



**CITY OF POMpano BEACH**  
 100 W Atlantic Blvd, Pompano Beach, FL 33060

<b>WORK AUTHORIZATION NO: 03</b>	<b>COPBFL Project Manager: Tammy Good</b> <b>Phone: 954-786-5512      Email: tammy.good@copbfl.com</b> <b>COPBFL Contract Specialist: Antonio Pucci</b> <b>Phone: 954-786-5574      Email: Antonio.Pucci@copbfl.com</b>
<b>Firm Name: HDR Engineering, Inc.</b> <b>Address: 1475 Centrepark Boulevard, Ste.230</b> <b>City/State/Zip: West Palm Beach, FL 33401</b>	<b>Firm's Contact Representative: Cody Parham</b> <b>Phone: 561-209-6641</b> <b>Email: cody.parham@hdrinc.com</b>
<p>In accordance with solicitation number L-54-16, Ordinance number 2017-22 dated January 31, 2017 for Municipal Air Park engineering consulting services; the City of Pompano Beach hereby directs the firm to perform the services for the project as detailed in the attached scope of work, attached hereto and made a part of this Work Authorization for the amount specified below.</p> <p>All terms and conditions of the Original Contract dated January 31, 2017 approved via Ordinance No. 2017-22 remain unchanged and in full force and effect, and shall govern the work described herein to its completion, independent of the Original Contract's effective termination date.</p>	
<b>Description:</b> The CITY has requested the CONSULTANT to perform design services for the PMP Runway 28 extension and reconfiguration of the taxiway network which serves it, per Exhibit A, attached hereto and made a part hereof.	
<b>Total Work Authorization Amount:\$354,943.40</b>	
CIP/Account No. (For City's internal use):	
<b>Firm/Contractor Approval:</b>  See Signature Pages Below	<b>City of Pompano Beach Approval:</b>  See Signature Pages Below

**IN WITNESS WHEREOF**, the parties hereto have caused this Agreement to be executed the day and year hereinabove written.

Attest:

**CITY OF POMPANO BEACH**

\_\_\_\_\_  
ASCELETA HAMMOND, CITY CLERK

By: \_\_\_\_\_  
REX HARDIN, MAYOR

APPROVED AS TO FORM:

By: \_\_\_\_\_  
GREGORY P. HARRISON, CITY MANAGER

\_\_\_\_\_  
MARK E. BERMAN, CITY ATTORNEY

(SEAL)

**“CONSULTANT”**

HDR Engineering, Inc.

Witnesses:

\_\_\_\_\_

(Print or Type Name)

\_\_\_\_\_

(Print or Type Name)

By: \_\_\_\_\_  
Erki Saurez, Vice President

STATE OF FLORIDA

COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before me, by means of  physical presence or  online notarization, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, by Erki Saurez as Vice President of HDR Engineering, Inc., a Nebraska corporation authorized to conduct business in Florida on behalf of the corporation. He is personally known to me or who has produced \_\_\_\_\_  
\_\_\_\_\_ (type of identification) as identification.

NOTARY’S SEAL:

\_\_\_\_\_  
NOTARY PUBLIC, STATE OF FLORIDA

\_\_\_\_\_  
(Name of Acknowledger Typed, Printed or Stamped)

\_\_\_\_\_  
Commission Number

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# **EXHIBIT “A” SCOPE AND FEE**

## **Professional Engineering and Related Services for Runway 10-28 Safety Enhancements December 22nd, 2021**

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This Work Authorization is pursuant to the Agreement between the City of Pompano Beach (CITY) and HDR Engineering, Inc. (CONSULTANT), a Nebraska corporation authorized to transact business in the State of Florida for General Engineering Aviation Consultant services, dated January 31, 2017, between CITY and CONSULTANT (“MASTER AGREEMENT”).

### **PROJECT DESCRIPTION**

Pompano Beach Airpark (PMP) has three (3) paved asphalt runways; Runway 15-33, Runway 10-28 and Runway 6-24. In the airfield’s current layout, the thresholds of Runway 33 and Runway 28 overlap. The Federal Aviation Administration (FAA) has requested that this matter be addressed as the existing geometry is not functioning in accordance with their Advisory Circulars. To correct this issue, the CITY will be extending Runway 28 to the east. As part of the Runway 28 extension project, the CITY will also be performing taxiway modifications to assist with the elimination of runway incursions. In its current configuration, the connections between Taxiways E, K, L and Runways 15-33 and 10-28 causes confusions to the operation at this Airport. Taxiway E crosses through Runways 15-33 and 10-28 approach surfaces. Taxiway K connects to the apron and allows direct access to the runways. Taxiway L leads up to Runway 33 and opens into a wide expanse of pavement. Given their configurations, Taxiway E and portions of Taxiway K and L must be demolished. These taxiways will be replaced by new Taxiways E, G6, and G7 which will help alleviate confusion and mitigate risks associated with Hot Spot 2.

The CITY has requested the CONSULTANT to perform design services for the PMP Runway 28 extension and reconfiguration of the taxiway network which serves it, schematically shown on the draft Airport Layout Plan (ALP) in Figure 1. The desired task outcome will be the creation of design documents to support a CITY bid solicitation for construction of the project. Specific project components are:

- Runway 10-28
  - Extend the runway pavement 185 feet to the east. Existing thresholds to remain per existing.
- Taxiway K
  - Demolish taxiway east of Taxiway G
- Taxiway L
  - Demolish taxiway east of Taxiway G
- Taxiway E
  - Demolish and relocate taxiway further east to align with the proposed ends of Runways 28 and 33
- Taxiway G
  - Extend taxiway from Taxiway L to new Taxiway G7
- Taxiway G6
  - Construct new Taxiway G6 to serve Runway 33 from Taxiway G

- Taxiway G7
  - Construct new Taxiway G7 to serve Runway 33 from Taxiway G
- Perimeter Road
  - Demolish a portion of the existing road and relocate it outside of the proposed Runway Object Free Area (ROFA) for Runway 10-28.
- Municipal Golf Course
  - Demolish a portion of the driving range facility within the Runway 10-28 ROFA.

