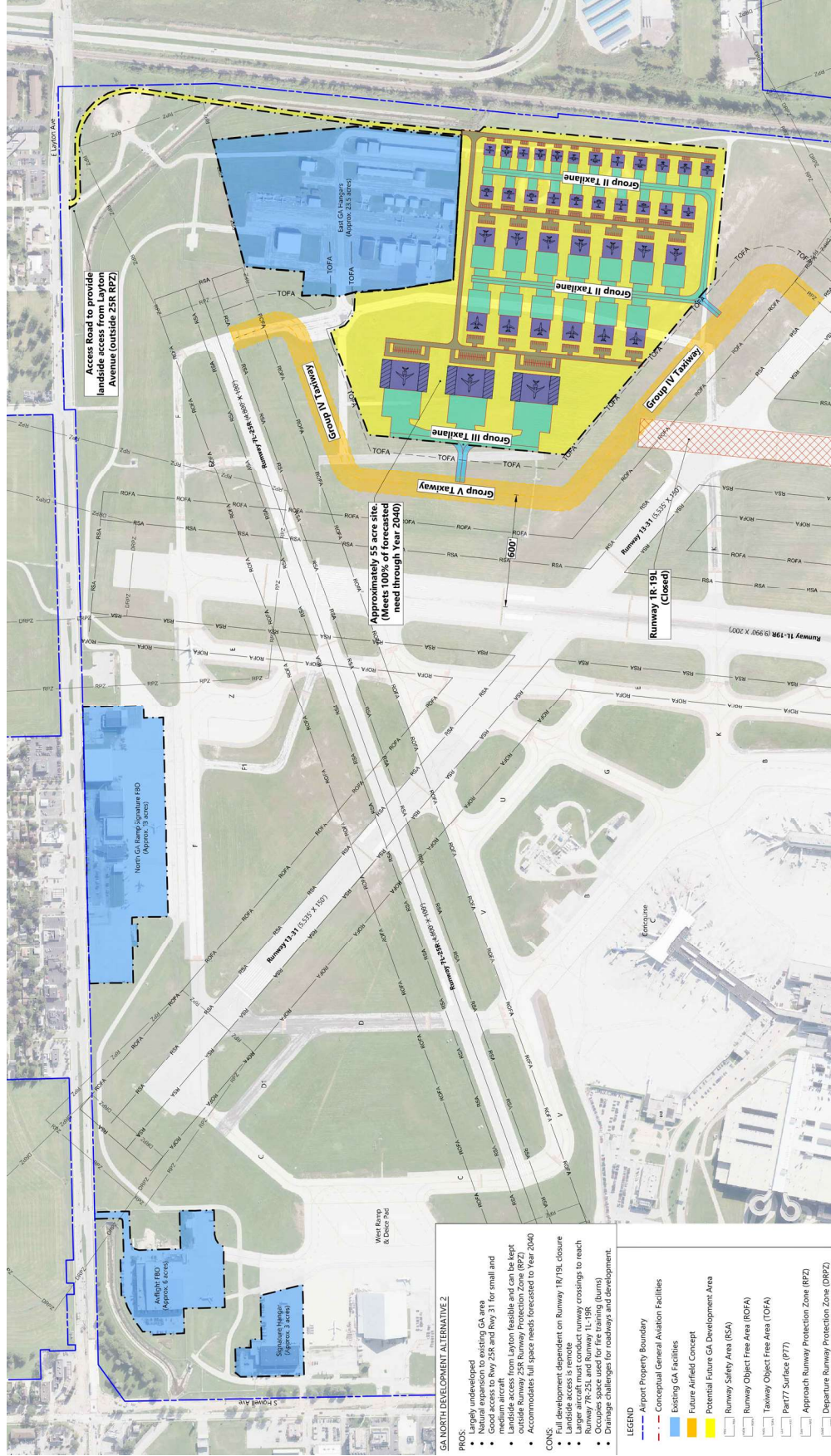


EXHIBIT 5-46 GENERAL AVIATION FACILITIES COMPONENT ALTERNATIVE 2



GA NORTH DEVELOPMENT ALTERNATIVE 2

PROS:

- Largely undeveloped
- Natural expansion to existing GA area
- Runway 25R and Taxiway 31 for small and medium aircraft
- Runway 11-19R and Taxiway 31 for large aircraft
- Landside access from Layton feasible and can be kept outside Runway 25R Runway Protection Zone (RPZ)
- Accommodates full space needs forecasted for Year 2040

CONS:

