

Application for Federal Assistance SF-424

*** 1. Type of Submission:**

- ☐ Preapplication
☒ Application
☐ Changed/Corrected Application

*** 2. Type of Application:**

- ☒ New
☐ Continuation
☐ Revision

*** If Revision, select appropriate letter(s):**

*** Other (Specify):**

*** 3. Date Received:**

4. Applicant Identifier:

3-12-0075-043-2017

5a. Federal Entity Identifier:

3-12-0075-043-2017

5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

*** a. Legal Name:** pinellas, County of dba Board of County Commissioners

*** b. Employer/Taxpayer Identification Number (EIN/TIN):**

59-6000800

*** c. Organizational DUNS:**

0552002160000

d. Address:

*** Street1:** c/o Office of Management and Budget

Street2: 14 S. Ft. Harrison, 5th Floor

*** City:** Clearwater

County/Parish: Pinellas

*** State:** FL: Florida

Province:

*** Country:** USA: UNITED STATES

*** Zip / Postal Code:** 33756-5165

e. Organizational Unit:

Department Name:

St. Pete-Clearwater Int'l Apt

Division Name:

St. Pete-Clearwater Int'l Apt

f. Name and contact information of person to be contacted on matters involving this application:

Prefix: Mr.

*** First Name:** Thomas

Middle Name: R.

*** Last Name:** Jewsbury

Suffix:

Title: Airport Director


Organizational Affiliation:

The Airport is a department of Pinellas County Government

*** Telephone Number:** 727 453-7801

Fax Number: 727 453-7846

*** Email:** jewsbury@fly2pie.com

Application for Federal Assistance SF-424	
16. Congressional Districts Of:	
* a. Applicant: <input type="text" value="10th"/>	* b. Program/Project: <input type="text" value="10th"/>
Attach an additional list of Program/Project Congressional Districts if needed.	
<input type="text"/>	<input type="button" value="Add Attachment"/> <input type="button" value="Delete Attachment"/> <input type="button" value="View Attachment"/>
17. Proposed Project:	
* a. Start Date: <input type="text" value="10/02/2017"/>	* b. End Date: <input type="text" value="04/01/2019"/>
18. Estimated Funding (\$):	
* a. Federal	<input type="text" value="1,621,485.00"/>
* b. Applicant	<input type="text" value="90,083.00"/>
* c. State	<input type="text" value="90,082.00"/>
* d. Local	<input type="text" value="0.00"/>
* e. Other	<input type="text" value="0.00"/>
* f. Program Income	<input type="text" value="0.00"/>
* g. TOTAL	<input type="text" value="1,801,650.00"/>
* 19. Is Application Subject to Review By State Under Executive Order 12372 Process?	
<input type="checkbox"/> a. This application was made available to the State under the Executive Order 12372 Process for review on <input type="text"/> .	
<input checked="" type="checkbox"/> b. Program is subject to E.O. 12372 but has not been selected by the State for review.	
<input type="checkbox"/> c. Program is not covered by E.O. 12372.	
* 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If "Yes", provide explanation and attach	
<input type="text"/>	<input type="button" value="Add Attachment"/> <input type="button" value="Delete Attachment"/> <input type="button" value="View Attachment"/>
21. *By signing this application, I certify (1) to the statements contained in the list of certifications** and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)	
<input checked="" type="checkbox"/> ** I AGREE	
** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.	
Authorized Representative:	
Prefix: <input type="text" value="Mrs."/>	* First Name: <input type="text" value="Janet"/>
Middle Name: <input type="text"/>	
* Last Name: <input type="text" value="Long"/>	
Suffix: <input type="text"/>	
* Title: <input type="text" value="Chairman, Board of County Commissioners"/>	
* Telephone Number: <input type="text" value="727 454-3363"/>	Fax Number: <input type="text"/>
* Email: <input type="text" value="jlong@pinellascounty.org"/>	
* Signature of Authorized Representative: 	* Date Signed: <input type="text" value="08/21/2017"/>

APPROVED AS TO FORM

By:

Michael A. Zas

Office of the County Attorney

Application for Federal Assistance SF-424

* 9. Type of Applicant 1: Select Applicant Type:

B: County Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

* 10. Name of Federal Agency:

Federal Aviation Administration

11. Catalog of Federal Domestic Assistance Number:

20-106

CFDA Title:

Airport Improvement Program

* 12. Funding Opportunity Number:

Not Applicable

* Title:

N/A

13. Competition Identification Number:

Not Applicable

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Add Attachment

Delete Attachment

View Attachment

* 15. Descriptive Title of Applicant's Project:

Airport Master Plan

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments



Application for Federal Assistance (Planning Projects)

Part II – Project Approval Information

Section A – Statutory Requirements

The term "Sponsor" refers to the applicant name as provided in box 8 of the associated SF-424 form.

Item 1 Does Sponsor maintain an active registration in the System for Award Management (www.SAM.gov)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Item 2 Can Sponsor commence the work identified in the application in the fiscal year the grant is made or within six months after the grant is made, whichever is later?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Item 3 Are there any foreseeable events that would delay completion of the project? If yes, provide attachment to this form that lists the events.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Item 4 Is the project covered by another Federal assistance program? If yes, please identify other funding sources by the Catalog of Federal Domestic Assistance (CFDA) number. CFDA: _____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
Item 5 Will the requested Federal assistance include Sponsor indirect costs as described in 2 CFR Appendix VII to Part 200, States and Local Government and Indian Tribe Indirect Cost Proposals? If the request for Federal assistance includes a claim for allowable indirect costs, select the applicable indirect cost rate the Sponsor proposes to apply: <input type="checkbox"/> De Minimis rate of 10% as permitted by 2 CFR § 200.414 <input type="checkbox"/> Negotiated Rate equal to _____% as approved by _____ (the Cognizant Agency) on _____ (Date) (2 CFR part 200, appendix VII) <i>Note: Refer to the instructions for limitations of application associated with claiming Sponsor indirect costs.</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A

Section B – Certification Regarding Lobbying

The declarations made on this page are under the signature of the authorized representative as identified in box 21 of form SF-424, to which this form is attached. The term "Sponsor" refers to the applicant name provided in box 8 of the associated SF-424 form.

The Authorized Representative certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Sponsor, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the Authorized Representative shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions

(3) The Authorized Representative shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Part III – Budget Information

Section A – Budget Summary

Grant Program (a)	Federal Catalog No (b)	New or Revised Budget		
		Federal (c)	Non-Federal (d)	Total (e)
1. Airport Improvement Program	20-106	\$ 1,621,485	\$ 180,165	\$ 1,801,650
2.				
3. TOTALS		\$ 1,621,485	\$ 180,165	\$ 1,801,650

Section B – Budget Categories (All Grant Programs)

4. Object Class Categories	Airport Improvement Program (1)		Other Program (2)		Total
	Amount	Adjustment + or (-) Amount (Use only for revisions)	Amount	Adjustment + or (-) Amount (Use only for revisions)	
a. Administrative expense	\$	\$	\$	\$	\$
b. Airport Planning	1,621,485				1,621,485
c. Environmental Planning					
d. Noise Compatibility Planning					
e. Subtotal	1,621,485				1,621,485
f. Program Income					
g. TOTALS (line e minus line f)	\$ 1,621,485	\$	\$	\$	\$ 1,621,485

Section C – Non-Federal Resources

Grant Program (a)	Applicant (b)	State (c)	Other Sources (d)	Total (e)
5. Florida Department of Transportation Aviation	\$	\$ 90,082	\$	\$ 90,082
6. Pinellas County, FL	90,083			90,083
7. TOTALS	\$ 90,083	\$ 90,082	\$	\$ 180,165

Section D – Forecasted Cash Needs

Source of funds	Total for Project	1 st Year	2 nd Year	3 rd Year	4 th Year
8. Federal	\$ 1,621,485	\$ 1,086,395	\$ 535,090	\$	\$
9. Non-Federal	180,165	120,711	59,454		
10. TOTAL	\$ 1,801,650	\$ 1,207,106	\$ 594,544	\$	\$

Section E – Other Budget Information

11. Other Remarks: (attach sheets if necessary)

Part IV - Program Narrative

(Suggested Format)

PROJECT: Airport Master Plan Study
AIRPORT: St. Pete-Clearwater International Airport (PIE)
1. Objective: The St Pete-Clearwater International Airport (PIE) is seeking to retain the professional services of a qualified Aviation Consultant to prepare an Airport Master Plan in accordance with FAA Advisory Circular 150/5070-6B, and all related advisory circulars. Consultant shall also incorporate the requirements listed in, and guidance provided by, the Florida Department of Transportation (FDOT) Aviation and Spaceports Office guidebook titled "2016 Guidebook for Airport Master Planning".
2. Benefits Anticipated: This Master Plan shall serve as the guide for development to meet the airport's future short-term (five year), intermediate-term (ten year), and long-term (twenty year) aviation needs. The last Master Plan Update was completed in January, 2004. Since the existing Master Plan Update no longer reflects the conditions of the airport, the new document will be a "from scratch" (as defined by FDOT's "2016 Guidebook for Airport Master Planning"), version that will replace the existing document in its entirety. The completed Master Plan document will help airport staff and local officials identify the projects that need to be completed to meet its future needs and identify the costs of those projects.
3. Approach: <i>(See approved Scope of Work in Final Application)</i> The FAA- and FDOT- approved Scope of Work is attached.
4. Geographic Location: St. Pete-Clearwater International Airport
5. If Applicable, Provide Additional Information:
6. Sponsor's Representative: <i>(include address & telephone number)</i> Thomas R. Jewsbury 14700 Terminal Boulevard, Suite 221 Clearwater, FL 33762 (727) 453-7801

CATEGORICAL EXCLUSION ENVIRONMENTAL DETERMINATION CHECKLIST

Airport: St Pete-Clearwater International Airport

Prepared and certified by: Scott Yarker Date: 11/01/2016

	YES**	NO	COMMENTS
THE PROPOSED ACTION MUST BE LISTED IN FAA ORDER 1050.1F PARAS. 5-6.1-5-6.6 AS AN ACTION THAT WOULD NORMALLY BE CATEGORICALLY EXCLUDED			
THE PROPOSED ACTION CONSISTS OF:			
Helicopter facilities or operations		X	
Land acquisition		X	
New airport serving general aviation		X	
Access or service road construction		X	
New airport location		X	
New runway		X	
Runway extension, strengthening, reconstruction, resurfacing or widening		X	
Converting prime or unique farmland		X	
Runway Safety Area (RSA) improvements		X	
ILS or ALS installation		X	
Airport development (hangars, terminal expansion)		X	
On-airport aboveground or underground fuel storage tanks		X	
Construction, reconstruction, or relocation of an ATCT		X	
THE PROPOSED ACTION WILL AFFECT:			
Historic/Archaeological/Cultural Resources		X	
Section 4(f) or 6(f) resources		X	
Federally listed, endangered, threatened, or candidate species, or designated/proposed critical habitat		X	
Federal, state, tribal, or local natural, ecological, or scenic resources		X	
Wetlands, floodplains, waterways		X	
Energy supply or natural resources		X	
Protected rivers or river segments		X	
Established community(s), planned development, or plans/goals adopted by the local community		X	
Surface vehicular traffic (reduce LOS)		X	
Air quality or violate Federal, state, tribal or local standards		X	
Water quality, a sole source aquifer, public water supply system, or federal, state, or tribal water quality standards		X	
THE PROPOSED ACTION IS LIKELY TO:			
Be Highly Controversial on Environmental Grounds		X	
Be Inconsistent with Federal, state, tribal, or local law relating to environmental aspects		X	
Cause residential or business relocations		X	
Increase noise levels over Noise Sensitive Land Uses within the 65 dBA noise contour or newly include Noise Sensitive Land Uses within the 65 dBA noise contour.		X	
Cause Environmental Justice Impacts		X	
Contain Hazardous Materials or Affect Hazardous Materials/Sites		X	
Create a Wildlife Hazard per AC 150/5200-33		X	
Increase lighting impacts on residential communities or impact the visual nature of surrounding land uses		X	

** Attach detailed explanations or analysis for all "yes" answers on a separate sheet that supports a Categorical Exclusion determination.

FAA ORLANDO AIRPORTS DISTRICT OFFICE - CATEGORICAL EXCLUSION (CATEX)
SHORT FORM

Airport: St Pete-Clearwater Intl Project Title: Master Plan Study

Use this CATEX Short Form if the Proposed Action is a federal action subject to NEPA and normally would not individually or cumulatively have a significant effect on the human environment. Identify the applicable paragraph on the line below from FAA Order 1050.1F, paragraphs 5-6.1 through 5-6.6 for the Proposed Action.

5-6.1 CATEX for Administrative/General Actions; Parts g/b/p/r

List all components of the Proposed Action and Connected Actions (if any) on a separate sheet. A CATEX should not be used for a segment or an interdependent part of a larger proposed action. Include a summary of existing conditions at the Proposed Action site. Attach a site map identifying the Proposed Action area on the airport's current ALP and a recent aerial of the Proposed Action area.

Certify that the Proposed Action and Connected Actions are NOT likely to have extraordinary circumstances or significant impacts. Significance thresholds and factors to consider are in FAA Order 1050.1F Exhibit 4-1. Extraordinary circumstances are listed in FAA Order 1050.1F paragraph 5-2, and summarized below:

- An adverse effect on cultural resources protected under the National Historic Preservation Act of 1966, as amended, 54 U.S.C. §300101 et seq.;
- An impact on properties protected under Section 4(f);
- An impact on natural, ecological, or scenic resources of Federal, state, tribal, or local significance (e.g., federally listed or proposed endangered, threatened, or candidate species, or designated or proposed critical habitat under the Endangered Species Act, 16 U.S.C. §§ 1531-1544);
- An impact on the following resources: resources protected by the Fish and Wildlife Coordination Act, 16 U.S.C. §§ 661-667d; wetlands; floodplains; coastal zones; national marine sanctuaries; wilderness areas; National Resource Conservation Service-designated prime and unique farmlands; energy supply and natural resources; resources protected under the Wild and Scenic Rivers Act, 16 U.S.C. §§ 1271-1287, and rivers or river segments listed on the Nationwide Rivers Inventory (NRI); and solid waste management;
- A division or disruption of an established community, or a disruption of orderly, planned development, or an inconsistency with plans or goals that have been adopted by the community in which the project is located;
- An increase in congestion from surface transportation (by causing decrease in level of service below acceptable levels determined by appropriate transportation agency, such as a highway agency);
- An impact on noise levels of noise sensitive areas;
- An impact on air quality or violation of Federal, state, tribal, or local air quality standards under the Clean Air Act, 42 U.S.C. §§ 7401-7671q;
- An impact on water quality, sole source aquifers, a public water supply system, or state or tribal water quality standards established under the Clean Water Act, 33 U.S.C. §§ 1251-1387, and the Safe Drinking Water Act, 42 U.S.C. §§ 300f-300j-26;
- Impacts on the quality of the human environment that are likely to be highly controversial on environmental grounds. The term "highly controversial on environmental grounds" means there is a substantial dispute involving reasonable disagreement over the degree, extent, or nature of a proposed action's environmental impacts or over the action's risks of causing environmental harm.
- Likelihood to be inconsistent with any Federal, state, tribal, or local law relating to the environmental aspects of the proposed action; or
- Likelihood to directly, indirectly, or cumulatively create a significant impact on the human environment, including, but not limited to, actions likely to cause a significant lighting impact on residential areas or commercial use of business properties, likely to cause a significant impact on the visual nature of surrounding land uses, likely to cause environmental contamination by hazardous materials, or likely to disturb an existing hazardous material contamination site such that new environmental contamination risks are created.

Based on the information in this Short Form CATEX and supporting information, I certify that the Proposed Action and Connected Actions meet(s) all requirements for a CATEX in accordance with FAA Order 1050.F and do not have any extraordinary circumstances or significant impacts.

[Signature]
Signature of Authorized Airport Representative

11/01/2016
Date

FAA Determination (signature of Program Manager):

Categorically Excluded: [Signature]

Date: 11/2/2016

Requires further environmental analysis: _____

Date: _____

**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AIRPORT IMPROVEMENT PROGRAM
SPONSOR CERTIFICATION
CONSTRUCTION PROJECT FINAL ACCEPTANCE**

Pinellas County, Florida
(Sponsor)

St. Pete-Clearwater International
(Airport)

3-12-0075-043-2017
(Project Number)

Description of Work:

Airport Master Plan Study

Title 49, United States Code, section 47105(d), authorizes the Secretary to require certification from the sponsor that it will comply with the statutory and administrative requirements in carrying out a project under the Airport Improvement Program. General standards for final acceptance and close out of federally funded construction projects are in Title 49, Code of Federal Regulations, Part 18.50. The sponsor shall determine that project costs are accurate and proper in accordance with specific requirements of the grant agreement and contract documents.


Except for the certified items below marked not applicable (N/A), the list includes major requirements for this aspect of project implementation, although it is not comprehensive, nor does it relieve the sponsor from fully complying with all applicable statutory and administrative standards.

	Yes	No	N/A
1. The personnel engaged in project administration, engineering supervision, construction inspection and testing were (will be) determined to be qualified as well as competent to perform the work.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Daily construction records were (will be) kept by the resident engineer/construction inspector as follows:			
a. Work in progress,			
b. Quality and quantity of materials delivered,			
c. Test locations and results,			
d. Instructions provided the contractor,	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Weather conditions,			
f. Equipment use,			
g. Labor requirements,			
h. Safety problems, and			
i. Changes required.			
3. Weekly payroll records and statements of compliance were (will be) submitted by the prime contractor and reviewed by the sponsor for Federal labor and civil rights requirements (Advisory Circulars 150/5100-6 and 150/5100-15).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	N/A
4. Complaints regarding the mandated Federal provisions set forth in the contract documents have been (will be) submitted to the FAA.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. All tests specified in the plans and specifications were (will be) performed and the test results documented as well as made available to the FAA.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. For any test results outside of allowable tolerances, appropriate corrective actions were (will be) taken.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Payments to the contractor were (will be) made in compliance with contract provisions as follows:			
a. Payments are verified by the sponsor's internal audit of contract records kept by the resident engineer, and	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. If appropriate, pay reduction factors required by the specifications are applied in computing final payments and a summary of pay reductions made available to the FAA.			
8. The project was (will be) accomplished without significant deviations, changes, or modifications from the approved plans and specifications, except where approval is obtained from the FAA.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. A final project inspection was (will be) conducted with representatives of the sponsor and the contractor and project files contain documentation of the final inspection.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Work in the grant agreement was (will be) physically completed and corrective actions required as a result of the final inspection is completed to the satisfaction of the sponsor.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11. If applicable, the as-built plans, an equipment inventory, and a revised airport layout plan have been (will be) submitted to the FAA.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Applicable close out financial reports have been (will be) submitted to the FAA.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I certify, for the project identified herein, responses to the forgoing items are accurate as marked and have prepared documentation attached hereto for any item marked "no" that is correct and complete.

Pinellas County, Florida

 (Name of Sponsor)


 (Signature of Sponsor's Designated Official Representative)
 Scott A. Yarley, P.E.

 (Typed Name of Sponsor's Designated Official Representative)
 Airport Engineer

 (Typed Title of Sponsor's Designated Official Representative)

June 12, 2017

(Date)

**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AIRPORT IMPROVEMENT PROGRAM
SPONSOR CERTIFICATION
DRUG-FREE WORKPLACE**

Pinellas County, Florida

(Sponsor)

St. Pete-Clearwater International

(Airport)

3-12-0075-043-2017

(Project Number)

Description of Work:

Airport Master Plan Study

Title 49, United States Code, section 47105(d), authorizes the Secretary to require certification from the sponsor that it will comply with the statutory and administrative requirements in carrying out a project under the Airport Improvement Program (AIP). General requirements on the drug-free workplace within Federal grant programs are described in Title 49, Code of Federal Regulations, Part 29. Sponsors are required to certify they will be, or will continue to provide, a drug-free workplace in accordance with the regulation. The AIP project grant agreement contains specific assurances on the Drug-Free Workplace Act of 1988.

Except for the certified items below marked not applicable (N/A), the list includes major requirements for this aspect of project implementation, although it is not comprehensive, nor does it relieve the sponsor from fully complying with all applicable statutory and administrative standards.

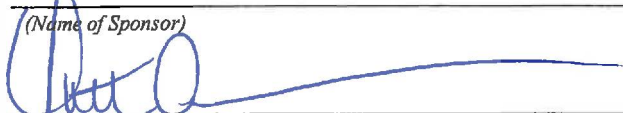
	Yes	No	N/A
13. A statement has been (will be) published notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the sponsor's workplace, and specifying the actions to be taken against employees for violation of such prohibition.	X	<input type="checkbox"/>	<input type="checkbox"/>
14. An ongoing drug-free awareness program has been (will be) established to inform employees about:			
a. The dangers of drug abuse in the workplace;			
b. The sponsor's policy of maintaining a drug-free workplace;	X	<input type="checkbox"/>	<input type="checkbox"/>
c. Any available drug counseling, rehabilitation, and employee assistance programs; and			
d. The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace.			
15. Each employee to be engaged in the performance of the work has been (will be) given a copy of the statement required within item 1 above.	X	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	N/A
16. Employees have been (will be) notified in the statement required by item 1 above that, as a condition employment under the grant, the employee will:			
a. Abide by the terms of the statement; and	X	<input type="checkbox"/>	<input type="checkbox"/>
b. Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction.			
17. The FAA will be notified in writing within ten calendar days after receiving notice under item 4b above from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title of the employee, to the FAA. Notices shall include the project number of each affected grant.	X	<input type="checkbox"/>	<input type="checkbox"/>
18. One of the following actions will be taken within 30 calendar days of receiving a notice under item 4b above with respect to any employee who is so convicted:			
a. Take appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; or	X	<input type="checkbox"/>	<input type="checkbox"/>
b. Require such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency.			
19. A good faith effort will be made to continue to maintain a drug-free workplace through implementation of items 1 through 6 above.	X	<input type="checkbox"/>	<input type="checkbox"/>

I have prepared documentation attached hereto with site(s) for performance of work (street address, city, county, state, zip code). There are no such workplaces that are not identified in the attachment. I have prepared additional documentation for any above items marked "no" and attached it hereto. I certify that, for the project identified herein, responses to the forgoing items are accurate as marked and attachments are correct and complete.

Pinellas County, Florida

(Name of Sponsor)



(Signature of Sponsor's Designated Official Representative)

Yvette Aehle

(Typed Name of Sponsor's Designated Official Representative)

Deputy Director, Finance & Administration

(Typed Title of Sponsor's Designated Official Representative)

June 12, 2017

(Date)

APPROVED AS TO FORM

By:

A handwritten signature in blue ink, reading "Michael A. Zas".

Office of the County Attorney

**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AIRPORT IMPROVEMENT PROGRAM
SPONSOR CERTIFICATION
EQUIPMENT/CONSTRUCTION CONTRACTS**

Pinellas County, Florida

(Sponsor)

St. Pete-Clearwater International

(Airport)

3-12-0075-043-2017

(Project Number)

Description of Work:

Airport Master Plan Study

Title 49, United States Code (USC), section 47105(d), authorizes the Secretary to require certification from the sponsor that it will comply with the statutory and administrative requirements in carrying out a project under the Airport Improvement Program (AIP). General standards for equipment and construction contracts within Federal grant programs are described in Title 49, Code of Federal Regulations (CFR), Part 18.36. AIP standards are generally described in FAA Advisory Circular (AC) 150/5100-6, Labor Requirements for the Airport Improvement Program, AC 150/5100-15, Civil Rights Requirements for the Airport Improvement Program, and AC 150/5100-16, Airport Improvement Program Grant Assurance One--General Federal Requirements. Sponsors may use State and local procedures provided procurements conform to these Federal standards.

Except for the certified items below marked not applicable (N/A), the list includes major requirements for this aspect of project implementation, although it is not comprehensive, nor does it relieve the sponsor from fully complying with all applicable statutory and administrative standards.

	Yes	No	N/A
20. A code or standard of conduct is (will be) in effect governing the performance of the sponsor's officers, employees, or agents in soliciting and awarding procurement contracts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Qualified personnel are (will be) engaged to perform contract administration, engineering supervision, construction inspection, and testing.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22. The procurement was (will be) publicly advertised using the competitive sealed bid method of procurement.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. The bid solicitation clearly and accurately describes (will describe):			
a. The current Federal wage rate determination for all construction projects, and	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. All other requirements of the equipment and/or services to be provided.			

	Yes	No	N/A
24. Concurrence was (will be) obtained from FAA prior to contract award under any of the following circumstances:			
a. Only one qualified person/firm submits a responsive bid,			
b. The contract is to be awarded to other than the lowest responsible bidder,	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Life cycle costing is a factor in selecting the lowest responsive bidder, or			
d. Proposed contract prices are more than 10 percent over the sponsor's cost estimate.			
25. All contracts exceeding \$100,000 require (will require) the following provisions:			
a. A bid guarantee of 5 percent, a performance bond of 100 percent, and a payment bond of 100 percent;			
b. Conditions specifying administrative, contractual, and legal remedies, including contract termination, for those instances in which contractors violate or breach contract terms; and	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Compliance with applicable standards and requirements issued under Section 306 of the Clean Air Act (42 USC 1857(h)), Section 508 of the Clean Water Act (33 USC 1368), and Executive Order 11738.			
26. All construction contracts contain (will contain) provisions for:			
a. Compliance with the Copeland "Anti-Kick Back" Act, and			
b. Preference given in the employment of labor (except in executive, administrative, and supervisory positions) to honorably discharged Vietnam era veterans and disabled veterans.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. All construction contracts exceeding \$2,000 contain (will contain) the following provisions:			
a. Compliance with the Davis-Bacon Act based on the current Federal wage rate determination; and	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Compliance with the Contract Work Hours and Safety Standards Act (40 USC 327-330), Sections 103 and 107.			
28. All construction contracts exceeding \$10,000 contain (will contain) appropriate clauses from 41 CFR Part 60 for compliance with Executive Orders 11246 and 11375 on Equal Employment Opportunity.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. All contracts and subcontracts contain (will contain) clauses required from Title VI of the Civil Rights Act and 49 CFR 23 and 49 CFR 26 for Disadvantaged Business Enterprises.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

30. Appropriate checks have been (will be) made to assure that contracts or subcontracts are not awarded to those individuals or firms suspended, debarred, or voluntarily excluded from doing business with any U.S. Department of Transportation (DOT) element and appearing on the DOT Unified List.

Yes	No	N/A
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I certify, for the project identified herein, responses to the forgoing items are accurate as marked and have prepared documentation attached hereto for any item marked "no" that is correct and complete.

Pinellas County, Florida

(Name of Sponsor)



(Signature of Sponsor's Designated Official Representative)

Scott A. Yarley, P.E.

(Typed Name of Sponsor's Designated Official Representative)

Airport Engineer

(Typed Title of Sponsor's Designated Official Representative)

June 12, 2017

(Date)

**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AIRPORT IMPROVEMENT PROGRAM
SPONSOR CERTIFICATION
PROJECT PLANS AND SPECIFICATIONS**

Pinellas County, Florida
(Sponsor)

St. Pete-Clearwater International
(Airport)

3-12-0075-043-2017
(Project Number)

Description of Work:

Airport Master Plan Study

Title 49, United States Code, section 47105(d), authorizes the Secretary to require certification from the sponsor that it will comply with the statutory and administrative requirements in carrying out a project under the Airport Improvement Program (AIP). AIP standards are generally described in FAA Advisory Circular (AC) 150/5100-6, Labor Requirements for the Airport Improvement Program, AC 150/5100-15, Civil Rights Requirements for the Airport Improvement Program, and AC 150/5100-16, Airport Improvement Program Grant Assurance One--General Federal Requirements. A list of current advisory circulars with specific standards for design or construction of airports as well as procurement/installation of equipment and facilities is referenced in standard airport sponsor Grant Assurance 34 contained in the grant agreement.

Except for the certified items below marked not applicable (N/A), the list includes major requirements for this aspect of project implementation, although it is not comprehensive, nor does it relieve the sponsor from fully complying with all applicable statutory and administrative standards.


	Yes	No	N/A
31. The plans and specifications were (will be) prepared in accordance with applicable Federal standards and requirements, so no deviation or modification to standards set forth in the advisory circulars, or State standard, is necessary other than those previously approved by the FAA.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. Specifications for the procurement of equipment are not (will not be) proprietary or written so as to restrict competition. At least two manufacturers can meet the specification.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. The development included (to be included) in the plans is depicted on the airport layout plan approved by the FAA.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. Development that is ineligible for AIP funding has been (will be) omitted from the plans and specifications.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
35. The process control and acceptance tests required for the project by standards contained in Advisory Circular 150/5370-10 are (will be) included in the project specifications.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Yes	No	N/A
36. If a value engineering clause is incorporated into the contract, concurrence was (will be) obtained from the FAA.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37. The plans and specifications incorporate (will incorporate) applicable requirements and recommendations set forth in the Federally approved environmental finding.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. For construction activities within or near aircraft operational areas, the requirements contained in Advisory Circular 150/5370-2 have been (will be) discussed with the FAA as well as incorporated into the specifications, and a safety/phasing plan has FAA's concurrence, if required.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
39. The project was (will be) physically completed without Federal participation in costs due to errors and omissions in the plans and specifications that were foreseeable at the time of project design.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I certify, for the project identified herein, responses to the forgoing items are accurate as marked and have prepared documentation attached hereto for any item marked "no" that is correct and complete.

Pinellas County, Florida

(Name of Sponsor)



(Signature of Sponsor's Designated Official Representative)

Scott A. Yarley, P.E.

(Typed Name of Sponsor's Designated Official Representative)

Airport Engineer

(Typed Title of Sponsor's Designated Official Representative)

June 12, 2017

(Date)

**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AIRPORT IMPROVEMENT PROGRAM
SPONSOR CERTIFICATION
REAL PROPERTY ACQUISITION**

Pinellas County, Florida

(Sponsor)

St. Pete-Clearwater International

(Airport)

3-12-0075-043-2017

(Project Number)

Description of Work:

Airport Master Plan Study

Title 49, United States Code, section 47105(d), authorizes the Secretary to require certification from the sponsor that it will comply with the statutory and administrative requirements in carrying out a project under the Airport Improvement Program (AIP). General requirements on real property acquisition and relocation assistance are in Title 49, Code of Federal Regulations (CFR), Part 24. The AIP project grant agreement contains specific requirements and assurances on the Uniform Relocation Assistance and Real Property Acquisition Act of 1970 (Uniform Act), as amended.

