

Board of Commissioners

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Astoria, OR 97103
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Public Hearing and Workshop Session

April 19, 2022 @ 4:00 PM
10 Pier 1, Suite 209

The meeting location is accessible to persons with disabilities. A request for an interpreter for the hearing impaired or for other accommodations for persons with disabilities should be made at least 48 hours before the meeting by calling the Port of Astoria at (503) 741-3300.

*This meeting will also be accessible via Zoom. Please see page 2 for login instructions.

PUBLIC HEARING

1. CALL TO ORDER
2. ROLL CALL
3. PRESENTATION OF CM/GC METHOD OF CONTRACTING.....3
4. CALL FOR PUBLIC COMMENT ON DRAFT FINDINGS FOR AN EXEMPTION FROM COMPETITIVE BIDDING REQUIREMENTS FOR THE PIER 2 REHABILITATION PROJECT
5. ADJOURN

Workshop Session

1. CALL TO ORDER
2. ROLL CALL
3. PLEDGE OF ALLEGIANCE
4. CHANGES/ADDITIONS TO THE AGENDA
5. PUBLIC COMMENT:
6. This is an opportunity to speak to the Commission for 3 minutes regarding Port concerns not on the agenda. In person, those wishing to speak must fill out a public comment form. Those participating via Zoom may raise their hands during the public comment period.
7. PRESENTATION: Democratic Candidate for Senate District 16 - Melissa Busch
8. ACTION:
 - a. Approval of Mead & Hunt Contract7
 - b. Resolution 2022-03 Authorizing the CM/GC Form of Contracting66
 - c. Budget Committee72
9. COMMISSION COMMENTS
10. EXECUTIVE DIRECTOR COMMENTS
11. UPCOMING MEETING DATES:
 - a. Regular Session – May 3, 2022 at 4:00 PM
 - b. Budget Committee Meeting – May 4, 2022 at 1 PM
 - c. Workshop Session – May 17, 2022 at 4:00 PM
12. ADJOURN

Please Note:

Agenda packets are available online at: <https://www.portofastoria.com/CommissionMeetings/AgendaMinutes.aspx>

Please allow time for the normal posting procedure for agendas and meeting packets.

Board of Commissioners**HOW TO JOIN THE ZOOM MEETING:**

Online: Direct link: <https://us02web.zoom.us/j/86905881635?pwd=amhtTTBFcE9NUElxNy9hYTZFPQTlzQT09>
Or go to [Zoom.us/join](https://zoom.us/join) and enter Meeting ID: 869 0588 1635, Passcode: 422

Dial In: (669) 900-6833, Meeting ID: 869 0588 1635, Passcode: 422

This meeting is accessible to persons with disabilities or persons who wish to attend but do not have computer access or cell phone access. If you require special accommodations, please contact the Port of Astoria at least 48 hours prior to the meeting by calling [\(503\) 741-3300](tel:5037413300) or via email at admin@portofastoria.com.

EXHIBIT A

Findings of Fact to Support an Exemption from Competitive Bidding and Use of the Construction Management / General Contractor (CM/GC) Alternative Form of Contracting

Brief Project Description: The CM/GC contract will be employed for the rehabilitation of Pier 2 West at the Port of Astoria. The Port has completed a design feasibility analysis, as well as 30% design documents on one rehabilitation option. However, the exact scope of rehabilitation and the final construction methods to be employed will be determined in the course of performance of the CM/GC contract. The estimated cost of the project is \$19.3 million. The *tentative* schedule is to issue the Request for Proposals in June and execute the CM/GC contract in August (2022). The construction schedule will depend on several variables, the most prominent among them being the method of rehabilitation, the timing of permit issuance, and the availability of funds.

Background and Introduction: Under Oregon law, the CM/GC contract is defined as an “alternative” contracting method and requires that the local contract review board make certain findings and formally approve the use of the CM/GC approach. To that end, the draft findings are published below. The Commission of the Port of Astoria, acting in their capacity as the local contract review board, will accept public comment through April 18 and will hold a public hearing on April 19 to discuss and approve the findings.

Findings:

ORS 279C.335(2)

(a) The exemption is unlikely to encourage favoritism in awarding public improvement contracts or substantially diminish competition for public improvement contracts.

The Port of Astoria intends to award the Construction Manager/General Contractor (“CMGC”) contract by competitive proposals and to employ most, if not all, of the typical processes associated with a competitive award, including but not limited to the following: A competitive solicitation in the form of a Request For Proposals (RFP) will be advertised and the solicitation will be conducted in accordance with ORS 279C.330 to 279C.337, 279C.400 to 279C.410 and OAR 137-049-0600 to 137-049-0690, ; the RFP packet will be available to all interested parties prior to the submission deadline; a pre-submission-deadline meeting will be held at which all interested parties will be able to ask questions; proposers will be able to submit written questions prior to the deadline; after submission, proposal evaluation and initial ranking, top proposers will be interviewed, with rankings subject to modification based on interview results; after final rankings, the Port will reserve the discretion, under ORS, to enter into final negotiations with all top-ranked proposers for a “best and final” offer. If the Port is unable to negotiate a contract acceptable to the Port with the selected proposer, the Port will reserve the right to enter into negotiations with the next-ranked proposer.

In addition, the RFP and the final agreement with the successful proposer will require the CM/GC to use a competitive process to select subcontractors consistent with ORS 279C.337(3).

Because the process will be competitive from start to finish, awarding the contract through the CM/GC exemption will neither diminish competition nor encourage favoritism in the award of a public contract.

(b) Awarding a public improvement contract under the exemption will likely result in substantial cost savings and other substantial benefits to the contracting agency or the state agency that seeks the exemption or, if the contract is for a public improvement described in ORS 279A.050 (3)(b), to the contracting agency or the public. In approving a finding under this paragraph, the Director of the Oregon Department of Administrative Services, the Director of Transportation or the local contract review board shall consider the type, cost and amount of the contract and, to the extent applicable to the particular public improvement contract or class of public improvement contracts, the following:

(A) How many persons are available to bid;

Although the exact number of firms available to bid will be unknown prior to issuing the RFP, eligibility criteria in the RFP will be drafted, and the RFP advertised in sufficient locations, to ensure a response from the largest possible pool of qualified contractors.

(B) The construction budget and the projected operating costs for the completed public improvement;

The planned project is multi-faceted and complex, and the preliminary construction budget is substantial at approximately \$19 million.. The CM/GC method of contracting will enable the Port to streamline and coordinate project design and planning before and during construction with the goal of minimizing unnecessary cost overruns and identifying areas of cost savings as outlined below.

(C) Public benefits that may result from granting the exemption;

The primary benefits to the public as a result of the award under this exemption are likely cost savings and a shortened timeline for construction. As outlined below, engaging a CM/GC with knowledge and experience in marine construction is likely to result in efficiencies in the execution of the project, which in turn are likely to avoid extra costs due to avoidable delays or oversights.. Further, a well-planned, well-constructed project will directly benefit the public by retaining the fish processing operations at the project location, resulting in over \$100 million in direct, indirect, and induced economic effects. Operations on Pier 2 West account for about 5% of the GDP of Clatsop County; it would be difficult to overestimate the importance of the planned project to the economics of the region and state

(D) Whether value engineering techniques may decrease the cost of the public improvement;

One major reason for the CM/GC approach is to secure the advice of a marine construction consultant prior to finalizing design plans. The CM/GC approach is uniquely designed to allow for this expert guidance prior to final design and construction in order to identify areas for design efficiencies and possible cost savings.. Under the traditional Design/Bid/Build approach, no such advice is possible prior to final design.

(E) The cost and availability of specialized expertise that is necessary for the public improvement;

After preliminary analysis of the availability of qualified contractors, the Port has a reasonable basis to believe that a sufficient number of marine contractors with experience with this type of construction are likely to respond to the RFP to allow for a competitive process. The evaluation process will be designed to ensure that the most qualified person or firm is selected from among those who respond.

(F) Any likely increases in public safety;

Pier 2 West, in its current state, is a safety hazard. Its rehabilitation and repair will result in substantial increase in the safety for all who work on the pier.

(G) Whether granting the exemption may reduce risks to the contracting agency, the state agency or the public that are related to the public improvement;

A CM/GC contract reduces the risk to the contracting agency by placing the risk for the guaranteed maximum price on the contractor. It is further expected to reduce risk to the Port by providing more thorough review and scrutiny of the design by a construction consultant with prior experience in this type of work prior to finalization –, thereby reducing the risk of design flaws or other unforeseen circumstances which can lead to cost overruns and delays. The CM/GC contract will also contain various protections provided to contracting agencies in statutory requirements for public improvement contracts, including requiring performance and payment bonds to protect the Port from faulty or incomplete performance.

(H) Whether granting the exemption will affect the sources of funding for the public improvement;

The CM/GC contract will have no effect on the sources of public funding for this project. The Project will be paid for by grant funds and funds already budgeted and available for use by the Port.

(I) Whether granting the exemption will better enable the contracting agency to control the impact that market conditions may have on the cost of and time necessary to complete the public improvement;

A major component of the CM/GC contract is the GMP Amendment (“guaranteed maximum price”). This amendment is executed prior to the contractor commencing construction work and requires the contractor to bear the risk that market conditions may affect the cost of the project or the time necessary to complete it. The CM/GC contract that will result from this exception will enable the Port to better control the impact of market conditions than if a traditional design-bid-build process was used.

(J) Whether granting the exemption will better enable the contracting agency to address the size and technical complexity of the public improvement;

The CM/GC approach to contracting is being contemplated to address these specific factors. By engaging a marine construction consultant as part of the construction team from very early in the process, the Port will be better able to manage the size and technical complexity of the project.

(K) Whether the public improvement involves new construction or renovates or remodels an existing structure;

Because this project involves new construction methods that the Port has not employed before, it will be critical to bring on a construction consultant very early in the process. The CM/GC approach to the construction contract allows for this early involvement by the needed consultant.

(L) Whether the public improvement will be occupied or unoccupied during construction;

Early consultation with the CM/GC contractor will enable the close coordination between new construction and existing operations necessary to maintain both. This coordination early in the project is often more difficult or impossible in a traditional design-bid-build approach when the construction contractor begins work after preliminary designs are completed. Eventual conflicts are therefore more likely to occur, resulting in cost overruns and delays.

(M) Whether the public improvement will require a single phase of construction work or multiple phases of construction work to address specific project conditions; and

Whether and how to phase the construction of the project is one of the key reasons to obtain input and guidance from the CM/GC early in the process, to anticipate potential problems and coordinate timely completion of milestones. Under the traditional design-bid-build approach, the project design is typically completed without this input, often leaving the construction contractor to resolve problems as they are encountered rather than anticipating and addressing them in advance.

(N) Whether the contracting agency or state agency has, or has retained under contract, and will use contracting agency or state agency personnel, consultants and legal counsel that have necessary expertise and substantial experience in alternative contracting methods to assist in developing the alternative contracting method that the contracting agency or state agency will use to award the public improvement contract and to help negotiate, administer and enforce the terms of the public improvement contract.

The Port's legal counsel has previous experience advising contracting agencies on the CM/GC contracting method. Port counsel is able and available to advise staff as needed. Further, both the executive director and the deputy director of the Port of Astoria have extensive experience negotiating the terms of Port contracts and in administering contracts upon execution. Finally, the Port has retained the services of consultants with the range and depth of experience necessary to successfully navigate the CM/GC procurement process. The solicitation documents and the CM/GC contract will be drafted collaboratively among Port counsel, Port staff, and other consultants in order to ensure that all aspects of the solicitation, negotiation, and contract performance are executed properly.



U.S. Department
of Transportation
**Federal Aviation
Administration**

Northwest Mountain Region
Colorado · Idaho · Montana · Oregon · Utah
Washington · Wyoming

Seattle Airports District Office
2200 S. 216th Street, Room 1W-420
Des Moines, WA 98198

March 29, 2022

Matt McGrath
Port of Astoria
Warrenton Astoria Regional Airport
1110 SE Flightline Drive
Warrenton, OR 97146

Astoria Regional Airport
Astoria, OR
AIP: 3-41-0003-030-2022
Planning Services

Dear Mr. McGrath:

We have reviewed your scope of work, fee proposal, record of negotiations and Independent Fee Estimate (IFE) and informal procurement process for the AST Master Plan Update and Wildlife Hazard Management Plan by Mead & Hunt. Based on your analysis, we accept these costs as reasonable. Please maintain a copy of your analysis for future audit purposes.

The fee(s) proposed for the planning services have been approved, subject to the following conditions:

1. Please note that this is a maximum fee and the sponsor can only be reimbursed for actual costs incurred assuming associated construction work is completed.
2. Planning must conform to FAA standards and specifications.

The following cost of **\$486,717** is approved and appears eligible for federal participation,

We encourage all sponsors to review their planning services agreements in detail and be familiar with them. Under the AIP, the sponsor is the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues arising from the procurements entered into.

Based on the submitted record of negotiations, we concur with the listed fees established. The fees are fair, reasonable, and the result of good faith negotiations.

If you have not done so, please submit the following certification:

- **Sponsor Certification for Selection of Consultants.** This certification indicates that you have reviewed and followed the FAA standards and guidance in the selection of your consultant and in the negotiation process, to determine fair and reasonable fees.

If you have questions, please call me at (206) 231-4134.

Sincerely,

Benjamin Mello,
Community Planner, x644
Seattle ADO

Mitchell Hooper

From: Gary Kobes <gkobes@portofastoria.com>
Sent: Monday, March 14, 2022 9:44 AM
To: Mitchell Hooper
Cc: Matt McGrath
Subject: FW: Request for Fee Approval

Mitch, I'll call you so we can discuss. I forwarded your material to Ben Mello and these were his comments.

Gary Kobes
(503) 741-3338 Office
(314) 409-8392 Cell
gkobes@portofastoria.com

From: Mello, Benjamin J (FAA) <Benjamin.J.Mello@faa.gov>
Sent: Wednesday, March 9, 2022 7:39 AM
To: Gary Kobes <gkobes@portofastoria.com>
Cc: Matt McGrath <mmcgrath@portofastoria.com>
Subject: RE: Request for Fee Approval

Hi Gary/Matt:

Thanks for sharing – a couple of questions/comments.

1. Mead & Hunt Style Template- Section 9.4 – missing link.
2. The Mead & Hunt Master Plan Fee table shows \$468,612 yet the email you provided (also the letter) shows \$463,306 – did additional negotiations occur for the reduction of roughly \$5,000?
3. Wildlife Assessment Comments-
 - Scope references a 2005 WHMP a few times, but the date is actually 2010. Mitchell Hooper provided this to us on 9/9/2021.
 - Task 1 says they cannot estimate the FAA review schedule, which is fine as is. If they want a number, we/I can commit to 45 days (this will allow me time to coordinate with cert inspector).
 - Task 2.2 Deliverables still says one-day site visit but this was changed to two days.
 - While I do not need an IFE for the wildlife assessment I do need the following:

From AC 5100-14E- 2.10.2 Informal Procedures---

2.10.2.1 Informal Qualifications Based Selection procedures may be used for A/E procurements estimated to be less than \$100,000. However, this does not relieve the Sponsor from the obligation to perform a cost analysis and prepare an independent fee estimate (see paragraph 2.13). Sponsors must consult with FAA Airport personnel before using informal procedures to assure that the circumstances justify their use.

2.10.2.2 Under this procedure, a Sponsor must contact at least three firms and discuss their qualifications to perform the work. Negotiations must then be conducted with the best-qualified firm to arrive at a fee. These negotiations may be conducted via telephone or e-mail. After selection, using this procedure, the Sponsor must document their procurement action and then submit a statement to the FAA explaining the basis for the selection and method used to determine reasonableness of the fee.

2.10.2.3 The informal selection process may not be used to select a firm for multiple projects.

Thanks for providing the answers to these questions/comments.

Cheers
Ben

From: Gary Kobes <gkobes@portofastoria.com>
Sent: Monday, March 7, 2022 4:51 PM
To: Mello, Benjamin J (FAA) <Benjamin.J.Mello@faa.gov>
Cc: Matt McGrath <mmcgrath@portofastoria.com>
Subject: Request for Fee Approval

Ben, attached are the:

- Morrison-Maierle Independent Fee Estimate for the approved scope of work, Airport Master Plan Update.
- Record of Negotiations.
- Mead & Hunt, Scope of Work for the AST Airport Master Plan Update.
- Mead & Hunt, Fee Proposal for the AST Airport Master Plan Update.
- Mead & Hunt, Scope of Work for the AST Wildlife Hazard Mitigation Plan.
- Mead & Hunt, Fee Proposal for the AST Hazard Mitigation Plan.

There was a significant disparity between the total M-M IFE and the M&H fee proposal, \$728,174 vs. \$463,306. We looked at the task level comparison and found that M&H had exceeded the M-M IFE in two categories Task 6 by \$5,728 and Task 13 by \$4,630.

Masterplan Project Element	Morrison -		MH
	Mairele	Mead & Hunt	
Task 1 Study Design	\$ 33,803	\$ 7,364	\$ 2
Task 2 Project Management	\$ 37,409	\$ 18,912	\$ 1
Task 3 Stakeholder Involvement Program	\$ 130,889	\$ 70,136	\$ 6
Task 4 Airport Geogrphic Informationo Survey (AGIS)	\$ 113,973	\$ 94,973	\$ 1
Task 5 Existing Conditions	\$ 58,843	\$ 30,880	\$ 2
Task 6 Environmental Considerations	\$ 13,914	\$ 19,642	\$ (-
Task 7 Aviation Forecasts	\$ 52,697	\$ 33,004	\$ 1
Task 8 Facilities Requirements Analysis	\$ 69,195	\$ 34,215	\$ 3
Task 9 Alternatives Development and Evaluation	\$ 55,779	\$ 43,079	\$ 1
Task 10 Financial Feasibility Analysis & Facilities Implementaion Plan	\$ 42,086	\$ 29,423	\$ 1
Task 11 Land Use Planning	\$ 12,373	\$ 10,094	\$ 0
Task 12 Airport Layout Plan	\$ 79,764	\$ 47,296	\$ 3
Task 13 Appendicies	\$ -	\$ 4,630	\$ (-
Task 14 Documentaton	\$ 27,449	\$ 19,658	\$ 0
Total	\$ 728,174	\$ 463,306	\$ 26

After reviewing the entirety of the M&H fee proposal we concluded that the fee proposals both the Master Plan Update and the \$23,411 for the Wildlife Hazard Mitigation Plan are equitable charges and recommend that you approve the fee proposals.

For Matt McGrath,

Gary Kobes
(503) 741-3338 Office
(314) 409-8392 Cell
gkobes@portofastoria.com

AIRPORT MASTER PLAN UPDATE

Scope of Services

Port of Astoria, Oregon

Mead & Hunt and partners (hereafter “the Consultant”) were selected to provide airport planning services for Port of Astoria, the owner and operator of Warrenton Astoria Regional Airport (hereafter “AST”). This Scope of Services includes the planning services and tasks associated with the preparation of the airport master plan update (hereafter “Plan”). Upon notice to proceed, the completion of this Master Plan is expected to take 18 months.

PLAN PURPOSE

The Plan evaluates the Airport’s needs over a 20-year planning period, for airfield, airspace, terminal areas, and landside facilities. The goal is to document the orderly development of facilities essential to meeting AST needs, in accordance with FAA standards, and in a manner complementary with community interests. The Plan results in a 20-year development for a financially resilient facility envisioned by AST, reflective of the updated Airport Capital Improvement Plan (CIP) and graphically depicted by the Airport Layout Plan (ALP) drawings. The approved Plan show how AST will satisfy FAA design standards and seek project funding eligible under the respective federal and state airport aid programs.

MASTER PLAN GOALS

Financially Resilient Facility

The project affords the Port of Astoria with the opportunity to evaluate and update its strategy for the future of AST. Key elements that are considered in the Plan include future needs of AST’s four revenue drivers:

- ▶ User Fees
- ▶ Fuel Sales
- ▶ Hangars
- ▶ Land Leases and Development

The primary goal of the Master Plan is to prepare an approved ALP that emphasizes and incorporates feasible airport improvements that can be successfully implemented. The Master Plan will establish the purpose and need for proposed projects.

For this Master Plan, key projects and focus areas of emphasis include the following items:

- ▶ Helicopter Operations Area
- ▶ Hangar Development
- ▶ Taxiway A and Glideslope Relocation
- ▶ Taxiway B Extension
- ▶ Non-Aeronautical Development
- ▶ Future Development Areas
- ▶ Electric Aircraft Integration

PROJECT SCOPE TASKS

1. Study Design
2. Project Management
3. Stakeholder Involvement Program
4. Airport Geographic Information Survey (AGIS)
5. Existing Conditions
6. Environmental Considerations
7. Aviation Forecasts
8. Facilities Requirements Analysis
9. Alternatives Development and Evaluation
10. Financial Feasibility Analysis & Facilities Implementation Plan
11. Land Use Planning
12. Airport Layout Plan
13. Appendices
14. Documentation

Task 1 Study Design

Study design includes development of a scope of services (Exhibit A – Project Scope) and an estimate cost of the effort necessary to accomplish the work scope (Exhibit B – Project Fee). A schedule that defines the milestones and necessary efforts for the Master Plan is included as (Exhibit C – Project Schedule).

1.1 Scope, Fee and Contract

The deliverables for this task will be draft and final scope of services, a project fee, a project schedule, and contractual documents. These documents will form the basis of the agreement to provide professional services for this project.

The Consultant will prepare two (2) drafts of the scope for AST to review. The Scope will be provided to the Federal Aviation Administration (FAA) Seattle Airports District Office (Seattle ADO) for one (1) round of review. The Consultant will address comments and prepare a package containing a scope, blank fee estimate spreadsheet, and schedule for the independent fee estimate (IFE) consultant. The IFE consultant will be procured by AST; the Consultant will not have direct contact with the IFE consultant.

1.2 Team Charter

The Team Charter sets the framework for collaboration between AST, the FAA, and members of the Consultant team. The Team Charter will contain the following tasks:

- ▶ Team Purpose and Organization
- ▶ Desired Project Outcome
- ▶ Meeting Organization
- ▶ Conflict Resolution Process
- ▶ Deliverable and Communications Standards

1.3 Scoping Meetings

The Consultant will coordinate with AST over the phone during scoping. Up to eight (8) one-hour scoping meetings will occur during **Task 1**. These meetings will occur over phone/video conference and will be attended by up to four members of the Consultant Team. The purpose of these meetings is to discuss the draft scope and next steps with AST and the FAA. The Consultant will provide meeting notes (not minutes) to the attendees on the calls.

Task 1 Deliverables

- ▶ Scope, fee, and schedule
- ▶ Independent Fee Estimate spreadsheet
- ▶ Team charter

Task 2 Project Management

Project management includes the following tasks.

2.1 Project Management

The Consultant will monitor project status and performance. These will include the following:

- ▶ Project set-up
- ▶ Subconsultant management
- ▶ Internal project teleconferences (Up to four (4) per month for 18-month project duration)
- ▶ External project teleconferences (Up to two (2) per month for the 18-month project duration)
- ▶ Deliverable Quality Assurance (QA)/Quality Control (QC)
- ▶ Monthly project status reports and invoices to AST
- ▶ Quarterly progress reports to the Seattle ADO

The Consultant will invoice AST monthly during the 18-month project duration. Invoices will include efforts by task, indicate a percentage completion, and contain a brief progress report that describes what was completed in the past month and the milestones expected to be completed in the coming months. AST, and not the Consultant, will prepare the FAA grants request for reimbursements (RFRs) for this project. The Consultant will provide supporting documentation for the RFRs as requested by AST.

The Consultant will prepare a bullet-list schedule that considers Plan progress for the next three (3) months and include it with each invoice. Project management documentation will not be presented as part of the Plan.

