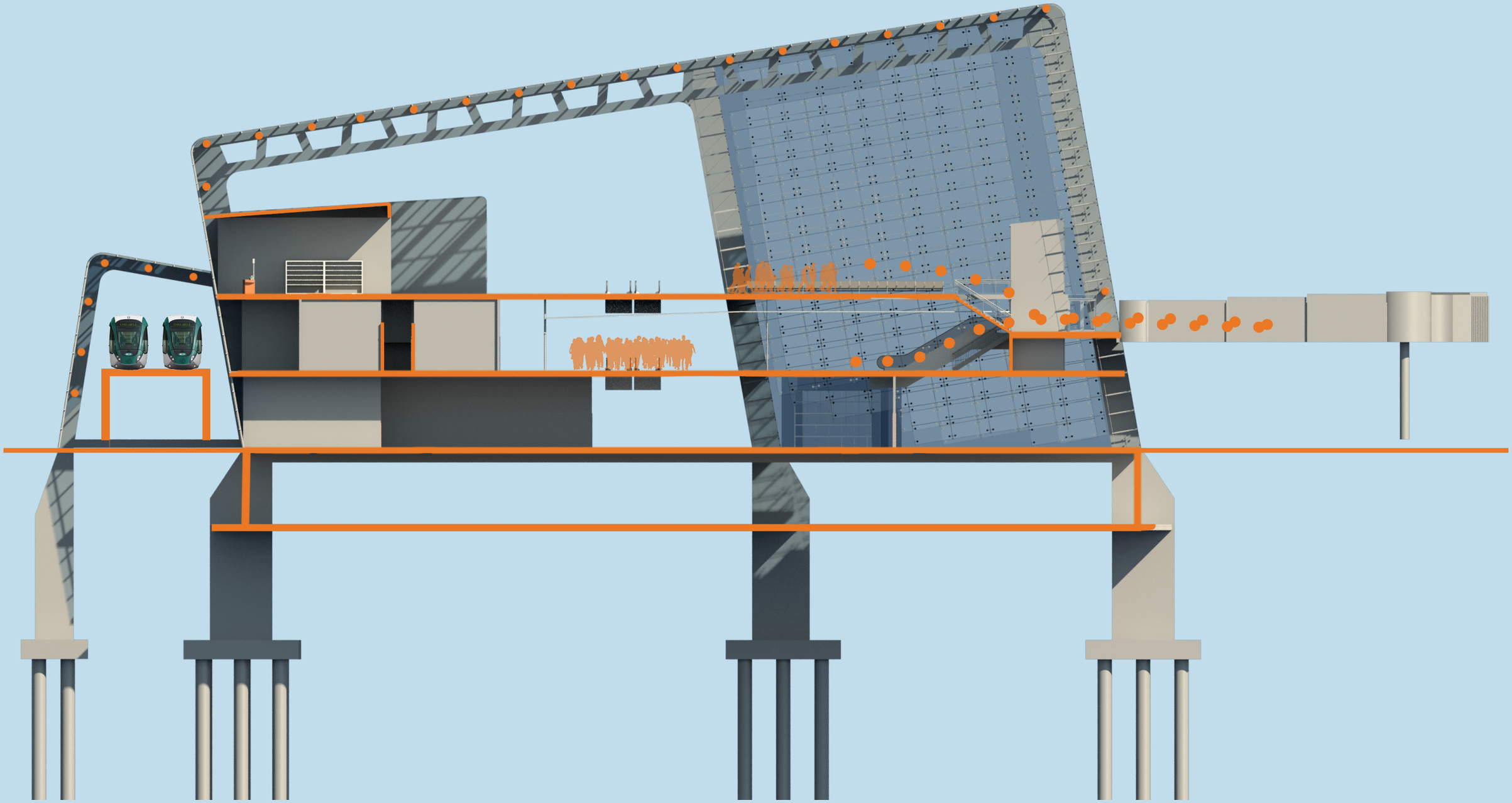
LEVEL 2



view to gate from concourse

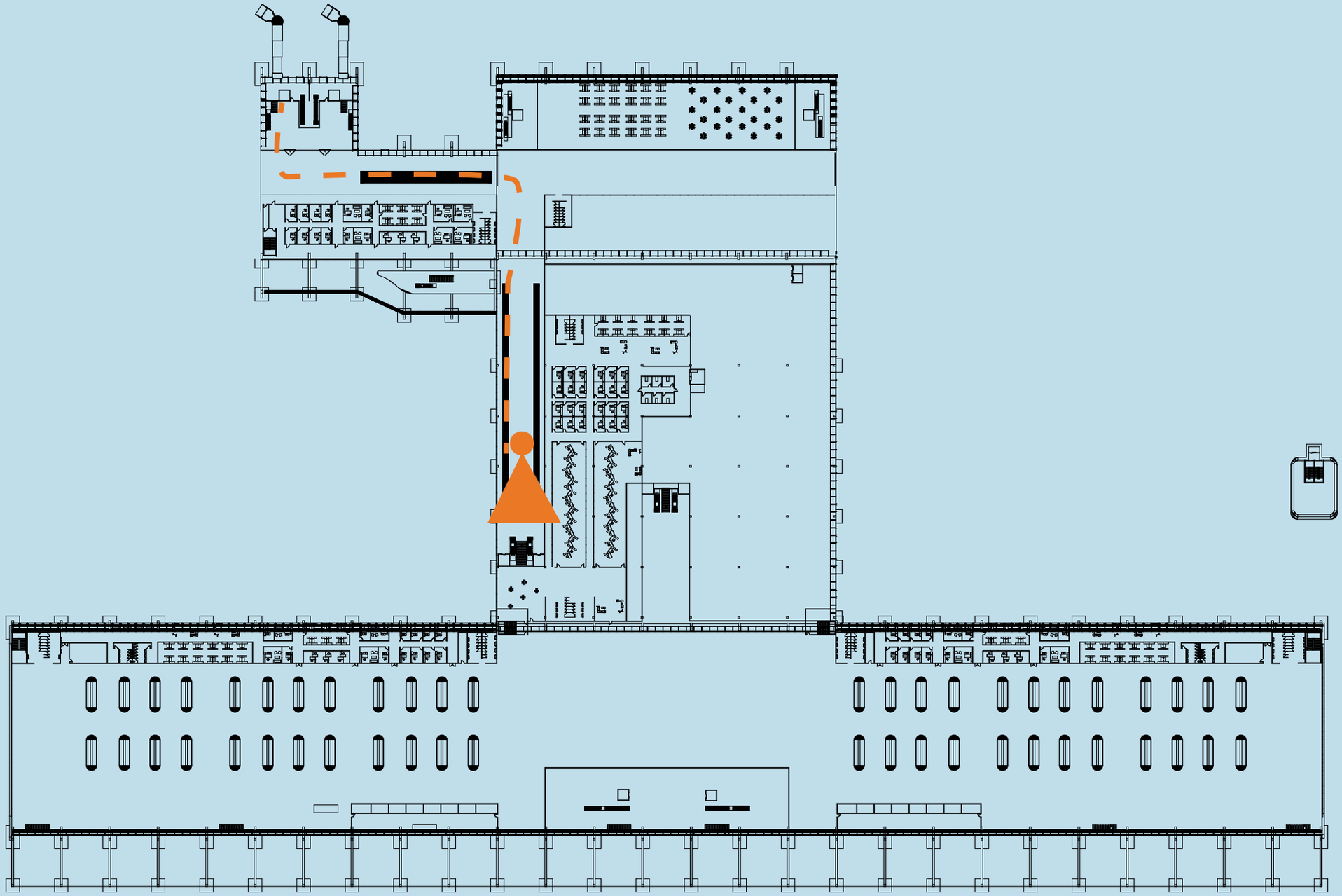


view to gate from concourse



concourse movement

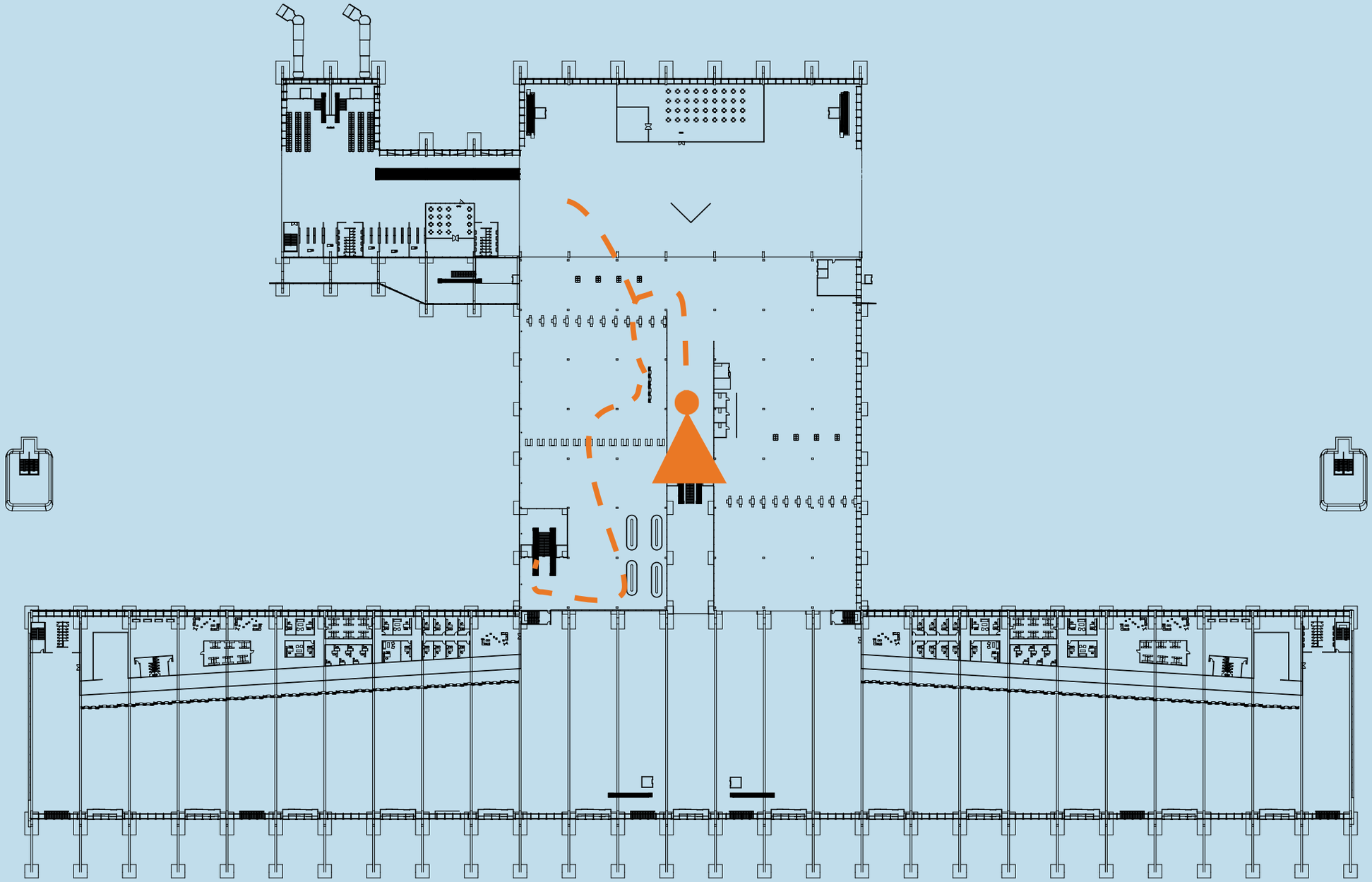
LEVEL 1



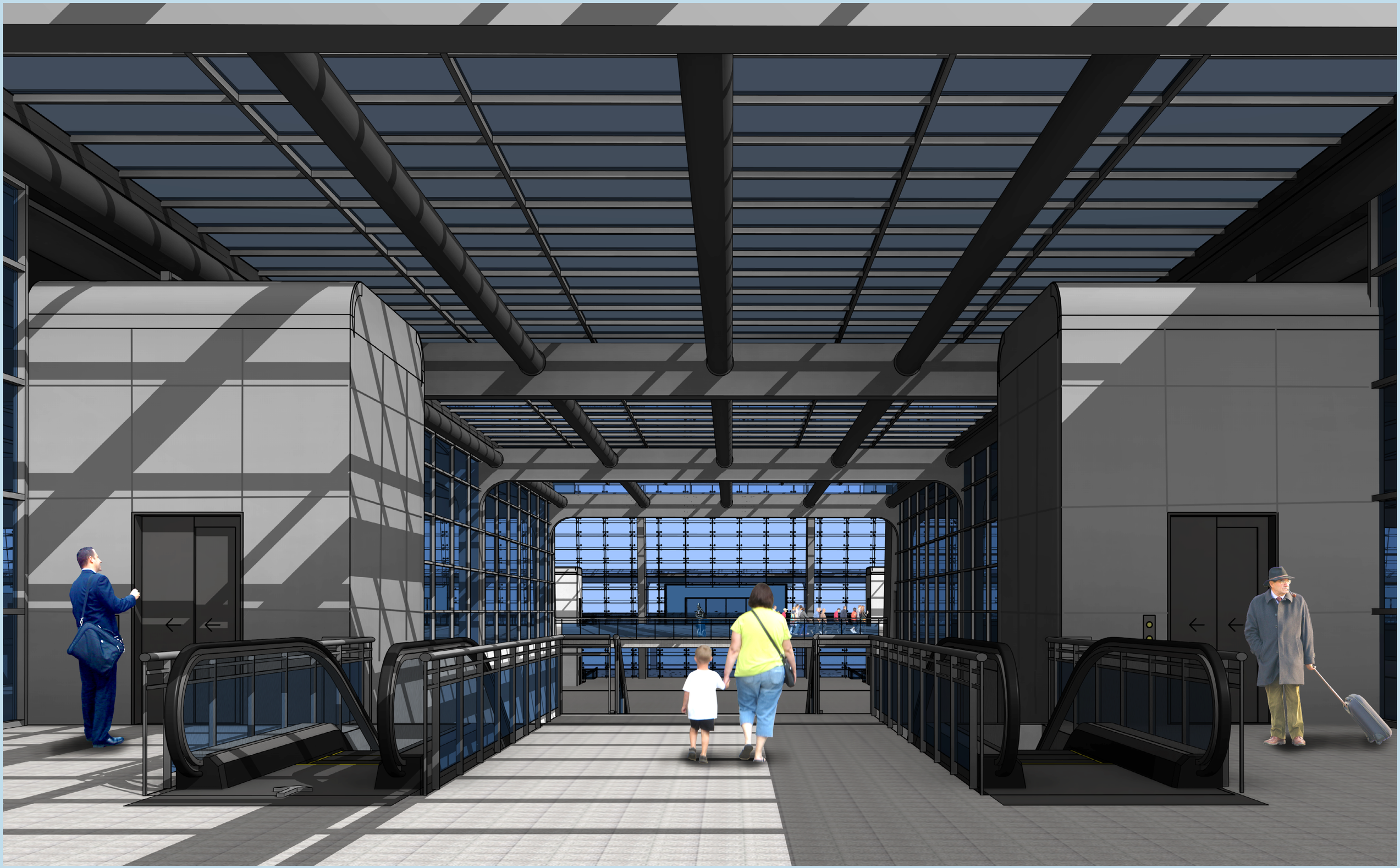
customs level transition

customs level transition

LEVEL 2

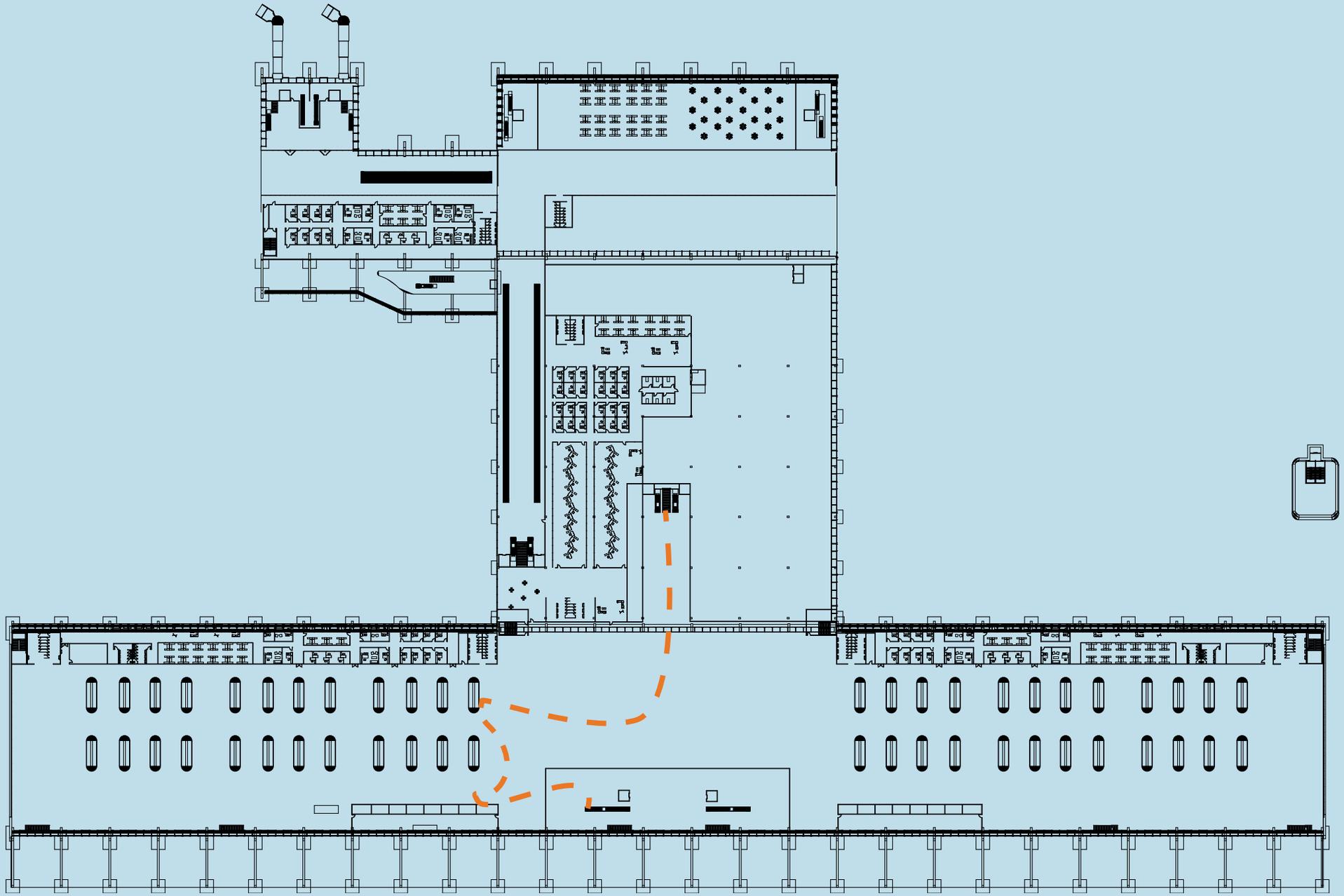


exit transition from level 2 to level 1