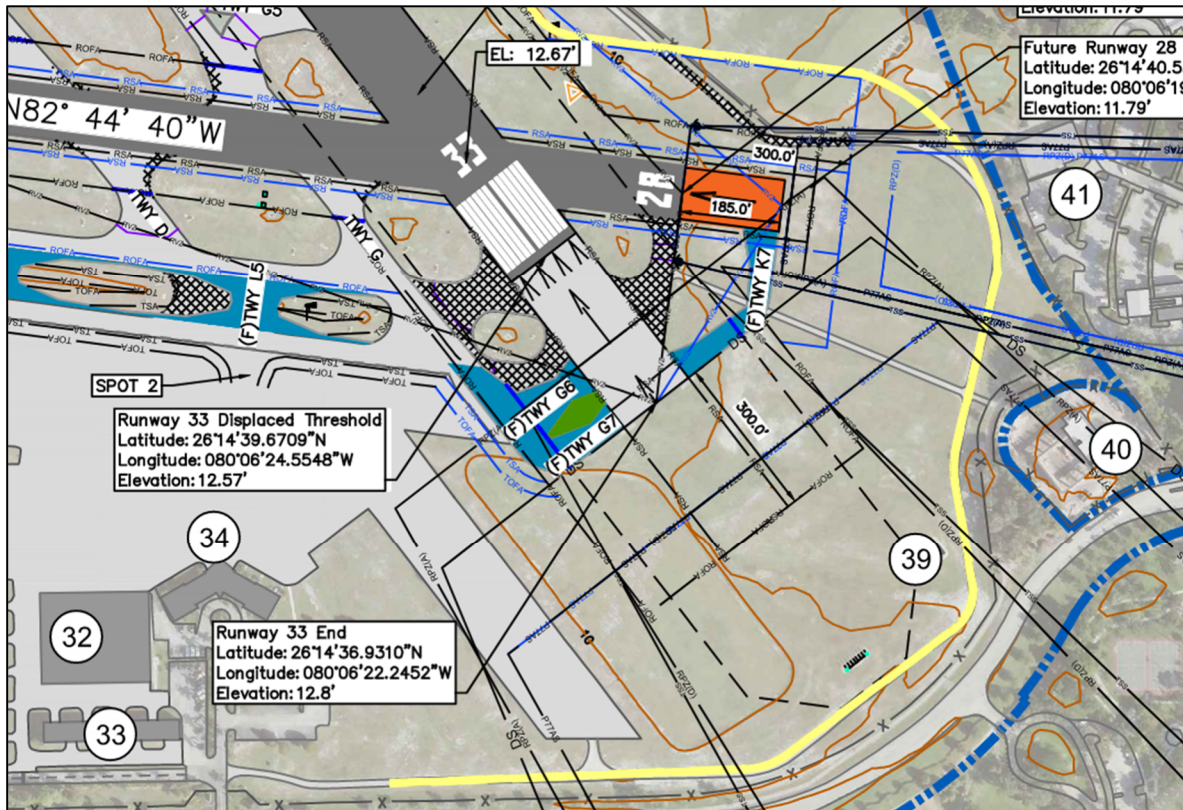


Figure 1 Draft Future ALP

### SCOPE OF WORK

The service to be provided by the CONSULTANT for the CITY under this task order will consist of the following tasks:

#### TASK 1 – SITE VISUAL AND WILDLIFE SURVEY

1. Kickoff meeting. Consultant shall schedule and lead a project kickoff meeting with the CITY and design team. The CONSULTANT will provide written minutes from the meeting.
  - 1.1. Confirm proposed design schedule and milestone review dates
  - 1.2. Confirm construction budget and milestone dates for grant compliance.
  - 1.3. Define communication and quality procedures for the Project Management Plan.
  - 1.4. Discuss operational constraints to inform the field services and construction phasing approaches.
2. Consultant shall gather and review South Florida Water Management District (SFWMD) Environmental Resources Permit (ERP) conditions to identify water quality and attenuation requirements for the proposed additional impervious area and changes in site storage.

3. Field Services Coordination Meetings. CONSULTANT will conduct two (2) meetings with CITY staff to coordinate the field investigations. Meetings will address safety, security, and operational impacts. CONSULTANT will host up to 4 weekly meetings with the field services team to coordinate schedules and track progress of the field work.
4. Field Services. CITY will be responsible for providing airfield access and escorts within the Air Operations Area (AOA). The investigation activities are anticipated to be performed in accordance with Table 1.
5. Site Observation and Pavement Visual Inspection. Upon receipt of the topographic survey, the CONSULTANT shall visit the project site to observe the condition of items in the work area and verify the completeness and accuracy of the survey. Consultant shall perform a visual observation of the airfield pavements within the project area to ascertain the general condition of the pavement and identify areas within the project exhibiting structural or high-severity distresses. CONSULTANT shall schedule the visit during a typical operational period for the purpose of observing the operational function of the facility. The preference is to do the work after completion of the other field work items. However, CITY may require this task to be performed concurrently with other field work to reduce impacts to operations.

**Table 1 Field Services Detail**

SERVICE	CONSULTANT	ESCORT	WORK PERIOD	DURATION
<b>Topographic Survey</b>	Keith - 4 staff	None	0800-1700, M-F	4 weeks
<b>Geotechnical Investigation</b>	TSF - 2 staff HDR – 1 staff	1 CITY escort	0800-1700, M-F	2 weeks
<b>Wildlife Survey</b>	HDR – 2 staff	1 CITY escort	0800-1700, M-F	1 day
<b>Site Visual Investigation</b>	HDR – 2 staff	1 CITY escort	0800-1700, M-F	1 day

In accordance with the Florida Fish and Wildlife Conservation Commission’s (FWC) guidelines, CONSULTANT will conduct one (1) 100% burrowing owl and gopher tortoise survey to locate burrowing owl nests and potentially occupied and abandoned gopher tortoise burrows within the project area. Burrows will be located with GPS and activity status will be noted. The results of the survey will be summarized in a graphic depicting the burrows identified during the field survey. Consultant shall prepare a draft memo summarizing its general observations and providing recommendations for mitigation of wildlife issues during construction.

Per FWC guidelines, the 100% survey is only valid for 90 days. If gopher tortoise or burrowing owl burrows are found and more than 90-days elapses between the 100% survey and project construction, another 100% survey will be required. If no burrows are found, another survey is recommended after the installation of silt fence to determine if new burrows have been created within the project footprint. If an additional survey is requested, a separate task for the resurvey can be provided.

If any burrowing owl nests or potentially occupied gopher tortoise burrows identified during the 100% survey will be impacted by the proposed development, a permit from the FWC and burrow excavation and relocation will be required. Permitting and relocation will be provided in a separate proposal.

**TASK 2 – FIELD SURVEY AND MAPPING**

CONSULTANT will provide monitoring of the topographic survey field work and coordinate scope, schedules, and access with the CITY.

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### **TASK 3 – GEOTECHNICAL INVESTIGATION**

CONSULTANT will provide monitoring of the geotechnical field work and coordinate scope, schedules, and access with the CITY. CONSULTANT will accompany the geotechnical subconsultant drilling crew to observe and record the observations.

