

COMMITTEE NOTES

Four Advisory Committee meetings were held during the course of the master plan study. The Advisory Committee was made up of city staff, airport tenants, and representatives of surrounding government entities. The Advisory Committee served as a resource and provided critical review and feedback. The members were welcome to share the findings of the study process beyond the Advisory Committee. In addition, many of the members of the Committee will be involved in the implementation of the master plan recommendations.

ADVISORY COMMITTEE ROLE

The City of Springfield, Aerofinity and Woolpert welcome you to membership on the Advisory Committee. Over the next few months your input will provide important contributions to the Springfield-Beckley Municipal Airport study process. We hope you will find your participation to be an informative and interesting experience as together we develop a vision for the airport's future.

Back in 1946, Henry Addison Beckley was able to pursue the defense landing field project that resulted in the Springfield Municipal Airport—since renamed Springfield-Beckley Municipal Airport—because he held a vision of the assets the airport could provide to the community. Seeing the potential benefits of accommodating the Ohio Air National Guard (OANG) then led Mr. Beckley to play a key role in bringing the 162nd Tactical Fighter Squadron here in 1955. This partnership with the OANG has resulted in facilities that exceed the norm for a general aviation airport: a 9,000-foot primary runway with an Instrument Landing System (ILS) and a 5,500-foot crosswind runway.

The City is undertaking this Master Plan Update with the goal of working with the OANG to secure the future for both civilian general aviation and military operations. Your input will contribute toward a long-term vision that allows both the City and OANG to successfully meet the needs of their users.

Through four meetings and review of the working papers, the Advisory Committee will play an important role in the course of the Springfield-Beckley Municipal Airport Master Plan Update. Our objective is to benefit from the committee's unique viewpoints, have access to the people and

resources the committee represents, work with the committee in a creative atmosphere, and gain committee support in achieving results.

Specifically, your role on the Advisory Committee is to:

Serve as a resource. An airport study can be complicated; there is a great demand for inventory data and other information. Many of you have access to specialized information and can ensure that it is used in the study to its fullest potential. Each of you will provide us with a primary link to various resources.

Get the word out. There may be an interest beyond the members of the Advisory Committee in the findings of the Master Plan. It is important that they have access to the materials that will be sent to committee members. You should feel free to share information about the process with other interested individuals.

Provide critical review. The study team's work needs to be examined closely for accuracy, completeness of details, clarity of thought, and intellectual honesty. We want you to point out any shortcomings in our work and to help us improve it.

Provide feedback. You will provide a forum for presentation of the study team's information, findings, ideas and recommendations during the course of the study. The Advisory Committee meetings will allow you an opportunity to experience the viewpoints, ideas, and concerns of other members directly. In this way, the Committee will serve as a sounding board for the study team's ideas.

Springfield-Beckley Municipal Airport

Act as a think tank. Creative thinking is usually best accomplished by a group of people who represent a diversity of backgrounds and views on a subject. While we are not proposing that the committee author the report, we are encouraging your comments and additions through an early review of the study's working papers.

Make it happen. Each of you will ultimately have a unique role to play in assuring that Springfield-Beckley Municipal Airport meets the aviation demands of the community. Your input is critical in the City's decision to proceed with recommendations of this study process.

The Advisory Committee will operate as informally as possible – no rules, no compulsory attendance, no voting, and no offices.

Committee meetings will be conducted by the study team and will be held at points in the study process when discussion is needed. We will provide you with everything you need to help you do your job. You will be on our general mailing list for the meeting notices and other communications. Whenever possible, we will give you the assistance you need to develop any ideas you would like to bring before the committee.

Finally, you will receive a project workbook at the first committee meeting to hold working papers, committee memberships lists, meeting notes, and other resource materials. The working papers are draft chapters of the Airport Master Plan.

Once again, welcome to the Advisory Committee and thank you for accepting the invitation to participate.



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MEETING MEMO

MEETING

Advisory Committee Meeting
Springfield-Beckley Municipal Airport
Master Plan Update

MEETING DATE

December 10, 2002
10:00 a.m.

MEETING OVERVIEW

Susan Zellers of Aerofinity welcomed the Advisory Committee members and then presented an overview of the master plan process, detailing progress to date and identifying the next steps. The PowerPoint presentation summarized the information provided in the Airport Inventory and Aviation Forecasts Chapter that were distributed in the workbooks.

DISCUSSION SUMMARY

The group discussed timing for future Advisory Committee meetings, as to whether evenings would be a more appropriate meeting time to allow for increased attendance. It was decided that future meetings should be scheduled to begin between 5:30 - 6:00 p.m., avoiding Mondays and Tuesdays. It was suggested that all Airport Board Members be invited to participate on the Advisory Committee since most of the Board is already represented.

During the meeting, several questions were raised. Following is a summary of questions and answers:

- **Will the airport seek input from other sources than the Advisory Committee?**
The airport welcomes input from all interested parties during the master plan process. Committee members are encouraged to share the working papers so that information can be gleaned from as many sources as possible.
- **Will a new document be produced from this process, or will the airport simply be updating the 1992 Master Plan?**
The 1992 Master Plan will be used as a resource; however, upon completion of the study process a new master plan document will be produced.

- Will the airport pursue zoning changes to protect airspace?**
 The Springfield-Beckley Airport Zoning Commission is in the process of reviewing the existing zoning and recommending changes. Federal Aviation Regulations (FAR) Part 77 airspace zoning information from this planning process will be coordinated with the Commission so that the zoning update can incorporate the recommendations from this study.
- The airport has the appearance of being a military facility; will this process provide material that might be used as a marketing/economic development tool to attract corporate and general aviation users?**
 The master plan will include an executive summary that might be used as a marketing brochure. Graphics and other data from the master plan might also be used in a web-based application for economic development. It was also noted that the installation of the airport sign was an important step in identifying the airport as a public use facility.
- Many small users are fearful of using the airport with the military activity. How will the airport market those users?**
 If the general aviation terminal area is relocated, the small users might feel more comfortable in that setting with the military operations in a separate area of the airport. Terre Haute, Indiana was sited as a good example of an airport having a high level of general aviation activity with the piloting training for Indiana State University's aviation program, as well as a military presence with the Indiana Air National Guard on the airport.
- With other local airports aggressively marketing to general aviation users, what marketing does Springfield-Beckley Municipal Airport (SGH) plan to do to attract these users from other airports?**
 The growth expectations are shown in the low, mid and high forecasts. The low being status quo with nothing being done to attract new users, and the high being what activity might be expected with an aggressive marketing and development plan.
- What has the operations data shown since the early 1990s?**
 With much of the general aviation activity occurring in the evenings and weekends when the Airport Traffic Control Tower (ATCT) is closed, it is difficult to determine the number of actual operations. Because detailed historic records are not available, it has been assumed that the operations forecast in the 1992 Master Plan are a reasonable estimate of historic operations data.
- What are users willing to pay to have improvements at SGH?**
 The user surveys that have been completed and returned indicate that while hangar improvements are desired, most users are interested in paying the lower current rental rates. Most general aviation users select an airport based on convenience and the airport having the desired facilities. Developing corporate hangars might attract more business users. While corporate activity is considered to have a greater economic impact, it was noted that the small users have a greater impact than what meets that eye because they promote the image of an active airport.

- **There has been some discussion about updating Jackson Road south of the airport; however, the discussion was put on hold due to the master plan study being conducted. Will the ALP show access to the airport?**

One focus of this master plan process will be to analyze the existing terminal area and determine if the airport should relocate the general aviation facilities to allow the OANG to expand their operations. Roadway access will be one of the items considered in examining other locations around the airport for general aviation terminal facilities.

- **Will recommendations be made to acquire more land south of the airport, or will the study look at existing land?**

The study will look at the existing airport property and identify if it would be desirable to acquire additional land to accommodate longer-term development.

- **Zoning and planning can only accomplish so much, how will the airport meet the challenge of controlling the surrounding land use?**

Other airports have been successful by identifying future land needs and approaching surrounding landowners early on to express an interest in acquiring land if the opportunity presents itself.

- **Will future material be provided to the Advisory Committee in advance of the meetings to allow time for review?**

Future working papers will be provided in advance of the meetings. Material was not mailed for the first meeting so that workbook distribution could occur in person. Comments on material may be provided via e-mail, fax or standard mail.

- **What is the first assignment for the Advisory Committee?**

Read the chapters.

- c: All Advisory Committee Members
All Workbook Holders

**SPRINGFIELD-BECKLEY MUNICIPAL AIRPORT
 MASTER PLAN UPDATE
 ADVISORY COMMITTEE MEETING**

December 10, 2002

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MEETING MEMO

MEETING	Second Advisory Committee Meeting Springfield-Beckley Municipal Airport Master Plan Update
MEETING DATE	June 25, 2003

DISCUSSION SUMMARY

The second advisory committee meeting was held on June 25, 2003 at 5:30 pm for the purpose of overviewing the information in the Facility Requirements and Alternatives Analysis working papers for the Springfield-Beckley Municipal Airport Master Plan Update. Fourteen people were in attendance, see attached sign-in sheet.

The presentation started with a brief overview of the airport inventory, aviation forecasts, and users survey that were used as the basis of identifying the facility requirements. The airside and landside facility requirements were then overviewed.

The alternatives analysis was approached with the recognition that there may be changes to the general aviation terminal area. Therefore, alternatives to increase the utility of the airfield were considered independently of the terminal area alternatives.

In summary the recommended alternatives to increase the utility of the airfield are:

- Improve the runway safety areas
- Modify Taxiway C/H connector
- Acquire property interest in unprotected runway protection zones
- Increase control in runway protection zones
- Preserve space and pursue improved instrument approaches
- Maintain existing pavements

The general aviation (GA) terminal area alternatives were considered in three phases:

- Ability to meet required and desired attributes for terminal area
- Airport traffic control tower line-of-sight constraints
- Ability to accommodate future terminal area needs

One of the challenges of the GA terminal area analysis, and a concern expressed during the advisory committee meeting, was a lack of information from the Ohio Air National Guard (OANG) for use in considering the GA terminal alternatives. Thus, preliminary information from prior OANG presentations was used to formulate three GA terminal area alternatives with potential layout and estimated development cost. These alternatives are:

- Remain in existing terminal area
- Share existing terminal area with OANG
- Relocate general aviation terminal area to south side of Runway 6-24

One of the key issues identified in the GA terminal area analysis was that the location and height of the ATCT has a significant impact on the available development area, due to the need to provide an unobstructed line-of-sight view for the controllers to the airfield movement areas (runways and taxiways).

To identify a recommended general aviation terminal area alternative the following steps were identified:

- Consider, compare and coordinate GA alternatives with OANG alternatives
- Understand OANG financial participation in GA relocation
- Determine most operationally feasible and cost-effective solution for City and OANG

The OANG has completed their master plan update process and recently provided a copy of their study to the City. The City provided a copy of the OANG master plan to Aerofinity at the meeting, and will provide copies to the Airport Board. Also, the City will request that the OANG present their Master Plan to the Airport Board and work to schedule this presentation in the next several weeks.

Subsequent to the advisory committee meeting, Aerofinity has reviewed the OANG master plan. It does not provide much additional detail regarding the basis of the recommendations for the OANG use of the existing GA terminal area. The attached memo summarizes the information from the OANG master plan and the additional information desired as it relates to the GA terminal area to determine how the OANG and City's GA plans could be compatible.

Please send any comments on the working paper chapters or any addition or changes to this meeting memo to Susan Zellers, Aerofinity, Inc., 51 S. New Jersey Street, 2nd Floor, Indianapolis, IN 46204, 317.955.8395 x 303 phone, 317.955.8479 fax, or szellers@aerofinity.com. A comment sheet has been enclosed for your convenience.

**SPRINGFIELD-BECKLEY MUNICIPAL AIRPORT
 MASTER PLAN UPDATE
 ADVISORY COMMITTEE MEETING**

June 25, 2003

	Name	Representing	Telephone/Fax/E-Mail
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MEMORANDUM

TO | Airport Master Plan Advisory Committee

FROM | Susan J.H. Zellers, P.E.

DATE | July 8, 2003

RE | Review of OANG Master Plan

The Ohio Air National Guard (OANG) recently provided a copy of their *Preliminary Report, Master Plan Update Ohio Air National Guard, Springfield-Beckley Municipal Report*, February 2003, to the City of Springfield. A review of the preliminary report has been conducted. The goal of this review was to gather additional information on proposed OANG facilities that have an impact on the general aviation (GA) terminal area alternatives being considered as a part of the City's Airport Master Plan Update.

