CITY OF POMPANO BEACH

100 W Atlantic Blvd, Pompano Beach, FL 33060

WORK AUTHORIZATION NO: 11	**COPBFL Project Manager: Tammy Good** **Phone:** 954-786-5512 **Email:** Tammy.Good@copbfl.com **COPBFL Contract Specialist: Amy Schmidt** **Phone: 954-786-5574 Email: Aymara.Schmidt@copbfl.cc**
Firm Name: HDR Engineering, Inc. **Address:** 1475 Centrepark Blvd. | Suite 230 **City/State/Zip:** West Palm Beach, FL 33401	**Firm's Contact Representative:** Cody Parham **Phone:** 561.209.6641 **Email:** Cody.Parham@hdrinc.com

In accordance with solicitation number E-10-22, Ordinance number 2023-07 dated November 14, 2022 for performance of Air Park 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.

All terms and conditions of the Original Contract dated November 14, 2022 approved via Ordinance No. 2023-07 remain unchanged and in full force and effect.

Description:
See attached Exhibit "A" for a detailed scope description.

Total Work Authorization Amount: $487,648.00; FAA funding $438,883.20 and FDOT funding $24,382.40

CIP/Account No. (For City's internal use): 24-027 Account# 465-7766-542.65-03 (City funding $24,382.40)

Firm/Contractor Approval:	**City of Pompano Beach Approval:**
See Signature Pages Below	See Signature Pages Below

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

Witnesses:

CITY OF POMPANO BEACH

_____

By:_____
REX HARDIN, MAYOR

_____

By:_____
GREGORY P. HARRISON, CITY MANAGER

Attest:

_____
KERVIN ALFRED, CITY CLERK (SEAL)

APPROVED AS TO FORM:

_____
MARK E. BERMAN, CITY ATTORNEY

STATE OF FLORIDA
COUNTY OF BROWARD

The foregoing instrument was acknowledged before me this _____ day of _____, 20__ by **REX HARDIN** as Mayor, **GREGORY P. HARRISON** as City Manager, and **KERVIN ALFRED** as City Clerk of the City of Pompano Beach, Florida, a municipal corporation, on behalf of the municipal corporation, who is personally known to me.

NOTARY'S SEAL:

_____
NOTARY PUBLIC, STATE OF FLORIDA

_____
(Name of Acknowledger Typed, Printed or Stamped)

_____
Commission Number

"CONSULTANT"

HDR Engineering, Inc.
(Print or type name of company here)

Witnesses:

Melanie E. Fowler
(Print or Type Name)

Michelle J Pardo
(Print or Type Name)

By: Katie E Duty

Print Name: Katie E. Duty

Title: Vice President

Business License No. _____

STATE OF FLORIDA

COUNTY OF HILLSBOROUGH

The foregoing instrument was acknowledged before me this 30th day of September, 20 24 by Katie E. Duty as Vice President of HDR Engineering, Inc., a ~~Florida~~ Nebraska corporation on behalf of the corporation ~~or a Florida limited liability company~~ on behalf of the company. ~~He/she~~ is personally known to me ~~or who has produced~~ _____ ~~(type of identification)~~ as identification.

Michelle Pardo
NOTARY PUBLIC, STATE OF ~~FLORIDA~~

NOTARY'S SEAL:

NOTARY PUBLIC STATE OF FLORIDA
MICHELLE J. PARDO
Commission # HH586622
Expires September 22, 2028

Michelle J. Pardo
(Name of Acknowledger Typed, Printed or Stamped)

HH586622
Commission Number

EXHIBIT "A"
SCOPE AND FEE

Professional Engineering Design and Related Services for Runway 10-28 Rehabilitation Design
September 30, 2024

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 November 14, 2022, between CITY and CONSULTANT ("MASTER AGREEMENT").

PROJECT DESCRIPTION

Pompano Beach Airpark (PMP) is served by primary Runway 10-28. The asphalt runway is 3,687-ft x 100-ft. The 2021 FDOT pavement management program (PMP) report listed the runway's pavement condition index (PCI) at 64, in 'Fair' condition. FAA policy is to perform major rehabilitation of asphalt general aviation runways once they are below a PCI of 65. The 2021 PMP report proposes to perform major rehabilitation of the runway based on this policy.

The CITY has requested the CONSULTANT to perform design services for the PMP Runway 10-28 rehabilitation, schematically shown on the 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
  - Rehabilitate the full length and width of the runway pavement
    - Excludes the new 185-ft eastern extension constructed under a separate project
    - Excludes the intersection of Runway 15-33
    - Considers the portion of the runway in the Runway 15-33 safety area separately, since this pavement is younger and in better condition than the western portion of the runway.
  - Replace the runway lighting system with LED fixtures
  - Minor grading of the runway shoulders and safety area where existing grades exceed minimum or maximum thresholds.

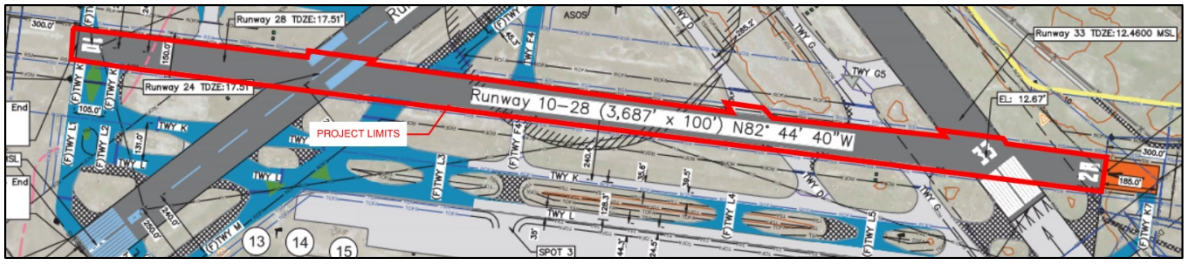


Figure 1 Project Limits Shown on the Future ALP

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
Topographic Survey	Keith - 4 staff	None	0800-1700, M-F	4 weeks
Geotechnical Investigation	TSF - 2 staff HDR – 1 staff	1 CITY escort	0800-1700, M-F	2 weeks
Wildlife Survey	HDR – 2 staff	1 CITY escort	0800-1700, M-F	1 day
Site Visual Investigation	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.

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

The anticipated drawings 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
- 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

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
- 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 date 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

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

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.

COMPENSATION

CONSULTANT will accomplish the services outlined in this Scope of Services for the lump sum fee of **$487,648.00**. 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	$24,018.00
Task 2 - Field Survey and Mapping	$3,075.00
Task 3 – Geotechnical Investigation	$7,330.00
Task 4 - Conceptual Design Phase (30%)	$102,611.00
Task 5 - Preliminary Design Phase (60%)	$84,832.00
Task 6 - Design Development Phase (90%)	$29,647.00
Task 7 - Construction Documents Preparation Phase (Bid Documents)	$17,298.00
Task 8 - Bidding Assistance Phase	$18,874.00
Task 9 - Permitting Assistance	$12,946.00
Task 10 – Expenses and Subconsultants	--
10.1 Expenses and Permit Fees	$5,000.00
10.2 Subconsultant QEE	$62,142.00
10.3 Subconsultant TSF	$29,150.00
10.4 Subconsultant Keith	$64,675.00
10.5 Subconsultant NV5	$26,050.00
Total:	**$487,648.00**

SCHEDULE

CONSULTANT will follow the schedule shown in "Attachment A".