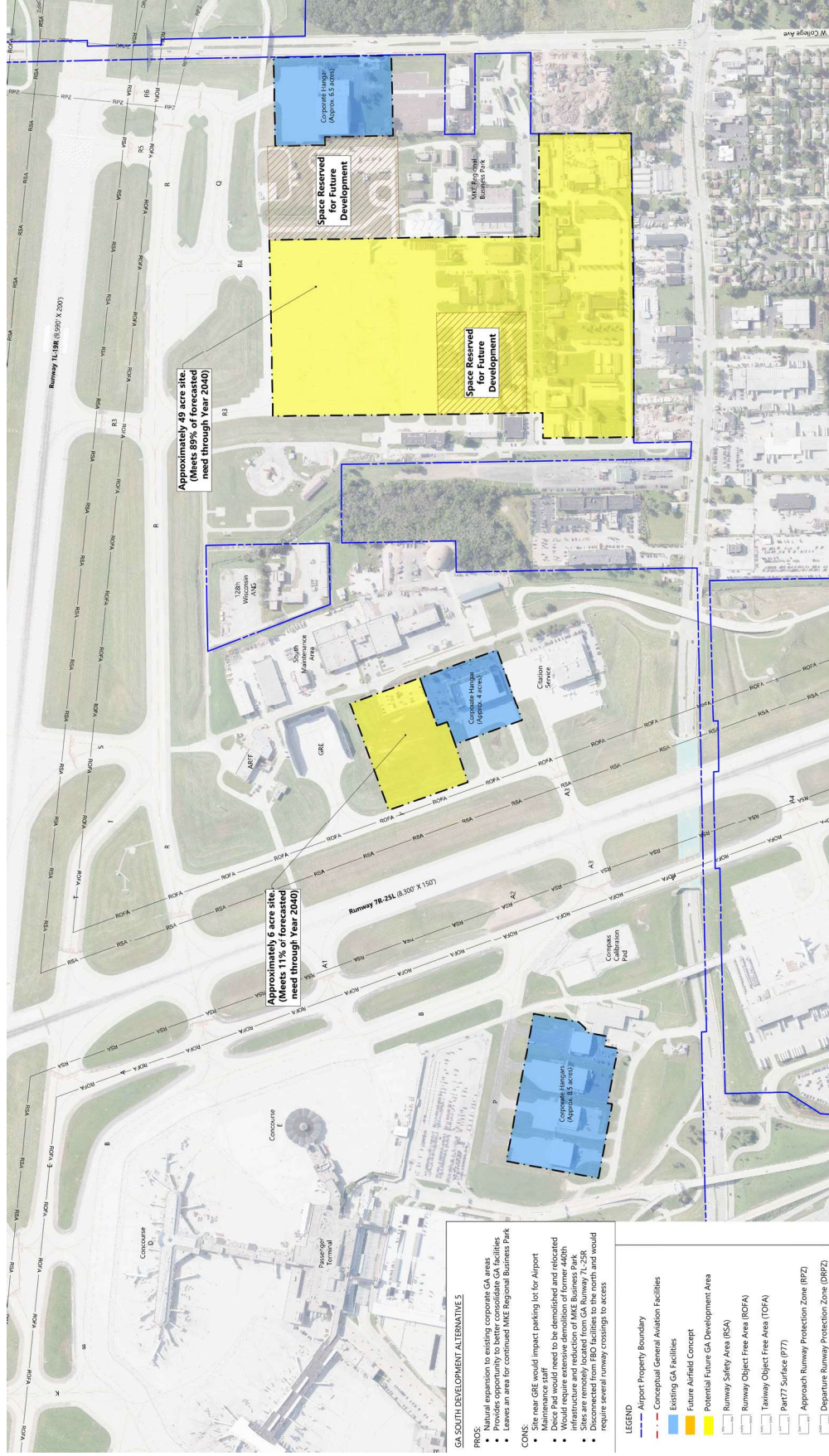
- Full development dependent on Runway 11R/19L closure
- Runway 11-19R and Taxiway 31 must be closed
- Large aircraft must conduct runway crossings to reach Runway 7R-25L and Runway 11-19R
- Occupies space used for fire training (Jurat)
- Runway 11-19R and Taxiway 31 are not available for aircraft operations
- Strategic challenge for taxiway and development.

LEGEND

---	Airport Property Boundary
- - -	Conceptual General Aviation Facilities
■	Existing GA Facilities
■	Future Airfield Concept
■	Potential Future GA Development Area
■	Runway Safety Area (RSA)
■	Runway Object Free Area (ROFA)
■	Taxiway Object Free Area (TOFA)
■	Part 77 Surface (P77)
■	Approach Runway Protection Zone (RPZ)
■	Departure Runway Protection Zone (DRPZ)

