

Seward Airport Improvements Project (#54857)

Stakeholder Working Group Meeting #1 • November 19, 2014

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Meeting Agenda and Overview



Meeting #1 Objectives (Our Work Today)

- Form and clarify the work of Stakeholder Working Group (SWG).
- Establish consensus on problem and project needs.
- Present the draft “Aviation Activity & Facility Requirements” technical memorandum (provided in advance) and ensure that SWG members understand findings and have an opportunity to provide input.
- Learn from and incorporate SWG information and perspectives into project documents.

Meeting #1 Goals (Meeting’s End Result)

- SWG understanding of the project, the process, and SWG role.
- SWG agreement with the draft “Aviation Activity & Facility Requirements” report (support for the methodology and findings) OR with specific action items to resolve document deficiencies.
- SWG introduction to project options and constraints.

Meeting Agenda (Topic and Timeline)

Part 1: Getting Started (11:30 am to 12:00 pm)

- Welcome, Introductions, Role of the SWG, Meeting Overview (Carla SlatonBarker, Solstice Alaska Consulting)
- Problem & Needs, Project Process, and SWG Input (Royce Conlon, P.E., PDC Inc. Engineers)

Part 2: Understanding the Draft “Aviation Activity & Facility Requirements”

Report (12:00 to 12:30 pm)

- Draft Report Overview (Royce Conlon)
 - Why understanding the aviation activity is important
 - Steps, research, contacts, current forecasts, findings—do we have any gaps?
 - Facility requirements
- Constraints Discussed (Royce Conlon)
 - Funding constraints: What does FAA need to consider the different facility requirements scenarios?

SHORT BREAK

Part 3: Visualizing Options and Constraints (12:35 to 1:15 pm)

- Actions and Options -- Discussion of What This All Means (Royce Conlon)
 - Floodplain constraints
 - Alaska Railroad plans
 - Design Options

Part 4: Next Steps and Needed Actions (1:15-1:30)

- Project Schedule and Milestones (Royce Conlon)

Adjourn (1:30) *Thank you for your time and participation!*

Visit the project on the web at: www.dot.state.ak.us/creg/sewardairport/



EXECUTIVE SUMMARY

Draft “Aviation Activity & Facility Requirements” Technical Memorandum

The draft “Aviation Activity & Facility Requirements” technical memorandum is a foundational planning document for the Seward Airport Improvements Project. It reports current and expected future aviation activity at the Seward Airport (SWD) in terms of type of aircraft and number of flights (operations). A design aircraft is selected by comparing this information with federal airport design guidance. The design aircraft corresponds to a runway design code, which determines the airport’s dimensional requirements (runway width, length, offset from parked aircraft, etc.).

The draft technical memorandum reports that existing SWD air traffic activity includes single and twin-engine general aviation (GA) aircraft, medevac aircraft, military aircraft, and helicopters. The most demanding aircraft in steady use (largest wingspan and longest required runway length) is the King Air B200, which is used for medical evacuations. Existing airport facilities include two runways: Runway 13/31 (the main runway) is 4,533 feet long by 100 feet wide. Runway 16/34 (the crosswind runway) is 2,289 feet long by 75 feet wide.

The technical memorandum also reports expected future aircraft operations. In estimating the number of operations for each aircraft type, the technical memorandum considers many factors influencing Seward’s future. The technical memorandum reports that there will be a modest increase to aviation activity at SWD as a result of the factors considered. This projection of a “modest increase” results in the following conclusions that are reported in the technical memorandum:

- The aircraft based at Seward are similar in design characteristics and could be served by an airport designed to the standards for Aircraft Design Group (ADG) I, Approach Category A, with a runway length of 3,300 feet (see table below, Scenario 1).
- Seward has a demonstrated special need for the medevac aircraft (Beech B-200) used by three of the air ambulance companies serving Seward. If the Beech 200 is used as the critical design aircraft, the airport design standards increase to ADG II. See Scenario 2 in the table below.
- Pilots and local officials expressed the desire for a runway that can accommodate small charter jets for tourism, emergency preparedness, and search and rescue aircraft such as the Coast Guard C-130, and for potential scheduled air service. Scenario 3 in the table represents the facility dimensions required to meet this desire.

Runway Dimensional Standards for Various Scenarios

Feature	Current Based Aircraft Group (Scenario 1)	Current Demand & Medevac (Beech 200) (Scenario 2)	Growth Scenario & Emergency Preparedness (Beech 1900) (Scenario 3)	Existing (R/W 13/31)
Approach Category	A	B	B	B
ADG	I	II	II	II
Runway Length	3,300 feet	3,300 feet	4,000/4,700 feet *	4,533 feet
Runway Width	60 feet	75 feet	75 feet	100 feet

* The FAA runway length guidance is changing. If the design aircraft is over 12,500 pounds but less than 60,000 pounds, the current guidance calls for a 4,700' runway length to meet the needs of a group of aircraft in that weight range. The new guidance (draft) calls for runway lengths to be determined using the airplane manufacturer's airport planning manuals. The runway length of 4000' is sufficient for the Beech 1900, if it is selected as the design aircraft.

Because project funding is being provided predominately (93.75%) by the federal government through the Federal Aviation Administration (FAA), the key to the viability of any of these scenarios is the adherence with federal guidance and the availability of federal funding. Federally funded projects require that the critical design aircraft (the most demanding aircraft) have at least 500 or more annual operations at the airport during the established planning period. According to the technical memorandum, this stipulation could affect SWD in the following ways:

- The C-130 and small charter jets are not anticipated to meet the federal threshold of regular use. These aircraft, however, have used Seward in the past and owners continue to desire the ability to land. Anecdotal information indicates that up to 20 small charter jets per year have landed at Seward in the past.
- Although medevac aircraft provide a critical service to the community, they also do not meet the FAA threshold of 500. Medevac aircraft can and do operate on runways throughout Alaska that have been designed for smaller aircraft.

Additional data or information (beyond what is reported in this technical memorandum) is needed to consider use of federal funds for any scenario involving a runway length greater than 3,300 feet.

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PDC INC. ENGINEERS

TECHNICAL MEMORANDUM

For:	Barbara Beaton, Aviation Project Manager Alaska Department of Transportation and Public Facilities	Date	November 12, 2014
Client #/PDC #	54857/14075FB	Prepared by	Ken Risse, PE; Patrick Cotter, AICP; Royce Conlon, PE
Project Name	Seward Airport Improvements	Reviewed by	Royce Conlon, PE
Subject	<i>Draft Aviation Activity & Facility Requirements</i>		

This technical memorandum presents the aviation demand forecast effort and resulting facility requirements. The facility requirements set the stage for development of design alternatives by establishing the runway design code, which determines the airport’s dimensional requirements (runway width, length, offset from parked aircraft, etc.).

This technical memo represents an interim review document. Once reviewed and coordinated with DOT&PF, it will be incorporated into the scoping report.

In this memorandum we translate the aviation forecasts into facility requirements by comparing future facility needs to the airport’s existing inventory of facilities, reviewing FAA design criteria to ensure the airport meets safety and operational standards, and considering the need to maintain and improve aviation service for the community of Seward.

This document is focused on key elements of the airport that will drive the alternative development and evaluation process, with brief discussion of other secondary facility elements. A more comprehensive analysis will be presented in the scoping report.

Aviation Activity

Forecasts of future levels of aviation activity are the basis for making decisions in airport planning and development. A comprehensive forecast includes elements of socioeconomics, demographics, geography, and external factors. Recent interest in Seward by the fishing and marine industries has sparked anticipation of growing industrial development in the community.

The methodology used in this analysis is based on the process recommended in FAA AC 150/5070-6B, *Airport Master Plans*, and in the supplemental FAA publication, *Forecasting Aviation Activity by Airport*. These documents provide national guidance for the development of airport master plans and have been used since enactment of the Airport and Air/Ways Development Act of 1970.

Recommended steps include:

- Step 1 – Identify aviation activity measures
- Step 2 – Collect and review previous airport forecasts
- Step 3 – Gather data
- Step 4 – Select forecast methods
- Step 5 – Apply forecast methods and evaluate results
- Step 6 – Compare forecast with Terminal Area Forecast (TAF)

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**Step 1 –
 Identify Aviation
 Activity
 Parameters and
 Measures to
 Forecast**

The level and type of aviation activity anticipated at an airport, as well as the nature of the planning to be done, determine the factors to be forecast. Generally, the most important activities for airfield planning are **aircraft operations** and the **fleet mix**, since these define the runway and taxiway requirements. Plans for general aviation airports require forecasts of aircraft operations and based aircraft to define runway, taxiway, and aircraft parking requirements.

Practical considerations dictate the level of detail and effort that should go into an airport planning forecast. Air traffic activity at Seward comprises single and twin-engine GA aircraft, medevac aircraft, military aircraft, and helicopters. Because this project centers on runway improvements, the forecast for Seward Airport will focus on:

- Aircraft operations
- Based aircraft
- Fleet mix

**Step 2 –
 Collect and
 Review Previous
 Airport
 Forecasts**

Relevant forecasts of aviation activity at Seward are summarized below.