SERVICES NOT PROVIDED

Services not included in this scope of work includes:

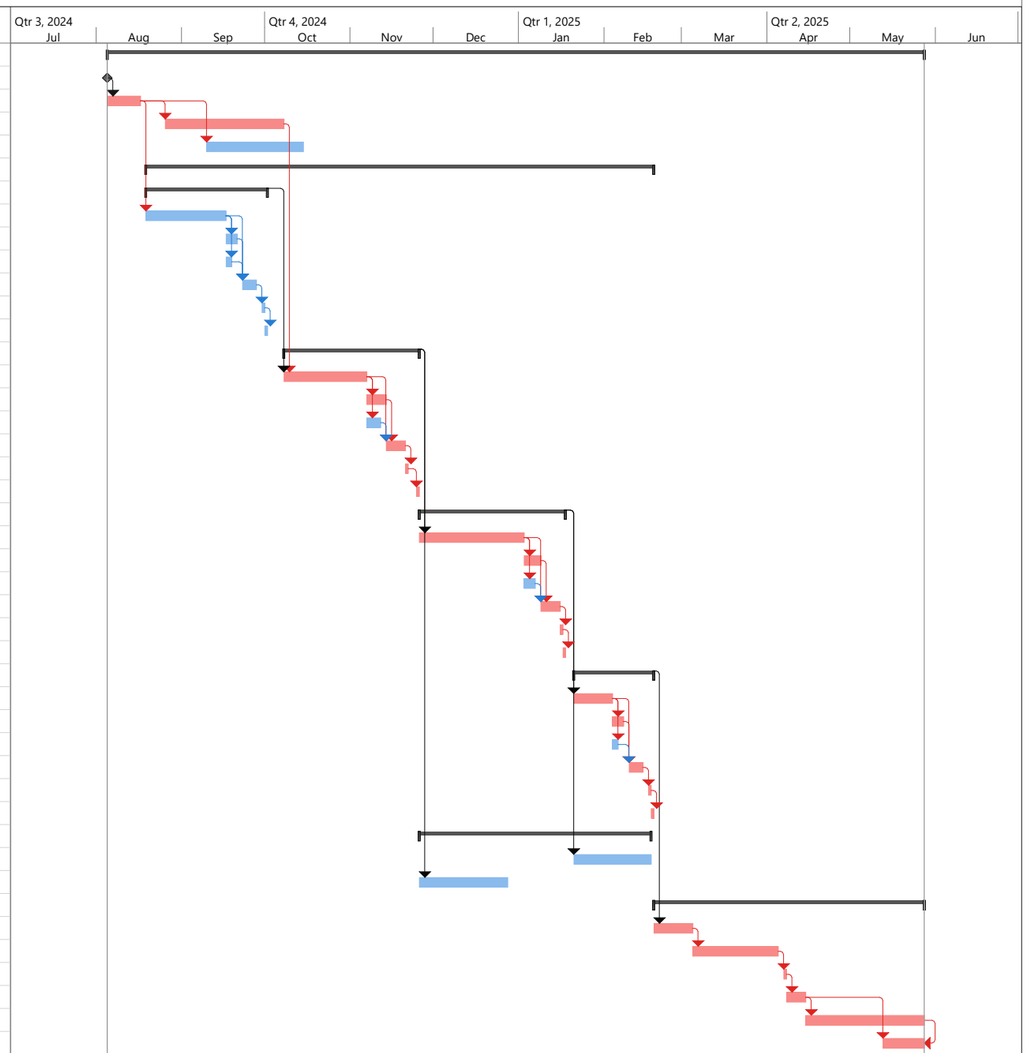
- Construction Phase Services
- Wildlife permitting and relocation (if required, will be performed under a future construction services task)
- Airspace obstruction mitigation
- Airport GIS survey
- Relocation of potable water wells
- Ground water testing and evaluation
- Large modifications to the Master 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.
- Modifications to taxiways

	LABOR TASKS	Project Manager	Sr. Engineer	Staff Engineer	Sr. Engineering Intern	Sr. Engineering Intern	Project Controller	Labor Subtotals	Task Total
	Contract Rate	*$258.00*	*$246.00*	*$205.00*	*$115.00*	*$115.00*	*$135.00*		
Task 1	**Site Visual and Widlife Surveys**								
	Wildlife survey and memo	4		48				52	
	Kickoff meeting	2		4			2	8	
	Permit review			20				20	
	Site visual survey	5		30				35	
	Task 1 - Subtotal Hours:	11	0	102	0	0	2	115	
	Task 1 - Subtotal Estimated Labor Cost:	$2,838.00	$0.00	$20,910.00	$0.00	$0.00	$270.00	$24,018.00	**$24,018.00**
Task 2	**Field Survey and Mapping**								
	Coordination of scoping and field work			15				15	
	Task 2 - Subtotal Hours:	0	0	15	0	0	0	15	
	Task 2 - Subtotal Estimated Labor Cost:	$0.00	$0.00	$3,075.00	$0.00	$0.00	$0.00	$3,075.00	**$3,075.00**
Task 3	**Geotechnical Investigation**								
	Scoping, access coordination, and QC			12			2	14	
	Observation and recording				40			40	
	Task 3 - Subtotal Hours:	0	0	12	40	0	2	54	
	Task 3 - Subtotal Estimated Labor Cost:	$0.00	$0.00	$2,460.00	$4,600.00	$0.00	$270.00	$7,330.00	**$7,330.00**
Task 4	**Conceptual Design Phase (30%)**								
	Construction phasing Schedule	8		15				23	
	Grant Support and Regular Status Updates	10		30				40	
	Site Visit	8		8	8			24	
	Stakeholder Meeting	5		16			15	36	
	Prepare base maps for the project.				30			30	
	Prepare conceptual typical section based on the geotechnical testing results.	1		8	24			33	
	Prepare a grading concept, assuming that profile and transverse slope corrections may be necessary.	1		15	40			56	
	Prepare conceptual project layout plans.			40	30			70	
	Prepare a project safety plan showing contractor access, haul routes, and contractor staging areas.			20	20			40	
	Prepare conceptual maintenance of traffic plans.			20	40			60	
	Study of well house west of RW 10 threshold	5		25				30	
	Coordination with electrical designer			8	8			16	
	Prepare a draft outline of the Engineering Report.		3	12				15	
	Prepare a draft outline of technical specifications for this project.		3	2				5	
	Prepare an opinion of probable construction cost based on the 30% plans.	2		8	30			40	
	Perform Quality Control review.	15	4	10				29	
	Conduct one (1) design review and coordination meeting with the City.	6		6				12	
	Review and respond to concept coordination review meeting issues.	1		23	10			34	
	Task 4 - Subtotal Hours:	62	10	266	240	0	15	593	
	Task 4 - Subtotal Estimated Labor Cost:	$15,996.00	$2,460.00	$54,530.00	$27,600.00	$0.00	$2,025.00	$102,611.00	**$102,611.00**
Task 5	**Preliminary Design Phase (60%)**								
	Develop proposed profiles for the pavements.			10	15			25	
	Develop proposed cross sections for the pavements and slopes for tie-in to existing grade.		4	20	40			64	
	Prepare preliminary pavement marking plans.		2	8	24	40		74	
	Prepare preliminary opinion of probable construction cost.	2		10	24			36	
	Prepare preliminary construction safety plans with details and notes.			20	25			45	
	Coordination with electrical designer			20				20	
	Develop construction plans to 60% completion.			22	55	45		122	
	Prepare preliminary Engineering Report.		6	20	5			31	
	Prepare preliminary technical specifications.		3	30	8			41	
	Perform Quality Control review.	15		24	15			54	
	Conduct up to one (1) design review and coordination review meeting with the CITY.	6		13	1			20	
	Review and respond to issues raised at the preliminary design meeting.	1		2				3	
	Task 5 - Subtotal Hours:	24	15	199	212	85	0	535	
	Task 5 - Subtotal Estimated Labor Cost:	$6,192.00	$3,690.00	$40,795.00	$24,380.00	$9,775.00	$0.00	$84,832.00	**$84,832.00**
Task 6	**Design Development Phase (90%)**								
	Finalize the project layout plans.			5	10			15	
	Finalize the paving, grading, and drainage plans.			5	22			27	
	Finalize the typical pavement sections and details.			5	3	8		16	
	Finalize phasing plans and notes.			4	8			12	
	Finalize construction safety plans with details and notes.			2	8			10	
	Develop pavement marking plans.				6	12		18	
	Coordination with electrical designer				6			6	
	Conduct a plan-in-hand field review of the construction plans.	4			4			8	
	Prepare a 90% opinion of probable cost.	2			10			12	
	Update the technical specifications, incorporate review comments previously received.	2		1	5			8	
	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	10			13	
	Provide Quality Control review of the services being provided.	5		8	4			17	
	Conduct one (1) design review and coordination meeting with the CITY.	6			4			10	
	Respond to issues received in the design review meeting.	1			10		4	15	
	Prepare a Construction Safety and Phasing Plan (CSPP)	1			10			11	
	Task 6 - Subtotal Hours:	24	0	31	124	20	4	203	
	Task 6 - Subtotal Estimated Labor Cost:	$6,192.00	$0.00	$6,355.00	$14,260.00	$2,300.00	$540.00	$29,647.00	**$29,647.00**
Task 7	**Construction Document Preparation Phase (Bid Docs)**								
	Finalize design drawings.			30				30	
	Finalize technical specifications.	1		6	10			17	
	Finalize engineering report.	1		4				5	
	Develop Bid Forms and Front End Specs.	8		8			4	20	
	Prepare supplemental provisions.	1		2				3	
	Construction Grant Support	4		4				8	
	Prepare FAA airspace checklist.	1		2				3	
	Task 7 - Subtotal Hours:	16	0	56	10	0	4	86	
	Task 7 - Subtotal Estimated Labor Cost:	$4,128.00	$0.00	$11,480.00	$1,150.00	$0.00	$540.00	$17,298.00	**$17,298.00**

