APPENDIX B:

2022 SITING ANALYSIS MEMO AND SITING STUDIES

TECHNICAL MEMORANDUM

TO:	Jenny Liljedahl, PTS and Mike Schmetzer, City and Borough of Sitka
FROM:	Emily Creely, DOWL
DATE:	September 16, 2022
PROJECT:	Sitka Seaplane Base
SUBJECT:	Alternatives Selection

INTRODUCTION

The City and Borough of Sitka, in cooperation with the Federal Aviation Administration, is proposing a new seaplane base on Japonski Island in Sitka, Alaska (Project). The proposed project is needed as the existing seaplane has capacity, safety, and operational and condition deficiencies.

In an April 2022 letter, the Federal Aviation Administration stated the following in a letter to the chairman of the Sitka Tribe of Alaska the following:

> *The FAA hears most clearly that finding an alternate location would resolve many of your concerns. To that effect, we have requested CBS revisit their alternatives and take a deeper look to see if there are any other possible sites that could be viable. FAA intends to re-evaluate the project's site selection with an open mind, truly taking the Tribe's concerns into consideration.*
>
> *For transparency, we want to share with you that an impartial, fresh set of eyes is taking on this reevaluation, as no one on the current team was involved in making the previous selection. We also want to share some insight into our criteria for determining a selection, which includes the following:*
>
> - *Must be available to purchase*
> - *Must be on an existing roadway*
> - *Must have favorable wind conditions*
> - *Must be protected from harsh waves and sea swells*
> - *Must have adequate depth, with no obstacles such as rocks*
> - *Must not be in proximity to wildlife attractants*
> - *Needs to have room for expansion over current facility*
> - *Land component needs to have favorable topography and space for parking*
> - *Needs to have room to maneuver safely*
> - *Needs to have favorable traffic*
> - *Costs must be reasonable*
> - *Historic, cultural, and natural resources; including wildlife must be reviewed under strict adherence to NEPA in consultation with each authority having jurisdiction (SHPO, DNR, USACE, USFWS, NOAA NMFS, etc.)*
>
> *Alternative candidate sites CBS has provided so far include:*
>
> - *Current Seaplane Base*
> - *Current Selected Site*
> - *Mt. Edgecumbe*
> - *SEARHC Cove*

- *Japonski Lagoon*
- *Eliason Harbor*
- *Charcoal Island*
- *Work Float*
- *Safe Harbor*
- *Jamestown Bay*
- *Herring Cove*
- *Sawmill Cove*
- *Starrigavan Bay*

To advance the STA's understanding of alternatives development for the project, this memo will summarize the history of how sites were analyzed and review to determine if any sites were omitted without cause, if any reasons for sites other than the preferred site would now be re-considered based on changing conditions, and if any other sites could have been evaluated.

Alternatives Analysis Summary

The following table lists documents that were instrumental in developing alternatives and will be cited in this section:

Alternatives Development, Summary of Reports Cited

Year	Report Name	Prepared by
2002	Sitka Seaplane Master Plan (including separate Draft Alternatives Report)	HDR
2012	Siting Analysis, Sitka Seaplane Master Plan	DOWL HKM
2016	Updated Siting Analysis, Sitka Seaplane Master Plan	DOWL HKM

The 2002 Master Plan recommended a facility sized to accommodate a moderate growth scenario including commercial seaplane operations, with a short term (within 5 years) need for 13 slips, and a long-term (20 years) need for 15 slips. The Master Plan recommended the identification of a site with the flexibility to accommodate 20 slips to allow for a potential greater increase in demand.

The 2012 Siting Analysis forecasted growth in seaplane commercial activity based on a healthy local economy, particularly the fishery and tourism sectors, the existing seaplane base waiting list, and user interviews indicating unmet demand for private and commercial seaplane parking. In 2012, the existing 8 slips continued to be leased and there still was a waiting list. Users reported that a new facility in better condition, in a better location, with more amenities like parking and fuel, and with more seaplane parking would see significantly more use. The Siting Analysis recommended a location sized to accommodate 14 parking positions for based aircraft and 3 to 5 transient positions through 2016, with the flexibility to accommodate an additional 5 slips for based aircraft in the long term.

The 2016 Updated Siting Analysis was conducted as conditions changed (by 2015 only six slips were occupied) and in 2016 the facility was temporarily closed due to damage to the floats. A new analysis was completed due to an updated aviation forecast unconstrained by facility limitations and represents expected demand if there were enough parking spots at the existing SPB.

Site Alternatives in Cited Reports

Alternative Name	2002	2012	2016
Current Seaplane Base	x	x	x
Current Selected Site[a]		x	x
Mt. Edgecumbe	x		
SEARHC Cove	x		
Japonski Lagoon[b]	x		
Eliason Harbor		x	x
Charcoal Island	x		
Work Float	x		
Safe Harbor	x	x	
Jamestown Bay	x		
Herring Cove	x		
Sawmill Cove	x		
Starrigavan Bay	x		
Thomsen Harbor/Turnaround area[c]	x		

[a]*Site is referred to as Japonski Site or Japonski Island Alternative*
b Site it referred to as Sitka Rock Gutierrez Airport Lagoon
c Site not included in sites discussed in FAA-STA communications 2021/2022

Evaluation Criteria Used in Cited Reports

Criteria	2002	2012	2016
Safely accommodate facilities/operations per AC 150/5395-1, Seaplane Bases[a]	x		
Sufficient Size/Capacity	x	x	x
Slow Currents (currents less than 3.5 mph)	x		
Sufficient Water Level	x		
Safe From Wave Action	x	x	x
Debris Free Area	x		
Safe Maneuvering Space	x	x	x
Sheltered Moorage	x		
Safe Bottom Conditions/Dredging needs	x	x	x
Free from Wildlife Attractants	x	x	x
Safe Bottom Conditions	x		
Prevailing Winds	x	x	x
Approach, Taxi and Departure Paths/Distance	x	x	x
Accommodation of Floating Dock and Gangway/Growth	x	x	x
Vehicle Access	x	x	x
Capacity for Slips		x	x
Boat traffic conflicts		x	x
Drive-down ramp capacity/fueling facilities		x	x
On-site aircraft maintenance		x	x
Costs, Revenue and Property Acquisition		x	x
Consistent with adjacent land uses		x	x
Icing		x	x

[a] *For detailed description of each criteria, see Attachment 2.*

Alternatives Evaluation 2002

Alternative	Reason for Removal from Consideration or Advancement
Current Seaplane Base	Site conflicts with adjacent users; no room for expansion; cannot accommodate ramp space; rocks and boulders under water; inadequate size for safe maneuvering; no upland area for parking; narrow wingtip clearances between seaplanes
Current Selected Site	**Became Preferred Alternative and evaluated further in 2012**
Mt. Edgecumbe	**Became Alternative #2[b]**
SEARHC Cove	**Became Alternative #3[c]**
Japonski Lagoon	Would require a new channel be blasted in western end of Charcoal Island; would conflict with areas set aside for expansion of Rocky Gutierrez Airport; major wildlife attractant nearby
Eliason Harbor	**Not evaluated in 2002**
Charcoal Island[a]	Exposed to turbulent wind and swells; unsafe without breakwater
Work Float	Unprotected from winds; congested area; no upland development area; access control issues
Safe Harbor	**Became Alternative #1[d]**
Jamestown Bay[a]	Exposed to turbulent wind and swells; unsafe without breakwater; high level of small and large boat traffic; large adjacent residential area
Herring Cove[a]	Long unprotected fetch and proximity to mountains generate turbulent wind and wind-driven waves of considerable size; topography also creates limitations during cloudy/foggy weather; too far from town for pilots and community
Sawmill Cove[a]	
Starrigavan Bay[a]	Exposed to turbulent wind and swells; water choppy; large wakes from ferry; no room for upland development; too far from town for pilots and community
Thomsen Harbor/Turnaround area	Constrained by large boat harbor and shallow water; insufficient space at low tide without dredging; near high-value wetlands; near freshwater stream mouth (would cause freeze-up in winter); high level of boat traffic

[a] fatal flaw and removed from further consideration
[b] this site was not further evaluated in 2012 study due to opposition from Mount Edgecumbe High School
[c] this site was not further evaluated in 2012 study as concerns related to noise and traffic were identified and no clear access through U.S. Coast Guard property was identified
[d] this site was not further evaluated in 2012 study due to bird hazard and boat traffic

Alternatives Evaluation 2012 and 2016

The alternatives analysis in both 2012 and 2016 were nearly identical for criteria and results, summarized below. [1]

[1] One change between 2012 and 2016: The Existing Seaplane base was rated positively in 2012 and rated negatively in 2016 for "adjacent land uses"

Alternative	Reason for Removal from Consideration or Advancement
Current Seaplane Base	Scored at bottom mainly due to requiring high property acquisition, high wildlife hazards, conflicts with boat traffic, ability to accommodate future growth, and capacity issues
Current Selected Site	**Scored highest for nearly all categories**
Eliason Harbor	Scored second mainly due to requiring high property acquisition, and exposure to adverse wind and wave conditions

Review and Discussion

The only site that was not evaluated in 2012 and 2016 without a detailed explanation is the Safe Harbor Site. The 2002 summary of the site states:

> Site 1 proposes development of a new seaplane facility at the former location of Safe Harbor adjacent to Japonski Island. Safe Harbor was the location of the airport ferry dock prior to the construction of O'Connell Bridge. Under this alternative, the relocated seaplane base facility (Figure 9) would be on Japonski Island, directly across Sitka Channel from the existing seaplane base and between the U.S. Coast Guard dock and University of Alaska property.
>
> This area of Sitka Channel provides improved seaplane maneuvering room as compared with the existing facility and is large enough to accommodate safe taxiing and turning movements into the facility. Dredging and construction of a seawall are proposed as a means of tightening its position as close as possible to the shoreline to keep it out of Sitka Channel. This would protect the facility from boat traffic. The U.S. Coast Guard dock would further protect the takeoff and landing area from swell, waves, and wind coming up the channel. Japonski Island protects the area from open-ocean wave action and the site provides a relatively sheltered moorage area from local winds. Nautical charts indicate that there are submerged piles in this location, which would need to be removed. The dredging and seawall construction would also ensure that the bottom is free of hazards and that sufficient water depth is maintained at the full tidal range.
>
> It is expected that a seaplane base at Site 1 would continue to use the FAA-designated landing and takeoff area along the centerline of Sitka Channel. This lane is well aligned for the prevailing winds, but bird and boat hazards associated with the landing and takeoff area would remain. If the facility were to be relocated to the Safe Harbor site, bird hazard mitigation measures recommended in the Wildlife Hazard Assessment report prepared for the Sitka Rocky Gutierrez Master Plan (DOT&PF 1999) should be implemented. The takeoff and landing lane should be marked on all charts. Because the lane is split by O'Connell Bridge (an obstruction) at its southeastern end, taxiing under the bridge would continue to be required for approach and departure operations in that direction.

Access to the new facility would be along Seward Avenue. The area proposed for vehicle parking is currently paved and used as a parking lot on property managed by the University of Alaska, SE. Because of the large amount of parking area available in front of UAS, the area proposed for seaplane base vehicle parking is not currently used.

The upland area adjacent to this site is zoned as "Public" land and is owned by the State of Alaska, Department of Education. The State of Alaska also owns and manages the tidelands. Nearby land uses include the U.S. Coast Guard dock, the University of Alaska, Southeast campus, and Mt. Edgecumbe High School dormitories. Access and upland development of parking facilities would require acquisition of land from the Department of Education.

Noise would be the primary impact to the upland properties. Because takeoffs and landings would occur on the same water operating area and in an identical manner as the existing conditions, no noticeable change in noise conditions is anticipated.

The adjacent dock is used by the Coast Guard as the home port for the "Maple." The primary mission of the Maple and its crew is maintaining navigational aids and secondarily supporting other Coast Guard functions and responsibilities such as law enforcement, homeland security, and search and rescue operations. The location and design of any future seaplane base adjacent to the Coast Guard dock would need to take into consideration the docking and maneuvering requirements of the Maple and may in fact be incompatible with the Coast Guard operations in this area. In discussions with the Coast Guard, the configuration shown in Layout 1 would affect the ability of the Maple to safely navigate into and out of their dock. Any seaplane layout at Safe Harbor should be tucked into shore as much as possible.

The location of Alternative 1 would be close to the wildlife attractant created by the fish processing waste outfalls in Sitka Channel. Safe Harbor is approximately 600 feet from the processing facility itself. Site 1 might be a slight improvement over the existing seaplane facility, in that the birds tend to gather at the processing plant, which is directly adjacent to the existing facility. The Wildlife Hazard Assessment (USDA 1999) reports that a meeting was held with two of the seafood processors to inform them of the problem. Several possible remedies were discussed, including night dumping and a possible increase in fish waste composting. The WHA recommends further study to understand the relationship between the discharge of seafood wastes and seabird movements in the area.

Advantages:

- Sufficient upland area to develop vehicle parking.
- Provides protection from sea swells, wind, and waves.
- Can be easily accessed from the existing road system.
- Least constrained future landside development of the three alternatives.

Disadvantages:

- Seaplane operations (noise) remain in Sitka Channel.
- Seaplane operations in close proximity to the U.S. Coast Guard vessels and dock.
- Operations still in a relatively congested boat traffic area.
- No substantial improvement from bird hazards.
- Substantial pedestrian and vehicle traffic and congestion on uplands area

The Safe Harbor location is shown in magenta below and is closer to Mt. Edgecumbe than the current, proposed location.



The Safe Harbor site would not constitute an improvement over the existing proposed project. No further analysis of this site as a viable alternative is needed.

Conclusion

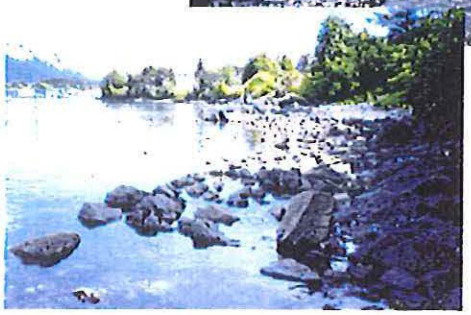
No other sites have been recommended that have not been evaluated between 2002 and 2016. No reason exists for sites other than the preferred to be re-considered. No further site evaluation is recommended.

Sitka Seaplane Base Master Plan









Prepared for:
City & Borough of Sitka

Prepared by:
HDR Alaska, Inc.

August 2002

Sitka Seaplane Base

Master Plan

Prepared for:

City and Borough of Sitka

Sitka, Alaska

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1.0 Seaplane Base Master Plan Overview

The City and Borough of Sitka developed this Seaplane Base Master Plan as a guide for relocating and upgrading seaplane base facilities to Japonski Island. The plan is intended to meet the demand and facility requirements for a 20-year period. The existing seaplane float is in poor condition and is not large enough to meet current or future needs. In addition, there are safety concerns with the present location and conflicts with adjacent uses. The master plan process encompassed two phases: (1) analysis of the conditions and needs of seaplane facilities in Sitka, and (2) development and evaluation of alternatives that will resolve the identified issues and meet future seaplane needs in the community. Each of these phases was documented in a technical report that was presented at public meetings and evaluated by a seaplane advisory committee and City and Borough of Sitka officials.

The first phase of planning concluded with the development of the *Sitka Seaplane Base Master Plan Condition and Needs Assessment Report* (HDR 2002). This report documents the condition of the existing seaplane base facilities (Figure 1), the need for seaplane base improvements and relocation, and includes a forecast of future aviation demand. The report also outlined the seaplane base facility requirements. The inventory of existing conditions was based on an onsite inspection of the seaplane base, published data, and the public involvement efforts made during the first phase of the plan.

The second phase identified and analyzed possible alternative sites for a new seaplane base. The report concludes that there are only three reasonable relocation options and recommends a preferred site (Figure 1) and conceptual layout for the seaplane facilities. The results of this study are reported in the *Alternatives Report* (HDR 2002).

This master plan provides a summary of the two previous phases of the study, proposes a seaplane layout plan for the preferred site alternative, and presents an initial environmental evaluation of the preferred location. The two technical reports supporting the plan should be consulted for additional information.

2.0 Existing Conditions

2.1 Community Overview

Sitka, population 8,835, is located on Sitka Sound on the west coast of Baranof Island fronting the Pacific Ocean. Sitka is accessible only by air or water. It is approximately 95 miles from Juneau and 150 miles from the Alaska road system at Haines. Due to its geographical isolation, Sitka is heavily dependent on air travel. The State-owned Rocky Gutierrez Airport on Japonski Island has a 6,500-foot paved and lighted runway. Daily jet service

is provided, and a scheduled air taxi and air charters are available. The City & Borough operates five boat harbors with 1,350 slips in addition to the seaplane base on Sitka Channel (http://www.dced.state.ak.us).



Figure 1. Seaplane Base Location

Despite its relative isolation, Sitka serves as a hub for health care, goods distribution, and transportation for a number of neighboring communities. Southeast Alaska Health Consortium is based in Sitka, and its Mt. Edgecumbe Hospital serves the entire Southeast Region. Most of the smaller communities served are accessible only by seaplane. As such, seaplane access to Sitka makes up a critical component to the health and welfare of residents in communities in the region. The availability of floatplane transportation is also very important to the economy of Sitka and adjacent communities — related to medical, personal, and tourism transportation.

2.2 Existing Seaplane Base

The existing Sitka Seaplane Base is owned by the City and Borough of Sitka and is located on the industrial waterfront on Sitka Channel northwest of the North Pacific Processors, Inc. facility (Figure 1). The seaplane base consists of a float and an adjacent water runway (sea lane). All eight ramps are leased and, according to the Federal Aviation Administration (FAA), there are approximately 100 operations per week on average.

The current water operating area and sea lane for the Sitka Seaplane Base is in the Sitka Channel. The Channel is bounded by Baranof Island and Japonski Island. The Alaska Supplement lists the seaplane sea lane as 4,000 feet long by 200 feet wide.

Aircraft departing to the northwest or landing to the southeast fly over Western Anchorage and the western end of the channel. Aircraft departing to the southeast must either fly over the O'Connell Bridge or taxi under the bridge prior to departure. For safety reasons, pilots are not allowed to fly under the bridge. Southeast of the bridge, seaplanes are exposed to increased boat traffic and ocean swells.

The existing seaplane docking structure consists of a pier, a gangway and three floats. The floats have space for eight leaseholders and three or four transient seaplanes, depending on aircraft size and spacing on the float. The existing seaplane base has approximately 24 feet of shoreline from which to access the seaplane dock. This 24-foot wide space provides only enough room for two 9-foot wide vehicle parking stalls and the 6-foot wide pier leading to the gangway. There is no room to provide any other shoreline facility at this location, unless additional land were to be purchased.

The seabed condition under the current seaplane dock is rocky with a very shallow slope, causing the water's edge to travel a large horizontal distance between high and low tides. During extreme low tides, the tidal range leaves no room between the shoreline and the ramps for maneuvering. Also, exposed rocks make navigation into and out of the anchorage area difficult and unsafe.

3.0 Purpose and Need for Upgrade and Relocation

This section describes the conditions at the existing seaplane base that necessitate its relocation. The primary reasons for relocating and reconstructing the facility are:

- Insufficient capacity and space at the existing site to accommodate current and future demand;
- A congested location with conflicting adjacent uses;
- An unsafe operating area;
- Poor, unsafe dock conditions for fueling and maneuvering on the docks; and
- A congested sea lane and bird hazard conditions in the immediate vicinity of the seaplane base affect the safety of the existing location.

3.1 Insufficient Capacity

The current seaplane facility is too small and the site too constrained to accommodate the demand for seaplane ramp space and associated services. Currently, each of the eight ramps is leased and there are seven people on the waiting list. The harbormaster indicates that this situation has persisted for a number of years. Unfortunately, the current site leaves little room to accommodate the demand for additional ramp space or for the expansion of upland facilities.

Not having sufficient seaplane docking space is a safety issue. Because there is not enough capacity, a number of pilots are unable to put their planes on floats, which means local pilots must use amphibious floats (if their plane can accommodate them) or wheels. Many choose wheels because of the expense of buying and maintaining the amphibious floats. Due to the shortage of land-based airports in the area around Sitka, flying with wheels is not as safe because of the limited locations to land in case of an emergency. It is not possible for wheeled planes to land at lakes and villages near Sitka.

In addition to being unable to accommodate the demand for seaplane ramp space, the lack of upland and waterfront area at the current site leaves no room for associated facilities such as vehicle parking, fixed base operations, terminal development, restrooms, fuel facilities, or a drive-down ramp. The congested upland and waterfront conditions provide only 2 vehicle parking spaces for the 8 ramps and no room to add additional spaces.



Figure 2. The entire upland area is limited to two parking stalls (pictured above) in front of the guardrail.

3.1.1 Boat Traffic and Adjacent Land Uses

The current seaplane dock is located in a constrained and busy location. The primary location for the unloading of fishing boats is at the north side of the Sitka Sound Seafoods dock. There is very little maneuvering room into and out of the seaplane ramps when tenders and other fishing boats are unloading. This is an unsafe condition and has caused conflicts between the seaplanes and the fishing boats. Because planes must operate in this constrained location, there is very little room for error on the part of seaplane and boat pilots. Mishaps have occurred in the past where boats have lost power and drifted into airplanes and seaplanes have also struck boats.



Figure 3. This photo shows the location of the seaplane dock relative to Sitka Sound Seafoods. The dock frontage at the left of the photo is the location where tenders unload. It is also the channel used to access the 4 ramps on the landside of the seaplane dock.

3.1.2 Insufficient Space Coupled with Tides Limit Safe Operation at the Base



Figure 4. Large rocks in the turning basin landward of the dock cause a serious navigation hazard at low tides.

The turning basin on the landward side of the dock is too small to safely maneuver a seaplane. The limited maneuvering space is exacerbated by low tides and rocky bottom conditions. The situation is such that at low tides there is not enough room between the landward seaplane ramps and the water's edge for seaplanes to safely maneuver. In addition, there are a number of large rocks in the turning basin that are exposed at low tides. In fact, airplane floats have been ripped open by these rocks. This problem limits the utilization of the dock for several hours around low tide.

3.1.3 Personal Safety

The conditions of the dock itself present personal safety problems for users. The dock surface is relatively narrow causing tie-down lines to cross the central walkway, meaning that users must step over each set of tie-down lines. In addition, the dock surface is typically wet and slippery (a condition exacerbated by bird guano).

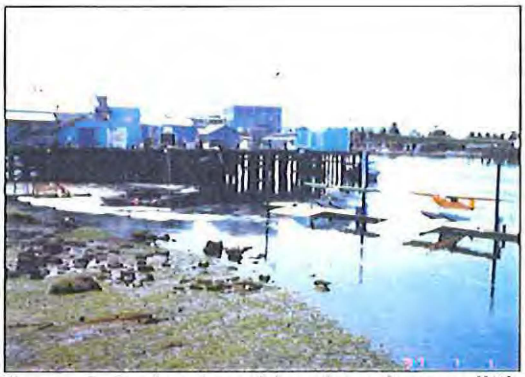


Figure 5. During low tides there is very little maneuvering room landward of the dock. During minus tides the water goes out as far as the ramps.

Another condition affecting personal safety is the design of the ramps themselves. Essentially, the ramps are just wide enough to accommodate the seaplane floats such that most of the wing extends over the water. This means there is no dock surface to stand on for tying down planes, fueling, or for maintenance. The narrow ramps are also difficult to maneuver the planes onto, especially in gusting winds or congested conditions.



Figure 6. The dock is narrow, slippery (a condition exacerbated by bird guano), and congested with tie-down lines.

3.1.4 Fueling Conditions

There is no fueling facility at the seaplane base and no ramp for trucked delivery of fuel. This makes fueling planes very difficult and necessitates that owners haul jerry

cans of fuel down a steep, slippery gangway, across a narrow slippery dock, which is crisscrossed by tie-down lines. This fueling situation raises concerns for:

- Personal safety in handling and loading fuel.
- Contamination of the fuel with water — which would cause engine problems resulting in safety issues for pilots.
- Water quality concerns in the channel.

3.1.5 Potential for Plane-Boat Conflicts in the Channel

The water lane used for takeoffs and landings is located in Sitka Channel along an industrial segment of the waterfront. Land uses fronting the Sitka Channel — particularly on the Baranof Island side — are largely industrial, characterized by fish processing facilities, dock space, and harbors. The industrial nature of the channel results in heavy boat traffic.

Boat traffic is heavy both parallel with the channel as well as perpendicular across the channel. All boats needing to go north or south without going out to open ocean must transit the Channel; thus, there is considerable boat use year round. The boat fueling facility that is located on the east side of the bridge attracts significant numbers of boats and results in a large number of boats crossing the channel. The commercial boat dock (work float) is also located on the west side of the bridge across the channel from supply stores and lodging. This location creates considerable cross-channel skiff traffic.

The chance for boats to cross into the path of a seaplane during takeoff or landing is high. Buildings, dock structures, and large vessels obscure boats entering the channel. This causes "blind" intersections along the channel; an unsafe condition for seaplanes performing high-speed operations. Because the channel is narrow, the maneuverability and the opportunity to avoid collisions are more limited.

3.1.6 Bird Hazards

There are a number of bird attractants located near the existing seaplane base and sea lane that create an unsafe situation. According to the Wildlife Hazard Assessment for the Sitka Rocky Gutierrez Airport (USDA 1999), the primary attractants are fish waste from processing facilities located along the channel. The waste includes fish waste discharged in underwater outfalls, miscellaneous waste generated during dockside transfer and cleaning operations, and fish remains from sport fish cleaning throughout the harbor.

In particular, large flocks of mixed gull species feed directly above the waste outfall pipes of Seafood Producers Cold Storage and Sitka Sound Seafoods. These outfall pipes discharge in the channel approximately 200 yards out from the dock area of the processors at the bottom of the channel. The waste consists mainly of water with chunks of fish ground to ½ inch in size.

Some of the waste floats to the surface where it attracts sea gulls. The outfall of this facility is located in the middle of Sitka Channel approximately 300 feet from the seaplane dock. The birds gather on the roof of Sitka Sound Seafood's buildings and on the seaplane dock. These sea gulls also spend time floating in the middle of Sitka Channel feeding on the processing waste; this feeding area is located in the middle of the sea lane.

The location of bird attractants relative to the seaplane base and sea lane creates a safety concern relating to bird strikes. The FAA has specifically identified fish waste outfalls as a wildlife attractant and has found that such attractants in close proximity to aviation activity significantly increases the potential for wildlife and aircraft collisions and creates conditions hazardous to aircraft safety. The FAA considers such uses in close proximity incompatible land uses. The FAA also recommends against siting land uses that attract or sustain populations of hazardous wildlife within the vicinity of airports or which cause movement of hazardous wildlife onto, into, or across the approach or departure airspace, aircraft movement area, loading ramps, or aircraft parking area of airports.



Figure 7. Bird activity in the direct vicinity of the seaplane base is heavy due to the location of the adjacent fish processing plant (pictured).

In addition to safety concerns, the heavy bird use of the area causes unpleasant conditions affecting the use of the seaplane base. The birds leave a thick layer of sea gull guano covering the dock and parts of some aircraft. This feces causes unsanitary conditions on the dock, damages the dock surface, damages the paint and finish on planes, and makes the decking extremely slippery. Moreover, birds have pecked through the fabric on planes and have caused serious damage to multiple aircraft.

4.0 Aviation Forecast

This section summarizes the air traffic forecast presented in the *Condition and Needs Assessment Report* (HDR 2002). The air traffic forecast analysis followed the process recommended in FAA Advisory Circular 150/5070-6A, *Airport Master Plans* and is updated in *Forecasting Aviation Activity by Airport* (FAA). For a more complete discussion of the aviation forecast, see the *Condition and Needs Assessment Report.*

The existing seaplane dock is most heavily used during the summer tourist season from June to September, with shoulder seasons from March to May, and October, depending on the weather. There are two commercial air charter operators in Sitka that use seaplanes. Air Sitka is based in the harbor on a private dock and operates a Cessna 185 on floats. Harris Aircraft

is based at Sitka Rocky Gutierrez Airport and operates a Cessna 185 and a DeHavilland Beaver, both on amphibious floats (floats with retractable landing gear). The eight seaplane ramps at the existing seaplane dock are fully leased and there are seven names on the waiting list.

Sitka is a regional transportation and health services hub, serving the smaller communities of Pelican, Elfin Cove, Tenakee Springs, Angoon, Kake, Port Alexander, and Baranof Warm Springs. The seaplane base also serves a number of lodges, flightseeing, logging camps, and government land management functions. Medical evacuations are often conducted by seaplane, bringing patients to Southeast Alaska Health Consortium's Mt. Edgecumbe Hospital.

According to the City and Borough of Sitka and research done during phase 1 of the master plan, a number of commercial operators in the region would like to expand their operations to Sitka, either to unload passengers or to conduct flight seeing or other operations, but public commercial facilities are not available. The current seaplane facility is not available for commercial operations. In addition, the U.S. Forest Service and other agencies would like to lease floatplane dock facilities, but no space exists.

Based on the information analyzed during the planning process, the moderate growth scenario is the recommended baseline to use for seaplane facility planning. (See the *Conditions and Needs Assessment Report* [HDR 2002] for additional forecast data and information). The moderate growth scenario represents the most realistic estimate of existing and future based aircraft demand. Under the moderate growth scenario, the Sitka Seaplane Base should accommodate the following:

- A short-term (5-year) forecast of 13 slips.
- An intermediate-term (10-year) forecast of 14 slips.
- A long-term (20-year) forecast of 15 slips.

The ultimate size of 15 slips should be planned to satisfy the long-term forecast for development. This would accommodate immediate demand and allows for future growth of seaplane activity in Sitka. It is recommended that the seaplane base have sufficient expansion capability for up to 20 slips in the event that the demographic or economic climate were to change and the community finds itself under the high demand scenario.

5.0 Alternatives

A summary of the alternatives selected for further consideration is presented below. A complete description of the alternative selection process can be found in the *Alternatives Report* (HDR 2002).

5.1 Alternatives Considered

Twelve alternatives were evaluated for their ability to safely accommodate the anticipated seaplane demand and to resolve the safety and capacity deficiencies that have been identified at the existing seaplane base. The sites considered included:

- Charcoal Island shore
- Jamestown Bay
- Sawmill Cove
- Herring Cove
- Starrigavan Bay
- Thomsen Harbor/Turnaround area
- Sitka Rock Gutierrez Airport lagoon
- Former Safe Harbor site next to Japonski Island
- Work float site next to Japonski Island
- Site near Mt. Edgecumbe School on Japonski Island
- Site west of Southeast Alaska Regional Health Consortium (SEARHC) facilities on Japonski Island
- Existing seaplane base site in Sitka Channel

For the locations and analysis of these sites see the *Alternatives Report* (HDR 2002).

The sites were analyzed for their ability to safely accommodate seaplane base facilities and operations, and were compared against the FAA planning criteria found in the seaplane base advisory circular (AC 150/5395-1). Sites determined to have fatal flaws were eliminated from further consideration. Fatal flaws are obvious site characteristics that make the site unreasonable from a safety, environmental, or capacity perspective. Not having the site characteristics to provide a safe operating and docking environment was the overriding factor used to eliminate sites from further consideration.

The primary reasons for determining that alternative sites were unsafe were topography, wind and wave conditions, and safety of the operating environment. Topography is a crucial limiting factor affecting the location of aviation facilities. Airports and seaplane bases are required to have sufficient airspace in the vicinity of their operating areas to allow safe operations. Because Sitka is located in an extremely mountainous area, finding a site with safe airspace was critical. Finding a site protected from wind and waves proved to be equally challenging. Unlike the more protected, Inland Passage areas of Southeast Alaska, Sitka is directly exposed to storms from the Gulf of Alaska with few islands or reefs to protect it or absorb wave energy. Sea swells and open ocean conditions limit the potential for seaplane base development to only a few locations that have adequate protection. Crowded, high activity areas also contributed to the dropping of some alternatives.

5.2 Alternatives Considered in Detail

Of the 12 alternative sites considered, three sites (Figure 8) were selected for further consideration. These sites were deemed to be the only sites providing safe basing and operating conditions with sufficient room to accommodate demand. For each of theses sites, conceptual engineering layouts were prepared to determine if they would be feasible, relative to the facility requirements for the seaplane base in Sitka. These sites are considered reasonable and should be further evaluated under the National Environmental Policy Act, if such analysis becomes required.

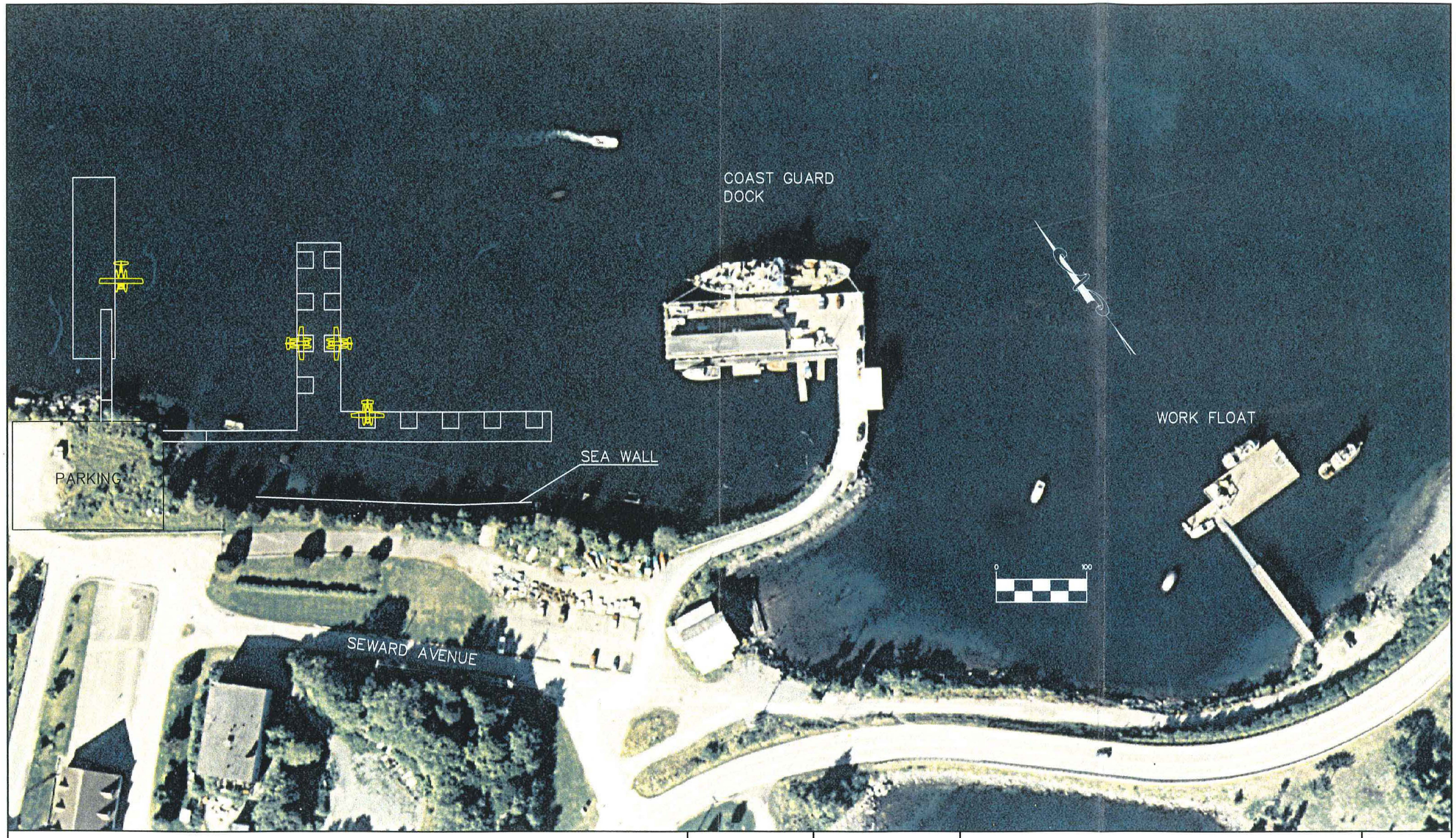


Figure 8. Sites Considered in Detail

5.2.1 Site One

Site 1 proposes development of a new seaplane facility at the former location of Safe Harbor adjacent to Japonski Island. Safe Harbor was the location of the airport ferry dock prior to the construction of O'Connell Bridge. Under this alternative, the relocated seaplane base facility (Figure 9) would be on Japonski Island, directly across Sitka Channel from the existing seaplane base and between the U.S. Coast Guard dock and University of Alaska property.

This area of Sitka Channel provides improved seaplane maneuvering room as compared with the existing facility and is large enough to accommodate safe taxiing and turning movements into the facility. Dredging and construction of a seawall are proposed as a means of tightening its position as close as possible to the shoreline to keep it out of Sitka Channel. This would protect the facility from boat traffic. The U.S. Coast Guard dock would further



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Figure

protect the takeoff and landing area from swell, waves, and wind coming up the channel. Japonski Island protects the area from open-ocean wave action and the site provides a relatively sheltered moorage area from local winds. Nautical charts indicate that there are submerged piles in this location, which would need to be removed. The dredging and seawall construction would also ensure that the bottom is free of hazards and that sufficient water depth is maintained at the full tidal range.

It is expected that a seaplane base at Site 1 would continue to use the FAA-designated landing and takeoff area along the centerline of Sitka Channel. This lane is well aligned for the prevailing winds, but bird and boat hazards associated with the landing and takeoff area would remain. If the facility were to be relocated to the Safe Harbor site, bird hazard mitigation measures recommended in the Wildlife Hazard Assessment report prepared for the Sitka Rocky Gutierrez Master Plan (DOT&PF 1999) should be implemented. The takeoff and landing lane should be marked on all charts. Because the lane is split by O'Connell Bridge (an obstruction) at its southeastern end, taxiing under the bridge would continue to be required for approach and departure operations in that direction.

Access to the new facility would be along Seward Avenue. The area proposed for vehicle parking is currently paved and used as a parking lot on property managed by the University of Alaska, SE. Because of the large amount of parking area available in front of UAS, the area proposed for seaplane base vehicle parking is not currently used.

The upland area adjacent to this site is zoned as "Public" land (see Appendix B) and is owned by the State of Alaska, Department of Education. The State of Alaska also owns and manages the tidelands. Nearby land uses include the U.S. Coast Guard dock, the University of Alaska, Southeast campus, and Mt. Edgecumbe High School dormitories. Access and upland development of parking facilities would require acquisition of land from the Department of Education.

Noise would be the primary impact to the upland properties. Because takeoffs and landings would occur on the same water operating area and in an identical manner as the existing conditions, no noticeable change in noise conditions is anticipated. Zoning and ownership maps for Japonski Island are contained in Appendix B.

The adjacent dock is used by the Coast Guard as the homeport for the "Maple." The primary mission of the Maple and its crew is maintaining navigational aids and secondarily supporting other Coast Guard functions and responsibilities such as law enforcement, homeland security, and search and rescue operations. The location and design of any future seaplane base adjacent to the Coast Guard dock would need to take into consideration the docking and maneuvering requirements of the Maple, and may in fact be incompatible with the Coast Guard operations in this area. In discussions

with the Coast Guard, the configuration shown in Layout 1 would affect the ability of the Maple to safely navigate into and out of their dock. Any seaplane layout at Safe Harbor should be tucked into shore as much as possible.

The location of Alternative 1 would be close to the wildlife attractant created by the fish processing waste outfalls in Sitka Channel. Safe Harbor is approximately 600 feet from the processing facility itself. Site 1 might be a slight improvement over the existing seaplane facility, in that the birds tend to gather at the processing plant, which is directly adjacent to the existing facility. The Wildlife Hazard Assessment (USDA 1999) reports that a meeting was held with two of the seafood processors to inform them of the problem. Several possible remedies were discussed, including night dumping and a possible increase in fish waste composting. The WHA recommends further study to understand the relationship between the discharge of seafood wastes and seabird movements in the area.

The estimated cost of Alternative 1 is $5,200,000. Please note that this is a planning estimate only. Details of the cost estimate are contained in Appendix C.

Advantages	*Disadvantages*
▪ Sufficient upland area to develop vehicle parking. ▪ Provides protection from sea swells, wind, and waves. ▪ Can be easily accessed from the existing road system. ▪ Least constrained future landside development of the three alternatives.	▪ Seaplane operations (noise) remain in Sitka Channel. ▪ Seaplanes operations in close proximity to the U.S. Coast Guard vessels and dock. ▪ Operations still in a relatively congested boat traffic area. ▪ No substantial improvement from bird hazards. ▪ Substantial pedestrian and vehicle traffic and congestion on uplands area

5.2.2 Site Two

Alternative 2 (Figure 10) explores relocating the new seaplane facility to the northern end of Japonski Island in the cove adjacent to the Mt. Edgecumbe High School (MEHS) at a seaplane ramp formerly used by the U.S. Navy.

This site is adjacent to a wider open area of the harbor known as the Western Anchorage. The Western Anchorage provides a significant improvement over the existing location for providing maneuvering room to accommodate safe taxiing and turning movements into the facility. The area would also increase pilot flexibility for choosing the direction and location for take off and landing to take advantage of wind conditions or to avoid hazards such as birds and boats.



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Site 2 provides a relatively sheltered moorage area. Japonski Island and breakwaters forming the harbor protect the site from open-ocean wind and wave action. Sea swells have been a problem at Thomsen Harbor and could be a concern at Site 2. An expansion of the harbor breakwaters is, however, being prepared by the U.S. Army Corps of Engineers that would add 150 feet to the smaller, near-shore breakwater and 200 feet to the larger, central-channel breakwater. Such additions would further reduce wave activity for seaplane facilities and seaplane operations. Dredging and construction of a seawall are proposed as a means of moving the moorage area close to shore to take advantage of the sheltering effect of the slight cove offered by the location. These activities would also ensure that the bottom is free of hazards and that there would be sufficient water depth at the full tidal range.

A question has been raised about the lack of protection from west and north winds at this site. West and north winds, particularly during winter storms, would be a concern and wind damage to planes during these events is a possibility. Analysis of the wind data, however, indicates that such events are not common. South and southeast winds are not only the prevailing winds, they are also consistently the strongest winds experienced in Sitka.

The site is adjacent to the main school buildings of Mt. Edgecumbe High School. The State of Alaska, Department of Education, and the Southeast Alaska Regional Health Consortium own the upland area above the site, which is zoned as "Public" land. The tidelands are owned and managed by the State of Alaska, Department of Natural Resources. Appendix B contains the zoning and ownership maps.

A primary concern with this alternative is noise. Idling and taxiing seaplanes would be in relatively close proximity to the school, but landing and takeoff operations would not occur as consistently in Sitka Channel as presently occurs. This may actually reduce noise effects at the school. The school is at the north end of the channel and experiences considerable noise from northbound departures and southbound arrivals to the current seaplane base. Southbound departures are also conducted by back-taxiing in front of the high school to the north end of the harbor. Southbound departures will likely occur in a manner similar to current operations.

If the seaplane base were relocated, some northbound departures might start at or near the seaplane base and occur in a direction taking them away from the high school. There would be approximately 3,000 feet of useable water due north. The minimum sea lane length recommended by FAA is 2,500 feet. Depending on wind conditions, pilots might use this departure route. Because pilots tend to land as close to the seaplane base as possible, and with prevailing winds from the south and southeast, most landings would have an approach path from the north over Western Anchorage, with landing occurring before the noise would affect the school.