exit transition from level 2 to level 1

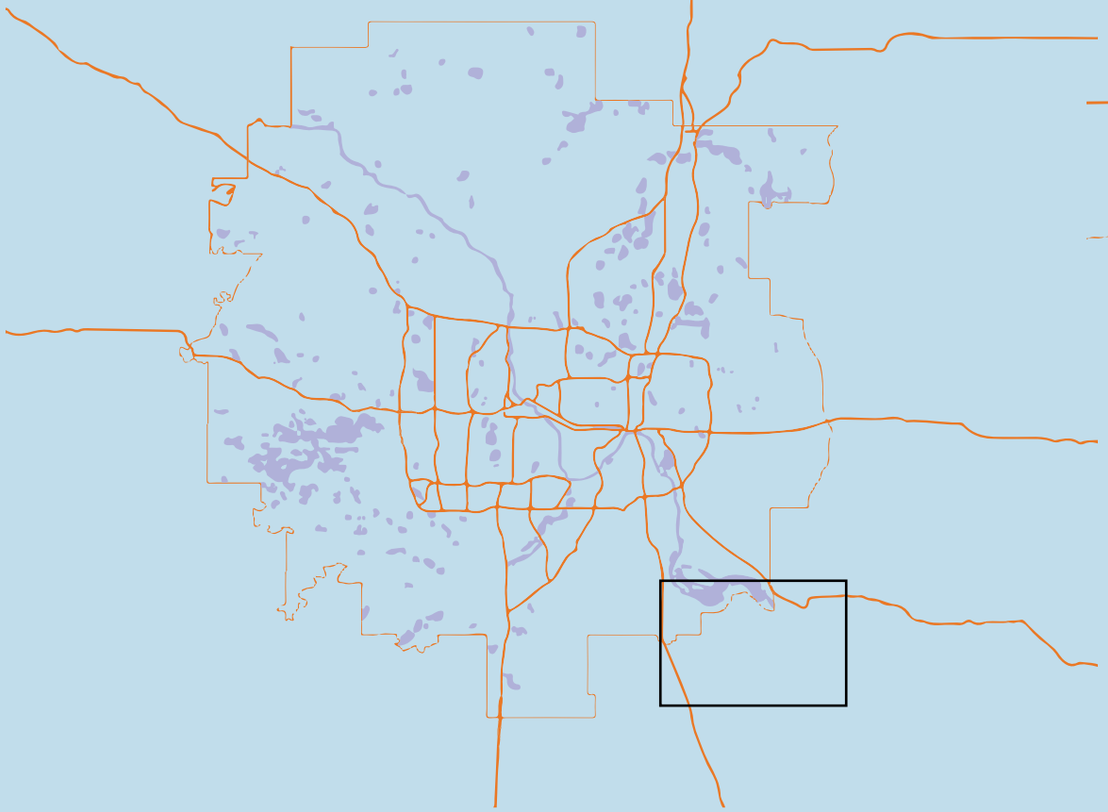
LEVEL 1



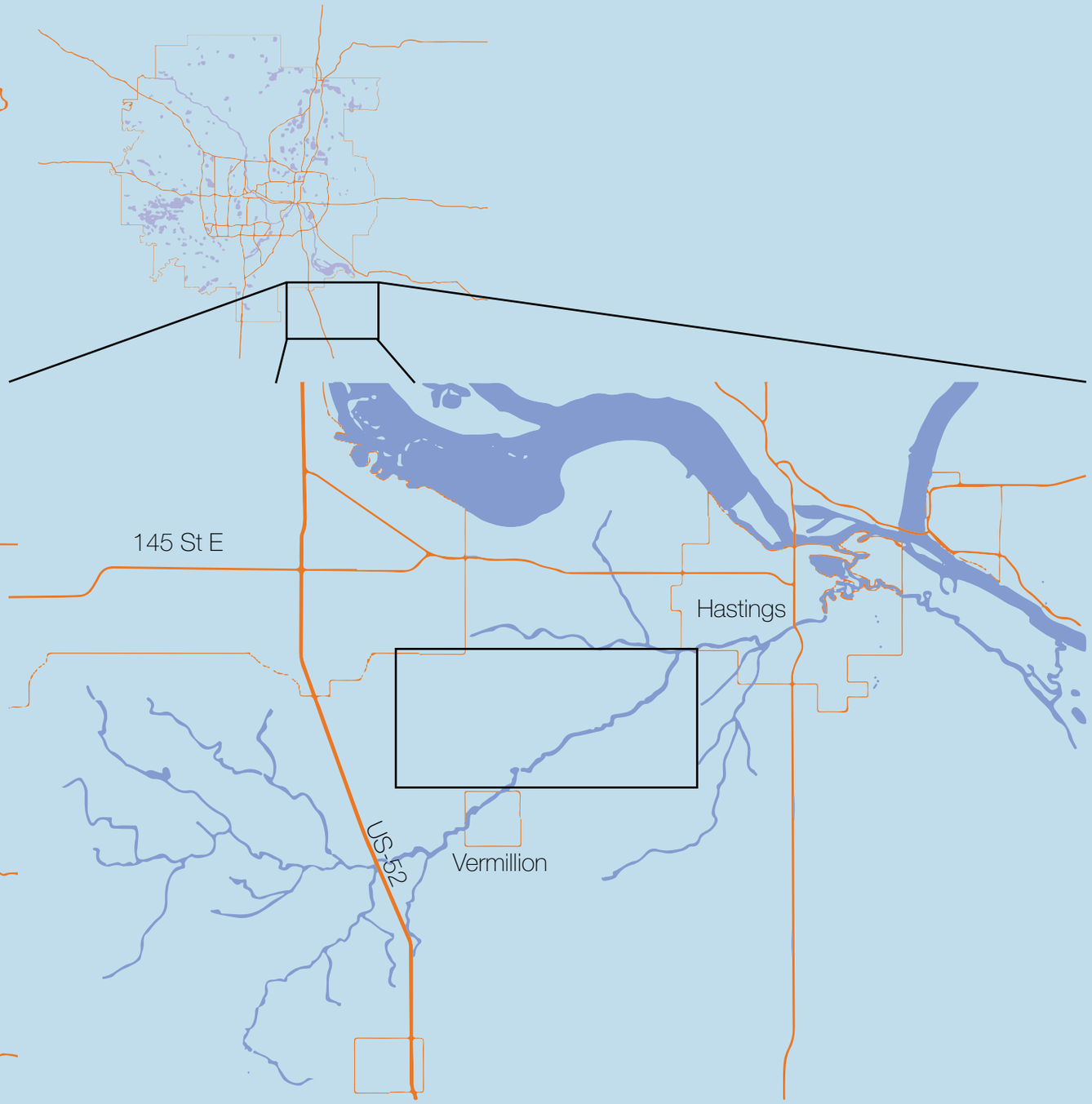
site

USA

MSP



MSP



SITE

N

W

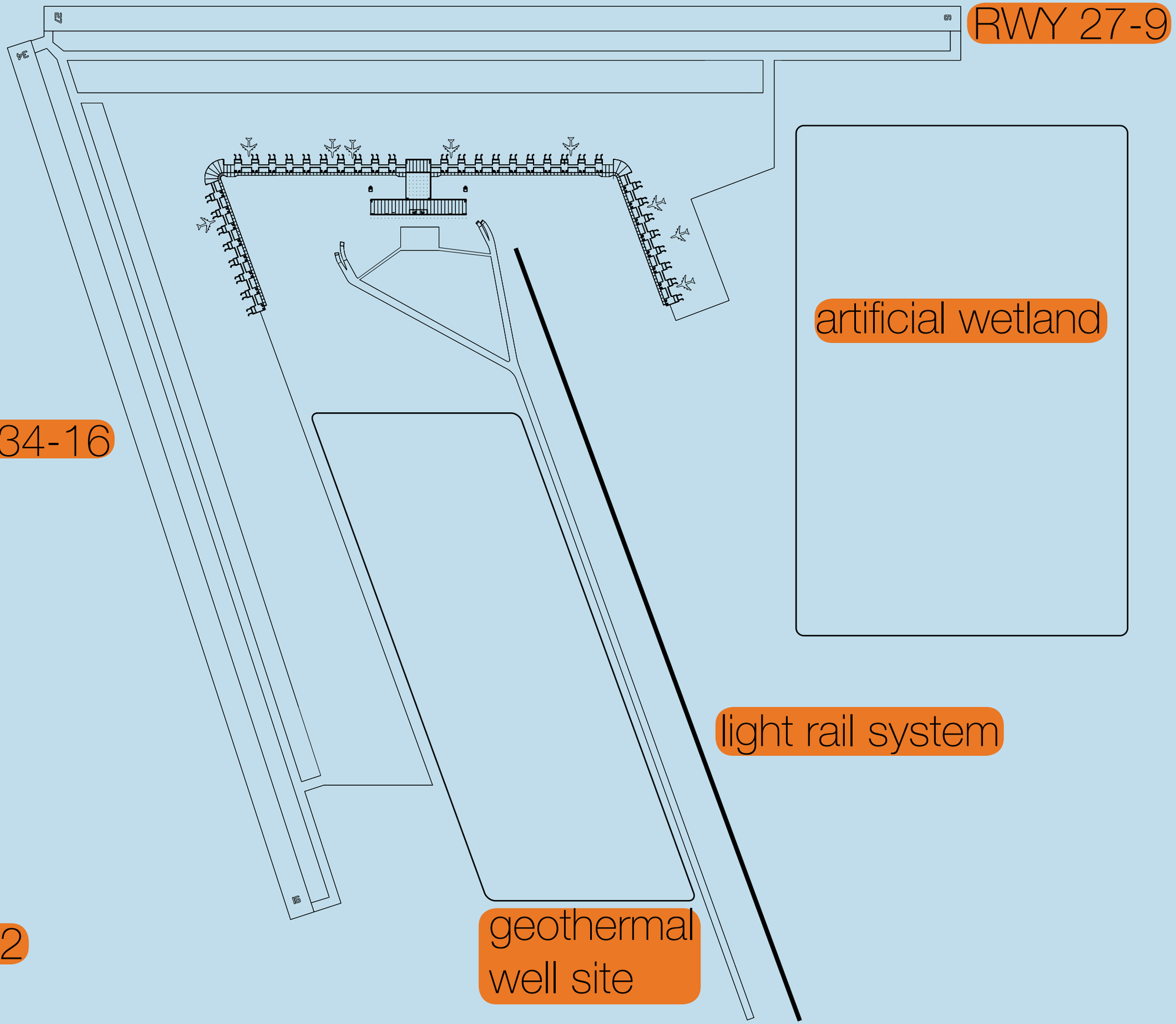
site views

E

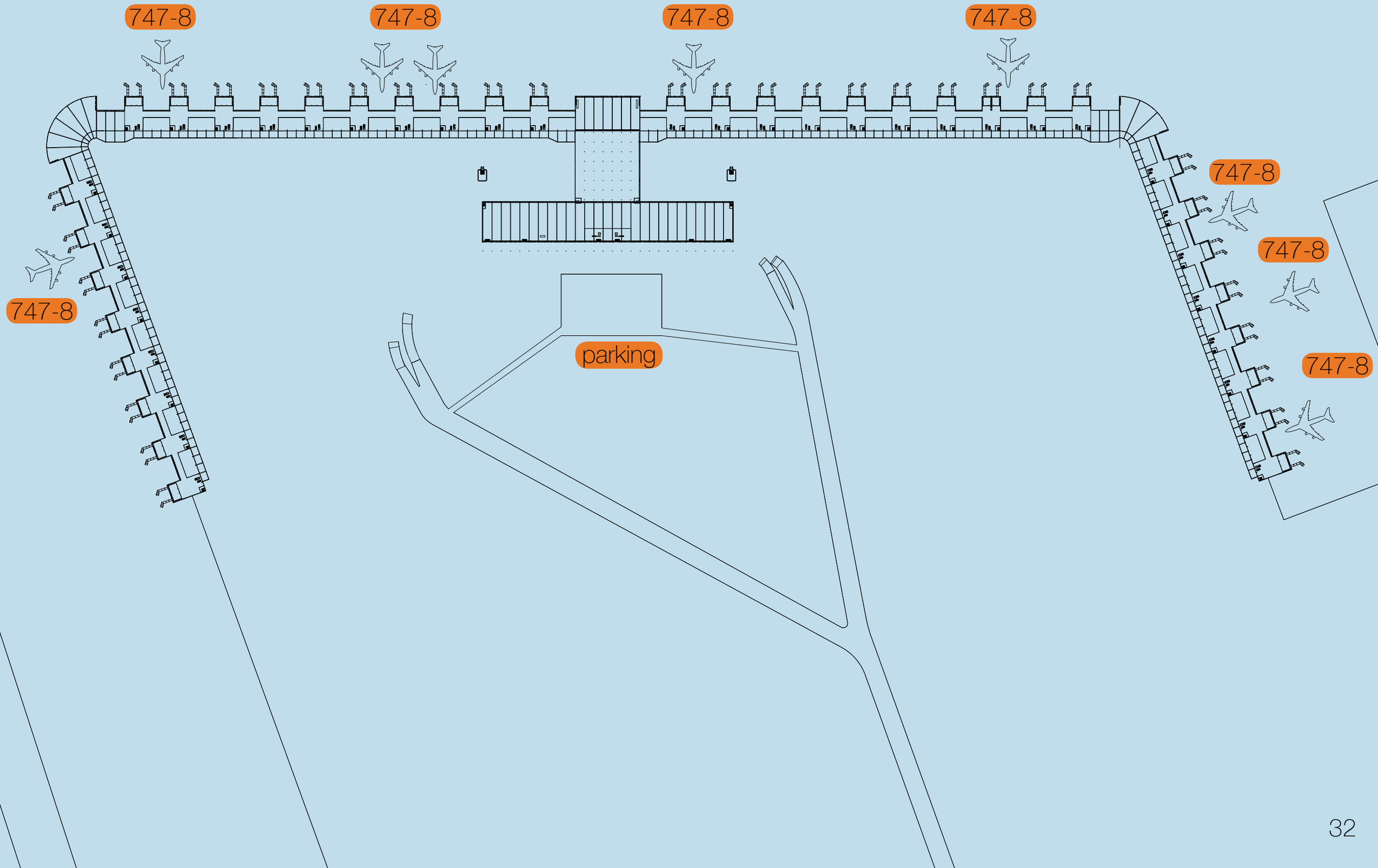
S

plans

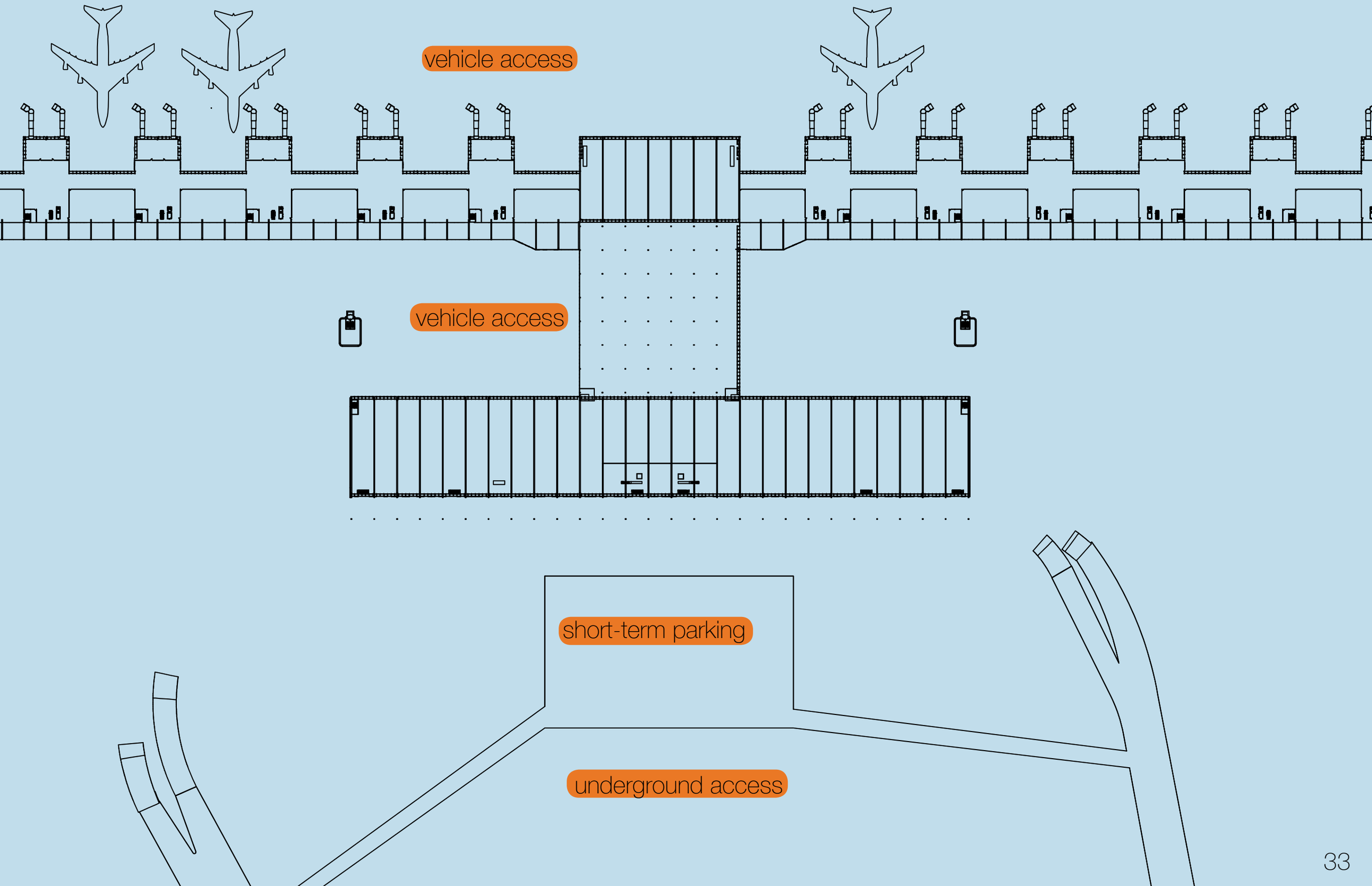
GRADE


RWY 27-9
artificial wetland
RWY 34-16
light rail system
geothermal well site
N
US-52

