



San Francisco International
Terminal 3 East
Civic Design Review : Design Development Package
December 16, 2013

© All rights reserved, Andrew Choi



Overview

| | |
|--------------------------------|----|
| Project Overview | 4 |
| Project Scope | 5 |
| Project Design Concept | 6 |
| Sustainability & System Design | 7 |
| Design Goals | 8 |
| Basis of Design | 9 |
| Preliminary Schedule | 10 |

Site & Existing Photographs

| | |
|--|----|
| Site Photographs | 12 |
| Building Photographs - Material Overview | 15 |

Terminal 3 East Building Design

| | |
|----------------------|----|
| Overall Plan | 25 |
| Perspective Views | 26 |
| Curtain Wall Studies | 28 |



Overview



Project Overview

It took over 80 years for 150 acres of cow pasture to transform itself from a quaint municipal airport to one of the world's twenty busiest airports.

In 1955, with Pan Am's new Clipper service, the airport achieved "international" status, making it the gateway for cosmopolitan travel. Today, San Francisco International Airport handles over 35 million passengers a year and the airport, despite massive expansion and restructuring, is still in need of space.

Despite a topsy-turvy airline business, air travel is still the most convenient way of getting from point A to point B. While airlines duke it out over fares and passengers, airports continue to work twice as hard to accommodate those planes and passengers.

A new paradigm in air terminal design calls for not only heightened functionality, but also an evolution in the integrity of its environmental design.

While there have been many qualitative changes in air travel since 9/11, passenger expectations for how an airport terminal should perform continues to rise. From Wi-Fi service to luxury lounges and amenities, airports have become intensely charged environments of activity.

SFIA has set the tone for the capitalization of a captive audience's needs and wants. Here, passengers can find art exhibitions, luxury shopping, fine dining, and elegant public spaces, all with a distinct "Bay Area" flavor.

Project Scope

The Scope of this Project is a major renovation of the east half of Terminal 3 (T3 East). This is the second part of a phased series of renovations occurring in the building, originally completed in 1979.

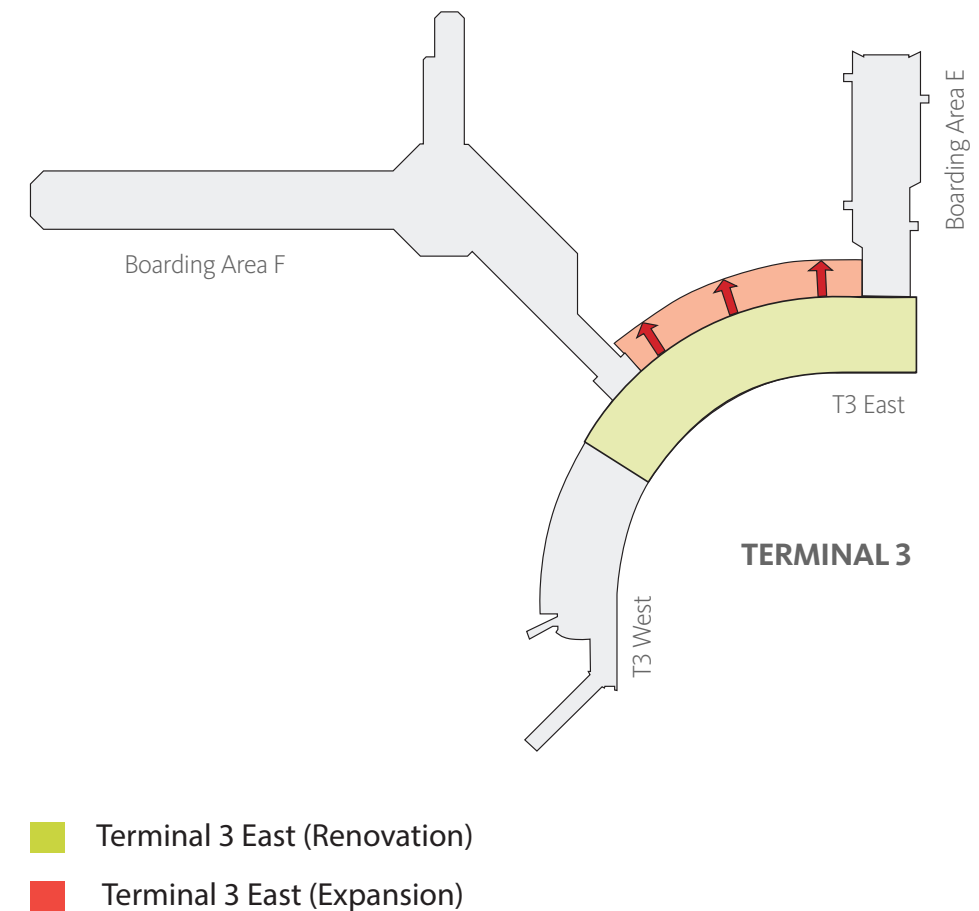
The Project will expand the building footprint to accommodate an enlarged security checkpoint and increased concessions. The expanded portion will also house a new United Club Lounge, larger restrooms, and 3 holdroom spaces with views to the airside.

The project scope also includes the renovation of the Ticket Counter Area, construction of 2 large skylights in the post-security area, new airside exterior curtain wall, the demolition of an existing stair, and upgrades to the Baggage Claim Area.

The anticipated minimum construction value, including Baggage System and Passenger Loading Bridges, will be approximately \$140,500,000.

Completion of this project is scheduled for Fall 2015.

Terminal 3 East is striving for LEED Gold certification.



Project Concept

The overall design approach was to create a unifying building form that not only responds architecturally to the recently designed BAE, but also strengthens a holistic airport masterplan. We maintained the defining “ring” in plan with all parts connected by a continuous loop, but also introduced the idea of segmenting the airport into four easily identifiable zones (IT, T1, T2, and T3). The idea is that although there is a common palette throughout SFO, there would be a stronger relationship between all elements in their respective “zones”.

The tone for the redevelopment of Terminal 3 was set by the Boarding Area E project. Increased daylighting, improved passenger experience, and a modern architectural expression were all key elements that we are incorporating into the T3E project.

The expansion of the terminal along the airside provided an opportunity for large expanses of glazing, increasing natural light penetration into the terminal while improving the visual connection to the airfield from all areas within the terminal. The body of T3 now more appropriately serves as a neutral connecting backdrop where BAE and BAF “plug” into.

In keeping with the architectural order of BAE, a thin frame metal expression with vertical fins surrounds the hold room areas. Vision glass is maximized from the floor to the ceiling, 20 feet vertical. A medium value gray metal panel surrounds the glass to accommodate airport-required attachments as well as further connect to the materiality defined by BAE. The curved curtain wall has a strong vertical articulation, with a horizontal width similar to that of BAE.

As for the interiors, the look and feel derives its inspiration from atmosphere - clouds and the experience of flying – where expanse of high ceilings with dramatic sculptural sky lit objects float over key public spaces.

T3 East continues to advance the evolution of a world-renowned airport by building on the great ideas learned from T2 and BAE.

Sustainability + System Design

San Francisco International Airport has an extensive program in place to reduce ground vehicle carbon emissions and encourage alternative transportation. The project is fully accessible by all means of alternative ground transportation including AirTrain and BART, public and private bus services, “green” car rentals provided through SFO’s incentive program, and alternative-fuel taxis and shuttle buses meeting SFO’s standards for airport users. Bike parking will be provided at the courtyard adjacent to Terminal 3 (some employees at SFO do in fact prefer to arrive by bicycle), and showers will be available for these bike commuters as well.

Water use is a significant concern, primarily in the area of plumbing fixtures as there is no landscaping associated with the T3 East project. SFO is increasing the efficiency of its restroom plumbing fixtures to between 35-38% below the International Plumbing Code maximum allowed amounts, depending on the final fixture selections. This project will improve on the new standards that were already set at SFO’s Terminal 2 project and BAE project.

Energy efficiency is a top priority. Most of the energy used to heat and cool the building is consumed at the terminal complex Central Plant, which provides hot water and chilled water to all the terminal buildings including T3. While this project cannot impact the

Central Plant, SFO is engaged in a multi-year efficiency improvement to the Central Plant that will result in energy savings within T3 as well. The main energy uses within the building are expected to be fan power for ventilation and interior lighting; fans will use the energy-saving displacement ventilation system deployed successfully in Terminal 2; interior lighting will aim to be at least 15% more efficient than the maximum allowed by California Energy Code. The project will install solar photovoltaic panels to offset some of its electrical load as well. In addition, the project is committed to aggressively managing future energy use through an in-depth commissioning process, to ensure equipment is functioning optimally at start-up, and through the extensive use of energy monitoring equipment to track future energy efficiency.

The project will incorporate recycled-content materials such as a large area of terrazzo flooring, regionally-produced materials where feasible, and will purchase certified sustainably harvested woods where wood is used. The Terminal 2 project recycled 93% of the waste it produced and T3 East aims to surpass that target. Lastly, the project will provide a healthy and pleasant indoor environment through the use of low-emitting interior finish materials, an air filtration and purification system that exceeds LEED standards, and strict control of construction phase air quality.

Design Goals



Basis of Design

ENHANCE CUSTOMER EXPERIENCE

Increase revenue opportunities and expand the footprint by increasing concession space to approximately 14,000 square feet to accommodate 1.5 million passengers. In addition provide Customers with Local Foods, Vendors, Technologies, and Unique Eating Experience.

INCREASE DAYLIGHTING

Let the daylight in by enhancing the space through height and light in a meaningful way. Take away the bleak with simple methods to bring in nature and daylight. Celebrate air travel by highlighting the view of airfield operations. Furthermore, provide productive waiting experiences that remind us why we love to fly.

FOCUS ON SUSTAINABILITY

Celebrate green by concentrating on a people-focused indoor environment. Optimize for an airport-specific high performance system. Make green overt and transparent as a learning environment. In addition, bring local to the boarding area.

INCREASE AMENITY SPACE

Increase space for amenities through a series of journey points by adding approximately 4,000 square feet of customer-oriented amenity space. Create unique, unexpected, purposeful oases for passengers.

INCREASE CHECKPOINT SIZE

Increase the Security Checkpoint size to comply with new TSA regulations and requirements while improving the passenger experience through it. More security lanes included to speed up the screening process.