Except for the certified items below marked not applicable (N/A), the list includes major requirements for this aspect of project implementation, although it is not comprehensive, nor does it relieve the sponsor from fully complying with all applicable statutory and administrative standards.

	Yes	No	N/A
40. The sponsor's attorney or other official has (will have) good and sufficient title as well as title evidence on property in the project.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41. If defects and/or encumbrances exist in the title that adversely impact the sponsor's intended use of property in the project, they have been (will be) extinguished, modified, or subordinated.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42. If property for airport development is (will be) leased, the following conditions have been met:			
a. The term is for 20 years or the useful life of the project,	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. The lessor is a public agency, and			
c. The lease contains no provisions that prevent full compliance with the grant agreement.			
43. Property in the project is (will be) in conformance with the current Exhibit A property map, which is based on deeds, title opinions, land surveys, the approved airport layout plan, and project documentation.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Yes	No	N/A
44. For any acquisition of property interest in noise sensitive approach zones and related areas, property interest was (will be) obtained to ensure land is used for purposes compatible with noise levels associated with operation of the airport.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
45. For any acquisition of property interest in runway protection zones and areas related to 14 CFR 77 surfaces, property interest was (will be) obtained for the following:			
a. The right of flight,	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. The right of ingress and egress to remove obstructions, and			
c. The right to restrict the establishment of future obstructions.			
46. Appraisals prepared by qualified real estate appraisers hired by the sponsor include (will include) the following:			
a. Valuation data to estimate the current market value for the property interest acquired on each parcel, and	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Verification that an opportunity has been provided the property owner or representative to accompany appraisers during inspections.			
47. Each appraisal has been (will be) reviewed by a qualified review appraiser to recommend an amount for the offer of just compensation, and the written appraisals as well as review appraisal are available to FAA for review.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
48. A written offer to acquire each parcel was (will be) presented to the property owner for not less than the approved amount of just compensation.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
49. Effort was (will be) made to acquire each property through the following negotiation procedures:			
a. No coercive action to induce agreement, and	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Supporting documents for settlements included in the project files.			
50. If a negotiated settlement is not reached, the following procedures were (will be) used:			
a. Condemnation initiated and a court deposit not less than the just compensation made prior to possession of the property, and	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Supporting documents for awards included in the project files.			
51. If displacement of persons, businesses, farm operations, or non-profit organizations is involved, a relocation assistance program was (will be) established, with displaced parties receiving general information on the program in writing, including relocation eligibility, and a 90-day notice to vacate.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

52. Relocation assistance services, comparable replacement housing, and payment of necessary relocation expenses were (will be) provided within a reasonable time period for each displaced occupant in accordance with the Uniform Act.

Yes	No	N/A
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I certify, for the project identified herein, responses to the forgoing items are accurate as marked and have prepared documentation attached hereto for any item marked "no" that is correct and complete.

Pinellas County, Florida

(Name of Sponsor)



(Signature of Sponsor's Designated Official Representative)

Scott A. Yarley, P.E.

(Typed Name of Sponsor's Designated Official Representative)

Airport Engineer

(Typed Title of Sponsor's Designated Official Representative)

June 12, 2017

(Date)

**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
AIRPORT IMPROVEMENT PROGRAM
SPONSOR CERTIFICATION
SELECTION OF CONSULTANTS**

Pinellas County, Florida

(Sponsor)

St. Pete-Clearwater International

(Airport)

3-12-0075-043-2017

(Project Number)

Description of Work:

Airport Master Plan Study

Title 49, United States Code, section 47105(d), authorizes the Secretary to require certification from the sponsor that it will comply with the statutory and administrative requirements in carrying out a project under the Airport Improvement Program (AIP). General standards for selection of consultant services within Federal grant programs are described in Title 49, Code of Federal Regulations (CFR), Part 18.36. Sponsors may use other qualifications-based procedures provided they are equivalent to specific standards in 49 CFR 18 and FAA Advisory Circular 150/5100-14, Architectural, Engineering, and Planning Consultant Services for Airport Grant Projects.

Except for the certified items below marked not applicable (N/A), the list includes major requirements for this aspect of project implementation, although it is not comprehensive, nor does it relieve the sponsor from fully complying with all applicable statutory and administrative standard.

	Yes	No	N/A
53. Solicitations were or will be made to ensure fair and open competition from a wide area of interest.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
54. Consultants were or will be selected using competitive procedures based on qualifications, experience, and disadvantaged enterprise requirements with the fees determined through negotiations.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
55. A record of negotiations has been or will be prepared reflecting considerations involved in the establishment of fees, which are not significantly above the sponsor's independent cost estimate.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
56. If engineering or other services are to be performed by sponsor force account personnel, prior approval was or will be obtained from the FAA.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
57. The consultant services contracts clearly establish or will clearly establish the scope of work and delineate the division of responsibilities between all parties engaged in carrying out elements of the project.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	N/A
58. Costs associated with work ineligible for AIP funding are or will be clearly identified and separated from eligible items in solicitations, contracts, and related project documents.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
59. Mandatory contact provisions for grant-assisted contracts have been or will be included in consultant services contracts.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
60. The cost-plus-percentage-of-cost methods of contracting prohibited under Federal standards were not or will not be used.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
61. If the services being procured cover more than the single grant project referenced in this certification, the scope of work was or will be specifically described in the advertisement, and future work will not be initiated beyond five years.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

I certify, for the project identified herein, responses to the forgoing items are accurate as marked and have prepared documentation attached hereto for any item marked "no" that is correct and complete.

Pinellas County, Florida

(Name of Sponsor)



(Signature of Sponsor's Designated Official Representative)

Scott A. Yarley, P.E.

(Typed Name of Sponsor's Designated Official Representative)

Airport Engineer

(Typed Title of Sponsor's Designated Official Representative)

June 12, 2017

(Date)



RECORD OF NEGOTIATIONS

MASTER PLAN STUDY for the ST PETE-CLEARWATER INTERNATIONAL AIRPORT (PIE)

The following is the record of the procurement planning services and scope and fee negotiations related to the Master Plan Study for the St Pete-Clearwater International Airport.

- 1) Advertise Request for Proposal** **December 14, 2016**
- 2) Receipt of Statements of Qualifications (SOQ)** **January 31, 2017**
 - a. Five Statements of Qualifications were received from the following firms:
 - i. AECOM Technical Services, Inc.
 - ii. Environmental Science Associates (ESA)
 - iii. LeighFisher Inc.
 - iv. Michael Baker International, Inc.
 - v. RS&H, Inc.
- 3) Evaluation Committee Reviews SOQ's** **March 24, 2017**
 - a. Based on the Evaluation Committee's review, the firms were ranked in the following order (Highest to lowest):
 1. Environmental Science Associates (ESA)
 2. RS&H, Inc.
 3. Michael Baker International, Inc.
 4. AECOM Technical Services, Inc.
 5. LeighFisher, Inc.
- 4) ESA Notified as Number 1 Ranked Firm** **March 28, 2017**
- 5) Scoping Meeting and Airport Tour** **April 21, 2017**

6) AECOM Technical Services engaged for Independent Fee Estimate (IFE)
May 10, 2017

7) ESA submits Initial Scope and Fee Estimate
May 15, 2017
a. ESA presented a fee estimate of \$2,316,962 with a schedule of 24 months.

8) Airport and ESA meet to discuss Initial Scope and Fee Estimate
May 19, 2017
a. Meeting was at the Airport. PIE staff questioned ESA and subconsultants on specific scope elements and manhours/classifications for many tasks. Airport requested that the ESA team review their manhours, and reallocate hours to different employee classifications for a better balance of effort, and to do their best to reduce the fee so that it is closer to the budget of \$1.5 million.
b. PIE staff also requested that efforts be made to reduce the schedule from 24 months to 18 months.

9) Airport Receives IFE from AECOM Technical Services
June 6, 2017
a. The IFE provided was \$1,865,217. (19.5% under ESA's estimate)

10) ESA submits Revised Scope and Fee Estimate
June 12, 2017
a. ESA presented a fee estimate of \$1,950,984 with a schedule of 18 months.
b. ESA's fee estimate is 4.4% over the IFE's estimate.

11) Airport submits Scope Fee to FAA ADO Orlando for Review
June 14, 2017

12) FAA ADO provides comments to PIE
June 26, 2017

13) PIE/ESA/AECOM begin review FAA ADO Comments
June 26, 2017
a. ESA prepares response to FAA ADO Comments. Submits to PIE on June 29, 2017.

- b. ESA submits revised Scope and Fee Estimate of \$1,896,736 on June 30, 2017.
- c. AECOM revises IFE relating to an Excel calculation error in one of the cells. AECOM submits Final IFE estimate of \$1,762,677.00 on July 5, 2017.

14) Airport submits Grant Application to FAA ADO Orlando June 30, 2017

15) PIE staff meets with FAA ADO to discuss Master Plan July 7, 2017

- a. ADO believes the fee is still too high and asks PIE to continue negotiations with ESA to get the fee closer to the budget.

16) PIE staff meets with ESA to discuss FAA ADO comments July 10, 2017

17) ESA submits Final Scope and Fee Estimate July 12, 2017

18) PIE submits Final Scope and Fee Estimate to FAA ADO July 13, 2017

SUMMARY

	<u>ESA FEE ESTIMATE</u>	<u>IFE ESTIMATE</u>	<u>DIFFERENCE</u>	<u>% DIFFERENCE</u>
Original Estimate	\$ 2,318,962	\$ 1,865,217	\$ 451,745	19.50%
2nd Estimate	\$ 1,950,984	\$ 1,865,217	\$ 85,767	4.40%
3rd Estimate	\$ 1,896,736	\$ 1,762,677	\$ 134,059	7.07%
4th Estimate	\$ 1,801,650	\$ 1,762,677	\$ 38,973	2.16%

-22.24%

Percentage Reduction from original estimate

STATEMENT OF WORK – AIRPORT MASTER PLAN

St. Pete-Clearwater International

Background

Environmental Science Associates (ESA) in association with their subconsultants (ESA Team) will prepare a new master plan (project/study) for the St. Pete-Clearwater International Airport. This study will be conducted in accordance with Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5070-6B *Airport Master Plans* and Florida Department of Transportation (FDOT) *2016 Guidebook for Airport Master Planning*. The objective of this statement of work is to prepare a comprehensive master plan document with a process that will obtain approval from Pinellas County, the FAA, and FDOT. For the purposes of this statement of work, Airport Management is considered the client as the airport is an independent department of the Pinellas County and the official sponsor of the airport.

Since the previous 2004 study is out of date and no longer reflects the current conditions at the airport, this master plan effort will be a “from scratch” effort as defined by FDOT in their guidance. The primary goal of the master plan will be to create a 20-year development program that will maintain a safe, efficient, economical, and environmentally acceptable airport facility for the Tampa Bay community. By achieving this goal, the document will provide the guidance to satisfy the aviation demand in a financially feasible and responsible manner, while at the same time addressing the aviation, environmental, and socioeconomic issues of the community. In support of this goal, the following objectives will be attained:

- Ensure orderly development: consider short term needs and long term plans;
- Maximize level of service to passengers while maintaining low operating costs;
- Serve increasing number of passenger in a phased and cost effective manner;
- Provide for the growth of air cargo and general aviation;
- Diversify airport revenue stream and increase regional economic impact;
- Ensure compliance with latest FAA design criteria, grant assurances, and policies;
- Refine land development strategy;
- Integrate sustainability and resiliency concepts to ensure long term viability;
- Provide flexibility to allow the airport to respond to changes in the aviation industry;
- Meet FAA Airport Geographic Information System (AGIS) mandate;
- Create a new Airport Layout Plan (ALP) drawing set;
- Capitalize on airport branding; and
- Secure broad community buy-in for the future airport development program.

These goals and objectives will be further vetted during the initial project tasks to serve as guiding principles throughout the development of the study.

Task 1: Project Initiation

Task 1.1 Study Design and Planning Charrette

The ESA Team will initiate the project by organizing and leading scoping discussions to refine the study design. The ESA Team will document the goals and objectives and overarching theme, as well as guiding principles of the study. It's anticipated that this task will largely focus on compliance with current FAA standards as well as detailing a development (or redevelopment) strategy for the major areas, facilities, and functions of the airport.

To facilitate this, a strategic Planning Charrette will be held with key ESA Team and Airport Management staff to refine the study goals and objectives and overall strategy of the long term development program. This Planning Charrette will also serve to generally identify and discuss the airport's strengths, weaknesses, opportunities, and threats (SWOT). By conducting this general SWOT analysis early, the proper focus and vetting of development strategies can be integrated throughout the study to ensure the best final plan. A half day will be budgeted for a representative from each of the seven ESA Team member firms for the Planning Charrette.

Product(s): Detailed statement of work and project costs, pre-meeting coordination, and scheduling. One (1) half day Planning Charrette. Documentation detailing the goals, objectives, and guiding principles of the study, as well as the general SWOT analysis, all suitable for incorporating in the initial chapter of the first working paper.

Task 1.2 Project Kick-off Meetings

The success of any project is predicated on the entire Project Team (ESA Team, Airport Management, FAA, and FDOT) working together and maintaining open lines of communication. The ESA Team will facilitate a Project Team Kick-off Meeting involving key members from the ESA Team, Airport Management, FAA, FDOT, airport traffic control tower (ATCT) management, and Pinellas County representative(s), as well as other key stakeholders identified during the Planning Charrette. At the Project Team Kick-off Meeting, study goals will be reviewed, the schedule discussed, and the communication protocols established. Members of the Project Team will be identified for participation in the overall stakeholder coordination and public outreach elements of the study (described further in Task 9).

A Public Project Kick-off Meeting will be advertised and held to disseminate information related to the overall master plan study. The format will be an open house style utilizing a combination of stations with presentation boards, a PowerPoint presentation, handout materials, and/or comment forms. The goal will be to provide details on the need for a new airport master plan, the required planning process, project goals/objectives, and timeline of the study.

Assumption(s): The airport will provide the space for both meetings and advertisement for the public meeting with support from the ESA Team for the format. An effort will be made to coordinate the Public Project Kick-off Meeting with, or as part of, another airport or community event to increase both public outreach and participation.

Product(s): The ESA Team will prepare the Team Project Kick-off Meeting agenda, handouts, etc. and document the agreed upon project goals, communication protocols, and Project Team members identified during the meeting. For the Public Project Kick-off Meeting, the ESA Team will provide up to ten (10)

large presentation board exhibits outlining information as appropriate, as well as the handouts, sign-in sheets, and comment forms needed. Up to five (5) members of the ESA Team will be available for the Public Project Kick-off Meeting.

Task 1.3 Tenant and User Interviews

At the onset of the study, interviews will be scheduled with major tenants and users of the airport. These one-on-one meetings will be conducted over three (3) different days to initiate a dialogue that will continue throughout the project to facilitate development of different study elements. Tenants and users will include the passenger airlines, air cargo operators, military, federal agencies, airport concessions, commercial ground handlers, fixed base operators (FBO), parking/rental car companies, general aviation aircraft operators, etc.

Task 1.4 Aerial Mapping and Airports Geographic Information System (AGIS)

Since the Airports Geographic Information System (AGIS) data collection process is a long lead time item, it will begin as early as possible in the project. ESA will contract with and manage an aerial surveyor to provide the airport survey, mapping, and data files compliant with the FAA's AGIS requirements. This effort will be conducted in accordance with FAA ACs 150/5300-16A, -17C, and -18B, with further guidance from the FAA Southern Region and the Office of Airports Safety and Standards in Washington, D.C.

Due to the types of existing instrument approaches, the AGIS effort will follow the standards for a Vertically Guided Runway survey from FAA AC 150/5300-18B (specifically the Table 2-1 requirements for an ALP) and will be focused around performing three main tasks:

1.4.1 Vertically Guided Approach Obstruction Analysis

An Obstruction Analysis of both existing Runways 18/36 and 4/22 based on FAA AC 150/5300-18B *Vertically Guided Approach Obstruction Identification Surfaces* will be conducted. This includes:

- Initiate and complete the AGIS project process on the AGIS web portal as an Instrument Procedure Development survey.
 - Develop scope of work and plans as required.
- Since the airport does possess existing Primary and Secondary Airport Control Stations (PACS/SACS), they will be recovered and utilized as the basis of control in accordance with FAA AC 150/5300-16A.
- Establish photogrammetric control and collect stereo imagery covering the surface area defined by the Vertically Guided Runway standards.
 - Estimated 20 control points and 5 check points.
 - Collect imagery at a 0.5 foot ground-sample distance, flight layout will be provided.
 - Collected with leaf-on conditions.
- Geo-referencing of aerial photography.
- Runway critical point survey on all usable runways.
- Runway profile survey on all usable runways.
- Inventory of navigational aids associated to the airport (within 10 nautical miles of airport reference point) including the associated perpendicular points.
- Obstruction analysis for objects penetrating the Vertically Guided surfaces.

- The ESA Team will request existing obstruction data for the airport from the FAA for review with the Obstruction Identification Surfaces (OIS).
- If information is not available, a collection of objects penetrating the OIS will be collected using the density selection criteria.
- Development of new ortho-photography of entire project area.
 - Pixel resolution of 0.5 feet over entire project area.
- The VGA Imaginary Surfaces shall show 50 foot interval contours which are labeled.
- Collect major landmark features within imagery coverage.
- Population of the digital files with calculable and required attributes.

Product(s): Develop AGIS compliant data files containing the safety critical data required to achieve instrument approach procedure development. Develop the final Imagery Acquisition Report and Project Report for AGIS.

1.4.2 Analysis of Features within Obstruction Identification Surfaces

An Obstruction Analysis for the features within 12.5 feet of the 14 Code of Federal Regulations (CFR) Part 77 *Safe, Efficient, Use, and Preservation of the Navigable Airspace*, Precision Instrument Runway OIS for the existing Runway 18/36 approaches (truncated to 20,000 feet in length) and the Non-Precision Type "C" OIS for the existing Runway 4/22 Visual "B" approaches will be conducted. This includes:

- Obstruction analysis for surface penetrations and features within 12.5 feet of the CFR Part 77 surfaces.
 - All features which penetrate these surface lowered 12.5 feet are to be collected.
 - Ground elevations will be provided for any object within 12.5 feet of the specified CFR Part 77 surfaces. Exact accuracy of the ground positions may vary depending upon the visibility of the ground within the aerial imagery. Where major elevation breaks are not present, it is anticipated that the 200 foot grid will be used to calculate the majority of ground elevations.
- Areas of tree canopy that penetrate the specified OIS lowered 12.5 feet shall be contoured at 5 foot contour intervals. Individual trees extending significantly above the tree canopy shall not be contoured but will have a spot elevation on top.
 - The outline of the limits of the tree canopy penetrating the OIS lowered 12.5 feet is to be identified.
- Areas of terrain that penetrate the specified OIS lowered 12.5 feet shall be contoured at 2 foot contour intervals.
- Obstruction accuracies will meet the National Map Accuracy standards for 1"=800' scale photography.
- Spot elevations on a 200 foot grid inside the specified CFR Part 77 Approach Surfaces.
 - This grid will not be provided in obscured areas or areas over water.
 - Areas of ground penetration will be captured at a 100 foot grid interval.
 - The outline of the limits of the ground penetrating the OIS lowered 12.5 feet shall be identified.
- All railroad and road centerlines will have a spot elevations where they cross the extended runway centerline and the exterior limits of the OIS.
- Top height for all buildings on airfield property shall be provided.
- The CFR Part 77 surfaces shall show 50 foot interval contours which are labeled.

Product(s): Develop and deliver a Microsoft Excel file containing information on all obstacles that were collected within 12.5 feet of the OIS. This spreadsheet will contain northing, easting, elevation, penetration depth, station, and offset information. Develop and deliver an AutoCAD file containing information on all obstacles that were collected within 12.5 feet of the OIS.

1.4.3 Planimetric and Topographic Mapping

This task will utilize the imagery collected for airspace analysis in Tasks 1.4.1 and 1.4.2 for development of planimetric and topographic mapping. This will include:

- Develop mapping features to generate 1"=100' scale mapping at 2 foot contour intervals.
 - Existing LiDAR has been flown over the airport and this LiDAR will be utilized to assist in generating the 2 foot contours.
- Mapping will include features required for standard ALP base mapping as part of AGIS.
- Attributes that are required or calculable will be populated and submitted to AGIS as an Existing Data project.

Assumption(s): Airport Management will provide the movement area escort(s) required for the portion of the surveys on the Security Identification Display Area (SIDA) of the airport.

Product(s): The ESA Team will submit all data collected and the associated deliverables in the formats specified in the appropriate ACs to the FAA's Office of Airports, Airports Surveying - GIS Program. All data submissions to the FAA will be through the program's web site at <http://airports-gis.faa.gov>.

Task 2: Existing Conditions

This task will evaluate and document the baseline conditions for all physical features and the operational characteristics of the airport. The identification of the size, condition, use, etc. of the various airport facilities forms the foundation for subsequent efforts and analyses of the study.

Task 2.1 Airport and Surrounding Area Inventory

To the extent possible, the ESA Team will assess the condition of the airport facilities and surrounding features using existing airport records, drawings, studies, and reports. It is assumed the airport will provide any existing digital plans since no field surveying will be conducted outside of the AGIS geodetic control and property boundary surveys.

2.1.1 Airfield Facilities and Surrounding Airspace

- Runways (length, width, condition, strength, features, etc.)
- Taxiways (length, width, condition, strength, features, etc.)
- Lighting, Marking, and Signage (type, condition, etc.)
- Navigational and Visual Approach Aids (FAA and airport owned)
- Instrument Approach Procedures (arrival and departure)
- Air Traffic Management, Airspace, and Obstructions (for airport and surrounding region)

2.1.2 Airside Facilities

- Aircraft Parking Aprons (size, condition, strength, etc.)
- Aircraft Storage Hangars (size, facilities, condition, etc.)

- Aviation Related Tenants (military, FBOs, businesses, corporate flight department, air taxi, charter, flight training, private owners, etc.)

2.1.3 Support Facilities

- Airport Traffic Control Tower (facilities, operations, procedures, etc.)
- Airport Administration Space (size, facilities, condition, etc.)
- Airport Maintenance Facilities (size, equipment, condition, location, etc.)
- Aircraft Rescue and Fire Fighting (size, equipment, condition, location, etc.)
- Aviation Fuel Storage and Dispensing Systems (size, equipment, condition, location, etc.)
- Airfield Electrical Vault (size, location, equipment, condition, etc.)

2.1.4 Airport, Community, and Surrounding Area Features

- Non-Aviation Related Uses (on-airport facilities)
- Landside Access and Parking (outside of passenger terminal area)
- Environmental Data (various to support tasks of environmental analyses)
- Utilities (general information on water and sanitary sewer services available)
- Surrounding Land Use and Zoning (on- and off-airport property)
- Socioeconomic Data (obtain historic data and future projections for population, income, employment rates, types of employment, housing starts, etc. from Woods & Poole Economics, Inc.)

2.1.5 Airport Data

- Meteorological Data (historic wind, temperature, and cloud ceiling data)
- Operational Data (various to support tasks of aviation forecasts – in addition to the official airport and ATCT records, this effort will also obtain the most recent 12 months of FlightAware data).

Product(s): Two (2) full day site visits of the airport property will be conducted to support this effort. Documentation detailing the existing airport facility conditions suitable for incorporating as part of a detailed chapter in the first working paper.

Task 2.2 Passenger Terminal Facilities

A detailed assessment of the capacity and potential issues associated with the existing passenger terminal facilities will be conducted. This task will analyze the current functionality and ability to improve/expand the existing passenger terminal components. In doing so, the ESA Team will conduct a building conditions assessment. Existing airport records, drawings, and reports on key site utilities, architectural elements, structural elements, mechanical systems, electrical equipment, plumbing, systems, airside infrastructure, and utilities will be reviewed. These facilities will be identified and evaluated by type, equipment, and capacities. This information will be utilized to create a comprehensive Terminal Building Assessment Report and provide a basis for determining capacity and projecting future needs for proposed development options during the master plan alternatives and eventual Terminal Program Definition Study. Key elements include:

2.2.1 Major Functional Areas

The major functional area components of the passenger terminal area will be inventoried in detail. This effort will include all passenger terminal facilities from the curbside to the aircraft parking apron area. At a minimum, these will include, but not be limited to:

- Aircraft Parking Positions, Contact Gates, and Remain Overnight (RON) Space
- Circulation Areas
- Passenger Check-In/Bag Drop
- Airline Support Offices/Space
- Concessions
- Passenger Security Screening
- Airline Holdrooms and Boarding Gates
- Baggage Claim
- Inbound Baggage
- Outbound Baggage
- Explosives Detection System (EDS) Baggage Screening
- Federal Inspection Services (FIS) and US Customs and Border Protection (CBP) Facilities
- Ground Service Equipment Circulation and Storage
- Airport/Tenant Office Space
- Wayfinding

The ESA Team will compile the above information in an area by area and room by room space program in both tabular and graphic formats. Data to be documented includes area/room functions, leasing information, number/types of equipment, and approximate square footage.

2.2.2 Structural Systems

A comprehensive review of the existing structural systems will be conducted to understand their condition and capacity. Condition assessments of floor and roof framing elements, columns, visible foundations and slabs, wall systems, overhead objects support structures, ancillary structural support elements, main wind force resisting system framing, and any other necessary sub elements of the structure will be conducted during the site investigation. Following the condition assessments, a thorough evaluation of the existing building documentation will be completed to determine capacities and feasibility of renovation. Consideration will be taken during investigation to determine optimal locations for expansion and modification. Operations and maintenance staff will be consulted as to specific locations of problem areas. An overall understanding and description of the existing building structural systems will be noted in the Terminal Building Assessment Report as well as areas of concern and all recommendations pertaining to the above investigations.

2.2.3 Mechanical, Electrical, and Plumbing Equipment

A review of the existing plans and documentation will be undertaken to understand the cooling design, chiller plant setup, chilled water distribution system, air handling units age and configurations, ductwork layout and pressure classification, duct insulation types, heating methods and capacities, emergency management systems, domestic water heating equipment, restroom configurations and fixtures, locations and types of grease traps, storm system design and routing, fire riser locations and types, sprinkler head type, electrical distribution layout and electrical room locations, emergency power system, lighting devices and associated controls, and fire alarm system. The existing systems will be assessed on site to

review equipment physical condition, age, and accessibility. Information provided by facilities and maintenance staff regarding system operation and known issues. Equipment end of life, availability of replacement parts, criticality of operation, and current maintenance practices will also be considered.

2.2.4 Airside Civil and Utilities Infrastructure

A comprehensive review of the existing structural airside pavement and utilities infrastructure will be conducted to understand their condition and capacity. It is understood that the airport has recently completed airside pavement, utilities, and other infrastructure improvements in the general area where future terminal reconfigurations and/or expansion could occur. This task will document those projects as well as the areas that have not been improved.

Assumption(s): An inventory of existing building elements, systems, and site utilities for the terminal area will be prepared based on existing data obtained from Airport Management, site visits, and desktop research. The team will refer to any existing inventories of reports and drawings that cover known airport data resources as a point of beginning for the identification of resources. Additional information will be obtained from other terminal area design and construction projects completed within the last 10 years. Airport Management will provide any existing AutoCAD drawings, digital mapping, or previous studies related to the passenger terminal facilities.

Product(s): Two (2) full day site visits of the airport property will be conducted to support this effort. Documentation detailing the existing passenger terminal facility conditions suitable for incorporating as a part of the existing conditions chapter of the first working paper, as well as a separate Terminal Building Assessment Report of the passenger terminal facilities.

Task 2.3 Passenger Terminal Access, Circulation, and Automobile Parking

The landside access, circulation, and parking facilities associated with the passenger terminal area will be inventoried. The parking and access roadway inventory will be based on data summarized in the *Parking Garage Study, Airport Landside and Parking Lot Improvements for St. Pete-Clearwater International Airport* by Cardno dated November 16, 2016. No additional field verification of the parking and access roadways will be completed. This effort will include the additional tasks of collecting critical vehicle and pedestrian activity counts/observations at the terminal curbside to properly understand the utilization and/or limitation of these facilities.

2.3.1 Terminal Access Roadway

While the focus of the planning effort is on the roadway system directly fronting the terminal facilities at the airport, it is of importance to take into consideration the terminal access roadways feeding the curbside of the terminal complex. The ESA Team will inventory the following terminal access roadways using the *Airport Landside and Parking Lot Improvement* design drawings completed by Cardno dated May 2017:

- Airport Parkway Drive
- Intersection of Roosevelt Boulevard (SR 686) and Airport Parkway Drive

The inventory will consist of number of lanes, posted speed limits, weaving locations, and distances. No field verification will be completed.

2.3.2 Terminal Curbfront

The ESA Team will inventory the following terminal roadways and curbfronts:

- Ticketing A
- Ticketing B
- Baggage Claim
- Deliveries
- Ground Transportation Area for Taxi/Shuttle/Limos

The inventory will consist of curbfront designations (loading/unloading areas for each vehicle type: transit, shuttle, taxi, etc.), curbfront lengths by designation, number of lanes, lane widths, and posted speed limits. The inventory will also include the identification and collection of data on weaving areas and weaving distances and anticipated conflict areas. Any available existing data will be supplemented by one (1), nine (9) hour site visit to validate the curbfront inventory collected and to collect an appropriate photographic inventory of conditions observed. The observations will concur in conjunction with the Task 1.3 meetings.

2.3.3 Automobile Parking

The ESA Team will inventory the following five airport parking facilities:

- Short-Term Parking
- Long-Term Parking
- Remote Economy Parking
- Cell Phone Lot
- Employee Parking

The parking inventory for the public parking will be based on the data summarized in the *Parking Garage Study, Airport Landside and Parking Lot Improvements for St. Pete-Clearwater International Airport* by Cardno dated November 16, 2016 and the *Airport Landside and Parking Lot Improvement* design drawings completed by Cardno dated May 2017. The parking inventory will consist of the location, product types, and number of parking spaces.