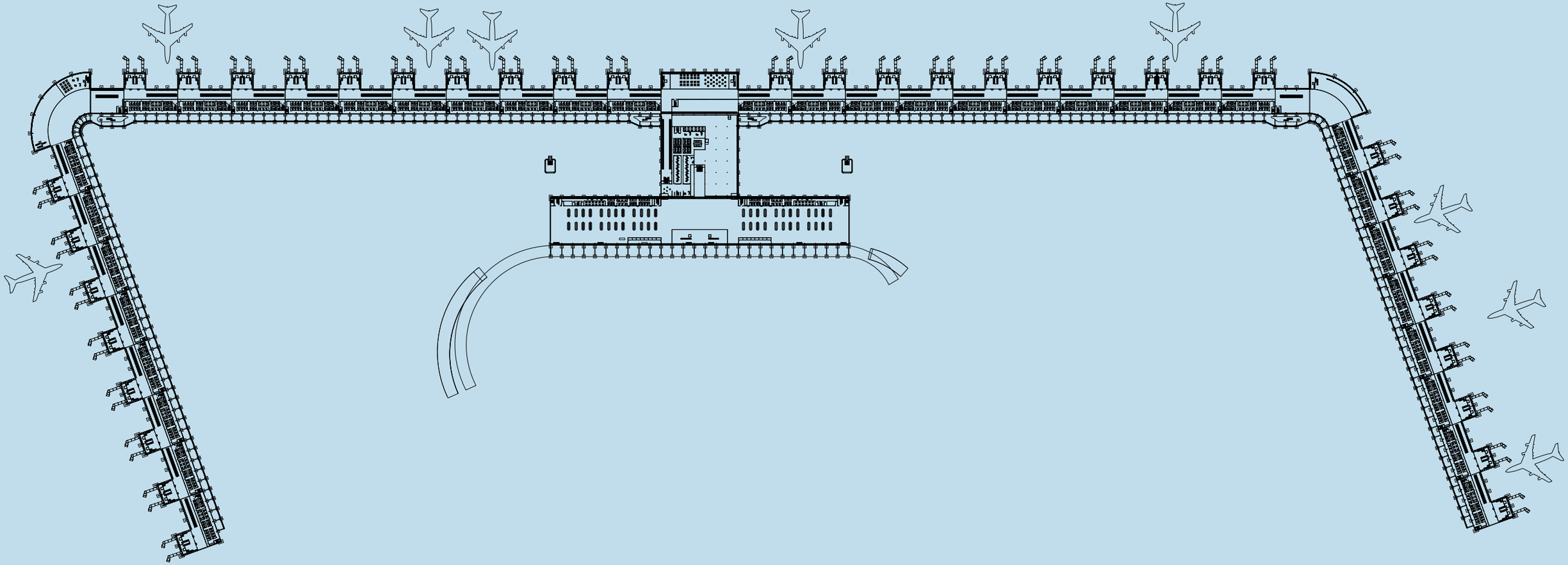
GRADE



GRADE


vehicle access
vehicle access
short-term parking
underground access

LEVEL 1



LEVEL 1

customs corridor

tram

airline offices

storage

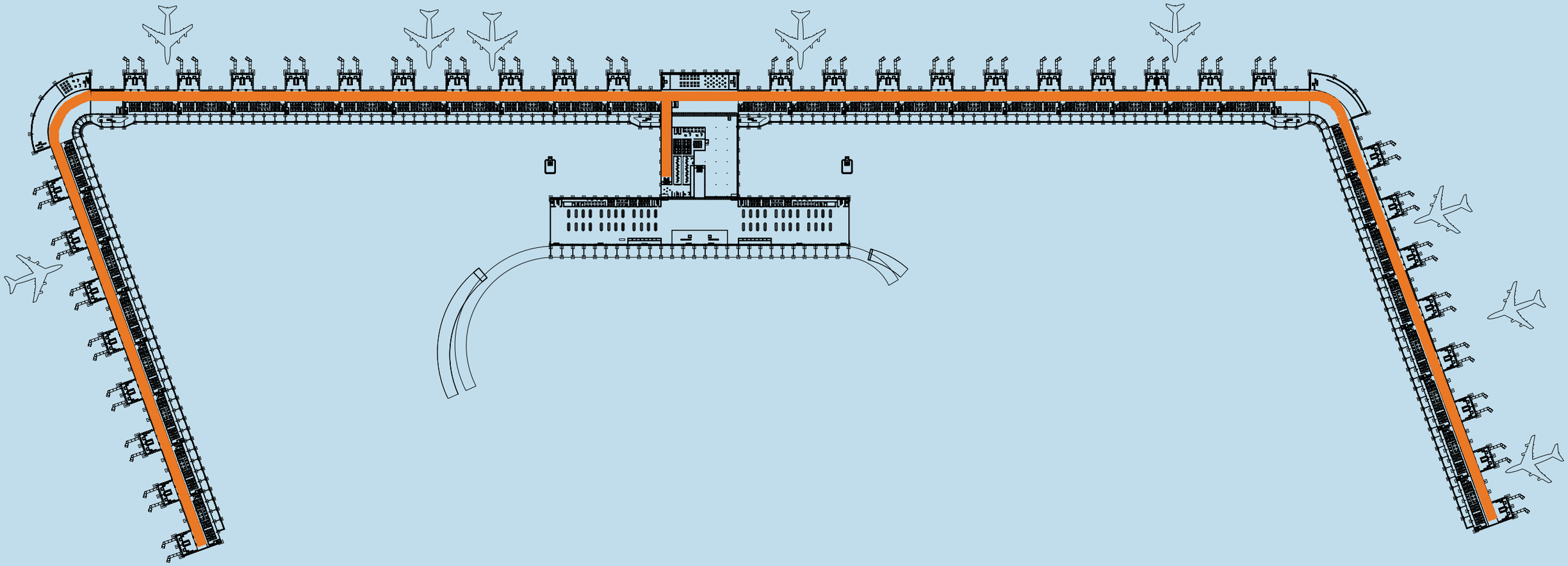
security offices

airport ops offices

baggage claim

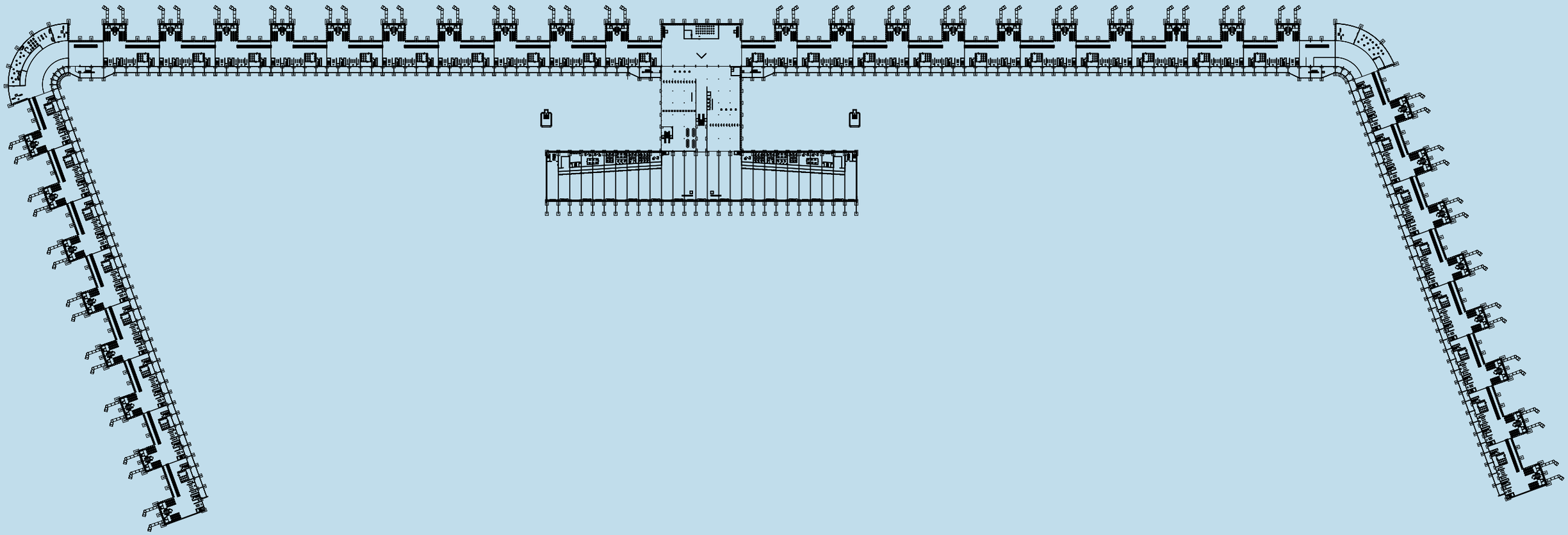
arrivals

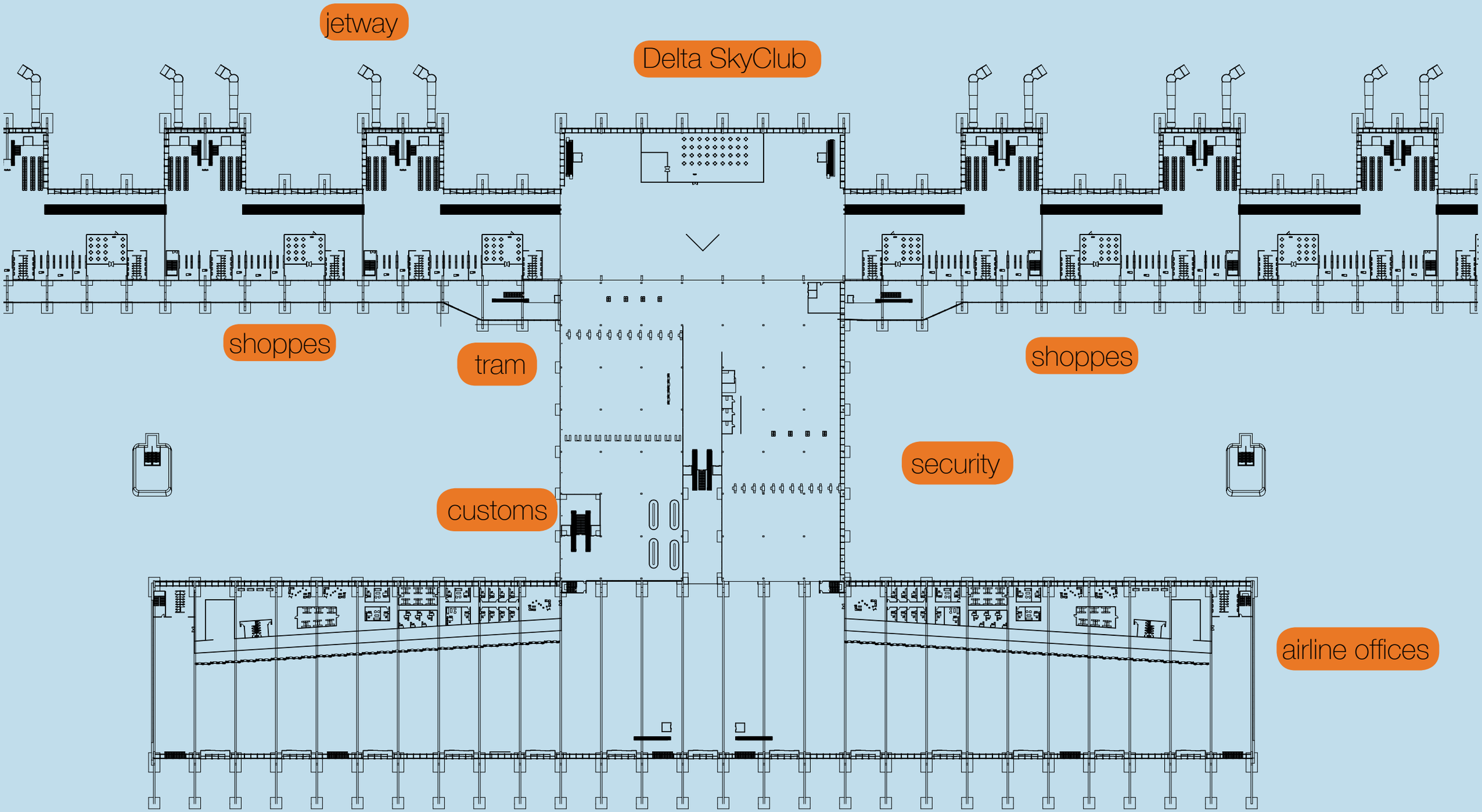
LEVEL 1



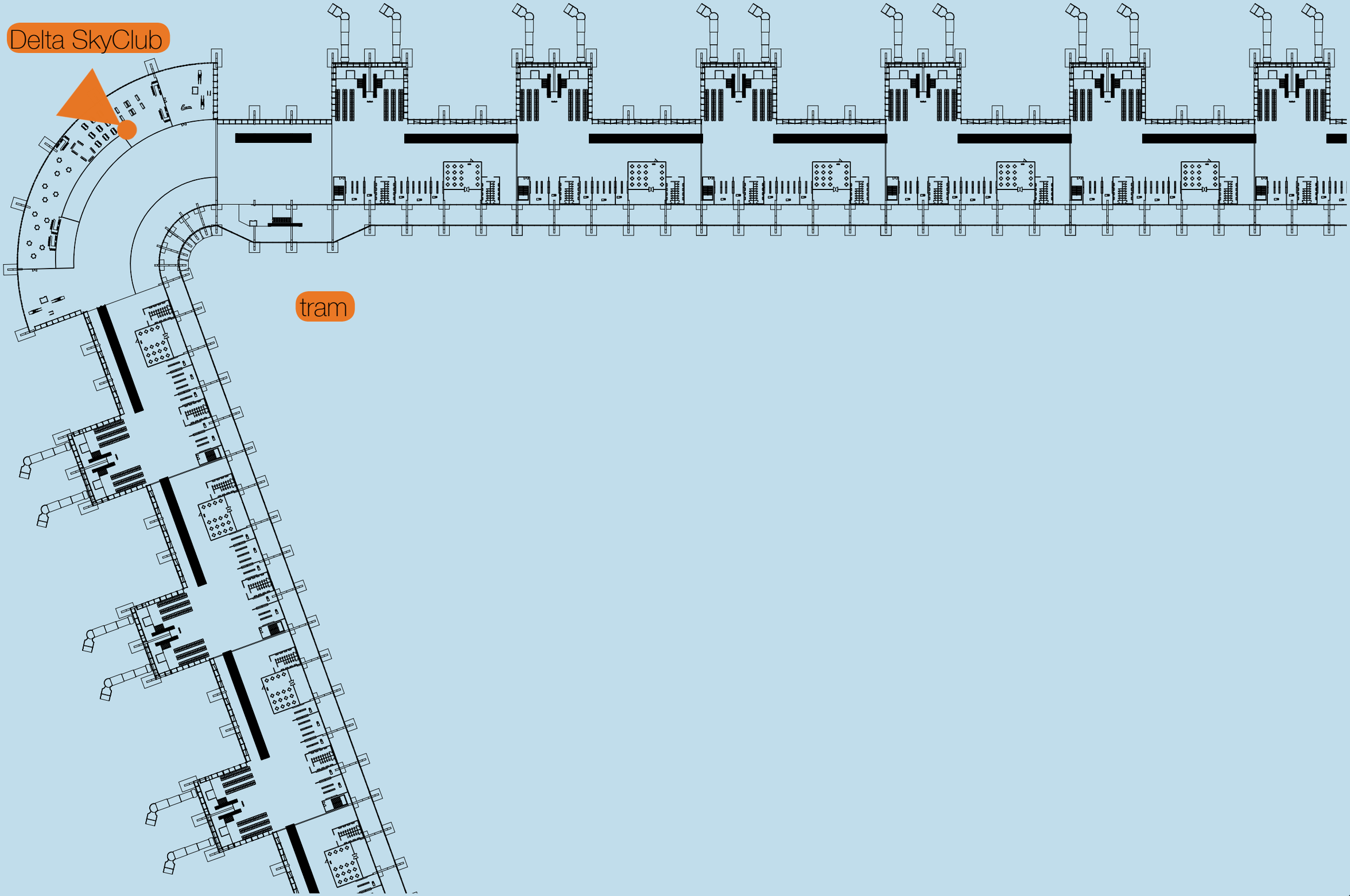
