



DES MOINES

International Airport

Terminal Programming Study

Board Workshop- September 12, 2017



HNTB + BNIM

Agenda

- Process & Background
- Plan Refinement
 - Site
 - Terminal
- Phasing
- Cost Estimation
- Financial Analysis
- Next Steps
- ADJOURN -----



Process & Background

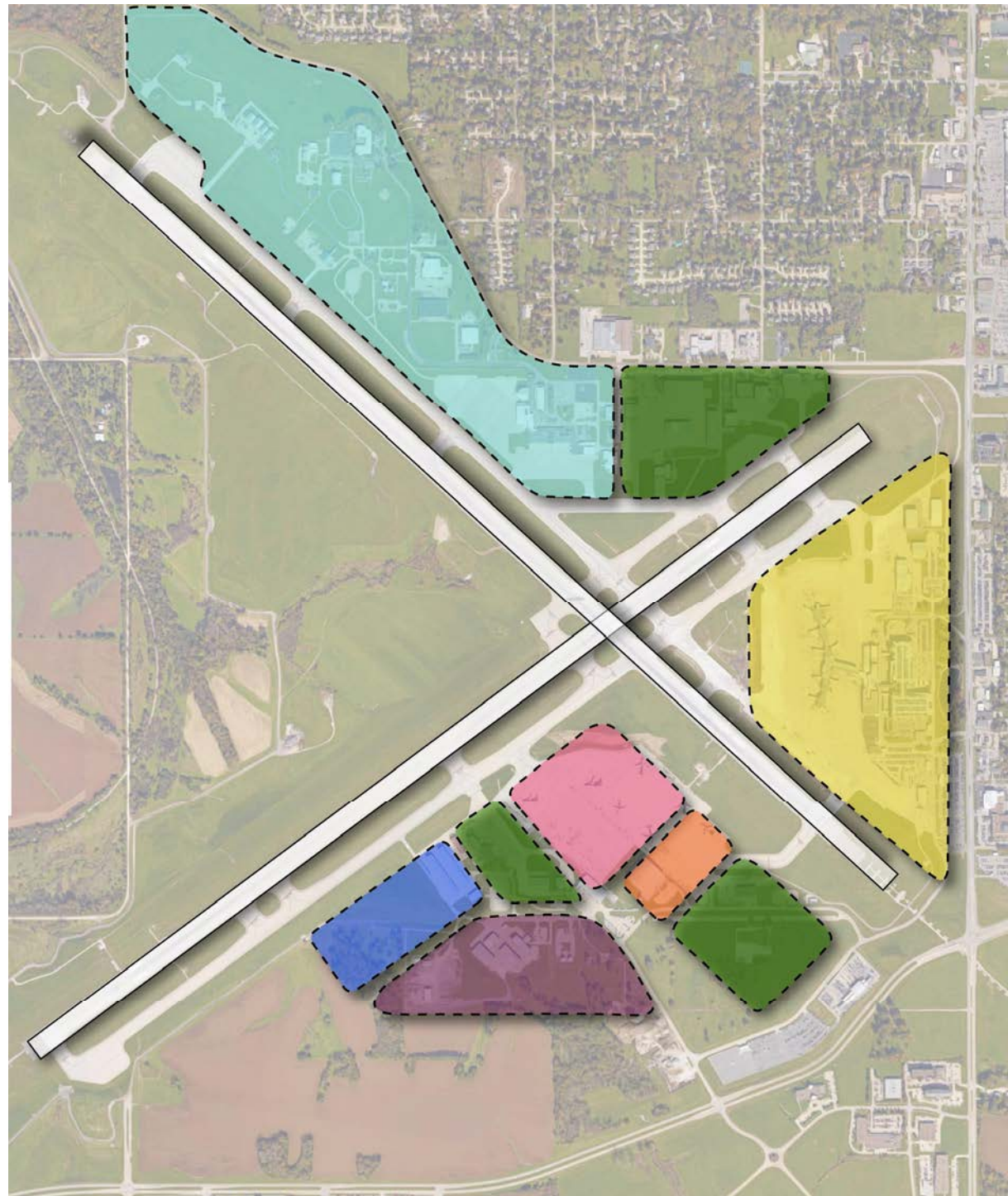
Process Overview

Timeline - Site Selection

- 2014 -
 - First Planning Concept approved - South Quadrant
- April 2016-August 2016 -
 - HNTB Site Planning Study
- September 2016 -
 - Public Outreach
- October 2016 -
 - Board Approval



Task 1 Overview



-  AIR SUPPORT
-  GA/ T - HANGERS
-  IOWA AIR NATIONAL GUARD
-  GA/ CORPORATE
-  PASSENGER TERMINAL
-  AIRLINE MAINTENANCE
-  AIR CARGO

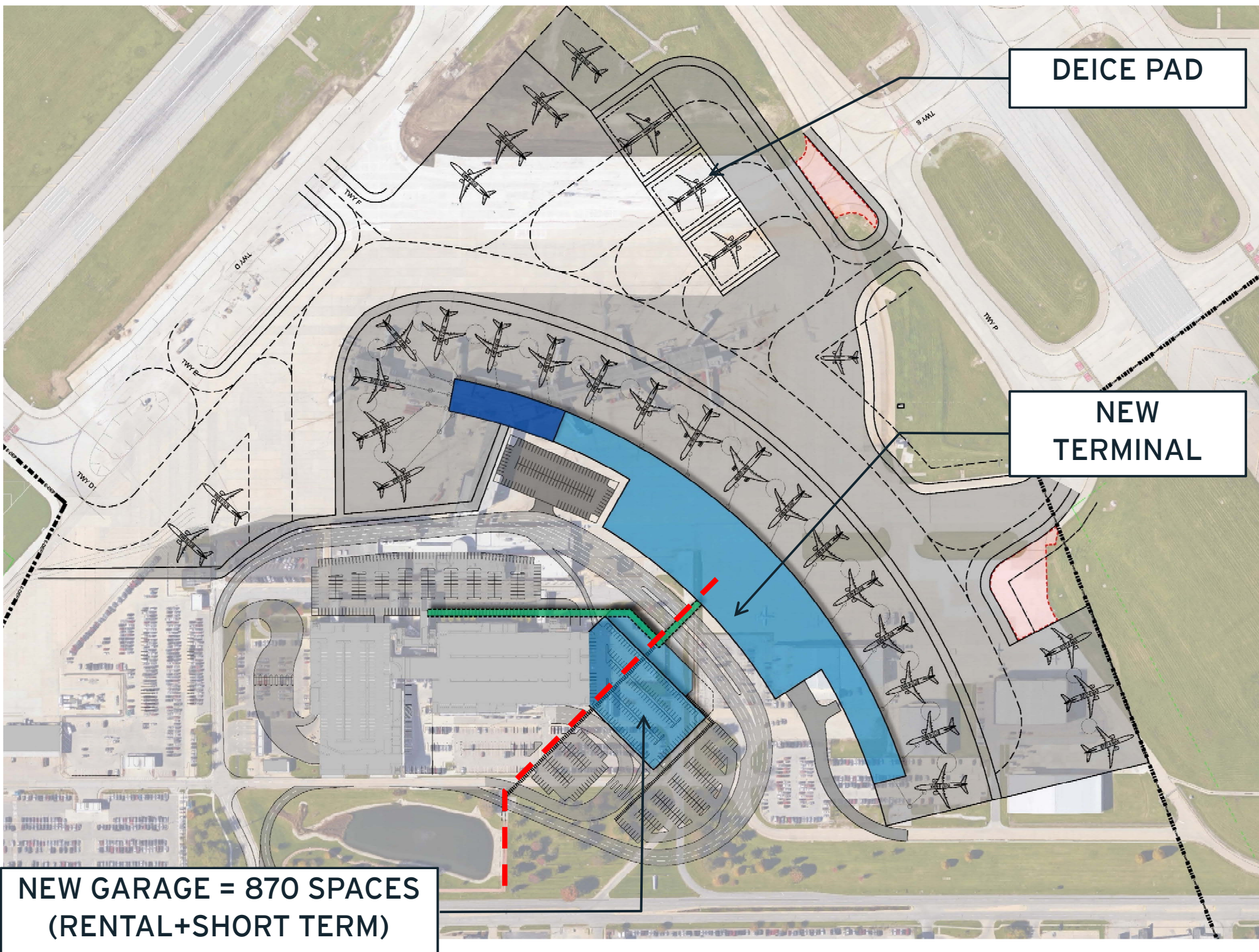
EAST:

- Terminal Functions only

SOUTH:

- Relocated Signature, DMFS & Hondajet with other GA/Corporate future facilities
- Cargo maintained
- Airline Maintenance
- GA/T-Hangars can expand
- Separates terminal functions

Task 1 Overview: East Quadrant

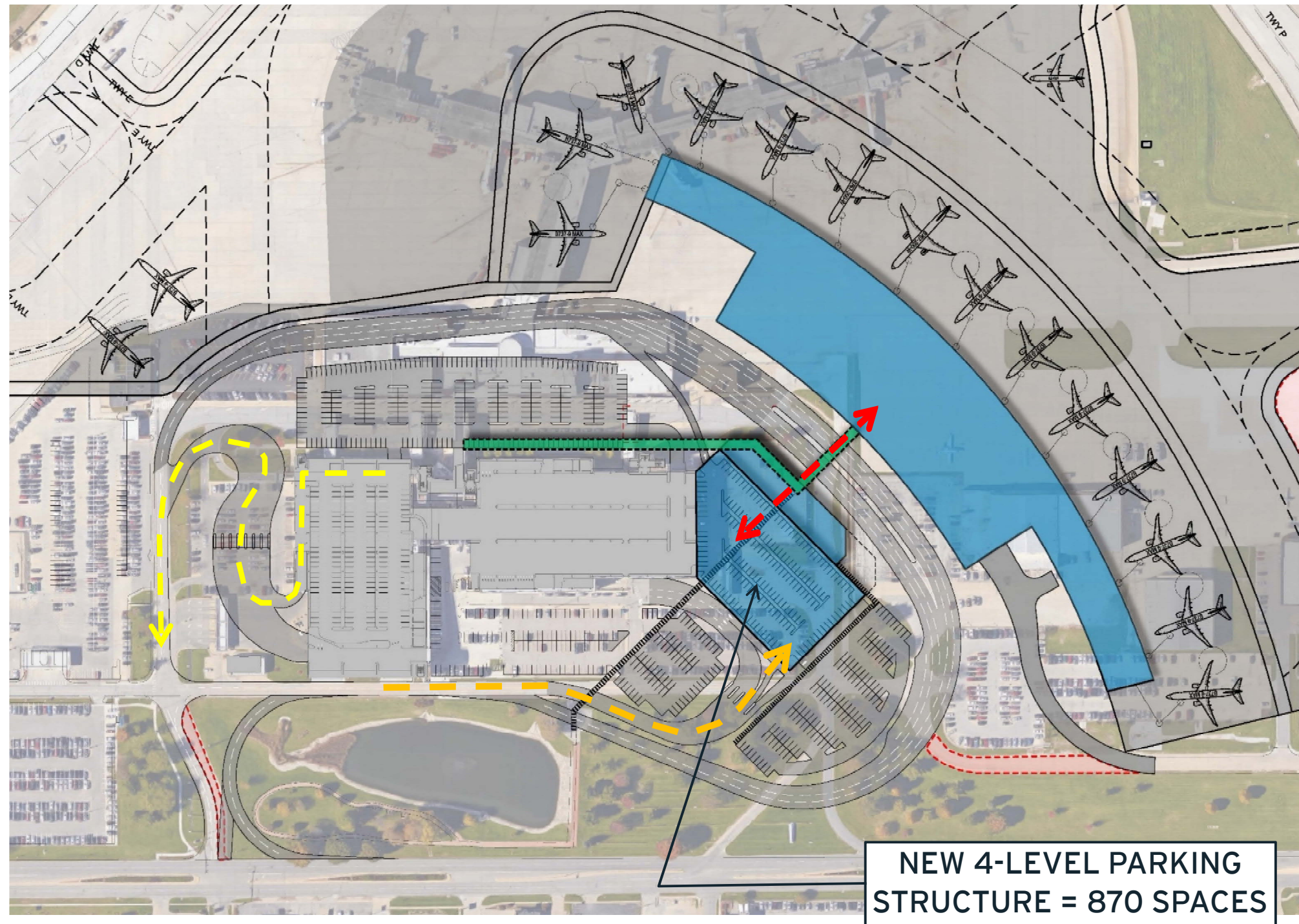


Key Factors:

- New terminal building close to existing for minimal walking distances to parking
- Accommodates required aircraft parking positions
- New Deice Pad & maintains existing infrastructure
- Corrects Airfield issues
- Maximizes Landside area for future growth
- Flexible airside for future expansion

Pedestrian Path ---

Task 1 Overview



Key Factors:

- New 4- level parking structure
 - Rental Car
 - Public Parking
 - Pedestrian bridge
- Conditioned walkway to existing long term garages
- New entry and exit plazas
- Longer curbside
- Maximizes Landside area for future growth

Pedestrian Access 

Parking Entry 

Parking Exit 

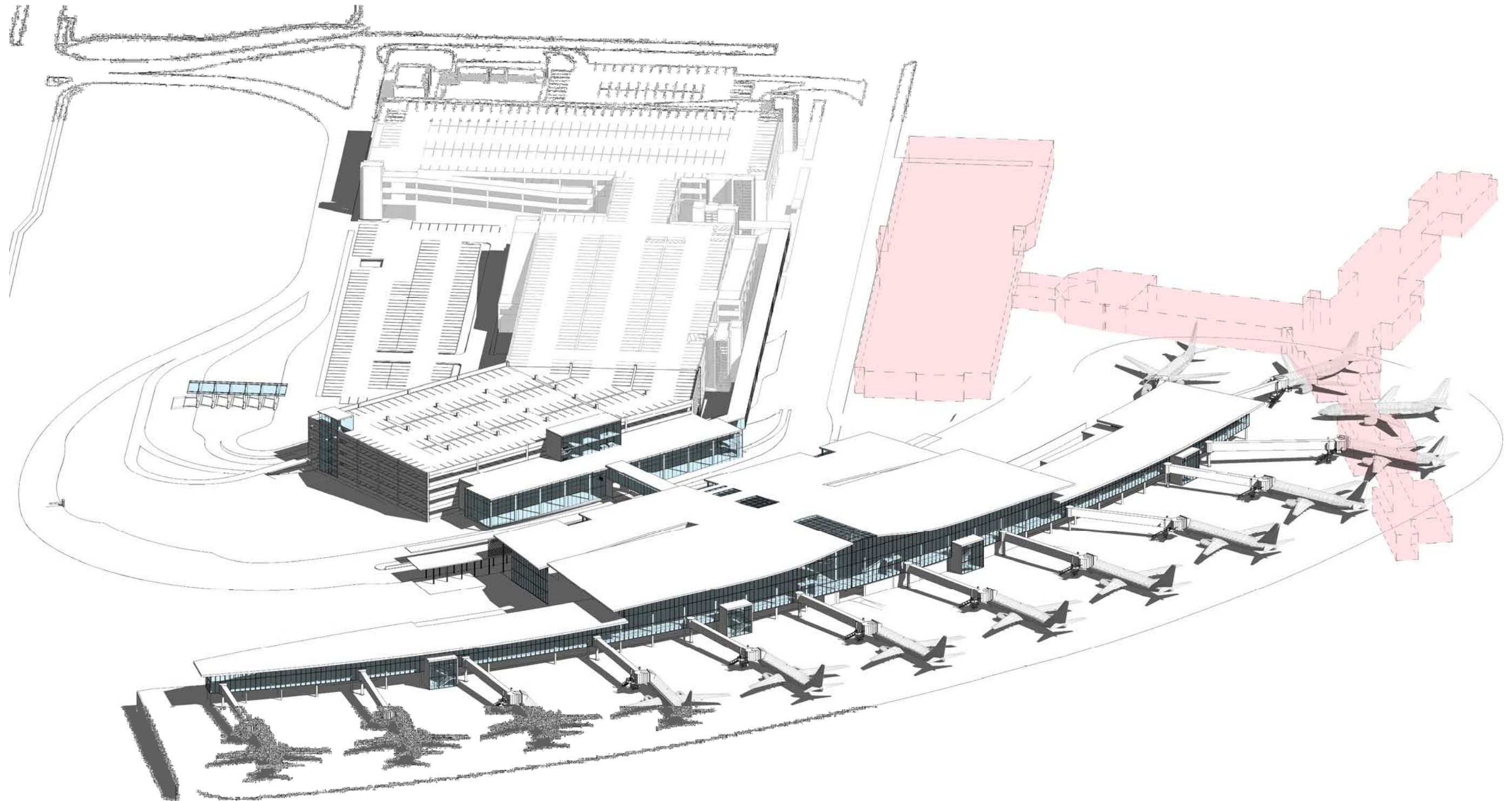
Timeline - New Terminal Programming

- January 2017 -
 - Task 2 Kickoff
- Airport Workshops -
 - 1/18/17
 - 3/2/17
 - 3/30/17
 - 6/8/17
 - 6/29/17
 - 8/9/17
 - Weekly Discipline Meetings
- 9/12/17 - Board Workshop
- 9/26/17 - Public Workshop
- 11/14/17 - Board Presentation
- 12/12/17 - Board Acceptance

