

**AMENDMENT 1 to ADDENDUM NO. 29  
TO THE AGREEMENT DATED AUGUST 3, 2018  
BETWEEN GREATER ORLANDO AVIATION AUTHORITY  
AND FAITH GROUP, LLC dba FAITH GROUP CONSULTING, LLC**

**Project: Additional Development and Implementation of an Address Management System , Orlando International Airport**

**THIS AMENDMENT** is effective this 28<sup>th</sup> day of June, 2022, by and between the **GREATER ORLANDO AVIATION AUTHORITY** ("Authority"), and **FAITH GROUP, LLC dba FAITH GROUP CONSULTING, LLC** ("Consultant").

**WITNESSETH:**

**WHEREAS**, by Agreement dated August 3, 2018, Authority and Consultant entered into an agreement for Consultant to provide information technology consulting services; and

**WHEREAS**, under the Agreement, Consultant agreed to perform such additional services for the Authority as are contained in any additional scope of work established by the Authority in any addendum to the Agreement and accepted in writing by the Consultant; and

**WHEREAS**, the Authority and the Consultant desire to enter into this Amendment to the Agreement to provide for additional services to be rendered by the Consultant under the terms of said Agreement.

**NOW, THEREFORE**, in consideration of the premises and the mutual covenants herein contained, the Authority and the Consultant do hereby agree as follows:

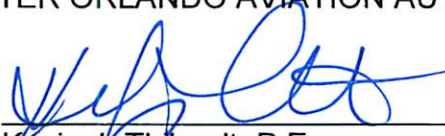
1. Consultant shall perform additional services in accordance with the terms of the Agreement and the attached Exhibit "A." Consultant shall be paid for such additional services according to the payment terms set forth in the Agreement.
2. Consultant shall be compensated for such additional services in the **NOT TO EXCEED** amount of **SIX THOUSAND SIXTEEN AND NO/100 DOLLARS (\$6,016.00)**, broken down as follows:

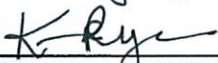
<b>Professional Fees:</b>	<b>NTE:</b>	<b>\$6,016.00</b>
<b>Professional Fees:</b>	<b>LS:</b>	<b>\$0.00</b>
<b>Reimbursable Expenses:</b>	<b>NTE:</b>	<b><u>\$0.00</u></b>
<b>Total:</b>		<b>\$6,016.00</b>

3. Except as expressly modified in this Amendment, the Agreement dated August 3, 2018 and all prior addenda will remain in full force and effect.

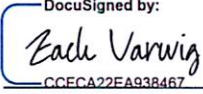
IN WITNESS WHEREOF, the parties hereto by their duly authorized representatives, have executed this Amendment this 6<sup>th</sup> day of July, 2022.

GREATER ORLANDO AVIATION AUTHORITY

By:   
Kevin J. Thibault, P.E.  
Chief Executive Officer

Approved as to Form and Legality  
(for the benefit of GOAA only)  
this 30 day of June, 2022  
By:   
NELSON MULLINS BROAD AND  
CASSEL, Legal Counsel  
Greater Orlando Aviation Authority

FAITH GROUP, LLC dba FAITH GROUP  
CONSULTING, LLC

By:   
Signature (Duly Authorized Rep.)  
Zach Varwig  
Printed Name  
Principal  
Title


**GREATER ORLANDO AVIATION AUTHORITY**

Orlando International Airport  
 One Jeff Fuqua Boulevard  
 Orlando, Florida, 32827-4392  
 (407) 825-2001

## Memorandum

**To:** Members of the Professional Services Committee

**From:** Peter Pelletier, Director, Information Technology *(Prepared by: Ian Brooks)*

**Date:** June 28, 2022

**Re:** Request for Recommendation of Approval to the Chief Executive Officer of an Amendment to Addendum 29 to the Information Technology Consulting Services Agreement with Faith Group, LLC. for the Additional Development and Implementation of an Address Management System at the Orlando International Airport.

On October 12, 2021, the Professional Services Committee approved Addendum 29 in the amount of \$79,480.00 to the above-referenced agreement. Since that time, it has been determined that there is a need to further enhance the new Address Management System by providing additional user acceptance testing services to address data exceptions as further described in Consultant's memorandum, dated June 3, 2022.

If approved, these services would be effective June 28, 2022.

The MWBE/LDB participation has been reviewed by the Office of Small Business Development. Their findings and recommendation are attached.

Funding is from previously approved Capital Expenditure Funds: **GH** 308.521.170.5310009.000.500955. Funding source verified by Andrea Harper of Construction Finance on 6 / 22 / 22 as correct and available.

It is respectfully requested that the Professional Services Committee recommend to the Chief Executive Officer approval of an Amendment to Addendum 29 to the Information Technology Consulting Services Agreement with Faith Group, LLC. for the services contained therein and the amount as shown below:

Not to Exceed Fees	\$6,016.00
Lump Sum Fees	\$0.00
Not to Exceed Expenses	\$0.00
<b>TOTAL</b>	<b>\$6,016.00</b>
AAC – Compliance Review Date	<i>JSS</i> 6/21/22
AAC – Funding Eligibility Review Date	6/21/22

**Req# 91656**



**GREATER ORLANDO AVIATION AUTHORITY**

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Orlando International Airport  
5850-B Cargo Road  
Orlando, Florida 32827-4399

**MEMORANDUM**

To: Members of the Professional Services Committee

From: Edelis Molina, Sr. Small Business Administrator

Date: June 28, 2022

Re: Request for Recommendation of Approval to the Chief Executive Officer of an Amendment to Addendum 29 to the Professional Services Agreement with Faith Group, LLC. for the Development and Implementation of an Address Management System at the Orlando International Airport.

We have reviewed the proposed Amendment to Addendum 29 and determined that, due to the specialized scope of the services to be provided, Faith Group Consulting, LLC does not propose small business participation on this Amendment.

Our analysis indicates that Faith Group Consulting, LLC is eligible for award of the subject Amendment.