The OANG examined three alternatives to identify a preferred development alternative. Attached is a copy of the preferred short-range (Figure 1-6 repeated as Figure 4-1) and long-range development plan (Figure 4-4). Both of these plans include use of a portion of the GA terminal area for OANG facilities. However, much of the OANG space within the GA terminal area is proposed to remain open space through the long-term plan.

Based on the discussion at the Advisory Committee meeting, it appears that relocating the GA terminal area to the south side of Runway 6-24 may be deemed too expensive to be cost effective in the near future. Thus, it is important for the City to preserve maximum development area and flexibility within the existing terminal area to accommodate the GA needs over the 20-year master planning period.

Unfortunately, the OANG's master plan does not provide the detailed information needed to assess compatibility and OANG land acquisition needs with GA development. To fully assess the interaction of the OANG's plans and potential GA development alternatives, the following information is needed.

Airport Traffic Control Tower

The OANG's proposed Airport Traffic Control Tower (ATCT) location is similar to the north tower location (north of existing t-hangars) considered in the GA alternatives, but no information regarding the proposed height is included in the OANG report. This location was used in all the OANG alternatives. The only rationale mentioned for this location was that it is on undeveloped land adjacent to the t-hangars. This proposed location would virtually necessitate the replacement of the existing GA terminal apron, as well as the relocation of Taxiway F to maximize the potential GA development area.

To fully understand and assess the proposed ATCT's location and line-of-sight impacts on proposed GA development, the following information is needed.

- What is the proposed eye height for the ATCT as shown on the OANG plan?
- Why was the ATCT location a constant in the alternatives?
- Have other ATCT sites been considered? If yes, what type of study was conducted? Could a copy of that study be provided to the City?
- Why is the proposed location preferred?
- Has a line-of-sight analysis been conducted for this location?
- If the rationale was using undeveloped property, but now it is proposed to remove the t-hangars, what is the optimal replacement ATCT location?

POL Operations and Fuel Farm

POL Operations and Fuel Farm are proposed to be located within the GA terminal area.

- Since the relocation of SR 794 is included as a part of the preferred development alternative potential opening additional development area, why is the GA terminal area still the most desirable location?
- OANG Alternatives 1 and 3 identified locations for these facilities outside the existing GA terminal area. Would it be more cost effective to locate these facilities on undeveloped property north of existing SR 794 (Alternative 3) or in another location on the base (Alternative 1) than to remove and replace the existing t-hangars?

Deployment Facility

It appears the Deployment Facility is proposed as a reuse of the existing Egairo hangar.

- Could the Deployment Facility be located elsewhere on the base if the Egairo hangar was to remain a GA facility?

Open Space in Existing GA Terminal Area

It appears the approximate limit of the OANG future development area was developed for Alternative 2 and unchanged for the preferred development even though the POL operations and fuel farm layout was revised. The proposed OANG area within the existing terminal area is greater than that assumed in the Share Existing Terminal Area alternative in the City's master plan. Under the Share Existing Terminal Area alternative there is already not enough space to accommodate the 20-year facility requirements.

- Can the open space portion of the desired OANG area in the existing GA terminal area be reduced?

- Can the size and shape of the proposed OANG area in the existing GA terminal area be modified to lessen the constraints on GA development?

Anti-Terrorism Standoff Distances

The Antiterrorism Standoff Distances exhibit, Figure 1-5 and repeated as Figure 3-4, shows all the Building Standoff areas north of the GA terminal area within the OANG leasehold.

- Does this mean there are no force protection zone issues between the existing OANG leasehold and GA terminal area?
- Are the building standoff and perimeter standoff distances related? If so, how?

Operational Constraints

The OANG master plan identifies that “the installation shares the airfield with the Springfield-Beckley Municipal Airport. The Springfield-Beckley Municipal Airport operates under Federal Aviation Administration (FAA) requirements outlined in *FAA Advisory Circular 150/5300-13* that addresses airfield design and height restrictions.” However, the discussion of these restrictions and Figure 1-4 repeated as Figure 3-2 are not completely accurate.

Obstacle Free Zone (OFZ) applies to the runways and inner OFZ and inner transitional OFZ only apply to precision runways (Runway 24). However, the OFZs height restrictions are generally less restrictive for considering building development than the Federal Aviation Regulations (FAR) Part 77.

FAR Part 77 primary surface is only 500 feet wide each side of runway centerline, not the 750 feet depicted on Figures 1-4 and 3-2. From the edge of the primary surface, the allowable height within the transitional surface increases 1 foot vertically for every 7 feet horizontally. Based on the FAR Part 77 surfaces, the height restriction lines are closer to the runway than shown on Figures 1-4 and 3-2.

Runway safety area (RSA), runway visibility zones (RVZ) and runway protection zone (RPZ) are areas that need to be kept clear. However, the RVZ is related to aircraft on one runway seeing an aircraft on the intersecting runway and not the ATCT line-of-sight.

- Are the primary surface and height restrictions as shown on Figures 1-4 and 3-2 intended to be based on FAR Part 77 regulations, or do they represent some military standards?
- If the intent is to use FAR Part 77 regulations, could the use of the correct primary surface size allow for changes in the proposed plan?

SR 794 Relocation

SR 794 is proposed to be relocated with the existing route becoming part of the OANG base circulation system.

- What is the time line proposed for this relocation?
- How is the relocation proposed to be funded?
- As a part of this relocation, can SR 794 in the Runway 24 approach be lowered to achieve the lowest Category I Instrument Landing System minimums?

On page 2-3 of the OANG's master plan it cites that the "City of Springfield is presently completing an update to its 1992 master plan for the airport, a process that includes close cooperation between the leadership at the City of Springfield and the 178th FW. Subsequent versions of the Ohio ANG Master Plan update report will include a summary of recommendations from the airport's master plan." The OANG master plan process was initiated before the City's Airport Master Plan Update. However, to identify a compatible vision for both the City and OANG, additional information is needed from the OANG to resolve the above issues. In addition, as part of the implementation planning for the City's airport master plan update, an understanding of the anticipated OANG financial participation in any relocation of GA facilities will be needed.



ANTITERRORISM STANDOFF DISTANCES

Ohio Air National Guard
Springfield-Beckley Municipal Airport
Springfield, Ohio

LEGEND

-  Building Standoffs
-  Perimeter Standoffs



Graphic Scale in Feet





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MEETING MEMO

MEETING

OANG Presentation to Airport Board, City Staff, and Master Plan Airport Advisory Committee

MEETING DATE

July 23, 2003

DISCUSSION SUMMARY

As follow-up to the June 25, 2003 Airport Master Plan Advisory Committee meeting regarding development alternatives for the City's Airport Master Plan, the Ohio Air National Guard (OANG) was requested to present their updated base master plan to the Airport Board, City Staff and Advisory Committee. In response to this request, on July 23, 2003, Col. Richard Lohnes of the 178th Fighter Wing presented the preferred short-term and long-term plan for the base. Twenty people were in attendance at the meeting, see attached sign-in sheet.

Presentation

Col. Lohnes' presentation focused on proposed development identified for outside the OANG's current lease area. This new development includes, a replacement airport traffic control tower (ATCT), and Petroleum, Oil and Lubricants (POL) operations and fuel farm area proposed in the existing general aviation (GA) t-hangar area. It is also proposed that the OANG reuse the Egairo hangar as a deployment facility. These development items within the existing GA area are part of the short-term development plan. The long-term development plan includes a relocation of SR 794 and development of additional "campus" facilities on the north side of the existing SR 794. Two key items considered in the OANG's master plan were force protection and maximizing the base utility for consideration during a BRAC review.

As part of his presentation, Col. Lohnes explained the basis for proposed short-term development items. A replacement ATCT is needed to provide the space necessary to accommodate the new air traffic control equipment. The replacement ATCT is to be funded

next year. The OANG's proposed location for the replacement ATCT is north of the t-hangars. The replacement ATCT is anticipated be approximately five stories tall.

The existing POL is in need of replacement and its existing location near SR 794 makes it less secure than other potential locations. The munitions storage facilities (to be relocated within the existing OANG lease, but limiting potential relocation options for the POL) also need to be upgraded. To accommodate these development items, the Communication Units need to be relocated across SR 794.

Meeting Discussion

While an understanding of the basis for the proposed development items assists in understanding the OANG base master plan recommendations, most of the issues identified in the July 8, 2003 memorandum, *Review of OANG Master Plan*, distributed to the Master Plan Advisory Committee, still need to be addressed.

The people in attendance at the meeting agreed it would be ideal to relocate GA to the south side of Runway 6-24 to maximize growth potential for both GA and the OANG; however, financial considerations may eliminate this alternative. If GA needs to remain on the north side of Runway 6-24 preserving maximum development area is essential and is impacted by the location and height of the ATCT as described in the Master Plan Alternatives Analysis Chapter.

With the ATCT to be funded next year, resolving its location and proposed height is urgent, as its location, and particularly its height, greatly impact the general aviation development potential within the existing terminal area. The replacement ATCT, as proposed, is to be about 5 stories tall. In the airport master plan alternatives, an ATCT in the same proposed location was studied, but with a controller eye height of approximately 100 feet (approximately 10 stories) in order for development to be feasible along Runway 15-33. Even with an eye height of 100 feet, larger aircraft (tall heights more than about 10 feet) could cast a shadow onto (block the view of) Taxiway A potentially rendering the existing apron unusable.

Since the replacement ATCT is to be funded by the OANG, less coordination with the FAA will be required than if it was being constructed with FAA dollars. However, FAA airspace approval of the replacement ATCT, by showing it on an Airport Layout Plan (ALP) with a line-of-sight study for review, in addition to filing an FAA 7460 form for construction on airports is needed.

Subsequent to the meeting, *FAA Order 6480.4, Airport Traffic Control Tower Siting* was consulted. This Order provides mandatory and non-mandatory guidance to be used in siting an ATCT on an airport as identified below.

Mandatory Siting Requirements

- Maximum visibility of airborne traffic patterns must be available. Primary consideration must be given to the local control position of operations; however, all

operating positions should have the capability. A clear, unobstructed and direct view of the approach to the end of the primary instrument runway and all other active runways and land areas should be available.

- Complete visibility must be available to all airport surface areas utilized for movement of aircraft, which are under the control of the airport traffic control tower. Primary consideration must be given to the air traffic ground control position of operations; however, all operating control positions should have this capability. A clear, unobstructed and direct view of taxiways and runways should be available.
- The site plot must provide sufficient area to accommodate the initial building and any planned future extensions, personnel and facility vehicle parking, fuel storage tanks, exterior transformers etc., as dictated by location.
- *Federal Aviation Regulations, Part 77, Objects Affecting Navigable Airspace*, including all amendments, must be complied with unless deviations are absolutely necessary to meet the other mandatory siting requirements given above.
- The tower must not be sited where it will derogate the performance of existing or planned electronic facilities (ILS, TVOR, RTR, etc.)

Non-mandatory Siting Requirements

- Depth perception of all surface areas to be controlled should be available. This is the ability to differentiate the number and type of grouped aircraft and/or ground vehicles and to observe their movement and position relative to the airport surface areas. Perception is enhanced where the controller's line-of-sight is perpendicular or oblique, not parallel, to the line established by aircraft and/or ground vehicle movement, and where the line-of-sight intersects the airport surface at a vertical angle greater than 35 minutes.
- The tower cab should be orientated to face north or alternatively east, south or west, in that order of preference for control tower in the northern hemisphere. In areas where snow accumulates on the ground surface, a southern orientation should be avoided. Orientations that will place the view of the runway approach in line with a rising or setting sun should also be avoided.
- Visibility should not be impaired by direct or indirect external light sources. Such sources may be ramp lights, parking area lights, and reflective surfaces.
- Visibility should be available for all ground operations of aircraft and to airport ground vehicles on ramps, aprons, tiedown areas, and test areas.
- Consideration must be given to local weather phenomena to preclude restriction to visibility due to fog or ground haze.
- Exterior noise should be at a minimum and sites should be evaluated through a comparison of expected noise levels at each location.
- Access to the site should avoid crossing areas of aircraft operations.
- Consideration should be given to planned airport expansion as shown on the airport master plan. Particular attention should be given to future construction of buildings, hangars, new or extended runways and taxiways, etc. to preclude the necessity for relocation of the control tower at a future date.