customs corridor in orange

LEVEL 2

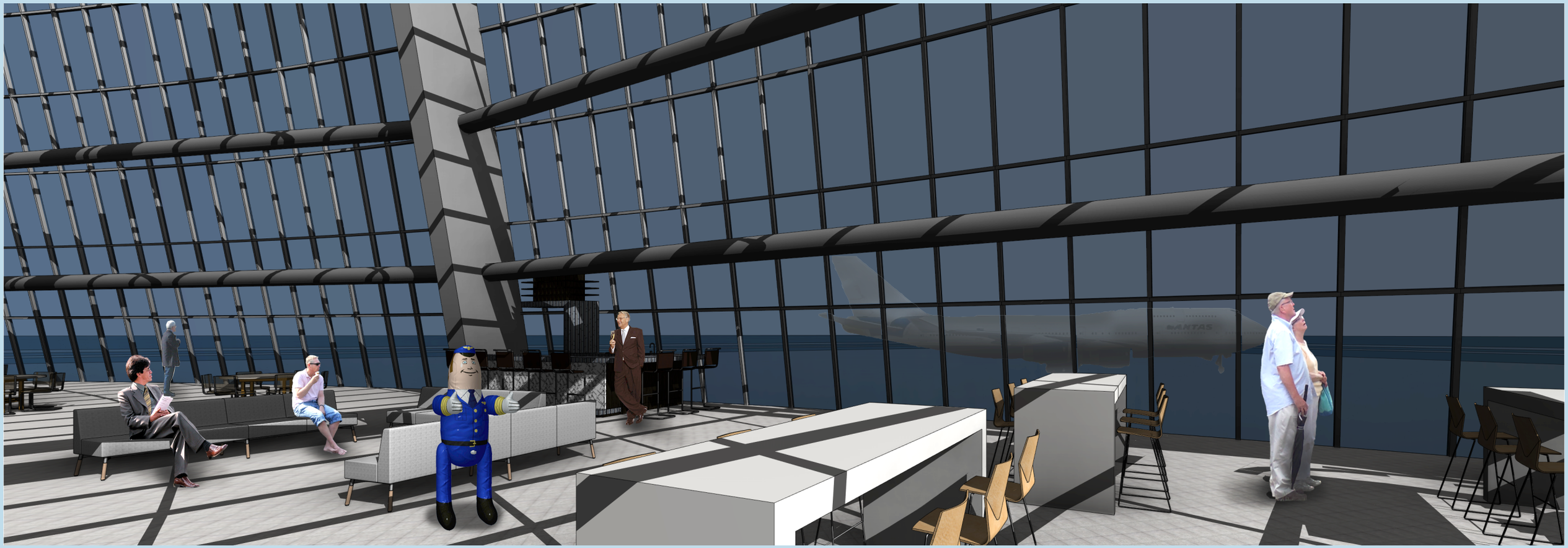



jetway
Delta SkyClub
shoppes
tram
shoppes
security
customs
airline offices

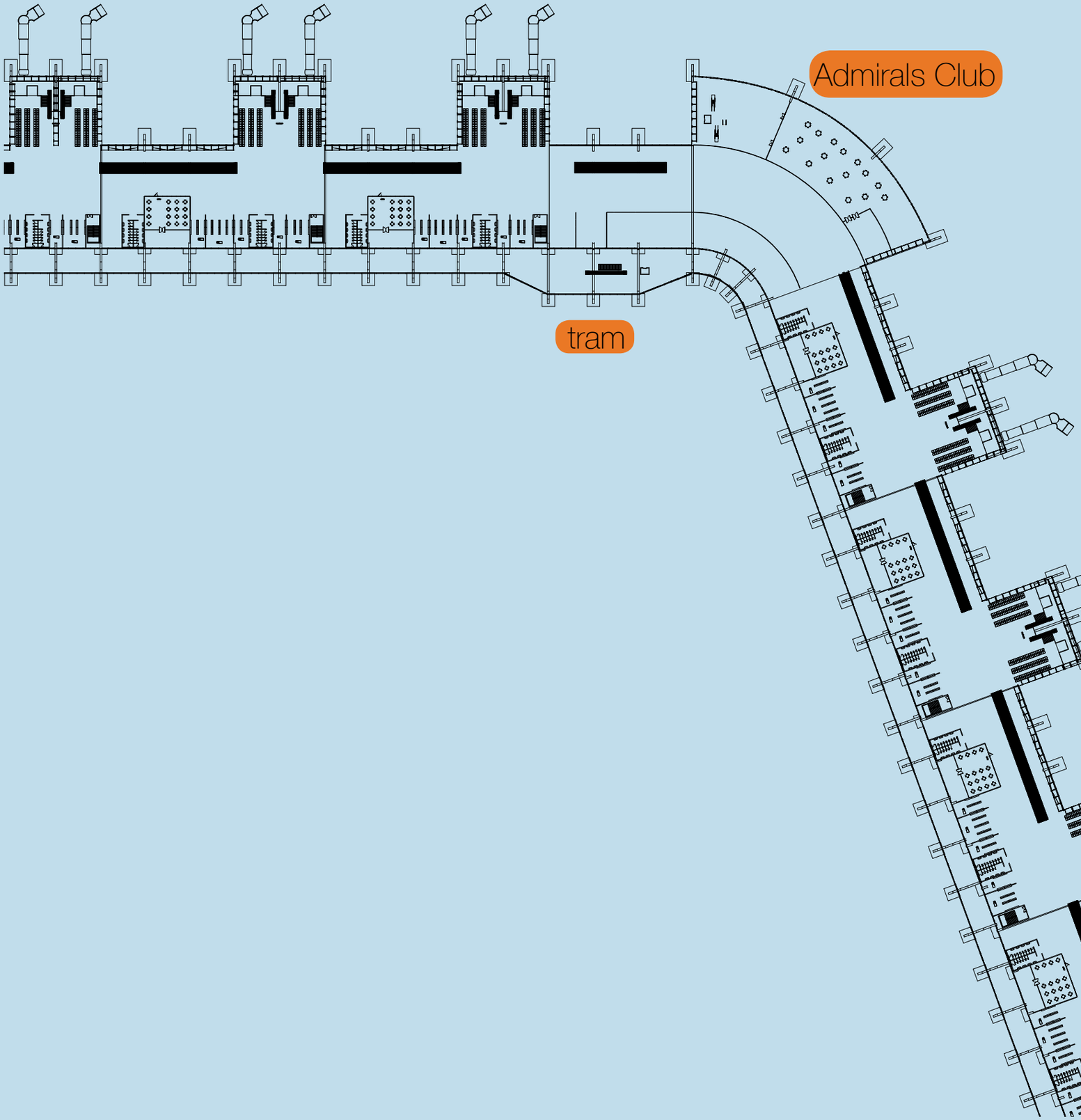
WEST



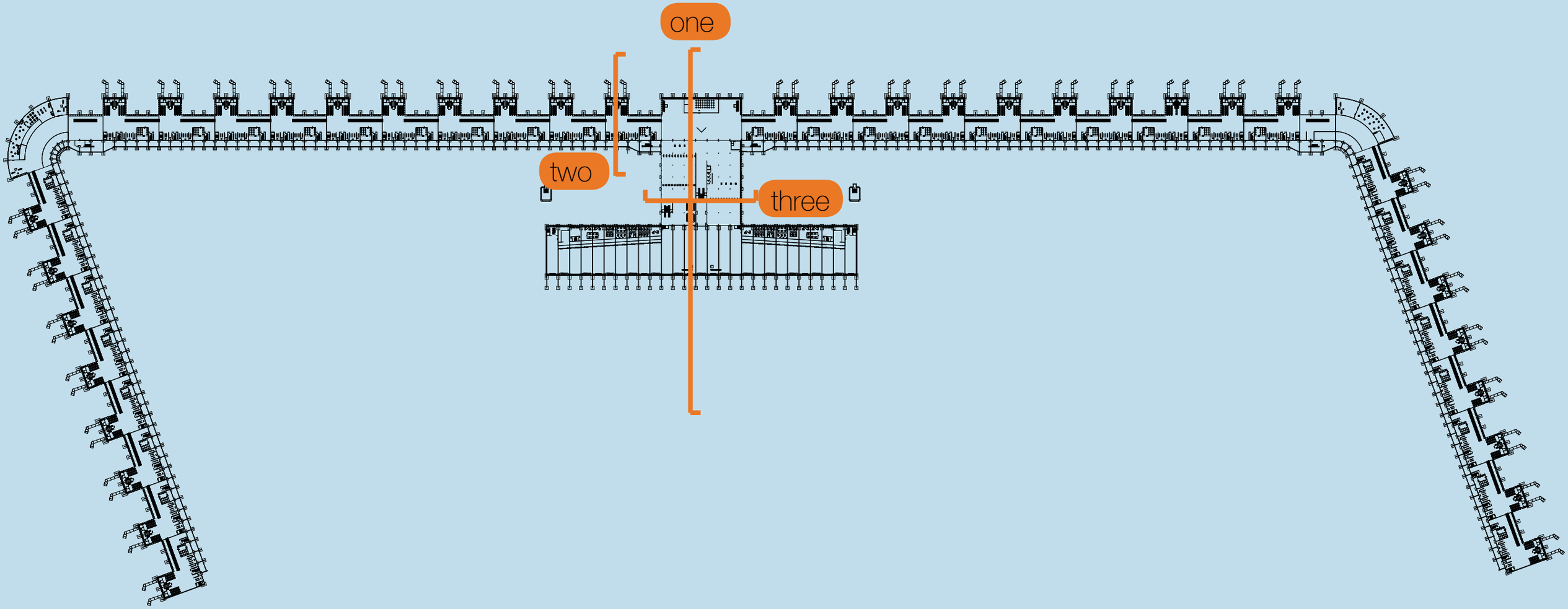
Delta SkyClub rendering



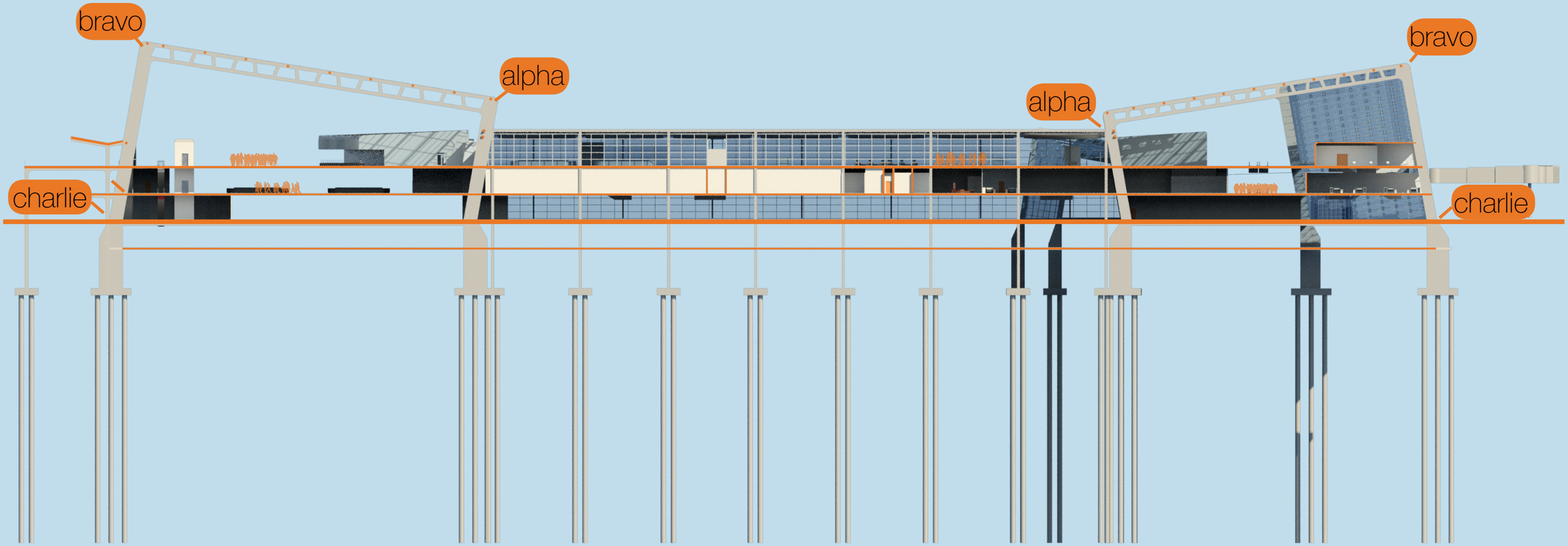
EAST



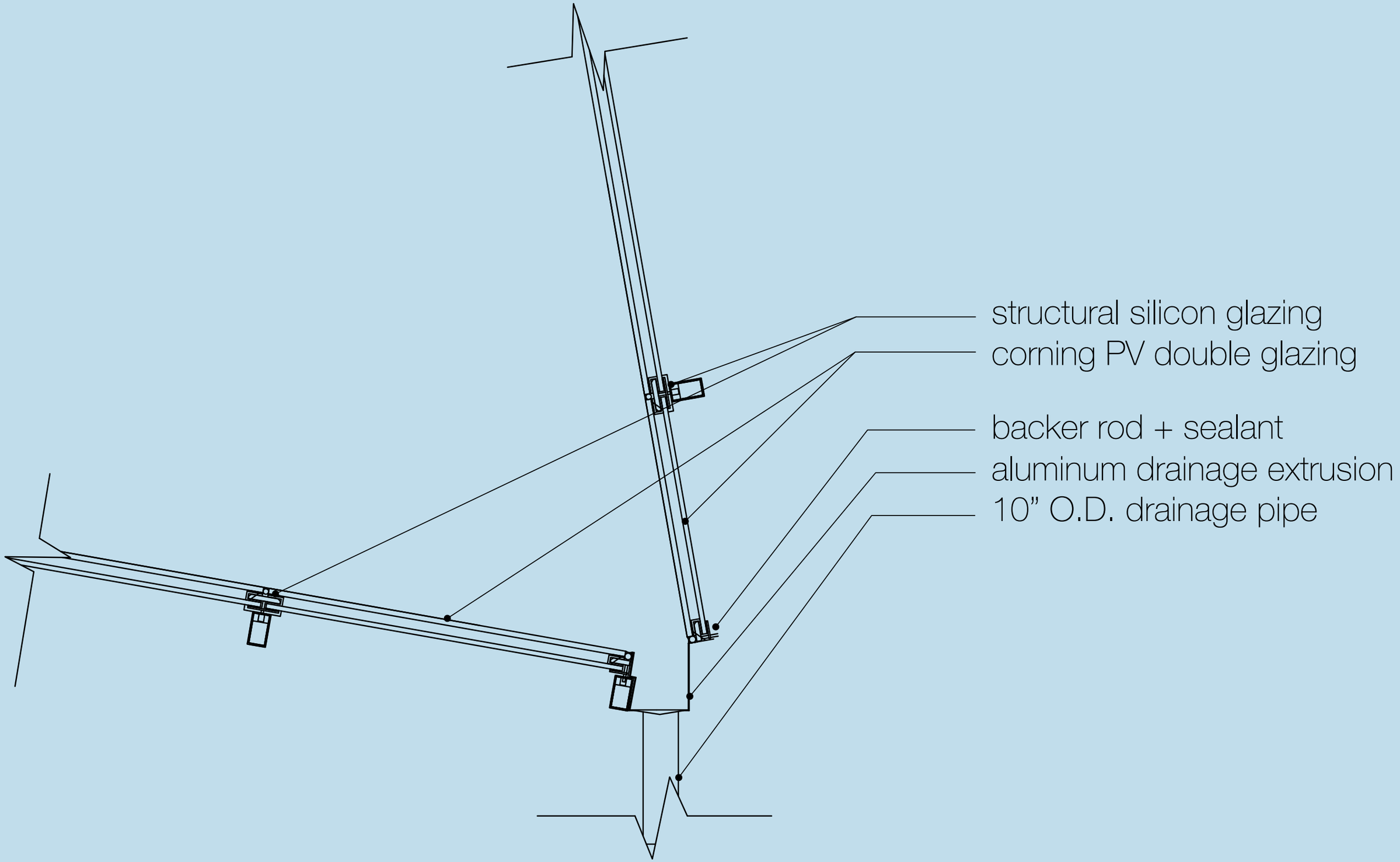
details


one
two
three

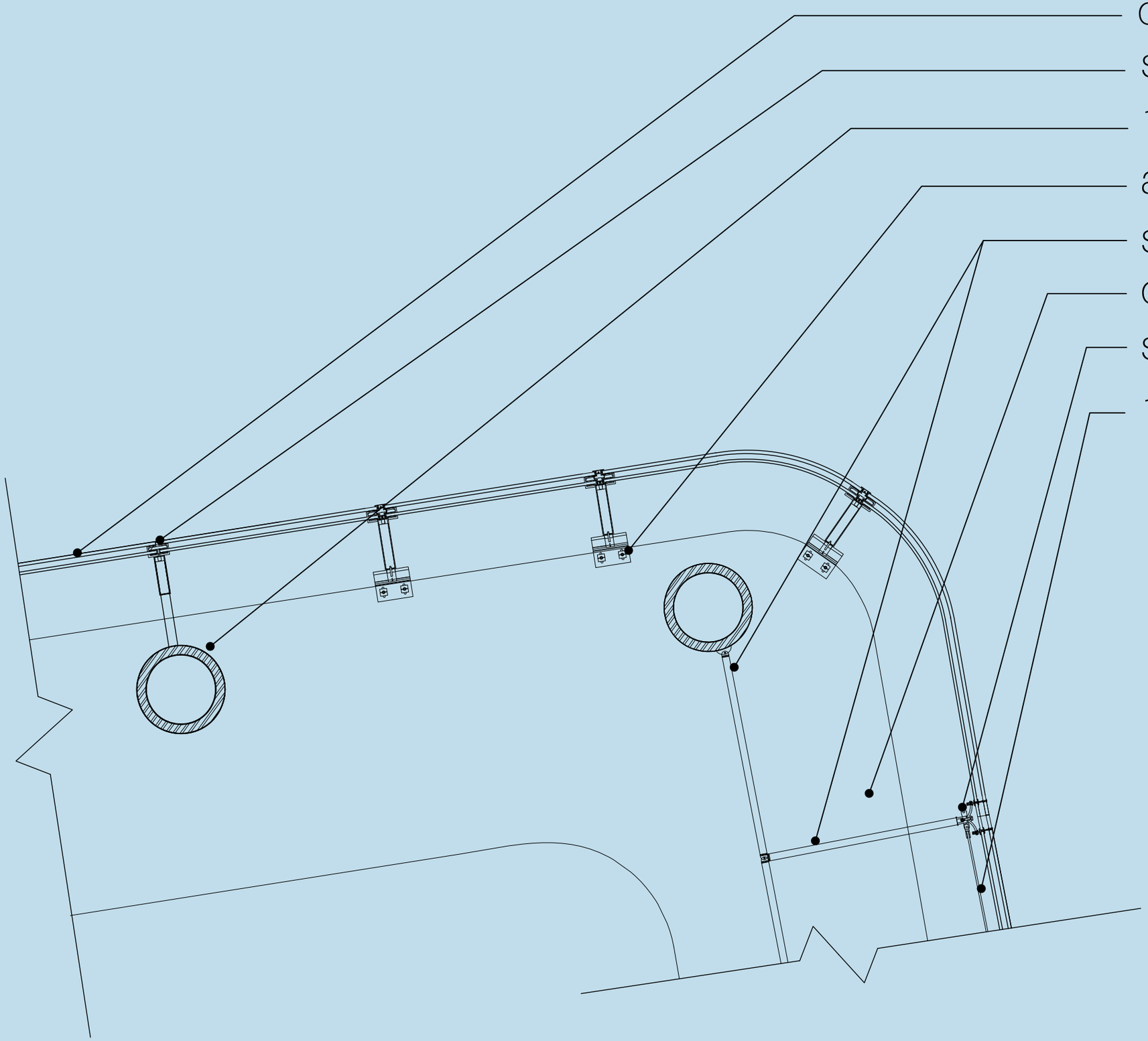
section perspective one