This site is accessible from Seward Avenue. Parking could occur in the existing parking lot behind the high school or could be developed in an undeveloped upland area across Seward Avenue. Land would need to be acquired from the Alaska Department of Education to develop the recommended parking spaces. The existing cement seaplane launch ramp provides an opportunity to be used for minor maintenance or airplane fueling. It is, however, unlikely that Mt. Edgecumbe High School would support use of the ramp or the upland parking area.

The site is approximately 2,000 feet from the main concentration of birds in Sitka Channel. Pilots may choose to operate out of the Western Anchorage near the new facility rather than in Sitka Channel, which could potentially reduce the bird strike hazard.

Advantages	*Disadvantages*
▪ Most seaplane operations would be in Western Anchorage, not in the narrow part of Sitka Channel, increasing flexibility and reducing congestion in the channel. ▪ Well protected from south and SE winds. ▪ Would increase the separation from the primary source of bird attraction to 2,000 feet. ▪ Existing ramp provides an opportunity for light maintenance and fueling.	▪ Aircraft noise would be more audible near residential and institutional areas, but quieter in Sitka Channel. ▪ More exposure of dock location to wind and wave action than the existing site. ▪ Concern over north and west winds. ▪ Insufficient upland area available for future seaplane base development. ▪ Mt. Edgecumbe High School has been unsupportive to having seaplanes near the school in the past and is incompatible conflict with Mt. Edgecumbe students. ▪ Concerns about increased vehicle traffic through the school campus and hospital area. ▪ Mt. Edgecumbe High School is unlikely to support use of the existing ramp or vehicle parking area.

The estimated cost of Alternative 2 is $5,800,000. This is a planning estimate only. Details of this cost estimate are contained in Appendix C.

5.2.3 Site Three

Alternative 3 (Figure 11) would develop a seaplane facility along the shoreline on the northern end of Japonski Island between the U.S. Coast Guard Base and the SEARHC clinic, daycare, and staff residential buildings.

Similar to Alternative 2, this site is adjacent to the area of the harbor known as the Western Anchorage, which would provide sufficient maneuvering room to accommodate safe taxiing and turning movements into the proposed facility. Like Alternative 2, the area would also increase pilot flexibility and choice of take off and landing directions to take advantage of wind conditions or to avoid bird and boat hazards.



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Figure

Like the other two alternatives, this location provides a relatively sheltered moorage area. The concerns about sea swells, west and north winds, and the breakwater improvements discussed above for Alternative 2 apply to this alternative as well.

For this alternative, there are two options for accessing the site. The proposed access would be routed from the Sitka Rocky Gutierrez Airport access road and traverse across property managed by the U.S. Coast Guard generally following the proposed security fence around the base (The Coast Guard is currently designing security improvements including fencing and clearing to secure the perimeter of the base). The second option would be to access the site with an extension of Seward Avenue. Parking could be developed adjacent to the access road or on a dock structure over the water. Land would need to be acquired from the U.S Coast Guard or Department of Education depending on the specific access option and design configuration of the vehicle parking area. The tidelands in the area are managed by the Alaska Department of Natural Resources.

With development of this alternative, noise would increase in the area from taxiing planes and idling aircraft engines. As with Alternative 2, depending on wind and wave conditions, northbound departures may start at or near the seaplane base and occur in a direction away from the adjacent properties. Southbound departures would likely require taxiing across Western Anchorage and occur on an alignment with the channel. With prevailing winds from the south and southeast, and because pilots tend to land as close to the seaplane base as possible, most landings would have an approach path from the north over the Western Anchorage. Landings would occur before the noise affected properties near the seaplane base.

The site is approximately 3,500 feet from the primary fish processing facility. Because many operations would move to the west end of the harbor, they would occur even farther from the primary bird attractant in Sitka Channel than the other alternatives.

Advantages	*Disadvantages*
▪ Most seaplane operations in the Western Anchorage, not in the Sitka Channel. ▪ The seaplane dock size not constrained by the surrounding land. ▪ May be the best location operationally. ▪ Reduces proximity to the primary bird hazard in Sitka channel. ▪ Increases separation from the primary source of bird attraction to 3,500 feet. ▪ Access directly from the airport would provide a number of locational advantages. It would facilitate the transfer of passengers and improve accessibility to fuel and maintenance personnel.	▪ Dock location exposed to more sea swells as they come in between the breakwater and Japonski Island. ▪ Seaplane operations very close to the SEARHC clinic and residential areas. ▪ Limited upland area for seaplane base development. ▪ More seaplane noise for land uses at the north end of Japonski Island. ▪ May require floating breakwater or rubble mound protection. ▪ New access road to airport needed.

The estimated cost of Alternative 3 is $5,800,000. This is only a planning estimate; for more details, see Appendix C.

5.2.4 Evaluation of Alternatives

None of the alternatives presented meet the minimum FAA recommended distance between wildlife attractants and a seaplane facility. The lack of available land without topographical constraints and lack of shelter from open ocean waves and wind, confines the study area for a new seaplane facility to those inside the harbor. The existing seaplane facility represents the least desirable location regarding proximity to a known wildlife attractant. All of the proposed relocation sites presented in this report increase separation from the attractant, but not sufficiently to be in compliance with FAA recommendations.

Alternative 1 provides the shortest separation from the wildlife attractants in Sitka Channel and keeps seaplane operations in a congested, narrow part of the harbor. It creates potential hazardous conditions for the docking of the Maple at the Coast Guard dock. Alternatives 2 and 3 increase the separation from wildlife attractants and increase operational flexibility and maneuvering room for seaplane operations. Each of these options is likely to reduce operations in the channel thereby improving operational safety.

The three alternatives were the only feasible sites of those identified offering protection from Gulf of Alaska wave action. Alternatives 2 and 3 appear to be the most sheltered from the prevailing wind direction, which is also the direction of the strongest frequent winds. Storm winds from the north and west could result in aircraft damage. Alternative 1 appears to offer better protection for north and west winds.

Each of the alternatives requires the acquisition of land from the State of Alaska, Department of Education. Alternative 2 could require acquisition from SEARHC. Access at site 3 would most likely require land from the U.S. Coast Guard and Department of Transportation and Public Facilities.

The following table summarizes the analysis of the three alternatives.

Table 1. Summary of Alternatives Analysis

	Alternative 1	Alternative 2	Alternative 3
Wind	Well protected.	Moderately well protected. North and west winds are a concern.	Moderately well protected. North and west winds are a concern.
Waves	Well protected.	Likely well protected after Corps of Engineers breakwater expansion.	Likely well protected if Corps of Engineers extends breakwater.
Tideland Ownership	State of Alaska, Department of	State of Alaska, Department of	State of Alaska, Department of

	Alternative 1	Alternative 2	Alternative 3
	Natural Resources.	Natural Resources.	Natural Resources.
Upland Ownership	Department of Education.	Department of Education/SEARHC.	Department of Education, U.S Coast Guard, DOT&PF.
Land Use	U.S. Coast Guard Dock & University of Alaska, Southeast.	Adjacent to Mt. Edgecumbe High School.	Adjacent to SEARHC facilities and Coast Guard Air Station. Near to day care and residential treatment programs.
Bird Hazard	600 feet from the primary hazard source.	2,000 feet from the primary hazard source.	3,500 feet from the primary hazard source.
Access	Via Seward Avenue	Via Seward Avenue	Via new road From Airport through U.S. Coast Guard property or via Seward Avenue.
Operations	Heavy boat traffic. Conflicts with Maple docking operation.	Minor boat traffic, increased flexibility for operating.	Minor boat traffic, increased flexibility for operating.
Cost	$5,200,000	$5,800,000	$5,800,000

5.2.5 Preferred Alternative Recommendation

This section presents the recommendation of a preferred location and conceptual layout for advancement. The recommended, preferred alternative is at site 3. Site 3 would develop a seaplane facility on the northern end of Japonski Island between the Coast Guard Base and the cove behind the SEARHC buildings along Seward Avenue. We recommend pursuing access to the facility from the Sitka Rocky Gutierrez Airport across U.S. Coast Guard property generally following their proposed security fence (currently in design) as the preferred access option. Because permission for an easement or right-of-way across Coast Guard property may not be obtainable, we recommend keeping open the option of accessing the site via an extension of Seward Avenue.

Alternative 3 is advantageous for a number of reasons.

- It provides the greatest separation from bird hazards in the channel and is therefore the most fundable from an FAA standpoint.
- It will increase the seaplane operational flexibility by providing a wider body of water (Western Anchorage) directly adjacent to the seaplane facility.
- This location will result in a reduction of aircraft operations in the narrow part of Sitka Channel, which will reduce boat-plane interaction and conflict and thereby improve safety.
- The reduction of aircraft operations in the narrow part of Sitka Channel will reduce aircraft noise to the most heavily developed stretch of the channel.

- Road access directly from the airport will provide an excellent opportunity for transferring passengers and freight between wheel planes and seaplanes and would benefit commercial seaplane operations.
- Access directly to the airport would facilitate fuel transfer and storage.
- The access road, if done in conjunction with the Coast Guard fence/security project, would make the Coast Guard's fence maintenance easier and allow for security patrols of the perimeter of the Coast Guard base.
- Access directly from the airport via Coast Guard property would alleviate traffic concerns for SEARHC and Mt. Edgecumbe High School.
- The site provides one of the most sheltered locations from prevailing winds.
- If done in conjunction with the Corps of Engineers proposed harbor breakwater extension, the site should provide a protected moorage location from waves and sea swells.
- The site has sufficient upland space for vehicle parking.
- The site has sufficient shoreline and tidelands to meet forecast seaplane docking demand.
- This site would have no affect on docking operations of the Maple.
- This site has the least impact to Mt Edgecumbe High School, and may in fact reduce noise impacts there.

The primary concern with this site has been expressed by SEARHC related to noise and activity. The seaplane facility would be located near several residential structures currently used for day care and residential alcohol treatment. According to SEARHC personnel, their decision to locate these uses along this stretch of Seward Avenue was primarily for its secluded, quiet setting. The layout as propose, attempts to minimize some of SEARHC's concerns by not relying on Seward Avenue for access. The concept depicted has been rotated and oriented away from the SEARHC buildings as much as possible. This was done to use the natural terrain as screening to minimize visual and noise impacts at SEARHC. Further refinement to minimize impacts should be explored during design and as part of the NEPA process.

6.0 Facility Requirements

This section presents a summary of the facility requirements and conditions needed to provide a safe and efficient seaplane base and operating area in Sitka that will meet the forecast demand for the next 20 years. A number of site-specific design concepts are possible. Layout and design elements will be used to enhance the locational attributes of the preferred site during design to further protect based aircraft from wind and wave activity and to facilitate ingress and egress of the seaplanes into parking positions.

6.1 Design Aircraft



Figure 12. DeHavilland Beaver Operated by Harris Air, Sitka.

The seaplane base should be able to accommodate a mix of aircraft. The largest commercial seaplane on floats to historically land in the Sitka Channel is a DeHavilland DHC-6 Twin Otter, with a wingspan of 65 feet. While this is the largest seaplane likely to use the facility, it is not anticipated to constitute sufficient usage to be recommended as the design aircraft. The aircraft anticipated to routinely use the facility that would have the greatest dimensional requirements (the design aircraft) is the DeHavilland Beaver.

Table 2. Design Aircraft Specifications

Wingspan	Length	Height	Weight		Speed
48′	30′	9′	Empty 2,850 lbs	Max Takeoff 5,100 lbs	140 mph

6.2 Water Operating Area Characteristics

The water operating area is that part of the seaplane base used or intended to be used for the landing and takeoff of aircraft, as well as taxiing, turning, and maneuvering of aircraft on the water surface. The area needs to have sufficient size and water characteristics to allow the safe operation of aircraft during all phases of flight. The following characteristics are recommended (see AC 150/5395-1, Seaplane Bases):

Sufficient Size—The existing water operating area dimensions (4,000 feet by 200 feet) are sufficient and are recommended to be used for planning the upgraded seaplane base. The minimum water operating area recommended by FAA is 2,500 feet by 200 feet. The water operating area depicted on the layout plan set (Appendix A) meets this criterion.

Slow Currents—Landing and takeoff areas in locations where the currents are less than 3.5 mph are preferable. Locations where the currents exceed 7.0 mph should be avoided. The proposed site meets these criteria.

Sufficient Water Level—The minimum depth for seaplane operation is 3 feet, although 6 feet is preferable. Seaplane base design should accommodate this water depth through dredging or float placement.

Safe from Wave Action—Locations where large swells occur or are frequently created by vessels should be avoided. Wave analysis should be conducted at the existing location to determine the wave affects and taking into account the proposed runway safety area expansion at Sitka

Rocky Gutierrez Airport and the U.S. Army Corps of Engineers harbor breakwater expansion project. The design may need to incorporate additional wave protection.

Debris Free Area—Areas subject to excessive debris or to debris over extended periods of time should be avoided. The proposed location meets this criterion.

Safe Maneuvering Space—Ample maneuvering and turning areas should be provided, considering boats, prevailing winds, and currents. The proposed location meets this criterion.

Sheltered Moorage—A sheltered mooring or anchorage area, protected from winds and currents, is recommended. The existing site provides a relatively sheltered location that would improve if the breakwater extension proposed by the U.S. Army Corps of Engineers and the Runway Safety Area Expansion planned by DOT&PF are constructed in the future. During design, wave analysis should be conducted at the proposed site and necessary wave protection incorporated into the design through further extension of the rubble mound breakwaters protecting the harbor or some type of wave barrier protection on the seaplane facility itself. However, in the event these projects are not constructed, the facility may require additional wave protection.

Safe Bottom Conditions—A facility should be free of bottom hazards. Objects that project from the bottom and constitute a hazard should be removed. If this is impractical, the objects should be conspicuously marked to alert users to their presence. During design, detailed bathymetry of the site should be undertaken and any hazards removed.

Free from Wildlife Attractants—To the extent practicable, the distance between the seaplane base's aircraft movement areas, loading ramps, or aircraft parking areas and a wildlife attractant should be 5,000 feet for facilities serving piston-powered aircraft. The proposed location is approximately 3,000 feet away from the primary bird attractant.

Operational Flexibility—An unmarked water lane or water operating area is normally the choice of seaplane pilots and is recommended. The area known as Western Anchorage at the northwest end of the harbor, provides an open and flexible location for operations and has been marked on the layout plan set.

Prevailing Winds—If a water lane is marked, it should be aligned to provide maximum wind coverage. Sitka Channel is oriented with the prevailing winds and has sufficient wind coverage.

Approach and Departure Paths—The approach and departure paths should be clear of established shipping or boating lanes and airspace

hazards. An over-water approach or departure is preferable to an approach-departure path over populated areas, beaches, and shore developments. Western Anchorage provides an area where over-water approaches and departures should be feasible such that operations will not occur over populated areas or shore developments.

Recommendation. In addition to the existing designated landing area in Sitka Channel, a future water operating area has been depicted on the seaplane base layout plan that encompasses the area known as Western Anchorage. This area is likely to experience increased operations if the seaplane base is relocated to the preferred location and depicting it on the layout plan more accurately depicts the area likely to be used for operations. This area would increase operational flexibility, increase the separation from know wildlife attractants, provide approach and departure paths that are further removed from populated areas, and would provide a greater space for conducting operations thereby minimizing boat-plane conflicts and increasing safety. Being located within the harbor breakwaters, this area will be protected from waves.

6.3 Shoreside Facilities

This section presents a description of the shoreside facilities proposed at the relocated seaplane base.

Floating Dock—Because of the large tidal variation at Sitka, a floating seaplane dock that provides slips with individual ramps and an associated gangway designed to accommodate a 19-foot variation is the recommended design. The following table shows the tides in Sitka. The docks should be wide enough to accommodate tie down lines, pedestrian traffic, and a drive-down for a vehicle.

Table 3. Tide Observations at Sitka

Highest observed water level (1948)	14.68′
Mean higher high water	9.91′
Mean lower low water	0.00′
Lowest observed water level (1978)	-3.82′
Tide variation used for design	19′

Source: The Center for Operational Oceanographic Products & Services (Co-ops), http://co-ops.nos.noaa.gov/co-ops.html

Ramps—The seaplane tie down ramps should be 18 feet square and designed to allow a walking platform under the wings. The minimum docked seaplane wingtip to wing tip separation distance should be 10 feet. The dock should be designed to allow easy access into and out of the ramps.



Figure 13. Ramp design, such as these at Wrangell, should allow pilots to walk under the wing to inspect the plane and provide access to tiedown lines.

Size—Under the moderate growth scenario, the Sitka Seaplane Base should accommodate a short-term (5-year) forecast of 13 slips, an intermediate-term (10-year) forecast of 14 slips and a long-term (20-year) forecast of 15 slips. It is recommended that the seaplane base have sufficient expansion capability for up to 20 slips. Reserve areas for future ramps have been identified on the layout plan. Should demand warrant, an additional finger float could be added to the concept, or additional length could be added to the proposed floats.

Gangways—A gangway of sufficient length and width should be provided to permit easy walking and the passage of baggage carts and allow for driving a truck down onto the floats. The gangway should meet all requirements contained in the accessibility guidelines of the Americans with Disabilities Act (42 USC 126, Section 12101 et seq.). The gangway should be 12 feet x 170 feet with a maximum 12% grade at low tide. A short pier is recommended to connect the gangway with the seaplane float. The pier should be 20 feet wide.



Figure 14. The seaplane base design should consider upland fuel storage with fuel pumps located on the floats, like the facility in Kodiak.

Services—Fuel, electricity, and fresh water for wash downs should be made available at the dock and considered in the design.

Lease Lots—Lease lot development is not essential to the functioning of the seaplane base. There could be demand for up to three lease lots during the 20-year planning horizon. Over water lease lots depicted as a "reserve" area are shown on the layout plans. The minimum dimension of each lease lot should be 50 feet by 70 feet.

Haul-out Ramp—The most recent airport master plan (DOT&PF 1999) for the Sitka Rocky Gutierrez Airport recommends development of a haul-out at

the eastern end of the airport. An additional haul-out ramp at the relocated seaplane facility is not recommended.

6.4 Upland Facilities

Administration Building—Administration facilities are not recommended for short-term development. An administration building could be incorporated as an upland facility or on an over-water lease lot.

Access—Vehicle access to the seaplane base should be by an all-weather road (paved or gravel) with adequate width (a 24-foot-wide road consisting of two 12-foot lanes plus 2-foot shoulders on either side).

Parking Areas—A minimum of 15 parking spaces should be provided for seaplane pilots and commercial users. The recommended parking space per vehicle is 9 feet by 18.5 feet.

7.0 Initial Environmental Evaluation

This section presents an initial environmental assessment of the preferred site location and conceptual design. The intention of the discussion is to provide an analysis of the environmental conditions of the site and identify at a conceptual level the kinds of impacts and permits likely to be needed as the site is developed. The analysis does not take the place of environmental analysis that would be required under the National Environmental Policy Act (NEPA).

7.1 Anadromous Fish Streams

According to the Anadromous Stream Catalog maintained by the Alaska Department of Fish and Game (ADF&G), there are no anadromous fish streams on Japonski Island. Initial field investigations also indicate there are no perennial or intermittent streams in the project area. A Fish Habitat Permit from ADF&G will not be required. Sitka Sound is, however, mapped as essential fish habitat (EFH) for a variety of species (see EFH section below).

7.2 Essential Fish Habitat

The Magnuson Stevens Fishery and Conservation and Management Act (MSFCMA) defines essential fish habitat as "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (NMFSa). The MSFCMA notes that "for the purpose of interpreting the definition of essential fish habitat, 'waters' include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; 'substrate' includes

sediment, hard bottom, structures underlying the waters, and associated biological communities; 'necessary' means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and 'spawning, breeding, feeding, or growth to maturity' covers a species' full life cycle (NMFSa).

According to Section 600.810 of Subpart J of the MSFCMA, adverse effect is "any impact which reduces quality and/or quantity of EFH." This section also notes that "adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, or reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions" (NMFSa).

According to the National Marine Fisheries Service Interactive Essential Fish Habitat website, EFH for several species of fish occurs in the marine waters surrounding Sitka. Those species include walleye pollock, Pacific cod, the sculpin family, rock sole, salmon species, the skate family, yelloweye rockfish, sablefish, shortraker and rougheye rockfish, Pacific perch, dusky rockfish, flathead sole, and arrowtooth flounder (NMFSb). As this project will require dredging and the placement of fill into Sitka Sound, an EFH assessment will be required for this project. It is likely that NMFS will require project design and construction to incorporate mitigation techniques to offset potential impacts to EFH associated with this project.

Herring spawning habitat has been an issue in Sitka Sound. It is reported that herring spawn on the partially exposed rocks directly west of the proposed site. Coordination with resource agencies will be required regarding this issue during NEPA.

7.3 Wetlands and Fill

All dredging or filling activities that occur below mean high water require a Corps of Engineers Section 10 permit. The seaplane base would consist of a gangway and a floating dock supported by piles. This project may also require extending a breakwater in Sitka Harbor as well as potentially constructing a seawall. A portion of the seaplane base may be located on a shallow shelf that becomes exposed at low tide. Depending upon final design, the construction may require dredging this shelf to increase the depth to prevent the base from grounding. All of these activities will require a Section 10 permit.

The National Wetlands Inventory (NWI) has mapped estuarine and palustrine wetlands on Japonski Island. Palustrine wetlands (likely forested or shrub wetlands) may be located along the proposed road alignment and parking lot. Although the NWI mapping indicates the proposed road and parking lot would be located on uplands and preliminary field investigations indicate the area is well drained, a wetland delineation will likely be necessary to determine if there are any jurisdictional wetlands in the project area. If fill is

placed in estuarine or palustrine wetlands, a Corps of Engineers Section 404 permit will be required.

7.4 Coastal Management Program

Japonski Island falls within the Sitka Coastal Management Plan (CMP) boundary. The CMP states that priority for waterfront and intertidal development shall be given to water-dependent activities such as water-based transportation facilities (City and Borough of Sitka, 1989). The CMP does not contain any unusual conditions for seaplane projects although the plan states facilities should be moored in at least 12 feet of water (to the extent possible). Since the entire project area is within the CMP zone, the City and Borough of Sitka and the Alaska Division of Governmental Coordination would review the project for consistency during the acquisition of permits.

7.5 Water Quality

According to the Sitka District Coastal Management Program there have been four concerns over water quality in Sitka Sound. These concerns include effluent from the pulp mill (the pulp mill closed in the early 1990's and therefore is no longer a water quality concern), the potential for oil spills, solid waste treatment (including fish processing waste), and concern over drifting logs from Peril Straits to Sitka Sound (City and Borough of Sitka, 1989). There is no fueling facility at the existing seaplane base. This makes fueling conditions difficult as plane owners are forced to haul fuel to their planes and refuel with a gasoline jug. This situation causes concern over water quality and safety. The proposed seaplane base would either provide a fueling facility or would have a ramp that would allow fuel trucks to deliver fuel directly to the seaplanes. In either case, the risks of spilling fuel into Sitka Sound would be dramatically reduced from the current situation. If a fueling facility is incorporated into the seaplane base design, it is likely clearances will be required from the Alaska Department of Environmental Conservation, the Environmental Protection Agency, the local Fire Marshall, and the Coast Guard. Once the size of any storage tank/fueling facility is determined, additional investigation will be needed to determine what agencies would actually have regulatory authority over the fuel storage.

7.6 Air Quality

Sitka meets the National Ambient Air Quality Standards (NAAQS) for most if not all the major air pollutants. Smoke from wood stoves and emissions from the solid waste incinerator have raised concerns over air quality in Sitka especially during times of temperature inversions (City and Borough of Sitka, 1998). Under the prevention of significant deterioration of air quality program, Sitka is a class II area. Stringent air quality standards in class II areas have been established for sulfur dioxide, nitrogen oxides and

particulate matter and cannot be exceeded. Relocation of the seaplane base is not expected to cause air quality concerns.

7.7 Section 4(f) Properties

Publicly owned wildlife refuges, parks and recreation areas, and historic sites eligible for the National Register of Historic Places are all potential properties protected from transportation impacts by Section 4(f) of the Department of Transportation Act. There are no wildlife refuges, parks, or recreation areas located in the project area. The project area is, however, within the Sitka Naval Base Operating Base historic district and historical sites are located within the vicinity of the proposed access road. It is expected that the seaplane base and associated facilities can be designed to avoid disturbing historical sites, but a Section 4(f) evaluation may be required if using federal aviation administration funding. SHPO must evaluate the project during the next phase to determine whether the project area can be occupied without adversely affecting the integrity of the historic district.

7.8 Threatened and Endangered Species

The National Marine Fisheries Service (NMFS) has identified the endangered humpback whale (*Megaptera novaeangliae*) and threatened Stellar sea lion (*Eumetopias jubatus*) as species likely to occur in the waters off Sitka. Humpback whales are known to frequent Sitka Sound, particularity for feeding in the summer and fall (Straley, 1990). The nearest Stellar sea lion haulout is located on the coast of Biorka Island, approximately 15 miles southwest of Sitka. Because of these species, an informal consultation under section 7 of the Endangered Species Act with NMFS will be required for this project.

Southeast Alaska does not currently have any threatened or endangered species that are monitored by the US Fish and Wildlife Service (USFWS). A verbal consultation with the Service will, however, be required.

7.9 Historic, Architectural, Archaeological, and Cultural Resources

The Alaska Heritage Resources Survey, maintained by the Office of History and Archaeology, was reviewed for this project. According to the survey, the project area is within the Sitka Naval Operating Base historic district. The Sitka Naval Operating Base was one of two Alaskan Naval Air Stations used during World War II (SHPO, 2002). Several historic sites are located in the vicinity of the proposed access road. The sites range from fuse and detonator buildings to log magazines. Further investigation will be required to identify the exact location of these historical structures relative to the access road. It is expected that seaplane facilities, including the access road and parking lot, can be designed to avoid disturbing historical sites. There is a chance that additional war relics may be found during construction. If artifacts were discovered during site investigation or construction, all work

that would impact the resources would be halted and the State Historic Preservation Officer (SHPO) would be contacted; work would not resume until SHPO clearance was obtained.

Native entities and organizations, including the Sitka Tribe of Alaska, Shee Atika Incorporated, and Sealaska Incorporated would be contacted to determine if there are areas of cultural significance within the project area. If areas of importance are located within the project area, project planners would design the seaplane base and associated facilities to avoid impacting these sites. A beach located on the Coast Guard Air Base is known to have cultural significance. The seaplane base will not impact this beach.

7.10 Land Use

Japonski Island is zoned as public land. Japonski Island houses a variety of facilities including the Sitka Rocky Gutierrez Airport, the US Coast Guard Air Station, the Waste Water Treatment Plant, SEARHC Mt. Edgecumbe Hospital and the Mt. Edgecumbe High School. A SEARHC clinic, day care center, and office building, and several government-owned residences are located within the immediate project vicinity.

The Draft Comprehensive Plan (City and Borough of Sitka, 1998) states that one goal or policy of the urban-public land is to eliminate conflicts between floatplane operators and boats in Sitka Channel. This project would, therefore, be consistent with land use plans for publicly zoned areas because relocating the seaplane base would reduce traffic conflicts in Sitka Channel. This project would also be consistent with other transportation related uses of Japonski Island including the Sitka Rocky Gutierrez Airport and U.S Coast Guard Air Station.

The SEARHC residential treatment programs are adjacent to the project site. Project designers have attempted to minimize land use conflicts by proposing access to the seaplane base directly from the airport (through Coast Guard land) and not via Seward Avenue and through design considerations that attempt to screen the seaplane base from the adjacent properties.

7.11 Noise and Visual Impacts

At various community meetings the Southeast Alaska Regional Health Consortium has expressed concern over visual and noise impacts of the proposed seaplane base. Project planners have designed several seaplane base alternatives at the preferred site to take advantage of natural cover that reduces some of the visual and noise impacts of the seaplane base on adjacent upland land users. Reducing visual impacts will likely require dredging a rocky, intertidal shelf to prevent the facility from grounding at low tide. Further efforts will be required to balance visual impacts and shoreline impacts.

Facilities adjacent to the preferred site will likely experience an increase in noise as a result of this project. Primary noise sources include idling and taxiing seaplanes. Baseline noise levels have not been measured within the project vicinity. Further investigations, including baseline noise measurements and noise modeling studies may be advisable to determine the extent of noise impacts associated with this project.

7.12 Biotic Communities

Japonski Island is dominated by typical coastal rainforest plants such as Sitka spruce and western hemlock. Understory species include salmonberry and devil's club. Areas that have experienced past disturbances are vegetated by Sitka alder and cottonwood. A gravel road, cul-de-sac, and former roadbed are located within the immediate project area. Project planners will limit disturbance of vegetation by maximizing use of an already disturbed area. In addition, the proposed access road would follow a new Coast Guard security fence thereby collocating the facilities to minimize new disturbance.

The proposed location of the actual seaplane base is a rocky, intertidal and subtidal area. The rocky shoreline is dominated by various species of kelp and seaweed. The shoreline provides habitat for barnacles, mussels, clams, sea stars, limpets and chitons in addition to providing potential spawning habitat for Pacific herring (USDA, 1999). A variety of birds including gulls, eagles, ravens, crows, dabbling and diving ducks also utilize Japonski Island. Mammals that are found on the island or in the surrounding waters include river and sea otters, mink, harbor porpoise, and harbor seals (USDA, 1999). The beach area also shows signs of past disturbances and exhibits evidence of buried cables.

7.13 Energy

The increase in energy usage attributable to the project will be negligible.

7.14 Light Emissions

It is anticipated that light impacts from the seaplane base would be negligible.

7.15 Solid Waste Impacts

Solid waste production is not expected to sizably increase as a result of this project.

7.16 Economic Impacts

The existing seaplane base is small and cannot accommodate the demand for seaplane ramp space and associated services. Once the facility is relocated,

demand for ramp space over the next 20 years can be met. Providing additional seaplane ramp space will allow for the economic growth of seaplane-dependant industries including tourism. Additional ramp space will also allow for safe and more efficient emergency activities including medical evacuations.

7.17 Environmental Justice

The project is not expected to have an adverse effect on minority or low-income populations.

7.18 Coastal Barriers

Alaska does not have any coastal barriers as defined in the Coastal Barriers Resources Act of 1982.

7.19 Wild and Scenic Rivers

There are no wild and scenic rivers in the vicinity of the project area.

7.20 Farmland

No farmland is located in the project vicinity.

7.21 Hazards

7.21.1 Flooding

The Federal Emergency Management Agency has mapped Japonski Island in flood Zone D. This zone is defined as an area of undetermined but possible flood hazard. The waters surrounding Japonski Island are mapped as Zone V. This zone is defined as an area of 100-year coastal flood with velocity (wave run-up). Base flood elevations and flood hazards factors are not determined for Zone V. It is likely that the City and Borough of Sitka will review the proposed seaplane project to ensure its compliance with National Flood Insurance Program.

Tsunamis generated in the Pacific Ocean have the potential to be a hazard in Sitka. The largest tsunami runup in Sitka was 7.8 feet (recorded after the 1964 Good Friday Earthquake). Studies indicate there is a 65 percent chance of a maximum wave height of at least 32 feet each 100 years at the Rocky Gutierrez Airport (City and Borough of Sitka, 1989b). The damage associated with a wave of this magnitude is dependant on the tide level at the time of impact. If a large event occurs at high tide, damage to the shoreline is likely. Project planners will design seaplane base to account for the threat posed by tsunamis.

7.21.2 Wildlife Hazards

The Sitka Channel, located northeast of Japonski Island, attracts a large number of birds that creates a safety concern for aviation activities. Fish waste from processing facilities is discharged from an outfall in Sitka Channel. The existing seaplane base is located approximately 300 feet from the North Pacific Processors, Inc fish waste outfall. A large number of sea gulls and other birds are attracted to this area that creates hazardous conditions for aircraft. The preferred alternative for the seaplane base is located approximately 3,500 feet from the primary source of bird attraction. Of the alternatives for the seaplane base, the preferred site is located the farthest away from primary source of bird hazard and would be an improvement to the situation.

7.21.3 Seismic Activity

Sitka is geologically young and unstable. Numerous faults, including the Fairweather fault cross the Sitka region. The U.S. Army Corps of Engineers has classified Sitka as Seismic Zone 3, an area liable to receive major structural damage from earthquakes. Due to the tectonics and origin of Sitka, the numerous faults located in the area, and Sitka's relative geographic position on the Pacific rift zone make it likely that an earthquake with a minimum magnitude of 8 on the Richter scale will occur in the future (City and Borough of Sitka, 1998). Seaplane base design will adhere to Sitka building codes.

Volcanoes. According to the soils in Sitka, it is estimated that the Kruzof Island volcanoes erupted approximately 10,000 years ago. An eruption 3,000 years ago may also have occurred. These volcanoes are currently considered dormant. A hazardous situation would exist to Sitka if these volcanoes were to become active (City and Borough of Sitka, 1989b). A volcanic eruption is not considered an imminent threat to the facility.

Mass Wasting. Due to the deposits of volcanic ash, which is prone to sliding, numerous landslides have occurred in Sitka. Snow avalanches have also occurred in Sitka (City and Borough of Sitka, 1989b). Project engineers should consider the threat of land and snow slides on Japonski Island and minimize the potential impacts by employing appropriate design measures.

Safety and Traffic. The existing seaplane base is located within a congested and constrained portion of Sitka Channel. By relocating the base into the Western Anchorage and out of Sitka Channel, traffic conflicts between seaplanes and boats will be greatly reduced. Concerns over additional vehicular traffic around the SEARHC hospital, daycare center, and residential substance abuse program have been resolved by moving seaplane access from Seward Avenue to Coast Guard land adjacent to the airport. Vehicular traffic associated with the seaplane base will be routed from the airport to the seaplane base via a new access road. Traffic on Seward Avenue is not expected to increase.

Hazardous Waste Sites. The Alaska Department of Environmental Conservation (ADEC) maintains an inventory of spills and contaminated sites. ADEC databases include the Inventory of Registered Underground Storage Tanks, Leaky Underground Storage Tanks, and Contaminated Sites Database for Alaska. According to these databases, there are or have been underground storage tanks and leaking underground storage tanks on Japonski Island. The Sitka Rocky Gutierrez Airport, Mt. Edgecumbe Hospital, Sitka Naval Base Operations, and U.S. Coast Guard Air Station are facilities reported on ADEC's website as having underground storage tanks or leaking tanks (ADEC 2002). Preliminary research of these sites indicate that the immediate project area does not contain known hazardous materials but additional research for the exact location of these underground storage tanks will be necessary to determine if ADEC has reports of any releases of hazardous materials within the immediate project vicinity. As Japonski Island was used during WW II, there is a potential of discovering hazardous material during construction.

8.0 References

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APPENDIX A
Seaplane Layout Plan Set

SITKA SEAPLANE BASE
LAYOUT PLAN

SITKA ALASKA

2002

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
SUBJECT TO ALP APPROVAL LETTER DATED _____

By: _____ DATE: _____
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-600

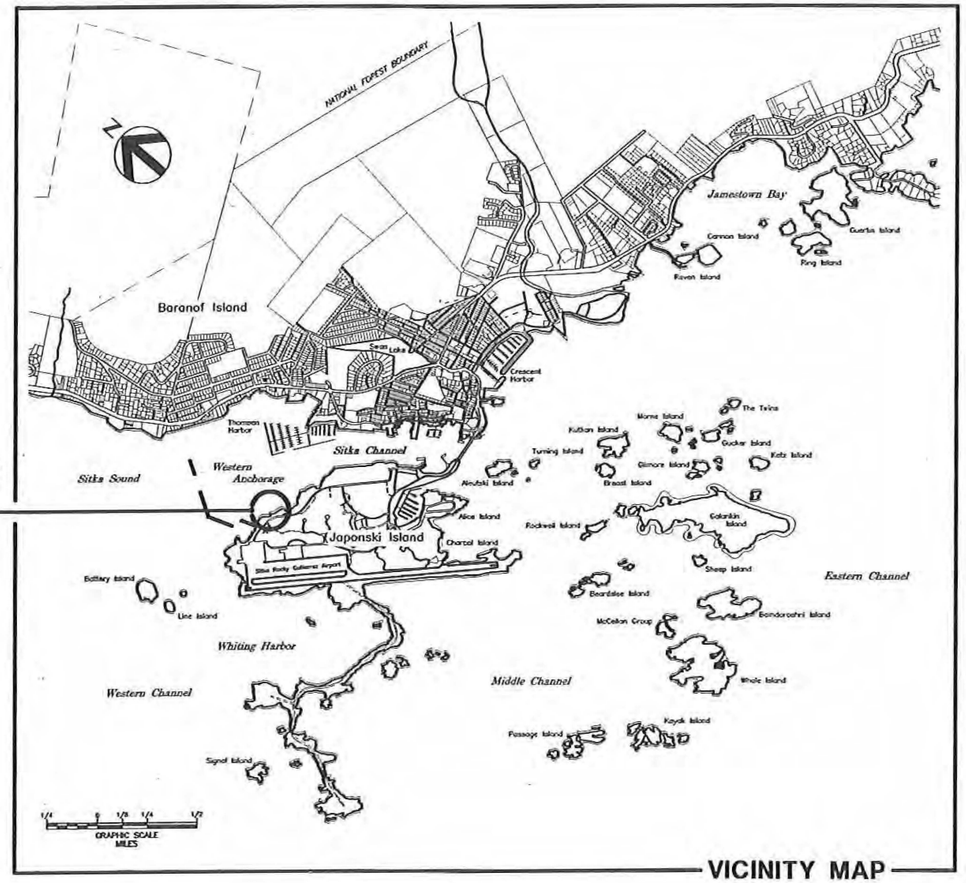
FAA AIRSPACE REVIEW NUMBER: XX XXX

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VICINITY MAP

TIDAL DATUM

OBSERVATION	TIDE ELEVATION (FEET)
HIGHEST OBSERVED WATER LEVEL (11/02/1948)	14.68
MEAN HIGHER HIGH WATER (MHHW)	9.91
MEAN HIGH WATER (MHW)	9.14
MEAN HIGH TIDE LEVEL (MTL)	5.29
MEAN LOW WATER (MLW)	1.45
MEAN LOWER LOW WATER (MLLW)	0.00
LOWEST OBSERVED WATER LEVEL (07/21/1978)	−3.82

BATHOMETRIC CONTOURS SOUNDED AT MEAN LOWER LOW WATER (MLLW)

BATHYMETRY DIGITIZED FROM:
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)
NOAA CHART – SITKA HARBOR No. 17327
(1979)



WIND ROSE

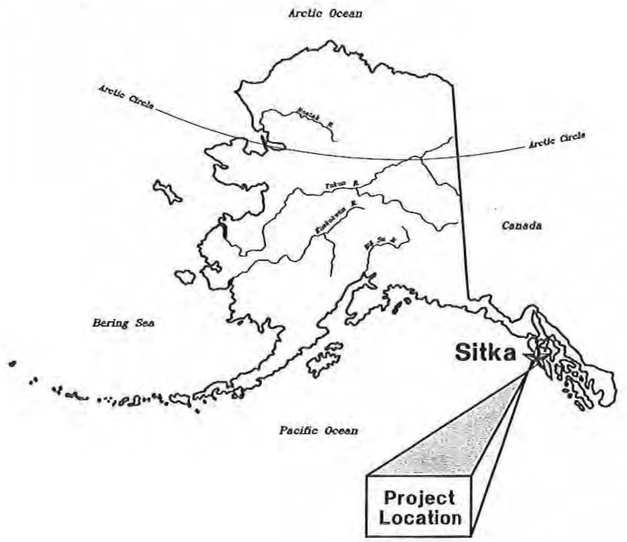
SOURCE: STATION SITKA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)
SITKA, ALASKA 1996–2001 (5 YRS.)
RUNWAY ORIENTATION: 316.00 DEGREE
CROSSWIND COMPONENT: 13.0 KNOTS
TAILWIND COMPONENT: 60.00 KNOTS
WIND COVERAGE: 96.40%

NOTE:
THE WIND ROSE WAS GENERATED BASED ON THE ALIGNMENT OF SITKA CHANNEL



MAG NORTH

MAGNETIC DECLINATION
23° 31' E (2002)



SEAPLANE FACILITY DATA

ITEM	
AIRPORT TYPE	UTILITY (AIRCRAFT < 12500 lbs.)
AIRPORT ELEVATION	MEAN SEA LEVEL (MSL)
AIRPORT LATITUDE	57°–3.4' W
AIRPORT LONGITUDE	135°–21.8' N
MEAN MAXIMUM TEMPERATURE	62° F
AIRPORT TERMINAL NAVAIDS	NONE
AIRPORT APPROACH CATEGORY	A
AIRPORT DESIGN GROUP	II
DESIGN AIRCRAFT	DeHAVILLAND BEAVER
WING SPAN	48'
LENGTH	30'
WEIGHT EMPTY	2,850 Lbs.
MAXIMUM TAKEOFF WEIGHT	5,100 Lbs.
SEA LANE DIMENSIONS	200' x 4000'
% WIND COVERAGE	96.40%
CROSS WIND COMPONENT	13.0 KNOTS
SEA LANE MARKING AND LIGHTING	NONE
SEAPLANE BASE OPERATING AREA DIMENSIONS	900'± x 3400'± (VARIES)
FLOAT DIMENSIONS	230' x 380'
GANGWAY DIMENSIONS	12' x 120' MINIMUM
GANGWAY GRADIENT	12% MAXIMUM AT MLLW
PULL–OUT RAMP DIMENSIONS	18' x 18"
BASED AIRCRAFT FORECAST:	
5–YEAR	13 AIRCRAFT
10–YEAR	14 AIRCRAFT
20–YEAR	15 AIRCRAFT
LEASE LOT RESERVE DIMENSIONS	50' x 70'
SERVICES AVAILABLE:	FLOAT LIGHTING; ELECTICAL POWER; FRESH WATER WASHDOWN; AVIATION FUEL

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
SUBJECT TO ALP APPROVAL LETTER DATED _____

By: _____ DATE: _____
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL–600

FAA AIRSPACE REVIEW NUMBER: XX XXX

BY	DATE	REVISIONS

Date Drawn: 10–08–02
Designer: DJH
Drawn by: TJH
Checked by: DAH

HDR Engineering, Inc.