2.2 AST Coordination

The Consultant will correspond with AST via email, telephone, and in-person. The Consultant will arrange teleconferences (up to two (2) monthly) with AST throughout the project to discuss ongoing project events and overall project status. These calls are to provide updates of work completed, conclusions reached, and Plan concerns. Calls will be attended by up to three (3) members of the Consultant team. During certain Plans tasks, specialist members of the Consultant team will join the calls to discuss their work. Contact information is included below.

Airport Primary Point of Contact

Matt McGrath, Deputy Director
mmcgrath@portofastoria.com
Office: 503.741.3300
422 Gateway Ave Ste 100
Astoria, OR 97103

Secondary Point of Contact

Gary Kobes, Airport Manager
gkobes@portofastoria.com
Office: 503. 861.1222
1110 SE Flightline Drive
Warrenton, OR 97146

Mead & Hunt Point of Contact

Mitchell Hooper, Project Manager
Mitchell.Hooper@meadhunt.com
Mobile: 360.771.1764
9600 NE Cascades Parkway, Suite 100
Portland, OR 87220

Secondary Point of Contact

Angela Archibeque, Planner
Angela.Archibeque@meadhunt.com
Office: 971.231.3095
9600 NE Cascades Parkway, Suite 100
Portland, OR 87220

Task 2 Deliverables

- ▶ Monthly invoices (up to 18 expected)
- ▶ Monthly schedule updates (up to 18 expected)

Task 3 Stakeholder Involvement Program

This project task will focus on communication with stakeholders and their participation in the project. This task will occur throughout the duration of the Plan with a focus on soliciting input and feedback in advance of key decisions and document finalization. A summary of meetings is below, and meetings are described in the following tasks. Meetings are grouped into four (4) trips and two (2) online meetings to make efficient use of travel budget.

Table 1-1: Tentative Schedule of Meetings

Months from Notice to Proceed	Trip #	Meeting or Site Visit	Task	Consultant Attendees (up to)
1	Trip #1	Kickoff & Site Visit	3.1	4
5	Online Meeting #1	Seattle ADO Forecast Meeting	3.4	2
5	Trip #2	PAC Meeting #1	3.2	4
5		Port Commissioner #1	3.5	
12	Trip #3	PAC Meeting #2	3.2	4
12		Public Meeting #1	3.3	
12		Port Commissioner #2	3.5	
15	Trip #4	PAC Meeting #3	3.2	4
15		Public Meeting #2	3.3	
15		Port Commissioner #3	3.5	
15	Online Meeting #2	Seattle ADO CIP Meeting	3.4	2

3.1 Project Kickoff and Site Visit

The Consultant will hold a project kickoff meeting at AST after notice to proceed. This visit will kick the project off and begin data collection efforts. Meetings will include an airfield tour and meetings with key tenants and stakeholders.

3.2 Stakeholder Engagement Plan

The consultant will prepare a stakeholder engagement plan that describes goals, audiences, tools, and activities related to stakeholder engagement for this project.

3.3 Planning Advisory Committee Meetings

The Planning Advisory Committee (PAC) will be set up by AST and will consist of aviation and non-aviation constituents selected to provide well-rounded Plan perspectives. AST representatives will sit in on the PAC meetings as ex-officio members. The PAC will consist of up to ten (10) members, which may include representatives of the following organizations:

Table 1-2: PAC Committee Organizations

Local Agencies	Tenant and User Groups	State and Federal Agencies
Port of Astoria	U.S. Coast Guard	Federal Aviation Administration (FAA)
Cities of Astoria, Warrenton, Seaside, and Cannon Beach	Lektro, Inc.	Oregon Department of Aviation (ODA)
Clatsop County	Columbia Bar Pilots	Oregon National Guard
Ft. Clatsop National Historical Park	LifeFlight Ambulance	Oregon Department of Transportation (ODOT)
Chamber of Commerce	UPS	Joint Base Lewis – McChord (Army Aviation)
Citizen’s Groups	Seafood Processing Tenants	
	Others as direct by the Port	

The FAA Seattle ADO and the Oregon Department of Aviation (ODA) will be ex officio members. They will be informed of the PAC meetings and invited to attend; however, they will have the role of observer. Three (3) PAC meetings are planned during this project.

The PAC serves in an advisory capacity to collectively review Plan recommendations and provide feedback to AST and the Consultant. PAC input will be used to guide Plan developments; however, decision making authority rests with the Port of Astoria. The PAC is anticipated to meet at the following project milestones:

- ▶ PAC Meeting #1 – Project Overview, Forecasts, Facility Requirements
- ▶ PAC Meeting #2 – Initial Development Alternatives
- ▶ PAC Meeting #3 – Revised Development Alternatives, Capital Plan

The Consultant will prepare a PAC Charter and Work Plan that includes the PAC’s charge, describes meeting conventions, and a general schedule of expected objectives to complete at each meeting. The Consultant will work with the project team to prepare meeting agendas, facilitate PAC meetings, and produce summaries of each meeting.

3.4 Public Engagement Meetings

Public engagement meetings will be conducted in an open house format with static displays organized as stations in a room. Stations will be staffed by members of the Consultant team. These meetings will provide the public the opportunity to interact with AST and Consultant staff, ask questions, communicate concerns, and provide feedback. Two (2) public meetings are planned as part of this project. They will coincide with PAC Meetings #2 and #3.

The Consultant will work with AST to identify a location, time, and date for the public meetings. AST will handle meeting location arrangements. The scope and fee do not include expenses for meeting space rental or meeting advertising. The Consultant will prepare text for a press release that AST can distribute in advance of each public meeting. AST is responsible for advertising the meetings. The materials for the meetings will be provided to AST for hosting on the Port of Astoria website.

3.5 Online Open House

The Consultant will develop a temporary web page to present materials prepared for **Task 3.4 Public Engagement Meetings** and optimize them for an online format. The online open house will be available for a limited time to allow community members who are unable to attend an in-person event an opportunity to review project information and submit comments via online comment form or survey. The web page will be developed and hosted by Consultant with Port of Astoria branding.

3.6 Quarterly Information Updates

The Consultant will prepare content for quarterly updates that can be shared on the Port of Astoria website or in e-newsletters to share information about the project and keep stakeholders apprised of project progress. Up to four (4) updates are included for the 18-month project.

3.7 FAA Seattle Airports Districts Office Coordination

Up to two (2) Consultant staff and AST staff will attend up to two (2) meetings through teleconference with the Seattle ADO to discuss the Master Plan. No in-person meetings with the Seattle ADO are included. These meetings will occur at the following milestones:

- ▶ Aviation Forecasts
- ▶ Capital Improvement Plan

Meetings will be scheduled after the Seattle ADO has had time to review documents (e.g. draft forecasts, draft CIP). Consultant deliverables and discussion will focus on steps to achieving FAA forecast approval, and FAA concurrence with the capital improvement plan.

3.8 Port Commissioners Meetings

The Consultant will provide briefings to the Port Commissioners during regularly scheduled Port Commission meetings. Up to two (2) consultant staff will attend up to three (3) Commissioner's meetings. Presentations will provide the Commissioners with an update on project progress and provide an opportunity for questions. Expected schedule is shown in **Table 1-1**:

3.9 Stakeholder Engagement Summary

Upon completion of the final series of stakeholder engagement events, the Consultant will prepare an appendix to the Master Plan that summarizes stakeholder engagement efforts. This will include a description of the engagement plan, highlights from meetings, any new media coverage of the Master Plan, and a summary of comments received from stakeholders and how they were addressed.

Task 3 Deliverables

- ▶ Stakeholder Engagement Plan
- ▶ PAC Charter and Work Plan (PDF)
- ▶ PAC Meeting Presentations (PDF, up to three (3))
- ▶ PAC Meeting Agendas (PDF, up to three (3))
- ▶ PAC Meeting Summaries (PDF, up to three (3))
- ▶ Port Commissioner's Presentations (PDF, up to two (2))
- ▶ Public Open House Boards (Up to ten (10) 24"x36" foam core boards per meeting for two (2) meetings)
- ▶ FAA Seattle ADO Presentations (PDF, up to two (2))
- ▶ Public Open House Press Releases (Up to two (2), PDF)
- ▶ Stakeholder Engagement Summary
- ▶ Online Open House (web page)

Task 4 Airports Geographic Information System (AGIS) Survey

AGIS data collection efforts will support the development Plan. Data will be uploaded to the FAA Airports GIS (AGIS) database and will support future AST and FAA projects. AGIS data will be collected according to AC 150/5300-16B, 17C,18B (hereafter AC-16B, AC-17C, and AC-18B). Two (2) sets of aerial imagery will be collected: a high flight for AST airspace analysis and a low flight for the airfield mapping. The flight missions will both occur during leaf-on conditions. This task will require initiation of an AGIS project with a statement of work, imagery, survey, quality control plans, and a final survey report. Tasks for this element are based on AC-18B, Table 2.1, Airport layout Plan (ALP) column. Attributes and feature classes to be captured are in **Attachment 1**.

4.1 AGIS Setup, Statement of Work, and Survey Plans

The Consultant will set up a new airport survey project on the FAA AGIS website on behalf of AST and instruct AST staff on how to access the AGIS website. The project will be a new airport survey project type to provide support for an ALP and will include Airport Airspace Analysis for existing Runway 14/32 and Runway 8/26. This information will be used to assess magnetic declination of the runways, and recommendation on re-numbering the runways will be made if necessary.

The Consultant will submit one (1) each of the following documents to the AGIS website. No fieldwork will be performed prior to review and acceptance of the plans by the governing agencies.

- ▶ Statement of Work (FAA Review)
- ▶ Survey and Quality Control Plan (National Geodetic Survey [NGS] Review)
- ▶ Imagery Plan (NGS Review)

AST will provide imagery from a LiDAR survey conducted in 2017. The data includes obstructions for Part 77 surfaces. The LiDAR does not include recent modifications to Taxiway A3. The LiDAR will be provided in **Attachment 2**.

4.2 Aerial Mapping and Photography

The Consultant will obtain orthophotography and aerial mapping of AST. This task will include collection of topographic data, raster image data, and planimetric data. Imagery will be collected according to the procedures in AC-17C. **Attachment 1** shows the area from where aerial imagery is collected. The ortho-imagery will be submitted to NGS at the address listed in AC-17C on labeled recordable media with the label identifying AST, FAA project, and company information.

4.3 Reconnaissance and Field Surveys

A licensed surveyor will make one (1) trip to the Airport to field survey the runways, NAVAIDs, and photo control points required in AC-18B. AST will be responsible for coordinating airfield access (including escort or badging) and the surveyor will follow FAA protocols regarding field survey on an airfield. The field survey data will be included in the AGIS deliverable.

4.4 Airport Airspace Analysis

The Consultant will conduct a vertically guided Airport Airspace Analysis of obstructions for Runway 14/32 and Runway 8/26 in accordance with AC-18B. This data will be included in the AGIS upload and used on the airspace sheet of the ALP. Analysis will be performed for existing runways only. No changes to the runway configuration are expected as part of this project.

4.5 Surveyed Features and Planimetric Data Attribution

The Consultant will attribute collected features following the requirements of AC-18B. Attribution beyond what is required for approval of the dataset in AGIS is not included. Attributed data will be available to AST, via the Consultant-provided survey deliverable and the FAA ADIP / AGIS website, for use on future projects.

4.6 AGIS Data Upload

The Consultant will process surveyed and mapped features and obstructions in AST GIS geodatabase schema and then upload survey data to the AGIS website. The upload will include the items listed on Table 2-1 (Survey Requirements Matrix) of AC-150/5300-18B. The Consultant will upload the Final Survey Report to the AGIS project website. A hard drive of AGIS survey data and the aerial imagery will be provided to AST for use on future projects.

Task 4 Deliverables

- ▶ Three (3) large format prints of the aerial imagery
- ▶ One hard drive with AGIS data and digital imagery

Task 5 Existing Conditions

Data collection will consist of reviewing previous master plans, other planning documents, and environmental studies. Federal and state aviation plans, and tenant's development plans will be reviewed. Unless noted, the inventory will not include assessment of remaining useful life or condition assessments outside of visual observation. No testing or architectural/ engineering integrity tests will be performed. Note the inventory of existing based aircraft, aircraft operations, and socioeconomic characteristics of the service area are addressed in **Task 7**.

5.1 Goals and Assumptions

The Consultant will assemble a series of goals and assumptions related to the intent, direction, purpose, and strategic vision of and for AST. This will serve as the preface of the Master Plan, and be used to guide development and evaluation of alternatives, and prioritization of capital projects.

5.2 Plan and Report Collection Review

The Consultant will develop a base of information included in the Request for Information (RFI) document to be used in the planning process. AST will provide the Consultant with copies of electronic files that may assist in developing the narrative and ALP if they are not available publicly. These may include documents such as, but not limited to, the following:

- ▶ Previous planning documents, including past airport master plans, airport facility layout plans, land use studies, and airspace analyses, and engineering reports.
- ▶ Previous National Environmental Policy Act (NEPA) and wildlife hazard management documents
- ▶ The AST Pavement Management Program (PMP)
- ▶ City and County Transportation Planning and Comprehensive Planning documents
- ▶ Aircraft Operations Survey

5.3 Aeronautical Facilities

The Consultant will document the following inventory items as necessary to meet FAA planning guidance and to sufficiently address the goals and focus area. The Consultant will document AST's existing infrastructure, facilities, equipment, and services. The Consultant will note AST facility conditions and deficiencies per conversations with AST, FAA, and will document non-standard and non-compliant airfield geometry. Specific areas to be reviewed include the following.

Table 1-3: Aeronautical Facility Evaluation Criteria

Airside	Landside
Runway System	Airfield Communication Facilities and Equipment
Taxiway System	Airfield Vehicle Access Routes
Aircraft Parking and Transient Aprons	Aircraft Hangars
NAVAIDS, Lighting System, and Shelters	Airport Maintenance and Material Storage
Pavement Markings, Lighting, Signage	Fencing/Gates/Security
Air Cargo/Freight Facilities	General Aviation Service Operator Facilities
Aircraft Fuel Storage and Dispensing Systems	General Aviation Terminal Facilities Other Airport Tenant Facilities

Climate Data

Meteorological and wind observation data will be obtained from the Automated Surface Observing Systems (ASOS) by the Consultant, to assess crosswind conditions and for developing an all-weather and instrument wind rose based on 10.5, 13, 16 and 20-knots crosswind components.

5.4 Non-Aeronautical Facilities

The Consultant will develop a baseline of the conditions and regulations that govern non-aeronautical land uses on, and adjacent to, AST property. This information will be used as the baseline for an assessment, which will provide recommendations for non-aeronautical development that will help diversify AST revenues and promote continued financial self-sufficiency. The following conditions will be documented:

- ▶ Existing non-aeronautical land uses (build-out)
- ▶ Location of water, sewer, gas, electric, and communication utility lines (to be provided by the City, County, and AST)
- ▶ Planned development (to be provided by the City, County, and AST)
- ▶ Comprehensive planning and zoning designations

An aviation easement is required as part of the airport operations overlay zone which applies to the City of Warrenton and Clatsop County. As part of the planning process AST will need to communicate with the Port of Astoria to maintain similar language in all the planning documents in regard to obtaining the easements.

5.5 Auto Parking and Circulation

The Consultant shall develop an inventory of the existing surface transportation features that serve AST. The review shall include a desktop planning-level examination of AST and the surrounding area based on aerial imagery, Geographical Information Systems (GIS), and input from project partners. The inventory shall include:

- ▶ Public and private surface streets providing direct access to AST
- ▶ On-site parking
- ▶ General site-circulation (vehicular)
- ▶ Existing structure use and occupants/employees
- ▶ Last-mile options between Airport and destination

This work is required to accurately evaluate conceptual layout of parking and transportation design alternatives, develop a single recommended concept, and prepare planning-level cost estimates for short-term development projects.

5.6 Airport Utility Mapping

The Port will provide the Consultant with the baseline utility map. No Consultant effort is required for this task.

Task 5 Deliverables

- ▶ Draft and Final Inventory Chapter

Task 6 Environmental Considerations

Environmental information will be collected and used in the evaluation of recommended airport improvements to understand critical environmental issues and requirements. This environmental overview effort is limited to summarizing existing permitting agency databases, prior AST environmental studies. This does not include a wildlife hazard management plan, which is being completed as a concurrent, but separate, project.

6.1 Environmental Inventory

The environmental inventory includes analysis of environmental challenges that pertain to AST and the surrounding area. Data from the environmental assessment will be incorporated into the Master Plan environmental analysis as appropriate. Work completed will be documented as part of the Environmental Considerations chapter.

Table 1-4:

No.	Environmental Review Item	Level of Investigation and Review
1	Air Quality	Review NEPA Greenbook for nonattainment areas in Oregon and review Oregon Department of Environmental Quality Website and management plan for the Astoria area
2	Coastal Resources	Locate review standards
3	Compatible Land Use	Addressed as part of Task 11
4	Construction Impacts	Not considered
5	Section 4(f) Property	Review city, county, and national records for outdoor recreation areas
6	Farmlands	Document surrounding areas.
7	Threatened and Endangered Species	Review US Fish and Wildlife and National Marine Fisheries Service, Oregon Department of Fish and Wildlife listing of threatened, endangered, and candidate species in IPaC and prior biological surveys
8	Floodplains	Review FEMA Flood Insurance Rate Maps
9	HazMat, Pollution Prevention, and Solid Waste	Completed as part of Task 6.2
10	Historical, Architectural, and Cultural Resources	Review National Register of Historical Places, summarize previous tribal and Section 106 coordination. Include areas of potential effects in summary.
11	Light Emissions and Visual Impacts	Not considered
12	Natural Resources, Energy Supply, and Sustainable Designs	Review energy supply
13	Noise	Addressed as part of Task 11
14	Secondary (Induced) Impacts	Not considered
15	Socioeconomic, Environmental Justice, and Children’s Health and Safety Risks	

16	Water Quality	Review NEPA Assist and City GIS database
17	Wetlands	Review NEPA Assist and US Fish and Wildlife Service National Wetland inventory maps, Local Wetland inventory, and prior wetland surveys. Review availability of mitigation bank credits.
18	Wild and Scenic Rivers	Review rivers.gov

6.2 Airport Recycling, Reuse, and Waste Reduction Plan

The FAA Modernization and Reform Act of 2012 (FMRA) and FAA Reauthorization Act of 2018 require a review of solid waste recycling at airports undergoing the master planning process. This task shall include 1) a review of the Airport’s existing recycling, reuse, and waste reduction program and 2) development of an airport recycling plan in accordance with the September 30, 2014 FAA Memorandum titled *Guidance on Airport Recycling, Reuse and Waste Reduction Plans* and *Reauthorization Program Guidance Letter (R-PGL) 19-02*. Such a plan documents existing practices and makes recommendations to reduce airport solid waste generation and increase recycling and landfill diversion and aids an airport in compliance with the Federal requirements, including grant eligibility.

As specified by the FAA this effort will address the recycling, reuse, and reduction of municipal solid waste (MSW) including construction and demolition debris, compostable, and other material which can be disposed of in a non-hazardous waste landfill and excluding other types of solid waste such as hazardous waste, universal waste, or industrial waste. As specified by the FAA, the scope of this task includes “all areas under direct control of the sponsor, and when applicable, areas over which the sponsor has influence.”

This effort shall document the five elements listed in Section 133 of the FMRA:

- ▶ Feasibility of solid waste recycling at the Airport
- ▶ Minimizing the generation of solid waste at the Airport
- ▶ Operation and maintenance requirements
- ▶ Review of waste management contracts
- ▶ Potential for cost savings or the generation of revenue

Facility Description and Background

The Consultant will gather, assess, and describe background information about the Airport, drivers for implementing/maintaining a recycling program, the Airport’s current solid waste recycling, reuse, and waste reduction efforts and program performance. A facility walk-through and interviews/discussions with Airport staff and existing contractors (specifically housekeeping and waste collectors/haulers, if applicable) will be conducted to gather data for this task. Airport staff will be asked to provide additional data and information collected under the existing program (copies of invoices and contracts, etc.). This task will be completed concurrently with **Task 5**

- ▶ **Waste Audit:** The Consultant will examine records and conduct a facility walk through to identify and document the source, composition, and baseline quantity of MSW waste streams generated at an Airport (including areas under direct control of the Sponsor and areas over which the Sponsor has influence). A physical waste sort will not be conducted.
- ▶ **Review of Recycling Feasibility:** The Consultant will research, assess, and describe factors affecting the Airport's ability to recycle, describe Federal, state, or local guidelines or policies that aid or hinder recycling efforts, identify and describe incentives for implementing/maintaining a recycling program and identify and describe logistical constraints.
- ▶ **Operation and Maintenance (O&M) Requirements:** The Consultant will review and describe waste handling and parties responsible for each area.
- ▶ **Review of Waste Management Contracts:** The Consultant will review and describe current contracting for waste management at the Airport, describe how existing contracts encourage or impede sustainable waste management, and describe how waste handling and recycling is funded.
- ▶ **Potential for Cost Savings or Revenue Generation:** To design fiscally responsible strategies, the Consultant will develop, and present recycling program recommendations based on review of the preceding work and compare the cost of landfilling waste with recycling, compost, or reuse. This task will be accomplished through a financial analysis of the Airport's waste management program and recommendations to enhance the program.

Plan to Minimize Solid Waste Generation

The Consultant will develop and document the final recycling, reuse, and waste reduction program recommendation(s), based on information obtained in the previous tasks. This task will:

- ▶ Document the Airport's program to recycle paper, plastic bottles and aluminum cans and plastic cups,
- ▶ Present the Airport's plan for a comprehensive approach to reduce the amount of waste being disposed of in landfills (including establishment of objectives and targets),
- ▶ Discuss how the Airport will track the recommendations and how this will be reviewed to come up with ideas to improve performance,
- ▶ Describe conditions that will trigger re-evaluation of constraints to improving recycling performance,
- ▶ Describe planned efforts for education and outreach to employees, tenants, and the travelling public on recycling.

Task 6 Deliverables

- ▶ Draft and Final Environmental Overview Chapter
- ▶ Draft and Final Waste and Recycling Plan, to be included as an Appendix to the Master Plan
- Chapter review process is described in **Task 14**

Task 7 Aviation Forecasts

Aviation activity forecasts assess the future demand at AST, considering demand influencers and aviation resources that drive aviation markets. Forecast will be prepared for a 20- year planning horizon, as reported in 5-,10-, and 20-year increments, and developed for the following activity components below. The base year for forecasts will be FAA Fiscal Year (October- September) 2021. This is expected to be the most recent year of data available at the time of the forecasts. The 2020 FAA Terminal Area Forecast (TAF), published in January 2020, is shown below. It is expected that the 2022 FAA TAF will be published by the time of this forecast, but if it has not, the 2021 FAA TAF will be used.