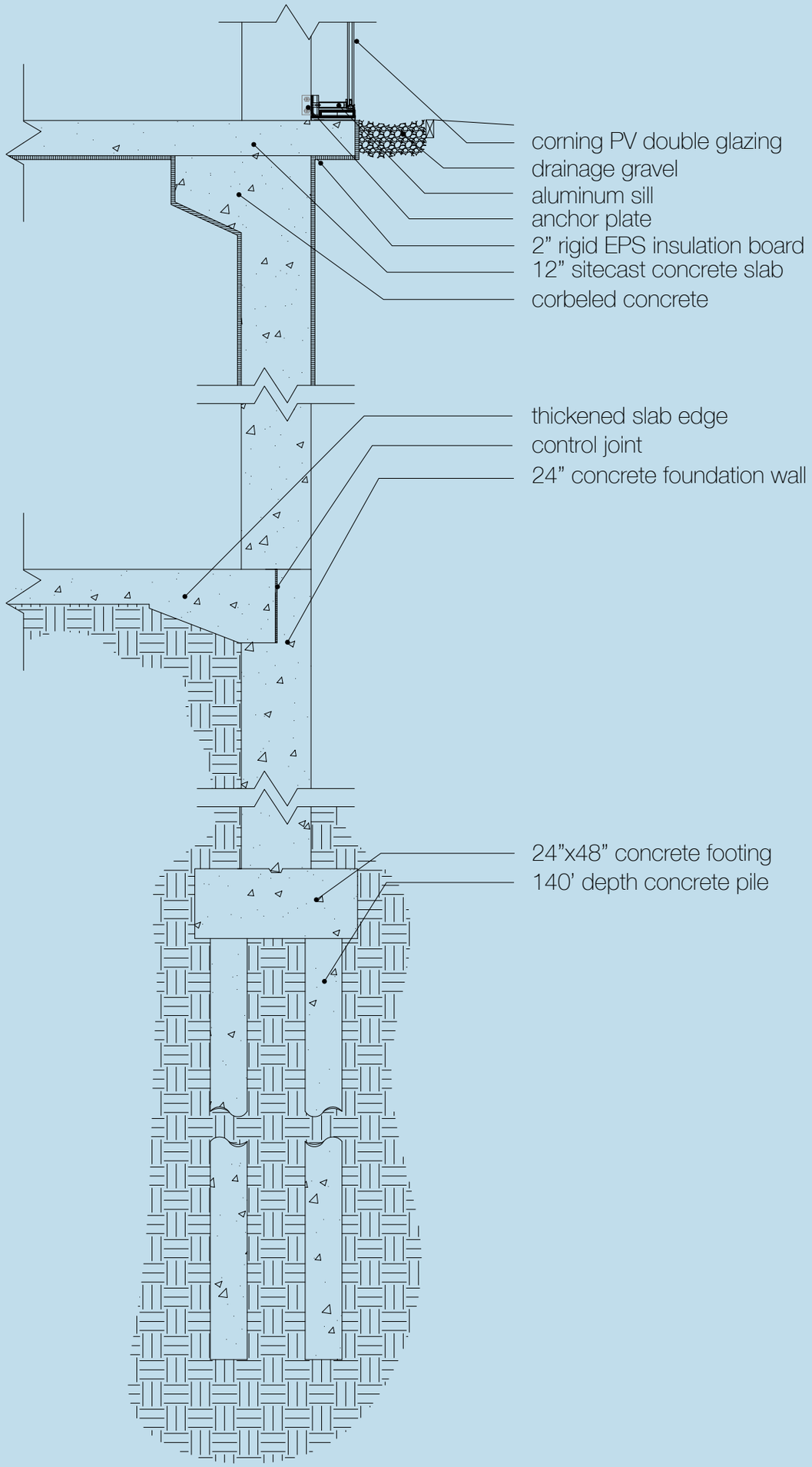
detail alpha

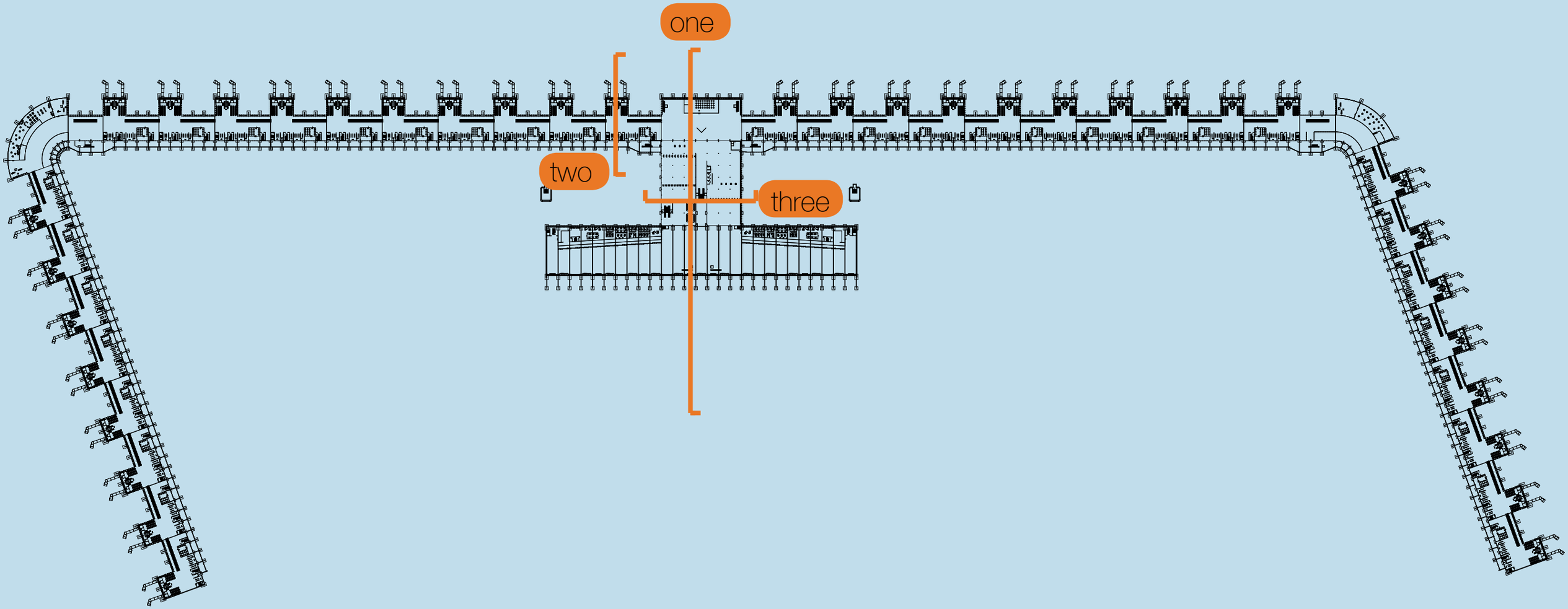


detail bravo

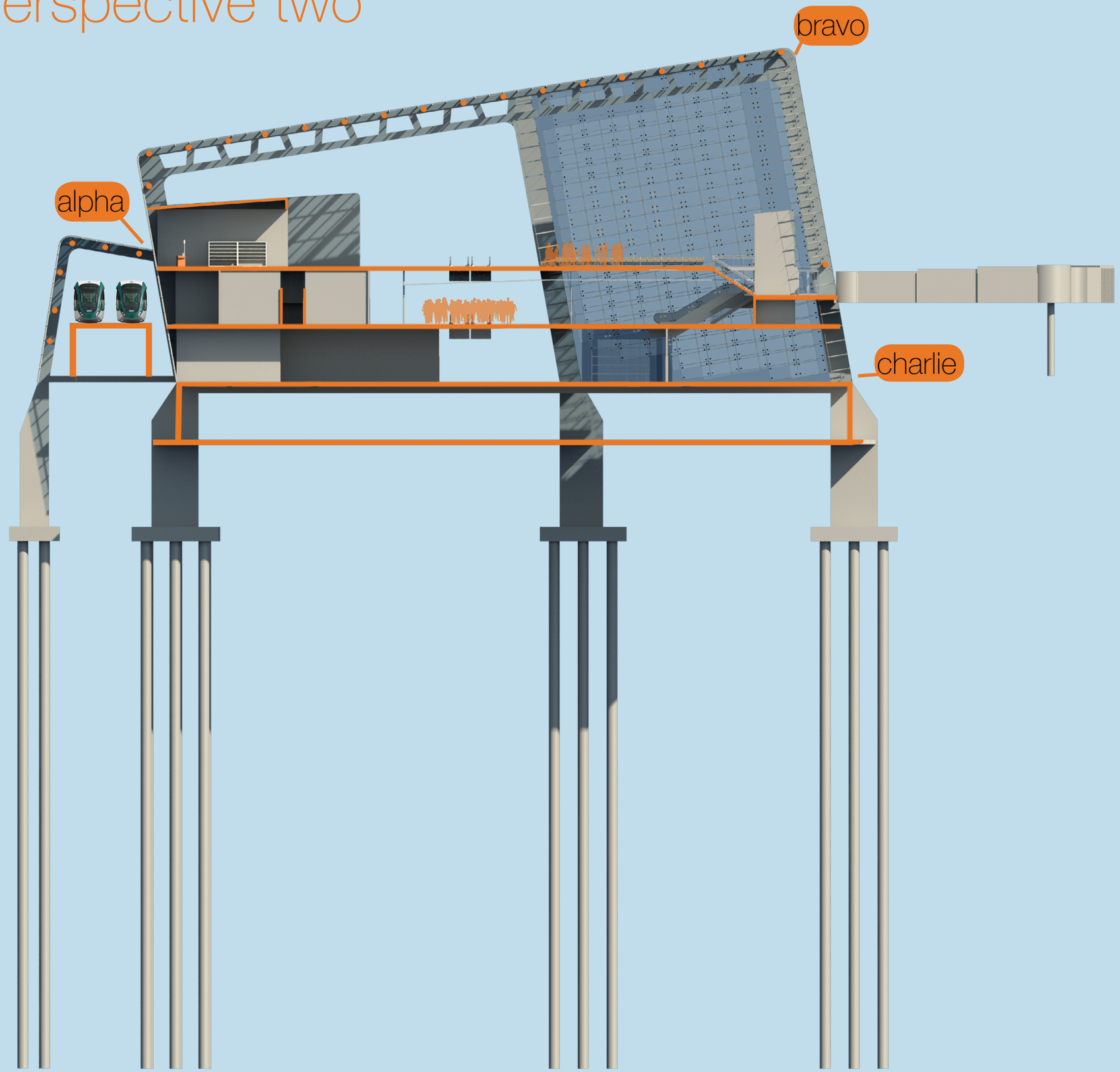


detail charlie

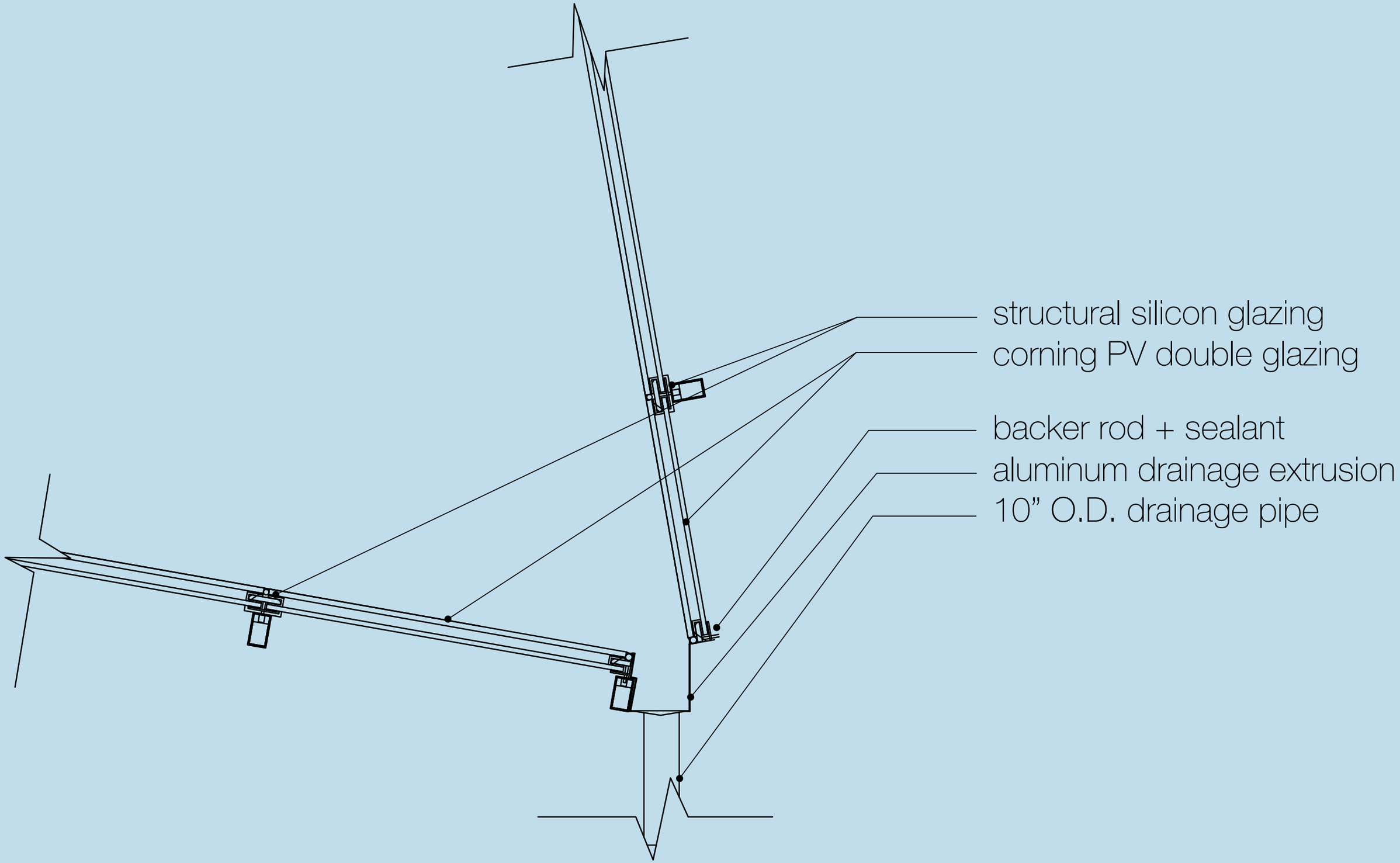



one
two
three

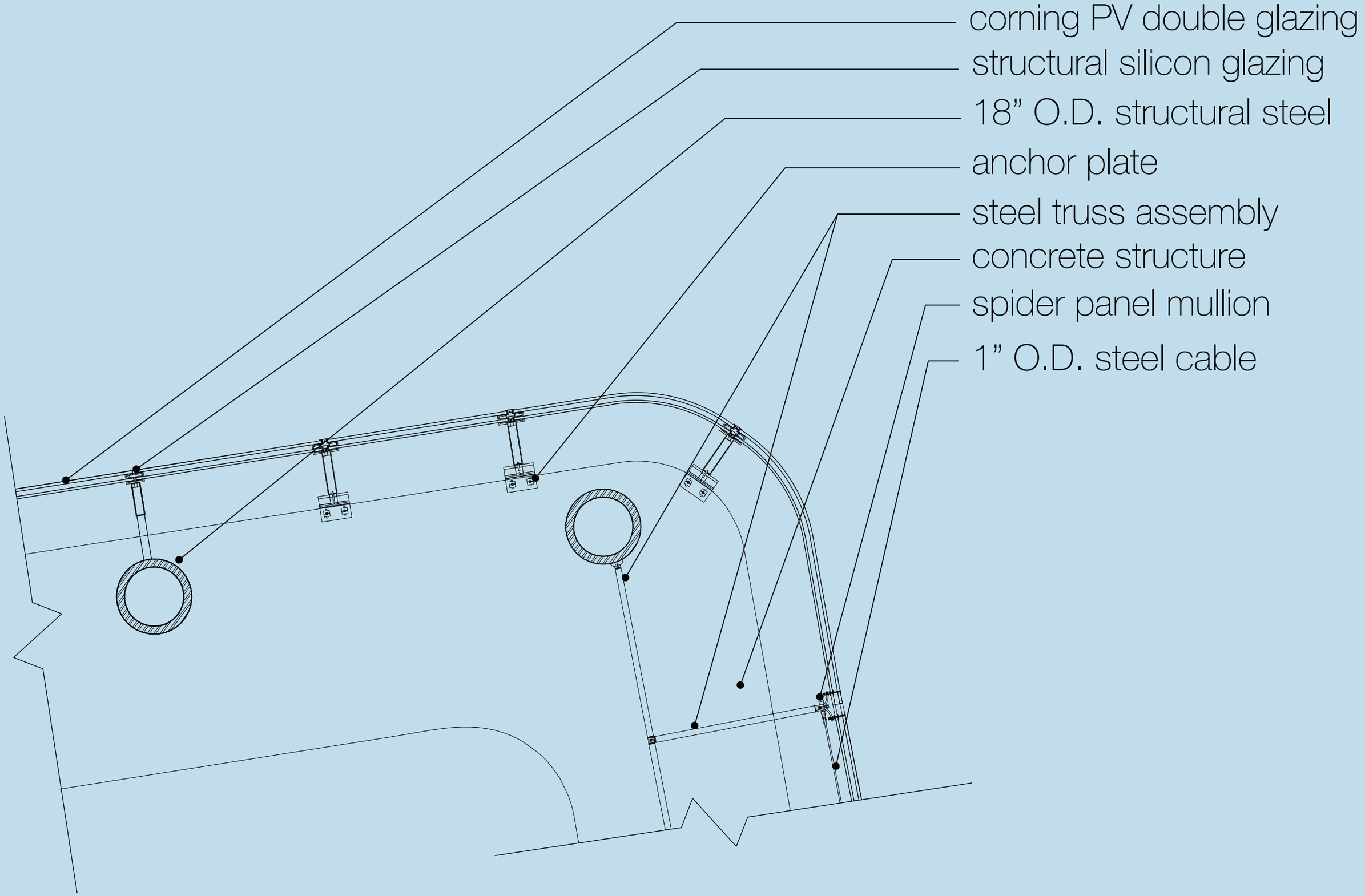
section perspective two



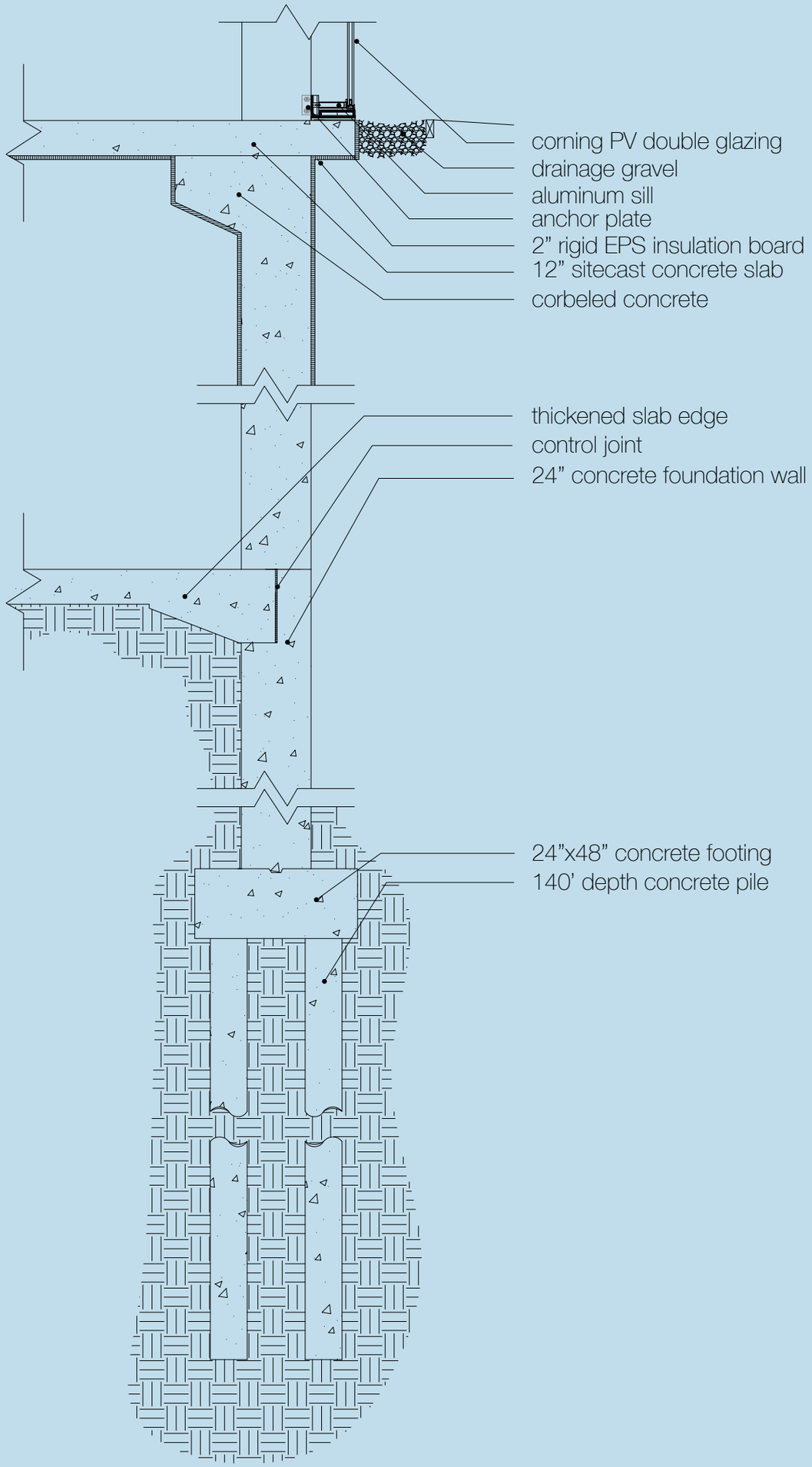
detail alpha

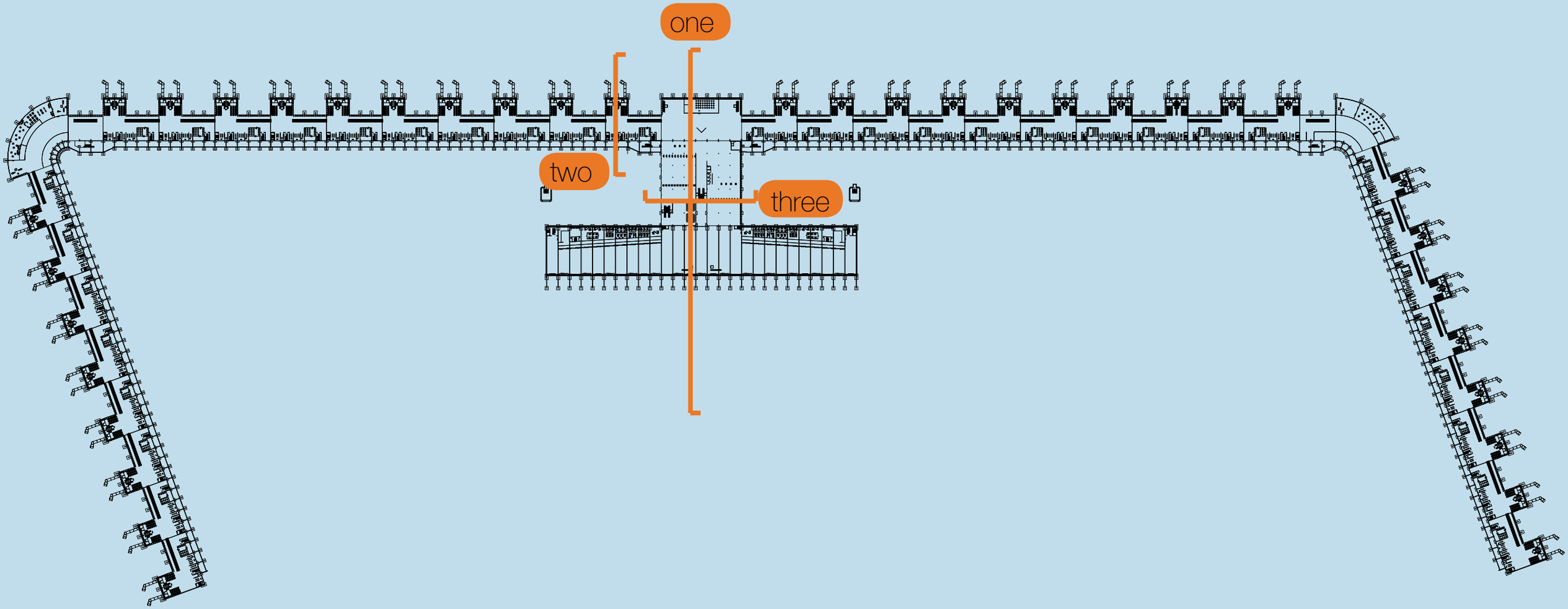


detail bravo

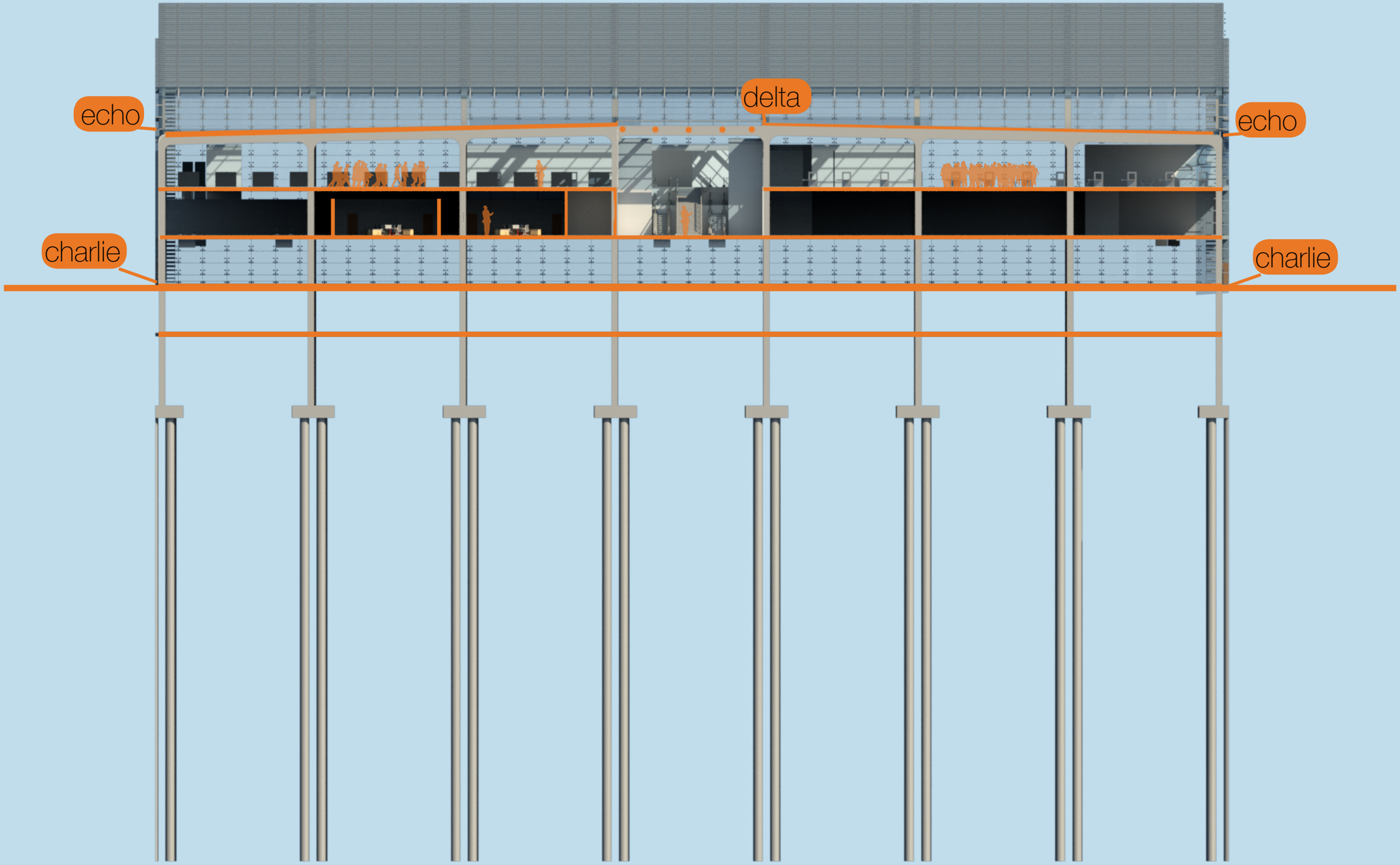