- The tower should be sited in an area that is relatively free of jet exhaust fumes and impairments to visibility such as industrial smoke dust and fumes.

A brief review of the siting criteria with regard to the City's master plan alternatives to date identified concerns with the proposed ATCT location being able to provide an unobstructed view of all movement areas (larger business aircraft parked on the terminal apron would shadow Taxiway A), and not precluding future construction within the existing general aviation terminal area, particularly if GA needs to remain on the north side of Runway 6-24. Another concern may be the potential for industrial fumes from the POL and fuel farm that is proposed to be located between the ATCT and the runway.

To complete the City's Airport Master Plan update and develop a compatible vision for GA and the OANG at the Springfield-Beckley Municipal Airport, additional information is needed from the OANG to resolve the ATCT concerns and other issues identified in the July 8, 2003 memo reviewing the base master plan. In addition, as part of the implementation planning for the City's airport master plan update, as well as negotiating additional OANG lease areas, an understanding of the anticipated OANG financial participation in any relocation of GA facilities will be needed.

Follow-up Actions

Assistant City Manager, Jim Bodenmiller and Col. Lohnes are to establish a joint effort to coordinate the OANG's and City's master plans. This coordination effort should address the issues identified in the July 8, 2003 memo and address OANG financial participation in any GA relocation. A first step in this effort is to obtain a copy of the OANG's ATCT siting report for use in the City's Airport Master Plan Update.

Before the OANG starts design of the replacement ATCT, a review of the proposed ATCT should be conducted with regard to the more recent findings of the OANG's base master plan and City's airport master plan and to obtain FAA airspace approval of the proposed.

cc: Master Plan Airport Advisory Committee

OANG Presentation

July 23, 2003

Sign-In

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MEMORANDUM

TO | Airport Master Plan Advisory Committee

FROM | Susan J.H. Zellers, P.E.

DATE | April 5, 2004

RE | Analysis of New ATCT Site

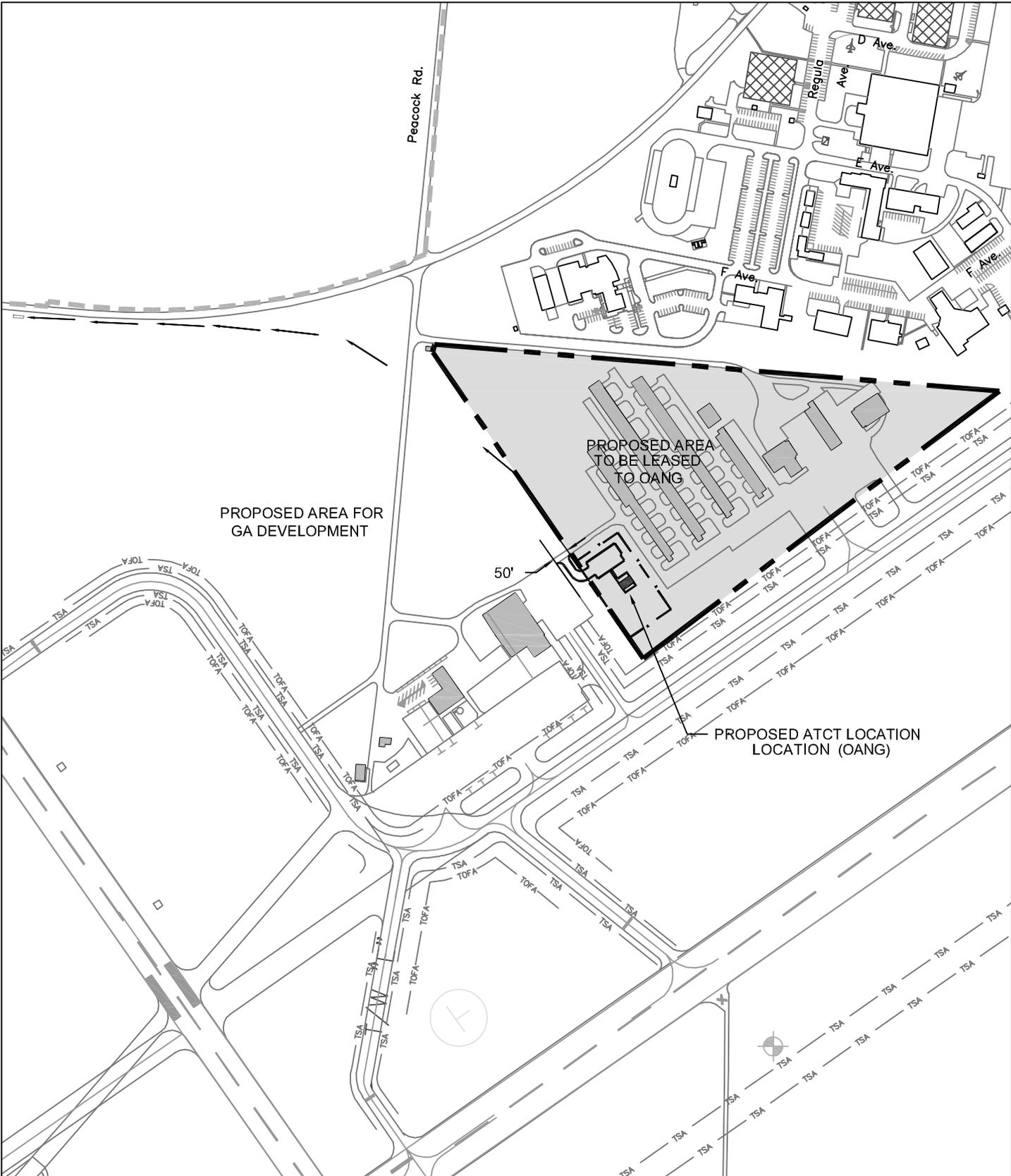
Selected ATCT

In December 2003, subsequent to their *June 20, 2001 Statement of Intent for Proposed Construction of New Control Tower at Springfield ANGB, Ohio*, the Springfield Ohio Air National Guard (OANG) identified an additional preferred airport traffic control tower (ATCT) location. This location is between the existing t-hangars and fixed base operator apron, as shown on **Exhibit 1**.

This location uses the "share existing terminal area" concept, with the western portion of the existing terminal area to be retained for general aviation use and the eastern portion to be leased to the OANG, as shown on **Exhibit 1**. Initially only the ATCT site will be leased to the OANG. As the t-hangars, Maintenance Hangar #1 and Egairo hangar are relocated from the existing t-hangar area, those sites will then be leased to the OANG. This ultimately results in the ATCT site being within the continuous OANG leasehold. The exact division between the area for general aviation and the area for the OANG is one of the details to be coordinated between the City and OANG. This analysis should assist in that coordination.

Information from the OANG's preliminary engineering process has identified the proposed finished building floor elevation of the ATCT to be 1,045 MSL with the cab floor of the ATCT 69 +/- feet above the building floor. The Federal Aviation Administration (FAA) suggests using five feet above the cab floor elevation as an estimate of the controller eye height, resulting in a controller eye height of 1,119 feet MSL ($1,045' \text{ MSL} + 69' \text{ AGL} + 5' \text{ AGL} = 1,119' \text{ MSL}$) for purposes of this line-of-sight analysis.

The new ATCT line-of-sight has been reviewed from a general aviation development perspective. The most restrictive line-of-sight is to the ground of the Taxiway F safety area and to the approach to Runway 15. Although the facility requirements analysis of the master plan did not recommend a precision approach to Runway 15, to allow maximum flexibility for the



North



Scale
1" = 400'



DRAFT

EXHIBIT 1
Proposed ATCT Site
OANG

airport, a precision approach surface has been used to identify areas available for general aviation development. There is minimal difference between the nonprecision approach and precision approach because the inner width of 1,000 feet closest to the runway end is set by the proposed precision approach to Runway 33.

Selected ATCT Line-of-Sight

Exhibit 2 shows the allowable height for objects, buildings or aircraft tails, in the general aviation expansion area with Taxiway F in its present location. However, Taxiway F could also be relocated from its existing 725-foot centerline to centerline separation from Runway 15-33 to 300-foot centerline to centerline separation. As shown on **Exhibit 3**, this opens up approximately four acres of additional development area with usable allowable height (20 feet or more). This increase is less than when the ATCT was proposed north of the existing t-hangars because more of the allowable height is dictated by the need to see the approach, which does not change with the relocation of Taxiway F. Per the cost estimates in the draft Alternatives Analysis chapter, the relocation of Taxiway F is approximately \$1 million. With the new ATCT location, the relocation of Taxiway F to gain approximately four acres does not appear cost effective and will not be considered further.

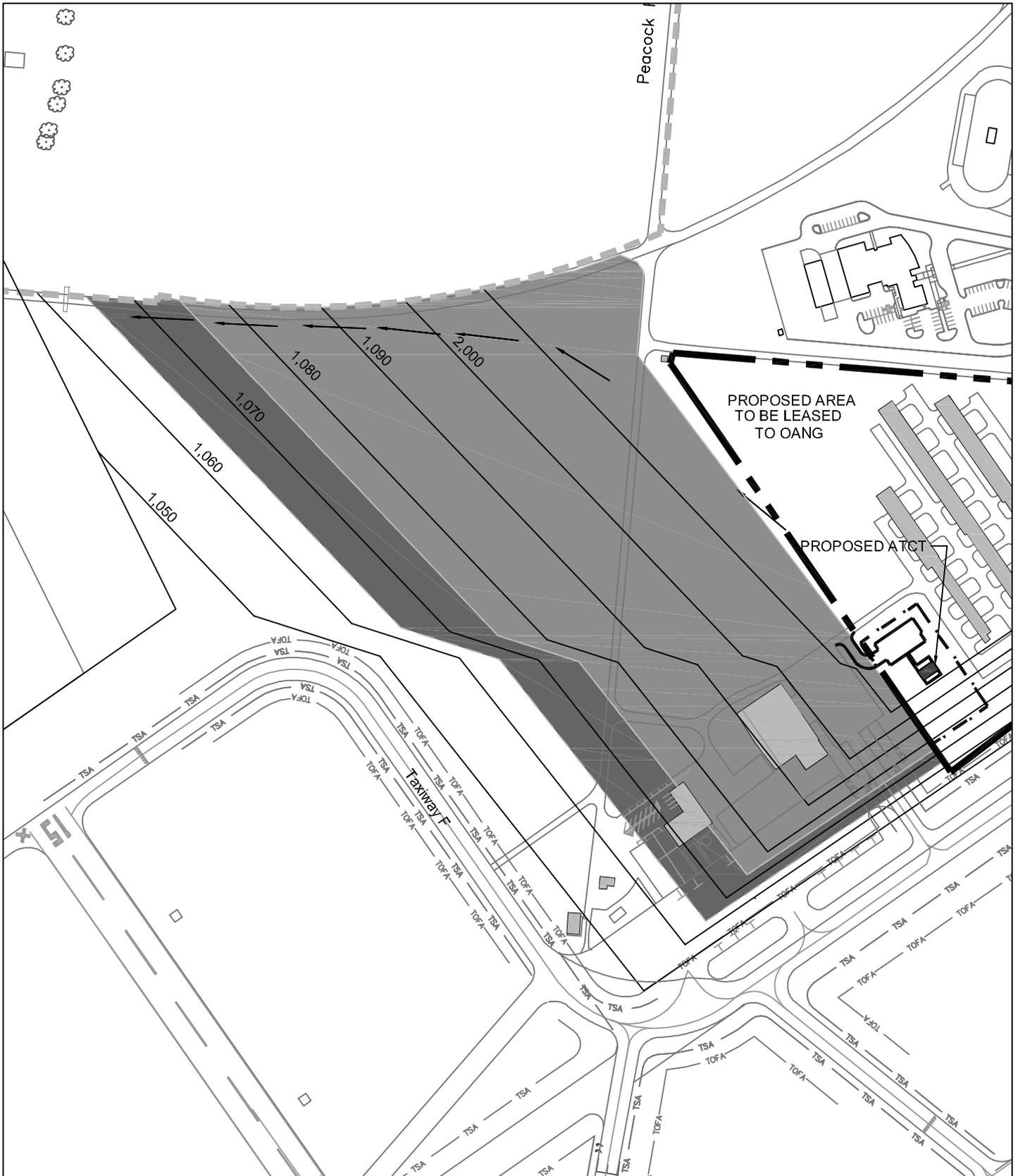
General Aviation Development Potential

To determine the general aviation development potential, it has been assumed that Taxiway F and State Road 794, or a similar road, will remain in place west of the Peacock Road intersection.