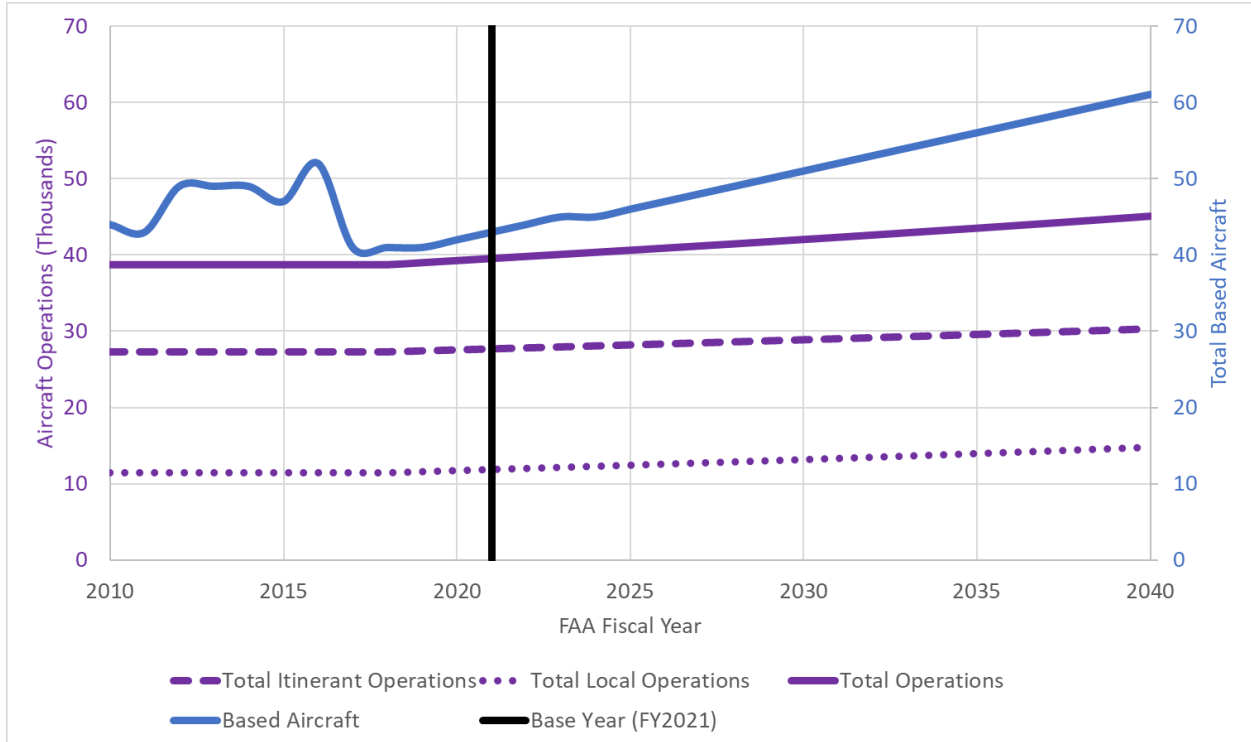


Table 1-5: Aviation Activity Indicators

Aviation Activity Indicators		
Commercial Operators	Aircraft Operations	Based Aircraft
Commercial Operations	Civilian and Military	Critical Aircraft
Air-Taxi Passengers	Instrument Operations	Piston: Single / Twin
Air Cargo/Freight	Aircraft Fleet Mix(Fixed/Rotor)	Turboprop: Single/Twin
	General Aviation (Local & Itinerant)	Helicopter: Rotor/Turbine
	Runway Utilization	
	Evening/ Night Operations	
	Touch and Go Operations	
There are no based jets at AST currently.		

The forecasts will be developed consistent with FAA forecasting guidance (*Advisory Circular 150/5070-6B, Airport Master Plans, C2 2015*), reflecting the current baseline of Airport activity levels, user trends, and industry-wide activity patterns. National, state, and regional FAA published trends and forecast projections will be reviewed and referenced as applicable. The FAA TAF will serve as the Mater Plan 20-year baseline forecast projection, including comparisons to forecast scenarios. Forecast data sources are provided below.

Table 1-6: Forecast Data Sources

Forecast Data Sources		
National/State	Local	Industry
FAA TAF	Population Forecast	Aircraft Manufacturer Forecasts
FAA Aerospace Forecast	Economic Activity Forecast	Airline Growth Plans
Census Bureau	Regional Product Forecast	Airports Council International
Department of Energy	Industry Shift	
Department of Labor	Sector Earnings and Employment	
State System Plan	Wood & Poole	

The consultant will prepare three (3) forecast scenarios (low growth, medium growth, and high growth). The scenario forecasts will account for various local Airport factors and influences. AST, in coordination with the Consultant, will select a preferred aviation activity forecast. Once the preferred forecast is selected by AST, it will be sent to FAA Seattle ADO for review and approval. The forecast will be developed for the 20-year planning period and used to support existing and future facilities and alternative developments.

FAA staff can approve forecasts at the ADO level provided they are consistent with the TAF (within 10 percent in five years, and within 15 percent in 10 years). Forecasts that exceed these tolerances require coordination with FAA Regional and possibly Headquarters offices.

This scope, fee, and schedule do not anticipate coordination with FAA Regional and Headquarters offices. Should this coordination be necessary, the scope, fee, and schedule will need to be reevaluated by the Consultant, the Port of Astoria, and the FAA Seattle ADO.

7.1 Service Area Characteristics

The Consultant will review relevant socioeconomic and aviation trend information pertaining to the Airport’s service area using data sourced from the AST, Clatsop County, Pacific County, FAA, and third-party industry databases. The Consultant will rely on AST and key users to understand the Airport’s general aviation preferences, aircraft utilization, and other factors which could influence general aviation activity projections. The Consultant will research studies conducted by federal and state agencies, and aviation interest groups to ascertain emerging trends, and how AST’s general aviation market segment would respond to industry growth trends, and operations could change over time. This section will include a list of industry trends, socioeconomic conditions, and community factors that may have influences on the amount of aviation activity projections.

7.2 Operations Forecasts

FAA flight activity records will be forecast using the baseline itinerant and local operations. This will be augmented by AST and tenant information, and information purchased from a third—party provider. The Consultant will rely on AST and key users to understand AST’s general aviation preferences, aircraft utilization, and other factors which could reasonably influence AST’s general aviation activity projections.

General aviation traffic is typically driven by core market segments:

- ▶ Corporate and Business Travel
- ▶ Recreation and Sport
- ▶ Flight Training
- ▶ Agricultural and Aerial applications

Potential market factors include aircraft fuel costs, aircraft production rates, sales, and retirements, pilot demographics, and licensing trends, flight training demand, and use of aircraft to support business and agricultural purposes. General aviation operations will be forecast on a year-by year basis to reflect a reasonable demand scenario for AST.

The Consultant will purchase one year of ADS-B flight tracking data for AST from a third-party vendor. This data will be used to augment FAA database information, help substantiate the critical aircraft determination, identify any peaking characteristics, and help develop flight tracks for noise contours.

Operations forecasts will consider the following:

- ▶ Itinerant air carrier and air taxi operations
- ▶ Itinerant and local general aviation operations
- ▶ Itinerant and local military operations (including the U.S. Coast Guard)
- ▶ Instrument flight rules and visual flight rules operations
- ▶ VOR and ILS
- ▶ Daytime and nighttime operations
- ▶ Peaking Characteristics (Peak month, peak day, peak hour)

7.3 Based Aircraft Forecasts

Based aircraft will be projected for the forecast periods (base year and base year + 20 years) and determined according to the reference code defined in AC 150/5300-13A, Change 1, *Airport Design*. Based aircraft will categorize aircraft according to the FAA TAF (single engine piston, multi-engine piston, jet, helicopter, and other). Forecasts will consider relative growth rates of different aircraft types, using information in the FAA Aerospace forecast and general aviation aircraft manufacturer market outlooks. AST will provide the Consultant with a current list of aircraft based on the airfield. AST will use the current list of aircraft based on the airfield to update the Airport Master Record (FAA Form 5010-1).

7.4 Critical Aircraft

The existing critical aircraft will be determined using data collected as part of **Task 7**. The future critical aircraft will be determined once the forecast chapter has been finalized. Critical aircraft will be determined following the guidance in AC 150/5000-17, *Critical Aircraft and Regular Use*. The critical aircraft is the most demanding aircraft, or group of aircraft with similar characteristics, to operate at AST 500 or more times a year. The critical aircraft forecast will be related to runway utilization and design standards in applying the appropriate FAA Runway Design Code (RDC) and Taxiway Design Group (TDG) for existing and future conditions.

Task 7.5 Electric Aircraft

The operational characteristics of electric aircraft are like those of conventional piston and turbine aircraft of similar size; however, the facility requirements differ in terms of charging and maintenance. The Consultant will develop an assessment of the potential for electric aircraft to use AST and prepare an estimate of the number of operations and based aircraft that are likely throughout the forecast period. This information will be used to assess the timing and community benefit of providing services for electric aircraft at AST in **Task 8** and **Task 9**.

Task 7.6 Scheduled Air Service Market Feasibility Assessment

The Consultant will prepare a passenger demand analysis, using ticket purchase data from zip codes in Clatsop and southern Pacific counties, to assess the air travel market for the region. This analysis will identify top destination airports for local travelers and identify what level of daily passenger demand is generated by the region. This information will then be used to determine the circumstances under which scheduled commercial passenger service would be viable at AST. Conventional regional airlines (like Horizon Air), Part 135 commuter carriers (like Boutique Air) and the potential for start-ups using electric aircraft (Dash Air) will be evaluated and an assessment of market potential will be provided.

Task 7 Deliverables

- ▶ Draft and Final Forecast Chapter
- ▶ Draft and Final Passenger Demand Analysis Appendix
- Chapter review process is described in **Task 14**

Task 8 Facilities Requirements Analysis

Aviation facility requirements define the scale of airport improvements needed to accommodate the 20-year aviation activity forecasts, meet FAA design standards, and facilitate efficient and safe operations. The facility requirements define what AST has and what AST needs.

Airport facility requirements will be quantified and compared to existing facilities with deficiencies and constraints considered. Facility analysis tools include FAA guidelines, analytical models, standard industry practices, and professional judgement.

8.1 Airport Design Standards

The Consultant will identify the appropriate FAA design standards applicable to the airfield, airspace, and terminal areas based on the critical/design aircraft. Airport design standards will be analyzed using AC-13A and FAR Part 77, Objects Affecting Navigable Airspace, Section 25, Civil Airport Imaginary Surfaces.

Potential exists for AC-13B, which is in draft from as of April 2021, to supersede AC-13A as the airfield design standard before or during this Master Plan. Upon discussions with the FAA Seattle ADO, this Master Plan will use the current version of AC-13 (whether this is -13A, -13B, or another version) at the time of the start of Task 8 for the duration of the project, including the Airport Layout Plan. The Consultant will not change to a different version of AC-13 if one is released after the start of Task 8. The Consultant will request written concurrence with this approach from the FAA Seattle ADO at the start of this project.

8.2 Airfield Demand and Capacity Analysis

Runway utilization and capacity analysis will be conducted for the existing and recommended future runway configuration. The analysis will entail arrival and departure activity per runway end as determined from wind conditions and local traffic observations. The annual service volume (ASV) of the airfield runway system will be calculated, to quantify AST capacity and delay constraints expressed in annual, daily, and hourly operating periods. AST annual operational capacity will be estimated using the FAA methodology for calculating annual service volume (ASV). Inputs for this analysis include:

- ▶ Aircraft fleet mix
- ▶ NAVAIDS
- ▶ Orientation of Runways and Taxiways
- ▶ Spacing of Taxiway exits
- ▶ Percentage of AST's activity
- ▶ Peak characteristics

8.3 Runway Length Analysis

The Consultant will prepare a Runway Length Analysis in accordance with the five-step procedure for determining runway lengths as described in FAA AC 150/532-4B, *Runway Length Requirements for Airport Design*. Other relevant FAA Orders, Advisory Circulars, FAA supplemental guidance, and consultation with aircraft operators at AST will be utilized for evaluating runway length. Methodology includes:

- ▶ The Consultant will assess the operating constraints that the existing runway places on airport users using aircraft-specific performance data and user input concerning frequency of operations and quantify the degree of impact on existing and planned operations to the extent practical.
- ▶ The Consultant will review and update the list of most demanding aircraft (in terms of runway length) that use the airport on a substantial use threshold that the critical design airplanes have at least 500 or more itinerant operations for an individual airplane or a family grouping of airplanes.
- ▶ For based users, the Consultant will provide a survey for AST to distribute with the Request for Information described in **Task 5.1**. The Consultant will use the survey data to perform an aircraft specific evaluation of takeoff and, landing, accelerated stop requirements for both typical max weight operations.
- ▶ Departures will be divided into annual operations by stage length and approved forecast intervals.
- ▶ The takeoff and accelerate stop distances will be determined for the mean maximum temperature of the hottest month. Landing weights, contaminated runway conditions, runway grading will be evaluated.
- ▶ Transient operations will be analyzed by the Consultant to determine the most common aircraft type. The Consultant will perform a runway length analysis for up to five (5) of the most common aircraft.
- ▶ The Consultant will assess and recommend runway lengths for each period covered in the approved forecast.

8.4 Aeronautical Facilities and Airspace

The Consultant will identify aeronautical and airspace facility requirements in AC-13A by examining known existing issues, space allocation deficiencies, forecast demand triggers using FAA standards, and representative industry best practices. The facilities requirements will identify key facilities that need to be justified. The following facilities will be evaluated:

Table 1-7: Aeronautical Facilities and Airspace Evaluation Criteria

Airside	Landside
Runway System	Airfield Communication Facilities and Equipment
Taxiway System	Airfield Vehicle Access Routes
Aircraft parking and Transient Aprons	Aircraft Hangars
NAVAIDS, Lighting System, and Shelters	Airport Maintenance and Material Storage
Pavement Markings, Lighting, Signage	Fencing/Gates/Security
Air Cargo/Freight Facilities	General Aviation Service Operator Facilities
Aircraft Fuel Storage and Dispensing Systems	General Aviation Terminal Facilities
	Other Airport Tenant Facilities

8.5 Electric Aircraft Facilities and Airspace

The Consultant will use Task 7.5 to identify the appropriate needs based on the electric aircraft forecasts to plan for airport facility considerations such as compatibility, staff, training, utilities, and infrastructure to cater to electric aircraft. The Consultant will define the basic needs of electric aircraft while considering safety, facility regulations, land use and best practices. The following facilities will be evaluated:

- ▶ Aircraft Charging Stations
- ▶ Aircraft Parking
- ▶ Takeoff and Landing Requirements
- ▶ Safety Regulations and Requirements

8.6 Non-Aeronautical Facilities

The landside requirements will quantify facilities needed outside the aeronautical operating area. The landside facilities will be analyzed in terms of their capacity and ability to accommodate current and future demand using FAA guidelines, representative industry best management practices, and Consultant-developed factors. Future landside requirements will provide the basis for identifying facilities that are important to AST's development, revenue growth potential, public and private access, and land use considerations.

The following non-aeronautical facilities will be evaluated:

- ▶ Acreage of non-aeronautical properties
- ▶ Utilities availability for undeveloped parcels
- ▶ Airport property interests

The Consultant will prepare an assessment of market opportunities for Non-Aeronautical Facilities. The work will include summarizing economic and demographic trends in the area, site characteristics and potential supportable uses, documenting current and future market depth for a range of prospective land uses, and surveying the competitive market to establish achievable pricing for land and space. This task will result in a summary of available non-aeronautical facilities, potential development programs, estimated timing of absorption, and financial characteristics of the uses. Developing active programs on these properties may entail significant infrastructure or site preparation investment, which will also be summarized for the inventory of properties.

8.7 Auto Parking and Circulation

The Consultant shall determine anticipated parking and circulation needs by considering current and anticipated demand and comparing it to the inventory prepared in **Task 5.5**. The analysis shall include comparison to best practices as well as local adopted standards and guidelines.

Task 8 Deliverables

- ▶ Draft and Final Facility Requirements Chapter
 - Chapter review process is described in **Task 14**.

Task 9 Alternatives Development and Evaluation

The alternatives will be developed to meet facility requirements and developed in accordance with FAA airfield design and airspace standards described in **Task 8**. The alternatives will undergo screening evaluation of criteria framed by operational performance, construction feasibility, environmental considerations, and financial viability. AST will provide input on the development and ranking of the alternative evaluation criteria. The preferred alternatives will be selected by AST.

Methodology

Alternative evaluation will investigate the advantages and disadvantages of facility creation, expansion, repurposing, and closure. The process of defining and evaluating alternatives is iterative, beginning with a broad comprehensive range of possibilities that are then refined based on evaluation criteria and development goals. The following outlines the alternatives analysis process:

- ▶ Development of Assessment Criteria
- ▶ Preparation of Initial Alternatives
- ▶ Quantitative and Qualitative Evaluation, Elimination of Some Alternatives
- ▶ Refinement of Remaining Alternatives
- ▶ Selection of Preferred Alternatives and Final Revisions
- ▶ Promotion of Preferred Alternatives to the Capital Plan and ALP

9.1 Aeronautical Facilities and Airspace

The Consultant will identify options and alternative configurations to meet projected facility requirements. The Consultant will consider minimum standards, provided by AST, when developing alternative site layouts. The Consultant will revise the alternatives up to three (3) times. The first revision will be based on feedback from AST and key stakeholders. The second and third evaluations will occur based on the evaluation process with AST and FAA. The following facilities will be evaluated:

Table 1-8: Alternatives Development Evaluation Criteria

Airside	Landside
Runway System	Airfield Communication Facilities and Equipment
Taxiway System	Airfield Vehicle Access Routes
Aircraft parking and Transient Aprons	Aircraft Hangars
NAVAIDS, Lighting System, and Shelters	Airport Maintenance and Material Storage
Pavement Markings, Lighting, Signage	Fencing/Gates/Security
Air Cargo/Freight Facilities	General Aviation Service Operator Facilities
Aircraft Fuel Storage and Dispensing Systems	General Aviation Terminal Facilities
	Other Airport Tenant Facilities

9.2 Electric Aircraft Development Evaluation Criteria

The Consultant will identify options and alternative configurations to meet the projected facility requirements for electric aircraft based on Task 8.5. The following facilities will be evaluated:

- ▶ Aircraft Charging Stations
- ▶ Aircraft Parking
- ▶ Takeoff and Landing Requirements
- ▶ Safety Regulations and Requirements

9.3 Non-Aeronautical Facilities

The Consultant will identify future AST property interests, including fee and easement ownership, based on the application of FAA design standards. The Consultant will identify existing obligated AST property that may be considered for future property dispersal, transfer, or release if it is determined that the property is not needed for aeronautical and airspace protection purposes and may help AST meet grant assurances related to financial self-sufficiency and protection of federal investment in aviation facilities.

The Consultant will determine the amount of property needed for future aviation use by extrapolating demand forecasts out for 50 years and assessing the amount of undeveloped property remaining after the development program is identified. Consideration will be given to property that AST wishes to hold in reserve to reflect circumstances that are not known at the time of this Master Plan.

The Consultant will prepare a series of property-specific assessments, summarizing anticipated development patterns, supportable property values, and expected revenues assuming the property is leased. The work will incorporate the market findings from **Task 8.5**.

9.4 Auto Parking and Circulation

The Consultant shall identify parking and circulation options and alternative configurations to meet projected facility requirements. The Consultant shall consider minimum standards, provided by AST, when developing alternative parking and circulation layouts. The Consultant shall revise the alternatives up to three (3) times to coincide with the revision schedule outlined in **Task 9.1 Aeronautical Facilities and Airspace**.

The Consultant shall identify the potential transportation impacts of the AST Master Plan at a 20-year build-out for the background condition and up to two (2) land use scenarios. Traffic counts will be provided by ODOT, as available, for the following intersections and access roads. New traffic counts are not included in this Scope.

1. US 101 at Marlin Avenue
2. Warrenton-Astoria Highway (US 101 Business) at Marlin Avenue
3. Warrenton-Astoria Highway (US 101 Business) at 12th Place (Astoria Airport Road)
4. Warrenton-Astoria Highway (US 101 Business) at SE Ensign Lane
5. Warrenton-Astoria Highway (US 101 Business) at SE Airport Lane/Fort Clatsop Road
6. SE 12th Place (Astoria Airport Road)
7. SE Airport Lane

The analysis of the assumed land uses, and other analyses shall be considered preliminary and are not intended to support a conditional use application. The purpose of the analysis will be to understand roadway and intersection improvements that may be required to meet local adopted standards should redevelopment occur.

9.5 Preferred Development Plan

The Consultant will work with AST to identify near-term (0-5 years), mid-term (5-10 years), and long term (10-20 years) development phases and prioritize implementation of improvement projects. The preferred development plan will identify which of the preferred alternatives fit into each phase of development. The categorization of improvement alternatives into phases will consider available funding (FAA, state, local) priorities. The Consultant will develop a timeline of capital improvement which will be used in the development of the Capital Improvement Plan (CIP).

Task 9 Deliverables

- ▶ Draft and Final Alternatives Chapter
 - Chapter review process is described in **Task 14**.

Task 10 Financial Feasibility Analysis & Facilities Implementation Plan

The financial analysis will focus on the short-term (5 years), mid-term (10 years) and long-term (10-20 years) of plan development improvement project needed in the future. AST and Seattle ADO will meet annually to update the capital plan for the next five (5) years, and it is expected that these projects have been approved by FAA and are relatively set. The Consultant will review the near-term projects to make sure the underlying assumptions remain valid. The Implementation Plan will provide AST with a guide and checklist of any related tasks that will need to be considered and completed before the preferred alternatives can be constructed. The CIP will be developed in accordance with FAA Order 5100.38D, *AIP Handbook*.

10.1 Financial Conditions

The Consultant will inventory the financial position of AST. Inventory data will be requested with a Request for Information (RFI) checklist described in **Task 5**. Items that may be requested and data provided by AST include:

- ▶ Current Airport Capital Improvement Plan (ACIP)
- ▶ FAA, state, and local records
- ▶ Traditional funding sources for the Capital Improvement Program (CIP)
- ▶ AST financial statements for the past year
- ▶ Current year-to-date financial statements

10.2 Project Cost Estimates

The Consultant will develop planning level cost estimates for the projects necessary to implement the preferred alternative developments identified in **Task 10**. Cost estimates will include environmental, design, construction as required. Cost will be allocated for a specific base year (2022) and will be adjusted for inflation (assumption: three (3) percent growth per year). Cost estimates will be completed by an engineer, architect, or environmental scientist depending on the category of project. Cost estimates will be submitted to AST for one (1) round of review and comment. Cost estimates will be associated with the project list identified in **Task 10.3 Capital Improvement Program**.

10.3 Capital Improvement Program

The Capital Improvement Program (CIP) will identify a list of projects determined in **Task 9**, including planning projects, environmental, design, and construction associated with each alternative development project. Also included in the project list would be routine pavement maintenance projects and projects identified by the AST Pavement Management Program. Improvements will be prioritized and scheduled based on AST preference, need, phasing, and available funding.

The CIP will identify project eligibility, funding sources, and expected agency participation levels. The AST budget, financial structure, and operating conditions will be reviewed as part of **Task 10.1**, and identified by source (federal, state, local, and other). Up to two (2) versions of the CIP will be prepared for the CIP project list. CIP draft will be refined into the final CIP.

10.4 Implementation Plan

The Implementation Plan will provide AST with a guide from concept to construction. This section will provide the Capital Improvement Program (CIP) with flexibility and provide AST with a roadmap of necessary and related tasks that must be completed before the preferred alternatives can be constructed. The Consultant will provide industry knowledge and professional insight from the team environmental specialists, engineers, and architects to develop a guide to show how improvement projects will be taken from concept through construction and ongoing operation maintenance.

The Implementation Plan will focus on the next five (5) years of capital projects beyond the 2022 CIP. A guide will be created for each capital project which identifies the requires planning and zoning, environmental, design, funding, and ongoing operation and maintenance considerations. Examples of consideration for each project are listed below.