detail charlie

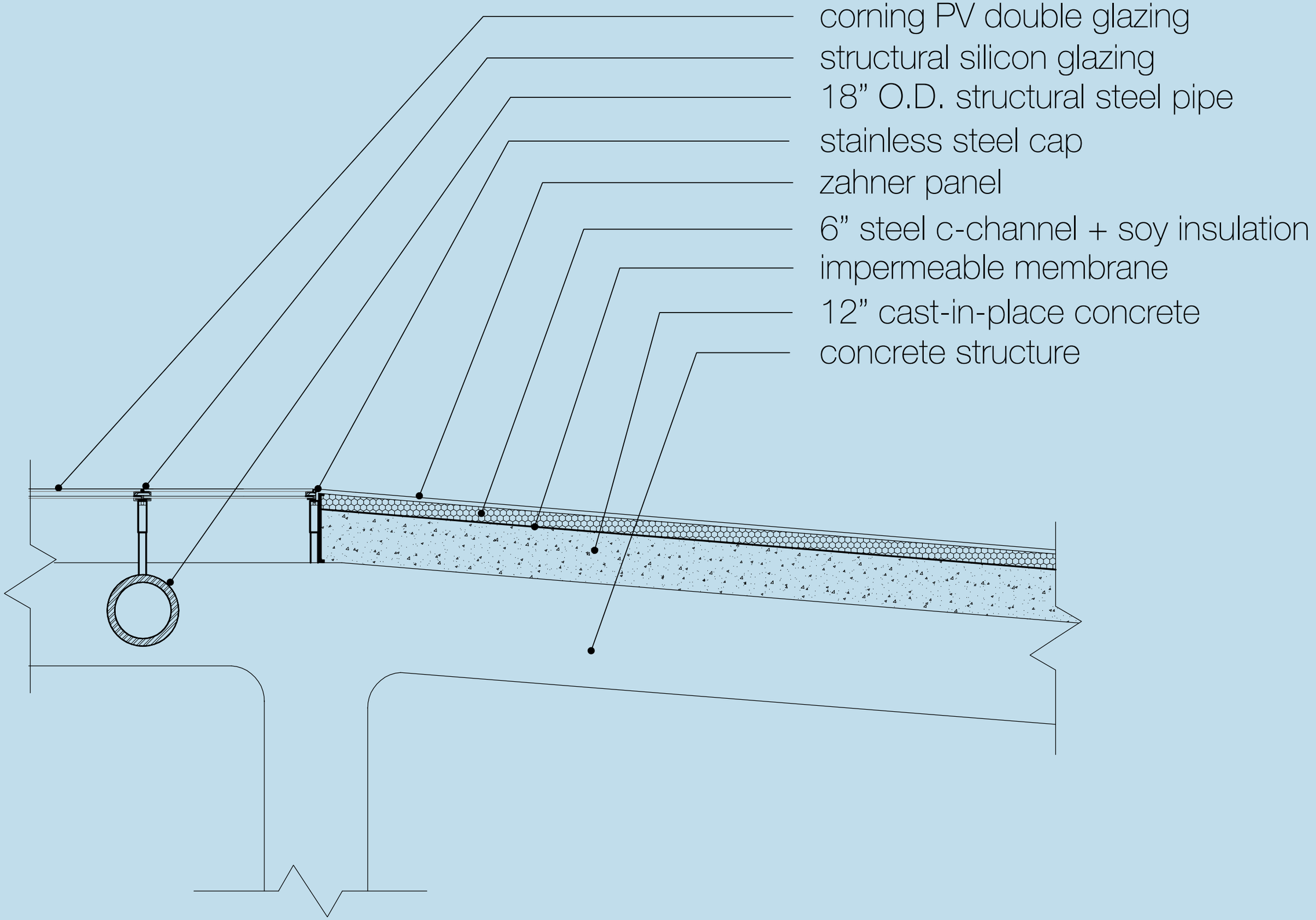



one
two
three

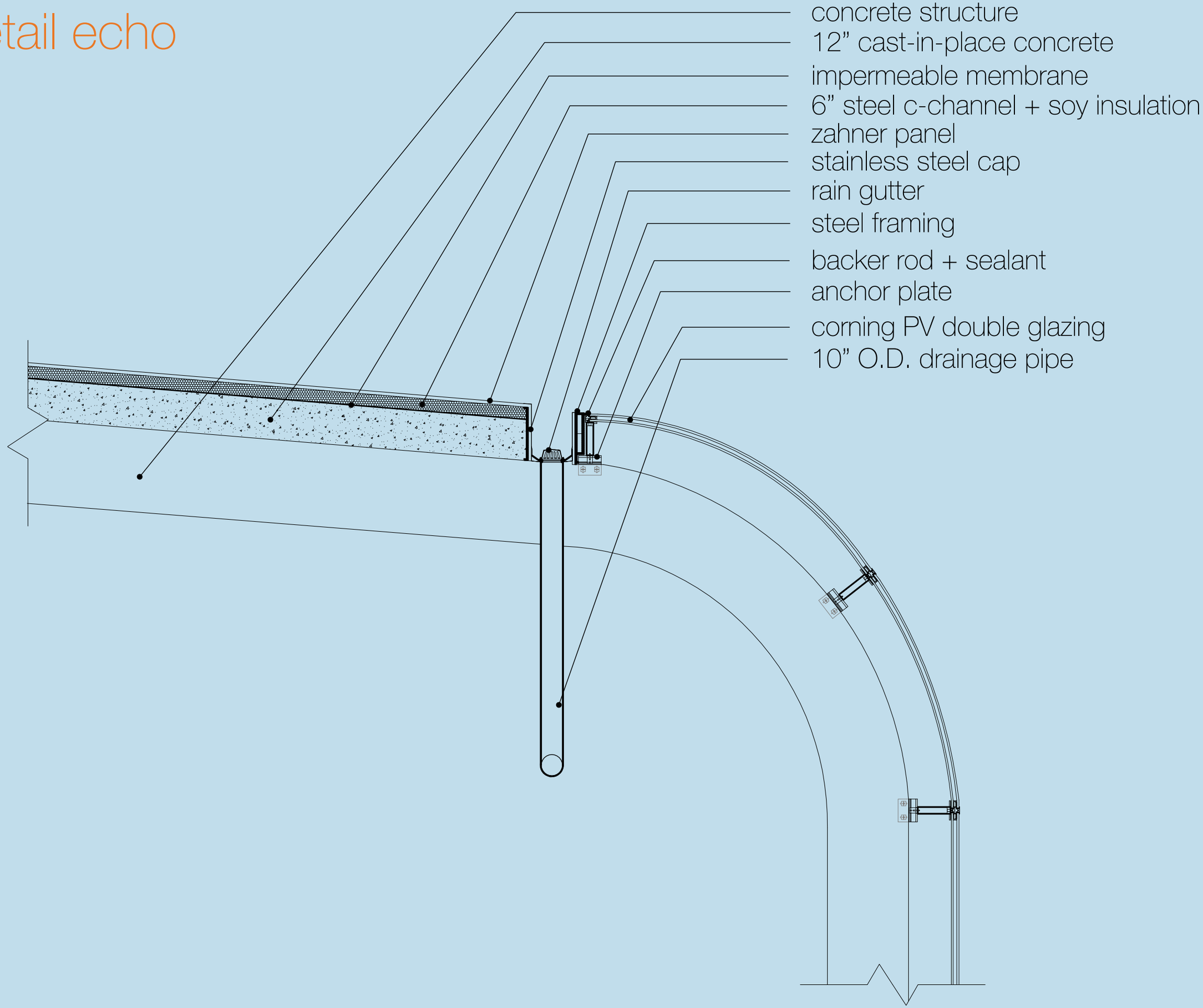
section perspective three



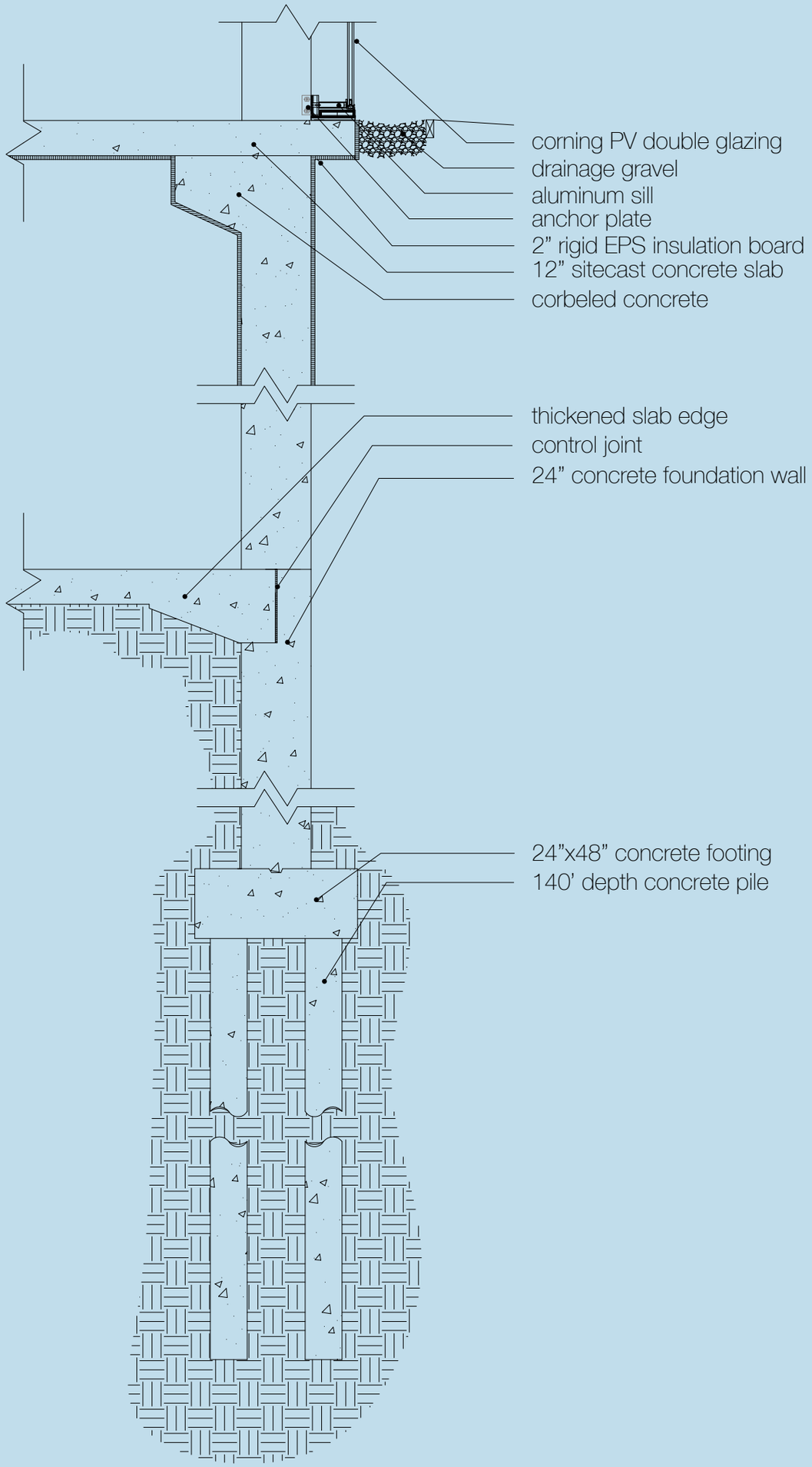
detail delta



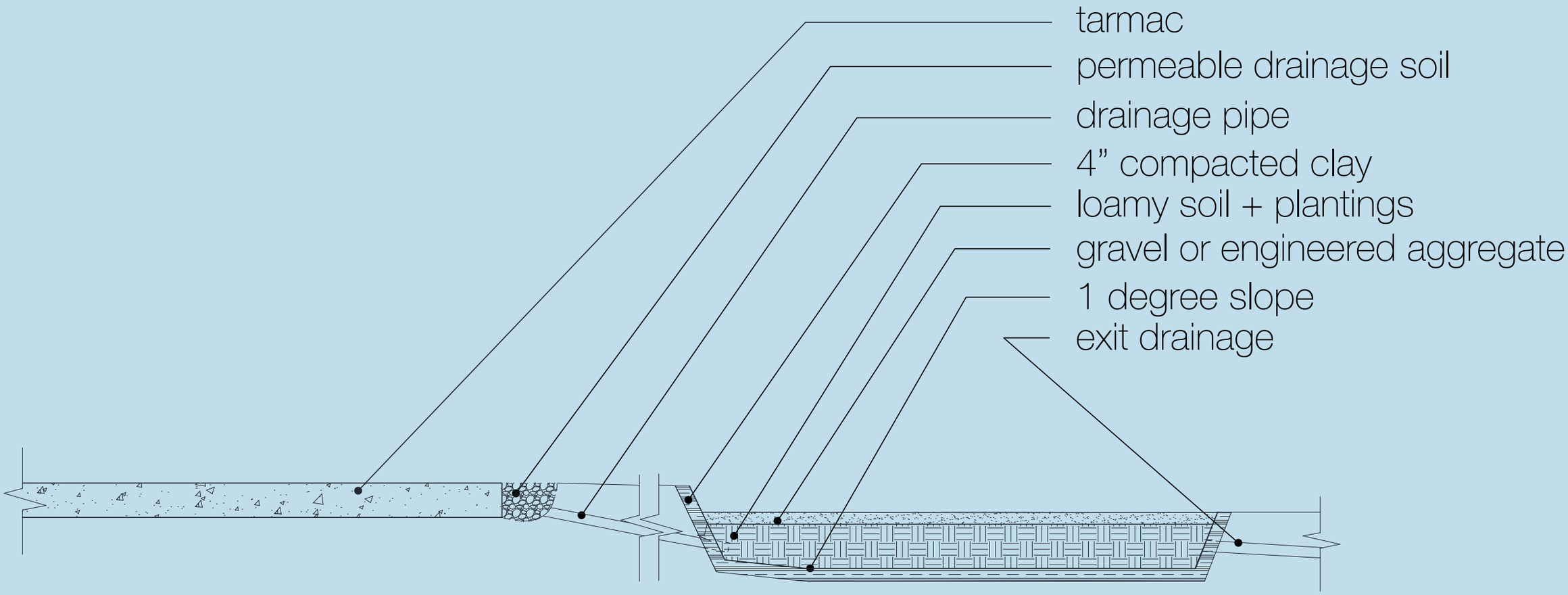
detail echo


concrete structure
12” cast-in-place concrete
impermeable membrane
6” steel c-channel + soy insulation
zahner panel
stainless steel cap
rain gutter
steel framing
backer rod + sealant