Faith Group

3101 S HANLEY ROAD

ST. LOUIS, MO 63143

T: 314.991.2228 | F: 314.991.2268

## MEMORANDUM

**TO:** Ian Brooks; IT Contracts Manager  
**CC:** Joe Furnari, Richard D'Anjou  
**FROM:** Jason Wallace  
**PROJECT:** Address Management System  
**PROJECT #:** GOAA # ITAPP-00120 – GIS Address Management System  
Faith Group # 450-001-029  
**SUBJECT:** Amendment 1  
**DATE:** 6/3/2022

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### Overview

Faith Group and Woolpert (the FG Team) have been tasked with providing additional user acceptance testing services to address data exceptions within the new Address Management System. Changes were requested by GOAA Planning after the approval was given to move to production. Approximately 4 weeks of development, and then GOAA Testing & Change Management.

### Intent

The FG Team will implement changes requested by GOAA Planning post approval to deploy the solution to the production environment. The first request pertaining Outbuildings will include:

- Implementing a dual format addressing scenario for Outbuilding tenants.
  - First scenario is the standard address where the tenant street address is the same as the building shell address but has a unique suite number added and the second scenario is where the tenant address does not match the building shell address.
  - Second scenario is being implemented to provide GOAA the ability to assign addresses to tenants while GOAA goes through the process of reassigning addresses for such exception case tenants to the standard format, a process that typically takes 6 months.
    - This involves developing exception addressing scenario for levels 04 & 05 of the Train Station building. Exception attribute rules will be developed where Level 4 rooms are assigned Level 5 address and Level 5 rooms are assigned Level 6 address and modify layer definitions in the project.
  - User manuals will be updated to address these two additional addressing scenarios and update the application to fix any bugs identified during the third UAT.
  - The deployment of the solution to production environment will be completed, conduct user training, and provide post deployment support.

## Cost Breakdown

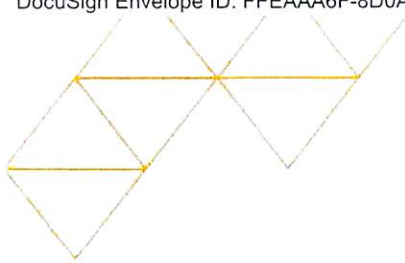
Below is the Not To Exceed (NTE) fee to support this effort that will be invoiced monthly. Green indicates what is included in the Amendment 1.

Task Name	FG Hours	FG Rates	Woolpert Fees	TOTAL
Principal	6	\$248.00	\$0.00	\$1,488.00
Contracts Admin	12	\$72.00	\$0.00	\$864.00
Sr. Project Management	37	\$132.00	\$0.00	\$4,884.00
Task 1 – Project Management			\$5,882.00	\$5,882.00
Task 2 – Fact Finding, Requirements, and Design Development			\$6,134.00	\$6,134.00
Task 3 – Testing and Tool Development			\$48,648.00	\$48,648.00
Task 4 – User / Administrator Training			\$5,294.00	\$5,294.00
Task 5 – Deployment and Post Go-Live Support			\$6,286.00	\$6,286.00
<b>TOTAL:</b>			<b>\$72,244.00</b>	<b>\$79,480.00</b>
<b>Amendment 1</b>				
Sr. Project Management	8	\$132.00	\$0.00	\$1,056.00
Task 3 – Develop Outbuilding and SITF addressing exception cases			\$4,960.00	\$4,960.00
<b>Amendment 1 Subtotal</b>				<b>\$6,016.00</b>
<b>New Grand Total</b>			<b>\$77,204.00</b>	<b>\$85,496.00</b>

The new grand total for the aforementioned scope will be \$85,496 with the **Amendment 1** total being **\$6,016**. Faith Group and Woolpert request approval for this amount to complete the design and development of the Address Management System.

Thank You,

Jason Wallace  
 Sr. IT Project Manager  
 Jason.Wallace@faithgroupllc.com  
 (614) 937-4801



# SCOPE OF WORK

for

## Address Management System

for

### Greater Orlando Aviation Authority (GOAA)

Prepared By:  
**FAITH GROUP LLC**

June 3<sup>rd</sup>, 2022

## OBJECTIVE & OVERVIEW

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### Background

As part of the Faith Group (FG) Team, Woolpert, Inc. has been tasked with providing consulting services related to the Address Management System Assessment for the Greater Orlando Aviation Authority (GOAA). Through the end of 2020, GOAA had been using a custom-built Address Data Management Application (ADMA), developed by one of its I.T consultants in 2012. On December 31, 2020, Adobe officially ended support for Adobe Flash effectively rendering the ADMA application obsolete and unusable. As a result, GOAA needs a new addressing solution to manage address assignment processes for the two airports the Authority manages, Orlando International Airport (OIA) and Orlando Executive Airport (OEA).

Since the beginning of 2021, GOAA staff has been using a manual process for assigning addresses on GOAA property. The Geographic Information System (GIS) analyst typically selects a street segment to check the address range for the particular street segment, drops a point for a new address and manually interpolates an address number. Next, the analyst has to check the existing address database for the newly selected address number to ensure there is no duplication and then finalize the address and issue a notification letter.

The new addressing solution would help automate address selection and validation part of the process such that the analyst will not have to select an assignment number, the system will automatically select the correct address number for a new address location. This will reduce potential errors and speed up the processing of address assignment.

### Existing System Conditions

GOAA is responsible for assigning addresses at the two airports the Authority manages, Orlando International and Orlando Executive Airports. Prior to 2012 the address assignment and management used to be a manual process however, managing and assigning hundreds of addresses every year is a time-consuming process and thus, GOAA contracted its I.T consultants to develop a custom-built application to allow GOAA stakeholders from different departments to request new addresses. The Address Data Management Application (ADMA) was developed in 2012. On December 31, 2020, Adobe officially ended support for Adobe Flash effectively rendering the ADMA application obsolete and unusable.

ADMA offered a Requestor portal and an Assigner portal. The application allowed GOAA stakeholders (Requestors) from different departments to request new addresses. GOAA's Planning department staff (Assigners) would then process these requests, creating the new addresses.