Seward Airport Master Plan (2008) In 2008, the DOT&PF updated the Seward Airport Master Plan. This update forecasted aircraft operations and passenger enplanements as summarized in the following table. An annual growth rate of 1.2% was used to forecast future operations, enplanements, and cargo.

Table 1 - 2008 Seward Airport Master Plan Aviation Forecast, Moderate Growth Scenario

	2003 (Base)	2008	2013	2018	2023
Enplanements	3,746	3,976	4,221	4,480	4,755
Commercial Operations	2,912	3,091	3,281	3,483	3,697
GA Operations	2,475	2,627	2,789	2,960	3,142
Military Operations	75	—	—	—	—
Cargo (lbs)	4,000	4,416	4,876	5,383	5,944

Alaska Aviation System Plan (2008) The Alaska Aviation System Plan (AASP) is a component of DOT&PF’s Statewide Transportation Plan. Most recently updated in 2008, the AASP contains forecasts of enplanements, cargo, operations, and based aircraft for 2015, 2020, and 2030.

Table 2 - Alaska Aviation System Plan Forecast, Seward Airport

Seward	2008 (Base)	2015	2020	2030
Enplanements	22	23	25	29
Cargo	None	None	None	None
Critical Aircraft	Cessna 185			
Aircraft Operations				
<i>Commercial</i>	4,500	4,136	4,318	4,576
<i>GA</i>	6,000	5,932	6,211	7,133
<i>Military</i>	10	10	10	10
Total Operations	10,510	10,178	10,539	11,719
Based Aircraft				
<i>Single engine</i>	28	29	29	31
<i>Multi-engine</i>	0	0	0	0
<i>Helicopter</i>	0	0	0	0

FAA Terminal Area Forecast (TAF) The FAA TAF for Seward Airport is summarized in Table 3. The TAF includes passenger enplanements, aircraft operations, and based aircraft.

Table 3 - FAA Terminal Area Forecast (2013) Seward Airport

Passenger Enplanements			Itinerant Aircraft Operations				Local GA Ops	Total Ops
Air Carrier	Commuter/ Air Taxi	Total	Air Carrier	Commuter/ Air Taxi	GA	Military		
0	9	9	0	4,500	4,000	10	2,000	10,510

The unusually low number of commuter/air taxi enplanements compared to the number of operations is likely due to the lack of scheduled commercial service to SWD. This means enplanements are not recorded in the T-100 database, which may account for the low number.

National Plan of Integrated Airport Systems (NPIAS) The NPIAS presents a five-year forecast of enplaned passengers and based aircraft. The current NPIAS forecast for Seward (for the years 2013-2017, using 2011 as the base year) is presented in Table 4.

Table 4 - NPIAS Forecast Year 2017

Enplanements	8
Based Aircraft	25

Step 3 – Gather Data

The FAA requires master plan forecasts to incorporate the number of aircraft operations for various categories of aircraft. Passenger enplanement, cargo, mail, and freight data are also recommended, and the governing Advisory Circular (AC) specifies that population, employment rates, and socio-economic factors be included, as any of these can also affect the forecast.

Air traffic operations at Seward Airport are not recorded on site because there is no air traffic control tower. Historical air traffic data for Seward were collected from FAA’s Airport Master Record Form 5010, the FAA TAF, the NPIAS, the USDOT Bureau of Transportation Statistics, and the AASP.

Data also came from interviews with airport users, potential airport users, medevac providers, and Seward-based industry.

Aviation activity at Seward is predominantly unscheduled general aviation and air taxi flights, with occasional medevac and military use. Scheduled passenger service was discontinued in 2002.

Passengers Passenger traffic at Seward Airport (SWD) has remained low over the past decade. The USDOT T-100 database shows fewer than 30 passengers per year since 2004 (see Table 5).

Table 5 – Historic SWD Passenger Enplanements, 2004-2013

Year	Passengers
2004	20
2005	1
2006	7
2007	26
2008	22
2009	18
2010	9
2011	22
2012	8
2013	0

Freight and Mail The USDOT T-100 data show no history of freight or mail passing through SWD.

Based Aircraft The FAA Airport Master Record Form 5010 lists 25 single-engine aircraft based at SWD. This number concurs with previous forecasting efforts and interviews with airport users.

Aircraft Operations There are two primary sources of aircraft operations for Seward Airport: the FAA’s Form 5010, *Airport Master Record*, and the FAA Terminal Area Forecast. These data are presented in the table below.

Table 6 - Aircraft Operations

Source	Air Carrier	Air Taxi	GA Local	GA Itinerant	Military
Form 5010	0	4,500	2,000	4,000	10
TAF	0	4,500	2,000	4,000	10

Fleet Mix Table 7 lists the types and Aircraft Design Group (ADG) of aircraft that landed at SWD at least once during 2013.

Table 7 - Current (2013) Fleet Mix Using Seward Airport

Operator	Aircraft	ADG	Use
LifeMed	A-Star helicopter King Air B200	II	Medevac
LifeFlight	King Air B200	II	Medevac
Guardian	King Air B200	II	Medevac
Scenic Mountain Air	Cessna 172	I	Flight seeing/air taxi
Seward Air	Super Cub PA-18	I	Personal
Private	Cessna 172	I	Personal
	Super Cub PA-18	I	
Private	Cessna 170	I	Personal

US DOT T-100 data was acquired and reviewed (see attachment). This data documents use of the following aircraft between 2007 and 2012: Beech 1900 and 200, Cessna 172 Skyhawk, 208 Caravan, C206/207/209/210 Stationair; Pilatus PC-12; and Piper PA-32 (Cherokee 6). No flights for Seward were listed in the 2013 data.

The air carriers reporting the operations include Alaska Central Express, Era Aviation, Frontier Flying Service, Grant Aviation, Homer Air, Iliamna Air Service, Island Air Service, Smokey Bay Air, Warbelow Air Ventures, and Wright Air Service.

In addition to the above fleet mix, the U.S. Coast Guard uses SWD for search and rescue activities and also for pilot training for short field landings with the C-130 (an ADG IV aircraft). Helicopters used include the H-60 and H-65.

The Kenai Peninsula Aviation Superintendent provided a list of large aircraft that requested permission to land at Seward in 2013.

- Lear 35 (ADG C-I): 11 requests
- King Air 200 (ADG B-II): 16 requests
- Gulfstream 5(ADG C-III):4 requests
- DC-6 (ADG B-III): As needed

**Step 4 –
 Select Forecast
 Methods**

While there are several acceptable techniques and procedures for forecasting aviation activity at a specific airport, most forecasts utilize basic statistical techniques such as linear regression, exponential smoothing, or share analysis. To determine which method is most appropriate, it is important to look at factors affecting aviation demand. The following discussion is an overview of the factors affecting aviation demand at Seward and the forecast method applied.

Economic Activity An analysis of socioeconomic activity is usually helpful in developing a forecast of aviation demand. Projected increases in population or economic activity can lead to increased use of an airport.

The following section highlights major factors of socioeconomic growth in Seward. These include:

- Population forecasts
- Possible relocation of Coastal Villages Region Fund CDQ Fleet to Seward
- Vigor Industrial’s purchase of Seward Drydock
- Tourism

Population

The population of Seward has grown steadily over the past 14 years (see Figure 1) to a current population of 2,754. The compound annual growth rate over this time period is 1.23%, which is higher than the Alaska Department of Labor and Workforce Development’s projected growth for the Kenai Peninsula Borough of 0.5% (Alaska Department of Labor and Workforce Development, 2014).

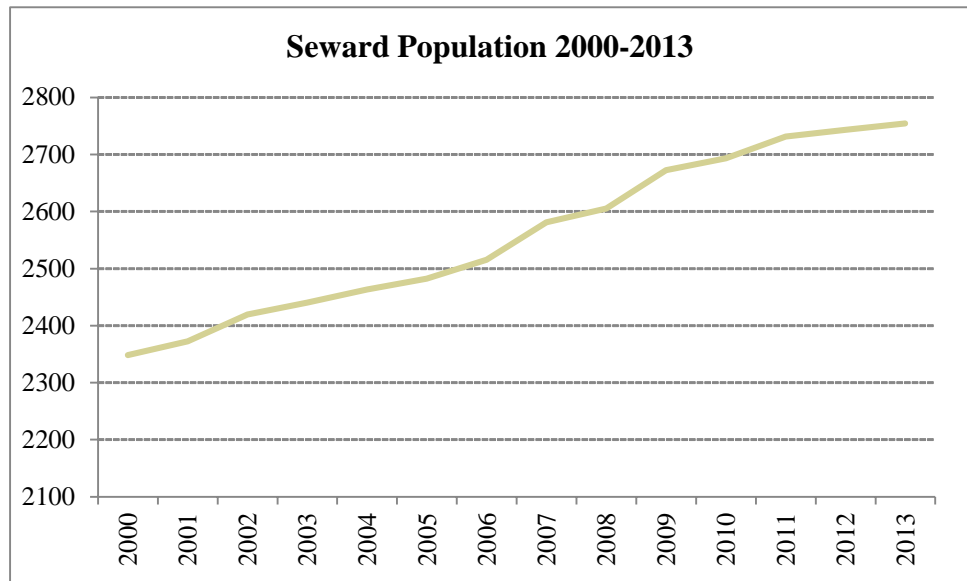


Figure 1 - Historic Seward Population, 2000-2013

Coastal Villages Region Fund CDQ Fleet

The Coastal Villages Region Fund (CVRF) represents 20 western Alaska communities in the Community Development Quota (CDQ) fishery. The CDQ’s purpose is to:

- Provide eligible western Alaska villages with the opportunity to participate and invest in fisheries in the Bering Sea and Aleutian Islands Management Area
- Support economic development in western Alaska
- Alleviate poverty and provide economic and social benefits for residents of western Alaska
- Achieve sustainable and diversified local economies in western Alaska

The City of Seward has been actively trying to homeport the CDQ fleet in Seward rather than Seattle. The CVRF has partnered with Seward to develop the Seward Marine Industrial Center (SMIC) support facilities. The SMIC will increase the available moorage, warehousing space, and upland areas to accommodate the CDQ fleet.

