



**To: CVG Airlines and Tenants**

**Subject: Project Completion Summary, Marking Changes**

**Date: 10/06/2023**

### **Effective Immediately**

Over the summer, CVGAA has undertaken multiple construction projects to improve efficiency and prepare for a more diverse fleet mix on the north side of the airport. **Now that the construction is nearing completion, you will see multiple marking changes over the coming weeks. In addition, changes have been made to our primary deice ramp.** This will be detailed further in our updated deice plan which will be distributed next week. A summary of changes is below:

- The VSR has been realigned in multiple areas to create perpendicular intersections to improve safety.
- Former Apron 1 South and Apron 2 have been realigned to create a single taxilane with parking for ADG III to ADG VI aircraft. This will now be named Remote Parking Ramp – South.
- Former Apron 3 and 4 as well as former Deice Pad 13 have been realigned to accommodate larger group size aircraft and allow for more efficient remote parking. This will now be named Deice Ramp 13.
- Newly created Taxilane 2C has been outlined in blue to differentiate it from Taxilane 2N and 2S. This line is necessary to accommodate ADG V aircraft and above.

*Included below are illustrations of these changes.*

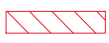



Please distribute to your staff/air crews and reach out to Airport Operations ([7777@cvgairport.com](mailto:7777@cvgairport.com)) for any questions you may have.



# Exhibit 1 of 4

## Aprons 1, 2, 3 & 4

-  ADG III Fleet Mix: See Exhibit 4 for list of aircraft included
-  ADG IV Fleet Mix: See Exhibit 4 for list of aircraft included
-  ADG V Fleet Mix: See Exhibit 4 for list of aircraft included
-  ADG VI Fleet Mix: A380-800

-  Proposed Vehicle Safety Zone
-  Proposed Markings
-  Proposed Vehicle Service Road
-  Proposed OFA Limit Marking

0 250 500  
SCALE : 1" = 500'



### Apron Parking Study

Cincinnati/Northern Kentucky International Airport (CVG)

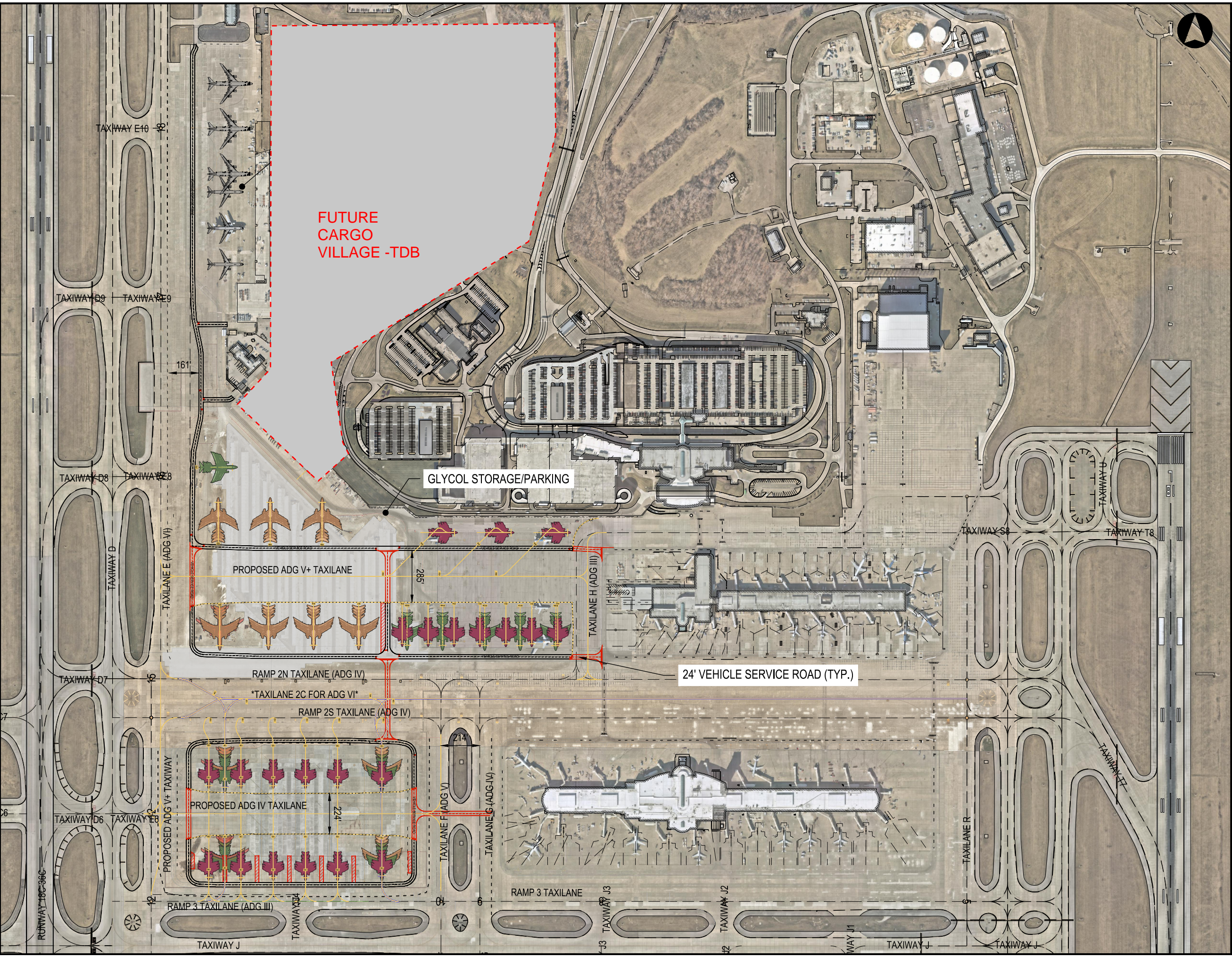
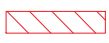