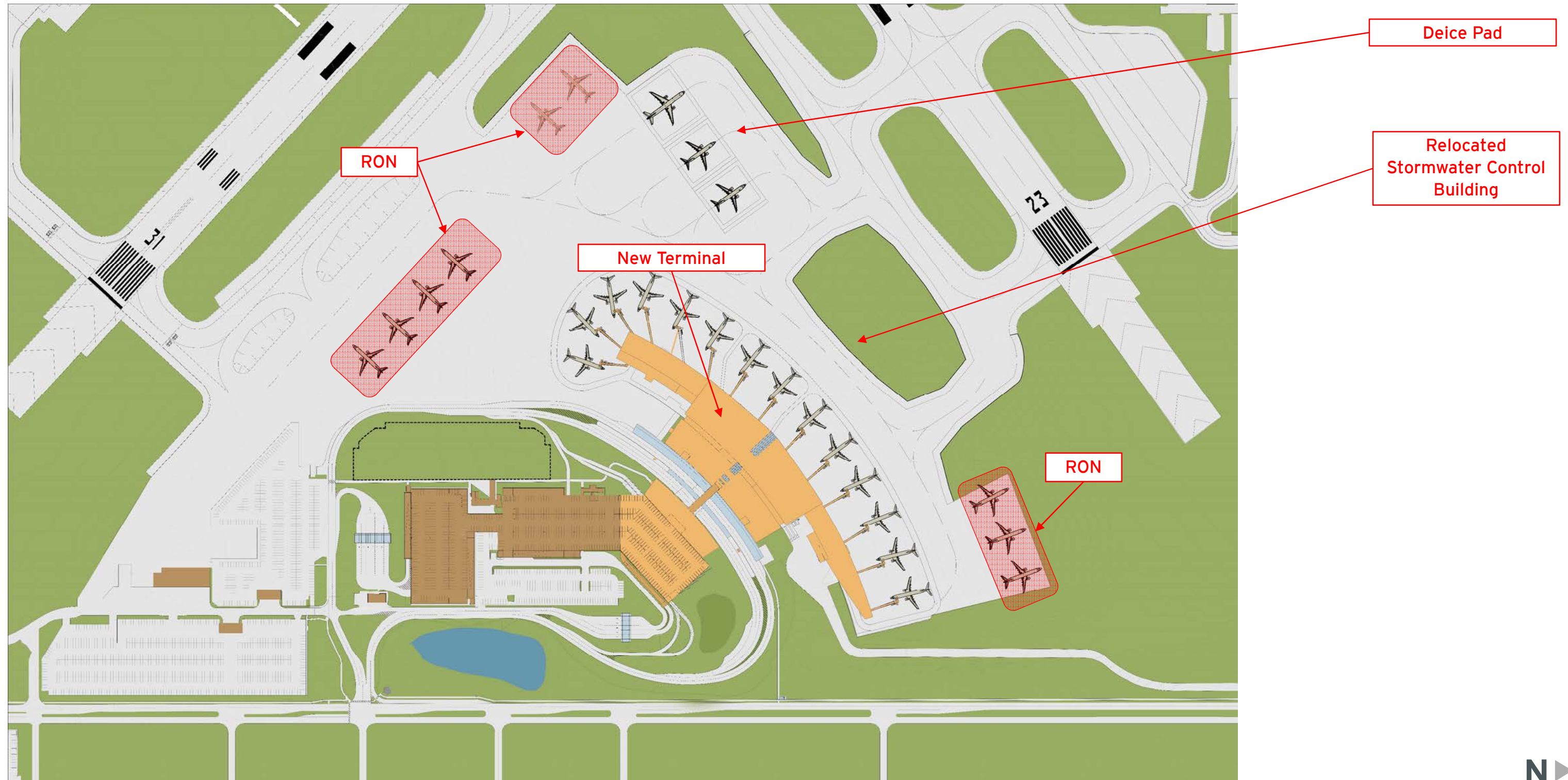


Site Update

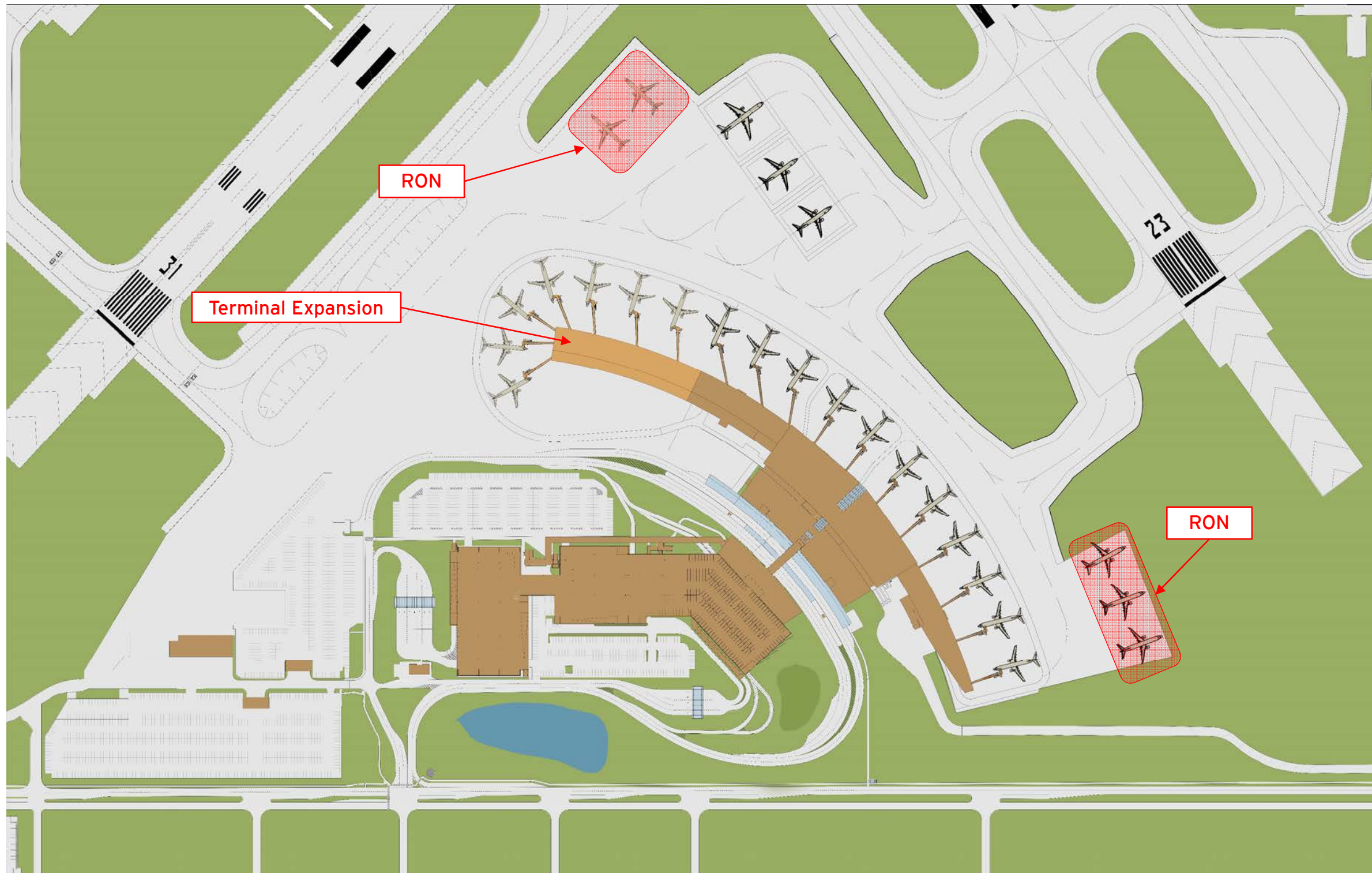
Site Overview



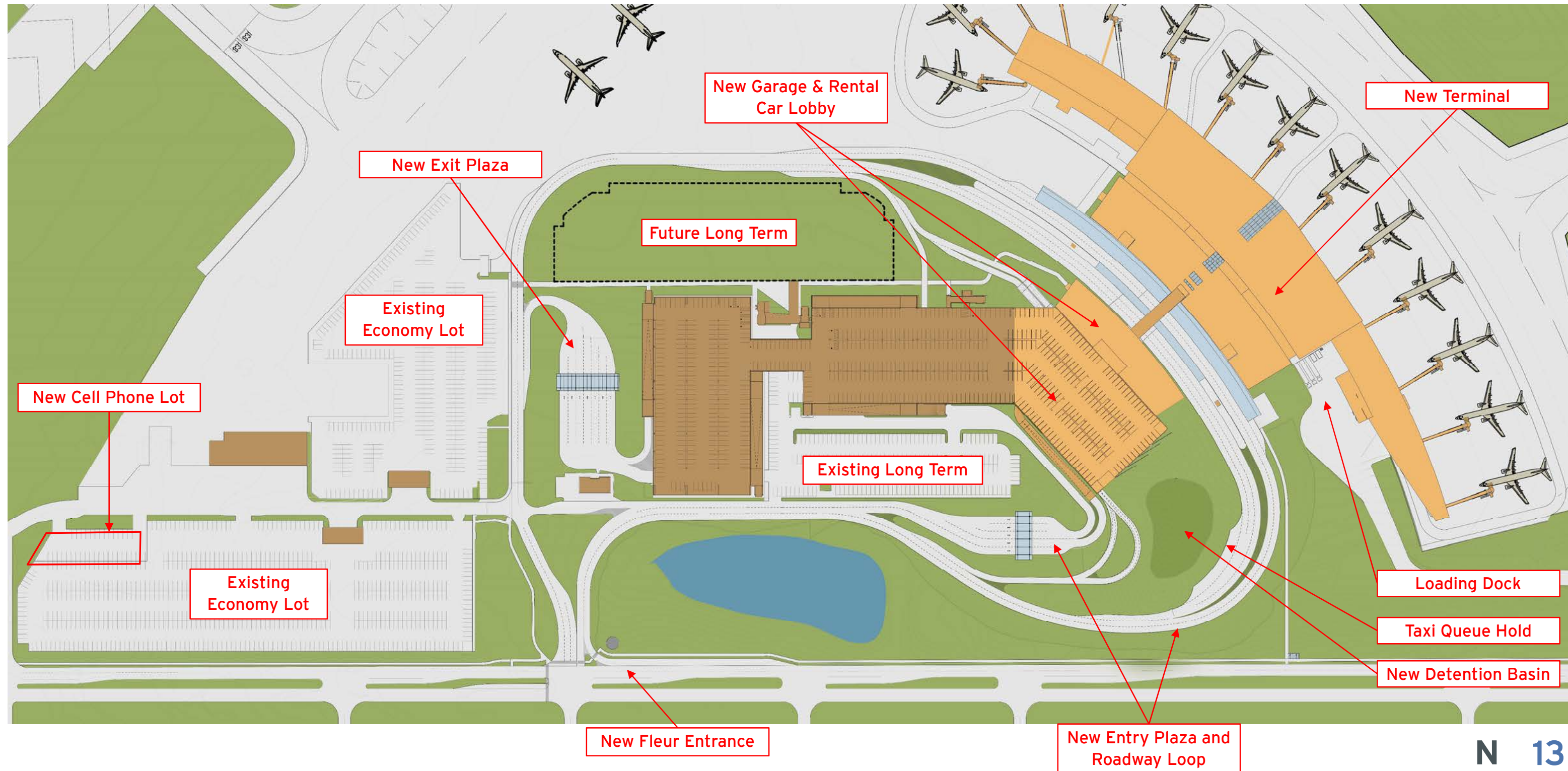
Airside - Overall Site - Phase 1 (MAP 3)



Airside - Overall Site - Phase 2 (MAP 4)



Landside - Overall Site - Phase 1 (MAP 3)



Terminal Area Parking & Rental Car



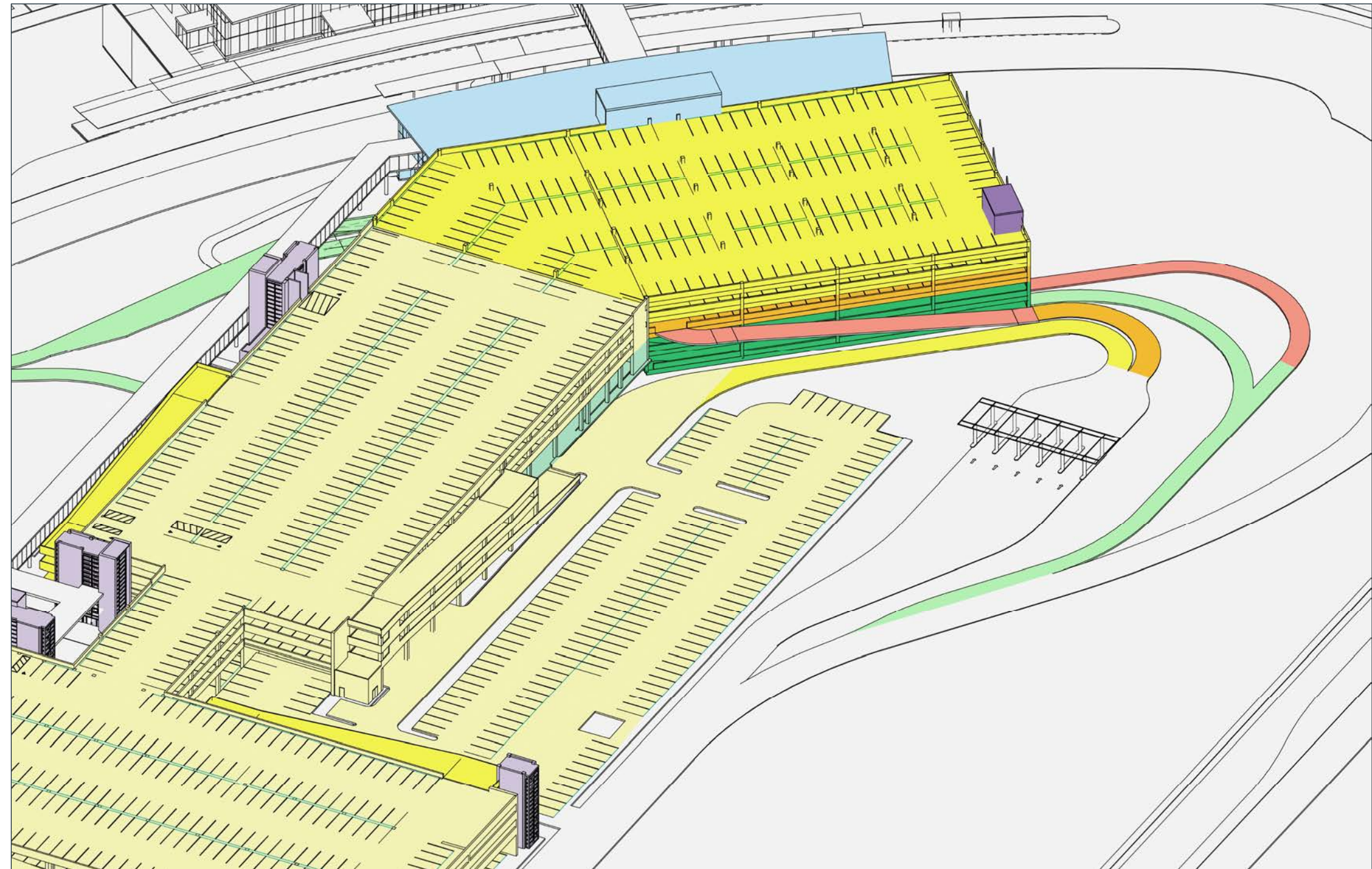
Landside - Landside Requirements

	Existing Supply	MAP 3	Hybrid - MAP 3	New Terminal Plan	MAP 4
Terminal Area					
Short-Term (Hourly)	98	340	170	176	448
Short-Term (Structured)	243				
Long Term Existing Surface	280	2,235	2,405	181	
Long Term New Surface	n/a			300	
Long Term Existing Garage	1452			1,682	
Long Term New Garage	n/a			362	3,058
Sub-total Terminal Area	2,073	2,575	2,575	2,701	3,846
Rental Cars					
Rental Car Ready	435	348*	348*	N/A**	477*
Rental Car Return		246*	246*	N/A**	337*
	135,566 SF	165,000 SF	165,000 SF	183,881 SF	226,780 SF

*320 SF/stall for ready stalls; 220 SF/stall for return stalls.

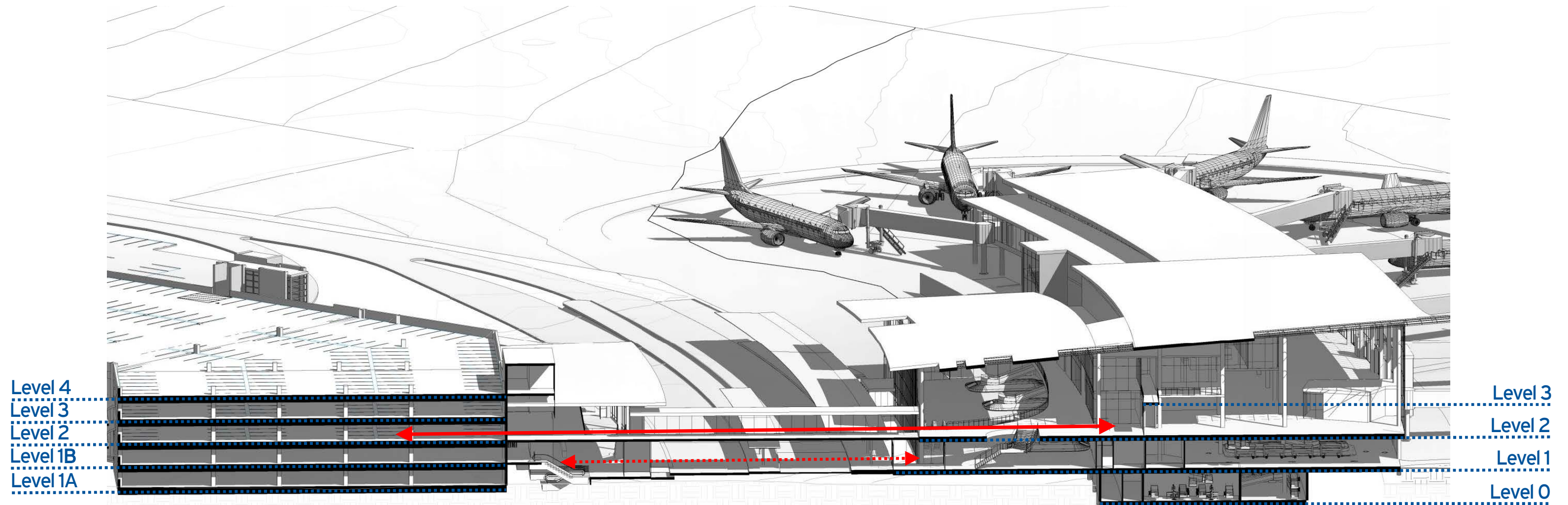
**Number based on a square-foot analysis

New Garage

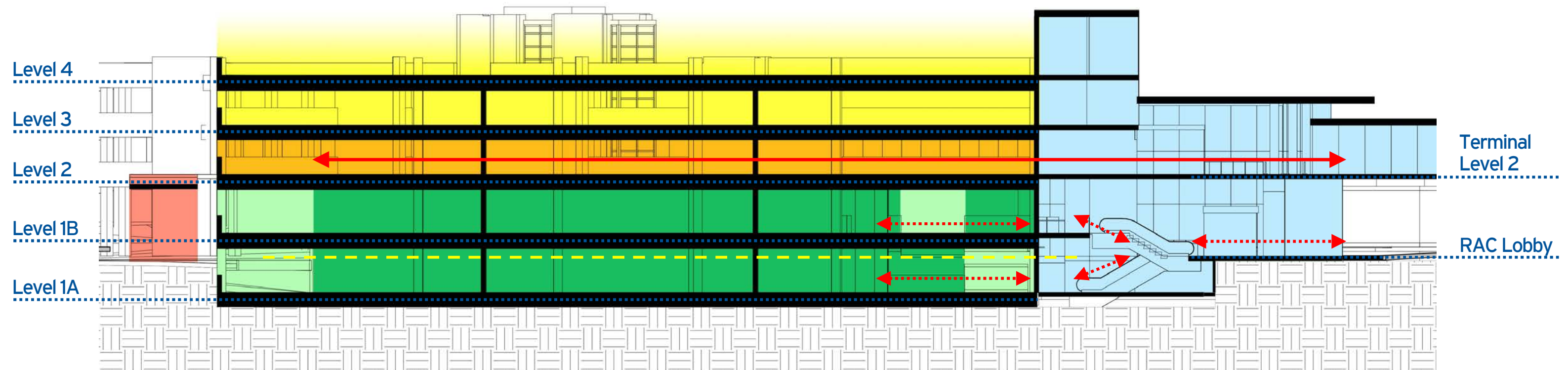


- Long-term Parking
- Short-term Parking
- RAC Parking
- Vertical Circulation
- RAC Access
- Short-term Ramp
- RAC Lobby