If the CVRF decides to homeport in Seward, the airport could see increased activity during spring deployment of the CDQ fleet when crews return to Seward. This could result in approximately 500 enplanements twice a year if crews flew into and out of Seward.

Vigor Industrial

In early 2014, Vigor Industrial announced the purchase of Seward Ship's Drydock. According to the press release, "the purchase will bring the strength of Vigor's physical, financial and human capital to bear on the yard, which will empower the yard to land more projects and larger-scale projects, translating to more work and sustainable employment for Alaska residents. In addition, Vigor will leverage its existing strong public/private partnerships in Alaska to maximize opportunities for the Seward yard."

If Vigor is able to bring additional work to Seward, there will likely be an increase in the shipment of supplies to Seward. However, due to the nature of industrial marine manufacturing, most supplies will likely be shipped via barge. This is not likely to increase the air transport operations at Seward Airport.

Tourism

Tourism is a major component of the economy of Seward. Cruise ships, railroad, and personal vehicles all bring tourists to the community. Attractions include Kenai Fjords National Park, the Alaska Sealife Center, Mount Marathon Race, and Exit Glacier. Tourist activities include flightseeing, sportfishing, hiking, wildlife cruises, and sled dog demonstrations.

Four cruise lines will serve Seward in 2015: Holland America, Celebrity, Regent, and Royal Caribbean. Cruise ships in port can nearly double the population of the community. Many cruisers embark or disembark a cruise in Seward with connections to/from Anchorage, Denali, and Fairbanks via buses or the Alaska Railroad. No increase from the current use is expected.

Flightseeing activities generally consist of small fixed-wing aircraft tours of the surrounding mountains, glaciers, and ocean. Typical aircraft are Cessna 172 or similar. No increase in tourism-related air traffic is anticipated.

Alaska Railroad (ARRC) Facility Improvements

The ARRC is planning a substantial investment and improvements in the port and rail facilities adjacent to the airport. During a coordination meeting, ARRC staff indicated that if the airport had regularly scheduled flights, ARRC would prefer to have its crews and management teams who occasionally commute to/from SWD fly versus traveling by rail or highway. Travel time and safety were the primary reasons cited. The specific number of enplanements this would equate to is undetermined.

Gas Line Construction

Seward experienced significant activity during the construction of the Trans-Alaska Pipeline in the 1970s. Most of the pipe was shipped through the port of Seward. During a project coordination meeting, ARRC staff predicted that if a new gas pipeline were constructed through Alaska, activity through the combined port/rail terminal would increase. This would also likely increase activity at the Seward Airport. This construction impact would be transitory, however. Short-term effects such as this normally do not drive long-term investment in airport facilities, especially if other (albeit less efficient) modes of transportation can meet the demand.

Medevac Operations The term "medevac" is an abbreviation for medical evacuation. This and other terms referring to a type of medical emergency response are used interchangeably in the United States. Other terms include "helicopter emergency medical service" and "air ambulance." The value of air access to remote locations or in the event of an emergency is not generally recognized until it occurs and it is difficult to place an economic value on such capabilities. Oftentimes, the primary means of reaching a community immediately after a major act of nature such as a flood, earthquake, wildfire, or landslide is via air transport.

Both fixed wing and helicopters are used in medical emergency response situations. Patients are flown by fixed wing aircraft for many different reasons. These can range from the stable patient involved in an accident or with a long-term medical condition wishing to relocate closer to family for rehabilitative care, to the critical heart failure patient requiring intensive care transfer to receive a transplant. The fixed wing environment differs from the rotary wing environment primarily in that fixed wing aircraft travel farther, faster, and higher. The fixed wing aircraft is primarily a facility-to-facility transport and typically is used for long distance air transport and includes a range of multi-engine turboprop and small jet aircraft specially equipped and staffed to respond to patient needs while en route. Rotary wing service is typically engaged for moving a patient from an accident or incident scene to a trauma center and for air transport of stable patients and are also suitably staffed and equipped for these missions.

Not all medevac transport is associated with an emergency situation. Many involve medically appropriate, hospital-to-hospital transport on a scheduled basis. Therefore, medevac service providers are actively engaged in both emergency response and critical care transport.

Air transportation of patients between Seward and Anchorage is fairly common. Although Seward is connected to Anchorage via the highway system, the local volunteer ambulance service does not have enough staff to transport patients to Anchorage. Therefore, fixed-wing aircraft and helicopters are used for medevac transport.

Three medevac operators currently provide service to Seward: LifeFlight, LifeMed, and Guardian. LifeMed and Guardian are the most common medevac operators at SWD, with approximately 300 annual operations combined.

Table 8 - Medevac Operations at SWD

Medevac Operator	Aircraft	Estimated Annual Operations
LifeMed	King Air B200 ¹	60
LifeMed	A-Star Helicopter	140
Guardian	King Air B200	100
LifeFlight	King Air B200	40

LifeMed and Guardian also utilize Lear Jets for medevacs. Those aircraft require 5,000 feet of runway length and are therefore not used at SWD. Discussions with medevac operators, however, did indicate that Lear Jets based in Anchorage would be utilized for approximately half of the medevacs if the runway were longer and the instrument approach were better.

¹ The King Air B200 is a fixed-wing aircraft

Commuter Travel Seward has not had scheduled air service since 2002. Recent contact with Alaska Airlines and RAVN Alaska, the two air operators most likely to offer commuter service, indicate they have no plans (within the foreseeable future) to offer scheduled service. When asked what would trigger the addition of SWD to their schedule, RAVN replied demand and a better approach to ensure they could offer reliable service.

RAVN does provide charter service to SWD, generally in support of the cruise ship industry. Also, RAVN provides scheduled service to Kenai Municipal Airport. A brief analysis was conducted to compare and contrast Seward with Homer and Kenai to evaluate potential for future air service to SWD.

Table 9 – Comparison with Homer and Kenai

Community	Airport	Population	Distance/Drive Time	Commercial Flights
Seward (+ Moose Pass)	SWD	5,775	127 miles/2.5 hours	0
Kenai (+ surrounding contributing communities)	ENA	33,489	157 miles/3.25 hours	10 daily
Homer (+ surrounding area)	HOM	8,408	224 miles/4.5 hours	5 daily

The anticipated economic growth in Seward improves the probability of an air carrier resuming service to Seward. Improved approach procedures with lower minimums could also increase the likelihood of scheduled air service; however FAA flight standards indicates an improved approach is very unlikely because of the terrain. Initially, carriers would most likely serve Seward with small aircraft, but if reliable air transportation is available, demand may increase over the next 20 years to make service with the larger commuter aircraft currently flying into Kenai and Homer a feasible option, at least seasonally. Kenai is presently served on a regular basis by the Beech 1900 (B-II) and Dash 8 (C-III) aircraft, and Homer is served by the Beech 1900.

Emergency Preparedness A larger runway supports emergency preparedness. Although Seward is connected to other communities by rail, road and the marine highway, the airport provides essential access during emergency or disaster situations in when other access (single rail line and single highway) may be vulnerable. Reportedly, during the 1964 earthquake, the airport was minimally damaged but remained the only connection with the rest of Alaska for an extended period of time because the railroad, the Seward Highway, and the port facilities were completely destroyed (Seward Airport Master Plan, Phase II, Hydrology Report, by Skip Barber, July 25, 2006).

The U.S. Coast Guard (USCG) has landed C-130s at Seward in the past and would continue to use this aircraft at Seward if the pavement strength allowed it to land. The C-130 is an ADG IV aircraft used for support of search and rescue and for medical evacuation of mass casualties. The C-130 is not forecast to meet the threshold of regular use (500 annual operations), but it is extremely useful during emergencies such as avalanches, earthquakes, or flooding that disrupt road access to Seward. The USCG indicated that with a runway length of 4,500 feet they can normally operate at about 120,000 lbs., allowing enough fuel and gear to respond to most situations. The H-60 helicopters could also be used for mass casualty response, but the C-130 can respond more quickly; additionally, if the H-60 needed fuel, the C-130 could provide it. (e-mail, 8/14/2014, LT Robert Hornick, C-130 Assistant Operations Officer)

Forecast Method Because DOT&PF is evaluating runway length and pavement strength, the most critical element to forecast at Seward Airport is the number of operations for each aircraft type. This will dictate the length of runway needed and how strong the pavement needs to be.