Table 1-9: Implementation Plan Considerations

Category	Consideration
Administrative	<ul style="list-style-type: none"> • What is the purpose and need for this project?
Planning and Zoning	<ul style="list-style-type: none"> • Does improvement conform to existing zoning or will it require a rezone or Comprehensive plan amendment? • How controversial will the improvement be? • Does the improvement comply with minimum standards?
Environmental	<ul style="list-style-type: none"> • What level of state and environmental review is anticipated for improvements? • What potential complications may occur during this process? • If mitigation is expected, what is anticipated cost, process, and mitigation method? • If project passes environmental review, will AST cover the cost of improvement and mitigations required?
Design	<ul style="list-style-type: none"> • Do any support facilities or site preparations need to be constructed prior to the implementation of this improvement? • Is there anything about the improvements' location that would prove challenging or more expensive that would otherwise be expected? • What should be incorporated into the design process to make the improvement easier to modify should demand change in the future?
Funding	<ul style="list-style-type: none"> • Can AST afford this improvement in its financial existing condition? • What impact will this improvement have on immediate and ongoing finances? • If the project eligible for grant funding? What type of funding is available? • How well is the improvement expected to compete for discretionary funding if needed to request through FAA?
Operation and Maintenance	<ul style="list-style-type: none"> • How much will the proposed improvement cost to operate and maintain over a 20-year planning period? • Will the improvement require an increase in staff? If so, how many staff members and what role would they take?
All Categories	<ul style="list-style-type: none"> • What is the process for this improvement and how long will it take? • When should this effort start to keep the project on schedule? • What is the expected cost? • What may be delayed until this project occurs, or can the project be delayed without impacting other projects?

The Implementation Plan is intended to provide AST with a range of considerations that should be considered as these projects move from concept to construction. The Implementation Plan is intended to assist AST in identifying potential costly and time-consuming steps that might not be readily apparent when looking at projects.

Task 10 Deliverables

- ▶ Draft and Final Capital Improvement and Implementation Plan, which will include:
 - Project Cost Estimates
 - Draft and Final Capital Improvement Plan
 - Draft and Final Facilities Implementation Plan
 - Chapter review process is described in **Task 14**.

Task 11 Land Use Planning

The Consultant will assess AST land uses on Airport property, with respect to recommended facility requirements, for compliance with applicable local and state law, and FAA land use compatibility guidance. The Consultant will review existing Airport land use ordinances (Airport Overlay District) to ascertain impacts associated with the recommended facility requirements, and items which would be a consideration for updating the Airport Capital Improvement Program (CIP) and ALP. The Consultant will conduct the following efforts with this task:

- ▶ Airport overlay zoning code review and recommendations
- ▶ Airport-specific comprehensive plan review and recommendations
- ▶ Aircraft noise analysis

Task 11.1 Compatibility Consistency Review

The Consultant will review the and recommend revisions to the narrative and figures for consistency with preferred plan recommendations. The Airport Overlay Zoning (AOZ) district applies to Port of Astoria Regional Airport in the City of Warrenton, Clatsop County, OR. All uses, activities, facilities and structures allowed in the Airport Zone shall comply with the requirements of the Airport Safety and Compatibility Overlay Zone. The Consultant will review the following documents:

- ▶ Clatsop County, OR Comprehensive Plan and AOZ
- ▶ City of Warrenton, OR Comprehensive Plan and AOZ
- ▶ Oregon Administrative Rules (OAR), Airport Planning
- ▶ Oregon Department of Aviation (ODA), Airport Land Use Compatibility Guidebook (2003)
- ▶ Oregon Revised Statutes (ORS) pertaining to land use compatibility

The Consultant will review state airport compatibility regulations and guidance, local and land use planning studies to inform land use compatibility strategy recommendations. A summary of key elements that relate to AST, or have potential to impact AST, will be documented in the Plan.

Task 11.2 Aircraft Noise Analysis

The Consultant will develop baseline and 20-year noise contours to be depicted on the ALP and assist with identifying any incompatible land uses in the vicinity of the Airport. Operational inputs for the two sets of noise contours will be taken from approved forecasts as reported in **Task 7**. Noise contour development will begin after receipt of FAA approval of the Aviation Activity Forecasts.

The Consultant will gather information for the below listed required areas. The results of the data gathering effort will be presented in a draft input summary spreadsheet for Airport concurrence before modeling. Prior master plans and noise studies (*Astoria Regional Airport, Master Plan Update 2008*) will be part of the data gathering process. Additionally, the Consultant will conduct phone interviews of Airport Staff and U.S. Coast Guard personnel familiar with their operations. Use of FAA radar track data is not included in this scope of work.

- ▶ Runway end distribution by aircraft type
- ▶ Time-of-day distribution by aircraft type (day vs. night)
- ▶ Touch-and-go percentage by aircraft type
- ▶ Flight track utilization by aircraft type

The Consultant will use the FAA's Aviation Environmental Design Tool (AEDT) version 3D. The model will include topographic noise modeling and default weather conditions. The resulting two sets of noise contours (baseline and 20-year) will include the 55, 60, 65, and 70 DNL contours. No custom user defined aircraft models will be produced for use within AEDT. The Consultant will not run scenarios for the replacement of piston and turbine powered aircraft with electric aircraft as definitive information is not expected to be known at the time of this task.

Existing and future 65 DNL noise contours will be modeled after FAA approval of the planned forecasts and AST selection of preferred layout alternatives. Future contours will be prepared for the baseline plus twenty (20) years. Noise contours will be presented on the ALP.

Task 11 Deliverables

- ▶ Existing and Future Noise Contours (two (2) sets)
- ▶ Draft and Final Land Use Chapter
 - Chapter review process is described in **Task 14**.

Task 12 Airport Layout Plan

The ALP contains a set of drawing sheets produced in accordance with AC-13A, Change , Airport Design, and guidance in 2013 ALP Review Checklist (ARP Standard Operation Procedures (SOP) No. 2.00) and Exhibit “A” Review Checklist (ARP SOP No. 3.00). An electronic ALP (eALP) will not be prepared as part of this effort. The ALP is not intended to provide engineering accuracy.

The AGIS planimetric from Task 4 will be used to create a new base map. The planning base map will be used throughout the ALP. The Consultant will update the ALP to reflect the current airfield conditions and data , runway and taxiway design surfaces, and future projects analyzed as part of the Master Plan Update. Data acquired from Task 4 to be integrated into the ALP include:

- ▶ Runway end coordinates
- ▶ Runway elevations
- ▶ Building elevations
- ▶ Airspace Plan (objects analysis)

Task 12.1 Airport Layout Plan

The following ALP drawing sheets are anticipated:

Core ALP

The Layout Plan Drawing is the main sheet in the set. This sheet gets signed by FAA after approval. The Layout Plan shows all existing development and future projects from the Master Plan with runway and airport design surfaces.

The Index sheet provides contents of each sheet and the location of AST. The Data sheet includes information on AST, runways, taxiways, wind coverage, and other data required by the FAA SOP Checklist in table format.

Table 1-10: Core ALP Sheet List

Core ALP	
Drawing Sheet No.	Category
Sheet 1	Index
Sheet 2	Existing Conditions
Sheet 3	Airport Layout Plan Drawing
Sheet 4	Airport Data

Airspace Plan

A new Airspace Plan will be created using data from Task 4. The Airspace Plan will reflect the existing and future airfield configuration in plan and profile view. The drawing will depict the FAR Part 77 airspace surfaces, threshold siting surfaces, departure surfaces, and inner approach surfaces for each runway end. The Airspace Plan is anticipated to require at least eleven (11) sheets to effectively present the data.

Table 1-11: Airspace Plan Sheet List

Airspace Plan	
Drawing Sheet No.	Category
Sheet 5	Part 77 Airspace Plan
Sheet 6	Runway 14 Approach
Sheet 7	Runway 32 Approach
Sheet 8	Runway 8 Outer Approach
Sheet 9	Runway 26 Inner Approach
Sheet 10	Runway 26 Outer Approach
Sheet 11	Part 77 Profiles
Sheet 12	Runway 14/32 Inner Approach Plan and Profile
Sheet 13	Runway 8/26 Inner Approach Plan and Profile
Sheet 14	Departure Surfaces 14/32
Sheet 15	Departure Surfaces 8/26

Building Area Plans

The Building Area Plan will provide more detail to existing and future development areas, with building elevations, dimensions, and other design surfaces.

Table 1-12: Building Area Plan Sheet List

Building Areas Plans	
Drawing Sheet No.	Category
Sheet 16	Terminal Area Plan
Sheet 17	Building Area Plan

Runway Profile

The existing runways will be illustrated on the Runway Centerline Profile Sheet. The Profile sheet illustrates the effective gradients for each runway, line of sight requirements, and the runway safety area gradient beyond the runway end.

Table 1-13: Runway Profile Sheet List

Runway Profile	
Drawing Sheet No.	Category
Sheet 18	Runway Centerline

Land Use

The Land Use sheet will illustrate both on and off airport land uses. The Land Use sheet will include an airport overlay zone and 65 DNL noise contours prepared as part of **Task 11**.

Table 1-14: Land Use Sheet List

Land Use	
Drawing Sheet No.	Category
Sheet 19	Airport Land Use Drawing

Exhibit “A”

The Exhibit “A” sheet shows the AST property line and data on federally obligated parcels. Airfield design surfaces and future development from this Master Plan will be illustrated on this sheet.

Table 1-15: Exhibit “A” Sheet List

Exhibit “A”	
Drawing Sheet No.	Category
Sheet 20	Airport Exhibit “A” Property Map

Task 12.2 Draft ALP FAA Review

The Consultant will prepare the Draft ALP set for delivery to FAA Seattle ADO. The Consultant will also prepare the ALP Checklists (ARP SOP No. 2.00 and 3.00) with a cover letter for submittal. The checklists will be used to verify the ALP set conforms to FAA content and graphical standards. A narrative report will not be created.

Task 12.3 FAA Airspace Review and Approval

The Consultant will prepare the final draft ALP set for delivery to the FAA for review. Edits will be completed by the Consultant based on comments received from the FAA in Task 12.2. The ALP will be updated based on any additional comments received from FAA.

Task 12 Deliverables

The ALP drawings will be prepared electronically in colored drawing format using Autodesk Civil 3D (AutoCAD), and plotted on a 24” x 36” sheet. The ALP drawings will be converted to PDF file format for review and deliverables. The ALP plan and checklists will be documented in the **Appendices** section of the Master Plan.

Task 13 Appendices

Appendices are technical elements that do not fit into the Plan narrative. The appendices preserve detail documentation for future use. Appendices will only include material developed in support of Plan elements. Appendices are expected to include, but are not necessarily limited to, the following:

- ▶ Stakeholder Engagement Summary (Task 3.6)

- ▶ Airport Recycling, Reuse, and Waste Reduction Plan (Task 6.2)
- ▶ Scheduled Air Service Feasibility Analysis (Task 7.6)
- ▶ Airport Layout Plan and Checklist (Task 12)

Task 14 Documentation

Plan elements will be described in narrative, table, and exhibit format. The documents will require various levels of review, comment periods, and formalization. The Plan schedule and workflow is highly dependent on timely document review. The project schedule is based on two (2) weeks for AST document review and three (3) weeks for FAA review of each chapter submittal. If AST and FAA cannot meet the schedule, subsequent Plan activities may be delayed, and notice will be given to both AST and FAA. AST will notify the Consultant, via email or phone, regarding any information not to be incorporated into the Plan narrative report or presentation materials.

Task 14.1 Document Revision

Draft documents are expected to be reviewed by AST, the PAC, and the FAA. If there are multiple reviewers at either the AST or FAA levels, these organizations will provide consolidated comments. Comments from external stakeholders will be consolidated by the Consultant and AST will provide input on how requested changes and clarifications should be addressed. During a Master Plan, it is inevitable that stakeholders will request information that is outside of the Scope of Services. AST may amend the Consultant’s contract and fee if additional research is necessary to satisfy these requests.

The Consultant will address comments on deliverables up to two (2) times. The first set of comments will be from AST. The second set of comments will be from the FAA and external stakeholders. Once all revisions have been completed, the Consultant will finalize the Chapters for publication on the Port of Astoria website.

Task 14.2 Document Production and Printing

Chapters will contain narrative, tables, and exhibits used to properly describe Plan components, with exhibits either 8.5” x 11” or 11” x 17.” Each chapter will contain a summary. Effort associated with chapters preparation includes formatting, quality assurance/quality control (QA/QC), and comment responses. Deliverables to the PAC will coincide with project milestones to provide a reasonable opportunity to present findings and obtain input. Deliverables will include will incorporate comments from the previous review. To minimize paper iterations, draft documents and meeting materials will be distributed in electronic format (PDF, no prints) via email or file transfer site.

The Consultant will transmit documents directly to AST, PAC, and the FAA digitally via email or file transfer service. Draft and final documents will be delivered as PDF files. Editable text documents will be made available upon request, and only to AST and FAA. Page set up will include letter size (8.5” x 11”) and ledger size (11” x 17”) pages. The Consultant will support AST by providing content for the meetings, including electronic copies of deliverables and presentation materials. Prints of draft materials will not be provided by the Consultant.

The Consultant will not host Plan documents or share Plan materials on Consultant-owned media. The following narrative report deliverables will be provided by the Consultant:

Table 1-16: Master Plan Narrative Deliverables

Narrative Deliverables	AST		FAA	
	Electronic	Hard Copy	Electronic	Hard Copy
Chapter 1: Introduction and Existing Conditions	PDF	None	Word/PDF	None
Chapter 2: Environmental Considerations	PDF	None	Word/PDF	None
Chapter 3: Aviation Forecasts	PDF	None	Word/PDF	None
Chapter 4: Facility Requirements Analysis	PDF	None	Word/PDF	None
Chapter 5: Alternatives Development and Evaluation	PDF	None	Word/PDF	None
Chapter 6: Facilities Implementation Plan and Financial Feasibility Analysis	PDF	None	Word/PDF	None
Chapter 7: Land Use Planning	PDF	None	Word/PDF	None
Plan Appendices	PDF	None	PDF	None
Final Draft Master Plan Report (AST/FAA Review)	PDF	None	Word/PDF	None
Final Master Plan Report with 11"x17" ALP Drawings	PDF	2 Copies	PDF	1 Copy
Draft Executive Summary (6 sheets)	PDF	None	Word/PDF	None
Final Executive Summary (6 sheets)	PDF, x FD	1 Copy	PDF	1 Copy

The following ALP and Exhibit A deliverables will be provided by the Consultant:

Table 1-17: Airport Layout Plan Deliverables

ALP Drawing Deliverables	AST		FAA	
	Electronic	Hard Copy	Electronic	Hard Copy
Preliminary – Core sheets/Data	PDF	None	None	None
Initial Draft – All Sheets	PDF	None	PDF	None
Final Draft – All Sheets – Airspace Review	PDF	2 Copies	PDF	4 Copies
Final ALP* and CAD files	PDF and 1 FD	1 Copy	PDF and 1 FD	1 Copy
Airports GIS Mapping and Imagery	Hard Drive	None	Upload	None

*Final ALP (Title Sheet) requires AST signature and FAA approval letter. The final approved ALP Update deliverables (paper and electronic PDF and AutoCAD drawing files) will be submitted within 30 days of favorable FAA Airspace Determination. AST will send the signed copies to the FAA. The FAA will return X (X) signed copies of the ALP to AST once signed.

Task 14.3 Executive Summary

Upon completion of the Plan, the Consultant will assemble chapter summaries and other existing content selected by AST into an Executive Summary document. It is expected to not exceed eight (8) letter pages. The document will be delivered to AST for up to two (2) rounds of review and revision. Following review and revision, the final document will be delivered. No edit will be made to the document after final delivery. The Executive Summary will not be incorporated in the Final Study document

Task 14 Deliverables

- ▶ Chapter Narratives
- ▶ ALP Drawing
- ▶ Executive Summary

Group	Groupname	AC SUBREF Feature Class	Attribute	Source	Responsible Party	Description	Notes	
Airfield	Airfield	5.4.4. AIRFIELDLIGHT	PLANIMETRIC	Aerial Photogrametry	GeoTerra	Runway, Taxiway, Approach & Obstruction Lights	Verifying all airfield light locations & attributing	
	Airfield	5.4.4. AIRFIELDLIGHT	NAME	Facility Info/As-built Records	Mead & Hunt			
	Airfield	5.4.4. AIRFIELDLIGHT	DESCRIPTION	Facility Info	Mead & Hunt			
	Airfield	5.4.4. AIRFIELDLIGHT	STATUS	Aerial Photogrametry	Mead & Hunt			
	Airfield	5.4.4. AIRFIELDLIGHT	ALTERNATIVE	NA	Will not be collected			
	Airfield	5.4.4. AIRFIELDLIGHT	COLOR	As-built records / field survey	Mead & Hunt			
	Airfield	5.4.4. AIRFIELDLIGHT	LIGHTINGCONFIGURATIONTYPE	NA	Will not be collected			
	Airfield	5.4.4. AIRFIELDLIGHT	LUMINESCENCE	NA	Will not be collected			
	Airfield	5.4.4. AIRFIELDLIGHT	PILOTCONTROLFREQUENCY	NA	Will not be collected			
	Airfield	5.4.4. AIRFIELDLIGHT	USERFLAG	NA	Will not be collected			
Airfield	Airfield	5.4.8. RUNWAYCENTERLINE	PLANIMETRIC	Field Survey	David Evans	Continuous line along centerline connecting runway end pts		
	Airfield	5.4.8. RUNWAYCENTERLINE	NAME	Field Survey	David Evans			
	Airfield	5.4.8. RUNWAYCENTERLINE	DESCRIPTION	Field Survey	David Evans			
	Airfield	5.4.8. RUNWAYCENTERLINE	STATUS	Field Survey	David Evans			
	Airfield	5.4.8. RUNWAYCENTERLINE	ALTERNATIVE	NA	Will not be collected			
	Airfield	5.4.8. RUNWAYCENTERLINE	ISDERIVED	Field Survey	David Evans			
	Airfield	5.4.8. RUNWAYCENTERLINE	RUNWAYDESIGNATOR	Field Survey	David Evans			
	Airfield	5.4.8. RUNWAYCENTERLINE	USERFLAG	NA	Will not be collected			
Airfield	Airfield	5.4.10. RUNWAYINTERSECTION	PLANIMETRIC	Aerial Photogrametry	GeoTerra	Area of intersection between runways		
	Airfield	5.4.10. RUNWAYINTERSECTION	NAME	Airport Diagram	GeoTerra			
	Airfield	5.4.10. RUNWAYINTERSECTION	DESCRIPTION	NA	Will not be collected			
	Airfield	5.4.10. RUNWAYINTERSECTION	STATUS	NA	Will not be collected			
	Airfield	5.4.10. RUNWAYINTERSECTION	ALTERNATIVE	NA	Will not be collected			
	Airfield	5.4.10. RUNWAYINTERSECTION	PAVEMENTCLASSIFICATIONNUMBER	PCI Report	Mead & Hunt			
	Airfield	5.4.10. RUNWAYINTERSECTION	RUNWAYDESIGNATOR1	Airport Diagram	GeoTerra			
	Airfield	5.4.10. RUNWAYINTERSECTION	RUNWAYDESIGNATOR2	Airport Diagram	GeoTerra			
	Airfield	5.4.10. RUNWAYINTERSECTION	RUNWAYDESIGNATOR3	NA	Will not be collected			
	Airfield	5.4.10. RUNWAYINTERSECTION	USERFLAG	NA	Will not be collected			
Airfield	Airfield	5.4.12. RUNWAYELEMENT	PLANIMETRIC	Planimetrics / PCI report / as-built records	GeoTerra	Various sections of the runway surface for pavement management purposes		
	Airfield	5.4.12. RUNWAYELEMENT	NAME	PCI report / As-built records	Mead & Hunt			
	Airfield	5.4.12. RUNWAYELEMENT	DESCRIPTION	PCI report / As-built records	Mead & Hunt			
	Airfield	5.4.12. RUNWAYELEMENT	STATUS	Aerial Photogrametry	Mead & Hunt			
	Airfield	5.4.12. RUNWAYELEMENT	ALTERNATIVE	NA	Will not be collected			
	Airfield	5.4.12. RUNWAYELEMENT	PAVEMENTCLASSIFICATIONNUMBER	PCI report / As-built records	Mead & Hunt			
	Airfield	5.4.12. RUNWAYELEMENT	RUNWAYDESIGNATOR	PCI report / As-built records	Mead & Hunt			
	Airfield	5.4.12. RUNWAYELEMENT	SURFACECONDITION	PCI report / As-built records	Mead & Hunt			
	Airfield	5.4.12. RUNWAYELEMENT	SURFACEMATERIAL	PCI report / As-built records	Mead & Hunt			
	Airfield	5.4.12. RUNWAYELEMENT	SURFACETYPE	PCI report / As-built records	Mead & Hunt			
	Airfield	5.4.12. RUNWAYELEMENT	USERFLAG	NA	Will not be collected			
	Airfield	Airfield	5.4.13. STOPWAY	PLANIMETRIC	Aerial Photogrametry		GeoTerra	Runway stopway area
		Airfield	5.4.13. STOPWAY	NAME	Airport Diagram		GeoTerra	
		Airfield	5.4.13. STOPWAY	DESCRIPTION	NA		Will not be collected	
Airfield		5.4.13. STOPWAY	STATUS	NA	Will not be collected			
Airfield		5.4.13. STOPWAY	ALTERNATIVE	NA	Will not be collected			
Airfield		5.4.13. STOPWAY	LENGTH	Aerial Photogrametry	GeoTerra			
Airfield		5.4.13. STOPWAY	RUNWAYENDDSIGNATOR	Airport Diagram	GeoTerra			
Airfield		5.4.13. STOPWAY	SURFACEMATERIAL	NA	Will not be collected			
Airfield		5.4.13. STOPWAY	SURFACETYPE	NA	Will not be collected			
Airfield		5.4.13. STOPWAY	USERFLAG	NA	Will not be collected			
Airfield	Airfield	5.4.14. TAXIWAYHOLDINGPOSITION	PLANIMETRIC	Aerial Photogrametry	GeoTerra	Taxiway holding position lines (runway, ILS, etc)		
	Airfield	5.4.14. TAXIWAYHOLDINGPOSITION	NAME	ALP	GeoTerra			
	Airfield	5.4.14. TAXIWAYHOLDINGPOSITION	DESCRIPTION	Aerial Photogrametry	GeoTerra			
	Airfield	5.4.14. TAXIWAYHOLDINGPOSITION	STATUS	Aerial Photogrametry	GeoTerra			
	Airfield	5.4.14. TAXIWAYHOLDINGPOSITION	ALTERNATIVE	NA	Will not be collected			
	Airfield	5.4.14. TAXIWAYHOLDINGPOSITION	LOWVISIBILITYCATEGORY	Facility Info	Mead & Hunt			
	Airfield	5.4.14. TAXIWAYHOLDINGPOSITION	RUNWAYDESIGNATOR	Facility Info	Mead & Hunt			
	Airfield	5.4.14. TAXIWAYHOLDINGPOSITION	TAXIWAYDESIGNATOR	Facility Info	Mead & Hunt			
Airfield	5.4.14. TAXIWAYHOLDINGPOSITION	USERFLAG	NA	Will not be collected				