The employee parking information will also be requested from the airport including:

- Overnight and peak employee vehicle accumulation during a typical busy average day of the peak month by parking location.
- Volume of employee entry and exit vehicles by location during a typical busy day (the same day as the overnight and peak accumulation counts); entry and exit volumes provided in 15 minute increments is preferred.
- Number of parking permits issued and fees paid.

No field verification will be completed.

2.3.4 Rental Cars

A summary of the existing rental car facilities, both on- and off-site will be developed. The summary will include general operational characteristics, size, and access for the following, organized by each company:

- Booths (if applicable)
- Ready/Return Spaces in the Lot
- Storage/Quick Turnaround Facilities

Any available existing data will be supplemented by one (1), four (4) hour site visit to validate the rental car parking and related facilities to their operation.

2.3.5 Counts and Observations

The purpose of the vehicle traffic counts and observations is to document the current vehicular and pedestrian traffic at designated airport locations. In advance of any vehicle counts or operational observations, the ESA Team will prepare a data collection plan describing the survey logistics (dates and required staff) and the survey forms.

Vehicle Counts - A series of two (2), separate vehicle count efforts will be conducted. The first will be automatic traffic recorder counts at up to three (3) terminal entry/exit locations for seven (7), consecutive 24 hour days. It is anticipated that these will consist of the following locations:

- Curbfront Approach
- Airport Entry
- Airport Exit

The seven day counts will be used to identify the peaking throughout the week. Following the review of the seven day counts, a second series of traffic counts will be conducted for two (2) consecutive 24 hour days at the following locations:

- Terminal Entry
- Inner Curbfront Lanes
- Outer Curbfront Lanes
- Entry to Ground Transportation Area for Taxi/Shuttle/Limos
- Exit from Ground Transportation Area for Taxi/Shuttle/Limos
- Terminal Exit

The counts at the above six (6) locations will be repeated after the completion of the *Airport Landside and Parking Lot Improvement* project.

Curbfront Observations - Based on the seven day counts, the peak hour of arrivals and peak hour of departures will be identified. Curbfront observations will be completed during a two (2) hour period associated with the peak hour of arrivals, and a two (2) hour period associated with the peak hour of departures. The curbfront observations will occur during one (1) day and will coincide with the two day traffic counts described above.

The curbside observations will consist of vehicle classification counts, dwell time observations by mode, vehicle occupancy (i.e. people getting into and out of vehicles), accumulation (people waiting), and loading/unloading information for the following vehicle types: private autos, buses (transit, charter), taxis, shared ride, limos, shuttles, and commercial vehicles (hotel shuttles, etc.), service vehicles, and police/enforcement vehicles. Any enforcement or observed congestion will be noted during the data collection effort.

Pedestrian Counts - The ESA Team will also conduct bi-directional pedestrian counts in 15 minute intervals at up to three (3) locations outside of the terminal during the arrivals and departures peak. The time period of the pedestrian observations will coincide with the curbside observations described above.

Data to be collected includes general flow patterns, accumulation at five minute intervals, bi-directional counts, and observed congestion/conflict areas. In addition to the bi-directional pedestrian counts, general observations on luggage per person will be recorded and documented.

Assumption(s): Airport Management will provide any existing AutoCAD drawings, digital mapping, or previous studies related to the landside operations and facilities of the passenger terminal.

Product(s): The passenger terminal access, circulation, and automobile parking data collected will be documented in a format suitable for incorporating as part of the existing conditions chapter in the first working paper.

Task 2.4 Commercial Passenger Market Data

The airport's commercial passenger service levels and trends, for both domestic and international air carriers, will be documented. In addition to the passenger enplanement activity, this effort will utilize any data collected and/or acquired by the airport for their air service development efforts. It is understood that the existing airport data includes information defining the airport's service area; passenger origin and destination information; and previous passenger and/or public opinion surveys. The ESA Team will organize and document this passenger activity and any associated trends for use in the different projections of passenger enplanements.

Assumption(s): No new third party data will be collected for this effort. The existing passenger market data and/or results from any previous air service surveys will be provided by Airport Management. No new passenger surveys will be conducted.

Product(s): Documentation detailing the historic passenger service levels and trends will be included as a supporting document to the aviation activity forecasts in the first working paper.

Task 3: Aviation Forecasts

Task 3.1 Evaluation of Historic and Previous Forecasts

At the onset of the aviation activity forecasts, an evaluation of the historic activity since the last airport master plan will be conducted. Additionally, for comparison purposes, existing forecasts for the airport will be documented and evaluated. At a minimum this will include the projections from the 2004 Airport Master Plan Update, FDOT's most current Florida Aviation System Plan 2025; and the FAA's current

Terminal Area Forecast (TAF). Industry trends will also be documented from various sources such as the FAA's most recent Aerospace Forecasts, Transportation Research Board (TRB) publications, industry groups, etc.

Product(s): Documentation detailing historic activity and previous forecasts will be incorporated as part of an aviation forecast chapter in the first working paper.

Task 3.2 Baseline Forecast Preparation

Upon completion and analysis of the aforementioned inventory tasks and historic projections, aviation demand forecasts will be developed. In addition to typical industry standards and formulas (regression analysis, market share analysis, simple annual growth, etc.), the ESA Team will temper the forecasts by reviewing the overall economic activity in Pinellas County and the surrounding Tampa Bay area.

The ESA Team will conduct an overall socioeconomic evaluation of the region to include an identification and examination of the driving factors for the growth of aviation activity in the airport's service area. This will incorporate any pertinent data that has been previously collected by local entities including Visit St. Petersburg Clearwater; Pinellas County Economic Development, City of St. Petersburg Economic Development Division, City of Clearwater Economic Development Department, Tampa Bay Regional Planning Council (TBRPC), area chambers of commerce, area universities, and others. The goal will be to determine the potential for and extent of shifts in aviation demand for the Tampa Bay area. The ESA Team will utilize this data to assist in their identification of potential changes in existing domestic and international passenger traffic patterns for the airport, as well as other commercial and general aviation activity.

Baseline forecasts will be developed utilizing historic aviation activity data (local as well as regional and national), industry trends, and socioeconomic factors. The baseline forecasts will be representative of and support the continuation of the existing usage patterns of the airport. The ESA Team will develop forecasts for the 5, 10, and 20-year planning periods. These forecasts will be used to interpolate annual forecasts as needed. Output from this task will include:

- Projections of Passenger Enplanements (for both domestic and international air carriers)
- Passenger Service Activity Forecasts (utilizing industry trends, potential commercial aircraft fleet mix, and expected passenger boarding load factors)
- Total Based Aircraft (utilizing existing airport data and industry trends)
- Based Aircraft Fleet Mix (by specific aircraft categories)
- General Aviation Activity Forecasts (total operations as well as itinerant and local splits)
- Military Operations and Fleet Mix
- Total Annual Operations
- Peaking Characteristics (peak month, average day of the peak month, and peak hour of the average day - for commercial passenger enplanements and operations, as well as for overall operations)
- Categories of Operations (total local versus total itinerant, instrument activity, day/night splits, and overall aircraft operational fleet mix)
- Critical Aircraft (documentation of the existing and expected future critical aircraft)

Product(s): Documentation detailing the final baseline activity projections will be incorporated as part of an aviation forecast chapter in the first working paper.

Task 3.3 Alternate Forecast Scenarios

Additionally, up to two (2) scenario based projections will be developed based on “what-if” situations and information obtained in the master plan analyses up to this point in the study process. These scenarios will represent significant deviations (either increases or decreases) to the baseline forecasts that could occur during the course of the 20-year planning period.

This effort will explore how the current commercial passenger and air cargo airline trends could create potential circumstances that would impact the activity at the airport. Example scenarios would include an analysis of the potential activity associated with one or more of the following scenarios:

- Entrance of a new, regularly scheduled passenger air carrier airline.
- Expanded domestic and/or international charter operations and enplanements.
- Significant increase in an air cargo or another commercial aircraft operator.

The “what-if” situations may also look at a significant increase in general aviation traffic not included as part of the baseline forecast. Triggering events for such a scenario might be the anticipation of a new large airport tenant, the entrance of a significant airport user, or the substantial increase in activity conducted by an existing or popular use such as fractional aircraft operators.

Product(s): Documentation detailing the alternate forecast scenarios will be incorporated as part of an aviation forecast chapter in the first working paper.

Task 3.4 Baseline Forecast Review Coordination

The final selected baseline forecasts will be compared to the most recent FAA TAF to determine if they are within the FAA’s range for consistency (within 10 percent of the TAF in the 5-year period and 15 percent of the TAF in the 10-year period). The ESA Team will coordinate the formal review of the selected forecasts with the FAA, as well as FDOT, and incorporate any comments as appropriate. This will include one (1) meeting with both the FAA’s Orlando Airports District Office (ADO) and FDOT staffs attending.

Product(s): Draft agency transmittal letters and a final approved baseline forecast incorporating any FAA and FDOT comments.

Task 4: Facility Assessment and Requirements

Task 4.1 Airfield Demand Capacity Analysis

The ESA Team will use the methods detailed in FAA’s AC 150/5060-5 *Airport Capacity and Delay* to calculate the airfield capacity of the current runway and taxiway systems under different operating flows and meteorological conditions. A runway and taxiway flow analysis will also be conducted to identify potential existing airfield conflict areas, choke points, and hot spots. Four (4) figures will be developed (in coordination with ATCT management) to reflect traffic flows and ground movements when each runway end is active. The new FAA taxiway design guidance will also be applied relative to the existing

airfield and any potential areas of concern will be identified, including facilities such as holding position lines and run-up areas.

Product(s): Airfield capacity estimates/calculations, four (4) airfield flow analyses/diagrams, and documentation of facility needs for capacity/safety enhancement will be incorporated as part of the facility requirements chapter in the second working paper. No simulation will be conducted as part of this task.

Task 4.2 Airfield Facility Requirements

The ESA Team will apply the airfield standards and methodologies of both FAA AC 150/5300-13A, *Airport Design* and AC 150/5325-4B *Runway Length Requirements for Airport Design* to determine the adequacy of the airfield's runway length, width, and strength, and supporting taxiway systems. This will be based on the existing and future critical aircraft for each runway. All applicable runway and taxiway design standards, protective imaginary surfaces, and setbacks will be reviewed for compliance, given the existing and future critical aircraft.

Based on the previous tasks and potential forecast scenarios, the airfield access and associated setbacks required to access the future airside parcels of the Airco site will be defined. This will primarily identify the type and size of taxiways needed to provide the proper access to the runway system. In defining the requirements, different critical aircraft categories will be included to evaluate potential aviation related development options for the Airco site under Task 6.

In addition, an analysis will be conducted on the potential impacts and/or limitations the current airfield system has on both the existing and future operational aircraft fleet mixes. The intent is to quantify and document to the extent possible, any operational constraints that result as a direct result of the physical and operational characteristics of the airport.

Product(s): Airfield facility needs will be incorporated as a part of the facility requirements chapter in the second working paper.

Task 4.3 Navigational Aids, Metroplex, and TERPS Analyses

The ESA Team will coordinate with the FAA on potential navigational aid and changing airspace issues intended to improve the utility of the airport, while at the same time minimizing potential impacts. Any potential changes to the published instrument approach and departure procedures, as well as any other planned navigational aid improvements will be documented and evaluated. Additionally, this task will include a review of the recommended airspace changes related to the FAA's South Central Florida Metroplex that are available within the timeline of the study.

As part of this task, an FAA Order 8260.3C *United States Standard for Terminal Instrument Procedures (TERPS)* analysis will be conducted. Whether or not there are any changes to the airport's existing navigational aids or airspace during the course of the planning period, the TERPS analysis is needed to define critical airspace limitations which can impact the viability of proposed airfield development alternatives. The analyses associated with this effort are not included as part of the AGIS effort and would include the following elements:

TERPS Surface Updates - The minimum TERPS surfaces to be updated for the airport are listed below. These surfaces will be constructed as prescribed in FAA Orders 8260.3C, 8260.36, and 8260.54A.

For both ends of Runway 18/36:

- Precision Approach (ILS - CAT I) - Final Segment
- Precision Approach (ILS - CAT I) - Missed Approach Area Section I
- Localizer Final
- RNAV (GPS) LNAV Final Section 1
- RNAV (GPS) LNAV Missed Approach
- RNAV (GPS) VNAV Final Section 1
- RNAV (GPS) VNAV Missed Approach
- RNAV (GPS) LPV Final Section 1
- RNAV (GPS) LPV Missed Approach

For Runway 18:

- Precision Approach (ILS – SA CAT I) - Missed Approach Area Section I
- Precision Approach (ILS – CAT II) - Missed Approach Area Section I

For both ends of Runway 18/36 and Runway 4/22:

- RNAV (GPS) “A” LNAV Final Section 1
- IFR Departure Area (Zones 1, 2 & 3)
- Circling Area (Category A, B, C & D)

Others:

- Non-Precision VOR Final Section I (for Runway 36 and Runway 4)
- IFR Departure Area (Zones 1, 2 & 3) Non-Standard (for Runway 36 and Runway 22)

Once these surfaces are constructed and reviewed, they will be incorporated into the upgraded iALP/3DAAP to allow Airport Management staff the full use of all obstruction routines available within the program.

One Engine Inoperative (OEI) Surface Development – For this element, contact with tenant airlines currently utilizing the airport will be made to obtain the information necessary to map the carriers’ Obstacle Accountability Areas (OAA) for all runway ends. Each responding airline’s OAA will be modeled three-dimensionally for mapping and analysis purposes. Comparison to the models to understand mapped points collected through the new data collection efforts and obstacle data obtained from FAA and NGS will be mapped and coordinated with each airline to ensure accurate depiction and location of the individual OAAs and representative OEI surfaces.

From the individual surfaces developed, a composite map depicting the lowest surface will be developed. This surface will represent the airspace that airlines apply and hope to be protected for by the local governing agency to be cleared of obstructions so that they can maximize the lift capacity of

their fleets. All necessary graphics and digital data will be generated to depict the critical surfaces and controlling obstacles for each runway's operations. The final digital surface will be transferred to the FAA's internal OE/AAA analysis tool for obstruction analysis.

Obstruction Analysis – Once the AGIS obstruction data collected in Task 1 is mapped, it will be utilized with the TERPS and OEI surfaces developed under this task and included into the iALP. Analytical reports, AutoCAD and Google three-dimensional graphics will be developed for discussions with Airport Management. Any penetrations to the various surfaces that need to be mitigated will be discussed prior to FAA submittal. In addition, understandable and useful graphics will be provided to Airport Management to facilitate any obstruction clearing required.

Product(s): Requirements for navigational aids and airspace will be incorporated as a part of the facility requirements chapter in the second working paper. In addition to populating the iALP with the AGIS data from Task 1, the following will be provided to/for Airport Management:

- iALP Web-Based TERPS Data Files
- 3DAAP AutoCAD Wireframe Drawings
- 3DAAP OAA/OEI AutoCAD Surface Drawings
- iALP Web-Based OAA/OEI Data Files
- Analytical Reports of Any Penetrations to Any Surfaces
- AutoCAD 3D Graphics of Penetrations
- Google 3D Data Files of Penetrations

Task 4.4 Airside Facility Requirements

Air cargo, general aviation, and other airside facilities will be evaluated to determine sufficiency including:

- Air Cargo and Airline Belly Freight
- General Aviation Terminal Facilities
- Conventional and Maintenance Hangars
- T-hangars
- Based Aircraft and Transient Aircraft Apron and Tie-down Space
- FBO Facilities
- Airport Support Facilities
 - Airport Traffic Control Tower (including line of sight considerations)
 - Aircraft Rescue and Fire Fighting (ARFF)
 - Airport Maintenance Facilities
 - Aviation Fuel Storage and Dispensing Systems

Product(s): Airside facility requirements will be incorporated as a part of the facility requirements chapter in the second working paper.

Task 4.5 Requirements for Passenger Terminal Facilities

The ESA Team will identify the demand for the different functional areas of the commercial passenger terminal using FAA, Airport Cooperative Research Program (ACRP), and other industry standards based

on projected planning activity levels (PAL) triggers derived from the selected baseline activity forecasts. Passenger terminal facility requirements will be developed for up to four (4) different PAL triggers.

The demand for the various facilities will be compared to the current capacity of the terminal component to determine facility requirements at each PAL. Planning criteria will be based on the average day of the peak month level of demand and aircraft gate utilization. The functional areas to be considered would include, but not limited to:

- Number, Size and Configuration of Aircraft Parking Positions, Contact Gates, and RON space
- Circulation Areas
- Passenger Check-In/Bag Drop
- Airline Support Offices/Space
- Concessions
- Passenger Security Screening
- Airline Holdrooms and Boarding Gates
- Baggage Claim
- Inbound Baggage
- Outbound Baggage
- EDS Baggage Screening
- FIS and CBP Facilities
- Ground Service Equipment Circulation and Storage
- Airport/Tenant Office Space
- Wayfinding

Based on the passenger terminal area demand/capacity assessment, facility requirements to meet future PALs will be defined. The ESA Team will develop these requirements for up to four (4) PAL triggers that are consistent with the selected forecast. Facility needs will be defined in terms of the various categories identified above with future space requirements (if any) or number of devices needed. This assessment will also identify issues associated with the configuration and any functional concerns related to component uses within the terminal and terminal area.

Product(s): Detailed passenger terminal needs will be incorporated as a part of the facility requirements chapter in the second working paper.

Task 4.6 Terminal Access, Circulation, and Automobile Parking

A spreadsheet model will be applied to evaluate curbside demands using the methodology documented in the Airport Cooperative Research Program (ACRP) 40 report, *Airport Curbside and Terminal Area Roadway Operations*. Specifically the Quick Analysis Tool for Airport Roadways (QATAR) macroscopic spreadsheet analysis tool will be utilized. For the baseline QATAR model, the arrivals peak hour and the departures peak hour will be modeled for a total of two (2) QATAR analyses.

Using the results of the baseline model the demand/capacity and level of service (LOS) for the existing conditions and three (3) forecast scenarios will be identified. These include:

Roadway and Curbside LOS - The demand/capacity and resulting LOS will be calculated for the terminal area roadways and the curbsides for the arrivals and departure peak hour. The QATAR

models will be used to evaluate the arrivals peak hour and the departures peak hour for each forecast year for a total of six (6) QATAR analyses. The roadway demand/capacity results will be presented on a link-by-link basis. Roadway capacity will vary based on number of roadway lanes and characteristics of terminal roadway segment using airport specific capacity assumptions. The LOS of the existing roadway system will be calculated as a function of roadway demand.

Parking Requirements – Parking requirements identified in *Parking Garage Study, Airport Landside and Parking Lot Improvements for St. Pete-Clearwater International Airport* by Cardno dated November 16, 2016 will be used for the baseline requirements. Future public parking demands will be prepared for three (3) forecast periods based on the selected baseline activity forecasts. Future employee parking demands will be increased in proportion to the expected annual increase in overall airport activity, assumed to be represented by the average growth in annual originating airline passenger activity and annual aircraft operations. Off-airport public parking demand will not be estimated.

The parking requirements will be compared with available parking spaces and estimated deficiencies (or surplus) in available spaces will be identified. Requirements will be presented in a tabular format that will identify where parking demand is expected to exceed the supply of parking and the anticipated deficiency on a facility-by-facility basis. The public parking and employee parking facilities inventoried will be assessed. It is assumed the existing market share allocation between facilities will be assumed remain consistent during the forecast years.

Rental Car Requirements - This element will compare capacity and future demand to identify the requirements for rental car facilities at the airport for booths, ready/return spaces, storage/quick turnaround facilities, remote storage/maintenance, and access/traffic patterns for jockey trips.

Product(s): Detailed terminal access, circulation, and automobile parking needs will be incorporated as a part of the facility requirements chapter in the second working paper.

Task 4.7 Landside Facility Requirements

Landside facilities to be evaluated include the need to provide improved ground access and automobile parking to existing facilities as well as to any new development areas on the airport. While this includes the non-aviation related uses, as well as the aviation related, particular emphasis will be placed on the needs for the development of the Airco site. General requirements on the size and configuration of new access roads into the Airco site as well as other new airport facilities will be defined.

Product(s): Landside facility requirements will be incorporated as a part of the facility requirements chapter in the second working paper.

Task 5: Environmental Analyses

Task 5.1 Natural Resources and Environmental Overview

In general, the environmental analyses serve to assist in selecting preferred development alternatives which minimize potential environmental impacts. It also serves to point out potential areas of concern through the use of a threshold analysis, i.e., identifying which aspects of the preferred development plan might exceed industry standards for no significant impact. Development that exceeds these thresholds

may require mitigation or a more comprehensive evaluation of alternatives. The ESA Team will review each area of potential concern so Airport Management is made aware of: 1) the level of potential impact, 2) whether further environmental study is required prior to implementation, and 3) whether the proposed improvements will comply with applicable state and federal laws.

The environmental documentation will follow the guidance provided in FAA's Order 5050.4B *Environmental Handbook* and FAA Order 1050.1E *Environmental Impacts: Policies and Procedures*. The first step for this will be to establish a baseline assessment of the current airport environmental condition. To establish this baseline, the following areas within the entire airport property boundary will be reviewed:

- Air Quality
- Prime and Unique Farmlands
- Vegetative, Wildlife, and Endangered Species
- Water Resources (water quality including surface and ground water)
- Wetlands and Biotic Communities
- Section 4(f) and Other Environmentally Sensitive Public Lands
- Historic and Archaeological Sites
- Energy Supply and Natural Resource Use
- Known Contamination (per Airport Management records)
- Construction Impacts, Drainage, and Hydrology

This effort is primarily based on existing information. No wetland mapping or detailed field investigation is included in this task. Once the baseline condition is established, lists of probable impacts that could result from any proposed development will be prepared and quantified. Those impacts that could require further study will be identified.

Product(s): The various analyses will be incorporated as part of a comprehensive environmental overview chapter in the third working paper.

Task 5.2 Noise Modeling

As part of the environmental overview, the ESA Team will prepare an assessment of the potential noise impacts that would result from the activity levels and fleet mix from the final approved baseline aviation forecasts. The ESA Team will prepare the new noise contour maps, using the Aviation Environmental Design Tool (AEDT) for both the base year (existing airfield conditions) and a future year using the approved aviation forecasts. The single future year modeled (5, 10, or 20 year horizon) will be determined during the course of the study. The contours will be depicted on land use base maps with a supporting table that indicates the acreage of each land use type that is impacted by the 65, 70, and 75 DNL noise levels. This effort will not constitute a CFR Part 150 noise study.

The AEDT software will also be utilized to evaluate up to two (2) additional future scenarios based on potential operational or physical changes proposed as part of the analyses of alternatives for airport development. These scenarios would be compared to the base year contours to evaluate potential impacts associated with the alternatives proposed.

Product(s): The noise analyses will be incorporated as part of a comprehensive environmental overview chapter in the third working paper.

Task 5.3 Sustainability

Some sustainability elements will be incorporated into the new master plan study. While these are identified as individual tasks, they will be incorporated throughout the project. For the purposes of this scope, sustainability is defined as a holistic approach to managing an airport to ensure the integrity of the Economic viability, Operational efficiency, Natural resource conservation and Social responsibility (EONS) of the airport (Source: Airports Council International – North America, or ACI-NA). The following tasks follow the general sustainability planning guidance currently in development by the FDOT Aviation and Spaceports Office. They will focus on County-owned and operated aviation-related facilities and operations at the airport.

5.3.1 Sustainability Baseline Assessment

The goal of the baseline assessment is to understand the activities and existing levels of resource consumption at the airport to identify opportunities for improvements. Based on readily available information and data currently collected by Airport Management and the ESA Team, a sustainability baseline assessment will be conducted for the sustainability categories identified by the ESA Team to highlight areas for improvement. The baseline data collection process is critical to understanding where enhancements could be considered, and will be conducted alongside the primary master plan inventory task to enhance the efficiency of the data collection process. The various baseline data collection categories could include:

- Airport Facilities (in support of Infrastructure Resiliency Planning task)
- Noise and Land Use
- Water Consumption and Water Quality
- Energy
- Surface Transportation
- Natural Resource Management
- Waste Management and Recycling (in support of Solid Waste Recycling task)
- Socioeconomic and Community

The airport is located in an area that is in attainment for all criteria pollutants defined by the U.S. Environmental Protection Agency (EPA). Therefore, an Air Quality and Greenhouse Gas (GHG) Emissions Inventory will not be conducted; however, existing air quality and GHG emissions reduction strategies will be documented in the baseline assessment.

It is assumed that a total of seven (7) categories will be addressed in the sustainability baseline assessment. The categories will be determined in collaboration with Airport Management, based on specific conditions at the airport.

The ESA Team will provide access to a web based data collection site accessible to all team members to assist in data collection and the sustainability baseline assessment. The on-site data collection will include meetings with key Airport Management staff as well as site visits.

The ESA Team will provide sustainability-related survey questions for inclusion in an internet-based survey to airport users and tenants. The results will be compiled and summarized in the assessment. The baseline assessment will also include a review of energy sources and rates of consumption.

As part of the data collection process the ESA Team will identify existing sustainability initiatives currently implemented at the airport, determine rates of resource consumption (i.e. energy use, water consumption), identify trends in management of resources, and highlight areas for improvement or focus in the Sustainability Plan.

Assumption(s): One (1) data collection meeting at the airport with two team members (held concurrently with sustainability vision session meeting described in Task 5.3.2) will be conducted.

Product(s): A draft Sustainability Baseline Assessment technical memorandum for review and a final Sustainability Baseline Assessment technical memorandum that will be integrated into the master plan report.

5.3.2 Develop Sustainability Goals and Objectives / Alternatives Screening Criteria

The ESA Team will prepare a draft Sustainability Vision Statement for the airport for consideration by Airport Management. This vision statement will define the high-level vision of the airport.

Based on the Sustainability Vision Statement and the findings of the Sustainability Baseline Assessment, the ESA Team will prepare draft goals and objectives to be discussed and further refined with Airport Management staff and the master plan working group. The goals will be more general in nature and relate to the sustainability categories of importance, as determined in Task 5.3.1. The objectives will be more specific statements guiding how the goals will be achieved. The ESA Team will use the ACI-NA recommended goals and objectives as a starting point for the draft goals and objectives, customized to the airport's specific conditions.

The master plan development alternatives screening criteria that take sustainability goals and objectives into account will be identified to assist in the sustainability evaluation of alternative development concepts. This task will also provide a summary of sustainable project elements to consider for the preferred development alternative during the planning process, with the intent of providing guidance for the airport to integrate sustainability into the overall development program.

Assumption(s): One (1) visioning meeting will be held concurrently with the data collection meeting (Task 5.3.1) at the airport with two (2) team members.

Product(s): Sustainability Vision Statement and a memorandum documenting the airport's sustainability vision, goals, and objectives after coordination with Airport Management; a memorandum detailing sustainability alternatives screening criteria, and a memorandum detailing the recommended sustainable project elements that could be incorporated into the preferred development program, as well as the overall master plan report.

Task 5.4 Solid Waste Recycling (Waste Audit)

Consistent with the FAA Modernization and Reform Act of 2012 (FMRA) and Program Guidance Letter (PGL) 12-08, a solid waste recycling review will be conducted for the airport. As per PGL 12-08, this will include the following elements:

1. A Waste Audit;
2. the feasibility of solid waste recycling at the airport;
3. minimizing the generation of solid waste at the airport;
4. operation and maintenance requirements;
5. the review of waste management contracts; and
6. the potential for cost savings or the generation of revenue.

A thorough Waste Audit is a significant investment of time and resources, but it is essential to prioritize waste reduction efforts. The audit will be conducted over three (3) days, during which solid wastes from all sources, landside and airside, will be visually inspected, photographed, and logged. If possible, this will include materials that may be removed from aircraft by food service caterers and disposed (or recycled) at their facilities. Volumes will be estimated during observations.

To address feasibility, the existing providers of recycling services in Airport Management and their ability to provide recycling or waste reduction services for targeted materials will be assessed. This will include both traditional recycling such as cans/bottles/paper, and more innovative approaches such as “food rescue” that could provide food products to needy people when those foods are close to their expiration date.

Based on information gathered during the Waste Audit, for each operational area, one to three opportunities for waste minimization will be identified. General cost factors (e.g. high, medium, or low) associated with the implementation of each measure in each setting will also be reviewed. These descriptions are intended to guide future detailed cost analyses as implementation decisions are being made.

The ESA Team will review the airport’s agreements with service providers that remove waste and recyclables from the facilities. This includes contracts that apply to catering service companies, if they also remove discarded materials from the site. If such contracts or purchase orders exist between other airport occupants and service providers, the ESA Team will attempt to review those as well. Any local, state or federal laws or regulations that could constrain the delivery of waste and recycling services to the airport will also be reviewed. This includes state or local “flow control” laws as well as requirements for sterilizing wastes that originate outside the US.

Product(s): The solid waste recycling analysis will be incorporated as part of a comprehensive environmental overview chapter in the third working paper.

Task 5.5 Infrastructure Resiliency Planning

The ESA Team will develop an infrastructure resiliency plan that considers the airport's location relative to Tampa Bay and is consistent with airport resiliency planning guidance¹ and Pinellas County resiliency planning efforts.

5.5.1 Vulnerability Assessment

A complete hard infrastructure vulnerability assessment will be a necessary first step to resiliency planning at the airport. The ESA Team will document the airport infrastructure's exposure, sensitivity, adaptive capacity, as well as criticality of assets/systems to aid in prioritization of adaptation measures. The ESA Team will also consider the broader context within which the airport operates, including changing trends and demographics that are likely to influence exposure, sensitivity, adaptive capacity, and criticality in the near-term and future.

The ESA Team will collect existing data on projected climate impacts for the airport region to identify those climate stressors most likely to disrupt airport operations, cause infrastructure to fail, and/or otherwise negatively impact workers or passengers. Data will include recent efforts by Pinellas County

The ESA Team will then identify the infrastructure that are currently or will be impacted by the local climate stressors identified. In coordination with Airport Management and other stakeholders as relevant, the team will assess the exposure, sensitivity, adaptive capacity, and criticality of the operations and infrastructure.