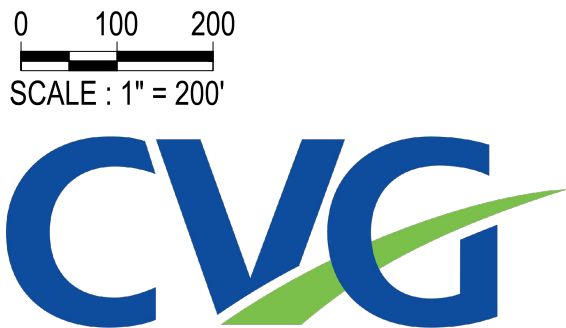


Exhibit 2 of 4

Aprons 1 & 2

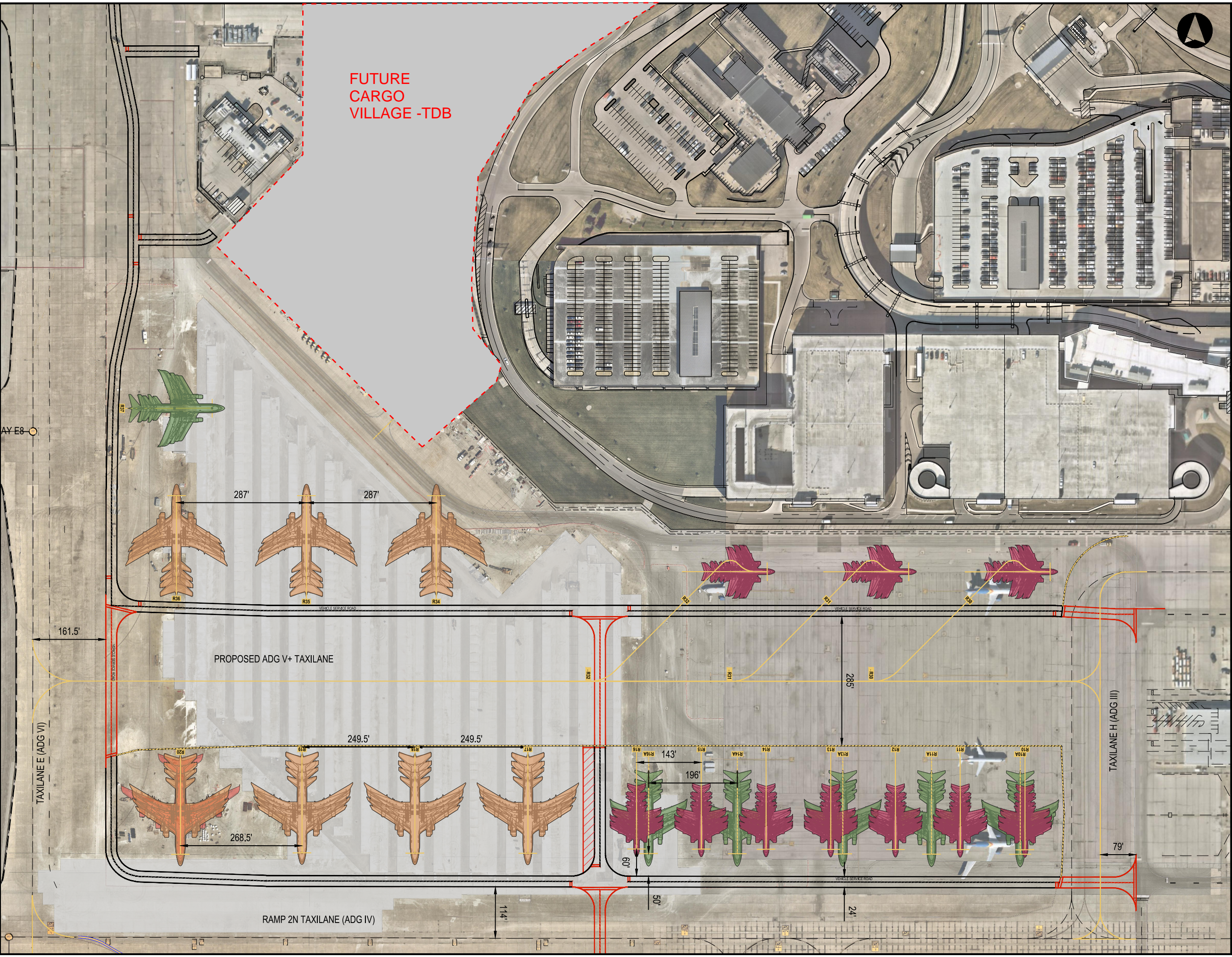
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-  ADG IV Fleet Mix: See Exhibit 4 for list of aircraft included
-  ADG V Fleet Mix: See Exhibit 4 for list of aircraft included
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Apron Parking Study