Group	Groupname	AC SUBREF Feature Class	Attribute	Source	Responsible Party	Description	Notes		
Airfield	Airfield	5.4.15. AIRPORTSIGN	PLANIMETRIC	Aerial Photogrametry	GeoTerra	Signs at the airport, other than surface painted signs	Verifying all airfield sign locations, attributing, field		
	Airfield	5.4.15. AIRPORTSIGN	NAME	As-built records / field survey	Mead & Hunt				
	Airfield	5.4.15. AIRPORTSIGN	DESCRIPTION	As-built records / field survey	Mead & Hunt				
	Airfield	5.4.15. AIRPORTSIGN	STATUS	Aerial Photogrametry	GeoTerra				
	Airfield	5.4.15. AIRPORTSIGN	ALTERNATIVE	NA	Will not be collected				
	Airfield	5.4.15. AIRPORTSIGN	HEIGHT	As-built records / field survey	GeoTerra				
	Airfield	5.4.15. AIRPORTSIGN	MESSAGE	As-built records / field survey	Mead & Hunt				
	Airfield	5.4.15. AIRPORTSIGN	SIGNTYPE	As-built records / field survey	Mead & Hunt				
	Airfield	5.4.15. AIRPORTSIGN	USERFLAG	NA	Will not be collected				
	Airfield	Airfield	5.4.16. APRON	PLANIMETRIC	Aerial Photogrametry			GeoTerra	Aircraft Apron outline
		Airfield	5.4.16. APRON	NAME	Facility Info			Mead & Hunt	
		Airfield	5.4.16. APRON	DESCRIPTION	Facility Info / As-built records			Mead & Hunt	
		Airfield	5.4.16. APRON	STATUS	Aerial Photogrametry			Mead & Hunt	
		Airfield	5.4.16. APRON	ALTERNATIVE	NA			Will not be collected	
Airfield		5.4.16. APRON	APRONTYPE	Facility Info	Mead & Hunt				
Airfield		5.4.16. APRON	FUEL	Facility Info	Mead & Hunt				
Airfield		5.4.16. APRON	NUMBEROFTIEDOWNS	As-built records / field survey	Mead & Hunt				
Airfield		5.4.16. APRON	PAVEMENTCLASSIFICATIONNUMBER	PCI report / As-built records	Mead & Hunt				
Airfield		5.4.16. APRON	SURFACECONDITION	PCI report	Mead & Hunt				
Airfield		5.4.16. APRON	SURFACEMATERIAL	Aerial Photogrametry	Mead & Hunt				
Airfield		5.4.16. APRON	SURFACETYPE	Aerial Photogrametry	Mead & Hunt				
Airfield		5.4.16. APRON	USERFLAG	NA	Will not be collected				
Airfield		Airfield	5.4.19. MARKINGAREA	PLANIMETRIC	Aerial Photogrametry	GeoTerra	Pavement marking areas (rwy numbers, tdz markers, fixed dist markers, etc)		
	Airfield	5.4.19. MARKINGAREA	NAME	Aerial Photogrametry	GeoTerra				
	Airfield	5.4.19. MARKINGAREA	DESCRIPTION	Aerial Photogrametry	GeoTerra				
	Airfield	5.4.19. MARKINGAREA	STATUS	Aerial Photogrametry	GeoTerra				
	Airfield	5.4.19. MARKINGAREA	ALTERNATIVE	NA	Will not be collected				
	Airfield	5.4.19. MARKINGAREA	COLOR	Aerial Photogrametry	GeoTerra				
	Airfield	5.4.19. MARKINGAREA	MARKINGFEATURETYPE	Aerial Photogrametry	GeoTerra				
	Airfield	5.4.19. MARKINGAREA	USERFLAG	NA	Will not be collected				
	Airfield	Airfield	5.4.20. MARKINGLINE	PLANIMETRIC	Aerial Photogrametry	GeoTerra		Pavement marking lines	
		Airfield	5.4.20. MARKINGLINE	NAME	Aerial Photogrametry	GeoTerra			
Airfield		5.4.20. MARKINGLINE	DESCRIPTION	Aerial Photogrametry	GeoTerra				
Airfield		5.4.20. MARKINGLINE	STATUS	Aerial Photogrametry	GeoTerra				
Airfield		5.4.20. MARKINGLINE	ALTERNATIVE	NA	Will not be collected				
Airfield		5.4.20. MARKINGLINE	COLOR	Aerial Photogrametry	GeoTerra				
Airfield		5.4.20. MARKINGLINE	MARKINGFEATURETYPE	Aerial Photogrametry	GeoTerra				
Airfield		5.4.20. MARKINGLINE	USERFLAG	NA	Will not be collected				
Airfield	Airfield	5.4.22. RUNWAY	PLANIMETRIC	Field Survey	David Evans	four point representation of the runway offsetting the runway ends by the runway width			
	Airfield	5.4.22. RUNWAY	NAME	Aerial Photogrametry	Mead & Hunt				
	Airfield	5.4.22. RUNWAY	DESCRIPTION	Aerial Photogrametry	Mead & Hunt				
	Airfield	5.4.22. RUNWAY	STATUS	Aerial Photogrametry	Mead & Hunt				
	Airfield	5.4.22. RUNWAY	ALTERNATIVE	NA	Will not be collected				
	Airfield	5.4.22. RUNWAY	LENGTH	Aerial Photogrametry	Mead & Hunt				
	Airfield	5.4.22. RUNWAY	PAVEMENTCLASSIFICATIONNUMBER	PCI report / As-built records	Mead & Hunt				
	Airfield	5.4.22. RUNWAY	RUNWAYDESIGNATOR	Aerial Photogrametry	Mead & Hunt				
	Airfield	5.4.22. RUNWAY	SURFACECONDITION	PCI report	Mead & Hunt				
	Airfield	5.4.22. RUNWAY	SURFACEMATERIAL	Aerial Photogrametry	Mead & Hunt				
	Airfield	5.4.22. RUNWAY	SURFACETYPE	Aerial Photogrametry	Mead & Hunt				
	Airfield	5.4.22. RUNWAY	USERFLAG	NA	Will not be collected				
	Airfield	5.4.22. RUNWAY	WIDTH	Field Survey	David Evans				
	Airfield	Airfield	5.4.25. RUNWAYBLASTPAD	PLANIMETRIC	Aerial Photogrametry		GeoTerra	Blast pad areas	
Airfield		5.4.25. RUNWAYBLASTPAD	NAME	Aerial Photogrametry	GeoTerra				
Airfield		5.4.25. RUNWAYBLASTPAD	DESCRIPTION	Aerial Photogrametry	GeoTerra				
Airfield		5.4.25. RUNWAYBLASTPAD	STATUS	Aerial Photogrametry	GeoTerra				
Airfield		5.4.25. RUNWAYBLASTPAD	ALTERNATIVE	NA	Will not be collected				
Airfield		5.4.25. RUNWAYBLASTPAD	LENGTH	Aerial Photogrametry	GeoTerra				
Airfield		5.4.25. RUNWAYBLASTPAD	PAVEMENTCLASSIFICATIONNUMBER	PCI report	Mead & Hunt				
Airfield		5.4.25. RUNWAYBLASTPAD	RUNWAYENDDSIGNATOR	Aerial Photogrametry	Mead & Hunt				
Airfield		5.4.25. RUNWAYBLASTPAD	SURFACECONDITION	PCI report	Mead & Hunt				
Airfield		5.4.25. RUNWAYBLASTPAD	SURFACEMATERIAL	PCI report	Mead & Hunt				
Airfield		5.4.25. RUNWAYBLASTPAD	SURFACETYPE	PCI report	Mead & Hunt				
Airfield		5.4.25. RUNWAYBLASTPAD	USERFLAG	NA	Will not be collected				

Group	Groupname	AC SUBREF	Feature Class	Attribute	Source	Responsible Party	Description	Notes
Airfield	Airfield	5.4.26.	RUNWAYEND	PLANIMETRIC	Field Survey	David Evans	Monumented runway end	
	Airfield	5.4.26.	RUNWAYEND	NAME	Field Survey	David Evans		
	Airfield	5.4.26.	RUNWAYEND	DESCRIPTION	Field Survey	David Evans		
	Airfield	5.4.26.	RUNWAYEND	STATUS	Field Survey	David Evans		
	Airfield	5.4.26.	RUNWAYEND	ACCELERATESTOPDISTANCEAVAIL	Calculated	Mead & Hunt		
	Airfield	5.4.26.	RUNWAYEND	ALTERNATIVE	NA	Will not be collected		
	Airfield	5.4.26.	RUNWAYEND	APPROACHCATEGORY	Instrument Plates	Mead & Hunt		
	Airfield	5.4.26.	RUNWAYEND	APPROACHGUIDANCE	Instrument Plates	Mead & Hunt		
	Airfield	5.4.26.	RUNWAYEND	DESIGNGROUP	Instrument Plates	Mead & Hunt		
	Airfield	5.4.26.	RUNWAYEND	DISPLACEDDISTANCE	Calculated	Mead & Hunt		
	Airfield	5.4.26.	RUNWAYEND	ELLIPSOIDHEIGHT	Field Survey	David Evans		
	Airfield	5.4.26.	RUNWAYEND	LANDINGDISTANCEAVAILABLE	Calculated	Mead & Hunt		
	Airfield	5.4.26.	RUNWAYEND	MAGNETICBEARING	Calculated	David Evans		
	Airfield	5.4.26.	RUNWAYEND	RUNWAYENDDESIGNATOR	Field Survey	Mead & Hunt		
	Airfield	5.4.26.	RUNWAYEND	RUNWAYSLOPE	Calculated	David Evans		
	Airfield	5.4.26.	RUNWAYEND	TAKEOFFDISTANCEAVAILABLE	Calculated	Mead & Hunt		
	Airfield	5.4.26.	RUNWAYEND	TAKEOFFRUNWAYAVAILABLE	Calculated	Mead & Hunt		
	Airfield	5.4.26.	RUNWAYEND	THRESHOLDTYPE	Field Survey	Mead & Hunt		
	Airfield	5.4.26.	RUNWAYEND	TOUCHDOWNZONEELEVATION	Field Survey	David Evans		
	Airfield	5.4.26.	RUNWAYEND	TOUCHDOWNZONESLOPE	Calculated	David Evans		
Airfield	5.4.26.	RUNWAYEND	TRUEBEARING	Calculated	David Evans			
Airfield	5.4.26.	RUNWAYEND	USERFLAG	NA	Will not be collected			
Airfield	Airfield	5.4.27.	RUNWAYLABEL	PLANIMETRIC	Aerial Photogrametry	GeoTerra	Bottom position of runway designation marking	
	Airfield	5.4.27.	RUNWAYLABEL	NAME	Aerial Photogrametry	GeoTerra		
	Airfield	5.4.27.	RUNWAYLABEL	DESCRIPTION	Aerial Photogrametry	GeoTerra		
	Airfield	5.4.27.	RUNWAYLABEL	STATUS	Aerial Photogrametry	GeoTerra		
	Airfield	5.4.27.	RUNWAYLABEL	ALTERNATIVE	NA	Will not be collected		
	Airfield	5.4.27.	RUNWAYLABEL	RUNWAYDESIGNATOR	Aerial Photogrametry	GeoTerra		
Airfield	Airfield	5.4.27.	RUNWAYLABEL	USERFLAG	NA	Will not be collected		
	Airfield	5.4.28.	RUNWAYSAFETYAREABOUNDARY	PLANIMETRIC	FAA Design Criteria	Mead & Hunt	Boundary of the Runway Safety Area	
	Airfield	5.4.28.	RUNWAYSAFETYAREABOUNDARY	NAME	Airport Diagram	Mead & Hunt		
	Airfield	5.4.28.	RUNWAYSAFETYAREABOUNDARY	DESCRIPTION	Airport Diagram	Mead & Hunt		
	Airfield	5.4.28.	RUNWAYSAFETYAREABOUNDARY	STATUS	NA	Will not be collected		
	Airfield	5.4.28.	RUNWAYSAFETYAREABOUNDARY	ALTERNATIVE	NA	Will not be collected		
	Airfield	5.4.28.	RUNWAYSAFETYAREABOUNDARY	DETERMINATION	NA	Will not be collected		
	Airfield	5.4.28.	RUNWAYSAFETYAREABOUNDARY	DETERMINATIONDATE	NA	Will not be collected		
	Airfield	5.4.28.	RUNWAYSAFETYAREABOUNDARY	RUNWAYENDDESIGNATOR	Airport Diagram	Mead & Hunt		
Airfield	5.4.28.	RUNWAYSAFETYAREABOUNDARY	USERFLAG	NA	Will not be collected			
Airfield	Airfield	5.4.29.	SHOULDER	PLANIMETRIC	Aerial Photogrametry	GeoTerra	Outline of paved shoulder areas	
	Airfield	5.4.29.	SHOULDER	NAME	NA	Will not be collected		
	Airfield	5.4.29.	SHOULDER	DESCRIPTION	NA	Will not be collected		
	Airfield	5.4.29.	SHOULDER	STATUS	NA	Will not be collected		
	Airfield	5.4.29.	SHOULDER	ALTERNATIVE	NA	Will not be collected		
	Airfield	5.4.29.	SHOULDER	LENGTH	Aerial Photogrametry	GeoTerra		
	Airfield	5.4.29.	SHOULDER	RESTRICTED	NA	Will not be collected		
	Airfield	5.4.29.	SHOULDER	SEQUENCE	NA	Will not be collected		
	Airfield	5.4.29.	SHOULDER	SHOULDERTYPE	NA	Will not be collected		
	Airfield	5.4.29.	SHOULDER	SURFACEMATERIAL	NA	Will not be collected		
	Airfield	5.4.29.	SHOULDER	SURFACECONDITION	NA	Will not be collected		
	Airfield	5.4.29.	SHOULDER	SURFACETYPE	NA	Will not be collected		
	Airfield	5.4.29.	SHOULDER	USERFLAG	NA	Will not be collected		
	Airfield	5.4.29.	SHOULDER	WIDTH	Aerial Photogrametry	GeoTerra		

Group	Groupname	AC SUBREF Feature Class	Attribute	Source	Responsible Party	Description	Notes	
Airfield	Airfield	5.4.30. TAXIWAYELEMENT	PLANIMETRIC	Aerial Photogrametry	GeoTerra	Taxiway segment areas (between intersections)		
	Airfield	5.4.30. TAXIWAYELEMENT	NAME	Facility Info	Mead & Hunt			
	Airfield	5.4.30. TAXIWAYELEMENT	DESCRIPTION	Facility Info	Mead & Hunt			
	Airfield	5.4.30. TAXIWAYELEMENT	STATUS	Aerial Photogrametry	Mead & Hunt			
	Airfield	5.4.30. TAXIWAYELEMENT	ALTERNATIVE	NA	Will not be collected			
	Airfield	5.4.30. TAXIWAYELEMENT	DESIGNGROUP	ALP / Facility Info	Mead & Hunt			
	Airfield	5.4.30. TAXIWAYELEMENT	DIRECTIONALITY	ALP / Facility Info	Mead & Hunt			
	Airfield	5.4.30. TAXIWAYELEMENT	LENGTH	Aerial Photogrametry	GeoTerra			
	Airfield	5.4.30. TAXIWAYELEMENT	MAXIMUMSPEED	NA	Will not be collected			
	Airfield	5.4.30. TAXIWAYELEMENT	PAVEMENTCLASSIFICATIONNUMBER	PCI report / As-built records	Mead & Hunt			
	Airfield	5.4.30. TAXIWAYELEMENT	SEQUENCE	NA	Will not be collected			
	Airfield	5.4.30. TAXIWAYELEMENT	SURFACECONDITION	PCI report / Field Survey	Mead & Hunt			
	Airfield	5.4.30. TAXIWAYELEMENT	SURFACEMATERIAL	PCI report / As-built records	Mead & Hunt			
	Airfield	5.4.30. TAXIWAYELEMENT	SURFACETYPE	Aerial Photogrametry	Mead & Hunt			
	Airfield	5.4.30. TAXIWAYELEMENT	TAXIWAYID	ALP / Facility Info	Mead & Hunt			
	Airfield	5.4.30. TAXIWAYELEMENT	TAXIWAYTYPE	ALP / Facility Info	Mead & Hunt			
	Airfield	5.4.30. TAXIWAYELEMENT	USERFLAG	NA	Will not be collected			
	Airfield	5.4.30. TAXIWAYELEMENT	WIDTH	Aerial Photogrametry	GeoTerra			
	Airfield	Airfield	5.4.30. TAXIWAYELEMENT	WINGSPAN	ALP / Calculated	Mead & Hunt		
		Airfield	5.4.31. TAXIWAYINTERSECTION	PLANIMETRIC	Aerial Photogrametry	GeoTerra	Taxiway intersection areas	
Airfield		5.4.31. TAXIWAYINTERSECTION	NAME	Facility Info	Mead & Hunt			
Airfield		5.4.31. TAXIWAYINTERSECTION	DESCRIPTION	Facility Info	Mead & Hunt			
Airfield		5.4.31. TAXIWAYINTERSECTION	STATUS	Aerial Photogrametry	Mead & Hunt			
Airfield		5.4.31. TAXIWAYINTERSECTION	ALTERNATIVE	NA	Will not be collected			
Airspace	Airfield	5.4.31. TAXIWAYINTERSECTION	USERFLAG	NA	Will not be collected			
	Airspace	5.5.2. OBSTACLE	PLANIMETRIC	Aerial Photogrametry	GeoTerra	Objects penetrating an OIS or selected representative object		
	Airspace	5.5.2. OBSTACLE	NAME	Aerial Photogrametry	GeoTerra			
	Airspace	5.5.2. OBSTACLE	DESCRIPTION	Aerial Photogrametry	GeoTerra			
	Airspace	5.5.2. OBSTACLE	STATUS	Aerial Photogrametry	GeoTerra			
	Airspace	5.5.2. OBSTACLE	ABOVEGROUNDLEVEL	Aerial Photogrametry	GeoTerra			
	Airspace	5.5.2. OBSTACLE	ALTERNATIVE	NA	Will not be collected			
	Airspace	5.5.2. OBSTACLE	DISPOSITION	ALP	Mead & Hunt			
	Airspace	5.5.2. OBSTACLE	DISTANCEFROMDISPLACEDTHRESHOLD	Calculated	GeoTerra			
	Airspace	5.5.2. OBSTACLE	DISTANCEFROMRUNWAYCENTERLINE	Calculated	GeoTerra			
	Airspace	5.5.2. OBSTACLE	DISTANCEFROMRUNWAYEND	Calculated	GeoTerra			
	Airspace	5.5.2. OBSTACLE	ELLIPSOIDHEIGHT	Aerial Photogrametry	GeoTerra			
	Airspace	5.5.2. OBSTACLE	FAACORDINATIONCODE	NA	Will not be collected			
	Airspace	5.5.2. OBSTACLE	FRANGIBLE	Field survey / as-built records	Mead & Hunt			
	Airspace	5.5.2. OBSTACLE	GROUPCODE	Aerial Photogrametry	GeoTerra			
	Airspace	5.5.2. OBSTACLE	HEIGHTABOVEAIRPORT	Calculated	GeoTerra			
	Airspace	5.5.2. OBSTACLE	HEIGHTABOVERUNWAY	Calculated	GeoTerra			
	Airspace	5.5.2. OBSTACLE	HEIGHTABOVETOUCHDOWNZONE	Calculated	GeoTerra			
	Airspace	5.5.2. OBSTACLE	LIGHTCODE	Aerial Photogrametry	Mead & Hunt			
	Airspace	5.5.2. OBSTACLE	MARKINGFEATURETYPE	Aerial Photogrametry	Mead & Hunt			
	Airspace	5.5.2. OBSTACLE	OBSTACLESOURCE	Aerial Photogrametry	GeoTerra			
	Airspace	5.5.2. OBSTACLE	OBSTACLETYPE	Aerial Photogrametry	GeoTerra			
	Airspace	5.5.2. OBSTACLE	OBSTRUCTIONNUMBER	NA	Will not be collected			
	Airspace	5.5.2. OBSTACLE	OISSURFACECONDITION	Calculated	GeoTerra			
Airspace	5.5.2. OBSTACLE	PENVALSPECIFIED	Calculated	GeoTerra				
Airspace	5.5.2. OBSTACLE	PENVALSUPPLEMENTAL	Calculated	GeoTerra				
Airspace	5.5.2. OBSTACLE	USERFLAG	NA	Will not be collected				

Group	Groupname	AC SUBREF Feature Class	Attribute	Source	Responsible Party	Description	Notes		
Airspace	Airspace	5.5.3. OBSTRUCTIONAREA	PLANIMETRIC	Aerial Photogrametry	GeoTerra	Area or group of objects penetrating an OIS			
	Airspace	5.5.3. OBSTRUCTIONAREA	NAME	Aerial Photogrametry	GeoTerra				
	Airspace	5.5.3. OBSTRUCTIONAREA	DESCRIPTION	Aerial Photogrametry	GeoTerra				
	Airspace	5.5.3. OBSTRUCTIONAREA	STATUS	Aerial Photogrametry	GeoTerra				
	Airspace	5.5.3. OBSTRUCTIONAREA	ABOVEGROUNDLEVEL	Aerial Photogrametry	GeoTerra				
	Airspace	5.5.3. OBSTRUCTIONAREA	ALTERNATIVE	NA	Will not be collected				
	Airspace	5.5.3. OBSTRUCTIONAREA	DISPOSITION	ALP	Mead & Hunt				
	Airspace	5.5.3. OBSTRUCTIONAREA	DISTANCEFROMDISPLACEDTHRESHOLD	Calculated	GeoTerra				
	Airspace	5.5.3. OBSTRUCTIONAREA	DISTANCEFROMRUNWAYCENTERLINE	Calculated	GeoTerra				
	Airspace	5.5.3. OBSTRUCTIONAREA	DISTANCEFROMRUNWAYEND	Calculated	GeoTerra				
	Airspace	5.5.3. OBSTRUCTIONAREA	ELLIPSOIDHEIGHT	Aerial Photogrametry	GeoTerra				
	Airspace	5.5.3. OBSTRUCTIONAREA	FAACORDINATIONCODE	NA	Will not be collected				
	Airspace	5.5.3. OBSTRUCTIONAREA	FRANGIBLE	Field survey / as-built records	Mead & Hunt				
	Airspace	5.5.3. OBSTRUCTIONAREA	GROUPCODE	Aerial Photogrametry	GeoTerra				
	Airspace	5.5.3. OBSTRUCTIONAREA	HEIGHTABOVEAIRPORT	Calculated	GeoTerra				
	Airspace	5.5.3. OBSTRUCTIONAREA	HEIGHTABOVERUNWAY	Calculated	GeoTerra				
	Airspace	5.5.3. OBSTRUCTIONAREA	HEIGHTABOVETOUCHDOWNZONE	Calculated	GeoTerra				
	Airspace	5.5.3. OBSTRUCTIONAREA	LIGHTCODE	Aerial Photogrametry	Mead & Hunt				
	Airspace	5.5.3. OBSTRUCTIONAREA	LENGTH	Calculated	GeoTerra				
	Airspace	5.5.3. OBSTRUCTIONAREA	MARKINGFEATURETYPE	Aerial Photogrametry	Mead & Hunt				
	Airspace	5.5.3. OBSTRUCTIONAREA	OBSTACLESOURCE	Aerial Photogrametry	GeoTerra				
	Airspace	5.5.3. OBSTRUCTIONAREA	OBSTACLETYPE	Aerial Photogrametry	GeoTerra				
	Airspace	5.5.3. OBSTRUCTIONAREA	OBSTRUCTIONAREATYPE	Aerial Photogrametry	GeoTerra				
	Airspace	5.5.3. OBSTRUCTIONAREA	OBSTRUCTIONNUMBER	NA	Will not be collected				
	Airspace	5.5.3. OBSTRUCTIONAREA	OISSURFACECONDITION	Calculated	GeoTerra				
	Airspace	5.5.3. OBSTRUCTIONAREA	PENVALSPECIFIED	Calculated	GeoTerra				
	Airspace	5.5.3. OBSTRUCTIONAREA	PENVALSUPPLEMENTAL	Calculated	GeoTerra				
	Airspace	5.5.3. OBSTRUCTIONAREA	USERFLAG	NA	Will not be collected				
	Airspace	5.5.3. OBSTRUCTIONAREA	WIDTH	Calculated	GeoTerra				
	Airspace	Airspace	5.5.4. OBSTRUCTIONIDSURFACE	PLANIMETRIC	Calculated / CADD		GeoTerra	Imaginary FAA obstruction surfaces	
		Airspace	5.5.4. OBSTRUCTIONIDSURFACE	NAME	FAA Standards		GeoTerra		
		Airspace	5.5.4. OBSTRUCTIONIDSURFACE	DESCRIPTION	FAA Standards		GeoTerra		
		Airspace	5.5.4. OBSTRUCTIONIDSURFACE	STATUS	FAA Standards		GeoTerra		
Airspace		5.5.4. OBSTRUCTIONIDSURFACE	ALTERNATIVE	NA	Will not be collected				
Airspace		5.5.4. OBSTRUCTIONIDSURFACE	APPROACHGUIDANCE	Approach Plates	GeoTerra				
Airspace		5.5.4. OBSTRUCTIONIDSURFACE	OISSURFACECONDITION	Calculated	GeoTerra				
Airspace		5.5.4. OBSTRUCTIONIDSURFACE	OISSURFACETYPE	FAA Standards	GeoTerra				
Airspace		5.5.4. OBSTRUCTIONIDSURFACE	OISZONETYPE	FAA Standards	GeoTerra				
Airspace		5.5.4. OBSTRUCTIONIDSURFACE	RUNWAYDESIGNATOR	Airport Diagram	GeoTerra				
Airspace		5.5.4. OBSTRUCTIONIDSURFACE	RUNWAYENDDSIGNATOR	Airport Diagram	GeoTerra				
Airspace		5.5.4. OBSTRUCTIONIDSURFACE	SAFETYREGULATION	FAA Standards	GeoTerra				
Airspace		5.5.4. OBSTRUCTIONIDSURFACE	SLOPE	FAA Standards	GeoTerra				
Airspace		5.5.4. OBSTRUCTIONIDSURFACE	USERFLAG	NA	Will not be collected				
Airspace		5.5.4. OBSTRUCTIONIDSURFACE	ZONEUSE	Aerial Photogrametry	GeoTerra				
Cadastral		Cadastral	5.6.1. AIRPORTBOUNDARY	PLANIMETRIC	Airport Boudary Survey / Exhibit A	Mead & Hunt	Boundary of all airport property		
		Cadastral	5.6.1. AIRPORTBOUNDARY	NAME	Facility Info	Mead & Hunt			
		Cadastral	5.6.1. AIRPORTBOUNDARY	DESCRIPTION	Facility Info	Mead & Hunt			
	Cadastral	5.6.1. AIRPORTBOUNDARY	STATUS	Airport Boudary Survey / Exhibit A	Mead & Hunt				
	Cadastral	5.6.1. AIRPORTBOUNDARY	AIRPORTFACILITYTYPE	ALP / Facility Info	Mead & Hunt				
	Cadastral	5.6.1. AIRPORTBOUNDARY	ALTERNATIVE	NA	Will not be collected				
	Cadastral	5.6.1. AIRPORTBOUNDARY	FAALOCATIONID	Facility Info	Mead & Hunt				
	Cadastral	5.6.1. AIRPORTBOUNDARY	FAASITENUMBER	Facility Info	Mead & Hunt				
	Cadastral	5.6.1. AIRPORTBOUNDARY	IATACODE	Facility Info	Mead & Hunt				
	Cadastral	5.6.1. AIRPORTBOUNDARY	ICAOCODE	Facility Info	Mead & Hunt				
	Cadastral	5.6.1. AIRPORTBOUNDARY	OPERATIONSTYPE	Facility Info	Mead & Hunt				
	Cadastral	5.6.1. AIRPORTBOUNDARY	OWNER	AST	Mead & Hunt				
	Cadastral	5.6.1. AIRPORTBOUNDARY	USERFLAG	NA	Will not be collected				