	LABOR TASKS	Project Manager	Sr. Engineer	Staff Engineer	Sr. Engineering Intern	Sr. Engineering Intern	Project Controller	Labor Subtotals	Task Total
	Contract Rate	*$258.00*	*$246.00*	*$205.00*	*$115.00*	*$115.00*	*$135.00*		
Task 8	**Bidding Assitance Phase**								
	Incorporate final comments into completed documents.			20				20	
	Assemble and forward construction documents and technical specifications to the CITY in support of the bid process.			16				16	
	Prepare for and attend one (1) pre-bid conference.			4				4	
	Prepare meeting minutes from the pre-bid conference.			2				2	
	Respond in writing to reasonable Contractor questions.			8				8	
	Prepare addenda if necessary.			15			4	19	
	Review the qualifications of the low bidder and provide written report to CITY.	4	2	17				23	
	Task 8 - Subtotal Hours:	4	2	82	0	0	4	92	
	Task 8 - Subtotal Estimated Labor Cost:	$1,032.00	$492.00	$16,810.00	$0.00	$0.00	$540.00	$18,874.00	**$18,874.00**
Task 9	**Permitting Assistance**								
	Surface Water Management License- Broward County	1	5	30	6		8	50	
	Environmental Resources Permit- Broward County on behalf of South Florida Water Management District (SFWMD).	1	5	10				16	
	Task 9 - Subtotal Hours:	2	10	40	6	0	8	66	
	Task 9 - Subtotal Estimated Labor Cost:	$516.00	$2,460.00	$8,200.00	$690.00	$0.00	$1,080.00	$12,946.00	**$12,946.00**
	Tasks 1 to 9 - Subtotal Hours:	143	37	803	632	105	39	1759	
	Tasks 1 to 9 - Subtotal Estimated Labor Cost:	$36,894.00	$9,102.00	$164,615.00	$72,680.00	$12,075.00	$5,265.00	$300,631.00	
								TASK 1-9 TOTAL:	**$300,631.00**
Task 10	**Expenses and Subconsultants**								
	Expenses and Permit Fees								$5,000.00
	Subconsultant QEE								$62,142.00
	Subconsultant TSF								$29,150.00
	Subconsultant Keith								$64,675.00
	Subconsultant NV5								$26,050.00
								TASK 10 TOTAL:	**$187,017.00**
								ESTIMATED PROJECT TOTAL:	**$487,648.00**

PMP Runway 10-28 Rehabilitation
Design Schedule

ID	Task Mode	Task Name	Duration	Task Calendar Days	Calendar Days from NTP	Start	Finish	Predecessors
1		**PMP Runway 10-28 Rehab Design**	**204 days**	**296 days**	**296 days**	**Mon 8/5/24**	**Tue 5/27/25**	
2		**Notice to Proceed (NTP)**	**0 days**	**0 days**	**0 days**	**Mon 8/5/24**	**Mon 8/5/24**	
3		Project initiation and setup	10 days	12 days	12 days	Mon 8/5/24	Fri 8/16/24	2
4		**Field Surveying and Mapping**	**30 days**	**43 days**	**64 days**	**Mon 8/26/24**	**Mon 10/7/24**	3FS+5 days
5		**Geotechnical Evaluation**	**25 days**	**35 days**	**71 days**	**Tue 9/10/24**	**Mon 10/14/24**	3FS+15 days
6		**Design Task**	**125 days**	**184 days**	**198 days**	**Mon 8/19/24**	**Tue 2/18/25**	
7		**Conceptual Design Phase (30%)**	**31 days**	**44 days**	**58 days**	**Mon 8/19/24**	**Tue 10/1/24**	
8		Design Plans	20 days	29 days	43 days	Mon 8/19/24	Mon 9/16/24	3
9		OPC Development	4 days	4 days	47 days	Tue 9/17/24	Fri 9/20/24	8
10		Construction Schedule	2 days	2 days	45 days	Tue 9/17/24	Wed 9/18/24	8
11		Active QC Review	5 days	5 days	54 days	Mon 9/23/24	Fri 9/27/24	8,9,10
12		Submit to Owner	1 day	1 day	57 days	Mon 9/30/24	Mon 9/30/24	11
13		Owner Check Set Review Meeting	1 day	1 day	58 days	Tue 10/1/24	Tue 10/1/24	12
14		**Preliminary Design Phase (60%)**	**33 days**	**49 days**	**113 days**	**Tue 10/8/24**	**Mon 11/25/24**	
15		Design Plans	22 days	30 days	94 days	Tue 10/8/24	Wed 11/6/24	4,7
16		OPC Development	4 days	7 days	101 days	Thu 11/7/24	Wed 11/13/24	15
17		Construction Schedule	2 days	5 days	99 days	Thu 11/7/24	Mon 11/11/24	15
18		Active QC Review	5 days	7 days	108 days	Thu 11/14/24	Wed 11/20/24	15,16,17
19		Submit to Owner	1 day	1 day	109 days	Thu 11/21/24	Thu 11/21/24	18
20		Owner Check Set Review Meeting	1 day	1 day	113 days	Mon 11/25/24	Mon 11/25/24	19
21		**Design Development Phase (90%)**	**36 days**	**53 days**	**166 days**	**Tue 11/26/24**	**Fri 1/17/25**	
22		Design Plans	25 days	38 days	151 days	Tue 11/26/24	Thu 1/2/25	14
23		OPC Development	4 days	6 days	157 days	Fri 1/3/25	Wed 1/8/25	22
24		Construction Schedule	2 days	4 days	155 days	Fri 1/3/25	Mon 1/6/25	22
25		Active QC Review	5 days	7 days	164 days	Thu 1/9/25	Wed 1/15/25	22,23,24
26		Submit to Owner	1 day	1 day	165 days	Thu 1/16/25	Thu 1/16/25	25
27		Owner Check Set Review Meeting	1 day	1 day	166 days	Fri 1/17/25	Fri 1/17/25	26
28		**Contract Documents Preparation Phase (Final Plans)**	**21 days**	**29 days**	**198 days**	**Tue 1/21/25**	**Tue 2/18/25**	
29		Final Design Plans	10 days	14 days	183 days	Tue 1/21/25	Mon 2/3/25	21
30		Final OPC Development	4 days	4 days	187 days	Tue 2/4/25	Fri 2/7/25	29
31		Final Construction Schedule	2 days	2 days	185 days	Tue 2/4/25	Wed 2/5/25	29
32		Active QC Review	5 days	5 days	194 days	Mon 2/10/25	Fri 2/14/25	29,30,31
33		Submit to Owner	1 day	1 day	197 days	Mon 2/17/25	Mon 2/17/25	32
34		Owner Check Set Review Meeting	1 day	1 day	198 days	Tue 2/18/25	Tue 2/18/25	33
35		**Permitting**	**56 days**	**84 days**	**197 days**	**Tue 11/26/24**	**Mon 2/17/25**	
36		Building Permit	20 days	28 days	197 days	Tue 1/21/25	Mon 2/17/25	21
37		BC SWM License and SFWMD ERP Application	22 days	32 days	145 days	Tue 11/26/24	Fri 12/27/24	14
38		**Bidding Assistance Phase**	**69 days**	**98 days**	**296 days**	**Wed 2/19/25**	**Tue 5/27/25**	
39		Preparation for Advertisement	10 days	14 days	212 days	Wed 2/19/25	Tue 3/4/25	28
40		Bid Advertisement	23 days	31 days	243 days	Wed 3/5/25	Fri 4/4/25	39
41		Bid Opening	1 day	1 day	246 days	Mon 4/7/25	Mon 4/7/25	40
42		Bid Evaluation and Recommendation of Award	5 days	7 days	253 days	Tue 4/8/25	Mon 4/14/25	41
43		Construction contract award Commission agenda and approval	30 days	43 days	296 days	Tue 4/15/25	Tue 5/27/25	42
44		**Final FAA Grant Application**	10 days	15 days	296 days	Tue 5/13/25	Tue 5/27/25	42,43FF



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

MASTER SUBCONSULTANT AGREEMENT ATTACHMENT B

"TASK ORDER"

This Task Order dated _____, 20__, pertains to an Agreement by and between Keith and Associates, Inc., ("Subconsultant"), and HDR Engineering, Inc. ("HDR"), dated February 5, 2024, ("Agreement"). Subconsultant shall perform Services on the Project described below as provided herein and in the Agreement. This Task Order shall not be binding until it has been properly signed by both parties. Upon execution, this Task Order shall supplement the Agreement as it pertains to the Project described below.