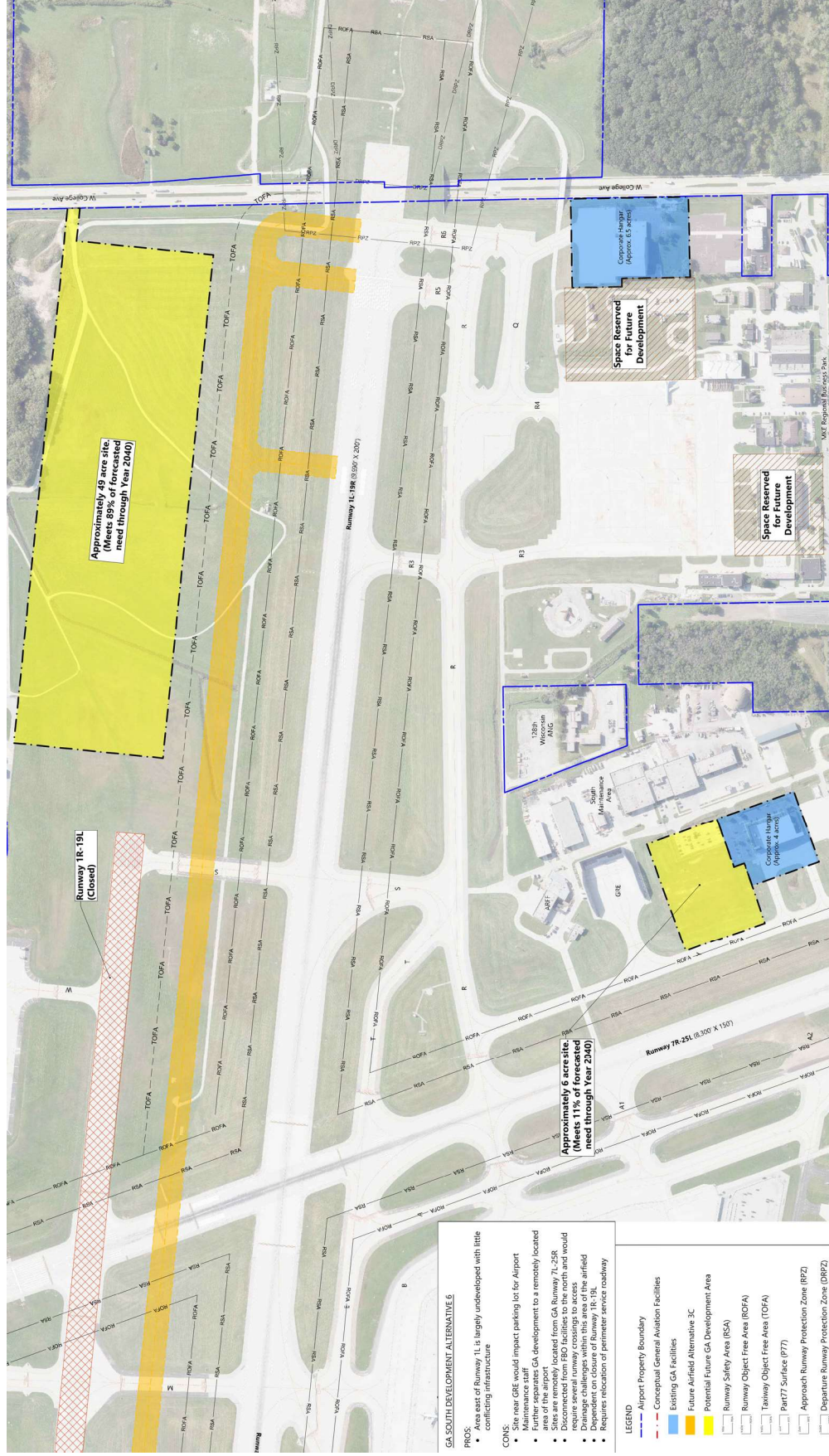
NOTES:
 GA facilities include hangars, apron, taxiway/taxilane access, and landside access and parking.
 Blue areas indicate existing GA facilities; yellow areas indicate future general aviation facilities.
 SOURCE: Mead & Hunt, October 2019.

EXHIBIT 5-49 GENERAL AVIATION FACILITIES COMPONENT ALTERNATIVE 5



NOTES:
 GA facilities include hangars, apron, taxiway/taxilane access, and landside access and parking.
 Blue areas indicate existing GA facilities; yellow areas indicate future general aviation facilities.
 SOURCE: Mead & Hunt, October 2019.

EXHIBIT 5-50 GENERAL AVIATION FACILITIES COMPONENT ALTERNATIVE 6



NOTES:
 GA facilities include hangars, apron, taxiway/taxilane access, and landside access and parking.
 Blue areas indicate existing GA facilities; yellow areas indicate future general aviation facilities.
 SOURCE: Mead & Hunt, October 2019.