Preliminary Schedule

December 18, 2012: Design started with NTP issuance

January 27, 2014: Construction completion of Mod 4 Ticket Counters

July 6, 2014: Substantial completion of Mod 3 Security Checkpoint Lanes

July 16, 2015: Substantial Completion of T3 East expansion

October 14, 2015: Final Completion



Site & Existing Photographs



San Francisco International Airport

aerial view of SFO Campus

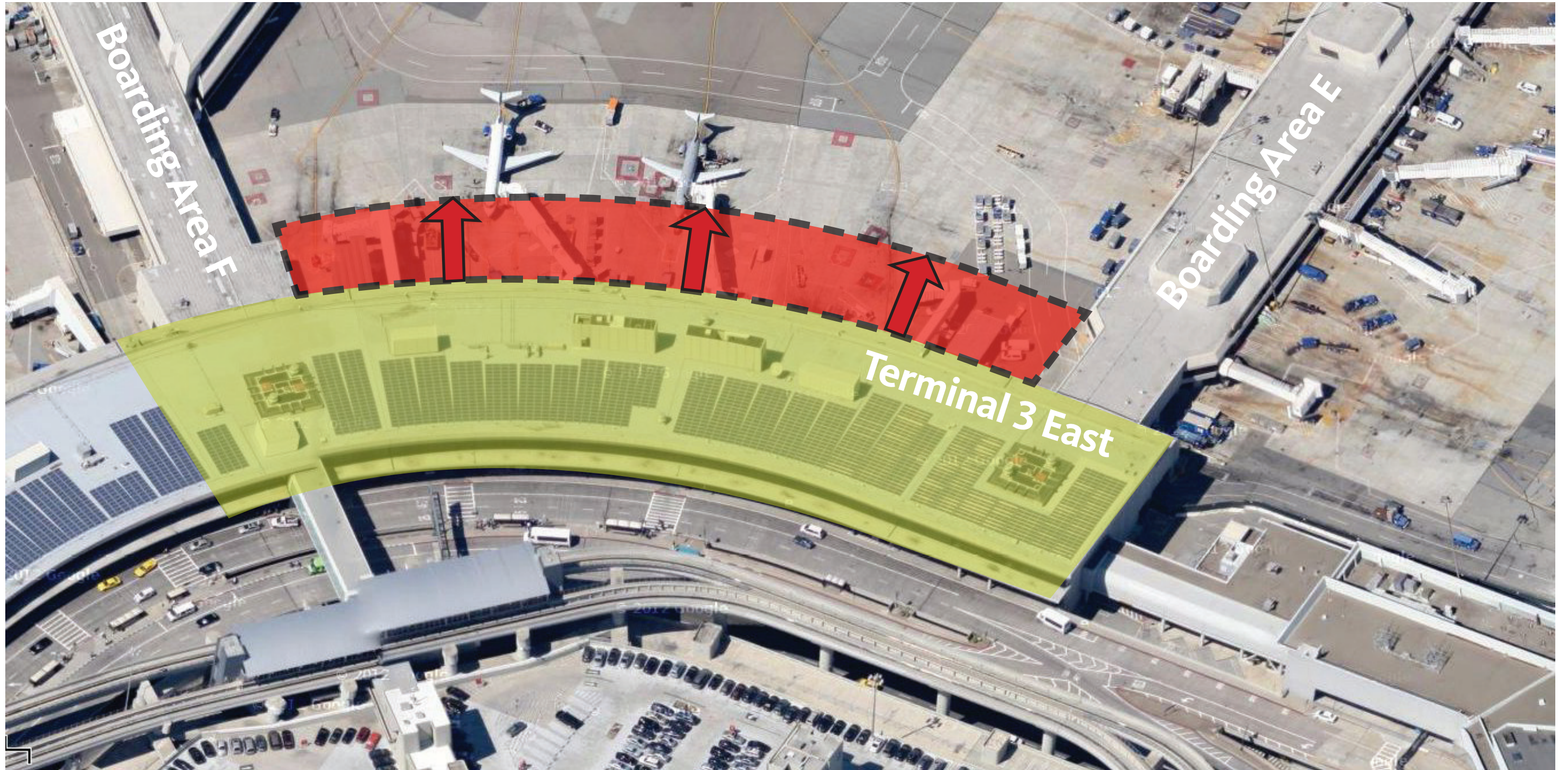
■ Terminal 3 East (Renovation) ■ Terminal 3 East (Expansion)



San Francisco International Airport

Terminal 3 East and future expansion

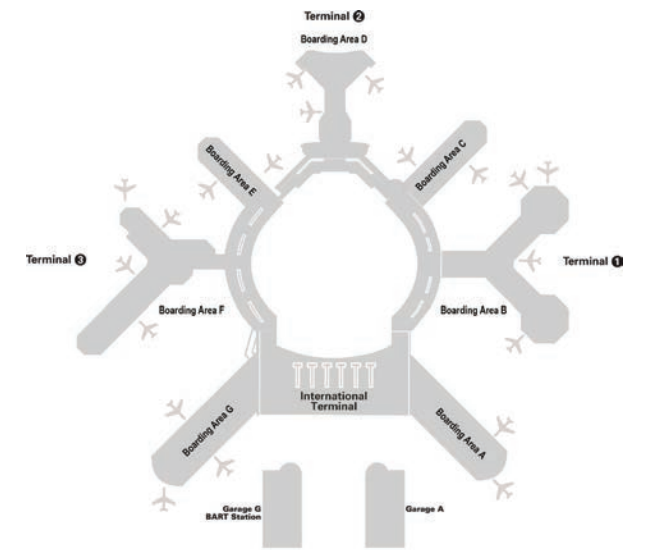
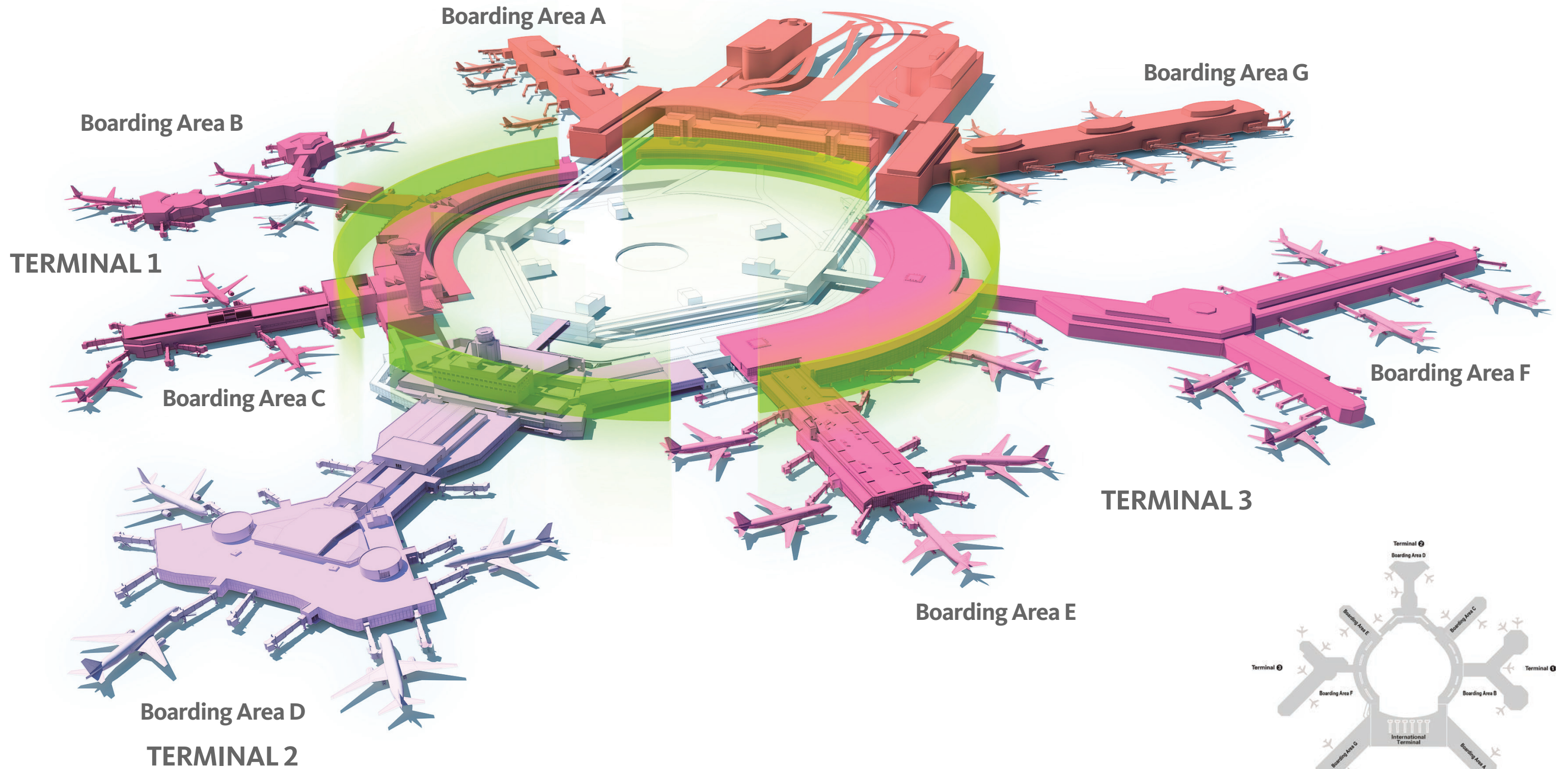
■ Terminal 3 East (Renovation) ■ Terminal 3 East (Expansion)



San Francisco International Airport

aerial view of SFO Campus

INTERNATIONAL TERMINAL

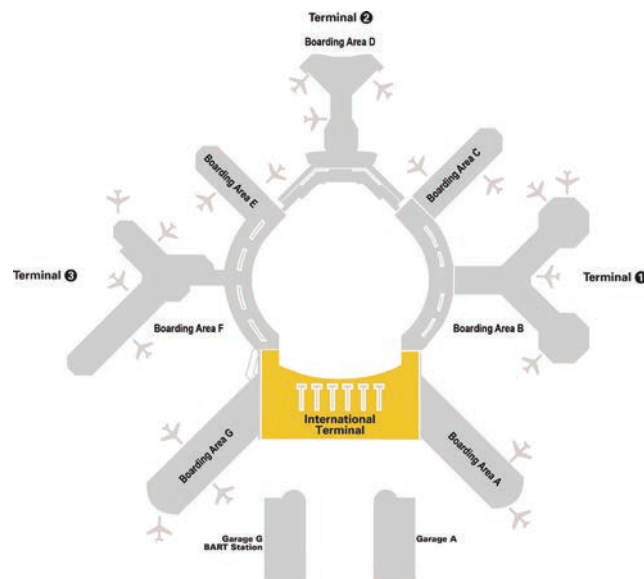
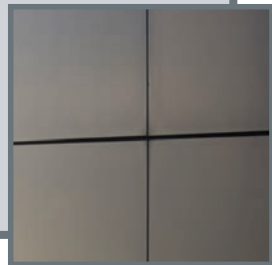