The Requestor initiated a new address request by adding an address point at the location where the new address was needed and submit the request for new address via the portal. This would notify the Assigner via email regarding the new address request. Assigner would then input additional information, like tenant name, suite number, etc. in the system and would forward the request to the Address Validator who would then validate the address and notify the Assigner of the same. Assigner would then prepare a draft of the notification letter and submit the request to the Address Manager for approval. Once the address manager approved the address request, assigner would get notified to finalize the notification letter and send it to pre-determined recipients. All notifications were in the form of system generated emails.

Due to the complex nature of an airport, addressing at GOAA's airports requires nonstandard addressing logic for assigning addresses inside terminal buildings, utility meters, etc. which were built into the ADMA application to automatically generate an address number and verify the validity prior to turning the process over to the human operator for cross checking.

However, the current interface is not intuitive and has resulted in workarounds, which in turn have introduced further challenges and introduces further errors. These errors result in notifications being improperly generated and at times manually created. Other errors include the dropping of requests.

### **ADM Solution for ArcGIS Pro**

The Address Data Management Solution for ArcGIS Pro provides a series of workflows designed to create and manage a central address repository. The Address Data Management Solution is intended for use by local governments and is based around using road centerlines to manage the individual site addresses. This is handled through an ArcGIS Pro project and associated geodatabase with a set of Tasks (a series of preconfigured steps designed to guide users through a specific process) and attribute rules (preconfigured rules used to automatically populate attributes and provide data validation). The tasks guide users through the process of building a road network and address structure, while the attribute rules are used to convert this user input into a functional address repository.

In order to evaluate the ESRI addressing solution for GOAA's addressing needs, the address assignment task was analyzed for the four possible addressing scenarios at GOAA's campuses, namely, the North and South Terminal Buildings, the Airport Outbuildings, Contractors ROW and meters/utility address points. We first attempted to represent each of these addressing schemes in the existing Address Data Management Solution for ArcGIS Pro as provided by ESRI. Because the existing solution is designed around address points along street centerlines, only the utilities scenarios was able to be adequately represented without major modifications to the addressing logic.

Additional research was done to determine if the existing solution's attribute rules could be adapted to incorporate the complex addressing logic of the north/south terminal scenario. After research and testing the existing solution with respect to terminal spaces, it was determined that point / centerline-based rules would not accurately identify the correct address and was not capable of differentiating addresses in the same location, but on different floors.

Once it was clear that the centerline approach would not be sufficient for all addressing cases at the airport, alternative methods were explored and it was determined that the north/south terminal, Contractors ROW and outbuilding scenarios would require attribute rules based on not just the point/centerlines but also additional information like building polygons, space polygons, etc. to ensure that addresses would always be accurately identified.

Based on this evaluation, it is clear that the Solution is not intended to handle complex addressing situations, such as those at GOAA's two campuses, where addresses are not entirely based upon their location on the road network. Handling these situations will necessitate the building of a new set of maps, Tasks and Attribute Rules within ArcGIS Pro to handle the specific scenarios required by the location and produce the final addresses database.

### **Addressing Scenarios**

In the case of GOAA, four primary addressing scenarios have been identified: The North and South Terminal Buildings, the Airport Outbuildings, Contractors ROW and meters/utility address points. Each of these scenarios



will require the building of a unique addressing solution with its own set of preconfigured tasks and attribute rules. Each of these unique solutions will be housed within a separate map within an ArcGIS Pro project with a set of Tasks that will walk an analyst through the process of identifying the address of a user specified location.

The most complicated of these scenarios will be for the North and South Terminal Complexes, where addresses are determined by the location within the building, the floor of the suite in question and the location's room number. Due to the complexity of these scenarios, the user will first be required to select the appropriate layer in the project that relates to the floor in question before making their address request. Once the request has been made, the primary component of the address is determined by the buildings root address and will be handled by an attribute rule that identifies the requested locations presence within the building polygon. An additional attribute rule will then determine the location within the building and determine which portion of the building the requested location falls within and return the proper root address. The remaining components of the address can be handled by an additional attribute rule which pulls from various attributes already present in GOAA's buildings and spaces feature classes. A final attribute rule will then combine information collected from various elements into a formatted address than can be returned to the user and displayed.

The second addressing scenario identified is for the airport outbuildings. In this case, each of the outbuildings has its own unique address. Another map and Task will be created which will prompt the user to identify the location of the address request. This request can then be handled through an attribute rule that identifies the requested location within a building polygon and returns the proper street address.

The third addressing scenario will address the north side and south side Contractors ROW locations. Here the addresses for each contractor trailer lot have been predefined by GOAA. User will select the appropriate map within the ArcGIS Pro project to load tasks and attribute rules specific to assigning addresses for Contractors ROW locations. Predefined attribute rules will ensure correct street address and lot number are selected to form the address for the new request location.

The final scenario identified is for the meter and utility address points. This case is similar to the intended use of the Address Data Management Solution and will only require slight modification of the existing Tasks and Attribute Rules. A model of the existing road network will be created and used to assign appropriate site addresses and road offsets. Suite number associated with meters and utilities will not be able to be automatically generated based upon their location, so the relevant Task will include an option for the analyst to manually assign the correct suite number.

The final product will be an ArcGIS Pro project which contains a series of maps and associated tasks and attribute rules that will walk the user through the process of automatically identifying the mailing address of point locations placed within the map.

## DESCRIPTION & TASKS

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### Task 1 – Project Management

**Description** – Project management will consist of a formal kick-off meeting, project scheduling, and project administration. As soon as is reasonably feasible, following receipt of the written notice-to-proceed, Faith Group's project manager will work with GOAA's project manager to schedule the kick-off meeting.

The objectives of this meeting are to:

- 1) Establish the necessary project management protocols to be adhered to by all stakeholders
- 2) Review GOAA's goals and objectives with all team members
- 3) Identify any GOAA source documentation necessary to support the project that has not be previously discovered
- 4) Identify all critical path schedule milestones
- 5) Establish roles and responsibilities
- 6) Address any outstanding scope or schedule questions that GOAA's stakeholders may have.