CITY AND BOROUGH OF SITKA — DECEMBER 2, 1971

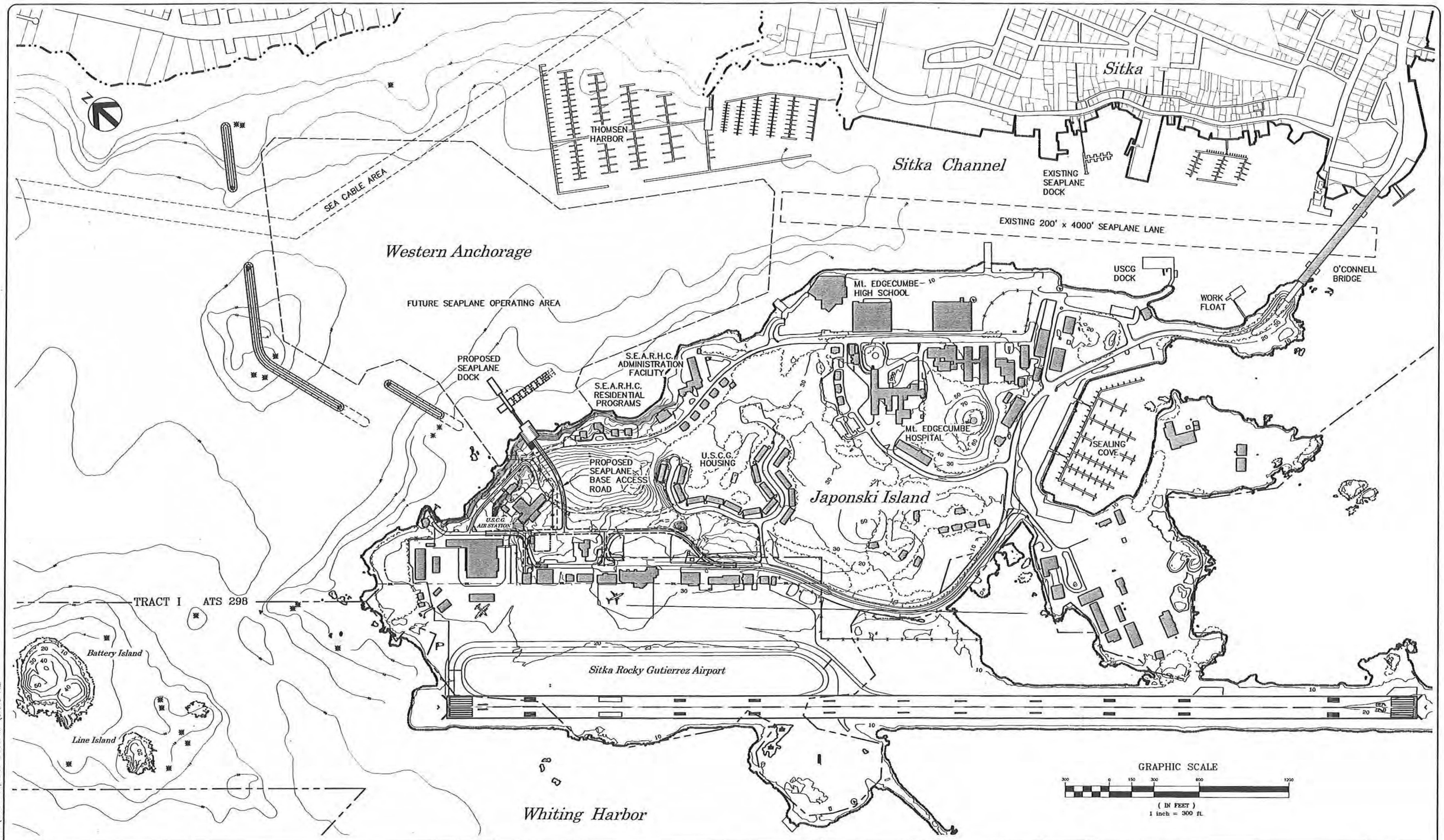
SITKA SEAPLANE BASE

LAYOUT PLAN
– DRAFT –

SHEET 2 OF 4

Z:\08486 City of Sitka\004 Seaplane Base MP\Sitka ALP

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VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 — 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL SUBJECT TO ALP APPROVAL LETTER DATED _____ By: _____ DATE: _____ FAA, AIRPORTS DIVISION ALASKAN REGION, AAL-600 FAA AIRSPACE REVIEW NUMBER: XX XXX

BY	DATE	REVISIONS

Date Drawn: 10-08-02
Designer: DJG
Drawn by: TJH
Checked by: DAH

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SITKA SEAPLANE BASE

LAYOUT PLAN
— DRAFT —

SHEET 3 OF 4

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GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

PHASE I: 13 RAMPED SEAPLANE SLIPS (18'x18')

ULTIMATE: 15 RAMPED SEAPLANE SLIPS (18'x18')

FUTURE SEAPLANE OPERATING AREA

40' x 120' SEAPLANE FLOAT

30' x 150' ACCESS FLOAT

12' x 120' DRIVE DOWN RAMP & GANGWAY

100' X 125' PARKING AREA (18 PARKING SPACES)

40' x 60' ACCESS TURNAROUND FLOAT

EXISTING SITKA HARBOR BREAKWATER

U.S. ARMY CORPS OF ENGINEERS PROPOSED BREAKWATER EXTENSIONS

UPLAND AVIATION FUEL STORAGE AREA

EMERGENCY VEHICLE ACCESS GATE (OPTIONAL)

PROPOSED SEAPLANE BASE SECURITY FENCE

PROPOSED SEAPLANE BASE ACCESS ROAD

PROPOSED USCG SECURITY FENCE (APPROXIMATE LOCATION)

PROPOSED U.S.C.G. 30' PERIMETER SECURITY FENCE CLEAR ZONE

24' WIDTH

12' LANE

PROPOSED SECURITY GATE

U.S.C.G. AIR STATION

S.E.A.R.H.C. ADMINISTRATION FACILITY

S.E.A.R.H.C. RESIDENTIAL PROGRAMS

Seward Avenue

U.S.C.G. HOUSING

NEW CIRCULATION ROAD (UNDER CONSTRUCTION)

SITKA ROCKY GUTIERREZ AIRPORT

BRL

Z:\08486 City of Sitka\004 Seaplane Base MP\Sitka ALP

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWNG
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL SUBJECT TO ALP APPROVAL LETTER DATED _____

By: _____ DATE: _____
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-600

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BY	DATE	REVISIONS

Date Drawn: 10-08-02
Designer: DJG
Drawn by: TJH
Checked by: DAH

HDR Engineering, Inc.

CITY AND BOROUGH OF SITKA DECEMBER 2, 1971

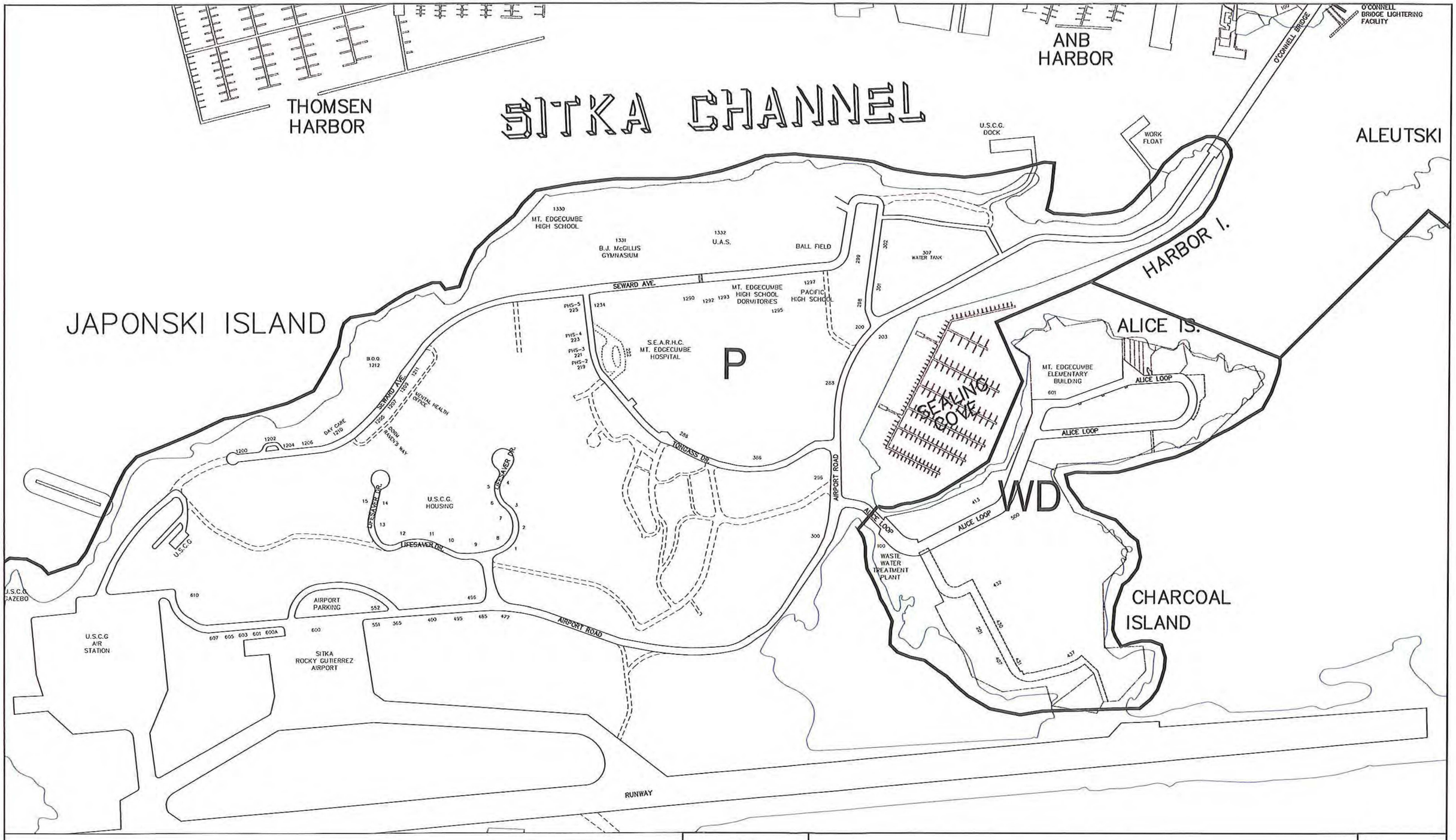
SITKA SEAPLANE BASE

LAYOUT PLAN
– DRAFT –

SHEET 4 OF 4

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APPENDIX B
Zoning and Land Ownership Maps



SITKA SEAPLANE BASE MASTER PLAN

CITY AND BOROUGH OF SITKA DECEMBER 2, 1971

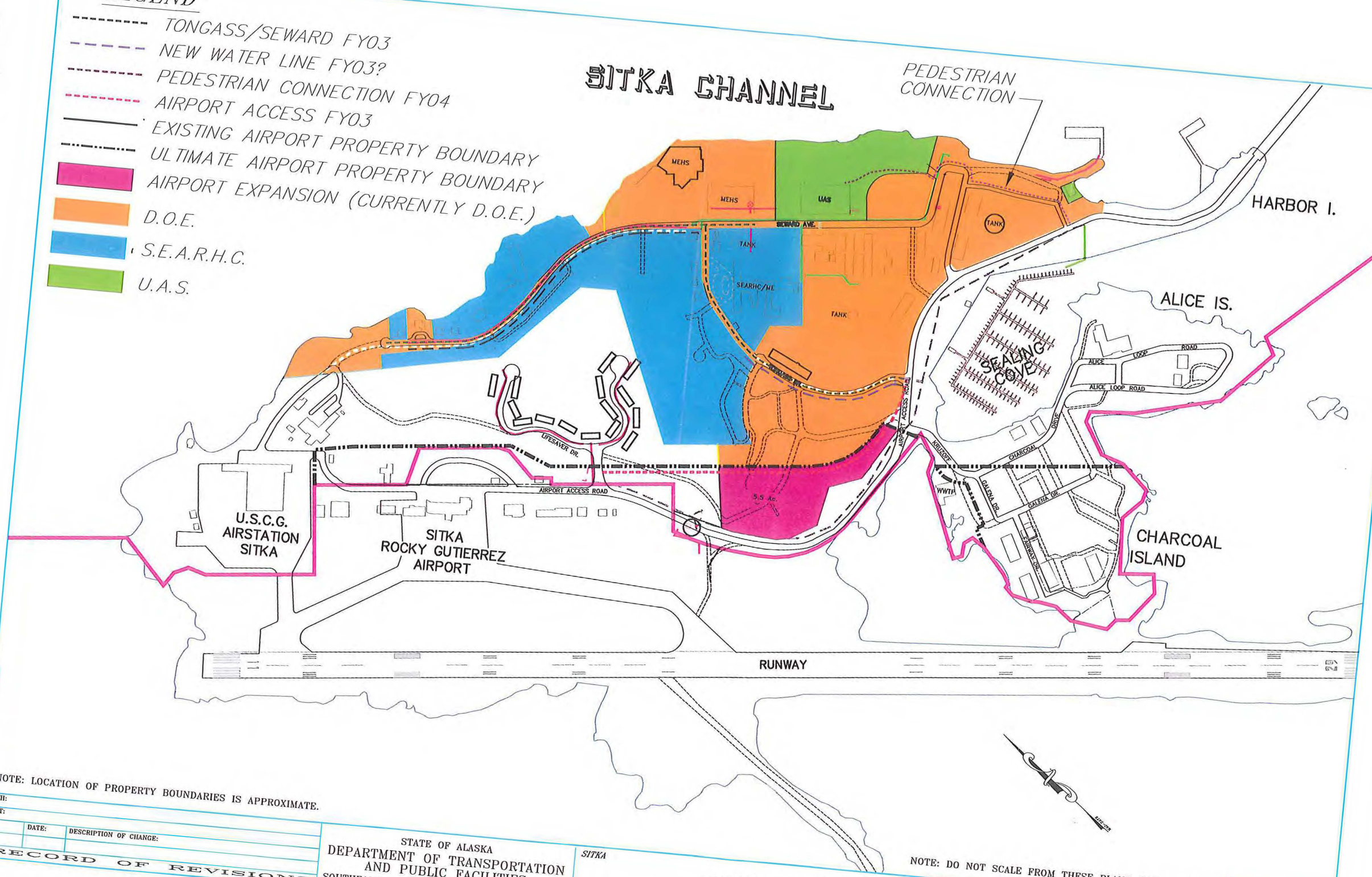
JAPONSKI ISLAND ADDRESS & ZONING

Date 4/30/02

Figure

LEGEND

- TONGASS/SEWARD FY03
- NEW WATER LINE FY03?
- PEDESTRIAN CONNECTION FY04
- AIRPORT ACCESS FY03
- EXISTING AIRPORT PROPERTY BOUNDARY
- ULTIMATE AIRPORT PROPERTY BOUNDARY
- AIRPORT EXPANSION (CURRENTLY D.O.E.)
- D.O.E.
- S.E.A.R.H.C.
- U.A.S.



NOTE: LOCATION OF PROPERTY BOUNDARIES IS APPROXIMATE.

NOTE: DO NOT SCALE FROM THESE PLANS–USE DIMENSIONS

PATH:		
PLOT:		
BY:	DATE:	DESCRIPTION OF CHANGE:

RECORD OF REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
SOUTHEAST REGION DESIGN & CONSTRUCTION

SITKA

JAPONSKI ISLAND
LAND STATUS & DRAFT PROJECT INFORMATION

ALASKA

DESIGNED BY: D. HAWES	PROJECT NO. 67985
DRAWN BY: D. STEVENS	DATE: 2001
CHECKED BY:	

APPENDIX C
Cost Estimates

Sitka Seaplane Base Cost Estimate
Layout 1

Pay Item	Pay Unit	Unit Price	Quantity	Amount
Parking Lot	ft^2	$15	10,000	$150,000
Floating Dock	ft^2	$50	20,000	$1,000,000
Wood Piles	ft	$25	1,000	$25,000
Piles, driving	each	$1,500	15	$22,500
Electric system & lighting	LS	$160,000	--	$160,000
Water system	LS	$10,000	--	$10,000
Excavation	yd^3	$50	8,000	$400,000
Seawall, sheet pile	ft^2	$2,000	300	$600,000
Misc construction items	LS	-	-	$1,183,750

	With Seawall	**Without Seawall**	**Without Seawall & Ex.**
Construction Cost	$3,600,000	$3,000,000	$2,600,000
Engineering & Administration	$900,000	$750,000	$650,000
Subtotal =	$4,500,000	$3,750,000	$3,250,000
Contingency	$675,000	$562,500	$487,500
Project Estimate =	**$5,200,000**	**$4,300,000**	**$3,700,000**

Assumptions:
Parking lot includes 18, 10 x 20 stalls and 200' of 24' wide road
Contingency includes the gangway and pier
No land acquisition costs included
Launch Ramp not included
No rock excavation or blasting
Without excavation, dock will be located approx. 60' offshore to float at extreme low t

Estimating factors		
Excavation near shore	50	$/yd^3$
Asphalt and Structural section	15	$/ft^2$
Sheet pile	2000	$/ft
Engineering & Admin	25%	
Contingency	15%	

7/23/2002

Sitka Seaplane Base Cost Estimate
Layout 2

Pay Item	Pay Unit	Unit Price	Quantity	Amount
Parking Lot	ft^2	$15	10,000	$150,000
Floating Dock	ft^2	$50	20,000	$1,000,000
Wood Piles	ft	$25	1,000	$25,000
Piles, driving	each	$1,500	15	$22,500
Electric system & lighting	LS	$160,000	--	$160,000
Water system	LS	$10,000	--	$10,000
Excavation	yd^3	$50	16,000	$800,000
Seawall, sheet pile	ft^2	$2,000	250	$500,000
Misc Construction Items	LS	--	--	$1,333,750

	With Seawall	**Without Seawall**	**Without Seawall & Ex.**
Construction Cost	$4,000,000	$3,500,000	$2,700,000
Engineering & Administration	$1,000,000	$875,000	$675,000
Subtotal =	$5,000,000	$4,375,000	$3,375,000
Contingency	$750,000	$656,250	$506,250
Project Estimate =	**$5,800,000**	**$5,000,000**	**$3,900,000**

Assumptions:
Parking lot includes 18, 10 x 20 stalls and 200' of 24' wide road
Contingency includes the gangway and pier
No land acquisition costs included
Launch Ramp not included
No rock excavation or blasting
Without excavation, dock will be located approx.100' offshore to float at extreme low

Estimating factors		
Excavation near shore	50	$/yd^3$
Asphalt and Structural section	15	$/ft^2$
Sheet pile	2000	$/ft
Engineering & Admin	25%	
Contingency	15%	

7/23/2002

Sitka Seaplane Base Cost Estimate
Layout 3

Pay Item	Pay Unit	Unit Price	Quantity	Amount
Access Road	ft^2	$8	25,200	$201,600
Parking Lot	ft^2	$8	5,200	$41,600
Floating Dock	ft^2	$50	20,000	$1,000,000
Wood Piles	ft	$25	1,000	$25,000
Piles, driving	each	$1,500	15	$22,500
Electric system & lighting	LS	$160,000	--	$160,000
Water system	LS	$20,000	--	$20,000
Excavation	yd^3	$50	16,000	$800,000
Seawall, sheet pile	ft^2	$2,000	250	$500,000
Misc Construction Items	LS	--	--	$1,385,350

	With Seawall	**Without Seawall**	**Without Seawall & Ex.**
Construction Cost	$4,000,000	$3,500,000	$2,700,000
Engineering & Administration	$1,000,000	$875,000	$675,000
Subtotal =	$5,000,000	$4,375,000	$3,375,000
Contingency	$750,000	$656,250	$506,250
Project Estimate =	**$5,800,000**	**$5,000,000**	**$3,900,000**

Assumptions:
Parking lot includes 18, 10 x 20 stalls
Contingency includes the gangway and pier
No land acquisition costs included
Launch Ramp not included
No rock excavation or blasting
Without excavation, dock will be located approx.100' offshore to float at extreme low ti

Estimating factors		
Excavation near shore	50	$/yd^3$
Asphalt and Structural section	8	$/ft^2$
Sheet pile	2000	$/ft
Engineering & Admin	25%	
Contingency	15%	

7/23/2002

APPENDIX D
Proposed Road Centerline Survey

O'NEILL
SURVEYING AND ENGINEERING

P.O. BOX 1849, SITKA, ALASKA 99835
(907) 747-6700

FAX COVER SHEET

SUBJECT:

DATE: 2 Aug 02

FROM: Wayne Dye

FAX PHONE: (907)-747-7590

VOICE PHONE: (907)-747-6700

EMAIL: sitkresurveys@worldnet.att.net

TO: John McPherson

FAX PHONE: (907) 274-2022.

4 PAGES SENT INCLUDING THIS COVER SHEET

COMMENTS/MESSAGES:

Sending station/offset report of p-line topo shots.

PLEASE CALL IF YOU DO NOT RECIEVE ALL THE PAGES. THANK YOU.

AUTHORIZATION SIGNATURE

FLOAT PLANE RW

User Name: Patrick O'Neill
Project: 30374-02
Report Station/Offset

Date: 07-31-02
Time: 17:43:23
Page: 1

Report Station/Offset

ID	RD STA	RD OFFSET	Elev	Desc	RW STA	RW OFF
1	N/A	N/A			500 000	940.000
2	N/A	N/A	40.20	AC52-50	5250.000	940.000
3	N/A	N/A	39.09	50+00, 940 RT	AL 4999.995	940.000
4	0+20.35	6.81 R	38.27	H/T	5539.206	1200.710
5	1+25.66	18.32 L	42.56	H/T	5586.032	1289.175
6	1+99.38	27.89 L	50.76	NAIL ED RD	5579.919	1377.252
7	3+14.95	34.52 L	56.13	H/T	5572.685	1447.532
8	4+09.34	31.14 L	49.64	STAUB TK	5645.673	1508.345
9	5+44.79	11.75 L	48.34	STAUB TK	5739.533	1608.983
10	6+73.97	9.16 R	31.52	STAUB TK	5823.515	1707.739
11	7+82.48	1.09 L	22.95	H/T	5911.987	1772.400
12	8+28.00	3.94 L	10.10	P/K ROCK	5947.959	1800.161
13	7+27.37	69.25 L	30.39	H/T	5916.748	1686.451
14	5+46.78	102.22 L	39.45	PK ED PVMT	5799.113	1540.843
15	4+13.80	171.45 L	44.89	PK ED PVMT	5735.265	1400.270
16	1+15.34	20.34 L	43.32	SPIKE	5589.262	1289.163
17	N/A	N/A	37.41	TK STUMP	5410.179	982.723
18	N/A	N/A	39.96	OLD 1	5250.506	939.630
19	N/A	N/A	0.00	CLOSE	5000.495	939.464
101	N/A	N/A	57.81	TOP CUT	5682.689	1227.363
102	N/A	N/A	59.98	TOP CUT	5635.883	1239.247
103	0+59.85	38.93 L	49.33	TOP CUT	5598.661	1216.087
104	0+00.00	0.00	35.80	ROCK SHLD	5536.586	1179.126
105	0+07.70	0.00	34.30	BTM DT	5539.274	1186.338
106	0+21.52	0.00	38.80	TOP CUT	5545.765	1198.538
107	0+41.87	0.00	39.74	CL TOPO	5555.781	1216.258
108	0+65.44	0.00	41.37	CL TOPO	5565.745	1237.614
109	0+81.46	0.00	42.20	CL TOPO	5569.503	1253.187
110	0+95.39	0.00	42.08	CL TOPO	5571.576	1266.963
111	1+11.97	0.00	43.35	CL TOPO	5569.463	1283.408
112	1+27.87	0.00	40.54	CL TOPO	5567.582	1299.198
113	1+45.00	0.00	40.13	CL TOPO	5565.442	1316.194
114	1+66.32	0.00	42.26	CL TOPO	5561.322	1337.115
115	1+80.01	0.00	50.92	CL TOPO	5558.897	1350.582
116	3+85.85	113.16 L	47.53	ED RD	5679.100	1429.631
117	2+02.05	49.52 L	50.16	ED RD	5599.837	1386.113
118	1+94.13	8.67 R	50.93	ED RD	5546.481	1361.564
119	1+90.77	60.99 R	51.75	ED RD	5497.421	1343.085
120	1+94.50	103.27 R	52.22	ED RD	5455.898	1334.328
121	2+03.46	96.22 R	52.22	ED RD	5460.020	1344.949
122	2+00.72	34.27 R	51.40	ED RD	5520.074	1360.396
123	2+09.00	19.12 L	50.67	ED RD	5569.446	1392.357
124	4+06.00	105.60 L	47.40	ED RD	5688.708	1447.497
125	2+05.46	0.00	50.82	CL TOPO	5551.474	1374.926
126	2+19.93	0.00	51.25	CL TOPO	5548.475	1389.082
127	2+33.49	0.00	50.58	CL TOPO	5543.798	1401.816
128	2+53.11	0.00	50.43	CL TOPO	5541.061	1421.243

User Name: Patrick O'Neill
Project: 30374-02
Report Station/Offset

Date: 07-31-02
Time: 17:43:23
Page: 2

Report Station/Offset

ID	RD STA	RD OFFSET	Elev	Desc	RW STA	RW OFF
129	2+62.54	0.00	51.77	CL TOPO	5537.966	1430.148
130	2+83.63	0.00	52.93	CL TOPO	5533.698	1450.799
131	3+01.76	0.00	52.99	CL TOPO	5541.417	1467.209
132	3+26.20	0.00	53.54	CL TOPO	5560.949	1481.897
133	3+39.09	0.00	57.16	CL TOPO	5571.061	1488.898
134	3+49.46	0.00	53.40	CL TOPO	5579.334	1496.139
135	3+75.96	0.00	52.00	CL TOPO	5600.282	1512.377
136	3+92.33	0.00	51.97	CL TOPO	5613.137	1522.510
137	4+37.46	0.00	52.22	CL TOPO	5648.777	1550.192
138	4+73.83	0.00	52.89	CL TOPO	5677.280	1572.789
139	4+94.46	1.34 R	50.43	CL TOPO	5692.411	1586.852
140	6+10.06	0.00	34.82	CL TOPO	5783.954	1657.379
141	5+82.82	0.00	37.93	CL TOPO	5762.690	1640.338
142	5+69.00	0.00	41.14	CL TOPO	5751.287	1632.545
143	5+57.58	0.00	47.35	CL TOPO	5741.803	1626.177
144	5+30.28	0.00	48.50	CL TOPO	5720.660	1608.657
145	4+96.68	0.00	50.75	CL TOPO	5687.274	1580.863
146	7+86.98	0.00	23.84	CL TOPO	5914.686	1776.161
147	7+52.81	0.00	21.79	CL TOPO	5888.790	1753.873
148	7+40.27	0.00	24.56	CL TOPO	5879.057	1745.962
149	7+19.00	0.00	27.61	CL TOPO	5863.479	1731.487
150	6+87.09	0.00	29.60	CL TOPO	5839.097	1710.892
151	6+80.54	0.00	31.69	CL TOPO	5834.667	1706.076
152	6+54.79	0.00	32.54	CL TOPO	5816.730	1687.595
153	6+45.02	0.00	32.89	CL TOPO	5809.890	1680.528
154	6+31.53	0.00	32.14	CL TOPO	5800.156	1671.287
155	6+19.41	0.00	33.11	CL TOPO	5791.696	1662.608
156	8+05.16	0.00	15.15	CL TOPO	5928.472	1788.021
157	8+14.87	0.00	11.36	BEACH	5935.127	1794.811
158	8+53.21	0.00	7.04	CL TIDE	5965.047	1819.109
301	1+28.81	29.44 L	42.75	COR BLDG	5596.670	1303.810
304	1+35.54	54.11 L	44.91	CL TR	5620.310	1313.568
305	1+40.96	72.49 L	44.77	CL TR	5637.873	1321.238
306	1+56.29	97.79 L	45.97	CL TR	5659.210	1346.168
307	1+63.13	99.78 L	45.81	CLR LMTS	5659.840	1353.265
308	2+20.10	61.08 L	49.82	CLR LMTS	5605.746	1410.309
309	5+81.24	132.99 L	45.47	COR BLDG	5836.430	1529.652
310	N/A	N/A	45.21	COR BLDG	5865.720	1489.798
311	3+10.72	24.04 L	56.94	CLR LMTS	5563.023	1453.379
312	4+86.62	24.45 L	48.10	CLR LMTS	5702.593	1561.814
313	4+30.82	25.12 L	50.22	CLR LMTS	5658.947	1526.282
314	3+84.38	25.64 L	48.90	CLR LMTS	5622.760	1497.454
315	4+31.51	55.21 L	48.13	FE COR	5677.943	1502.944
316	4+31.69	75.03 L	47.84	BLDG COR	5690.243	1487.400
317	4+32.07	96.46 L	47.69	BLDG COR	5703.690	1470.702
318	4+52.50	174.25 L	45.76	BLDG COR	5768.816	1422.993

User Name: Patrick O'Neill
Project: 30374-02
Report Station/Offset

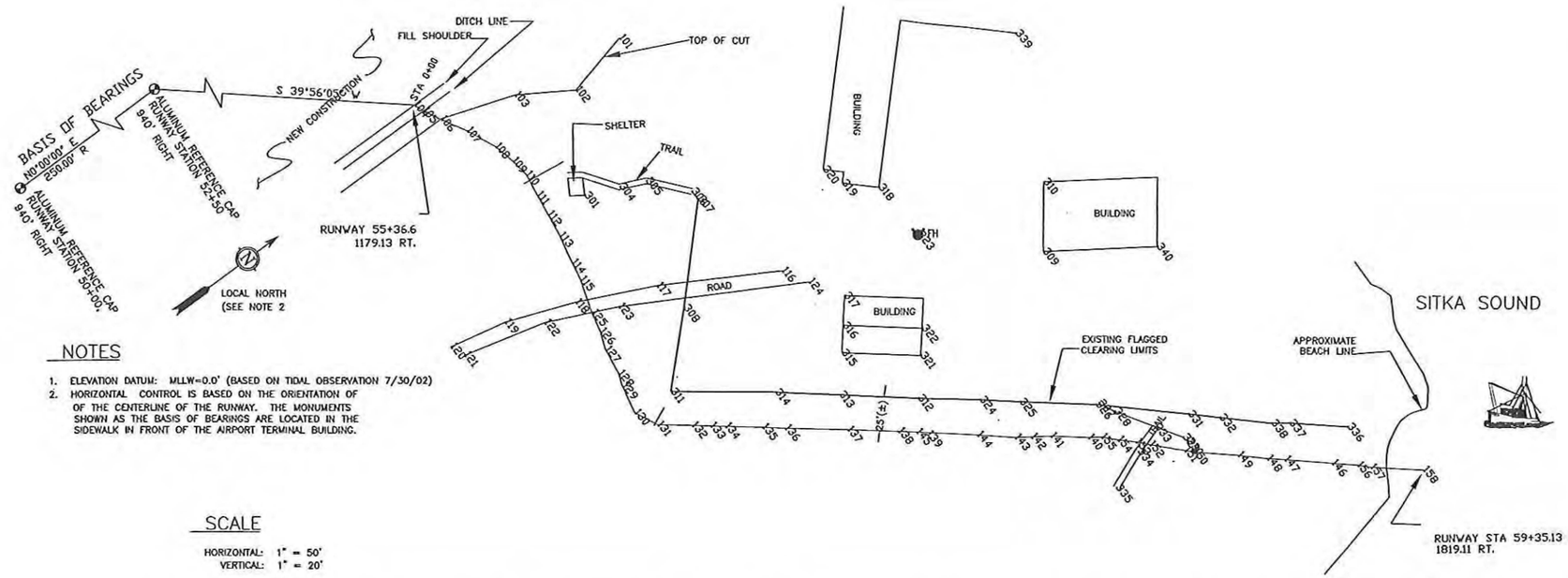
Date: 07-31-02
Time: 17:43:23
Page: 3

Report Station/Offset

ID	RD STA	RD OFFSET	Elev	Desc	RW STA	RW OFF
319	4+27.88	176.58 L	44.90	BLDG COR	5749.530	1404.857
320	4+13.70	186.04 L	44.67	BLDG COR	5744.128	1388.687
321	N/A	N/A	47.24	FE COR	5721.994	1538.153
322	N/A	N/A	47.30	COR BLDG	5734.341	1522.676
323	4+80.46	141.70 L	47.27	FIRE HYD	5771.492	1466.740
324	5+30.48	25.39 L	46.74	CLR LMTS	5737.310	1589.313
325	5+61.85	25.57 L	47.52	CLR LMTS	5759.606	1607.332
326	6+16.37	23.65 L	34.77	CLR LMTS	5802.411	1641.310
327	6+18.45	24.84 L	35.09	END FDNCE	5804.693	1641.645
328	6+25.82	19.79 L	33.36	FEN POST	5810.349	1653.385
329	6+77.69	9.20 L	32.75	FEN POST	5839.280	1697.618
330	6+81.15	6.89 L	31.97	END FENCE	5840.148	1701.854
331	6+78.57	26.27 L	31.76	CLR LMTS	5852.145	1686.369
332	7+04.05	26.29 L	29.71	CLR LMTS	5869.017	1701.755
333	6+56.81	12.97 L	32.94	CL TRL	5827.442	1680.017
334	6+47.61	6.71 R	32.84	CL TRL	5806.921	1687.030
335	6+34.86	34.47 R	32.35	CL TRL	5778.977	1698.688
336	7+95.92	27.09 L	15.80	CL LMTS	5939.135	1761.461
337	7+54.16	26.45 L	20.65	CL LMTS	5907.068	1734.704
338	7+42.04	25.64 L	25.89	CL LMTS	5896.601	1727.162
339	5+37.90	288.66 L	49.45	COR BLDG	5911.928	1382.150
340	6+42.36	141.35 L	38.22	COR BLDG	5904.837	1575.689

Alignment Name : Centerline
Beginning Station : 0+00.00
Ending Station : 8+53.21

No Station Equation

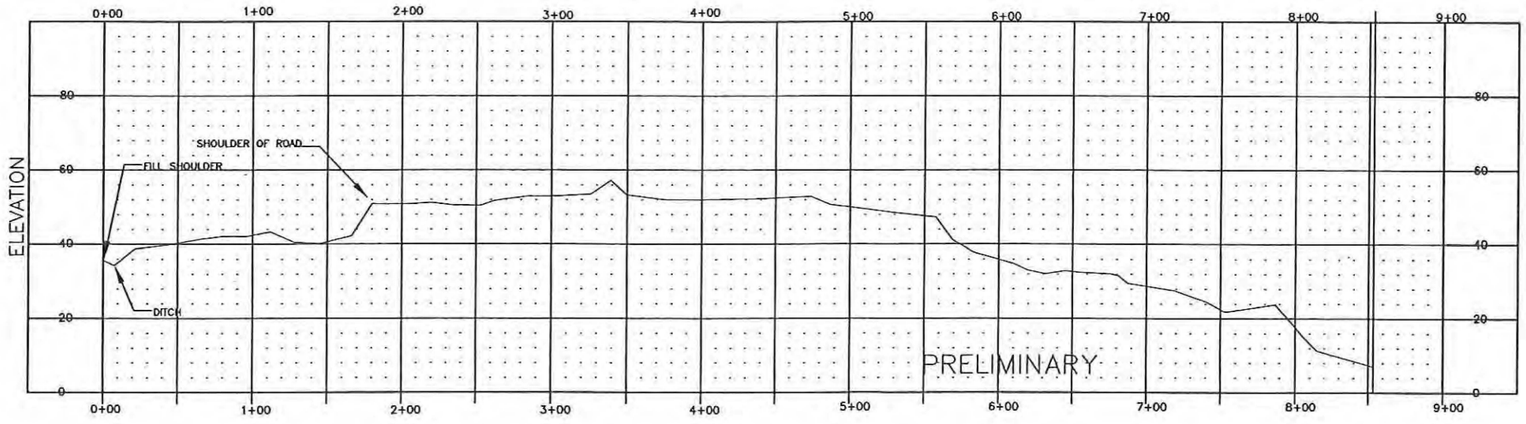


NOTES

1. ELEVATION DATUM: MLLW=0.0' (BASED ON TIDAL OBSERVATION 7/30/02)
2. HORIZONTAL CONTROL IS BASED ON THE ORIENTATION OF OF THE CENTERLINE OF THE RUNWAY. THE MONUMENTS SHOWN AS THE BASIS OF BEARINGS ARE LOCATED IN THE SIDEWALK IN FRONT OF THE AIRPORT TERMINAL BUILDING.

SCALE

HORIZONTAL: 1" = 50'
VERTICAL: 1" = 20'



PRELIMINARY

O'NEILL
SURVEYING AND ENGINEERING

BOX 1849 SITKA, ALASKA 99835
PHONE: (907) 747-6700
FAX: (907) 747-7590
EMAIL: sitkasurveys@worldnet.att.net

BY	DATE	REV.	DESCRIPTION OF CHANGE

RECORD OF REVISIONS

STATE OF ALASKA * 49TH * PATRICK K. O'NEILL LS 6304 REGISTERED PROFESSIONAL LAND SURVEYOR

DESIGNED: P. O'NEILL
DRAWN: WAD/ACAD
CHECKED: PKO
DATE OF PLAT: AUG 01, 2002 * 22:20:36
SCALE: 1" = 50'
DRAWING NAME: 30374-02.dwg
PROJECT NO. 30374-02

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM A REGISTERED SURVEYOR, LICENSED IN THE STATE OF ALASKA, AND THAT IN JULY 2002 A SURVEY OF THE HEREIN DESCRIBED LANDS WAS CONDUCTED UNDER MY DIRECT SUPERVISION AND THAT THIS PLAT IS A TRUE AND ACCURATE REPRESENTATION OF THE FIELD NOTES OF SAID SURVEY, AND THAT ALL DIMENSIONS AND OTHER DETAILS ARE CORRECT ACCORDING TO SAID FIELD NOTES.

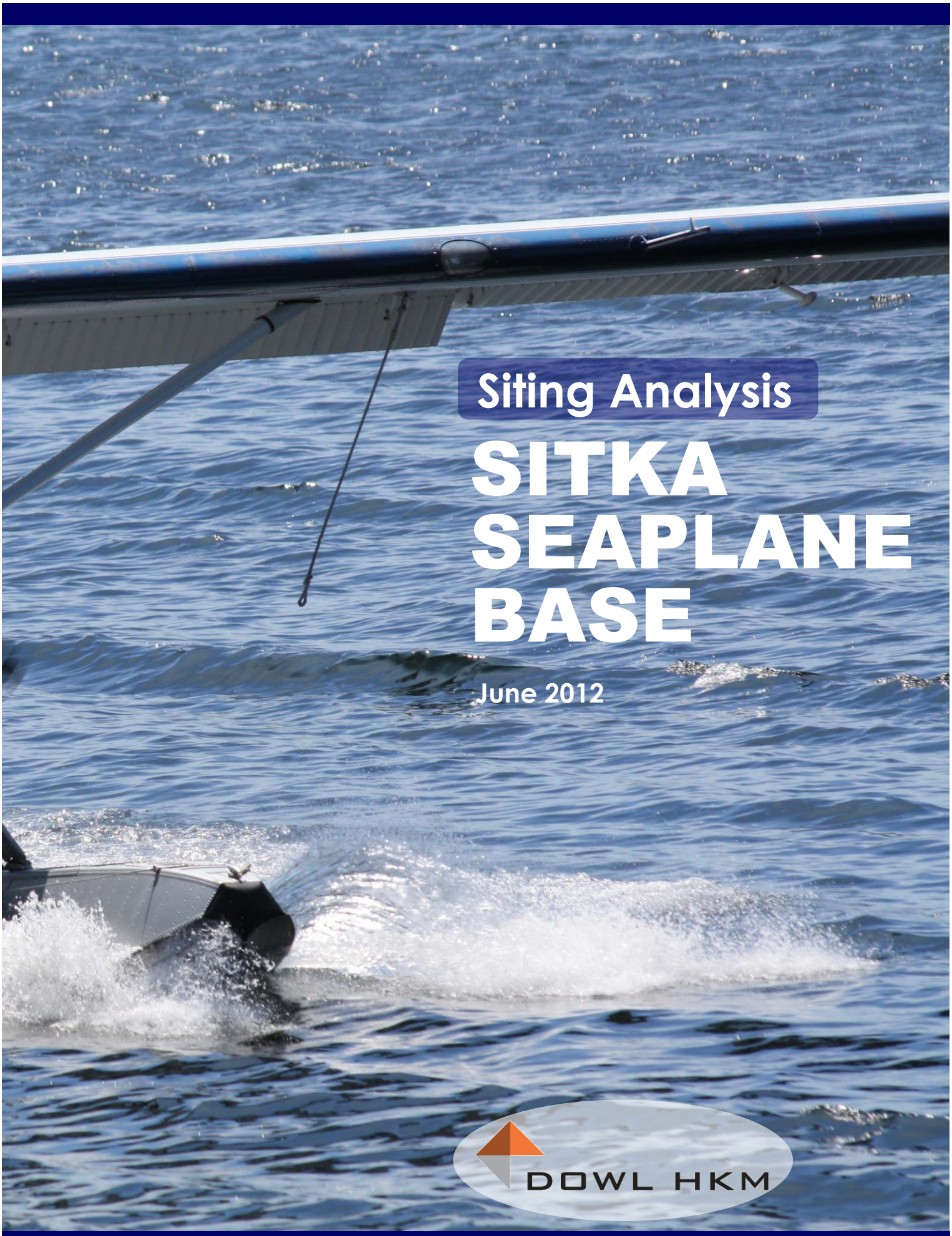
DATE PATRICK K O'NEILL LS 6304

P-LINE PROFILE

SITKA SEAPLANE BASE ACCESS ROAD
SITKA AIR STATION

CLIENT: HDR ENGINEERING, Inc., 2525 'C' STREET, SUITE 305, ANCHORAGE, ALASKA 99503-2639

SHEET 1 OF 1



Siting Analysis

SITKA SEAPLANE BASE

June 2012

DOWL HKM

SITING ANALYSIS

SITKA SEAPLANE BASE

SITKA, ALASKA

Prepared for:

City and Borough of Sitka
100 Lincoln Street
Sitka, Alaska 99835

Prepared by:

DOWL HKM
4041 B Street
Anchorage, Alaska 99503
(907) 562-2000

W.O. 60581

June 2012

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LIST OF ACRONYMS

A29 ..... Federal Aviation Administration Identifier for Sitka Seaplane Base
AC ..... Advisory Circular
ADEC ..... State of Alaska Department of Environmental Conservation
ADOL ..... State of Alaska Department of Labor
ADOT&PF ..... State of Alaska Department of Transportation and Public Facilities
AIP ..... Airport Improvement Program
APDES ..... Alaska Pollutant Discharge Elimination System
CBS ..... City and Borough of Sitka
FAA ..... Federal Aviation Administration
GA ..... general aviation
NPIAS ..... National Program of Integrated Airport System
SEARHC ..... Southeast Alaska Regional Health Consortium
SIT ..... Federal Aviation Administration Identifier for Sitka Rocky Gutierrez Airport
SOA ..... State of Alaska
SPB ..... seaplane base
SSS ..... Sitka Sound Seafoods
TAF ..... Terminal Area Forecast
USEPA ..... United States Environmental Protection Agency

1.0 INTRODUCTION

This report identifies a preferred site for an improved seaplane base (SPB) intended to serve the community of Sitka through the 20-year forecast period and beyond. It documents existing conditions, forecasts future seaplane activity, determines seaplane facility requirements, and recommends a preferred seaplane facility site. It also establishes a purpose and need for the project that will serve as a guide for a future environmental assessment and detailed design investigations.

This document updates and expands upon the "Sitka Seaplane Base Master Plan" that was prepared for the City and Borough of Sitka (CBS) in 2002. It is based upon existing data, findings from field visits, interviews with local officials and seaplane users, public meetings, and input from the Sitka Port and Harbors Commission and the Federal Aviation Administration (FAA).