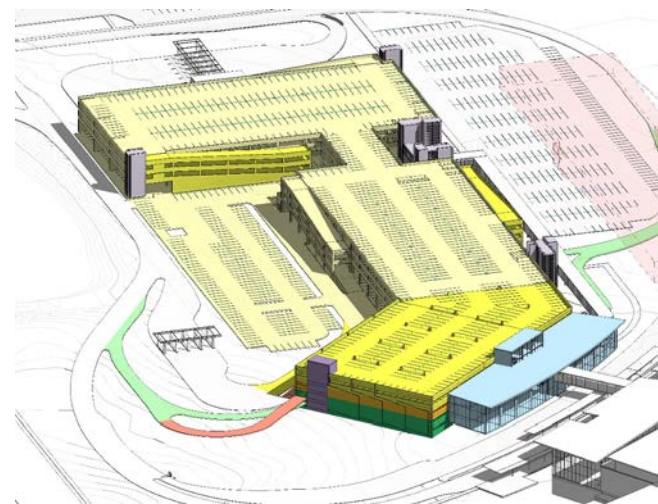
Landside - Connection to Terminal



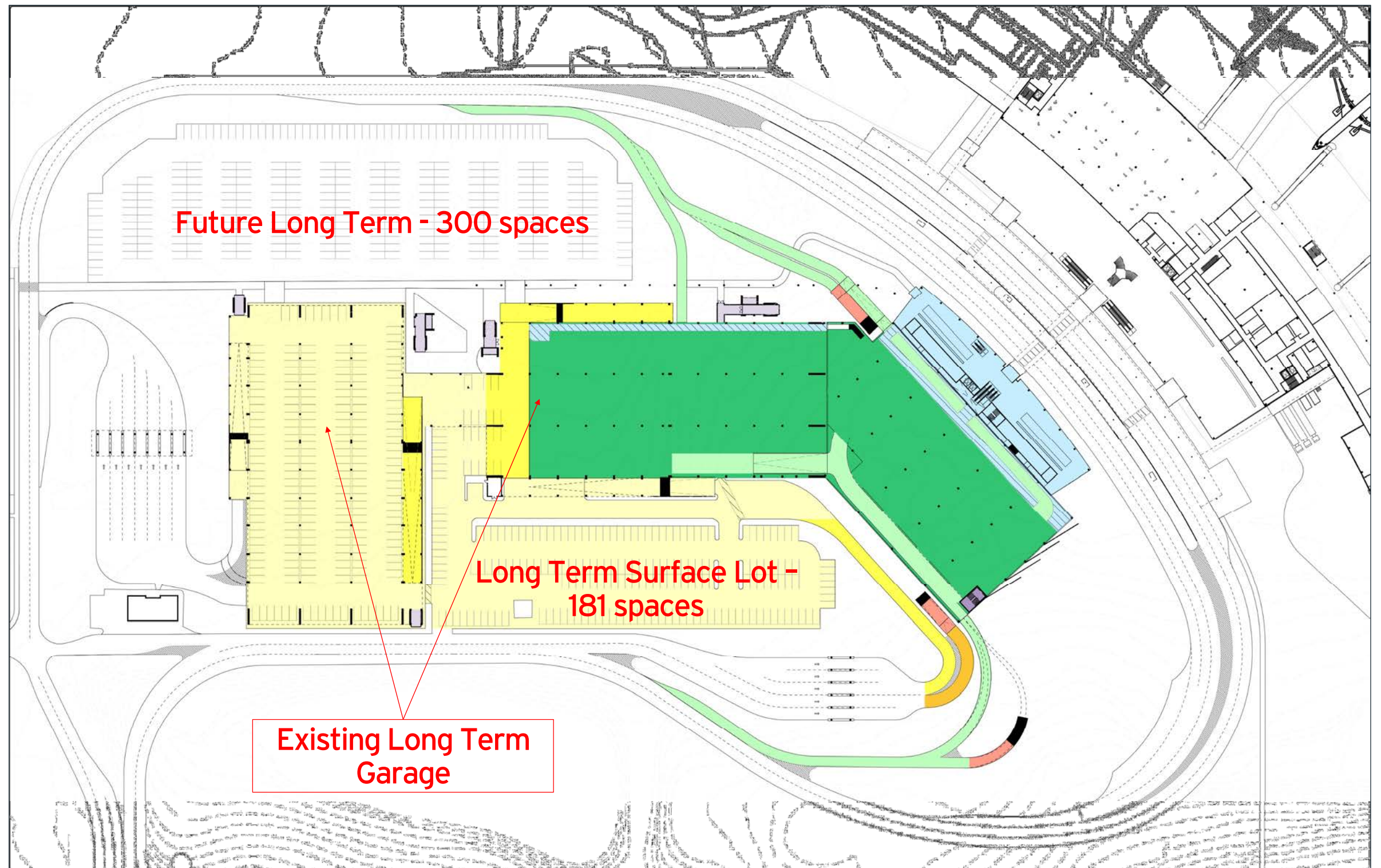
New Garage - Section



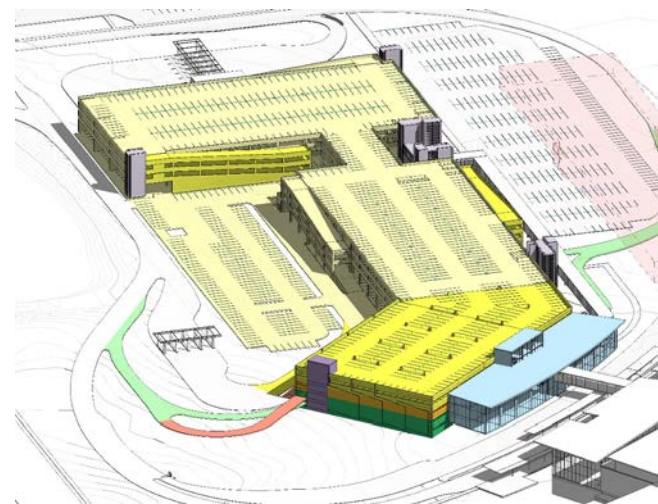
Level 1A



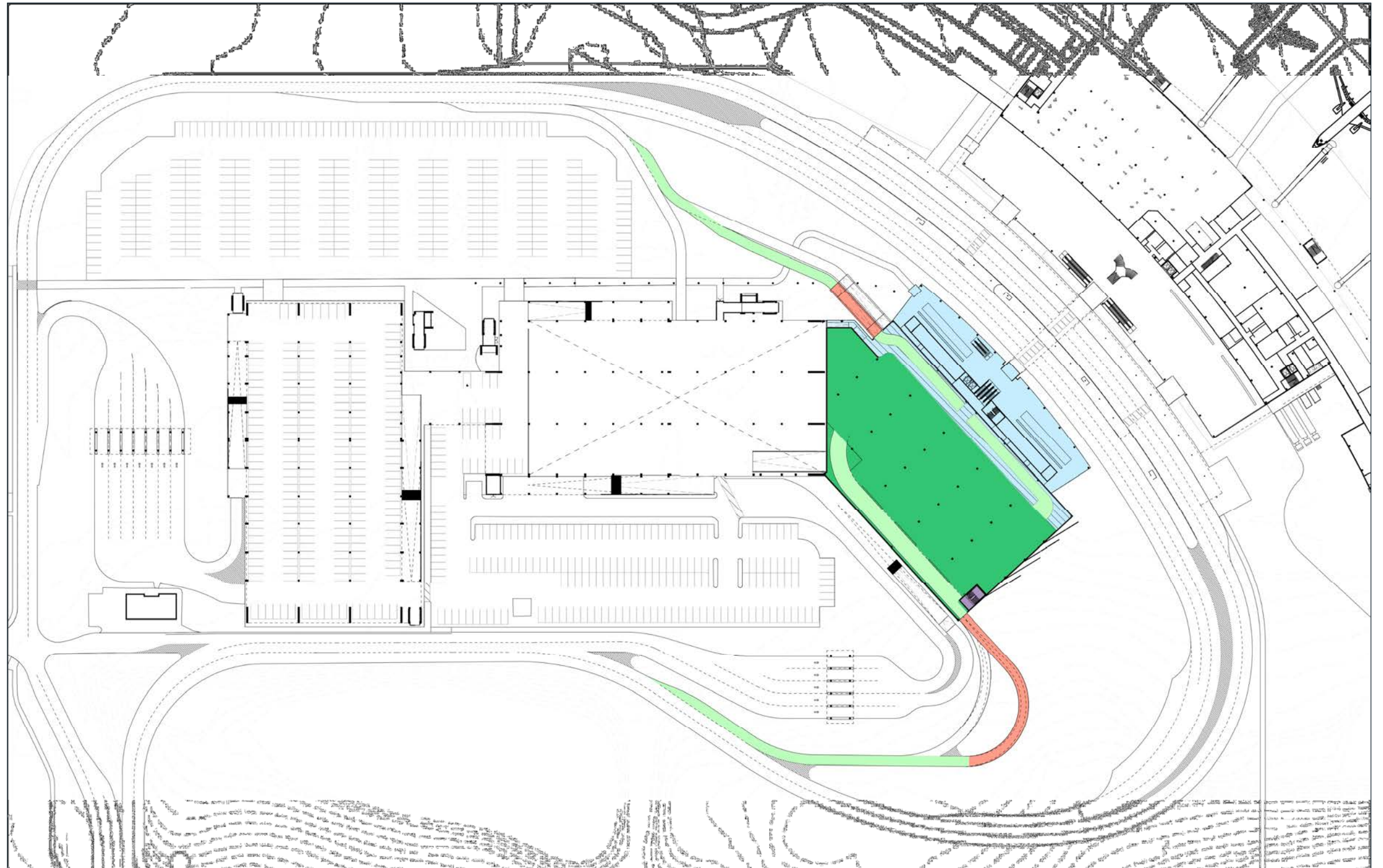
- Long-term Parking
- Short-term Parking
- RAC Lobby
- RAC Parking
- RAC Access
- Short-term Ramp



Level 1B

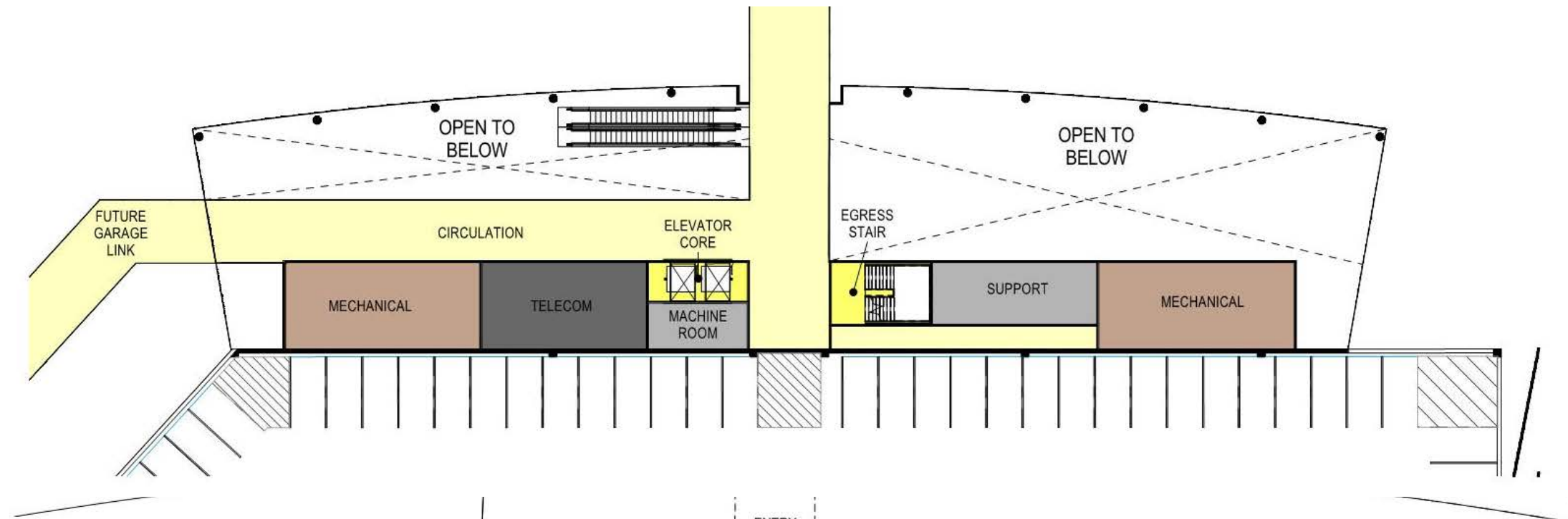


- Long-term Parking
- Short-term Parking
- RAC Lobby
- RAC Parking
- RAC Access
- Short-term Ramp

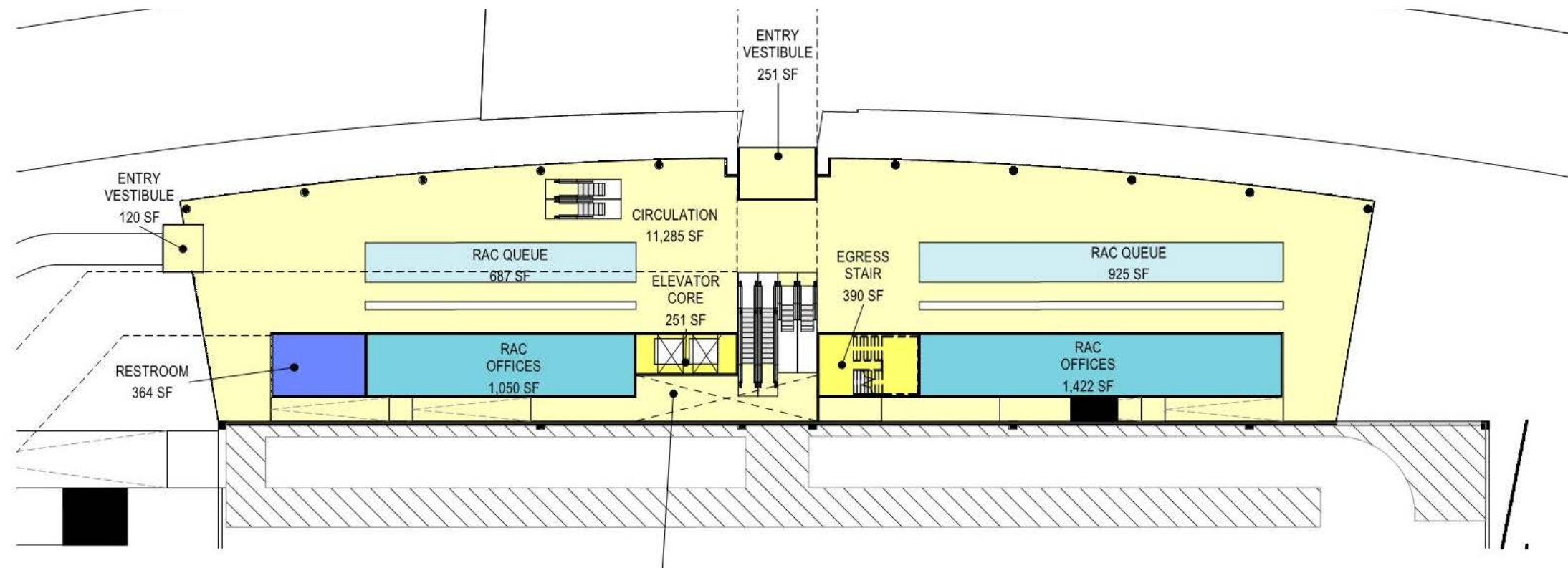


Landside - Rental Car Lobby

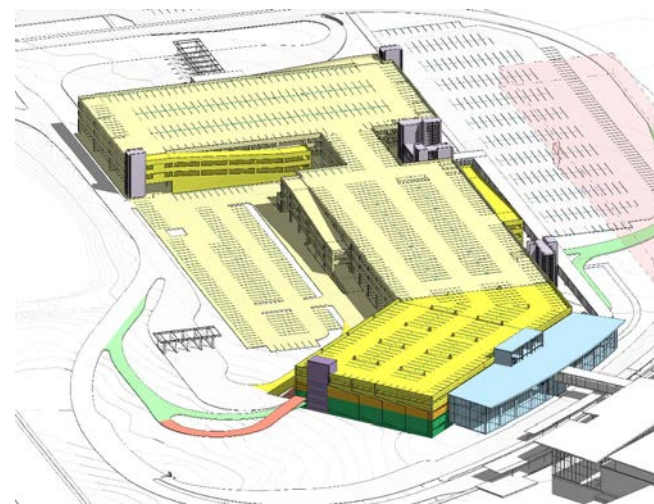
Level 2



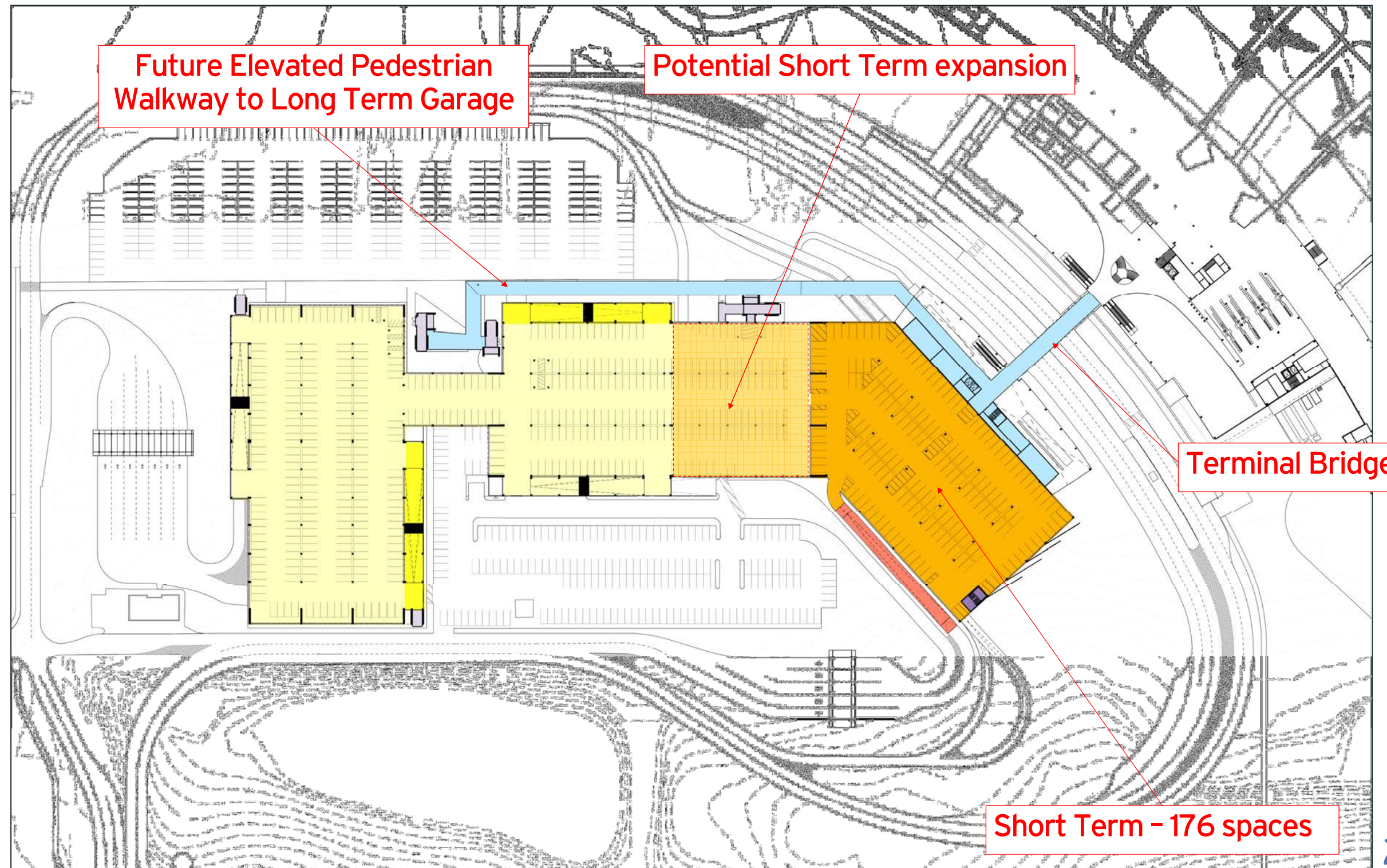
Level 1



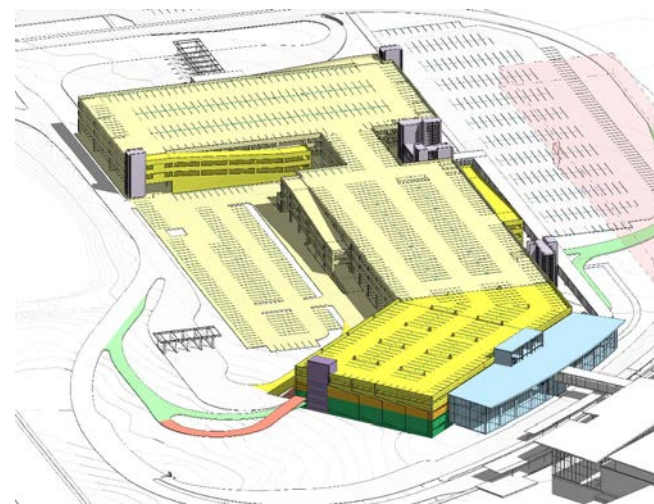
Level 2



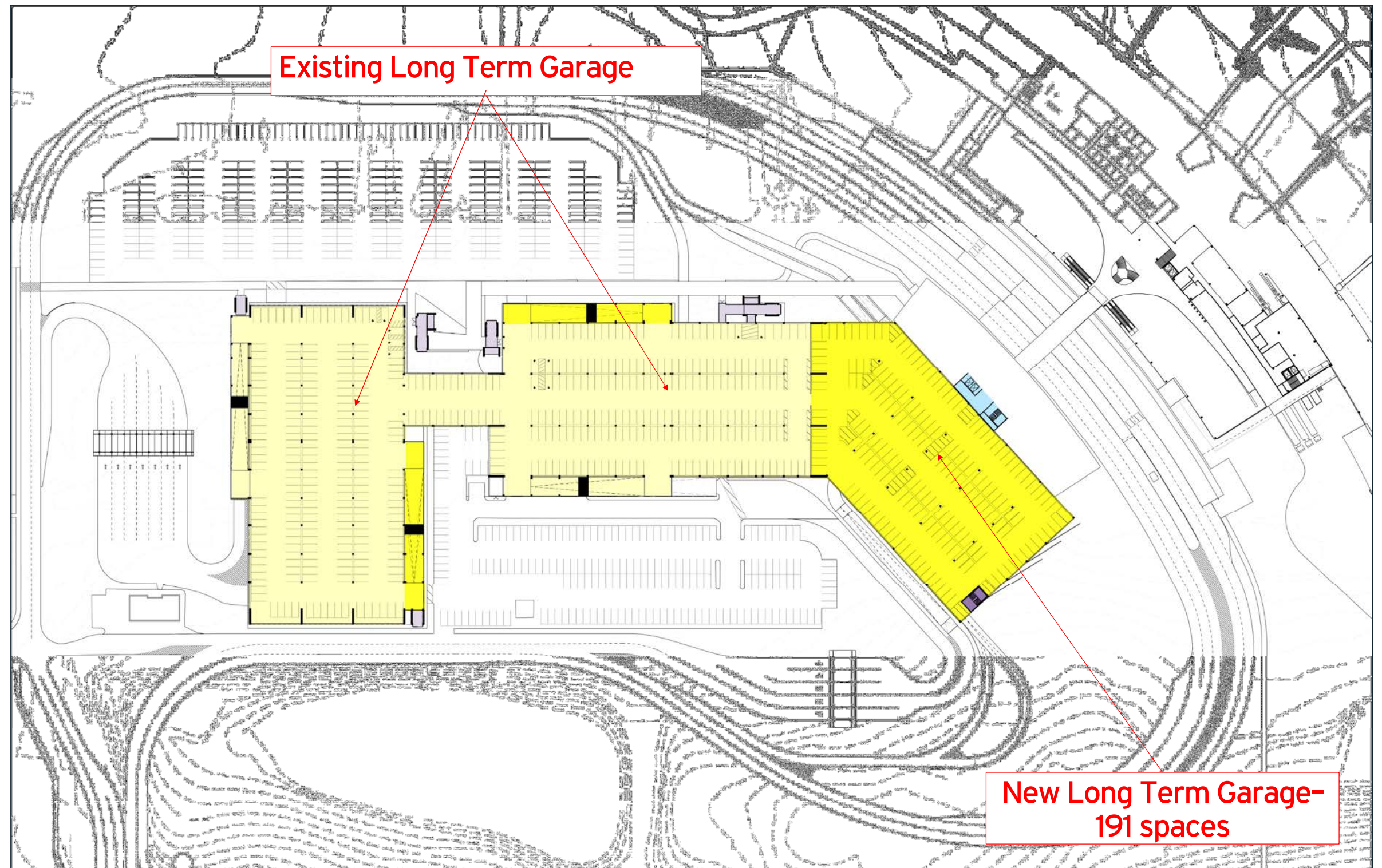
- Long-term Parking
- Short-term Parking
- RAC Lobby
- RAC Parking
- RAC Access
- Short-term Ramp



