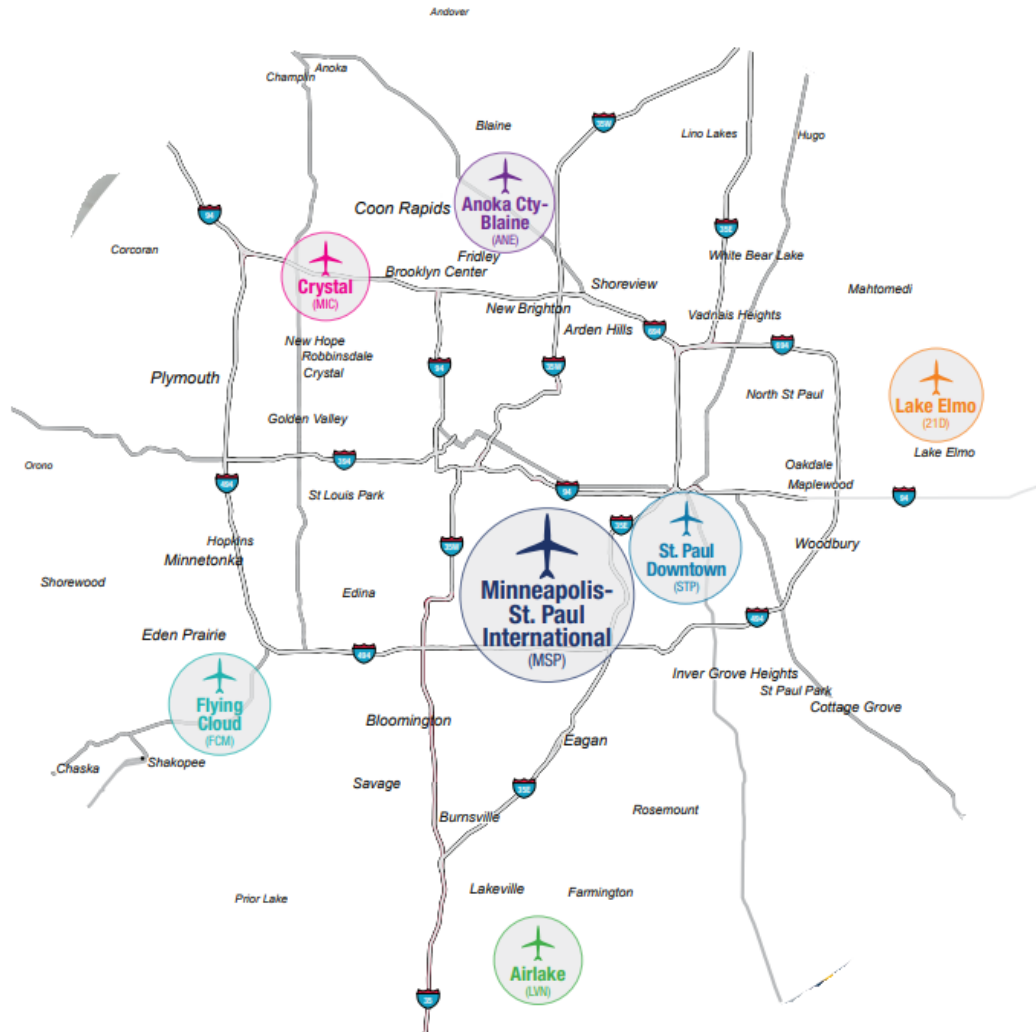

MAC Reliever Airports Project & Event Highlights

December 10, 2019



MAC Reliever Airports



Saint Paul Downtown Airport (STP)

- o St. Paul, MN

Flying Cloud Airport (FCM)

- o Eden Prairie, MN

Anoka County-Blaine Airport (ANE)

- o Blaine, MN

Airlake Airport (LVN)

- o Lakeville, MN

Lake Elmo Airport (21D)

- o Lake Elmo, MN

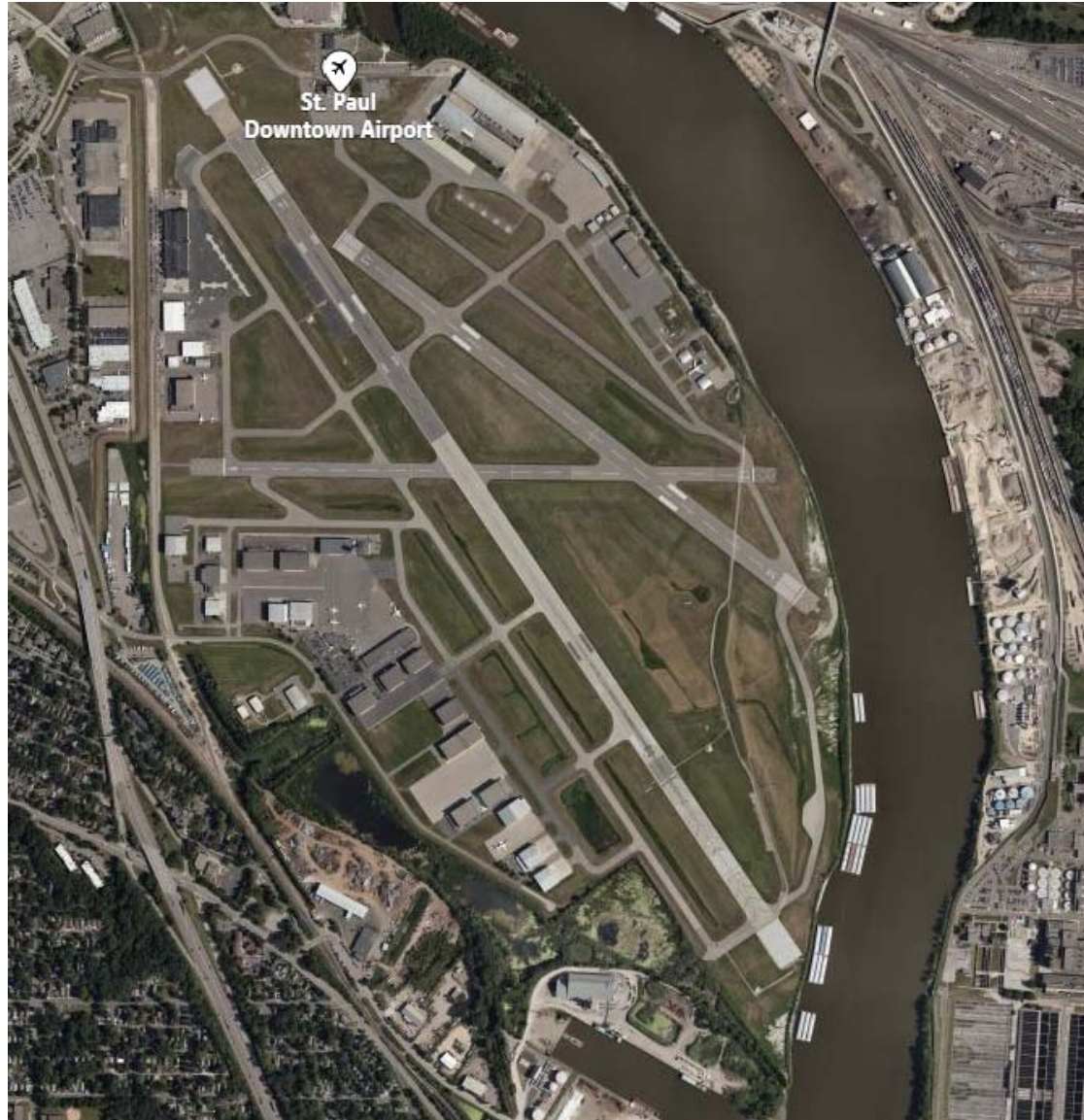
Crystal Airport (MIC)