The most demanding aircraft (largest wingspan and longest required runway length) currently using the airport regularly is the **King Air B200**, which is used for medical evacuations. While the annual operations do not meet the FAA threshold of 500, they provide a critical service to the community.

Medevac operations can be expected to increase as the population increases. The population of Seward has historically grown at 1.23%. The population of the entire Kenai Peninsula Borough is forecast to grow at 0.5% annually. Seward has the potential to grow faster than the rest of the KPB if the economic factors discussed above begin to materialize (Vigor Industrial, CDQ fleet). Therefore, an annual growth rate in aircraft operations of 1.0% is selected for this forecast.

**Step 5 –
 Apply Forecast
 Methods and
 Evaluate
 Results**

With a 1% annual growth rate, SWD will see modest growth in aircraft operations (Table 10), with general aviation continuing to be the dominant type of operation.

Table 10 - Forecast Operations at SWD

Operations	Base Year 2013	+5 Years	+10 Years	+15 Years
Local GA	2,000	2,102	2,209	2,322
Itinerant GA	4,000	4,204	4,418	4,644
Medevac	200	210	220	230
Air Taxi	4,500	4,729	4,970	5,224

**Step 6 –
 Compare
 Forecast with
 TAF**

The base year data used in this forecast are consistent with the TAF. The TAF shows no change in aircraft operations at SWD throughout the planning period. Table 11 summarizes the differences between this forecast and the TAF.

Table 11 - Forecast - TAF Comparison

	2018			2023			2028		
	Forecast	TAF	Difference	Forecast	TAF	Difference	Forecast	TAF	Difference
Local GA	2102	2000	102	2209	2000	209	2322	2000	322
Itinerant GA	4204	4000	204	4418	4000	418	4644	4000	644
Air Taxi	4729	4500	229	4970	4500	470	5224	4500	724

Facility Requirements

The facility requirements depend on the critical design aircraft or group of aircraft. Federally funded projects require that critical design aircraft have at least 500 or more annual at the airport during the established planning period of at least five years. Under unusual circumstances, adjustments may be made to the 500 total annual operations threshold after considering the circumstances of a particular airport. Two examples cited in AC 150/5325-4B are airports with demonstrated seasonal traffic variations, or airports situated in isolated or remote areas that have special needs.

Wind Coverage Wind conditions affect aircraft in varying degrees. Generally, the smaller the aircraft, the more it is affected by wind, particularly crosswinds, which are often a contributing factor in small aircraft accidents. The FAA provides the following guidance on maximum crosswind components for small to medium-sized aircraft.

Table 12 – Allowable Crosswind Components by Aircraft Design Group

Aircraft Design Group	Allowable Crosswind Component
ADG I Cessna 170, 185, 206	10.5 knots
ADG II Beech 200, 1900; Cessna 208, Grand Caravan	13 knots
ADG-III DC-6, Dash 8, 737	16 knots

Wind coverage is the percent of time crosswind components are below an acceptable velocity. A runway oriented to provide the greatest wind coverage with the minimum crosswind components is preferred. The desirable wind coverage for an airport is 95%. A second (crosswind) runway is recommended when the primary runway orientation provides less than 95% wind coverage.

Based on the current wind data available for Seward, a single runway oriented between 156 and 204 degrees north azimuth provides 95% or greater wind coverage (for ADG I aircraft).

- Runway 16/34 is oriented at 183 degrees, providing 98.6% wind coverage for ADG I aircraft.
- Runway 13/31 is oriented at 146 degrees, providing 91.1% coverage for ADG I aircraft and 96.0% coverage for ADG II aircraft.

Aircraft Use at Seward

The based aircraft at Seward are similar in design characteristics and could be served by an airport designed to the standards for ADG I, Approach Category A, with a runway length of 3,300 feet or less for small (under 12,500 lb.) aircraft. Although the A-I small aircraft design standards could have been used for the existing fleet, the A-I design standards were selected to allow for occasional operations of large aircraft. In addition, the Alaska Aviation Preconstruction Manual identifies a minimum runway length of 3,300' for community class airports such as SWD. This is the minimum runway under consideration.

Seward has a demonstrated special need for the medevac aircraft (Beech B-200) used by three of the air ambulance companies serving Seward. If the Beech 200 is used as the critical design aircraft, the airport design standards increase to ADG II. US DOT T-100 statistics indicated other ADG II aircraft using Seward Airport in the past 5 years include the Beech 1900, Cessna 208 Caravan, and Pilatus PC-12.

Pilots and local officials expressed the desire for a runway that can accommodate small charter jets for tourism, emergency preparedness and search and rescue aircraft such as the Coast Guard C-130, and potential scheduled air service.

The C-130 and small charter jets are not forecast to meet the threshold of regular use, but have used Seward in the past and continue to desire the ability to land. Anecdotal information indicates that up to 20 small charter jets per year have landed at Seward in the past.

Airfield Requirements

Runways Given the modest number of operations and slight growth anticipated in Seward, a greater growth factor in the forecast of operations would not show an increase great enough to warrant substantial changes in the facility requirements (such as a second runway or parallel taxiway). A single runway can handle between 62,000 and 131,000 operations annually based on VFR conditions and calculations with taxiway at midpoint and airport open for operation 8 to 12 hours per day, 5 to 7 days per week. This is significantly more operations than projected. Parallel taxiway systems to help improve runway capacity and minimize user delays are typically not warranted until annual operations approach 20,000.

Facility requirements are listed in the table below for three potential groups and compared with the larger of the two existing runways.

Table 13 – Runway Dimensional Standards for Various Scenarios

Feature	Current Based Aircraft Group	Current Demand & Medevac (Beech 200)	Growth Scenario & Emergency Preparedness (Beech 1900)	Existing R/W 13/31
Approach Category	A	B	B	B
ADG	I	II	II	II
Runway Length	3,300' (Note 1)	3,300' (Note 1)	4,000'/4,700' (Note 2)	4,533'
Runway Width	60'	75'	75' (Note 3)	100'
Visibility Minimums	1 mile	1 mile	1 mile	1 mile
Crosswind Component	10.5 knots	13 knots	16 knots	13 knots
Runway Safety Area	120' x 3,780'	150' x 3,900'	150' x 5,300'	150' x 4,749'
Object Free Area	400' x 3,780'	500' x 3,900'	500' x 5,300'	500' x 4,749'
RPZ	1,000' x 500' x 700'	1,000' x 500' x 700'	1,700' x 500' x 1,010'	1,000' x 500' x 700'
Part 77 Primary Surface	500' x 3,700'	500' x 3,700'	500' x 5,100'	500' x 4,649'
Part 77 Approach Slope	20:1 (Visual)	20:1 (Visual) (Note 4)	20:1 (Visual) (Note 4)	20:1 (Visual)

1. Minimum runway length for community airports per Alaska Aviation Preconstruction Manual exceeds FAA AC 150/5325-4B (2,750 feet for 95% of fleet or 3,250 feet for 100% of fleet) and Beech 200 published takeoff and landing distances.
2. The 4,700-foot runway length is based on FAA AC 150/5325-4B for aircraft over 12,500 lbs. but less than 60,000 lbs. (75% of fleet at 60% useful load). The FAA is circulating a Draft AC 150/5325-4C, which recommends using manufacturer’s airport planning manuals for all large airplanes (over 12,500 lbs.). The Beech 1900D specification and performance sheet lists a takeoff length of 3,737 feet. Discussions with the primary air carrier in Alaska using this aircraft indicated a need for a 4,000-foot runway to accommodate it. A 4,000-foot runway option is being considered, which would accommodate the Beech 1900 and other large aircraft such as the Dash 8 and Sherpa.
3. Runway width may be increased to 100’ to provide for larger emergency response aircraft such as the C-130.
4. By definition, a non-precision instrument (NPI) approach runway means a straight-in approach is planned or has been approved (Part 77.2). SWD’s approach is currently a circling approach (RNAV [GPS]-A). Review of the FAA flight standards and local topography indicates a straight-in approach is not viable at Seward due to the mountainous terrain on all sides.

Taxiways / Taxilanes Taxiways should be upgraded to meet the current standards. Major changes to taxiway standards have been made in the revisions to AC 150/5300-13 and AC 150/5300-13A since the design of the current airport. It will be critical to establish the design aircraft to be used for taxiway geometry, as taxiway design requirements are no longer established solely by the airplane design group, but also depend on the wheelbase and distance between the cockpit and main gear of the design aircraft. Current guidance indicates the taxiway intersections with runways should avoid the middle one third of the runway length. ¶401.b(5)(d) defines as a “high energy” intersection that should be avoided. “By limiting runway crossings to the outer thirds of the runway, the portion of the runway where a pilot can least maneuver to avoid a collision is kept clear.” Taxiways A and D currently conflict with this guidance.

Further, taxiways providing direct access from the aircraft parking areas to a runway should be avoided (¶401.b(5)(g) and ¶503.). Taxiways C, D, E, and F currently conflict with this

guidance. Future layouts should consider correcting this deficiency.

The key dimensional standards that need to be considered in developing the layout of Group II facility improvements are listed in the table below.