Apron Area

One of the most pressing needs in identifying a layout for relocating the general aviation facilities is apron replacement/expansion area. This apron is envisioned to serve primarily transient aircraft, but may also serve locally based aircraft that are stored outdoors. Since the apron is a large facility, its location impacts the layout of the other replacement general aviation facilities. The following factors were considered in identifying the best location for the additional apron area.

- To accommodate transient aircraft, the apron area should be located in close proximity to the terminal building.
- At least 25 feet allowable height should be available on the apron to accommodate airport reference code (ARC) C-II business jets.
- Facility requirements identified the need for up to 12,000 square yards of apron. At least 5,700 square yards of apron is needed immediately to replace the unusable terminal apron due to the expansion of Taxiway A and to replace the based aircraft apron near the t-hangars.
- Up to 6,500 square yards of terminal apron remain usable with adequate allowable height, although the type of aircraft that should park near the terminal building is limited due to concern with jet blast and the large glass windows of the terminal.



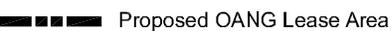
North



20' - 30' Allowable Height



30' + Allowable Height



Proposed OANG Lease Area

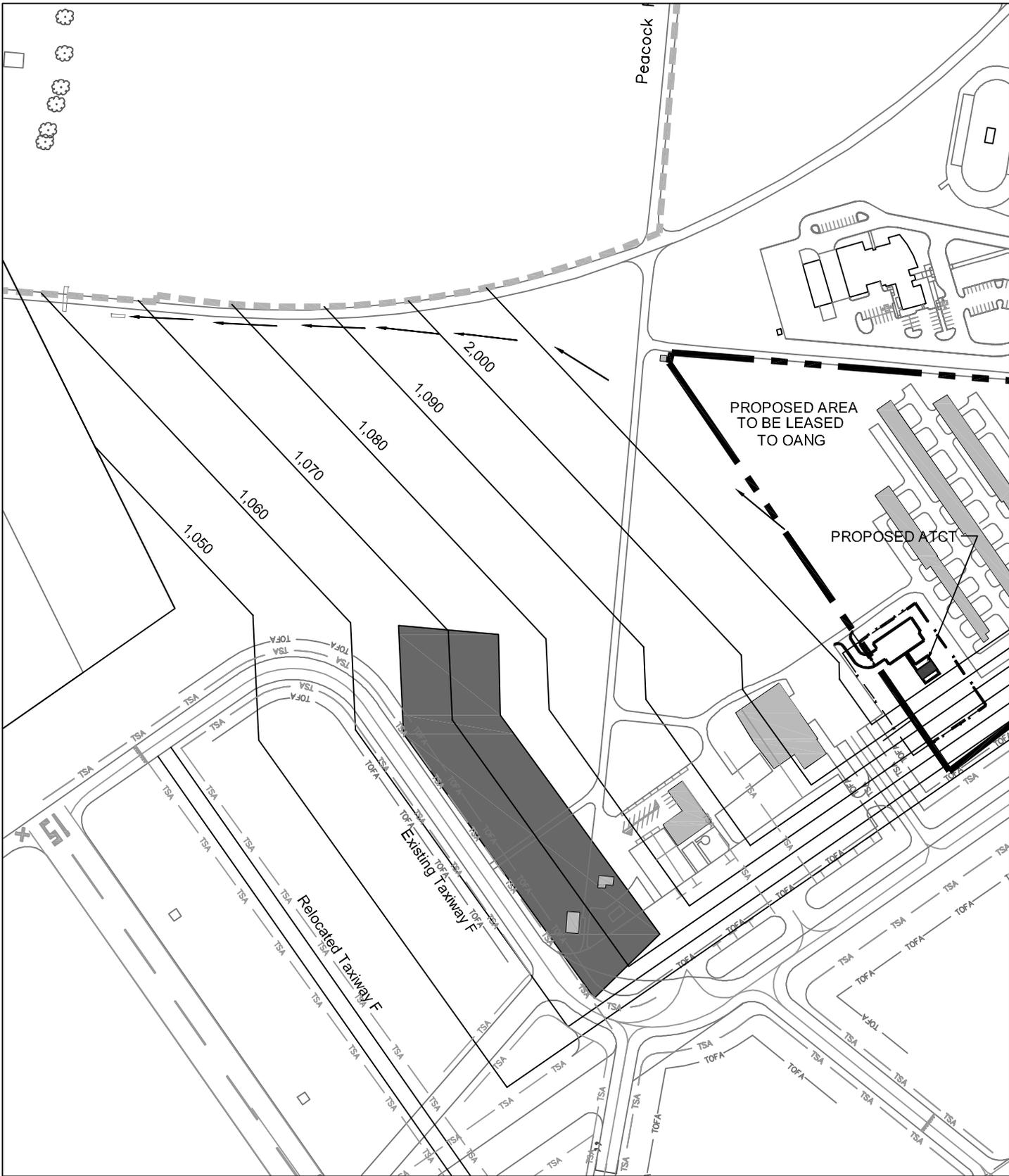


Scale
1" = 300'

Note: Ground elevation in terminal area approximately 1,044 msl

DRAFT

EXHIBIT 2
Line of Sight
No Changes to Taxiway F



North



Additional Development Area with 20'+ Allowable Height



Proposed OANG Lease Area



Scale
1" = 300'

Note: Ground elevation in terminal area approximately 1,044 msl

DRAFT

EXHIBIT 3
Line of Sight
With Changes to Taxiway F

Three potential locations have been identified for the replacement apron area.

1. Between the Terminal Building and Maintenance Hangar #2
2. Northwest of the Terminal Building
3. Between the Terminal Building and Taxiway F

1. Replacement Apron between Terminal Building and Maintenance Hangar #2

As shown on **Exhibit 4**, up to 4,800 square yards of apron could be developed between the terminal building and Maintenance Hangar #2, which could be further expanded to the northwest. However, this area is only 182 feet wide. Providing a 115-foot wide ARC C-II taxilane results in only 67 feet of space available for parking aircraft. In addition, with the location of the existing vehicle maintenance bays in the terminal building, access would need to be provided for the City vehicles. This location would also require the airport beacon to be relocated and a portion of the existing terminal apron would be unusable to provide the taxilane access to this new apron area.

Advantages

- Close proximity to terminal building
- Adjacent to existing apron
- Adequate allowable height
- Area could be available immediately

Disadvantages

- Limited gain in additional parking area as ratio of total apron
- Mixing of city vehicles with aircraft to access maintenance bays and park heavy vehicles
- Jet blast could be a concern between the two buildings
- Loss of some existing apron to gain access to expansion area
- Airport beacon would need to be relocated

2. Replacement Apron Northwest of Terminal Building

Another potential location identified for additional apron area is northwest of the terminal building as shown on **Exhibit 4**. This location would be associated with the replacement general aviation facilities. While this location could be sited to provide adequate allowable height, it would not be contiguous with the existing terminal apron and would not be readily visible from the existing terminal building.

Advantages

- Could be sited with adequate allowable height
- Could be constructed on undeveloped land

Disadvantages

- Farther from terminal building
- Not visible from primary runway or terminal building, would need to fence for security
- Not adjacent to existing terminal apron
- Not as user friendly

3. Replacement Apron between Terminal Building and Taxiway F

The alternative of wrapping the terminal apron around the west side of the terminal building was also examined as shown in **Exhibit 4**. This location would keep all of the apron area contiguous. To use this area, the electrical vault and potentially the fuel facilities would need to be relocated. The OANG is planning to relocate their weather station that is in this area to the new ATCT site. However, adequate allowable height for parking ARC C-II corporate aircraft would only be available in this area with the relocation of Taxiway F to a 300-foot separation from Runway 15-33. Therefore, this location is not feasible in the foreseeable future.

Recommended Apron Expansion Area

It is recommended that the replacement apron area be located Northwest of the Terminal Building – location #2. An apron in this location could be sited to have adequate allowable height for ARC C-II corporate aircraft and would be usable as soon as the new ATCT is open. The layout of the apron in this area should be coordinated with the replacement general aviation facilities. While apron area could be developed between the terminal building and Maintenance Hangar #2, the gain in actual parking area is very limited after providing the necessary taxilane access.

Layout of General Aviation Replacement Facilities

In the September 8, 2003 memo reviewing potential ATCT sites from the initial OANG tower study, two potential layouts, with and without the relocation of Taxiway F, were identified. The new ATCT location changes the available allowable height over the expansion area and greatly reduces the viability of relocating Taxiway F. Therefore, the layout without the relocation of Taxiway F has been refined to best accommodate the new ATCT location.

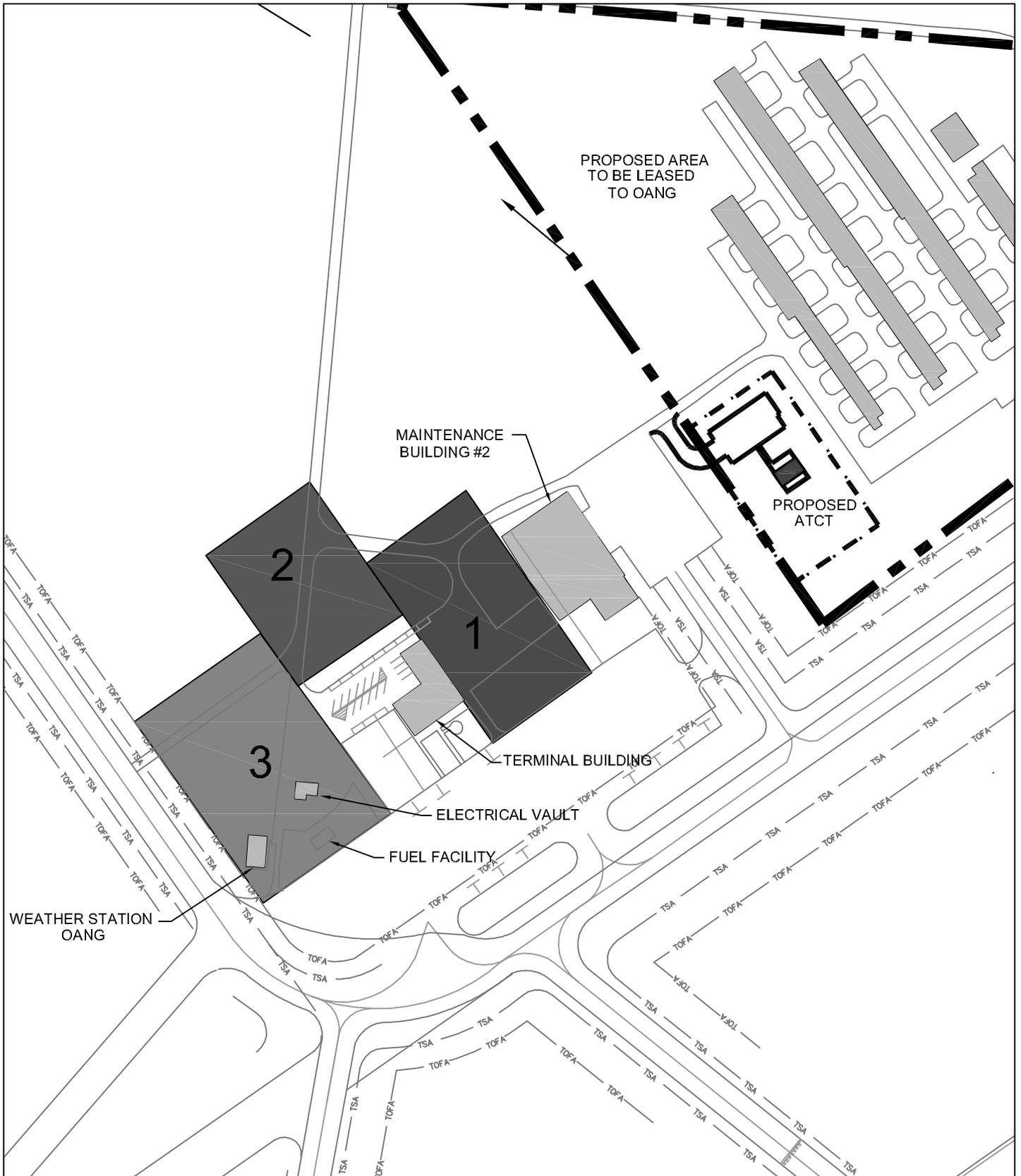
At a minimum, the general aviation replacement facilities need to provide:

- At least 5,700 square yards of apron
- 61 t-hangar units
- 2 corporate (conventional) hangar facilities

It would also be desirable to allow space to accommodate the 20-year facility requirements. In addition, the City uses some of the older t-hangar units for equipment storage. With new t-hangars, this storage could be replaced with special end units incorporated as part of the t-hangar buildings or in a separate equipment storage building.