TASK ORDER NUMBER: 03
PROJECT NAME: PMP Runway 10-28 Rehabilitation

PART 1.0 PROJECT DESCRIPTION:

This task order consists of design and bid phase services for the rehabilitation of Runway 10-28 and correction of expanses of pavement on the Runway 10 end at Pompano Beach Airpark (PMP) (Exhibit A – Location Map). Rehabilitation of associated electrical, signage, markings, and grading will also be required. Project funding may include federal and state sources. HDR requests for subconsultant to provide support services to design all or part of the proposed improvements described above.

Subconsultant shall support HDR by conducting a topographic survey with the intent to develop base mapping per HDR CADD Standards (Exhibit D) for the preparation of engineering design documents.

PART 2.0 SCOPE OF BASIC SERVICES TO BE PERFORMED BY SUBCONSULTANT ON THE PROJECT:

1. Subconsultant shall provide a survey party with an adequate number of movement area badged drivers to escort the party.
2. Prepare a topographic survey and a Digital Terrain Model of project area
3. The survey will reflect boundary lines, right-of-way lines and easements, based on the Plat of Pompano Beach Airpark F.B.O. Phase 1, recorded in Plat Book 171, Pages 189 thru 194.
4. The topographic survey will extend to the limits shown in Figure 1 – Survey Limits and attached CAD file.
5. Set project benchmarks.
6. Set adequate project horizontal control and references.
    1. Establish baselines for Runway 10-28 based on published runway endpoints and runway end survey nails.
    2. Vertical control (elevations) will be based on National American Vertical Datum of 1988.
    3. Horizontal control will be based on the Florida State Plane Coordinates System, East Zone, North American Datum of 83/90.
    4. Survey control will be tied to the airport's PACs and SACs
7. Elevations will be measured approximately as follows:

    1. Paved surfaces: Longitudinally, every 25 feet; Transversely, every 12.5 feet inclusive of centerline and edges of pavement and at high and low spots.
    2. Unpaved surfaces: Longitudinally and transversely, every 50 feet.
    3. Top and toe of slopes
    4. Inflection points, breaks, ridges and swales, as required to accurately model the contours of the land.
8. Locate above ground features within the survey limits, according to the following schedule but not limited to buildings, trees, fences, pavement, driveways, pavement markings, paved swales, slabs, curbs, walls, signage, navigational aids, lights, and other electrical features.
9. Locate surface evidence of utilities within the survey limits, according to the following schedule: power and light poles, anchors, handrails, catch basins, wire pull boxes, signs, cabinets, risers, valve boxes, sanitary and storm sewer manholes, vaults, valves, meter boxes, backflow preventer, control panels, fire hydrants, overhead utilities, gas lines, and fuel lines.
10. Locate all above-ground features within the survey extents, including lights, signs (with description of sign faces), junction cans, etc. together with all evidence of below-ground features.
11. Storm and sanitary structures
    1. Measure the rim and invert elevation of structures. Determine pipe types, materials, size, and flow direction. Subconsultant shall coordinate with owner to provide temporary closure of work areas to access structures within safety areas.
    2. Provide dimensions of drainage structures, including grate size, box length, box width, box depth, box diameter, sump depth. Describe and provide elevations of structure features, including rim, inverts, baffles, weirs, and bottom.
    3. Subconsultant shall be responsible for coordinating opening of grates, rims, and other covers for underground structures with the owner maintenance staff.
12. Confirm horizontal and vertical control prior to construction.
13. Geotechnical investigation support and SUE
    1. Locate and mark 30 geotechnical testing locations.
    2. Map underground features using geophysical methods within a 25-ft radius of geotechnical testing locations.
    3. Obtain surface elevations at soil boring locations.
    4. Depict test locations and underground features on the topographic survey

All surveying services shall conform to the applicable requirements of Rule 5J-17 of the Florida Administrative Code.

Deliverables

1. Provide Electronic CAD files in AutoCAD Civil 3D in accordance with HDR CADD Specifications for Project Drawings (Exhibit D). Software version, survey sheet names, numbers, viewports, cut sheets, and borders shall be provided by HDR. Plan views at 40 scale or less. Provide electronic copy of the survey in AutoCAD Version 2024 is preferred, but any version 2018 and newer is acceptable.
2. The TIN existing surface file will be included in the Civil 3D drawing and in .xml format.
3. Provide a Microsoft Excel file (.csv) in Point, Northing, Easting, Elevation, and Description (PNEZD) format.
4. Provide one (1) digitally signed/sealed PDF, 24x36

5. Provide 1 unsigned/unsealed PDF, 24x36 and 11x17

PART 3.0 ADDITIONAL SERVICES, NOT PART OF BASIC SERVICES:

PART 4.0 HDR'S RESPONSIBILITIES: Project management

PART 5.0 PERIODS OF SERVICE: Schedule provided in Exhibit C

PART 6.0 SUBCONSULTANT'S COMPENSATION FOR SERVICES:

- Lump Sum: HDR shall pay Subconsultant for all authorized and properly performed services at the rates attached hereto with a lump sum amount of $64,675. Subconsultant acknowledges that the lump sum amount is not a guarantee of minimum work or payment. Subconsultant shall notify HDR when it has reached 90% of the LS amount. A detailed fee schedule is shown in Exhibit B

- Reimbursable Expenses: None

PART 7.0 EXECUTED PRIME AGREEMENT BETWEEN OWNER AND HDR ATTACHED HERETO: Agreement provided in Exhibit E

PART 8.0 OTHER:

Support to be provided by the owner:

- Provide airfield access
- Assist with location of utilities
- Provide any relevant as-built information

IN WITNESS WHEREOF, the parties have executed this Task Order as of the day and year first written above.

Keith and Associates, Inc. "Subconsultant"		HDR ENGINEERING, INC. "HDR"	
BY:		BY:	
NAME:	Sam Hall, PSM, PLS	NAME:	
TITLE:	Vice President	TITLE:	
ADDRESS:	301 East Atlantic Blvd. Pompano Beach, FL 33060	ADDRESS:	

Exhibit A
Location Map

Exhibit B
Subconsultant Fee Schedule

Our Project/Proposal Number		WO # 3						
Proposal Date		4/1/2024	KEITH					
Tasks			Chief Surveyor	Project Surveyor	Survey CADD / GIS Tech	Survey Party (2) Person	KEITH Subtotal	Task Subtotals
No.	Description		$200.00	$165.00	$150.00	$160.00	-	
101	Topographic Survey		28	83	166	128	$ 64,675.00	$ 64,675.00
102			-	-		-	$ -	$ -
103			-	-		-	$ -	$ -
104				-		-	$ -	$ -
201						-	$ -	$ -
202				-		-	$ -	$ -
203				-		-	$ -	$ -
204				-		-	$ -	$ -
701				-		-	$ -	$ -
702				-		-	$ -	$ -
703				-		-	$ -	$ -
704				-			$ -	$ -
Personnel Hours			28	83	166	128	-	-
Personnel Cost			$ 5,600.00	$ 13,695.00	$ 24,900.00	$ 20,480.00	$ 64,675.00	$ 64,675.00

Sub Totals	
Personnel Subtotal	$ 64,675.00
Miscellaneous Expenses	
Direct Expenses	$ -
GRAND TOTAL	$ 64,675.00

Exhibit C
Subconsultant Work Schedule

Milestone	Date
Subconsultant notice to proceed	Week 1
Start of field work	Week 1
Completion of geotechnical support field work	Week TBD
Completion of all field work	Week #6
Delivery of draft deliverables	Week #8
HDR deliverable review (2 weeks)	Week #10
Delivery of final survey	Week #11

Exhibit D
HDR Survey Deliverable Requirements

The attached files may include Civil 3D Drawing Templates. Check with your HDR project contact to determine if a template drawing is required.

DIGITAL SURVEY DELIVERABLE SPECIFICATIONS

Unless specifically directed by the engineer, the following specifications shall be applied for all digital survey deliverables to HDR that are to be utilized for design projects.

DRAWING COORDINATE SYSTEM

The drawing file is to be in model space utilizing the coordinate system and vertical datum specified by the client/HDR. A separate document should also be supplied with any combined site scale factor and origin needed to convert coordinates from ground to grid if applicable.

PROPERTIES AND DRAWING ENTITIES

Electronic survey to be delivered in AutoCAD Civil 3D release 2018 format or other approved format. The drawing shall be layered in accordance with National CAD Standards (NCS). See attached AutoCAD template file containing layers provided by HDR.

Separate layer names should be used for all distinct objects surveyed. Do not group dis-similar items together on the same layer. For example, do not place line work and annotation on the same layer.

All properties of the AutoCAD entities in the drawing are to be BYLAYER (Absolutely No Exceptions Here). In other words, do not change the properties of individual entities. For example, do not place water items on the sanitary layer and just change the color, linetype, or lineweight of the entity. Any user defined blocks used in the drawing shall have all entities created on layer 0, and all other properties shall be set to BYLAYER.