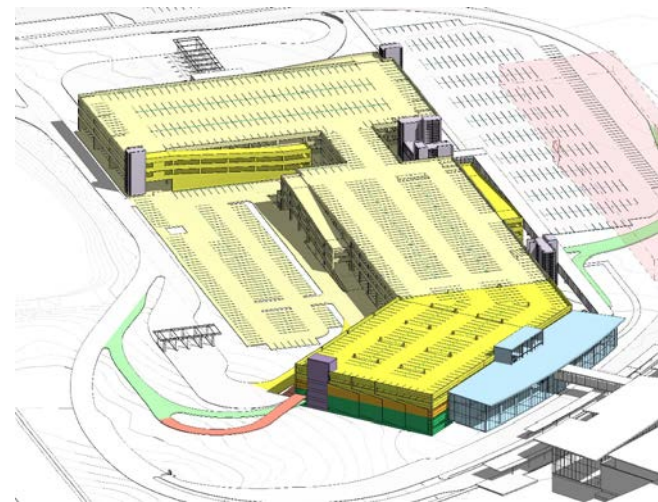
Level 3



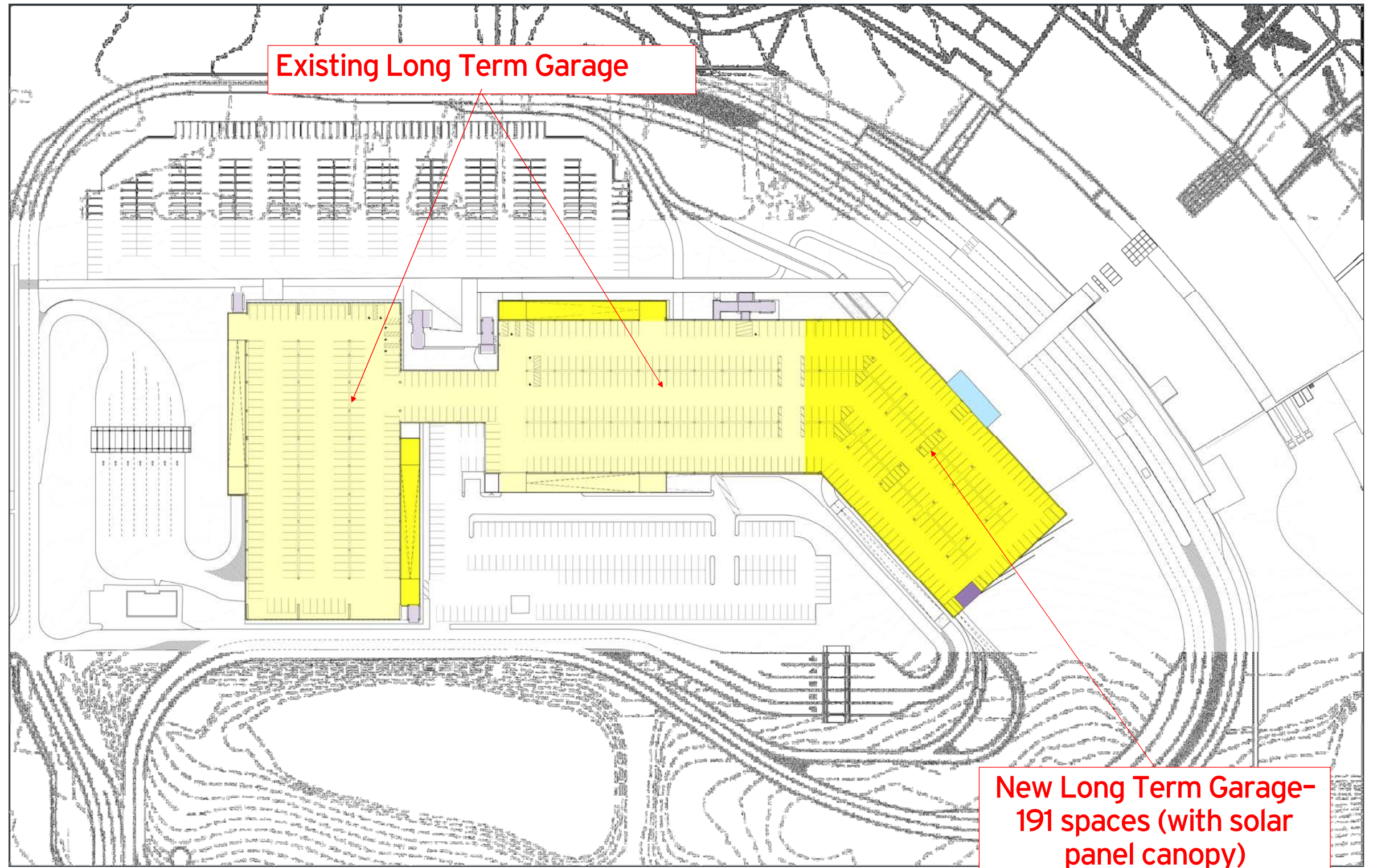
- Long-term Parking
- Short-term Parking
- RAC Lobby
- RAC Parking
- RAC Access
- Short-term Ramp



Level 4

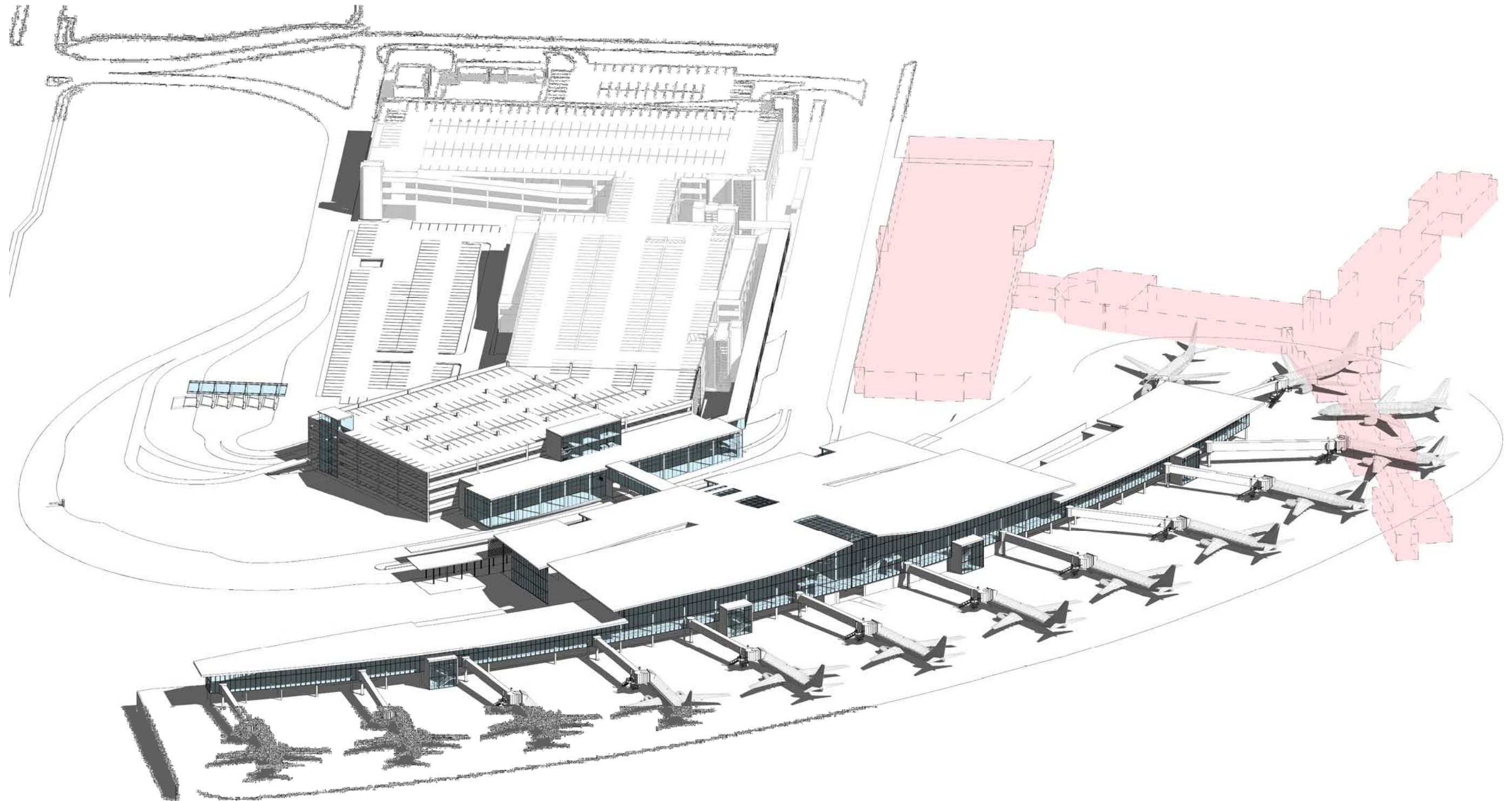


- Long-term Parking
- Short-term Parking
- RAC Lobby
- RAC Parking
- RAC Access
- Short-term Ramp