For planning purposes it has been assumed that t-hangars would be 20 feet tall at the peak. Nested t-hangars, (hangars where the tail and wing sections abut rather than the tail section extending the width of the building) provide the most t-hangars units in the least space and minimize the taxilane that needs to be developed. It has been assumed that the corporate hangar facilities would be at least 30 feet tall at the peak. The existing corporate hangar facilities have apron area associated with the hangar.

To maximize the general aviation development potential and minimize the initial development costs, as appropriate, the following goals were identified for the revised layout:



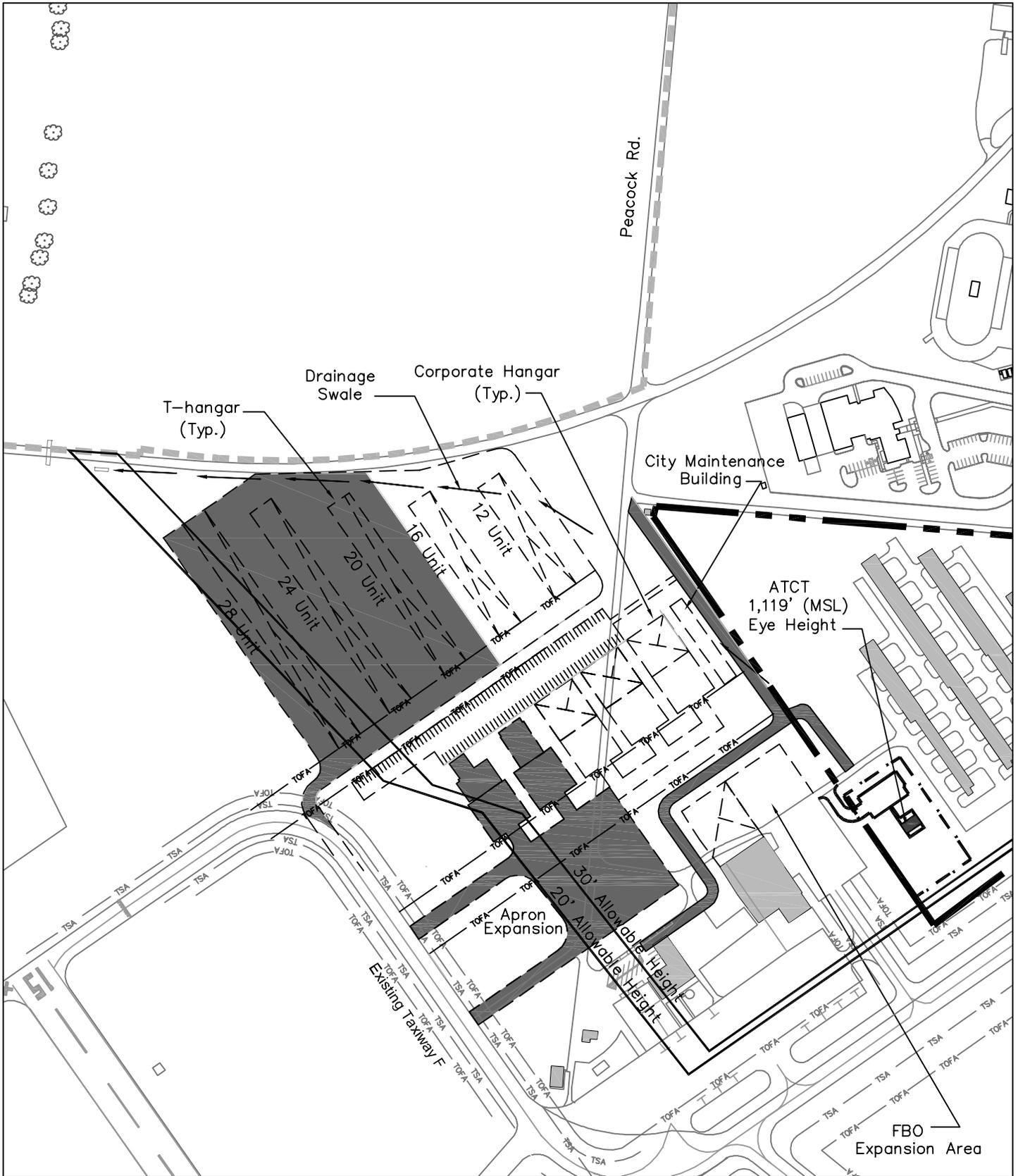
- North
- 1) Between Terminal Building and Maintenance Hangar #2
 - 2) Northwest of Terminal Building
 - 3) Between Terminal Building and Taxiway F

DRAFT

EXHIBIT 4
Apron Areas



Scale
1" = 200'



North

- Proposed OANG Lease Area
- Immediate Development



Scale
1" = 300'

Note: Ground elevation in terminal area approximately 1,044 msl

DRAFT

EXHIBIT 5
Proposed Layout
for Replacing Existing Hangar Facilities

- Retain existing facilities as feasible within the general aviation expansion area, i.e. auto parking, apron area, terminal building, Maintenance Hangar #2
- Preserve space to expand the FBO facilities adjacent to the existing FBO facilities
- Upgrade internal access roads for near term use, as feasible

Exhibit 5 shows a proposed layout for replacing the existing hangar facilities within the area to be leased to the OANG (shaded facilities on Exhibit 5) plus any expansion potential. To maximize the facilities shown, the drainage swale in the vicinity of the proposed t-hangars would need to be rerouted and potentially enclosed. Also, the undeveloped area closest to the Runway 15 approach is lower and will probably need to be raised to make the taxiway grades functional. Because of the close proximity of the proposed t-hangars to State Road 794, the t-hangar area, along with the other new development, should be fenced to provide security for tenants.

Incorporating the “old” north of t-hangars ATCT location into the general aviation area was also considered. It was not considered a viable alternative because it would provide only limited expansion, is a low-lying area and would be in close proximity to the existing OANG lease area.

Exhibit 6 shows the existing facilities and forecast 20-year facility requirements from the draft Facility Requirements chapter compared to the potential development shown on **Exhibit 5**.

Exhibit 6 Comparison to Facility Requirements			
	Existing Facilities	Facility Requirements	Development Potential
Terminal Building	<u>Terminal Functions</u> 5,300 sft <u>Maintenance Functions</u> 2,200 sft (terminal) 1,020 sft (barn) 3 T-hangar units	<u>Terminal Functions</u> 10,000 sft <u>Maintenance Functions</u> 8,000 sft	<u>Terminal Functions</u> 10,000 sft <u>Maintenance Functions</u> 8,000 sft
Auto Parking (terminal)	48 spaces	52 spaces	At least 52 spaces
T-hangars	61 units	89 units	Up to 100 units
Conventional Hangars	4 units	11 units	7 units
Apron Area	<u>Transient</u> 9,800 syd <u>Based</u> 3,300 syd <u>Other</u> 4,170 syd	<u>Transient</u> 11,000 syd <u>Based</u> 900 syd <u>Other</u> 4,000 syd	<u>Transient and Based</u> At least 12,000 syd
Fuel Facilities	Jet A 10,000 gal 100LL 10,000 gal	Jet A 10,000 gal 100LL 10,000 gal	Jet A 10,000 gal 100LL 10,000 gal

Disadvantages of General Aviation Layout

While the layout shown on Exhibit 5 should be the most economical to develop there are three disadvantages.

- Lack of space to accommodate forecast 20-year conventional hangar needs
- Split apron area
- Circuitous entrance road

Lack of Space for Conventional Hangars

With the limited space available for replacement general aviation facilities within the existing terminal area, it is not feasible to accommodate all of the 20-year forecast facility requirements. With proposed layout shown on **Exhibit 5**, all of the operational functions (terminal building, maintenance needs, apron area and FBO functions) and t-hangar needs should be able to be accommodated within the existing terminal area. Some of the conventional hangar requirements may need to be met on another area of the airport such as in Airpark Ohio.

Split Apron Area and Circuitous Entrance Road

The drawbacks of the split apron and circuitous entrance road are both related to preserving the existing terminal building and auto parking. The close proximity of the terminal building to Taxiway A precludes the development of additional apron on the primary runway side of the terminal building. The only space available for additional apron with adequate allowable height is on the parking lot side of the terminal building. In addition to splitting this apron, this location is not readily visible to personnel in the terminal building potentially reducing the level of security on the apron and necessitating that the apron area be fenced. Also aircraft operators parked on the north apron area would need to cross both the apron and parking lot to enter the terminal building. To avoid splitting the apron, it would be necessary to replace the terminal building farther to the north, allowing the additional apron to be developed on the existing terminal building site. While a new terminal building farther north, increases the functionality of the aircraft apron and allows for a more direct entrance route to the terminal building, its view of the primary runway would be limited by Maintenance Hangar #2. From the draft Alternatives Analysis, it is estimated to cost approximately \$1.7 million to construct a 10,000 square foot terminal building. This would be in addition to the approximately \$1.3 million for an 8,000 square foot maintenance facility, which was included as part of the Share Existing Terminal Area alternative. Since funding the relocation of the general aviation facilities is already anticipated to be challenging, adding more facility redevelopment costs likely decreases the financial feasibility of the project.

Even without relocating the terminal building, the circuitous entrance road could be improved. It can be simplified by locating all of the auto parking on the east side of the terminal building between the terminal building and Maintenance Hangar #2, instead of continuing to use the existing terminal auto parking area.

There are two disadvantages associated with this scenario. The first is that the existing terminal auto parking would be abandoned. The second is that heavy maintenance equipment currently

accesses the maintenance bays and parks on the east side of the terminal building. Moving the parking to the east side of the terminal may not be feasible in the short-term, but in the long-term if a stand-alone City maintenance facility is developed, the maintenance functions could be moved out of the terminal building. This would allow the present maintenance bays to be renovated to provide the additional space needed for terminal functions. The renovation of the terminal building and site could be designed to better accommodate and connect with auto parking on the east side of the building and aircraft parking on the north side of the building, allowing the parking to be moved to the east side of the building. From the Share Existing Terminal Area alternative in the draft Alternatives Analysis, constructing an 8,000 square foot maintenance building, renovating the terminal building and relocating the auto parking is estimated to cost almost \$2 million. Until funding can be secured to move the maintenance functions and renovate the terminal building, good signage should be installed to direct users to the terminal building.

Summary of Findings

With the selected ATCT location, adequate space would be available to replace the existing general aviation facilities in the t-hangar area. Rerouting and enclosing the drainage swale could allow enough t-hangar units to be developed to accommodate the facility requirements. The shortfall in conventional hangars may be able to be accommodated in Airpark Ohio. Storage space for the City equipment could be accommodated with a stand-alone building near the conventional hangars and/or by designing storage space into the t-hangar buildings. If the maintenance functions are moved out of the terminal building, the terminal building could be renovated to expand the space serving terminal functions. This renovation could also better connect the terminal building with the replacement apron area and relocation of the auto parking to the east side of the terminal building. Until funding can be secured to move the maintenance functions, good security fencing and signage should be installed to make the general aviation facilities as user friendly as possible.

It appears that with the exception of conventional hangars, this site should be able to accommodate the general aviation needs through the 20-year planning period. However, further expansion to meet the needs beyond this time period is very limited. If State Road 794 is to be relocated on the north side of the airport to accommodate OANG needs, the relocation may be able to be designed to provide the City with the opportunity to enlarge the general aviation area to provide longer-term expansion potential.



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MEETING MEMO

MEETING

Advisory Committee Meeting
Springfield-Beckley Municipal Airport
Master Plan Update

MEETING DATE

May 13, 2004
5:30 p.m.