2.0 PURPOSE AND NEED

The proposed SPB improvements are intended to address the existing facility's capacity, safety, and operational and condition deficiencies. Capacity concerns are evidenced by the existing SPB's full occupancy, a previous list of seaplane owners who had been waiting two years or more to rent a slip, expressions of interest from seaplane owners not currently using the SPB, and restrictions limiting commercial use. Safety concerns include concentrations of seabirds in and around the SPB's operating area, conflicts with boat traffic, lack of adequate taxi lane clearance between the SPB floats and neighboring Sitka Sound Seafoods (SSS) facility, and the submerged rock obstructions adjacent to the floats. Operational concerns include the lack of fueling facilities that requires seaplane operators to carry and dispense fuel from small containers, and inadequate vehicle parking. The existing SPB is also unable to adequately serve commercial traffic because it lacks sufficient vehicle parking, on-site aircraft maintenance, a drive-down ramp to the floats, a passenger shelter, and equipment storage. The existing SPB is 50 years old and is at the end of its useful life. The timber floats are weathered, have lost their preservative treatment, and are losing their floatation capability.

3.0 INVENTORY

The existing Sitka SPB (FAA identifier A29) is owned by the CBS. A29 is listed in the FAA 2011-2015 *National Program of Integrated Airport System* (NPIAS) as a general aviation (GA) airport. The NPIAS identifies public-use airports that are significant to national air transportation and, therefore eligible to receive grants under the FAA *Airport Improvement Program*.



Figure 1: Existing Sitka SPB Looking North

The SPBs seaplane water operating area is located in Sitka Channel with an orientation of northwest/southeast between Baranof and Japonski Islands. The Alaska Supplement, a flight information publication issued by the FAA, lists the operating area as 4,000 feet long and 200 feet wide. Shoreline facilities consist of a three-float structure oriented parallel to Sitka Channel that accommodates 8 seaplane slips and a small transient dock with space for approximately 3 seaplanes. Access to the floats from Katlian Street is provided by an elevated gangway and ramp. A screened gate on the walkway with a combination lock provides security. Parking space for two vehicles is available on Katlian Street. Electrical power is available on the floats, but there are no on-site fueling facilities, lease lots, storage areas, nor a seaplane take-out ramp.

The SPB is located between a storage building and dock on the north side and the Sitka Sound Seafoods fish-processing facility to the south. The outfall from the processing facility is in the channel. Fish waste in the outfall attracts seagulls which congregate in the channel immediately adjacent to the SPB. Seagulls often roost on the SPB floats and on parked aircraft.

The seabed is rocky with a shallow slope. The Harbormaster's Office reports that slip users prefer slips on the "outside" of the floats (i.e., on the channel side rather than the shore side of the float) because during low tides, maneuvering room on the shore side of the floats is limited by exposed rocks.

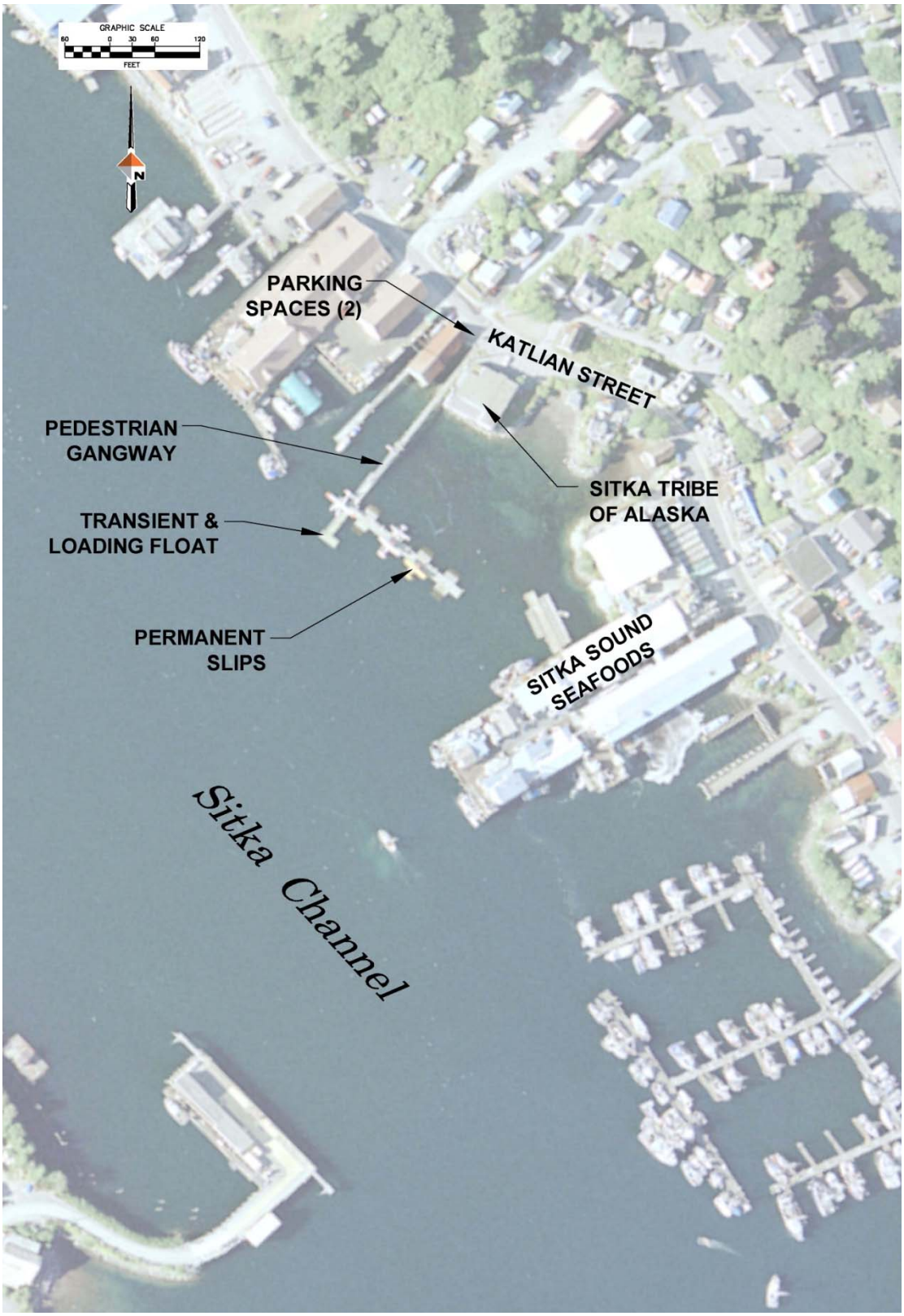


Figure 2: Existing Sitka SPB

There are no public SPB facilities available in Sitka for the moorage of seaplanes in commercial use with straight (non-amphibious) floats. A 1996 CBS Ordinance 96-1366, Section 13.10.190 *Airplane Float*, prohibited commercial use of the Sitka SPB except for picking up passengers, and only minor aircraft maintenance--work that can be accomplished in less than 24 hours--was allowed. This ordinance was superseded in 2005 by Ordinance 05-18, which allows commercial use of the SPB with the Harbormaster's approval (see Appendix C). Commercial operations are generally not approved due to the space limitations of the existing SPB and demand for slips by non-commercial operators.

A detailed assessment of the existing SPB's condition is beyond the scope of this document. A condition inventory of the facility was completed under separate contract by another consultant as part of the Harbor System Master Plan. The applicable pages from that report are included in Appendix D. A 2002 Conditions and Needs Assessment (by others) provides further details.

4.0 AVIATION FORECAST UPDATE

This section updates the aviation forecast contained in the 2002 "Sitka Seaplane Base Master Plan". The following analysis is consistent with the process recommended in FAA Advisory Circular 150/5067-6B, a supplemental FAA guidance document titled *Forecasting Aviation Activity by Airport* (2001), and *Airport Aviation Activity Forecasting: A Synthesis of Airport Practice*, published by the Transportation Research Board in 2007.

Information considered in the development of this forecast included the 2002 "Sitka Seaplane Base Master Plan" forecast, interviews with seaplane operators and CBS staff, an examination of local and regional economic and demographic trends, and comparisons with other local and regional aviation forecasts. A summary of these interviews can be found in Appendix B. Forecasts for low, medium, and high activity growth scenarios were developed.

4.1 Historical Aviation Data

FAA Terminal Area Forecast (TAF): The FAA TAF contains estimates of historical aviation activity data and FAA's forecasts for airports receiving FAA and contract tower services. For non-towered facilities like the Sitka SPB, historical activity data is estimated by FAA staff from

various sources, including information supplied by the airport owner. The TAF is not always accurate or up to date, but for many airports, it is the best information that the FAA has.

As shown in the table below, the TAF shows activity at the seaplane base decreasing slightly over the past five years in terms of based aircraft and annual operations.

Table 1: FAA TAF for Sitka Seaplane Base

	2006	2007	2008	2009	2010
Based Aircraft	10	10	9	9	9
Annual Aircraft Operations	5000	5000	4750	4750	4750

Source: FAA Terminal Area Forecast for A29, 2010

4.2 Previous Sitka SPB Forecasts

Sitka Seaplane Base Master Plan: The 2002 "Sitka Seaplane Base Master Plan" noted that the CBS SPB was used most heavily in the summer (June to September) and that two local commercial charter operators (Harris Aircraft Services and Air Sitka) used seaplanes, although neither based their operations from the CBS facility. The master plan recommended a facility sized to accommodate a moderate growth scenario including commercial seaplane operations, with a short term (within 5 years) need for 13 slips, and a long-term (20 years) need for 15 slips. Further, the plan recommended the identification of a site with the flexibility to accommodate 20 slips to allow for a potential greater increase in demand.

4.3 Updated Sitka SPB Forecast Data

Existing Based Aircraft: FAA Form 5010 shows 9 based aircraft at the SPB (FAA designation A29). Although this number exceeds the number of slips available, it reflects the seasonal nature of activity in Sitka and the City's practice of "hot berthing" - leasing slips on a temporary or seasonal basis rather than annually. There were only two aircraft berthed in the facility during the consultant's March 9, 2011, site visit, but the busy summer season starts with commencement of the herring fishery in late March and carries through September. Conversations with CBS staff and local commercial operators indicate that the facility is generally full to capacity in the summer. As of May 2012, all 8 slips were leased. Information offered by local pilots suggested that additional seaplane operators would lease slips at the SPB if additional capacity and/or services were available or if facility maintenance issues could be

addressed. One pilot said that the existing floats tended to submerge under the weight of a deHavilland Beaver.

Fleet Mix: Based on telephone interviews with regional commercial seaplane operators located outside Sitka and with local commercial and GA seaplane operators, aircraft operating at the facility are a mix of small single-engine aircraft such as the Cessna 180 and 185 and the deHavilland DHC-2 Beaver. This agrees with the based aircraft assessment in the 2002 Master Plan. During the site visit, anecdotal information was offered that in recent years fewer Beavers have utilized the facility due to a loss of buoyancy on the SPB's floats that makes it difficult to get these larger aircraft out of the water once in the slip.

4.4 Updated Socioeconomic Data

Sitka is the third largest community in Southeast Alaska. It enjoys one of the most diversified economies in the entire State of Alaska (SOA), composed of commercial fishing and fish processing, health care, cruise ship and independent tourism, education, and government. Sitka has two hospitals (Sitka Community and Sitka SEARHC). Cruise ships bring over 100,000 visitors annually, down from over 280,000 just 5 years ago. In 2009, 572 residents held commercial fishing permits, and fish processors were major employers. State and federal government agencies, such as the United States Forest Service, maintain offices in Sitka. Coast Guard Air Station Sitka, located just west of the city center on Japonski Island, is manned by 20 officers and 100 enlisted personnel.

The State-owned Rocky Gutierrez Airport on Japonski Island has a 6,500-foot-long by 150-foot-wide paved and lighted runway. In addition to daily jet service, several scheduled air taxis, air charters, and helicopters routinely operate there. A seaplane takeout ramp for moving seaplanes from the water to land is available to facilitate maintenance and float-wheel changeovers. One fixed base operator (Harris Air) with amphibious float-equipped aircraft (DHC-2 Beaver and Cessna 185) is located on the airport. Although not its primary use, the Harris Air Beaver is equipped to perform as an air ambulance.

The CBS operates five small boat harbors with 1,325 boat stalls and the SPB and other facilities. There is a breakwater float at Thomsen Harbor that provides transient moorage space. Boat launch, haul-out, boat repairs, and other services are offered in Sitka. Cruise ships anchor in

Crescent Bay and lighter visitors to shore. However, a privately-owned deep draft dock was recently completed in 2010. The Alaska Marine Highway System (state ferry) has a docking facility. The ferry serves Sitka several times a week with a 6-hour run to Juneau by fast ferry and 12-hour run by regular ferry. Freight arrives by barge and cargo plane.

According to the Alaska Department of Labor (ADOL) *Alaska Population Projections 2010 - 2034*, Alaska's statewide population is projected to continue increasing, although as Alaska's population ages in the coming years, annual growth is expected to slow. This general growth trend is anticipated for all of Alaska's regions except Southeast. All of the boroughs/census areas of the Southeast Region are expected to experience net outmigration strong enough to limit any population growth.

According to the 2010 U.S. Census, the population of the CBS was estimated to be 8,881. According to the ADOL mid-range forecast, this figure will decline to 8,215 by 2029, although their report acknowledges that "users of this data should be aware that there is a high degree of uncertainty regarding the future of these area populations. Countless factors could sway many of these populations dramatically."

4.5 Forecast Methods

While there are several techniques described in the FAA AC that are acceptable for forecasting aviation activity at a specific airport or seaplane facility, forecasts at larger busy airports use mathematical techniques such as regression or share analysis that rely heavily on a baseline of historical statistical data that is not available for the Sitka SPB. This analysis will rely on comparisons with statewide, local and regional aviation forecasts, with special emphasis upon interviews with regional and local seaplane operators.

4.5.1 Comparisons With Other Local and Regional Aviation Forecasts

Four relatively recent aviation activity forecasts contain data for the Sitka area - the *Alaska Aviation System Plan Forecasts* (State of Alaska Department of Transportation and Public Facilities [ADOT&PF], 2011), the *Sitka Rocky Gutierrez Airport Final Environmental Impact Statement* (FAA, 2009), the *Southeast Region Aviation System Plan* (ADOT&PF, 2008), and the *FAA TAF 2010 Scenario* (FAA, 2006). None of the forecasts listed below provide an in-depth view of the Sitka SPB, but together they identify trends that help build a reasonable forecast for

future activity at the facility. It should be noted, however, that in most cases the forecasts rely on historical activity data for the SPB to establish trends for the future. Since the capacity of the SPB has been constrained for many years by a lack of space and restrictions on commercial activities, historical data probably does not accurately reflect actual demand.

Alaska Aviation System Plan Forecasts: The *Alaska Aviation System Plan Forecasts* predict a slight decrease in the total number of GA aircraft based at all airport facilities in the Sitka Borough during the forecast period (2008-2030) from 39 to 37. Conversely, the number of GA operations expected to occur in the borough is expected to increase from 10,875 to 13,325. This trend is consistent with an FAA national forecast that anticipates an increase in aircraft utilization (i.e., more flights per aircraft). As a result of the increased numbers of operations per aircraft, the number of operations forecasted increases despite the decrease in the based aircraft forecast. Based aircraft at the SPB are expected to decrease by one over the same time period; from 9 to 8. Annual GA operations at the SPB are predicted to be nearly unchanged; 750 in 2008, and 746 in 2030.

Sitka Rocky Gutierrez Airport Final Environmental Impact Statement: The 2006-2025 forecast developed by the FAA TAF in 2007 for this airport was used in the 2009 Environmental Impact Statement for the purpose of assessing impacts. The 2006 TAF predicted very slow growth in passenger enplanements and air carrier operations (less than .04%/year) during the forecast period with no growth for air taxi, GA, or military operations. The Environmental Impact Statement acknowledged, however, that the TAF was based upon estimated historical operations for the airport since accurate statistical information was not available. Further, it noted that the aviation industry was undergoing significant structural and economic changes and that, therefore, actual activity levels might vary from the consistent growth trend predicted by the TAF.

Southeast Region Aviation System Plan: According to this regional plan, the Sitka SPB is one of 41 registered SPBs in Southeast Alaska and is likely one of the top five busiest in terms of operations. This includes both public and privately-owned facilities. There are a number of other unregistered seaplane landing areas in Southeast that receive charter and scheduled air service, including numerous lodges and logging and mining camps. The *Regional Plan* anticipated that although scheduled aviation activity at Sitka Rocky Gutierrez Airport and

elsewhere in the region was expected to be stagnant or show a slight decline in response to increased fuel prices, a lackluster regional economy, and population outmigration, activity at the Sitka SPB was likely to increase by an unspecified amount as air taxi activity grows to take up some of the demand previously served by scheduled carriers.

FAA TAF 2010 Scenario for A29 (Sitka SPB): The 2010-2030 forecast developed by the TAF for the Sitka SPB shows no growth throughout the forecast period. Activity is estimated to level out at 4,750 annual operations at the existing facility.

4.5.2 User Input and Comparison with Other Communities

The forecasts in Section 4.5.1 indicate that future activity is expected to change little from existing levels. These forecasts are heavily influenced by trends established through historical usage. Historical usage for the Sitka SPB has been flat (no growth) because usage has been constrained by a lack of SPB facilities. In these cases where usage trends have been influenced by supply constraints (i.e. a lack of, or a shortage of, SPB facilities) the forecasts cannot be expected to accurately describe the activity (demand) that might occur if those supply constraints did not exist. In order to determine whether an unmet demand for SPB exists in Sitka, interviews were conducted with pilots operating seaplanes locally and in the Southeast Alaska Region.

Pilot Surveys: Local and regional commercial aircraft operators indicate that based commercial and medevac seaplane operations occur in Sitka almost exclusively from the State-owned Sitka Rocky Gutierrez Airport (FAA identifier SIT). Seaplane operators at Sitka Rocky Gutierrez Airport use amphibious floats and, despite the payload penalty that amphibious floats impose, prefer the State airport because lease lots are available for the storage and maintenance of their mixed fleet of aircraft (wheel- and float-equipped aircraft) and for office facilities. In the past, based seaplane operations have also been conducted by Air Sitka from their private float facility just north of the CBS SPB, but the operator has curtailed operations in recent years and is currently offering the property for sale. Operators indicated that their seaplane operations are in decline due to the national economic decline, rising fuel prices, and as communities in the region gradually acquire land-based airport facilities. For the Sitka Rocky Gutierrez Airport-based seaplane operator, rather than being a mainstay for their businesses, commercial seaplane operations in support of lodges, fish hatcheries, and tourism are becoming a fill-in activity when

operations with wheeled aircraft do not demand their full attention and resources. Regardless, these same operators felt that there are opportunities for small "one-pilot" commercial operators to come into the local market to serve seasonal surges in demand, and that these enterprises would be less likely to require extensive upland support facilities.

A telephone survey was conducted among a sample of local pilots. Several long-time pilots indicated an interest in basing Part 91 or 135 commercial operations at the CBS SPB if adequate support facilities were available. They defined "adequate support facilities" as vehicle parking, a fueling system, a ramp from shore to the seaplane float capable of supporting a small truck or van, storage for small equipment and supplies, fresh water for washing aircraft, electricity, and a passenger shelter. Most were satisfied with aircraft maintenance and storage facilities available at the State-owned Sitka airport or elsewhere in the region.

4.6 Sitka Seaplane-Based Aircraft Forecast

Low, moderate, and high growth forecasts were estimated for the demand for slips at Sitka SPB using trend-line analysis adjusted to reflect a conservative estimate of unmet demand. Growth indicators came from the population, socio-economic, and aviation forecasts summarized in the previous paragraphs. The following table shows the low, moderate, and high forecasts for the Sitka SPB from the 2009 base year, the last year for which historical data is available, through 2031.

Initial demand for non-commercial slips is anticipated to be the same as it was in spring 2011; 6 occupied slips and 4 operators on the waiting list for a slip, or 10 slips. The demand for an additional 2 non-commercial slips is assumed to exist, either for deHavilland Beaver type aircraft that presently do not use the facility due to flotation issues with the existing slips, or for operators that otherwise would have otherwise chosen not to wait two years or more for a vacant slip to become available. Based on interviews with pilots in the Sitka area who have expressed an interest in starting a commercial operation at the SPB, two additional slips are assumed to be needed to accommodate facility-based commercial traffic. The total current demand for seaplane slips is therefore assumed to be 14 slips, a 75% increase in the available supply of slips.

The rate of change anticipated by the low growth scenario is generally consistent with the annual rates used in ADOL's 2010-2034 population forecast for Sitka (-.25%/year) and DOT&PF's

forecast for Sitka-based aircraft (-.30%/year). The 2006 TAF used for the *Final Environmental Impact Statement Rocky Gutierrez Airport* and the 2010 TAF both anticipated a flat-line (no growth/no decline) trend. However, the *Southeast Region Aviation System Plan* anticipates an unspecified amount of growth in air taxi activity at Sitka SPB as scheduled activity at Sitka Rocky Gutierrez Airport declines. Local private and commercial operators confirmed this view during the on-site visit, public meetings, and telephone interviews. It is therefore recommended that planning for improvements be conducted in accordance with the moderate scenario, with consideration given to maintaining flexibility to accommodate unanticipated future increases in demand.

Table 2: Low, Medium, and High Aircraft Activity Forecast

Aircraft Operations	% Annual Growth	2009 (Base)	2012	2016	2021	2031
Low Forecast	1.02%	4,750	4,897	5,925	6,233	6,899
Moderate Forecast	1.05%	4,750	4,901	5,936	6,254	6,943
High Forecast	1.07%	4,750	4,904	5,944	6,269	6,973
Based Aircraft	**% Annual Growth**	**2009 (Base)**	**2012**	**2016**	**2021**	**2031**
Low Forecast	-0.30%	8	14	14	14	13
Moderate Forecast	0.50%	8	14	14	15	15
High Forecast	1.00%	8	14	14	15	17

5.0 FACILITY REQUIREMENTS

This section identifies a set of SPB requirements that must be satisfied to meet anticipated demand during the 20-year planning period. These requirements are based upon the planning criteria in FAA Advisory Circular AC 150/5395-1 "Seaplane Bases." These criteria can be grouped into the following three categories - each designed with a "Critical Aircraft" in mind:

- Water Operating Area
- Seaplane Docks
- Landside Facilities

Interviews with local pilots also emphasized that to successfully accommodate commercial seaplane traffic, the SPB design should incorporate adequate parking, a fueling system, a drive-down ramp, and facilitates for on-site aircraft maintenance.

***Critical Aircraft*:** A Critical Aircraft, also known as the Design Aircraft, serves as the basis for project design. The Critical Aircraft is defined as the most demanding aircraft expected to use the facility on a regular basis, although smaller aircraft may also operate there. Although the largest commercial seaplane to use Sitka Channel in recent times was the deHavilland DHC-6 Twin Otter, this occurs infrequently. The largest aircraft currently operating at the SPB is the deHavilland DHC-2 Beaver, although traffic more frequently consists of Cessna 206 (C-206) and 185 (C-185) type aircraft. This project's Critical Aircraft is the DHC-2 Beaver, although the SPB's design should accommodate a mix of DHC-2, C-206, and C-185 type aircraft. In accordance with the moderate forecast, the SPB should provide 14 parking positions for based aircraft to serve demand today through 2016. Positions for 3 to 5 transient aircraft should also be provided. The layout of the facility should also be designed to accommodate commercial aircraft use and allow future expansion.

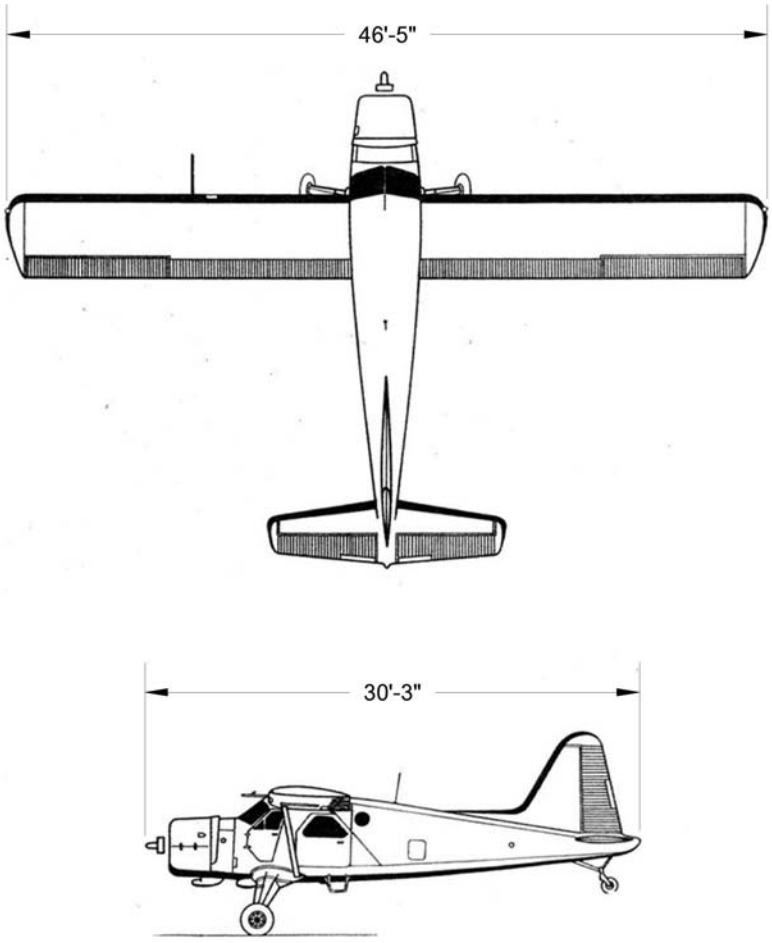


Figure 3: deHavilland DHC-2 Beaver Dimensions

***Water Operating Area*:** The water operating area consists of that part of the SPB used for landings, takeoffs, taxiing, and turning aircraft on the water. Approaches to and departures from the water operating area should be away from established shipping and boating lanes whenever possible. The approach and departure pathways should avoid populated areas and structures along the shore. Obstructions to air navigation should be removed or marked in accordance with FAA standards and procedures.

The location of areas that attract birds should be noted and avoided when possible. According to AC 150/5200-33B Hazardous Wildlife Attractants On or Near Airports, the FAA recommends a separation distance of 5,000 feet between airports serving primarily piston-powered aircraft and hazardous wildlife attractants such as waste management or disposal facilities.

Landing and takeoff areas should be located where water currents do not exceed 3.5 miles per hour. Water surface conditions should be moderately disturbed (i.e., not "glassy"), but areas where large swells exist should be avoided. Areas where floating debris could be encountered should also be avoided.

A water operating area of at least 2,500 feet by 200 feet is recommended, oriented to maximize wind coverage. A depth of 6 feet is recommended, although a minimum depth of 3 feet is adequate for single-engine operations. A taxi channel providing direct access to the seaplane dock should be at least 125 feet wide, although 150 feet or more is desirable. A minimum of 50 feet should be provided between the side of the channel and the nearest obstruction. A turning basin should be located at each end of the water operating area. A minimum of 50 feet should be provided between the side of the basin and the nearest obstruction. The 4,000-foot-by-200-foot water operating area described in FAA's Alaska Supplement for the Sitka SPB meets all of these dimensional criteria and its larger size is appropriate given the types of aircraft operating there. However, the water operating area must be used with due consideration of the boat traffic and wildlife hazards (seagulls) that also exist in the channel.

***Seaplane Docks*:** A seaplane dock is required to allow aircraft to be serviced, loaded and unloaded, and moored without removing the aircraft from the water and to allow seaplanes to be removed from the water for long-term parking and storage, washing, and maintenance. The dimensions of the docks should be suitable for 14 aircraft with wingspans of up to 48 feet and

wingtip to wingtip separations of 10 feet. The slips should be designed with ramps that allow the seaplane floats to be brought completely out of the water to reduce saltwater corrosion and facilitate wash-downs and inspections. Fresh water for aircraft wash-downs and electricity for heat and light should also be available. A transient dock should be provided to accommodate up to 5 additional aircraft. The design aircraft length (48 feet) plus 20 feet both fore and aft (88 feet) is recommended for each position where transient aircraft are to be moored parallel to the dock.

Gangways should connect the dock to a pier or the shore. Gangways should be designed at least 6 to 8 feet wide to enable baggage carts or other freight and equipment to pass. Single-lane vehicular or "drive-down" ramps should be 10 feet to 12 feet wide, but may be 18 feet wide if they incorporate a pedestrian walkway. Depending on the distance between the floats and shore, vehicular gangways may be desirable to facilitate the transfer of passengers, baggage, equipment, and freight. Handrails should be provided on both sides. A slope of 2.75:1 is typical. Where vehicular gangways are not practical, pedestrian gangways should be designed to satisfy requirements of the Americans with Disabilities Act. Provisions for fueling should be included in the facility's design. A haul-out ramp should be provided to facilitate removal of seaplanes from the water to land for maintenance and storage, if site conditions allow.

***Landside Facilities*:** Local pilots have indicated that on-site aircraft maintenance facilities would be desirable to serve commercial seaplane traffic. The size of the service apron and tie down area are determined based on forecasted need, but a minimal service apron/tie down area would require at least one-half acre The availability of uplands for an apron and tie-downs at the three alternative SPB sites under consideration is severely constrained by existing development or topographic challenges. These same functions could be served by floating hangars.

Initial parking for 12 vehicles and long-term parking for up to 15 vehicles should be provided on the side of the access roadway or in a dedicated parking lot. A 9-foot-by-18.5-foot parking area should be provided for each vehicle. According to FAA design guidelines, the number of parking spaces required should be approximately equal to the number of peak hour passengers multiplied by 1.5. Estimating the number of peak hour passengers 20 years in the future for a facility that does not currently accommodate commercial seaplane operations is difficult.

However, the SPB at Kodiak Trident Basin, which serves commercial traffic, had 5,732 operations in 2005 and 8 average peak hour enplanements. Sitka SPB is forecast to host 6,943 operations in 2031. Using the Kodiak Trident Basin ratio for peak hour enplanements to operations (8/5,732 or .0014), Sitka SPB should have about 10-peak-hour enplanements in 2031. Using the FAA parking space guideline, Sitka SPB would need 10 times 1.5 or 15 parking spaces to accommodate the need in that year. For sites where space is not available for this number of spaces, the demand for parking spaces could be managed through the sale of parking permits and/or a requirement for commercial users to shuttle passengers to the SPB from other staging locations.

A fuel storage facility and a piped delivery system should be provided. Alternately, a local vender might use the drive-down ramp to deliver fuel to the floats by truck.



Figure 4: Floating Hangar - Petersburg

6.0 ALTERNATIVE SITES

6.1 Previous Study

As explained previously, the evaluation of sites builds upon the siting analyses presented in the "Sitka Seaplane Base Master Plan" (HDR, 2002). The 2002 plan evaluated twelve alternative sites for their ability to safety accommodate anticipated demand and resolve deficiencies at the existing SPB. The sites considered were:

- Charcoal Island
- Jamestown Bay
- Sawmill Cove
- Herring Cove
- Starrigavan Bay
- Thomsen Harbor/Turnaround area
- Sitka Rocky Gutierrez Airport lagoon
- Former Safe Harbor site next to Japonski Island
- Work float site to Japonski Island
- Site near Mount Edgecumbe High School on Japonski Island
- Site west of Southeast Alaska Regional Health Consortium (SEARHC) on Japonski Island
- Existing SPB site in Sitka Channel

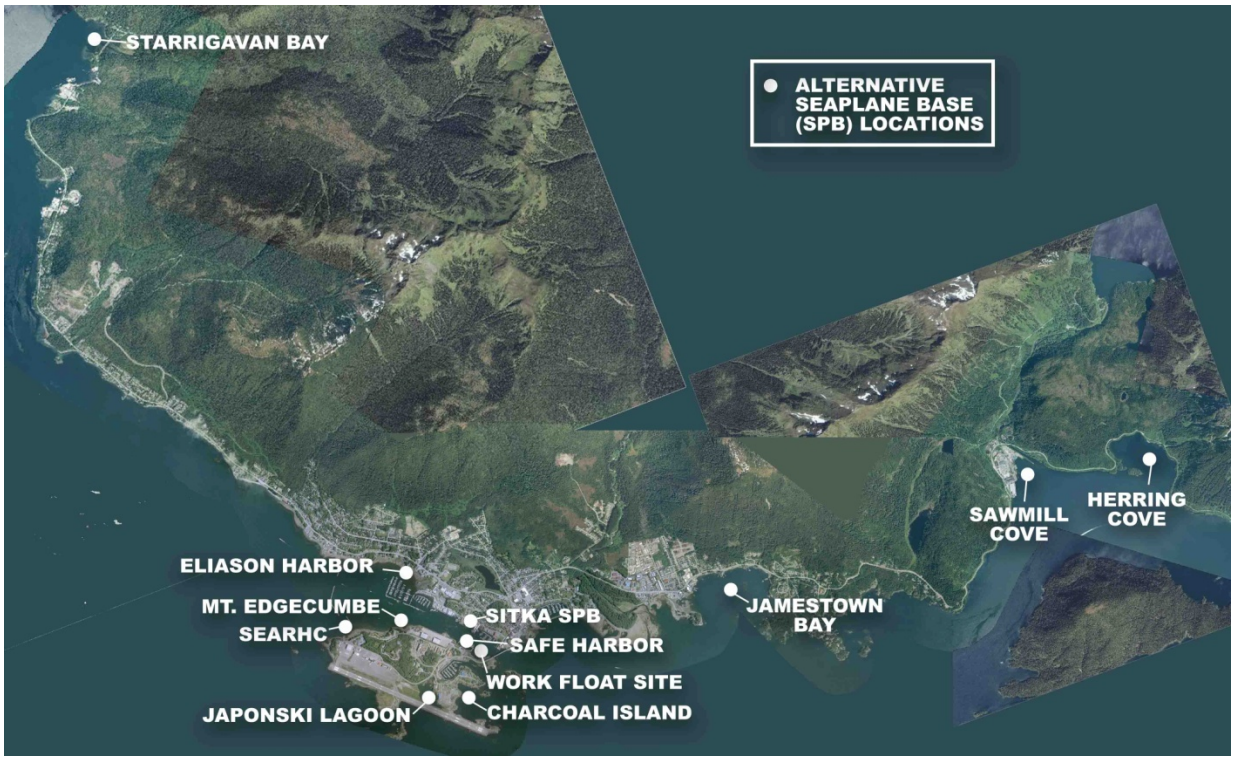


Figure 5: Previously Evaluated Sites

Sites determined by that study to have fatal flaws were eliminated from further consideration. Although "fatal flaws" included characteristics that made the site unworkable from an environmental or capacity perspective, most sites were eliminated because they could not provide a safe operating or docking environment.

Three sites were selected for further evaluation:

- Former Safe Harbor site on Japonski Island
- Site near Mount Edgecumbe High School on Japonski Island
- Site west of SEARHC on Japonski Island

Ultimately, the 2002 study recommended the site west of SEARHC on Japonski Island for further environmental and design investigations, citing several advantages over the other sites evaluated including the potential that the new site could result in decreased aircraft noise along the most heavily developed stretch of the channel. However, two concerns with this site were identified: a potential increase in aircraft noise and vehicular activity in the immediate area, and

it was not clear that alternate access to the site through the United States Coast Guard property could be acquired.

6.2 Current Study

The purpose of the current study was to re-evaluate three potential seaplane base sites and recommend a preferred site for more detailed design and environmental investigations. Sites evaluated during the 2002 study were visited and key seaplane operators, staff from the CBS and FAA, the Sitka Port and Harbors Commission, and other individuals identified by CBS were interviewed. It was agreed that the previous study was justified in removing potential SPB sites outside the Sitka Channel from further consideration. The current study focused on the re-evaluation of three potential SPB sites in Sitka Channel, referred to here as:



Figure 6: Re-evaluated Sites

1. The Existing SPB site
2. The Eliason Harbor Site
3. The Japonski Island Site

Conceptual layouts were developed for each site based upon the facility requirements identified in Section 5.0. For each of the three sites, the layout that best met the project's purpose and need was selected for a comparison evaluation against alternatives from the other sites. The objective of this comparison was to identify a preferred site as the basis for further more detailed analysis. It is anticipated that further refinements will be made to the conceptual layouts recommended for the site during the project's environmental and design phases.

At each site, the goal of the conceptual layout was to provide the following features:

- 12 vehicle parking spaces
- Fuel storage and distribution system
- On-site aircraft maintenance capability

- A drive-down ramp to the SPB floats
- Electricity and potable water
- Parking slips for 14 based aircraft and positions for 3 to 5 transient aircraft
- Safe access between the parking positions and the water operating area
- Minimize environmental impacts
- Accommodate future growth

6.2.1 Existing Seaplane Base Site

The existing SPB site is severely constrained by adjacent development, a fact which initially caused CBS to eliminate this site for new development. Due to interest in the site expressed by local pilots, a considerable effort was made to find a conceptual layout in this location that would address the project's purpose and need. Four layout alternatives (Layouts 1A through 1D) were developed and evaluated for this site. However, SSS provided a letter to CBS citing objections to the noise and traffic generated by the existing SPB and any proposed expansion of the facility (Appendix B).

Alternative Layout 1A: This alternative (Figure 7) is an attempt to meet the SPB requirements within the CBS-owned property footprint of the existing SPB. CBS property at the existing site is limited, consisting of two vehicle parking spaces on Katlian Street and a 10-foot to 12-foot-wide corridor for the walkway leading from the street to the SPB floats. Because of the lack of upland property, the conceptual layout for this alternative does not include additional parking spaces, a fuel storage or distribution system, an on-site maintenance facility, or a drive-down ramp. Electricity and potable water is included. Because of the proximity of adjacent buildings and docks, only enough parking slips and positions for 10 based aircraft and two transients could be accommodated. Access to the slips nearest to the shore is constrained by a taxi lane that is only 68 feet wide nearest to the SSS plant, far below the FAA recommended 225-foot minimum. This would reduce wingtip clearances for a taxiing Beaver to about 10 feet. This site is well protected from wind and wave action. Dredging would be required to provide adequate depth for the floats and for maneuvering the seaplanes. Conflicts with the movement of large boats loading/offloading at the SSS plant would continue. The distance between the SPB and the focus

of seabird activity at the SSS outfall would be unchanged. This layout could not be easily expanded to accommodate future growth. This alternative is estimated to cost $4.6 million. Detailed cost estimates for each alternative can be found in Appendix A.

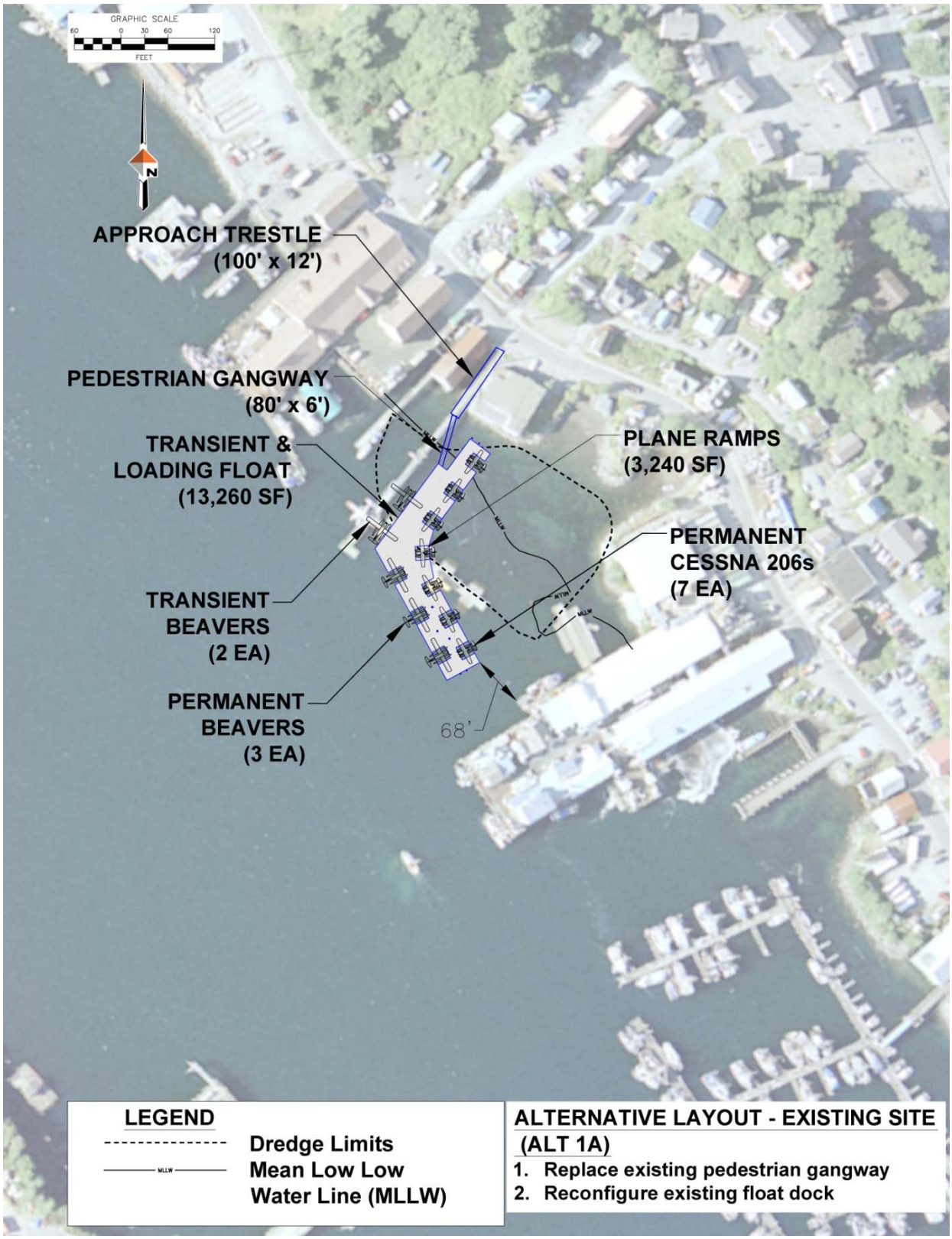


Figure 7: Alternative Layout 1A - Existing Site

Alternative Layout 1B: This alternative (Figure 8) would require the purchase of additional property at the existing SPB site. The specific parcels acquired to provide 12 parking spaces, a fuel storage or distribution system, and a drive-down ramp could vary depending upon the SPB's final design and the availability of willing sellers. Figure 8 shows a building immediately north of the approach trestle as acquired to provide parking, fuel storage, and a drive-down ramp. Alternately, lots on the north side of Katlian Street could be acquired for parking and/or a lot on the south side of the Sitka Tribes of Alaska building could be acquired for fuel storage, parking, and a drive-down ramp. Electricity and potable water is included. Because of the proximity of adjacent buildings and docks, only enough parking slips and positions for 10 based aircraft and 2 transients could be accommodated and facilities for on-site aircraft maintenance were not included. Access to the slips nearest to the shore is constrained by a taxi lane that is only 68 feet wide nearest to the SSS plant, far below the FAA recommended 225-foot minimum for safe maneuvering. This would reduce wingtip clearances for a taxiing Beaver to about 10 feet. This site is well protected from wind and wave action. Dredging would be required to provide adequate depth for the floats and for maneuvering the seaplanes. Conflicts with the movement of large boats loading/offloading at the SSS plant would continue. The distance between the SPB and the focus of seabird activity at the SSS outfall would be unchanged and this layout could not be easily expanded to accommodate future growth. This alternative is estimated to cost $5.1 million.