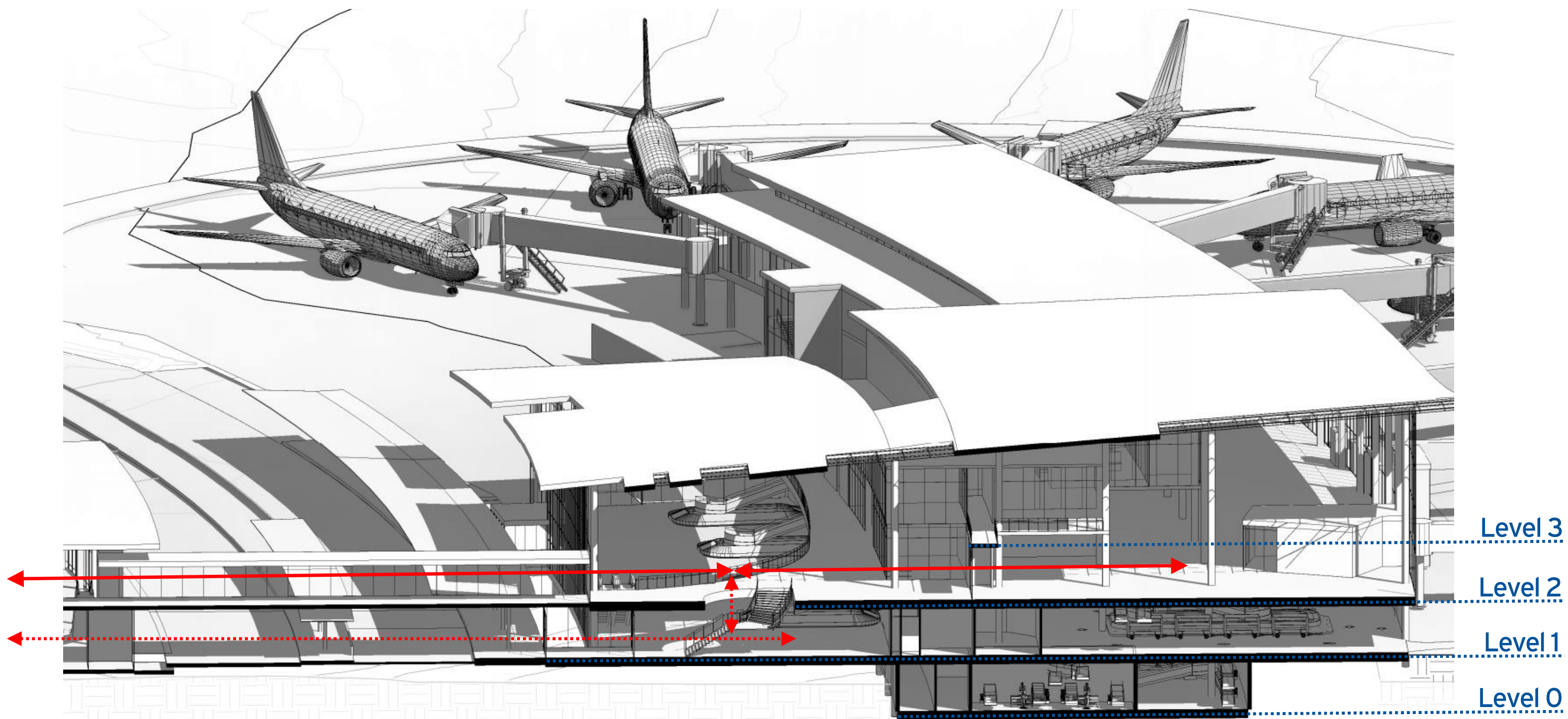


Terminal

Site Overview

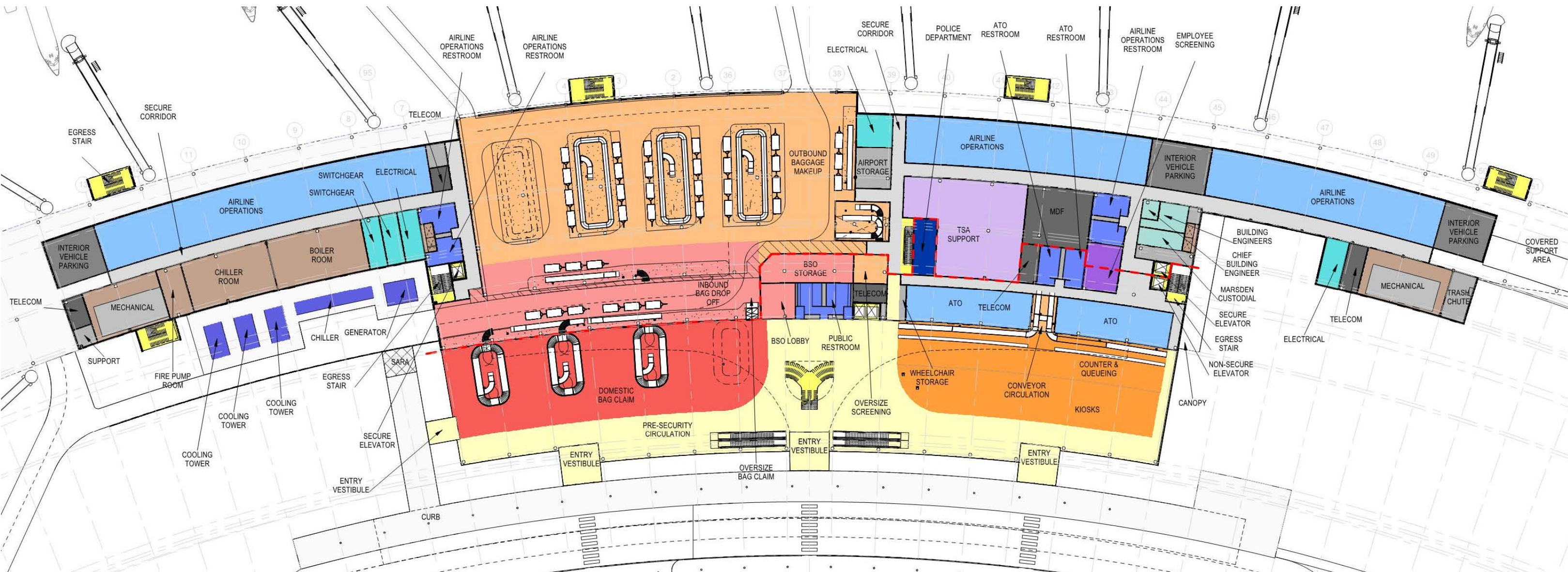


Terminal - Section



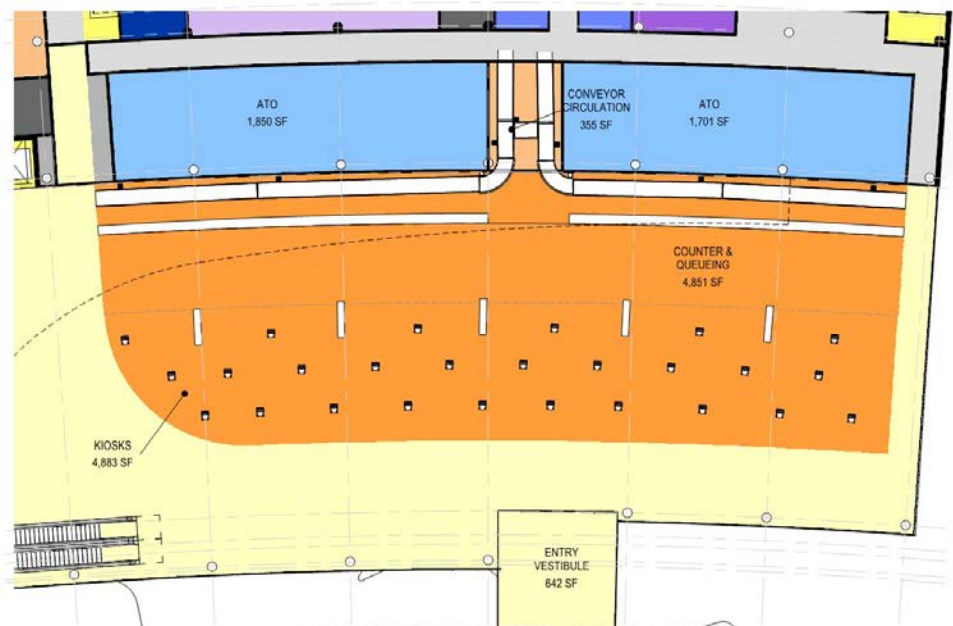
Level 1

Overall Concept Plan - Level 1

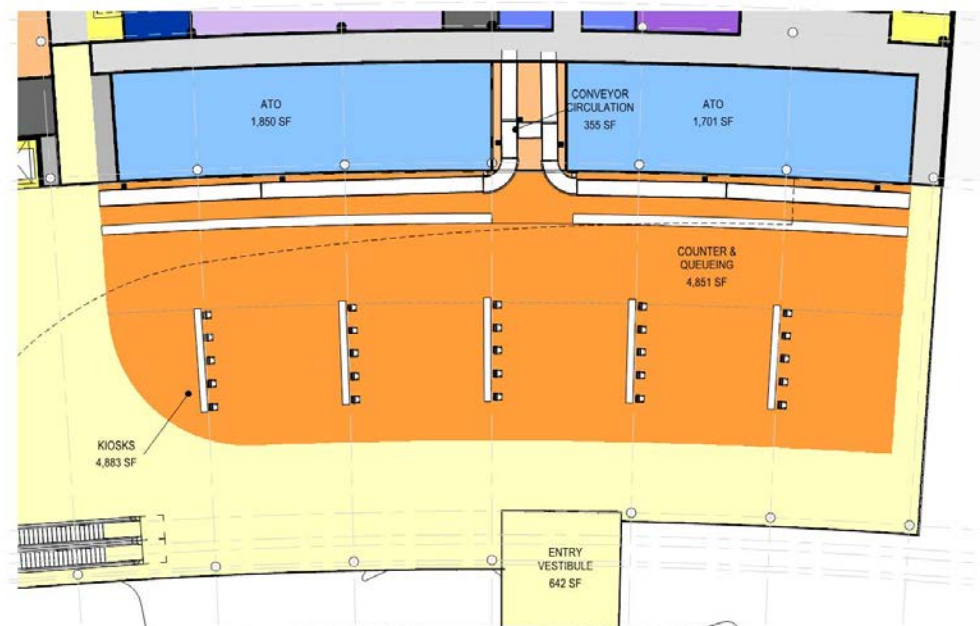


Level 1 - Ticketing

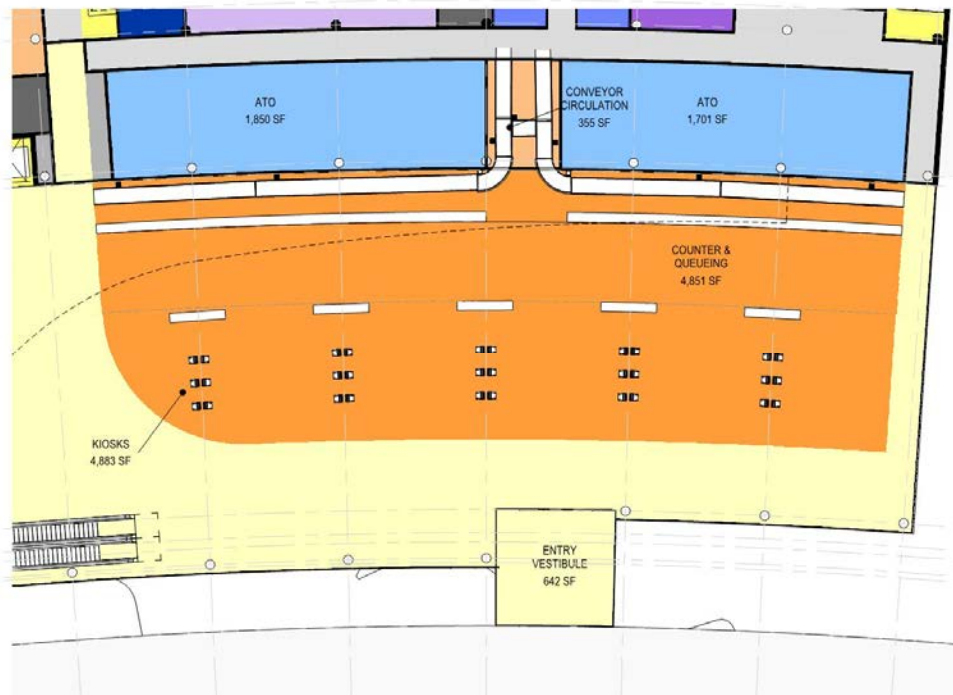
Option 1



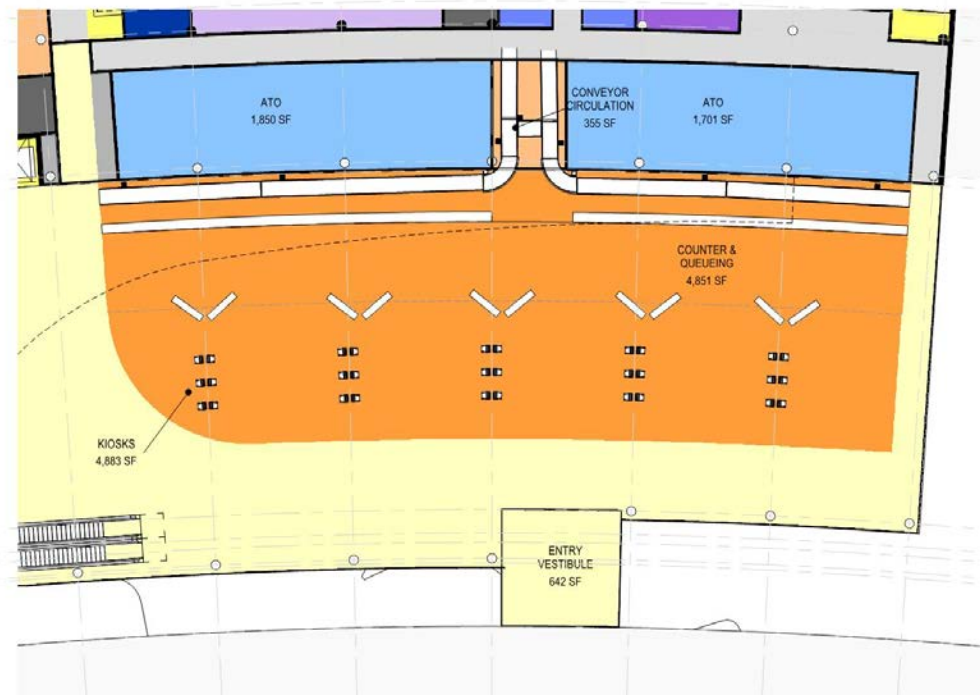
Option 3



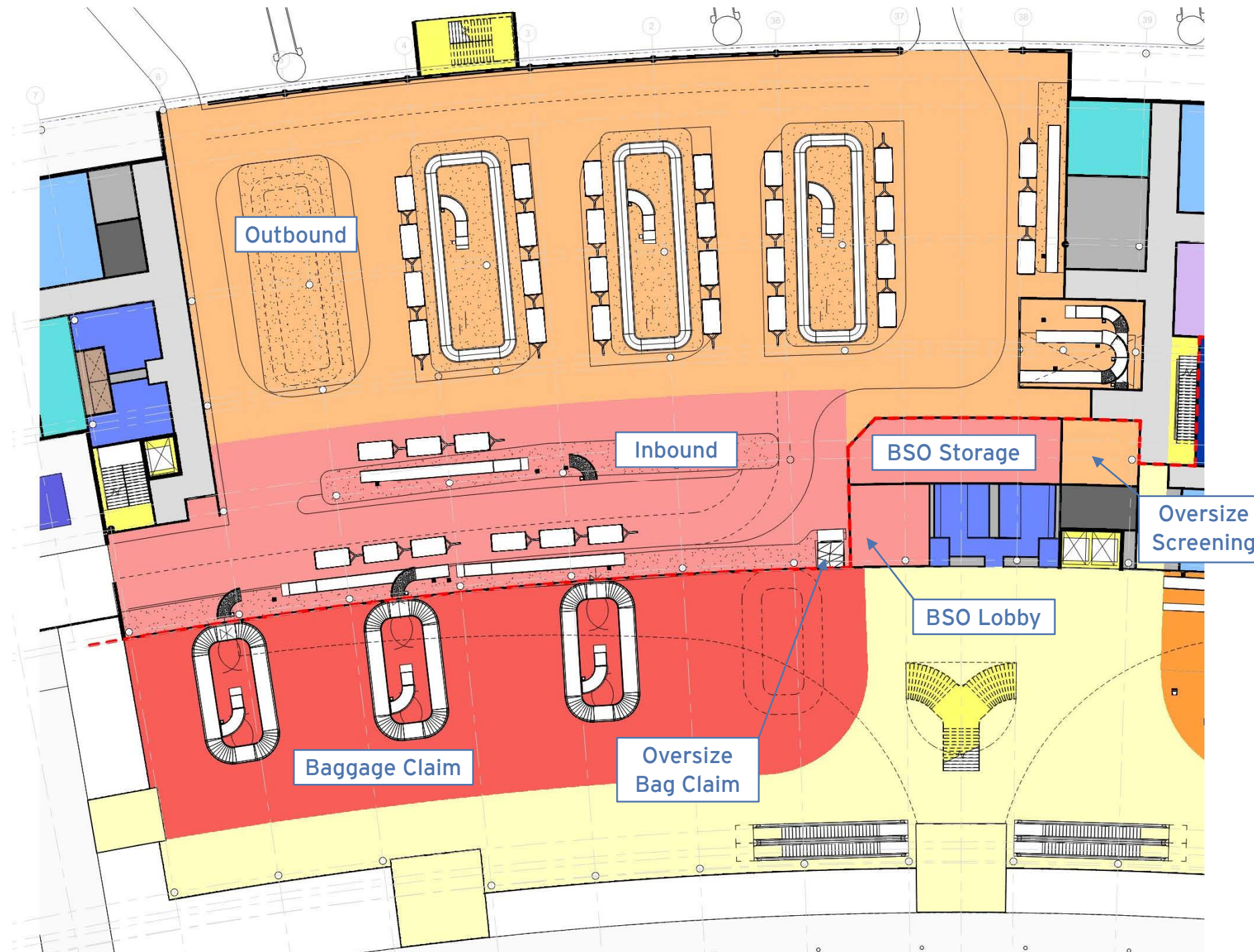
Option 2



Option 4



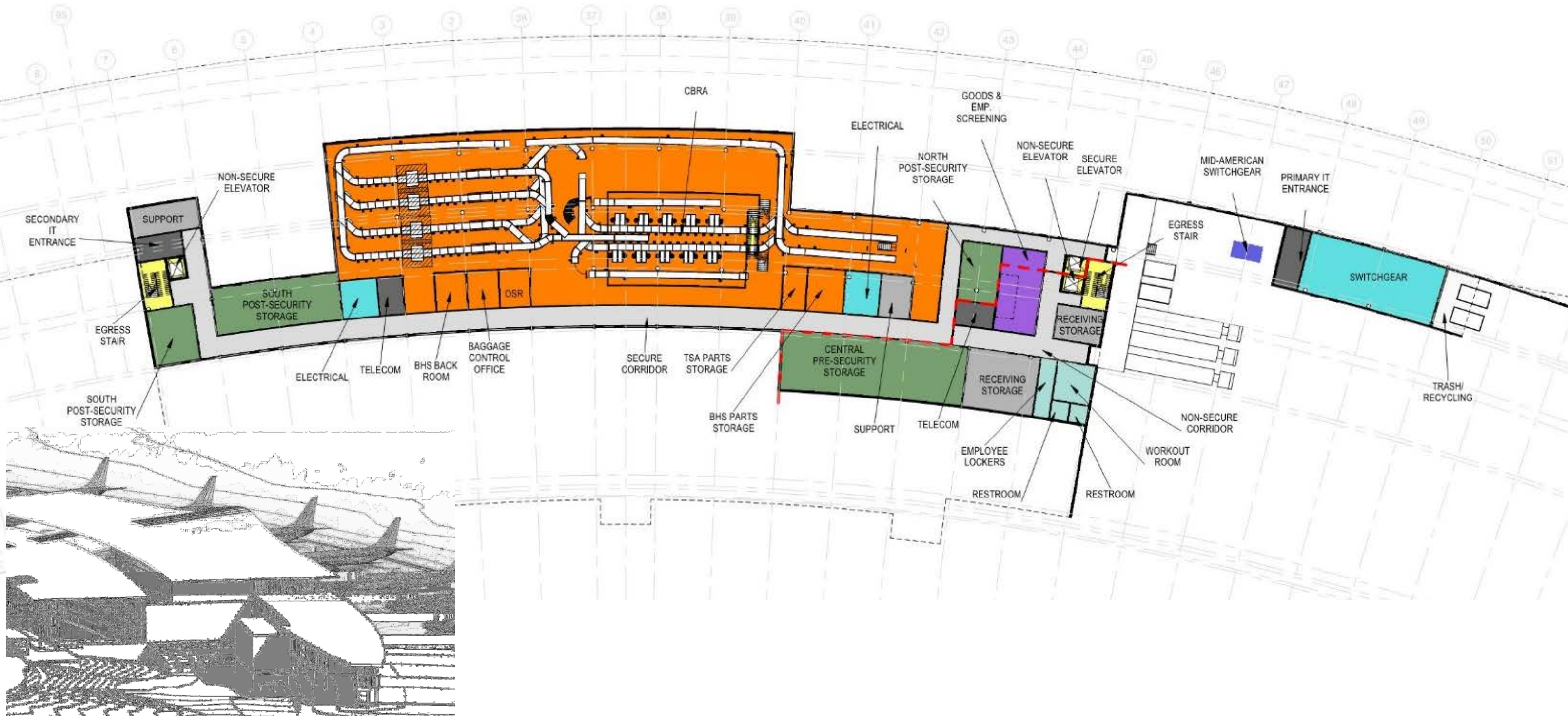
Level 1 - Baggage Systems



Level 0