MEETING OVERVIEW

The third advisory committee meeting was held on May 13, 2004 at 5:30 p.m. for the purpose of overviewing the recommended general aviation terminal area development given the final site for the Ohio Air National Guard's (OANG) replacement Airport Traffic Control Tower (ATCT). Twelve people were in attendance, see attached sign-in sheet.

The presentation overviewed the OANG ATCT status, the general aviation terminal development analysis, and the recommended preferred general aviation development presented in the Analysis of New ATCT Site memo of April 5, 2004. Steps to complete the master plan process were also presented.

OANG ATCT Status

After reviewing six sites in their *June 20, 2001 Statement of Intent for Proposed Construction of New Control Tower at Springfield ANGB, Ohio*, the OANG identified an additional preferred site located between the fixed base operator hangar and apron and the t-hangars. This site was selected in coordination with the City in December 2003, and over the next several months the OANG's engineer conducted sufficient preliminary engineering to provide data regarding the proposed controller eye height.

The OANG will lease the area for the ATCT immediately, so that construction can occur in 2004. After the existing t-hangars, Maintenance Hangar #1, and Egairo Hangar facilities are replaced at their new location, the OANG will lease the existing t-hangar area.

General Aviation Terminal Development Analysis

With the proposed controller eye height, the previous general aviation terminal area analysis in the draft Alternatives Analysis working paper was reviewed and updated for the new ATCT site. Compared to the previously preferred ATCT site located north of the t-hangars, the final ATCT preserves some use of the existing terminal apron. However, the benefits of relocating Taxiway F for additional development area are greatly reduced. With an estimated cost of \$1 million to relocate Taxiway F for four additional acres for development, it was determined that the relocation of Taxiway F is not cost effective and it was dropped from consideration to accommodate short-term development.

Recommended Preferred General Aviation Development

While moving general aviation to the south side of the primary runway would be ideal, it is not economically feasible at this time. Thus, the preferred general aviation terminal area alternative is to share the existing terminal area with the OANG.

A primary consideration in the layout for the new general aviation terminal facilities is space for the replacement apron. Three sites were considered and the only site feasible for immediate development is north of the terminal building. The replacement general aviation hangars will be planned around this apron site. It was recommended that corporate hangars be located adjacent to the apron site with t-hangars located farther to the north. Comparing the facilities that can be accommodated in the new general aviation terminal area to the facility requirements, the primary shortfall is in corporate hangars. The Airpark Ohio hangar area will be examined for a potential layout to accommodate additional hangars when the terminal area sites are full.

Sharing the existing terminal area with the OANG results in limited development area. Fencing of the entire area is recommended to maximize the utility and security in the existing terminal area. Also, signage should be installed to direct first-time users to the terminal and apron areas. In the longer term, the City's maintenance functions can be relocated from the terminal building, which would allow the building to be remodeled to expand the existing functions. As a part of this remodeling, the auto parking location could be relocated to the east side of the building to allow the terminal building better connection with the new apron area to be developed north of the building.

Next Steps in Master Plan Process

After concurrence with the preferred development, the final steps to complete the master are to incorporate the preferred development into the airport layout plan and existing working papers. Also, a development plan and implement plan chapter will be written for the master plan report. This information will then be coordinated with the Federal Aviation Administration for their review and concurrence.

DISCUSSION SUMMARY

Several suggestions were made at the advisory committee meeting to improve the proposed layout.

The proposed entrance road has several turns to preserve existing development. The turns on this road should be sized to accommodate transport vehicles that deliver fuel and other goods to airport tenants. *The road layout will be reviewed/refined to make sure transport vehicles can maneuver the turns.*

It would be desirable to have a shorter route to the t-hangars. *The layout will be revised to include an entrance to the t-hangar area for the tenants in addition to the parking area between the t-hangars and corporate hangars.*

The airport has a mix of t-hangar sizes now. The proposed t-hangars should include some larger units, so larger twin-engine aircraft can be accommodated in t-hangars. *The t-hangar layout will be reviewed to identify how to incorporate several hangar sizes with adequate door height for twin-engine aircraft.*

In the transition process from the existing area, the new hangars should be ready with a transition time so no one is "put out." *The City's intent is to develop the new area and hangars before leasing the existing t-hangar area to the OANG to minimize the impact on general aviation users.*

The layout shows straight t-hangars rather than nested t-hangars. This eliminates the ability to park between hangars doors, since no tail section extends the width of the building. This will be a change from the existing configuration. *Nested t-hangars are proposed because it maximizes the number of hangars within the space available and minimizes the taxiway pavement. (It also allows special end units to be developed to accommodate larger aircraft.)*

Subsequent to the advisory committee meeting, the City participated in a meeting with Representative Hobson's office to review the feasibility of general aviation moving to the south side of the runway. At this time, while it would be desirable for general aviation to move, it is not economically feasible. At the meeting it was suggested that if an alternative source of funding could be found, the terminal building could be relocated to allow expansion of the existing apron. *FAA, OANG and City funding is not available for the terminal building.*

c: All Advisory Committee Members
All Workbook Holders

**SPRINGFIELD-BECKLEY MUNICIPAL AIRPORT
MASTER PLAN UPDATE
ADVISORY COMMITTEE MEETING**

May 13, 2004

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MEETING MEMO

MEETING

Advisory Committee Meeting
Springfield-Beckley Municipal Airport
Master Plan

MEETING DATE

December 1, 2004

MEETING OVERVIEW

After a brief Airport Board meeting, Susan Zellers introduced herself and conducted the final advisory committee meeting as a part of the Master Plan Update. The meeting provided an overview of the preferred alternatives, implementation plan and steps for completing the master plan process. The presentation summarized the information provided in the preferred alternatives section that was added to the draft Alternatives Analysis, the Development Plans and the Implementation Plan chapters. Fourteen people were in attendance at the Advisory Committee meeting, see attached sign-in sheet.

DISCUSSION SUMMARY

The following items were discussed during the advisory committee meeting.

- Will there be any impact from the BRAC (Base Realignment and Closure) process on the City's Airport Master Plan?
- The split apron that is proposed is not beneficial for general aviation.
- The entrance road that is under construction needs further coordination to reserve maximum space for future FBO (Fixed Base Operator) expansion.
- Based aircraft are needed to support an FBO.
- Can larger aircraft be accommodated in the t-hangar area?

Will there be any impact from the BRAC process on the City's Airport Master Plan?

The question was raised as to whether the outcome of the BRAC process will change the City's Airport Master Plan. In short, the BRAC process does not change the City's Airport Master Plan. Members of the Advisory Committee that are familiar with the BRAC process overviewed the steps in the process. The next BRAC list is anticipated to be published in the

first quarter of 2005. After it is published, adjustments can be made to the list until it is presented to Congress for a vote. In the past, the list presented to Congress is approved or rejected in full.

A lease has been granted to the Ohio Air National Guard (OANG) for the construction on the new Airport Traffic Control Tower (ATCT) and construction is underway.

The City intends to have new general aviation facilities available before moving out of the existing t-hangar facilities. This process will ensure that any changes in the base will not negatively impact general aviation. If the master plan for the base changes and the OANG will not lease the existing t-hangar area, the existing t-hangar area can remain and the replacement facility area can be used for expansion. The implementation process for the master plan is already driven by funding availability and user needs and provides the flexibility to incorporate changes during implementation.

The split apron that is proposed is not beneficial to general aviation.

During the summary presentation of the preferred alternatives, there was a strong concern expressed by some of the advisory committee members that the split apron is not beneficial for general aviation, particularly over the long term. It was expressed that wrapping the existing apron around the corner to parallel Taxiway F was preferable.

(The preferred alternatives were initially identified in the April 4, 2004 memorandum and also presented at the July 13, 2004 Advisory Committee meeting.) Disadvantages of the split apron were identified to be less intuitive for transient pilots because it would not be visible from the primary runway and less serviceable for the FBO because it would not be contiguous to the existing operation. Also, a concern was expressed that the new apron's proximity may encourage the use of Runway 15 because it would be the first runway seen and a shorter taxi distance than to Runway 24, increasing the potential for concurrent operations on the intersecting runways.

A wrap around apron was identified in the initial "share existing terminal area (with OANG)" alternative (shown on Exhibit 4V), but was eliminated when the ATCT location was moved to the selected site. In the alternatives analysis, the split apron concept was recommended because with the selected ATCT location most of the usable existing apron remains usable allowing sufficient space to accommodate the replacement facilities without relocating Taxiway F. The relocation of Taxiway F would be necessary to provide a clear ATCT line-of-sight to the parallel taxiway with a wrap around apron.

Additional apron space is needed now due to the loss of usable apron with the widening of Taxiway A. The relocation of Taxiway F, the weather station, electrical vault and potentially the fuel system are estimated to cost more than \$1 million in addition to estimated \$810,000 to construct the new apron area. Adding \$1+ million to the cost may extend the period of time before additional apron can be constructed.

Following the Advisory Committee meeting, Aerofinity coordinated with Larry King and Brad Davidson of the FAA's Detroit Airport District Office to determine whether there are any

alternatives via a modification to design standards or designation of a non-movement area on Taxiway F that could allow a wrap-around apron to be constructed before Taxiway F is relocated. The FAA policy is that no shadow on an active airport operating area is allowable. Based on the input received from the Advisory Committee meeting and discussion with the FAA, a revised "share" terminal area layout with a wrap around apron has been prepared and is included with this memo. It has been assumed that Taxiway F will need to be relocated before the wrap around apron is constructed. This revised layout will be incorporated into the Airport Layout Plan (ALP), as the preferred future terminal area plan.

The entrance road under construction needs further coordination to reserve maximum space for future FBO expansion.

The new ATCT development has been planned to provide 50 feet of clear space between the ATCT site fencing and existing FBO apron. However, the entrance road which has been staked encroaches on the 50 feet of clear space between the road and area preserved for FBO expansion. The ALP includes a "T" in the entrance road, with one leg going to the ATCT and the other going to the general aviation area, to preserve the 50 feet of clear space beyond the future FBO apron area. The City is working with the FBO and OANG to incorporate this "T" into the entrance road while leaving adequate room for future FBO expansion.

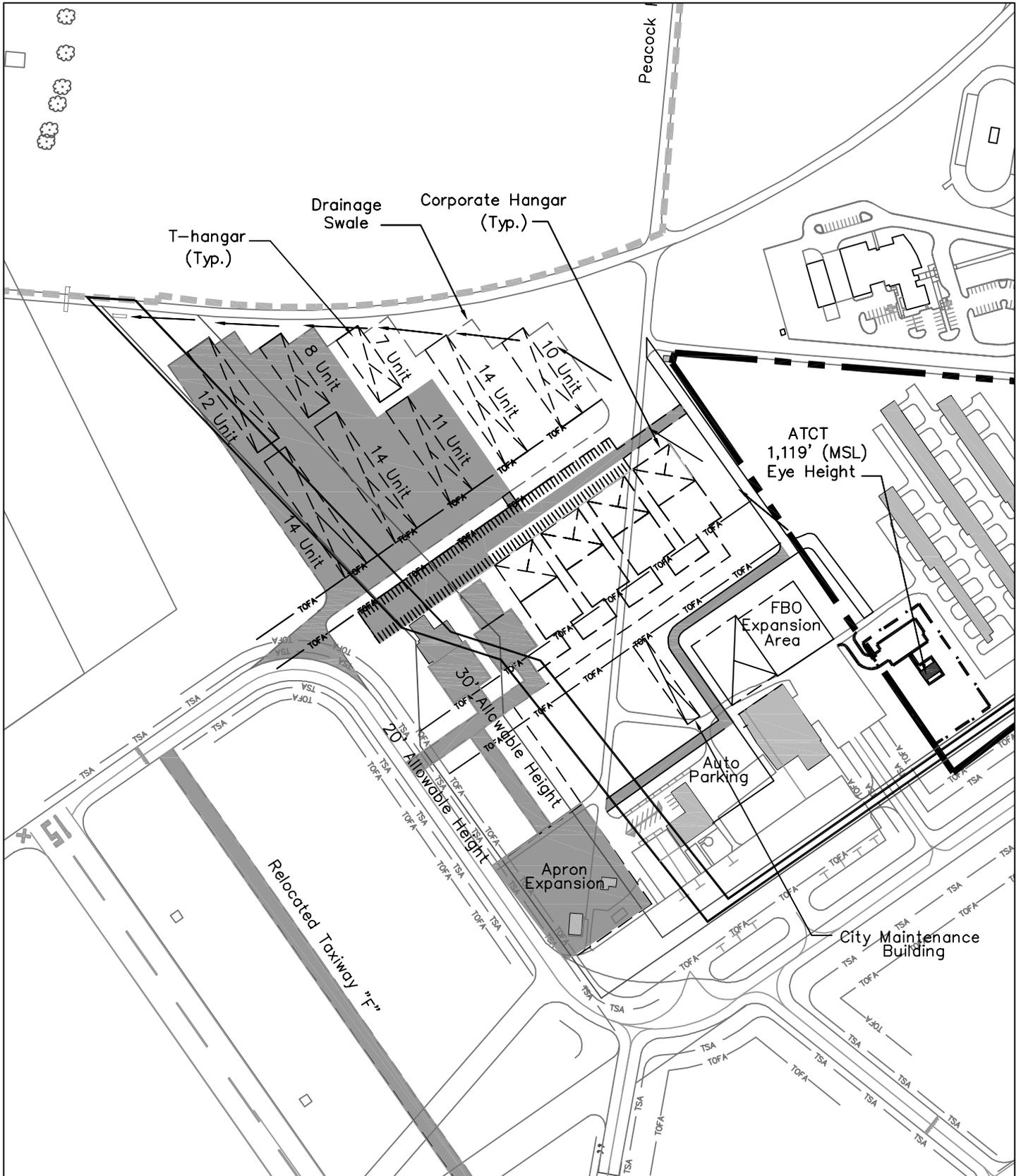
Based aircraft are needed to support an FBO.