Assumption(s): As part of this task, the ESA Team will conduct an on-site workshop to highlight potential impacts; further discuss and ground-truth sensitivities and adaptive capacities; and to identify opportunities to reduce vulnerabilities and enhance resiliency. The resiliency assessment will primarily be based on existing structure or as-built data as provided by the airport; the survey and information obtained as part of the AGIS element of this study; and the existing LiDAR data available for Pinellas County,

Product(s): A vulnerability assessment report summarizing projected climate impacts and airport vulnerabilities, including a matrix reflecting the vulnerability ranking to inform highest priority vulnerabilities to be addressed will be incorporated as part of, or an appendix to, the comprehensive environmental overview chapter in the third working paper.

5.5.2 Resiliency Planning

Once the vulnerability of the infrastructure is well understood, the ESA Team will guide Airport Management in determining the objectives of its resiliency program. Further, it will identify high-level recommendations that Airport Management may want to prioritize to build resilience and reduce its vulnerabilities. The airport may consider incorporating these recommendations and associated action areas in a future climate adaptation or resiliency plan. Potential adaptation and resiliency strategies may include policy recommendations, enhancements to disaster response procedures, damage assessment

¹ TRB ACRP Report 147 - Climate Change Adaptation Planning: Risk Assessment for Airports (<http://www.trb.org/Publications/Blurbs/173554.aspx>) and TRB ACRP Synthesis 33 - Airport Climate Adaptation and Resilience (<http://www.trb.org/Publications/Blurbs/167238.aspx>).

procedures, and building/site design guidelines, including, but not limited to weatherization, design for stormwater management, elevation of structures, flood barriers, treatments, and material selection.

Strategies will be developed based on best practices from other airports and agencies, ACRP tools and guidance, as well as coordination with Pinellas County's Natural Resources Division to ensure needs of the airport and all stakeholders are met, implementation is feasible, and both technical and financial resources can be identified. This phase will also identify key stakeholders for continued engagement in the airport's resiliency planning as well as target audiences for communications of the airport's vulnerabilities and responses.

Product(s): A draft and final version of a Resiliency Plan technical memorandum will be incorporated as part of, or an appendix to, the comprehensive environmental overview chapter in the third working paper.

Task 5.6 Stormwater Management Plan Update

The ESA Team will take into account the existing and proposed projects recommended in the master plan over the next 20 years in order to update the 2011 Stormwater Management Plan. A primary goal of this effort will be to identify the feasibility and options that exist to reduce the number of stormwater ponds on the airfield.

5.6.1 Data Collection and Data Verification

The ESA Team will review all airport stormwater permits and summarize the permit obligations of each project. General basins, flow paths, and outfalls will be identified through these previous stormwater permits and field observation. Field surveys will be performed, as needed, to collect channel cross section data, pond volumetric data, and pipe parameters. This data, in addition to the available LiDAR data, will form the basis for the airport wide stormwater model.

5.6.2 Design Methodology

The ESA Team will compile and verify the data collected in the previous task with additional field observation as necessary. Airside areas, landside areas, drainage basins, and potential pond locations will be identified during this task. A design methodology summary will be prepared during this task. A pre-application meeting with the Southwest Florida Water Management District (SWFWMD) will be held to alert them to the project and to confirm the design methodology that will be used for the Stormwater Management Plan Update. A debriefing meeting will be held with the airport at the end of this task to confirm the appropriateness of pond locations and outline the plan of action for subsequent tasks.

5.6.3 Schematic Design

An airport wide hydrologic and hydraulic computer model will be prepared during this task utilizing and revising previous airport models. From this baseline, future development models will be prepared and regional pond locations will be confirmed for proper hydraulic performance. The report for the Stormwater Management Plan Update will be prepared during this task. It will detail the current hydrologic, hydraulic, permitting, and environmental conditions of the airport and plan for the next 20 years of development. The report will be broken into development phases based on the likely sequence of development and provide a matching sequence of stormwater facility expansion. Following a status meeting with the airport, a Conceptual Environmental Resource Permit (CERP) application will be prepared and submitted to SWFWMD for review.

5.6.4 Final Schematic Design

Responses to SWFWMD's comments on the application will be completed under this task. The computer model and the Stormwater Management Plan Update will be finalized based on responses to SWFWMD's comments. A final SWFWMD submittal will be completed with the resolved permit documents. Once the CERP is approved, all documents and models will be provided to the airport.

Assumption(s): The Stormwater Management Plan Update will primarily be based on the available LiDAR data but may also benefit from the AGIS data element of this study. No additional survey is included for this task.

Product(s): A Stormwater Management Plan Update will be produced in a format that can also be utilized for various elements of the comprehensive environmental overview chapter in the third working paper, as well as portions of the alternatives analyses of Task 6.

Task 6: Alternatives for Airport Development

The alternatives analysis provides the framework for making decisions regarding future airport development options. Information from previous tasks will be utilized to conduct the different evaluations under this task.

Task 6.1 Constraints Analysis

An analysis will be conducted of the operational, physical, and environmental constraints of the airfield prior to defining any airport alternatives. This effort will identify factors that could impact project feasibility, the community, the environment, or long-term viability of the airport. The constraints for consideration include (but not limited to) the design standards, required protective imaginary surfaces, and setbacks associated with the existing airfield, as well as other features which may affect development options, including wetland boundaries, flood zones, and areas optioned to existing airport tenants. The various constraining elements will be summarized in text format and reflected on a single detailed figure of the airport and immediate surrounding area.

Product(s): Facility constraints and the resulting detailed figure will be incorporated as part of the airport development alternatives chapter in the third working paper.

Task 6.2 Initial Development Options

The ESA Team will create and analyze initial development options that follow the standard criteria contained in FAA AC 150/5070-6B *Airport Master Plans* and FDOT's 2016 *Guidebook for Airport Master Planning*. This will include up to three (3) initial development options for each of the following major categories:

- Airfield Improvements (changes in runway endpoints, taxiway configurations, removal of surfaces, and/or new movement areas)
- Commercial Aviation Facilities (to include footprint of future facilities such as air cargo, maintenance, etc.; aircraft parking and movement areas; airside access and landside access; and automobile parking areas)
- General Aviation Facilities (to include options for potential FBO facilities, general aviation terminal(s), aircraft parking areas, airside access, automobile parking areas, and landside access)

- Other Aviation Related Support Facilities (to include potential new, expanded, or relocated sites for facilities such as fuel storage, airfield electrical vault, etc.)
- Non-Aviation Related Uses

The following are typical evaluation criteria that the ESA Team will apply to the development of suitable options/alternatives:

- Adherence to FAA/FDOT standards;
- Consistency with study goals and objectives;
- Non-interference with operational and safety requirements;
- Optimal use of existing facilities, utilities, and topography;
- Efficiency in ground access;
- Flexibility to accommodate changes in demand and facility expansion;
- Provides the most benefit for the costs involved;
- Least impacts to the social and physical environments (sustainability); and
- Provides the best revenue-generating potential while meeting the intended demand.

The ESA Team will prepare a matrix analysis to determine the best option(s) for each major category. This matrix will contain screening criteria similar to those described above in order to compare the different options presented.

Product(s): A ranking of the initial options will be incorporated as part of the airport development alternatives chapter in the third working paper.

Task 6.3 Alternatives for Future Passenger Terminal Facilities

The ESA Team will develop up to three (3) alternatives for the future development of the passenger terminal facilities based on the facility requirements established in preceding tasks. Terminal alternatives will be coordinated with alternatives developed for facilities such as parking or roadway access, as well as any others identified, and will accommodate the demand under each activity level. Terminal alternatives will be developed based on facility requirements, environmental considerations, engineering factors, operational efficiency, costs, and overall feasibility for implementation.

The efficiency and effectiveness of the terminal alternatives will be evaluated using PathPlanner. Up to three (3) alternatives for the future development of the passenger terminal facilities will be developed in prior tasks. VHB's task will be to evaluate the efficiency and effectiveness of the terminal alternatives using PathPlanner (now called Transoft AviPlan). This simulation tool will be applied to each of the preliminary alternatives to establish the most efficient interface with the existing/proposed airfield movement areas based on the critical aircraft only to be using each of the gate stands; and overall interaction with aircraft on nearby taxiways in terms of aircraft push-backs and overall ramp maneuvering safety.

Terminal alternatives will also be analyzed to determine their potential for creating or being affected by the required ATCT line of sight as well as the CFR Part 77 and TERPS surfaces for both the existing and future airfield configurations. Based on the findings, an evaluation matrix will be developed using criteria, similar to that described in Task 6.2, in order to select a preferred alternative.

Product(s): A ranking of the improvement alternatives for the passenger terminal facilities will be incorporated as part of the airport development alternatives chapter in the third working paper.

Task 6.4 Terminal Access, Circulation, and Automobile Parking Alternatives

Improvements will be identified to address the facility constraints previously identified. These improvements will be evaluated separately for each mode and user, to include an assessment of the potential impacts to other competing modes/users. The alternatives will incorporate the following:

- Merge, weave, and entry point improvements.
- Curbfront operational improvements.
- Improved recirculation.
- Modified transit/shuttle boarding locations.
- Access/circulation modifications for parking, rental car, and garages.
- Parking space allocation changes.
- Changes to parking management system or real-time parking information (i.e. smart phone apps).
- Parking garage wayfinding for pedestrians and vehicles.
- Pedestrian improvements.
- Improved wayfinding on approach roadways.
- Rental car facility configuration enhancements.

Up to three (3) consolidated development concepts incorporating the solutions will be developed. The selected improvement concept will be further assessed using the QATAR model again to evaluate the ability to accommodate expected arrival and departure peaks. A total of six (6) QATAR analyses using the three (3) forecast horizons will be made. The model will be based on the passenger characteristics from the existing conditions model with certain operational adjustments to address the recommended scenario and associated assumptions. The resulting demand/capacity information will be utilized to make any improvements or refinements identified.

Product(s): The results of concept evaluations and model assessment of the selected improvements will be incorporated as part of the airport development alternatives chapter in the third working paper.

Task 6.5 Recommended Development Alternatives

The ESA Team will work with the Airport Management, FAA, and FDOT to further evaluate the best options selected for each of the major development alternatives described above. During this process, elements of the different initial development options may be combined to create a modified or improved development alternative for each major category and the passenger terminal facilities included in the previous tasks. This provides the opportunity to incorporate some or all of the best features in order to develop the final alternative, which would be subject to the same evaluation criteria utilized for the initial options. This process will also make any adjustments necessary to ensure the preferred alternatives for each major category do not impact each other.

Product(s): The final recommended airport development alternatives will be incorporated as a chapter of the third working paper.

Task 7: Airport Layout Plan Drawing Set

Task 7.1 Airport Layout Plan Set Preparation

The ESA Team will prepare an Airport Layout Plan (ALP) drawing set in accordance with FAA guidelines per the requirements outlined in AC 150/5070-6B *Airport Master Plans* and consistent with the checklist provided in FAA ARP SOP 2.00 *Standard Procedure for FAA Review and Approval of Airport Layout Plans (ALPs)*. The ALP drawing set will rely upon the data collected in the airport mapping/AGIS task and at a minimum will include the following sheets:

7.1.1 Title Sheet

To include the airport location map, vicinity map, index of drawings, approval blocks, date, etc.

7.1.2 Airport Data Sheet

To include the recent 10-year wind rose, airport data table, runway data table, taxiway data table, modifications to standards approval table, declared distance table, and legend.

7.1.3 Airport Layout Plan Drawing

A drawing depicting every existing facility and the future improvements of the 20-year planning horizon. To include various details such as dimensions, imaginary surfaces (safety and critical), topography, etc. This may ultimately include two sheets, one which only includes existing facilities and the other which reflects both existing and future facilities of a traditional ALP.

7.1.4 Terminal Area Drawings (2 sheets)

Drawing sheets depicting a larger scale drawing of the existing and proposed development including building data table, commercial terminal facilities, general aviation terminal facilities, hangars, aircraft parking, landside access, automobile parking, rental car facilities, security fencing/gates, and other key features. Individual sheets will be prepared for the southwest (passenger terminal area) and southeast (Airco site) portions of the airfield.

7.1.5 Airport Airspace Drawings (3 sheets)

Drawings depicting the future CFR Part 77 *Safe, Efficient, Use, and Preservation of the Navigable Airspace* surfaces including ultimate plan view, existing profile view, future profile view, and obstruction data tables. The primary sheet and then two additional sheets to fully depict the precision instrument approach surfaces to each end of Runway 18/36.

7.1.6 Inner Portion of the Approach Surface Drawings (3 sheets)

Two of the drawing sheets will depict the existing and future plans and profiles of the inner portion of the runway approach surfaces along with surface penetrations, out to the points 100 feet above the established runway end elevations. These drawings will also depict the Threshold Siting and Glideslope Qualification Surfaces as required. A third sheet will be prepared to depict both the centerline profiles and Runway Safety Areas of both runways.

7.1.7 Runway Departure Surface Drawing

Drawing sheets depicting the instrument departure surface plan and profile views and obstruction data tables. Limited to one (1) sheet since there are only instrument departure procedures established off each end of Runway 18/36.

7.1.8 Land Use Drawings (2 sheets)

Drawings depicting the on-airport and off-airport land uses with features to include the updated noise contours (both base year and future scenario selected), safety areas/zones, property line, jurisdiction boundaries, and other details as required.

7.1.9 Airport Property Map (3 sheets)

Drawing sheets depicting all existing and any future airport lands with the appropriate airport features depicted. These drawings will rely upon information from the Exhibit "A" Property Inventory Map described in a subsequent task. As per the FAA ARP SOP 2.00 ALP Checklist for property maps, this will be a slightly abbreviated version of the full Exhibit "A" Property Map. However, depending on complexity of the property mapping, it may be appropriate to just include entire the Exhibit "A" as part of the ALP drawing set.

Product(s): An ALP drawing set created in AutoCAD using the AGIS data for the base file. A chapter, which describes each of the ALP drawing sheets, will also be prepared for inclusion in the fourth working paper.

Task 7.2 Airport Layout Plan Review Coordination

The ESA Team will coordinate the review of the ALP drawing set with the FAA and FDOT and incorporate comments as appropriate. This will include one (1) meeting with both the FAA's Orlando ADO and FDOT staffs attending.

Product(s): Draft agency transmittal letters and a final approved ALP drawing set incorporating any FAA and FDOT comments.

Task 7.3 Exhibit "A" Property Inventory Map

The ESA Team will develop a new Exhibit "A" Property Inventory Map in accordance with FAA ARP SOP 3.00 *Standard Operating Procedures (SOP) for FAA Review of Exhibit 'A' Airport Property Inventory Maps*. The development of this document will be based on a new boundary (metes and bounds) survey and a full records/title search of the entire airport property. Upon completion, the ESA Team will coordinate the review and approval of the new Exhibit "A" drawings with the airport's attorney, FAA, and FDOT.

The following steps will be undertaken to support the full boundary survey and title search for the airport property:

- Establish horizontal and vertical control sufficient to accomplish the survey.
- Perform boundary survey of airport property to include the recovery or replacement of boundary monuments for the most exterior perimeter of the airport property.
- Stake location of Mean High Water Line.

- Upon completion of the field boundary survey, prepare a signed/certified Survey Map and report for the same.
- Complete a full title search for airport owned parcels.
- Prepare a complete Exhibit “A” Property Inventory Map in both hardcopy and digital formats.

Qualifications of the survey include:

1. **Rule of Law:** The boundary survey will be certified to parties specified by the airport and shall be in compliance with the “Standards of Practice for Land Surveying in the State of Florida,” pursuant to Rule 5J-17 of the Florida Administrative Code. The Surveyor will make every effort to comply with the requirements set forth by the airport, but where requirements by others conflict with the Florida Administrative Code, the Rule of Law shall prevail.
2. **Building Setbacks and Zoning:** Building setback lines will not be located upon the Survey Map unless said setback lines are provided by the airport.
3. **Surface Improvements, excluded:** As this survey is limited to the purposes of a boundary survey, the location or mapping of any surface improvements within the airport property are not included. In this case, surface improvements will include, but not necessarily be limited to navigational aids, structures, buildings, hardscape surfaces, utilities and other fixtures as may be laid out and in use (the location of these will be obtained as part of the AGIS mapping task).
4. **Subsurface Improvements, excluded:** The location of subsurface improvements, including, but without limitation to buried utility lines, foundations, or other non-visible fixtures are not included.
5. **Mean High Water Line:** With respect to the Survey of the Mean High Water Line, if an elevation is provided by the Florida Department of Environmental Protection, that elevation will be applied to this survey. However, the determination of the Mean High Water Line as defined under Chapter 177, Florida Statutes is not a part of this engagement.
6. **Title Search Review:** Although the Pinellas County Property Appraiser’s Office records will be reviewed to determine the airport location, the ESA Team will engage the services of a title company to provide a full Title Search Report indicating deeds and encumbrances as may appear.
7. **Elevations excluded:** The acquisition of spot elevations, soundings, contouring or other forms of vertical measurement are not included (these will be captured as part of the AGIS mapping task).
8. **Timing:** All control surveys will be conducted in daylight hours.

Assumption(s): Airport Management will provide the necessary historic FAA grant numbers and/or Passenger Facility Charge (PFC) project numbers related to the acquisition of any airport parcels. Airport Management will also provide the movement area escort(s) required for the portion of the survey which may lie within the Security Identification Display Area (SIDA) of the airport.

Product(s): A complete signed and certified boundary Survey Map and report of the existing airport property. A full records and title search for the existing airport property limits. Three (3) signed and certified Exhibit “A” Airport Property Inventory Map drawing sets. All supporting surveys, drawings, and files will also be provided in a digital format (AutoCAD and PDF).

Task 8: Recommended Development Program

While the following tasks are listed in a sequential order, they may be conducted simultaneously or at different times than presented to assess the different elements necessary to generate the final 20-year development program.

Task 8.1 Inventory of Financial Information

The ESA Team will gather information which affects the financial management of the airport’s development program and confirm the structure, constraints, requirements, and opportunities to implement the next 20-year capital improvement program (CIP). The primary purpose is to gain an understanding of the legal documents and agreements which affect the financial management of the airport. As such this will include interviews with key Airport Management staff to gain an understanding of the airport’s objectives and preferences for financing the CIP. The data gathering will include:

- Historic, detailed (account-by-account) financial statements and audit reports for the past three years.
- Detailed year-to-date financial statements for the current year with budget remaining amounts.
- Most recent capital budget (internal as well as CIP submitted to the FAA and FDOT).
- Official statements and loan agreements for any outstanding debt issues.
- Ordinances, resolutions, administrative rules, regulations, and policies establishing the airport and affecting its financial management.
- Airline agreements.
- Ground transportation agreements.
- Restaurant, lounge, gift shop, and specialty retail concession agreements.
- FBO agreements, large hangar leases, typical T-hangar leases by size, improved ground leases, unimproved ground leases, cargo facility leases, and other general aviation agreements.
- Other airport lease, concession, use, and privilege agreements.
- FAA, Transportation Security Administration (TSA), state, and local grant records.
- PFC quarterly reports for the most recently submitted report and the same report submitted one year earlier.
- Historic funding sources for the CIP.

Product(s): Inventory of the airport’s general financial information for inclusion in the recommended development program chapter of the fourth working paper.

Task 8.2 Preliminary Financial Analysis

The ESA Team will prepare a Preliminary Financial Analysis for the CIP. This preliminary evaluation includes considering the airport’s overall capability to fund capital development and finance airport operations. The analysis identifies potential funding sources, including debt that may be practical alternatives for financing capital development projects. Key steps of this include:

- Review updated financial and legal information gathered during the Inventory of Financial Information task related to financial condition, airport policies, administrative regulations, grant status and airport user agreements which affect the financial management of the airport and which will affect the financial reasonableness of implementing the CIP.
- Review the aviation forecast and alternative capital development concepts. Review preliminary development costs and schedules for the CIP alternatives to consider possible revisions in the development scope and timing.
- Develop summary level financial projections of funding sources, funding requirements, and other information to provide a basis for assessing preliminary financial plans of the CIP alternatives. Revenue and capital funding projections will be compared with operating and maintenance (O&M) expense and capital expenditure projections to identify a balanced approach for developing and funding the program.
- Conduct workshop sessions with airport officials to review and discuss the preliminary financing schedules. Resolve funding shortfalls identified in the capital program alternatives by revising the CIP schedule, CIP scope, and/or capital funding sources. Identify funding preferences, potential debt requirements, and other funding resources that the airport may want to utilize.

Product(s): Financing schedules summarizing the Preliminary Financial Analysis which indicates whether the potential sources of funding will be reasonably available in the amounts and time frame required to support the scope and schedule of the alternative development concepts. This documentation will be included in the recommended development program chapter of the fourth working paper.

Task 8.3 Financial Implementation Plan Development

The ESA Team will prepare a detailed financial plan for implementation of the selected master plan CIP alternative. The Financial Implementation Plan resulting from this task will present reasonable guidelines, on a preliminary basis, for matching projected financial resources with financial needs. Airline rates and charges and costs per enplaned passenger resulting from the capital program will be calculated at a summary level using the airport's current methodology and airline lease agreements for determining user fees. Potential revenue enhancement opportunities for non-airline revenues will be identified. Key steps of this include:

- Develop projection of O&M expenses by reviewing historic O&M expenses to identify trends and anticipated increases/decreases. Review the potential effect of the selected CIP on projected O&M expenses. Interview Airport Management to develop appropriate O&M projection assumptions and to identify other anticipated changes.
- Develop projection of non-airline operating revenues by reviewing historic non-airline revenues (including concessions, parking, car rentals, general aviation, FBO activities, fuel flowage, hangar leases, commercial/industrial and other leases) to determine trends for future projections. Interview Airport Management to develop appropriate non-airline revenue assumptions.
- Develop projection of capital improvement expenditures by reviewing the selected CIP project list with construction cost estimates, escalation rates, and scheduling of expenditures to determine

the annual need for capital funding. Interview Airport Management to develop appropriate projection assumptions.

- Determine funding sources for the financial plan and develop projection for financing the CIP by reviewing the summary of potential funding sources developed in the Preliminary Financial Analysis task (including federal and state grants, PFCs, economic development funds, debt funding, net revenues, bank financing, other sources) with Airport Management and determine sources to be used for financing the program. Develop a projection of capital financing based on the annual amount and availability of funds. Interview Airport Management to develop appropriate projection assumptions.
- Develop a summary level projection of airline rates and charges. Interview Airport Management to develop appropriate projection assumptions.
- Evaluate the reasonableness of projected airline rates and charges and cost per enplaned passenger by calculating the cost per enplaned passenger resulting from the financial projection. Compare the projected airline rates and charges and the cost per enplaned passenger with that of other airports of similar size and operation.

Product(s): Detailed Financial Implementation Plan for inclusion in the recommended development program chapter of the fourth working paper.

Task 8.4 Cost Estimates

The ESA Team will assign costs to each project (both horizontal and vertical construction) in the recommended development program. This consists of refining any probable cost estimates prepared in earlier tasks by adding significant detail for the construction costs, as well as any associated engineering, inspection, administrative, or contingency costs.

Product(s): Individual spreadsheets for each project reflecting the detailed items considered to develop the individual project cost estimates (materials, quantities, unit costs, etc.).

Task 8.5 Development Program

The ESA Team will provide recommendations for development in the form of preferred phases of improvements. In addition to the financial evaluations and cost estimates described above, key elements of this effort include refining the proposed development schedule. The ESA Team will refine the proposed project phasing based on final input from the Airport Management, the FAA, and FDOT, as well as by applying such technical realities such as design time, FAA and FDOT grant administration, project scheduling, construction permitting, construction time, and others. A final comparison will also be made based on the estimated costs to implement the recommended development plan (including associated phasing plans) with the availability of funds from the various financial sources and the financial feasibility identified.

Product(s): The completion of the recommended development program chapter of the fourth working paper. This will include a 20-year CIP that can be utilized to update the airport's Joint Automated Capital Improvement Program (JACIP).

Task 9: Stakeholder Coordination and Public Outreach

Task 9.1 Airport Management Coordination

This task includes five (5) meetings/briefings to the Airport Management by ESA's Project Manager and relevant task leaders based on the agenda topics. At a minimum, the last meeting/briefing will be conducted with the Pinellas County Board of County Commissioners. The ESA Team will provide any necessary meeting materials such as a PowerPoint presentation or handouts to update the Airport Management staff on the various sections and progress of the study. The ESA Team will also include a monthly status report (paragraph summary) based on the progress reports included with each monthly invoice (see Task 11).

In addition, ESA's Project Manager will set up a bi-weekly call with the airport's project manager to review project activity and status, throughout the course of the study. Participation in the bi-weekly call is limited to two or three people from both the ESA Team and Airport Management, as the goal is to provide a brief project update.

Task 9.2 Ongoing Working Group Meetings

To ensure that the master plan moves forward smoothly, the ESA Team will schedule and participate in working group meetings with the Project Team. During the meetings, the working group will identify and resolve potential issues, while reviewing progress against the project schedule. Periodic conference calls will also be held with key Airport Management staff and ESA Team members as needed to resolve issues that may arise either prior to or subsequent to working group meetings.

The ESA Team will manage the working group meeting coordination, scheduling, agendas, handouts, and notes. Attendance and active participation in the working group meetings by ESA's Project Manager and relevant task leaders will be based on the agenda topics. A total of six (6) half day working group meetings have been included in this task.

Task 9.3 Agency Coordination

9.3.1 St. Pete-Clearwater International Airport Traffic Control Tower

This task includes one (1) meeting/briefing with the airport's FAA ATCT personnel to collect information and/or brief ATCT management on key issues. Two (2) follow-up conference calls will also take place throughout the project as required to obtain needed information and input. The ESA Team will provide any necessary meeting materials such as a PowerPoint presentation or handouts.

9.3.2 FAA Orlando Airport District Office (ADO)

This task includes one (1) meeting/briefing with the FAA Orlando ADO by ESA's Project Manager and relevant task leaders based on the agenda topics. Two (2) follow-up conference calls will also take place throughout the project as required to obtain needed information and guidance. The ESA Team will provide any necessary meeting materials such as a PowerPoint presentation or handouts.

9.3.3 FDOT District 7 Office

This task includes one (1) meeting/briefing with the FDOT District 7 staff by ESA's Project Manager and relevant task leaders based on the agenda topics. Two (2) follow-up conference calls will also take place throughout the project as required to obtain needed information and guidance. The ESA Team will

provide any necessary meeting materials such as a PowerPoint presentation or handouts to update FDOT on the status and results of the master plan.

Task 9.4 Public Outreach

9.4.1 Project Website

A website dedicated to the project will be developed to facilitate public participation in the study. This site will create a simple portal to exchange study documents and ideas, in addition to conveying information related to meetings, presentations, and/or workshops in a timely fashion. This site will also serve as a public repository for the dissemination of the study working papers. The ESA Team will create, host, and maintain the project website throughout the duration of the study as well as for a period of up to one year after the study has been completed.

9.4.2 Public Workshop #1

An advertised, informal public workshop will be held shortly after the first working paper is publicly made available. At the workshop, the ESA Team will be responsible for discussing (on a one-on-one basis) with those in attendance the master plan process, the goals and objective of the study, operational background data, work to date, and the project schedule. The ESA Team will provide up to twenty (20) large presentation board exhibits outlining information as appropriate. In addition, the ESA Team will provide handouts, sign-in sheets, and comment forms for the workshops. Up to six (6) members of the ESA Team will be available for the public workshop.

9.4.3 Public Workshop #2

A second advertised, informal public workshop will be held upon completion of the third working paper. At the workshop, the ESA Team will be responsible for discussing (on a one-on-one basis) with those in attendance, the airport's needs over the 20-year planning horizon, and the development options considered, along with the preferred alternative. The ESA Team will provide up to twenty (20) large presentation board exhibits outlining information as appropriate. In addition, the ESA Team will provide handouts, sign-in sheets, and comment forms for the workshops. Up to six (6) members of the ESA Team will be available for the public workshop.

9.4.4 Public Comment Management

Public comments will be collected and managed throughout the master plan process. This information will be incorporated into a summary comment matrix format. No formal responses to public comments will be developed. However, a frequently asked question (FAQ) sheet will be prepared along with responses for key themes suitable for posting on the master plan project website. This FAQ sheet will be updated throughout the project, but overall effort for this task is limited to the budget allocated.

Assumption(s): The airport will provide the space for all management briefings, working group meetings, and public workshops. The airport will provide the advertisement for the public workshops with support from the ESA Team for the format.

Product(s): The ESA Team will provide the materials required for the different briefings, meetings, and public workshops. The ESA Team will also establish a conference call-in number and/or web conference site for Airport Management to use during this project, including for the bi-weekly call participants.

Task 10: Report Preparation

Task 10.1 Working Paper Development

In recognition of the need for timely and continuous sharing of documentation, interim working papers will be prepared that will guide the master plan development. The working papers will become the basis for the chapters and appendices of the final report. As the draft working papers are prepared, the ESA Team will provide electronic copies (in a PDF format) to Airport Management for their initial review. After, each will be submitted to FAA and FDOT for their review.

A total of four (4) working papers will be provided during the course of the project:

Working Paper #1	Introduction, Existing Conditions, and Aviation Forecasts
Working Paper #2	Facility Assessment and Requirements
Working Paper #3	Environmental Analyses and Alternatives for Airport Development
Working Paper #4	Airport Layout Plans and Recommended Development Program

Airport Management will be responsible for the internal distribution of the draft working papers. Comments received will be reviewed and incorporated as appropriate into the comprehensive draft report.

Task 10.2 Draft Master Plan Report and ALP Drawing Set

A comprehensive Draft Master Plan Report will be prepared that incorporates all comments from the four working papers. The Draft Master Plan Report will initially be provided to Airport Management for review before being submitted to FAA and FDOT for their review. The draft report preparation will also include up to five (5) full size Draft ALP Drawing Sets for airport and agency review.

Task 10.3 Final Master Plan Report and ALP Drawing Set

Comments on the draft report and drawing set will be utilized to create the final project deliverables. Up to fifteen (15) hard copies of the Final Master Plan Report and ten (10) full size Final ALP Drawing Sets will be provided to Airport Management. An additional fifteen (15) digital copies (in a PDF format) of the final airport master plan files will also be provided.