All blocks, dimensions, mtext, mleaders used in the drawing will use the Annotative property wherever possible. An exception to this will be blocks used as point symbols. These blocks cannot have an annotative property.

Points and survey figures shall not be used to depict physical features. Features shall be depicted using blocks or linework. Points shall only be used for topographic information.

SURFACES

Creating an accurate existing surface model is critical to the overall design process. An accurate model extends past the requirements for the given contour interval stated by the Master Services Agreement. It is the intention of this model to be generated with breaklines. There must be breaklines at all breaks in grade along the site. This should include but not limited to ALL Tops, Toes, Swales, Crowns, Flow Lines, Face/Back of Curbs, Edge of Pavement and any other linear features. A surface given without breaklines will be a cause for immediate rejection and delay the project schedule.

Surfaces created with Civil 3D shall be created from Survey Points and 3D break lines (with preference to the use of Feature Lines) at a minimum. In the event the number of collected points exceeds 20,000, an external point file may be used for natural ground or spot shots. The external file shall be a separate comma delimited ASCII point file in PNEZD (Point Number, Northing, Easting, Elevation, and Description) format. The point file should then be linked to the existing ground surface and a note placed in the description of the surface giving the external file name.

Surfaces created from other software programs should include Survey Points and 3D Breaklines at a minimum. The drawing should include polylines representing contours, 3D Lines or 3D Faces representing the surface model.

SURVEY OBJECTS

Survey Figures should NOT be used in the drawing for 2D line work. Survey Figures do not allow for editing inside the design process. For example, proposed curb cuts cannot be placed because a figure cannot be edited without the survey database, so even changing a layer would be impossible. Therefore, any figure created should be converted to a 2D polyline at elevation (z-value) of '0'.

All points shall be inserted from a Survey Database thereby creating Survey Points and not Cogo Points. This will lock the point and prevent users from accidentally modifying survey data (location, elevation, and description.).

Parcels shall be made up of individual segments and not polyline segments. Parcel geometry should be clean with no overlapping segments, duplicate segments or vertical PI's. Parcels shall be of a single elevation of zero (0).

UNDERGROUND UTILITIES

At a minimum, the surveyor must supply both 2D and 3D linework. 3D polylines and/or Feature lines need to represent existing pipes from invert to invert. If the surveyor would prefer to use Civil 3D pipe and structure objects

to represent existing utilities then they are free to do so. Rim or top elevations, measure downs or dips and top of nut elevations of water valves shall also be labeled as required by the project manager.

DOCUMENTATION

A list of bench marks including the reference datum, reference bench mark, an accurate description of each mark and its elevation. At least two of the permanent bench marks shall be located on or near the project outside the area of proposed construction where possible.

A separate comma delimited ASCII point file is required as a QA/QC step to check the drawing in the event we should experience difficulties. This file is to be a comma delimited PNEZD (Point Number, Northing, Easting, Elevation, and Description) ascii format.

May 3, 2024

Susan Rich, P.E.
HDR, Inc.
101 South Fifth Street, Suite 2830
Louisville, KY 40202

Project: 83314 | Pompano Beach Airpark (PMP) PAPI Obstruction Study for Runway 10/28

Dear Ms. Rich,

This summary of work describes our understanding of the scope of work and services required for an obstruction study for the installation of new PAPIs for Runway 10/28 at the Pompano Beach Airpark (PMP) located in Pompano Beach, FL.

Summary of Work

We understand that the purpose of this project is to accomplish obstruction identification due to the replacement of PAPIs for Runway 10/28. NV5 Geospatial will evaluate the PAPI four (4) Nautical Mile OCS and LCSC for each of the new PAPIs in accordance with Engineering Brief No.95. For each PAPI, HDR will provide the surface slope to be used in the analysis.

For this project, we assume that our analysis will use the new vertical stereo aerial photography collected for the Runway 10/28 Safety Enhancements Project. We will use the aerial photography at a nominal scale of 1"= 3,846' for the defined limits as shown in the exhibit using an Digital Mapping Camera III (DMC-III). From the imagery we will produce the following

- Identification and mapping of obstruction obstacles associated with the PAPI 4 NM OCS and LSCS for each PAPI on runway 10/28

Quality Standards

The project has been designed to conform to the National Map Accuracy Standards for planimetric feature collection. We will exercise reasonable care and will conform to the standards of practice ordinarily used by the photogrammetric profession.

Project Area

The project area encompasses the Runway 10/28 PAPI OCS and LSCS areas of Pompano Beach Airpark (PMP).

Control Surveying

NV5 Geospatial will complete all of the on-site ground survey required for validating the location of the new PAPIs.

- Establish or validate temporary airport geodetic control
- Survey runway end(s)/threshold(s)
- Monument runway end(s)/threshold(s)
- Document runway end(s)/threshold locations
- Identify and survey any displaced threshold(s)

- Document displaced threshold(s) location
- Determine or validate runway length
- Determine or validate runway width
- Determine runway profile using [50 foot stations] – Runway 10/28
- Collection of the position, elevation, and the perpendicular point of the PAPIs
- Provide a Final Report

Production Schedule

We will make a reasonable effort to maintain the agreed-upon schedule. However, should the project be interrupted by technical problems beyond our control, including control deficiencies or map file re-deliveries rescheduling may become necessary.

Deliverables

All data will be delivered directly to HDR:

- Obstruction obstacles as they relate to the PAPI OCS and LCSC surfaces in a CSV/AutoCAD format
- XYZ in CSV/excel format of the runway end points, runway profile, PAPI locations, and PAPI perpendicular locations, for completing the Airport Facilities Data Information form (VGSI form) used for providing PAPI locations to the FAA

All digital files will be delivered on external hard drive, FTP, and email.

Cost and Payment Terms

Compensation for the above services will be provided as a lump sum cost of U.S. $26,050.00.

NOTE: Cost assumes use of imagery from the Runway 10/28 Safety Enhancements Project.

Client Responsibilities

The successful and timely completion of this project is dependent upon a number of elements and work tasks, some of which involve participation by HDR. You will be responsible for designating a representative for the project who will have the authority to transmit instructions, receive information, and make timely decisions with respect to the services provided by NV5 Geospatial.