International Terminal

material overview

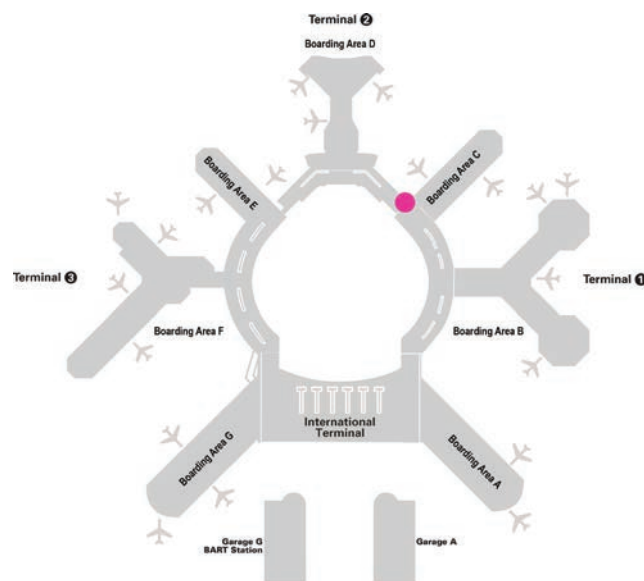
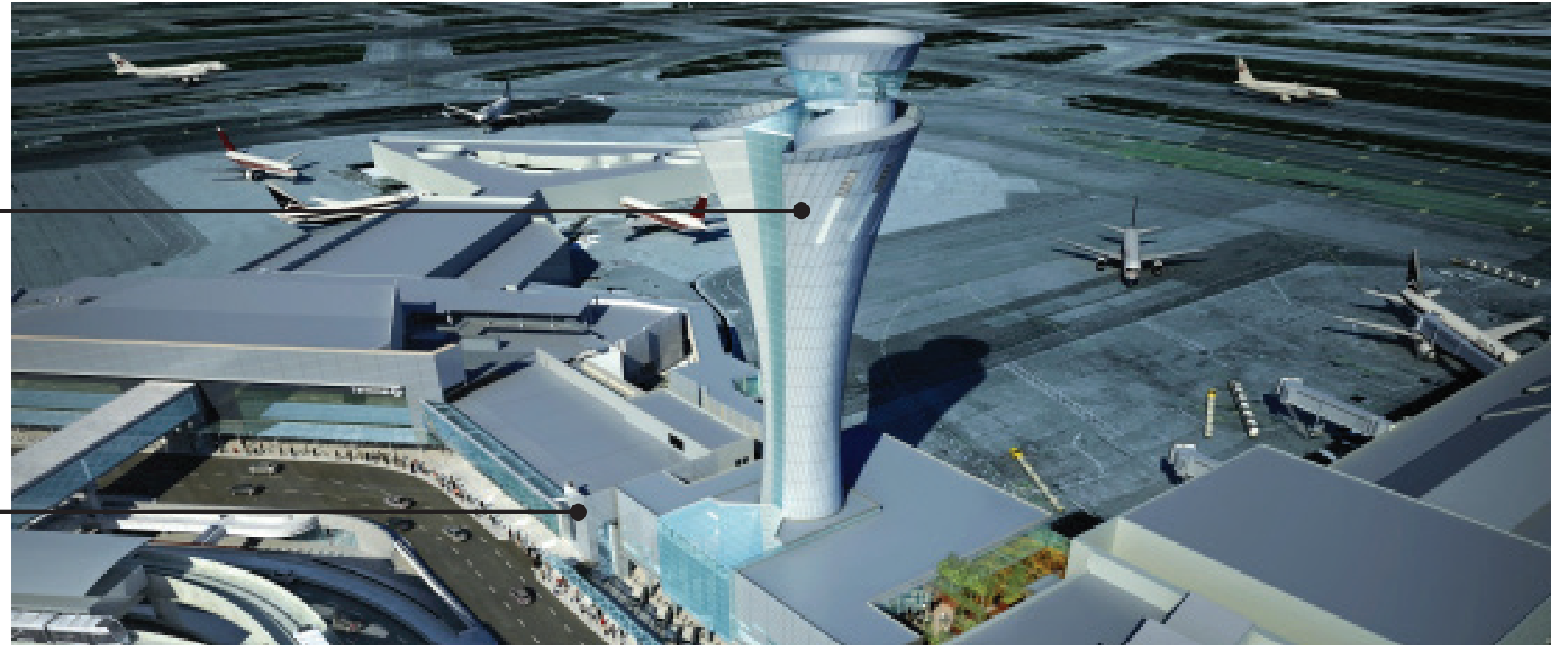
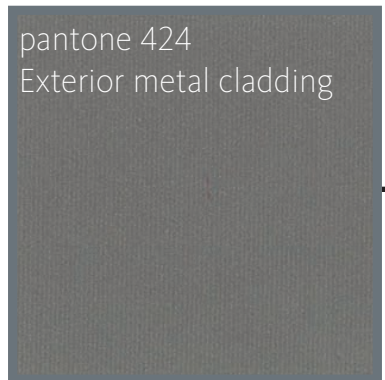
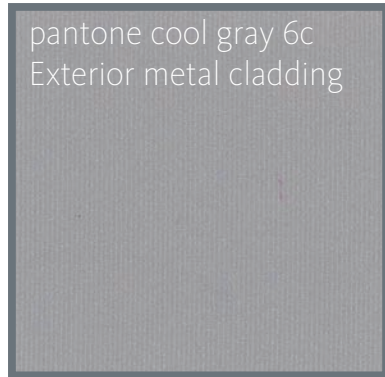
pantone cool gray 1C
Secondary exterior metal panel

pantone 427
Primary exterior metal panel



FAA Tower

material overview

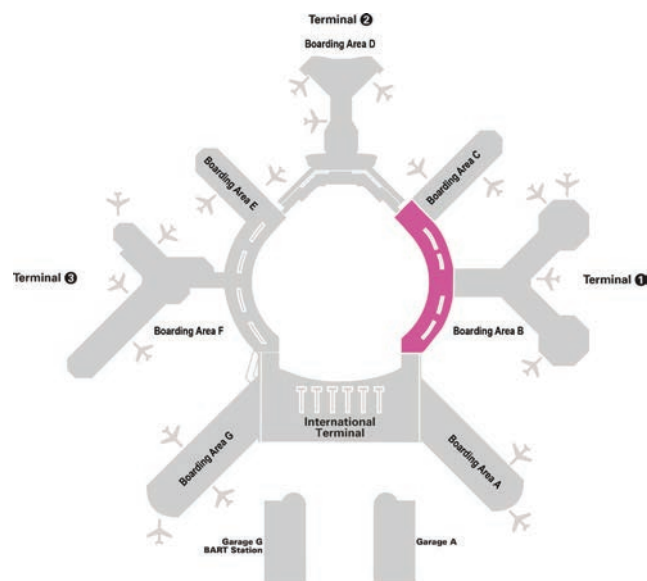


Terminal 1

material overview

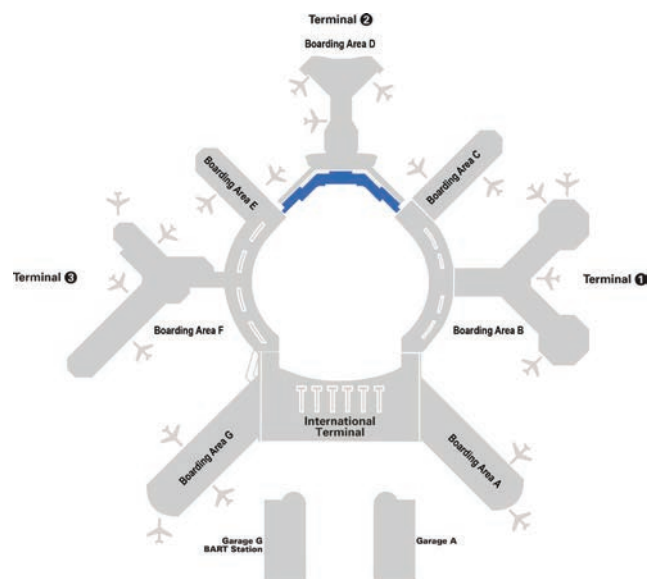
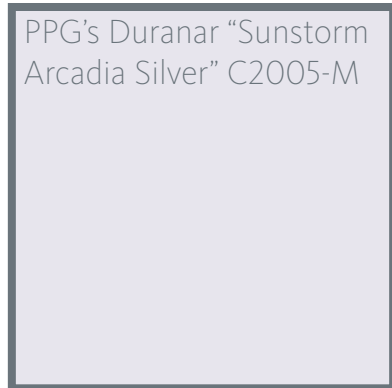
pantone 424c
Metal panels