TABLE 5-7 SUPPORT FACILITIES COMPONENT ALTERNATIVES – GENERAL AVIATION

ALTERNATIVE	DESCRIPTION
Alternative 1 (North 1)	<ul style="list-style-type: none"> ■ GA facilities are developed on approximately 30 acres south of the existing Northeast Hangar Area. ■ There are no impacts to the existing airfield. ■ Landside access is provided from Layton Avenue (outside Runway 25R RPZ). ■ Close access to Runway 7L-25R is primarily used for GA activity. ■ This alternative accommodates baseline GA facility requirements.
Alternative 2 (North 2)	<ul style="list-style-type: none"> ■ GA facilities are developed on approximately 55 acres south and southwest of the existing Northeast Hangar Area. ■ This alternative requires the decommissioning of Runway 1R-19L. ■ Landside access is provided from Layton Avenue (outside Runway 25R RPZ). ■ This alternative accommodates the baseline GA facility requirements.
Alternative 3 (North 3)	<ul style="list-style-type: none"> ■ GA facilities are developed on approximately 38 acres south of the existing Northeast Hangar Area. ■ GA facilities are developed on approximately 16 acres west of the existing north GA ramp. ■ This alternative incorporates landside (non-secure) access to the northeast GA expansion from Layton Avenue (outside Runway 25R RPZ). ■ This alternative accommodates the baseline GA facility requirements.
Alternative 4 (North 4)	<ul style="list-style-type: none"> ■ Approximately 55 acres west of the existing north GA ramp are developed. ■ Multiple landside access points are provided from Layton and Howell Avenues. ■ This alternative requires the decommissioning of Runway 13-31. ■ Deicing operations are displaced on the west ramp. ■ This alternative accommodates the baseline GA facility requirements.
Alternative 5 (South 1)	<ul style="list-style-type: none"> ■ Future GA facilities are distributed in the south airfield: <ul style="list-style-type: none"> – A 6-acre site is developed adjacent to the ground runup enclosure. – A 49-acre site is developed north of the MKE Regional Business Park. ■ The south deicing pad is displaced. ■ A substantial portion of the MKE Regional Business Park is redeveloped. ■ Dispersed facilities may increase the required runway crossings. ■ This alternative accommodates projected GA facility requirements.
Alternative 6 (South 2)	<ul style="list-style-type: none"> ■ Future GA facilities are distributed in the south airfield: <ul style="list-style-type: none"> – A 6-acre site is developed adjacent to the ground runup enclosure. – A 49-acre site is developed south of Runway 1R-19L / east of Runway 1L-19R. ■ This alternative requires the decommissioning of Runway 1R-19L. ■ This alternative accommodates the baseline GA facility requirements.

NOTES:

GA – General Aviation

RPZ – Runway Protection Zone

SOURCE: Mead & Hunt, October 2019.

5.3.4.3 AIRCRAFT MAINTENANCE, AIRPORT MAINTENANCE, AND OTHER SUPPORT FACILITIES

Section 2, Inventory of Existing Conditions, describes the existing Airport maintenance support facilities. Alternatives were developed to address the future needs for aircraft maintenance and Airport maintenance facilities, as well as other support facilities. These alternatives focused on addressing the following challenges:

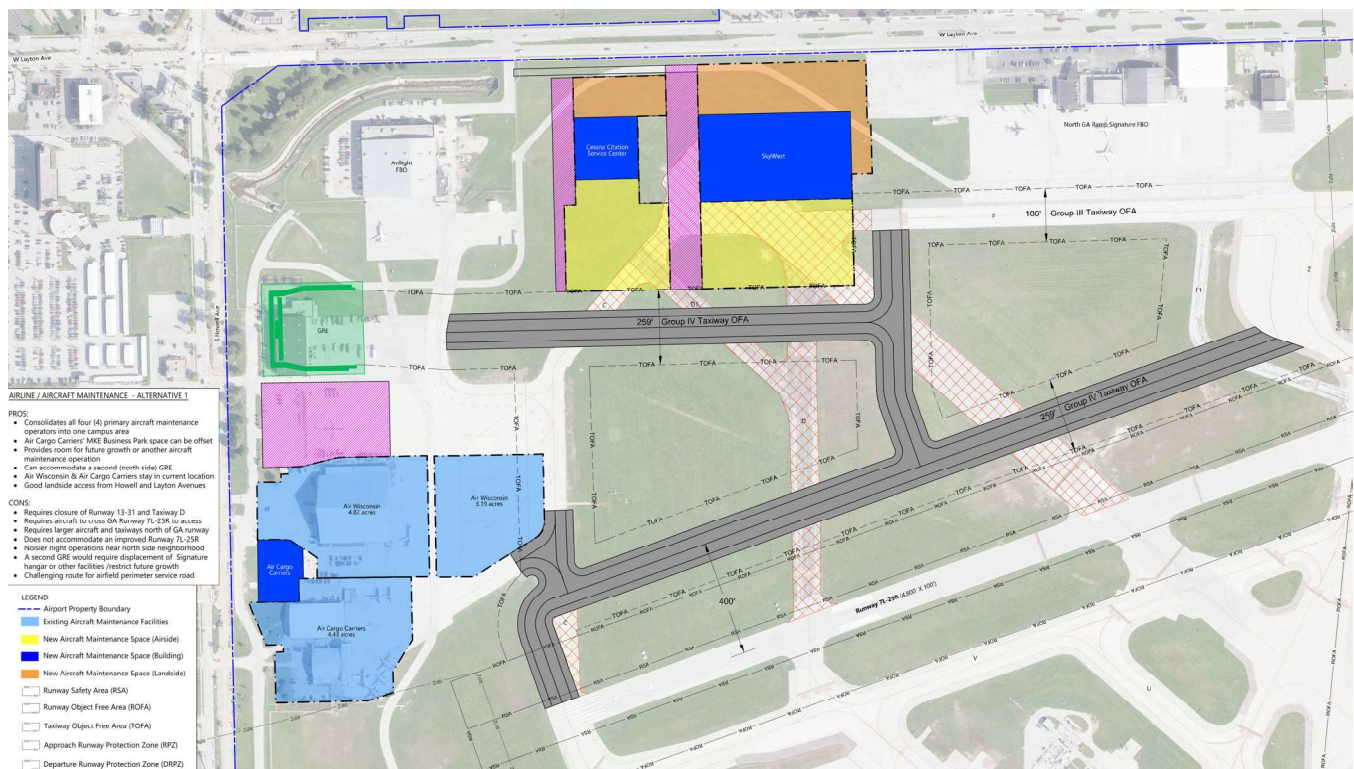
- Preserve flexibility for demand-based expansion.
- Accommodate full secure perimeter service road.