- o Crystal, MN

Saint Paul Downtown Airport (STP) Holman Field

- 3 Runways
 - Runway 14-32 – 6,491' x 150'
 - Runway 13-31 – 4,004' x 150'
 - Runway 9-27 – 3,642' x 100'
- 90 Based Aircraft
- 40,100 Annual Operations
 - (landings & takeoffs)

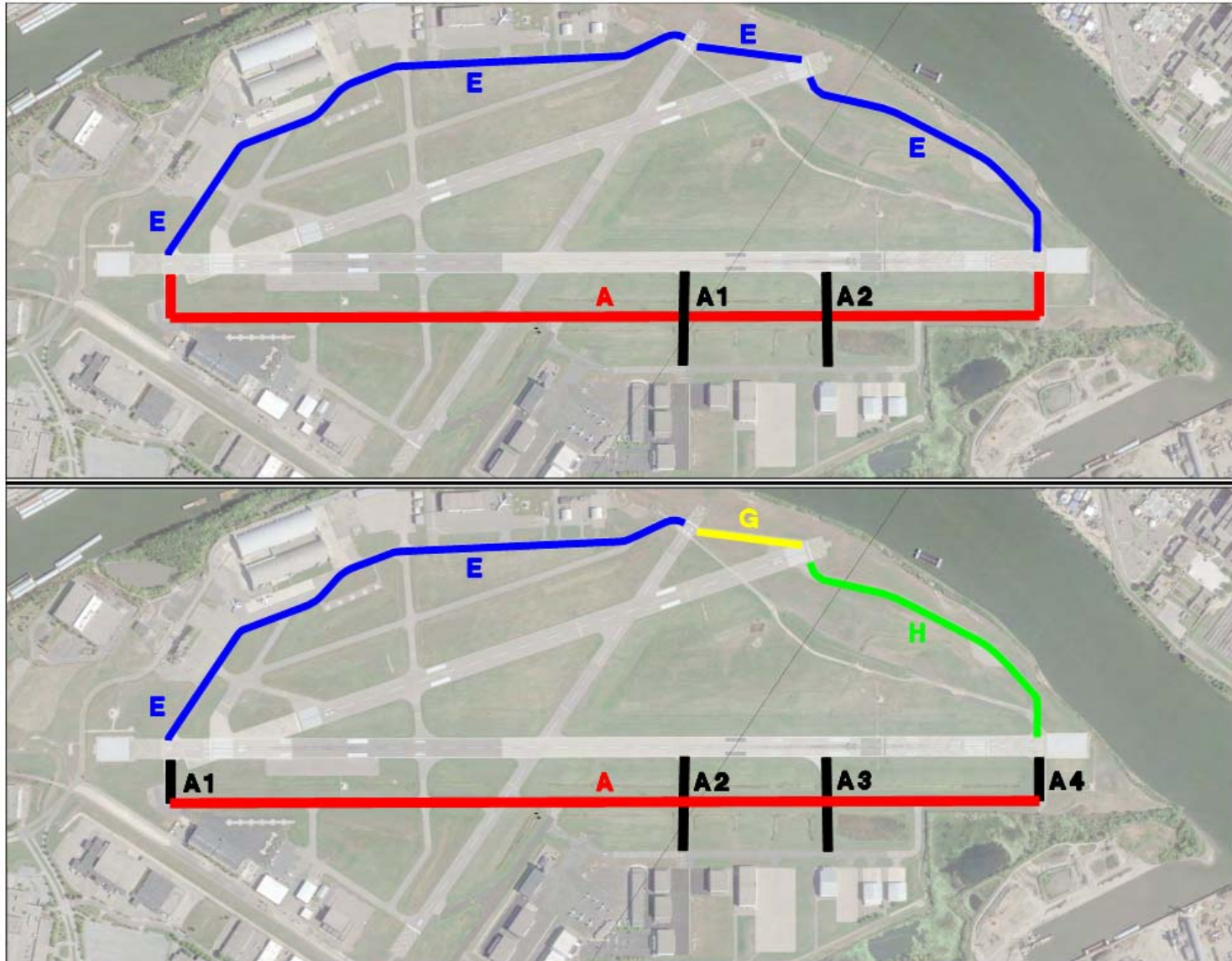
STP



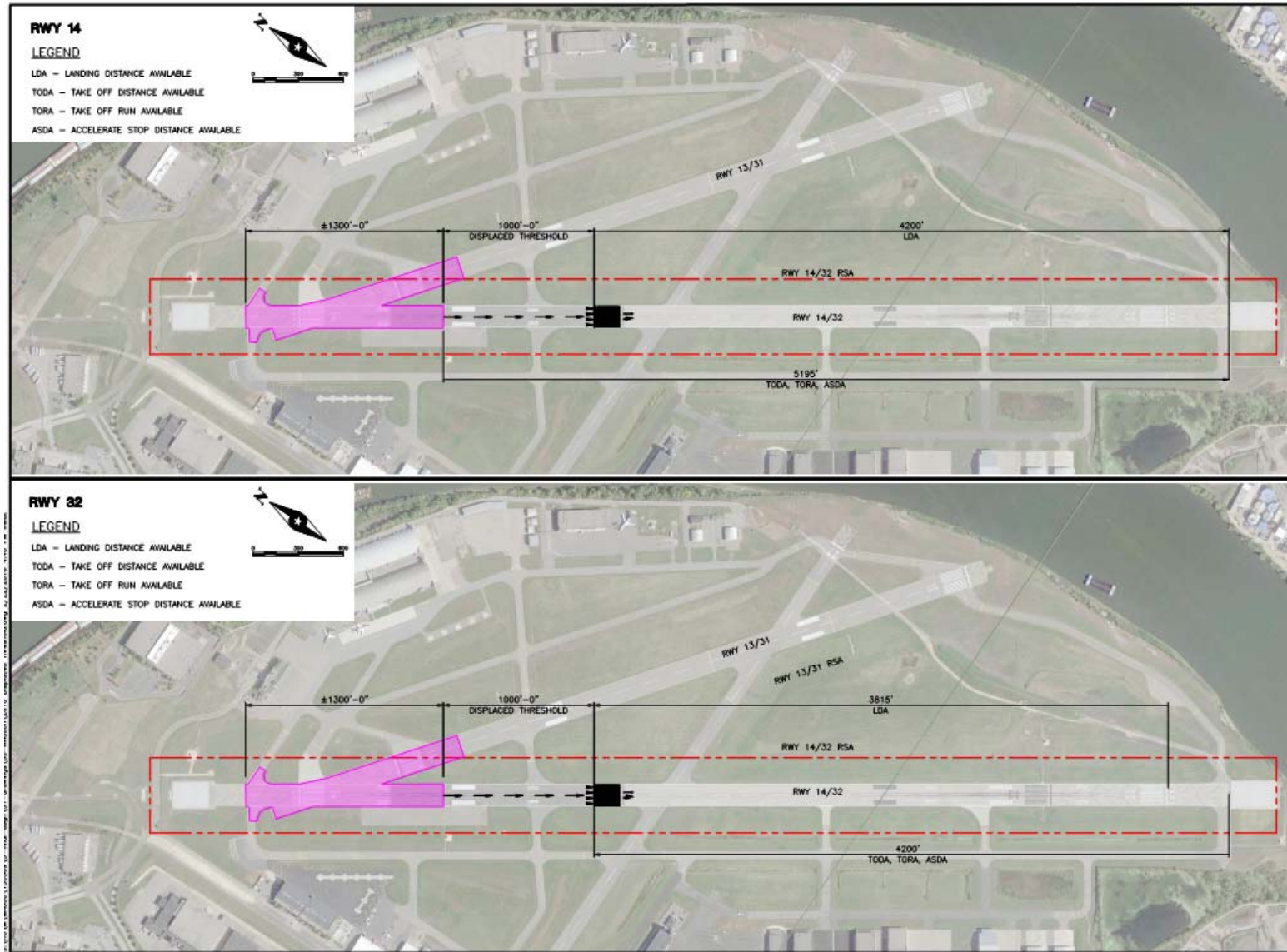
STP – 2016 Rwy Intersection Recon.