### **TASK 4 – CONCEPTUAL DESIGN PHASE (30% DESIGN)**

This phase consists of the fieldwork, functional layouts, and preliminary plan development to achieve approximately 30% design completion for the project. Specific tasks consist of the following:

1. Construction phasing and schedule
  - a. Meet with the CITY to fully define project elements, phasing requirements, and project issues.
  - b. Prepare a preliminary design schedule.
  - c. Develop project phasing based on anticipated controlling factors.
  - d. Develop construction sequence lengths.
  - e. Identify contractor staging areas(s), haul routes, access gates(s), working hours, and closures.
2. Stakeholder Meeting. The CONSULTANT will participate in up to one (1) meeting with airport stakeholders and present the Construction Phasing to those stakeholders. The main purpose of the meeting will be to receive input from the stakeholders on the impact of the construction phasing on airport operations and to explore possible options to minimize negative impacts. The CONSULTANT will facilitate the meeting, record meeting minutes and prepare exhibits in support of the meeting. The exhibits will be in the form of presentation boards or power point presentation outlining the phasing options. CITY shall compile stakeholder list, invite stakeholders to the meetings, and provide meeting space. Upon completion of the stakeholder meetings, the CONSULTANT will meet with the City to review the results and will, with the direct input of the CITY, accept the original phasing or adjust the plans.
3. Prepare base maps for the project.
4. Prepare conceptual typical section
5. Prepare a grading concept, assuming that profile and transverse slope corrections may be necessary.
6. Prepare conceptual project layout plans.
7. Prepare a project safety plan showing contractor access, haul routes, and contractor staging areas.
8. Prepare conceptual phasing and maintenance of traffic plans.
- 8.2 Conceptual Construction Safety and Phasing Plan (CSPP). CONSULTANT will produce a conceptual CSPP.
9. Prepare conceptual electrical plans.
10. Prepare a draft outline of the Engineering Report.
11. Prepare a draft outline of technical specifications for this project.
12. The CONSULTANT shall prepare a conceptual OPC. Consultant will develop conceptual unit costs for major activities. This is a Class 4 estimate, as defined by the Association for the Advancement of Cost Engineering (AACE). Class 4 estimates are generally prepared based on limited information, and subsequently have wide accuracy ranges. Typical accuracy ranges for Class 4 estimates are -10% to -20% on the low side, and +20% to +30% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.
13. Conduct one (1) design review and coordination meeting with the City.

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14. Review and respond to concept coordination review meeting issues.

The anticipated plans sheets are shown in Table 1 under TASK 7 - CONSTRUCTION DOCUMENT PREPARATION PHASE (FINAL PLANS).

Deliverables:

- Stakeholder meeting exhibits and minutes
- Up to five (5) sets of construction plans (11" x 17") or PDF files as required at approximately 30% completion
- Opinion of probable construction cost based on the 30% construction plans
- Conceptual CSPP

### **TASK 5 – PRELIMINARY DESIGN PHASE (60% DESIGN)**

During this phase, CONSULTANT will continue preparing contract documents to a 60% level of completion. These documents will consist of construction drawings, technical specifications, and engineering report. Drawings will be in AutoCAD. Technical specifications, the engineering report, and other written documents will be in Microsoft Word. Designs will be in accordance with FAA Regulations, and Advisory Circulars, and will conform to FDOT guidelines. The engineering report will conform to the FAA format. Task in this phase will consist of the following:

1. Develop proposed profiles for the pavements.
2. Develop proposed cross sections for the pavements and slopes for tie-in to existing grade.
3. Prepare preliminary pavement marking plans.
4. OPC. Consultant will develop design development unit costs for construction activities. This is a Class 3 estimate, as defined by the Association for the Advancement of Cost Engineering (AACE). Class 3 estimates are generally prepared based on design development information. Typical accuracy ranges for Class 3 estimates are -5% to -15% on the low side, and +10% to +20% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.
5. Prepare preliminary construction safety plans with details and notes and construction duration.
6. Develop construction plans to 60% completion.
7. Prepare preliminary Engineering Report.
8. Prepare preliminary technical specifications.
9. Perform Quality Control review.
10. Submit plans, technical specifications, engineering report, and opinion of probable construction cost to the CITY for review and comment.
11. Conduct up to one (1) design review and coordination review meeting with the CITY.
12. Review and respond to issues raised at the preliminary design meeting.

The anticipated plans sheets are shown in Table 1 under TASK 7 - CONSTRUCTION DOCUMENT PREPARATION PHASE (FINAL PLANS).

Deliverables:

- Five (5) sets of construction plans (11" x 17") or PDF files as required at approximately 60% completion
- Technical Specifications- Five (5) sets
- Engineering Report- Five (5) copies



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- Opinion of Probable Construction Cost- Five (5) copies

### **TASK 6 – DESIGN DEVELOPMENT PHASE (90% DESIGN)**

During this phase, CONSULTANT will complete designs and contract documents to 90% completion. This includes construction documents, technical specifications, and an opinion of probable cost. Tasks in this phase will consist of the following:

1. Finalize the project layout plans.
2. Finalize the paving, grading, and drainage plans.
3. Finalize the typical pavement sections and details.
4. Finalize phasing plans and notes.
5. Finalize construction safety plans with details and notes and construction durations.
6. Develop pavement marking plans.
7. Finalize electrical plans.
8. Conduct a plan-in-hand field review of the construction plans.
9. OPC. Consultant will develop design development unit costs for construction activities. This is a Class 3 estimate, as defined by the Association for the Advancement of Cost Engineering (AACE). Class 3 estimates are generally prepared based on design development information. Typical accuracy ranges for Class 3 estimates are -5% to -15% on the low side, and +10% to +20% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.
10. Update the technical specifications, incorporate review comments previously received.
11. Calculate anticipated construction time to be incorporated into the bid documents.
12. Update the engineering report, incorporate review comments previously received.
13. Provide Quality Control review of the services being provided.
14. Conduct one (1) design review and coordination meeting with the CITY.
15. Respond to issues received in the design review meeting.
16. Prepare a Construction Safety and Phasing Plan (CSPP)
17. Notify FAA of localizer calibration and flight check request

#### Deliverables:

- Five (5) sets of construction plans or PDF files as required at approximately 90% completion (11" x 17")
- Technical Specifications – Five (5) sets
- Engineering Report – Five (5) copies
- Opinion of probable construction cost – Five (5) copies
- Construction Safety and Phasing Plan – One (1) digital copy

### **TASK 7 – CONSTRUCTION DOCUMENT PREPARATION PHASE (BIDDING DOCUMENTS)**

CONSULTANT will complete designs and contract documents that consist of construction drawings, technical specification, and engineering report. Drawings will be in AutoCAD format. Technical specifications, the engineering report, and other written documents will be in Microsoft Word. Design will be in accordance with FAA Regulations and Advisory Circulars and based on FDOT guidelines. The engineering report will conform to the FAA format. Task in this phase will consist of the following:

1. Finalize design drawings.

2. Finalize technical specifications.
3. Finalize engineering report.
4. Wildlife Survey Memo. CONSULTANT shall update the draft memo previously submitted to account for changes to the project scope and regulatory policy.
5. Develop Bid Forms with final quantities and construction durations.
6. Prepare supplemental provisions.
7. Prepare FAA airspace checklist.
8. OPC. Consultant will develop bid-level unit costs for construction activities. This is a Class 2 estimate, as defined by the AACE. Class 2 estimates are generally prepared based on detailed design information. Typical accuracy ranges for Class 2 estimates are -5% to -10% on the low side, and +5% to +15% on the high side, depending on the technological complexity of the project, appropriate reference information, and the inclusion of an appropriate contingency determination. Ranges could exceed those shown in unusual circumstances.