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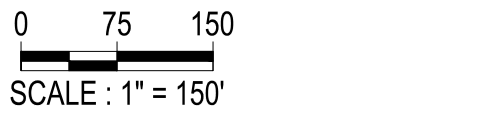
Oct 03, 2023 - 10:33am  
Kenton County\251018012 - Apron Parking Plans.dwg  
CADD\251018012-Apron Parking Plans.dwg  
Project\253

# Exhibit 3 of 4

## Aprons 3 & 4

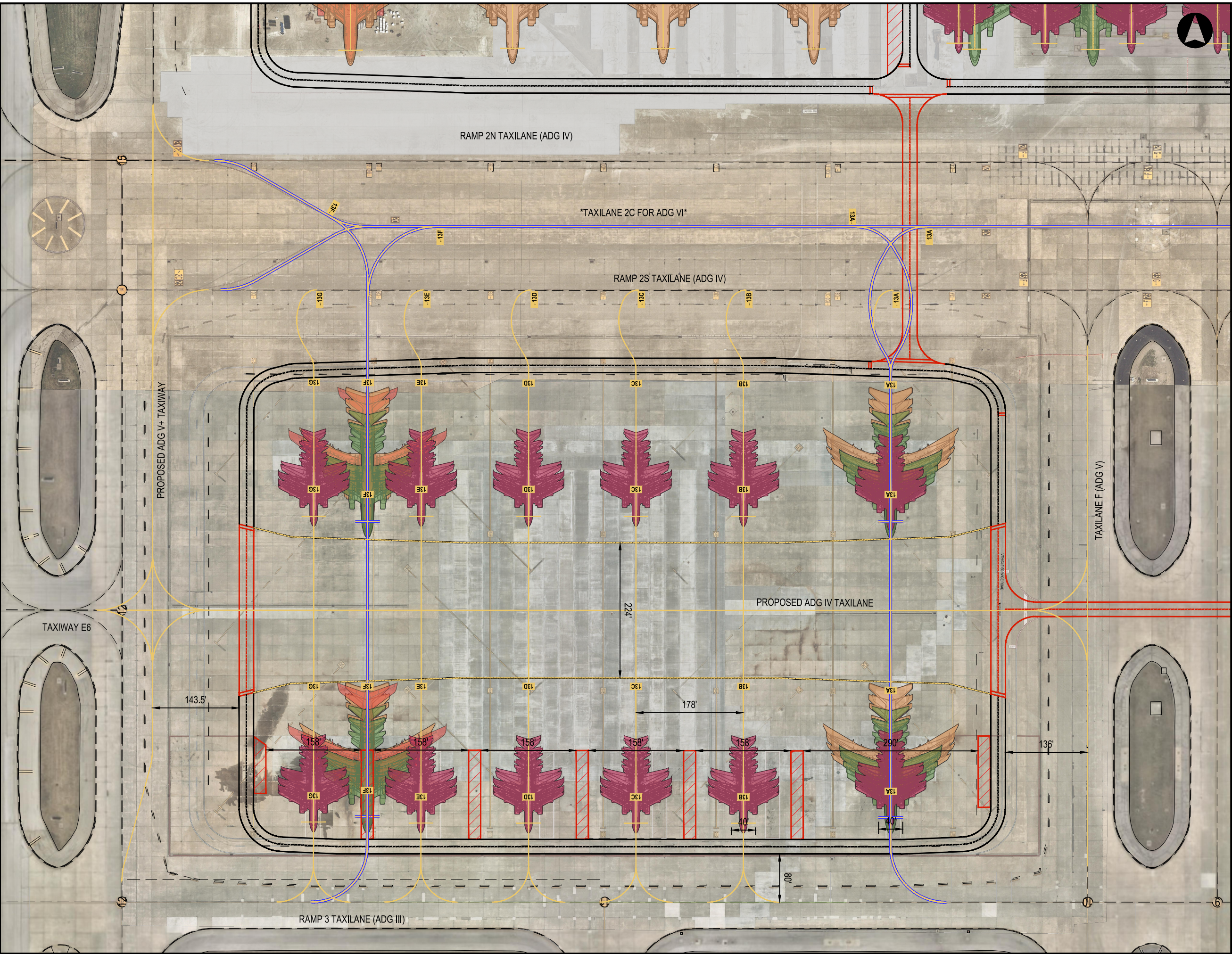
-  ADG III Fleet Mix: See Exhibit 4 for list of aircraft included
-  ADG IV Fleet Mix: See Exhibit 4 for list of aircraft included
-  ADG V Fleet Mix: See Exhibit 4 for list of aircraft included
-  ADG VI Fleet Mix: A380-800