STP – 2016 Rwy Intersection Recon.



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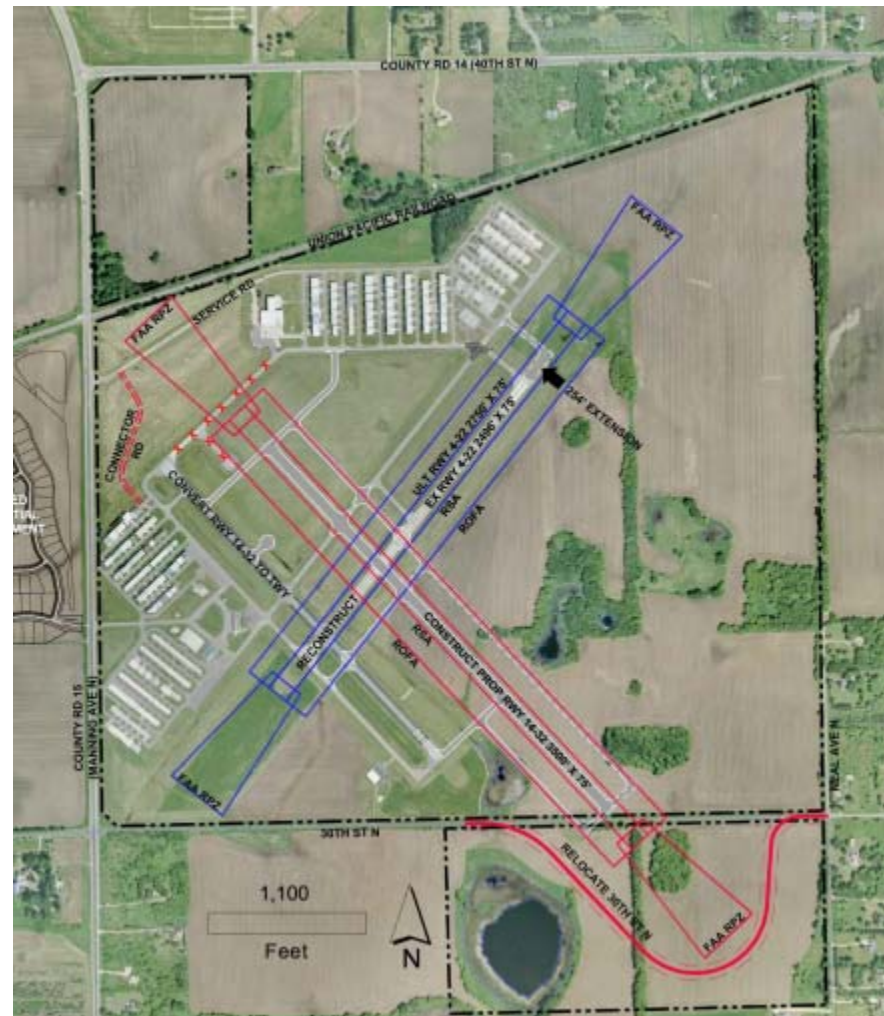
Lake Elmo Airport (21D)

- 2 Runways
 - Runway 14-32 – 2,850' x 75'
 - Runway 4-22 – 2,497' x 75'
- 189 Based Aircraft
- 31,700 Annual Operations

