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# RUNWAY 9-27 REHABILITATION AGIS SURVEY BROOKSVILLE-TAMPA BAY REGIONAL AIRPORT

## Exhibit A - Scope of Work

American Infrastructure Development, Inc. (AID) has been asked by Hernando County (Owner) of the Brooksville-Tampa Bay Regional Airport (BKV) to provide additional Professional Services for the Runway 9-27 Rehabilitation project. These services will include tasks as detailed in this document.

### **Construction Administrative Services**

The AID Team will perform the following tasks under this phase:

Coordination of the AGIS survey for Runway 9-27 Rehab and LOC Design.

Client Coordination.

### **Obstruction Survey and AGIS Coordination**

An airport geographical information systems (AGIS) survey and obstruction analysis, as described in Attachment B, will be performed by Woolpert, Inc. (AID subconsultant). Woolpert's responsibilities will include setting up the project in AGIS for the Runway 9-27 Rehab vertical guidance, and uploading all survey data to AGIS.

The project for BKV will be focused around performing the following tasks.

### **Task 03 – Design Survey for AC 150/5300-18B, Vertically Guided Approach Obstruction Identification Surfaces for Proposed 09/27 Approaches, 09 LOC relocation.**

- 1) Assist the airport in initiating the AGIS project necessary for the completion of this project on the ADIP web portal.
  - a. Develop SOWs and plans as required
  - b. A Safety Critical, Including Design Data project will be established for the airspace analysis component of this survey.
- 2) BKV does possess geodetic control marks published as PACS and SACS. Woolpert will use these stations for establishment of the Temporary Survey Marks (TSMs) if they are recovered and meet the required specifications.
- 3) Establish photogrammetric control and collect stereo imagery covering the surface area defined by the Vertically Guided Runway standards (Attachment A).
  - a. Estimated 20 control points and 5 check points
  - b. Collect imagery at an equivalent imagery scale of 1"=800', producing a pixel resolution of 0.5'.
  - c. Imagery Limits are defined by the obstruction surfaces specified in this scope

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as depicted in Attachment A.

- d. All imagery will be collected with leaf-on conditions
- 4) Geo-referencing of aerial photography
- 5) Runway critical point survey on all usable runways
- 6) Runway profile survey on all usable runways
- 7) Navigational aid inventory for NAVAIDs associated with the airport including the associated perpendicular points
- 8) Obstruction analysis for objects penetrating the Vertically Guided surfaces
  - a. Objects will be collected following the Object Density Selection Criteria in Section 2.7.1.6 of AC 150/5300-18B, change 1. Which calls for the lower obstacle within 100 feet of each other to be omitted within the first 10,000' of an approach and 500 feet outside of the first 10,000' of an approach.
- 9) Development of new ortho-photography
  - a. Pixel resolution of 0.5-feet over limits shown in Attachment "B"
- 10) Collect major landmark features within imagery coverage
- 11) Develop an AGIS-compliant data file containing the safety critical data required to start instrument approach procedure development.
  - a. 09/27 Approaches, 09 LOC relocation
- 12) Develop the final reports to AGIS
  - a. Imagery Acquisition Report

#### **Task 04 – As-built survey to determine the post construction runway end coordinates for 09/27 Approaches, 09 LOC relocation.**

- 1) For this as-built, Woolpert will use the imagery collected for Task 1 above.
- 2) Woolpert will utilize the Runway critical point survey performed in Task 1 above.
- 3) Woolpert will utilize the Runway profile survey performed in Task 1 above for Runway 09/27.
- 4) Woolpert will utilize the Navigational aid inventory performed in Task 1 above for Runway 09/27.
- 5) Woolpert will utilize the ortho-photography developed in Task 1 above.
  - a. Pixel resolution of 0.5-feet over the immediate airport vicinity
- 6) Update the AGIS-compliant data file containing the as-built safety-critical data required to finalize instrument approach procedure development
- 7) Develop the final reports to AGIS
  - a. Imagery Acquisition Report
  - b. Final Project Report

### **Deliverables**

1. Establishment of two ADIP/AGIS Projects
2. Two Statement of Work & Survey Work/Quality Control Plan to AGIS
3. Imagery Reports
4. AGIS Data Files for submission of safety-critical projects, based on design data.
5. AGIS as-built data files for the completion of the Design/as-built projects.
6. Two Final Surveyor's Reports for AGIS

### **Schedule**

This schedule is based on an approximate NTP in April 2023 for the professional services of this project. This project includes an internal quality control review by Woolpert, Inc.

1. Design: 6 months from the imagery acquisition date
2. As-built Data: 3 months from the date of the construction completion
3. Reference Woolpert, Inc. scope of work attached dated March 25, 2023.