The anticipated plans sheets are shown below:

**Table 2 - Plan Submittal Schedule**

TITLE	30%	60%	90%	100%
Cover Sheet	Preliminary	Updated	Final	Final
Drawing Index	Preliminary	Updated	Final	Final
General Notes, Legend, and Abbreviations	N/A	Preliminary	Final	Final
Summary of Quantities	Preliminary	Updated	Updated	Final
Project Area Plan (Overall Site Plan)	Preliminary	Updated	Final	Final
Staging and Access Plan	Preliminary	Updated	Final	Final
Safety Plan	Preliminary	Updated	Final	Final
Construction Phasing and MOT Plan	Preliminary	Updated	Updated	Final
Wildlife Management Plan	N/A	Preliminary	Updated	Final
Safety and Security Notes and Details	N/A	Preliminary	Final	Final
Topographic Survey	N/A	Final	Final	Final
Horizontal Control Plan	N/A	Preliminary	Updated	Final
Erosion Control Plan	N/A	Preliminary	Updated	Final
Erosion Control Details	N/A	Preliminary	Updated	Final
Demolition Plan	Preliminary	Updated	Updated	Final
Paving and Geometry Plan	Preliminary	Updated	Updated	Final
Typical Sections	Preliminary	Updated	Updated	Final
Paving Details	N/A	Preliminary	Updated	Final
Drainage Plan	N/A	Preliminary	Updated	Final
Drainage Profiles	N/A	Preliminary	Updated	Final
Summary of Drainage Structures	N/A	Preliminary	Updated	Final
Drainage Details	N/A	Preliminary	Updated	Final
Grading Plan	N/A	Preliminary	Updated	Final
Grading Profiles	N/A	Preliminary	Updated	Final
Pavement Elevation Plan	N/A	Preliminary	Final	Final
Pavement Marking Plan	Preliminary	Updated	Updated	Final
Pavement Marking Details	N/A	Preliminary	Updated	Final
Airfield Electrical General Notes, Legend, and Abbreviations	N/A	Preliminary	Final	Final
Airfield Electrical Demolition Plans	N/A	Preliminary	Final	Final
Airfield Lighting Plans	Preliminary	Updated	Final	Final
Airfield Signage Plans	Preliminary	Updated	Final	Final
Airfield Signage Schedule	N/A	Preliminary	Final	Final
Airfield Circuitry Plans	Preliminary	Updated	Final	Final
Ductbank Layout and Details	Preliminary	Updated	Final	Final
Airfield Lighting and Signage Details	N/A	Preliminary	Updated	Final
Miscellaneous Electrical Details	N/A	Preliminary	Updated	Final
Vault and Circuiting Schematics	N/A	Preliminary	Updated	Final

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Deliverables:

- Provide plans, Construction Documents, and certifications for the CITY to submit to the FAA for approval and authorization to advertise for bids.
- Plan sets (11" x 17") – Five (5) sets or PDF files as required
- Plan set (electronic, including plot files) – One set
- Bid Documents (electronic) – One Set
- Final Engineering Report – Five (5) copies
- Opinion of Probable Construction Cost – Five (5) copies

**TASK 8 – BIDDING ASSISTANCE PHASE**

It is anticipated this will be a publicly advertised project. CONSULTANT will assist the client during the bidding phase by performing the following services:

1. Incorporate final comments into completed documents.
2. Assemble and forward construction documents and technical specifications to the CITY in support of the bid process.
3. Prepare for and attend one (1) pre-bid conference.
4. Prepare meeting minutes from the pre-bid conference.
5. Respond in writing to reasonable Contractor questions.
6. Prepare addenda if necessary.
7. Review the qualifications of the low bidder and provide written report to CITY.

Deliverables:

- Provide one (1) set of original construction plans to the City for reproduction of bid documents
- Provide one (1) set of original technical specifications to the City for reproduction of bid documents
- Provide one (1) set of original bid forms to the City for reproduction of bid documents
- Pre-bid conference meeting minutes
- Award recommendation report

**TASK 9 – PERMITTING ASSISTANCE**

CONSULTANT will coordinate applications for the following anticipated permits:

- City of Pompano Beach Building Inspections Division
  - Dry Run Mechanical and Electrical Building Permits for the modifications to the electrical vault
- Broward County Environmental Protection and Growth Management Department
  - Surface Water Management License
- South Florida Water Management District (SFWMD)
  - Environmental Resources Permit (ERP) Major Modification

CONSULTANT will prepare the permit applications and supporting data, coordinate CITY signatures and submit on behalf of the CITY. CONSULTANT will respond to reasonable requests for information in support of obtaining these permits. If the permit agencies require off-site mitigation or unusual data gathering, these services are not included in this scope. Examples of these services include, but are not limited to:

- Offsite tree mitigation
- Relocation of potable water wells

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- Ground water testing and evaluation
  - Large modifications to the Master Drainage Plan for the Airpark

### **TASK 10 – AIRPORT GIS SERVICES**

The CONSULTANT and Quantum Spatial (QSI) will perform an FAA Airport Airspace Analysis Survey for surfaces defined in the FAA Advisory Circular 150/5300-18B, Section 2.7.1.3 *Runways without Vertical Guidance*. The survey analysis will use the previously collected imagery and data from the 2017 master plan update.

Tasks in this phase will consist of the following:

1. Preparation and submittal of a Modification to Standard (MOS) to requesting use of the previously collected 2017 master plan imagery and data.\*
2. Preparation of the online statement of work (SOW) with input from the CITY, HDR, and QSI.
3. Identification and mapping of obstruction obstacles for the non-visual guidance (NVG) surfaces associated with the Runway 28 extension. Specific types and quantities of obstructions for each surface are outlined and defined within the FAA Advisory Circular.
4. Preparation and submittal of the Survey and Quality Control Plan, Imagery Acquisition Plan, Imagery Acquisition Report, Final Project Report and associated data files for submission to the FAA Airport Data and Information Portal (ADIP).
5. Submission/uploading of the Obstruction Surfaces to ADIP
  - a. The surfaces will attempt to satisfy the requirements of AC 150/5300-18B, Section 2.7.1.3 *Analysis of FUTURE Runway 10/28 without Vertically Guided Operations (Surfaces include the NVGPS, NVGAS, NVGTS and NVGHS)*
  - b. Final data will be uploaded to ADIP in ESRI shapefile format

\*The FAA AC requires imagery and data to be collected within a 3-year period. The FAA has indicated that a MOS would be acceptable to permit the aGIS survey to be submitted using the 2017 imagery and data. **Should the FAA not accept the MOS, new imagery and data will need to be collected. If required these surfaces will be performed as an Additional Service under a separate work authorization.**

#### Deliverables:

- Digital submission of the Modification of Standard
- The data collected and required in the specified formats shown in the appropriate FAA AC's to the FAA Office of Airports, Airports Surveying-GIS Program.
  - Data submissions to the FAA will be through the program's website at <https://adip.faa.gov/agis/portal>
- The FAA AC 150/5300-17C required data
  - Data deliveries not be submitted through the website will be delivered on external hard drives or DVDs.
- The FAA AC 150/5300-18B required data will consist of:
  - Statement of Work, Imagery Plan and Survey and Quality Control Plan
  - Obstruction survey data (that covers NVG surfaces)
  - Photogrammetrically derived and surveyed attributes in defined format
  - DESIGN centerline profile for the runway
  - NAVAID data
  - FGDC compliant metadata
  - Final Report

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## **TASK 11 – SUBCONSULTANT SERVICES AND EXPENSES**

This task is designated for subconsultant services and direct expenses within this project, as described below.