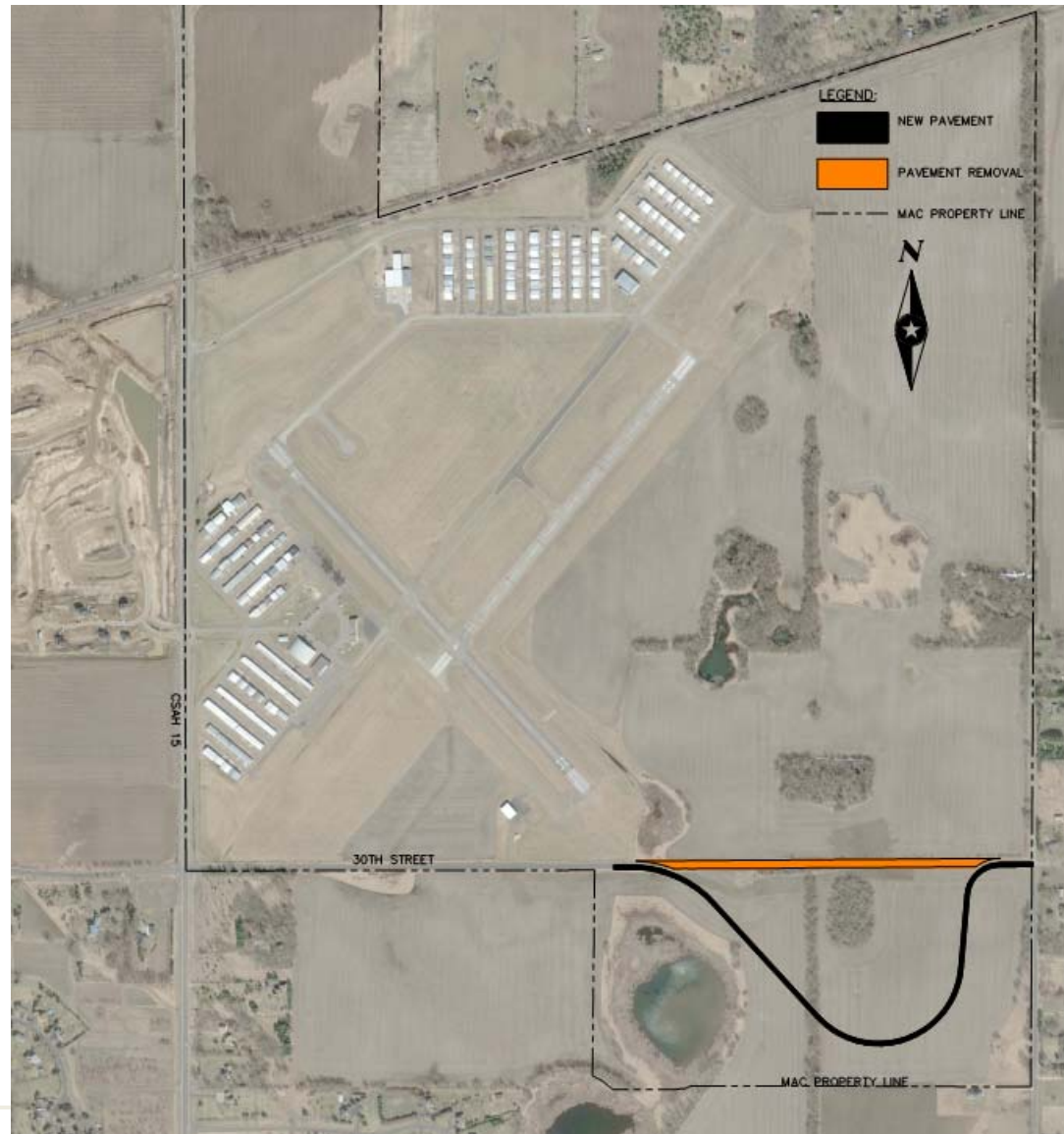
21D



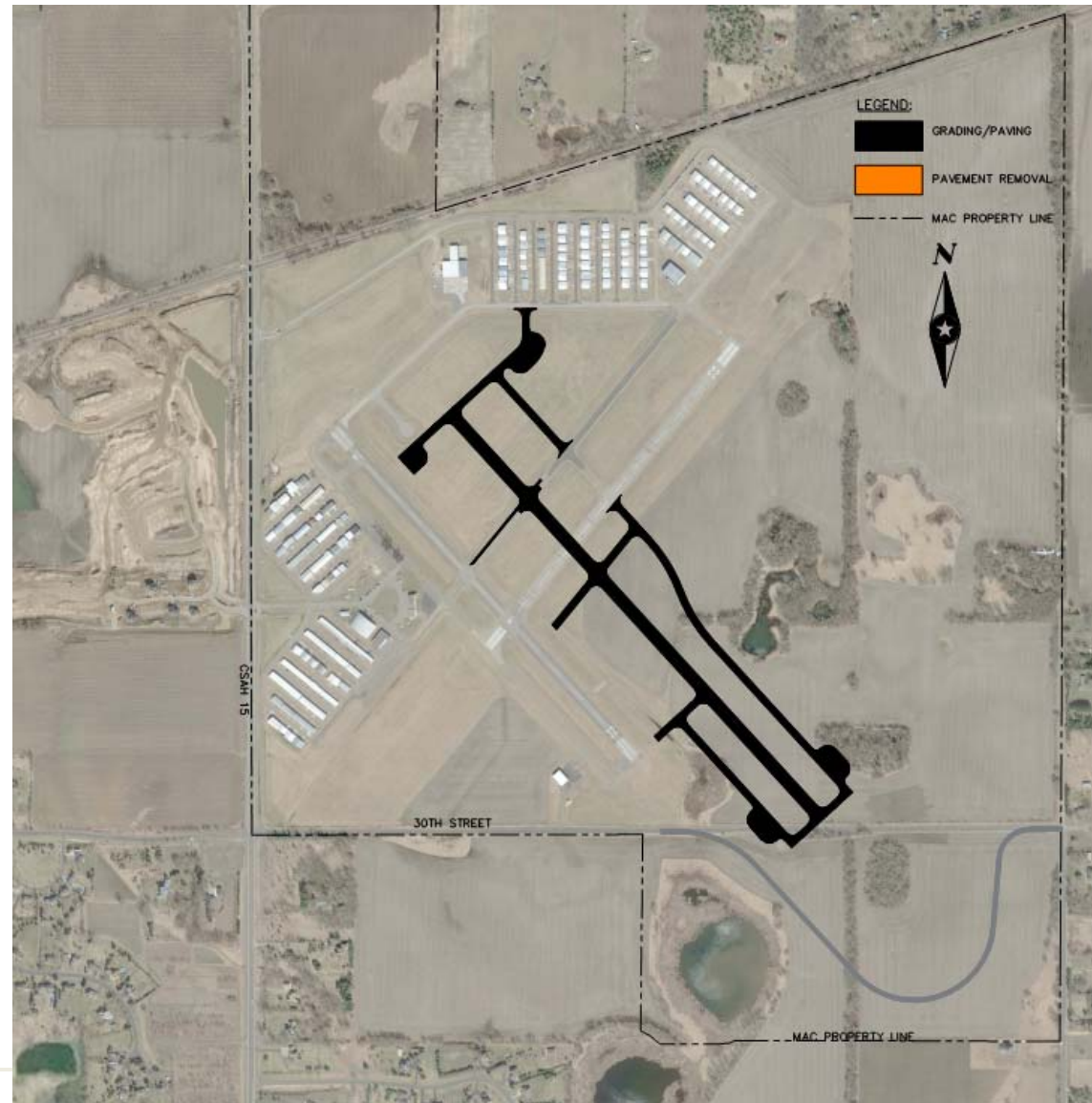
21D – Runway 14/32 Replacement



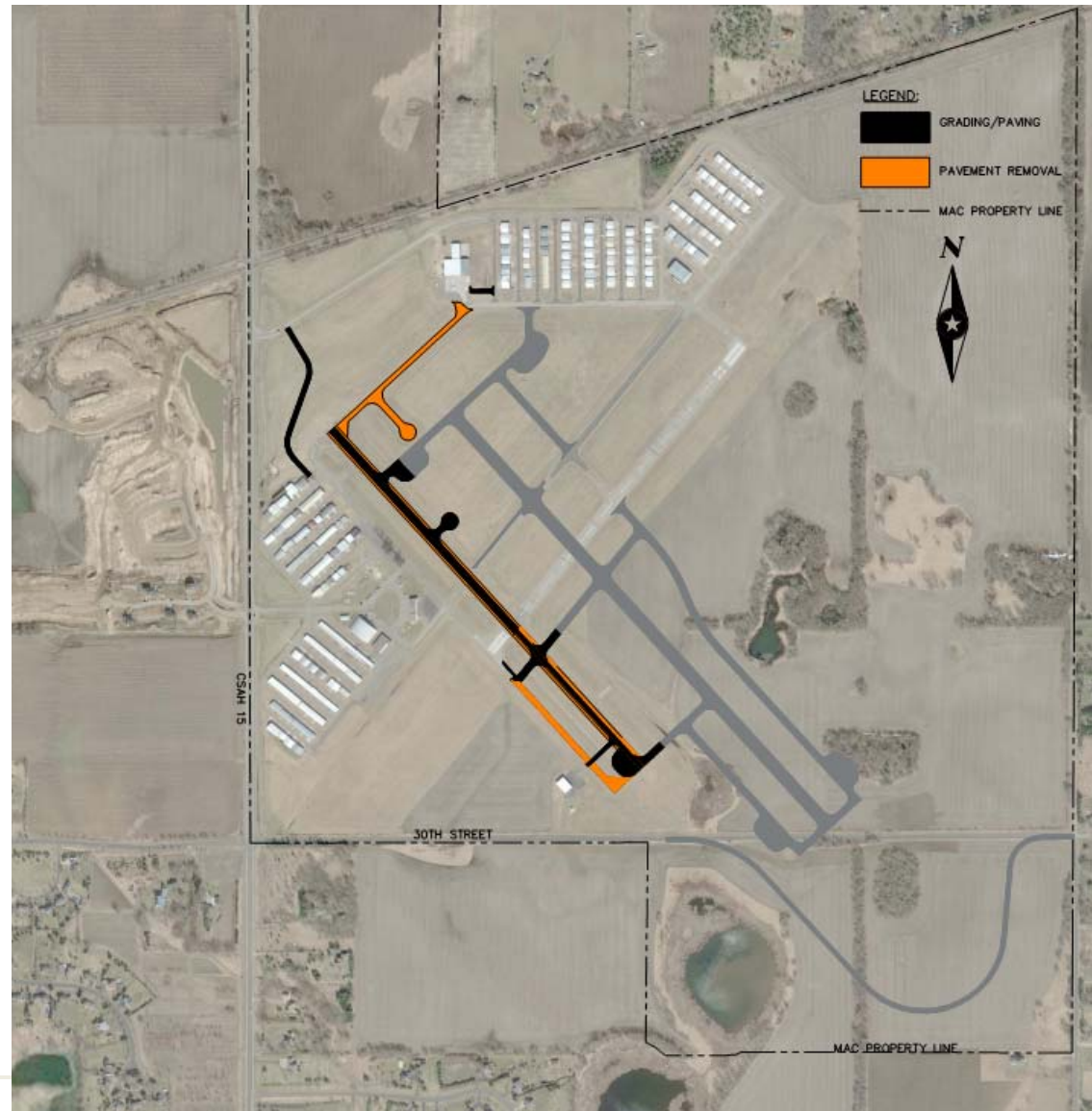
21D – Runway 14/32 Replacement – Phase 1