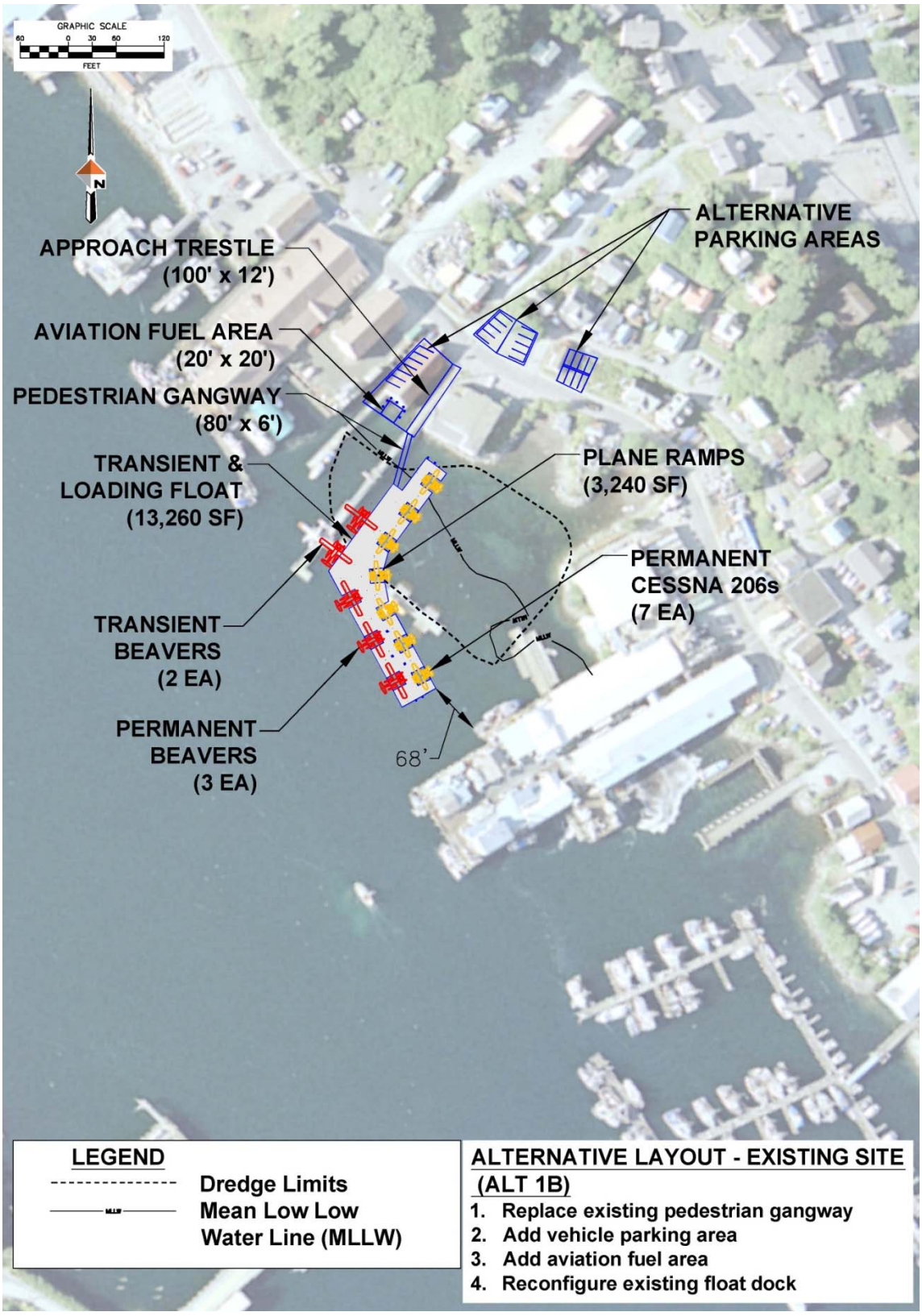


Figure 8: Alternative Layout 1B - Existing Site

Alternative Layout 1C: This alternative (Figure 9) was developed in response to a request from local pilots who requested the evaluation of an H-shaped float layout. This alternative would require the purchase of additional property at the existing SPB site. The specific parcels acquired to provide 12 parking spaces, a fuel storage or distribution system, and a drive-down ramp could vary depending upon the SPB's final design and the availability of willing sellers. Figure 9 shows several possible acquisition scenarios. Electricity and potable water is included. Because of the proximity of adjacent buildings and docks, only enough parking slips and positions for 13 based aircraft and two transients could be accommodated and facilities for on-site aircraft maintenance were not included. Access to the slips nearest to SSS is constrained by a taxi lane that is 96 feet to 59 feet wide, far below the FAA recommended 225-foot minimum for safe maneuvering. This would reduce wingtip clearances for a taxiing Beaver to about 5 feet at the narrowest point. Access to the slips on the interior of the facility is via a taxi lane that is 84 feet wide, also far below the FAA recommended minimum. Such a taxi lane would provide a clearance of about 18 feet between the wingtip of a taxiing Beaver and the tails of parked aircraft. This site is well protected from wind and wave action. Dredging would be required to provide adequate depth for the floats and for maneuvering the seaplanes. Conflicts with the movement of large boats loading/offloading at the SSS plant would increase and boat moorage on the north side of SSS may be severely restricted. The distance between the SPB and the focus of seabird activity at the SSS outfall would be unchanged. This layout could not easily be expanded to accommodate future growth. Since it is doubtful that access to/from any of the slips could be accomplished in a consistently safe manner, and boat access to the SSS plant is restricted, a cost estimate was not developed for this alternative.

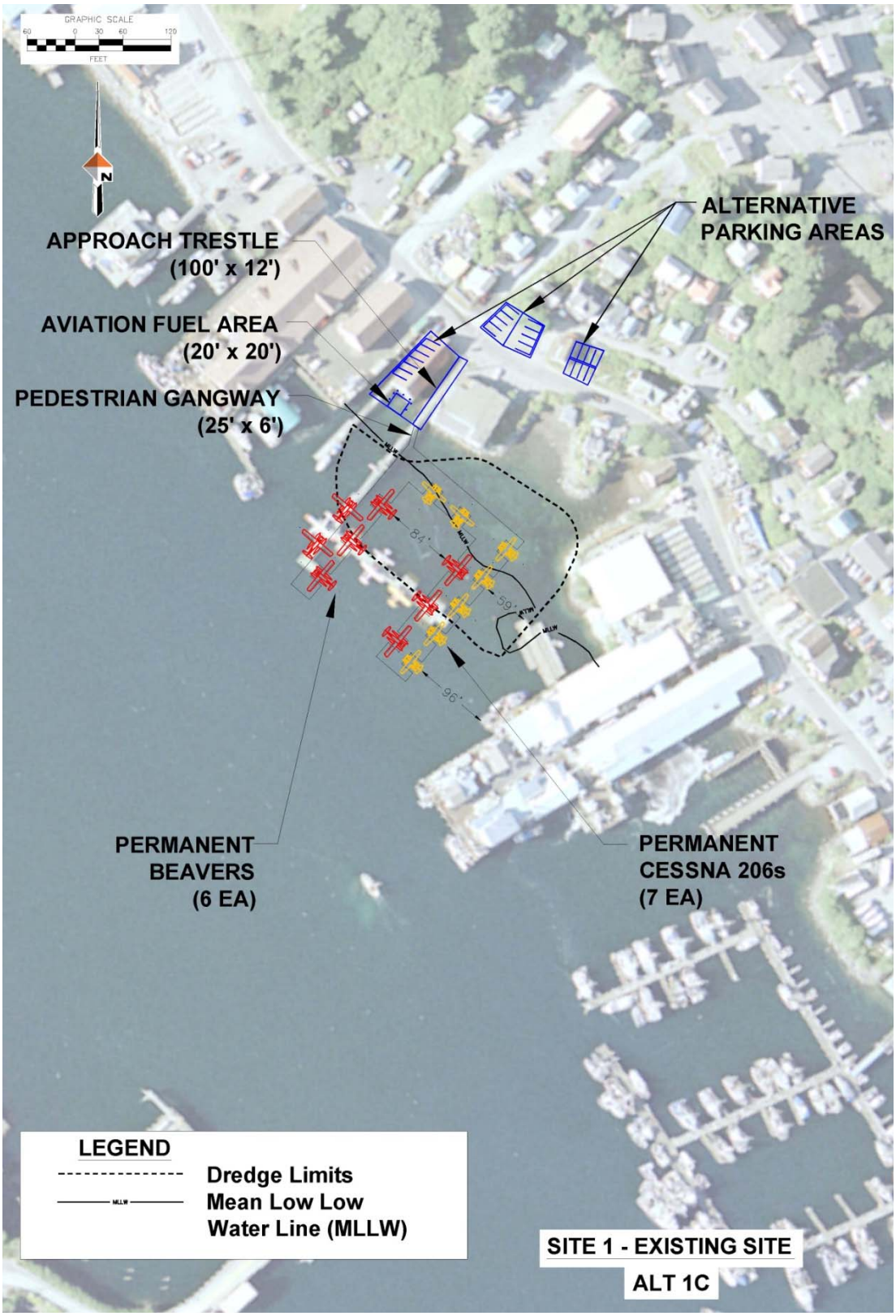


Figure 9: Alternative Layout 1C - Existing Site

Alternative Layout 1D: This alternative (Figure 10) was also developed in response to a request from local pilots who requested the evaluation of an H-shaped float layout. Alternative Layout 1D is very similar to Alternative 1C. Alternative 1D would require the purchase of additional property at the existing SPB site. The specific parcels acquired to provide 12 parking spaces, a fuel storage or distribution system, and a drive-down ramp could vary depending upon the SPB's final design and the availability of willing sellers. Figure 10 shows one possible acquisition scenario. Electricity and potable water is included. The interior taxi lane has been expanded to 150 feet to make the slips on the inside of the floats more accessible and increase the total number of slips for based aircraft to 14. Because of space constraints, facilities for on-site aircraft maintenance were not included. Access to the slips nearest to SSS is rendered impossible by a taxi lane that is 31 feet wide at its widest, effectively reducing the SPBs capacity to 9 based aircraft and two transients. Access to the slips on the interior of the facility is via a taxi lane that is 150 feet wide, still below the FAA recommended minimum but providing wingtip clearances for a Beaver of about 51 feet. This site is well protected from wind and wave action. Dredging would be required to provide adequate depth for the floats and for maneuvering the seaplanes. The distance between the SPB and the focus of seabird activity at the SSS outfall would be unchanged. Boat access to the north side of the SSS facility would be eliminated. This layout could not be easily expanded to accommodate future growth. Since this alternative does not meet the project's capacity goal and eliminates boat access to part of the SSS plant, a cost estimate was not developed.

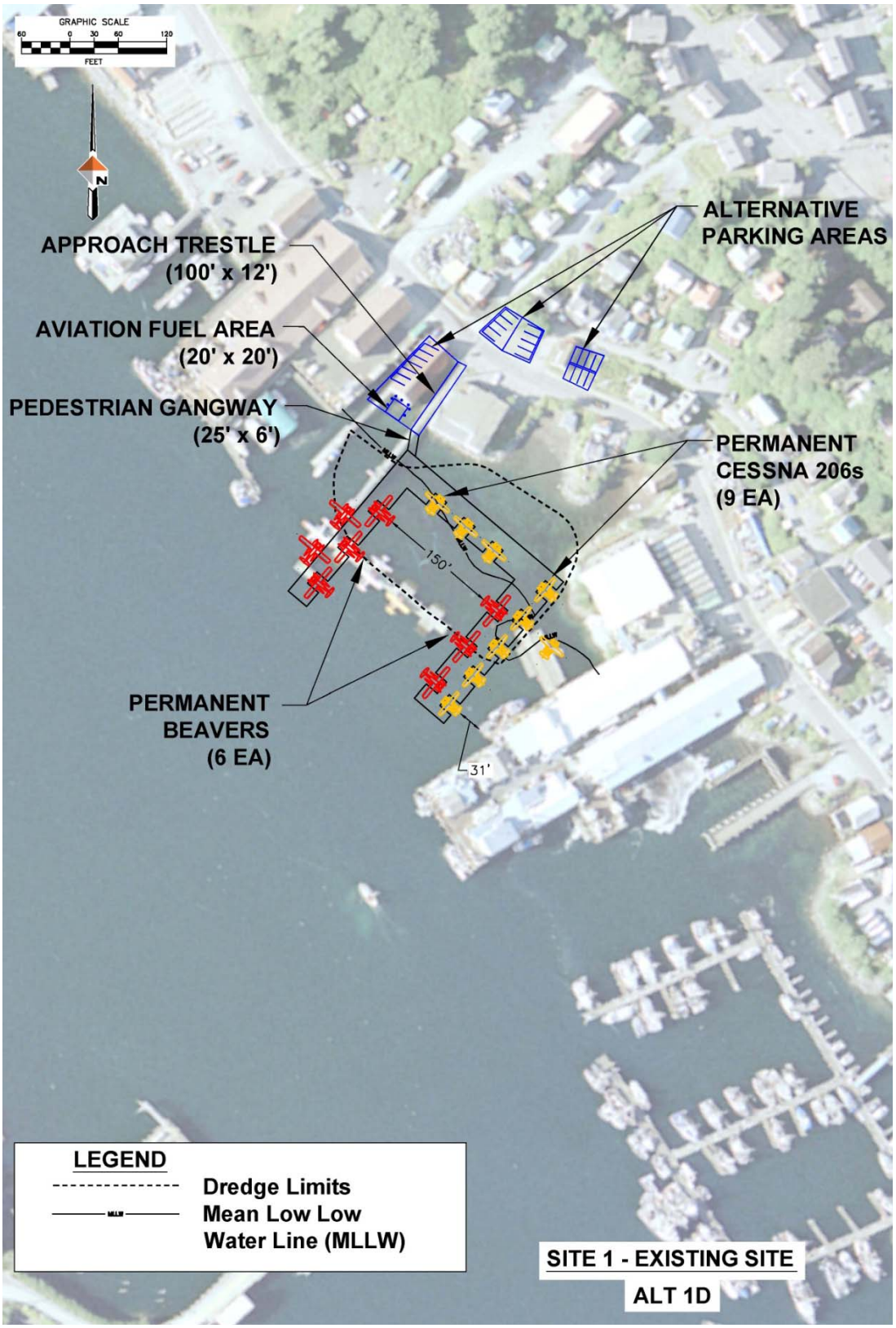


Figure 10: Alternative Layout 1D - Existing Site

Table 3 compares the four layouts at the existing SPB site. Although none of the four alternative layouts for the existing SPB met all of the facilities' requirements, Alternative Layout 1B was carried forward to be compared to alternative layouts from the other two potential sites.

Table 3: Comparison of Existing SPB Layout Alternatives

Design Criteria	Alternative 1A	Alternative 1B	Alternative 1C	Alternative 1D
12 parking spaces	No	Yes	Yes	Yes
Fuel storage & distribution system	No	Yes	Yes	Yes
On-site maintenance facility	No	No	No	No
Drive-down ramp	No	Yes	Yes	Yes
Electricity & potable water	Yes	Yes	Yes	Yes
14 based aircraft slips, 3-5 transient positions	No	No	No	No
Safe access/maneuvering to slips	Poor	Poor	Unworkable	Unworkable
Protected from wind and waves	Yes	Yes	Yes	Yes
Allows for future expansion	No	No	No	No
Minimal environmental impacts	No	No	No	No

6.2.2 Eliason Harbor Alternative

This alternative (Figure 12) is an attempt to meet the SPB requirements using CBS-owned property at Eliason Harbor. The conceptual layout for this site includes parking spaces, a fuel storage and distribution system, an on-site maintenance facility (two optional floating hangars), and a drive-down ramp. Electricity, a potable water distribution system, and seaplane parking slips and positions for 14 based aircraft and three transients are included. The floats are arranged in a linear fashion with seaplane parking positions on the east side to separate boat and seaplane traffic. Access to the slips is by a taxi lane that approximates the FAA recommended 225-foot minimum width. Extensive dredging would be required to provide adequate depth for the floats and for maneuvering the seaplanes. Some conflicts with the movement of boats moving to/from the harbor could be expected, but at a reduced level compared to the existing SPB. Water discharging from Turnaround Creek could be expected to freeze and render this site at least partially unusable during some winter months. Protection from easterly winds would be somewhat less than that experienced at the existing SPB site. The distance between the SPB and the focus of seabird activity at the SSS outfall would be increased by approximately 3,000 feet. Aircraft-generated noise from this facility may impact nearby structures. This layout is

estimated to cost $13.2 million without the floating aircraft maintenance hangars and $15.6 million with the floating hangars.

Note that the SPB floats shown in Figure 12 generally follow the alignment of the existing pilings that are positioned in the water just beyond the shoreline in Figure 11. Turnaround Creek is just outside the frame to the right.



Figure 11: Eliason Harbor site at Low Tide

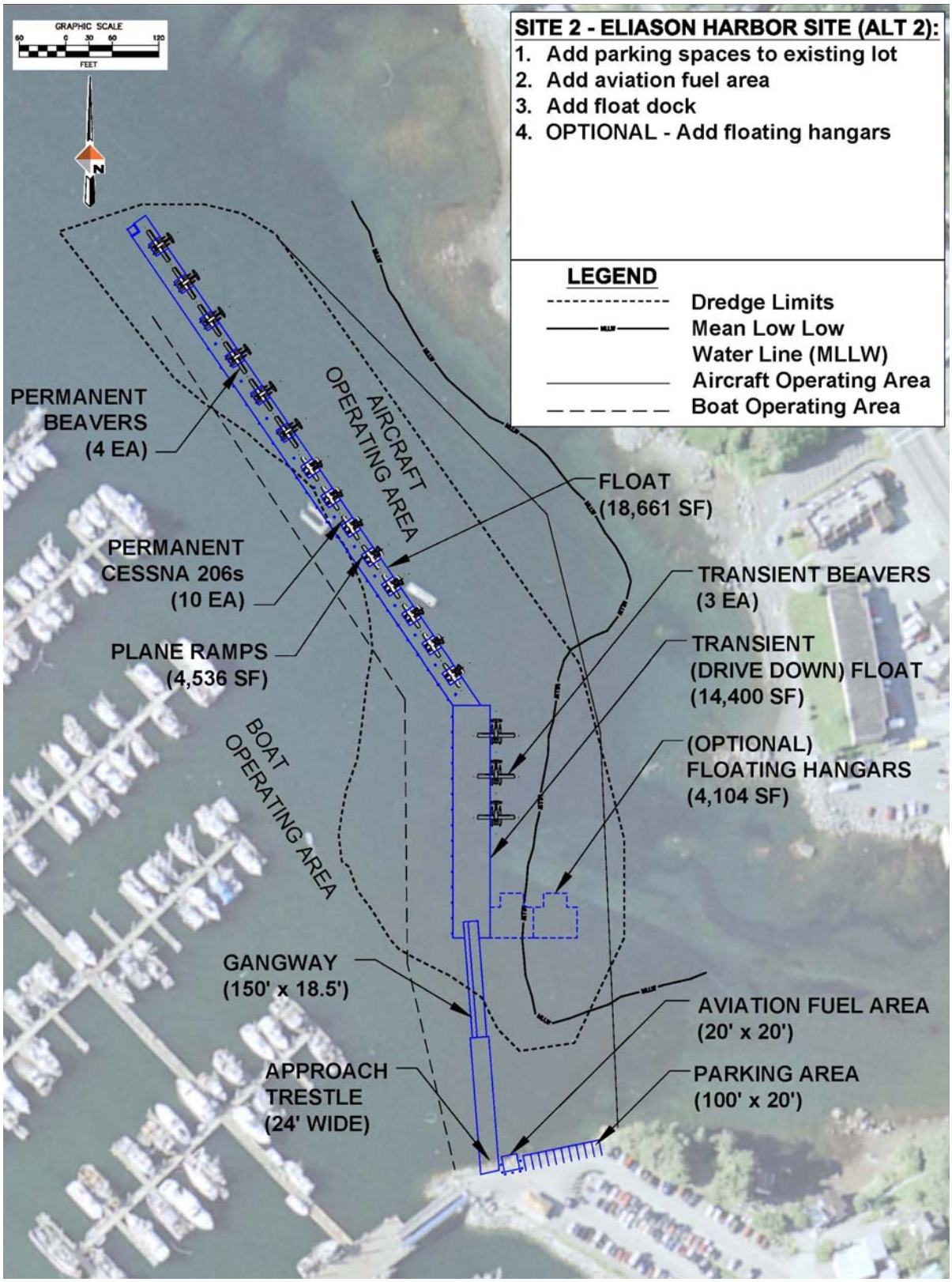


Figure 12: Alternative Layout 2 - Eliason Harbor Site

6.2.3 Japonski Island Alternative

Alternative Layout 3A: This alternative (Figure 13) is an attempt to meet the SPB requirements at a site at the north end of Seward Avenue on Japonski Island. The conceptual layout for this site includes 12 vehicle parking spaces, a fuel storage and distribution system, and a drive-down ramp. Although not shown in the figure, an on-site maintenance facility (an on-shore facility or two optional floating hangars) could be accommodated at this site. Electricity, a potable water distribution system, and seaplane parking slips and positions for 14 based aircraft and 5 transients are included. The floats are arranged to align all slips with the prevailing wind. This location is removed from areas of concentrated boat traffic and access to the slips is unrestricted. Dredging would not be required to provide adequate depth for the floats and for maneuvering the seaplanes. Protection from easterly winds would be somewhat less than that experienced at the existing SPB site and long period swells may penetrate the nearby breakwaters to reach the floats. The distance between the SPB and the focus of seabird activity at the SSS outfall would be increased by approximately 4,300 feet. Aircraft-generated noise from this facility may impact nearby structures, although a SPB at this location may also reduce noise in the channel by moving the water operating area further to the north. This layout is estimated to cost $9.3 million without the floating aircraft maintenance hangars and $11.7 million with floating hangars.

The SPB would be located on state-owned tidelands. Uplands owned by the State of Alaska Department of Education and Early Development would likely be required for access to the SPB, however, a final access location has not been determined.

Mount Edgecumbe High School provided two letters (Appendix B) expressing a lack of support for a SPB at this location, siting the agency's interest in using the property for other unspecified purposes in the future, possible impacts to nearby structures, increased vehicular traffic, and other concerns.

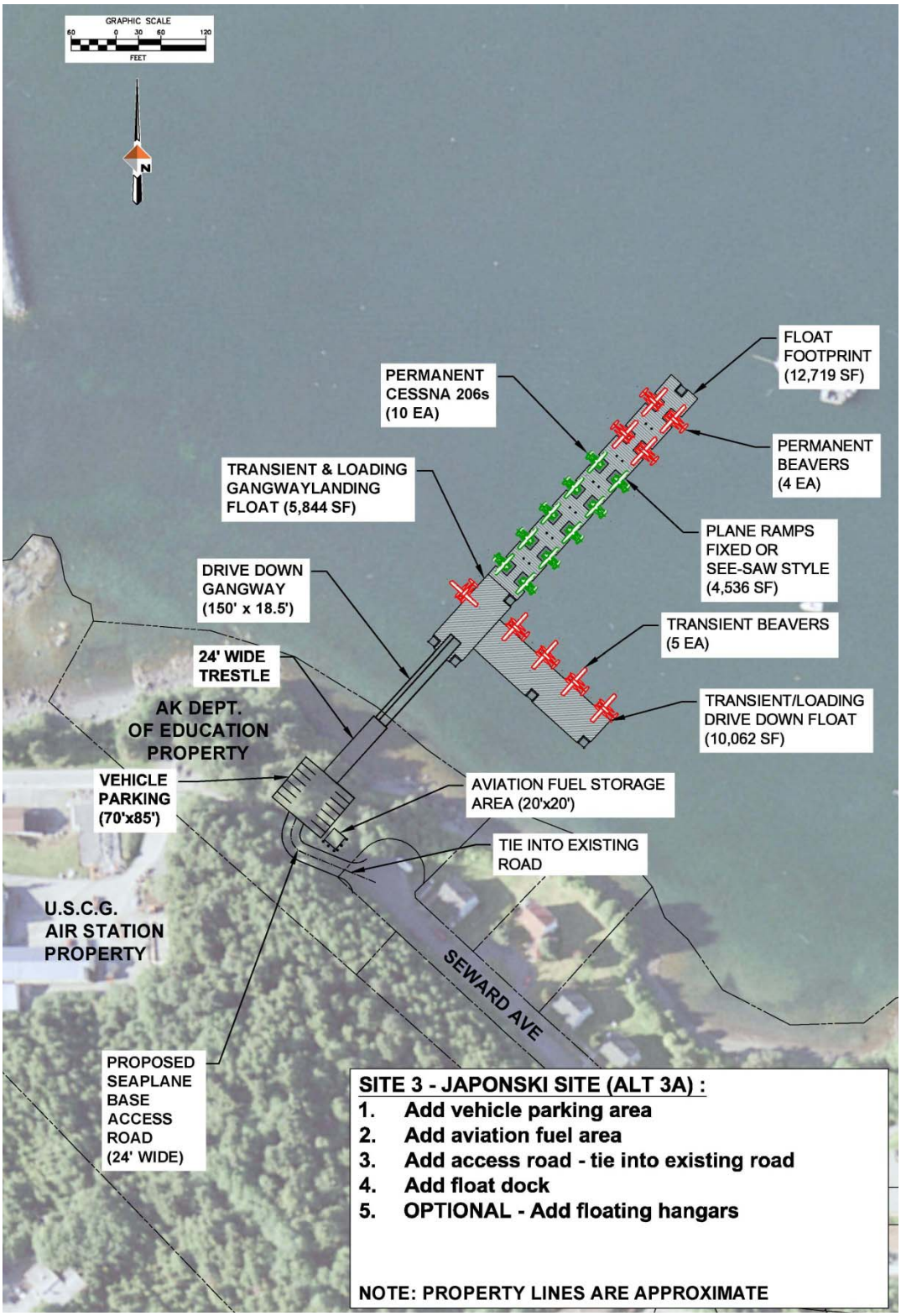


Figure 13: Alternative Layout 3A - Japonski Site

6.2.4 Evaluation of Alternative Layouts

A set of evaluation criteria was developed to assist in the selection of a recommended alternative. The alternatives were given a rating for each criterion and the ratings were summed for an overall score. The summed scores were discussed during workshops with seaplane pilots and several other local residents and, where necessary, adjustments were made to reflect local knowledge and experience.

The ratings or values assigned for each criterion were arrived at through a process of comparing the alternatives--a "beauty contest" so to speak --where the "best" alternative for a given criterion was given the highest rating, and the "worst" alternative the lowest rating. No weightings were used to assign greater importance to any of the criterion.

The criteria used in evaluating alternatives are listed below, grouped by category:

Facility Requirements

- Wind protection: degree to which aircraft and SPB floats will be protected from wind
- Wave protection: degree to which aircraft and SPB floats will be protected from waves
- Icing: degree to which the site is exposed to icing in the winter
- Capacity: degree to which the layout meets the initial capacity goal of 14 based seaplane slips and 3 to 5 transient positions.
- Room for growth: degree to which the site could accommodate future growth in demand
- Aircraft maneuvering room: degree to which aircraft have space to maneuver to/from parking spaces in less than ideal conditions (wind, waves, currents)
- Taxi distance: distance between the SPB facility and designated water lane for takeoffs and landings
- Vehicle parking: provides 12 vehicle parking spaces
- Fueling facilities: provides storage space for fueling system
- Drive-down ramp: provides drive-down ramp to facilitate movement of passengers and equipment to the aircraft parking positions by car, truck, or van
- On-site aircraft maintenance: provides option to locate floating or onshore aircraft maintenance facilities

Safety Concerns

- Wildlife hazards: Degree to which the site is protected from wildlife hazards (mainly birds)
- Potential conflicts with boat traffic: degree to which taxiing aircraft may encounter boat traffic

Environmental Concerns

- Dredging or rock removal: degree to which dredging/rock removal is required
- Adjacent land uses: degree to which SPB operation is consistent with adjacent land uses

Cost and Feasibility Concerns

- Capital cost
- Property acquisition: degree to which property must be acquired to construct the SPB
- Operating and maintenance cost: how much it may cost to operate and maintain the facility
- Revenue generating potential: degree to which the facility can be expected to generate revenue to cover its operating and maintenance costs

Each alternative was rated on these criteria. The results of this evaluation, summed by criteria category, follow in Table 4.

Table 4: Sitka Seaplane Base Siting Study and Conceptual Design Draft Evaluation Criteria

Scoring Range 1 - 3 (worst - best); 0 = non-responsive
Unweighted criteria

Notes	SPB Site Selection Criteria	Alternatives		
		Eliason Harbor	Japonski Island	Existing SPB ALT 1B
	Facility Requirements			
1	Wind protection	2	1	3
2	Wave protection	2	1	3
3	Icing	1	3	3
4	Capacity	3	3	1
5	Accommodate future growth	2	3	0
6	Aircraft maneuvering room	2	3	1
7	Taxi distance to takeoff area	3	3	2
8	Vehicle parking	3	3	3
9	Fueling facilities	3	3	3
10	Drive-down ramp to floats	3	3	1
11	On-site aircraft maintenance	3	3	0
	Category Score Total	27	29	20
	Category Rank	2nd Best	Best	3rd Best
	Safety Concerns			
12	Wildlife hazards	2	3	1
13	Potential conflicts with boat traffic	1	3	1
	Category Score Total	3	6	2
	Category Rank	2nd Best	Best	3rd Best
	Environmental Concerns			
14	Dredging and/or rock removal	1	3	2
15	Adjacent land uses	1	1	3
	Category Score Total	2	4	5
	Category Rank	3rd Best	2nd Best	Best
	Cost and Feasibility Concerns			
16	Property acquisition	3	1	1
17	Capital cost	1	2	3
18	Operating and maintenance cost	1	2	3
19	Revenue generation potential	3	3	1
	Category Score Total	8	8	8
	Category Rank	Tie	Tie	Tie
	Cumulative Scores	40	47	35
	Overall Ranking	2nd Best	Best	3rd Best

Table 5: Explanatory Notes for Table 4

Notes	
1	Japonski is exposed to southeast winds in summer and east winds in winter. Eliason is exposed to east winds in winter. Existing SPB sites are sheltered by adjacent development.
2	Japonski is partially exposed to swells due to the gap in the breakwater and to chop from the east and south. Eliason has less exposure to long period waves. Existing SPB receives some chop from the south.
3	Icing occurs seasonally at the outfall of Turnaround Creek close to the site of the proposed SPB.
4	The capacity objective is 12 to 14 slips for based aircraft and 3 to 5 positions available for transient aircraft. The Eliason and Japonski sites meet this objective. At the existing SPB site, 1B provides slips for 10 based aircraft and 2 transients.
5	The ability of the existing SPB alternative to be expanded is constrained by adjacent development. Eliason can be extended in a linear configuration, but the long narrow pier may create logistical problems for users, require more dredging, and may increase boat conflicts. Japonski can be expanded in various configurations.
6	Japonski is open with minimal boat traffic; Eliason is near boat harbor; Existing SPB taxi lanes do not meet FAA guidelines and conflict with the SSS plant.
7	Measured from the site to the north end of the designated water lane in Sitka Channel. Eliason = .8 mile; Japonski = .4 mile; Existing SPB Alternatives = .5 mile
8	All sites can accommodate 12 vehicle parking spaces.
9	All sites can accommodate fuel storage and distribution systems.
10	Existing SPB Alt 1B may not provide a drive-down ramp because of space constraints.
11	Existing SPB Alt 1B does not provide floating hangars or upland facilities because of space constraints.
12	The main wildlife hazard consists of birds attracted by the outfall from fish processing plants just south of the existing SPB. Although it is anticipated that this will diminish within the next few years because of stricter EPA/ADEC permitting requirements, a lower level of bird activity associated with the fish processing facilities may remain. Eliason is 3,000 feet from the fish processing plants, Japonski about 4,300 feet, and the existing SPB alternatives about 350 feet away.
13	Eliason is immediately adjacent to Eliason Harbor. Existing SPB site is in a busy area of the Sitka Channel. Japonski is away from most boat traffic.
14	Japonski does not require dredging or rock removal. Eliason requires significant dredging and rock removal at the outfall of Indian Creek. Alt 1B requires limited rock removal and some dredging.
15	Land use at Eliason harbor is C-1 (Commercial), Japonski is P (Public Lands District), existing SPB is W (Waterfront District). SPB is a permitted use in W and conditional use in P and C-1. However, R (Residential) land uses are less than .5 mile from Eliason and the existing SPB sites. Mount Edgecumbe High School and SEARHC are less than .5 mile from the Japonski site.
16	Eliason does not require the acquisition of additional property - site is owned by CBS.
17	Eliason = $13.2 to $15.6 million; Japonski = $9.3 to $11.7 million; Existing SPB Alt 1B = $5.1 million
18	Eliason = $8,868/year; Japonski = $4,836/year; Existing SPB Alt 1B = $2,820/year
19	Revenue estimate based entirely on number of seaplane slips.

7.0 RECOMMENDED SITE

Based upon the analysis described in this report and input received from local officials, residents and pilots, this study recommends carrying the Japonski Island site forward for further environmental investigations and design. None of the alternative sites studied in this or the 2002 study are perfectly suited for the development of a seaplane base. Topography and existing development limit the choices available. However, of all the potential sites evaluated, the Japonski site has the most positive attributes and least negative attributes.

Although the construction of a new SPB at the existing site would be less expensive than at the other two sites because it would be smaller, a SPB at this site could not be designed to meet the project's capacity goal of 14 slips for based aircraft and 3 to 5 transient positions, provide on-site maintenance facilities, and safe access to/from the slips from the water operating area. Existing adjacent development would make right-of-way acquisition for vehicle parking, fuel storage, and a drive-down ramp very difficult and expensive. This site also could not accommodate future growth. An expanded SPB at the existing site would increase boat conflicts, particularly with boat traffic to SSS. SSS has also objected to the continued operation or expansion of the existing SPB.

The Eliason Harbor site would be the most expensive to develop. Extensive dredging required for the project would result in impacts to a sensitive near-shore tidal area and would very likely not make it through the permitting process. Although this site could accommodate the project's initial capacity goal, on-site maintenance facilities could be provided, and a taxi lane of adequate width would safe access to/from the slips from the water operating area, future expansion of the facility would create logistical challenges for users. Although the floats could be designed to segregate boat and seaplane traffic, occasional boat/seaplane conflicts at the northern entrance to the SPB could be expected. This site is away from the concentration of seabirds near the fish processing plants, but freezing fresh water from nearby Turnaround Creek would make the facility unusable during some winter months. Aircraft-generated noise could adversely impact nearby residences and businesses.

The Japonski Island site has a mid-range cost, can meet the project's capacity goal, can accommodate on-site maintenance, and can easily be expanded in the future to accommodate

growth. Access between the slips and the water operating area is open water free of obstructions. The site is removed from most boat traffic and away from the concentration of seabirds near the fish processing plants. Property may have to be acquired from the State of Alaska Department of Education and Early Development, however, access could be provided through Coast Guard or SEARHC property. Aircraft-generated noise from the SPB may increase for nearby residences and businesses, but it may also reduce noise in the Channel overall by moving the water operating area further to the north. This site was preferred by local seaplane pilots.

It is anticipated that this project would be eligible for environmental, design, and construction funding through the FAA's Airport Improvement Program (AIP). AIP funding would pay 93.75% of eligible project costs. The SOA typically provides half of the required match funding, or 3.125%. The CBS would be expected to provide the remainder. Based upon the preliminary cost estimate of $11,700,000 for the Japonski Island Alternative with floating hangars, funding for the project would be as follows:

- $10,968,750 - AIP
- $365,625 - SOA
- $365,625 - CBS

The Japonski Island Alternative layout and costs presented in this report will be further refined during the project's design and environmental phases.

8.0 PUBLIC INVOLVEMENT

Appendix B contains a summary of public involvement efforts conducted during the preparation of this report, including personal and telephone interviews, correspondence, and meetings with user groups, the general public, and the CBS Port and Harbor Commission. On April 17, 2012, the Port and Harbor Commission issued a memorandum supporting the Japonski Island Alternative for further study.

9.0 REFERENCES

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DOT&PF, Alaska Aviation System Plan Forecasts, June 2011

DOT&PF, Southeast Region Aviation System Plan, September 2008

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FAA, National Plan of Integrated Airport Systems (NPIAS) Reports, downloaded 4/1/2011; http://www.faa.gov/airports/planning_capacity/npias/reports/

HDR, Sitka Seaplane Base Master Plan, August 2002

US DOT, Federal Aviation Administration, Final Environmental Impact Statement for Sitka Rocky Gutierrez Airport, Sitka Alaska, May 2009

APPENDIX A

Cost Estimates

SITKA SEAPLANE BASE
PRELIMINARY COST SUMMARY FOR ALTERNATIVES 1A, 1B, 2, AND 3

	ALT 1A Existing Site (w/out landside property acquisition)	ALT 1B Existing Site (w/landside property acquisition)	ALT 2 Eliason Site	ALT 3 Japonski Site
Landside Costs	$0	$164,920	$164,920	$217,840
Waterside Costs	$4,569,110	$4,569,110	$11,706,923	$8,798,010
Property Acquisition	$0	$296,856	$55,944	$323,316
Mitigation	$80,000	$80,000	$1,340,000	$0
TOTAL	**$4,649,110**	**$5,110,886**	**$13,267,787**	**$9,339,166**
Optional (Float Plane Maintenance Area)	$0	$0	$2,340,000	$2,340,000
TOTAL + Optional	**$4,649,110**	**$5,110,886**	**$15,607,787**	**$11,679,166**

NOTE:
1. Design, environmental, relocation, and construction adminstration costs are not included in this estimate.