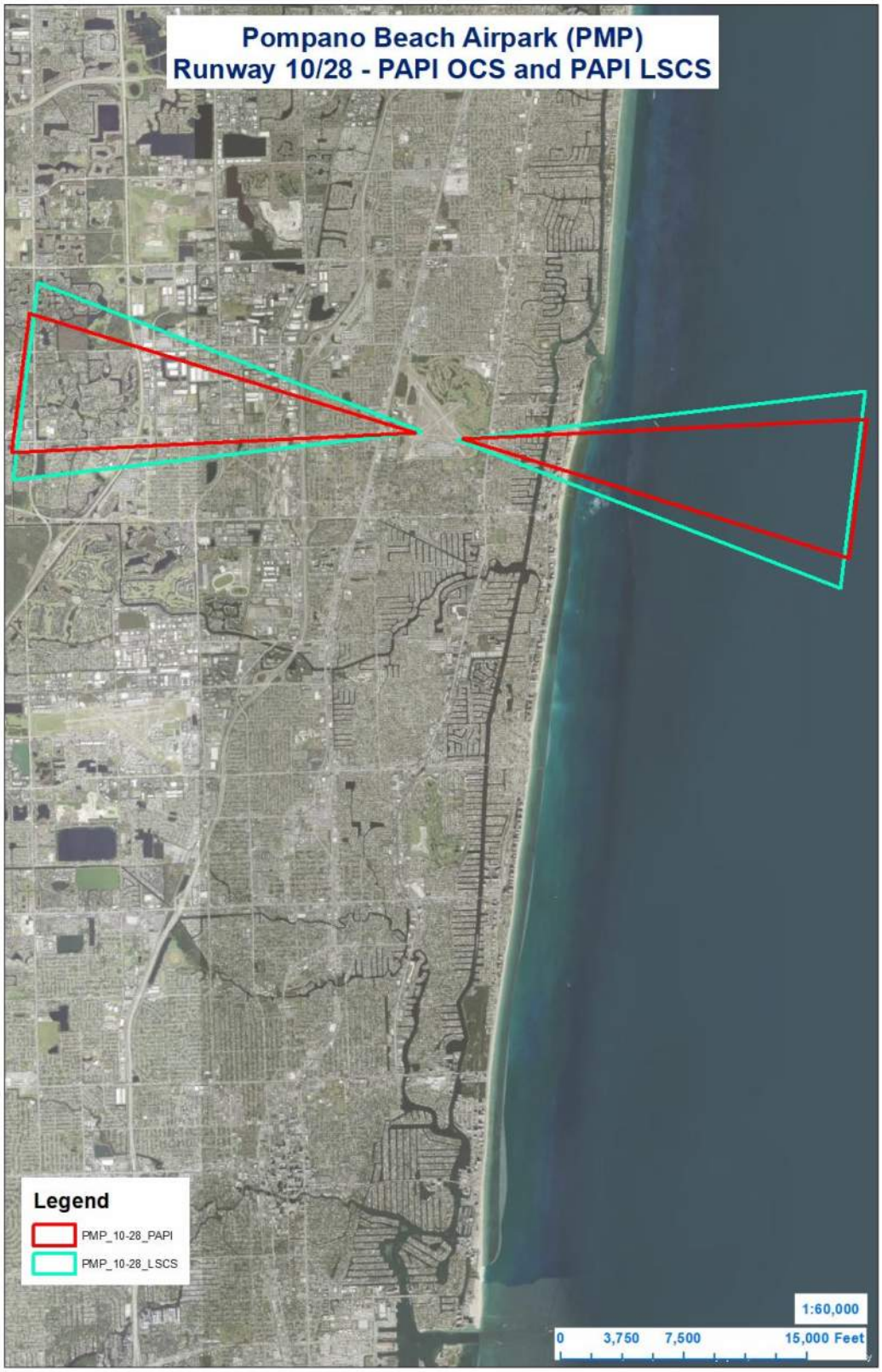
NV5 Geospatial Representative

Jill Mahoney, Project Manager and Marlin Zook, Technical Manager, will represent us during the performance of the services to be provided under this agreement. Each has the authority to transmit and receive instructions and make decisions with respect to the services. Each is authorized to commit the necessary resources towards completing the services described herein.

We look forward to working with you and your staff to complete this project in a timely and cost effective manner. Should you have any questions, please call our office at (803) 351-3136 or email me at the address shown below.

Sincerely,

David Grigg
Aviation Program Director
David.Grigg@NV5.com


Pompano Beach Airpark (PMP)
Runway 10/28 - PAPI OCS and PAPI LSCS
Legend
PMP_10-28_PAPI
PMP_10-28_LSCS
1:60,000
0 3,750 7,500 15,000 Feet

MASTER SUBCONSULTANT AGREEMENT
Attachment B - Task Order

TASK ORDER NUMBER: 3
PROJECT NAME: Runway 10-28 Rehabilitation

This Task Order dated _____, pertains to an Agreement by and between Quantum Electrical Engineering, Inc., ("Subconsultant"), and HDR Engineering, Inc. ("HDR"), dated January 17, 2024, ("Agreement"). Subconsultant shall perform Services on the Project described below as provided herein and in the Agreement. This Task Order shall not be binding until it has been properly signed by both parties. Upon execution, this Task Order shall supplement the Agreement as it pertains to the Project described below.

PART 1.0 PROJECT DESCRIPTION

This task order consists of design and bid phase services for the rehabilitation of Runway 10-28 and correction of expanses of pavement on the Runway 10 end at Pompano Beach Airpark (PMP) (Exhibit A – Location Map). Rehabilitation of associated electrical, signage, markings, and grading will also be required. Project funding may include federal and state sources. HDR requests for subconsultant to provide support services to design all or part of the proposed improvements described above.

Subconsultant shall support HDR by providing electrical, lighting, and signage design as part of the preparation of engineering design documents for bidding. 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
  - Adjust inpavement lighting systems impacted by the runway pavement rehabilitation.
  - Replace runway edge quartz lighting system with new LED runway lights.
  - Replace runway two box PAPIsystem with new LED two box PAPI system.
  - Replace circuit conductors for runway and PAPI lighting systems.
- Taxiway A
  - Design modification to the taxiway lighting system at the Runway 10 end and Taxiway A intersection for a new paved or grassed island per the ALP.
  - Replace guidance sign legends and/or design new guidance signage for the renaming of Taxiway A north of Taxiway K to Taxiways K1 and K2, or other designators to best comply with current FAA nomenclature standards.

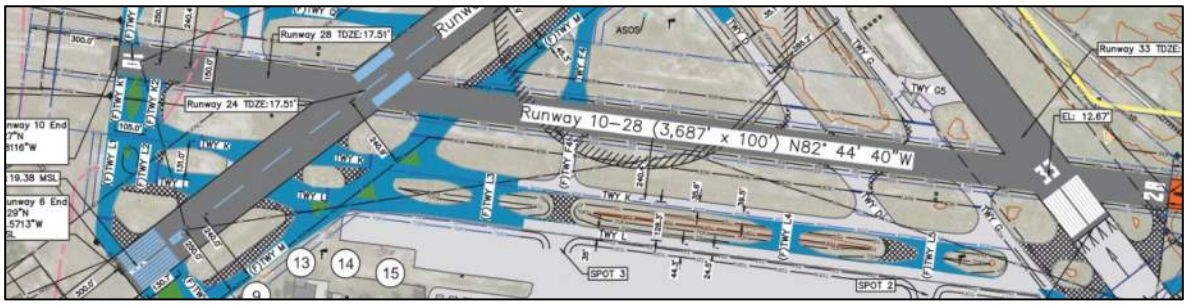


Figure 1 Future ALP

PART 2.0 SCOPE OF WORK

Subconsultant will provide design services for the electrical, lighting, and signage components of the project.

Task 1 – Design Documents:

- Includes design coordination meetings with the Airport, FAA, FDOT and HDR Design Team.

- Includes record drawing reviews, on-site electrical verifications and visual assessment of existing conditions.
- Includes airfield electrical plans reflecting the modification of the existing runway/taxiway edge lighting and signage systems
- Includes modifications to existing conductor and conduit systems, installation details and demolition plans of existing airfield electrical systems.
- Includes new runway and taxiway directional signage design as it relates to Taxiway A north of Taxiway K to Taxiways K1 and K2.
- Includes repaneling design of existing signage as it relates to Taxiway A north of Taxiway K to Taxiways K1 and K2.
- Includes the demolition of existing airfield lighting features as they relate to the existing pavement realignment
- Includes all electrical and regulator calculations. The design shall be per Airport requirements, FAA, NEC and County codes & standards criteria.
- Includes a review of the electrical design as it relates to the civil design and phasing to ensure proper coordination

Task 2 – Bid & Award Services:

- Evaluate bidder submittal unit prices for electrical items

Exclusions and Assumptions:

- Assume that the overall length of Runway 10-28 is not changing and therefore, the existing PAPIs will remain in the current location.
- Assume that existing regulators have sufficient capacity for expansion.
- Does not include replacement/modification to existing lighting control system.
- Does not include modifications to FAA NAVAIDs and/or coordination with FAA for flight checks.
- HDR shall provide all base drawings to Subconsultant on AutoCAD 2020 or higher.
- Subconsultant shall provide all FAA specifications, electrical bid line items, quantities and cost estimates.
- HDR shall provide all printing of Plans & Specifications for reviews, bid phase, permits and construction phases.
- This scope of work does not include Construction Services

Deliverables

- Subconsultant shall provide 1- electronic set of electrical design documents to HDR for all 30%, 60%, 90%, 100% and conformed contract documents. Where applicable, Subconsultant's deliverables shall be provided within HDR's working design files hosted on ProjectWise.
- Drawings in CAD and PDF format
- Specifications in Word format, incorporated into HDR's Word document on ProjectWise.
- Engineer's Report in Word format, incorporated into HDR's Word document on ProjectWise.
- Opinion of probable construction cost (OPC) in Excel format, incorporated into HDR's OPC Excel file on ProjectWise.

PART 3.0 SUPPORT TO BE PROVIDED BY THE CLIENT

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

- Provide airfield access.
- Provide any relevant as-built information.

PART 4.0 ADDITIONAL SERVICES, NOT PART OF BASIC SERVICES

If authorized in writing by HDR as an amendment to this Task order.

PART 5.0 HDR'S RESPONSIBILITIES

- Contract administration.

- All printing of plans & specifications for reviews, bid phase, permits and construction phase.

PART 6.0 SUBCONSULTANT'S COMPENSATION FOR SERVICES

- Lump Sum: HDR shall pay Subconsultant for all authorized and properly performed services at the rates attached hereto with a lump sum amount of $62,142.00. Subconsultant acknowledges that the amount is not a guarantee of minimum work or payment. Subconsultant shall notify HDR when it has reached 90% of the amount. A detailed fee schedule is shown in Exhibit B.

- Reimbursable Expenses: Included in the lump sum amount

PART 7.0 PERIODS OF SERVICE

Subconsultant will conform to the schedule in Exhibit C.

PART 8.0 EXECUTED TASK ORDERS BETWEEN OWNER AND HDR ATTACHED HERETO AS REFERENCE.