anchor plate
corning PV double glazing
10” O.D. drainage pipe

detail charlie

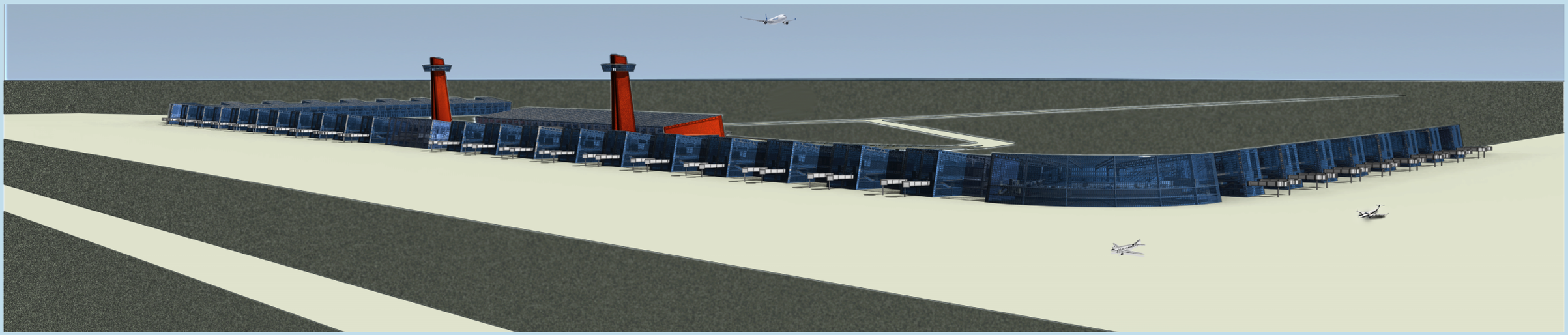


detail foxtrot

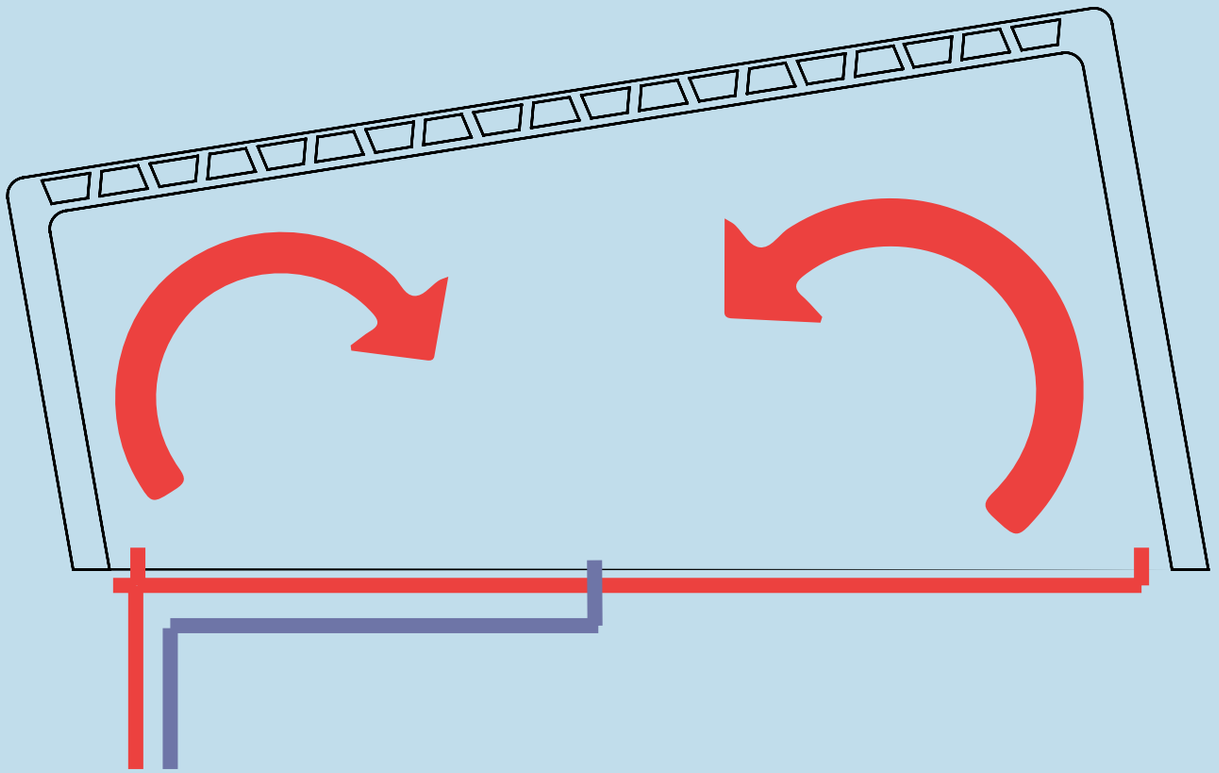


wetland drain detail

exterior from nw



systems



supply on sides, return in middle for large open spaces.
fan coil units for smaller spaces demanding a specfic environment

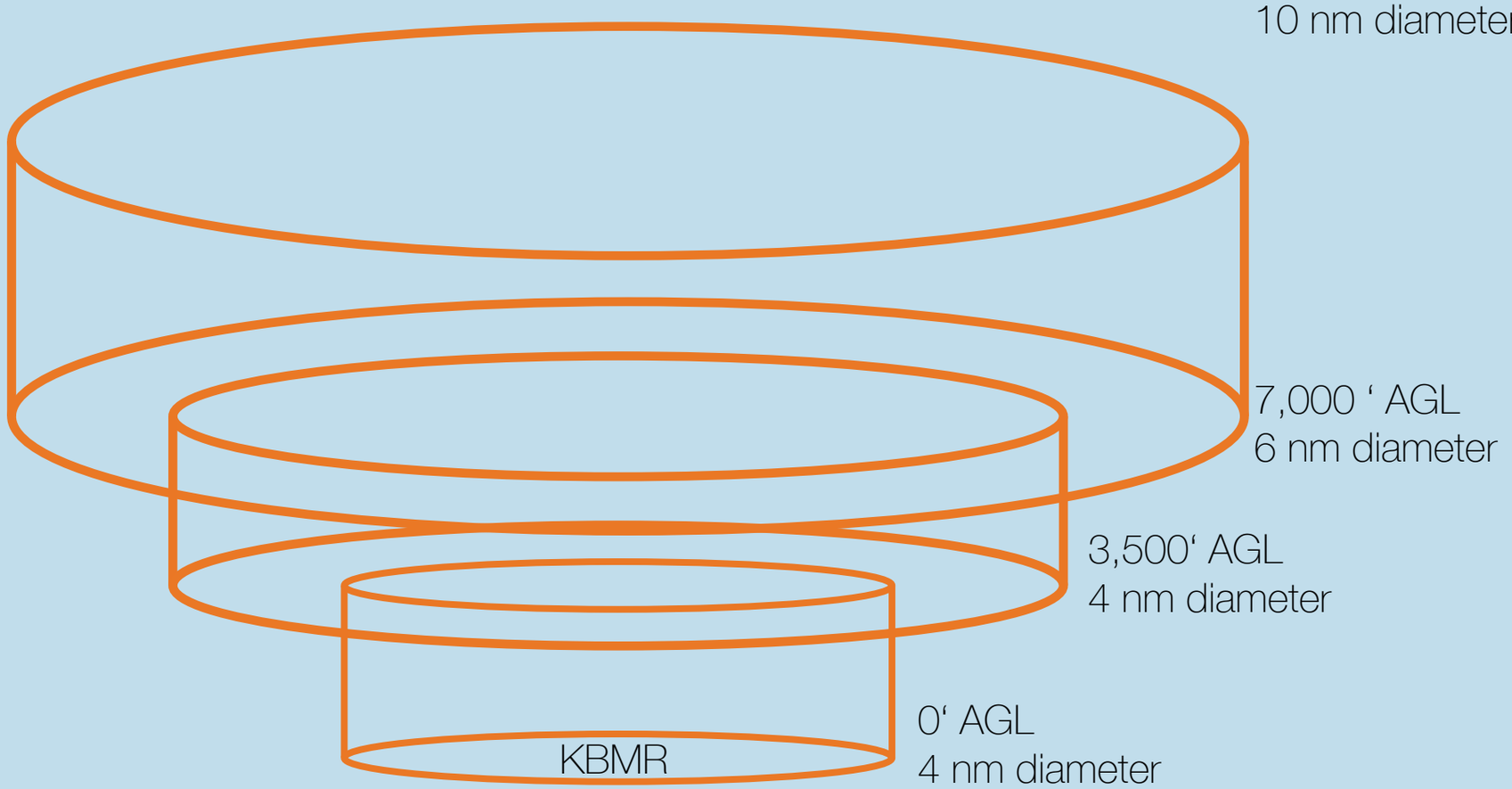