Table 14 – Taxiway and Taxilane Design Dimensions Based on Aircraft Design Group II (per AC 150/5300-13A; Table 4-1)

Feature	Near Term & Ultimate – B-II (Beech 200 & Beech 1900)	Existing
Runway to Taxilane Separation	240'	184' (Note 1)
Taxiway Safety Area	79'	79'
Taxiway OFA	131'	131'
Taxilane OFA	115'	131'
Taxilane Centerline to Fixed or Movable Object	57.5'	
Taxilane Wing Tip Clearance	18'	

1. Separation distance shown on 2008 ALP between Runway 16/34 CL and GA apron taxilane (A-I small requires 150 feet, A-I large requires 225').

To meet the dimensional standards above and preserve the existing BRL and GA apron size, a runway parallel to the apron (Runway 16/35) would need to have a runway-to-BRL separation of 394.5 feet; the existing Runway 16/35 is separated from the BRL by only 300 feet. Additional separation may be needed to correct the layout deficiency of taxiways that provide direct access from the runway to aircraft parking areas.

Navigational Aids and Airfield Lighting

One set of VASI lights is installed on RUNWAY 31. The previous master plan indicated the VASI should be replaced with PAPIs on both ends of all runways. This is not feasible at Seward, because of the terrain on the north end of the airport. Only the south end can achieve the PAPI Obstacle Clearance Surface which extends 4 miles out from the end of the runway.

The airfield lighting system is old and should be upgraded and expanded to include taxiways and all runways.

During any paving project, the runway and taxiway markings should be replaced with markings that meet current guidance. Seward Airport runways will continue to be marked as visual runways. SWD currently has a published GPS approach for Category A and B aircraft, but it is rarely used because of the high minimum descent altitude (2,660 feet). This published approach is not a straight-in approach, so the runway is not considered an NPI runway. There are no instrument approaches for Category C and D aircraft.

Other Facility Requirements

A new sand storage building is needed. The existing building is in poor condition.

The airport access road, Seward Highway, and the Alaska Railroad are all within the RPZ of Runway 13/31, and a small portion of the RPZ of Runway 16/34 overlaps the access road. Although prior to FAA's *Interim Guidance on Land Uses within a Runway Protection Zone* (9/27/2012) these transportation uses were acceptable, they are not encouraged. Additionally, due to their proximity to the end of Runway 13/31, these transportation features create an obstruction to that approach. Correction of these non-standard conditions should be considered to the extent practicable.

THE PROJECT PROCESS

Keeping Everything in Balance

PROJECT IDENTIFICATION

SCOPING

- Determine project's purpose and need
- Forecast aviation demand (current and future airport operations and aircraft types)
- Establish facility requirements (such as runway and taxiway dimensions)
- Identify and analyze alternatives
- Perform hydrological analysis
- Identify environmental issues

PUBLIC INVOLVEMENT

COMMUNITY (HUMAN ENVIRONMENT)

- Adequate space and services to meet the community's needs
- Impacts to residents
 - ★ Noise, land use
- Socioeconomic impacts

NATURAL ENVIRONMENT

- Wetlands
- Wildlife habitat
- Floodplain/floodways
 - ★ Resurrection River

COSTS

- Maintenance and operation
 - ★ Flood repairs
- Development
- Public use of airport

ENVIRONMENTAL DOCUMENTATION

- Affected environment
- Environmental impacts
 - ★ Natural environment
 - ★ Human environment
- Avoidance and minimization of negative impacts
- Mitigation of impacts that cannot be avoided
- Selection of Preferred Alternative
- Permits

DETAILED DESIGN

- Surveying
- Geotechnical investigations
- Utilities
- Plans, specifications, and cost estimates