The meeting shall be of a duration suitable for addressing each of the items listed. Development of the kick-off meeting agenda shall be the joint responsibility of the FG Team and GOAA's project managers. The FG Team will facilitate weekly project status meetings with GOAA's Project Manager to review tasks completed, in progress, and to be started. If necessary, the FG Team's Project Manager will facilitate ad-hoc meetings with GOAA staff to address issues that need immediate resolution.

**Deliverables –**

1. Confirmed project schedule
2. Submit personnel for approval and remote access
3. Submit and review Request for Information documentation to GOAA
4. Kick-off meeting minutes

**GOAA Responsibilities –**

1. Coordinate and schedule required meetings, communications, and onsite support with GOAA staff and subject matter experts.
2. Review kick-off meeting minutes and provide concurrence to the project plan within 14 days from receipt.

## **Task 2 – Fact Finding, Requirements & Design Development**

**Description –** The objective for this task is to review the project requirements and finalize requirements and potential reference architecture. Stakeholder meetings will be conducted to go over the requirements and identify any changes to the user needs and requirements discussed as part of the previous project scoping task.

- Hold online review workshops with GOAA stakeholders to review existing conditions and present the potential reference architecture. Stakeholders may include:
  - I.T.
  - Planning
  - Commercial Properties
  - Concessions
  - Maintenance
- Consolidate feedback related to design, requirements, and deployment.
- Hold online review workshop with GOAA stakeholders to present discoveries and review outstanding questions.
- Gather and deliver GOAA costs associated to licensing changes needed for full scale deployment
- Update final requirements documentation
- Submit documents for GOAA review and approval

During the review workshop, the requirements and technical specifications defined in this scope will be refined and changed if needed. It is expected that the changes will not represent a significant difference in the total level of effort required; however, if they do, the FG Team and GOAA will work together to determine what can be performed within the existing scope and determine options for addressing anything that exceeds the original scope.

**Deliverables -**

1. Functional Requirements and Technical Design Configuration document

**GOAA Responsibilities –**

1. Provide comments and concurrence to the Functional Requirements and Technical Design Configuration document within 14 days of receipt.

2. GOAA I.T. staff must provide licensing and administrative support for all hardware and software required for this effort.

### Task 3 – Testing and Tool Development

**Description** – As part of this task, the FG Team will customize the ESRI Address Data Management Solution for ArcGIS Pro by developing custom ArcGIS Pro tasks and attribute rules addressing GOAA specific addressing scenarios, for user testing and deployment.

- Based on approved functional specifications, develop new workflow associated with addressing process
- With assistance from GOAA technical resources, develop tools for the ArcGIS Pro addressing solution
- Migrate and load existing addressing data (streets, spaces, buildings, and address point data)
- Develop associated tasks and attribute rules
- Develop Outbuilding addressing for special case addressing scenarios
- The Train Station building addressing for Levels 04 & 05 – Develop exception attribute rules where Level 4 rooms are assigned Level 5 address and Level 5 rooms are assigned Level 6 address. Modifying layer definitions in the project.
- Implement workflow to GOAA TEST environment
- Conduct bug fixes
- Final UAT

#### Deliverables -

1. Approved addressing workflow
2. Tested and implemented workflow across GOAA TEST environment
3. Tasks and attribute rules for approval
4. Written validation and status of existing addressing data within the new system
5. Defects Report and Issues Tracking Log
6. Update Tools Based on GOAA Feedback

#### GOAA Responsibilities –

1. Generate defects report from UAT (responsibility of GOAA)
2. Provide clean address point dataset in a schema as required by the ESRI Address Data Management Solution to Woolpert
3. Provide all necessary datasets for tool development and testing to Woolpert

### Task 4 – User / Administrator Training

**Description** – From all learning and testing, the FG Team will develop an Administration and User Training Guide. The Team shall provide up to 6 hours of training for the Address Management Solution. This training session will be provided to administrators and power users under a train-the-trainer model. Update Functional Requirements and Technical Design Documents with findings and details from the POC. Follow up on any remaining questions or information from GOAA staff.

#### Deliverables -

1. Administration and User Guide
2. Conduct up to 6 hours of Training

**GOAA Responsibilities –**

1. Identify trainees for train-the-trainer approach

**Task 5 – Deployment and Post Go-Live Support**

**Description –** Develop Cutover Plan to deploy new tools within the Production environment. Execute Cutover Plan against a copy of the Production environment and test tools to ensure accurate and successful deployment. Assist GOAA in the cutover from Test to Production utilizing the cutover plan as the guide for success. To provide remote go-live and post deployment support for up to 24 hours total.

**Deliverables -**

1. Final system deployment in production
2. Cutover Plan for Production Deployment
3. Dedicated resource to provide remote support for Production deployment
4. Resource available to provide up to 24 hours total go live and post deployment (over a 25-business day period) support.

**GOAA Responsibilities –**

1. Final sign off and acceptance of project

**Assumptions**

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- GOAA staff will be made available to answer questions and provide information.
- GOAA will provide network access for Faith Group & Woolpert staff to GOAA's I.T. environment.
- The effort will be limited to the scope and fee submitted, however, additional support, if available, may be provided at GOAA's written request.
- Review meetings and communications will be remote.
- Capturing errors for the tools is included as part of the report development
- Address Data Management ArcGIS Solutions for Enterprise can be deployed on ArcGIS Enterprise versions 10.5 – 10.9. Per ESRI's documentation and discussion with ESRI Technical Support, upgrade from the current 10.7 version to a newer version should not have an adverse impact.
- Per ESRI's requirements ArcGIS Solution deployment is supported on ArcGIS Pro 2.5 or later.
- GOAA testing efforts will remain focused on the criteria defined in the test scripts
- Only two iterations will be performed for testing by GOAA. Initial testing will be performed followed by fixes, retesting and then final updates to the tools after the retesting.
- GOAA will ensure the key team members are available to support the testing updates that require additional off-site time.
- GOAA will identify users that will be responsible for configuring and managing the newly developed tool
- Existing address point dataset (provided by GOAA in ESRI Address matching schema) will be incorporated into the Address Data Management solution.
- Address data cleanup or validation of existing address point data is not in scope.
- Woolpert will load the existing address point data "as is".