exhaust and supply would be on the tram-side of the concourse, with sytlised intakes

baggage

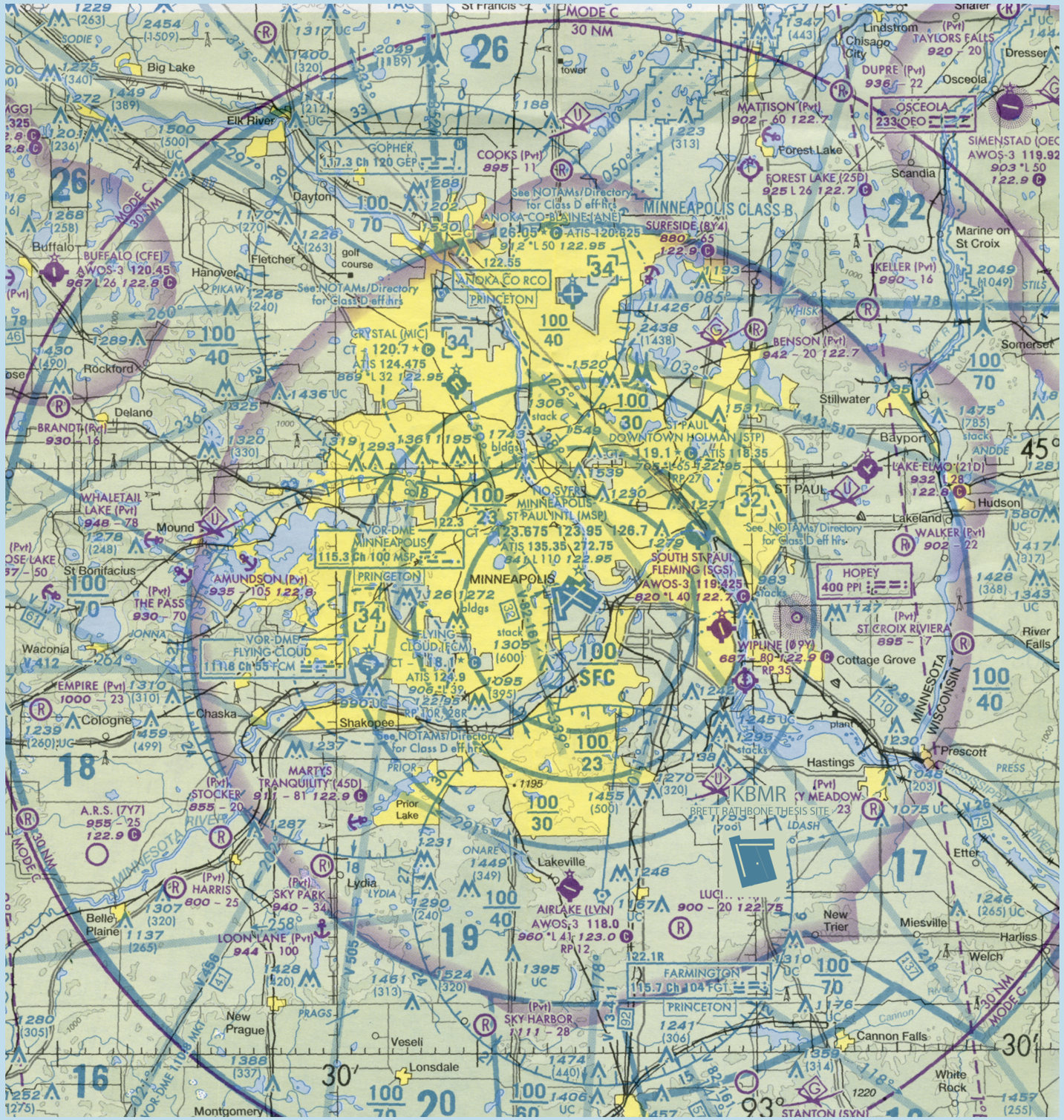
siemens baggage system
bags are tagged by the system and placed on an individual carriage system, and they are stored in a storage area. bags are then requested by the system for their respective location. The entire system is automated, but monitored.

airspace

class b airspace rules



twin cities sectional



thank you

questions + comments?