Group	Groupname	AC SUBREF Feature Class	Attribute	Source	Responsible Party	Description	Notes
Geospatial	Geospatial	5.8.1. - 5.8.8. AIRPORTCONTROLPOINT	PLANIMETRIC	Field Survey	David Evans	Points of significant geographic importance:Runway Intersection, Centerline Perpendicular, Displaced Threshold, Stopway Ends, Profile, Touchdown Zone Elevation, PACS/SACS, and Airport Elevation	Runway CL profile on 10' stations
	Geospatial	5.8.1. - 5.8.8. AIRPORTCONTROLPOINT	NAME	Field Survey	David Evans		
	Geospatial	5.8.1. - 5.8.8. AIRPORTCONTROLPOINT	DESCRIPTION	Field Survey	David Evans		
	Geospatial	5.8.1. - 5.8.8. AIRPORTCONTROLPOINT	STATUS	Field Survey	David Evans		
	Geospatial	5.8.1. - 5.8.8. AIRPORTCONTROLPOINT	ALTERNATIVE	NA	Will not be collected		
	Geospatial	5.8.1. - 5.8.8. AIRPORTCONTROLPOINT	CODEPOINTTYPE	Field Survey	David Evans		
	Geospatial	5.8.1. - 5.8.8. AIRPORTCONTROLPOINT	COORDINATEZONE	Field Survey	David Evans		
	Geospatial	5.8.1. - 5.8.8. AIRPORTCONTROLPOINT	DATERECOVERED	Field Survey	David Evans		
	Geospatial	5.8.1. - 5.8.8. AIRPORTCONTROLPOINT	ELLIPSOIDHEIGHT	Field Survey	David Evans		
	Geospatial	5.8.1. - 5.8.8. AIRPORTCONTROLPOINT	EPOCH	Field Survey	David Evans		
	Geospatial	5.8.1. - 5.8.8. AIRPORTCONTROLPOINT	FIELDBOOK	Field Survey	David Evans		
	Geospatial	5.8.1. - 5.8.8. AIRPORTCONTROLPOINT	GLOBALPOSITIONSYSTEMSUITABLE	Field Survey	David Evans		
	Geospatial	5.8.1. - 5.8.8. AIRPORTCONTROLPOINT	MONUMENTTYPE	Field Survey	David Evans		
	Geospatial	5.8.1. - 5.8.8. AIRPORTCONTROLPOINT	PERMANENTID	Field Survey	David Evans		
	Geospatial	5.8.1. - 5.8.8. AIRPORTCONTROLPOINT	RECOVEREDCONDITION	Field Survey	David Evans		
	Geospatial	5.8.1. - 5.8.8. AIRPORTCONTROLPOINT	RUNWAYDESIGNATOR	Field Survey	David Evans		
	Geospatial	5.8.1. - 5.8.8. AIRPORTCONTROLPOINT	RUNWAYENDDSIGNATOR	Field Survey	David Evans		
	Geospatial	5.8.1. - 5.8.8. AIRPORTCONTROLPOINT	STAMPEDDESIGNATION	Field Survey	David Evans		
	Geospatial	5.8.1. - 5.8.8. AIRPORTCONTROLPOINT	USERFLAG	NA	Will not be collected		
	Geospatial	5.8.1. - 5.8.8. AIRPORTCONTROLPOINT	YEAROFSURVEY	Field Survey	David Evans		
Geospatial	Geospatial	5.8.10. ELEVATIONCONTOUR	PLANIMETRIC	Aerial Photogrametry	GeoTerra	Elevation contours	
	Geospatial	5.8.10. ELEVATIONCONTOUR	NAME	Aerial Photogrametry	GeoTerra		
	Geospatial	5.8.10. ELEVATIONCONTOUR	DESCRIPTION	Aerial Photogrametry	GeoTerra		
	Geospatial	5.8.10. ELEVATIONCONTOUR	STATUS	Aerial Photogrametry	GeoTerra		
	Geospatial	5.8.10. ELEVATIONCONTOUR	ALTERNATIVE	NA	Will not be collected		
	Geospatial	5.8.10. ELEVATIONCONTOUR	CONTOURVALUE	Aerial Photogrametry	GeoTerra		
	Geospatial	5.8.10. ELEVATIONCONTOUR	LENGTH	Aerial Photogrametry	GeoTerra		
	Geospatial	5.8.10. ELEVATIONCONTOUR	USERFLAG	NA	Will not be collected		
Geospatial	Geospatial	5.8.11. IMAGEAREA	PLANIMETRIC	Aerial Photogrametry	GeoTerra	Image coverage area	
	Geospatial	5.8.11. IMAGEAREA	NAME	Aerial Photogrametry	GeoTerra		
	Geospatial	5.8.11. IMAGEAREA	DESCRIPTION	Aerial Photogrametry	GeoTerra		
	Geospatial	5.8.11. IMAGEAREA	STATUS	Aerial Photogrametry	GeoTerra		
	Geospatial	5.8.11. IMAGEAREA	ALTERNATIVE	NA	Will not be collected		
	Geospatial	5.8.11. IMAGEAREA	FRAMEID	Aerial Photogrametry	GeoTerra		
	Geospatial	5.8.11. IMAGEAREA	PHOTODATE	Aerial Photogrametry	GeoTerra		
	Geospatial	5.8.11. IMAGEAREA	USERFLAG	NA	Will not be collected		
Man Made Structures	Man Made Structures	5.9.1. BUILDING	PLANIMETRIC	Aerial Photogrametry	GeoTerra	Buildings	
	Man Made Structures	5.9.1. BUILDING	NAME	NA	Will not be collected		
	Man Made Structures	5.9.1. BUILDING	DESCRIPTION	NA	Will not be collected		
	Man Made Structures	5.9.1. BUILDING	STATUS	NA	Will not be collected		
	Man Made Structures	5.9.1. BUILDING	ALTERNATIVE	NA	Will not be collected		
	Man Made Structures	5.9.1. BUILDING	AREAFLOOR	NA	Will not be collected		
	Man Made Structures	5.9.1. BUILDING	AREAINSIDE	NA	Will not be collected		
	Man Made Structures	5.9.1. BUILDING	BUILDNGNUMBER	NA	Will not be collected		
	Man Made Structures	5.9.1. BUILDING	COLOR	NA	Will not be collected		
	Man Made Structures	5.9.1. BUILDING	LIGHTINGCONFIGURATIONTYPE	NA	Will not be collected		
	Man Made Structures	5.9.1. BUILDING	MARKINGFEATURETYPE	NA	Will not be collected		
	Man Made Structures	5.9.1. BUILDING	NUMBERCURRENTOCCUPANTS	NA	Will not be collected		
	Man Made Structures	5.9.1. BUILDING	STRUCTUREHEIGHT	Aerial Photogrametry	GeoTerra		
	Man Made Structures	5.9.1. BUILDING	STRUCTURETYPE	NA	Will not be collected		
	Man Made Structures	5.9.1. BUILDING	USERFLAG	NA	Will not be collected		
Man Made Structures	Man Made Structures	5.9.2. CONSTRUCTIONAREA	PLANIMETRIC	NA	Will not be collected	Outer limits of construction areas	
	Man Made Structures	5.9.2. CONSTRUCTIONAREA	NAME	NA	Will not be collected		
	Man Made Structures	5.9.2. CONSTRUCTIONAREA	DESCRIPTION	NA	Will not be collected		
	Man Made Structures	5.9.2. CONSTRUCTIONAREA	STATUS	NA	Will not be collected		
	Man Made Structures	5.9.2. CONSTRUCTIONAREA	ALTERNATIVE	NA	Will not be collected		
	Man Made Structures	5.9.2. CONSTRUCTIONAREA	COORDINATIONCONTACT	NA	Will not be collected		
	Man Made Structures	5.9.2. CONSTRUCTIONAREA	PROJECTNAME	NA	Will not be collected		
	Man Made Structures	5.9.2. CONSTRUCTIONAREA	PROJECTSTATUS	NA	Will not be collected		
	Man Made Structures	5.9.2. CONSTRUCTIONAREA	USERFLAG	NA	Will not be collected		

Group	Groupname	AC SUBREF Feature Class	Attribute	Source	Responsible Party	Description	Notes
Man Made Structures	Man Made Structures	5.9.3. ROOF	PLANIMETRIC	Aerial Photogrametry	GeoTerra	Top of buildings and structures	
	Man Made Structures	5.9.3. ROOF	NAME	NA	Will not be collected		
	Man Made Structures	5.9.3. ROOF	DESCRIPTION	NA	Will not be collected		
	Man Made Structures	5.9.3. ROOF	STATUS	NA	Will not be collected		
	Man Made Structures	5.9.3. ROOF	ALTERNATIVE	NA	Will not be collected		
	Man Made Structures	5.9.3. ROOF	BUILDINGNUMBER	NA	Will not be collected		
	Man Made Structures	5.9.3. ROOF	USERFLAG	NA	Will not be collected		
Man Made Structures	Man Made Structures	5.9.4. FENCE	PLANIMETRIC	Aerial Photogrametry	GeoTerra	Fencing	
	Man Made Structures	5.9.4. FENCE	NAME	NA	Will not be collected		
	Man Made Structures	5.9.4. FENCE	DESCRIPTION	NA	Will not be collected		
	Man Made Structures	5.9.4. FENCE	STATUS	NA	Will not be collected		
	Man Made Structures	5.9.4. FENCE	ALTERNATIVE	NA	Will not be collected		
	Man Made Structures	5.9.4. FENCE	HEIGHT	NA	Will not be collected		
	Man Made Structures	5.9.4. FENCE	TYPE	NA	Will not be collected		
Man Made Structures	Man Made Structures	5.9.4. FENCE	USERFLAG	NA	Will not be collected		
	Man Made Structures	5.9.5. GATE	PLANIMETRIC	Aerial Photogrametry	GeoTerra	Opening in fence	
	Man Made Structures	5.9.5. GATE	NAME	NA	Will not be collected		
	Man Made Structures	5.9.5. GATE	DESCRIPTION	NA	Will not be collected		
	Man Made Structures	5.9.5. GATE	STATUS	NA	Will not be collected		
	Man Made Structures	5.9.5. GATE	ALTERNATIVE	NA	Will not be collected		
	Man Made Structures	5.9.5. GATE	ATTENDED	NA	Will not be collected		
	Man Made Structures	5.9.5. GATE	HEIGHT	Aerial Photogrametry	GeoTerra		
	Man Made Structures	5.9.5. GATE	LENGTH	Aerial Photogrametry	GeoTerra		
	Man Made Structures	5.9.5. GATE	TYPE	NA	Will not be collected		
Man Made Structures	Man Made Structures	5.9.5. GATE	USERFLAG	NA	Will not be collected		
	Man Made Structures	5.9.6. TOWER	PLANIMETRIC	Aerial Photogrametry	GeoTerra	Manmade towers	
	Man Made Structures	5.9.6. TOWER	NAME	Aerial Photogrametry	GeoTerra		
	Man Made Structures	5.9.6. TOWER	DESCRIPTION	Aerial Photogrametry	GeoTerra		
	Man Made Structures	5.9.6. TOWER	STATUS	Aerial Photogrametry	GeoTerra		
	Man Made Structures	5.9.6. TOWER	ALTERNATIVE	NA	Will not be collected		
	Man Made Structures	5.9.6. TOWER	COLOR	NA	Will not be collected		
	Man Made Structures	5.9.6. TOWER	ISLIGHT	NA	Will not be collected		
	Man Made Structures	5.9.6. TOWER	LIGHTINGCONFIGURATIONTYPE	NA	Will not be collected		
	Man Made Structures	5.9.6. TOWER	MARKINGFEATURETYPE	NA	Will not be collected		
	Man Made Structures	5.9.6. TOWER	STRUCTUREHEIGHT	Aerial Photogrametry	GeoTerra		
	Man Made Structures	5.9.6. TOWER	USERFLAG	NA	Will not be collected		
	Man Made Structures	5.9.6. TOWER	VERTICALSTRUCTUREMATERIAL	NA	Will not be collected		
Navigational Aids	Navigational Aids	5.10.1 NAVAIDCRITICALAREA	PLANIMETRIC	Planimetrics	Mead & Hunt	Navaid critical areas	
	Navigational Aids	5.10.1 NAVAIDCRITICALAREA	NAME	Planimetrics	Mead & Hunt		
	Navigational Aids	5.10.1 NAVAIDCRITICALAREA	DESCRIPTION	Planimetrics	Mead & Hunt		
	Navigational Aids	5.10.1 NAVAIDCRITICALAREA	STATUS	Aerial Photogrametry	Mead & Hunt		
	Navigational Aids	5.10.1 NAVAIDCRITICALAREA	ALTERNATIVE	NA	Will not be collected		
	Navigational Aids	5.10.1 NAVAIDCRITICALAREA	DIMENSIONX	FAA Standards	Mead & Hunt		
	Navigational Aids	5.10.1 NAVAIDCRITICALAREA	DIMENSIONY	FAA Standards	Mead & Hunt		
	Navigational Aids	5.10.1 NAVAIDCRITICALAREA	USERFLAG	NA	Will not be collected		

Group	Groupname	AC SUBREF Feature Class	Attribute	Source	Responsible Party	Description	Notes
Navigational Aids	Navigational Aids	5.10.2 NAVAIDEQUIPMENT	PLANIMETRIC	Field Survey	David Evans	Navaid equipment - APBN, ARSR, ASR, ALS, BCM, DME, GS, FM, GCA, IM, LOC, LDA, MM, MLSAZ, MLSEZ, NDB, OM, PAPI, PAR, PLASI, PVASI, REIL, SDF, TACAN, TRCV, T-VASI, VOR, VASI, VORTAC	NAVAID documentation/monumentation and attributes
	Navigational Aids	5.10.2 NAVAIDEQUIPMENT	NAME	Field Survey	David Evans		
	Navigational Aids	5.10.2 NAVAIDEQUIPMENT	DESCRIPTION	Field Survey	David Evans		
	Navigational Aids	5.10.2 NAVAIDEQUIPMENT	STATUS	Field Survey	David Evans		
	Navigational Aids	5.10.2 NAVAIDEQUIPMENT	ALTERNATIVE	NA	Will not be collected		
	Navigational Aids	5.10.2 NAVAIDEQUIPMENT	ANTENNATOTHRESHOLDDISTANCE	Calculated	David Evans		
	Navigational Aids	5.10.2 NAVAIDEQUIPMENT	CENTERLINEDISTANCE	Calculated	David Evans		
	Navigational Aids	5.10.2 NAVAIDEQUIPMENT	ELEVATION	Field Survey	David Evans		
	Navigational Aids	5.10.2 NAVAIDEQUIPMENT	ELLIPSOIDELEVATION	Field Survey	David Evans		
	Navigational Aids	5.10.2 NAVAIDEQUIPMENT	FAAFACILITYID	Facility Info	Mead & Hunt		
	Navigational Aids	5.10.2 NAVAIDEQUIPMENT	HIGHANGLE	Field Survey	Mead & Hunt		
	Navigational Aids	5.10.2 NAVAIDEQUIPMENT	LIGHTINGCONFIGURATIONTYPE	Field Survey	Mead & Hunt		
	Navigational Aids	5.10.2 NAVAIDEQUIPMENT	NAVAIDEQUIPMENTTYPE	Field Survey	Mead & Hunt		
	Navigational Aids	5.10.2 NAVAIDEQUIPMENT	NAVIGATIONALAIDSYSTEMTYPE	Field Survey	Mead & Hunt		
	Navigational Aids	5.10.2 NAVAIDEQUIPMENT	OFFSETDIRECTION	Calculated	Mead & Hunt		
	Navigational Aids	5.10.2 NAVAIDEQUIPMENT	OFFSETDISTANCE	Calculated	Mead & Hunt		
	Navigational Aids	5.10.2 NAVAIDEQUIPMENT	OWNER	AST	Mead & Hunt		
	Navigational Aids	5.10.2 NAVAIDEQUIPMENT	REFERENCEPOINTELLIPSOIDHEIGHT	Aerial Photogrametry	David Evans		
	Navigational Aids	5.10.2 NAVAIDEQUIPMENT	REFERENCEPOINTTHRESHOLD	Calculated	David Evans		
	Navigational Aids	5.10.2 NAVAIDEQUIPMENT	RUNWAYENDID	Aerial Photogrametry	Mead & Hunt		
Navigational Aids	5.10.2 NAVAIDEQUIPMENT	STOPENDDISTANCE	Calculated	Mead & Hunt			
Navigational Aids	5.10.2 NAVAIDEQUIPMENT	THRESHOLDCROSSINGHEIGHT	Facility Info	Mead & Hunt			
Navigational Aids	5.10.2 NAVAIDEQUIPMENT	USECODE	FAA Standards	Mead & Hunt			
Navigational Aids	5.10.2 NAVAIDEQUIPMENT	USERFLAG	NA	Will not be collected			
Navigational Aids	Navigational Aids	5.10.3 NAVAIDSITE	PLANIMETRIC	AST / FAA	Mead & Hunt	Parcel boundary for any off airport nav aids	
	Navigational Aids	5.10.3 NAVAIDSITE	NAME	AST / FAA	Mead & Hunt		
	Navigational Aids	5.10.3 NAVAIDSITE	DESCRIPTION	AST / FAA	Mead & Hunt		
	Navigational Aids	5.10.3 NAVAIDSITE	STATUS	AST / FAA	Mead & Hunt		
	Navigational Aids	5.10.3 NAVAIDSITE	ALTERNATIVE	NA	Will not be collected		
	Navigational Aids	5.10.3 NAVAIDSITE	FAAFACILITYID	AST / FAA	Mead & Hunt		
	Navigational Aids	5.10.3 NAVAIDSITE	FACILITYTYPE	AST / FAA	Mead & Hunt		
	Navigational Aids	5.10.3 NAVAIDSITE	PROPERTYCUSTODIAN	AST / FAA	Mead & Hunt		
Surface Transportation	Surface Transportation	5.13.1. BRIDGE	PLANIMETRIC	Aerial Photogrametry	GeoTerra		
	Surface Transportation	5.13.1. BRIDGE	NAME	NA	Will not be collected		
	Surface Transportation	5.13.1. BRIDGE	DESCRIPTION	NA	Will not be collected		
	Surface Transportation	5.13.1. BRIDGE	STATUS	NA	Will not be collected		
	Surface Transportation	5.13.1. BRIDGE	ALTERNATIVE	NA	Will not be collected		
	Surface Transportation	5.13.1. BRIDGE	BRIDGETYPE	NA	Will not be collected		
	Surface Transportation	5.13.1. BRIDGE	DIRECTIONALITY	NA	Will not be collected		
	Surface Transportation	5.13.1. BRIDGE	SURFACEMATERIAL	NA	Will not be collected		
	Surface Transportation	5.13.1. BRIDGE	USERFLAG	NA	Will not be collected		
	Surface Transportation	5.13.1. BRIDGE	VERTICALSTRUCTUREMATERIAL	NA	Will not be collected		