- Achieve efficiencies through the separation of Milwaukee County Highway Department maintenance activities/space and Airport maintenance activities/space.
- Accommodate snow removal equipment access to and staging on Taxiway Y.

Exhibit 5-51 through **Exhibit 5-55** illustrate the five support facilities component alternatives for aircraft maintenance. **Table 5-8** summarizes these alternatives.

Exhibit 5-56 through **Exhibit 5-59** illustrate the four support facilities component alternatives for Airport maintenance and other support facilities. All four alternatives are located generally north of the MKE Regional Business Park. **Table 5-9** summarizes the alternatives.

EXHIBIT 5-51 AIRCRAFT MAINTENANCE FACILITIES COMPONENT ALTERNATIVE 1

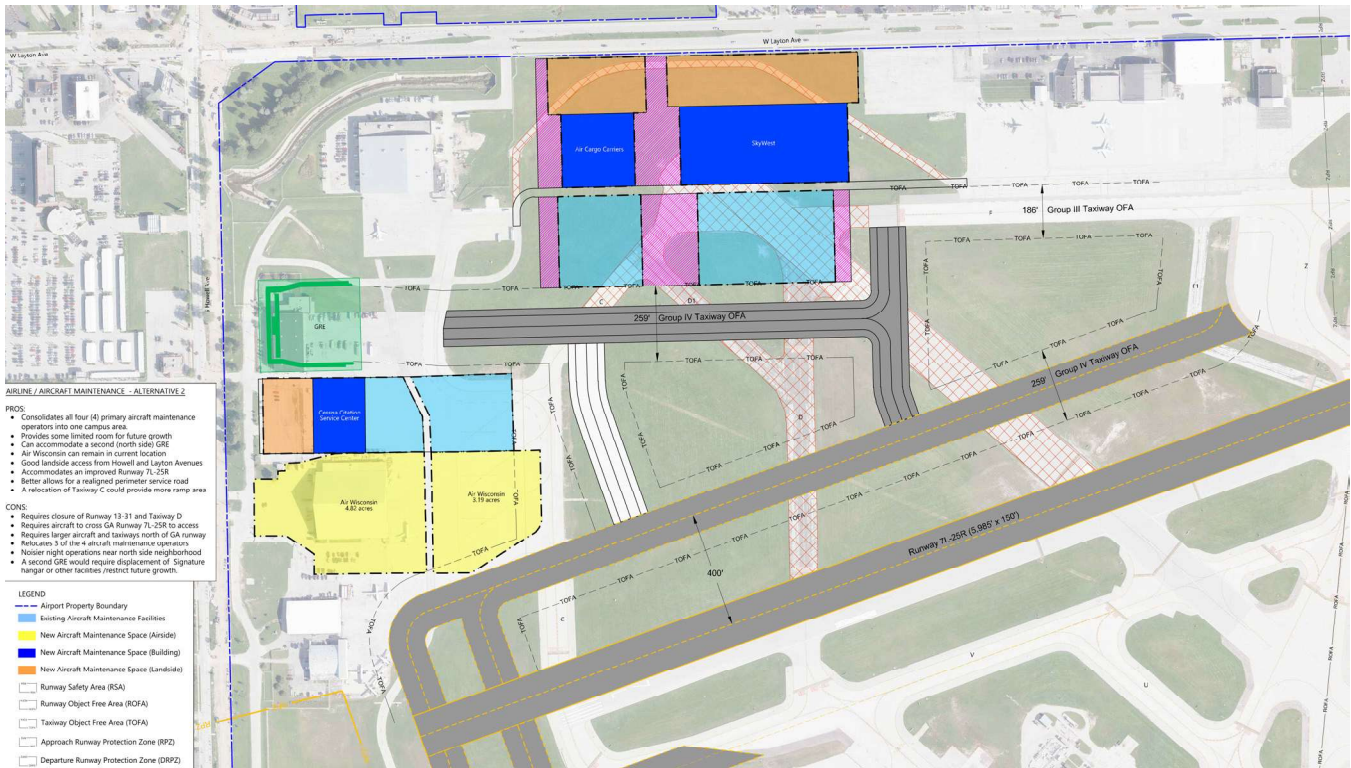


NOTES:

Dark blue – building/hangar; light blue – existing aircraft maintenance facilities; yellow – aircraft parking apron; orange – landside parking and circulation; green – relocated GRE facility.

SOURCE: Mead & Hunt, October 2019.