It should be noted that FDOT's portion of the study's funding is based on the key deliverables defined in the tasks above. As such, FDOT's portion of the various invoices will only be eligible for payment after the corresponding key deliverables have been reviewed and accepted by Airport Management, FAA, and FDOT (both the District 7 and Aviation and Spaceports Offices).

Task 11: Project Administration

Task 11.1 Project Management

The master plan project will be actively managed to ensure the project stays on track. These efforts may include, but are not limited to tracking project milestones and updating the project schedule, reviewing subconsultant invoices, preparing monthly invoices, and monthly progress reports.

Task 11.2 Quality Assurance and Control

ESA's Quality Assurance/Quality Control (QA/QC) process will be applied to all work products; making sure documents, data, and coordination between team members adhere to ESA's rigorous standards. This

includes review of project elements by staff not connected to the project to ensure that the work products are straight forward and easy to understand by the general public.

Task 11.3 Project Close Out

To ensure that all of the project files are properly transferred to the airport, ESA will schedule and lead a project close out meeting with key Airport Management staff. ESA will prepare and circulate a project close out list and will incorporate the Airport Management's additions prior to the meeting. To the greatest extent possible, all of the project files will be transferred to Airport Management prior to the close out meeting. During the meeting, the close out list will be reviewed and delivered items will be checked off. A schedule will be established for delivering any remaining project files to the Airport Management.

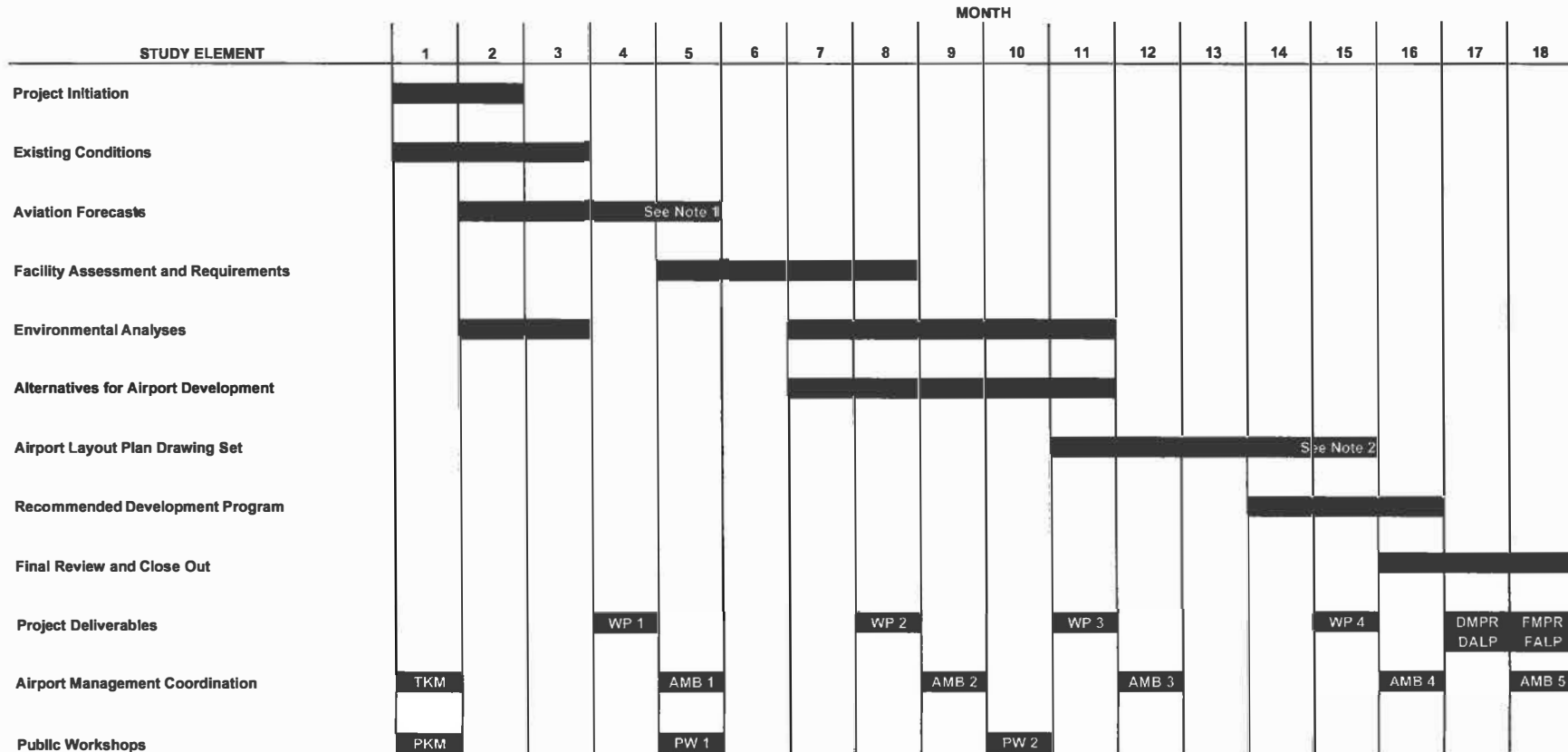
Task 11.4 Expenses

This subtask has been included to provide a line item in the related fee estimate for the costs associated with conducting the airport master plan study. These are primarily related to the required printing and travel. Details pertaining to the various expenses are included on the individual ESA Team member fee spreadsheets.

PROJECT SCHEDULE

St. Pete-Clearwater International Airport Master Plan

July 11, 2017



- Notes: 1 FAA and FDOT approval of Aviation Forecasts required before any significant work can begin on the following elements.
2 FAA and FDOT approval of Airport Layout Plan drawings required before Recommended Development Program can be completed.

AMB Airport Management Briefing (at a minimum the last meeting will be conducted with the Pinellas County Board of County Commissioners)
DALP Draft Airport Layout Plans
DMPR Draft Master Plan Report
FALP Final Airport Layout Plans
FMPR Final Master Plan Report
PKM Public Kick-off Meeting
PW Public Workshop
TKM Team Kick-off Meeting
WP Working Paper

PROJECT FEE ESTIMATE SUMMARY
St. Pete-Clearwater International Airport Master Plan

July 11, 2017

Task Number / Description		Cost
1	Project Initiation	\$ 63,446
1.4	Aerial Mapping and AGIS	\$ 135,607
2	Existing Conditions	\$ 163,761
3	Aviation Forecasts	\$ 44,520
4	Facility Assessment and Requirements	\$ 165,023
5	Environmental Analyses (includes Sustainability and Resiliency Planning)	\$ 150,790
5.6	Stormwater Management Plan Update	\$ 162,947
6	Alternatives for Airport Development	\$ 139,304
7	Airport Layout Plan Drawing Set	\$ 81,120
7.3	Exhibit "A" Property Inventory Map	\$ 120,873
8	Recommended Development Program	\$ 135,726
9	Stakeholder Coordination and Public Outreach	\$ 137,421
10	Report Preparation	\$ 169,528
11	Project Administration	\$ 131,584
Project Total		\$ 1,801,650

July 11, 2017

Labor Category		ESA	C&S	AID	VHB	L&H	KHA	PTI	Woolpert	Labor Price	Task #	Subtotals
Task 1	Task Name/Description										Task #	
1.1	Site/ Design and Planning Charter	\$ 6,910	\$ 4,500				\$ 5,798			\$ 16,208	1.1	\$ 199,098
1.2	Project Kick-off Meetings	\$ 10,880	\$ 3,880							\$ 14,760	1.2	
1.3	Tenant and User Interviews	\$ 16,320	\$ 4,580				\$ 5,918			\$ 22,798	1.3	
1.4	Aerial Mapping and Airports Geographic Information System (AGIS)	\$ 7,300							\$ 127,307	\$ 135,607	1.4	
1.4.1	Critically Guided Approach Obstruction Analysis									\$ -	1.4.1	
1.4.2	Analysis of Features within Obstruction Identification Surfaces									\$ -	1.4.2	
1.4.3	Planimetric and Topographic Mapping									\$ -	1.4.3	
Task 2	Task Name/Description										Task #	\$ 163,761
2.1	Airport and Surrounding Area Inventory	\$ 16,900								\$ 16,900	2.1	
2.1.1	Airfield Facilities and Surrounding Airspace									\$ -	2.1.1	
2.1.2	Airside Facilities									\$ -	2.1.2	
2.1.3	Support Facilities									\$ -	2.1.3	
2.1.4	Airport, Community, and Surrounding Area Features									\$ -	2.1.4	
2.1.5	Airport Data									\$ -	2.1.5	
2.2	Passenger Terminal Facilities	\$ 12,220								\$ 12,220	2.2	
2.2.1	Major Functional Areas	\$ 26,080								\$ 26,080	2.2.1	
2.2.2	Structural Systems	\$ 12,920								\$ 12,920	2.2.2	
2.2.3	Mechanical, Electrical, and Plumbing Equipment	\$ 20,580								\$ 20,580	2.2.3	
2.2.4	Airside Civil and Utilities Infrastructure	\$ 18,630								\$ 18,630	2.2.4	
2.3	Passenger Terminal Access, Circulation, and Automobile Parking	\$ 6,140								\$ 6,140	2.3	
2.3.1	Terminal Access Roadway					\$ 4,103				\$ 4,103	2.3.1	
2.3.2	Terminal Curbside					\$ 11,434				\$ 11,434	2.3.2	
2.3.3	Automobile Parking					\$ 1,105				\$ 1,105	2.3.3	
2.3.4	Rental Cars					\$ 3,658				\$ 3,658	2.3.4	
2.3.5	Counts and Observations					\$ 19,313				\$ 19,313	2.3.5	
2.4	Commercial Passenger Market Data	\$ 6,330								\$ 6,330	2.4	
Task 3	Task Name/Description										Task #	\$ 44,520
3.1	Evaluation of Historic and Previous Forecasts	\$ 6,670								\$ 6,670	3.1	
3.2	Baseline Forecast Preparation	\$ 19,140								\$ 19,140	3.2	
3.3	Alternative Forecast Scenarios	\$ 11,700								\$ 11,700	3.3	
3.4	Baseline Forecast Review Coordination	\$ 7,160								\$ 7,160	3.4	
Task 4	Task Name/Description										Task #	\$ 165,023
4.1	Airfield Demand Capacity Analysis	\$ 11,180								\$ 11,180	4.1	
4.2	Airfield Facility Requirements	\$ 4,680	\$ 10,640							\$ 25,044	4.2	
4.3	Navigation Aids, Heliport, and TERPS Analysis	\$ 7,080					\$ 36,606			\$ 43,750	4.3	
4.4	Airside Facility Requirements	\$ 11,400								\$ 11,400	4.4	
4.5	Requirements for Passenger Terminal Facilities	\$ 6,360	\$ 32,080							\$ 27,430	4.5	
4.6	Terminal Access, Circulation, and Automobile Parking	\$ 6,740				\$ 35,430				\$ 40,179	4.6	

7.1.1	Title Sheet	\$	4,910						\$	4,910	7.1.1
7.1.2	Airport Data Sheet	\$	4,910						\$	4,910	7.1.2
7.1.3	Airport Layout Plan	\$	5,930						\$	5,930	7.1.3
7.1.4	Terminal Area Drawings (2 sheets)	\$	5,930						\$	5,930	7.1.4
7.1.5	Airport Airspace Drawings (2 sheets)	\$	5,930						\$	5,930	7.1.5
7.1.6	Inner Portion of the Approach Surface Drawings (3 sheets)	\$	5,930						\$	5,930	7.1.6
7.1.7	Runway Departure Surface Drawings	\$	5,930						\$	5,930	7.1.7
7.1.8	Land Use Drawings (2 sheets)	\$	5,930						\$	5,930	7.1.8
7.1.9	Airport Priority Map (3 sheets)	\$	5,930						\$	5,930	7.1.9
7.2	Airport Layout Plan Review Coordination	\$	5,440	\$	6,620				\$	14,960	7.2
7.3	Exhibit "A" Property Inventory Map	\$	9,980			\$	118,950		\$	120,873	7.3
Task 8: Recommended Development Program											
8.1	Inventory of Financial Information	\$	2,340					\$	1,760	\$	12,100
8.2	Preliminary Financial Analysis	\$	2,340					\$	23,180	\$	25,620
8.3	Financial Implementation Plan Development	\$	3,020					\$	37,180	\$	37,180
8.4	Cost Estimates	\$	1,320	\$	16,360	\$	10,386		\$	27,066	8.4
8.5	Development Program	\$	10,420	\$	23,450				\$	33,870	8.5
Task 9: Stakeholder Coordination and Public Outreach											
9.1	Airport Management Coordination	\$	14,780	\$	3,240			\$	10,571	\$	33,591
9.2	Ongoing Working Group Meetings	\$	17,080	\$	10,400					\$	27,480
9.3	Agency Coordination									\$	-
9.3.1	St. Pete-Greenwater International Airport Traffic Control Tower	\$	2,520							\$	2,520
9.3.2	FAA Orlando Airport District Office (ADO)	\$	3,280	\$	3,040					\$	8,300
9.3.3	FDOT District 7 Office	\$	3,740	\$	1,040					\$	4,780
9.4	Public Outreach									\$	-
9.4.1	Project Website	\$	28,200							\$	28,200
9.4.2	Public Workshop #1	\$	11,100	\$	2,086					\$	13,186
9.4.3	Public Workshop #2	\$	11,100	\$	4,080					\$	15,180
9.4.4	Public Comment Management	\$	6,210							\$	6,210
Task 10: Report Preparation											
10.1	Working Paper Development (4 total)	\$	36,720	\$	18,600			\$	31,066	\$	114,986
10.2	Draft Master Plan Report and ALP Drawing Set	\$	9,846	\$	12,160					\$	32,000
10.3	Final Master Plan Report and ALP Drawing Set	\$	10,780	\$	12,160					\$	22,940
Task 11: Project Administration											
11.1	Project Management	\$	37,900					\$	6,919	\$	48,719
11.2	Quality Assurance and Control	\$	14,580							\$	14,580
11.3	Project Close Out	\$	6,780							\$	6,780
11.4	Expenses	\$	12,800	\$	8,400	\$	21,000	\$	3,126	\$	12,815
Total Costs											
		\$	626,230	\$	359,630	\$	327,540	\$	80,719	\$	79,769
								\$	173,383	\$	38,690
										\$	127,807
										\$	1,801,650

\$ 135,726

\$ 137,421

\$ 180,528

\$ 131,584

\$ 1,801,650

Pinellas County DBE Target
Actual % DBE



PROJECT TOTAL \$ 1,801,650

ESA LABOR DETAIL AND PROJECT TOTAL
St. Pete-Clearwater International Airport Master Plan

July 11, 2017

Labor Category		Senior Director	Senior Director	Senior Managing Associate I	Senior Managing Associate II	Managing Associate I	Managing Associate II	Senior Associate I	Senior Associate II	Associate III	Associate II	Associate I	Subtotal	Total Hours	Labor Price
Task #	Task Name/Description														
Task 1 Project Initiation															
1.1	Staffing and Planning Committee	0	10	10								10	\$ 8,910	42	\$ 8,910
1.2	Pre-Workshop Meeting	5	12	10				5			5	14	\$ 12,222	68	\$ 10,790
1.3	Travel and Hotel Expenses	4	24	10						30	21	51	\$ 45,051	104	\$ 16,370
1.4	Actual Printing and CTS	2	5					10			10	10	\$ 7,811	58	\$ 7,700
Task 2 Working Conditions															
2.1	Regulatory and Surrounding Land Inventory	4	12	10				24			16	32	\$ 18,878	116	\$ 18,700
2.2	Passenger Terminal Facilities	5	12	10				10			19	24	\$ 12,222	84	\$ 12,220
2.3	Passenger Terminal Access, Circulation, and Automobile Parking	1	5	5				5			5	10	\$ 8,910	42	\$ 6,140
2.4	Commercial Passenger Access	1	5	5				5			5	12	\$ 10,790	44	\$ 8,350
Task 3 Aviation Research															
3.1	Collection of History and Photo Research	1	5	10				12			5	5	\$ 8,910	41	\$ 6,620
3.2	Building Footprint Projection	3	10	20				30			13	20	\$ 16,140	115	\$ 18,170
3.3	Revenue Forecast Analysis	3	10	10				10			12	20	\$ 16,140	73	\$ 11,700
3.4	Runway Closure Impact Calculation	1	5	5				10			5	10	\$ 7,811	43	\$ 7,160
Task 4 Feasibility Assessment and Recommendations															
4.1	Aviation Demand Capacity Analysis	2	10	34				5			20	25	\$ 11,181	70	\$ 11,120
4.2	Aviation Facility Requirements	4	20	17				5			20	25	\$ 14,880	92	\$ 14,880
4.3	Non-aviation Facilities, Maintenance, and TSP/ATIS Analysis	4	5	10				5			12	17	\$ 7,811	41	\$ 7,080
4.4	Aviation Facility Requirements	2	20	20				5			20	25	\$ 11,181	70	\$ 11,400
4.5	Procurement for Passenger Terminal Facility	7	5	5				5			18	23	\$ 5,521	36	\$ 5,350
4.6	Travel and Access, Circulation, and Automobile Parking	2	10	4				5			14	19	\$ 6,771	38	\$ 4,100
4.7	Land Use Facility Requirements	1	10	4				5			11	16	\$ 6,771	36	\$ 6,040
Task 5 Environmental Analysis															
5.1	Natural Resources and Environmental Context	5	10	24				5			4	4	\$ 8,910	60	\$ 8,880
5.2	Nature Mitigation	4	10	40				22			5	10	\$ 21,141	144	\$ 21,140
5.3	Sustainability	2	10	8				5			5	5	\$ 8,910	30	\$ 4,100
5.4	Wildlife and Reptile/Habitat Study	3	5	120				5			64	40	\$ 11,181	238	\$ 23,140
5.5	Infrastructure Resilience Planning	0	5	5				5			5	5	\$ 4,880	32	\$ 4,880
5.6	Stormwater Management Plan Update	2	4	8				5			4	4	\$ 8,910	22	\$ 3,640
Task 6 Alternatives for Airport Development															
6.1	Conceptual Analysis	1	10	16				24			10	16	\$ 15,080	108	\$ 15,660
6.2	Initial Development Outline	1	10	40				22			21	33	\$ 22,800	154	\$ 22,800
6.3	Management for Future Passenger Terminal Facilities	1	12	20				20			14	24	\$ 18,878	108	\$ 15,050
6.4	Terminal Access, Circulation, and Automobile Parking Alternatives	1	5	10				10			5	12	\$ 9,220	84	\$ 9,740
6.5	Recommended Development Alternatives	4	12	20				20			15	10	\$ 14,160	92	\$ 14,100
Task 7 Airport Layout Plan Drawing Set															
7.1	Layout and Plan Review	1	14	24				10			10	10	\$ 14,160	96	\$ 14,830
7.2	Layout and Plan Review Coordination	2	12					5			12	12	\$ 5,440	53	\$ 5,440
7.3	Submittal - Property Boundary Map	1	5					4			12	12	\$ 8,910	28	\$ 3,960
Task 8 Stakeholder Development Program															
8.1	Inventory of Financial Information	1	4	4				5			5	5	\$ 2,440	15	\$ 2,340
8.2	Preliminary Financial Analysis	1	4	3				3			5	5	\$ 3,861	16	\$ 2,140
8.3	Financial Implementation Plan Development	1	4	10				5			5	5	\$ 3,020	20	\$ 3,020
8.4	Contingency	2	2	1				2			2	2	\$ 1,740	8	\$ 1,330
8.5	Development Program	1	4	10				30			16	16	\$ 10,420	80	\$ 10,420
Task 9 Stakeholder Coordination and Public Outreach															
9.1	Airport Management Coordination	10	50					10			12	12	\$ 11,181	78	\$ 14,780
9.2	Ongoing Planning Group Meetings	12	30					10			12	12	\$ 11,181	93	\$ 17,080
9.3	Agency Coordination														
9.3.1	St. Pete-Clearwater International Airport Traffic Control Tower		4	4				4			4	4	\$ 2,440	18	\$ 2,540
9.3.2	Florida Department of Transportation (FDOT) District Office (ADO)	1	4					5			5	5	\$ 3,861	22	\$ 3,260
9.3.3	FDOT District 7 Office	1	4					5			5	5	\$ 3,740	24	\$ 3,740
9.4	Public Outreach														
9.4.1	Project Initiation		10							100			\$ 18,200	200	\$ 28,200
9.4.2	Public Workshop #1	4	10	20							78	78	\$ 11,181	70	\$ 11,100
9.4.3	Public Workshop #2	5	10	20							20	20	\$ 11,181	70	\$ 11,100
9.4.4	Public Outreach Symposium	1	5	10							20	20	\$ 8,910	43	\$ 6,240
Task 10 Report Preparation															
10.1	Working Paper Development	5	12	24				30			40	50	\$ 36,720	250	\$ 36,720
10.2	Clearwater Master Plan Report and ALP Drawing Set	4	10	12				20			18	18	\$ 16,840	140	\$ 10,840
10.3	Final Master Plan Report and ALP Drawing Set	1	5	15				20			6	16	\$ 11,181	74	\$ 10,720
Task 11 Project Administration															
11.1	Project Management	24	60	15							24	24	\$ 37,000	192	\$ 37,800
11.2	Quality Assurance and Control	4	10	40							5	5	\$ 14,520	76	\$ 14,520
11.3	Project Close Out	4	10								16	16	\$ 6,760	40	\$ 6,760
11.4	Expected Project Subcontract														\$ 14,800
Total Hours															
Total Labor Costs		\$ 48,580	\$ 173,280	\$ 19,960	\$ 139,080	\$ -	\$ -	\$ 624	\$ -	\$ 100	\$ 368	\$ 802	\$ 1,034	3,924	\$ 626,230
Percent of Effort - Labor Hours Only		4.8%	19.5%	2.7%	20.8%	0.0%	0.0%	16.6%	0.0%	4.1%	9.4%	22.7%	100.0%	100.0%	
Percent of Effort - Total Project Cost		2.6%	9.8%	1.1%	7.3%	0.0%	0.0%	4.8%	0.0%	1.1%	2.2%	4.7%	100.0%	100.0%	
ESA Labor Cost															\$ 626,230
Subcontract Costs															\$ 1,174,420
(see Attachment B and Individual Fee spreadsheets)															
PROJECT TOTAL															\$ 1,801,650

Subtotal

Task 1 \$ 40,570

Task 2 \$ 41,490

Task 3 \$ 44,620

Task 4 \$ 60,450

Task 5 \$ 74,720

Task 6 \$ 73,480

Task 7 \$ 14,360

Task 8 \$ 10,440

Task 9 \$ 67,870

Task 10 \$ 57,340

Task 11 \$ 73,680

Task Check \$ 626,130

ATTACHMENT A - ESA NON-LABOR EXPENSE SUMMARY
St. Pete-Clearwater International Airport Master Plan
July 11, 2017

Reimbursable Expenses

Project Supplies	\$	2,000
Printing/Reproduction	\$	10,500
Presentation Boards	\$	1,750
Postage and Deliveries	\$	-
Mileage	\$	-
Vehicle Rental	\$	-
Lodging	\$	-
Airfare	\$	-
Other Travel Related	\$	-
Website Domain	\$	350
-	\$	-
-	\$	-
Subtotal Reimbursable Expenses	\$	14,600
0% Fee on Reimbursable Expenses	\$	-
Total Reimbursable Expenses	\$	14,600

ATTACHMENT B - SUBCONSULTANT SUMMARY
St. Pete-Clearwater International Airport Master Plan

July 11, 2017

Task Number / Description		Subconsultant Costs								Total Subconsultant Project Cost
		Subconsultant 1	Subconsultant 2	Subconsultant 3	Subconsultant 4	Subconsultant 5	Subconsultant 6	Subconsultant 7	Subtotal Subconsultant	
		C&S	AID	VHB	L&H	KHA	PTI	Woolpert	Cost	
1	Project Initiation	\$ 19,640				\$ 10,716			\$ 30,356	\$ - \$ 30,356
1.4	Aerial Mapping and AGIS							\$ 127,807	\$ 127,807	\$ - \$ 127,807
2	Existing Conditions	\$ 79,760				\$ 42,511			\$ 122,271	\$ - \$ 122,271
3	Aviation Forecasts	\$ -							\$ -	\$ - \$ -
4	Facility Assessment and Requirements	\$ 22,080	\$ 10,364			\$ 35,439	\$ 36,690		\$ 104,573	\$ - \$ 104,573
5	Environmental Analyses	\$ -	\$ 9,630	\$ 68,120					\$ 77,750	\$ - \$ 77,750
5.6	Stormwater Management Plan Update		\$ 159,267						\$ 159,267	\$ - \$ 159,267
6	Alternatives for Airport Development	\$ 30,000		\$ 9,470		\$ 21,354			\$ 60,824	\$ - \$ 60,824
7	Airport Layout Plan Drawing Set	\$ 60,350							\$ 60,350	\$ - \$ 60,350
7.3	Exhibit "A" Property Inventory Map		\$ 116,893						\$ 116,893	\$ - \$ 116,893
8	Recommended Development Program	\$ 38,806	\$ 10,388		\$ 67,100				\$ 116,286	\$ - \$ 116,286
9	Stakeholder Coordination and Public Outreach	\$ 28,880				\$ 10,571			\$ 39,451	\$ - \$ 39,451
10	Report Preparation	\$ 71,120				\$ 31,068			\$ 102,188	\$ - \$ 102,188
11	Project Administration	\$ 8,400	\$ 21,000	\$ 3,120	\$ 3,650	\$ 21,734			\$ 57,904	\$ - \$ 57,904
									\$ -	\$ - \$ -
									\$ -	\$ - \$ -
									\$ -	\$ - \$ -
	Subconsultant Total	\$ 359,530	\$ 327,540	\$ 80,710	\$ 70,750	\$ 173,393	\$ 36,690	\$ 127,807	\$ 1,176,420	\$ - \$ 1,176,420

Pinellas County DBE Target
Actual % DBE



Subconsultant 1 – C&S Scope and Fee Estimate

SCHEDULE A-1



SCOPE OF WORK

Project Title: Airport Master Plan
Sponsor: St. Pete-Clearwater International Airport
Airport Name: St. Pete-Clearwater International Airport
Services Provided: Terminal Planning, AGIS support, ALP documentation

Project Description:

C&S is pleased to participate in the Master Plan Update effort for St-Pete International Airport as a part of the ESA team. C&S will lead all terminal planning and Airport Layout Plan efforts, and support ESA in other tasks. Below is a description of scope of services for C&S's tasks.

Task 1 Project Initiation

C&S will support services to the ESA during the initial project kickoff and engagement. This includes attending and participating in the design/planning charrette, project kickoff meetings, and tenant/user interviews. For the most efficient use of time, it is anticipated that meetings will be consolidated as much as possible.

Product(s): One (1) full-day design and planning charrette; C&S will have a maximum of (3) participants. One (1) full-day project kickoff meeting; C&S will have a maximum of (5) participants. Two (2) full-day tenant interview meetings; C&S will have a maximum of (2) participants. There is no formal, written documentation as a part of this scope.

Task 2.2 Passenger Terminal Facilities

The major functional area components of the passenger terminal area will be inventoried in detail. This effort will include all passenger terminal facilities from the curbside to the aircraft parking apron area. At a minimum, these will include, but not limited to:

- Aircraft Parking Positions, Contact Gates, and Remain Overnight (RON) Space
- Circulation Areas
- Passenger Check-In/Bag Drop
- Airline Support Offices/Space
- Concessions
- Passenger Security Screening
- Airline Holdrooms and Boarding Gates
- Baggage Claim
- Inbound Baggage
- Outbound Baggage
- Explosives Detection System (EDS) Baggage Screening
- Federal Inspection Services (FIS) and US Customs and Border Protection (CBP) Facilities
- Ground Service Equipment Circulation and Storage
- Airport/Tenant Office Space

- Wayfinding

C&S will compile the above information in an area by area and room by room space program in both tabular and graphic formats. Data to be documented includes area/room functions, leasing information, number/types of equipment, and approximate square footage.

The team will conduct a building conditions assessment. Existing airport records, drawings, and reports on key backbone site utilities, architectural elements, structural elements, and mechanical, electrical, and plumbing (MEP) systems will be reviewed. This task will identify architectural, structural, MEP, and site utilities facilities and equipment by type and by capacities. This information will be utilized to create a comprehensive Building Conditions Assessment and provide a basis for determining capacity and projecting future needs for proposed development options during the master plan alternatives and eventual Terminal Program Definition Study. Key elements include:

- Structural Systems Evaluation – comprehensive review of existing structural systems to understand their condition and capacity. Condition assessments of floor and roof framing elements, columns, visible foundations and slabs, wall systems, overhead objects support structures, ancillary structural support elements, main wind force resisting system framing, and any other necessary sub elements of the structure will be conducted during the site investigation. Following the condition assessments, a thorough evaluation of the existing building documentation will be completed to determine capacities and feasibility of renovation. Consideration will be taken during investigation to determine optimal locations for expansion and modification. Operations and maintenance staff will be consulted as to specific locations of problem areas. An overall understanding and description of the existing building structural systems will be noted in the Building Assessment Report as well as areas of concern and all recommendations pertaining to the above scope of services.
- MEP Systems Evaluation – Review existing plans and documentation to understand cooling design, chiller plant setup, chilled water distribution system, air handling unit age and configurations, ductwork layout and pressure classification, duct insulation types, heating methods and capacities, EMS, domestic water heating equipment, restroom configurations and fixtures, locations and types of grease traps, storm system design and routing, fire riser locations and types, sprinkler head type, electrical distribution layout and electrical room locations, emergency power system, lighting devices and associated controls, and fire alarm system. The existing systems will be assessed on site to review equipment physical condition, age, and accessibility. Information provided by facilities and maintenance staff regarding system operation and known issues. Equipment end of life, availability of replacement parts, criticality of operation, and current maintenance practices will be considered.
- Airside Civil and Utilities Infrastructure Evaluation – comprehensive review of existing structural airside pavement and utilities infrastructure to understand their condition and capacity. It is understood that the Airport has recently completed airside pavement, utilities and other infrastructure improvements in the general area where terminal reconfiguration and expansion would occur. This task will document all improvements. If existing documents received from the Airport are not adequate for Project Definition, this will be revisited during that phase.