**Total Contract Time**

**300 days**

**RUNWAY 9-27 EXTENSION  
BROOKSVILLE-TAMPA BAY REGIONAL AIRPORT**

**Exhibit B: Fees**

<b>TASK</b>	<b>Totals</b>
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**RW 9-27 and LOC Design**

*Construction Administration Services* \$7,556.00

*AGIS Survey - (Woolpert, Inc.)* \$46,250.00

**Total Basic Services:** \$53,806.00

<b>Total Fees (Lump Sum):</b>	<b>\$53,806.00</b>
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**RUNWAY 9-27 EXTENSION  
BROOKSVILLE-TAMPA BAY REGIONAL AIRPORT**

**Exhibit B: Fees**

TASK	Project Principal	Project Manager	Senior Engineer	Engineer/Planner	Designer	Clerical	Totals
	\$214.00	\$184.00	\$162.00	\$133.00	\$92.00	\$78.00	

**RW 9-27 and LOC Design**

<b>Construction Administration Services</b>	\$7,556.00						
1 AGIS Coordination	\$46,250.00	1	10	6	4	4	25
2 Flight Procedures / Publications Amendment			4	10	10		24
Total Labor Hours:		1	14	16	14	0	49
Total Labor Costs:		\$214.00	\$2,576.00	\$2,592.00	\$1,862.00	\$0.00	\$7,556.00

**AGIS Survey - (Woolpert, Inc.) - RW 9-27 and LOC Design** \$46,250.00  
\$53,806.00

**Total Fees (Lump Sum):** \$53,806.00



March 25, 2023

Michael Cummings  
Director of Construction Management  
American Infrastructure Development, Inc.  
3810 Northdale Blvd, Suite 170  
Tampa, FL 33624

RE: Proposal: 09/27 Runway Rehab + 09 LOC short term location at Brooksville-Tampa Bay Regional Airport (BKV), located in Brooksville, Florida.

Dear Mr. Cummings:

We appreciate the opportunity to provide a proposal for supporting American Infrastructure Development, Inc. (AID) with geospatial services at the Brooksville-Tampa Bay Regional Airport (BKV). The fee and bulleted list of scope functions is understood to be completed in accordance with the FAA Advisory Circulars 150/5300-16B, -17C change 1, -18B change 1, and the September 22, 2022 AGIS Policy Guidance, with further guidance from the FAA Southern Region (ASO) and the Office of Airports Safety and Standards (AAS) in Washington, D.C.

### **Project Understanding**

Woolpert understands that the Brooksville-Tampa Bay Regional Airport (BKV) is completing a runway rehab on 09/27 and will be relocating the 09 Localizer (27 end) to an intermediate location. The FAA requires surveys that meets the specifications of "Safety Critical Data Collection, Including Design Data" project type per FAA Advisory Circulars 150/5300-16B, -17C change 1, and -18B change 1, and the September 22, 2022 AGIS Policy Guidance. Woolpert proposes the submittal of an ADIP Design/As-built project for the submittal of Design and As-built data for the 09/27 runway rehab and the 09 Localizer relocation. This project will include an Airport Airspace Analysis Survey (AAAS) of the proposed Runway 09/27 approaches and as-built survey after construction is completed. The AAAS for this project will follow the standards for Vertically Guided Runway surveys.

Woolpert, Inc.  
4454 Idea Center Boulevard  
Dayton, OH 45430-1500  
937.461.5660

The project for BKV will be focused around performing two main tasks:

- 1) Safety Critical data collection and Obstruction analysis for AC 150/5300-18B, Vertically Guided Approach Obstruction Identification Surfaces for the proposed 09/27 Approaches.
- 2) As-built survey to determine the post construction runway end coordinates for the Runway 9-27 Rehabilitation project and the 09 Localizer (27 end of runway).

**Task 01 - Design Survey for AC 150/5300-18B, Vertically Guided Approach Obstruction Identification Surfaces for Proposed 09/27 Approaches, 09 LOC relocation.**

