

CHAPTER FIVE

DEVELOPMENT ALTERNATIVES

5-1 INTRODUCTION

The objective of this chapter is to identify an overall development plan for Harry Clever Field that will meet existing and long-term aviation needs. Airside and landside facilities required to satisfy the various elements of aviation demand forecast over the 20-year planning period drive the alternatives analysis. The goal of the alternatives analysis is to provide Harry Clever Field with a plan that ensures flexibility to meet both known and unforeseeable needs.

Two primary functional areas were considered in identifying development alternatives for Harry Clever Field. These functional areas include the airside development area, which includes the runway, taxiway, and other associated elements, and the landside development area, which focuses on the buildings and development in the general aviation terminal area. The alternatives were examined to identify their effectiveness in meeting the projected needs identified in the Facility Requirements Chapter and the feasibility of implementing the alternatives based on a variety of evaluation criteria.

This chapter is divided into the following sections:

- Facility Needs Review
- Development Considerations
- Airfield Alternatives
- Landside Alternatives
- Summary

5-2 FACILITY NEEDS REVIEW

As stated in the previous chapter, the primary recommendations for the Airport include:

- Provide a 4,500-foot runway that meets the current ARC B-II standards with a forecast goal for the Airport to meet C-II ARC design standards and have a 5,000-foot runway.
- The Airport should provide a clear runway safety area (RSA) and object free area (OFA).
- It is recommended that the taxiway be widened to 35 feet in order to meet ARC B-II.
- A minimum of 18 additional hangar spaces will be needed by the end of the planning period.
- The current apron space is adequate for the demands projected through the end of the planning period. However, some of that capacity is provided by grass tie-downs and it is recommended that paved tie-downs be used instead. For certain alternatives, the apron may need to be relocated, depending upon such factors as the location of the parallel taxiway and other facility developments.

5-3 DEVELOPMENT CONSIDERATIONS

The recommended plan derived from this alternatives analysis must be technically, economically, and environmentally sound. The plan must also support the goals and objectives of the Airport and local community in order for the plan to be implemented. Facility needs developed in Chapter Four were identified as the basis for formulating the development alternatives for Harry Clever Field.

This chapter examines the following development options for the main runway at Harry Clever Field:

- Do Nothing (meet ARC B-II standards)
- Extend the runway to 4,500 feet and meet ARC B-II standards
- Extend the runway to 4,500 feet, reposition it to minimize impacts on the surrounding community, and meet ARC B-II standards
- Extend the runway to 5,000 feet and meet ARC C-II standards
- Reclassify the Airport as ARC B-I or B-I Small

Additional development considerations will take into account other Airport facilities, including parking, terminal development and security features. It should be noted that all development impacts are considered estimates.

5-4 AIRSIDE ALTERNATIVES

The airfield, which includes the runway/taxiway system and associated airspace, is generally considered the most important component of an airport. The operational efficiency, capacity, and safety of the airfield supports the viability of the other airport components. A number of airside alternatives were developed to ensure all prudent and feasible development options were considered. In all cases, the crosswind runway, Runway 11/29, is assumed to remain in its current condition.

5-4-1 Runway Alternative 1 – Do Nothing

This alternative represents the “Do Nothing” or “No Build” option. Under this alternative the runway would remain as it is. However, steps would be taken to bring the airfield up to its current designation of ARC B-II standards. It is assumed that the Airport would remove or relocate any obstructions, and purchase any land necessary to meet these standards. The existing constraints are described below and illustrated in **Exhibit 5-1**.

Runway 14 End

When ARC B-II standards are applied to the Runway 14 end, a number of existing constraints, both for the RSA and OFA, and the RPZ, are evident. These are described below.