pantone cool gray 1c
white painted metal panel
and painted concrete



Terminal 2

material overview



Terminal 2 - Boarding Area D

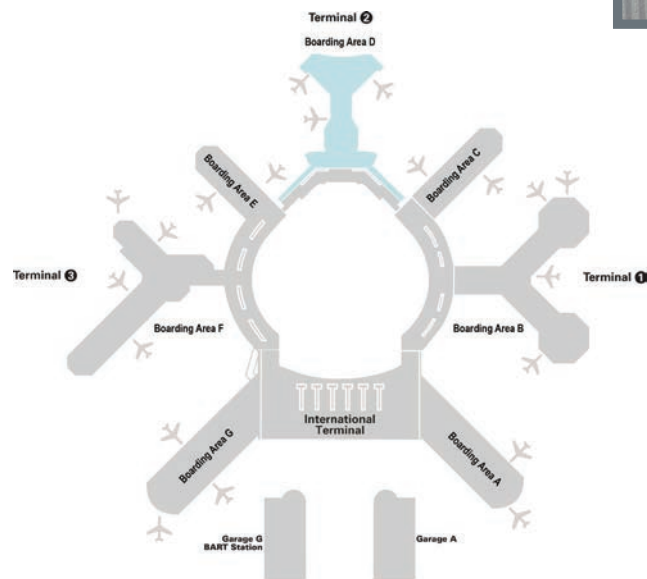
material overview

PPG's Duranar "Sunstorm Arcadia Silver" w 2005-M

Viracon VE19-2M no frit

Viracon VE19-2M
30-35% grey frit

Corrugated metal paneling



Terminal 3 - Boarding Area E

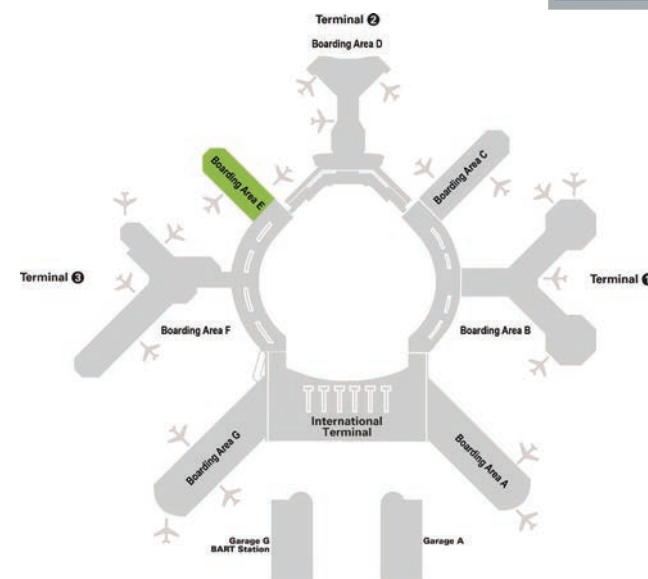
material overview

PPG Industries, Inc.
Gray Metallic II

Centria metal panel
9989 platinum

Clear perimeter glass

Clear perimeter glass
with grey frit



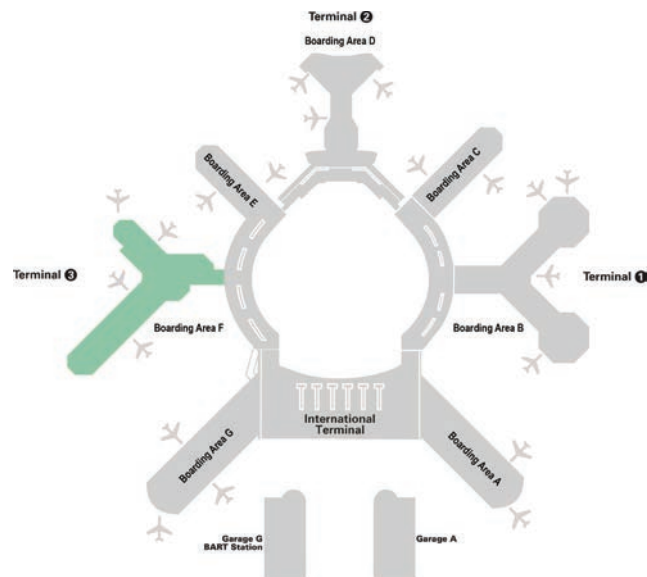
Terminal 3 - Boarding Area F

material overview

pantone 7527
Exterior precast concrete
panels



pantone 7c



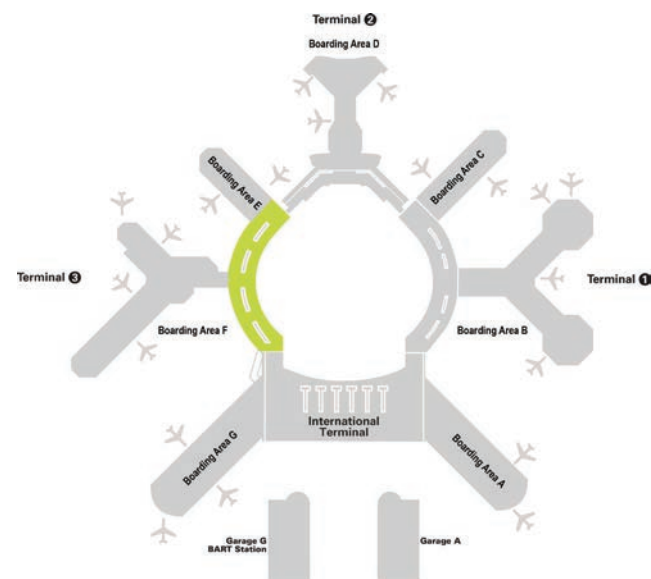
Terminal 3

landside material overview

Exterior precast concrete panels