An inventory of existing building elements, systems, and site utilities for the terminal area will be prepared based on existing data obtained from Airport Management, the site visit, and desktop research. The team will refer to any existing inventories of reports and drawings that cover known airport data resources as a point of beginning for the identification of resources. Additional information will be obtained from other terminal area design and construction projects completed within the last 10 years.

Assumption(s): Airport Management will provide any existing AutoCAD drawings, digital mapping, or

A-1-2

previous studies related to the passenger terminal facilities.

Product(s): Two (2) full day site visits of the airport property will be conducted to support this effort. Documentation detailing the existing passenger terminal facility conditions suitable for incorporating as a part of the existing conditions chapter of the first working paper, as well as a separate Building Assessment Report of the passenger terminal facilities.

Task 4.5 Requirements for Passenger Terminal Facilities

C&S will identify the demand for the different functional areas of the commercial passenger terminal using FAA, Airport Cooperative Research Program (ACRP), and other industry standards based on projected planning activity levels (PAL) derived from the selected baseline activity forecasts. Passenger terminal facility requirements will be developed for up to four (4) different PALs.

The demand for the various facilities will be compared to the current capacity of the terminal component to determine facility requirements at each PAL. Planning criteria will be based on the average day of the peak month level of demand and aircraft gate utilization. The functional areas to be considered would include, but not limited to:

- Number, Size and Configuration of Aircraft Parking Positions, Contact Gates, and RON space
- Circulation Areas
- Passenger Check-In/Bag Drop
- Airline Support Offices/Space
- Concessions
- Passenger Security Screening
- Airline Holdrooms and Boarding Gates
- Baggage Claim
- Inbound Baggage
- Outbound Baggage
- EDS Baggage Screening
- FIS and CBP Facilities
- Ground Service Equipment Circulation and Storage
- Airport/Tenant Office Space

Based on the passenger terminal area demand/capacity assessment, facility requirements to meet future PALs will be defined. C&S will develop these requirements for up to four (4) PALs that are consistent with the selected forecast. Facility needs will be defined in terms of the various categories identified above with future space requirements (if any) or number of devices needed. This assessment will also identify issues associated with the configuration and any functional concerns related to component uses within the terminal and terminal area.

Product(s): Detailed passenger terminal needs will be incorporated as a part of the facility requirements chapter in the second working paper.

Task 6.3 Alternatives for Future Passenger Terminal Facilities

C&S will develop up to five (5) alternatives for the future development of the passenger terminal facilities based on the facility requirements established in preceding tasks. Terminal alternatives will be coordinated with alternatives developed for facilities such as parking or roadway access, as well as any others identified, and will accommodate the demand under each activity level. Terminal alternatives will

be developed based on facility requirements, environmental considerations, engineering factors, operational efficiency, costs, and overall feasibility for implementation.

The efficiency and effectiveness of the terminal alternatives will be evaluated using PathPlanner. This simulation tool will be applied to each of the preliminary alternatives to establish the most efficient interface with the existing/proposed airfield movement areas; existing/proposed aircraft parking positions; and overall interaction with other commercial, military, and general aviation operations on the airfield. Terminal alternatives will also be analyzed to determine their potential for creating or being affected by the required ATCT line of sight as well as the CFR Part 77 and TERPS surfaces for both the existing and future airfield configurations. Based on the findings, an evaluation matrix will be developed using criteria, similar to that described in Task 6.2, in order to select a preferred alternative.

Product(s): A ranking of the improvement alternatives for the passenger terminal facilities will be incorporated as part of the airport development alternatives chapter in the third working paper.

Task 7.1 Airport Layout Plan Set Preparation

The ESA Team will prepare an Airport Layout Plan (ALP) drawing set in accordance with FAA guidelines per the requirements outlined in AC 150/5070-6B *Airport Master Plans* and consistent with the checklist provided in FAA ARP SOP 2.00 *Standard Procedure for FAA Review and Approval of Airport Layout Plans (ALPs)*. The ALP drawing set will rely upon the data collected in the airport mapping/AGIS task and at a minimum will include the following sheets:

7.1.1

TITLE SHEET

To include the airport location map, vicinity map, index of drawings, approval blocks, date, etc.

7.1.2

AIRPORT DATA SHEET

To include the recent 10-year wind rose, airport data table, runway data table, taxiway data table, modifications to standards approval table, declared distance table, and legend.

7.1.3

AIRPORT LAYOUT PLAN DRAWING

A drawing depicting every existing facility and the future improvements of the 20-year planning horizon. To include various details such as dimensions, imaginary surfaces (safety and critical), topography, etc.

7.1.4

TERMINAL AREA DRAWINGS (2 SHEETS)

Drawing sheets depicting a larger scale drawing of the existing and proposed development including building data table, commercial terminal facilities, general aviation terminal facilities, hangars, aircraft parking, landside access, automobile parking, rental car facilities, security fencing/gates, and other key features. Individual sheets will be prepared for the southwest (passenger terminal area) and southeast (Airco site) portions of the airfield.

7.1.5

AIRPORT AIRSPACE DRAWINGS (3 SHEETS)

Drawings depicting the future CFR Part 77 *Safe, Efficient, Use, and Preservation of the Navigable Airspace* surfaces including ultimate plan view, existing profile view, future profile view, and obstruction data tables. The primary sheet and then two additional sheets to fully depict the precision instrument approach surfaces to each end of Runway 18/36.

7.1.6

INNER PORTION OF THE APPROACH SURFACE DRAWINGS (3 SHEETS)

Two of the drawing sheets will depict the existing and future plans and profiles of the inner portion of the runway approach surfaces along with surface penetrations, out to the points 100 feet above the established runway end elevations. These drawings will also depict the Threshold Siting and Glideslope Qualification Surfaces as required. A third sheet will be prepared to depict both the centerline profiles and Runway Safety Areas of both runways.

7.1.7

RUNWAY DEPARTURE SURFACE DRAWING

Drawing sheets depicting the instrument departure surface plan and profile views and obstruction data tables. Limited to one (1) sheet since there are only instrument departure procedures established off each end of Runway 18/36.

7.1.8

LAND USE DRAWINGS (2 SHEETS)

Drawings depicting the on-airport and off-airport land uses with features to include the updated noise contours (both base year and future scenario selected), safety areas/zones, property line, jurisdiction boundaries, and other details as required.

7.1.9

AIRPORT PROPERTY MAP (3 SHEETS)

Drawing sheets depicting all existing and any future airport lands with the appropriate airport features depicted. These drawings will rely upon information from the Exhibit "A" Property Inventory Map described in a subsequent task. As per the FAA ARP SOP 2.00 ALP Checklist for property maps, this will be a slightly abbreviated version of the full Exhibit "A" Property Map. However, depending on complexity of the property mapping, it may be appropriate to just include entire the Exhibit "A" as part of the ALP drawing set.

Product(s): An ALP drawing set created in AutoCAD using the AGIS data for the base file. A chapter, which describes each of the ALP drawing sheets, will also be prepared for inclusion in the fourth working paper.

Task 8.4 Cost Estimates and Development program

C&S will provide support services to the ESA team for the cost estimating and recommended development program task. C&S will provide the following:

- Develop drawings, project descriptions, and area calculations for each terminal, concourse, and adjacent apron component of the recommended development program.
- Cost estimates for terminal and concourse development. This will be a unit per square foot cost plus any specialty items such as boarding bridges, etc. Landside, civil, and other flat work cost estimates will be produced by others.
- Provide inputs and recommendation on phasing strategy for the overall terminal area development, including phasing sketches, project descriptions, and estimated length of construction for each element of the program at the appropriate PAL.

Product(s): C&S will provide support materials only including sketches, area tables, construction schedules, etc. Formal documentation will be the sole responsibility of ESA.

Task 9 Stakeholder Coordination and Public Outreach

C&S will provide support services to the ESA team for the Stakeholder Coordination and Public Outreach. C&S will provide the following:

- One C&S participant will attend and participate in up to six (6) meetings/briefings with airport management. C&S will provide support materials for presentations.
- One C&S participant will attend and participate in ongoing Working Groups Meetings, six (6) onsite and (8) conference calls. C&S will provide support materials for presentations.
- Coordination with local FAA district office and FDOT district office. C&S will only participate on conference calls, no in-person meetings.
- One C&S participant will attend and participate in two (2) Public Workshops. Another C&S participant will only participate in one (1) Public Workshop. C&S will provide support materials for presentations.
- Working Group Meetings and Public Workshops will be scheduled with Airport Management briefings to reduce the number of trips.

Product(s): C&S will attend and participate in stakeholder coordination and public outreach as described above. C&S will provide support materials for all presentations.

Task 10 Report Preparation

C&S will provide support services to the ESA team in developing the following working papers and reports:

- Working Paper #1 Introductions, Existing Conditions, and Aviation Forecasts
 - Terminal only, including the more in-depth terminal building conditions assessment
- Working Paper #2 Demand/Capacity and Facility Requirements
 - Terminal only
- Working Paper #3 Environmental Analyses and Alternatives for Airport Development
 - Terminal only
- Working Paper #4 Airport Layout Plans and Development Program
 - Terminal and ALP
- Draft Master Plan Report
 - Terminal and ALP
- Final Master Plan Report
 - Terminal and ALP

Product(s): C&S will provide support materials only including written sections and drawings. C&S will respond to one (1) round of comments from the client for each working paper/report listed above. C&S will not be responsible for final formatting of any of the working papers.

Project team

The Project Manager for C&S is Scott Tumolo. Other key participants on the project are Marc Champigny – Aviation Planner, Doug Saunders – Airside Civil Engineer, Kerrick Stegmeier – Structural Engineer, Matt McQuinn – Mechanical Electrical Plumbing Engineer, and Mike LaMontagne – Architect. There will be other support staff involved to be determined at the time of the project.

Contract Fee

The contract fee for the above scope of services is \$359,530, including expenses, to be paid in a lump sum amount. Invoices will be submitted on a monthly basis at the direction of the ESA team.

We appreciate the opportunity and look forward to working with you on this important project.

END OF SCHEDULE A

[illegible]

Subconsultant 2 – AID

Scope and Fee Estimate

EXHIBIT "A"
PIE PROFESSIONAL SERVICES
SCOPE OF SERVICES



STORMWATER MASTER PLAN AND PROPERTY MAP (EXHIBIT "A")
ST. PETE-CLEARWATER INTERNATIONAL AIRPORT

Scope of Services

AID (Consultant) is part of ESA's design team for the Airport Master Plan update at St. Pete-Clearwater International Airport. The following tasks will be performed by the Consultant:

Stormwater Master Plan (Task A) - The Consultant will provide professional services for the preparation of a Stormwater Master Plan (SWMP) for ESA's design team at the St. Pete-Clearwater International Airport. The Airport has identified several developments on the 2016 Airport Layout Plan that could take place in the next 20 years, including expanded apron, new parking garage, new T-hangars, aviation/commercial development, and miscellaneous other projects. This SWMP will provide a plan for stormwater management over this timeframe and identify potential locations for stormwater management facilities serving the developments. The plan will focus on providing regional ponds, which are typically the most efficient solution in terms of cost and land usage for the upcoming developments. In addition, any existing stormwater concerns of the Airport or tenants will be addressed in the plan. Ultimately, the SWMP will be the basis of a Conceptual Environmental Resource Permit (CERP) from the Southwest Florida Water Management District (SWFWMD). This CERP will provide clear stormwater management guidelines for future developers and help to streamline the permitting process of individual developments. The plan will be divided into landside and airside developments due to the differing stormwater requirements. Additionally, a stormwater routing model will be prepared that can aid both the Airport and developers in understanding the flow paths, intensities, and volumes of stormwater at the Airport. The SWMP will also identify the environmental concerns and limits to development at the Airport.

Cost Estimation (Task B) - In addition to the SWMP, cost estimating services will be provided by the Consultant in support of the Airport Master Plan. The cost estimating services will cover all future horizontal civil work identified on the Master Plan, including: landside/airside pavement, ponds, utilities, etc.

Exhibit "A" Data Collection (Task C) - The Consultant will provide documentation for the preparation of a new Exhibit "A" Property Inventory Map. It is understood that some recent survey and parcel information is available; however, a complete digital survey or title search has not been conducted. The Consultant will analyze the existing information and provide a new boundary survey and title search to the design team for the preparation of the Exhibit "A".

EXHIBIT "A"
PIE PROFESSIONAL SERVICES
SCOPE OF SERVICES



Facility Requirements (Task D) – The Consultant will assist the design team in the preparation of the Facility Requirements section of the Airport Master Plan. This task consists of the sufficiency evaluation of airfield elements (runways, taxiways, aprons, etc.) based on the Airfield Demand Capacity Analysis. Airfield infrastructure element needs will also be quantified.

Resiliency Plan (Task E) – The Consultant will assist the design team in the preparation of the Infrastructure Resiliency Planning. This will include evaluation of infrastructure exposure, sensitivity, adaptive capacity and criticality of assets at the Airport. Recommendations to reduce vulnerability and build resiliency will be provided to airport management for their consideration.



Figure 1 – St. Pete-Clearwater International Airport

EXHIBIT "A"
PIE PROFESSIONAL SERVICES
SCOPE OF SERVICES



TASK A1: SWMP - Program Verification

The Consultant will review all Airport stormwater permits and summarize the permit obligations of each project. General basins, flow paths, and outfalls will be identified through these previous stormwater permits and field observation. Field surveys will be performed, as needed, to collect channel cross section data, pond volumetric data, and pipe parameters. This data in addition to publicly available LiDAR data will form the basis for the Airport-wide Stormwater Model. Additional meetings can be scheduled to discuss existing drainage concerns with the Airport and tenants.

TASK A2: SWMP - Design Methodology

The Consultant will compile and verify the data collected in the previous task with additional field observation as necessary. Airside/Landside areas, drainage basins and potential pond locations will be identified during this task. A design methodology summary will be prepared during this task. A pre-application meeting with SWFWMD will be held to alert them to the project and to confirm the design methodology that will be used for this SWMP. A debriefing meeting will be held with the Airport at the end of this Task to confirm the appropriateness of pond locations and outline the plan of action for subsequent tasks.

TASK A3: SWMP - Schematic Design

An Airport-wide hydrologic and hydraulic computer model will be prepared during this task utilizing and revising previous Airport models. From this baseline, future development models will be prepared and regional pond locations will be confirmed for proper hydraulic performance. The report for the Stormwater Master Plan will be prepared during this task. It will detail the current hydrologic, hydraulic, permitting, and environmental condition of the Airport and plan for the next 20 years of development. The report will be broken into development phases based on the likely sequence of development and provide a matching sequence of stormwater facility expansion. Following a status meeting with the Airport, a CERP application will be prepared and submitted to SWFWMD for review.

TASK A4: SWMP - Final Schematic Design

Responses to SWFWMD's comments on the application will be completed under this task. The computer model and the SWMP will be finalized based on responses to SWFWMD's comments. A final SWFWMD submittal will be completed with the resolved permit documents. Once the CERP is approved, all documents and models will be provided to the Airport.

TASK B: Cost Estimation

The Master Plan design team will identify future developments and improvements. The Consultant will provide conceptual level cost estimation for all horizontal civil items. This

EXHIBIT "A"
PIE PROFESSIONAL SERVICES
SCOPE OF SERVICES



excluding buildings and parking garages, but includes all pavement, utilities, and stormwater infrastructure beyond the buildings.

TASK C: Exhibit "A" - Data Collection

This task consists of the preparation of a new FAA Exhibit "A" Property Inventory Map reflecting all of the property owned by the Airport. The map of survey will meet the requirements of FAA ARP SOP 3.00 Standard Operating Procedures (SOP) for FAA review of Exhibit "A" Airport Property Inventory Maps. The survey datum will be Florida State Plane NAD 83/2011 adjustment meeting the requirements of Circular 18B.

TASK D: Facility Requirements

This task consists of the sufficiency evaluation of airfield elements (runways, taxiways, aprons, etc.) based on the Airfield Demand Capacity Analysis. Runway/taxiway flow analysis will be performed in order to identify conflict areas or choke points in the current airfield layout. Alternative layouts designed to improve these problem spots will be provided as part of this task.

TASK E: Resiliency Plan

This task will include evaluation of infrastructure exposure, sensitivity, adaptive capacity, and criticality of assets at the Airport. Recommendations to reduce vulnerability and build resiliency will be provided to airport management for their consideration. These recommendations may include enhancements to disaster response procedures, damage assessment procedures, and building/site design guidelines (weatherization, flood management, structure elevations, etc.).

Project Schedule

All work required to be performed by the Consultant shall be completed as shown below. The calendar days shown do not include Airport, County or SWFWMD review time. The main tasks need not be performed in the order shown.

Task Number	Calendar Days
A1	90
A2	60
A3	90
A4	60
B	60
C	90
D	90
E	90

American Infrastructure Development, Inc.
Labor Detail by Task
St. Pete-Clearwater International Airport Master Plan

Project 3.0 - 4th semester Management Plan Update	
Conceptual Period Fee	\$ 3,500
Supplemental Work (hours, materials, etc.)	\$ 18,000
Total Expenses	\$ 21,000

Subconsultant 3 – VHB

Scope and Fee Estimate



July 12, 2017

Ref: 83678.16

Douglas J. DiCarlo
4200 West Cypress Street, Suite 450
Tampa, FL 33607

Re: VHB Scope of Work and Fee for St. Petersburg-Clearwater International Airport Master Plan

Mr. DiCarlo,

VHB is pleased to provide ESA with a scope of work and fee estimate (enclosed) to support development of the St. Petersburg-Clearwater International Airport (PIE) Master Plan. This scope and fee includes the following Master Plan services:

- Sustainability Planning
- Resiliency Planning
- Terminal Planning support

Please contact me if you have any questions. We look forward to partnering with ESA on this exciting project.

Sincerely,

Vanasse Hangen Brustlin, Inc.

Fin Bonset

Manager of Airport Planning
fbonset@vhb.com

Engineers | Scientists | Planners | Designers

501 E. Kennedy Blvd
Suite 1010
Tampa, FL 33602
P 813.327.5480
F 813.209.2365

Task 5.3 Sustainability

Sustainability considerations will be incorporated into the new master plan as an integral element of the project. Although identified as an individual task in this scope of services, this task will be incorporated throughout the project. For the purposes of this scope, sustainability is defined as a holistic approach to managing an airport to ensure the integrity of the Economic viability, Operational efficiency, Natural resource conservation and Social responsibility (EONS) of the airport (Source: Airports Council International – North America, or ACI-NA). This task follows the general sustainability planning guidance currently in development by the FDOT Aviation and Spaceports Office. This task will focus on County-owned and operated, aviation-related facilities and operations at PIE.

5.3.1 Sustainability Baseline Assessment

The goal of the baseline assessment is to understand the activities and existing levels of resource consumption at the airport to identify opportunities for improvements. Based on readily available information and data currently collected by airport management and the ESA Team, a sustainability baseline assessment will be conducted for the sustainability categories identified by the ESA Team to highlight areas for improvement. The baseline data collection process is a critical first step in understanding where enhancements could be considered, and will be conducted alongside the master plan inventory tasks to enhance the efficiency of the data collection process. The various baseline data collection categories could include:

- Airport Facilities (In Support of Infrastructure Resiliency Planning Task)
- Noise and Land Use
- Water Consumption and Water Quality
- Energy
- Surface Transportation
- Natural Resource Management
- Waste Management and Recycling (In Support of Solid Waste Recycling Task [ESA-led task])
- Socioeconomic and Community

The airport is located in an area that is in attainment for all criteria pollutants defined by the U.S. Environmental Protection Agency (EPA). Therefore, an Air Quality and Greenhouse Gas (GHG) Emissions Inventory will not be conducted; however, existing air quality and GHG emissions reduction strategies will be documented in the baseline assessment.

For the purposes of the scope, it is assumed that a total of seven categories will be addressed in the sustainability baseline assessment. The categories will be determined in collaboration with airport management, based on specific conditions at the airport.

The ESA Team will provide access to a web based data collection site accessible to all team members to assist in data collection and the sustainability baseline assessment. The on-site data collection will include meetings with key airport management staff as well as site visits.

The team will provide sustainability-related survey questions for inclusion in an internet-based survey to airport users and tenants. The results will be compiled and summarized in the assessment. The baseline assessment will also include a review of energy sources and rates of consumption.



As part of the data collection process the team will identify existing sustainability initiatives currently implemented at the airport, determine rates of resource consumption (i.e. energy use, water consumption), identify trends in management of resources, and highlight areas for improvement or focus in the Sustainability Plan.

Meeting: One data collection meeting at the airport with two VHB staff (held concurrently with sustainability vision session meeting described in Task 5.4.2).

Products: Draft Sustainability Baseline Assessment technical memorandum for review and a final Sustainability Baseline Assessment technical memorandum that will be integrated into the final technical report.

5.3.2 Develop Sustainability Goals and Objectives / Alternatives Screening Criteria

The ESA Team will prepare a draft Sustainability Vision/Mission Statement for the airport for consideration by airport management. The Vision/Mission Statement will guide the rest of the sustainability planning process by defining the high-level vision of the airport.

Based on the Sustainability Vision Statement and the findings of the sustainability baseline assessment, the ESA Team will prepare draft goals and objectives to be discussed and further refined with airport management staff and the master plan working group. The goals will be more general in nature and relate to the sustainability categories of importance, as determined in Task 5.4.1. The objectives will be more specific statements guiding how the goals will be achieved. The ESA Team will use the ACI-NA recommended goals and objectives as a starting point for the draft goals and objectives, customized to the airport's specific conditions.

Master Plan development alternatives screening criteria that take sustainability goals and objectives into account will be identified to assist in the sustainability evaluation of alternative development concepts. This task will also provide a summary of sustainable project elements to consider for the preferred development alternative during the planning process, with the intent of providing guidance for the airport to integrate sustainability into the development program.

Meeting: One visioning session held concurrently with the data collection meeting (Task 5.4.1) at the airport with two VHB staff.

Product: A memorandum documenting the airport's sustainability vision, goals and objectives after coordination with airport staff; a memorandum detailing sustainability alternatives screening criteria, and a memorandum detailing the recommended sustainable project elements that could be incorporated into the preferred development program.

Task 5.5 Infrastructure Resiliency Planning

The ESA Team will develop an infrastructure resiliency plan that considers the Airport's location relative to Tampa Bay and is consistent with airport resiliency planning guidance¹ and Pinellas County resiliency planning efforts.

¹ TRB ACRP Report 147 - Climate Change Adaptation Planning: Risk Assessment for Airports (<http://www.trb.org/Publications/Blurbs/173554.aspx>) and TRB ACRP Synthesis 33 - Airport Climate Adaptation and Resilience (<http://www.trb.org/Publications/Blurbs/167238.aspx>).



5.5.1 Vulnerability Assessment

A complete hard infrastructure vulnerability assessment will be a necessary first step to resiliency planning at the airport. The ESA Team will document the airport infrastructure's exposure, sensitivity, adaptive capacity, as well as criticality of assets/systems to aid in prioritization of adaptation measures. The ESA Team will also consider the broader context within which the airport operates, including changing trends and demographics that are likely to influence exposure, sensitivity, adaptive capacity, and criticality in the near-term and future.

The ESA Team will collect existing data on projected climate impacts for the airport region to identify those climate stressors most likely to disrupt airport operations, cause infrastructure to fail, and/or otherwise negatively impact workers or passengers. Data will include recent efforts by Pinellas County

The ESA Team will then identify the infrastructure that are currently or will be impacted by the local climate stressors identified. In coordination with airport staff and other stakeholders as relevant, the team will assess the exposure, sensitivity, adaptive capacity, and criticality of the operations and infrastructure. VHB will conduct a workshop on site to highlight potential impacts, further discuss and ground-truth sensitivities and adaptive capacities, and to identify opportunities to reduce vulnerabilities and enhance resiliency.

Meeting: One workshop with airport staff to discuss vulnerability assessment findings.

Products: Vulnerability assessment report summarizing projected climate impacts and airport vulnerabilities, including a matrix reflecting the vulnerability ranking to inform highest priority vulnerabilities to be addressed.

5.5.2 Resiliency Planning

Once the vulnerability of the infrastructure is well understood, the ESA Team will guide airport management in determining the objectives of its resiliency program. Further, it will identify high-level recommendations that airport management may want to prioritize to build resilience and reduce its vulnerabilities. The airport may consider incorporating these recommendations and associated action areas in a future climate adaptation or resiliency plan. Potential adaptation and resiliency strategies may include policy recommendations, enhancements to disaster response procedures, damage assessment procedures, and building/site design guidelines, including, but not limited to weatherization, design for stormwater management, elevation of structures, flood barriers, treatments, and material selection. Strategies will be developed based on best practices from other airports and agencies, ACRP tools and guidance, as well as coordination with Pinellas County's Natural Resources Division to ensure needs of the airport and all stakeholders are met, implementation is feasible, and both technical and financial resources can be identified. This phase will also identify key stakeholders for continued engagement in the airport's resiliency planning as well as target audiences for communications of the airport's vulnerabilities and responses.

Product: One draft and one final version of a Resiliency Plan Technical Memorandum for incorporating as an appendix to the final technical report.



Task 6.3 Alternatives for Future Passenger Terminal Facilities

Up to three (3) alternatives for the future development of the passenger terminal facilities will be developed in prior tasks. VHB's task will be to evaluate the efficiency and effectiveness of the terminal alternatives using PathPlanner (now called Transoft AviPlan). This simulation tool will be applied to each of the preliminary alternatives to establish the most efficient interface with the existing/proposed airfield movement areas based on the critical aircraft only to be using each of the gate stands; and overall interaction with aircraft on nearby taxiways in terms of aircraft push-backs and overall ramp maneuvering safety.

Product: Simulation files of the three terminal area alternatives will be created and utilized to refine the layout of the individual options. The results of these analyses will be documented as part of the airport development alternatives including supporting figures as needed to illustrate the results.

Labor Detail by Task
St. Pete-Clearwater International Airport Master Plan

July 11, 2017

[illegible]

Expense			
	Task 5.3, Sustainability Planning		
	Non-fiscal benefit	\$	200
	Task 5.5, Resiliency Planning		
	Non-fiscal benefit	\$	100
	Report production local benefit	\$	100
	Task 6.3, Terminal Planning		
	Non-fiscal benefit	\$	5,000
	Report production local benefit	\$	200
	Total Expenses	\$	5,100

SUBCONSULTANT TOTAL	\$	80,710
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Subconsultant 4 – L&H

Scope and Fee Estimate

June 10, 2017

Douglas J. DiCarlo
Aviation Program Manager
ESA
4200 West Cypress Street, Suite 450
Tampa, FL 33607

31 Blue Heron Drive
Greenwood Village, Colorado 80121
(303) 773-6761 • Fax (303) 773-6709

Dear Mr. DiCarlo:

Thank you for the opportunity to conduct a Financial Implementation Analysis as part of Master Plan services ESA is providing for the St. Pete-Clearwater International Airport (PIE). This letter presents the objective, approach, time frame and fee estimate that we propose for providing these services.

The objective of the Financial Implementation Analysis is to provide a reasonable basis for matching the amounts and timing of estimated capital costs with projected capital funding sources. This analysis will evaluate the financial feasibility of implementing the capital program while maintaining prudent financial conditions for Airport operations. Our detailed approach for this project is provided in the attachment to this letter. Our schedule for conducting this project will depend on completion of other components of the overall Master Plan project. After the recommended CIP is preliminarily approved by the Airport, the time frame for completing the Financial Implementation Analysis is anticipated to be six to ten weeks.

Our estimated fees and expenses for completing the project are provided as follows:

■ Inventory of Financial Information	\$ 9,760
■ Preliminary Financial Analysis	23,180
■ Financial Plan Development	<u>34,160</u>
Total Fees	\$67,100
■ Travel expenses (2 trips)	3,400
■ Other out-of-pocket expenses	<u>250</u>
Total Fee and Expense Estimate	<u><u>\$70,750</u></u>

Should you have any questions or need additional clarification of any element of our proposal, please contact us to discuss them further.