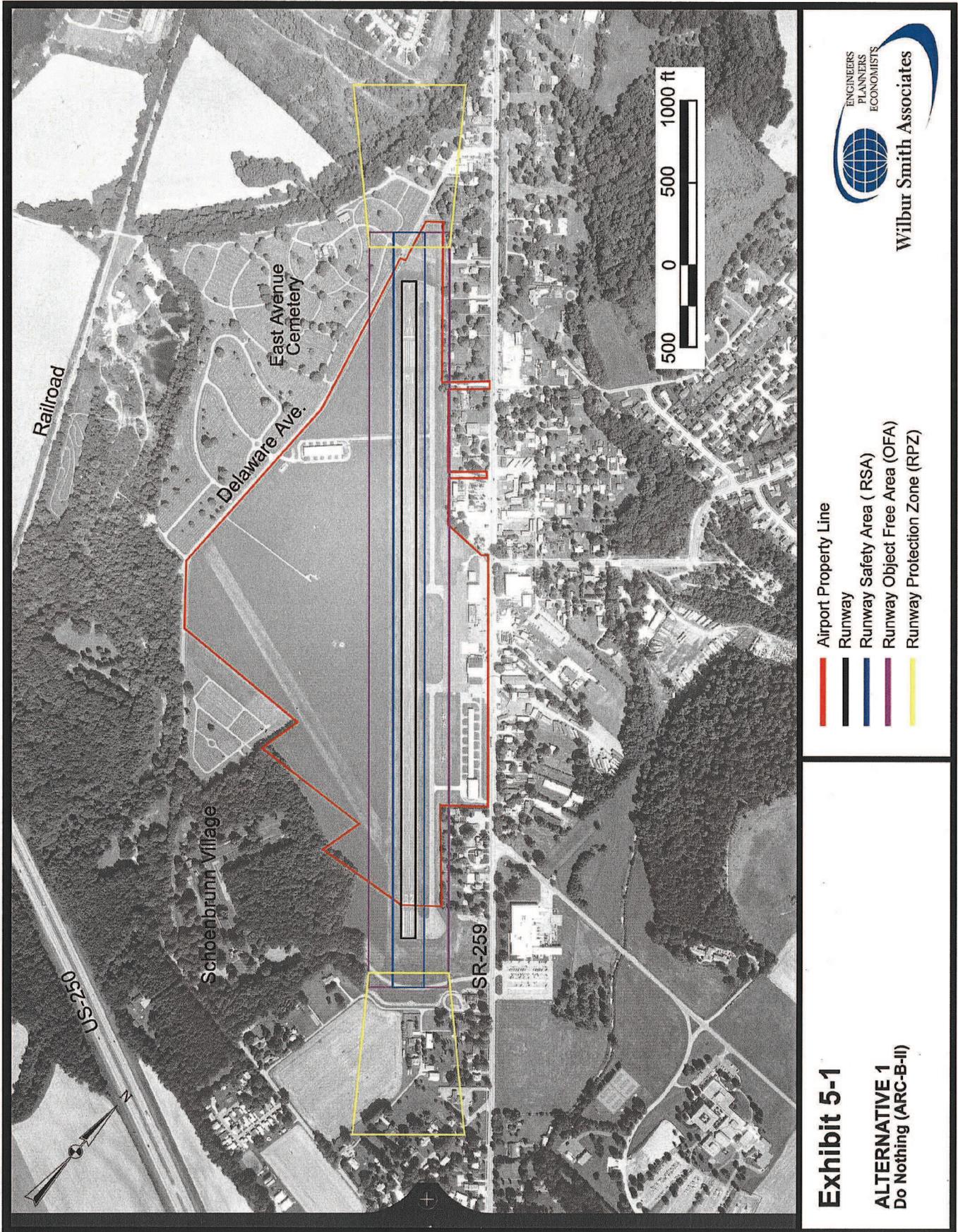


Exhibit 5-1

ALTERNATIVE 1
Do Nothing (ARC-B-II)

Runway 14 RSA and OFA

To meet the ARC B-II standards, The OFA and RSA extends 300 feet beyond the end of the runway pavement, regardless of any displaced threshold. The OFA is 500 feet wide while the RSA is 150 feet wide. It should be noted that displacing the threshold does not change the locations of the RSA or OFA. Delaware Avenue cuts diagonally through the OFA, approximately 100 feet from the end of Runway 14. It crosses the west side of the OFA, entering the RSA approximately 75 feet from the runway end, and exiting out the end of the RSA. Substantial rerouting of Delaware Avenue would be required to avoid impacting the RSA, as well as the OFA. Additionally, a small portion of the cemetery west of Delaware Avenue intrudes on the RSA. An even larger section of the cemetery is contained in the OFA. In total, there are approximately two acres of cemetery that would need to be purchased by the Airport, the graves relocated and cemetery roads rerouted to assure a clear OFA and RSA.

Alternatively, the Runway 14 threshold could be relocated (not just displaced) by about 260 feet toward the southeast to keep the RSA clear of Delaware Avenue. Relocating the threshold 450 feet toward the southeast would keep Delaware Avenue out of the OFA. Both of these options shorten the runway, which runs counter to the needs of current and future users of the Airport.