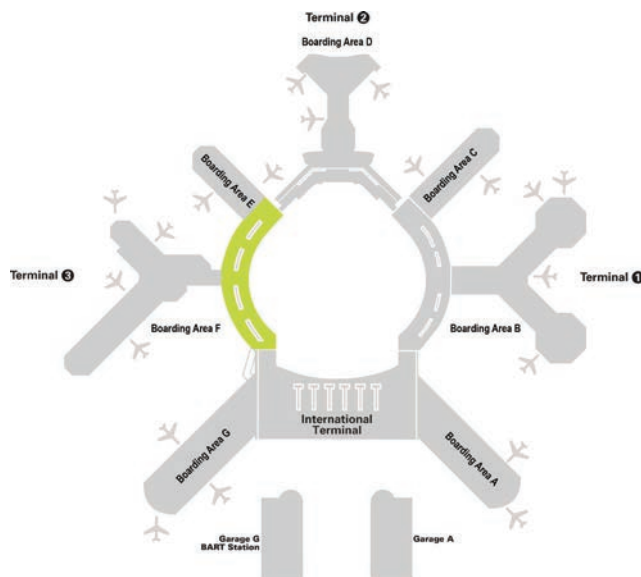


perimeter glass



Terminal 3

airside material overview



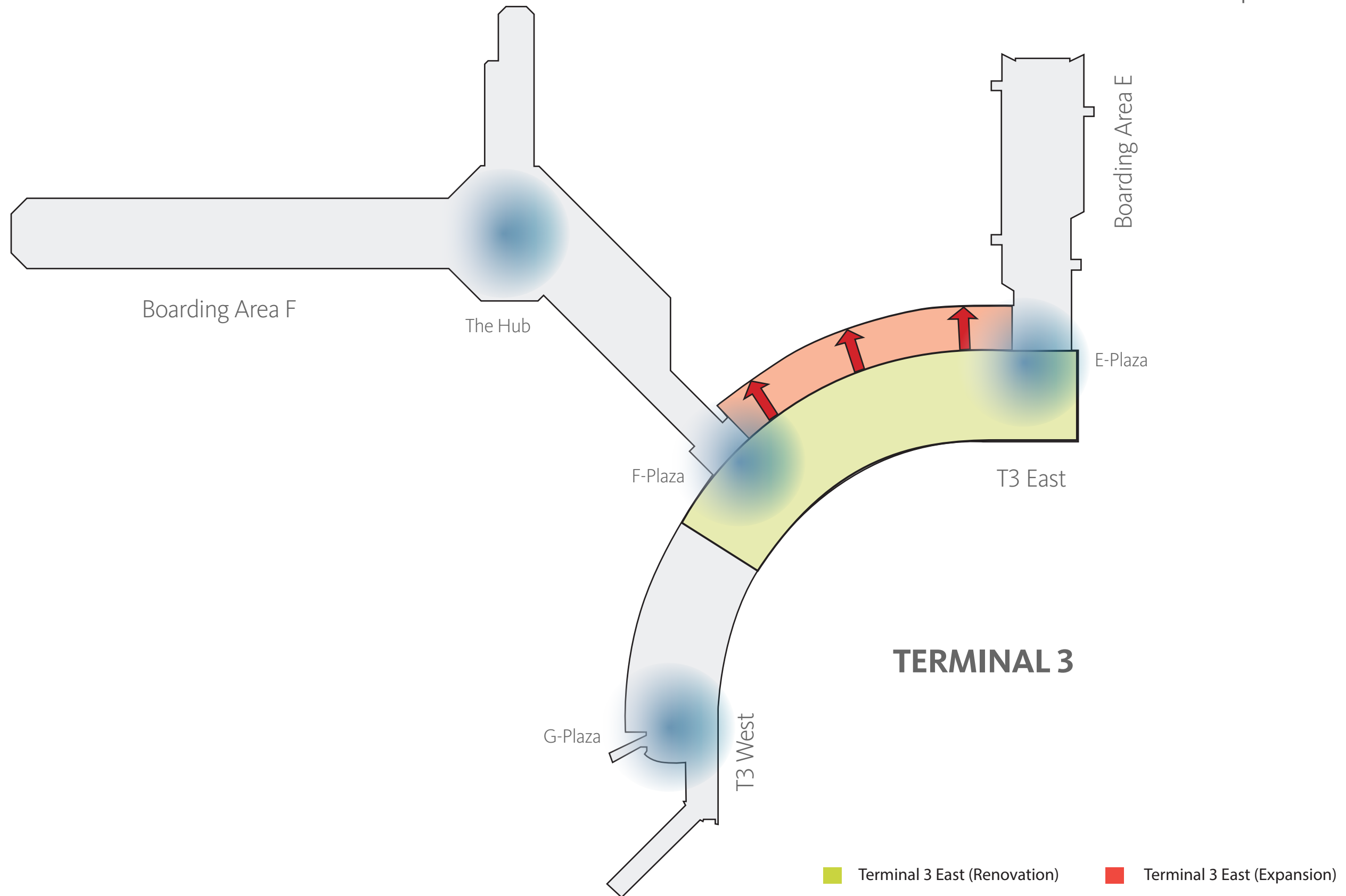


Terminal 3 East Building Design

Phase 1: Schematic Design

Terminal 3

overall plan and concept



Terminal 3 Airside

new expansion in context



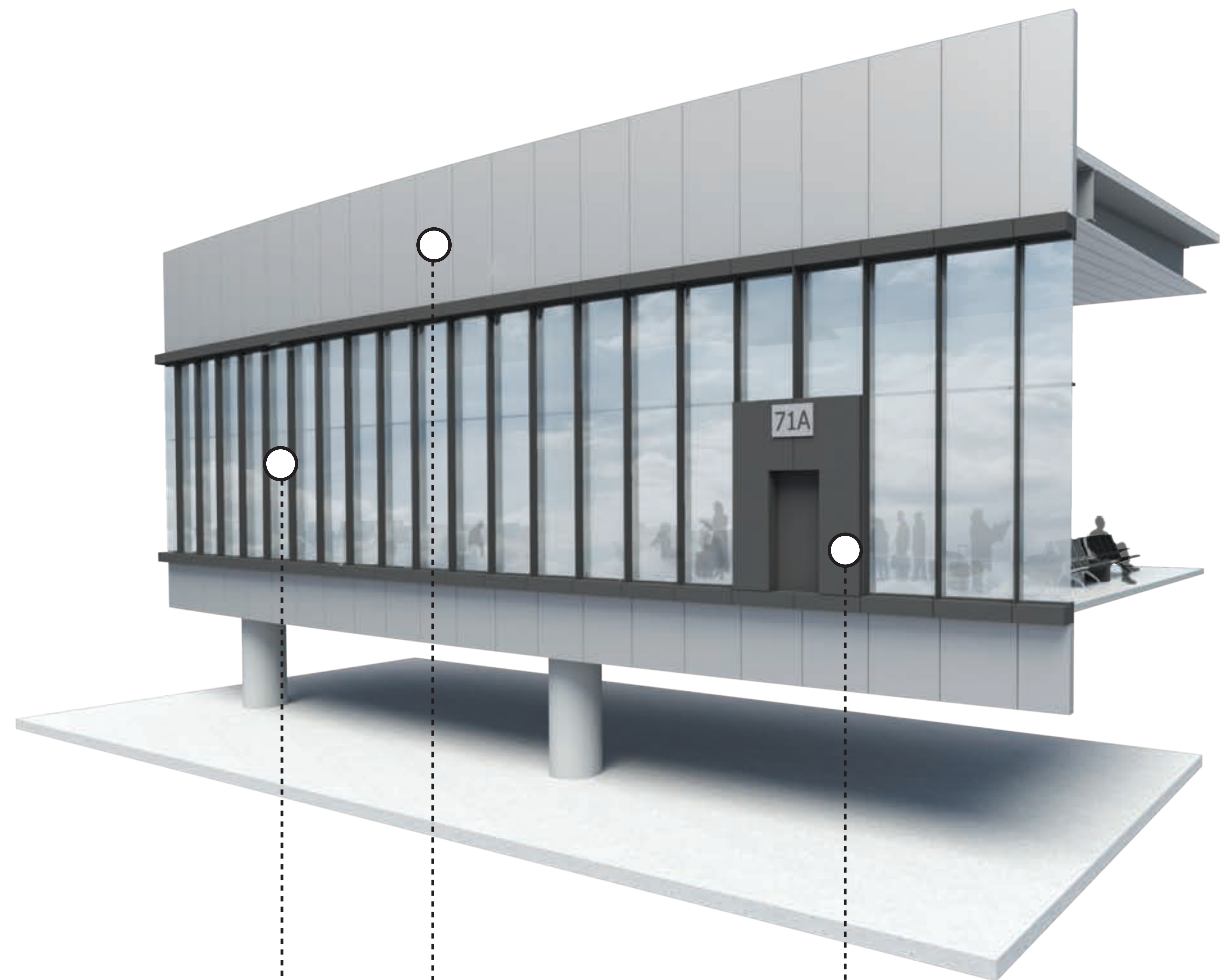
Terminal 3 Airside

evening aerial view



Terminal 3 Airside

curtainwall design



Clear perimeter glass

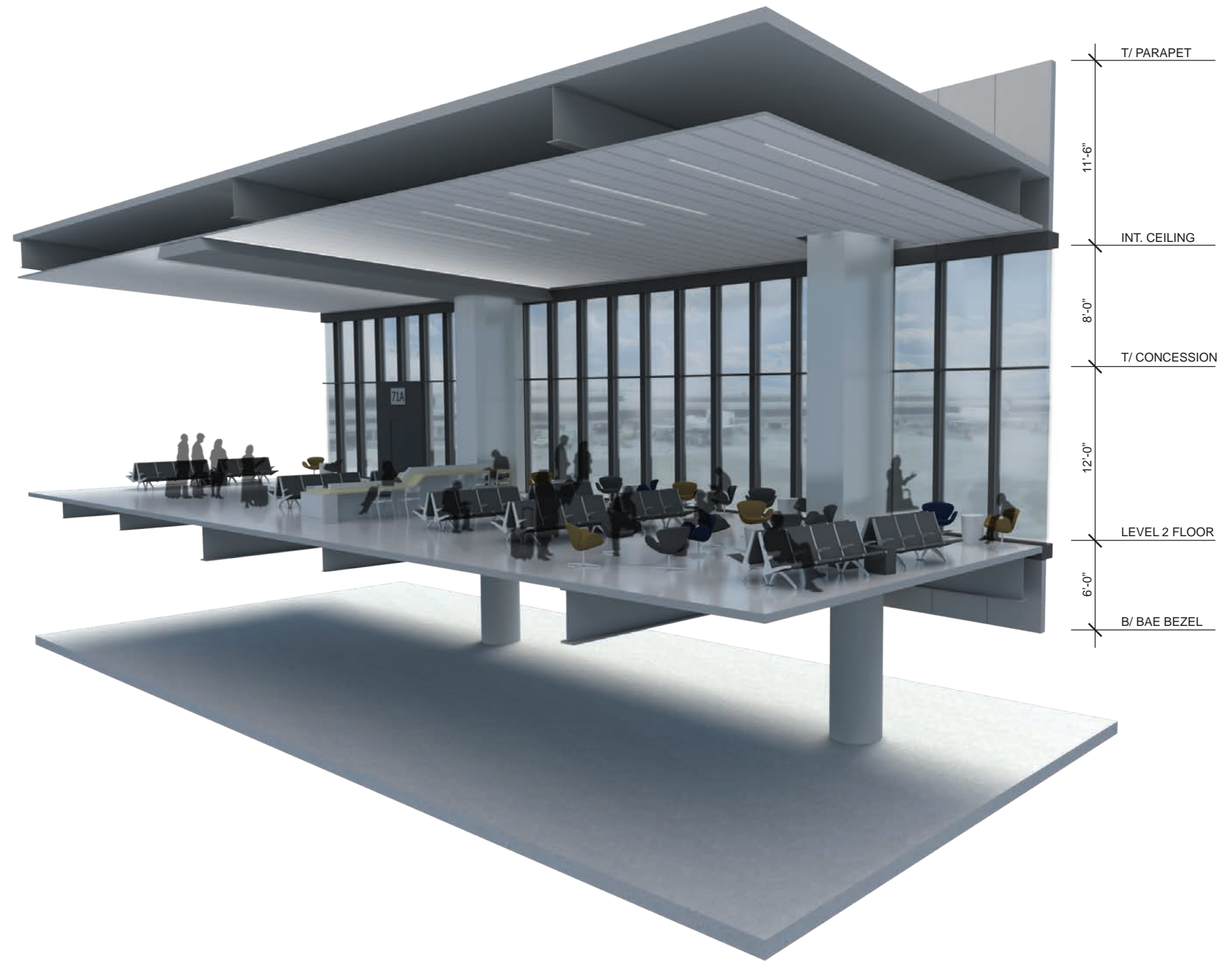
Clear perimeter glass with grey frit



COMPOSITE METAL PANEL (LIGHT GREY)



COMPOSITE METAL PANEL (DARK GREY)



T/ PARAPET

11'-6"

INT. CEILING

8'-0"

T/ CONCESSION

12'-0"

LEVEL 2 FLOOR

6'-0"

B/ BAE BEZEL

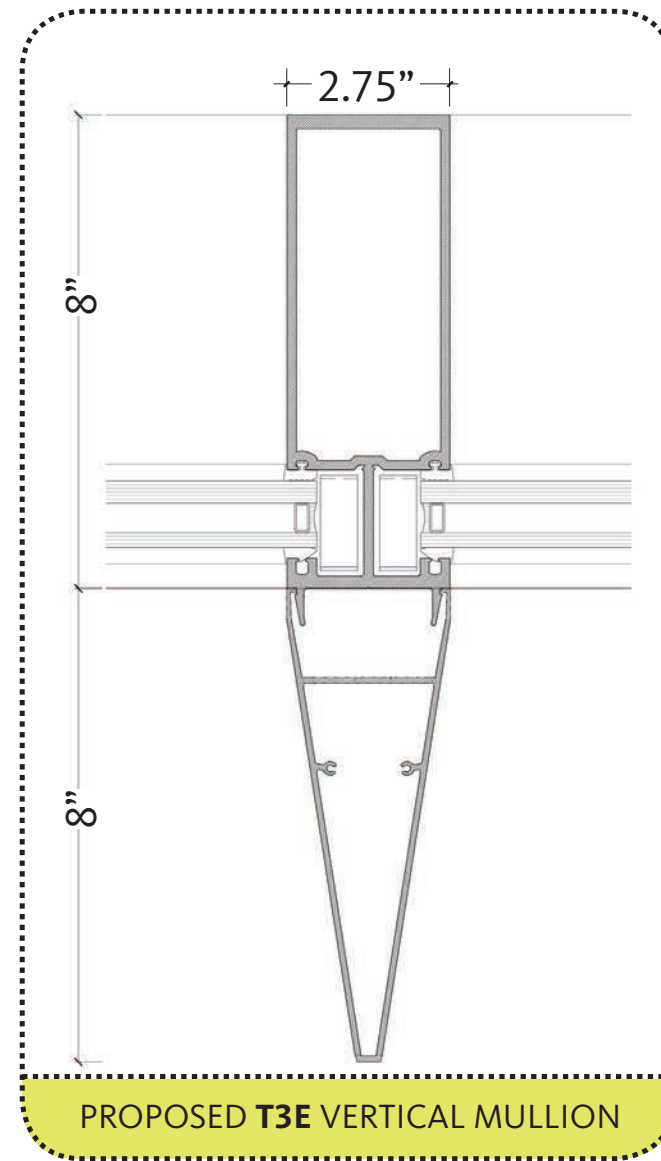
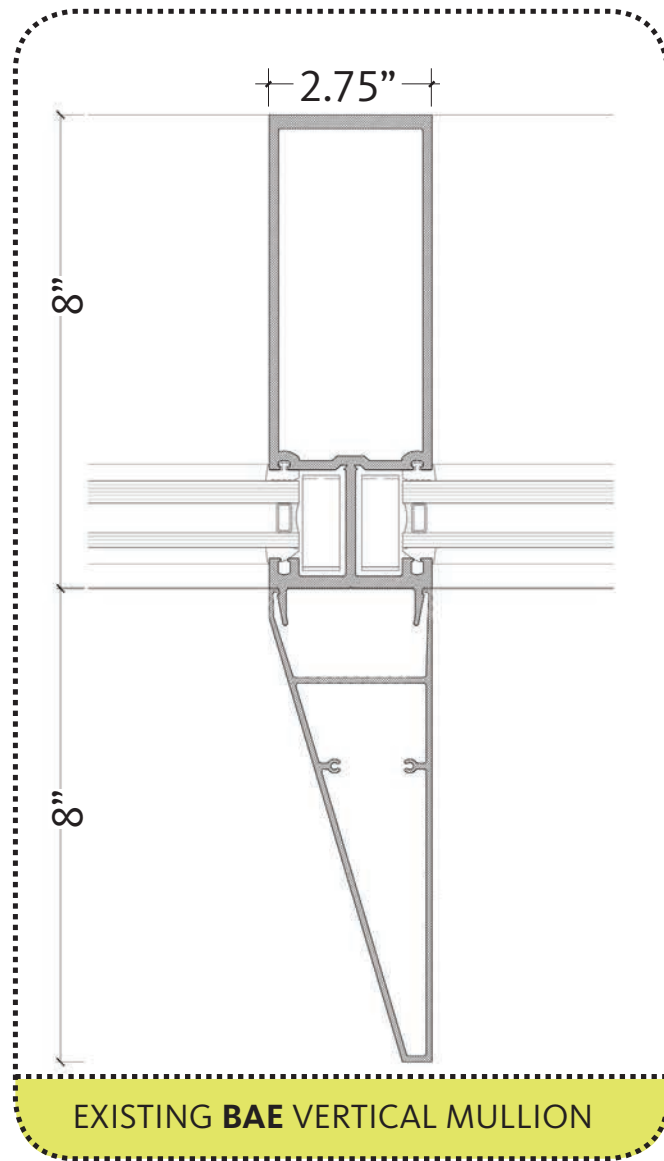
Terminal 3 Airside