### **Expenses**

CONSULTANT anticipates minor expenses associated with travel for field investigation work, printing for milestone submittals, and permit applications, up to the amount provided in the contract. Expenses exceeding the contract amount will be paid directly by the CITY.

### **NV5/QUANTUM SPATIAL (QSI)**

CONSULTANT shall, through its sub-consultant, NV5, provide Airport GIS Services and supporting deliverables as detailed in its attached subconsultant agreement.

### **QUANTUM ELECTRICAL ENGINEERING (QEE)**

CONSULTANT shall, through its sub-consultant, Quantum Electrical Engineering, provide design of electrical, lighting, and signage components and supporting deliverables as detailed in its attached subconsultant agreement.

### **KEITH & ASSOCIATES, INC.**

CONSULTANT shall, through its sub-consultant, Keith & Associates, Inc., provide topographic survey and subsurface utility engineering locate services and supporting deliverables as detailed in its attached subconsultant agreement.

### **TIERRA SOUTH FLORIDA (TSF)**

CONSULTANT shall, through its sub-consultant, Tierra SF, provide geotechnical engineering services and supporting deliverables as detailed in its attached subconsultant agreement

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### **SUPPORT TO BE PROVIDED BY THE CITY**

The following is a summary of the support needed from the CITY to complete this project:

1. Provide fleet mix used for the most recent pavement design and advise if any changes are needed.
2. Pay or reimburse for necessary utility and permitting fees in excess of the project budget
3. Provide access and escort to the site for field services
4. Provide milestone review comments within 2 days of receipt
5. Incorporation of information into “Front End” documents for bidding.

### **ASSUMPTIONS**

1. Field work will be performed by HDR staff on foot for one daytime weekday mobilization. DOA will provide vehicle escort for work within the movement area.
2. Design and construction funding is anticipated to be from the Federal Aviation Administration (FAA)
3. Opinions of probable project cost or probable construction cost provided by CONSULTANT are made on the basis of information available to CONSULTANT and on the basis of CONSULTANT's experience and qualifications and represents its judgment as an experienced and qualified professional engineer. However, since CONSULTANT has no control over the cost of labor, materials, equipment or services furnished by others, or over the construction contractor(s) methods of determining prices, or over competitive bidding or market conditions, CONSULTANT does not guarantee that proposals, bids or actual project or construction cost will not vary from opinions of probable cost CONSULTANT prepares.
4. The CONSULTANT assumes no modeling or design will be required to modify detention facilities or control structures outside the limits of the proposed project limits.
5. Assume that the overall length of Runway 10-28 is not changing and therefore, the
  - a. existing PAPIs will remain in the current location.
6. Assume that the wind cone is currently located outside of the RSA and relocation
  - a. is not included.
7. Assume that existing regulators have sufficient capacity for expansion.
8. Runway Object Free Area (ROFA) clearing will be to the current 240-ft width, not the ultimate 370-ft width.
9. FAA will accept the previous proposal from another consultant as the independent fee estimate (IFE).

## COMPENSATION

CONSULTANT will accomplish the services outlined in this Scope of Services for the lump sum fee of **\$354,943.40**. Billings will be monthly based on the progress of the tasks.

The following tasks represents the lump sum fee amount for reference:

**Table 3 – Fee Breakdown**

PROJECT TASKS	FEE
Task 1 – Site Visual and Wildlife Survey	\$15,654.20
Task 2 - Field Survey and Mapping	\$3,108.80
Task 3 – Geotechnical Investigation	\$7,545.80
Task 4 - Conceptual Design Phase (30%)	\$57,704.20
Task 5 - Preliminary Design Phase (60%)	\$44,903.60
Task 6 - Design Development Phase (90%)	\$36,377.60
Task 7 - Construction Documents Preparation Phase (Bid Documents)	\$20,062.20
Task 8 - Bidding Assistance Phase	\$21,506.40
Task 9 - Permitting Assistance	\$18,850.00
Task 10 – Airport GIS Services	\$3,230.60
Task 11 – Expenses and Subconsultants	--
11.1 Expenses and Permit Fees	\$5,000.00
11.2 Subconsultant QEE	\$45,000.00
11.3 Subconsultant Tierra SF	\$12,000.00
11.4 Subconsultant Keith	\$62,000.00
11.5 Subconsultant NV5/QSI	\$2,000.00
<b>Total:</b>	<b>\$ 354,943.40</b>

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## **SCHEDULE**

CONSULTANT will follow the schedule shown in “Attachment A”.

### **SERVICES NOT PROVIDED**

Services not included in this scope of work includes:

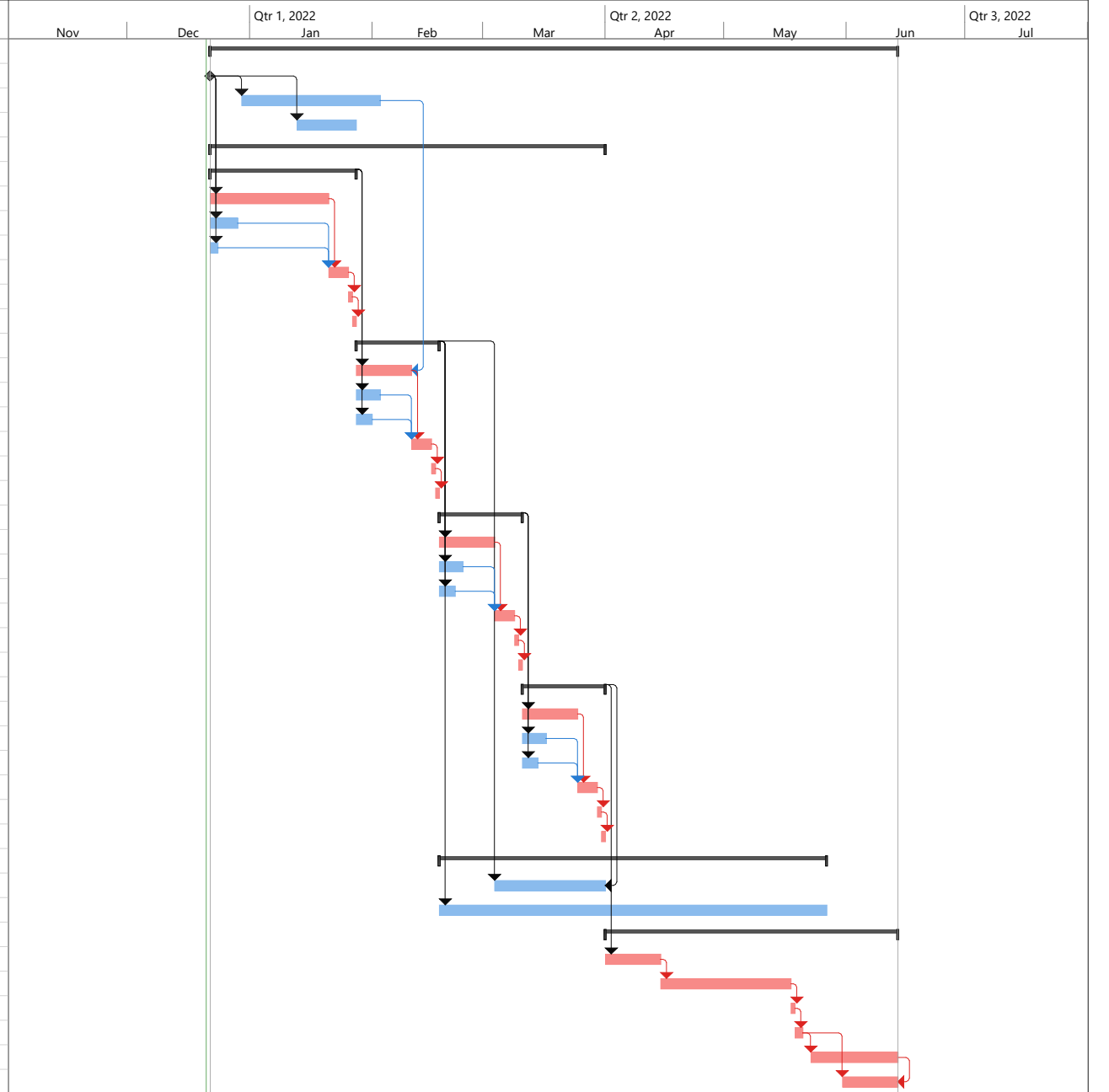
- Construction Phase Services
- Wildlife permitting and relocation (if required, will be performed under a future construction services task)
- Airspace obstruction mitigation
- Airport GIS survey
- Relocation of potable water wells
- Ground water testing and evaluation
- Large modifications to the Master Drainage Plan for the Airpark
- Design of facilities to serve the adjacent municipal golf course
- Replacement/modification to existing lighting control system.
- Modifications to FAA NAVAIDs and/or coordination with FAA for flight checks.