Group	Groupname	AC SUBREF Feature Class	Attribute	Source	Responsible Party	Description	Notes	
Surface Transportation	Surface Transportation	5.13.4. PARKINGLOT	PLANIMETRIC	Aerial Photogrametry	GeoTerra			
	Surface Transportation	5.13.4. PARKINGLOT	NAME	NA	Will not be collected			
	Surface Transportation	5.13.4. PARKINGLOT	DESCRIPTION	NA	Will not be collected			
	Surface Transportation	5.13.4. PARKINGLOT	STATUS	NA	Will not be collected			
	Surface Transportation	5.13.4. PARKINGLOT	ALTERNATIVE	NA	Will not be collected			
	Surface Transportation	5.13.4. PARKINGLOT	NUMBERHANDICAPSPACES	NA	Will not be collected			
	Surface Transportation	5.13.4. PARKINGLOT	OWNER	NA	Will not be collected			
	Surface Transportation	5.13.4. PARKINGLOT	PARKINGLOTUSE	NA	Will not be collected			
	Surface Transportation	5.13.4. PARKINGLOT	SURFACETYPE	NA	Will not be collected			
	Surface Transportation	5.13.4. PARKINGLOT	TOTALNUMBERSPACES	NA	Will not be collected			
Surface Transportation	Surface Transportation	5.13.4. PARKINGLOT	USERFLAG	NA	Will not be collected			
	Surface Transportation	Surface Transportation	5.13.7. ROADCENTERLINE	PLANIMETRIC	Aerial Photogrametry	GeoTerra	Center of roadway	
		Surface Transportation	5.13.7. ROADCENTERLINE	NAME	Roadmap	GeoTerra		
		Surface Transportation	5.13.7. ROADCENTERLINE	DESCRIPTION	NA	Will not be collected		
		Surface Transportation	5.13.7. ROADCENTERLINE	STATUS	NA	Will not be collected		
		Surface Transportation	5.13.7. ROADCENTERLINE	ALTERNATIVE	NA	Will not be collected		
		Surface Transportation	5.13.7. ROADCENTERLINE	COLOR	NA	Will not be collected		
		Surface Transportation	5.13.7. ROADCENTERLINE	USERFLAG	NA	Will not be collected		
	Surface Transportation	Surface Transportation	5.13.9. ROADSEGMENT	PLANIMETRIC	Aerial Photogrametry	GeoTerra	Roadway segment	
		Surface Transportation	5.13.9. ROADSEGMENT	NAME	Roadmap	GeoTerra		
Surface Transportation		5.13.9. ROADSEGMENT	DESCRIPTION	NA	Will not be collected			
Surface Transportation		5.13.9. ROADSEGMENT	STATUS	Aerial Photogrametry	GeoTerra			
Surface Transportation		5.13.9. ROADSEGMENT	ALTERNATENAME	NA	Will not be collected			
Surface Transportation		5.13.9. ROADSEGMENT	ALTERNATIVE	NA	Will not be collected			
Surface Transportation		5.13.9. ROADSEGMENT	DIRECTIONALITY	NA	Will not be collected			
Surface Transportation		5.13.9. ROADSEGMENT	ISBRIDGE	Aerial Photogrametry	GeoTerra			
Surface Transportation		5.13.9. ROADSEGMENT	ISTUNNEL	Aerial Photogrametry	GeoTerra			
Surface Transportation		5.13.9. ROADSEGMENT	LENGTH	NA	Will not be collected			
Surface Transportation		5.13.9. ROADSEGMENT	NUMBEROFLANES	NA	Will not be collected			
Surface Transportation		5.13.9. ROADSEGMENT	ROUTE1NAME	Roadmap	GeoTerra			
Surface Transportation		5.13.9. ROADSEGMENT	ROUTE1TYPE	NA	Will not be collected			
Surface Transportation		5.13.9. ROADSEGMENT	ROUTE2NAME	NA	Will not be collected			
Surface Transportation		5.13.9. ROADSEGMENT	ROUTE2TYPE	NA	Will not be collected			
Surface Transportation		5.13.9. ROADSEGMENT	ROUTE3NAME	NA	Will not be collected			
Surface Transportation		5.13.9. ROADSEGMENT	ROUTE3TYPE	NA	Will not be collected			
Surface Transportation	5.13.9. ROADSEGMENT	SEGMENTTYPE	NA	Will not be collected				
Surface Transportation	5.13.9. ROADSEGMENT	SURFACEMATERIAL	NA	Will not be collected				
Surface Transportation	5.13.9. ROADSEGMENT	SURFACETYPE	NA	Will not be collected				
Surface Transportation	5.13.9. ROADSEGMENT	USERFLAG	NA	Will not be collected				
Surface Transportation	5.13.9. ROADSEGMENT	WIDTH	NA	Will not be collected				
Surface Transportation	Surface Transportation	5.13.10. SIDEWALK	PLANIMETRIC	Aerial Photogrametry	GeoTerra	Pedestrian sidewalk		
	Surface Transportation	5.13.10. SIDEWALK	NAME	NA	Will not be collected			
	Surface Transportation	5.13.10. SIDEWALK	DESCRIPTION	NA	Will not be collected			
	Surface Transportation	5.13.10. SIDEWALK	STATUS	NA	Will not be collected			
	Surface Transportation	5.13.10. SIDEWALK	ALTERNATIVE	NA	Will not be collected			
	Surface Transportation	5.13.10. SIDEWALK	AMERICANDISABILITIESACT	NA	Will not be collected			
	Surface Transportation	5.13.10. SIDEWALK	LENGTH	NA	Will not be collected			
	Surface Transportation	5.13.10. SIDEWALK	SEGMENTTYPE	NA	Will not be collected			
	Surface Transportation	5.13.10. SIDEWALK	SURFACEMATERIAL	NA	Will not be collected			
	Surface Transportation	5.13.10. SIDEWALK	USERFLAG	NA	Will not be collected			
	Surface Transportation	5.13.10. SIDEWALK	WALKUSE	NA	Will not be collected			
	Surface Transportation	5.13.10. SIDEWALK	WIDTH	NA	Will not be collected			

PROJECT BUDGET SUMMARY					
PROJECT ELEMENT	MEAD & HUNT	DAVID EVANS & ASSOCIATES	JOHNSON ECONOMICS	MAUL FOSTER ALONGI	TOTAL
Task 1 Study Design	\$ 7,364.00	\$ -	\$ -	\$ -	\$ 7,364.00
Task 2 Project Management	\$ 18,912.00	\$ -	\$ -	\$ -	\$ 18,912.00
Task 3 Stakeholder Involvement Program	\$ 22,736.00	\$ 13,445.00	\$ 6,945.00	\$ 27,010.00	\$ 70,136.00
Task 4 Airport Geographic Information Survey (AGIS)	\$ 94,973.00	\$ -	\$ -	\$ -	\$ 94,973.00
Task 5 Existing Conditions	\$ 14,200.00	\$ 8,260.00	\$ 8,420.00	\$ -	\$ 30,880.00
Task 6 Environmental Considerations	\$ 4,138.00	\$ 15,504.00	\$ -	\$ -	\$ 19,642.00
Task 7 Aviation Forecasts	\$ 33,004.00	\$ -	\$ -	\$ -	\$ 33,004.00
Task 8 Facility Requirements Analysis	\$ 13,572.00	\$ 8,863.00	\$ 11,780.00	\$ -	\$ 34,215.00
Task 9 Alternatives Development and Evaluation	\$ 24,170.00	\$ 18,089.00	\$ 820.00	\$ -	\$ 43,079.00
Task 10 Financial Feasibility Analysis & Facilities Implementation Plan	\$ 10,656.00	\$ 13,187.00	\$ 5,580.00	\$ -	\$ 29,423.00
Task 11 Land Use Planning	\$ 10,094.00	\$ -	\$ -	\$ -	\$ 10,094.00
Task 12 Airport Layout Plan	\$ 47,296.00	\$ -	\$ -	\$ -	\$ 47,296.00
Task 13 Appendices	\$ 4,630.00	\$ -	\$ -	\$ -	\$ 4,630.00
Task 14 Documentation	\$ 19,658.00	\$ -	\$ -	\$ -	\$ 19,658.00
Total	\$ 325,403.00	\$ 77,348.00	\$ 33,545.00	\$ 27,010.00	\$ 463,306.00

Hourly Rates by Personnel Category	MEAD & HUNT PERSONNEL CATEGORY, HOURS AND LABOR COST													SUBCONSULTANT FEE						TOTAL HOURS	TOTAL FEE																	
	Principal		Project Manager		Sr. Consultant (Plan/Engr/Arch)		Consultant (Plan/Engr/Arch)		Technician		Junior Consultant (Plan/Engr/Arch)		Administrative		HOURS	COST	EXPENSES	MEAD & HUNT FEE	DAVID EVANS & ASSOCIATES	JOHNSON ECONOMICS	MAUL FOSTER ALONGI	SUBCONSULTANT HOURS	SUBCONSULTANT FEE	SUBCONSULTANT HOURS	SUBCONSULTANT FEE													
	Hours	Cost \$300	Hours	Cost \$224	Hours	Cost \$205	Hours	Cost \$170	Hours	Cost \$145	Hours	Cost \$127	Hours	Cost \$83												Hours	Fee	Hours	Fee	Hours	Fee							
Task 1 Study Design	0	\$0	8	\$1,792	0	\$0	30	\$5,100	0	\$0	0	\$0	4	\$332	42	\$7,224	\$140	\$7,364	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	42	\$7,364.00		
1.1 Scope, Fee and Contract		\$0	4	\$896		\$0	24	\$4,080		\$0		\$0	4	\$332	32	\$5,308	\$0	\$5,308	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	32	\$5,308.00		
1.2 Team Charter		\$0		\$0		\$0	2	\$340		\$0		\$0		\$0	2	\$340	\$0	\$340	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	2	\$340.00		
1.3 Scoping Meeting (1 at AST)		\$0	4	\$896		\$0	4	\$680		\$0		\$0		\$0	8	\$1,576	\$140	\$1,716	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	8	\$1,716.00		
Task 2 Project Management	0	\$0	48	\$10,752	0	\$0	48	\$8,160	0	\$0	0	\$0	0	\$0	96	\$18,912	\$0	\$18,912	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	96	\$18,912.00
2.1 Project Management		\$0	24	\$5,376		\$0	24	\$4,080		\$0		\$0		\$0	48	\$9,456	\$0	\$9,456	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	48	\$9,456.00		
2.2 AST Coordination		\$0	24	\$5,376	0	\$0	24	\$4,080		\$0		\$0		\$0	48	\$9,456	\$0	\$9,456	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	48	\$9,456.00		
Task 3 Stakeholder Involvement Program	0	\$0	36	\$8,064	0	\$0	36	\$6,120	0	\$0	38	\$1,016	10	\$1,992	120	\$17,192	\$5,544	\$22,736	69	\$13,445	30	\$6,945	200	\$27,010	299	\$47,400	419	\$70,136.00										
3.1 Project Kickoff and Site Visit		\$0	8	\$1,792		\$0	8	\$1,360		\$0	8	\$1,016		\$0	24	\$4,168	\$1,226	\$5,394	12	\$2,451	0	\$0	0	\$0	12	\$2,451	36	\$7,845.00										
3.2 Stakeholder Engagement Plan		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0	\$0	\$0	0	\$0	0	\$0	41	\$5,815	41	\$5,815.00												
3.3 Planning Advisory Committee Meetings (3x)		\$0	10	\$2,240		\$0	10	\$1,700		\$0	10	\$2,664	2	\$664	32	\$4,604	\$3,818	\$8,422	42	\$8,079	20	\$4,895	0	\$0	62	\$12,974	94	\$21,396.00										
3.4 Public Engagement Meetings (2x)		\$0	6	\$1,344		\$0	6	\$1,020		\$0	8	\$1,328	4	\$1,328	24	\$3,692	\$500	\$4,192	6	\$1,166	4	\$820	17	\$2,225	27	\$4,211	51	\$8,403.00										
3.5 Online Open House		\$0	2	\$448		\$0	2	\$340		\$0	2	\$0		\$0	6	\$788	\$0	\$788	0	\$0	0	\$0	78	\$10,230	78	\$10,230.00												
3.6 Quarterly Information Updates		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0	\$0	\$0	0	\$0	0	\$0	22	\$3,020	22	\$3,020.00												
3.7 FAA Seattle Airports Districts Office Coordination (2x)		\$0	4	\$896		\$0	4	\$680		\$0	4	\$0		\$0	12	\$1,576	\$0	\$1,576	0	\$0	0	\$0	0	\$0	12	\$1,576.00												
3.8 Port Commissioners Meetings (3x)		\$0	6	\$1,344		\$0	6	\$1,020		\$0	6	\$0	4	\$0	22	\$2,364	\$0	\$2,364	9	\$1,749	6	\$1,230	0	\$0	15	\$2,979	37	\$5,343.00										
3.9 Stakeholder Engagement Summary		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0	\$0	\$0	0	\$0	0	\$0	42	\$5,720	42	\$5,720.00												
Task 4 Airport Geographic Information Survey (AGIS)	0	\$0	4	\$896	0	\$0	84	\$14,280	116	\$16,820	16	\$2,032	0	\$0	220	\$34,028	\$60,945	\$94,973	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	220	\$94,973.00		
4.1 AGIS Setup, Statement of Work, and Survey Plans		\$0	2	\$448		\$0	16	\$2,720	8	\$1,160		\$0		\$0	26	\$4,328	\$0	\$4,328	0	\$0	0	\$0	0	\$0	0	\$0	26	\$4,328.00										
4.2 Aerial Mapping and Photography		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0	\$29,385	\$29,385	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$29,385.00		
4.3 Reconnaissance and Field Surveys		\$0	0	\$0		\$0	60	\$10,200	60	\$8,700	16	\$2,032		\$0	136	\$20,932	\$4,000	\$24,932	0	\$0	0	\$0	0	\$0	0	\$0	136	\$24,932.00										
4.4 Airport Airspace Analysis		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0	\$8,905	\$8,905	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$8,905.00		
4.5 Surveyed Features and Planimetric Data Attribution		\$0	2	\$448		\$0	8	\$1,360	40	\$5,800		\$0		\$0	50	\$7,608	\$18,655	\$26,263	0	\$0	0	\$0	0	\$0	0	\$0	50	\$26,263.00										
4.6 AGIS Data Upload		\$0	0	\$0		\$0	0	\$0	8	\$1,160		\$0		\$0	8	\$1,160	\$0	\$1,160	0	\$0	0	\$0	0	\$0	0	\$0	8	\$1,160.00										
Task 5 Existing Conditions	0	\$0	2	\$448	0	\$0	22	\$3,740	20	\$2,900	56	\$7,112	0	\$0	100	\$14,200	\$0	\$14,200	52	\$8,260	60	\$8,420	0	\$0	112	\$16,680	212	\$30,880.00										
5.1 Goals and Assumptions		\$0	2	\$448		\$0	4	\$680		\$0	8	\$1,016		\$0	14	\$2,144	\$0	\$2,144	0	\$0	0	\$0	0	\$0	0	\$0	14	\$2,144.00										
5.2 Plan and Report Collection Review		\$0	0	\$0		\$0	8	\$1,360		\$0	8	\$1,016		\$0	16	\$2,376	\$0	\$2,376	0	\$0	0	\$0	0	\$0	0	\$0	16	\$2,376.00										
5.3 Aeronautical Facilities		\$0	0	\$0		\$0	10	\$1,700	20	\$2,900	40	\$5,080		\$0	70	\$9,680	\$0	\$9,680	0	\$0	0	\$0	0	\$0	0	\$0	70	\$9,680.00										
5.4 Non-Aeronautical Facilities		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0	\$0	\$0	0	\$0	60	\$8,420	0	\$0	60	\$8,420.00												
5.5 Parking and Surface Transportation		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0	\$0	\$0	52	\$8,260	0	\$0	0	\$0	52	\$8,260.00												
5.6 Airport Utility Mapping		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0	\$0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0.00		
Task 6 Environmental Considerations	0	\$0	0	\$0	2	\$410	4	\$680	0	\$0	24	\$3,048	0	\$0	30	\$4,138	\$0	\$4,138	98	\$15,504	0	\$0	0	\$0	98	\$15,504	128	\$19,642.00										
6.1 Environmental Inventory		\$0	0	\$0		\$0	4	\$680		\$0	24	\$3,048		\$0	30	\$4,138	\$0	\$4,138	98	\$15,504	0	\$0	0	\$0	98	\$15,504.00												
6.2 Airport Recycling, Reuse, and Waste Reduction Plan		\$0	0	\$0	2	\$410	4	\$680		\$0	24	\$3,048		\$0	30	\$4,138	\$0	\$4,138	0	\$0	0	\$0	0	\$0	0	\$0	30	\$4,138.00										
Task 7 Aviation Forecasts	0	\$0	0	\$0	32	\$6,560	66	\$11,220	0	\$0	112	\$14,224	0	\$0	210	\$32,004	\$1,000	\$33,004	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	210	\$33,004.00		
7.1 Service Area Characteristics		\$0	0	\$0		\$0	0	\$0		\$0	8	\$1,016		\$0	8	\$1,016	\$0	\$1,016	0	\$0	0	\$0	0	\$0	0	\$0	8	\$1,016.00										
7.2 Operations Forecasts		\$0	2	\$410	8	\$1,360		\$0	24	\$3,048		\$0	34	\$4,818		\$1,000	\$5,818	0	\$0	0	\$0	0	\$0	0	\$0	34	\$5,818.00											
7.3 Based Aircraft Forecasts		\$0	2	\$410	8	\$1,360		\$0	24	\$3,048		\$0	34	\$4,818		\$0	\$4,818	0	\$0	0	\$0	0	\$0	0	\$0	34	\$4,818.00											
7.4 Critical Aircraft		\$0	2	\$410	4	\$680		\$0	16	\$2,032		\$0	22	\$3,122		\$0	\$3,122	0	\$0	0	\$0	0	\$0	0	\$0	22	\$3,122.00											
7.5 Electric Aircraft		\$0	2	\$410	4	\$680		\$0	16	\$2,032		\$0	22	\$3,122		\$0	\$3,122	0	\$0	0	\$0	0	\$0	0	\$0	22	\$3,122.00											
7.6 Scheduled Air Service Market Feasibility Assessment		\$0	24	\$4,920	42	\$7,140		\$0	24	\$3,048		\$0	90	\$15,108		\$0	\$15,108	0	\$0	0	\$0	0	\$0	0	\$0	90	\$15,108.00											
Task 8 Facility Requirements Analysis	0	\$0	0	\$0	10	\$2,050	14	\$2,380	14	\$2,030	56	\$7,112	0	\$0	94	\$13,572	\$0	\$13,572	55	\$8,863	108	\$11,780	0	\$0	163	\$20,643	257	\$34,215.00										
8.1 Airport Design Standards		\$0	2	\$410	4	\$680	8	\$1,160	16	\$2,032		\$0	30	\$4,282		\$0	\$4,282	0	\$0	0	\$0	0	\$0	0	\$0	30	\$4,282.00											
8.2 Airfield Demand and Capacity Analysis		\$0	2	\$410	4	\$680	4	\$580	8	\$1,016		\$0	18	\$2,686		\$0	\$2,686	0	\$0	0	\$0	0	\$0	0	\$0	18	\$2,686.00											
8.3 Runway Length Analysis		\$0	2	\$410		\$0		\$0	8	\$1,016		\$0	10	\$1,426		\$0	\$1,426	0	\$0	0	\$0	0	\$0	0	\$0	10	\$1,426.00											
8.4 Aeronautical Facilities and Airspace		\$0	2	\$410	2	\$340		\$0	16	\$2,032		\$0	20	\$2,782		\$0	\$2,782	0	\$0	0	\$0	0	\$0	0	\$0	20	\$2,782.00											
8.5 Electric Aircraft Facilities and Airspace		\$0	2	\$410	4	\$680	2	\$290	8	\$1,016		\$0	16	\$2,396		\$0	\$2,396	0	\$0	0	\$0	0	\$0	0	\$0	16	\$2,396.00											
8.6 Non-Aeronautical Facilities		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0	\$0	\$0	12	\$2,230	108	\$11,780	0	\$0	120	\$14,010												
8.7 Auto Parking and Circulation		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0	\$0	\$0	43	\$6,633	0	\$0	0	\$0	43	\$6,633.00												
Task 9 Alternatives Development and Evaluation	0	\$0	0	\$0	6	\$1,230	24	\$4,080	60	\$8,700	80	\$10,160	0	\$0	170	\$24,170	\$0	\$24,170	103	\$18,089	4	\$820	0	\$0	107	\$18,909	277	\$43,079.00										
9.1 Aeronautical Facilities and Airspace		\$0	2	\$410	10	\$1,700	40	\$5,800	60	\$7,620		\$0	112	\$15,530		\$0	\$15,530	0	\$0	0	\$0	0	\$0	0	\$0	112	\$15,530.00											
9.2 Electric Aircraft Development Evaluation Criteria		\$0	2	\$410	4	\$680	4	\$580	10	\$1,270		\$0	20	\$2,940		\$0	\$2,940	0	\$0	0	\$0	0	\$0	0	\$0	20	\$2,940.00											
9.3 Non-Aeronautical Facilities		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0		\$0	0	\$0	\$0	\$0	15	\$2,881	4	\$820	0</															

WILDLIFE HAZARD MANAGEMENT PLAN UPDATE

Scope of Services

Port of Astoria, Oregon

Project Understanding and Background

The Warrenton Astoria Regional Airport (AST or “the Airport”) is a public airport in Warrenton, Clatsop County, Oregon. The Airport is owned and operated by the Port of Astoria (the Port) and home to the U.S. Coast Guard Air Station Astoria and more than 30 based aircraft.

The Port prepared a Wildlife Hazard Management Plan (WHMP) in 2010 with the assistance of the United States Department of Agriculture (USDA). The primary objective of the WHMP was to identify a defined set of policies, goals, and standards that could be implemented to reduce wildlife hazards at AST. The WHMP was prepared in accordance with FAA Guidance set forth in Title 14 of the Code of Federal Regulations (CFR) Part 139.337, Wildlife Hazard Management, and the WHMP includes all necessary components identified in the regulation.

Part 139.337 requires airport operators to review their WHMP documents at least every 12 consecutive months. The review is performed to:

- ▶ Review the wildlife strike history during the previous year and compare that strike history with summaries of wildlife management/control efforts;
- ▶ Document the progress/completion of specific wildlife management measures identified in the WHMP;
- ▶ Compare wildlife presence, use and behavior at the airfield before and after habitat modification measures have been implemented; and
- ▶ Determine whether the management measures in the plan require changes or adaptation to better address wildlife hazards.

Annual review of the WHMP should be recorded in the WHMP document. A review of the 2010 WHMP indicates that the plan has not been reviewed or modified since its completion.

Scope of Services

Mead & Hunt, Inc. (Consultant) will assist the Port by preparing an update to the WHMP in accordance with 14 CFR Part 139.337 through the execution of three tasks as described in the following:

Task 1: Project Management

Standard project management activities will be conducted throughout the approximately 5-month WHMP preparation period, including the submission of monthly invoices and progress reports. The Consultant will provide an ongoing comparison between project progress and project budgets.

Project Scope and Schedule Assumptions

The proposed scope, schedule, and cost associated with wildlife hazard assessment activities was based on the following assumptions:

- ▶ **FAA Concurrence of Proposed Scope of Services.** The data used to prepare the 2010 WHMP is more than five years old. Consultant assumes that FAA will consider the data, as amended by the two-day site reconnaissance visit, sufficient to support WHMP review. Neither A Wildlife Hazard Assessment nor a Wildlife Hazard Site Visit is included in this Scope of Services.
- ▶ **Off-site access.** If access to off-site locations is required, the Port will coordinate with landowners to gain access prior to site monitoring.
- ▶ **Interruptions because of construction or other airport activities.** In most cases, site monitoring can occur during construction or other non-routine events at the airport. The Consultant assumes that our monitoring schedule will not be interrupted by site activities.
- ▶ **Agency Review Times.** The proposed WHSV and WHMP must be reviewed by Port and the FAA. It is assumed that the Port will review the documents within two weeks. FAA review is estimated at 45 days. FAA comments will be addressed within 10 business days of comment receipt.

1.1 Project Scope and Schedule

Based on our previous experience preparing WHMPs, the Consultant identified the following schedule:

- ▶ Completion of a Site Reconnaissance Visit within 4 weeks of Notice to Proceed (NTP).
- ▶ Completion of an Administrative-draft WHMP within 8 weeks of NTP.
- ▶ Submission of a Draft WHMP for FAA submission within 12 weeks of NTP.
- ▶ Completion of a Final WHMP Report 10 business days of FAA comment receipt

Deliverables

- ▶ Draft outline and project schedule, and
- ▶ Monthly invoices and progress reports.

Task 2: Conduct Two-Day Site Reconnaissance Visit

2.1 Site Visit

A Biologist who has received FAA-approved training in wildlife hazard management will travel to AST to conduct a two-day site reconnaissance visit. The purpose of the site visit will be to compare the site conditions described in the 2010 WHMP with current site conditions.

The Consultant's Biologist will conduct an interview with AST staff members to confirm the following: current wildlife hazard management roles and responsibilities, current wildlife management practices, and specific hazards observed by staff or tenants during aircraft operations. Observations, photographs, and data obtained during the one-day site reconnaissance visit will be incorporated into the updated WHMP.

2.2 Document Review

To prepare for the site visit, the Consultant's biologist will review existing data including, but not limited to:

- ▶ The 2010 WHMP
- ▶ The current Airport Layout Plan (ALP)
- ▶ Available environmental studies for recent AST projects
- ▶ Federal and state species lists and available database information

Deliverables

- ▶ Travel to AST to conduct a two-day site reconnaissance visit including an interview with AST staff involved in wildlife hazard management.