EXHIBIT 5-52 AIRCRAFT MAINTENANCE FACILITIES COMPONENT ALTERNATIVE 2

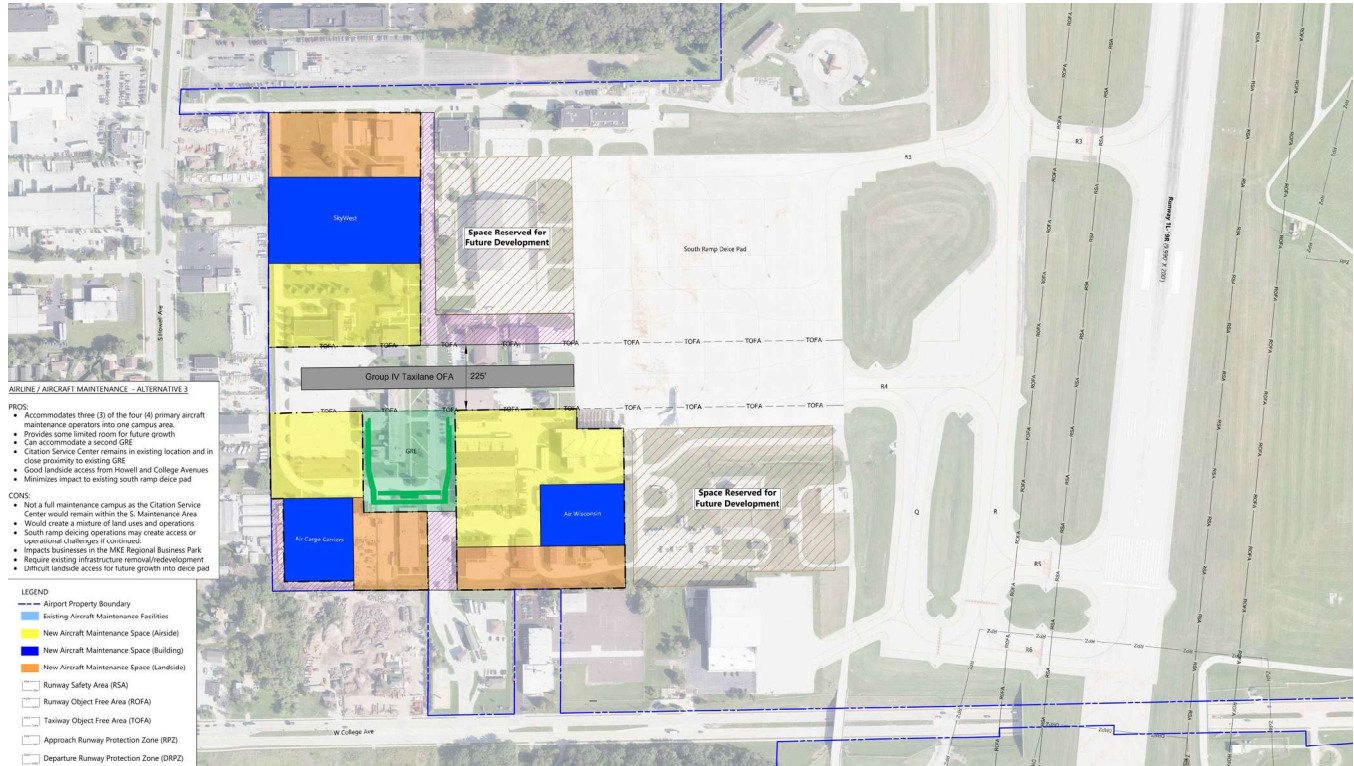


NOTES:

Dark blue – building/hangar; light blue – existing aircraft maintenance facilities; yellow – aircraft parking apron; orange – landside parking and circulation; green – relocated GRE facility.

SOURCE: Mead & Hunt, October 2019.