LABOR TASKS		Project Manager	Sr. Civil Engineer	Asst. Project Manager	Civil Engineer	Project Field Inspector	Project Controller	Labor Subtotals	Task Total	
		Contract Rate								
<b>Task 1</b>	<b>Site Visual and Wildlife Survey</b>	4	28	4	20			56		
	Wildlife survey and memo							6		
	Kickoff meeting		16		4			16		
	Permit review	5	8		12			25		
	Site visual survey	11	52	4	36	0	2	105		
	<b>Task 1 - Subtotal Hours:</b>	<b>11</b>	<b>52</b>	<b>4</b>	<b>36</b>	<b>0</b>	<b>2</b>			
	<b>Task 1 - Subtotal Estimated Labor Cost:</b>	<b>\$1,914.00</b>	<b>\$9,048.00</b>	<b>\$580.00</b>	<b>\$3,967.20</b>	<b>\$0.00</b>	<b>\$145.00</b>	<b>\$15,654.20</b>	<b>\$15,654.20</b>	
<b>Task 2</b>	<b>Field Survey and Mapping</b>	2		8	4	10		24		
	Scoping, access coordination, and QC	2	0	8	4	10	2	26		
	<b>Task 2 - Subtotal Hours:</b>	<b>2</b>	<b>0</b>	<b>8</b>	<b>4</b>	<b>10</b>	<b>2</b>			
	<b>Task 2 - Subtotal Estimated Labor Cost:</b>	<b>\$348.00</b>	<b>\$0.00</b>	<b>\$1,160.00</b>	<b>\$440.80</b>	<b>\$1,015.00</b>	<b>\$145.00</b>	<b>\$3,108.80</b>	<b>\$3,108.80</b>	
<b>Task 3</b>	<b>Geotechnical Investigation</b>			8	4		2	14		
	Scoping, access coordination, and QC			8	4		2	14		
	Observation and recording	8			40			48		
	<b>Task 3 - Subtotal Hours:</b>	<b>8</b>	<b>0</b>	<b>8</b>	<b>44</b>	<b>0</b>	<b>2</b>	<b>62</b>		
	<b>Task 3 - Subtotal Estimated Labor Cost:</b>	<b>\$1,392.00</b>	<b>\$0.00</b>	<b>\$1,160.00</b>	<b>\$4,848.80</b>	<b>\$0.00</b>	<b>\$145.00</b>	<b>\$7,545.80</b>	<b>\$7,545.80</b>	
<b>Task 4</b>	<b>Conceptual Design Phase (30%)</b>	12		8	40			60		
	Construction phasing Schedule	12		8	40			60		
	Stakeholder Meeting	6		8	8			22		
	Prepare base maps for the project.			8	40			48		
	Prepare conceptual typical section based on the geotechnical testing results.	1		4	20			25		
	Prepare a grading concept, assuming that profile and transverse slope corrections may be necessary.	1	15	4	30			50		
	Prepare conceptual project layout plans.	5		4	30			39		
	Prepare a project safety plan showing contractor access, haul routes, and contractor staging areas.	5		4	20			29		
	Prepare conceptual maintenance of traffic plans.			20	20			40		
	Coordination with electrical designer	2		4	8			14		
	Prepare a draft outline of the Engineering Report.	2	1	4	8			15		
	Prepare a draft outline of technical specifications for this project.	2	1	2				5		
	Prepare an opinion of probable construction cost based on the 30% plans.	2	1	4	40			47		
	Perform Quality Control review.	15	4	2	8			29		
	Conduct one (1) design review and coordination meeting with the City.	6		6	1			13		
	Review and respond to concept coordination review meeting issues.	1		2	8			11		
	<b>Task 4 - Subtotal Hours:</b>	<b>60</b>	<b>22</b>	<b>84</b>	<b>281</b>	<b>0</b>	<b>4</b>	<b>451</b>		
	<b>Task 4 - Subtotal Estimated Labor Cost:</b>	<b>\$10,440.00</b>	<b>\$3,828.00</b>	<b>\$12,180.00</b>	<b>\$30,966.20</b>	<b>\$0.00</b>	<b>\$290.00</b>	<b>\$57,704.20</b>	<b>\$57,704.20</b>	
<b>Task 5</b>	<b>Preliminary Design Phase (60%)</b>	4		8	30			42		
	Develop proposed profiles for the pavements.	4		8	30			42		
	Develop proposed cross sections for the pavements and slopes for tie-in to existing grade.	4		8	40			52		
	Prepare preliminary pavement marking plans.	2		4	20			26		
	Prepare preliminary opinion of probable construction cost.	2	1	4	20			27		
	Prepare preliminary construction safety plans with details and notes.	2		4	16			22		
	Coordination with electrical designer	2		4	8			14		
	Develop construction plans to 60% completion.	2	1	4	20			27		
	Prepare preliminary Engineering Report.	2	1	8	12			23		
	Prepare preliminary technical specifications.	2	1	30				33		
	Perform Quality Control review.	15	8	8	16			47		
	Conduct up to one (1) design review and coordination review meeting with the CITY.	6		6	8			20		
	Review and respond to issues raised at the preliminary design meeting.	1		2	8			11		
	<b>Task 5 - Subtotal Hours:</b>	<b>44</b>	<b>12</b>	<b>90</b>	<b>198</b>	<b>0</b>	<b>4</b>	<b>348</b>		
	<b>Task 5 - Subtotal Estimated Labor Cost:</b>	<b>\$7,656.00</b>	<b>\$2,088.00</b>	<b>\$13,050.00</b>	<b>\$21,819.60</b>	<b>\$0.00</b>	<b>\$290.00</b>	<b>\$44,903.60</b>	<b>\$44,903.60</b>	
<b>Task 6</b>	<b>Design Development Phase (90%)</b>			2	8			10		
	Finalize the project layout plans.			2	8			10		
	Finalize the paving, grading, and drainage plans.		6	2	20			28		
	Finalize the typical pavement sections and details.			2	12			14		
	Finalize phasing plans and notes.	1		4	12			17		
	Finalize construction safety plans with details and notes.			2	8			10		
	Develop pavement marking plans.			2	12			14		