21D – Runway 14/32 Replacement – Phase 2



21D – Runway 14/32 Replacement – Phase 3



RUNWAY 14-32 REPLACEMENT

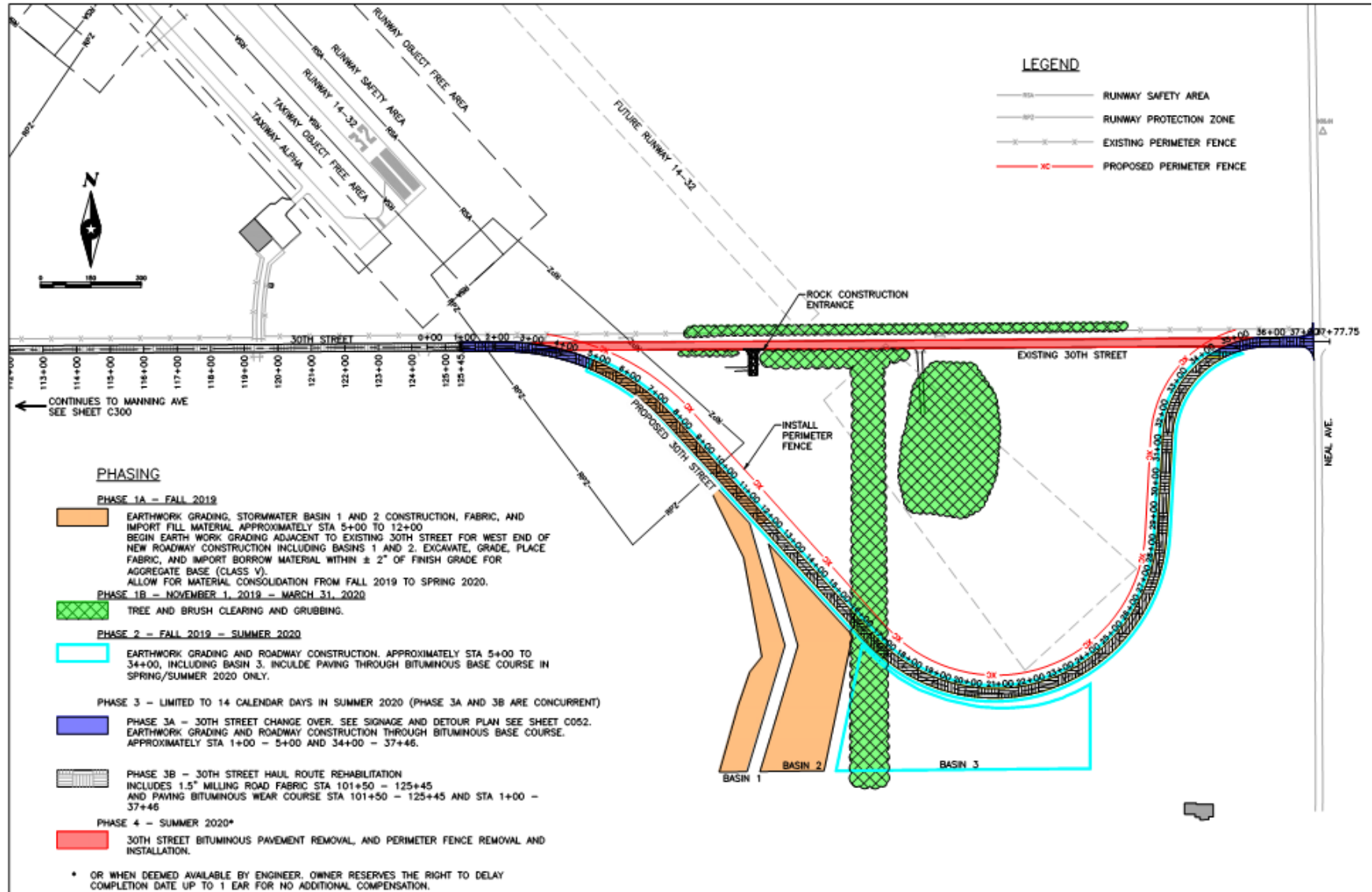
LAKE ELMO AIRPORT



PHASE 1

30TH STREET RELOCATION

21D – Runway 14/32 Replacement



21D – Runway 14/32 Replacement



21D – Runway 14/32 Replacement



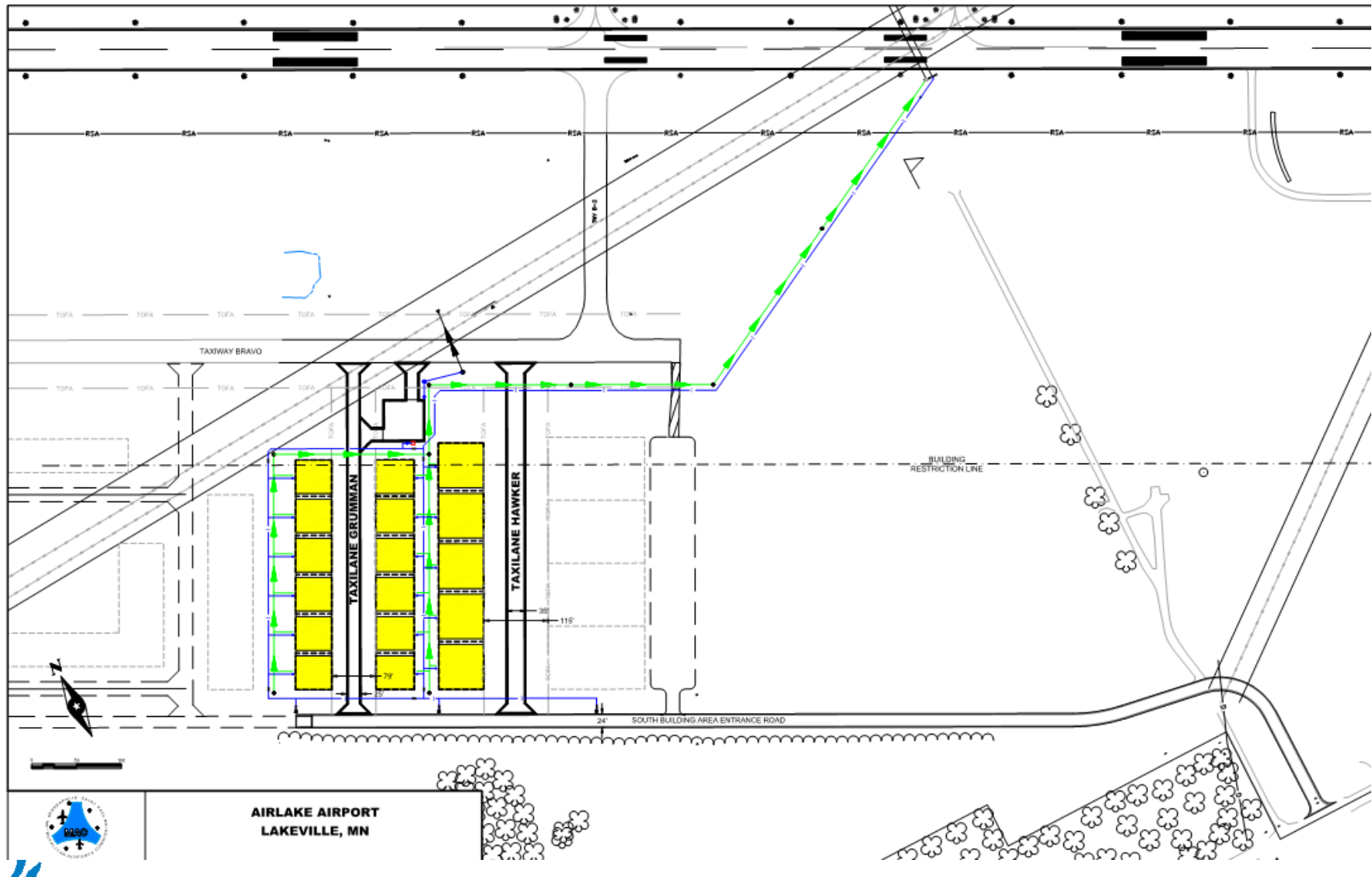