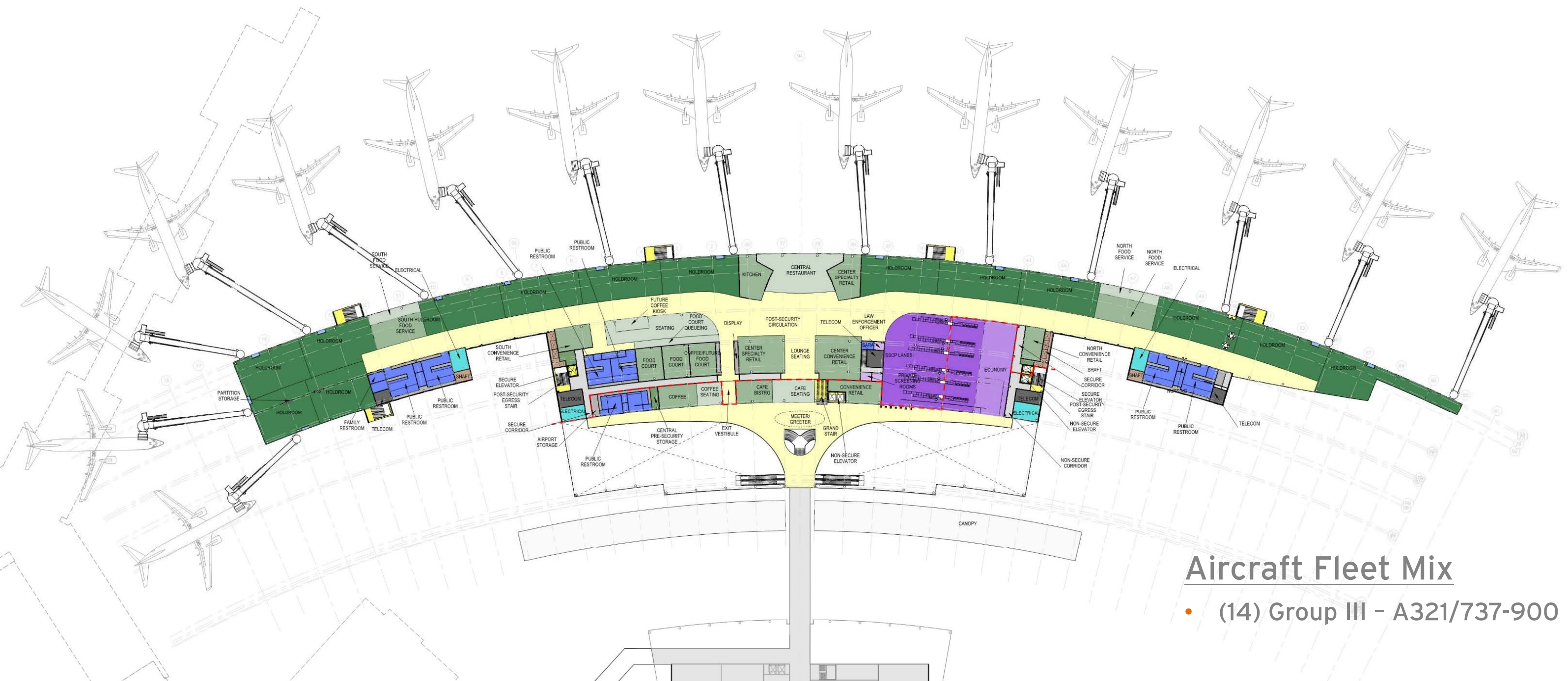
Level 0



Level 2

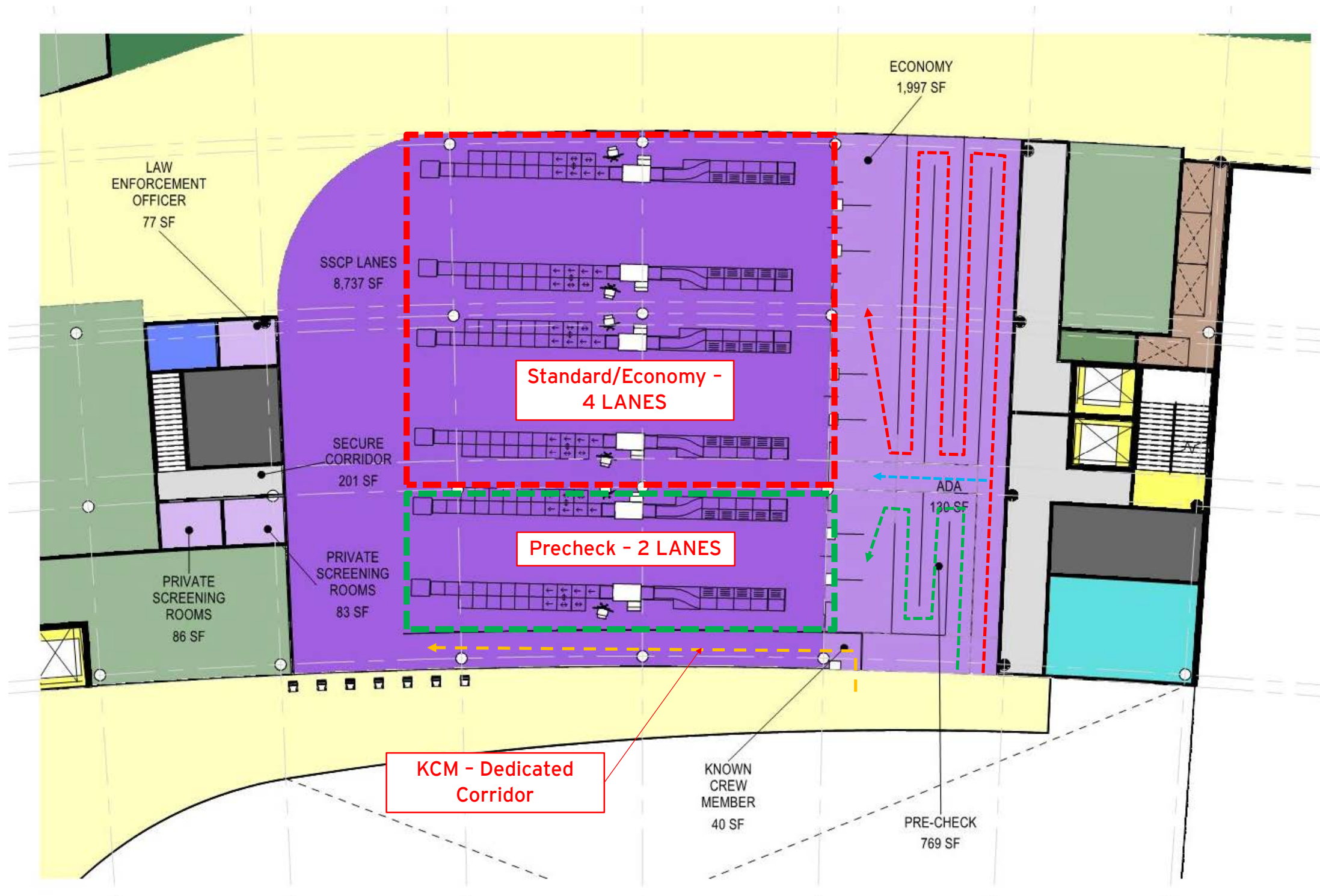


Overall Concept Plan - Level 2

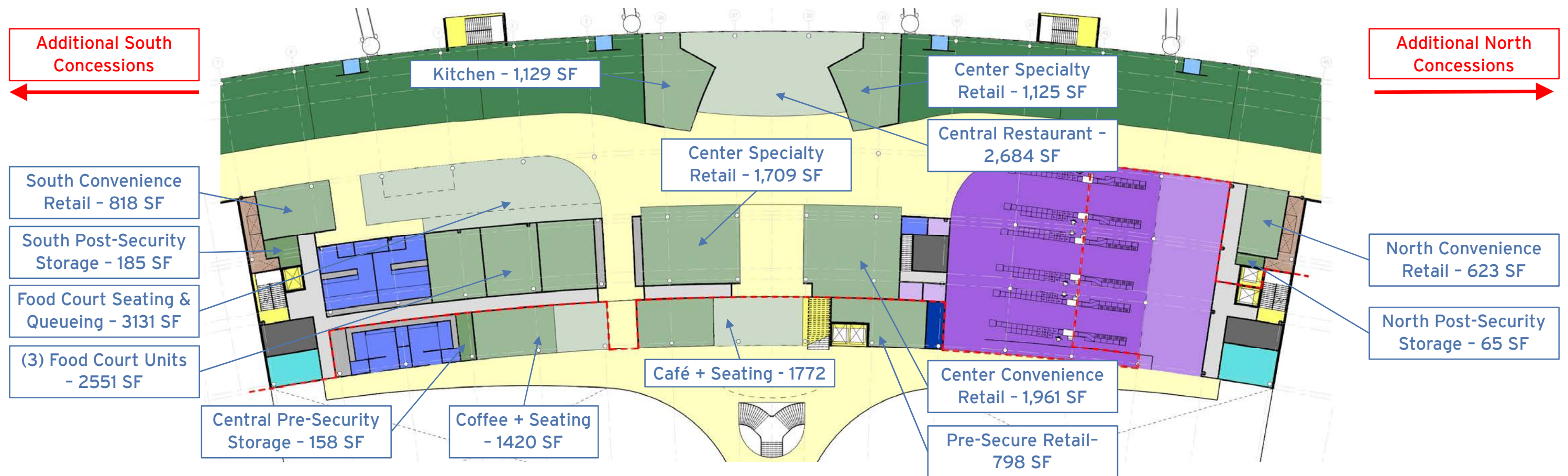


- ## Aircraft Fleet Mix
- (14) Group III - A321/737-900

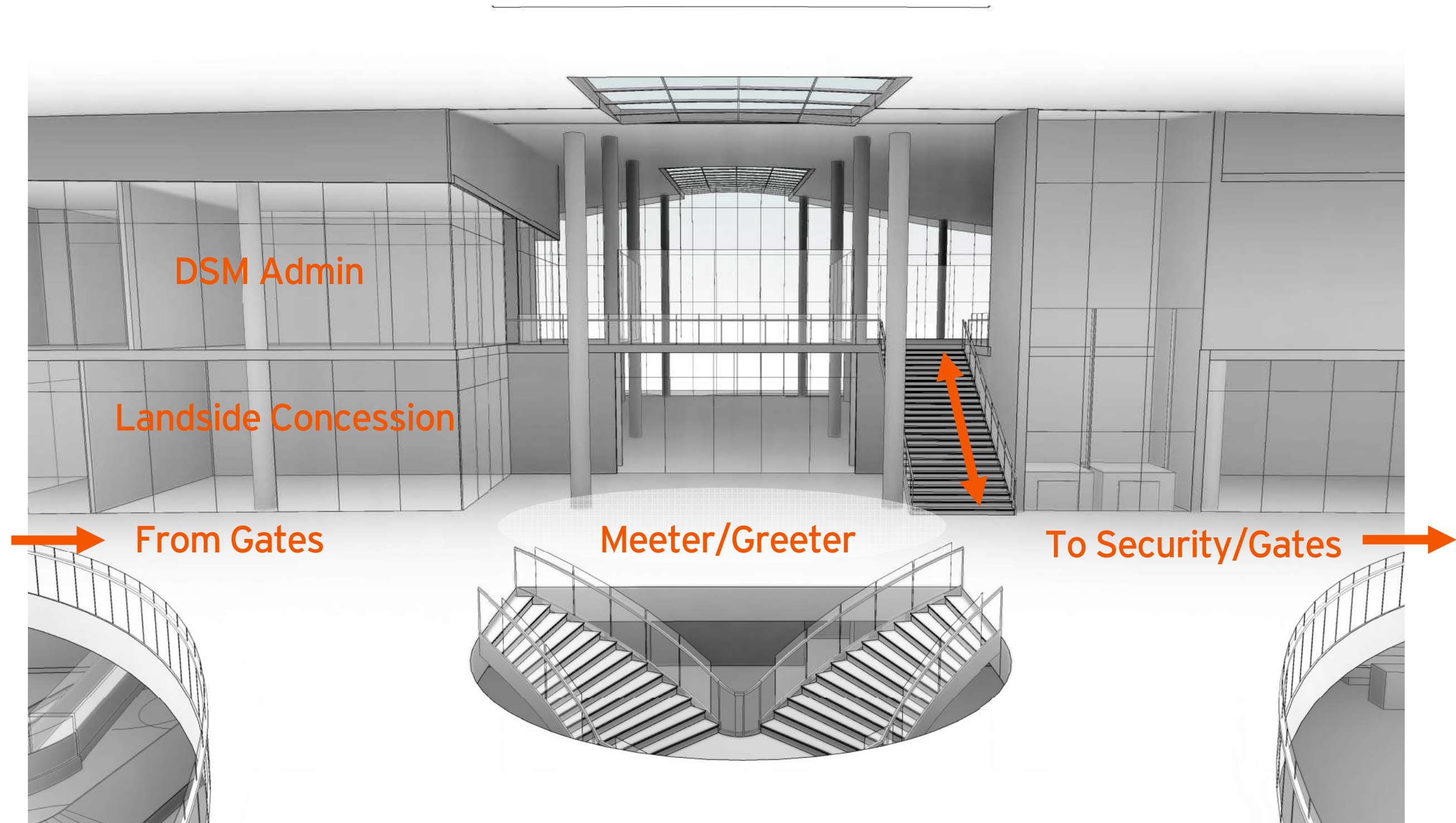
Level 2 – Security Checkpoint



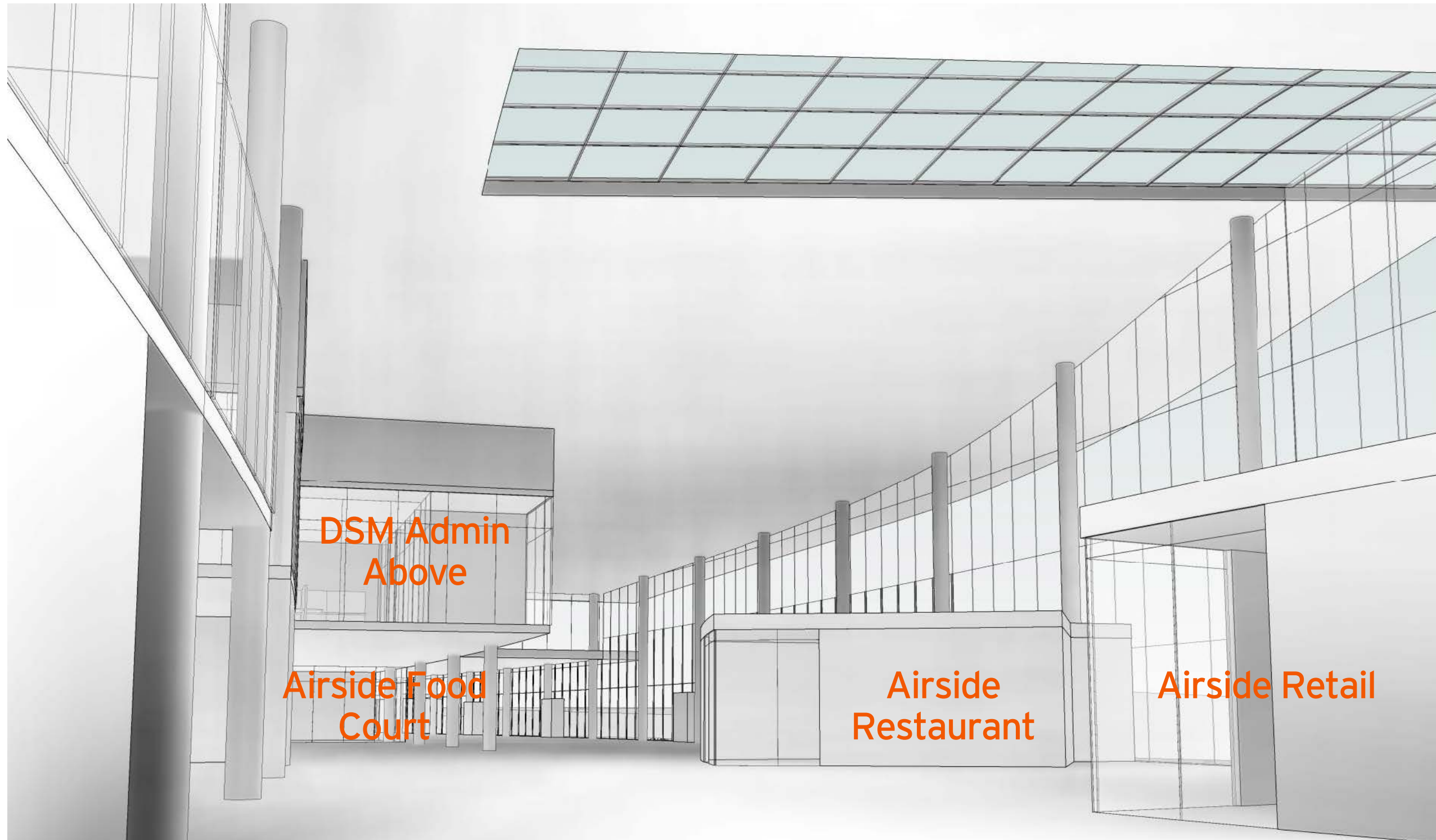
Level 2 - Concessions



Level 2 – Landside Mezzanine – View from Bridge



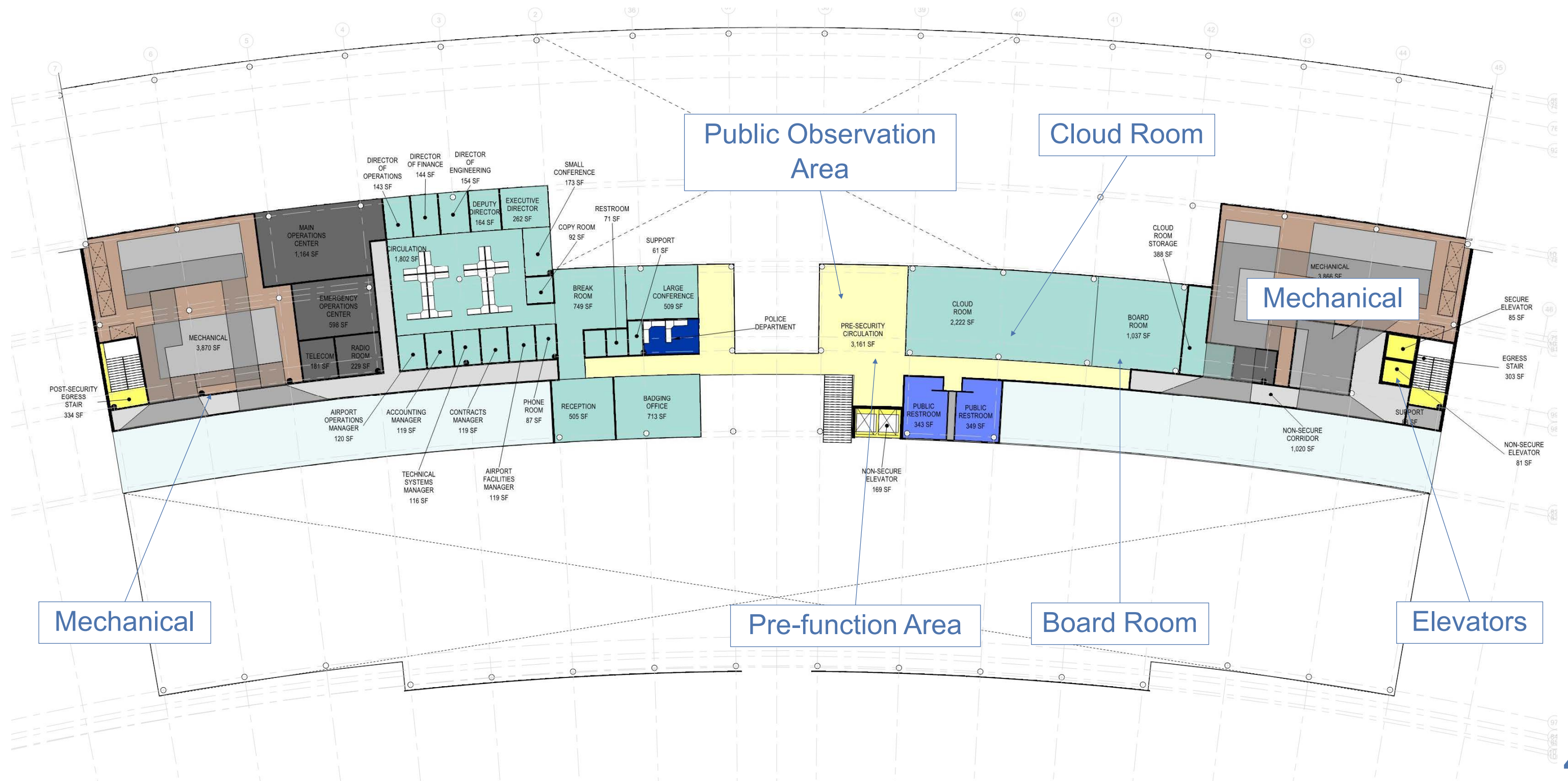
Level 2 – Airside Concession Core (View from SSCP Exit)