-  Vehicle Safety Zone
-  Proposed Markings
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-  Proposed OFA Limit Marking



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NOTES:

Fleet Mix Assumptions

- In order to verify aircraft separation and movement simulations a fleet mix representative of the aircraft operating at CVG was used. Traffic Flow Management System Counts (TFMSC) from the period beginning 01/2020 and ending 12/2023 were used to select the fleet mix. Military aircraft and aircraft having less than 10 operations within this time period were excluded from the fleet mix. The aircraft were grouped by Airplane Design Group (ADG). The aircraft included in each group as well as the number of operations are included in tables 1, 2, and 3 to the right. Aircraft highlighted in yellow were not included in the fleet mix.

Taxiway Design

- The existing and future critical aircraft are the Boeing 747-400 and Boeing 747-8. Both aircraft are classified as Taxiway Design Group (TDG) 5.
- For the purposes of taxiway design the following assumptions were made.
  - All ADG VI, V+, V, and IV taxiways are assumed to be TDG 5
  - All taxiways restricted to ADG III are assumed to be TDG 4
- ADG V+ separation is calculated using the wingspan of the Boeing 747-8 per the guidance found in FAA AC 150/5300-13B, Appendix J, Table J-10.
  - ½ wingspan of B748 + lateral deviation + safety buffer = TLOFA offset
  - 112.2' + 10' + 20' = 142.2' (rounded up to 142.5' for a full TLOFA width of 285')

Deice Apron

- It is understood that de-ice operations will only take place on the south side of de-ice apron and the north side will be used exclusively for Remain-Over-Night (RON) parking. If in the future it is decided that the north side of the de-ice apron will be used for de-ice operations then vehicle safety zone markings will be required.
- All aircraft will enter the deice pad from the north and exit to the south.
- ADG V and greater aircraft departing Pad 13 to the east/west will require operational restrictions on Taxiway J due to insufficient taxiway centerline separation. When an ADG V or ADG VI aircraft is exiting the deice ramp onto the Ramp 3 Taxilane, Taxiway J will be limited to operations by aircraft with a max ADG III classification. There are no operational restrictions needed on Taxiway J when an ADG IV aircraft is exiting the deice ramp.
- When an ADG V aircraft is on Taxilane F, Taxilane G is operationally restricted to ADG III or lesser aircraft. When an ADG IV aircraft is on Taxilane F, Taxilane G can continue to operate as an ADG IV taxilane.

Remain-Over-Night (RON) Parking Positions

- Per Table 5-1 of FAA AC 150/5300-13B, all aircraft parked at RON positions have a minimum of a 25' wingtip to wingtip clearance with adjacent aircraft.