	Coordination with electrical designer	2		4	8			14		
	Conduct a plan-in-hand field review of the construction plans.	4		4	4			12		
	Prepare a 90% opinion of probable cost.	2	1	4	20			27		
	Update the technical specifications, incorporate review comments previously received.	2	1	15				18		
	Calculate anticipated construction time to be incorporated into the bid documents.	1		4				5		
	Update the engineering report, incorporate review comments previously received.	2	1	8	4			15		
	Provide Quality Control review of the services being provided.	15	8		20			43		
	Conduct one (1) design review and coordination meeting with the CITY.	6		1	6			13		
	Respond to issues received in the design review meeting.	1		2	8			11		
	Prepare a Construction Safety and Phasing Plan (CSPP).	1		8	16			25		
	<b>Task 6 - Subtotal Hours:</b>	<b>37</b>	<b>17</b>	<b>64</b>	<b>158</b>	<b>0</b>	<b>4</b>	<b>280</b>		
	<b>Task 6 - Subtotal Estimated Labor Cost:</b>	<b>\$6,438.00</b>	<b>\$2,958.00</b>	<b>\$9,280.00</b>	<b>\$17,411.60</b>	<b>\$0.00</b>	<b>\$290.00</b>	<b>\$36,377.60</b>	<b>\$36,377.60</b>	
<b>Task 7</b>	<b>Construction Document Preparation Phase (Bid Docs)</b>	4	4	16	60			84		
	Finalize design drawings.	4	4	16	60			84		
	Finalize technical specifications.	1		8	8			17		
	Finalize engineering report.	1		8	8			17		
	Develop Bid Forms with final quantities.	1		4	25			30		
	Prepare supplemental provisions.	1		4				5		
	Prepare FAA airspace checklist.	1		4				5		
	<b>Task 7 - Subtotal Hours:</b>	<b>9</b>	<b>4</b>	<b>44</b>	<b>101</b>	<b>0</b>	<b>4</b>	<b>162</b>		
	<b>Task 7 - Subtotal Estimated Labor Cost:</b>	<b>\$1,566.00</b>	<b>\$696.00</b>	<b>\$6,380.00</b>	<b>\$11,130.20</b>	<b>\$0.00</b>	<b>\$290.00</b>	<b>\$20,062.20</b>	<b>\$20,062.20</b>	
<b>Task 8</b>	<b>Bidding Assistance Phase</b>	2		8	30			40		
	Incorporate final comments into completed documents.	2		8	30			40		
	Assemble and forward construction documents and technical specifications to the CITY in support of the bid process.	2		4	12			18		
	Prepare for and attend one (1) pre-bid conference.	4		4				8		
	Prepare meeting minutes from the pre-bid conference.	1		2				3		
	Respond in writing to reasonable Contractor questions.	4		8				12		
	Prepare addenda if necessary.	4	4	20	40			68		
	Review the qualifications of the low bidder and provide written report to CITY.	4		8				12		
	<b>Task 8 - Subtotal Hours:</b>	<b>21</b>	<b>4</b>	<b>54</b>	<b>82</b>	<b>0</b>	<b>4</b>	<b>165</b>		
	<b>Task 8 - Subtotal Estimated Labor Cost:</b>	<b>\$3,654.00</b>	<b>\$696.00</b>	<b>\$7,830.00</b>	<b>\$9,036.40</b>	<b>\$0.00</b>	<b>\$290.00</b>	<b>\$21,506.40</b>	<b>\$21,506.40</b>	
<b>Task 9</b>	<b>Permitting Assistance</b>	1	8		20			29		
	City of Pompano Beach Mechanical and Electrical Building Permits for the modifications to the electrical vault.	1	8		20			29		
	Surface Water Management License- Broward County	1	16	8	40			65		
	Environmental Resources Permit- Broward County on behalf of South Florida Water Management District (SFWMD).	1	16		30			47		
	<b>Task 9 - Subtotal Hours:</b>	<b>3</b>	<b>40</b>	<b>8</b>	<b>90</b>	<b>0</b>	<b>4</b>	<b>145</b>		
	<b>Task 9 - Subtotal Estimated Labor Cost:</b>	<b>\$522.00</b>	<b>\$6,960.00</b>	<b>\$1,160.00</b>	<b>\$9,918.00</b>	<b>\$0.00</b>	<b>\$290.00</b>	<b>\$18,850.00</b>	<b>\$18,850.00</b>	
<b>Task 10</b>	<b>Airport GIS Services</b>	2	2					4		
	Scoping and QC	2	2					4		
	Prepare and Submission of a Modification of Standard			8	8			18		
	<b>Task 10 - Subtotal Hours:</b>	<b>4</b>	<b>2</b>	<b>8</b>	<b>8</b>	<b>0</b>	<b>2</b>	<b>24</b>		
	<b>Task 10 - Subtotal Estimated Labor Cost:</b>	<b>\$696.00</b>	<b>\$348.00</b>	<b>\$1,160.00</b>	<b>\$881.60</b>	<b>\$0.00</b>	<b>\$145.00</b>	<b>\$3,230.60</b>	<b>\$3,230.60</b>	
	<b>Tasks 1 to 10 - Subtotal Hours:</b>	<b>199</b>	<b>153</b>	<b>372</b>	<b>1002</b>	<b>10</b>	<b>32</b>	<b>1,768</b>		
	<b>Tasks 1 to 10 - Subtotal Estimated Labor Cost:</b>	<b>\$34,626.00</b>	<b>\$26,622.00</b>	<b>\$53,940.00</b>	<b>\$110,420.40</b>	<b>\$1,015.00</b>	<b>\$2,320.00</b>	<b>\$228,943.40</b>	<b>\$228,943.40</b>	
<b>TASK 1-10 TOTAL:</b>									<b>\$228,943.40</b>	
<b>Task 11</b>	<b>Expenses and Subconsultants</b>									
	Expenses and Permit Fees								\$5,000.00	
	Subconsultant QEE (tentative)								\$45,000.00	
	Subconsultant TSF (tentative)								\$12,000.00	
	Subconsultant Keith (tentative)								\$62,000.00	
	Subconsultant QSI (tentative)								\$2,000.00	
<b>TASK 10 TOTAL:</b>									<b>\$128,000.00</b>	
<b>ESTIMATED PROJECT TOTAL:</b>									<b>\$354,943.40</b>	