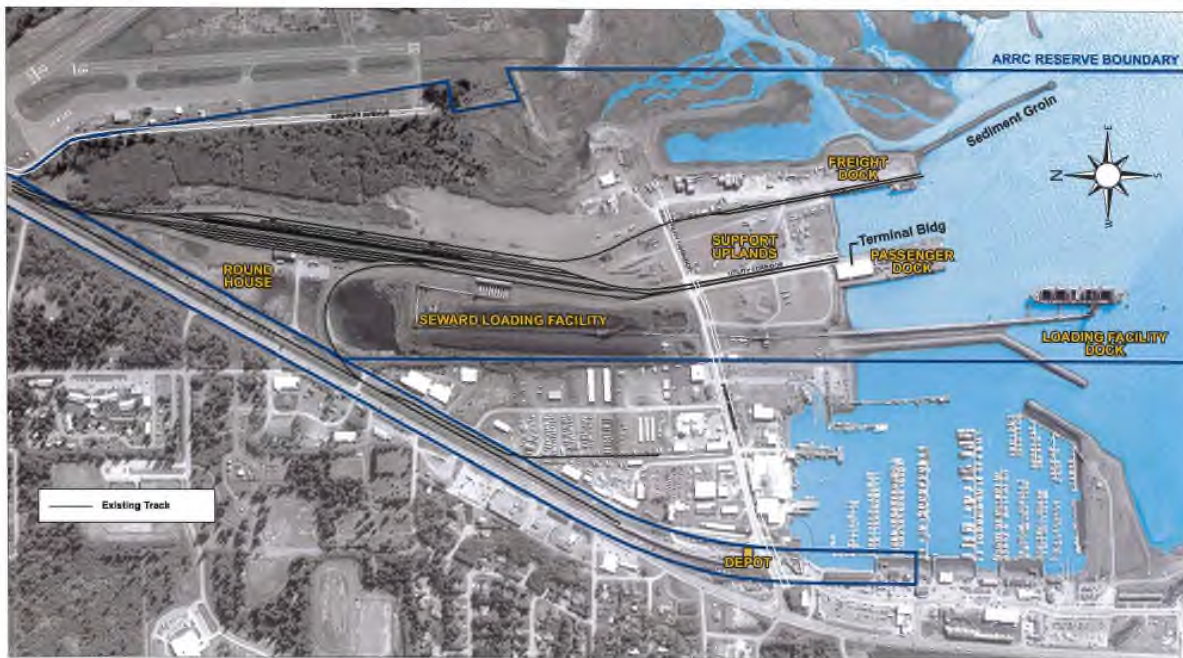
RIGHT-OF-WAY ACTIVITIES

- Evaluate airport right-of-way requirements
- Buy property, if needed

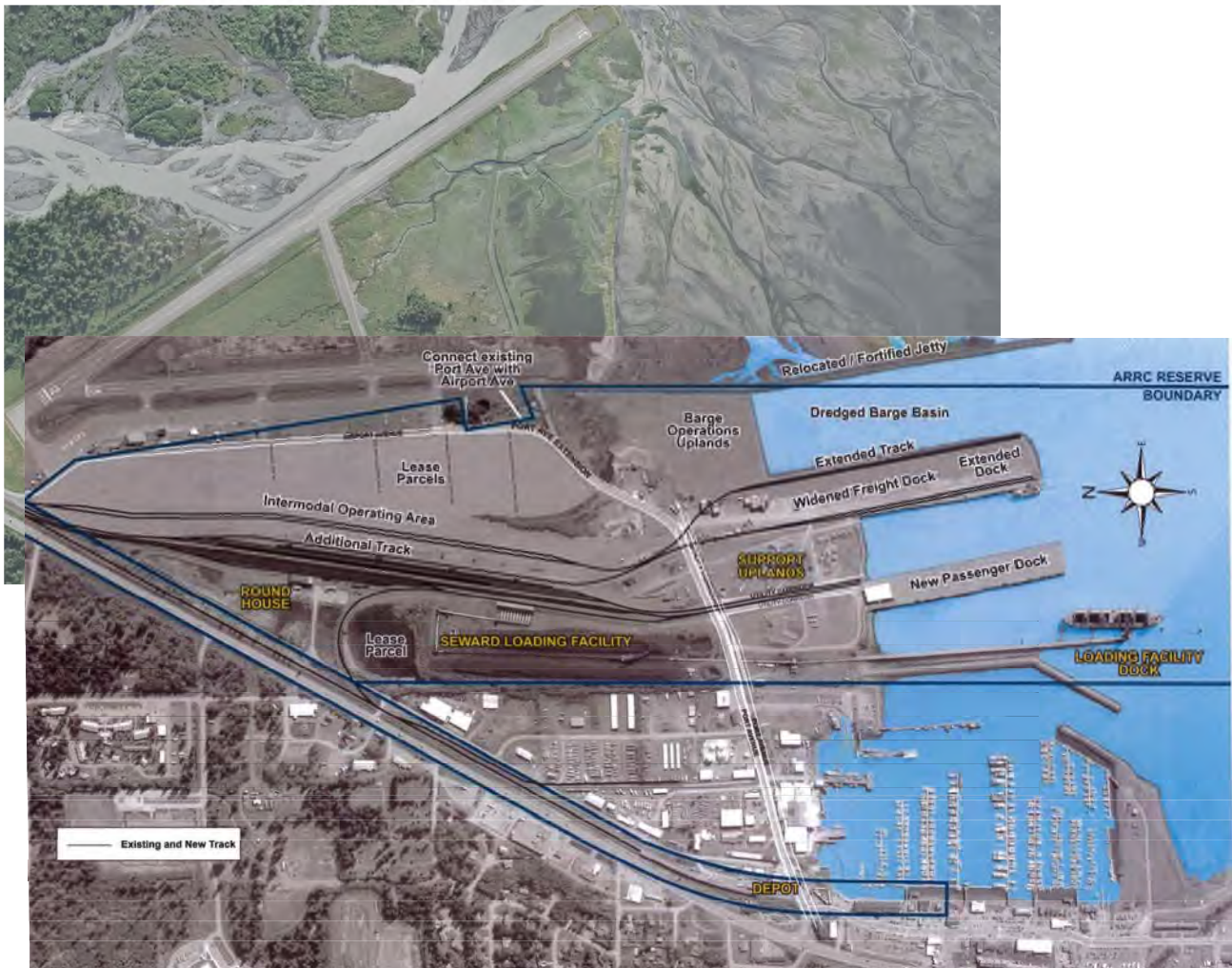
CONSTRUCTION

WE ARE HERE

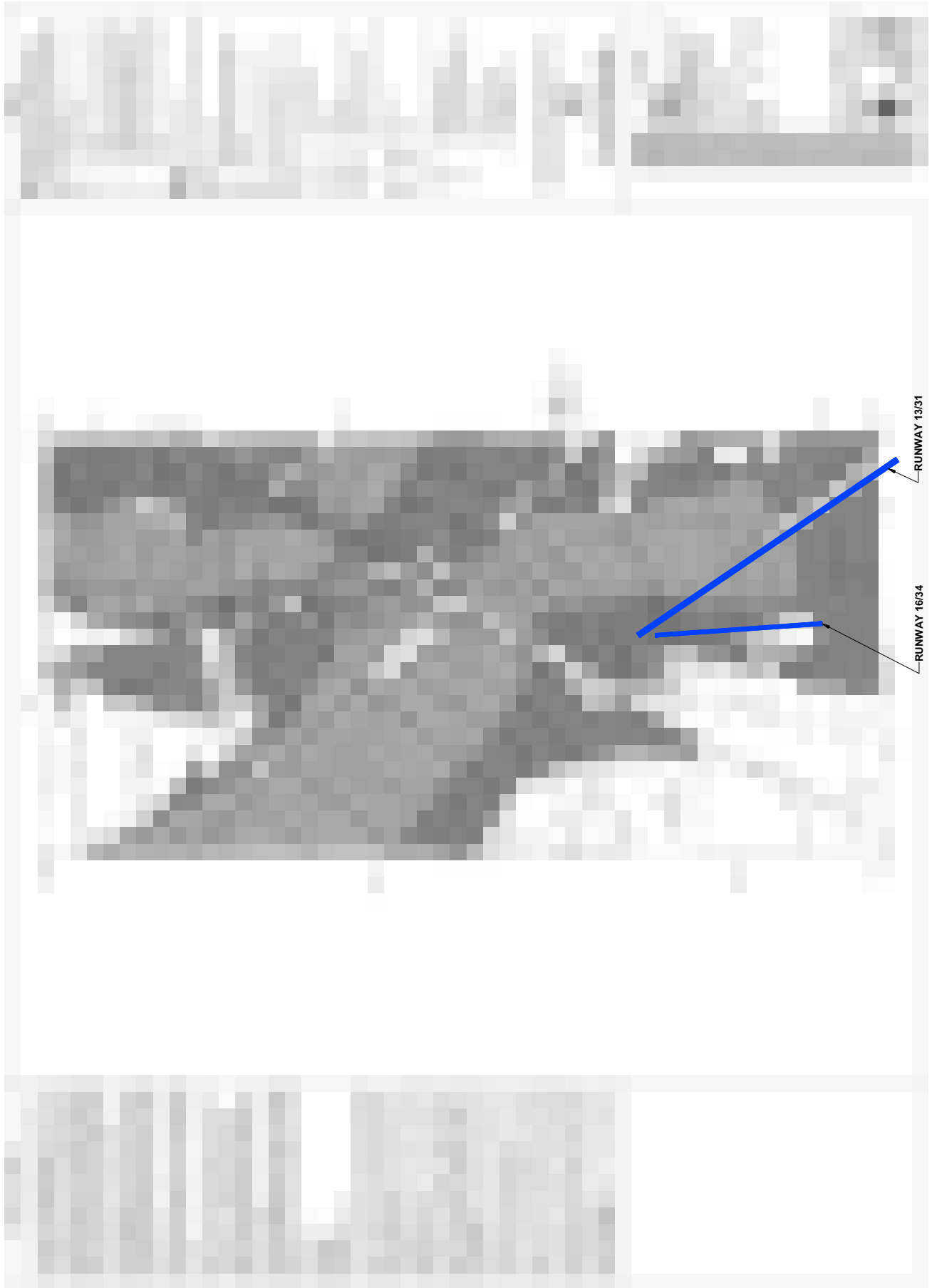
ARRC Seward Terminal Reserve: Existing Facilities



- Seward Reserve 328 acres
- Seward Loading Facility (coal and gravel)
- Passenger Dock, Terminal and Supporting Uplands
- Freight Dock and Supporting Uplands
- Seward Yard and Operating Tracks



ARRC Seward Master Plan: Future Development



Anticipated Schedule & Process

*The schedule is dependent upon a number of variables and will likely change



Scoping
June 2014 – Jan 2015

Environmental
Jan 2015 – Dec 2015

Right of Way Acquisition
Oct 2015 – Feb 2017

Airport Design

Preliminary	Local	Plans in Hand	Review PS&E	Final PS&E
	35%	65%	95%	100%

Construction
April 2018-Oct 2019

Public Involvement

* Open House * Open House * Open House

MEMORANDUM

Date: November 24, 2014

To: Barbara Beaton, DOT&PF Project Manager

From: Carla SlatonBarker (Solstice Alaska Consulting) with input and review from Royce Conlon, PDC Project Manager

Subject: Summary of 11/19/2014 Stakeholder Working Group Meeting #1-- Seward Airport Improvements Project (#54857)

Introduction: Meeting Overview

This document provides a summary of the first Stakeholder Working Group (SWG) meeting held on November 19, 2014, for the Seward Airport Improvements Project. The meeting was held in Seward at the Community Library Small Conference Room. The meeting began at 11:30 and ended at 2:00. Table 1 lists the meeting attendees.


Table 1. Meeting Attendees

SWG Membership	Name
Alaska Railroad Corporation	Jim Kubitz with Paul Farnsworth and Louis Bencardino
City of Seward: Seward City Council	Christy Terry
City of Seward: City Manager/Community Development	Ron Long
Civil Air Patrol	Brandon Anderson (teleconference participation)
Federal Aviation Administration (FAA)	Mike Edelmann (teleconference participation)
KPB Seward/Bear Creek Flood Service Area, Water Resource Manager	Dan Mahalak
Lease Holder, GA Pilot, Community Member	Dennis Perry
DOT&PF Maintenance	Sean Montgomery
DOT&PF Project management, Central Region Design and Engineering	Barbara Beaton, P.E., Project Manager
DOT&PF Central Region Design and Engineering	Joy Vaughn, P.E., Consultant Coordination
Consultant	Royce Conlon, P.E., PDC Inc. Engineers, Consultant Team Project Manager
Consultant	Ken Risse, PDC Inc. Engineers, Civil Engineer (teleconference participation)
Consultant	Carla SlatonBarker, Solstice Alaska Consulting, Public Involvement

Meeting materials including the agenda, a draft technical memorandum titled "Aviation Activity & Facility Requirements," an executive summary of the draft technical memorandum, and handout packet (containing schedule, process, floodplain mapping, and land use and development information used as displays at the September 2014 public meeting) were distributed via email the afternoon prior

to the meeting. Table 2 presents the meeting agenda to document the meeting objectives, goals, and format.


Table 2: Agenda



Seward Airport Improvements Project (#54857)
Stakeholder Working Group Meeting #1 • November 19, 2014

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Meeting Agenda and Overview



Meeting #1 Objectives (Our Work Today)

- Form and clarify the work of Stakeholder Working Group (SWG).
- Establish consensus on problem and project needs.
- Present the draft “Aviation Activity & Facility Requirements” technical memorandum (provided in advance) and ensure that SWG members understand findings and have an opportunity to provide input.
- Learn from and incorporate SWG information and perspectives into project documents.

Meeting #1 Goals (Meeting’s End Result)

- SWG understanding of the project, the process, and SWG role.
- SWG agreement with the draft “Aviation Activity & Facility Requirements” report (support for the methodology and findings) OR with specific action items to resolve document deficiencies.
- SWG introduction to project options and constraints.

Meeting Agenda (Topic and Timeline)

Part 1: Getting Started (11:30 am to 12:00 pm)

- Welcome, Introductions, Role of the SWG, Meeting Overview (Carla SlatonBarker, Solstice Alaska Consulting)
- Problem & Needs, Project Process, and SWG Input (Royce Conlon, P.E., PDC Inc. Engineers)

Part 2: Understanding the Draft “Aviation Activity & Facility Requirements” Report (12:00 to 12:30 pm)

- Draft Report Overview (Royce Conlon)
 - Why understanding the aviation activity is important
 - Steps, research, contacts, current forecasts, findings—do we have any gaps?
 - Facility requirements
- Constraints Discussed (Royce Conlon)
 - Funding constraints: What does FAA need to consider the different facility requirements scenarios?