Airlake Airport (LVN)

- 1 Runway
 - Runway 12-30 – 4,098' x 75'
- 142 Based Aircraft
- 33,000 Annual Operations

LVN



LVN – 2019 South Bldg Area Dev.



LVN – 2019 South Bldg Area Dev.



August 7



November 29



September 19

LVN – 2019 South Bldg Area Dev.



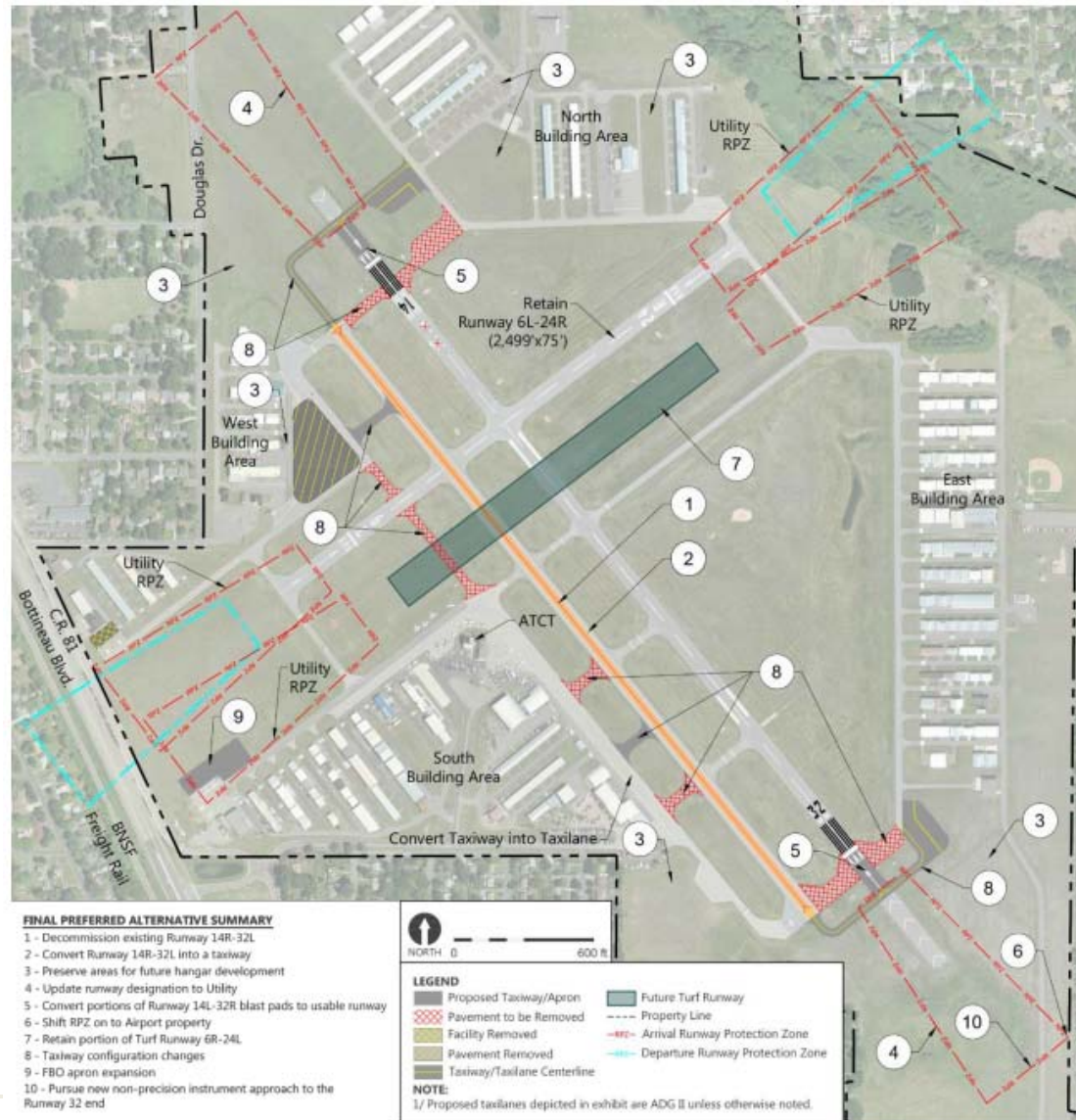
Crystal Airport (MIC)