A strong FBO operation is beneficial to the airport. Based aircraft are needed to support the FBO. The lack of hangar expansion and age/condition of existing t-hangar facilities does not encourage growth in based aircraft at Springfield-Beckley Municipal Airport. Some advisory committee members expressed the desire to move forward with new hangar development as quickly as possible to support the businesses at the airport.

Can the t-hangars accommodate larger aircraft?

There are several larger hangars in the existing t-hangar area. During the design process the exact size of aircraft to be accommodated in the new t-hangar area should be determined. Larger aircraft can be accommodated through construction of several sizes of t-hangar units or larger end units. Information on t-hangars from two companies that supply prefabricated t-hangars in the Midwest is included in Appendix D of the report. Also, the City uses some of the existing t-hangars for equipment storage. Storage for City equipment could also be designed into the t-hangar development or may be provided by a separate facility. The master plan process identifies the space for the t-hangar development. During the design process, when additional field survey data is available, the layout would be refined further.

cc: All Advisory Committee Members
Other Workbook Holders



North

DRAFT



- Immediate Development
- Proposed OANG Lease Area



Scale
1" = 300'

Note: Ground elevation in terminal area approximately 1,044 MSL

Replacement Hangar Facilities with Wrap Around Apron

**SPRINGFIELD-BECKLEY MUNICIPAL AIRPORT
 MASTER PLAN UPDATE
 ADVISORY COMMITTEE MEETING**

December 1, 2004

	Name	Representing	Telephone/Fax/E-Mail
1.	Steve Field	Apt. Adv. Bd	937-323-5518
2.	Doug Balchen	NOPIA	937-390-7546
3.	Wicki Nestley	Div of Aviation	937/325-6108
4.	LEO SHANAHAN	CITY OF SPRINGFIELD	937/324-7310
5.	JIM BODENMILLER	City	324-7300
6.	MARK GEBHARD	178 FW/CES	327-2279
7.	DICK HIGGINS		325-7558
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BRIEFING MEMO

TO | Master Plan Advisory Committee

FROM | Susan J.H. Zellers, P.E.

DATE | February 11, 2005

RE | General Aviation Replacement Terminal Area Alternatives

In their master plan, the Ohio Air National Guard (OANG) has identified the need to lease the existing general aviation t-hangar area for the expansion of their base. Thus, in the City's Airport Master Plan, alternatives were reviewed to determine a preferred location to accommodate relocating the existing facilities in the t-hangar area. After extensive coordination, sharing the existing terminal area with the OANG has been identified as the preferred alternative for replacing the general aviation facilities that are currently located in the t-hangar area.

Associated with the OANG master plan is the construction of a replacement Airport Traffic Control Tower (ATCT). Through coordination with the City, a site between the Fixed Base Operator (FBO) facilities and t-hangar area was selected for the new ATCT. At the time the t-hangar area is leased to the OANG, the new ATCT will be part of a continuous OANG leasehold. Construction of the new ATCT is under way.

At and following the final master plan advisory committee meeting on December 1, 2004, a number of suggestions were made and considered to improve the functionality of the replacement general aviation area. A request to reconsider wrapping the general aviation apron around the corner of the terminal building with the expansion paralleling Runway 15-33 has already been adopted by the City to be shown as the preferred alternative. To allow the wrap around apron to be construed with a clear line-of-sight from the new ATCT, Taxiway F needs to be relocated 425 feet to the southwest to align with Taxiway E and provide 300-foot runway centerline to taxiway centerline separation from Runway 15-33. To obtain funding for the Taxiway F relocation, the City will need to focus its airport improvement efforts on this project.

The timing of relocating Taxiway F and constructing the wrap around apron was coordinated with Larry King and Brad Davidson of the FAA's Detroit Airport District Office to determine whether there are any alternatives via a modification to design standards or designation of a

non-movement area on existing Taxiway F that could allow a wrap-around apron to be constructed before Taxiway F is relocated. The FAA policy is that no shadow on an active airport operating area is allowable. Thus, for this alternatives analysis, it has been presumed that Taxiway F will need to be relocated before the wrap around apron or other items that could shadow or block the line-of-sight are constructed.

Based on the wrap around apron being the preferred development, three alternative layouts have been considered to accommodate replacement and future expansion of general aviation facilities. The three alternatives are:

1. Corporate and t-hangars near terminal building
2. Corporate hangars closest to terminal building
3. Less corporate hangars and more t-hangars

To identify a preferred alternative, the three layouts have been reviewed based on the following four factors.

Preserving the ability to expand the apron further in the future

Additional apron space is needed immediately to replace the unusable terminal apron due to the Taxiway A widening and to replace the based aircraft apron currently in the t-hangar area. Also, to provide the airport with future flexibility, space should be allotted for further apron expansion to meet the current facility requirements and beyond.

Number of facilities that can be accommodated

There is limited space within the existing terminal area. One of the goals of the alternatives evaluation is to maximize the utility of the terminal area. While there is some space available in Airpark Ohio to accommodate larger corporate hangar development, some corporate tenants will prefer to be located in close proximity to the FBO and the services they provide.

Flexibility of developing facilities before Taxiway F is relocated

While the relocation of Taxiway F has been identified as a short term goal and is necessary to develop the wrap around apron with a clear line-of-sight, securing funding for this project may be a challenge. The need to relocate the facilities in the t-hangar area may occur before Taxiway F is relocated, so sites for the relocated facilities may need to be available independent of the Taxiway F project.

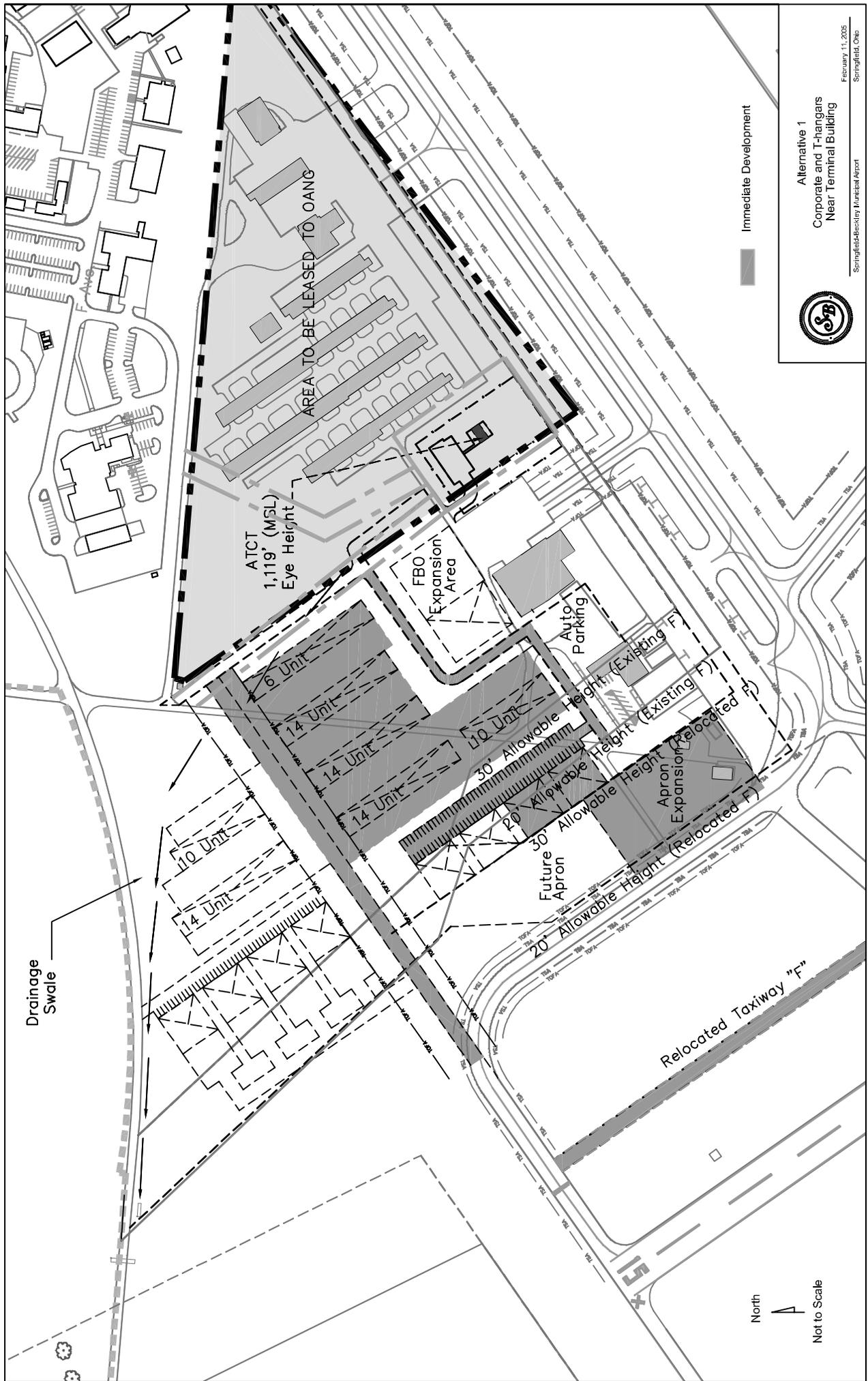
Proximity of new t-hangars to terminal building

Currently the closest t-hangars are located approximately 730 feet from the terminal building such that most tenants drive from the t-hangars to the terminal. It would be desirable to locate the t-hangars closer to the terminal and reduce the mix of vehicular and aircraft traffic.

Each of the three alternatives being considered is discussed below.