EXHIBIT 5-53 AIRCRAFT MAINTENANCE FACILITIES COMPONENT ALTERNATIVE 3

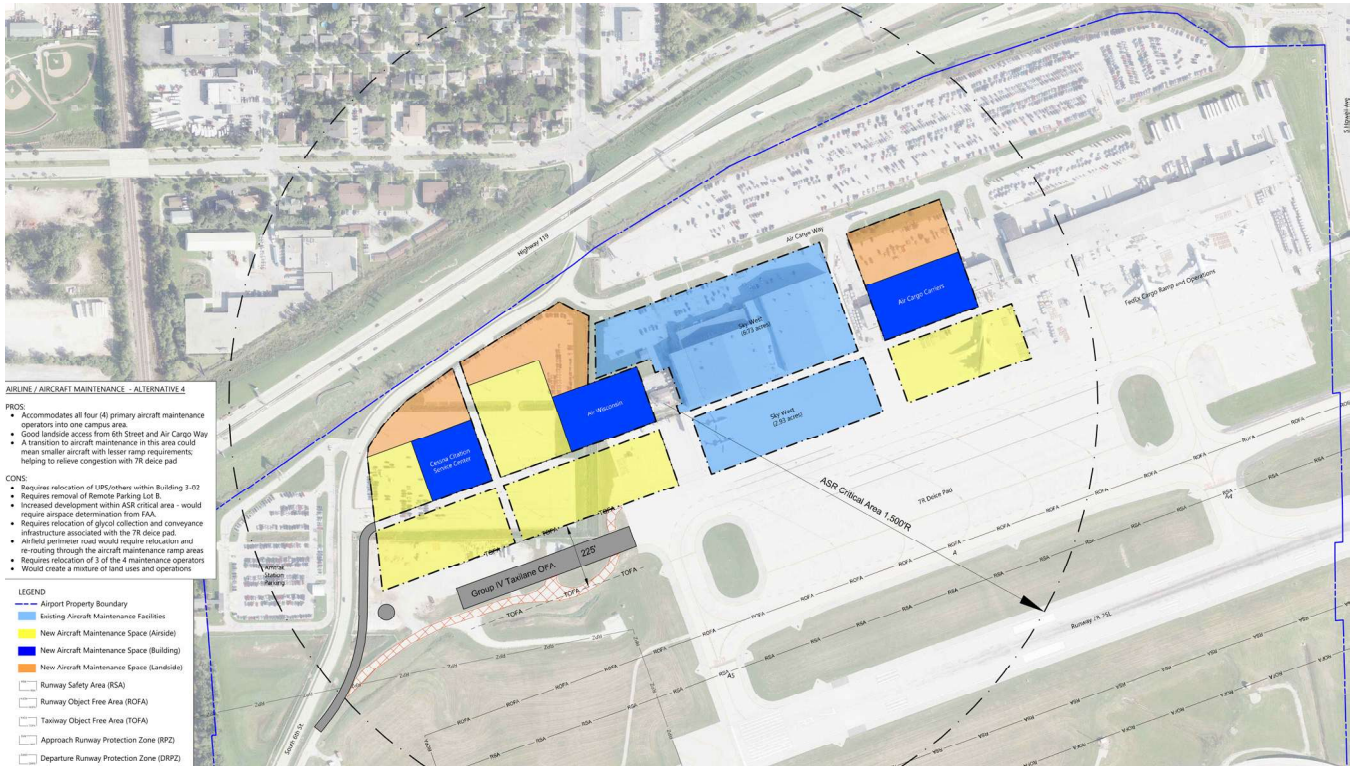


NOTES:

Dark blue – building/hangar; light blue – existing aircraft maintenance facilities; yellow – aircraft parking apron; orange – landside parking and circulation; green – relocated GRE facility.

SOURCE: Mead & Hunt, October 2019.