Level 3



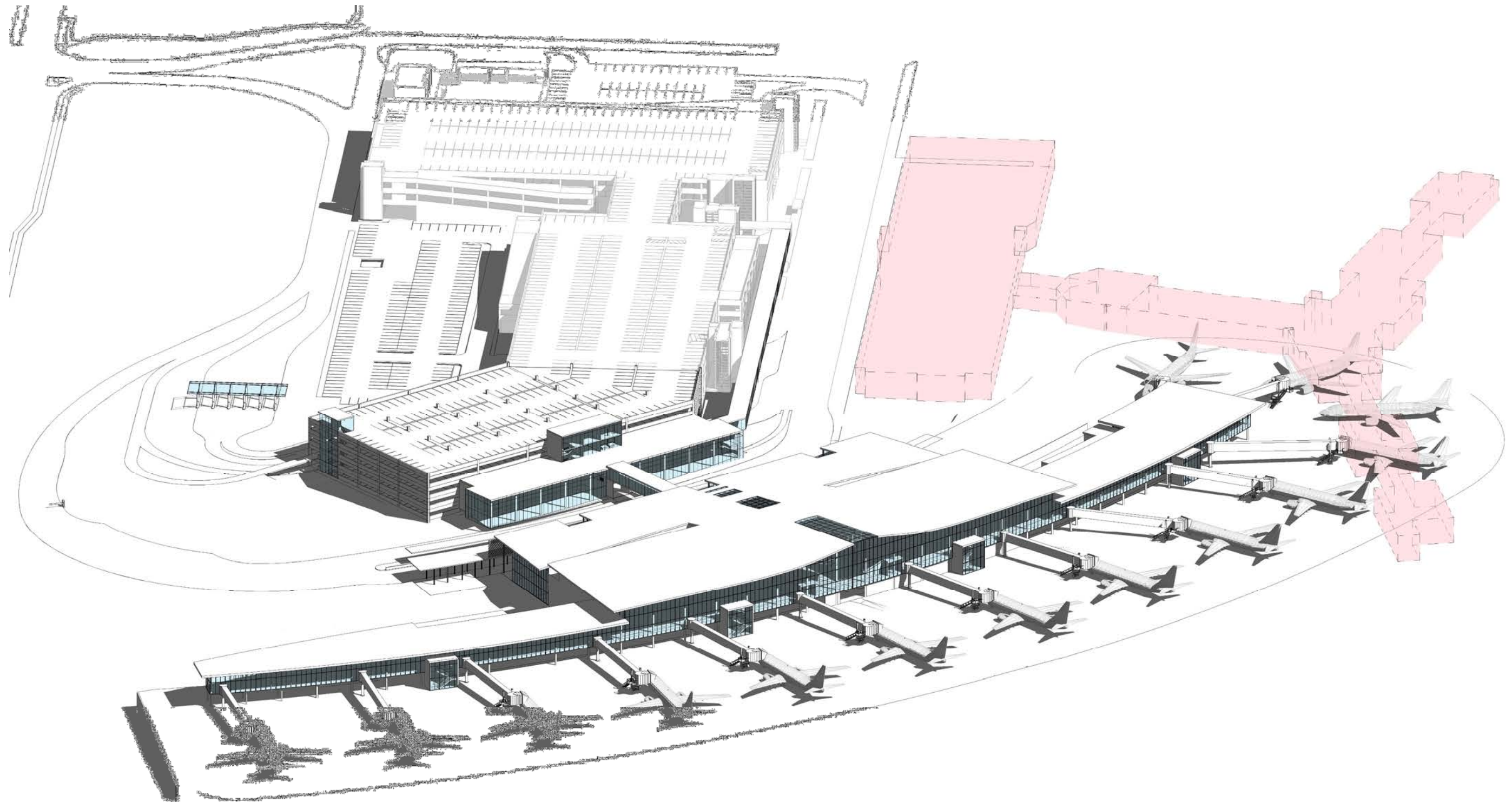
Level 3 - Overall



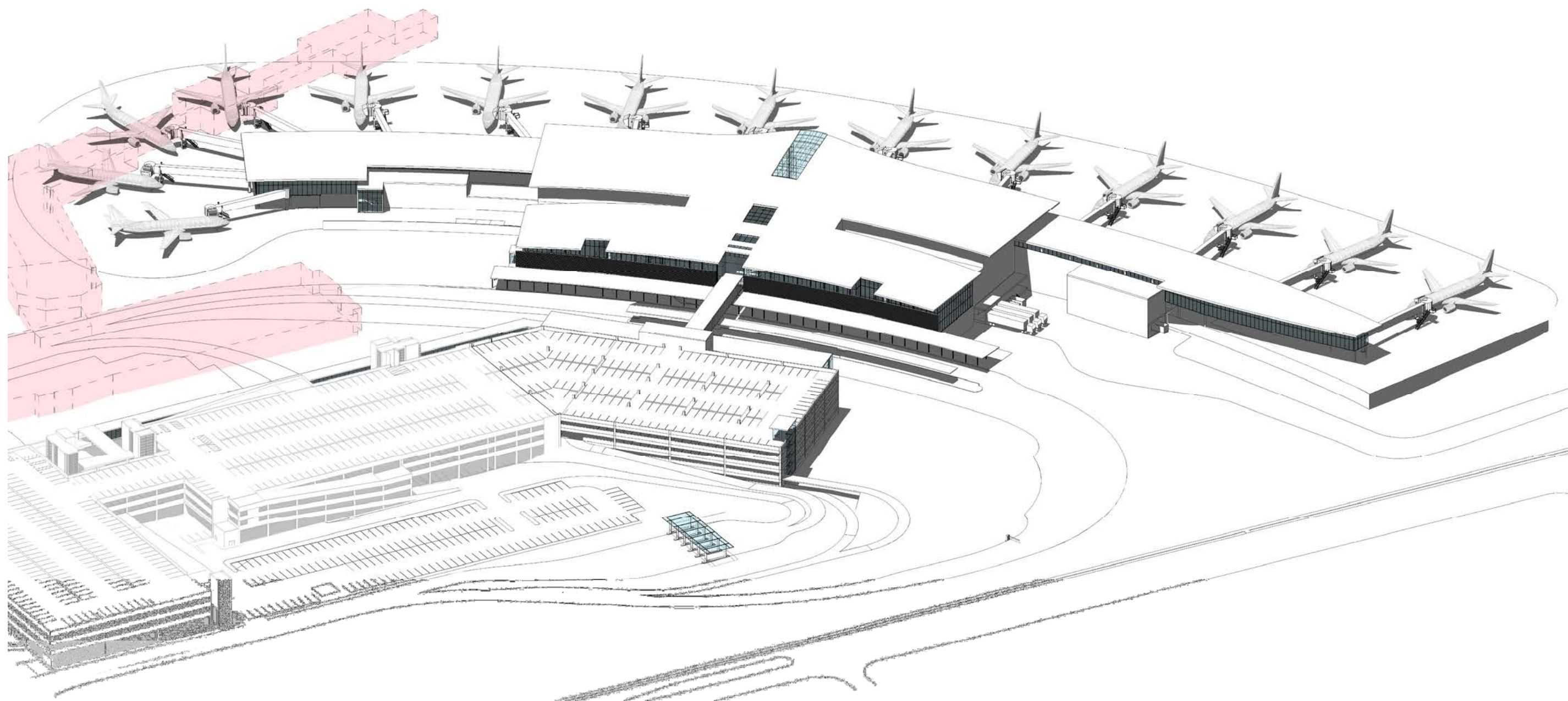
Terminal Massing



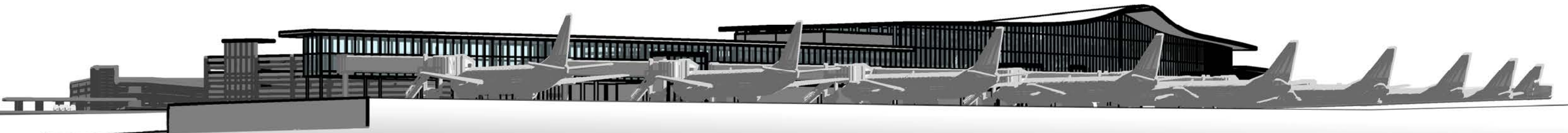
Terminal Massing - Airside



Terminal Massing



Terminal Massing



Phasing

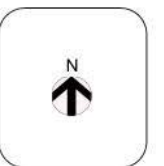
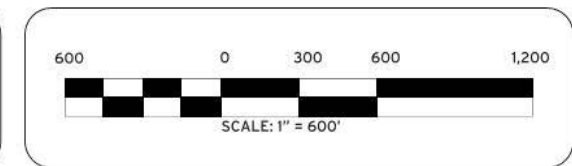
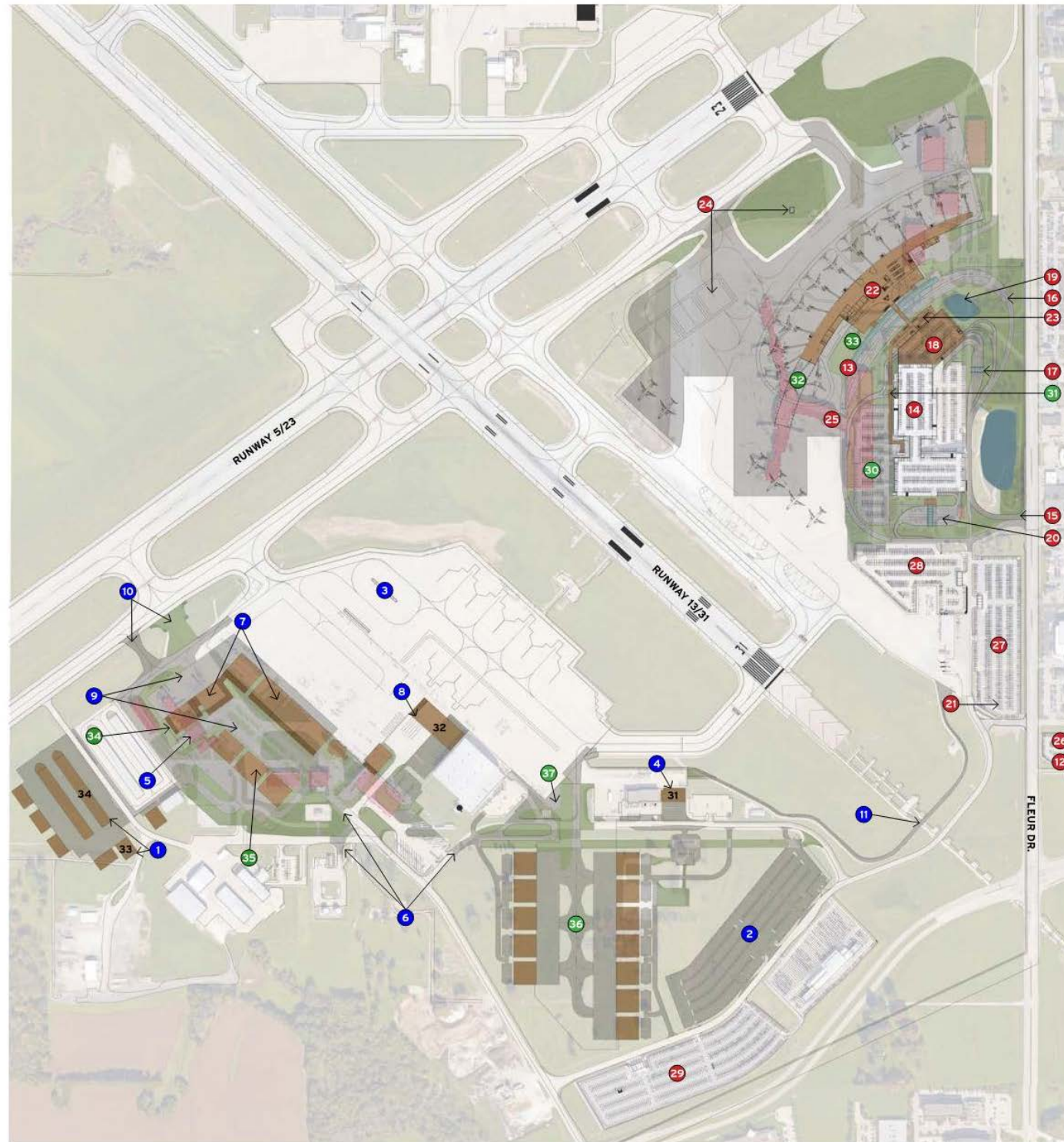


Site - Existing

Available Aircraft Positions

- 12 Contact
- 9 RON
- 21 Total Positions

Site - Enabling

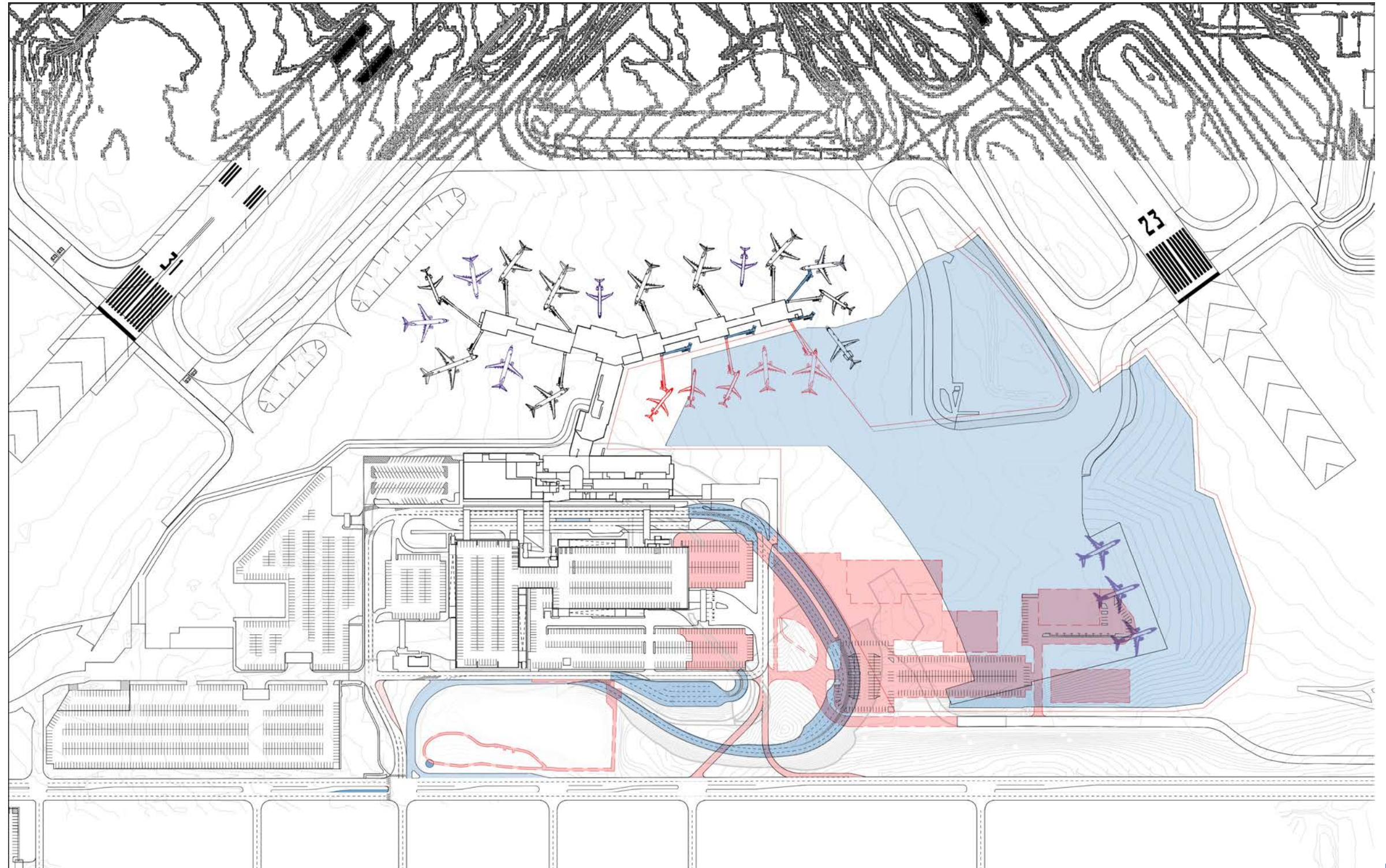


ENABLING PROJECTS

- 1 Relocate building 33/34
- 2 New public parking
- 3 New Cargo Deicing Pad
- 4 Relocate cargo to Building 31
- 5 Demo building 35
- 6 New south roadway improvements + parking
- 7 Relocate signature & DSM flying services to new site
- 8 Relocated Building 32 - FedEx
- 9 New south phase 1 apron
- 10 New taxiway entry
- 11 Fuel road enhancement

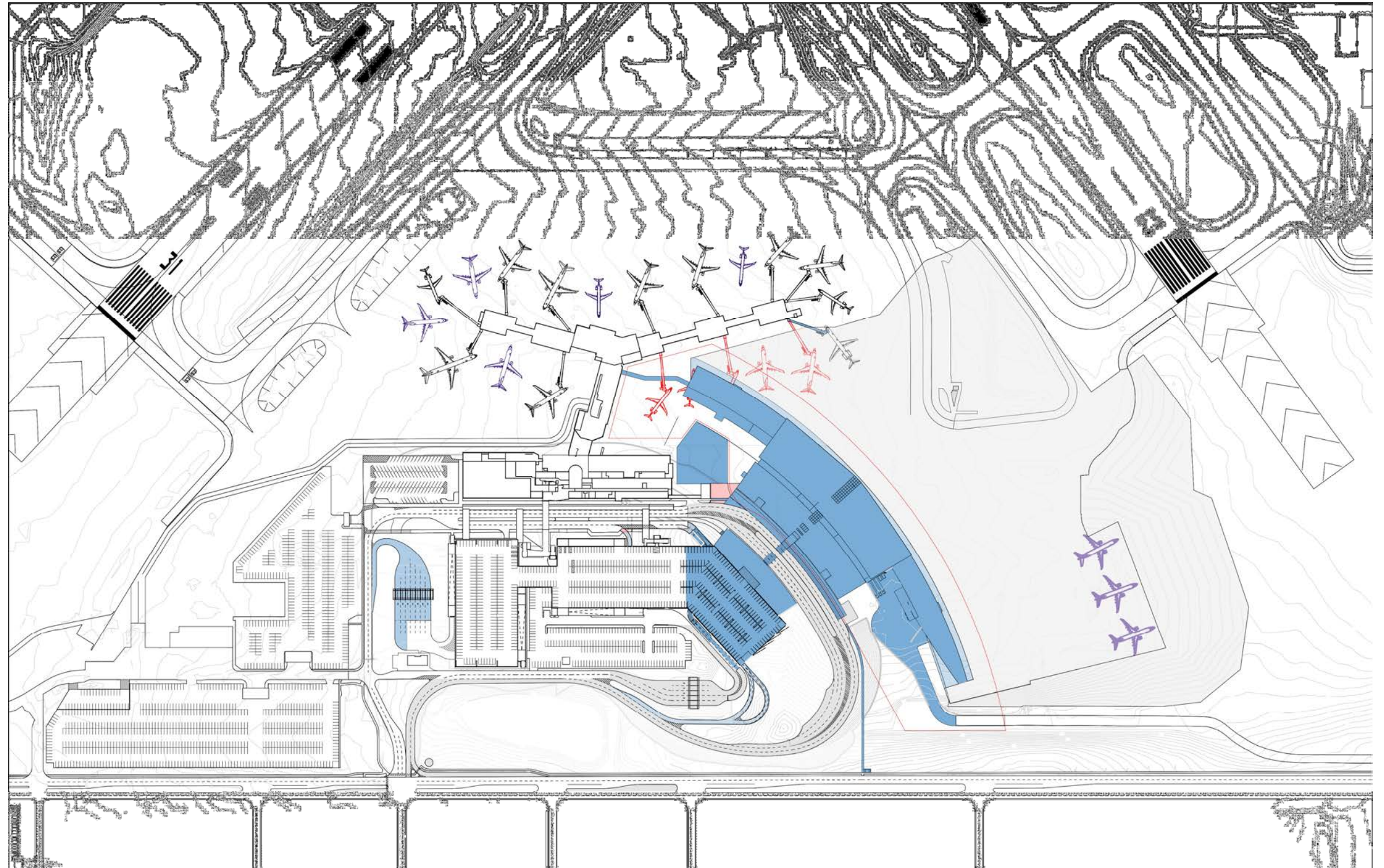
Phase 1

- Relocate GA Campus
- New entry at Cowles Drive
- New roadway loop
- New entry plaza
- New Terminal Apron
- South C-Gates temporarily removed



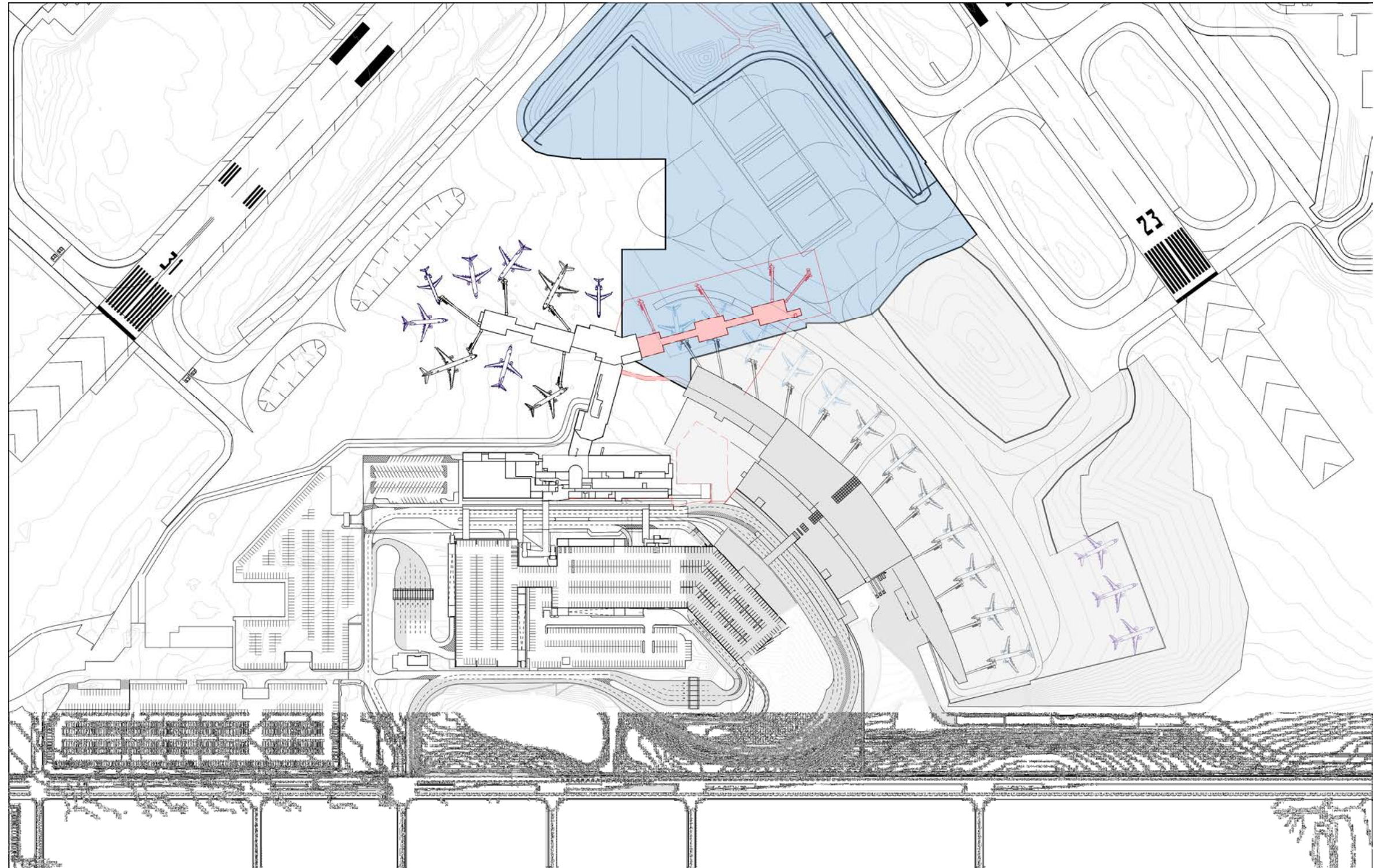
Phase 2

- New Garage and Rental Car Facility
- New exit plaza
- Temporary Loading Dock
- South C-Gates permanently disabled
- New Terminal commences construction



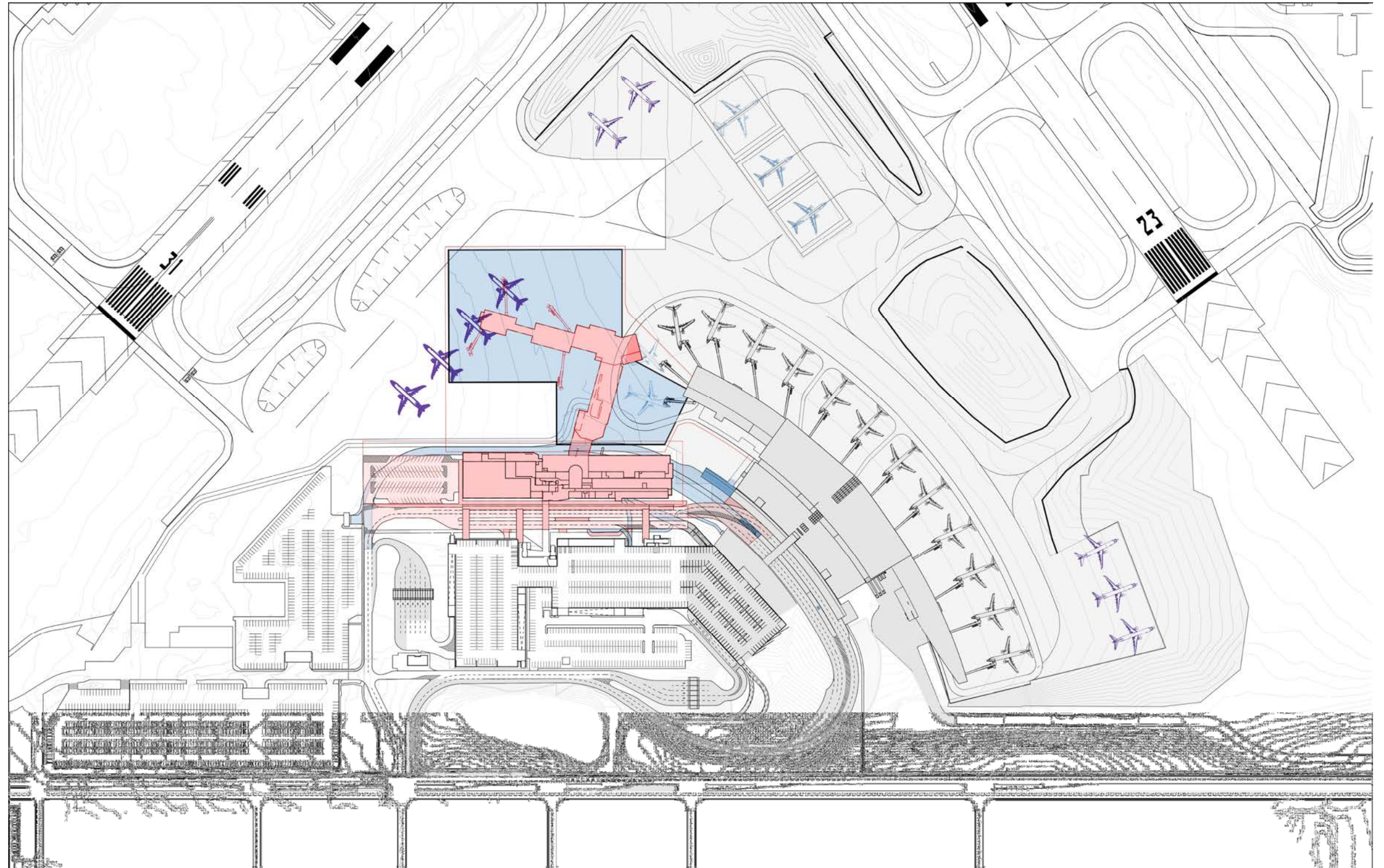
Phase 3

- New terminal opens with 9 gates and a temporary bridge to Concourse A
- Concourse C is demolished
- New apron pavement and deicing pads
- Temporary bridge is removed
- New terminal opens 3 more gates