SITKA SEAPLANE BASE

Cost Estimate - Alternative 1A - (Existing Site w/out Property Acquisition)

Existing Site - Alt 1A (w/out Property Acquisition)

	Pay Unit	Quantity	Unit Price	Total Amount
Landside Costs				
1.	LS	0	$0	$0
			Subtotal:	$0
			(30%) Contingency:	$0
			(10%) Mob & Demob:	$0
			Landside Costs Total:	**$0**
Waterside Costs				
1. Mobilization	LS	1	$300,000	$300,000
2. Demo Existing Float System	LS	1	$150,000	$150,000
3. Dredging (rock removal)	LS	1	$50,000	$50,000
4. Trestle	SF	1,200	$200	$240,000
5. Gangway 6' wide	SF	480	$150	$72,000
6. Floats (includes piling)	SF	16,500	$135	$2,227,500
7. Piling socket 24-Inch	EA	15	$15,000	$225,000
8. Water System	LS	1	$40,200	$40,200
9. Fuel System	LS	1	$50,000	$50,000
10. Lighting & Electrical System	LS	1	$100,000	$100,000
11. Cathodic Protection System	LS	1	$60,000	$60,000
			Subtotal:	$3,514,700
			(30%) Contingency:	$1,054,410
			Waterside Costs Total:	**$4,569,110**
			Property Acquisition:	$0
			Mitigation:	$80,000
			ALT 1A TOTAL:	**$4,649,110**
XX. Optional (Float Plane Maintenance Area)	LS	0	$0	$0
			(30%) Contingency:	$0
			Optional Total:	$0
			ALT 1A TOTAL + Optional:	**$4,649,110**

NOTE:

1. Design, environmental, relocation, and construction adminstration costs are not included in this estimate.

SITKA SEAPLANE BASE

Cost Estimate - Alternative 1B - (Existing Site w/Property Acquisition)

Existing Site - Alt 1B (w/Property Acquisition)

	Pay Unit	Quantity	Unit Price	Total Amount
Landside Costs				
1. Vehicle Parking	LS	1	$117,800	$117,800
Parking Lot (14 spaces + AST area)	*SF*	*10,600*		
	SF	*10,600*		
Construction	*SY*	*1,178*	*$100*	
Property Acquisition (moved to summary sheet)	*LS*			
			Subtotal:	$117,800
			(30%) Contingency:	$35,340
			(10%) Mob & Demob:	$11,780
			Landside Costs Total:	**$164,920**
Waterside Costs				
1. Mobilization	LS	1	$300,000	$300,000
2. Demo Existing Float System	LS	1	$150,000	$150,000
3. Dredging (rock removal)	LS	1	$50,000	$50,000
4. Trestle	SF	1,200	$200	$240,000
5. Gangway 6' wide	SF	480	$150	$72,000
6. Floats (includes piling)	SF	16,500	$135	$2,227,500
7. Piling socket 24-Inch	EA	15	$15,000	$225,000
8. Water System	LS	1	$40,200	$40,200
9. Fuel System	LS	1	$50,000	$50,000
10. Lighting & Electrical System	LS	1	$100,000	$100,000
11. Cathodic Protection System	LS	1	$60,000	$60,000
			Subtotal:	$3,514,700
			(30%) Contingency:	$1,054,410
			Waterside Costs Total:	**$4,569,110**
			Property Acquisition:	$296,856
			Mitigation:	$80,000
			ALT 1B TOTAL:	**$5,110,886**
XX. Optional (Float Plane Maintenance Area)	LS	0	$0	$0
			(30%) Contingency:	$0
			Optional Total:	$0
			ALT 1B TOTAL + Optional:	**$5,110,886**

NOTE:

1. Design, environmental, relocation, and construction adminstration costs are not included in this estimate.

SITKA SEAPLANE BASE

Cost Estimate - Alternative 2 - Eliason Site (w/Property Acquisition)

Eliason Site - (w/Property Acquisition)

	Pay Unit	Quantity	Unit Price	Total Amount
Landside Costs				
1. Vehicle Parking	LS	1	$117,800	$117,800
Parking Lot (14 spaces + AST area)	*SF*	*10,600*		
	SF	*10,600*		
Construction	*SY*	*1,178*	*$100*	
Property Acquisition (moved to summary sheet)	*LS*			
			Subtotal:	$117,800
			(30%) Contingency:	$35,340
			(10%) Mob & Demob:	$11,780
			Landside Costs Total:	**$164,920**
Waterside Costs				
1. Mobilization	LS	1	$300,000	$300,000
3. Dredging	CY	10,000	$40	$400,000
3. Trestle	SF	4,200	$200	$840,000
4. Gangway 18.5' wide	SF	2,775	$300	$832,500
5. Floats Transient	SF	14,400	$225	$3,240,000
6. Floats (including piling)	SF	23,197	$125	$2,899,625
7. Piling socket 24-Inch	EA	30	$7,500	$225,000
8. Water System	LS	1	$58,200	$58,200
9. Fuel System	LS	1	$50,000	$50,000
10. Lighting & Electrical System	LS	1	$100,000	$100,000
11. Cathodic Protection System	LS	1	$60,000	$60,000
			Subtotal:	$9,005,325
			(30%) Contingency:	$2,701,598
			Waterside Costs Total:	**$11,706,923**
			Property Acquisition:	$55,944
			Mitigation:	$1,340,000
			ALT 2 TOTAL:	**$13,267,787**
XX. Optional (Float Plane Maintenance Area)	LS	2	$900,000	$1,800,000
			(30%) Contingency:	$540,000
			Optional Total:	$2,340,000
			ALT 2 TOTAL + Optional:	**$15,607,787**

NOTE:

1. Design, environmental, relocation, and construction adminstration costs are not included in this estimate.

SITKA SEAPLANE BASE

Cost Estimate - Alternative 3 - Japonski Site (w/Property Acquisition)

Japonski Site - (w/Property Acquisition)

	Pay Unit	Quantity	Unit Price	Total Amount
Landside Costs				
1. Vehicle Parking	LS	1	$117,800	$117,800
Parking Lot (14 spaces + AST area)	*SF*	*10,600*		
	SF	*10,600*		
Construction	*SY*	*1,178*	*$100*	
Property Acquisition (moved to summary sheet)	*LS*			
2. Access Road	LS	1	$37,800	$37,800
Seward Avenue Access Road Tie-in	*LF*	*200*		
Construction-access road	LF	*200*	*$189*	
Property Acquisition	*SY*			
			Subtotal:	$155,600
			(30%) Contingency:	$46,680
			(10%) Mob & Demob:	$15,560
			Landside Costs Total:	**$217,840**
Waterside Costs				
1. Mobilization	LS	1	$300,000	$300,000
2. Site Preparation	LS	1	$25,000	$25,000
3. Trestle	SF	2,400	$200	$480,000
4. Gangway 18.5' wide	SF	2,775	$300	$832,500
5. Floats Transient	SF	10,400	$225	$2,340,000
6. Floats, Type A (including piling)	SF	18,064	$125	$2,258,000
7. Piling socket 24-Inch	EA	16	$15,000	$240,000
8. Water System	LS	1	$82,200	$82,200
9. Fuel System	LS	1	$50,000	$50,000
10. Lighting & Electrical System	LS	1	$100,000	$100,000
11. Cathodic Protection System	LS	1	$60,000	$60,000
			Subtotal:	$6,767,700
			(30%) Contingency:	$2,030,310
			Waterside Costs Total:	**$8,798,010**
			Property Acquisition:	$323,316
			Mitigation:	$0
			ALT 3 TOTAL:	**$9,339,166**
XX. Optional (Float Plane Maintenance Area)	LS	2	$900,000	$1,800,000
			(30%) Contingency:	$540,000
			Optional Total:	$2,340,000
			ALT 3 TOTAL + Optional:	**$11,679,166**

NOTE:

1. Design, environmental, relocation, and construction adminstration costs are not included in this estimate.

APPENDIX B

Public Involvement

		Page
Various dates	Summary of Telephone and Personal Interviews	1
March 9, 2011	Summary of Port and Harbors Commission and public meeting held in Sitka with attachments	5
April 26, 2011	Letter from Randy Hawk, Superintendant, Mt. Edgecumbe High School with attachments	31
October 5, 2011	User Group Meeting Summary with attachment	35
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April 30, 2012	E-mail from Kenneth J. Rear, Sealife Discovery Tours	105

Sitka SPB Siting Study
Summary of Telephone and Personal Interviews, e-mail

Date	Name	Phone #	Representing	Comments
15-Feb	Mike Bills	738-8023	CAP	CAP no longer keeps seaplane in Sitka. CAP seaplane on amphib floats kept in Juneau. CAP member Bill Lance has personal seaplane (C-180). Also Ron Handerson.
2-Mar	Scott Harris	966-3050	Harris Air	Has Beaver and C-185 on State airport. Both on amphib floats. Uses them for tourism (including cruise ships), to support area lodges (6) and air ambulance (Beaver). Doesn't use CBS SPB because no upland facilities for maintenance and tie-downs. State seaplane ramp inadaquate (tides, need escourt on arpt). At CBS SPB poor fueling situation - jerry cans. "Used to be more seaplane traffic 20-30 years ago." With econ downturn, traffic moved to JNU; Forest Service activity reduced because no logging in Tongass.
24-Feb	George Burnstein	966-8965	Mt. Edgecumbe Hospital (IHS)	He's Chief Flight Nurse. The seaplanes (SPs) they use are on amphib floats from State airport. Some patients come in by charter (Harris Air or Sitka Air) or by USCG helicopter. SPs come to Sitka from Angoon, Pelican, Tenakee Springs. Total transport via SP about 40/year.
24-Feb	Dave Gordon	747-6688	ADF&G Sitka	ADF&G rents slip at SPB for Super Cub. Busy season June - August. Fly 4-5 days/week, about 38 flights/summer. He also "hot berths" his own plane (C-180) in the CAP slip. Problems at SPB: no electricity, slippery surface (guano), poor fueling situation, very little parking. Manuvering aircraft in SPB difficult due to narrow clearances. Need to get SP out of the water to reduce corrosion. State SP ramp "horrible" for maintenance. Eliason Harbor protected like existing site but more taxiing. Boat-aircraft conflicts rare. Boaters accept plane traffic.
2-Mar	Karen Fredrickson	966-2411	SEARHC	She is Travel Coordinator for SEARHC. All or almost all patient travel by SP is through the State airport. They use Air Sitka, Wings, and Harris Air. About 400 patients/year come by SP.
7-Mar	Doug Riemer	772-3535	Nordic Air	He won't be at 3/9 meeting but will be in Sitka for herring opening. He flies SPs to State airport or Ken Bellows (Air Sitka). CBS SPB is "inadaquate" - congested, poor condition. He would need upland lease lot for aircraft maintenance and tie down. He has not used State SP haul out. He 22 years in business. Flies C-185 on amphib floats.
7-Mar	Cole Rhoden	772-4258	Pacific Wing	Flies C-185 on amphib floats, Beaver on straight floats. When in Sitka uses Ken Bellows' float or Forest Service float (location?). No maintnenace available at CBS SPB.
7-Mar	Dave Galla	874-2319	Sunrise Aviation	Doesn't operate on floats in Sitka. Only on wheels - gets fuel at State airport.
7-Mar	Randy Kiesel	789-9150	Ward Air	They use the Forest Service float when in Sitka. City SPB too tight (lacks manuvering room). Eliason site "great idea" - away from Japonski Island. They get fuel near the High School (on channel via truck). They fly many aircraft from Cessnas to turban Otter on straight and amphib floats. At new SPB would like fueling and pay phone.
7-Mar	Name?	518-0600	Kupreanof Flying Service	Flies C-180 on straight floats. Eliason site bad - potential conflicts with boats. Existing SPB needs fueling facility.
8-Mar	Dwayne Lambeth	747-5660	Dove Island Lodge	Operates Beaver on floats out of Jamestown Bay. CBS SPB inadaquate - weight of Beaver sinks the float. No security. Fuel is stolen. Location convenient, however. He used CBS float for one summer. Eliason Harbor site has good access and parking but potential conflicts with boats and wind. Historically many seaplane facilities were located in Jamestown Bay but this location no longer popular (residential development).

10-Mar	Ken Bellows	747-7920 (land) 738-2363 (Cell)	Air Sitka	Flies, fuels, does maintenance from his own float on channel. Both Eliason and SEARHC site are exposed to winds, especially in winter. Eliason too shallow and freezes (fresh water outfall). Best site is existing site, protected from wind but needs parking.
30-Mar	Mark Shimshimer	771-3066	AIDEA	Proposal to AIDEA by SMOG LLC turned down by AIDEA Board. Proposal would have implemented re-processing of fish processor waste into marketable by-products, reducing bird hazard for existing SPB.
4-Apr	Shawn Stokes	269-7504	ADEC Permits	Fish processor permits expired but still in effect.
13-Apr	Randy Hawk	966-3201	Mt. Edgecumbe High School	HS has no plans for property at end of Seward Avenue.
13-Apr	Sam Kito III	465-6906	ADOE	ADOE has no plans for "SEARHC Site". Will confirm by letter. Site might be acquired by CBS in exchange for service.
18-Apr	Chris Foley	269-4632	ADEC Compliance	New permits required w/in 12-24 months. Processors expected to barge fish waste 3+ miles to sea and dump.
26-Apr	Mike Edleman & John Lovett	271-5026	FAA Airports Division	FAA requires (it is one of the AIP grant assurances) that the airport owner/operator take steps to make the airport (or in this case the seaplane base) as self sustaining as possible. If it is too expensive to construct upland facilities, lease lots , etc, the report should show the costs and summarize why they were not built.
27-Apr	William Lantz	738-3075	Himself	Eliason Harbor site bad - too shallow, too little room to manuever, potential conflicts with boats. SEARHC site good for vehicle parking and access by fuel trucks but lacks wind protection. Existing SPB site is protected from wind but needs parking and fuel - also has bird problem. If more slips available might have flight school and more use by transients. Should have 12-15 slips with flexibility for future growth. Design should include fueling, vehicle parking, bird deterrant (overhangs to keep bird guano off aircraft). Should also use Bellow's see-saw ramp design to get aircraft up out of the water. Need fresh water to wash down aircraft and floats. Electricity not essential except for lighting. Limited storage desireable for oil and float pumps. Drive down ramps desireable. He keeps a seaplane at CBS SPB in CAP slip.
27-Apr	Francois Bakkes	351-7483	Himself & wife (both pilots)	Existing SPB site is best, most practical. Eliason too shallow, with wind there is no room to manuever, and the fresh water from creek freezes. SEARHC - he has no strong opinion, but concerned about lack of wind protection. Vehicle ramp to SPB desireable but not essential. He doesn't use existing SPB, but SPB needs fuel. They have C-172 on wheels at State airport. Would like to acquire 185 on amphib floats so can keep aircraft out of the water when not in use. See-saw ramp design good idea - saw in use at Bellows and Ketchikan. He will probably not use CBS facility if he gets seaplane - won't leave aircraft in the water because of corrosion. He has access to hanger on State airport. 12-15 slips at a new facility would be about right. Need transient float that can accomodate 2-3 planes at a time like Angoon, Tanakee Springs, or JNU. Fuel should be available at transient ramp, also fresh water for wash-down of aircraft. Electricity not necessary except for lights - maintenance would be done on land elsewhere.

27-Apr Kevin Mulligan	480-225-2217	himself	He wants a ssfe facility and one where he can get fuel. Would be good to acquire Henry Jimmy property to add to existing SPB. Need a drive down ramp to floats for handicapped people and fluel (delivery truck). Eliason is not a good site - problems with tides and boats. He lives in Port ALexander and flies to Sitka, sometimes carying sick or injured people (pro bono). Waves at SEARHC site a concern - need breakwater, maybe floating breakwater, but that site would require long taxi. 12-15 slips reasonable for new site. Vehicle parking would be enforcement problem (keeping abandoned cars and non-SPB users out). He has stall at CBS SPB (C-185). His maintenance is done in Wrangell. New SPB need electricity to heat aircraft in winter.
28-Apr David Gordon	dave.gordon@alaska.gov	Self	Existing site provides best protection from winds but vehicle parking space is limited; need parking for 3-4 vehicles; new facility should provide 8 to 10 SP slips; fueling not necessary but desireable; need electrical service; ramps should get floats out of the water; he owns a SP and leases a slip at the CBS SPB.
2-May Jim Edson	723-2137	self	Likes where the SPB is because of wind/water protection, but too small and "insane" guano problem. Eliason site gets wind from Indian River Valley, also too much boat traffic. SEARHC site better but ocean swells a problem, also strong N winds in winter. Facilty needs wider float (like Petersburg) to allow nose to nose parking and walk-around pre-flight inspection. See-saw ramps good but a possible maintenance problem. He does not want to start a Part 135 operation - he flies for recreation and to support his non-aviation business. He flies a C-180 on straight floats. New facility would need 20 slips.
2-May Ron Handerson	747-1077	self	Likes Eliason Harbor site. Existing site - no fuel, no vehicle parking. Cant use existing SPB at extreme low tide because of rocks (two); one just landside of stall #5 and the other under the floats (causes tilting). He has 3 float planes (C-185, Taylorcraft, PA-12). He is interested in starting Part 135 operation. SPB would need a drive-down ramp to floats. 12 to 16 slips would be adaquate with space for 2-3 transients. Air Sitka facility will soon not be available (fueling, etc.) - what to do then? New (commercial) facility will need fresh water, electricity, small storage, small office or waiting room.
2-May Kevin Mulligan	568-2399	self	Would be interested in starting Part 135 operation if economy gets better. His lodge business is booming (2011 50% increase over 2010), but economy in general not strong. Would like to be able to do maintenance at SPB. Says Harris Air too busy to do maintenance for him. SPB at Craig is very "super nice" (model?).
2-May Tor Svendson	738-6130	self	Pilot for ADF&G stream surveys. Flies Super Cub on straight floats. For past three years has berthed plane in ADF&G slip at CBS SPB. Has flown in Sitka area for 22 years. Existing site not good - birds. Likes Eliason site - parking and fuel better than existing. SEARHC not protected enough from wind/waves. He would be interested in starting Part 135 business. Sitka worst SPB in SE AK for straight floats. New facility would need vehicle ramp, local FBO to provide fuel by card lock system, water, electricity, and equipment storage. He flies C-185, C-206 now. Might buy Beaver later if economy gets better. Comfortable doing aircraft maintenance and storage at State airport
2-May Francois Bakkes	351-7483	self & wife	Not interested in doing Part 135 operation.

2-May Ron Salmon	738-2288	self	He prefers the Japonski site (SEARHC) - better for fuel and parking. Also closer to where old sea land was. He landed here often and had no problem with sea states. Existing site has no parking - Aero Services probably would not deliver fuel there. Eliason site would conflict with boat traffic and require significant dredging. He would be interested in Sitka Part 135 operation - he moved his operation from Sitka to Wrangell because of competition in Sitka. New facility would need fuel, drive down ramp, electricity, fresh water, and equipment storage. Part 135 operation would be pick-up, drop-off. Little or no need for landside office. Ketchikan and Hoonah are model facilities. He flies a Beaver on straight floats
2-May William Lantz	738-3075	Himself	He would be interested in starting a Part 91 commercial operation for sight seeing tours. Need drive down ramp, lighting, and passenger shelter.

SITKA SEAPLANE BASE SITING STUDY
SUMMARY OF MEETINGS HELD IN SITKA AT CENTENNIAL HALL
MARCH 9, 2011

Port and Harbor Commission (6:00 to 6:30 p.m.)

Mark Mayo and Brian Hanson (DOWL HKM) gave a PowerPoint presentation to the Commission. The presentation described the current project, past efforts, next steps, as well as local and DOWL HKM points of contact. At the conclusion of the presentation, a Commission member noted that provisions should be made at the new Seaplane Base for fuel services, vehicle parking, and lease lots for commercial buildings.

Public Meeting (7:00 to 8:30 p.m.)

This meeting was public noticed in the local paper and via e-mail. Following an introduction by the City and Borough of Sitka (CBS) Public Works Director Michael Harmon, Brian Hanson delivered a similar presentation to the public. Questions and comments were then invited from those in attendance.

An individual stated that, in winter, both the Eliason Harbor and Japonski Island alternative sites would be subject to 75 mile per hour winds in the winter, and suggested that the CBS would be liable for resulting damages to aircraft using seaplane base (SPB) facilities in those locations. Further, he said that the Eliason site would occasionally freeze in winter due to the fresh water outfall just east of the site, and that it would be "high and dry" during a minus tide. He said that the second best site was the Japonski Island site, but that the best site was where the existing SPB was located because it is sheltered from the wind. He said that aircraft parked at that facility had sustained no wind damage. The only collision related damage to aircraft was due to boats that had come loose from their moorings and drifted into parked aircraft. He recognized, however, that the existing site is in need of parking and better access to fuel.

The existing site was mentioned by more than one person as the optimal location. Suggestions were offered for improving the float configuration and regarding the purchase of upland and adjacent dock property to provide space for vehicle parking and services.

CBS Public Works Director Michael Harmon asked if everyone was comfortable with the Japonski Island site. He also noted that CBS wanted to avoid condemning property.

An individual who had participated in the 2002 SPB study said that the earlier study was done with the assumption that using the existing site was not an option. He said that the Indian Valley winds would damage aircraft parked at the Eliason Harbor site, especially if they were parked as shown on the preliminary drawings with their tails to the east. He claimed direct personal knowledge of this since his fishing boat is moored in the harbor close to this location. He also said that Eliason Harbor would interfere with boats using the designated boat loading area.

Another person suggested that the Eliason Harbor alternative would require dredging in an area where Eel Grass grows – a potential environmental concern and permitting challenge.

Someone suggested that it might be possible to acquire property just north of the existing SPB for vehicle parking and expansion of the SPB float system.

Someone noted that relatively little commercial seaplane activity in the winter (November - March).

Another person noted that there was no surplus vehicle parking space available to Eliason Harbor, that a new parking area would need to be constructed, and that this alternative allowed little room to maneuver seaplanes near the float.

Summary of follow up meeting with CBS Public Works Director Michael Harmon (1:00 p.m., March 10, 2010)

CBS is willing to consider a project alternative at the site of the existing SPB. The facility's upland configuration could be made more workable through the acquisition of an adjacent dock and uplands. Economic conditions since the 2002 study may result in reduced forecasted use and smaller SPB facility size. It would be reasonable to expect reduction in bird conflicts when seafood outfalls are prohibited in near future.

Attachments: Ports and Harbor PowerPoint Presentation
Sitka Port and Harbors Commission Agenda
Public Meeting Notice
Public Meeting PowerPoint Presentation
Public Meeting Attendance List
Comment Form

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Final Siting Analysis, Planning and Concept Design, and NEPA and Permitting Processes
NEW SITKA SEAPLANE BASE
Port & Harbors Commission
March 9, 2011
DOWL HKM

NEW SITKA SEAPLANE BASE

Project Goals

- Evaluate Eliason Harbor site for SPB
- Complete final evaluation of up to two SPB alternatives
- Identify preferred SPB alternative for NEPA document
- Engage the public in the planning process

NEW SITKA SEAPLANE BASE

SPB Site Study Process

1. Inventory, Forecast, Facility Requirements
   - Data collection
   - Site visit & public meeting
   - Mapping
   - Update seaplane activity forecast
   - Identify design standards, guidelines, evaluation criteria
2. Alternatives Identification and Evaluation
   - Evaluate Eliason Harbor alternative; prepare environmental overview
   - Compare Eliason Harbor alt with preferred alt from 2002 study (USCG/SEARCH site)
   - Recommend a preferred alternative for NEPA analysis
3. Final Report

NEW SITKA SEAPLANE BASE

Purpose of this Meeting

- Project goals, issues, and schedule
- Public involvement opportunities
- Questions and suggestions

NEW SITKA SEAPLANE BASE

Project Schedule

- Inventory, Forecast, Requirements ..... Feb-March, 2011
- Site Visit ..... March 9-10, 2011
- Public Meeting 1 ..... March 9, 2011
- Alternatives ..... Feb-April, 2011
- Public Meeting 2 ..... April, 2011
- Final Report..... June, 2011

NEW SITKA SEAPLANE BASE

Existing SPB: Known Issues

- Insufficient capacity; no room for expansion
- Safety concerns
  - Bird hazards
  - Potential conflicts with boat traffic
  - Ramp/float design
- Operational concerns
  - Restricted maneuvering area for aircraft
  - Lack of fueling facilities
  - No vehicle parking
- Land use conflicts

NEW SITKA SEAPLANE BASE

Sites Evaluated but Dismissed

- Safe Harbor: Bird hazards, boat traffic
- MEHS/SEARHC: Wave action, land use conflicts
- Work Float: Wind, boat traffic, no uplands
- Charcoal Island: Waves & wind, long taxi
- Japonski Lagoon: Boat traffic, birds, AMP
- Jamestown Bay: Waves/wind, downwind take-offs
- Sawmill Cove: Waves/wind, distance from town
- Herring Cove: Waves/wind, distance from town
- Starigavan Bay: Waves/wind, dist. fm town, wakes

NEW SITKA SEAPLANE BASE

Sites Previously Evaluated
(2002 SPB Master Plan)



NEW SITKA SEAPLANE BASE

Site for Further Evaluation –
First of Two Sites (Preliminary Concept)

- Eliason Harbor: Protected from wind & waves, close to town, CBS-owned land/tidelands, higher boat traffic

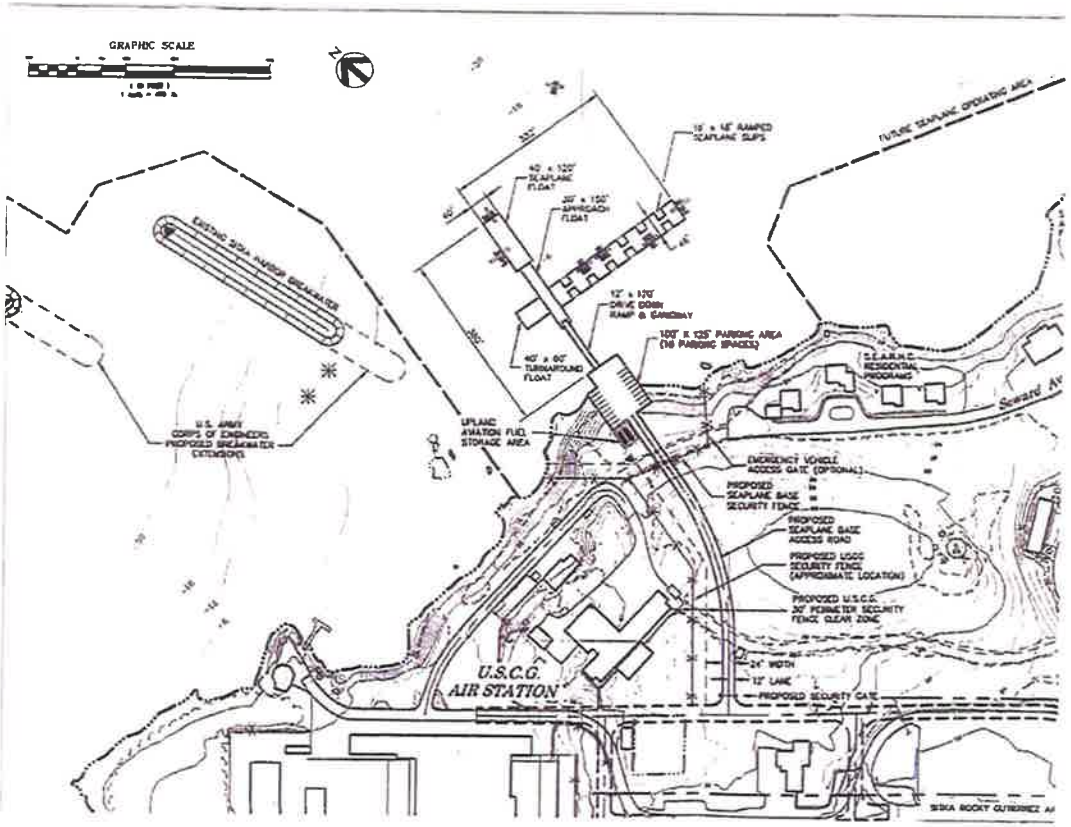


NEW SITKA SEAPLANE BASE

Site for Further Evaluation

Second of Two Sites

- USCG/SEARHC: Exposed to wave action, potential land use conflicts, land/tidelands owned by State & federal agencies



NEW SITKA SEAPLANE BASE

Site Evaluation Criteria

Sitka SPB Siting Study and Conceptual Design

Alternatives for further evaluation

SPB Site Selection Criteria	Alternatives	
	Eliason Harbor	USGC/SEARCH (HDR Site 3)
Ramps/floats protected from wind	Well protected	Moderately well protected. North and west winds are a concern.
Ramps/floats protected from waves	Well protected	Significant wave and sea swell energy.
Tideland Ownership	City & Borough of Sitka	State of Alaska, Department of Natural Resources
Upland Ownership	City & Borough of Sitka	Department of Education, U.S. Coast Guard, DOT&PF
Land Use	Institutional - parking for Eliason & Thompson Harbors	Institutional - adjacent to SEARHC facilities and Coast Guard Air Station. Also near to day care and residential medical treatment programs.
Bird Hazard	3,000 feet from the primary hazard source	3,500 feet from the primary hazard source
Access	Via Katlian & Siginaka	Via new road from Airport through U.S. Coast Guard property or via Seward Avenue
Distance from City Center (Castle Hill)	.9 miles	1.3 miles
Operations	Significant boat traffic	Minor boat traffic, increased flexibility for operating

Further information required:

Seaplane activity data (# flights, types of aircraft, origins/destinations)
Importance of seaplane activity to community/region
Compatibility of potential SPB sites with adjacent land & water uses
Construction/operation feasibility & cost at Eliason Harbor site
Desired upland development & support services
Environmental concerns at Eliason Harbor site
Community development plans

NEW SITKA SEAPLANE BASE

Next Steps

- Preliminary Engineering
- Environmental Assessment
- Permitting
- Design
- Construction

NEW SITKA SEAPLANE BASE

Public Involvement Opportunities

- Contact CBS and/or DOWL HKM Project Managers
  - By telephone, e-mail, mail, or fax
- Public meetings
- Comment forms

NEW SITKA SEAPLANE BASE

Contact Information

- **CBS Project Manager**

  Michael Harmon, Director
  Department of Public Works
  100 Lincoln Street
  Sitka, Alaska 99835T
  Telephone: (907) 747-1823 Fax: (907) 747-3158
  Email: michael@cityofsitka.com

- **DOWL HKM Project Manager**

  Mark Mayo
  4041 B Street
  Anchorage, AK 99503
  Telephone: (907) 562-2000 Fax: (907) 563-3953
  Email: mmayo@DOWLHKM.com

NEW SITKA SEAPLANE BASE

Questions / Comments?



Thank you!

Sitka Port and Harbors Commission Agenda

Wednesday, March 9, 2011
Harrigan Centennial Hall
6:00 p.m.

I. **Call to Order**

II. **Roll Call**

III. **Approval of Minutes from the February 9, 2011 Port and Harbors Commission meeting**

IV. **Approval of Agenda**

V. **Correspondence**

VI. **Persons to be Heard**

VII. **Reports**

i. Harbormaster
   I. Wi-Fi
   II.
ii. City Staff
iii. Chair
iv. Others

VIII. **New Business**

i. Float Plane Analysis
ii.

IX. **Unfinished Business**

i. 2nd boat moorage
ii. Ordinance Text Amendments (electrical)

X. **General Discussion**

XI. **Closing**

i. Agenda
ii. Next meeting date
iii. Adjournment

CITY & BOROUGH OF SITKA

PUBLIC NOTICE
INVITATION TO BID
MARINE SERVICE CENTER DOCK LEVELERS REPLACEMENT

The City and Borough of Sitka will receive sealed bids no later than 2:00 p.m. local time, Tuesday, March 15, 2011 at the office of the Municipal Clerk, 100 Lincoln Street, Sitka, Alaska 99835, wh[ere] [bi]ds will be publicly opened. Bids stamped later than 2:00 p.m. v[ill be rejected].

This project consists of providing all ma[terials, equipment, transportation,] and labor to replace the Marine Service C[enter Dock Levelers].

All bidders are strongly encouraged [to attend the pre-bid meeting] uled for 2:00 p.m. on Wednesday Ma[rch 8, 2011, at the Marine] Service Center).

Bid documents are available at [the office of the Director of Public Works,] 100 Lincoln Street, Room 201, [Sitka, Alaska 99835; (907)747-1804(phone)] for a non-refundable fee of $[25.00 per set plus tax if picked up, and $30.00] per set if to be mailed first [class. Bid documents may also be downloaded] from the web:

www.cityofsitka.com
(Click on the Bids & RFP link)

A Bid Bond in the [amount of 5 percent of the total bid price must accom]pany each bid that [exceeds $50,000. The Bid Bond may be in the form of a] certified check m[ade payable to the City and Borough of Sitka or a Bid Bond] issued by a sur[ety licensed to do business in Alaska.]

This contra[ct is subject to the provisions of State of Alaska, Title 36, Mini]mum Wage [Rates. The contract will require certificates of insurance and] performan[ce and payment bonds.]

The C[ity and Borough of Sitka reserves the right to reject any and all bids] and to [waive informalities.]

CITY [AND BOROUGH OF SITKA]
By: [Chris Wilbur]
[Facilities Manager]
Published: March 2, 4, 7, 2011

WASTEW[ater]
SUPPLY FAN S[F-4]

The City and Borough of Sitka will rece[ive] p.m. local time, Tuesday, March 15, 2011 at the offi[ce] 100 Lincoln Street, Sitka, Alaska 99835, where the bids [will be] opened. Bids stamped later than 2:00 p.m. will be rejected.

This project consists of providing all materials, equipment, transportation, and labor to replace the Supply Fan SF-4 at the City and Borough of Sitka (CBS) Wastewater Treatment Plant.

All bidders are strongly encouraged to attend the pre-bid meeting scheduled for 2:00 p.m.. on Tuesday March 8, 2011, at the project site, (Clarifier Building).

Bid documents are available at the office of the Director of Public Works, 100 Lincoln Street, Room 201, Sitka, Alaska 99835; (907)747-1804(phone) for a non-refundable fee of $25.00 per set plus tax if picked up, and $30.00 per set if to be mailed first class. Bid documents may also be downloaded from the web:

www.cityofsitka.com
(Click on the Bids & RFP link)

A Bid Bond in the amount of 5 percent of the total bid price must accompany each bid that exceeds $50,000. The Bid Bond may be in the form of a certified check made payable to the City and Borough of Sitka or a Bid Bond issued by a surety licensed to do business in Alaska.

This contract is subject to the provisions of State of Alaska, Title 36, Minimum Wage Rates. The contract will require certificates of insurance and performance and payment bonds.

The City and Borough of Sitka reserves the right to reject any and all bids and to waive informalities.

CITY AND BOROUGH OF SITKA
By: Chris Wilbur
Facilities Manager
Published: March 2, 4, 7, 2011

PUBLIC NOTICE
NOTICE TO INTERESTED PERSONS
PUBLIC MEETING
SITKA SEAPLANE BASE FINAL SITING PROJECT
KICK-OFF MEETING

Dowl HKM consultants will hold a kick-off meeting Wednesday, March 9, at 7:00 p.m. in Centennial Hall's Rousseau Room to discuss the City and Borough of Sitka's Seaplane Base Final Siting Project.

Pilots and other interested persons are invited to attend.

For any questions please call the Public Works Department at 747-1804.

Published: March 7, 2011

NEW SITKA SEAPLANE BASE

PROGRESS MEETING

SIGN-IN-SHEET • MARCH 9, 2011

NAME	ADDRESS	E-MAIL	TELEPHONE
JACK HARDCASTLE	P.O. BOX 855, SITKA	TRADERJACK5000@GMAIL.COM	9606-2270
JIM EDSON	PO BOX 2383 SITKA	jim.m.edson@gmail.com	747-5615
KEN BELLOWS	BIG RUN SITKA	KEN@FLYINFISHINN.COM	738-2363
RON HANDERSON	165 PRICE ST.	rhandersonsr@yahoo.com	747 1077
STEPHEN WEATHERMAN	CBS	STEPHEN@city.sitka.ak	747-4042
KEVIN KNOX	625 DEGROFF	kevin@bluesteel.org	738-4664
JEANNIE FRANK	116 D HARVEST WAY	JEANNIE@NCSALASKA.NET	738-1029
WILLIAM LANTZ	165 KOGGA HORN CIR	WILLANTZ@MSN.COM	738-3075
LINDA SPEERSTRA	P.O. BOX 16	linda.speerstra@usace.army.mil	747-6658
ALAN VEY	PO 32643	AVHOME@YAHOO.COM	723 4922
FRANCOIS BALKEES	BOX 6237, SITKA.	francoisbalkees@yahoo.	351-7483
ANDY COYKENDALL	402 VERSTOVIA SITKA	BLASTINATOR@HOTMAIL.COM	738-4796
1st. Lt. MIKE BILLS	415 Arrowhead St, Sitka	cap.mcbills@gmail.com	738-8023
KIMBERLY MORRIS	PO BOX 6237 SITKA	kimberlymorris@hotmail.com	738 1312
KARI LUNDGREN	2702 Sawmill Creek Rd Sitka	coastal-rentals@gci.net	738-2089

Project Comments - *Please provide any comments on the project below.*

Would like to see fresh water, electricity, be able to use Comercially, Maintance hanger on shore Road access to Airport for hanger storage. Fuel facility, Put docks into Prevaling Winds, parking area for comercial customers

Please indicate your preferred alternative: ☐ 1A ☐ 1B ☐ 2 ☑ 3

To receive project information, please provide your name and an e-mail or postal address:

Name: Ron Handerson

Address: 165 Price St. Sitka Ak 99835

E-mail: rhandersonsr@Yahoo.com

Telephone: 907-747-1077

To submit comments or contact the project team:

CBS Project Manager
Michael Harmon, Director
Department of Public Works
100 Lincoln Street
Sitka, Alaska 99835T
Telephone: (907) 747-1823
Fax: (907) 747-3158
E-mail: michael@cityofsitka.com

DOWL HKM Project Manager
Tom Middendorf
4041 B Street
Anchorage, Alaska 99503
Telephone: (907) 562-2000
Fax: (907) 563-3953
E-mail: tmiddendorf@dowlhkm.com

Project Comments - *Please provide any comments on the project below.*

fuel, Fresh water, access to hangers

Please indicate your preferred alternative: ☐ 1A ☐ 1B ☐ 2 ☑ 3

To receive project information, please provide your name and an e-mail or postal address:

Name: Shane Snyder

Address: 118 Lincoln

E-mail: AKSLumord@Hotmail.com

Telephone: 907 738 3288

To submit comments or contact the project team:

CBS Project Manager
Michael Harmon, Director
Department of Public Works
100 Lincoln Street
Sitka, Alaska 99835T
Telephone: (907) 747-1823
Fax: (907) 747-3158
E-mail: michael@cityofsitka.com

DOWL HKM Project Manager
Tom Middendorf
4041 B Street
Anchorage, Alaska 99503
Telephone: (907) 562-2000
Fax: (907) 563-3953
E-mail: tmiddendorf@dowlhkm.com

Project Comments - *Please provide any comments on the project below.*

- Wind only deficit
- Allows for expansion
  - potential hangar
  - easy fuel
  - easier commercial and transient use
  - parking

Please indicate your preferred alternative: ☐ 1A ☐ 1B ☐ 2 ☒ 3

To receive project information, please provide your name and an e-mail or postal address:

Name: Kari Lundgren

Address: 2702 Sawmill Creek Rd. Sitka, 99835

E-mail: coastal.rentals@yahoo.com

Telephone: 907-738-2089

To submit comments or contact the project team:

CBS Project Manager
Michael Harmon, Director
Department of Public Works
100 Lincoln Street
Sitka, Alaska 99835T
Telephone: (907) 747-1823
Fax: (907) 747-3158
E-mail: michael@cityofsitka.com

DOWL HKM Project Manager
Tom Middendorf
4041 B Street
Anchorage, Alaska 99503
Telephone: (907) 562-2000
Fax: (907) 563-3953
E-mail: tmiddendorf@dowlhkm.com

Project Comments - *Please provide any comments on the project below.*

Would like to see comercial Operation facility for my business, Possible hanger for maintance, Fuel.

Put docks into prevailing winds.

by Phone 10/25/11 Ron Handerson

Please indicate your preferred alternative: ☐ 1A ☐ 1B ☐ 2 ☑ 3

To receive project information, please provide your name and an e-mail or postal address:

Name: Tor Svenson

Address: Sitka Ak.

E-mail:

Telephone: 907 738 6130

To submit comments or contact the project team:

CBS Project Manager
Michael Harmon, Director
Department of Public Works
100 Lincoln Street
Sitka, Alaska 99835T
Telephone: (907) 747-1823
Fax: (907) 747-3158
E-mail: michael@cityofsitka.com

DOWL HKM Project Manager
Tom Middendorf
4041 B Street
Anchorage, Alaska 99503
Telephone: (907) 562-2000
Fax: (907) 563-3953
E-mail: tmiddendorf@dowlhkm.com

Project Comments - *Please provide any comments on the project below.*

Fueling, Comercial Operation, on land work Hanger, Road Access to Airport

If Sitka dosen't Want this send it Pelican;

by Phone 11/25/11 Ron Handerson

Please indicate your preferred alternative: ☐ 1A ☐ 1B ☐ 2 ☑ 3

To receive project information, please provide your name and an e-mail or postal address:

Name: Ron Salmon

Address: PO 1264 Pelersburg 99833

E-mail: rsalmon@GCI.net

Telephone: 907-738 2288

To submit comments or contact the project team:

CBS Project Manager
Michael Harmon, Director
Department of Public Works
100 Lincoln Street
Sitka, Alaska 99835T
Telephone: (907) 747-1823
Fax: (907) 747-3158
E-mail: michael@cityofsitka.com

DOWL HKM Project Manager
Tom Middendorf
4041 B Street
Anchorage, Alaska 99503
Telephone: (907) 562-2000
Fax: (907) 563-3953
E-mail: tmiddendorf@dowlhkm.com

Project Comments - *Please provide any comments on the project below.*

Im out of area for now but have needed a better floatp lane dock for long time.

Would be nice to have fresh water, power, + be Able to work comercially from facility. Access to Airport for Maintance + potential hanger storage during winter mo.

by Phone Ron Handerson
10/10/2011

Please indicate your preferred alternative: ☐ 1A ☐ 1B ☐ 2 ☑ 3

To receive project information, please provide your name and an e-mail or postal address:

Name: Bill Salt

Address: Honalulu Hi

E-mail:

Telephone: 808- 381- 9578

To submit comments or contact the project team:

CBS Project Manager
Michael Harmon, Director
Department of Public Works
100 Lincoln Street
Sitka, Alaska 99835T
Telephone: (907) 747-1823
Fax: (907) 747-3158
E-mail: michael@cityofsitka.com

DOWL HKM Project Manager
Tom Middendorf
4041 B Street
Anchorage, Alaska 99503
Telephone: (907) 562-2000
Fax: (907) 563-3953
E-mail: tmiddendorf@dowlhkm.com

STATE OF ALASKA

SEAN PARNELL, GOVERNOR

DEPARTMENT OF EDUCATION AND EARLY DEVELOPMENT

MT. EDGECUMBE HIGH SCHOOL

1330 SEWARD AVENUE
SITKA, ALASKA 99835-9438
PHONE: 907-966-3200
FAX: 907-966-2442

April 26, 2011

RECEIVED
APR 29 2011
DOWL HKM

Mark D. Mayo
Transportation Planner
4041 B Street
Anchorage AK 99503

Mr. Mayo:

I am responding to your inquiry regarding the interest that the City and Borough of Sitka has expressed in relocating their seaplane base. Currently I have discussed the issue with the Mount Edgecumbe Building Maintenance Manager, Stan Johnson, and Facilities Engineer, Sam Kito, with the Department of Education and Early Development (Department). At this time the Department does not support locating the seaplane base on the Japonski Island side of the harbor. The location of the access road for the proposed facility eliminates the ability for the Department to utilize the property in the future. Attached is a copy of the plat that identifies the property location (Lot 15A).

The Department is also concerned that the proposed use will have a detrimental effect on the Mt. Edgecumbe High School (MEHS) residence located near the proposed facility. Additionally we have concerns about the increased noise impacting the MEHS students and their activities in the school. Finally, we are concerned about increased traffic in that area which could result if a seaplane base were located on the island.

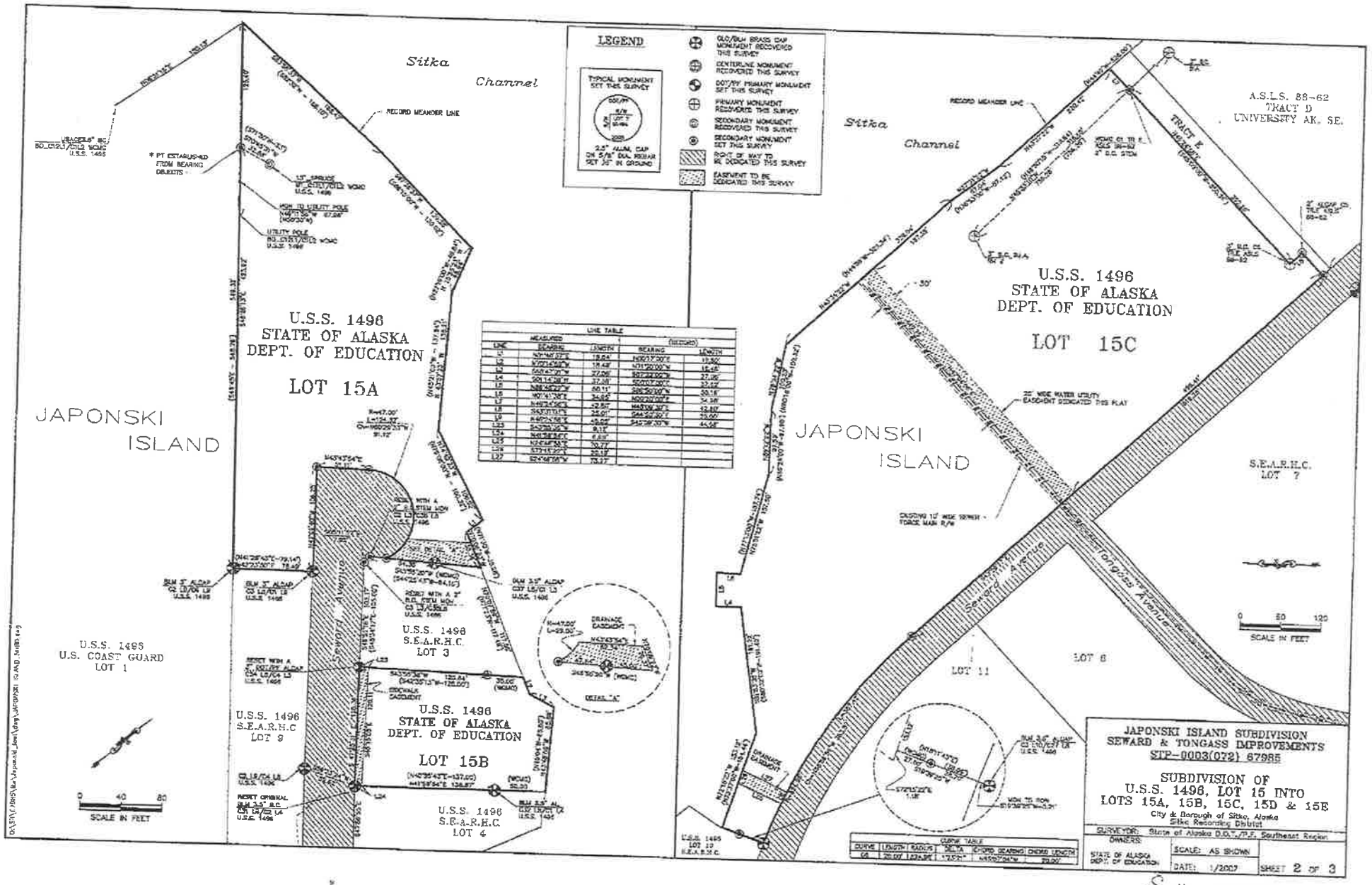
Please feel free to contact me if you have further questions regarding the Department's position on the seaplane base location.