Runway 14 RPZ

Runway 14's RPZ includes approximately six homes and buildings, as well as numerous trees and cemetery roads. Delaware Avenue also intersects the RPZ. Approximately 14 acres in the RPZ is not controlled by the Airport. Avigation easements or fee ownership is recommended.

Runway 32 End

The Runway 32 end has a number of existing constraints when applying ARC B-II standards, for the RSA, OFA, and the RPZ. These are described below.

Runway 32 RSA and OFA

At the Runway 32 end, the access road to Schoenbrunn Village, a State of Ohio historical site operated by the Ohio Historic Preservation Office, bisects the RSA and OFA. Relocating the access road approximately 200 feet to the southeast would provide a clear RSA and OFA.

Alternatively, the access road could be abandoned and replaced by a new access road that utilizes Delaware Avenue. Roadway improvements would be required on Delaware Avenue, as well as a new parking lot for Schoenbrunn Village. This option has been discussed with representatives of the Ohio Historic Preservation Office, although they did not indicate their approval of the plan.

The Airport does not own the land upon which the first 130 feet of the runway is situated. Instead, the Airport leases this land, approximately four acres, from the State of Ohio, under a 99-year lease that was recently renewed. The lease gives the City the right to make improvements, including the removal of trees.

Runway 32 RPZ

The area under the Runway 32 RPZ includes approximately nine homes and buildings, as well as numerous trees. The access road to Schoenbrunn Village also intersects the RPZ. The Airport does not control any of the land under the RPZ, so it would need to acquire avigation easements or ownership in fee of approximately 14 acres.

Other Considerations

On the northeast side of the runway, there are approximately eight buildings on eight properties that are within the OFA. These buildings would require demolition or relocation outside the OFA. Additionally, there are numerous trees within the OFA that require removal. Approximately two acres divided among about eight parcels of the OFA are not owned by the Airport and would need to be purchased.

Both the grass tie-downs and paved tie-downs are within an ARC B-II OFA. All of the tie-downs should be moved beyond the boundary of the OFA. This will render some of the ramp space unusable and limit the number of tie-downs available on the northeast side of the runway.

Summary

Applying ARC B-II standards will significantly impact the existing layout of the Airport. In order to provide a clear RSA and OFA, land acquisition is necessary, including a portion of the East Avenue Cemetery; buildings and tie-downs would require relocation; and roads would need to be relocated. Because buildings encroach upon the OFA on the northeast side of the runway, even an option such as relocating either end of the runway does not address all concerns. In addition, a shorter runway does not allow the Airport to adequately serve the existing fleet. Despite these shortcomings, this option should be considered for purposes of improving safety conditions at the airport on a short-term basis, until improvements from a longer-term option can be implemented.

5-4-2 Runway Alternative 2 – Extend Runway 32 End to 4,500 feet

This alternative examines the impact from extending the southeast end of the runway (Runway 32) by 550 feet, giving the runway a total length of 4,500 feet. This alternative also assumes that ARC B-II standards will be met. It is assumed that the Airport would remove or relocate any obstructions, and purchase any land necessary to meet these standards, including the steps outlined in Alternative 1 related to Runway 14. The existing constraints are described below and illustrated in **Exhibit 5-2**.

Runway 14 End

When ARC B-II standards are applied to the Runway 14 end, a number of existing constraints, both for the RSA and OFA, and the RPZ, are evident. These are described below.

Runway 14 RSA and OFA

To meet the ARC B-II standards, Runway 14 needs a cleared and graded area 300 feet beyond the end of the runway for the RSA, and an area 300 feet beyond the runway with a width of 500 feet for the OFA. Delaware Avenue cuts diagonally through the OFA, approximately 100 feet from the runway end, crossing the west side of the OFA, entering the RSA approximately 75 feet from the runway end. Substantial rerouting of Delaware Avenue would be required to avoid impacting the RSA, as well as the OFA, unless the threshold is relocated. Additionally, a small portion of the cemetery west of Delaware Avenue is contained within the RSA. An even larger section of the cemetery penetrates the OFA. In total, there are approximately two acres of cemetery that would need to be purchased by the Airport, the graves relocated and cemetery roads rerouted.

Instead of purchasing cemetery property to provide a RSA/OFA, the Airport could relocate (not displace) the Runway 14 threshold 260 feet to the southeast in order to keep the RSA clear of the cemetery. However, this option would increase the impact on homes and buildings on the Runway 32 end, since that would need to be extended 260 feet in order to maintain a runway length of 4,500 feet.