SHORT BREAK

Part 3: Visualizing Options and Constraints (12:35 to 1:15 pm)

- Actions and Options -- Discussion of What This All Means (Royce Conlon)
 - Floodplain constraints
 - Alaska Railroad plans
 - Design Options

Part 4: Next Steps and Needed Actions (1:15-1:30)

- Project Schedule and Milestones (Royce Conlon)

Adjourn (1:30) *Thank you for your time and participation!*

Visit the project on the web at: www.dot.state.ak.us/creg/sewardairport/

Part 1: Getting Started

The meeting began with introductions, and then Carla SlatonBarker, Solstice Alaska Consulting, provided an overview of the meeting's objectives, goals, and agenda, as well as the role of the SWG. Next, Royce Conlon, PDC, provided an overview of the project. Before beginning the technical work of the day, Carla, asked if all had reviewed the meeting materials, which were emailed mid-afternoon the day prior. Many attendees did not have the time needed to review the materials in advance of the SWG meeting, and other members noted there was a problem with the email delivery. We discussed solutions: providing more lead time for review in advance of the next meeting; not emailing attachments and instead setting up an internet file storage area; for this meeting, reviewing the technical memorandum in more detail because many did not have a chance to review; and allowing the SWG to provide comment on the contents after the meeting.

Part 2: Understanding the Draft "Aviation Activity and Facility Requirements" Report

The objective of this part of the meeting was to present an overview of the draft "Aviation Activity & Facility Requirement" technical memorandum, answer questions, and record comments. The goal was to obtain SWG agreement of the draft document or determine ways to resolve identified document deficiencies. The following is a summary of SWG input. This input will be used to revise the draft "Aviation Activity and Facility Requirements" technical memorandum, where appropriate. The project team will explain how comments were or were not incorporated, and reasons why, during future SWG coordination.

SWG Comments Related to Methodology

- Extend the planning period back in time to capture the previous commercial operations that will most likely occur again.
- Use a master plan approach for planning improvements: discuss improvements needed over time (20 years).

ACTION ITEM--Project Team: Review FAA guidance related to project's planning period and the reasonableness and efficacy of including data from the mid to late 1990s.

SWG Comments Related to Existing and Future Aviation Activity

- Don't base historic aviation activity on recent data (2008+ data); instead, report activity during the mid to late 1990s when Seward was part of the Essential Air Service (EAS) program.
- Discuss the EAS program in the tech memo in terms of how an EAS status for the Seward airport (SWD) would likely change (increase) future aviation activity (fleet mix and number of operations). The EAS program is a mechanism for encouraging more commercial operations. This point should be addressed in relation to historic and forecast aviation activity.
 - Encouraging commercial operations or developing EAS status for SWD is outside DOT&PF's scope and the scope of this project. This could be the City's role, and any documentation of industry intention could be used as data on this project.
- Include discussion of how current aviation activity may be affected by *the perception* that SWD has an ongoing flooding problem.
- Make sure there is a discussion in the tech memo on SWD approaches. Future aviation activity would be greater if an improved approach with lower minimums can be established.

- **Team response:** This information on improved SWD approaches and potential increase to aviation activity is reflected in the technical memorandum (p. 9) and reported below:

The image shows a screenshot of a document page with a table. The table has several columns and rows, with some cells highlighted in yellow. The text is mostly illegible due to blurring, but the structure of the table is visible.

- Include reference to the changeable weather at SWD. .
- The tech memo under reports flight activity from Bear Lake.
 - **Team response at the meeting:** It is difficult to get exact numbers for general aviation (GA) operations at facilities without towers and GA operations may be underreported for various reasons; however, the number of GA operations does not affect the facility requirements because at a minimum DOT&PF will provide for GA operations.

ACTION ITEM--Project Team: Set up a conversation between Dennis Perry, SWG member and GA pilot, and FAA approach personnel to discuss SWD approaches.

SWG Comments Related to Discussion of Tech Memo’s Socioeconomic Analysis

- Seward’s economy is “trending upwards” in a way that the draft report does not fully reflect. Examples of this provided by ARRC and the City of Seward are:
 - Current and predicted industry would rather fly than bus workers to Seward, as noted by Jim Kubitz, ARRC SWG member. The City (Christy Terry and Ron Long) and ARRC members noted that when Shell was in Seward, the company couldn’t believe there was not scheduled air service. Crews were bussed and traffic accidents occurred.

- **Team response:** The tech memo references this point on page 7 (see excerpt below):

Alaska Railroad (ARRC) Facility Improvements

The ARRC is planning a substantial investment and improvements in the port and rail facilities adjacent to the airport. During a coordination meeting, ARRC staff indicated that if the airport had regularly scheduled flights, ARRC would prefer to have its crews and management teams who occasionally commute to/from SWD fly versus traveling by rail or highway. Travel time and safety were the primary reasons cited. The specific number of enplanements this would equate to is undetermined.

- The City of Seward reported that a cruise ship is relocating from Whittier to Seward, which will potentially increase aviation activity. This information is not reflected in the current draft memorandum.
 - **Team response:** The tech memo will be revised to note that charters could increase.
- The City of Seward reported that the Seward Marine Center is the homeport for the 260-foot *R/V Sikuliaq*. This Alaska Region Research Vessel will be ready for science operations in 2014 and will likely cause an increase aircraft operations between Anchorage and Seward. This information is not reflected in the current tech memo.
 - **Team response:** The tech memo will be revised to include this information.
- If oil is discovered in the Beaufort and Chukchi Seas, it is possible that demand at the Seward Airport may increase.
- Any increase in activity in the Arctic may contribute to Seward's upward economic and population trend. The City of Seward believes that their port is a better (more protected) overwintering port than Nome or Dutch Harbor.
 - **Team response:** More research regarding the two bullet points above is needed to become data for the tech memo.
- The City is planning for this "upward trend" now, including a \$270 million breakwater that is in long-term development. This breakwater will allow for 100-210 shallow-draft vessels.
- ARRC is planning major improvements in three areas as articulated in the Alaska Railroad Seward Reserve Master Plan: Waterfront Development, Commercial Development, and Intermodal Expansion. These improvements are detailed in a planning document that Jim Kubitz provided to the team. Particularly these improvements involve:
 - **Waterfront Development:** Widening the freight dock, improving the dock's ability to accommodate barges, and expanding the dock's capacity (more vessels, more operations) to handle freight.
 - **Commercial Development:** Developing and preparing real estate parcels to accommodate freight customers and upland operations; extending Port Avenue to connect with Airport Avenue; opening an industrial area to accommodate

heavy industrial activity; facilitating commercial and light industrial development on the Passenger Dock uplands area; developing commercial real estate along the small harbor's boardwalk.

- Intermodal Expansion: Developing an intermodal operating area (ship-to-train, ship-to-truck or ship-to-barge) to accommodate freight customer growth and intermodal/barge freight activity, installing more track and new access point gates.
- ARRC is actively and successfully working this plan; for instance, the ARRC applied for and won a U.S. Department of Transportation TIGER (Transportation Investment Generating Economic Recovery) grant to plan these improvements. TIGER funding will help ARRC consider vessel berthing and freight handling needs within the ARRC Terminal to ensure the dock is designed to meet future requirements. ARRC is using this funding to move the Waterfront Development plans to the next step: final design and costs. Earlier work has the expanded freight dock almost fully permitted. Then the next step under Waterfront Development will be construction of a new breakwater and dredging the barge basin. Full funding is eminent for planned freight improvements.
 - ARRC's view is that these expansion projects will improve service to marine customers, enhancing local economic development efforts to grow freight business activity.
 - *Note: Jim Kubitz expressed ARRC's desire to "clean up" property boundaries through a land exchange.*
- **Team response during the meeting:** The project team asked for documentation to support the view that Seward will experience an upward economic trend. Documentation of this future intent is needed because the project cannot be developed under a "improve the airport and then they will come" approach.
- The group discussed the use of a 1.23% growth rate in the draft technical memo and the use of, perhaps, a 2% growth rate, instead of the 1% currently being used.

ACTION ITEM: City of Seward (Christy Terry or Ron Long). *Provide the project team with documentation from any industries wanting to locate/develop industry in Seward to document an upward economic or population trend. Documentation of this future intent should indicate increases in population and/or air transportation needs expected from the action.*

ACTION ITEM: City of Seward (Christy Terry). *Provide contact information or relationship to future aviation activity needs for the Seward Marine Center and R/V Sikuliaq.*

ACTION ITEM--Project Team: *Revise forecast aviation activity section of tech memo, as noted above, to reflect new information on future industry activity.*

SWG Comments Related to Funding

In this part of the meeting, Mike Edelmann, FAA, supported the conversation. He explained that there are categories of FAA funding, and to be eligible for FAA funding, there are legislative and legal

requirements. The FAA funding that this project would be using is from the Airport Improvement Program (AIP). AIP funding can only be used for reasonable and justified improvements to support current and forecast airport needs. He explained that FAA can't spend money on a "if we build it, they will come" approach. FAA is required to evaluate if a proposed project involves a longer or wider runway than needed or than data support.