Task 3: Update Wildlife Hazard Management Plan (WHMP)

Using the previous WHMP and data gathered during the two-day site reconnaissance visit, the Consultant will prepare an updated to the WHMP in accordance with the FAA regulations set forth in 14 CFR 139.337 (e) and (f) (1–7). In accordance with specific FAA guidance set forth in 14 CFR 139.337, the WHMP will include tables and figures to identify such information as:

- ▶ Individuals having authority and responsibility for implementing each aspect of the WHMP.
- ▶ Prioritized actions identified in the WHMP and target dates for their initiation and completion.
- ▶ Recommendations for species-specific population management plans, habitat modification, and land use changes.
- ▶ Requirements for and, where applicable, copies of local, state, and federal wildlife control permits. If requested by the Port, Consultant will assist with the preparation of permit applications, such as the application for a federal depredation permit.
- ▶ Resources necessary for the certificate holder to provide to implement the plan.
- ▶ Procedures to be followed during aircraft operations that include: designation of personnel responsible for implementing the procedures; provisions to conduct physical inspections of the

aircraft movement areas and other areas critical to successfully manage known wildlife hazards; wildlife hazard control measures; and ways to communicate effectively between personnel conducting wildlife control or observing wildlife hazards and the air traffic control tower.

- ▶ Procedures to review and evaluate the WHMP annually or as necessary and to identify the plan's effectiveness in dealing with known wildlife hazards on and in the Airport's vicinity.

Task 3.1 Prepare Administrative-Draft WHMP Update

The Consultant will prepare an Administrative-Draft WHMP for review by the Port. The Administrative-Draft WHMP will be submitted to the Port in an electronic format for review (PDF format). The Port will review the Administrative-draft WHMP within 10 business days of receipt. To facilitate review by Port, Consultant will facilitate one teleconference with the Port to discuss the Administrative-Draft WHMP.

Task 3.2 Prepare Draft WHMP for FAA Submission

Consultant will provide incorporate Port comments to create a Draft WHMP within 10 working days of the teleconference as an electronic document (PDF format). The Port will submit the Draft WHMP to FAA. If requested, the Consultant can submit the Draft WHMP to FAA via email. The Consultant anticipates that the Draft WHMP will be submitted to the FAA within four weeks of submission of the Administrative-Draft WHMP. A 30-day FAA review period is anticipated.

Task 3.3. Prepare Final WHMP

Following FAA review, Consultant will incorporate any proposed changes, in coordination with the Port, to create a Final WHMP. The Final WHMP will be created within 10 business days of receipt of FAA comments and acceptance. Up to four hard copies of the Final WHMP will be submitted to the Port (two for FAA submission and two for Port use). A PDF of the Final WHMP will also be submitted to the Port

Deliverables:

- ▶ Administrative-Draft WHMP (electronic submission).
- ▶ Teleconference/meeting with Port to discuss the Administrative-Draft WHMP
- ▶ Preparation and submission of a revised Administrative-Draft WHMP within 10 days of the teleconference/meeting.
- ▶ Draft WHMP for FAA submission following the receipt of comments of the Administrative-Draft WHMP. The Draft WHMP will incorporate up to one set of comments received on the Administrative-Draft WHMP, as appropriate. Either the Port will submit the Draft WHMP to the FAA, or the Consultant will submit the Draft WHMP to the FAA at the direction of the Port.
- ▶ Facilitation of one teleconference with the Port and, if necessary, the FAA Certification Inspector, following the submission of the Draft WHMP.
- ▶ Final WHMP within 10 days of FAA comment. The Final WHMP will incorporate any comments received from the FAA on the Draft WHMP. The Consultant will provide up to four hard copies and a PDF file of the Final WHMP to the Port.

EXHIBIT B - FEE
Warrenton Astoria Regional Airport (AST)
Wildlife Hazard Management Plan (WHMP)
Astoria, OR

January 5, 2022
 Mead & Hunt

MEAD & HUNT PERSONNEL CATEGORY, HOURS AND LABOR COST												
	Sr. Consultant (Plan/Engr/Arch)		Consultant (Plan/Engr/Arch)		Technician (Plan/Engr/Arch)		Administrative		HOURS	COST	EXPENSES	MEAD & HUNT FEE
	Labor	Cost	Labor	Cost	Labor	Cost	Labor	Cost				
Hourly Rates by Personnel Category		\$205		\$170		\$145		\$83				
Task 1 Project Management	4	\$820	0	\$0	0	\$0	0	\$0	4	\$820	\$0	\$820
1.1 Project Scope and Schedule	4	\$820	0	\$0		\$0		\$0	4	\$820	\$0	\$820
Task 2 Conduct Two-day Site Reconnaissance Visit	0	\$0	16	\$2,720	24	\$3,480	0	\$0	40	\$6,200	\$2,170	\$7,690
2.1 Site Visit	0	\$0	12	\$2,040	24	\$3,480		\$0	36	\$5,520	\$2,170	\$7,690
2.2 Document Review		\$0	4	\$680		\$0		\$0	4	\$680	\$0	
Task 3 Update Wildlife Hazard Management Plan	14	\$2,870	48	\$8,160	22	\$3,190	7	\$581	91	\$14,801	\$100	\$14,901
3.1 Prepare Administrative Draft	8	\$1,640	32	\$5,440	16	\$2,320	4	\$332	60	\$9,732	\$0	\$9,732
3.2 Prepare Draft for FAA Submission	4	\$820	12	\$2,040	4	\$580	2	\$166	22	\$3,606	\$100	\$3,706
3.3 Prepare Final WHMP	2	\$410	4	\$680	2	\$290	1	\$83	9	\$1,463	\$0	\$1,463
GRAND TOTALS	18	\$3,690	64	\$10,880	46	\$6,670	7	\$581	135	\$21,821	\$2,270	\$23,411

Task	Detail	Notes	Unit	Unit Cost	Quantity	Total
2.1 Conduct Two-day Site Reconnaissance Visit	Trip to AST - 1 Day - Scoping Meeting	Lodging	LS	\$ 204	4	\$ 816
2.1 Site Visit	Trip to AST - 2 Day - Kickoff Meeting	Meals	LS	\$ 79	6	\$ 474
2.1 Conduct Two-day Site Reconnaissance Visit	Trip to AST - 1 Day - Kickoff Meeting	Rental Car Per Day - Drive from PDX to AST	LS	\$ 70	4	\$ 280
2.1 Site Visit	Trip to AST - Airfare for QAWB	Round-trip, DEN-PDX	LS	\$ 600	1	\$ 600
3.2 Document Production	Fed Ex Copies of Final (Up to four Copies)		LS	\$ 100	1	\$ 100
		Total Expenses				\$ 2,270

EXHIBIT B - FEE
Warrenton Astoria Regional Airport (AST)
Wildlife Hazard Management Plan (WHMP)
Astoria, OR

March 7, 2022
Mead & Hunt

MEAD & HUNT PERSONNEL CATEGORY, HOURS AND LABOR COST												
	Sr. Consultant (Plan/Engr/Arch)		Consultant (Plan/Engr/Arch)		Technician (Plan/Engr/Arch)		Administrative		HOURS	COST	EXPENSES	MEAD & HUNT FEE
	Labor	Cost \$205	Labor	Cost \$170	Labor	Cost \$145	Labor	Cost \$83				
Hourly Rates by Personnel Category												
Task 1 Project Management	4	\$820	0	\$0	0	\$0	0	\$0	4	\$820	\$0	\$820
1.1 Project Scope and Schedule	4	\$820	0	\$0		\$0		\$0	4	\$820	\$0	\$820
Task 2 Conduct Two-day Site Reconnaissance Visit	0	\$0	16	\$2,720	24	\$3,480	0	\$0	40	\$6,200	\$2,170	\$7,690
2.1 Site Visit	0	\$0	12	\$2,040	24	\$3,480		\$0	36	\$5,520	\$2,170	\$7,690
2.2 Document Review		\$0	4	\$680		\$0		\$0	4	\$680	\$0	
Task 3 Update Wildlife Hazard Management Plan	14	\$2,870	48	\$8,160	22	\$3,190	7	\$581	91	\$14,801	\$100	\$14,901
3.1 Prepare Administrative Draft	8	\$1,640	32	\$5,440	16	\$2,320	4	\$332	60	\$9,732	\$0	\$9,732
3.2 Prepare Draft for FAA Submission	4	\$820	12	\$2,040	4	\$580	2	\$166	22	\$3,606	\$100	\$3,706
3.3 Prepare Final WHMP	2	\$410	4	\$680	2	\$290	1	\$83	9	\$1,463	\$0	\$1,463
GRAND TOTALS	18	\$3,690	64	\$10,880	46	\$6,670	7	\$581	135	\$21,821	\$2,270	\$23,411

Planning Services

Job Title: Warrenton Astoria Regional Airport (AST) Wildlife Hazard Management Plan (WHMP) Update

Sponsor: The Port of Astoria

Prime Consultant: Mead & Hunt, Inc., Portland, Oregon

Location: Warrenton, Oregon

This document presents the proposed fee for the AST WHMP and compares it to three recently completed WHMP projects with similar scopes. It is to be submitted to the FAA Seattle Airports District Office for review and concurrence. The proposed scope of work for AST includes WHMP preparation and one field survey to identify changes that have occurred since the last Wildlife Hazard Assessment was completed. Environmental data require verification prior to WHMP preparation. The fee proposal for the AST WHMP Update is **twenty-three thousand four-hundred and eleven dollars (\$23,411.00)**.

Comparable Projects

WHMP Preparation - Comparable Projects			
Project Name:	Fee	Contract Year	Notes
WHMP for the Jacqueline Cochran Regional Airport (TRM), Riverside County CA	\$22,900	2017	1 The WHMP was based on a recent WHA; no fieldwork or site visit was required to verify site conditions.
			2 One two-day trip to the airport was included to conduct staff training.
			3 The 2017 cost of \$22,900 translates into \$26,500 in 2022 dollars.
Wildlife Hazard Management for Gness Field (DVO), Marin County, CA	\$25,000	2018	1 THE WHMP was based on a recent WHA; no field work was required to verify site conditions.
			2 WHMP Preparation, plus one site visit to convene the Wildlife Hazard Working Group to discuss the plan.
			3 The 2018 cost of \$25,000 translates to \$28,400 in 2022 dollars.
WHMP for the Hemet Ryan Airport (HMT), Riverside County, CA	\$20,200	2017	1 The WHMP was based on a recent WHA; no fieldwork or sit visit was required to verify site conditions. No travel was required.
			2 The 2018 cost of \$20,200 translates to \$23,400 in 2022 dollars.
Cost adjusted to 2022 dollars using: https://www.bls.gov/data/inflation_calculator.htm			



RESOLUTION
NO. 2022-03

A RESOLUTION ADOPTING FINDINGS OF FACT, DECLARING AN EXEMPTION FROM COMPETITIVE BIDDING, AND AUTHORIZING THE CM/GC FORM OF CONTRACTING FOR THE PIER 2 RECONSTRUCTION PROJECT

WHEREAS, the Port of Astoria (“Port”) an Oregon port district formed and authorized pursuant to Oregon Revised Statutes (“ORS”) chapter 777, is subject to Oregon’s public contracting laws, including ORS chapter 279C relating to construction of public improvements; and

WHEREAS, ORS 279C.335 permits the Port’s Board of Commissioners, acting as the Local Public Contract Review Board, to exempt specific projects from the standard competitive bidding requirements of ORS 279C after specifically adopting written findings of fact justifying an exemption from traditional competitive bidding and use of an alternative contracting method; holding a public hearing on the adoption of the findings; and declaring an exemption from competitive bidding; and

WHEREAS, when approving the exemption in ORS 279C.335, the Local Contract Review Board “shall, where appropriate, direct the use of alternative contracting and purchasing practices that take account of market realities and modern or innovative contracting and purchasing methods, which are also consistent with the public policy of encouraging competition”; and

WHEREAS, the Port has determined that, due to the size and complexity of the proposed reconstruction of Pier 2 (“the Project”) and the urgency of protecting the public safety from failing infrastructure, the Construction Manager/General Contractor (CM/GC) form of contracting is preferred to traditional design-bid-build construction; and

WHEREAS, the Port has prepared written Findings of Fact (“Findings”) to support the exemption from competitive bidding and the use of the CM/GC form of contracting, which are attached hereto as Exhibit A and incorporated herein by this reference; and

WHEREAS, a public hearing on the Findings was duly noticed and held on April 19, 2022; and

NOW, THEREFORE, the Port’s Board of Commissioners, acting as the Local Contract Review Board, hereby resolves as follows:

1. The written Findings attached hereto as Exhibit A are hereby adopted.
2. An exemption from traditional construction bidding processes is hereby declared.
3. Use of the CM/GC alternative to traditional public contracting is hereby authorized for completion of the Project.
4. Staff are directed to prepare materials for and to conduct a competitive process for a CM/GC contract for the Project.

ADOPTED BY THE BOARD OF COMMISSIONERS this 19th day of April 2022.

Yes _____

No _____

Absent _____

ATTEST:

Frank R. Spence, Chairman
Board of Commissioners

Dirk Rohne, Secretary
Board of Commissioners

EXHIBIT A

Findings of Fact to Support an Exemption from Competitive Bidding and Use of the Construction Management / General Contractor (CM/GC) Alternative Form of Contracting

Brief Project Description: The CM/GC contract will be employed for the rehabilitation of Pier 2 West at the Port of Astoria. The Port has completed a design feasibility analysis, as well as 30% design documents on one rehabilitation option. However, the exact scope of rehabilitation and the final construction methods to be employed will be determined in the course of performance of the CM/GC contract. The estimated cost of the project is \$19.3 million. The *tentative* schedule is to issue the Request for Proposals in June and execute the CM/GC contract in August (2022). The construction schedule will depend on several variables, the most prominent among them being the method of rehabilitation, the timing of permit issuance, and the availability of funds.

Background and Introduction: Under Oregon law, the CM/GC contract is defined as an “alternative” contracting method and requires that the local contract review board make certain findings and formally approve the use of the CM/GC approach. To that end, the draft findings are published below. The Commission of the Port of Astoria, acting in their capacity as the local contract review board, will accept public comment through April 18 and will hold a public hearing on April 19 to discuss and approve the findings.

Findings:

ORS 279C.335(2)

(a) The exemption is unlikely to encourage favoritism in awarding public improvement contracts or substantially diminish competition for public improvement contracts.

The Port of Astoria intends to award the Construction Manager/General Contractor (“CMGC”) contract by competitive proposals and to employ most, if not all, of the typical processes associated with a competitive award, including but not limited to the following: A competitive solicitation in the form of a Request For Proposals (RFP) will be advertised and the solicitation will be conducted in accordance with ORS 279C.330 to 279C.337, 279C.400 to 279C.410 and OAR 137-049-0600 to 137-049-0690, ; the RFP packet will be available to all interested parties prior to the submission deadline; a pre-submission-deadline meeting will be held at which all interested parties will be able to ask questions; proposers will be able to submit written questions prior to the deadline; after submission, proposal evaluation and initial ranking, top proposers will be interviewed, with rankings subject to modification based on interview results; after final rankings, the Port will reserve the discretion, under ORS, to enter into final negotiations with all top-ranked proposers for a “best and final” offer. If the Port is unable to negotiate a contract acceptable to the Port with the selected proposer, the Port will reserve the right to enter into negotiations with the next-ranked proposer.

In addition, the RFP and the final agreement with the successful proposer will require the CM/GC to use a competitive process to select subcontractors consistent with ORS 279C.337(3).

Because the process will be competitive from start to finish, awarding the contract through the CM/GC exemption will neither diminish competition nor encourage favoritism in the award of a public contract.

(b) Awarding a public improvement contract under the exemption will likely result in substantial cost savings and other substantial benefits to the contracting agency or the state agency that seeks the exemption or, if the contract is for a public improvement described in ORS 279A.050 (3)(b), to the contracting agency or the public. In approving a finding under this paragraph, the Director of the Oregon Department of Administrative Services, the Director of Transportation or the local contract review board shall consider the type, cost and amount of the contract and, to the extent applicable to the particular public improvement contract or class of public improvement contracts, the following:

(A) How many persons are available to bid;

Although the exact number of firms available to bid will be unknown prior to issuing the RFP, eligibility criteria in the RFP will be drafted, and the RFP advertised in sufficient locations, to ensure a response from the largest possible pool of qualified contractors.

(B) The construction budget and the projected operating costs for the completed public improvement;

The planned project is multi-faceted and complex, and the preliminary construction budget is substantial at approximately \$19 million.. The CM/GC method of contracting will enable the Port to streamline and coordinate project design and planning before and during construction with the goal of minimizing unnecessary cost overruns and identifying areas of cost savings as outlined below.

(C) Public benefits that may result from granting the exemption;

The primary benefits to the public as a result of the award under this exemption are likely cost savings and a shortened timeline for construction. As outlined below, engaging a CM/GC with knowledge and experience in marine construction is likely to result in efficiencies in the execution of the project, which in turn are likely to avoid extra costs due to avoidable delays or oversights.. Further, a well-planned, well-constructed project will directly benefit the public by retaining the fish processing operations at the project location, resulting in over \$100 million in direct, indirect, and induced economic effects. Operations on Pier 2 West account for about 5% of the GDP of Clatsop County; it would be difficult to overestimate the importance of the planned project to the economics of the region and state

(D) Whether value engineering techniques may decrease the cost of the public improvement;

One major reason for the CM/GC approach is to secure the advice of a marine construction consultant prior to finalizing design plans. The CM/GC approach is uniquely designed to allow for this expert guidance prior to final design and construction in order to identify areas for design efficiencies and possible cost savings.. Under the traditional Design/Bid/Build approach, no such advice is possible prior to final design.

(E) The cost and availability of specialized expertise that is necessary for the public improvement;

After preliminary analysis of the availability of qualified contractors, the Port has a reasonable basis to believe that a sufficient number of marine contractors with experience with this type of construction are likely to respond to the RFP to allow for a competitive process. The evaluation process will be designed to ensure that the most qualified person or firm is selected from among those who respond.

(F) Any likely increases in public safety;

Pier 2 West, in its current state, is a safety hazard. Its rehabilitation and repair will result in substantial increase in the safety for all who work on the pier.

(G) Whether granting the exemption may reduce risks to the contracting agency, the state agency or the public that are related to the public improvement;

A CM/GC contract reduces the risk to the contracting agency by placing the risk for the guaranteed maximum price on the contractor. It is further expected to reduce risk to the Port by providing more thorough review and scrutiny of the design by a construction consultant with prior experience in this type of work prior to finalization –, thereby reducing the risk of design flaws or other unforeseen circumstances which can lead to cost overruns and delays. The CM/GC contract will also contain various protections provided to contracting agencies in statutory requirements for public improvement contracts, including requiring performance and payment bonds to protect the Port from faulty or incomplete performance.

(H) Whether granting the exemption will affect the sources of funding for the public improvement;

The CM/GC contract will have no effect on the sources of public funding for this project. The Project will be paid for by grant funds and funds already budgeted and available for use by the Port.

(I) Whether granting the exemption will better enable the contracting agency to control the impact that market conditions may have on the cost of and time necessary to complete the public improvement;

A major component of the CM/GC contract is the GMP Amendment (“guaranteed maximum price”). This amendment is executed prior to the contractor commencing construction work and requires the contractor to bear the risk that market conditions may affect the cost of the project or the time necessary to complete it. The CM/GC contract that will result from this exception will enable the Port to better control the impact of market conditions than if a traditional design-bid-build process was used.

(J) Whether granting the exemption will better enable the contracting agency to address the size and technical complexity of the public improvement;

The CM/GC approach to contracting is being contemplated to address these specific factors. By engaging a marine construction consultant as part of the construction team from very early in the process, the Port will be better able to manage the size and technical complexity of the project.

(K) Whether the public improvement involves new construction or renovates or remodels an existing structure;

Because this project involves new construction methods that the Port has not employed before, it will be critical to bring on a construction consultant very early in the process. The CM/GC approach to the construction contract allows for this early involvement by the needed consultant.

(L) Whether the public improvement will be occupied or unoccupied during construction;

Early consultation with the CM/GC contractor will enable the close coordination between new construction and existing operations necessary to maintain both. This coordination early in the project is often more difficult or impossible in a traditional design-bid-build approach when the construction contractor begins work after preliminary designs are completed. Eventual conflicts are therefore more likely to occur, resulting in cost overruns and delays.

(M) Whether the public improvement will require a single phase of construction work or multiple phases of construction work to address specific project conditions; and

Whether and how to phase the construction of the project is one of the key reasons to obtain input and guidance from the CM/GC early in the process, to anticipate potential problems and coordinate timely completion of milestones. Under the traditional design-bid-build approach, the project design is typically completed without this input, often leaving the construction contractor to resolve problems as they are encountered rather than anticipating and addressing them in advance.

(N) Whether the contracting agency or state agency has, or has retained under contract, and will use contracting agency or state agency personnel, consultants and legal counsel that have necessary expertise and substantial experience in alternative contracting methods to assist in developing the alternative contracting method that the contracting agency or state agency will use to award the public improvement contract and to help negotiate, administer and enforce the terms of the public improvement contract.

The Port's legal counsel has previous experience advising contracting agencies on the CM/GC contracting method. Port counsel is able and available to advise staff as needed. Further, both the executive director and the deputy director of the Port of Astoria have extensive experience negotiating the terms of Port contracts and in administering contracts upon execution. Finally, the Port has retained the services of consultants with the range and depth of experience necessary to successfully navigate the CM/GC procurement process. The solicitation documents and the CM/GC contract will be drafted collaboratively among Port counsel, Port staff, and other consultants in order to ensure that all aspects of the solicitation, negotiation, and contract performance are executed properly.

Port of Astoria 2021 Budget Committee Members

Citizen Member	Term Ending
John Lansing	6/30/2023
William Young	6/30/2023
Walt Postlewait	6/30/2021
Randolph Pedersen	6/30/2024
Vacant Position	6/30/2022

ORS 294.414(5) – Appointive members of a budget committee that prepares an annual budget shall be appointed for terms of three years. The terms shall be staggered so that, as near as practicable, one-third of the terms of the appointive members end each year.

April 11, 2022

To Members of the Commission:

I am interested in serving on the 2022 Budget Committee and would like to submit my resume for your consideration.

Please let me know if there is any more information that I could provide.

Thank you,

A handwritten signature in blue ink that reads "Steve Kraske". The signature is fluid and cursive, with a long horizontal stroke at the end.

Steve Kraske
(803) 717-3597

NAME: Steve Kraske

92160 Clover Rd
Astoria, OR 97103

Address:

• Phone: (503) 717-3597

• E-Mail: SgKrasch@yahoo.com

SUMMARY OF CAREER

- Born in Seattle, WA (1953) Father - retire USCG 27yrs
- Grew up in Seattle until age 5, Moved to Garibaldi, OR
- attended school until age 15, Moved to Seaside, OR finished school thru H.S. 2yrs University of Guam

SKILLS

- Longshore skills
- Fisherman 25yrs.
- sales-service

AWARDS & CERTIFICATIONS

Amsea training - H.S. graduation - 2yrs college, University of Guam - Clatsop C.C.

PROFESSIONAL EXPERIENCE & EMPLOYMENT

Age 12-15 Dock worker - Garibaldi

Age 15-17 Bell Bowry - Seaside

Age 18-20 College

Age 21-33 Commercial Fisherman

Age 33-52 Jackson + Son Oil, Seaside
Suburban Propane

2004-2020 Commercial Fisherman
also casual longshoreman

registered longshoreman 2004 - 2020

retired longshore 2020

Various volunteer in fund raising

Attend church, do various volunteer work