Runway 14 RPZ

Runway 14's RPZ includes approximately six homes and buildings, as well as numerous trees and cemetery roads. Delaware Avenue also intersects the RPZ. Approximately 14 acres in the RPZ is not controlled by the Airport. Avigation easements or fee ownership is recommended.

Runway 32 End

The extended Runway 32 would encroach upon a neighborhood southeast of the Airport. These constraints, both for the RSA and OFA, and the RPZ, are described below.

Runway 32 RSA and OFA

The extended runway would cross the existing access road to Schoenbrunn Village and continue on about 300 feet beyond the existing road. The road could be rerouted beyond the end of the RSA/OFA. Doing so would require moving the road approximately 600 feet to the southeast, where it would still be within the RPZ.

Alternatively, the access road could be abandoned and replaced by a new access road that utilizes Delaware Avenue. Roadway improvements would be required on Delaware Avenue, as well as a new parking lot for Schoenbrunn Village. This option has been discussed with representatives of the Ohio Historic Preservation Office, although they did not indicate their approval of the plan.

The Airport does not own the land upon which the first 130 feet of the runway is situated. Instead, the Airport leases this land, approximately four acres, from the State of Ohio, under a 99-year lease that was recently renewed. The lease gives the City the right to make improvements, including the removal of trees.

The extended runway and increased RSA/OFA boundaries would encompass approximately five homes and buildings on four parcels, in addition to the other eight buildings in the OFA. There are also trees within the OFA boundary. The Airport would need to acquire approximately six acres of land to control the extended RSA/OFA. These six acres include the four parcels with the five homes and buildings as well as portions of five other parcels. This is in addition to the seven acres of the Runway 32 end that the Airport needs under Alternative 1.

Runway 32 RPZ

The area under the Runway 32 RPZ includes a neighborhood with approximately 29 homes and buildings, as well as numerous trees. The likely rerouting of the access road to Schoenbrunn Village would take it through the RPZ. The Airport does not control any of the land under the RPZ, so it would need to acquire avigation easements or ownership in fee of approximately 14 acres.

Other Considerations

As mentioned under Alternative 1, on the northeast side of the runway, there are approximately eight buildings on eight properties that are within the OFA. These buildings would require

demolition or relocation outside the OFA. Additionally, there are numerous trees within the OFA that require removal. Approximately two acres divided among eight parcels of the OFA are not owned by the Airport and would need to be purchased.