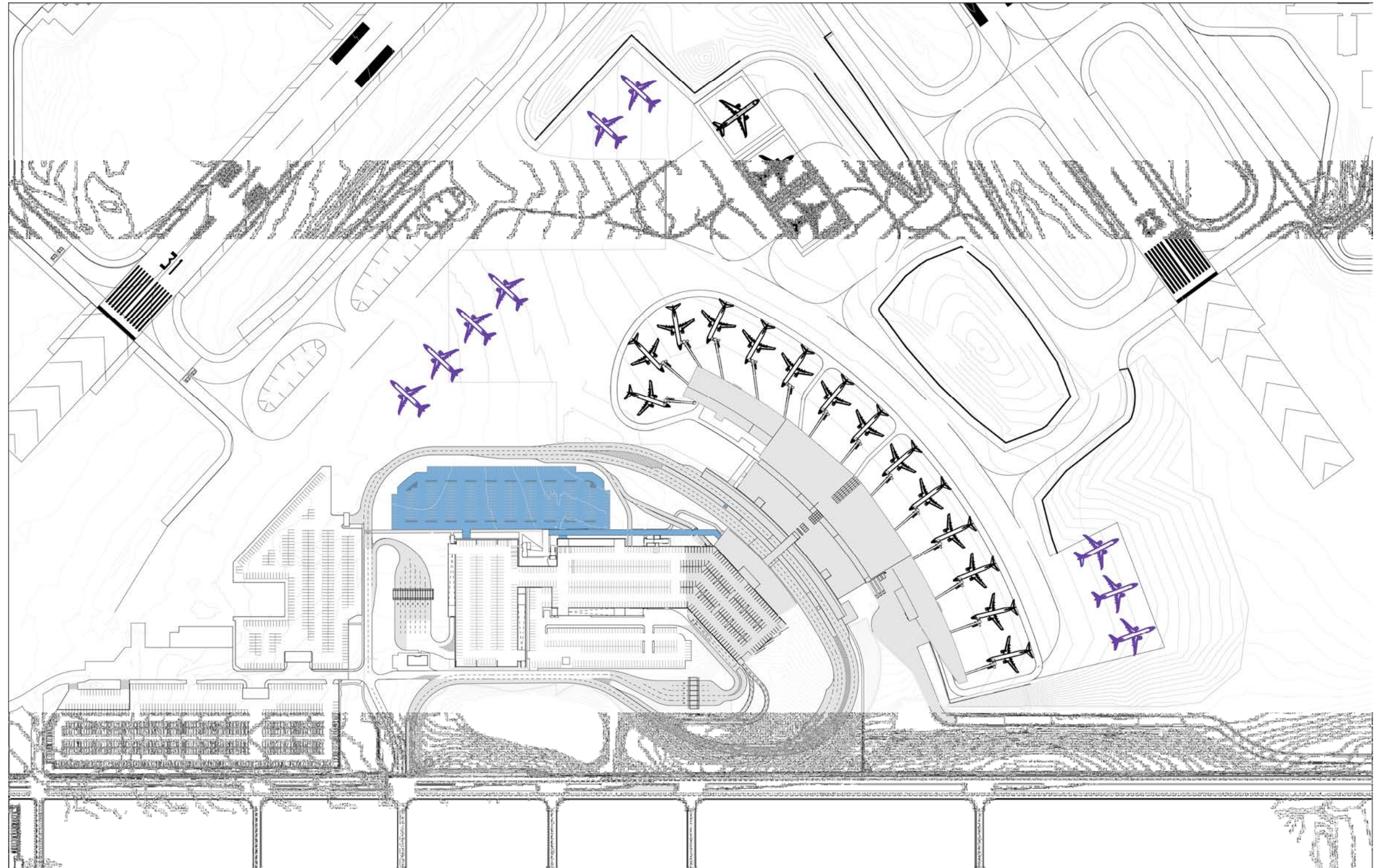
Phase 4

- A Concourse and stem are demolished and replaced with apron pavement
- New terminal opens last 2 gates
- Landside processor is demolished
- Roadway loop is completed



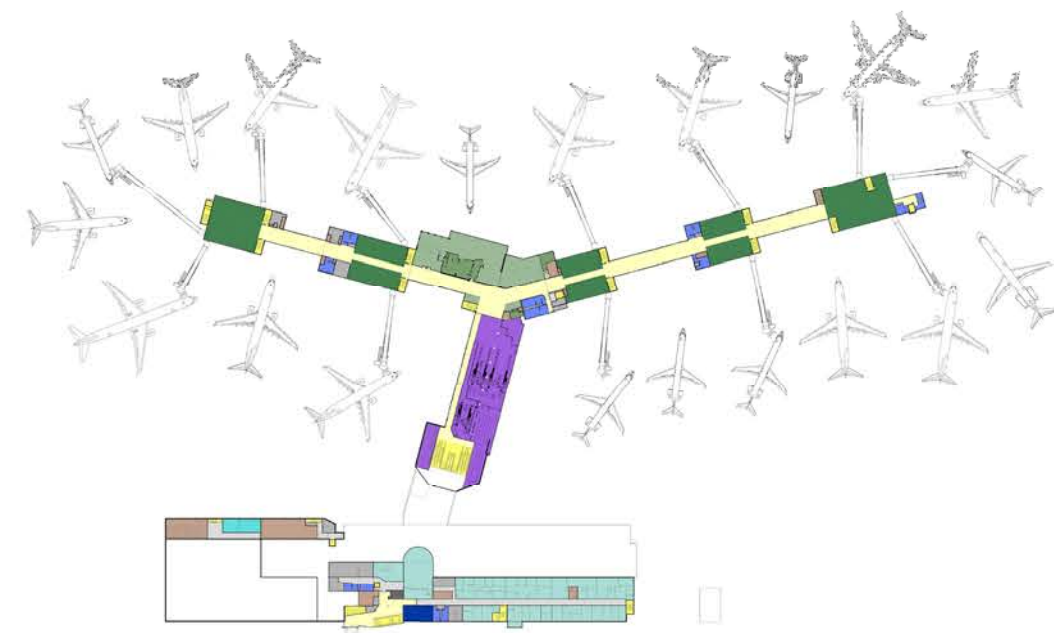
Phase 5

- New long term parking lot
- New Skywalk (per demand)



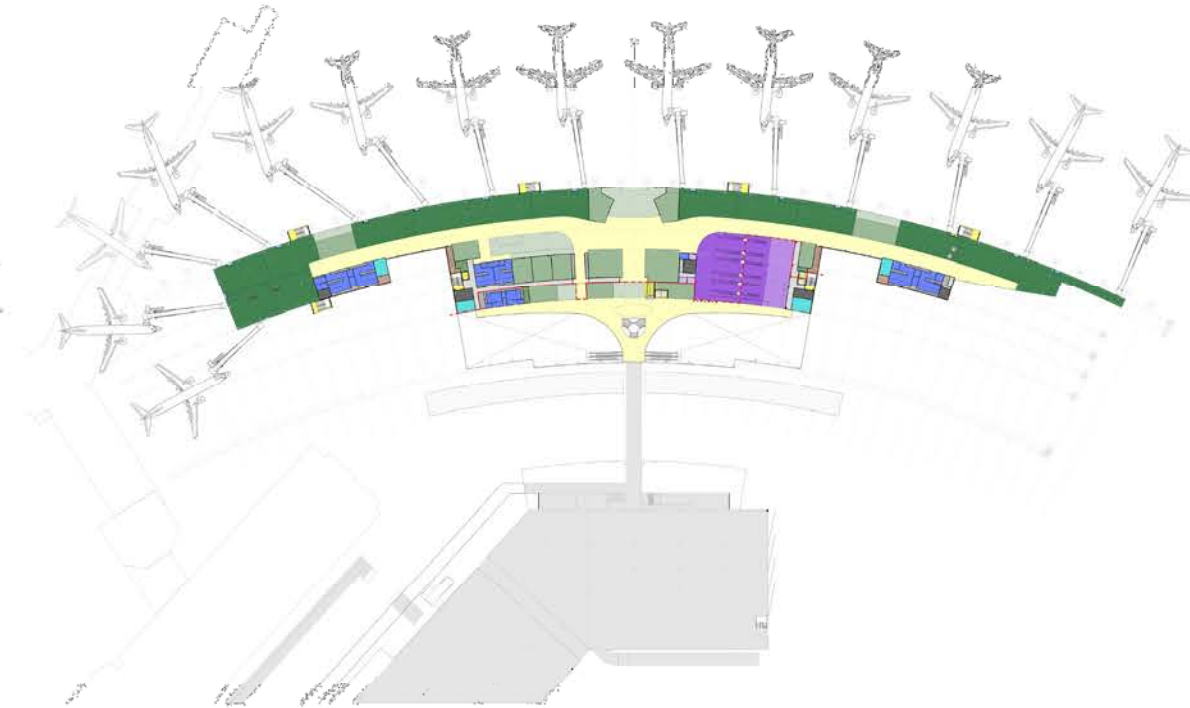
Cost Estimation

Terminal Comparison



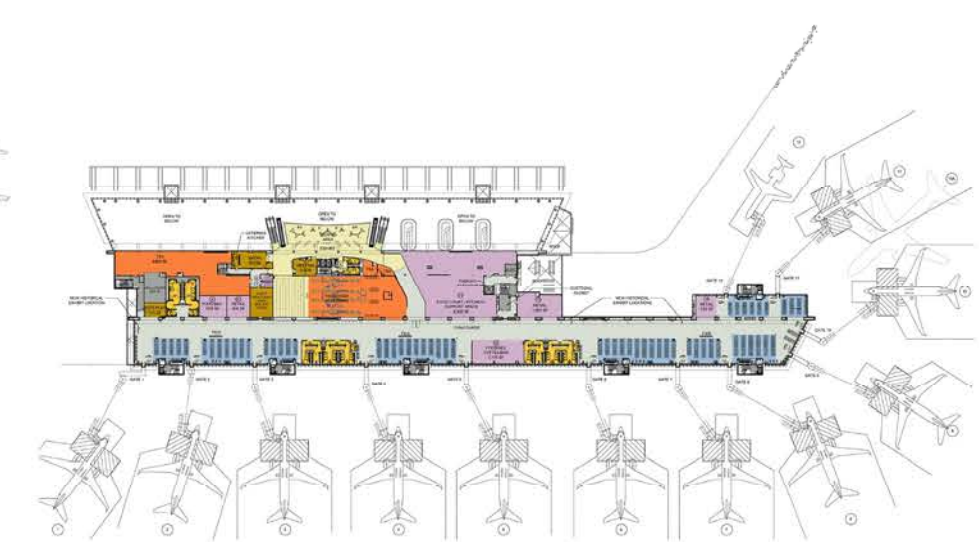
Existing Terminal

- 265,715 SF Total
- 12 Gates (smaller fleet mix)
- 22,142 SF/ Gate



New Terminal

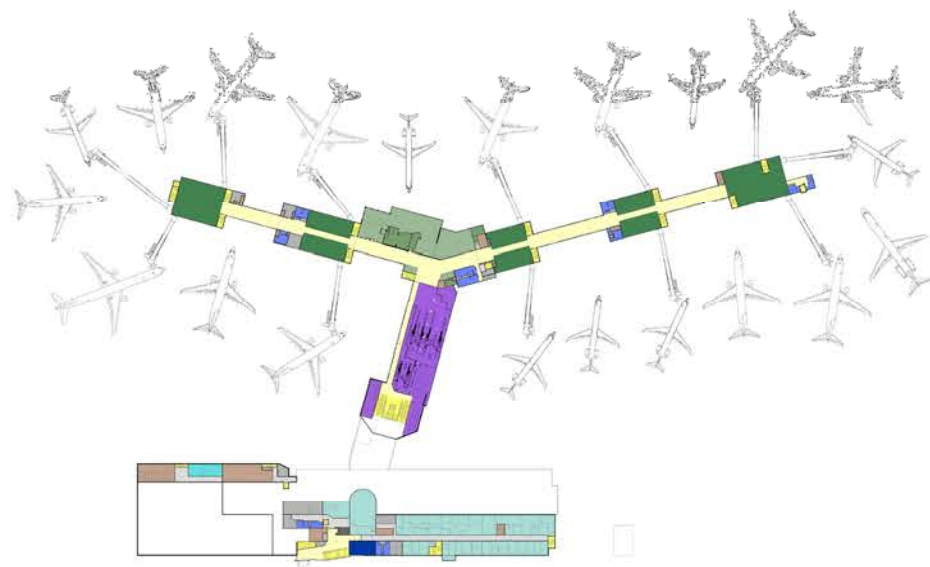
- 338,414 SF Total
- 14 Gates (larger fleet mix)
- 24,172 SF/ Gate



Wichita

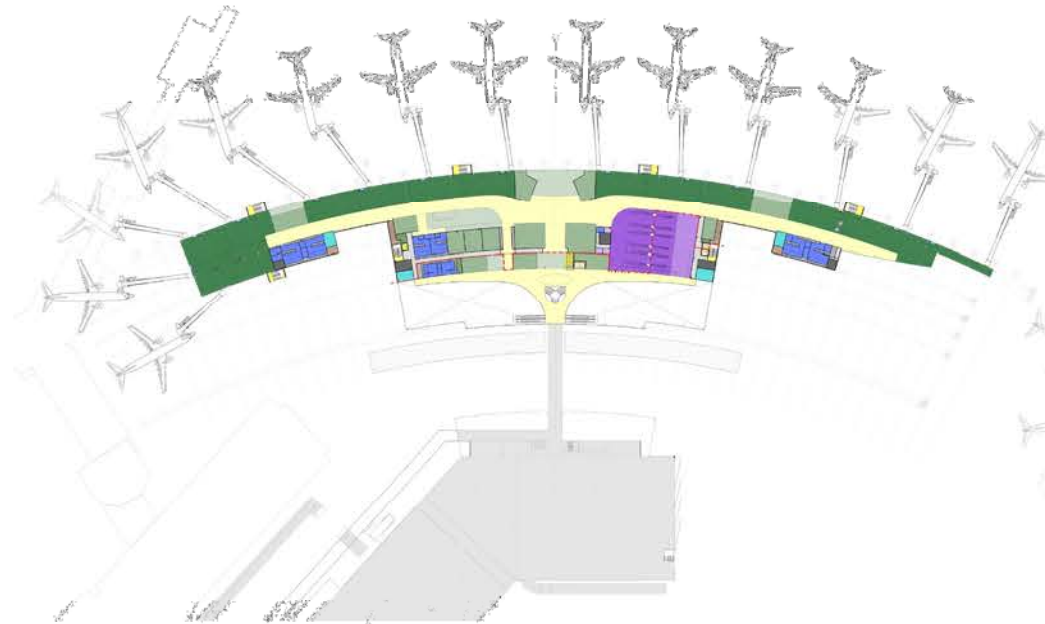
- 275,201 SF Total
- 12 Gates (smaller fleet mix)
- 22,933 SF/ Gate

Comparison – Airside



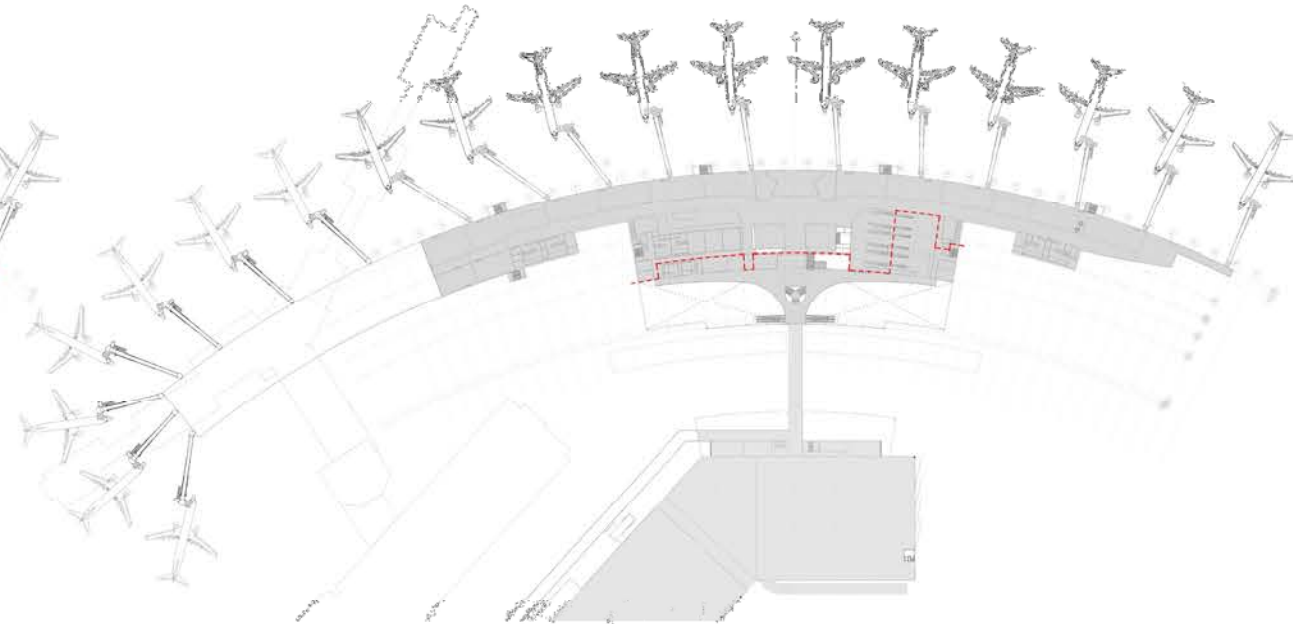
Existing Terminal

- 265,715 SF Total
- 12 Gates (smaller fleet mix)
- 22,142 SF/ Gate



New Terminal – MAP 3

- 338,414 Total
- 14 Gates (larger fleet mix)
- 24,172 SF/ Gate



New Terminal – MAP 4

- 406,253 Total
- 18 Gates (larger fleet mix)
- 22,569 SF/ Gate

Cost Estimation

Owner's Soft Costs	
Architecture/Engineering Fees	8.0%
Program Management Fees	3.5%
Program Contingency (Planning Phase)	0.0%
CMAR Fees	0.0%
CMAR General Requirements/CMAR Overhead	0.0%
Testing	1.0%
Inspection	1.5%
QA/QC Services	1.0%
Insurance	2.0%
Bonds	2.0%
Administrative Fees	1.25%
Commissioning	1.5%
Public Art	0.5%
Total	22.25%

Previously 5%

Previously 1.75%

Comparison - Terminal

	Existing Terminal	2014 Report	2017 - New Terminal
Administration	15,023	15,000	11,519
Airline Operations	12,999	16,120	19,992
Baggage Claim	7,462	8,800	11,820
CBIS	0	6,960	22,528
Circulation	47,964	14,450	56,924
Concession Storage	10,371	4,800	5,878
Electrical	5,129	5,000	6,886
GSE Storage	5,207	5,000	3,098
Holdrooms	22,010	23,800	40,091
Inbound Baggage	4,790	6,960	11,555
Mechanical	19,833	18,000	16,556
Outbound Baggage	16,905	13,800	25,824
Police	805	800	758
Post-Security Concessions	7,207	14,060	19,649
Post-Security Restrooms	2,933	6,050	6,472
Pre-Security Concessions	5,098	4,690	4,182
Pre-Security Restroom	3,235	2,920	2,920
Rental Cars (in processor)	4,080	3,550	0
SSCP	7,615	10,080	10,315
SSCP Queueing	2,591	3,410	2,936
SSCP Support	3,723	5,460	4,294
Support	24,250	15,720	6,785
Support Circulation	14,200	870	21,207
Telecom	2,571	3,000	7,546
Ticketing	6,552	3,910	9,734
Vertical Circulation	13,162	13,000	8,936
Total	265,715	236,020	338,414

Cost Estimation

12 Site - Airside	\$ 72,458,319
Demo GA Apron/C Concourse Apron	\$ 9,501,897
Apron Pavements & Surfaces	\$ 47,179,847
Utilities/Lighting/Signage	\$ 13,608,715
Glycol Systems	\$ 2,167,861
13 Site - Landside	\$ 31,343,227
Roadways	\$ 10,236,569
Demo of existing roadways	\$ 5,268,154
Site Utilities	\$ 15,838,504
17 Terminal Building	\$ 334,297,338
New Terminal Building	\$ 296,720,503
Demo of existing Concourse	\$ 10,061,346
Demo of existing Landside Terminal	\$ 16,942,530
1B LS Roads & Utilities	\$ 10,572,959
18 New Parking Garage, Option 1	\$ 31,007,906 \$ 31,007,906
19 RAC w/Pedestrian bridges	\$ 28,818,851
RAC Facility, Option 1	\$ 24,955,653
Pedestrian bridge, To Terminal	\$ 784,258
Pedestrian bridge, To Exist. Garage	\$ 3,078,940
Total	\$ 497,925,641

Schedule – Next Steps

Next Steps:

- | | |
|-------|----------------------|
| 9/26 | - Public Meeting |
| 11/14 | - Board Presentation |
| 12/12 | - Board Meeting |





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