Very truly,



Stephen B. Horton

LEIBOWITZ & HORTON AMC, INC.
Labor Detail by Task
St. Pete-Clearwater International Airport Master Plan

July 11, 2017

		Labor Category	Financial Principal	Financial Manager	Total Hours	Labor Price			
Task #	Task Name/Description		\$ 315	\$ 190			Task #	Subtotal	
Task 1 Project Initiation									
1.1	Study Design and Planning Charter				- \$	-	1.1		
1.2	Project Kick-off Meetings				- \$	-	1.2		
1.3	Tenant and User Interviews				- \$	-	1.3		
1.4	Aerial Mapping and Airports Geographic Information System (AGIS)				- \$	-	1.4		
1.4.1	Vertically Guided Approach Obstruction Analysis				- \$	-	1.4.1		
1.4.2	Analysis of Features within Obstruction Identification Surface				- \$	-	1.4.2		
1.4.3	Planimetric and Topographic Mapping				- \$	-	1.4.3		
Task 2 Existing Conditions									
2.1	Airport and Surrounding Area Inventory				- \$	-	2.1		
2.1.1	Airfield Facilities and Surrounding Airspace				- \$	-	2.1.1		
2.1.2	Airside Facilities				- \$	-	2.1.2		
2.1.3	Support Facilities				- \$	-	2.1.3		
2.1.4	Airport, Community, and Surrounding Area Features				- \$	-	2.1.4		
2.1.5	Airport Data				- \$	-	2.1.5		
2.2	Passenger Terminal Facilities				- \$	-	2.2		
2.3	Passenger Terminal Access, Circulation, and Automobile Parking				- \$	-	2.3		
2.3.1	Terminal Access Roadways				- \$	-	2.3.1		
2.3.2	Terminal Curbfront				- \$	-	2.3.2		
2.3.3	Automobile Parking				- \$	-	2.3.3		
2.3.4	Rental Cars				- \$	-	2.3.4		
2.3.5	Courts and Observations				- \$	-	2.3.5		
2.4	Commercial Passenger Market Data				- \$	-	2.4		
Task 3 Airport Forecast									
3.1	Evaluation of Historic and Previous Forecasts				- \$	-	3.1		
3.2	Baseline Forecast Preparation				- \$	-	3.2		
3.3	Alternative Forecast Scenarios				- \$	-	3.3		
3.4	Baseline Forecast Review Coordination				- \$	-	3.4		
Task 4 Facility Acknowledgment and Requirements									
4.1	Airfield Demand Capacity Analysis				- \$	-	4.1		
4.2	Airfield Facility Requirements				- \$	-	4.2		
4.3	Navigational Aids, Metroplex, and TERPS Analysis				- \$	-	4.3		
4.4	Airside Facility Requirements				- \$	-	4.4		
4.5	Requirements for Passenger Terminal Facilities				- \$	-	4.5		
4.6	Terminal Access, Circulation, and Automobile Parking				- \$	-	4.6		
4.7	Landside Facility Requirements				- \$	-	4.7		
Task 5 Environmental Analysis									
5.1	Natural Resources and Environmental Overview				- \$	-	5.1		
5.2	Noise Modeling				- \$	-	5.2		
5.3	Sustainability				- \$	-	5.3		
5.3.1	Sustainability: Baseline Assessment				- \$	-	5.3.1		
5.3.2	Develop Sustainability Goals and Objectives / Alternative Screening Criteria				- \$	-	5.3.2		
5.4	Solid Waste Recycling (Waste Audit)				- \$	-	5.4		
5.5	Infrastructure Resiliency Planning				- \$	-	5.5		
5.5.1	Vulnerability Assessment				- \$	-	5.5.1		
5.5.2	Resiliency Planning				- \$	-	5.5.2		
5.6	Stormwater Management Plan Update				- \$	-	5.6		
5.6.1	Data Collection and Data Verification				- \$	-	5.6.1		
5.6.2	Design Methodology				- \$	-	5.6.2		
5.6.3	Schematic Design				- \$	-	5.6.3		
5.6.4	Final Schematic Design				- \$	-	5.6.4		
Task 6 Alternatives for Airport Development									
6.1	Constraints Analysis				- \$	-	6.1		
6.2	Initial Development Options				- \$	-	6.2		
6.3	Alternatives for Future Passenger Terminal Facilities				- \$	-	6.3		
6.4	Terminal Access, Circulation, and Automobile Parking Alternatives				- \$	-	6.4		
6.5	Recommended Development Alternatives				- \$	-	6.5		
Task 7 Airport Layout Plan Drawing Set									
7.1	Airport Layout Plan Set Preparation				- \$	-	7.1		
7.1.1	Title Sheet				- \$	-	7.1.1		
7.1.2	Airport Data Sheet				- \$	-	7.1.2		
7.1.3	Airport Layout Plan				- \$	-	7.1.3		
7.1.4	Terminal Area Drawings (2 sheets)				- \$	-	7.1.4		
7.1.5	Airport Airspace Drawings (3 sheets)				- \$	-	7.1.5		
7.1.6	Inner Portion of the Approach Surface Drawings (3 sheets)				- \$	-	7.1.6		
7.1.7	Runway Departure Surface Drawing				- \$	-	7.1.7		
7.1.8	Land Use Drawings (2 sheets)				- \$	-	7.1.8		
7.1.9	Airport Property Map (3 sheets)				- \$	-	7.1.9		
7.2	Airport Layout Plan Review Coordination				- \$	-	7.2		
7.3	Exhibit "A" Property Inventory Map				- \$	-	7.3		
Task 8 Recommended Development Program									
8.1	Inventory of Financial Information	14,298	27,793	42	\$	9,700	8.1		
8.2	Preliminary Financial Analysis	25,048	81,537	98	\$	28,180	8.2		
8.3	Financial Implementation Plan Development	60,418	176,521	140	\$	34,188	8.3		
8.4	Cost Estimates				- \$	-	8.4		
8.5	Development Program				- \$	-	8.5		
Task 9 Stakeholder Coordination and Public Outreach									
9.1	Airport Management Coordination				- \$	-	9.1		
9.2	Ongoing Working Group Meetings				- \$	-	9.2		
9.3	Agency Coordination				- \$	-	9.3		
9.3.1	St. Pete-Clearwater International Airport Traffic Control Tower				- \$	-	9.3.1		
9.3.2	FAA Orlando Airports District Office (ADO)				- \$	-	9.3.2		
9.3.3	FDOT District 7 Office				- \$	-	9.3.3		
9.4	Public Outreach				- \$	-	9.4		
9.4.1	Project Website				- \$	-	9.4.1		
9.4.2	Public Workshop #1				- \$	-	9.4.2		
9.4.3	Public Workshop #2				- \$	-	9.4.3		
9.4.4	Public Comment Management				- \$	-	9.4.4		
Task 10 Working Paper Development (4 total)									
10.1	Draft Master Plan Report and ALP Drawing Set				- \$	-	10.1		
10.2	Draft Master Plan Report and ALP Drawing Set				- \$	-	10.2		
10.3	Final Master Plan Report and ALP Drawing Set				- \$	-	10.3		
Task 11 Project Management									
11.1	Project Management				- \$	-	11.1		
11.2	Quality Assurance and Control				- \$	-	11.2		
11.3	Project Close Out				- \$	-	11.3		
11.4	Expenses (see below)				- \$	3,650	11.4		
Total Hours			111	169	280				
Total Labor Costs			\$ 35,028	\$ 32,072		\$ 70,750			\$ 70,750

SUBCONSULTANT TOTAL \$ 70,750

Expenses

Travel Expenses (2 trips)	\$ 3,400
Other out-of-pocket Expenses	\$ 250
Total Expenses	\$ 3,650

Subconsultant 5 – KHA

Scope and Fee Estimate



July 11, 2017

Douglas J. DiCarlo
Aviation Program Manager
ESA
4200 West Cypress Street, Suite 450
Tampa, FL 33607

Re: Task Work Order, Terminal Master Plan – Landside Support

Dear Doug:

Kimley-Horn and Associates, Inc. ("Kimley-Horn" or "Consultant") is pleased to submit this letter agreement (the "Agreement") to Environmental Science Associates Corporation ("ESA" or "Client") for providing landside planning for the terminal access and curbside roadways in support of the Terminal Area Master Plan for St. Pete-Clearwater International Airport ("Airport" or "PIE").

Project Understanding

This work authorization scope outlines the efforts associated with review of existing landside facilities and access to the terminal area of St. Pete-Clearwater International Airport (Airport). The study area to be addressed by the planning effort consists of the following areas:

- Terminal area curbside
- Terminal access roadway
- Short-Term Parking Lot
- Long-Term Parking Lot
- Economy Parking Lot
- Employee Parking Lot
- Rental Car Facilities and Parking

The study will focus on documenting the existing landside conditions, assessing terminal and access roadways, and parking areas to identify congestion points, and develop improvements to mitigate the identified congestion points. Several site visits are mentioned throughout the scope of the project. Efforts will be made to consolidate site visits to the extent feasible to maximize efficiency.

Scope of Services

The Consultant will provide the services specifically set forth below. The scope below identifies the applicable Master Plan Task Numbers. Kimley-Horn is not involved in all tasks, as such the task numbers below are not chronological, but are consistent with the overall tasks proposed by ESA.

Inventory

KICK-OFF MEETING (MASTER PLAN TASK 1.1)

The Consultant will conduct an initial kick-off meeting with key Airport representatives to collect background data, base mapping, and operational activity in the study area. During the kick-off meeting, the Consultant will present the proposed traffic count locations to be conducted in Master Plan Task 2.3.5 for Airport review and approval. The Consultant will also present the data collection plan and proposed staffing plan. An agenda and meeting notes will be provided by the Consultant. Up to two (2) Consultant staff will attend the three (3) hour kick-off meeting.

TENNANT AND USER INTERVIEWS (MASTER PLAN TASK 1.3)

The Consultant, working through the Airport Project Manager, will also meet in up to four (4), one (1) hour meetings (to be scheduled during the same day) with key stakeholders to discuss current operational characteristics, available data, and issues associated with their specific activities. The study analysis in following tasks will be based on the information provided by the stakeholders. Data on vehicle mix, daily and/or monthly delivery schedules, and staffing levels throughout the week and timing of shift changes for terminal related functions will be requested from the existing users. Up to two (2) Consultant staff members will attend the stakeholder meetings. Anticipated Stakeholders consist of:

- Airport Staff: Planning, Operations, Ground Transportation, Parking
- Pinellas County Sherriff's Office
- Transportation Security Administration (TSA)
- Rental Car Agency Representatives
- Commercial Vehicle/Ground Transportation Providers:
 - Taxis
 - Shared Ride
 - Limousine/Private Car Service Providers
 - Shuttle Operators: off-airport parking, hotel/motel
- Parking Management Company Representatives

An agenda and meeting notes will be provided by the Consultant to the Airport Project Manager. In addition, a summary stakeholder list will be developed including the stakeholder's names, agency, role and responsibility, address, phone number, and email address.

TERMINAL ACCESS ROADWAY INVENTORY (MASTER PLAN TASK 2.3.1)

While the focus of the planning effort is on the roadway system directly fronting the terminal facilities at the Airport, it is of importance to take into consideration the terminal access roadways feeding the curbfront of the terminal complex. The Consultant will inventory the following terminal access roadways to the Airport using the *Airport Landside and Parking Lot Improvement* design drawings completed by Cardno dated May 2017:

- Airport Parkway Drive
- Intersection of Roosevelt Boulevard (SR 686) and Airport Parkway Drive

The inventory will consist of number of lanes, posted speed limits, weaving locations, and distances. The summary of the inventory will be in Master Plan Task 10.1 Inventory Memorandum. No field verification will be completed.

The Consultant will also review applicable studies or project related documents critical to the planning effort provided by the Airport and Stakeholders in Master Plan Task 1.3 to identify pertinent information for use in the Landside Analysis. Additional documents can be assessed as an additional service. Information is anticipated to consist of the following:

- Studies and analysis completed by Cardno related to the Airport and Landside Parking Alternatives
- FDOT studies/design drawings for the planned improvement projects along Roosevelt Boulevard (S.R. 686) associated with the Gateway Project
- Airport design/space standards
- Passenger survey

TERMINAL CURBFRONT INVENTORY (MASTER PLAN TASK 2.3.2)

Curbfront Inventory

The Consultant will inventory the following terminal roadways and curbfronts using CADD files, digital mapping, and aerial photography provided by the Airport:

- Ticketing "A"
- Ticketing "B"
- Baggage Claim
- Deliveries
- Ground Transportation Area for Taxi/Shuttle/Limos

The inventory will consist of curbfront designations (loading/unloading areas for each vehicle type: transit, shuttle, taxi, etc.), curbfront lengths by designation, number of lanes, lane widths, and posted speed limits. The inventory will also include the identification and collection of data on weaving areas and weaving distances and anticipated conflict areas. The summary of the inventory will be completed in Task 10.1 Inventory Memorandum.

The Airport provided data will be supplemented by one (1), nine (9)-hour site visit to validate the curbfront inventory collected from CADD files, digital mapping and aerial photography provided by the Airport and to collect an appropriate photographic inventory of conditions observed. The site visit for this task will be consolidated with the meetings in Master Plan Task 1.3.

Transit Inventory

The Consultant will inventory the existing, on-airport public transit available at the Airport. The on-airport stop locations for the transit providers will be inventoried. In addition, the routes, schedules, and headways for the transit services will be summarized. Transit boarding and alighting data will be

collected during the operational observations. A summary of the transit inventory will be included in Master Plan Task 10.1 Inventory Memorandum.

Passenger Inventory

As a part of Master Plan Task 1.3, any available passenger survey information will be requested and used as the basis for the passenger inventory. If the Airport has initiated a new survey effort it will be included, as available, for use in this effort. The available passenger surveys will be reviewed to determine if any of the following information has to be surveyed by others:

- Passenger time of arrival, time distribution for arriving and departing passengers with respect to flight time
- Average travel party size (people traveling together)
- Mode of arrival/departure to and from the airport (personal vehicle, shuttle, taxi, limo, etc.)
- Luggage/baggage per person
- Arrival/departure route (i.e. directional distribution)
- Parking location

Employee information to be requested from the Airport during Master Plan Task 1.3 will include:

- List of on-airport terminal area tenants (e.g., cargo, FAA, other) within the study area. For each tenant, the number of employees (total and by shift), number of parking spaces on each site, and parking passes issued will be requested will be requested.
- Parking location and mode of arrival/departure for employees

Provided passenger and employee information will be summarized in Master Plan Task 10.1 Inventory Memorandum. No new employee data collection (i.e. employee surveys) or passenger data collection (i.e. passenger surveys) are included in the planning effort.

PARKING INVENTORY (MASTER PLAN TASK 2.3.3)

The Consultant will inventory the following five (5) airport parking facilities:

- Short-Term Parking
- Long-Term Parking
- Remote Economy Parking
- Employee Parking
- Cell Phone Lot

The parking inventory will be based on the data summarized in the *Parking Garage Study, Airport Landside and Parking Lot Improvements for St. Pete-Clearwater International Airport* by Cardno dated November 16, 2016 and the *Airport Landside and Parking Lot Improvement* design drawings completed by Cardno dated May 2017.

The employee parking information will also be requested from the Airport including:

- Overnight and peak employee vehicle accumulation during a typical busy peak month average day by parking location

- Volume of employee entry and exit vehicles by location during a typical busy day (the same day as the overnight and peak accumulation counts); entry and exit volumes provided in 15-minute increments is preferred
- Number of parking permits issued and fees paid

No field verification will be completed. A summary of the parking inventory will be included in Master Plan Task 10.1 Inventory Memorandum. The parking inventory will consist of the location, product types, and number of parking spaces.

RENTAL CAR INVENTORY (MASTER PLAN TASK 2.3.4)

A summary of the existing rental car facilities, both on- and off-site will be developed. The summary will include general operational characteristics, size, and access for the following, organized by each company:

- Terminal space (counters)
- Booths (if applicable)
- Ready/return spaces in the lot
- Storage/Quick Turn Around (QTA) facilities

The Airport provided data will be supplemented by one (1), four (4)-hour site visit to validate the parking related inventory collected from CADD files, digital mapping and aerial photography provided by the Airport. The site visits will be consolidated to the extent feasible to maximize efficiency.

The summary of the rental car inventory will be in Master Plan Task 10.1 Inventory Memorandum.

VEHICLE COUNTS AND OBSERVATIONS (MASTER PLAN TASK 2.3.5)

The purpose of the traffic counts and observations is to document the current vehicular and pedestrian traffic at designated Airport locations. In advance of any vehicle counts or operational observations, the Consultant will prepare a data collection plan describing the survey logistics (dates and required staff) and the survey forms.

Traffic Counts

A series of two (2), separate vehicle count efforts will be conducted. The first will be automatic traffic recorder (ATR) counts at up to three (3) terminal entry/exit locations for seven (7), consecutive 24-hour days. It is anticipated that these will consist of the following locations:

- Curbfront Approach
- Airport Entry
- Airport Exit

The seven-day counts will be used to identify the peaking throughout the week. Following the review of the seven-day counts, a second series of traffic counts will be conducted for two (2) consecutive 24-hour days at the following locations:

- Terminal Entry
- Inner Curbfront Lanes
- Outer Curbfront Lanes
- Entry to Ground Transportation Area for Taxi/Shuttle/Limos
- Exit from Ground Transportation Area for Taxi/Shuttle/Limos
- Terminal Exit

The counts at the above six (6) locations will be repeated after the completion of the *Airport Landside and Parking Lot Improvement* project. A tabular summary of the vehicle counts and turning movement counts will be provided in Master Plan Task 10.1 Inventory Memorandum. The tabular summary will also be provided in EXCEL format.

Curbfront Observations

Based on the seven-day counts, the peak hour of arrivals and peak hour of departures will be identified. Curbfront observation will be completed during a two (2)-hour period associated with the peak hour of arrivals, and a two (2)-hour period associated with the peak hour of departures. The curbfront observations will occur during one (1) day and will coincide with the two-day traffic counts identified above.

The curbfront observations will consist of vehicle classification counts, dwell time observations by mode, vehicle occupancy (i.e. people getting into and out of vehicles), accumulation (people waiting), and loading/unloading information for the following vehicle types: private autos, buses (transit, charter), taxis, shared ride, limos, shuttles, and commercial vehicles (hotel shuttles, etc.), service vehicles, and police/enforcement vehicles. Any enforcement or observed congestion will be noted during the data collection effort.

A summary of the curbfront observations will be provided in Master Plan Task 10.1 Inventory Memorandum.

Pedestrian Observations

The Consultant will conduct bi-directional pedestrian counts in 15-minute intervals at up to three (3) locations outside of the terminals during the arrivals and departures peak. The time period of the pedestrian observations will coincide with the curbfront observations described above.

Data to be collected includes general flow patterns, accumulation at five (5)-minute intervals, bi-directional counts, and observed congestion/conflict areas. In addition to the bi-directional pedestrian counts, general observations on luggage per person will be recorded and documented.

A summary of the pedestrian observations will be provided in Master Plan Task 10.1 Inventory Memorandum.

Facility Requirements and Demand/Capacity Analysis

TERMINAL ACCESS, CIRCULATION, AND PARKING REQUIREMENTS (MASTER PLAN TASK 4.6)

Baseline QATAR Model

As an option to the microscopic simulation identified below, traditional spreadsheet models based on Airport Cooperative Research Program (ACRP) can be used. If the spreadsheet option is selected, the curbside demands will be evaluated using methodology documented in ACRP 40: Airport Curbside and Terminal Area Roadway Operations, specifically the Quick Analysis Tool for Airport Roadways (QATAR) macroscopic spreadsheet analysis tool. The curbside capacity for the curbsides, as well as the terminal roadways within the study area will be evaluated using ACRP methodology. For the baseline QATAR model, the arrivals peak hour and the departures peak hour will be modeled for a total of two (2) QATAR analyses.

Multi-modal Simulation Modeling (Optional)

As an optional service using the data collected in the inventory tasks, a multi-modal simulation model will be developed to evaluate the existing operational conditions at the Airport. The Consultant will create the multi-modal simulation model using the Advanced Land Transportation Performance Simulation (ALPS) to model the terminal roadways, curbsides, parking, and rental-car facilities.

The Airport will provide an electronic CAD drawing for use as background in the modeling effort. The Consultant will request from the Airport an electronic, gated version of the flight schedule corresponding to the day of the operational observations. The Consultant will prepare and submit a memorandum summarizing the key microsimulation model inputs and assumptions. This Input Data and Assumptions (IDA) Memorandum will summarize the inputs received through the inventory tasks and become the basis of the model development effort. The IDA memorandum will also outline the recommended comparative measures of effectiveness (MOEs). Five (5) copies of the Draft IDA (including an electronic PDF version) will be provided to the Airport. The Consultant will incorporate one (1) set of combined comments on the IDA Memorandum for inclusion in the final document.

Based on the approved IDA, the Consultant will develop an ALPS microsimulation model of the existing terminal area roadway, parking, and curbside roadway areas as shown in the attached model coverage area graphic.

The baseline model will be calibrated for two (2) peak hours, the peak hour of arrivals and the peak hour of departures, using the traffic counts and other information collected as a part of the inventory tasks. The model will be validated when the model output approximates (within approximately 10%) of the actual traffic volumes using the study area roadway system during the peak hours analyzed. Once calibrated, the Consultant will present the calibrated model to Airport staff for additional review and validation. The Consultant will conduct a presentation to the Airport and a following presentation for stakeholders to discuss the modeling effort and the results obtained from this effort. The model will be updated to reflect the applicable comments made by the Airport and stakeholders during the presentation.

This baseline model will be used to generate the forecasts and again during the alternatives analysis to evaluate the alternatives.

Requirements and Level of Service

Using the baseline model, the user constraints by mode will be identified. The Demand/Capacity and level of service (LOS) for the existing conditions and three (3) forecast scenarios will be identified.

Roadway and Curbfront LOS

The demand/capacity and resulting LOS will be calculated for the terminal area roadways and the curbfronts for the arrivals and departure peak hour. The QATAR model will be used to evaluate the arrivals peak hour and the departures peak hour for each forecast year for a total of six (6) QATAR analyses. The roadway demand/capacity results will be presented on a link-by-link basis. Roadway capacity will vary based on number of roadway lanes and characteristics of terminal roadway segment using airport-specific capacity assumptions. The LOS of the existing roadway system will be calculated as a function of roadway demand.

The demand/capacity requirements and LOS will be summarized and documented in Master Plan Task 10.1.

Parking Requirements

Parking requirements identified in *Parking Garage Study, Airport Landside and Parking Lot Improvements for St. Pete-Clearwater International Airport* by Cardno dated November 16, 2016 will be used as the baseline requirements. Future public parking demands will be prepared for three (3) forecast period based on the activity forecasts reviewed in the inventory tasks. Future employee parking demands will be increased in proportion to the expected annual increase in overall airport activity, assumed to be represented by the average growth in annual originating airline passenger activity and annual aircraft operations. Off-airport public parking demand will not be estimated.

The parking requirements will be compared with available parking spaces and estimated deficiencies (or surplus) in available spaces will be identified. Requirements will be presented in a tabular format that will identify where parking demand is expected to exceed the supply of parking and the anticipated deficiency on a facility-by-facility basis. The public parking and employee parking facilities inventoried in Master Plan Task 2.3.3 will be assessed. It is assumed the existing market share allocation between facilities will be assumed remain consistent during the forecast years.

The public parking and employee parking demand/capacity requirements will be summarized and documented in Master Plan Task 10.1.

Rental Car Requirements

This task will compare capacity and future demand and identify future requirements for rental car facilities at the airport for terminal counters, booths, ready/return spaces, QTA facilities, remote storage/maintenance, and access and traffic patterns for jockey trips. The requirements will be summarized and documented in Master Plan Task 10.1.

Alternatives Analysis

DEVELOPMENT OF ALTERNATIVES (MASTER PLAN TASK 6.4)

Based on the findings from the LOS evaluation, improvements will be identified to address the facility constraints. The improvements will be evaluated for each mode and user separately and the impacts to other competing modes/users will be assessed.

Recommendations may be made with respect to the following areas:

- Merge, weave, and entry point improvements
- Curbfront operational improvements
- Improved recirculation
- Modified transit/shuttle boarding/alighting locations
- Access/circulation modifications for parking, rental car, garages
- Parking space allocation changes
- Changes to Parking Management System or real-time parking information (i.e. smart phone apps)
- Parking garage wayfinding for pedestrians and vehicles
- Pedestrian improvements
- Improved wayfinding on approach roadways
- Rental Car Facility configuration enhancements

Up to three (3) consolidated development concepts incorporating the solutions will be developed. The location and use characteristics of each alternative, along with any underlying assumptions and affiliated requirements will be described in narrative, graphic, and tabular format as appropriate. Schematic concept drawings will be developed in CADD format.

RECOMMENDED IMPROVEMENT CONCEPT (MASTER PLAN TASK 6.5)

The recommended improvement concept selected in Master Plan Task 6.4 will be assessed. The QATAR model developed during Master Plan Task 4.6 will be used to evaluate recommended improvement concept for the arrivals peak hour and the departures peak hour for each forecast year for a total of six (6) QATAR analyses. The model will be assessed for the three (3) forecast scenarios using the forecast/flight schedule provided by others. The model will be based on the passenger characteristics from the existing conditions model with certain operational adjustments to address the recommended scenario and assumptions associated with this effort will be coordinated with the Airport. Updated demand/capacity information will be provided documenting the anticipated improvements and, if necessary, refinements to recommendations.

Documentation and Management

AIRPORT MANAGEMENT PRESENTATIONS (MASTER PLAN TASK 9.1)

The three (3) development concepts from Master Plan Task 6.4 will be presented to the Airport and discussed in one (1) meeting. During the Consultant presentation meeting to the Airport the benefits/constraints of each alternative will be summarized. Based on the benefits/constraints assessment, one concept will be selected as the recommended concept by the Airport.

WORKING PAPERS (MASTER PLAN TASK 10.1)

Inventory Working Paper

The data collected in the inventory tasks will be summarized in Working Paper #1. ESA will provide a Word template for the working paper and Kimley-Horn will insert limited sections specific to their completed tasks. The Kimley-Horn input will consist of a summary of the traffic counts in tabular format, diagrams depicting traffic flows and operations, parking and rental inventories, and a summary description of findings.

ESA will complete final formatting and prepare all bound copies and consolidated electronic copies of the documents, both draft and final. One (1) call will be held to discuss Airport comments on the draft document. ESA will support in the development of graphics as needed.

Landside Requirements Working Paper

The demand/capacity and LOS assessment in Master Plan Task 4.6 will be summarized in Working Paper #2. ESA will provide a Word template for the working paper and Kimley-Horn will insert limited sections specific to their completed tasks. The Kimley-Horn input will consist of a summary of the demand/capacity and LOS tabular format and include a summary description of findings.

ESA will complete final formatting and prepare all bound copies and consolidated electronic copies of the documents, both draft and final. One (1) call will be held to discuss Airport comments on the draft document. ESA will support in the development of graphics as needed.

Alternatives Working Paper

The alternatives analyses and recommendations of the project will be summarized in Working Paper #3. ESA will provide a Word template for the working paper and Kimley-Horn will insert limited sections specific to their completed tasks. The Kimley-Horn input will consist of the landside alternatives and the recommended improvement including the anticipated benefits and operational improvements that could be expected.

ESA will complete final formatting and prepare all bound copies and consolidated electronic copies of the documents, both draft and final. One (1) call will be held to discuss Airport comment on the draft document. ESA will support in the development of graphics as needed.

PROJECT MANAGEMENT (MASTER PLAN TASK 11.1)

In addition to the stakeholder meetings, up to six (6) monthly status calls will be held with the Airport Project Manager or the Consultant team.

Additional Services

Any services not specifically provided for in the above scope will be billed as additional services under a separate task work authorization. Additional services we can provide include, but are not limited to, the following:

- Additional meetings or presentations beyond those noted in the tasks above
- Additional Development Concepts beyond those listed in the tasks above
- Additional traffic counts or field observation beyond those listed in the tasks above
- Additional parking analysis or updated evaluation of baseline requirements
- Design of proposed improvements
- Preparation of NEPA level environmental overviews, assessments, or Categorical Exclusions
- Detailed inventory of road signage
- Additional field verifications
- Additional simulation scenarios or visualizations beyond those listed in the tasks above
- Parking occupancy/utilization observations
- Optional ALPS Multi-modal Simulation Model

Information Provided By Client

We shall be entitled to rely on the completeness and accuracy of all information provided by the Client or the Client's consultants or representatives. The Client shall provide all information requested by Kimley-Horn during the project, including but not limited to the following:

- Passenger Surveys
- Existing Landside Reports
- FDOT studies/design drawings for Planned Improvement Projects along Roosevelt Boulevard (S.R. 686)
- Parking facilities layout drawings
- Parking entry/exit data by garage and lane in 15-minute intervals
- Parking occupancy information
- Airport Design Criteria/Space Standards
- Air passenger forecasts
- Cargo forecasts
- Employee forecasts
- CADD files, digital mapping, and aerial photography of study area roadways

ESA Task Budget Summary											
Task Number	Task Name	Sr. PM	Sr. PE	Sr. Pln	Eng I	Sr. Des	Adm	Sub-Total Hours	Labor	Expense	Subtotal
		\$ 275	\$ 221	\$ 211	\$ 137	\$ 136	\$ 87				
1.1	Study Design and Planning Charrette	7	13	0	0	0	0	20	\$ 4,798	\$ 550	\$ 5,348
1.3	Tenant and User Interviews	0	15	0	19	0	0	34	\$ 5,918		\$ 5,918
2.3.1	Terminal Access Roadway	0	3	3	21	0	0	27	\$ 4,103	\$ 28	\$ 4,131
2.3.2	Terminal Curbfront	0	15	2	54	0	0	71	\$ 11,134	\$ 1,320	\$ 12,454
2.3.3	Automobile Parking	0	3	3	21	0	0	27	\$ 4,103	\$ 28	\$ 4,131
2.3.4	Rental Cars	2	0	4	18	0	0	24	\$ 3,858		\$ 3,858
2.3.5	Counts and Observations	0	13	0	120	0	0	133	\$ 19,313	\$ 9,735	\$ 29,048
4.6	Requirements Terminal Access, Circulation, Parking	7	20	10	197	0	0	234	\$ 35,439		\$ 35,439
6.4	Alternatives Terminal Access, Circulation, Parking	18	9	9	11	18	0	65	\$ 12,789		\$ 12,789
6.5	Recommended Alternative	9	4	0	38	0	0	51	\$ 8,565		\$ 8,565
9.1	Airport Management Presentations	20	13	2	9	4	0	48	\$ 10,571	\$ 1,155	\$ 11,726
10.1	Working Paper #1	4	8	0	60	0	0	72	\$ 11,088	\$ -	\$ 11,088
	Working Paper #2	4	8	0	50	0	0	62	\$ 9,718	\$ -	\$ 9,718
	Working Paper #3	4	8	0	50	4	0	66	\$ 10,262	\$ -	\$ 10,262
11.1	Project Management	0	18	0	24	0	19	61	\$ 8,919		\$ 8,919
TOTALS								994	\$ 160,578	\$ 12,815	\$ 173,393

Revised 6/12/17

Expanded Detail 6/29/17

Revised 7/11/17

Expenses - Travel/Trip Summary

Cost per Trip (Mileage/Meals/Car) \$ 275

Number of Trips by Task		Sr. PM	Sr. PE	Sr. Pln	Eng I	Sr. Des	Adm	Subtotal (Trips)	Subtotal (Cost)
Task #	Task Description	P7	P6	P5	P3	D8	B1		
1	Stakeholder Meetings	1	1					2	\$ 550
2	Review of Studies							0	\$ -
3	Review of Forecasts							0	\$ -
4	Landside Inventory		1	1	1			3	\$ 825
5	Vehicle Counts							0	\$ -
6	Operational Observations			1	1			2	\$ 550
7	Inventory Memorandum							0	\$ -
8.1	Baseline Model (QATAR Model)							0	\$ -
9	Requirements and LOS							0	\$ -
10	Requirements Memorandum							0	\$ -
11	Development of Alternatives	2	1					3	\$ 825
12	Recommended Improvement							0	\$ -
13	Alternatives Memorandum							0	\$ -
Subtotal (Trips)		3	3	2	2	0	0	10	2,750
Subtotal (Cost)		\$ 825	\$ 825	\$ 550	\$ 550	\$ -	\$ -	\$ 2,750	

Expenses - Other		Hotel	Traffic Counts	Printing/Shipping
Task #	Task Description			
1	Stakeholder Meetings			
2	Review of Studies			\$ 55
3	Review of Forecasts			
4	Landside Inventory	\$ 495		
5	Vehicle Counts		\$ 8,800	
6	Operational Observations	\$ 330		\$ 55
7	Inventory Memorandum			\$ -
8.1	Baseline Model (QATAR Model)			
9	Requirements and LOS			
10	Requirements Memorandum			\$ -
11	Development of Alternatives	\$ 330		
12	Recommended Improvement			
13	Alternatives Memorandum			\$ -
Subtotal (Cost)		\$ 1,155	\$ 8,800	\$ 110

Subconsultant 6 – PTI
Scope and Fee Estimate

Task 1 - iALP/3DAAP TERPS Surface Updates

The iALP/3DAAP TERPS surfaces to be updated and/or added for PIE are listed below. All surfaces will be constructed as prescribed in FAA Order 8260.3B Change 21, FAA Order 8260.36 and 8260.54a. The precision approach criteria will use FAA Order 8260.36, which is presently being used by the FAA for obstruction evaluation.