- Assist the airport in initiating the AGIS project necessary for the completion of this project on the ADIP web portal.
  - Develop SOWs and plans as required
  - A Safety Critical, Including Design Data project will be established for the airspace analysis component of this survey.
- BKV does possess geodetic control marks published as PACS and SACS. Woolpert will use these stations for establishment of the Temporary Survey Marks (TSMs) if they are recovered and meet the required specifications.
- Establish photogrammetric control and collect stereo imagery covering the surface area defined by the Vertically Guided Runway standards (Attachment A).
  - Estimated 20 control points and 5 check points
  - Collect imagery at an equivalent imagery scale of 1"=800', producing a pixel resolution of 0.5'.
  - Imagery Limits are defined by the obstruction surfaces specified in this scope as depicted in Attachment A.
  - All imagery will be collected with leaf-on conditions
- Geo-referencing of aerial photography
- Runway critical point survey on all usable runways
- Runway profile survey on all usable runways
- Navigational aid inventory for NAVAIDs associated with the airport including the associated perpendicular points
- Obstruction analysis for objects penetrating the Vertically Guided surfaces
  - Objects will be collected following the Object Density Selection Criteria in Section 2.7.1.6 of AC 150/5300-18B, change 1. Which calls for the lower obstacle within 100 feet of each other to be omitted within the first 10,000' of an approach and 500 feet outside of the first 10,000' of an approach.
- Development of new ortho-photography
  - Pixel resolution of 0.5-feet over limits shown in Attachment "B"
- Collect major landmark features within imagery coverage

- Develop an AGIS compliant data file containing the safety critical data required to start instrument approach procedure development.
  - 09/27 Approaches, 09 LOC relocation
- Develop the final reports to AGIS
  - Imagery Acquisition Report

**Task 02 - As-built survey to determine the post construction runway end coordinates for 09/27 Approaches, 09 LOC relocation.**

- For this as-built, Woolpert will use the imagery collected for Task 1 above.
- Woolpert will utilize the Runway critical point survey performed in Task 1 above.
- Woolpert will utilize the Runway profile survey performed in Task 1 above for Runway 09/27.
- Woolpert will utilize the Navigational aid inventory performed in Task 1 above for Runway 09/27.
- Woolpert will utilize the ortho-photography developed in Task 1 above.
  - Pixel resolution of 0.5-feet over the immediate airport vicinity
- Update the AGIS compliant data file containing the as-built safety critical data required to finalize instrument approach procedure development
- Develop the final reports to AGIS
  - Imagery Acquisition Report
  - Final Project Report

**Note:**

**It is assumed that all construction will be completed when the Design Survey is performed. Therefore, there will be no need for additional as-built survey or imagery acquisition.**

**Deliverables**

Woolpert will compile and submit the necessary plans, reports and data files to the FAA, NGS and/or NFDC in a format acceptable to those agencies and coordinate revisions if necessary. Woolpert will develop a digital file deliverable in the appropriate format to be uploaded to the Airports ADIP/AGIS (<https://adip.faa.gov/agis>). The data file will be delivered in AutoCAD Map 3D (.dwg) format. The digital deliverable will be provided to the airport, AID, and the FAA through the ADIP/AGIS website.

***Deliverable Listing***

1. Establishment of an ADIP/AGIS Project
2. Statement of Work & Survey Work/Quality Control and Imagery Plan to AGIS
3. Imagery Report
4. AGIS data file for submission of safety critical project, based on design data
5. AGIS as-built data file for the completion of the Design/as-built project
6. Final Surveyor's Reports to AGIS



**Fee Estimate Breakdown**

<b>BKV Lump Sum Fee</b>	
<b>Task Description</b>	<b>Fee Estimate</b>
<b>Task 1 Design Survey Runway 9-27 Rehabilitation and 09 Localizer (Intermediate Location)</b>	
Preparations and Communications	\$2,300.00
Geodetic control, Photo Control and Airside surveys	\$10,000.00
Aerial Photography Acquisition and Analytic Triangulation	\$8,250.00
Photogrammetric Obstruction Analysis	\$4,000.00
Ortho Imagery	\$3,500.00
Progress Reporting and Deliverables	\$7,500.00
Reimbursable Expenses (Design)	\$1,900.00
<b>Sub Total Task 1</b>	<b>\$37,450.00</b>
<b>Task 2 As-Built Survey Runway 9-27 Rehabilitation and 09 Localizer (Intermediate Location)</b>	
As-Built Preparations and Communications	\$2,300.00
As-built Progress Reporting, Deliverables and Final Project Report	\$6,500.00
<b>Sub Total Task 2</b>	<b>\$8,800.00</b>
<b>Lump Sum Fee –Design/As-Built Runway 9-27 Rehab and 09 Localizer (Intermediate Location) @ BKV =</b>	<b>\$46,250.00</b>

**Note: The Lump Sum Fees listed above are based on the Design Surveys for the 09/27 Runway Rehab/Localizer project and the 03/21 Decoupling project being completed at the same time. Mobilization, Airside Surveys, Imagery acquisition and expenses for these two Design Surveys have been split between the two projects. It is also assumed that all construction will be completed when the Design Survey is performed. Therefore, there will be no need for additional as-built survey or imagery acquisition.**

Brooksville-Tampa Bay Regional Airport (BKV)

March 25, 2023

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Woolpert estimates the design portion of the project to take 6 months from the date of imagery acquisition to delivery of the design data file to the Airports GIS website and 3 months from the date of construction completion to the delivery of the as-built data to the Airports GIS website. The proposed fee estimates are valid for ninety (90) days from proposal date.