## SCHEDULE

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Provided below is an estimated project schedule. The project schedule will be updated after the kick-off meeting and will be dependent upon resource availability for both the FG Team and GOAA.

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
<b>Project Management</b>	█	█	█	█	█	█
<b>Fact Finding, Requirements &amp; Design Development</b>	█	█				
<b>Testing &amp; Tool Development</b>		█	█	█	█	
<b>User/Administrator Training</b>					█	
<b>Deployment &amp; Post Go-Live Support</b>						█

## FEE

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The following tasks of the project are estimated based on the anticipated effort and schedule required for the above "Scope of Work." The expected fee to complete the identified tasks is shown in the table below. If the scope of work increases beyond the subtasks listed for Task 2, or if the level of effort is significantly more than expected to support these tasks, then a change request will be submitted to increase the fee. Examples of significant changes to the scope of work include but are not limited to:

- Additional addressing rules/logic other than the ones identified in this document
- Additional user functionality

The Not To Exceed (NTE) Fee by task for this work is shown in the table below.

Task Name	FG Hours	FG Rates	Woolpert Fees	TOTAL
Principal	6	\$248.00	\$0.00	\$1,488.00
Contracts Admin	12	\$72.00	\$0.00	\$864.00
Sr. Project Manager	37	\$132.00	\$0.00	\$4,884.00
Task 1 – Project Management			\$5,882.00	\$5,882.00
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Task 4 – User / Administrator Training			\$5,294.00	\$5,294.00
Task 5 – Deployment and Post Go-Live Support			\$6,286.00	\$6,286.00
<b>TOTAL:</b>			<b>\$72,244.00</b>	<b>\$79,480.00</b>
<b>Amendment 1</b>				
Sr. Project Manager	8	\$132.00	\$0.00	\$1,056.00
Task 3 – Develop Outbuilding and Train Station addressing exception cases			\$4,960.00	\$4,960.00
Amendment 1 Subtotal				\$6,016.00
<b>New Grand Total</b>			<b>\$77,204.00</b>	<b>\$85,496.00</b>



# GREATER ORLANDO AVIATION AUTHORITY

## Statement of Work **Addendum**

Address Management System Assessment  
Greater Orlando Aviation Authority (GOAA)

May 31, 2022



WOOLPERT  
ARCHITECTURE | ENGINEERING | GEOSPATIAL



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# Document Acceptance

Richard D'Anjou, Client  
Project Manager

Date:

\_\_\_\_\_

Woolpert, Project  
Manager

Date:

\_\_\_\_\_

# Change Control

Change Record			
Date	Author	Version	Change Reference
08/09/2021	Prateek Sharma	1.0	Initial Draft
08/20/2021	Prateek Sharma	2.0	Added Address Data Management Solution for ArcGIS Pro evaluation section
09/03/2021	Prateek Sharma	2.1	Incorporate GOAA comments
09/14/2021	Prateek Sharma	2.1	Incorporate GOAA comment regarding assumptions
09/27/2021	Prateek Sharma	2.2	Updated per review of existing data
09/28/2021	Prateek Sharma	2.2	Modified Task 3 assumption
10/05/2021	Prateek Sharma	2.3	Changed fee to T&M
10/05/2021	Prateek Sharma	2.3.1	Fee breakdown by task
5/31/2022	Prateek Sharma	2.4	Dev. Env. deployment, Outbuildings and STIF addressing exception, 3 <sup>rd</sup> UAT



## General Background

As part of the Faith Group Team, Woolpert, Inc. has been tasked with providing consulting services related to the Address Management System Assessment for the Greater Orlando Aviation Authority (GOAA). Through the end of 2020, GOAA had been using a custom built Address Data Management Application (ADMA), developed by one of its IT consultants in 2012. On December 31, 2020, Adobe officially ended support for Adobe Flash effectively rendering the ADMA application obsolete and unusable. As a result, GOAA needs a new addressing solution to manage address assignment processes for the two airports the Authority manages, Orlando International Airport (OIA) and Orlando Executive Airport (OEA).

Since the beginning of 2021, GOAA staff has been using a manual process for assigning addresses on GOAA property. The GIS analyst typically selects a street segment to check the address range for the particular street segment, drops a point for a new address and manually interpolates an address number. Next, the analyst has to check the existing address database for the newly selected address number to ensure there is no duplication and then finalize the address and issue a notification letter.

The new addressing solution would help automate address selection and validation part of the process such that the analyst will not have to select an assignment number, the system will automatically select the correct address number for a new address location. This will reduce potential errors and speed up the processing of address assignment.



## Current Address Data Management Application

GOAA is responsible for assigning addresses at the two airports the Authority manages, Orlando International and Orlando Executive Airports. Prior to 2012 the address assignment and management used to be a manual process however, managing and assigning hundreds of addresses every year is a time consuming process and thus, GOAA contracted its IT consultants to develop a custom-built application to allow GOAA stakeholders from different departments to request new addresses. The Address Data Management Application (ADMA) was developed in 2012. On December 31, 2020, Adobe officially ended support for Adobe Flash effectively rendering the ADMA application obsolete and unusable.

ADMA offered a Requestor portal and an Assigner portal. The application allowed GOAA stakeholders (Requestors) from different departments to request new addresses. GOAA's Planning department staff (Assigners) would then process these requests, creating the new addresses.

The Requestor initiated a new address request by adding an address point at the location where the new address was needed and submit the request for new address via the portal. This would notify the Assigner via email regarding the new address request. Assigner would then input additional information, like tenant name, suite number, etc. in the system and would forward the request to the Address Validator who would then validate the address and notify the Assigner of the same. Assigner would then prepare a draft of the notification letter and submit the request to the Address Manager for approval. Once the address manager approved the address request, assigner would get notified to finalize the notification letter and send it to pre-determined recipients. All notifications were in the form of system generated emails.

Due to the complex nature of an airport, addressing at GOAA's airports requires nonstandard addressing logic for assigning addresses inside terminal buildings, utility meters, etc. which were built into the ADMA application to automatically generate an address number and verify the validity prior to turning the process over to the human operator for cross checking.