curtainwall interior view



Terminal 3 Airside

curtainwall mullion study





Terminal 3 East Building Design

Phase 2: Design Development

Terminal 3 Airside

new expansion in context



Terminal 3 Airside

evening aerial view



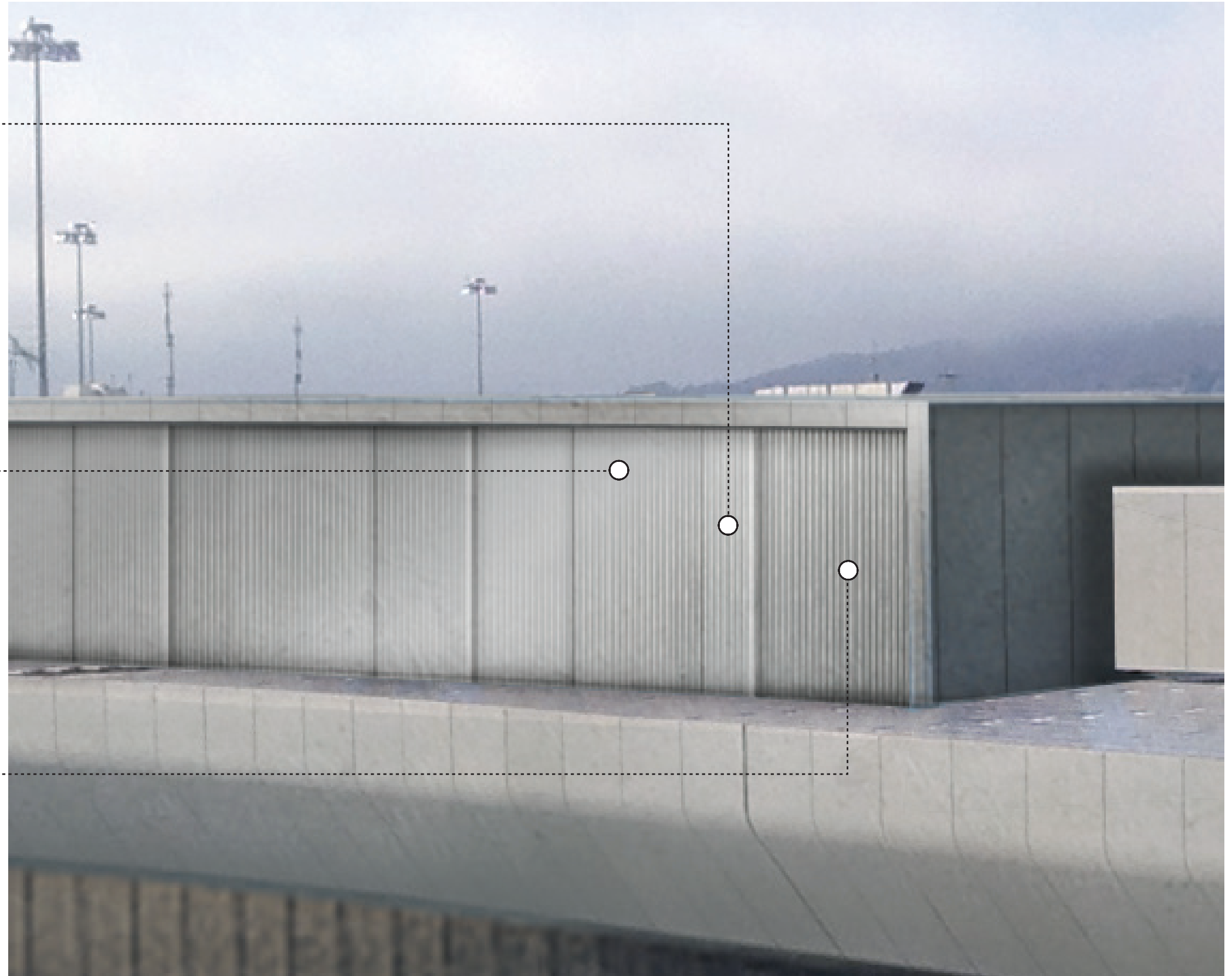
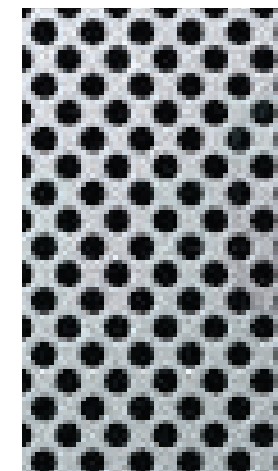
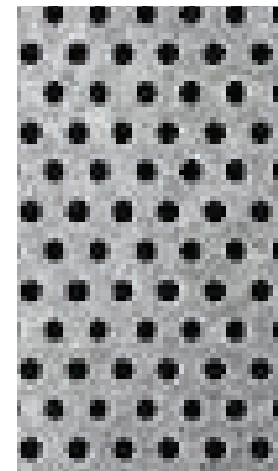
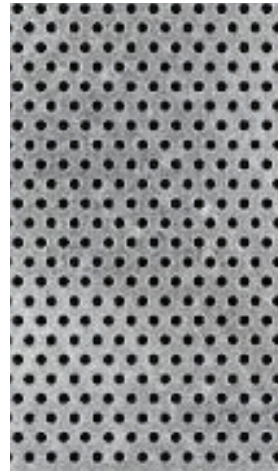
Terminal 3 Airside