- 4 Runways
 - Runway 14L-32R – 3,263' x 75'
 - Runway 14R-32R – 3,266' x 75'
 - Runway 6L-24R – 2,499' x 75'
 - Runway 6R-24L – 2,122' x 75' (TURF)
- 168 Based Aircraft
- 38,100 Annual Operations

MIC

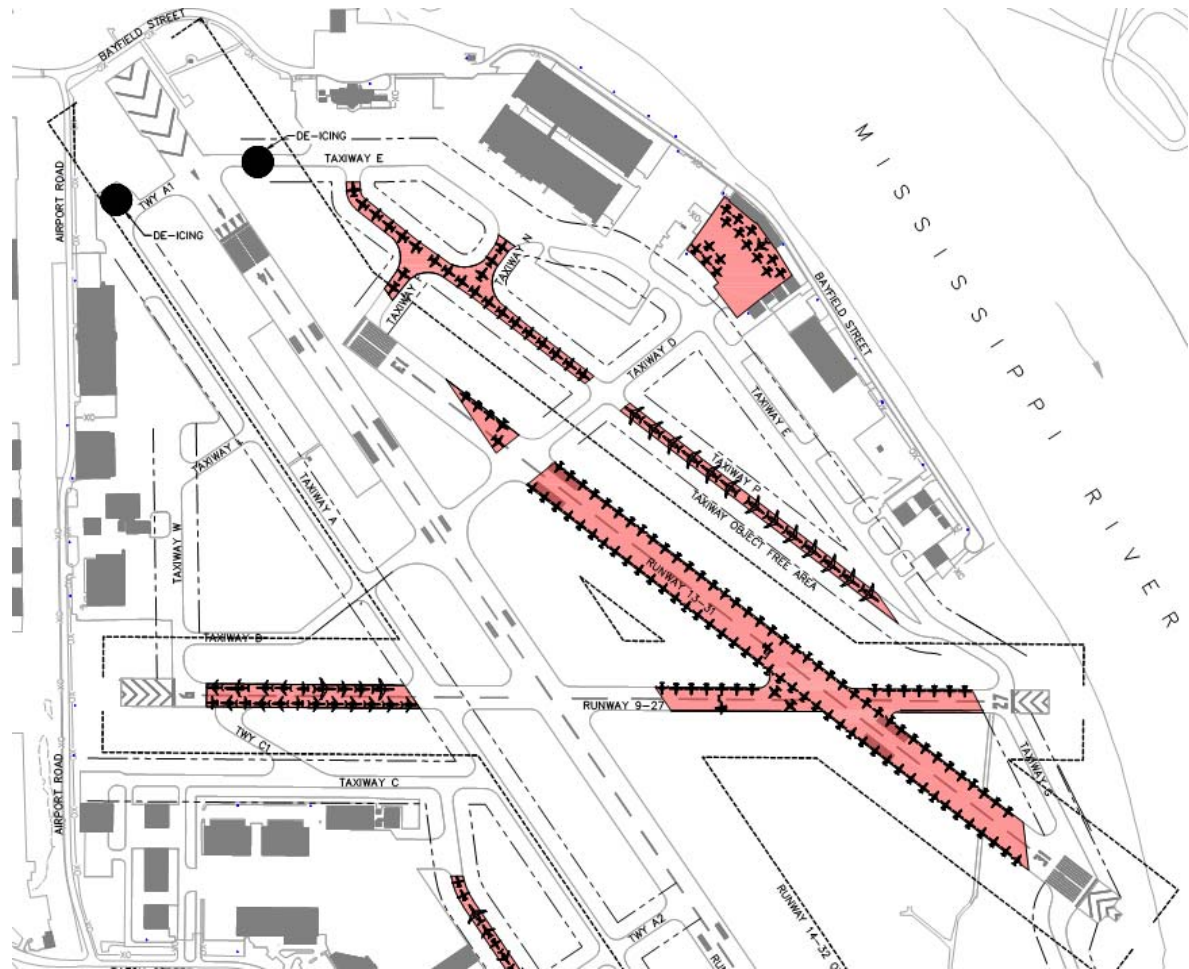


MIC – 2020 Runway & Taxiway Mods

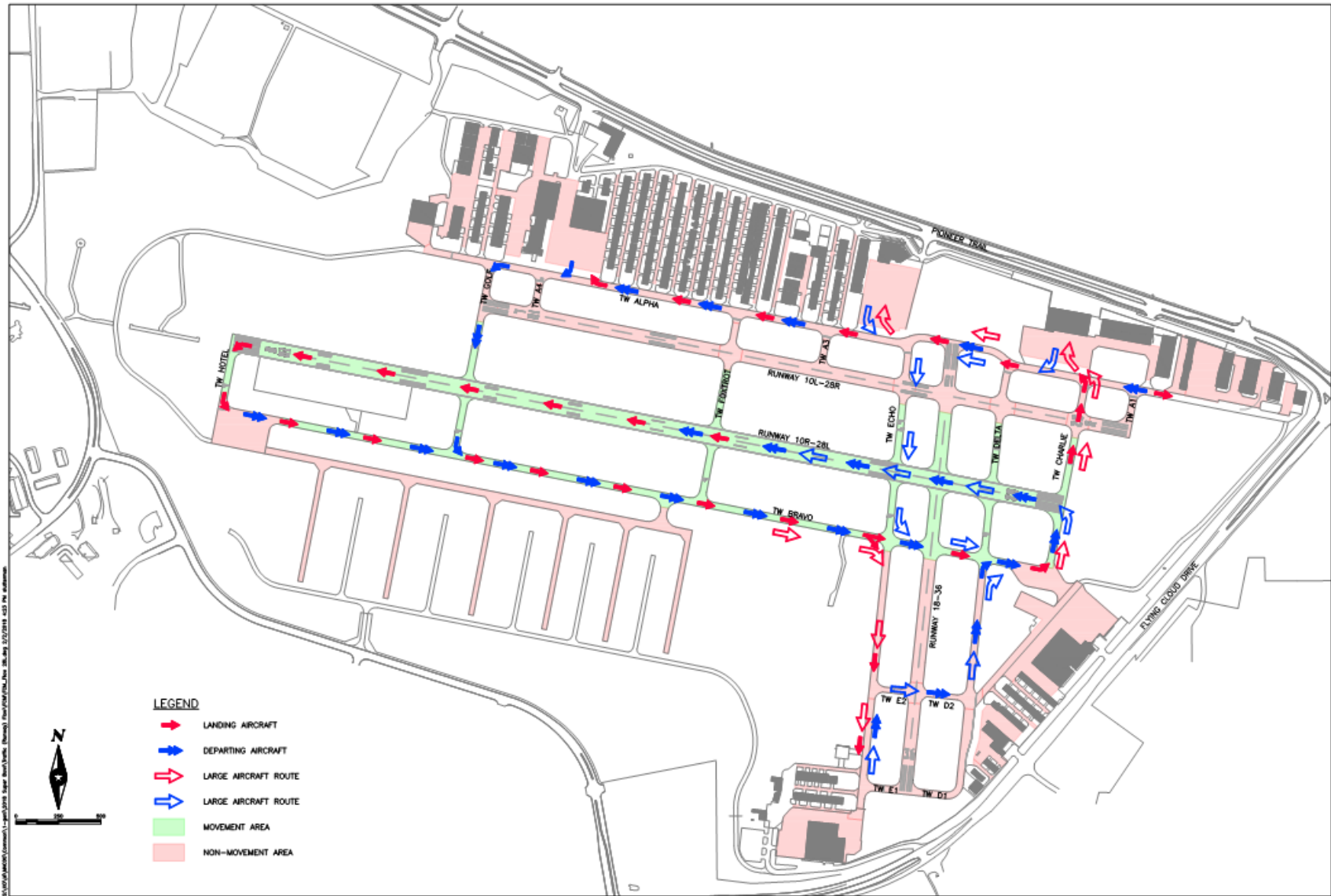


2018 Super Bowl

- 1,265 Private Planes Accommodated at the Relievers
- # Parked During Game:
 - 209 @ STP
 - 150 @ FCM
 - 90 @ ANE