- **Question from the City of Seward:** Will FAA allow a community to "build more airport" if the community feels that it is part of its future economic development plan?
- **Answer from FAA:** If city funding, state funding, or other funding is available, a community can build more airport. For instance, the FAA encourages partnering with other federal funding agencies such as FEMA or Homeland Security related to emergency preparedness. There might be other opportunities related to economic development funding and industry. FAA could participate with another entity. Research would be needed related to ensure that FAA guidelines (safety, etc.) would be met.
- A comment was made that "everything is on the table" for study and that creative partnerships are possible; but in the end, it is likely that the deciding factor in making decisions will be based on use of FAA funding, as it is presently the only identified viable funding source.

SWG Comments Related to Tech Memo's "Most Demanding Aircraft"

Another focal point to the presentation and conversation during this part of the meeting was an overview of current and forecast aircraft. The following funding constraint was also explained verbally and in the material: Federally funded projects require that the critical design aircraft (the most demanding aircraft) have at least 500 or more annual operations at the airport during the established planning period.

- The C-130 and small charter jets that currently use SWD are not anticipated to meet the federal threshold of regular use. Anecdotal information indicates that up to 20 small charter jets per year have landed at Seward in the past.
- Although medevac aircraft provide a critical service to the community, they do not meet the FAA threshold of 500. Medevac aircraft can and do operate on runways throughout Alaska with the same length as our shortest alternative.

SWG Comments on Aircraft:

- SWG members shared the view that the population and industry in SWD could support commuter service in the future.
- SWG members shared view that SWD airport is an important training ground for Coast Guard touch-n-go operations. Cold Bay is the next closest airport for these operations. The Coast Guard could be called upon in a case of mass causality to do medevac with the C-130.
 - **Question:** With this important activity, couldn't the medevac be the critical design aircraft? **Answer from FAA:** FAA funds can't be used to fund another agency's needs. The Coast Guard needs to provide funding if this activity drives airport improvements. Also, the number of operations is under 500 threshold needed to be considered a design aircraft.

The project team reiterated the need for additional data or information (beyond what is reported in this tech memo) to consider use of federal funds for any scenario involving a runway length greater than 3,300 feet.

Part 3: Visualizing Options and Constraints

During this part of the meeting, project options were presented to help SWG members visualize airport options and constraints. SWG members were cautioned that these options were simply to aid thought and support conversation. No analysis has been completed—the drawings show FAA separation distances, runway length, and runway width. In consideration of location; the layouts are overlain on aerial photography to show placement as related to the road and railroad on the north end, the FEMA floodway, tidelands and ARRC proposed development plan. Four templates were presented to facilitate discussion and these are summarized below:

Option 1: This layout considers two options. Option 1.1 involves raising runway 13/31 above the 100 year flood elevation and providing for erosion protection. Option 1.2 would involve reconstructing the existing embankment to allow flood overtopping. This option explores design elements to enhance drainage (a rock structure that drains quickly) and to enhance runway strength (structure that is much less compromised by flooding). Under this option, however, there would still be periods when the runway would be closed due to flooding. Under both these options, runway 16/34 would continue to operate as the crosswind runway.

Options 2-4 (summary): The other options involve improvements to the crosswind runway if the main runway cannot be reasonably repaired due to cost or feasibility. Options 2, 3, 3.1, and 4 (below) all abandon runway 13/31. They all present variations in length, width, and orientation. The team cautioned, though, that these are just templates that present design dimensions to begin the conversation about constraints (namely the floodway, tidelands, and adjacent land use).

Option 2: Involves reconstructing runway 16/34 as a 3,300-by-60-foot runway, which corresponds to the facility requirements for a Design Group A-I facility. This size facility is designed for a small design aircraft, but can be used by larger aircraft on a less frequent basis. As required by federal guidelines, runway 16/34 would have a slightly new alignment, resulting from increasing the distance between the taxilane centerline and the runway centerline from the existing 184 feet to 225 feet, and from shifting the runway centerline itself 46 feet from its existing location.

Option 3: Involves reconstructing runway 16/34 as a 4,000-by-75-foot runway, which corresponding to the facility requirements for a Design Group B-II facility which can support larger aircraft. As required by federal guidelines, runway 16/34 would have a slightly new alignment, resulting from increasing the distance between the taxilane centerline and the runway centerline from the existing 184 feet to 240 feet, and from shifting the runway centerline itself 82 feet from its existing location. The runway extends approximately 1038' into the tidelands. The runway would accommodate commuter aircraft such as the Beech 1900. A shorter version (3,300 feet) would accommodate the Beech 200 Medevac aircraft.

Option 4. This option draws a 4,700-by-75-foot runway. It depicts the same distance between the runway centerline and the taxiway centerline as option 3 (240 feet) and it has the same runway centerline shift of 82 feet. This option extends approximately 1,617' into the tidelands and the RPZ has greater overlap with the ARRC proposed facilities.

SWG Comments from SWG Members on the Options

Dredging, City of Seward: What about an option that explores dredging? Isn't dredging an option on the table?

- Barbara Beaton from DOT&PF answered that this project won't be looking at dredging. She explained that there are legal issues that could result from dredging, so this will not be pursued. She also noted that there is no on-going maintenance funding to make dredging a long-term solution to the airport problems. She noted that this decision was made at a policy level, by supervisors above her.
- Ron Long expressed that he was disappointed to hear that not "everything is on the table", as was presented earlier. He noted strongly that for the City, dredging is an effective and desirable solution. He noted that the "lack of maintenance funds" is not an effective reason, because everything has an O&M cost. He also noted that not pursuing dredging for "legal reasons" is a very comfortable position for DOT&PF.
- Barbara Beaton informed the board members of a Task Force that was assembled during the 1990's. Task Force members were composed of representatives from several government agencies. According to the Task Force Report, two government agencies (not including DOT/PF) were responsible for annually dredging the river. The dredging was never done.

The conversation hit an impasse at this point. Without resolution, the meeting moved forward.

Floodplains, Dan Mahalak. Dan verified the project's team's data that FEMA prohibits enlarging or raising the elevation of structures within a floodway.

Wind Coverage: The wider the runway the better. The existing taxiway is a "white-knuckles" experience in some wind conditions.

Property details. Jim Kubitz, ARRC, noted that the red line (airport property boundary) on the drawings is not accurate. The small triangle of land on the existing apron is owned by the ARRC but presently leased long-term to the airport. Jim hopes between this project and the ARRC project this land can be transferred to the airport in a land swap. The ARRC is planning improvements that go into state tidelands to construct a jetty.

Duck hunting, project team. The public at the September meeting commented on the desire for access to the floodplain for hunting. It was also noted that hunting adjacent to the airport may not be a compatible land use. This land may be under control of Ducks Unlimited.

Materials, City of Seward. The City of Seward will have a lot of shot rock from the construction of the Marine Center that could be available for use at the airport. With City Council approval, the City may be able to provide DOT&PF with material for this project.

Impacts to Floatplanes, Dan Mahalak. The options to lengthen runway 16/34 cut off access to floatplanes that currently use the area to change out from floats to wheel & vice versa. Also, there is nothing about floatplane activity or a ski strip in the tech memo.

- **Team response:** The team will consider options of addressing the se situations and whether they can be inc within the scope of this project.

(Note from the facilitator: At this point in the meeting, the group hit the information saturation point. We ended this part of the meeting after Royce Conlon finished presenting each option.)

Part 4: Next Steps and Needed Actions

Summary of Action Items:

The following lists definitive action items that resulted from the meeting and listed earlier in this meeting summary.

- ACTION ITEM: City of Seward (Christy Terry or Ron Long).** Provide the project team with documentation from any industries wanting to locate/develop industry in Seward to document an upward economic or population trend. Documentation of this future intent should indicate increases in population and/or air transportation needs expected from the action.
- ACTION ITEM: City of Seward (Christy Terry).** Provide contact information or relationship to future aviation activity needs for the Seward Marine Center and R/V Sikuliaq.
- ACTION ITEM--Project Team:** Revise forecast aviation activity section of memo, as noted above, to reflect new information on future industry activity.
- ACTION ITEM--Project Team:** Review FAA guidance related to project's planning period and the reasonableness and efficacy of including data from the mid to late 1990s.
- ACTION ITEM--Project Team:** Set up a conversation between Dennis Perry, SWG member and GA pilot, and FAA approach personnel to discuss SWD approaches.

Next Steps

To conclude the meeting, Barbara Beaton, DOT&PF, outlined the following next steps.

- **Techn Memo:** The team will update the draft technical memo presented today; send a revised draft to SWG members; take comment; and then finalize the tech memo.
 - Please provide comments to Carla SlatonBarker (Carla@solsticeak.com). Barbara noted that the team will prepare meeting notes, but that individually written comments are important to ensure that the team records SWG member comments correctly.
- **Access to materials:** The team will make available to SWG members the drawings and materials today and for future meetings via an Internet-based project library.
- **There will be regular meetings.** The team will contact you to plan for the next meeting, possibly in December, if schedules allow.

Adjourn

The meeting concluded at 2:00. Thank you for your participation!