Best regards,

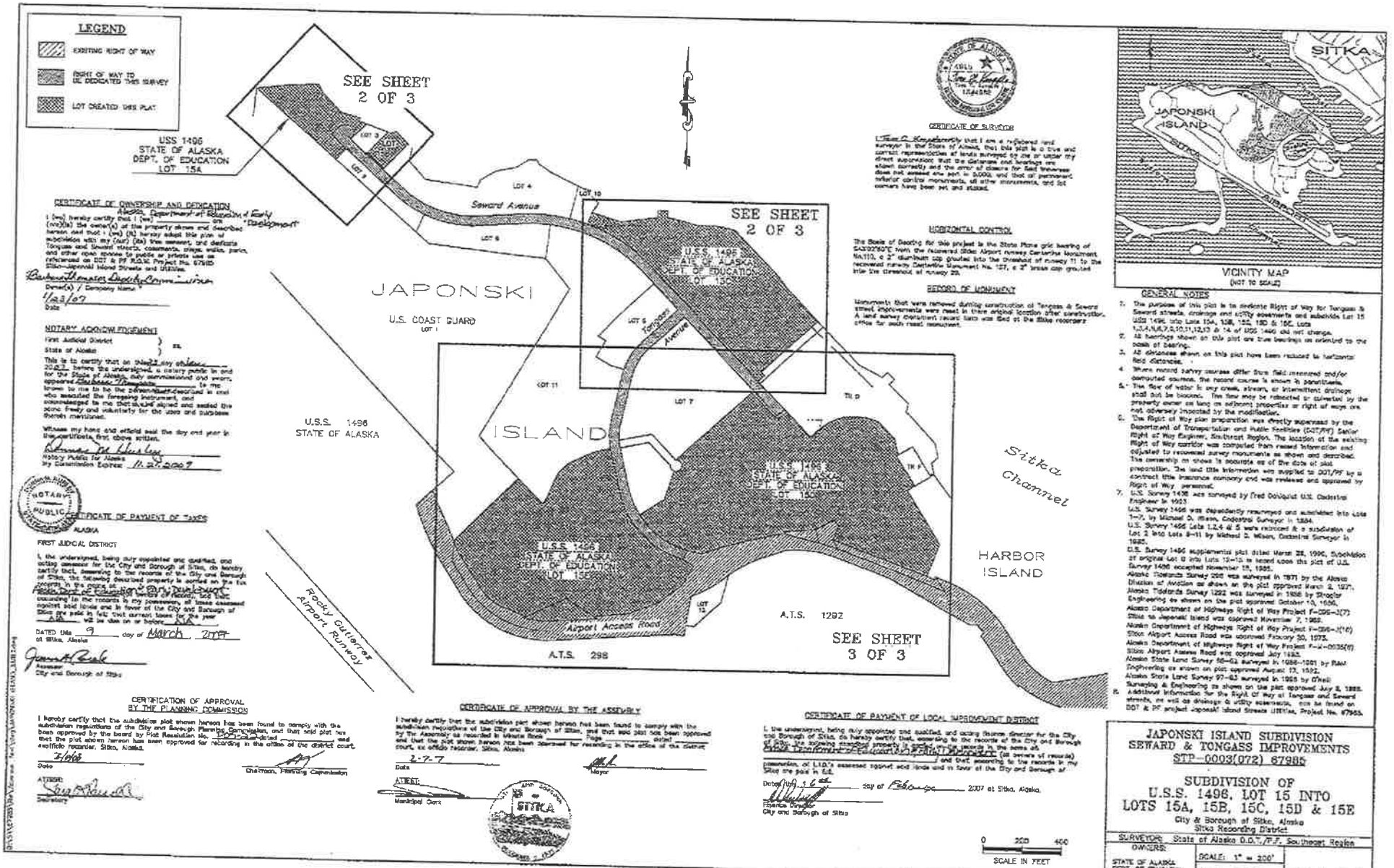
Randy Hawk

Randy Hawk
Superintendent

cc: Les Morse, Deputy Commissioner


LEGEND
TYPICAL MONUMENT SET THIS SURVEY
2.5" ALUM. CAP ON 5/8" DIA. REBAR SET 30" IN GROUND
GLO/BLM BRASS CAP MONUMENT RECOVERED THIS SURVEY
CENTERLINE MONUMENT RECOVERED THIS SURVEY
DOT/PF PRIMARY MONUMENT SET THIS SURVEY
PRIMARY MONUMENT RECOVERED THIS SURVEY
SECONDARY MONUMENT RECOVERED THIS SURVEY
SECONDARY MONUMENT SET THIS SURVEY
RIGHT OF WAY TO BE DEDICATED THIS SURVEY
EASEMENT TO BE DEDICATED THIS SURVEY
Sitka Channel
RECORD MEANDER LINE
U.S.S. 1496
STATE OF ALASKA
DEPT. OF EDUCATION
LOT 15A
U.S.S. 1496
STATE OF ALASKA
DEPT. OF EDUCATION
LOT 15C
U.S.S. 1496
STATE OF ALASKA
DEPT. OF EDUCATION
LOT 15B
JAPONSKI ISLAND
U.S.S. 1496
U.S. COAST GUARD
LOT 1
U.S.S. 1496
S.E.A.R.H.C.
LOT 3
U.S.S. 1496
S.E.A.R.H.C.
LOT 4
U.S.S. 1496
S.E.A.R.H.C.
LOT 9
S.E.A.R.H.C.
LOT 7
LOT 6
LOT 11
A.S.L.S. 88-62
TRACT D
UNIVERSITY AK. SE.
TRACT E
Seward Avenue
Tongass Avenue
20' WIDE WATER UTILITY EASEMENT DEDICATED THIS PLAT
EXISTING 10' WIDE SEWER FORCE MAIN R/W
DRAINAGE EASEMENT
SCALE IN FEET
LINE TABLE
CURVE TABLE
JAPONSKI ISLAND SUBDIVISION
SEWARD & TONGASS IMPROVEMENTS
STP-0003(072) 67985
SUBDIVISION OF
U.S.S. 1496, LOT 15 INTO
LOTS 15A, 15B, 15C, 15D & 15E
City & Borough of Sitka, Alaska
Sitka Recording District
SURVEYOR: State of Alaska D.O.T./P.F. Southeast Region
OWNERS: STATE OF ALASKA DEPT. OF EDUCATION
SCALE: AS SHOWN
DATE: 1/2007
SHEET 2 OF 3

Sitka 2007-7



CERTIFICATE OF SURVEYOR

I, Tom C. Knapp, hereby certify that I am a registered land surveyor in the State of Alaska, that this plat is a true and correct representation of lands surveyed by me or under my direct supervision that the distances and bearings are shown correctly and the error of closure for field traverses does not exceed one part in 5,000; and that all permanent exterior control monuments, all other monuments, and lot corners have been set and staked.

HORIZONTAL CONTROL

The Basis of Bearing for this project is the State Plane grid bearing of S43°07'50"E from the recovered Sitka Airport runway Centerline Monument No.110, a 2" aluminum cap grouted into the threshold of runway 11 to the recovered runway Centerline Monument No. 127, a 2" brass cap grouted into the threshold of runway 29.

RECORD OF MONUMENT

Monuments that were recovered during construction of Tongass & Seward street improvements were reset in their original location after construction. A land survey monument record form was filed at the Sitka recorders office for each reset monument.

CERTIFICATE OF OWNERSHIP AND DEDICATION

Alaska, Department of Education & Early Development

I (we) hereby certify that I (we) am (are) the owner(s) of the property shown and described hereon and that I (we) (it) hereby adopt this plan of subdivision with my (our) (its) free consent, and dedicate Tongass and Seward streets, easements, alleys, parks, and other open spaces to public or private use as noted on DOT & PF R.O.W. Project No. 67985 Sitka-Japonski Island Streets and Utilities.

Robert Lomax, Deputy Commissioner
Owner(s) / Company Name
1/23/07
Date

NOTARY ACKNOWLEDGEMENT

First Judicial District)
State of Alaska) ss.

This is to certify that on this 23 day of January 2007, before the undersigned, a notary public in and for the State of Alaska, duly commissioned and sworn, appeared Robert Lomax, Deputy Commissioner to me known to me to be the person named in and who executed the foregoing instrument, and acknowledged to me that he signed and sealed the same freely and voluntarily for the uses and purposes therein mentioned.

Witness my hand and official seal the day and year in this certificate first above written.

Notary Public for Alaska
My Commission Expires: 11.27.2009

CERTIFICATE OF PAYMENT OF TAXES

STATE OF ALASKA
FIRST JUDICIAL DISTRICT

I, the undersigned, being duly appointed and qualified, and acting assessor for the City and Borough of Sitka, do hereby certify that, according to the records of the City and Borough of Sitka, the following described property is carried on the tax rolls in the name of State of Alaska, Dept of Education and Early Development, and according to the records in my possession, all taxes assessed against said lands are in favor of the City and Borough of Sitka are paid in full; that current taxes for the year 2007 will be due on or before 9/15

DATED this 9 day of March 2007 at Sitka, Alaska

Assessor
City and Borough of Sitka

CERTIFICATION OF APPROVAL BY THE PLANNING COMMISSION

I hereby certify that the subdivision plat shown hereon has been found to comply with the subdivision regulations of the City and Borough Planning Commission, and that said plat has been approved by the board by Plat Resolution No. 2007-3 adopted ____ and that the plat shown hereon has been approved for recording in the office of the district court, ex officio recorder, Sitka, Alaska.

2/1/07
Date

Chairman, Planning Commission

ATTEST:
Secretary

CERTIFICATE OF APPROVAL BY THE ASSEMBLY

I hereby certify that the subdivision plat shown hereon has been found to comply with the subdivision regulations of the City and Borough of Sitka, and that said plat has been approved by the Assembly as recorded in Minute Book ____ Page ____ dated ____ and that the plat shown hereon has been approved for recording in the office of the district court, ex officio recorder, Sitka, Alaska.

2-7-7
Date

Mayor

ATTEST:
Municipal Clerk

CERTIFICATE OF PAYMENT OF LOCAL IMPROVEMENT DISTRICT

I, the undersigned, being duly appointed and qualified, and acting finance director for the City and Borough of Sitka, do hereby certify that, according to the records of the City and Borough of Sitka, the following described property is carried on the tax rolls in the name of _____ (or owners of records) _____ and that, according to the records in my possession, all LID's assessed against said lands and in favor of the City and Borough of Sitka are paid in full.

Dated this 16th day of February 2007 at Sitka, Alaska.

Finance Director
City and Borough of Sitka

GENERAL NOTES

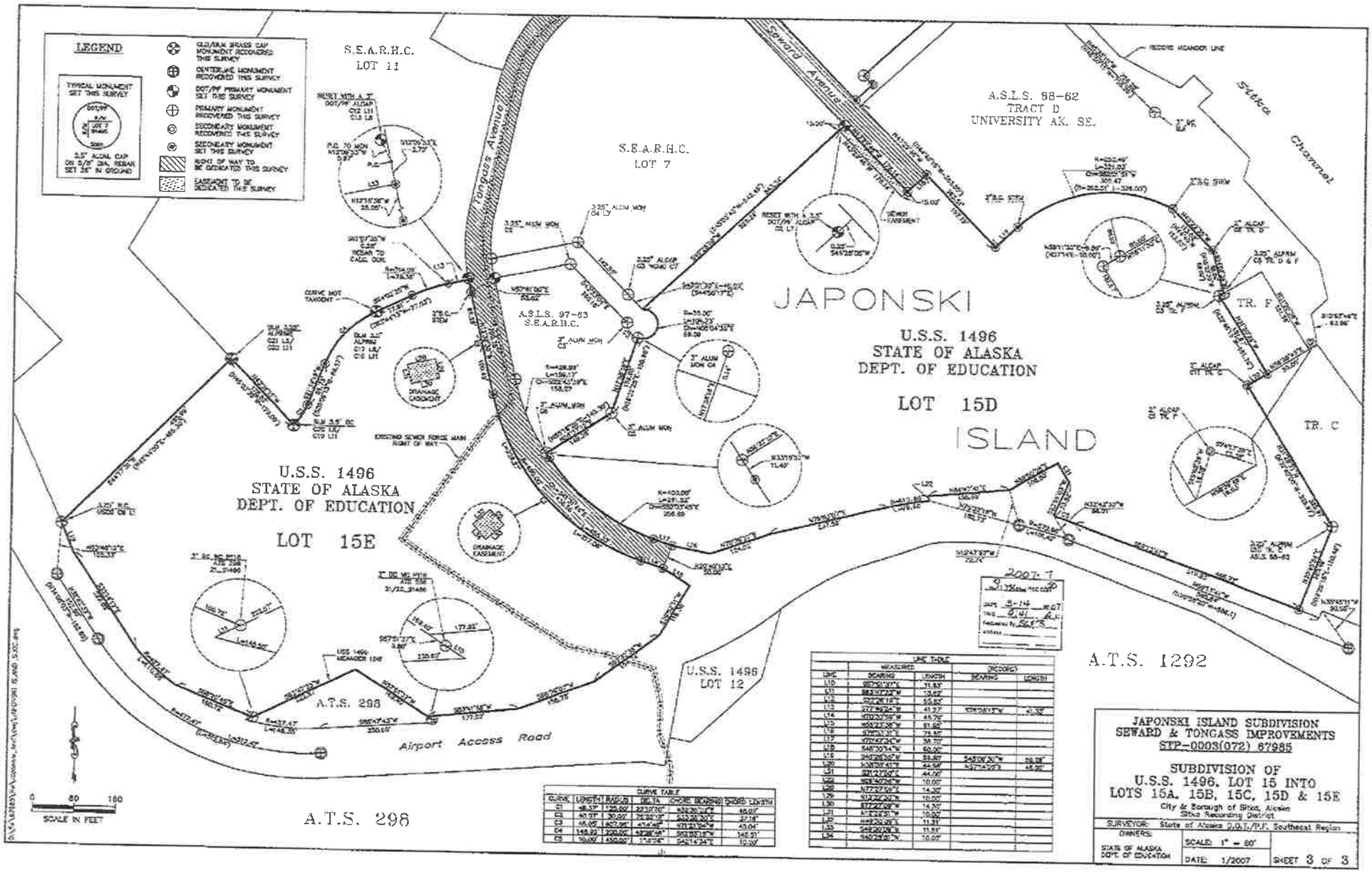
1. The purpose of this plat is to dedicate Right of Way for Tongass & Seward streets, drainage and utility easements and subdivide Lot 15 USS 1496 into Lots 15A, 15B, 15C, 15D & 15E. Lots 1,2,3,4,5,6,7,8,9,10,11,12,13 & 14 of USS 1496 did not change.
2. All bearings shown on this plat are true bearings as oriented to the basis of bearing.
3. All distances shown on this plat have been reduced to horizontal field distances.
4. Where record survey courses differ from field measured and/or computed courses, the record course is shown in parenthesis.
5. The flow of water in any creek, stream, or intermittent drainage shall not be blocked. The flow may be redirected or culverted by the property owner on land or adjacent properties or right of ways are not adversely impacted by the modification.
6. The Right of Way plan preparation was directly supervised by the Department of Transportation and Public Facilities (DOT/PF) Senior Right of Way Engineer, Southcoast Region. The location of the existing Right of Way corridor was compiled from record information and adjusted to recovered survey monuments as shown and described. The ownership on shown is accurate as of the date of plat preparation. The land title information was supplied to DOT/PF by a contract title insurance company and was reviewed and approved by Right of Way personnel.
7. U.S. Survey 1496 was surveyed by Fred Ochiquist U.S. Cadastral Engineer in 1903.
   U.S. Survey 1496 was dependently resurveyed and subdivided into Lots 1-15, by Michael D. Wilson, Cadastral Surveyor in 1984.
   U.S. Survey 1496 Lots 1,2,4 & 5 were replaced & a subdivision of Lot 2 into Lots 8-11 by Michael D. Wilson, Cadastral Surveyor in 1985.
   U.S. Survey 1496 supplementa plat dated March 28, 1990, Subdivision of original Lot 6 into Lots 12-15 is based upon this plat of U.S. Survey 1496 accepted November 19, 1985.
   Alaska Tidelands Survey 298 was surveyed in 1971 by the Alaska Division of Aviation as shown on the plat approved March 2, 1977.
   Alaska Tidelands Survey 1292 was surveyed in 1986 by Shaefer Engineering as shown on the plat approved October 10, 1986.
   Alaska Department of Highways Right of Way Project F-026-3(7) Sitka to Japonski Island was approved November 7, 1969.
   Alaska Department of Highways Right of Way Project F-026-3(10) Sitka Airport Access Road was approved February 20, 1973.
   Alaska Department of Highways Right of Way Project F-ul-0035(9) Sitka Airport Access Road was approved July 1980.
   Alaska State Land Survey 96-62 surveyed in 1986-1991 by R&M Engineering as shown on plat approved August 13, 1992.
   Alaska State Land Survey 97-83 surveyed in 1995 by O'Neil Surveying & Engineering as shown on the plat approved July 8, 1998.
   Additional information for the Right of way at Tongass and Seward streets, as well as drainage & utility easements, can be found on DOT & PF project Japonski Island Streets Utilities, Project No. 67985.

JAPONSKI ISLAND SUBDIVISION
SEWARD & TONGASS IMPROVEMENTS
STP-0003(072) 67985

SUBDIVISION OF
U.S.S. 1496, LOT 15 INTO
LOTS 15A, 15B, 15C, 15D & 15E
City & Borough of Sitka, Alaska
Sitka Recording District

SURVEYOR: State of Alaska D.O.T./P.F. Southcoast Region		
OWNERS: STATE OF ALASKA DEPT. OF EDUCATION	SCALE: 1" = 200'	
	DATE: 1/2007	SHEET 1 OF 3

SITKA 2007-7


LEGEND
S.E.A.R.H.C.
LOT 11
S.E.A.R.H.C.
LOT 7
A.S.L.S. 98-62
TRACT D
UNIVERSITY AK. SE.
Sitka Channel
Seward Avenue
Tongass Avenue
A.S.L.S. 97-63
S.E.A.R.H.C.
JAPONSKI
U.S.S. 1496
STATE OF ALASKA
DEPT. OF EDUCATION
LOT 15D
ISLAND
TR. F
TR. C
U.S.S. 1496
STATE OF ALASKA
DEPT. OF EDUCATION
LOT 15E
U.S.S. 1496
LOT 12
A.T.S. 1292
A.T.S. 298
A.T.S. 298
Airport Access Road
DRAINAGE EASEMENT
EXISTING SEWER FORCE MAIN RIGHT OF WAY
SEWER EASEMENT
RECORD MEANDER LINE
USS 1496 MEANDER LINE
SCALE IN FEET
JAPONSKI ISLAND SUBDIVISION
SEWARD & TONGASS IMPROVEMENTS
STP-0003(072) 67985
SUBDIVISION OF
U.S.S. 1496, LOT 15 INTO
LOTS 15A, 15B, 15C, 15D & 15E
City & Borough of Sitka, Alaska
Sitka Recording District
SURVEYOR: State of Alaska D.O.T./P.F. Southeast Region
OWNERS: STATE OF ALASKA DEPT. OF EDUCATION
SCALE: 1" = 60'
DATE: 1/2007
SHEET 3 OF 3

Sitka Seaplane Base Siting Study

10/5/11 User Group Meeting Summary

7 pm to 9 pm in the Maksoutoff Room at Centennial Hall, Sitka

CBS staff – Michael Harmon

DOWL HKM staff – Tom Middendorf and Mark Mayo

Attendance list attached

The purpose of the meeting was to introduce conceptual float layouts for the three sites and solicit comments from potential users in the hopes of narrowing down the number of potential sites to one preferred site. The meeting began with a PowerPoint presentation (attached) and was then opened for general questions and discussion.

User group comments:

Japonski Site

- Exposure to wind is a concern.
- Based aircraft slips should be aligned with the prevailing wind (S or SE) and tidal currents. Flip the arrangement of based and transient floats to achieve this
- The floating hangers on the end of the based float not a good idea. Better to put the hangers on the beach.
- Ocean swell not much of a problem at this site – it is shielded by the island
- Uniform agreement that this site is worthy of further consideration

Existing Site

- Birds at this site are severe maintenance problem for parked aircraft. Guano is more corrosive than salt.
- A drive down ramp would be needed for ambulance service and loading supplies and baggage. Also would eliminate need for on-site fuel storage since fuel could be dispensed from a truck.
- Explore potential to buy property from Harry Jimmy and Sitka Sound Seafood to better access and vehicle parking. Perhaps tidelands could be exchanged for property from Harry Jimmy.
- Evaluate an "H" (maybe better described as a C) configuration float layout
- Sitka Sound Seafood should be invited to future meetings
- Development at this site may block or impede access to Sitka Channel by adjacent properties on the shoreline

Eliason Site

- Freezing fresh water will constrain use of this site frequently in winter
- Maneuvering space will be very limited even at high tide
- Too exposed to wind and the slips can't be aligned with prevailing wind
- Houses nearby will experience noise impacts
- Uniform agreement from attendees that Eliason site will not work and is "off the table".

Miscellaneous

- A lot of swell are anticipated at the new State SP pullout. This makes a pullout at the CBS facility even more desirable.

Conclusions: The Eliason site and Alternatives 1 and 1A will not be carried forward. The Japonski site will be carried forward. Evaluate the "H" (or C) layout at the existing site together with potential land acquisitions. Bring new layout and evaluation back to a future User Group meeting prior to going before opening the planning process to wider public participation.

NEW SITKA SEAPLANE BASE

PROGRESS MEETING

SIGN-IN-SHEET • October 5, 2011

NAME	ADDRESS	E-MAIL	TELEPHONE
Kari Lundgren	2702 SMC, Sitka, 99835	coastal.rentals@yahoo	907-738-2089
Ron Handelson	2702 SMC, Sitka	rhandersonsr@yahoo	907 747 1077 WK
Dave Gordon	717 Lake St Sitka	dave.gordon@alaska.gov	747-3724
Scott Saline	434 BACK ST @Bx 3183	s45saline@gci.net	7-7889
Ken Bowers	405 KATLIAN ST SITKA	KEN@PRIMERIGGING.com	738-2363
Kris Mulley	#Breathless Lane Port Alexander	KMULLEY@gci.com	907-568-2399
Sonny Crowley	256 LINCOLN ST., STE 103	SONNYCROWLEY@GMAIL.COM	738-3535
David Roberts	301 Marine St		752-0964

email dated: 10/15/11
from J. Baird (Sitka Sound Seafoods)
to M. Harmon (CBS)

To: Michael Harmon
Fr: John Baird

Dear Michael,

I caught wind of a meeting that you have had with local airplane pilots on October 6th in regards to finding a float dock area suitable for expanding opportunities for more commercial float planes then currently exist. I have only seen generalized concepts of the three areas that are being thought of but not knowing all of the particulars of each area I will speak to the one I do know, that being the current float dock area next to Sitka Sound Seafoods.

Foremost, I would like to say that I fully support float plane pilots and their leisure and business aspirations. The Sitka area is indeed a float plane and boating paradise, albeit a wet one at times! From a commercial fishing stand point, they are often very helpful during the herring and salmon fisheries, as well as Civil Air Patrol. Certainly they are a wonderful way to introduce folks from other parts of the Country to our beautiful area. Having said that, I have serious concerns about the current location of the float plane dock, and even greater concerns for its' possible expansion.

In its current form it is an extreme noise hazard. When the aircraft return from their flight, they have to rev the engine to get up on the float and this creates a noise decimal level far in excess of what is safe for our staff at the plant. In addition, we cannot carry on normal business inside the office as the noise level is tremendous. This is but one problem but it is a severe one. This does not even take into consideration the unbelievable decimals created by aircraft taking off right in front of our dock, which needs to stop. With the possible expansion of the dock, we will have the same problems only magnified 4-5 times in frequency and noise level. Water traffic wise we already have a very tight space for both vessels and aircraft transiting each dock. The addition of 4-5 time of commercial plane operations in what is already a very small area will cause major disruption to our vessels coming and going to our dock and a tremendous safety issue and liability for plane, boat, City and State.

Other issues of concern, for this area, would be an additional fueling station over water, a tremendous increase in the number of people needing parking in an already very congested area for traffic and lack of parking on Katlian.

Michael, I have to travel out of town tomorrow but I would appreciate the opportunity to discuss further with you and others these points expressed and concerns, and be kept advised of future meetings in advance so we can be present.

To summarize I will say that North Pacific Seafoods (i.e. Sitka Sound Seafoods) is definitely against the expansion of the current Seaplane float in its current location, and in addition, feel the current dock needs to be moved for the aforementioned comments. While I am gone Tim Ryan can certainly speak to this issue to clarify or give feedback to any questions you may have.

With Regards,

John Baird
General Manager
Sitka Sound Seafoods

Sitka Seaplane Base Siting Study

12/15/11 User Group Meeting Summary

7 pm at Centennial Hall, Sitka

CBS staff – Michael Harmon, Marlene Campbell, Stephen Weatherman

DOWL HKM staff – Tom Middendorf and Mark Mayo (by telephone)

Attendance list attached

The purpose of the meeting was to review action items from the October 5 User Group meeting and obtain input for the SPB site selection process.

A PowerPoint presentation (attached) was delivered to the group by Michael Harmon, Tom Middendorf and Mark Mayo. The meeting was then opened for questions and discussion.

Question: What if an agreement can't be reached with the Coast Guard and AK Department of education to acquire/develop the Japonski site?

Answer: The previous (2002) and current site studies have thoroughly evaluated all the potentially feasible sites. The Japonski site was recommended in the 2002 study and this selection appears to have been confirmed by the current study as the only feasible site. In the absence of an agreement, CBS would have no alternative but to continue operating the current SPB facility.

Question: Why did the high school oppose the Japonski site?

Answer: The school has identified concerns about noise. In an April 26, 2011 letter we received from Superintendant Randy Hawk, he states that the Department of Education does not support the selection of this site because it would preclude their ability to use the property in the future, would increase aircraft noise levels near the high school, and would increase vehicular traffic in the area. We have not met with them to discuss property acquisition. Before we could move ahead with acquisition, the site would have to go through detailed environmental process (NEPA) and design. However, at the current time it appears that the Japonski site could actually decrease noise impacting the school by moving the area where aircraft start their take off run further to the north in the channel.

Comment: Noise levels generated by SPs now is significantly lower than in the 1970s and 1980s when the regional economy was must stronger and there was more SP traffic.

Question: With regard to protecting the Japonski site from waves, what plans exist to connect the gaps in the breakwater?

Answer: This was studied by the Corps of Engineers but due to the high cost ($23M) of closing the gaps and environmental concerns, they have elected to not move ahead with the proposal.

Question: Could a floating breakwater help?

Answer: This has not been considered to date. The focus of wave investigations has been the main entrance to the channel. It may be that putting a SPB at this location would make a floating breakwater in the near shore area more viable from a cost/benefit perspective.

Straw Poll: Unanimous support among those in meeting for the Japonski site, Alternative 3A.

Suggestions:

- For the upcoming public meetings, bring photos of SPB facilities in Petersburg, Juneau, Tenakee Springs, and Ketchikan to compare with the existing facility in Sitka.
- Emphasize the impact of SP traffic within the local economy.
- Move gangway (?) to accommodate more aircraft on shore side of transient float

Question: What will happen to the existing SPB site?

Answer: It would probably be re-purposed by CBS for harbor-related use. Insurance and administrative issues would preclude operation of two SPB site. FAA has also indicated that they would not favor two SPB's.

Next step: A draft report will be issued and CBS will arrange a public meeting on site selection.

City and Borough of Sitka
DEPARTMENT OF PUBLIC WORKS
100 Lincoln Street, Sitka, Alaska 99835
(907) 747-1804 • Fax (907) 747-3158

PROJECT _____
LOCATION _____
DATE _____ BY _____
SCALE _____ SHEET ____ OF ____

SEA PLANE BASE 12/15/11

NAME	PHONE	EMAIL	
John BAIRD	738-1270	JBaird@npsi.us	Sitka Sound Seafoods
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Kari Lundgren	738-2089	coastal.rentals@yahoo.com	
Jeannie Frank	738-1029	Jeannie_m@acsalaska.net	
KEN BELLOWS	738-2363	KEN@FLYINFISHINN.COM	
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STAN ELIASON	747-3439	STAN@cityofSITKA.COM	
DAN TADIC	747-1807	dantadic@cityofsitka.com	
KEVIN KNOX	738-4664	kevin@bluesteel.org	


Final Siting Analysis, Planning and Concept Design, and NEPA and Permitting Processes
SITKA SEAPLANE BASE
December 15, 2011
Project Status Update
Alternative Site Evaluation
DOWL HKM



Purpose of tonight's meeting

- Review action items from the October 5 SPB user meeting
- Provide a project update and obtain input on the SPB site selection process

Project scope

- Evaluate three alternative SPB sites to determine which site shall be carried forward for detailed planning and further review in a NEPA document before moving on to design and construction.

Alternate SPB Sites



Facility Requirements

General requirements:

- 14 based SP slips, expandable in future
- 3-5 transient SP positions
- Room for future growth

Critical for commercial use:

- Fuel, fresh water, electricity on float(s)
- Vehicle parking
- Drive-down ramp to float(s)
- Aircraft maintenance capability on-site
- Passenger shelter
- Equipment storage



Design Aircraft

- Also known as "Critical Aircraft"
- FAA-funded projects must identify a critical aircraft as the basis for project design
- FAA definition: The most demanding aircraft expected to use the facility
- Smaller aircraft may also use the facility
- Sitka SPB Design Aircraft
  - de Havilland DHC-2 Beaver
    - Wingspan: 48 feet 0 inches
    - Length: 30 feet 3 inches

Summary of comment sheets received following October 5 meeting

1 preferred existing SPB site

- … but float layout presented at meeting won't work - needs to be revised
- Existing SPB site
  - most economical, even with purchase of property
  - offers best protection for aircraft from wind & waves

6 preferred Japonski site

- Revise the float layout to align slips with wind
- Put maintenance hanger on shore
- Site offers:
  - easy road access to airport for hanger storage
  - is the best site for commercial use
  - is expandable
- … but is also more exposed to wind

Results of October 5 meeting

- Eliason Harbor alternative site eliminated
  - Significant dredging required
  - Freezing fresh water restricts access in winter
  - Maneuvering space very limited even at high tide
  - Too exposed to wind; slips can't be aligned with prevailing wind
- New "H" float layout requested for existing SPB site
- New float configuration requested for Japonski Island site

FAA SPB Design Guidelines

- FAA recommends a minimum SPB taxi lane width of 225' between obstacles to ensure adequate maneuvering room in less than ideal conditions
- For a DHC-2 Beaver, a 225' taxi lane would provide 88' from a Beavers wingtip to the tail of parked seaplanes on either side
- Some Alaskan SPBs have somewhat smaller taxi lanes



PALH -Lake Hood

FAA recommends 225' wide taxi lane

Lake Hood taxi lanes 193' to 207' wide



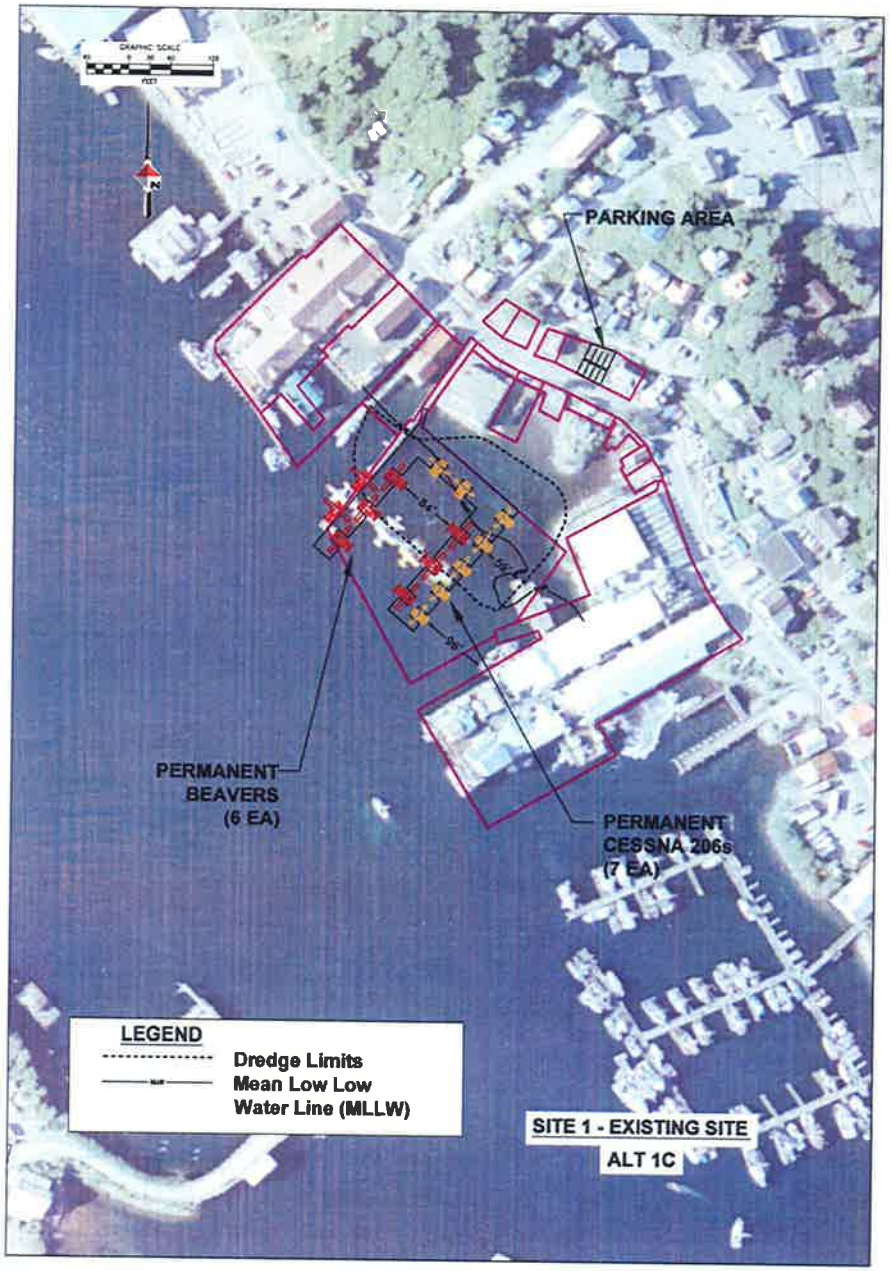
T44 –Trident Basin

FAA recommends 225’ wide taxi lane

Trident Basin taxi lanes 200’ wide

Revised Float Layout Alt 1C

- Southern float no closer to SSS than end of existing float
- Interior taxi lane: 84' wide, allows 18' between Beaver's wing and tail of parked seaplanes
- SPB/SSS Taxi lane: 96' to 59' wide, Beaver wingtip clearances of 24'-12'
- Capacity: 13 based aircraft, 2 transients

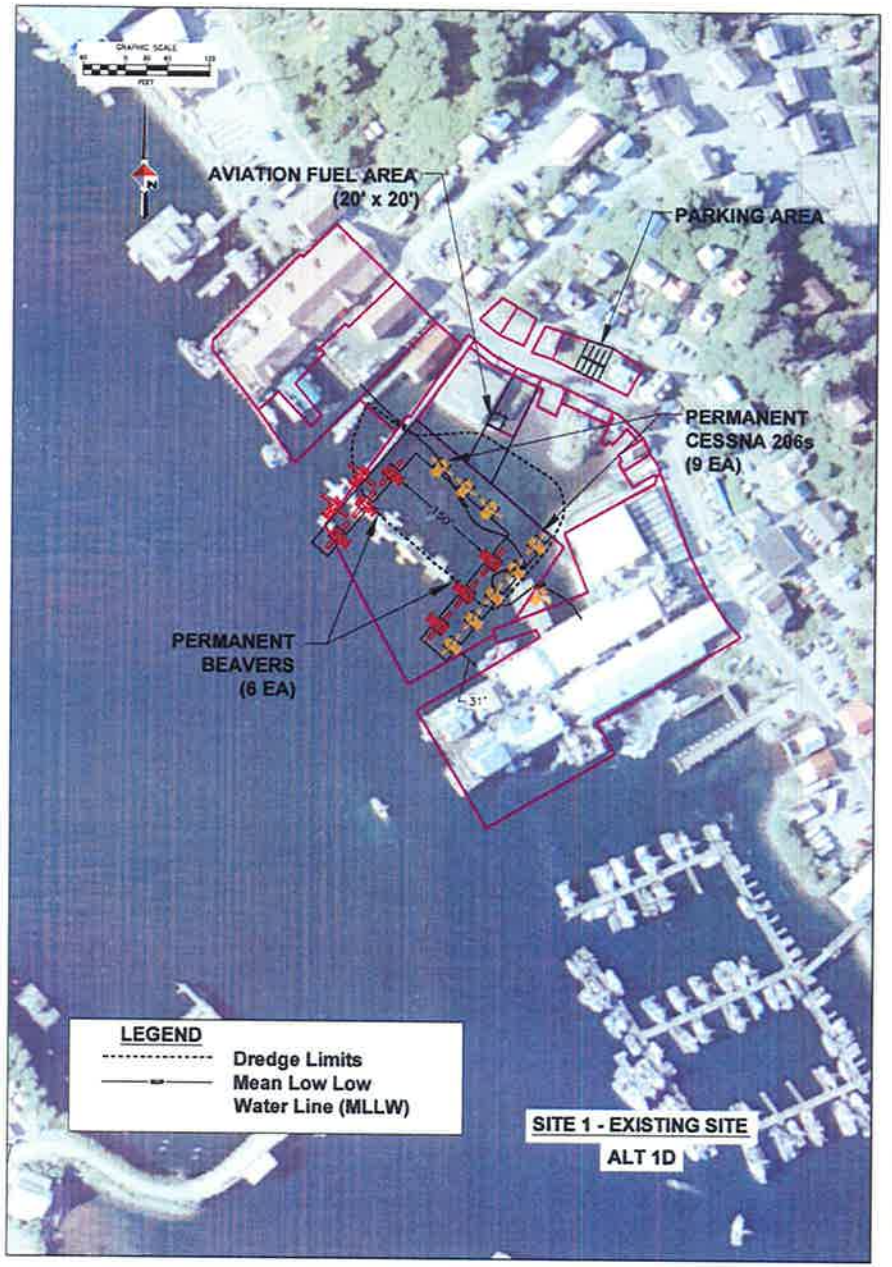


Existing SPB Alt 1C - Analysis

- Does not provide for safe maneuvering to slips
- Does not meet the projects initial capacity goal
- Significant dredging required
- Does not allow for future growth
- Departs significantly from the funding agency's (FAA) design standards
- Opposed by the SSS fish plant
- Not recommended by DOWL HKM

Revised Float Layout Alt 1D

- Wider interior taxi lane than Alt 1C for greater maneuverability/safety
- Interior taxi lane: 150' wide, 51' between Beaver's wing and tail of parked seaplanes
- SPB/SSS Taxi lane: Impassible
- Capacity: Designed for 14 permanent positions and 3-5 transient positions but 5 slips not accessible



Existing SPB Alt 1D - Analysis

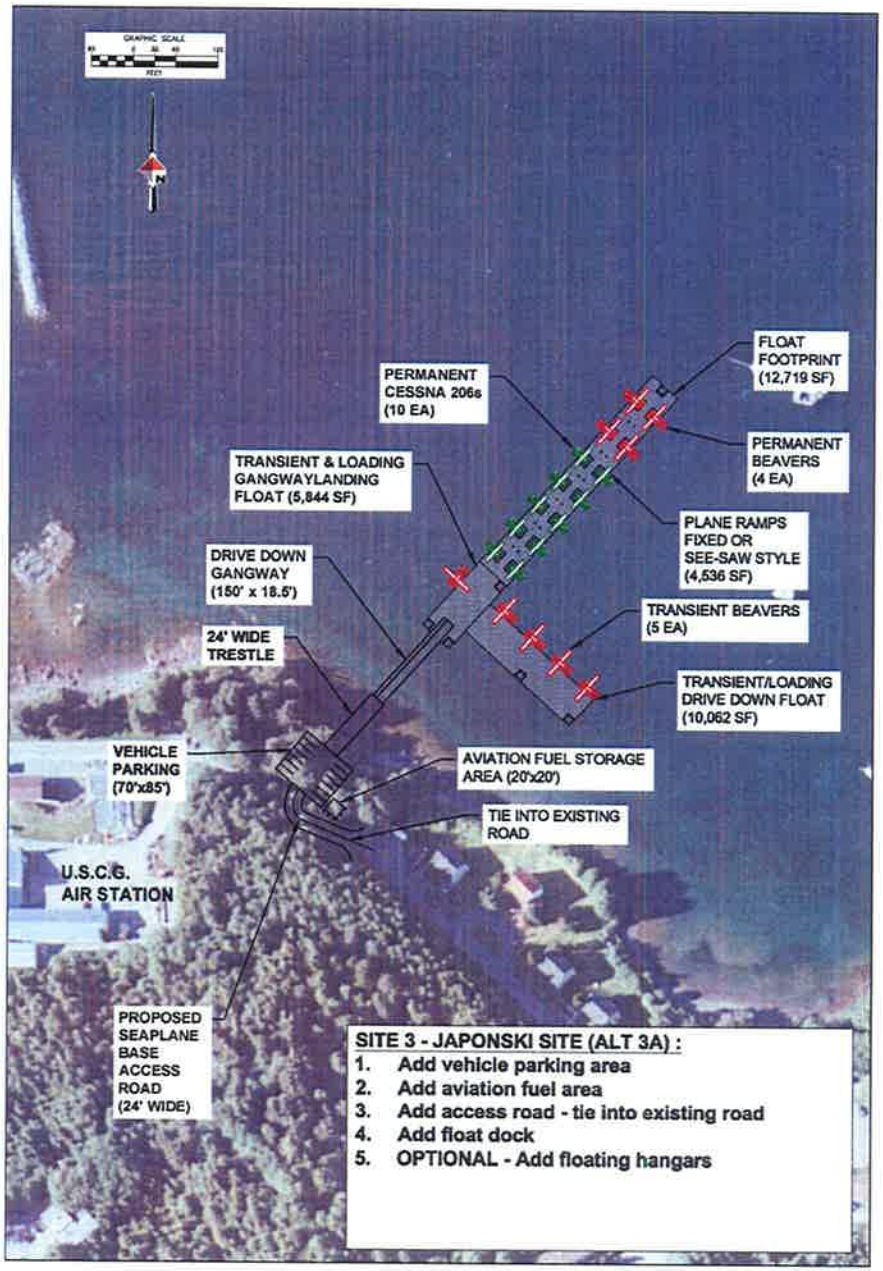
- May provide for safe maneuvering to slips on the inside of the floats
- Does not meet the project's initial capacity goal
- Significant dredging required
- Does not allow for future growth
- Departs significantly from the funding agency's (FAA) design standards
- Opposed by the adjacent SSS fish plant operator
- Not recommended by DOWL HKM

Japonski Island
Revised Float Layout
Alt 3A

Permanent slips oriented with wind; transient positions oriented crosswind

Preliminary Cost Estimate

$8,900,000

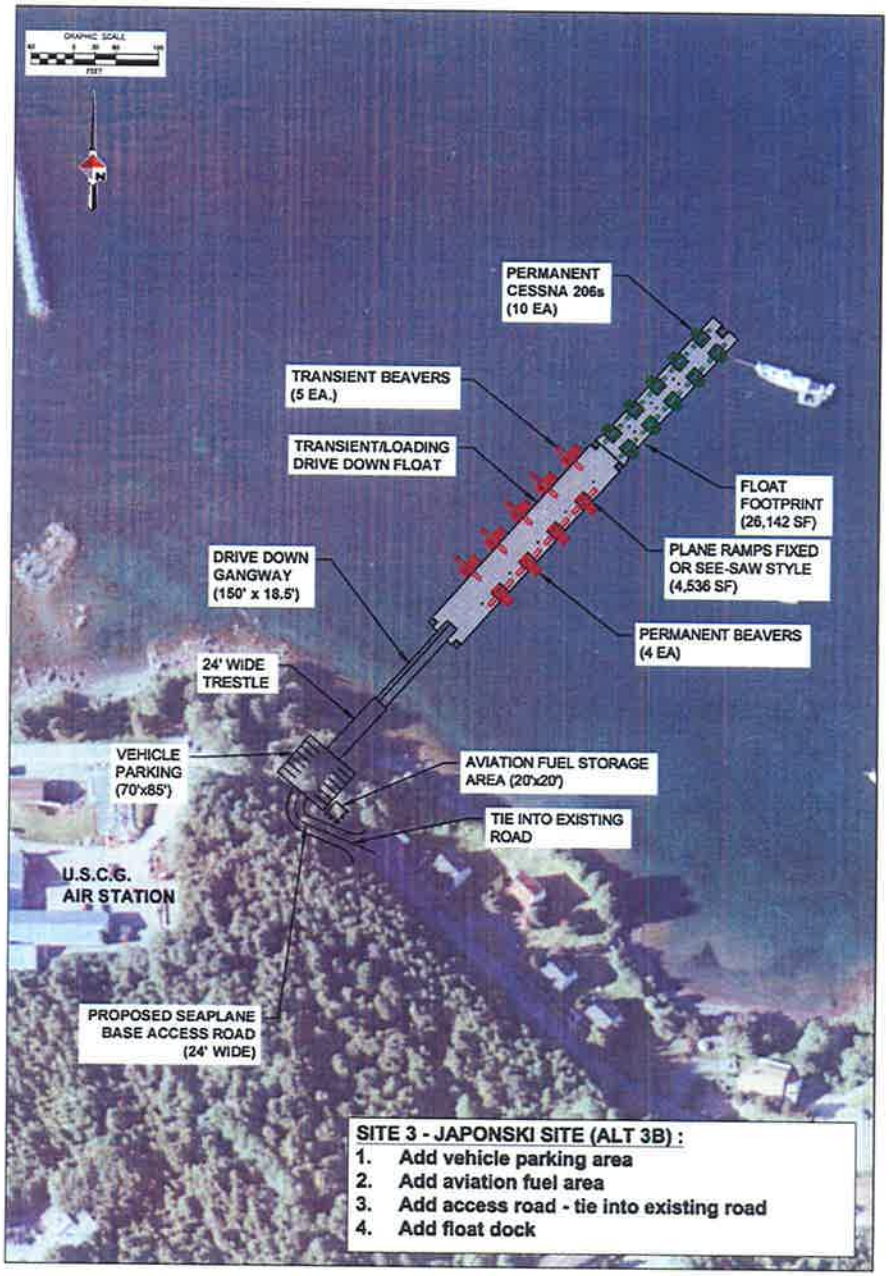


Japonski Island
Revised Float Layout
Alt 3B

Permanent and transient slips oriented with prevailing wind

Preliminary Cost Estimate

$8,900,000



Japonski Island Alts 3A & B Analysis

- Provides for safe maneuvering to slips
- Meets the project's initial capacity goal
- Allows for future growth
- Conforms to the funding agency's (FAA) design guidance
- Potential noise impacts to MEHS & SEARHC
- Recommended by DOWL HKM for site selection and further design refinement

Next Steps

- 2012
  - Draft Report
  - Public meeting in Sitka on site selection
  - CBS Assembly review of recommended site
  - Preferred site – Conceptual plan
  - Concept Layout
  - ROW requirements
  - Environmental
  - Further user & public involvement
  - Final review/approval by FAA & CBS Assembly
- 2013+
  - Design, ROW acquisition & construction

Comments and/or Questions ?