Agreement provided in Exhibit D.

PART 9.0 OTHER:

IN WITNESS WHEREOF, the parties have executed this Task Order as of the day and year first written above.

Quantum Electrical Engineering, Inc. "Subconsultant"		HDR ENGINEERING, INC. "HDR"	
BY:		BY:	
NAME:	Amy L. Champagne-Baker, P.E.	NAME:	
TITLE:	President	TITLE:	
ADDRESS:	2755 Vista Parkway, Suite I-9 West Palm Beach, FL 33411	ADDRESS:	

EXHIBIT A
Location Map

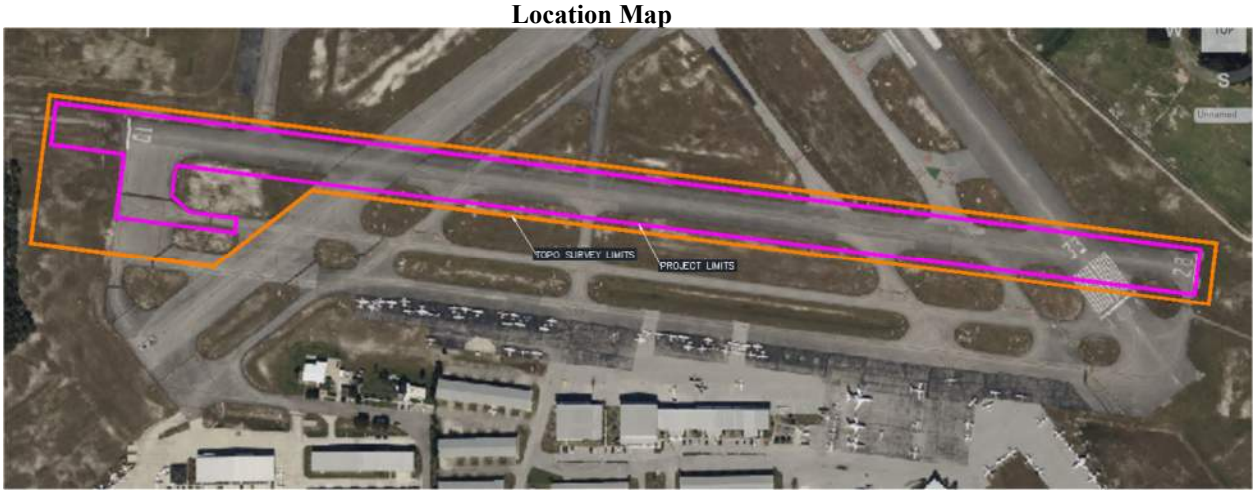


EXHIBIT B
Fee Schedule

CITY OF POMPANO BEACH AIRPORT RUNWAY 10-28 REHABILITATION
QUANTUM ELECTRICAL ENGINEERING, INC.
SCOPE FEE SUMMARY
FEE PROPOSAL ELECTRICAL DESIGN to HDR 03/27/24

Rate	$180.00	$160.00	$140.00	$90.00	$140.00	$48.00			
	Proj. Mgr.	Prof. Eng	Proj. Eng	CADD/Tech	Field Eng.	Clerical	Total		TOTAL
PHASE OF WORK	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Expenses	TASK COST
Task 1									**$59,912.00**
30% Design Deliverable Phase									
Kickoff Meeting & Design Meetings		2					2		$320.00
Record Drawing Reviews and Site Investigations		8					8		$1,280.00
30% Design Document Development		24	8	32			64		$7,840.00
Engineering Electrical Design Report		2				1	3		$368.00
Cost Estimate & Schedule Review		4	4			2	10		$1,296.00
QA/QC Review		2	4	4			10		$1,240.00
Review Meeting		1					1		$160.00
Subtotal	**0**	**43**	**16**	**36**	**0**	**3**	**98**		**$12,504.00**
60% Design Deliverable Phase									
Design Meetings & Coordination		2					2		$320.00
60% Design Document Development		48	16	64			128		$15,680.00
Engineering Electrical Design Report		4				1	5		$688.00
Specifications, Cost Estimate & Schedule Review		4	8			2	14		$1,856.00
QA/QC Review		4	8	8			20		$2,480.00
Review Meeting		1					1		$160.00
Subtotal	**0**	**63**	**32**	**72**	**0**	**3**	**170**		**$21,184.00**
90% Design Deliverable Phase									
Design Meetings & Coordination		2					2		$320.00
90% Design Document Development		32	16	48			96		$11,680.00
Engineering Electrical Design Report		4				1	5		$688.00
Specifications, Cost Estimate & Schedule Review		4	8			2	14		$1,856.00
QA/QC Review		4	8	8			20		$2,480.00
Review Meeting		1					1		$160.00
Subtotal	**0**	**47**	**32**	**56**	**0**	**3**	**138**		**$17,184.00**
100%/Bid Documents Deliverable Phase									
Design Meetings & Coordination		2					2		$320.00
100%/Bid Document Development		16	8	24			48		$5,840.00
Engineering Electrical Design Report		1					1		$160.00
Specifications, Cost Estimate & Schedule Review		4	8				12		$1,760.00
QA/QC Review		1	2	4			7		$800.00
Review Meeting		1					1		$160.00
Subtotal	**0**	**25**	**18**	**28**	**0**	**0**	**71**		**$9,040.00**
Task 2									**$2,230.00**
Bid & Award									
Attend Pre-Bid Meeting		2					2		$320.00
RFI Responses and Addenda Revisions		4		4			8		$1,000.00
Evaulation of Bid Results		1					1		$160.00
Permitting Responses and Revisions		2		2			4		$500.00
Conformed Document Development		1		1			2		$250.00
Subtotal	**0**	**10**	**0**	**7**	**0**	**0**	**17**		**$2,230.00**
Grand Total Hours	**0**	**188**	**98**	**199**	**0**	**9**	**494**		**$62,142.00**
Grand Total Labor Cost	**$0.00**	**$30,080.00**	**$13,720.00**	**$17,910.00**	**$0.00**	**$432.00**			

MASTER SUBCONSULTANT AGREEMENT
Attachment B - Task Order

TASK ORDER NUMBER: 2
PROJECT NAME: Runway 10-28 Rehabilitation

This Task Order dated _____, pertains to an Agreement by and between Tierra South Florida Inc., ("Subconsultant"), and HDR Engineering, Inc. ("HDR"), dated January 25, 2024, ("Agreement"). Subconsultant shall perform Services on the Project described below as provided herein and in the Agreement. This Task Order shall not be binding until it has been properly signed by both parties. Upon execution, this Task Order shall supplement the Agreement as it pertains to the Project described below.

PART 1.0 PROJECT DESCRIPTION

This task order consists of design and bid phase services for the rehabilitation of Runway 10-28 and correction of expanses of pavement on the Runway 10 end at Pompano Beach Airpark (PMP) (Exhibit A – Location Map). Rehabilitation of associated electrical, signage, markings, and grading will also be required. Project funding may include federal and state sources. HDR requests for subconsultant to provide support services to design all or part of the proposed improvements described above.

Subconsultant shall support HDR by conducting a geotechnical investigation as a basis for the preparation of engineering design documents.

PART 2.0 SCOPE OF WORK

Subconsultant will perform a geotechnical investigation with the intent to develop site condition information for the preparation of engineering design documents. Anticipated design features requiring geotechnical information include:

- Hot mix asphalt (HMA) new pavement sections
- Asphalt overlay of HMA pavements
- Pavement demolition
- Stabilized soil shoulders
- Earthwork cut and fill
- Dry retention basin for stormwater quality and attenuation
- Airfield signage and bases
- Electrical duct banks, junction can plazas
- Sodding and seeding

All work performed by subconsultant shall be in accordance with Advisory Circular (AC) 150/5320-6G 'Airport Pavement Design and Evaluation'.

The following services will be provided:

Field Investigation:

1. 25 Standard Penetration Test (SPT) borings to a depth of 10 feet below existing grade along the proposed runway and taxiway alignments. Boring profiles will be provided with descriptions and depths of materials, classification, and SPT values. These locations will be marked in the field by the project surveyor.
2. 25 pavement cores to subgrade (asphalt or concrete surface and limerock base course) to determine the existing pavement section thicknesses. Provide photos of cores with ruler or other tool for reference. These locations will be marked in the field by the project surveyor.
3. 5 dynamic cone penetrometer (DCP) tests to infer subgrade LBR/CBR and correlate with laboratory LBR/CBR test results.
4. Three (3) laboratory CBR tests to verify subgrade LBR/CBR values. Material for the LBR/CBR tests will be collected from material at 12" below existing grade in the locations identified in the field. These locations will be marked in the field by the project surveyor.