penthouse design



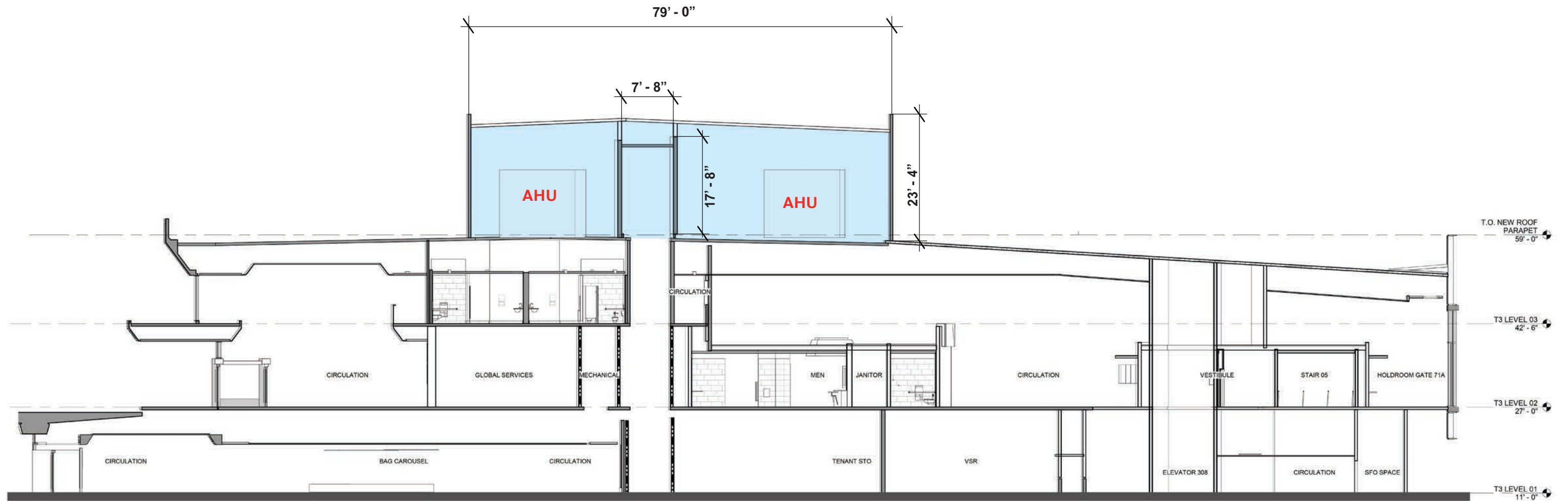
Terminal 3 Airside

penthouse design



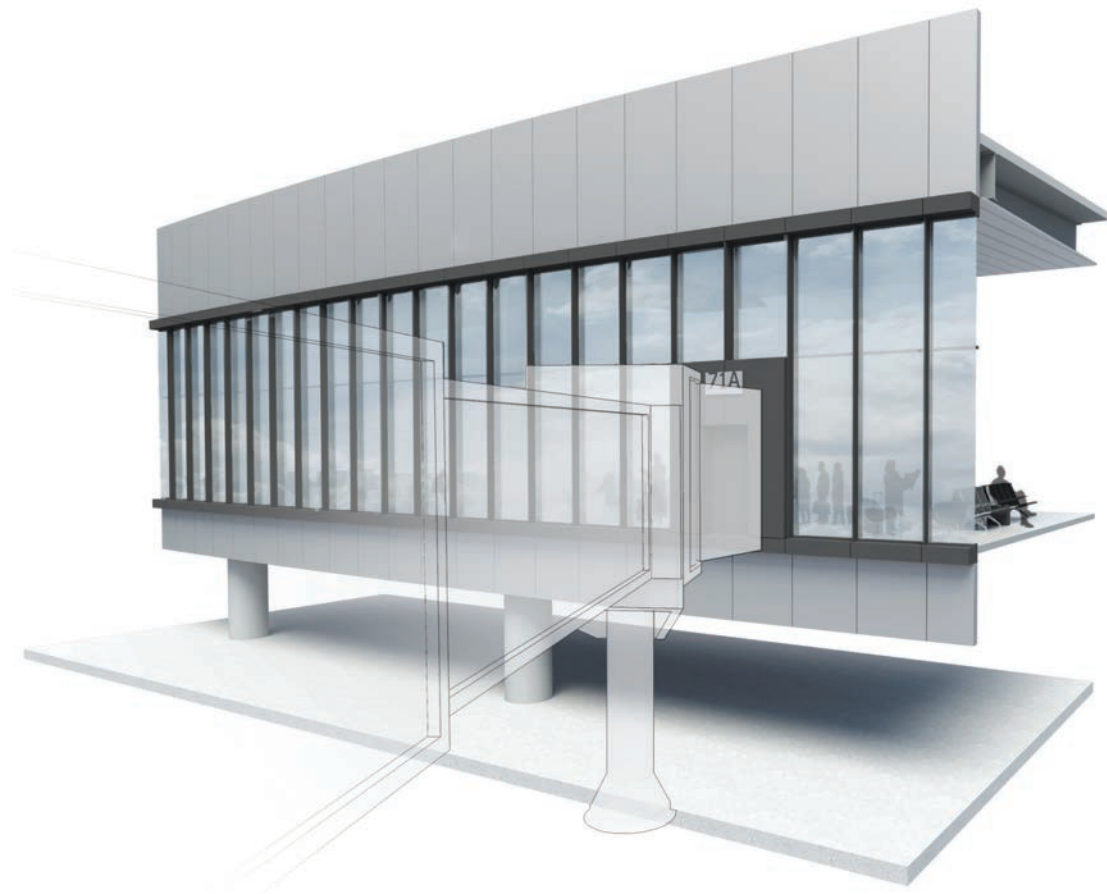
Terminal 3 Airside

section

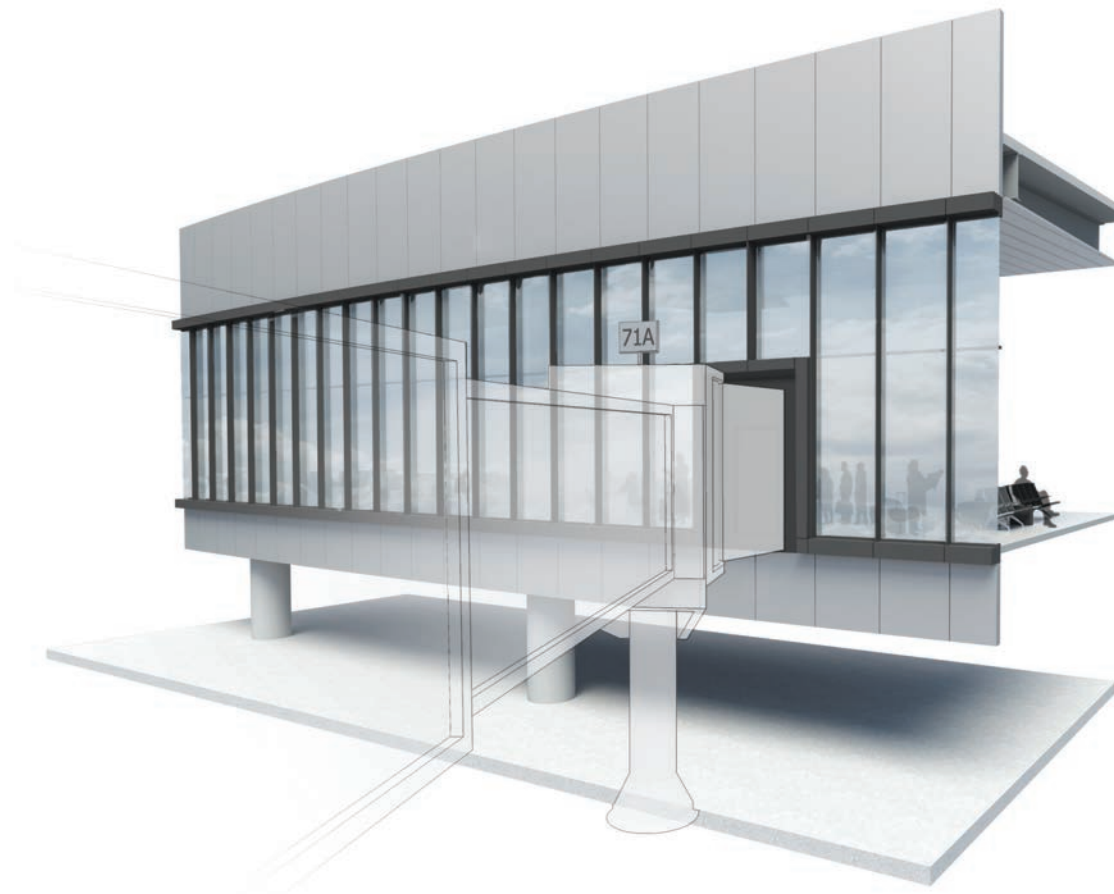


Terminal 3 Airside

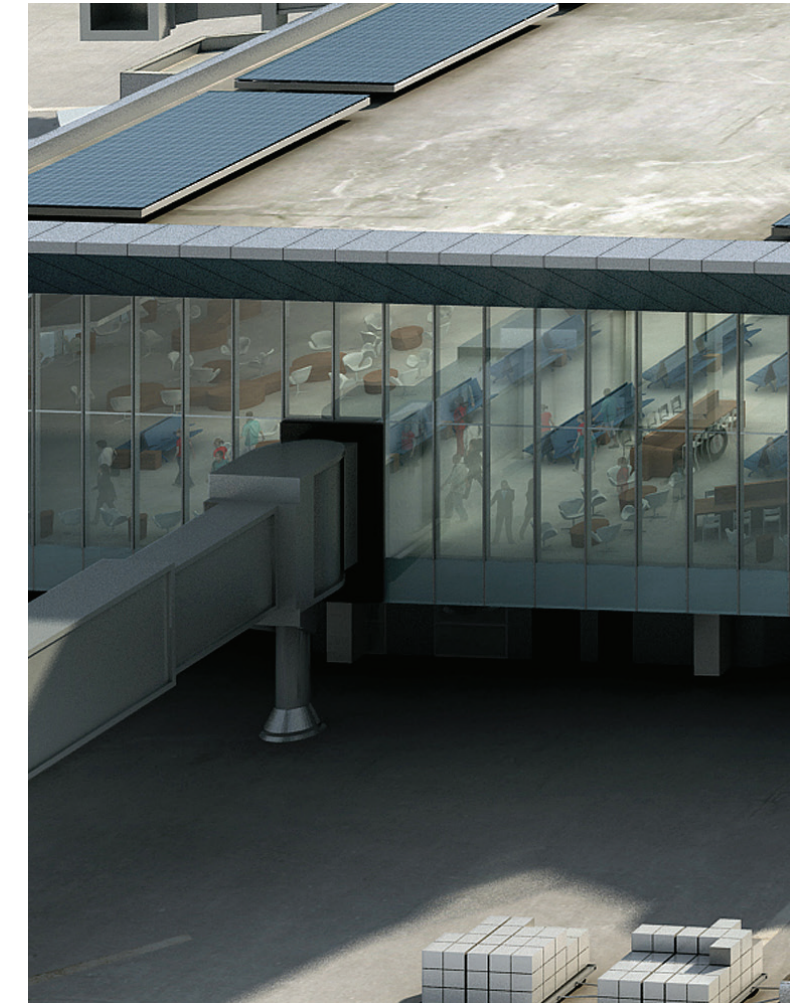
passenger boarding bridge connection design