However, the current interface is not intuitive and has resulted in workarounds, which in turn have introduced further challenges and introduces further errors. These errors result in notifications being improperly generated and at times manually created. Other errors include the dropping of requests.



## Project Objective

The objective of this project is to gather pertinent information regarding the existing ADMA installation to assess how it performs. This will provide the reference point to outline the desired improvements. Next, an analysis is conducted to identify potential new addressing solutions to address GOAA's addressing needs and develop a proposal with suggested architecture and cost estimate for an Address Data Management Application (ADMA) replacement.

Based on discussions with GOAA IT staff and users, the ADMA system was extremely complicated for users and suffered from performance consistency issues. The added features of user notification, auto notification generation, etc. added to the complexity of the application and resulted in a slow application and inconsistent performance where some times the system would not register information input by the user or would not cycle the address request through the various stages it needed to pass through on its way to final approval by the addressing manager.

It is GOAA's desire to simplify the new application to reduce chances of encountering above mentioned issues. The current, post ADMA, process of using the Excel New Address Request Form for initiating a new address request works well and GOAA would like to continue using this form. GOAA has requested a review of ESRI's ArcGIS Solutions for Address Data Management as a potential replacement for ADMA.

### *Assumptions*

- GOAA staff will be made available to answer questions and provide information.
- GOAA will provide network access to Woolpert staff to GOAA's IT environment.
- The effort will be limited to the scope and fee submitted, however, additional support, if available, may be provided at GOAA's written request.
- Review meetings and communications will be remote.



# Addressing Data Management Solution for ArcGIS Pro by ESRI

## Evaluation

The Address Data Management Solution for ArcGIS Pro provides a series of workflows designed to create and manage a central address repository. The Address Data Management Solution is intended for use by local governments and is based around using road centerlines to manage the individual site addresses. This is handled through an ArcGIS Pro project and associated geodatabase with a set of Tasks (a series of preconfigured steps designed to guide users through a specific process) and attribute rules (preconfigured rules used to automatically populate attributes and provide data validation). The tasks guide users through the process of building a road network and address structure, while the attribute rules are used to convert this user input into a functional address repository.

In order to evaluate the ESRI addressing solution for GOAA's addressing needs, the address assignment task was analyzed for the four possible addressing scenarios at GOAA's campuses, namely, the North and South Terminal Buildings, the Airport Outbuildings, Contractors ROW and meters/utility address points. We first attempted to represent each of these addressing schemes in the existing Address Data Management Solution for ArcGIS Pro as provided by ESRI. Because the existing solution is designed around address points along street centerlines, only the utilities scenarios was able to be adequately represented without major modifications to the addressing logic.

Additional research was done to determine if the existing solution's attribute rules could be adapted to incorporate the complex addressing logic of the north/south terminal scenario. After research and testing the existing solution with respect to terminal spaces, it was determined that point/centerline based rules would not accurately identify the correct address and was not capable of differentiating addresses in the same location, but on different floors.

Once it was clear that the centerline approach would not be sufficient for all addressing cases at the airport, alternative methods were explored and it was determined that the north/south terminal, Contractors ROW and outbuilding scenarios would require attribute rules based on not just the point/centerlines but also additional information like building polygons, space polygons, etc. to ensure that addresses would always be accurately identified.

Based on this evaluation, it is clear that the Solution is not intended to handle complex addressing situations, such as those at GOAA's two campuses, where addresses are not entirely based upon their location on the road network. Handling these situations will necessitate the building of a new set of maps, Tasks and Attribute Rules within ArcGIS Pro to handle the specific scenarios required by the location and produce the final addresses database.



## GOAA's Addressing Scenarios

In the case of Orlando International Airport, four primary addressing scenarios have been identified: The North and South Terminal Buildings, the Airport Outbuildings, Contractors ROW and meters/utility address points. Each of these scenarios will require the building of a unique addressing solution with its own set of preconfigured tasks and attribute rules. Each of these unique solutions will be housed within a separate map within an ArcGIS Pro project with a set of Tasks that will walk an analyst through the process of identifying the address of a user specified location.

The most complicated of these scenarios will be for the North and South Terminal Complexes, where addresses are determined by the location within the building, the floor of the suite in question and the location's room number. Due to the complexity of these scenarios, the user will first be required to select the appropriate layer in the project that relates to the floor in question before making their address request. Once the request has been made, the primary component of the address is determined by the buildings root address and will be handled by an attribute rule that identifies the requested locations presence within the building polygon. An additional attribute rule will then determine the location within the building and determine which portion of the building the requested location falls within and return the proper root address. The remaining components of the address can be handled by an additional attribute rule which pulls from various attributes already present in GOAA's buildings and spaces feature classes. A final attribute rule will then combine information collected from various elements into a formatted address than can be returned to the user and displayed.

The second addressing scenario identified is for the airport outbuildings. In this case, each of the outbuildings has its own unique address. Another map and Task will be created which will prompt the user to identify the location of the address request. This request can then be handled through an attribute rule that identifies the requested location within a building polygon and returns the proper street address.

The third addressing scenario will address the north side and south side Contractors ROW locations. Here the addresses for each contractor trailer lot have been predefined by GOAA. User will select the appropriate map within the ArcGIS Pro project to load tasks and attribute rules specific to assigning addresses for Contractors ROW locations. Predefined attribute rules will ensure correct street address and lot number are selected to form the address for the new request location.

The final scenario identified is for the meter and utility address points. This case is similar to the intended use of the Address Data Management Solution and will only require slight modification of the existing Tasks and Attribute Rules. A model of the existing road network will be created and used to assign appropriate site addresses and road offsets. Suite number associated with meters and utilities will not be able to be automatically generated based upon their location, so the relevant Task will include an option for the analyst to manually assign the correct suite number.



GOAA | ADDRESS MANAGEMENT SYSTEM ASSESSMENT  
STATEMENT OF WORK

The final product will be an ArcGIS Pro project which contains a series of maps and associated tasks and attribute rules that will walk the user through the process of automatically identifying the mailing address of point locations placed within the map.