EXHIBIT 5-54 AIRCRAFT MAINTENANCE FACILITIES COMPONENT ALTERNATIVE 4

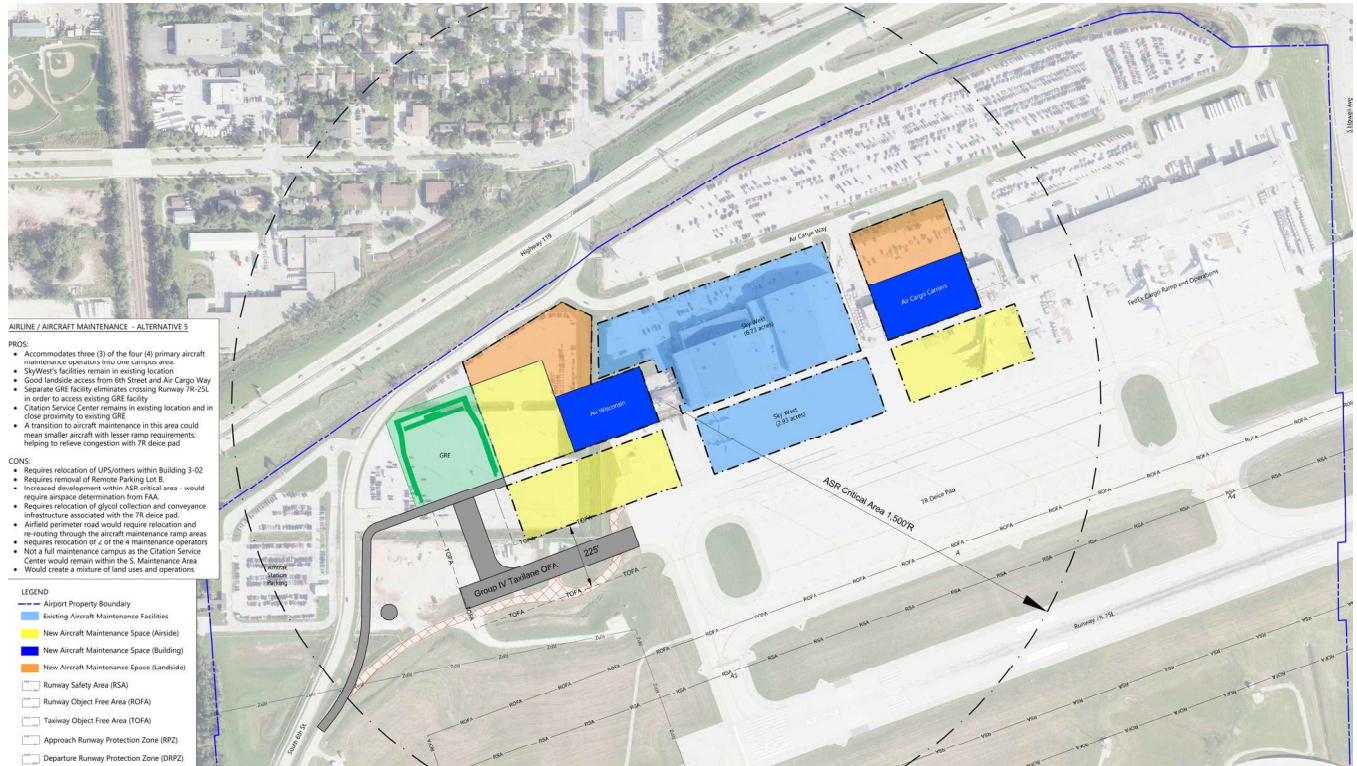


NOTES:

Dark blue – building/hangar; light blue – existing aircraft maintenance facilities; yellow – aircraft parking apron; orange – landside parking and circulation; green – relocated GRE facility.

SOURCE: Mead & Hunt, October 2019.

EXHIBIT 5-55 AIRCRAFT MAINTENANCE FACILITIES COMPONENT ALTERNATIVE 5



NOTES:

Dark blue – building/hangar; light blue – existing aircraft maintenance facilities; yellow – aircraft parking apron; orange – landside parking and circulation; green – relocated GRE facility.

SOURCE: Mead & Hunt, October 2019.

TABLE 5-8 SUPPORT FACILITIES COMPONENT ALTERNATIVES – AIRCRAFT MAINTENANCE FACILITIES

ALTERNATIVE	DESCRIPTION
Alternative 1	<ul style="list-style-type: none"> ▪ Primary aircraft maintenance facilities are consolidated into a single campus in the northwest quadrant. ▪ Existing aircraft maintenance facilities (Wisconsin Air National Guard and air cargo carriers) are preserved. ▪ Landside access is provided from Howell Avenue and Layton Avenue. ▪ This alternative accommodates the north side (second) GRE if needed in the future, displacing the existing GA hangar or other facilities. ▪ This alternative requires the decommissioning of Runway 13-31 and Taxiway D. ▪ This alternative precludes the upgrade (widening and increased separation) of Runway 7L-25R.
Alternative 2	<ul style="list-style-type: none"> ▪ Four primary aircraft maintenance facilities are consolidated into a single campus in the northwest quadrant. ▪ Limited space for future growth is provided. ▪ The existing aircraft maintenance facilities (Wisconsin Air National Guard and air cargo carriers) are preserved. ▪ Landside access is provided from Howell Avenue and Layton Avenue. ▪ This alternative accommodates the upgrade of Runway 7L-25R (increased taxiway separation and runway width). ▪ This alternative accommodates the north side (second) GRE, displacing the existing GA hangar or other facilities. ▪ This alternative accommodates an expanded ramp area if Taxiway C is relocated. ▪ This alternative requires the decommissioning of Runway 13-31 and Taxiway D.
Alternative 3	<ul style="list-style-type: none"> ▪ Three of the four primary aircraft maintenance operations are consolidated into a single campus in the western part of the MKE Regional Business Park. ▪ Limited room for future growth is provided. ▪ Landside access is provided from Howell Avenue and College Avenue via Jasper Avenue. ▪ The impact to the existing south ramp deicing pad is minimized. ▪ A south side (second) GRE is accommodated, if needed in the future. ▪ This alternative impacts tenants of the MKE Regional Business Park as facility redevelopment is triggered. ▪ This alternative requires existing infrastructure removal/redevelopment.
Alternative 4	<ul style="list-style-type: none"> ▪ Four primary aircraft maintenance operations are consolidated into a single campus in the west cargo area north of Runway 7R-25L. ▪ Landside access is provided from 6th Street and Air Cargo Way. ▪ This alternative requires relocation of existing tenants (Building 3-02) and the secure airfield perimeter road. ▪ This alternative requires the removal of the Super Saver B lot. ▪ Future development would occur within the ASR critical area, which requires FAA airspace review.
Alternative 5	<ul style="list-style-type: none"> ▪ Three of the four primary aircraft maintenance operations are consolidated into a single campus in the west cargo area north of Runway 7R-25L. ▪ There is no impact to the existing maintenance facilities. ▪ Landside access is provided from 6th Street and Air Cargo Way. ▪ This alternative accommodates a west side (second) GRE facility (eliminates crossing Runway 7R-25L). ▪ This alternative requires the relocation of existing tenants (Building 3-02) and the secure airfield perimeter road. ▪ This alternative requires removal of the Super Saver B lot. ▪ Future development would occur within the ASR critical area, which requires FAA airspace review.

NOTES:

GRE – Ground Runup Enclosure

GA – General Aviation

ASR – Airport Surveillance Radar

SOURCE: Mead & Hunt, October 2019.