Please don't hesitate to contact me to discuss any comments or questions you may have (704.526.3016).

Sincerely,

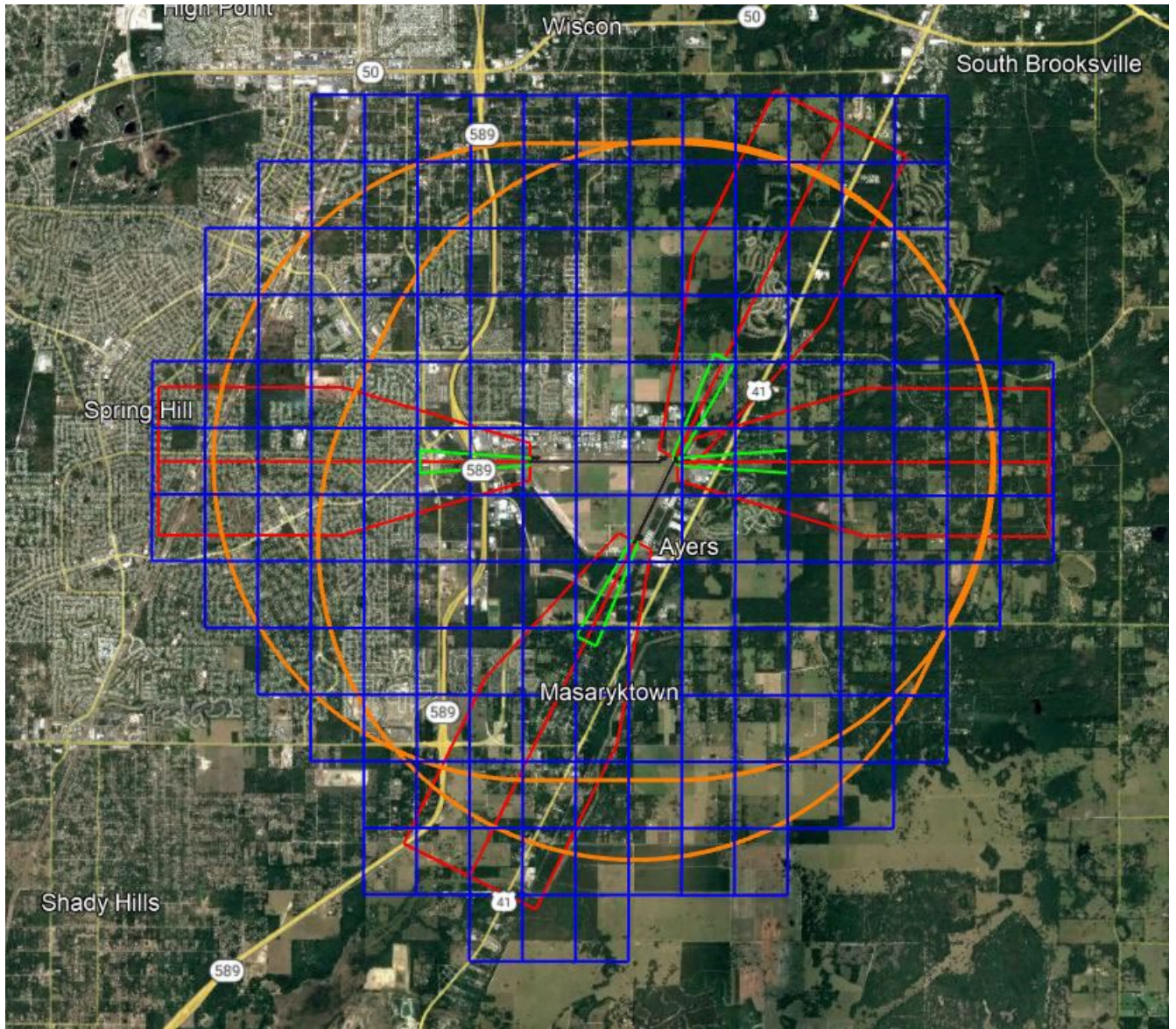


Woolpert, Inc.  
Paul F. Akers, PSM, PMP  
Aviation Project Manager  
Senior Associate



Woolpert, Inc.  
Eric Risner, PS, PMP  
Aviation Practice Leader  
Vice President

# Attachment A: Design Survey Imagery Limits



# Attachment B: Design/As-built Survey Ortho Limits