# Tasks for Customizing ESRI Address Data Management Solution

## Task 1: Project Management

Project management will consist of a formal kick-off meeting, project scheduling, and project administration. As soon as is reasonably feasible, following receipt of the written notice-to-proceed, Woolpert's project manager will work with GOAA's project manager to schedule the kick-off meeting. The objectives of this meeting are to: 1) establish the necessary project management protocols to be adhered to by all stakeholders; 2) review GOAA's goals and objectives with all team members; 3) identify any GOAA source documentation necessary to support the project that has not be previously discovered; 4) identify all critical path schedule milestones; 5) establish roles and responsibilities; 6) address any outstanding scope or schedule questions that GOAA's stakeholders may have. The meeting shall be of a duration suitable for addressing each of the items listed. Development of the kick-off meeting agenda shall be the joint responsibility of Woolpert's and GOAA's project managers.

Woolpert will facilitate weekly project status meetings with GOAA's Project Manager to review tasks completed, in progress, and to be started. If necessary, the Woolpert Project Manager will facilitate ad-hoc meetings with GOAA staff to address issues that need immediate resolution.

### *Deliverables*

- Mobilize team and confirm phase and task schedule post NTP from GOAA
- Submit personnel for approval and remote access
- Submit and review Request for Information documentation to GOAA
- The Woolpert Project Manager will facilitate a project kick-off meeting with GOAA staff and Woolpert technical staff.
- The Woolpert Project Manager will facilitate weekly status meetings with the GOAA Project Manager.
- Woolpert's Project Manager and administrative staff will perform project setup, labor, and billing support.
- Kick-off meeting minutes

### *Assumptions*

- The activities discussed in this section will begin once a written notice-to-proceed is received from GOAA.

### *GOAA Responsibilities*

- Coordinate and schedule required meetings, communications, and onsite support with GOAA staff and SMEs.





- Review kick-off meeting minutes and provide concurrence to the project plan within 14 days from receipt.

## Task 2: Fact Finding, Requirements and Design Development

The objective for this task is to review the project requirements and finalize requirements and potential reference architecture. Stakeholder meetings will be conducted to go over the requirements and identify any changes to the user needs and requirements discussed as part of the previous project scoping task.

- Hold online review workshops with GOAA stakeholders to review existing conditions and present the potential reference architecture. Stakeholders may include:
  - IT
  - Planning
  - Commercial Properties
  - Concessions
  - Maintenance
- Consolidate feedback related to design, requirements, and deployment.
- Hold online review workshop with GOAA stakeholders to present discoveries and review outstanding questions.
- Gather and deliver GOAA costs associated to licensing changes needed for full scale deployment
- Update final requirements documentation
- Submit documents for GOAA review and approval

### *Deliverables*

- During the review workshop, the requirements and technical specifications defined in this scope will be refined and changed if needed. It is expected that the changes will not represent a significant difference in the total level of effort required; however, if they do, Woolpert and GOAA will work together to determine what can be performed within the existing scope and determine options for addressing anything that exceeds the original scope.
- Functional Requirements and Technical Design Configuration document

### *Assumptions*

- Capturing errors for the tools is included as part of the report development
- Address Data Management ArcGIS Solutions for Enterprise can be deployed on ArcGIS Enterprise versions 10.5 – 10.9. Per ESRI's documentation and discussion with ESRI Technical Support, upgrade from the current 10.7 version to a newer version should not have an adverse impact.
- Per ESRI's requirements ArcGIS Solution deployment is supported on ArcGIS Pro 2.5 or later.



*GOAA Responsibilities*

- Provide comments and concurrence to the Functional Requirements and Technical Design Configuration document within 14 days of receipt.
- GOAA IT staff must provide licensing and administrative support for all hardware and software required for this effort.



## Task 3: Testing and Tool Development

As part of this task Woolpert will customize the ESRI Address Data Management Solution for ArcGIS Pro by developing custom ArcGIS Pro tasks and attribute rules addressing GOAA specific addressing scenarios, for user testing and deployment.

- Based on approved functional specifications, develop new workflow associated with addressing process
- With assistance from GOAA technical resources, develop tools for the ArcGIS Pro addressing solution
- Customize and load GOAA street data, spaces, building and address point data
- Develop associated tasks and attribute rules
- Develop Outbuilding addressing for special case addressing scenarios
- STIF building addressing for Levels 04 & 05 – Develop exception attribute rules where Level 4 rooms are assigned Level 5 address and Level 5 rooms are assigned Level 6 address. Modifying layer definitions in the project.
- Implement workflow to GOAA DEV environment
- GOAA to conduct UAT
- Conduct bug fixes
- Implement workflow to GOAA TEST environment
- Conduct bug fixes
- Final UAT

### *Deliverables:*

- Approved addressing workflow
- Tested and implemented workflow across GOAA TEST environment
- Tasks and attribute rules for approval
- Defects Report and Issues Tracking Log
- Update Tools Based on GOAA Feedback

### *Assumptions:*

- GOAA testing efforts will remain focused on the criteria defined in the test scripts
- Only two iterations will be performed for testing by GOAA. Initial testing will be performed followed by fixes, retesting and then final updates to the tools after the retesting.
- GOAA will ensure the key team members are available to support the testing updates that require additional off-site time.



- GOAA will identify users that will be responsible for configuring and managing the newly developed tools
- Woolpert will load the existing address point data “as is”.
- Woolpert is not responsible for address data cleanup or validation of existing address point data.

***GOAA Responsibilities***

- Generate defects report from UAT (responsibility of GOAA)
- Provide clean address point dataset to load into ESRI Address Data Management Solution to Woolpert.
- Provide all necessary datasets for tool development and testing to Woolpert.



## Task 4: User/Administrator Training

- From all learning and testing, Woolpert will develop an Administration and User Training Guide
- The Team shall provide up to 6 hours of training for the Address Management Solution. This training session will be provided to administrators and power users under a train-the-trainer model
- Update Functional Requirements and Technical Design Documents with findings and details from the POC.
- Follow up on any remaining questions or information from GOAA staff.