5. Laboratory testing on each of the SPT borings taken including classification using the Unified Soil Classification System, grain size analysis.
6. Three (3) Atterberg limits, Natural Moisture Content Tests, Full Gradation, and organics content tests.
7. Two (2) Double-Ring Infiltrometer Tests (DRIT) in accordance with ASTM D3385 Standard Test Method for Infiltration Rate of Soils in Field as recommended in the FDOT Drainage Design Guide, January 2020.
8. Documentation of the ground water table at the time of testing and estimated seasonal high water table elevations.

Laboratory Testing:

1. Perform testing on soil samples representing each distinctly different soil type or strata
2. Follow ASTM D 421 Standard Practice for Dry Preparation of Soil Samples for Particle-Size Analysis and Determination of Soil Constants
3. ASTM D 422 Standard Test Method for Particle-Size Analysis of Soils
4. ASTM D 2487, Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
5. ASTM D 4318 Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
6. ASTM D 1883, Standard Test Method for California Bearing Ratio (CBR) of Laboratory-Compacted Soils.
7. ASTM D 1557, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort
8. ASTM D2974, Standard Test Methods for Moisture, Ash, and Organic Matter of Peat and Other Organic Soils

Borings and test locations will be laid out on an exhibit by HDR and presented to Subconsultant prior to starting field work. Field work will be performed during the daytime by coordinating with Airport Operations. Significant coordination by Subconsultant will likely be required to perform the field operations. Field work will be performed by Subconsultant personnel with a security badge if needed. The Owner will provide escort for all movement areas. Field work may require subconsultant field personnel to badged with the airport. If employee is not able to acquire a badge, HDR employee will provide escort as needed. All work will be coordinated with the Airport's Operations staff. A geotechnical engineer will evaluate the results of all testing.

Notes – access to the site assumed to be daytime. Completion schedule will be contingent to utility clearances for drilling access.

Results of the field and lab work will be prepared in a report. The report will contain the following recommendations:

- Design subgrade bearing pressure for spread footings
- Subgrade preparation for spread footings
- Subgrade CBR recommendations for use in pavement design

The report will contain a project vicinity map, plan view showing the location of borings, basis and results of tests performed, detailed description of findings, recommendations, and an executive summary.

- In the event the surveyor isn't mobilized, subconsultant will be responsible for locating test locations by GPS.
- Access to the site assumed to be daytime. Completion schedule will be contingent to utility clearances for drilling access.
- Runway closure and MOT provided by Owner

Deliverables

- Provide Geotechnical investigation report in the following formats:
    - Unsigned PDF format
    - Digitally signed/sealed PDF format
    - Two hard copies, in color, signed and sealed by a registered professional engineer in the State of Florida
    - Provide boring logs in AutoCAD DWG format.

PART 3.0 SUPPORT TO BE PROVIDED BY THE OWNER

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

- Provide airfield access and MOT

PART 4.0 ADDITIONAL SERVICES, NOT PART OF BASIC SERVICES

If authorized in writing by HDR as an amendment to this Task order.

PART 5.0 HDR'S RESPONSIBILITIES

Contract administration.

PART 6.0 SUBCONSULTANT'S COMPENSATION FOR SERVICES

- Lump Sum: HDR shall pay Subconsultant for all authorized and properly performed services at the rates attached hereto with a lump sum amount of $29,150.00. Subconsultant acknowledges that the amount is not a guarantee of minimum work or payment. Subconsultant shall notify HDR when it has reached 90% of the amount. A detailed fee schedule is shown in Exhibit B.

- Reimbursable Expenses: Included in the lump sum amount

PART 7.0 PERIODS OF SERVICE

Subconsultant will conform to the schedule in Exhibit C.

PART 8.0 EXECUTED TASK ORDERS BETWEEN OWNER AND HDR ATTACHED HERETO AS REFERENCE.

Agreement provided in Exhibit D.

PART 9.0 OTHER:

IN WITNESS WHEREOF, the parties have executed this Task Order as of the day and year first written above.

TIERRA SOUTH FLORIDA, INC. "Subconsultant"		HDR ENGINEERING, INC. "HDR"	
BY:		BY:	
NAME:	Raj Krishnasamy, P.E.	NAME:	
TITLE:	President	TITLE:	
ADDRESS:	2765 Vista Pkwy, Ste 10 WPB, FL 33411	ADDRESS:	

EXHIBIT A
Location Map

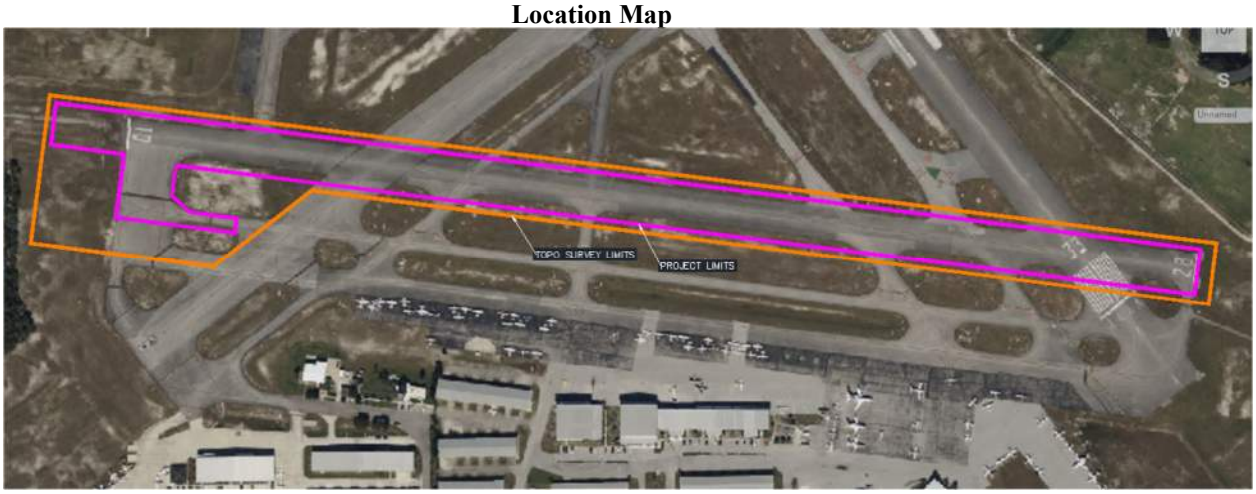


EXHIBIT B
Subconsultant Fee Schedule

Line#	DESCRIPTION	UNIT	RATE	Quantity	Fees	Filter
1	**LABOR RATES**					Yes
2	Project Manager	hour	$225.00	5	$1,125.00	Yes
4	Senior Engineer	hour	$175.00	10	$1,750.00	Yes
5	Project Engineer	hour	$130.00	24	$3,120.00	Yes
10	Technician	hour	$75.00	24	$1,800.00	Yes
11	CADD	hour	$100.00	16	$1,600.00	Yes
13	**SOILS TESTS**					Yes
29	e. Atterberg Limit Test	each	$75.00	6	$450.00	Yes
33	g. Organic Content Test	each	$50.00	6	$300.00	Yes
36	j. Natural Moisture Content	each	$10.00	6	$60.00	Yes
38	l. Grain-Size Analysis - Full Gradation	test	$75.00	6	$450.00	Yes
39	m. Grain-Size Analysis - Single Sieve	test	$45.00	6	$270.00	Yes
40	n. Laboratory CBR + Sampling	test	$500.00	3	$1,500.00	Yes
66	**AGGREGATE TESTING**					Yes
74	B. Asphalt Cores (Obtaining core samples)		$225.00	25	$5,625.00	Yes
79	**FIELD EXPLORATIONS**					Yes
82	C. Standard Penetration Tests - Truck					Yes
83	1. 0' - 50'	feet (day)	$14.00	300	$4,200.00	Yes
87	D. Grout Bore Holes					Yes
88	1. 0' - 50'	feet (day)	$6.00	300	$1,800.00	Yes
92	E. Casing					Yes
93	1. 0' - 50'	feet (day)	$7.00	300	$2,100.00	Yes
102	K. Double Ring Infiltration Test	test	$500.00	2	$1,000.00	Yes
105	N. Field CBR (Kessler Method)	each	$400.00	5	$2,000.00	Yes
				Total	$29,150.00	Yes

EXHIBIT C
Subconsultant Work Schedule

MILESTONE DESCRIPTION	DATE
NOTICE TO PROCEED	Week 1
START OF FIELD WORK	Week #3
COMPLETION OF FIELD WORK	Week #4
COMPLETION OF LABORATORY WORK	Week #6
DELIVERY OF DRAFT REPORT	Week #7
HDR REPORT REVIEW (1 WEEK)	Week #8
DELIVERY OF FINAL REPORT	Week #9