Alternative 1 – Corporate and T-Hangars Near Terminal

In this alternative the wrap around apron is extended to provide apron frontage for the development of corporate hangars, as shown on **Exhibit 1**. A total of 20,500 square yards



Alternative 1
Corporate and T-hangers
Near Terminal Building

Springfield-Becket Municipal Airport
February 11, 2005
Springfield, Ore

North
Not to Scale

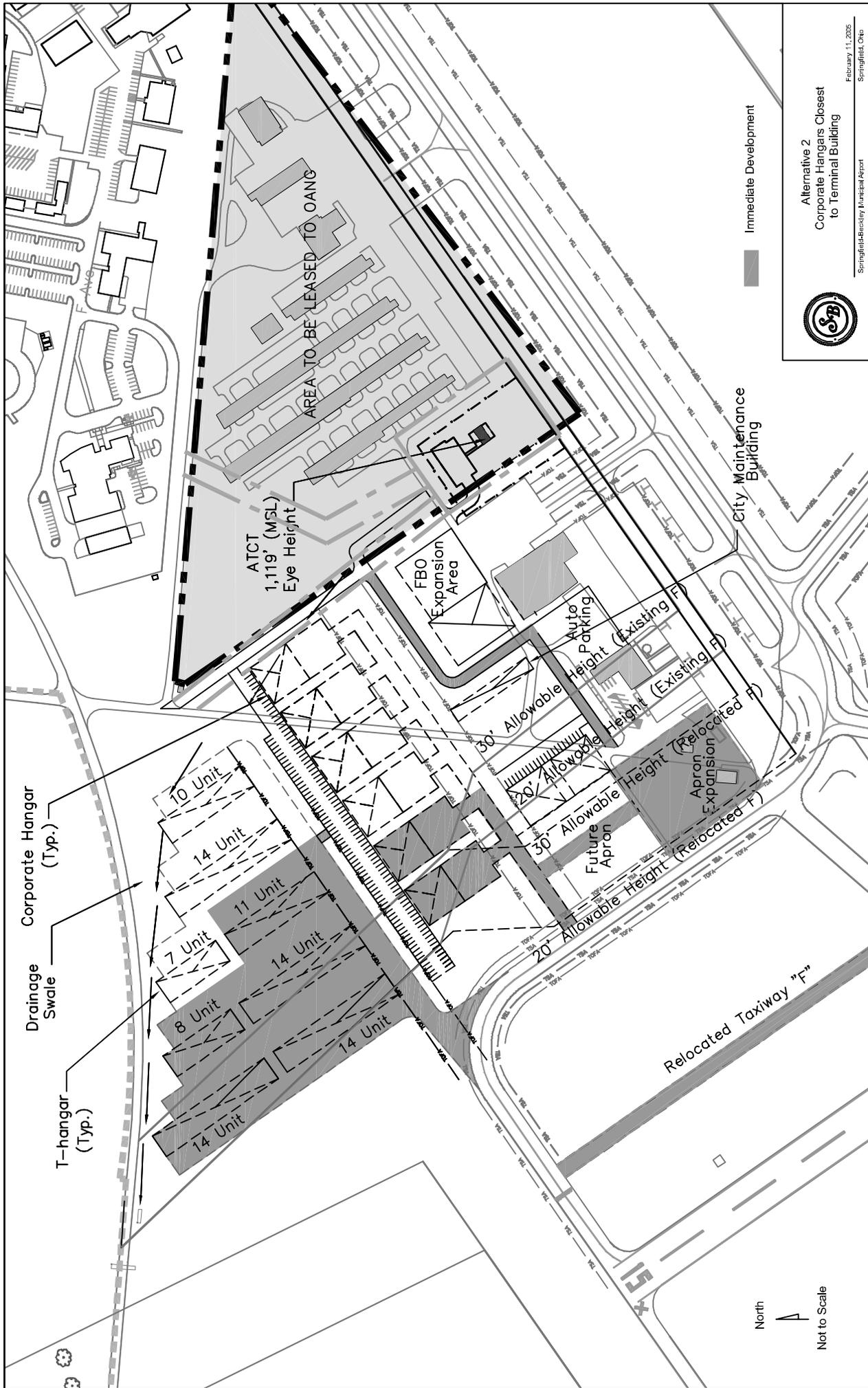
of apron could be constructed with the relocation of the weather station, electrical vault and fuel pumps. T-hangars would be constructed to the east of the corporate hangars and taxiway access would be provided by extending the connector taxiway at the end of Runway 15. With this layout, at least 82 t-hangars and eight corporate hangars could be constructed. One row of the t-hangars, nearest the entrance road, is shown single sided and is envisioned to contain 6 larger units to accommodate larger twin engine or turboprop aircraft. All of the hangar doors face east or west. In this layout, the wrap around apron and the four corporate hangars closest to the terminal building are dependent on the relocation of Taxiway F. One of the advantages of this layout is that both the corporate hangar area and t-hangar area start in close proximity to the terminal building, with the closest t-hangars only 100 feet from the terminal building. With Alternative 1, any expansion of the terminal building or city maintenance functions would need to occur in the vicinity of the terminal building or be incorporated in future t-hangar development.

Alternative 2 – Corporate Hangars Closest to the Terminal Building

As shown on **Exhibit 2**, this alternative is a revised version of the Exhibit 4EE included in the November 17, 2004 Alternatives Analysis working papers. The primary revisions are the adoption of the wrap around apron and additional corporate hangars in the space previously reserved for apron expansion. Space has been preserved to expand the apron to the taxiway serving the corporate hangars, providing up to 12,600 square yards of apron with the relocation of the weather station, electrical vault and fuel pumps. With this layout 92 t-hangars, eight corporate hangars plus additional terminal building and City maintenance space can be accommodated. All of the hangar doors in this layout face east, west or south. The wrap around apron construction is dependent on the relocation of Taxiway F. In this layout, the wrap around apron and three corporate hangars are dependent on the relocation of Taxiway F. The t-hangars are located approximately 790 feet from the terminal building, just slightly farther than the existing t-hangars. With this layout there is space to construct a stand-alone maintenance facility or expand both the terminal building and maintenance functions in the vicinity of the existing terminal building.

Alternative 3 – Less Corporate Hangars and More T-Hangars

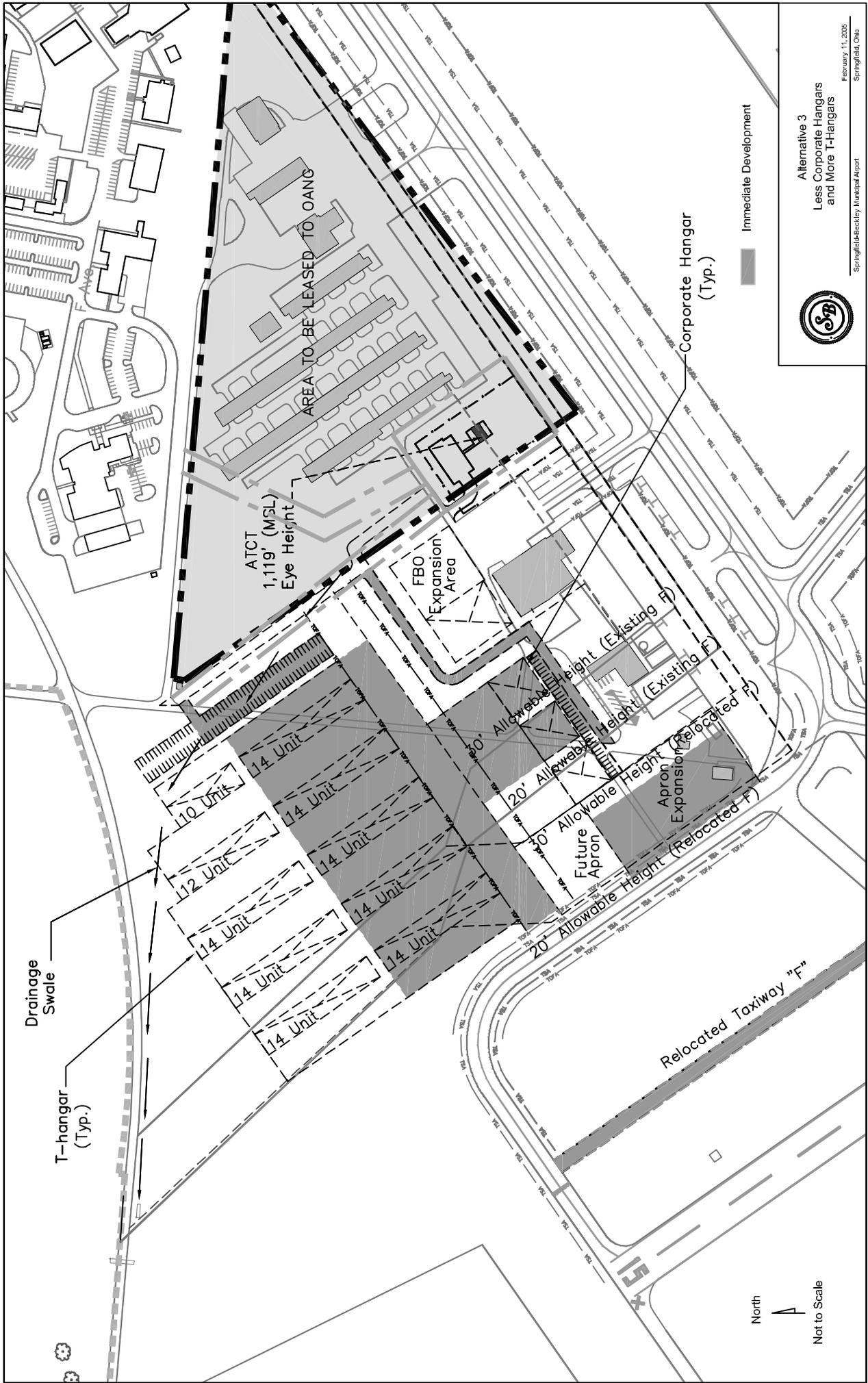
This alternative starts from Exhibit 4EE in the November 17, 2004 Alternatives Analysis working papers and adopts the wrap around apron. Three corporate hangars are constructed in place of the area that had been reserved for apron expansion. The area that had been reserved for corporate hangars is now used for t-hangars as well as the balance of the available development area, as shown on **Exhibit 3**. With this layout up to 8,500 square yards of apron could be developed, 134 t-hangars and three corporate hangars could be constructed. In Alternative 3, the corporate hangar doors would face northeast, while the t-hangars doors face east/west like the existing t-hangars. In this alternative, with the need to relocate the two corporate facilities currently located in the t-hangar area, there would be only one corporate hangar site available in the general aviation terminal area. All additional corporate hangar development would need to occur in Airpark Ohio, which may or may not be in the best interest of the future tenants and FBO. The closest t-hangars would be approximately 460 feet from the terminal building. With this alternative two of the three corporate hangars sites and one of the t-hangar sites along with the wrap around apron are



Alternative 2
Corporate Hangars Closest
to Terminal Building

February 11, 2025
Springfield, Ohio
Springfield/Blackey Municipal Airport

North
Not to Scale



Alternative 3
 Less Corporate Hangars
 and More T-Hangars

February 11, 2005
 Springfield-Beckley Municipal Airport
 Springfield, Ohio

Immediate Development



Corporate Hangar
 (Typ.)

North



Not to Scale

dependent on the relocation of Taxiway F. In this layout, any expansion of the terminal building or city maintenance functions would need to occur in the vicinity of the terminal building or be incorporated in future t-hangar development.

Recommendation

To identify the preferred alternative, the four factors discussed on page 2 that take into consideration the expansion potential and constructability were compared for the three alternatives, as summarized in **Exhibit 4**. Alternatives 1 and 2 (corporate and t-hangars near terminal and corporate hangars closest to terminal) best meet the facility requirements forecast for the volume of corporate and t-hangars anticipated in the future. Also, if the OANG would change its plans and the existing t-hangars could remain, a more balanced future expansion would be beneficial. In addition, these alternatives provide the City the most flexibility to accommodate a variety of airport users with t-hangars and corporate hangars in the terminal area or self contained corporate hangar development in Airpark Ohio.

Alternative 1 is recommended as the preferred general aviation terminal development. The City needs to relocate Taxiway F in the short-term to accommodate the wrap around apron expansion that is needed immediately. The relocation of Taxiway F also allows for the corporate hangar development near the terminal in Alternative 1. One of the primary advantages of Alternative 1 is the ability to locate t-hangars and corporate hangars in close proximity to the terminal. Also, both the Egairo Aviation hangar, which also houses a flight school and the Mac Michael Avionics facility need apron area in addition to their actual hangar. Providing easily accessible apron area for the relocation of these two businesses would be easier with Alternative 1. While the relocation of Taxiway F is necessary to take full advantage of Alternative 1, it should provide the most user friendly alternative for long-term general aviation activity at Springfield-Beckley Municipal Airport.

**Exhibit 4
Comparison of Alternatives**

	Corporate and T-hangars Near Terminal	Corporate Hangars Closest to Terminal	Less Corporate and More T-hangars
Apron Expansion	up to 20,500 syd	up to 12,600 syd	up to 8,500 syd
Total Facilities	82 t-hangars 8 corporate hangars	92 t-hangars 8 corporate hangars	134 t-hangars 3 corporate hangars
Construction Flexibility	apron and 4 corporate hangars dependent on Taxiway F relocation	apron and 3 corporate hangars dependent on Taxiway F relocation	apron, 2 corporate hangars and 1 t-hangar dependent on Taxiway F relocation
Proximity of T-hangars to Terminal*	100 feet	790 feet	460 feet

*Closest existing t-hangars approximately 730 feet from terminal building
Source: Aerofinity, Inc., 2005.