### *Deliverables:*

- Administration and User Guide
- Conduct up to 6 hours of Training

### *Assumptions:*

- GOAA will identify its trainees for the train-the-trainer approach

## Task 5: Deployment and Post Go-Live Support

- Develop Cutover Plan to deploy new tools within the Production environment
- Execute Cutover Plan against a copy of the Production environment and test tools to ensure accurate and successful deployment.
- Assist GOAA in the cutover from Test to Production utilizing the cutover plan as the guide for success
- To provide remote go-live and post deployment support for up to 24 hours total.

### *Deliverables:*

- Cutover Plan for Production Deployment
- Dedicated resource to provide remote support for Production deployment
- Resource available to provide up to 24 hours total go live and post deployment (over a 25-business day period) support.

### *Assumptions*

- GOAA will provide project sign-off within agreed-upon timeframe following go-live.



## Project Cost Estimates

The following tasks of the project are estimated based on the anticipated effort and schedule required for the above "Scope of Work." The expected T&M NTE fee to complete the identified tasks is shown in the table below. If the scope of work increases beyond the subtasks listed for Task 2, or if the level of effort is significantly more than expected to support these tasks, then a change request will be submitted to increase the fee. Examples of significant changes to the scope of work include but are not limited to:

- Additional addressing rules/logic other than the ones identified in this document;
- Additional user functionality.

Task #	Task Name	Sr. Geospatial SME		Sr. Project Manager		Sr. Admin. Asst.		Total	
		\$248		\$167		\$71		Est. Hours	T&M NTE Fee
		Est. Hours	Fee	Est. Hours	Fee	Est. Hours	Fee		
Task 1	Project Management – Kick-Off and ongoing status meetings. Administrative and billing tasks.	2	\$496.00	28	\$4,676.00	10	\$710.00	40	\$5,882.00
Task 2	Fact Finding, Requirements and Design Development	18	\$4,464.00	10	\$1,670.00	0	\$0.00	28	\$6,134.00
Task 3	Testing and Tool Development	180	\$44,640.00	24	\$4,008.00	0	\$0.00	204	\$48,648.00
Task 4	User/Administrator Training	20	\$4,960.00	2	\$334.00	0	\$0.00	22	\$5,294.00
Task 5	Deployment and Post Go-Live Support	24	\$5,952.00	2	\$334.00	0	\$0.00	26	\$6,286.00
	<b>Address Data Management Solution for ArcGIS Pro Customization for GOAA</b>	244	\$60,512.00	66	\$11,022.00	10	\$710.00	320	\$72,244.00
	<b>Total T&amp;M NTE Fee</b>								
<b>ADDENDUM</b>	<b>Develop Outbuilding and SITF addressing exception cases</b>	20	\$4,960	0	\$0.00	0	\$0.00	20	\$4,960



## Project Schedule

Provided below is an estimated project schedule. The project schedule will be updated after the kick-off meeting and will be dependent upon resource availability for both Woolpert and GOAA.

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
<b>Project Management</b>	█	█	█	█	█	█
<b>Fact Finding, Requirements &amp; design Development</b>	█	█				
<b>Testing &amp; Tool Development</b>		█	█	█	█	
<b>User/Administrator Training</b>					█	
<b>Deployment &amp; Post Go-Live Support</b>						█

**From:** [Joe Furnari](#)  
**To:** [Ian Brooks](#); [Shiv Persaud](#)  
**Subject:** FW: GOAA Address Management SOW  
**Date:** Wednesday, September 22, 2021 2:46:13 PM  
**Attachments:** [GOAA Address Management System SOW and Fee 09222021\\_jf.docx](#)

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Please see the attached scope for development of a new addressing application for Construction Engineering.

Fund code used for the space management effort which I assume will be the same for this:  
308.521.170.5310009.000.500955

CIR that contained both efforts and should have a balance \$181,983

						FY21 GIS
308	521	170	5310009	0	500955	Program

- Joe

**From:** Jason Wallace <Jason.Wallace@faithgroupllc.com>  
**Sent:** Wednesday, September 22, 2021 10:01 AM  
**To:** Joe Furnari <JFurnari@goaa.org>  
**Cc:** Richard D'Anjou <richard.danjou@goaa.org>  
**Subject:** GOAA Address Management SOW



TRUTH IN NEGOTIATION CERTIFICATION

The Consultant hereby certifies, covenants, and warrants that wage rates and other factual unit costs supporting the compensation for this project's agreement are accurate, complete, and current at the time of contracting.

The Consultant further agrees that the original agreement price and any additions thereto shall be adjusted to exclude any significant sums by which the Greater Orlando Aviation Authority determines the agreement price was increased due to inaccurate, incomplete, or noncurrent wage rates and other factual unit costs. All such agreement adjustments shall be made within one (1) year following the end of the contract. For purposes of this certificate, the end of the agreement shall be deemed to be the date of final billing or acceptance of the work by the Greater Orlando Aviation Authority, whichever is later.

Firm: Faith Group LLC

By:  \_\_\_\_\_

Print Name: Zach Varwig

Date: 6/20/2022

**REQUEST FOR RECOMMENDATION OF APPROVAL TO THE CHIEF EXECUTIVE OFFICER OF AN AMENDMENT TO ADDENDUM NO. 29 TO THE INFORMATION TECHNOLOGY CONSULTING SERVICES AGREEMENT WITH FAITH GROUP, LLC. FOR THE ADDITIONAL DEVELOPMENT AND IMPLEMENTATION OF AN ADDRESS MANAGEMENT SYSTEM, AT THE ORLANDO INTERNATIONAL AIRPORT.**

4. Mr. Brooks presented the memorandum, dated June 28, 2022. Discussion ensued.

Upon motion of Mr. Shedek, second by Mr. Hunt, vote carried to recommend approval to the Chief Executive Officer of an Amendment to Addendum 29 to the Information Technology Consulting Services Agreement with Faith Group, LLC for the Additional Development and Implementation of an Address Management System, for the total not-to-exceed fee amount of \$6,016.00, with funding from previously approved Capital Expenditure Funds. ✓

**ADJOURNMENT**

5. No public comments were made during the meeting. There being no further business for discussion, the meeting was adjourned at 10:48 a.m.

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Davin D. Ruohomaki, Chairman  
Professional Services Committee  
Senior Director of Engineering and Construction