Design Decisions

- The existing Taxilane E centerline to centerline separation with Taxiway D is 265 FT for the portion north of Taxilane 2N and 214 FT for the portion south of Taxilane 2N. As a part of this project the portion of the Taxilane E centerline between Taxilane 2N and the Ramp 3 Taxilane will be shifted approximately 51 FT to the east to a centerline to centerline separation of 265 FT which will match the separation for the entirety of Taxilane E to the north of the Ramp 3 Taxilane. In order to tie-back in with the portion of Taxilane E to the south of the Ramp 3 Taxilane the centerline of Taxilane E will curve back to the existing 214 FT separation directly north of the location 12 marking. The edge lights along Taxilane E will remain in the existing location.
- No “Yield” markings will be used on the VSR. Only “Stop” markings will be used.
- The existing Taxilane H centerline will shift to the east in order to allow for additional RON parking directly to the west of Taxilane H. Taxilane H will now be restricted to ADG III aircraft.

Table 1 - ADG III Aircraft			
Aircraft Type	ADG	TDG	Operations
A319 - Airbus A319	III	3	24,610
A320 - Airbus A320 All Series	III	3	6,501
A321 - Airbus A321 All Series	III	3	1,955
B712 - Boeing 717-200	III	2	1,005
B722 - Boeing 727-200	III	4	7,742
B727 - Boeing 727	III	4	468
B732 - Boeing 737-200/VC96	III	3	288
B733 - Boeing 737-300	III	3	3,691
B734 - Boeing 737-400	III	3	16,560
B735 - Boeing 737-500	III	3	2
B737 - Boeing 737-700	III	3	45,585
B738 - Boeing 737-800	III	3	14,980
B739 - Boeing 737-900	III	3	6,568
CRJ9 - Bombardier CRJ-900	III	2	3,263
CVLT - Convair CV-540/580/600/640, VC-131H	III		3
DC91 - Boeing (Douglas) DC 9-10	III		1,112
DC93 - Boeing (Douglas) DC 9-30	III		878
E170 - Embraer 170	III	3	177
E175 - Embraer 175	III	3	60
E190 - Embraer 190	III	3	35
E75L - Embraer 175	III	3	8,807
E75S - Embraer 175	III	3	2,211
MD81 - Boeing (Douglas) MD 81	III	4	19
MD82 - Boeing (Douglas) MD 82	III	4	10
MD83 - Boeing (Douglas) MD 83	III	4	769
MD88 - Boeing (Douglas) MD 88	III	4	228
MD90 - Boeing (Douglas) MD 90	III	4	229
SB20 - Saab 2000	III		306

\*Excluded from fleet mix

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Table 2 - ADG IV Aircraft			
Aircraft Type	ADG	TDG	Operations
A306 - Airbus A300 B4-600	IV	5	4,028
A30B - Airbus A300-B2	IV	5	2
A310 - Airbus A310 All Series	IV	5	2
B752 - Boeing 757-200	IV	4	6,789
B753 - Boeing 757-300	IV	4	10
B757 - Boeing 757	IV	4	1
B762 - Boeing 767-200	IV	5	37,505
B763 - Boeing 767-300	IV	5	75,533
B764 - Boeing 767-400	IV	5	106
C130 - Lockheed 130 Hercules	IV		9
C17 - Boeing Globemaster 3	IV		13
C30J - C-130J Hercules ; Lockheed	IV		12
K35R - Boeing KC-135 Stratotanker	IV	4	6
MD11 - Boeing (Douglas) MD 11	IV	6	16

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Table 3 - ADG V Aircraft and Boeing 747-8			
Aircraft Type	ADG	TDG	Operations
A332 - Airbus A330-200	V	5	1,774
A333 - Airbus A330-300	V	5	1,165
A359 - Airbus 350-900	V	5	4
B742 - Boeing 747-200	V	5	4
B744 - Boeing 747-400	V	5	9,896
B748 - Boeing 747-8	VI	5	5,014
B772 - Boeing 777-200	V	5	32
B777 - Boeing 777-300	V	6	3
B77L - Boeing 777-200LRF/LR	V	5	12,161
B77W - Boeing 777-300ER	V	6	6
B788 - Boeing 787-800	V	5	2
B789 - Boeing 787-9 Dreamliner	V	5	4

\*Excluded from fleet mix

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Exhibit 4 of 4

Notes



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10/3/2023