2018 Super Bowl



2018 Super Bowl



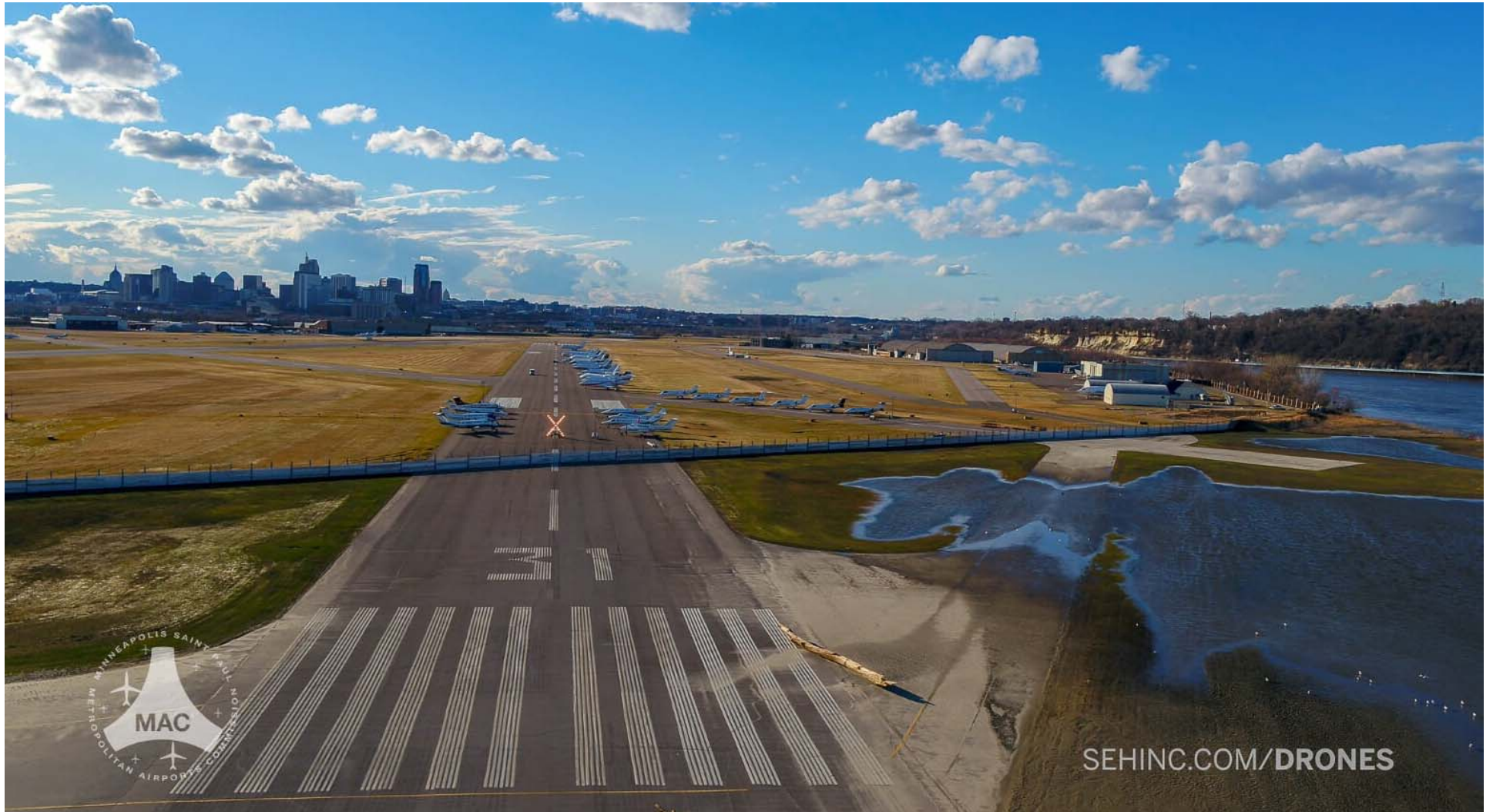
2018 Super Bowl



2019 NCAA Final Four



2019 NCAA Final Four



STP – Flood Wall

- Installed in 2008
- 4,563 LF Sheet Pile Wall
- 3,595 LF Deployable Wall
- 1,374 LF Earthen Levee
- Runway 14-32 from 6,491' to:
 - 5,341'
 - Rwy 14 landing 4,997'
- Runway 13-31 Closed
- Runway 9-27 Closed



STP – Flood Wall



STP – Flood Wall

Table 4-2 – Mississippi River Stages and Flood Elevations

Smith Bridge River Gauge		River Elevation at Airport Terminal Bldg	Action (bold)/Comments
River Stage	Elevation		
0	683.6	683.5	1929 adjustment for the National Geodetic Vertical Datum (NGVD) set this elevation as 0.
7.6	691.2	690.0	Close all slide gates except for Slide Gate 2 and activate pump stations.
12.0	695.6	693.7	NWS-designated “action stage” for a flood event.
14.0	697.6	695.9	NWS-designated flood stage.
14.9	698.5	696.7	Close Taxiway E when river is 1 ft below taxiway centerline low point elevation of 696.4.
15.0	698.6	696.8	NWS-designated “moderate stage” for a flood event.
17.0	700.6	698.6	Close Slide Gate 2. NWS designated “major stage” for a flood event.
17.6	701.2	699.2	10-year flood event and lowest Runway 14-32 centerline elevation of 699.0.
23.6	707.2	704.4	2% flood event (50-year flood event)
25.5	709.1	706.2	1% flood event (100-year flood event). This is the design flood for the entire flood protection system.
25.8	709.4	706.7	NWS record stage.
27.7	711.3	708.4	Low point elevation (708.2) on flood protection system near intersection of Runway 9-27 and Taxiway E. (Note: Ground elevation at this location is 699.6).
30.4	714.0	710.7	0.2% flood event (500-year flood event); above floodwall design capacity.

STP – 2019 Flood

- 3 Day Install
 - March 22-24
- Crest 1 – March 31 (20.19')
- Crest 2 – April 24 (17.64')
- 43 Day Duration
 - wall was up and runway was shortened
- 3 Day Removal
 - Runway re-opened full length May 4



SEHINC.COM/DRONES

STP – 2019 Flood



Questions