## PMP Runway 28 Extension and Related Work Project Design Schedule

ID	Task Mode	Task Name	Duration	Task Calendar Days	Calendar Days from NTP	Start	Finish	Predecessors
1		<b>PMP Runway 28 Extension and Related Work Project</b>	<b>121 days</b>	<b>174 days</b>	<b>174 days</b>	<b>Wed 12/22/21</b>	<b>Mon 6/13/22</b>	
2		<b>Notice to Proceed (NTP)</b>	<b>0 days</b>	<b>0 days</b>	<b>0 days</b>	<b>Wed 12/22/21</b>	<b>Wed 12/22/21</b>	
3		<b>Field Surveying and Mapping</b>	<b>24 days</b>	<b>35 days</b>	<b>43 days</b>	<b>Thu 12/30/21</b>	<b>Wed 2/2/22</b>	2FS+5 days
4		<b>Geotechnical Evaluation</b>	<b>10 days</b>	<b>15 days</b>	<b>37 days</b>	<b>Thu 1/13/22</b>	<b>Thu 1/27/22</b>	2FS+15 days
5		<b>Design Task</b>	<b>70 days</b>	<b>100 days</b>	<b>100 days</b>	<b>Wed 12/22/21</b>	<b>Thu 3/31/22</b>	
6		<b>Conceptual Design Phase (30%)</b>	<b>25 days</b>	<b>37 days</b>	<b>37 days</b>	<b>Wed 12/22/21</b>	<b>Thu 1/27/22</b>	
7		Design Plans	20 days	30 days	30 days	Wed 12/22/21	Thu 1/20/22	2
8		OPC Development	4 days	7 days	7 days	Wed 12/22/21	Tue 12/28/21	2
9		Construction Schedule	2 days	2 days	2 days	Wed 12/22/21	Thu 12/23/21	2
10		Active QC Review	3 days	5 days	35 days	Fri 1/21/22	Tue 1/25/22	7,8,9
11		Submit to Owner	1 day	1 day	36 days	Wed 1/26/22	Wed 1/26/22	10
12		Owner Check Set Review Meeting	1 day	1 day	37 days	Thu 1/27/22	Thu 1/27/22	11
13		<b>Preliminary Design Phase (60%)</b>	<b>15 days</b>	<b>21 days</b>	<b>58 days</b>	<b>Fri 1/28/22</b>	<b>Thu 2/17/22</b>	
14		Design Plans	10 days	14 days	51 days	Fri 1/28/22	Thu 2/10/22	3FF,6
15		OPC Development	4 days	6 days	43 days	Fri 1/28/22	Wed 2/2/22	6
16		Construction Schedule	2 days	4 days	41 days	Fri 1/28/22	Mon 1/31/22	6
17		Active QC Review	3 days	5 days	56 days	Fri 2/11/22	Tue 2/15/22	14,15,16
18		Submit to Owner	1 day	1 day	57 days	Wed 2/16/22	Wed 2/16/22	17
19		Owner Check Set Review Meeting	1 day	1 day	58 days	Thu 2/17/22	Thu 2/17/22	18
20		<b>Design Development Phase (90%)</b>	<b>15 days</b>	<b>21 days</b>	<b>79 days</b>	<b>Fri 2/18/22</b>	<b>Thu 3/10/22</b>	
21		Design Plans	10 days	14 days	72 days	Fri 2/18/22	Thu 3/3/22	13
22		OPC Development	4 days	6 days	64 days	Fri 2/18/22	Wed 2/23/22	13
23		Construction Schedule	2 days	4 days	62 days	Fri 2/18/22	Mon 2/21/22	13
24		Active QC Review	3 days	5 days	77 days	Fri 3/4/22	Tue 3/8/22	21,22,23
25		Submit to Owner	1 day	1 day	78 days	Wed 3/9/22	Wed 3/9/22	24
26		Owner Check Set Review Meeting	1 day	1 day	79 days	Thu 3/10/22	Thu 3/10/22	25
27		<b>Contract Documents Preparation Phase (Final Plans)</b>	<b>15 days</b>	<b>21 days</b>	<b>100 days</b>	<b>Fri 3/11/22</b>	<b>Thu 3/31/22</b>	
28		Final Design Plans	10 days	14 days	93 days	Fri 3/11/22	Thu 3/24/22	20
29		Final OPC Development	4 days	6 days	85 days	Fri 3/11/22	Wed 3/16/22	20
30		Final Construction Schedule	2 days	4 days	83 days	Fri 3/11/22	Mon 3/14/22	20
31		Active QC Review	3 days	5 days	98 days	Fri 3/25/22	Tue 3/29/22	28,29,30
32		Submit to Owner	1 day	1 day	99 days	Wed 3/30/22	Wed 3/30/22	31
33		Owner Check Set Review Meeting	1 day	1 day	100 days	Thu 3/31/22	Thu 3/31/22	32
34		<b>Permitting</b>	<b>70 days</b>	<b>98 days</b>	<b>156 days</b>	<b>Fri 2/18/22</b>	<b>Thu 5/26/22</b>	
35		Building Permit	20 days	28 days	100 days	Fri 3/4/22	Thu 3/31/22	13,27FF
36		BC SWM License and SFWMD ERP Application	70 days	98 days	156 days	Fri 2/18/22	Thu 5/26/22	13
37		<b>Bidding Assistance Phase</b>	<b>51 days</b>	<b>74 days</b>	<b>174 days</b>	<b>Fri 4/1/22</b>	<b>Mon 6/13/22</b>	
38		Preparation for Advertisement	10 days	14 days	114 days	Fri 4/1/22	Thu 4/14/22	27
39		Bid Advertisement	23 days	33 days	147 days	Fri 4/15/22	Tue 5/17/22	38
40		Bid Opening	1 day	1 day	148 days	Wed 5/18/22	Wed 5/18/22	39
41		Bid Evaluation and Recommendation of Award	2 days	2 days	150 days	Thu 5/19/22	Fri 5/20/22	40
42		Construction contract award Commission agenda and approval	15 days	22 days	174 days	Mon 5/23/22	Mon 6/13/22	41
43		<b>Final FAA Grant Application</b>	<b>10 days</b>	<b>14 days</b>	<b>174 days</b>	<b>Tue 5/31/22</b>	<b>Mon 6/13/22</b>	41,42FF



Task		Summary		Inactive Milestone		Manual Summary Rollup		Start-only		External Milestone		Critical Split	
Split		Project Summary		Inactive Summary		Manual Summary		Finish-only		Deadline		Progress	
Milestone		Inactive Task		Manual Task		Manual Summary		External Tasks		Critical		Manual Progress	