current design



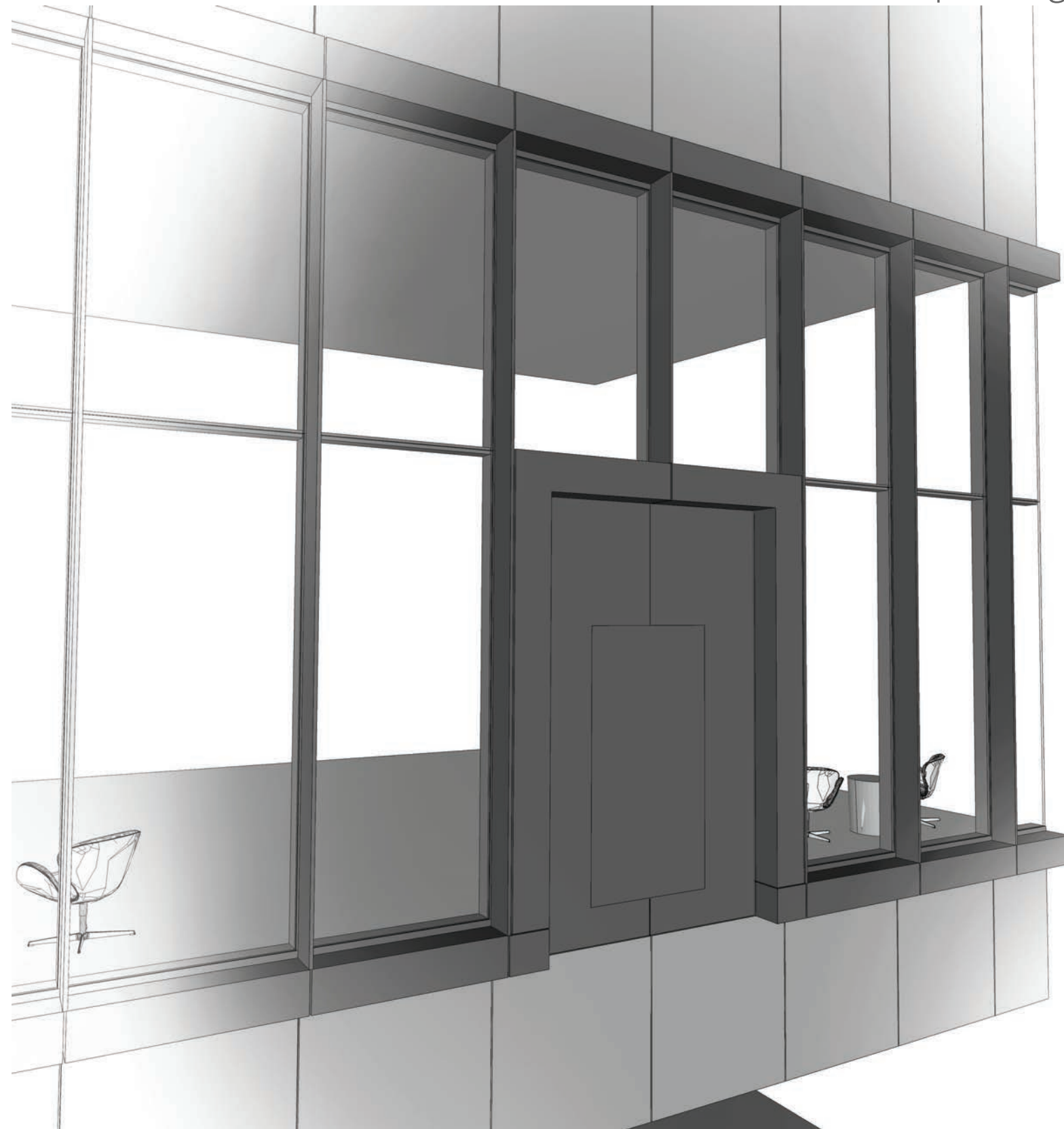
study 1



BAE

Terminal 3 Airside

passenger boarding bridge connection design

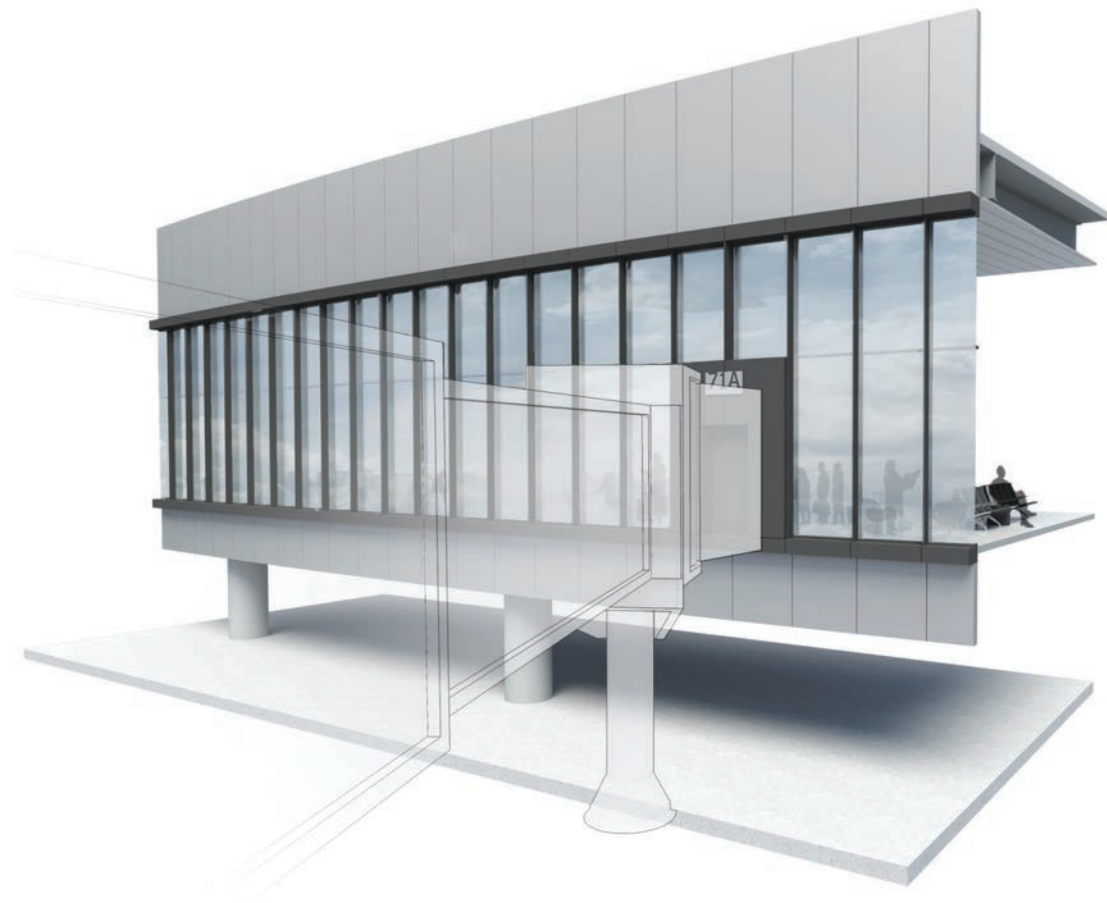


study 1

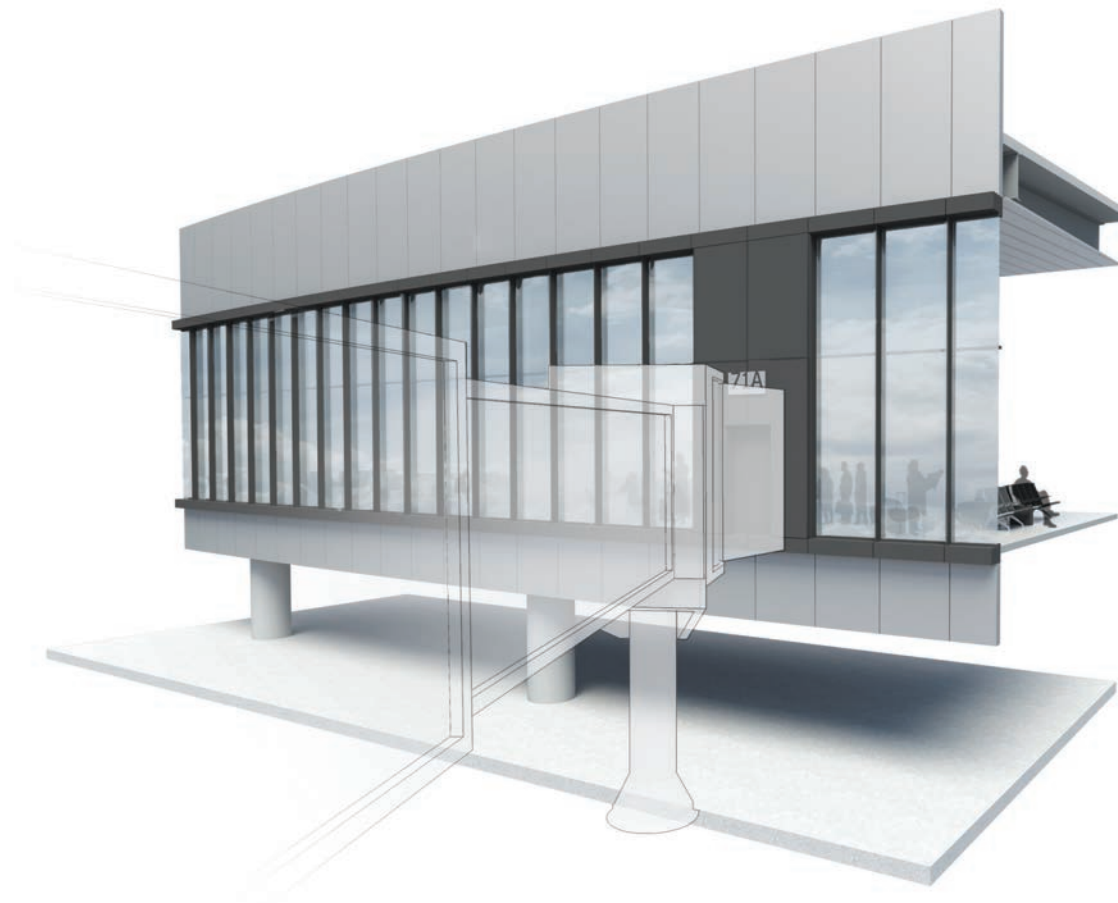
- Arch Concept: inspired by bezel around holdroom exterior on BAE Picture Frame Window
- Open glass above without frit
- Emphasizes the connection between PBB and building
- Minimal disruption to interior views and daylight

Terminal 3 Airside

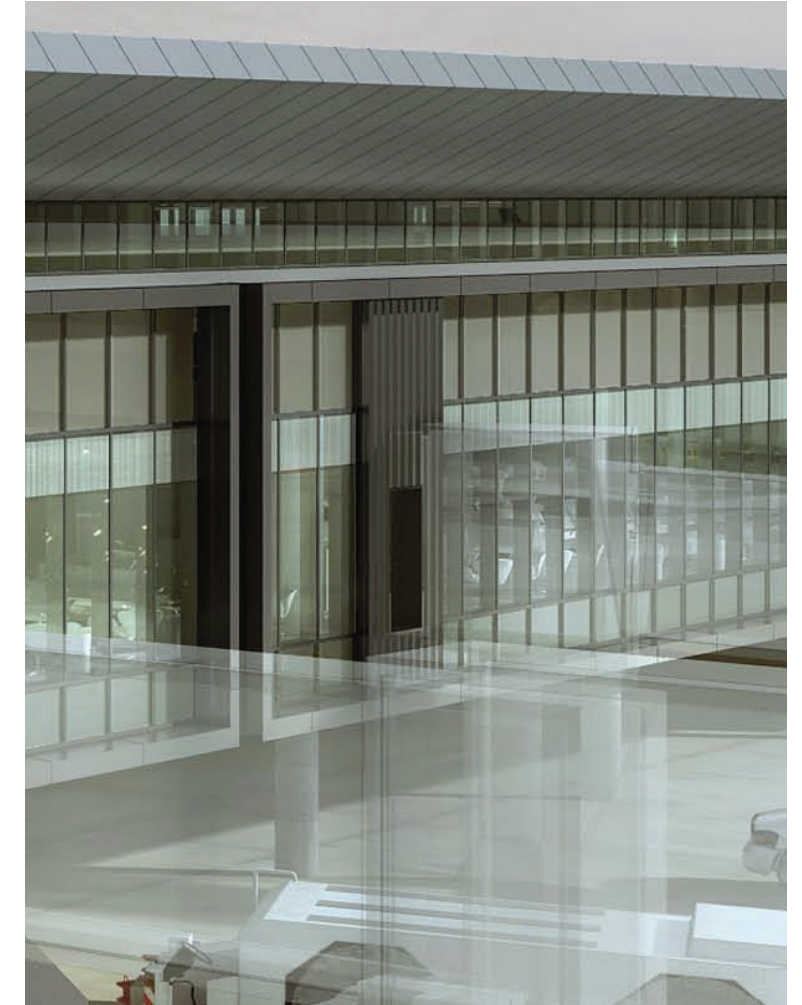
passenger boarding bridge connection design



current



study 2



BAE

Terminal 3 Airside

passenger boarding bridge connection design



- Panel concept: similar to vertical interface between PBB and curtain wall at BAE
- Window rhythm continued through two panel infill above PBB connection
- Metal panel color at connection consistent with bezel color
- Face of metal panels in plane with bezel

study 2

Terminal 3 Airside

curtainwall back of house study



current design



shadow box option

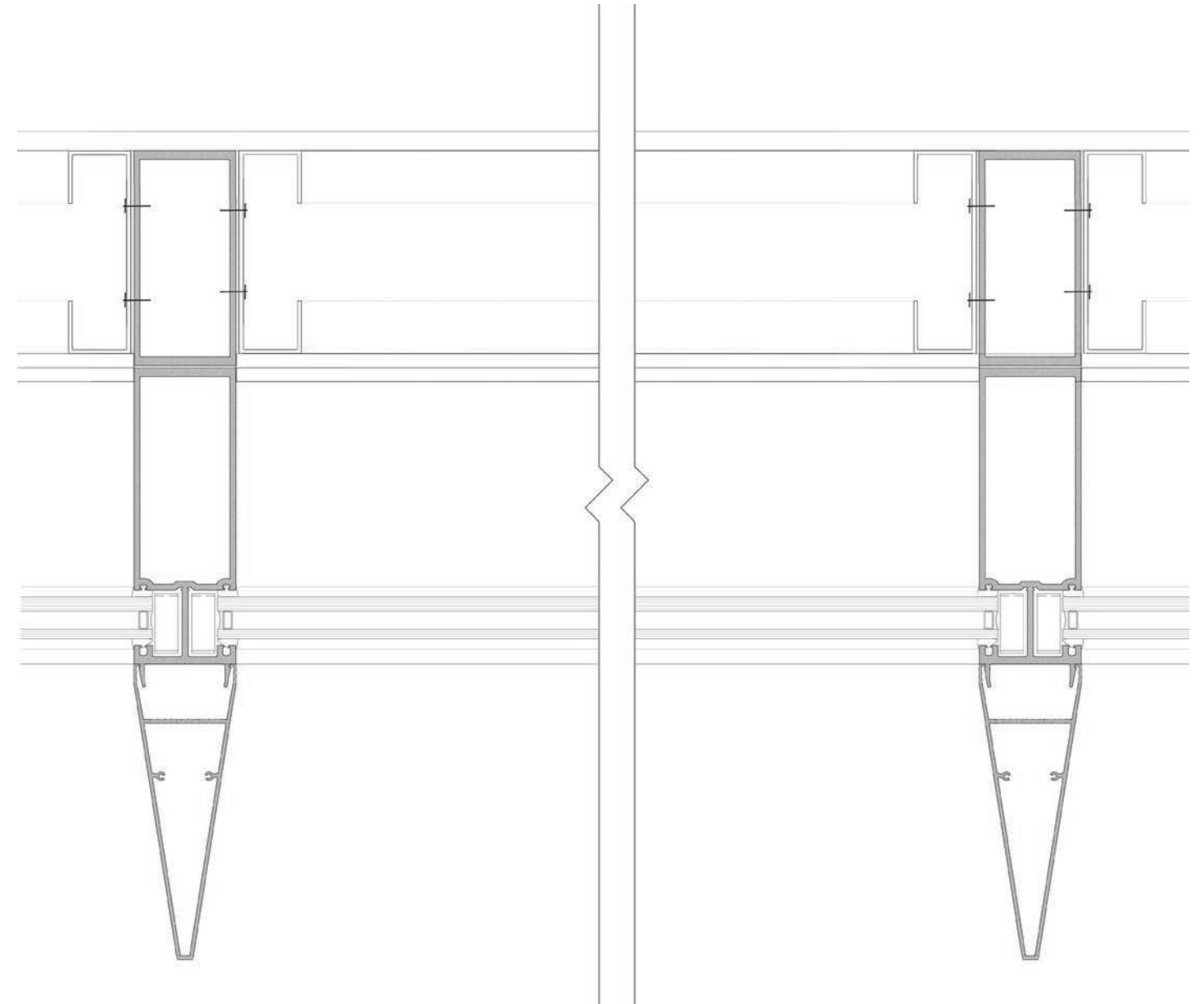
Terminal 3 Airside

curtainwall back of house study



shadow box option

- Removable shadow box maximizes flexibility of interior space



shadow box detail