The following are the surfaces that will be developed.

PIE

- A. Precision Approach (ILS - CAT I) - Final Segment
 - 1. RWY 36
 - 2. RWY 18
- B. Precision Approach (ILS - CAT I) - Missed Approach Area Section I
 - 1. RWY 36
 - 2. RWY 18
- C. Precision Approach (ILS – SA CAT I) - Missed Approach Area Section I
 - 1. RWY 18
- D. Precision Approach (ILS – CAT II) - Missed Approach Area Section I
 - 1. RWY 18
- E. Localizer Final
 - 1. RWY 36
 - 2. RWY 18
- F. RNAV (GPS) LNAV Final Section 1
 - 1. RWY 36
 - 2. RWY 18
- G. RNAV (GPS) LNAV Missed Approach
 - 1. RWY 36
 - 2. RWY 18
- H. RNAV (GPS) VNAV Final Section 1
 - 1. RWY 36
 - 2. RWY 18
- I. RNAV (GPS) VNAV Missed Approach
 - 1. RWY 36
 - 2. RWY 18
- J. RNAV (GPS) LPV Final Section 1
 - 1. RWY 36
 - 2. RWY 18
- K. RNAV (GPS) LPV Missed Approach
 - 1. RWY 36

- 2. RWY 18
- L. RNAV (GPS) “A” LNAV Final Section 1
- M. Non-Precision VOR Final Section I
 - 1. RWY 04
 - 2. RWY 36
- N. IFR Departure Area (Zones 1, 2 & 3)
 - 1. RWY 04
 - 2. RWY 36
 - 3. RWY 18
 - 4. RWY 22
- O. IFR Departure Area (Zones 1, 2 & 3) Non-Standard
 - 1. RWY 22
 - 2. RWY 36
- P. Circling Area (Category A, B, C & D)
- Q. TSS
- R. Visibility

Once these surfaces are constructed and reviewed, they will be incorporated into the upgraded iALP/3DAAP to allow PIE staff the full use of all obstruction routines available within the program.

DELIVERABLES

- * iALP Web-Based TERPS Data Files
- * 3DAAP AutoCAD Wireframe Drawings

Task 2 - One Engine Inoperative (OEI) Surface Development

Within this task contact with current tenant airlines that utilize PIE will be made to obtain the information necessary to map the carriers’ obstacle accountability areas (OAA) for all runway ends. Each responding airline’s OAA will be modeled three-dimensionally for mapping and analysis purposes. Comparison to the models to understand mapped points collected through the new data collection efforts and obstacle data obtained from FAA and NGS will be mapped and coordinated with each airline to ensure accurate depiction and location of the individual OAAs and representative OEI surfaces. From all the individual surfaces developed, a composite map depicting the lowest surface will be developed. This surface will represent the airspace that airlines apply and hope to be protected for by the local governing agency to be cleared of obstructions so that they can maximize the lift capacity of their fleets. All necessary graphics and digital data will be generated to depict the critical surfaces and controlling obstacles for each runway’s operations. The final digital surface will be transferred to the FAA’s internal OE/AAA analysis tool for obstruction analysis.

DELIVERABLES

- * 3DAAP OAA/OEI AutoCAD Surface Drawings
- * iALP Web-Based OAA/OEI Data Files

Task 3 – Obstruction Analysis Airports GIS

On top of the Airports GIS obstruction data collected, other sources of data that will be reviewed are the National Flight Data Center's (NFDC) National Airspace System Resources (NASR) data (FAA's main source of airport data to include facility, runway, etc.), NGS's Digital Obstruction File (DOF), Obstruction Chart (OC), OE/AAA proposed development both on and off airport, any new facility data and plans from any master planning data. Once the new obstruction points have been mapped by the data collection firm as per FAA Advisory Circulars (AC) 150/5300-16, 17b and 18b, these points will be utilized to process penetrations to FAR Part 77, TERPS and OEI surfaces developed from the above tasks and included into the iALP. Analytical reports, AutoCAD and Google three-dimensional graphics will be developed for discussions with PIE. Any penetrations to the TERPS and Part 77 surfaces that need to be mitigated will be discussed with the PIE prior to FAA submittal. Final understandable and useful graphics will be provided to the PIE for use in obstruction clearing along with a maintainable database within the iALP. In addition the Part 77.19 penetration will be developed and utilized for the ALP airspace sheets development.

Included within this tasks will be the incorporation of collected Airports GIS data in the iALP.

DELIVERABLES

- * Analytical Reports of Any Penetrations to Any Surfaces
- * AutoCAD 3D Graphics of Penetrations
- * Google 3D Data Files of Penetrations
- * Population of iALP Obstruction and Airports GIS Database

Planning Technology Inc.
Labor Detail by Task
St. Pete-Clearwater International Airport Master Plan

July 11, 2017

Labor Category		Project Manager	Senior Specialist	Computer Design	Total Hours	Labor Price	Task #	Subtotal
Task #	Task Name/Description	\$ 158	\$ 138	\$ 78				
1.0	Project Initiation						Task 1	\$ -
1.1	Study Design and Planning Charrette				- \$	-	1.1	
1.2	Project Kick-off Meetings				- \$	-	1.2	
1.3	Tenant and User Interviews				- \$	-	1.3	
1.4	Aerial Mapping and Airport Geographic Information System (uGIS)				- \$	-	1.4	
1.4.1	Vertically Guided Approach Obstruction Analysis				- \$	-	1.4.1	
1.4.2	Analysis of Features within Obstruction Identification Surface				- \$	-	1.4.2	
1.4.3	Planimetric and Topographic Mapping				- \$	-	1.4.3	
2.0	Existing Conditions						Task 2	\$ -
2.1	Airport Land Surrounding Area Inventory				- \$	-	2.1	
2.1.1	Airfield Facilities and Surrounding Airspace				- \$	-	2.1.1	
2.1.2	Airside Facilities				- \$	-	2.1.2	
2.1.3	Support Facilities				- \$	-	2.1.3	
2.1.4	Airport, Community, and Surrounding Area Features				- \$	-	2.1.4	
2.1.5	Airport Data				- \$	-	2.1.5	
2.2	Passenger Terminal Facilities				- \$	-	2.2	
2.3	Passenger Terminal Access, Circulation, and Automobile Parking				- \$	-	2.3	
2.3.1	Terminal Access Roadway				- \$	-	2.3.1	
2.3.2	Terminal Curbside				- \$	-	2.3.2	
2.3.3	Automobile Parking				- \$	-	2.3.3	
2.3.4	Rental Cars				- \$	-	2.3.4	
2.3.5	Counts and Observations				- \$	-	2.3.5	
2.4	Commercial Passenger Market Data				- \$	-	2.4	
3.0	Baseline Forecasts						Task 3	\$ -
3.1	Baseline of Historic and Previous Forecasts				- \$	-	3.1	
3.2	Baseline Forecast Preparation				- \$	-	3.2	
3.3	Alternative Forecast Scenarios				- \$	-	3.3	
3.4	Baseline Forecast Review/Coordination				- \$	-	3.4	
4.0	Facility Assessment and Requirements						Task 4	\$ 36,690
4.1	Airfield Demand Capacity Analysis				- \$	-	4.1	
4.2	Airfield Facility Requirements				- \$	-	4.2	
4.3	Navigation Aids, Metrolinx, and TERPS Analysis	168	170	338		\$ 36,690	4.3	
4.4	Airside Facility Requirements				- \$	-	4.4	
4.5	Requirements for Passenger Terminal Facilities				- \$	-	4.5	
4.6	Terminal Access, Circulation, and Automobile Parking				- \$	-	4.6	
4.7	Landside Facility Requirements				- \$	-	4.7	
5.0	Environmental Analysis						Task 5	\$ -
5.1	Natural Resources and Environmental Overview				- \$	-	5.1	
5.2	Noise Modeling				- \$	-	5.2	
5.3	Sustainability				- \$	-	5.3	
5.3.1	Sustainability Baseline Assessment				- \$	-	5.3.1	
5.3.2	Develop Sustainability Goals and Objectives / Alternative Screening Criteria				- \$	-	5.3.2	
5.4	Solid Waste Recycling (Waste Audit)				- \$	-	5.4	
5.5	Infrastructure Resiliency Planning				- \$	-	5.5	
5.5.1	Vulnerability Assessment				- \$	-	5.5.1	
5.5.2	Resiliency Planning				- \$	-	5.5.2	
5.6	Stormwater Management Plan Update				- \$	-	5.6	
5.6.1	Data Collection and Data Verification				- \$	-	5.6.1	
5.6.2	Design Methodology				- \$	-	5.6.2	
5.6.3	Schematic Design				- \$	-	5.6.3	
5.6.4	Final Schematic Design				- \$	-	5.6.4	
6.0	Alternatives for Airport Development						Task 6	\$ -
6.1	Constraints Analysis				- \$	-	6.1	
6.2	Initial Development Options				- \$	-	6.2	
6.3	Alternatives for Future Passenger Terminal Facilities				- \$	-	6.3	
6.4	Terminal Access, Circulation, and Automobile Parking Alternatives				- \$	-	6.4	
6.5	Recommended Development Alternatives				- \$	-	6.5	
7.0	Airport Layout Plan Drawing Set						Task 7	\$ -
7.1	Airport Layout Plan Set Preparation				- \$	-	7.1	
7.1.1	Title Sheet				- \$	-	7.1.1	
7.1.2	Airport Data Sheet				- \$	-	7.1.2	
7.1.3	Airport Layout Plan				- \$	-	7.1.3	
7.1.4	Terminal Area Drawings (2 sheets)				- \$	-	7.1.4	
7.1.5	Airport Airspace Drawings (3 sheets)				- \$	-	7.1.5	
7.1.6	Inner Portion of the Approach Surface Drawings (3 sheets)				- \$	-	7.1.6	
7.1.7	Runway/Departure Surface Drawing				- \$	-	7.1.7	
7.1.8	Land Use Drawings (2 sheets)				- \$	-	7.1.8	
7.1.9	Airport Property Map (3 sheets)				- \$	-	7.1.9	
7.2	Airport Layout Plan Review Coordination				- \$	-	7.2	
7.3	Exhibit "A" Property Inventory Map				- \$	-	7.3	
8.0	Recommended Development Program						Task 8	\$ -
8.1	Inventory of Financial Information				- \$	-	8.1	
8.2	Preliminary Financial Analysis				- \$	-	8.2	
8.3	Financial Implementation Plan Development				- \$	-	8.3	
8.4	Cost Estimates				- \$	-	8.4	
8.5	Development Program				- \$	-	8.5	
9.0	Stakeholder Coordination and Outreach						Task 9	\$ -
9.1	Airport Management Coordination				- \$	-	9.1	
9.2	Ongoing Working Group Meetings				- \$	-	9.2	
9.3	Agency Coordination				- \$	-	9.3	
9.3.1	St. Pete-Clearwater International Airport Traffic Control Tower				- \$	-	9.3.1	
9.3.2	FAA Orlando Airport District Office (ADO)				- \$	-	9.3.2	
9.3.3	FDOT District 7 Office				- \$	-	9.3.3	
9.4	Public Outreach				- \$	-	9.4	
9.4.1	Project Website				- \$	-	9.4.1	
9.4.2	Public Workshop #1				- \$	-	9.4.2	
9.4.3	Public Workshop #2				- \$	-	9.4.3	
9.4.4	Public Comment Management				- \$	-	9.4.4	
10.0	Report Preparation						Task 10	\$ -
10.1	Working Paper Development (4 total)				- \$	-	10.1	
10.2	Draft Master Plan Report and A/P Drawing Set				- \$	-	10.2	
10.3	Final Master Plan Report and A/P Drawing Set				- \$	-	10.3	
11.0	Project Administration						Task 11	\$ -
11.1	Project Management				- \$	-	11.1	
11.2	Quality Assurance and Control				- \$	-	11.2	
11.3	Project Close Out				- \$	-	11.3	
11.4	Expenses				- \$	-	11.4	
Total Hours		-	168	170	338			
Total Labor Costs		\$ -	\$ 23,260	\$ 13,430		\$ 36,690		\$ 36,690

SUBCONSULTANT TOTAL \$ 36,690

Subconsultant 7 – Woolpert

Scope and Fee Estimate



May 9, 2017

Douglas J. DiCarlo
Aviation Program Manager
ESA
4200 West Cypress Street, Suite 450
Tampa, FL 33607

RE: Proposal: Aerial Photography and Surveying Services at St. Pete-Clearwater International Airport (PIE)

Dear Mr. DiCarlo:

We appreciate the opportunity to provide a proposal for supporting ESA with geospatial services at the St. Pete-Clearwater International Airport (PIE) in Saint Petersburg-Clearwater, FL. The fee and bulleted list of scope functions is understood to be completed in accordance with the FAA Advisory Circulars 150/5300-16A, -17C, and -18B, change 1, with further guidance from the FAA Southern Region (ASO) and the Office of Airports Safety and Standards (AAS) in Washington, D.C.

Project Understanding

Woolpert understands that this project will follow the standards for a Vertically Guided Runway survey from AC 150/5300-18B, specifically Table 2-1 requirements for an Airport Layout Plan (ALP) as shown in Attachment "B". The project will be focused around performing three main tasks:

- 1) Obstruction analysis for AC 150/5300-18B, Vertically Guided Approach Obstruction Identification Surfaces as shown in Attachment "A" for Existing Runways 04/22 & 18/36.
- 2) Obstruction analysis for features within 12.5' of the FAR Part 77, Non-Precision Type "C" Obstruction Identification Surfaces for Existing Approach 04, Visual "B" Obstruction Identification Surfaces for Existing Approach 22 & Precision Instrument Runway (PIR) Obstruction Identification Surfaces truncated to 20,000' feet in length for Existing Approaches 18/36.
- 3) Planimetric/Topographic mapping of Mapping Limits as shown in Attachment "C"

Task 01 - Obstruction analysis for AC 150/5300-18B, Vertically Guided Approach Obstruction Identification Surfaces as shown in Attachment "A" for Existing Runways 04/22 & 18/36.

- Initiate and complete the AGIS Project process on the AGIS web portal as an Instrument Procedure Development survey

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

- Develop SOW and plans as required
- PIE does possess existing Primary and Secondary Airport Control Stations (PACS/SACS). The PACS/SACS will be recovered and utilized as the basis of control in accordance with AC-16A.
- Establish photogrammetric control and collect stereo imagery covering the surface area defined by the Vertically Guided Runway standards
 - Estimated 20 control points and 5 check points
 - Collect imagery at a 0.5' ground-sample distance, flight layout will be provided
 - Imagery Limits can be found in Attachment "A"
 - Collected with leaf-on conditions
- Geo-referencing of aerial photography
- Runway critical point survey on all usable runways
- Runway profile survey on all usable runways
- Navigational aid inventory for NAVAIDs associated to the airport (within 10 NM of ARP) including the associated perpendicular points
- Obstruction analysis for objects penetrating the Vertically Guided surfaces
 - Woolpert will request existing obstruction data for PIE from the FAA for review of the OIS.
 - If information is not available, a collection of objects penetrating the OIS will be collected using the density selection criteria.
- Development of new ortho-photography of entire project area
 - Pixel resolution of 0.5-feet over entire project area
- The VGA Imaginary Surfaces shall show 50 foot interval contours which are labeled
- Collect major landmark features within imagery coverage
- Population of calculable and required attributes
- Develop an AGIS compliant data file containing the safety critical data required to achieve instrument approach procedure development
- Develop the final reports to AGIS
 - Imagery Acquisition Report
 - Final Project Report

Task 02 - Obstruction analysis for features within 12.5' of the FAR Part 77, Non-Precision Type "C" Obstruction Identification Surfaces for Existing Approach 04, Visual "B" Obstruction Identification Surfaces for Existing Approach 22 & Precision Instrument Runway (PIR) Obstruction Identification Surfaces truncated to 20,000' feet in length for Existing Approaches 18/36.

- Obstruction analysis for surface penetrations and features within 12.5 feet of the FAR Part 77 surfaces
 - All features which penetrate these surface lowered 12.5 feet are to be collected.
 - Ground elevations will be provided for any object within 12.5 feet of the specified FAR Part 77 surface. Exact accuracy of the ground positions may vary depending upon the visibility of the ground within the aerial imagery. Where major elevation breaks are not present, it is anticipated that the 200' grid will be used to calculate the majority of ground elevations.
- Areas of tree canopy that penetrate the specified OIS surface lowered 12.5 feet shall be contoured at 5 foot contour intervals. Individual trees extending significantly above the tree canopy shall not be contoured but will have a spot elevation on top
 - The outline of the limits of the tree canopy penetrating the OIS surface lowered 12.5 feet is to be identified
- Areas of terrain that penetrate the specified OIS surface lowered 12.5 feet shall be contoured at 2 foot contour intervals.
- Obstruction accuracies will meet the National Map Accuracy standards for 1"=800' scale photography
- Spot elevations on a 200' grid inside the specified Part 77 approach surfaces
 - This grid will not be provided in obscured areas or areas over water
 - Areas of ground penetration will be captured at a 100 foot grid interval
 - The outline of the limits of the ground penetrating the OIS surface lowered 12.5 feet is to be identified
- All railroad and road centerlines will have a spot elevation where they cross the extended runway centerline and the exterior limits of the OIS surfaces.
- Top height for all buildings on airfield property shall be provided.
- The Part 77 Imaginary Surfaces shall show 50 foot interval contours which are labeled
- Develop and deliver to ESA Companies a Microsoft Excel file containing information to all Obstacles that were collected within 12.5 feet of the Obstruction Identification Surfaces

- This spreadsheet will contain Northing, Easting, Elevation, Penetration Depth, Station, and Offset information
- Develop and deliver to ESA Companies an AutoCAD file containing information to all Obstacles that were collected within 12 feet of the Obstruction Identification Surfaces

Task 03 - Planimetric/Topographic mapping of Mapping Limits as shown in Attachment “C”

- Utilize imagery collected for airspace analysis in Tasks 01 & 02 for development of planimetric and topographic mapping.
- Develop mapping features to generate 1”=100’ scale mapping at 2’ contour intervals.
 - Existing LiDAR has been flown over the airport and this LiDAR will be utilized to assist in generating 2’ contours.
- Mapping will include features required for standard Airport Layout Plan (ALP) base mapping as shown in Attachment “D”.
- Attributes that are required or calculable will be populated and submitted to AGIS as an Existing Data project.
- The Airport Layout Column in Table 2-1 of AC 150/5300-18B has a few items that are not traditionally a part of the airport base mapping. It is anticipated that ESA will address these items and that these items are not a part of Woolpert’s scope:
 - Determine if the runway has an associated clearway
 - Determine all Land Use to 65 DNL contour
 - Identify and document wetlands or environmentally sensitive areas

Fee Estimate Breakdown

The survey fee estimate has been separated into individual breakdowns for each task.

	Fee Estimate
Task 01: AC-18B Obstruction Analysis	\$63,234
Task 02: FAR Part 77 Obstruction Analysis	\$18,731
Task 03: Planimetric/Topographic Mapping	\$45,842
Project Total =	\$127,807

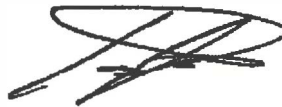
Woolpert estimates the entire project to take 6 months (contingent on ability to capture leaf-on imagery) from the official notice-to-proceed to the date of delivery to the final data file and report to the Airports GIS website. The proposed fee estimates are valid for ninety (90) days from proposal date.

Please don't hesitate to contact me to discuss any comments or questions you may have (937.531.1631).

Sincerely,

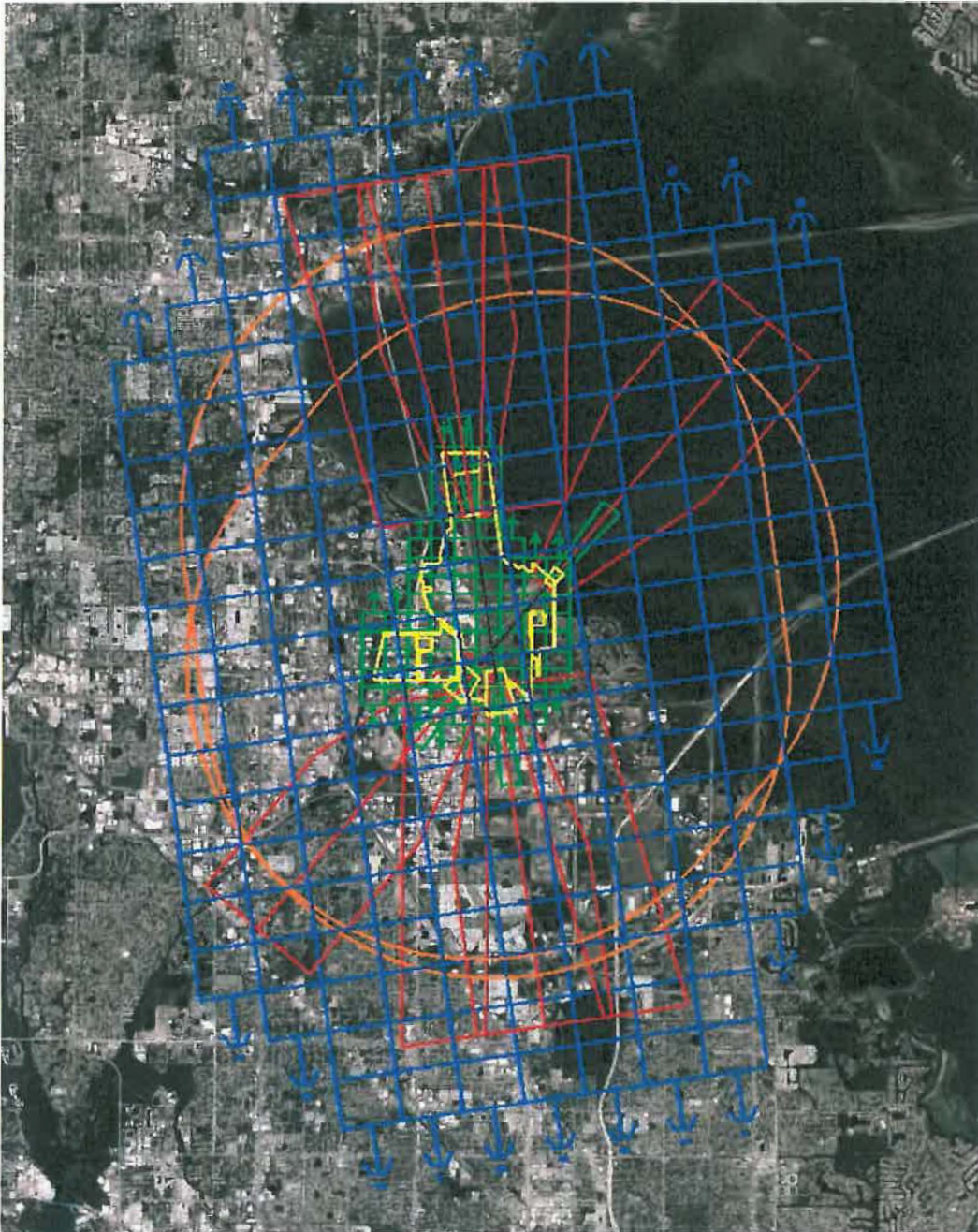


Woolpert, Inc.
Eric Risner, PS
Aviation Project Manager



Woolpert, Inc.
Thomas E. Mackie, PS
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Vice President

Attachment A: AC-18B Vertically Guided OIS



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Attachment B: Survey Requirements

This table is designed for use in two ways. First, it defines in a general fashion the task required to meet a specific objective. Each task listed is generalized and the process to complete it may contain many other pieces. Users should refer to the text of the referenced AC to ensure that all the required subtasks are completed. The second way to use this matrix is as a checklist to ensure all the required data is collected either before leaving the field or submitting the data to the FAA.

Intended End Use of the Data	AC Reference	Airport Layout Plan (ALP)
Required Task		
Provide a Survey and Quality Control Plan	150/5300-16/17/18	•
Establish or validate Airport Geodetic Control	150/5300-16	•
Perform, document and report the tie to National Spatial Reference System (NSRS)	150/5300-16	•
Survey runway end(s)/threshold(s)	150/5300-18	•
Monument runway end(s)/threshold(s)	150/5300-18	•
Document runway end(s)/threshold location(s)	150/5300-18	•
Identify and survey any displaced threshold(s)	150/5300-18	•
Monument displaced threshold(s)	150/5300-18	• ¹
Document displaced threshold(s) location	150/5300-18	•
Determine or validate runway length	150/5300-18	•
Determine or validate runway width	150/5300-18	•
Determine runway profile using 50 foot stations	150/5300-18	• ¹
Determine runway profile using 10 foot stations	150/5300-18	• ²
Determine the touchdown zone elevation (TDZE)	150/5300-18	•
Determine and document the intersection point of all specially prepared hard surface (SPHS) runways	150/5300-18	•
Determine and document the horizontal extents of any Stopways	150/5300-18	•
Determine any Stopway profiles	150/5300-18	•
Determine if the runway has an associated clearway	150/5300-18	•
Survey clearway to determine objects penetrating the slope	150/5300-18	•
Determine and document the taxiway intersection to threshold distance	150/5300-18	•
Determine runway true azimuth	150/5300-18	•
Determine or validate and document the position of navigational aids	150/5300-18	•
Determine or validate and document the position of runway abeam points of navigational aids	150/5300-18	
Determine potential navigational aid screening objects	150/5300-18	
Collect and document VOR receiver checkpoint location and associated data	150/5300-18	
Perform or validate and document an airport airspace analysis	150/5300-18	•
Collect and document helicopter touchdown lift off area (TLOF)	150/5300-18	•
Collect and document helicopter final approach and takeoff area (FATO)	150/5300-18	•
Collect or validate and document airport planimetric data	150/5300-18	•
Determine or validate the elevation of the Air Traffic Control Tower Cab Floor (if one is on the airport)	150/5300-18	•
Perform or validate a topographic survey	150/5300-18	•
Collect and document runway and taxiway lighting	150/5300-18	•
Collect and document parking stand coordinates	150/5300-18	
Collect cultural and natural features of landmark value	150/5300-18	•
Determine elevation of roadways at the intersecting point of the Runway Protection Zone (RPZ) or the runway centerline extended	150/5300-18	•
Determine all 1:1 to 65 DNI contour	150/5300-18	•
Document features requiring digital photographs	150/5300-18	•
Document features requiring sketches	150/5300-18	•
Collect position and type of runway markings	150/5300-18	•
Collect position and type taxiway markings	150/5300-18	
Locate, collect, and document photo ID points	150/5300-17	
Identify, collect, and document wetlands or environmentally sensitive areas	150/5300-18	•
Collect imagery	150/5300-17	•
Provide a final Project Report	150/5300-16/18	•

¹ All 14 CFR Part 139 airports require 10 foot stations. At all other airports the distance between stations is between 10 and 50 feet to meet local requirements

Attachment C: Mapping Limits



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Attachment D: ALP Feature List

Minimum To Develop ALP			
Safety Critical		Non-Safety Critical	
		On Airport	Off Airport
1	AirportControlPoints	X	X
2	CoordinateGridArea	X	X
3	MarkingArea (Runway only)	X	
4	MarkingLine (Runway only)	X	
5	NavaidEquipment	X	X
6	Obstacle	X	X
7	ObstructionArea	X	X
8	ObstructionIDSurfaces	X	X
9	Runway	X	
10	RunwayBleedPad	X	
11	RunwayCenterline	X	
12	RunwayElement	X	
13	RunwayEnd	X	
14	RunwayHelipadDesignSurfaces	X	X
15	RunwayIntersection	X	
16	RunwayLabel	X	
17	RunwayLAHSO	X	
18	TouchDownLiftOff	X	
1	AircraftGateStand	X	
2	AircraftNonMovementArea	X	
3	AirfieldLight	X	
4	AirfieldSign	X	
5	Apron	X	
6	ArrestingGear	X	
7	Bridge	X	X
8	Building	X	X
9	DrivewayArea	X	
10	DrivewayCenterline	X	
11	ElevationContour	X	X
12	Fence	X	
13	Gate	X	
14	ImageArea	X	X
15	LandmarkSegment	X	X
16	MarkingArea (Off Runway)	X	
17	MarkingLine (Off Runway)	X	
18	MovementArea	X	
19	ParkingLot	X	X
20	PassengerLoadingBridge	X	
21	RailroadCenterline	X	X
22	RailroadYard	X	X
23	RoadCenterline	X	X
24	RoadPoint	X	X
25	RoadSegment	X	X
26	RunwayArrestingArea	X	
27	Shoreline	X	X
28	Shoulder	X	
29	State	X	X
30	TankSite	X	
31	TaxiwayElement	X	
32	TaxiwayPosition	X	
33	TaxiwayIntersection	X	
34	Tower	X	X
35	Waterland (no official delineation)	X	X