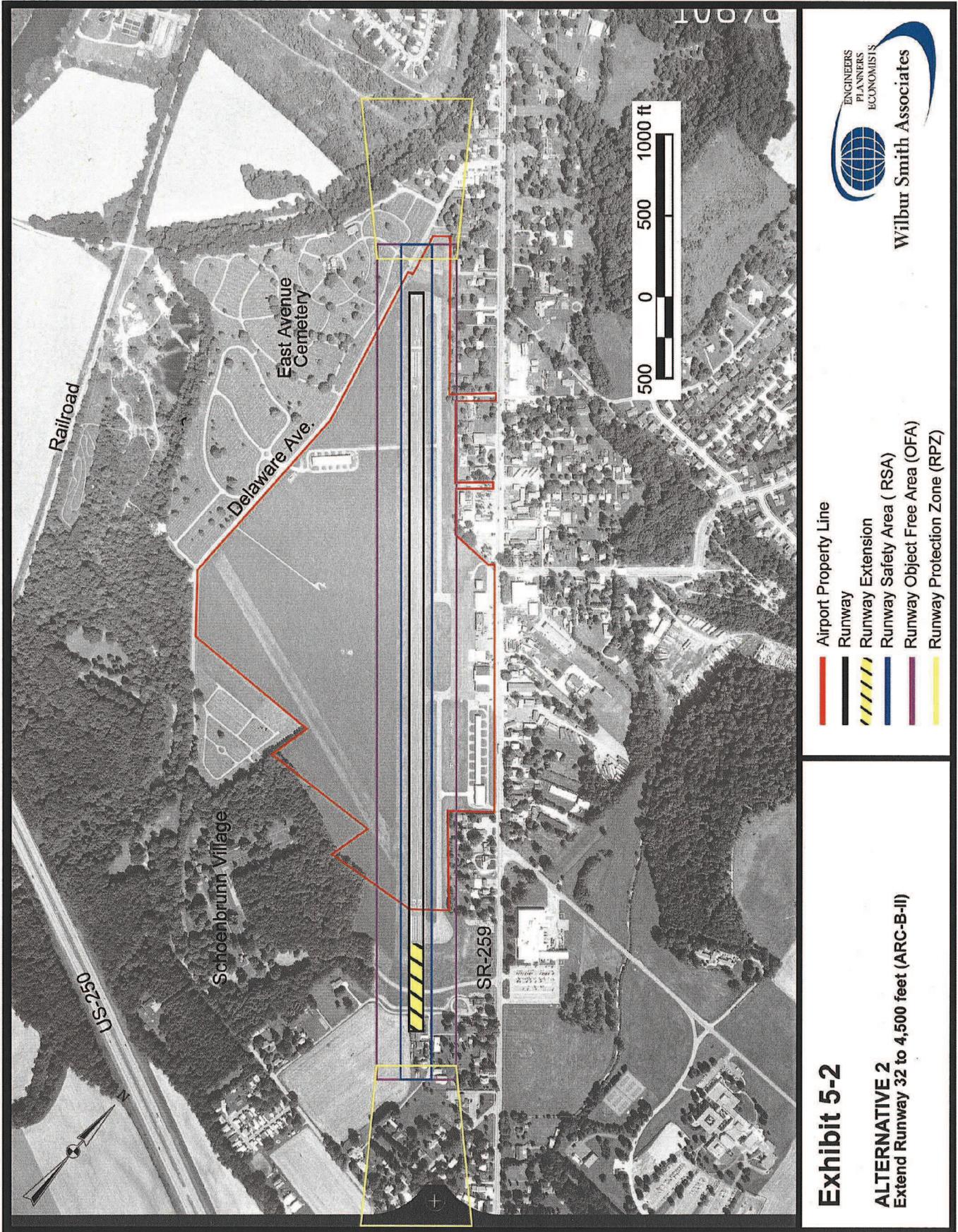


Exhibit 5-2

ALTERNATIVE 2
 Extend Runway 32 to 4,500 feet (ARC-B-II)

- Airport Property Line
- Runway
- // Runway Extension
- Runway Safety Area (RSA)
- Runway Object Free Area (OFA)
- Runway Protection Zone (RPZ)



Both the grass tie-downs and paved tie-downs are within the OFA. All of the tie-downs should be moved beyond the boundary of the OFA. This will render some of the ramp space unusable and limit the number of tie-downs available on the northeast side of the runway.

Summary

In addition to the constraints encountered under Alternative 1, this alternative includes issues associated with extending the runway, RSA, and OFA into Schoenbrunn Village. The RPZ on the extended runway end would also overlie numerous homes. For these reasons, this alternative is not considered practical and further study is not recommended.

5-4-3 Runway Alternative 3 – Extend Runway 14 End to 4,500 feet

This alternative examines the impact from extending the northwest end of the runway (Runway 14) by 550 feet, giving the runway a total length of 4,500 feet. This alternative also assumes that ARC B-II standards will be met. It is assumed that the Airport would remove or relocate any obstructions and purchase any land necessary to meet these standards, including the steps outlined under Alternative 1 related to the Runway 32. The existing constraints are described below and illustrated in **Exhibit 5-3**.

Runway 14 End

The Runway 14 end has a number of existing constraints to the RSA, OFA, and the RPZ. These are described below.

Runway 14 RSA and OFA

The runway extension would result in approximately 400 feet of runway intruding into the cemetery. As with Alternative 1, Delaware Avenue would need to be relocated to prevent it from cutting diagonally through the RSA/OFA. The expanded RSA/OFA would include six homes and buildings. Approximately six acres of land would need to be acquired by the Airport, in addition to the two acres of cemetery needed to bring the existing RSA/OFA into compliance. A substantial portion of this land is the cemetery and would involve the relocation of even more gravesites than under Alternative 1. Roads within the cemetery would also need to be rerouted or closed. The terrain northwest of the runway falls off rapidly, adding to the difficulty of extending Runway 14.

Runway 14 RPZ

The area under the extended Runway 14 RPZ includes a portion of a housing subdivision with approximately 36 homes, as well as numerous trees and roads in the subdivision. The rerouting of Delaware Avenue would likely bring it through the RPZ. Nearly all of the land under the RPZ is not controlled by the Airport, so it would need to acquire avigation easements or ownership in fee of approximately 14 acres.

Runway 32 End

Under Alternative 3, the Runway 32 end has the same constraints as listed under Alternative 1. Those constraints, both for the RSA and OFA, and the RPZ, are repeated here.