Sitka Seaplane Base Siting Study
Summary
4/11/12 Ports and Harbors Commission Meeting

CBS Staff – Dan Tadic, Stan Eliason, Michael Harmon, Stephen Weatherman
DOWL HKM Staff – Tom Middendorf

A PowerPoint presentation (attached) was delivered to the Commission. The following is a summary of comments or questions received from commission members together with responses from project staff.

Comment: Aircraft noise at Japonski may be less noticeable due to presence of existing background noise from the Sitka Airport and Coast Guard helicopter operations nearby.

Comment: There is also existing noise from seaplane operations in Sitka Channel that could go down when fewer aircraft will operate from this narrower area.

Comment: You could consider options to reduce noise from aircraft powering up to load onto the ramp by investigating mechanical systems to assist aircraft in getting onto the ramp.
Response: We will look into this.

Comment: Has the presence of swell been considered?
Response: Yes. This was considered by our float designer and the pilots and while we expect to see swell at this site, it can be handled by float design and layout.

Comment: Can you shift the float within the site, if needed?
Response: There are some limited options to shift it on the site, but the Coast Guard is on one side and residential and clinic properties on the other side.

Comment: Can you consider anchoring systems instead of pile systems to keep the float in place? Piles would probably not be as effective with swell, would cost more, and could be more complicated with airplane wings to avoid.
Response: Yes we will look at that during more detailed conceptual design.

Comment: Who will control what kind of vehicles will use the drive down ramp?
Response: The harbormaster.

Comment: If you have the correct fuel piping system going down to the float you will not need to have access for a fuel truck on the float.
Response: We will look into fueling options.

Comment: Why was Jamestown Bay eliminated as an option?
Response: Primarily because of residential development in the area, turbulent wind conditions, exposure to swells, and boat traffic.

The Ports and Harbors Commission approved the recommended Japonski site for further studies.

MEMORANDUM

To: Jim Dinley, Administrator

From: Grant Miller, Port and Harbor Commission

Date: April 17th 2012

Subject: Seaplane base

The consultant team and Public Works Staff presented the results of the Seaplane Base Siting Analysis to the Port and Harbor Commission on April 11, 2012. The Commission members voted unanimously to approve the recommended site for further study.

Grant Miller, Chairman


Final Siting Analysis, Planning and Concept Design, and NEPA and Permitting Processes
SITKA SEAPLANE BASE
April 11, 2012
Presentation of SPB Siting Recommendations
DOWL HKM

Purpose of Study

- Project Goal
  - Recommend a seaplane base (SPB) site that will address existing deficiencies, serve existing and future demand, and contribute to the local economy

- Project Scope
  - Evaluate three alternative SPB sites to determine which site shall be carried forward for detailed planning and further review in a NEPA document before moving on to design and construction



Existing Sitka SPB – Known Issues



Congested site: SSS plant, private dock



Narrow float, limited walking/working space



Aging timbers, inadequate flotation

Existing Sitka SPB – Known Issues

- Insufficient capacity; no room for expansion



Existing Sitka SPB – Known Issues

- Safety concerns
  - Bird hazards
  - Potential conflicts with boats
  - Ramp/float design
  - 5 years safe/usable service life remaining





Existing Sitka SPB – Known Issues

- Operational concerns
  - Shallow rocky basin restricts aircraft maneuvering
  - No fueling facilities
  - No vehicle parking
  - Commercial use not practical





An Improved SPB Would Support the Local Economy by

- Providing a base of operations for recreational and commercial seaplane operators.
- Providing access to national parks, State recreation sites, lodges, remote cabins, and fish hatcheries
- Providing support for commercial fishing industry
- Providing employment for tour operators, flight instructors, aircraft mechanics, and concessionaires
- Serving as a transportation hub for nearby villages



Example:

Kodiak Trident Basin SPB

- 18 slips plus significant transient capacity
- Replaced an 8 slip SPB in Inner Harbor, due to boat conflicts and expansion constraints
- Pull out ramp
- On-shore lease areas/passenger terminals
- Fueling
- 3-4 primary commercial users





Kodiak Trident Basin SPB

"15 years ago there was not a bear viewing program for tourists. Now its one of the primary floatplane activities in Kodiak and its directly related to investment in SPB infrastructure."

"If you come up to visit from Iowa do you want to fly on the same wheeled airplane you fly on in Iowa or do you want to fly in a floatplane, unique to Alaska?"

"In 2 out of 3 of the water accidents we have had this past year, lives were saved because floatplanes were able to quickly respond to accidents. Floatplanes were on site before the Coast Guard could arrive. You're dead in 20 minutes without quick response."

Bob Stanford, owner of Island Air

Kodiak Trident Basin SPB

"When the rebuilding of the facility was first completed I got a lot of compliments on the facility....After talking with the different users of the facility now I think they are pleased with what they have and truly understand we could never have gotten here without the FAA funding support and the State match."

Mark Kozak, City of Kodiak Public Works Director



Example:

Petersburg SPB



Float system and floating hanger

Fuel and freight storage available
2 floating aircraft maintenance hangers



Floating hanger

Tie downs



Example:

Ketchikan SPB



Pull out ramp
23 slips/parking positions



Transient Loading Area



Seaplane Slips

Example:

Juneau SPB

- 69 slips plus significant transient capacity
- 2 pull out ramps
- Commercial float w 3-5 primary users



Juneau SPB

- "We have a pretty healthy use of the pond by Wings Airways, Ward Air and Alaska Seaplanes due to the influx of cruise passengers and summer visitors."

Jeannie Johnson, Airport Manager, Juneau International Airport

Sitka SPB Facility Requirements

General requirements:

- 14 based SP slips, expandable in future
- 3-5 transient SP positions
- Room for future growth

Important for commercial use:

- Fuel, fresh water, electricity on float(s)
- Vehicle parking
- Drive-down ramp to float(s)
- Aircraft maintenance capability on-site
- Passenger shelter
- Equipment storage



Sites Considered (2002 study)



Sites Dismissed (2002 study)

- Starrigavan Bay
- Mt. Edgecumbe
- Safe Harbor
- Work Float
- Japonski Lagoon
- Charcoal Island
- Jamestown Bay
- Sawmill Cove
- Herring Cove

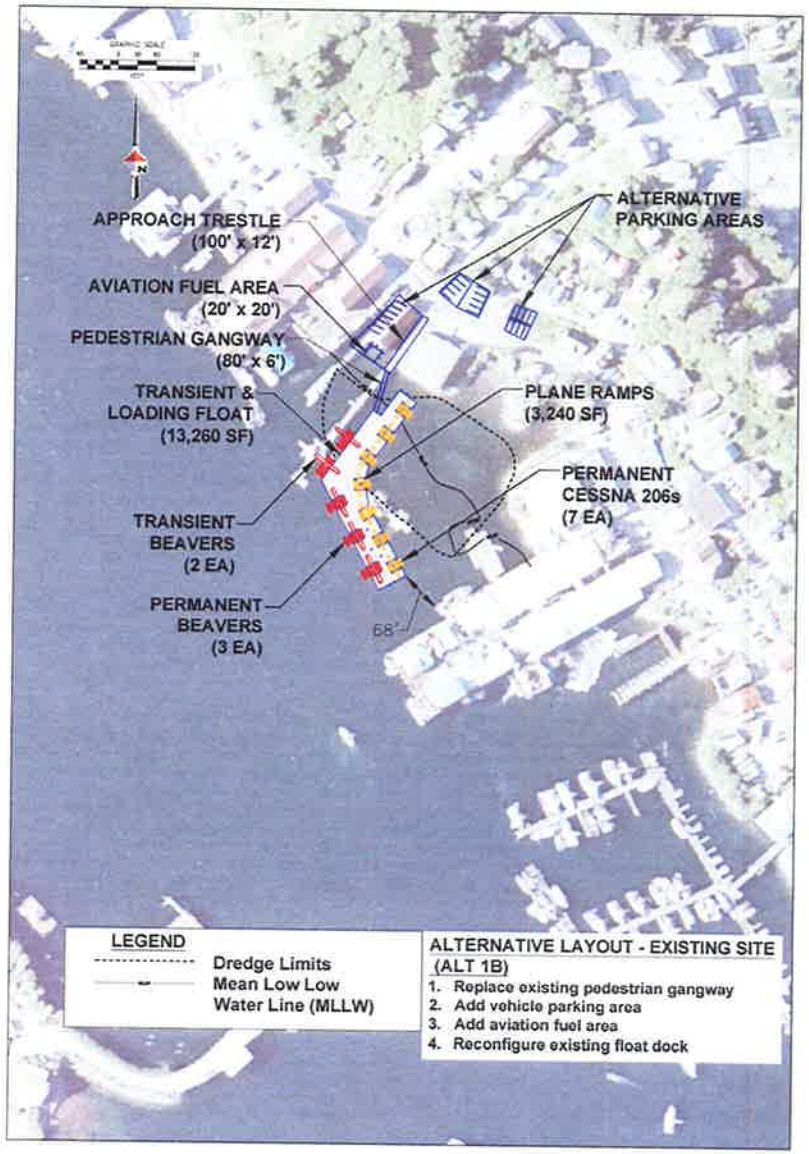
Proposed Sites Carried Forward
(current study)



Proposed Existing SPB Site Re-Development

- Slips for 12 based aircraft
- Positions for 2 transient aircraft
- Vehicle parking
- Fuel, water, electrical systems

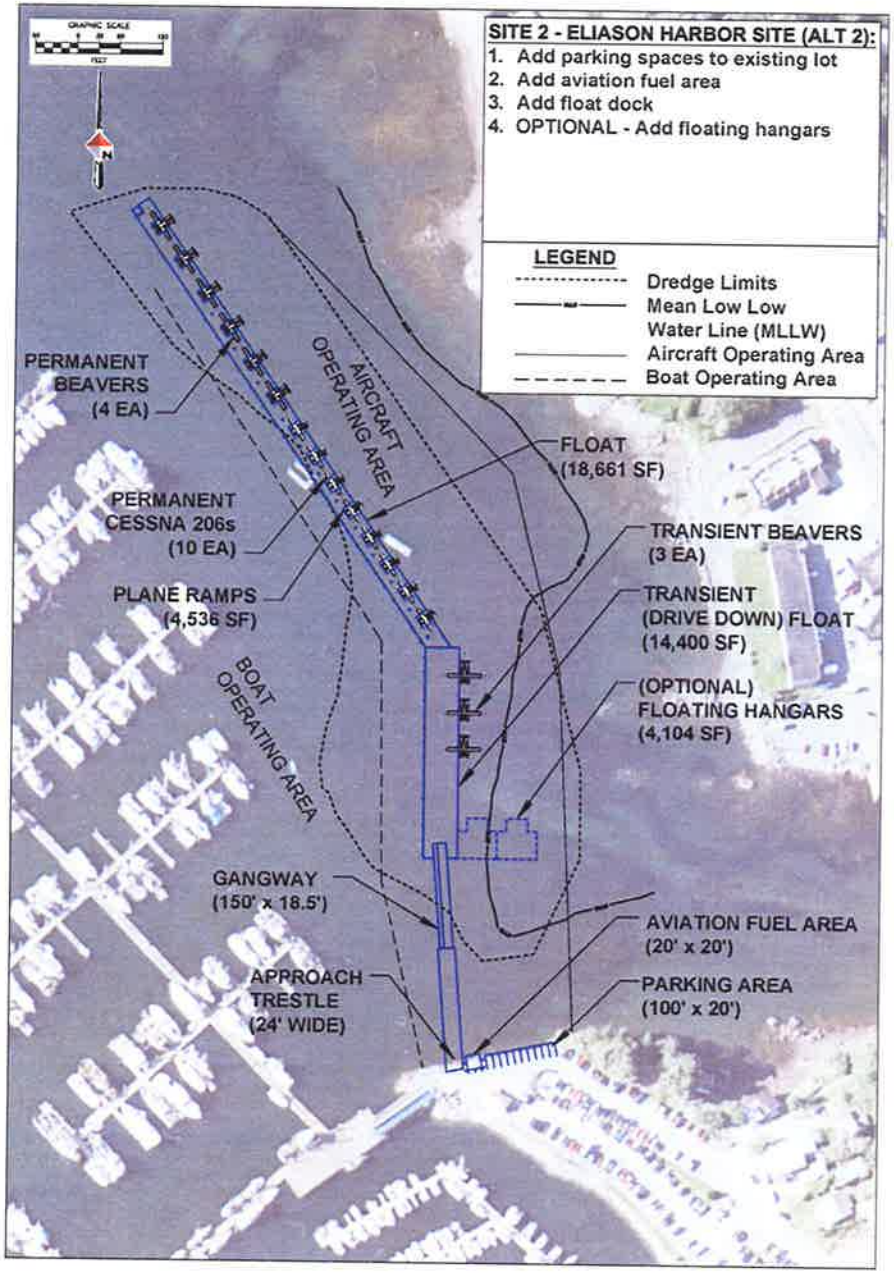
Construction cost estimate: $5.1 M



Results of Analysis & User Input

- Existing SPB site eliminated
  - Can't accommodate existing or future demand
  - Requires dredging
  - Increased conflicts with boat traffic
  - Restricted wingtip clearances – does not comply with FAA design guidance
  - Bird hazard
  - Neighbors object to current and expanded use





Proposed Eliason Harbor Site Development

- Slips for 14 based aircraft
- Positions for 3-5 transients
- Vehicle parking
- Fuel, water, electrical systems
- Drive-down ramp
- Optional floating hangers (2)

Construction cost estimate: $13.2 to $15.6 M

Results of Analysis & User Input

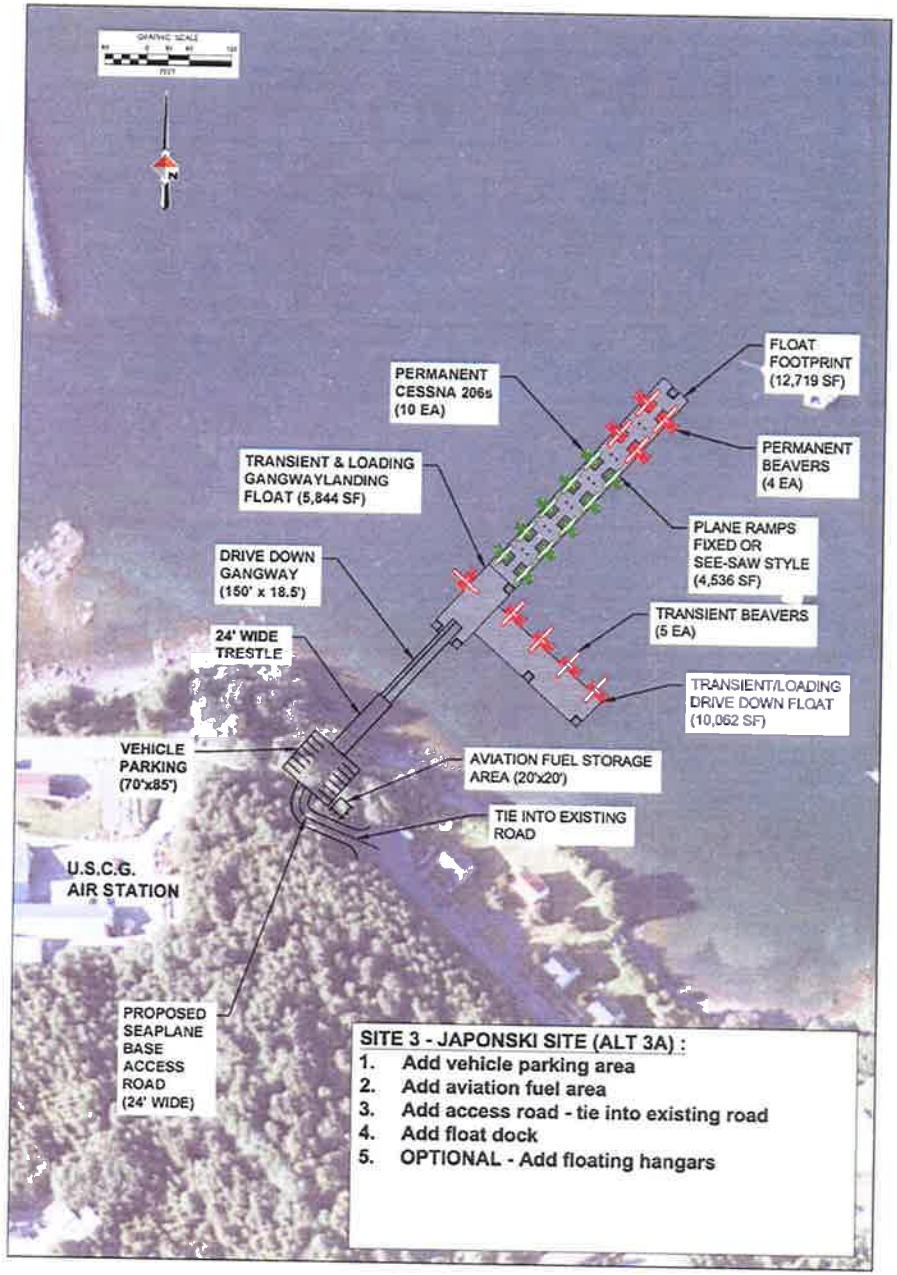
- Eliason Harbor alternative site eliminated
  - Highest construction cost of all alternatives
  - Conflicts with boat traffic
  - Significant dredging required
  - Limited future expansion potential
  - Freezing fresh water restricts access in winter
  - Maneuvering space very limited even at high tide
  - Nearby structures exposed to aircraft noise
  - Exposed to wind; slips can't be aligned with prevailing wind



Proposed Japonski Island Site Development

- Slips for 14 based aircraft
- Positions for 5 transients
- Vehicle parking
- Fuel, water, electrical systems
- Drive-down ramp
- Optional floating hangers (2)

Construction cost estimate: $9.3 to $11.7 M



Results of Analysis & User Input

- Japonski Island site – Recommended site
  - Mid-range construction cost
  - Meets project's capacity goal; can be expanded further
  - No dredging required
  - Accommodates commercial use (hanger, vehicle parking)
  - Away from boat movements
  - Away from seabird concentration
  - Provides for safe seaplane maneuvering to slips
  - Conforms to the funding agency's (FAA) design guidance

- AK DOEED (land owner) expressed concern with development at this site - increased vehicular traffic and noise for nearby structures

Cost to Construct

	Base Facility	w Floating Hangers & Pull out Ramp
Total Cost	$9,300,000	$11,700,000
Federal Share (FAA) 95%	$8,835,000	$11,115,000
State Share 2.5%	$232,500	$292,500
CBS Share 2.5%	$232,500	$292,500

Estimate above does not include design, environmental, and construction administration costs

Next Steps

- 2012
  - Ports & Harbors Commission and Public Meeting - Site Selection (TODAY)
  - Preferred site
  - Assembly approval
  - Further user and public involvement (ongoing)
  - Final Conceptual Plan - preferred site
  - Property investigation
  - Environmental Assessment
  - Assembly approval
- 2013+
  - Design
  - Property acquisition
  - Construction

Comments and/or Questions ?



Sitka Seaplane Base Siting Study
Summary
4/11/12 Public Meeting

CBS Staff – Dan Tadik, Michael Harmon, Steve Weatherman
DOWL HKM Staff – Tom Middendorf

A PowerPoint presentation (attached) was delivered to those attending the meeting. The following is a summary of comments or questions received from members of the public together with responses from project staff.

Comment: A meeting attendee reported operating a glass bottom tour boat along the shoreline in the area and at the site of the seaplane float. The tour boat views the ocean bottom in the near shore area and turns around once it approaches the breakwater. It also covers other areas with the tour, but the Japonski site is good for bottom viewing. He noted support for a seaplane base but wondered if other sites were dismissed without full consideration.
Response: The attendee was asked to document his concerns on a comment sheet and to show the areas he uses for his business on the sheet.

Comment: The same person asked why Herring Cove was dismissed.
Response: A pilot in the room reported Herring Cove is a very windy area – a blow hole – that would be unsuitable for floatplanes. He reported it freezes in winter. The prior study also eliminated this site because it has:

Long fetch with direct access to open ocean (i.e., waves & swell)
Large chop from prevailing winds
Strong turbulent winds from Blue Lake
Limiting topography during cloudy/foggy conditions
Too far from town

Comment: The same person also asked whether Whiting Harbor would work.
Response: The pilot in the audience commented that Whiting Harbor was exposed to waves and rough water and access to the site was restricted by the airport and FAA.

Comment: The same person asked if there was wind data available for each site.
Response: No, wind information is not available for each site, and wind information was based on local knowledge.

Comment: Is the Department of Education in the driver's seat on this project because of land acquisition?
Response: We will work with the Department of Education on land acquisition. Our chances of success will be greater if it is clear the community considers the seaplane base at this site is the best option. There may be ways to configure the seaplane base to minimize affects on Department of Education property. SEARHC also has property along Seward Avenue that might be investigated for parking.

Comment: I don't think there are any other reasonable options. This is the best site.

Comment: This is the perfect location. It is good for establishing commercial operations. I am personally interested in starting commercial operations if this is built.

Comment: This sounds like a great idea.

Comment: I can't imagine why the community would turn down the opportunity to have this project built with 97.5% federal and state funding.

Comment: The fees for use of the facility need to be reasonable. It is expensive to own and operate seaplanes and we already pay fees and property taxes.

Comment: This seems like a small facility when compared to the extent of boat harbor facilities that have been built in Sitka. Other smaller communities like Kodiak and Petersburg have bigger and better seaplane bases.

Comment: There may be potential for aircraft using the seaplane base to carry medical patients from villages to SEARHC.

Comment: You should consider including a seaplane pullout at this site, connected by road to the airport and its hangars. Then the State would not need to build its pullout area, which is proposed in a much less favorable site.
Response: We will look at this during the more detailed design. It is possible if funding is an issue that this could be a later phase, unless the State builds it's haulout first.

Comment: Tsunami warning noise is perhaps more annoying than seaplane operations noise.

Comment: The CBS Assembly needs to understand the extent of study – 2 studies over 10 years – that has gone into this project and that both studies recommended the same site.

SITKA SEAPLANE BASE

PUBLIC MEETING

SIGN-IN-SHEET • April 24, 2012

NAME	ADDRESS	E-MAIL	TELEPHONE
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Kari Lundgren	2702 SMC Sitka, AK	coastal-rentals@yahoo.com	735-2089
Jeannie Frank	116 D. Harvest Way Sitka	jeannie.m@acsalaska.net	738-1029
RON HANDERSON	165 Price St Sitka	rhandersonsr@yahoo.com	747-1077
Bill LANTZ	105 KAASDA HEEN CIR	WMLANTZ@MSN.COM	738-3075



Purpose of Study

- Project Goal
  - Recommend a seaplane base (SPB) site that will address existing deficiencies, serve existing and future demand, and contribute to the local economy
- Project Scope
  - Evaluate three alternative SPB sites to determine which site shall be carried forward for detailed planning and further review in a NEPA document before moving on to design and construction

Existing Sitka SPB – Known Issues


Congested site: SSS plant, private dock


Narrow float, limited walking/working space


Aging timbers, inadequate flotation

Existing Sitka SPB – Known Issues

- Insufficient capacity; no room for expansion



Existing Sitka SPB – Known Issues

- Safety concerns
  - Bird hazards
  - Potential conflicts with boats
  - Ramp/float design
  - 5 years safe/usable service life remaining





Existing Sitka SPB – Known Issues

- Operational concerns
  - Shallow rocky basin restricts aircraft maneuvering
  - No fueling facilities
  - No vehicle parking
  - Commercial use not practical





An Improved SPB Would Support the Local Economy by

- Providing a base of operations for recreational and commercial seaplane operators.
- Providing access to national parks, State recreation sites, lodges, remote cabins, and fish hatcheries
- Providing support for commercial fishing industry
- Providing employment for tour operators, flight instructors, aircraft mechanics, and concessionaires
- Serving as a transportation hub for nearby villages

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Kodiak Trident Basin SPB

"15 years ago there was not a bear viewing program for tourists. Now its one of the primary floatplane activities in Kodiak and its directly related to investment in SPB infrastructure."

"If you come up to visit from Iowa do you want to fly on the same wheeled airplane you fly on in Iowa or do you want to fly in a floatplane, unique to Alaska?"

"In 2 out of 3 of the water accidents we have had this past year, lives were saved because floatplanes were able to quickly respond to accidents. Floatplanes were on site before the Coast Guard could arrive. You're dead in 20 minutes without quick response."

Bob Stanford, owner of Island Air

Kodiak Trident Basin SPB

"When the rebuilding of the facility was first completed I got a lot of compliments on the facility....After talking with the different users of the facility now I think they are pleased with what they have and truly understand we could never have gotten here without the FAA funding support and the State match."

Mark Kozak, City of Kodiak Public Works Director

Example:

Petersburg SPB



Float system and floating hanger

Fuel and freight storage available
2 floating aircraft maintenance hangers



Floating hanger

Tie downs



Example:

Ketchikan SPB



Pull out ramp
23 slips/parking positions



Transient Loading Area



Seaplane Slips

Example:

Juneau SPB

- 69 slips plus significant transient capacity
- 2 pull out ramps
- Commercial float w 3-5 primary users



Juneau SPB

- "We have a pretty healthy use of the pond by Wings Airways, Ward Air and Alaska Seaplanes due to the influx of cruise passengers and summer visitors."

Jeannie Johnson, Airport Manager, Juneau International Airport

Sitka SPB Facility Requirements

General requirements:
- 14 based SP slips, expandable in future
- 3-5 transient SP positions
- Room for future growth

Important for commercial use:
- Fuel, fresh water, electricity on float(s)
- Vehicle parking
- Drive-down ramp to float(s)
- Aircraft maintenance capability on-site
- Passenger shelter
- Equipment storage

Sites Considered (2002 study)



Sites Dismissed (2002 study)

- Starrigavan Bay
- Mt. Edgecumbe
- Safe Harbor
- Work Float
- Japonski Lagoon
- Charcoal Island
- Jamestown Bay
- Sawmill Cove
- Herring Cove

Proposed Sites Carried Forward (current study)



Proposed Existing SPB Site Re-Development

- Slips for 12 based aircraft
- Positions for 2 transient aircraft
- Vehicle parking
- Fuel, water, electrical systems

Construction cost estimate: $5.1 M



Results of Analysis & User Input

- Existing SPB site eliminated
  - Can't accommodate existing or future demand
  - Requires dredging
  - Increased conflicts with boat traffic
  - Restricted wingtip clearances – does not comply with FAA design guidance
  - Bird hazard
  - Neighbors object to current and expanded use



Proposed Eliason Harbor Site Development

- Slips for 14 based aircraft
- Positions for 3-5 transients
- Vehicle parking
- Fuel, water, electrical systems
- Drive-down ramp
- Optional floating hangers (2)

Construction cost estimate: $13.2 to $15.6 M

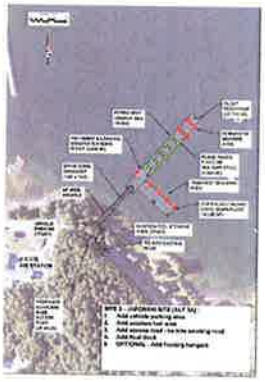
Results of Analysis & User Input

- Eliason Harbor alternative site eliminated
  - Highest construction cost of all alternatives
  - Conflicts with boat traffic
  - Significant dredging required
  - Limited future expansion potential
  - Freezing fresh water restricts access in winter
  - Maneuvering space very limited even at high tide
  - Nearby structures exposed to aircraft noise
  - Exposed to wind; slips can't be aligned with prevailing wind

Proposed Japonski Island Site Development

- Slips for 14 based aircraft
- Positions for 5 transients
- Vehicle parking
- Fuel, water, electrical systems
- Drive-down ramp
- Optional floating hangers (2)

Construction cost estimate: $9.3 to $11.7 M



Results of Analysis & User Input

- Japonski Island site – Recommended site
  - Mid-range construction cost
  - Meets project's capacity goal; can be expanded further
  - No dredging required
  - Accommodates commercial use (hanger, vehicle parking)
  - Away from boat movements
  - Away from seabird concentration
  - Provides for safe seaplane maneuvering to slips
  - Conforms to the funding agency's (FAA) design guidance

- AK DOEED (land owner) expressed concern with development at this site - increased vehicular traffic and noise for nearby structures

Cost to Construct

	Base Facility	w/ Floating Hangers & Pull out Ramp
Total Cost	$9,300,000	$11,700,000
Federal Share (FAA) 95%	$8,835,000	$11,115,000
State Share 2.5%	$232,500	$292,500
CBS Share 2.5%	$232,500	$292,500

Estimate above does not include design, environmental, and construction administration costs

Next Steps

- 2012
  - Ports & Harbors Commission and Public Meeting - Site Selection (TODAY)
  - Preferred site
  - Assembly approval
  - Further user and public involvement (ongoing)
  - Final Conceptual Plan - preferred site
  - Property investigation
  - Environmental Assessment
  - Assembly approval
- 2013+
  - Design
  - Property acquisition
  - Construction

Comments and/or Questions ?



Mayo, Mark

From: Jim Edson [jim.m.edson@gmail.com]
Sent: Tuesday, April 17, 2012 5:00 PM
To: Mayo, Mark
Subject: Re: Sitka Seaplane Base Siting Study - final recommendations

Mark, Good work! Although I've given up on Sitka and moved to Petersburg I'm in total agreement on where the new base should be. Thanks, Jim

On Mon, Apr 16, 2012 at 11:38 AM, Mayo, Mark <MMayo@dowlhkm.com> wrote:

Attached you will find a copy of the PowerPoint presentation delivered at the April 11, 2012 public meeting in Sitka. The presentation reviews the need for seaplane base (SPB) improvements in Sitka, summarizes the SPB site selection process, and recommends a preferred site for detailed planning and environmental review prior to design and construction.

Please review the presentation and provide us with your email comments by April 30, 2012.

Questions about the project should be directed to CBS Project Manager Dan Tadic (907-747-1807 or dantadic@cityofsitka.com) or DOWL HKM Project Manager Tom Middendorf (907-562-2000 or tmiddendorf@dowlhkm.com).

Thanks in advance for your participation.

Mark D. Mayo
Transportation Planner

DOWL HKM

(907) 562-2000 | Fax (907) 563-3953 | 4041 B Street | Anchorage, Alaska 99503 | www.dowlhkm.com

inspiration | innovation | integrity

environment

STATE OF ALASKA

SEAN PARNELL, GOVERNOR

DEPARTMENT OF EDUCATION AND EARLY DEVELOPMENT

MT. EDGECUMBE HIGH SCHOOL

1330 SEWARD AVENUE
SITKA, ALASKA 99835-9438
PHONE: 907-966-3200
FAX: 907-966-2442

April 23, 2012

Mark D. Mayo
Transportation Planner
4041 B Street
Anchorage AK 99503

Mr. Mayo:

I received your email pertaining to the Sitka Seaplane Base Study – Final Recommendations sent on April 16, 2012. In it, it asks for comments pertaining to the final recommendations to be sent to you by April 30th. Please consider this letter as comments from Mt. Edgecumbe High School (MEHS) related to the final recommendations.

In our view, the Final Recommendations should be rejected and sent back for further study. As you know, MEHS commented on this proposal in the letter we sent to you a year ago, dated April 26, 2011. The concerns we raised in that letter have not been addressed, and we incorporate them by reference into this letter.

Specific reasons to reject this study include:

- The study fails to take into account the wishes of the property owner. Neither MEHS nor the Alaska Department of Education and Early Development are interested in this site being utilized as a seaplane base.
- The study fails to take in to account the legal impediments to development of the site as a seaplane base. MEHS is not expert in NEPA or FAA requirements, but this site would almost certainly have great difficulty in obtaining federal administrative approval.
- The study does not take into account that under FAA guidelines the proposed seaplane base will have a decibel level of greater than 65 and is incompatible with operation of MEHS as school. That incompatibility is magnified here because MEHS is a boarding school.
- The study does not take into account the historic/archeological value of the site.
- The study does not take into account other impacts on the continued use of MEHS as a school, including that the increased traffic would be a detriment to our students, especially when the new pool gets built. (Tongass Avenue would be the direct route for our students to walk to the pool. They would have to cross over Tongass Avenue

to access the pool.) In addition, the increase of industrial traffic (fuel trucks, etc.) on Tongass Avenue due to the seaplane base would create an undesirable impact on the campus and a hazard for our students.

- The study fails to take into account local land use and the potential impact on property value. The proposed seaplane base is located in a residential neighborhood and it would dramatically change the activity of that neighborhood.

As you can see from the comments listed above, our concerns are many. We strongly urge that additional study be conducted and that alternatives be considered that do not have the same impacts and barriers to development. Please feel free to contact me if you have further questions regarding the Department's position on the seaplane base location.

Best regards,

Randy Hawk

Randy Hawk
Superintendent

cc: Les Morse, Deputy Commissioner

Mayo, Mark

From: Dan Tadic [dantadic@cityofsitka.com]
Sent: Monday, April 30, 2012 9:01 AM
To: Middendorf, Thomas
Cc: Mayo, Mark
Subject: FW: Seaplane Base

Good morning,

Please see email below from Ken Rear – the owner of the glass bottom boat tour who came to our public meeting earlier this month.

Thanks,

Dan Tadic, P.E.
Senior Engineer
City and Borough of Sitka
Department of Public Works
100 Lincoln Street
Sitka, AK 99835
P (907) 747-1807
F (907) 747-3158

From: sldt@ak.net [mailto:sldt@ak.net] **On Behalf Of** Kenneth Rear
Sent: Sunday, April 29, 2012 12:57 PM
To: dantadic@cityofsitka.com
Subject: Seaplane Base

Hello Dan

We spoke at the public information meeting about the proposed seaplane base at Japonski Island where I raised concerns about the potential negative impact that the base would have on the underwater viewing tour that I now operate at the proposed location. While these concerns remain I am not interested in standing in the way of the proposed seaplane base. With the decline in the number of summer visitors to Sitka the future of Sea Life Discovery Tours in Sitka is uncertain. So it would not be right for me to raise opposition and raise costs associated with the design and construction and then move the Sea Life Discovery to another port. For planning my business operations it would be helpful if you would keep me informed of your plans especially construction dates.

Best Regards
Kenneth J Rear
Sea Life Discovery Tours

APPENDIX C

CBS Seaplane Base Ordinances

2

Sponsor: Administrator

CITY AND BOROUGH OF SITKA

ORDINANCE NO. 2005-18

AN ORDINANCE OF THE CITY AND BOROUGH OF SITKA, ALASKA AMENDING TITLE 13, PORTS AND HARBORS, OF THE SITKA GENERAL CODE BY AMENDING SECTION 13.10.190, AIRPLANE FLOAT, TO ALLOW COMMERCIAL OPERATIONS AT THE AIRPLANE FLOAT UNTIL THE NEW FLOAT PLANE FACILITY IS CONSTRUCTED OR DECEMBER 31, 2006, WHICHEVER IS SOONER

1. **CLASSIFICATION.** This ordinance is of a permanent nature and is intended to become a part of the Sitka General Code.

2. **SEVERABILITY.** If any provision of this ordinance or any application thereof to any person or circumstance is held invalid, the remainder of this ordinance and application thereof to any person or circumstances shall not be affected thereby.

3. **PURPOSE.** Currently there is no location within the harbor system for commercial float planes to operate. Other privately owned facilities are no longer available, leaving the very small commercial floatplane industry in Sitka no place to stage. This ordinance would allow commercial operations at the City and Borough-owned airplane float facility until December 31, 2006 or until the new floatplane facility is built, whichever comes sooner.

4. **ENACTMENT.** NOW, THEREFORE, BE IT ENACTED by the Assembly of the City and Borough of Sitka that Section 13.10.190, Airplane float, is hereby amended to read as follows:

13.10.190 Airplane float.

The municipal airplane float shall be administered and enforced by the harbormaster but subject to:

A. Commercial operations shall be allowed at the municipal airplane float with the Harbormaster's approval and proper permitting in place until such time as a new floatplane facility is constructed or December 31, 2006, whichever is earlier. Such operations shall be charged an appropriate user fee.

B. (No change.)

C. (No change.)

D. (No change.)

5. **EFFECTIVE DATE.** This ordinance shall become effective on the day after the date of its passage.

PASSED, APPROVED, AND ADOPTED by the Assembly of the City and Borough of Sitka, Alaska this 26th day of April, 2005.

Marko Dapcevich, Mayor

ATTEST:

April Jensen
Deputy Municipal Clerk

Sponsor: Port and Harbors Commission

ORDINANCE 96-1366

AN ORDINANCE OF THE CITY AND BOROUGH OF SITKA ADOPTING THE NEW HARBOR ORDINANCE REVISING TITLE 13 OF THE SITKA GENERAL CODE

1. **CLASSIFICATION.** This ordinance is of a permanent nature and is intended to become a part of the Sitka General Code.

2. **SEVERABILITY.** If any provision of this ordinance or any application thereof to any person or circumstance is held invalid, the remainder of this ordinance and application thereof to any person or circumstances shall not be affected thereby.

3. **PURPOSE.** Over the past year, the Ports and Harbor Commission has been reviewing and revising Title 13, The Harbor Ordinance. This ordinance adopts the new Title 13.

4. **ENACTMENT.** Now, Therefore, be it enacted by the Assembly of the City and Borough of Sitka that Title 13 of the Sitka General Code is hereby repealed and reenacted as set forth in Exhibit A. which is attached hereto and incorporated herein by reference.

5. **EFFECTIVE DATE.** This ordinance shall become effective on the day after the date of its passage.

PASSED, APPROVED, AND ADOPTED by the Assembly of the City and Borough of Sitka, Alaska this 28th day of May, 1996.

Peter S. Hallgren, Mayor

ATTEST:

Rita Heathman
Acting Municipal Clerk

TITLE 13
PORT AND HARBORS

CHAPTERS:

13.02. GENERAL PROVISIONS
13.04 DEFINITIONS
13.06 CHARGES / FEES
13.08 RESERVED MOORAGE
13.10 FLOAT REGULATIONS
13.12 ENFORCEMENT

CHAPTER 13.02 GENERAL PROVISIONS

13.02.010 PURPOSE - The purpose of these regulations is to provide for orderly development, management, protection, safety and efficient use of all harbor spaces and port facilities within the municipal harbor system by commercial vessels, government vessels, pleasure vessel and the boating public. By the mooring of any vessel within the harbor system, the owner of all said vessels agrees to follow the rules and requirements of all the provisions within this title.

13.02.020 HARBORMASTER - There is hereby created a Ports and Harbors Department which will be operated under a Harbormaster and staff. The Harbormaster will have supervision responsibility and authority to administer all City and Borough owned or operated floats, harbor spaces and port facilities, subject to supervision by the City and Borough Administrator. The Harbormaster will have the powers to assign to all vessels, aircraft and other waterborne structures; places for docking, berthing, mooring and anchoring within the floats and docks and within all water area in the designated harbor system and to reassign any such stall or space should condition warrant the same. The Harbormaster will have the municipal police powers in the enforcement of the Harbor Ordinance and places within the harbor system but the use of said power is limited to the harbor system unless specifically designated and authorized by the Chief of Police. It is illegal to moor, dock or anchor in any area within Harbor jurisdiction unless specifically authorized by the Harbormaster. The Harbormaster will have the authority to issue harbor tickets and to impound or seize any vessel within

13.10.160 **GRID**- No boat more than thirty-five (35) tons per bent, will be allowed on the south Grid. No boat more than six (6) tons per bent, will be allowed on the north end grid. Persons wishing to exceed the above limits wish to use the grid, they must contact the Harbormaster for special consideration. Maximum time on grid is ninety-six (96) hours.

13.10.170 **GEAR/CARGO LOADING FLOAT** - The time limit on the loading float is two hours, unless other arrangements with the Harbor Department have been made. Improper use of this float is unlawful.

13.10.180 **WORK FLOAT** - A year round work float is available for use and located on Sitka Channel across from ANB harbor. The intent for this work float is gear work only. This float is equipped with water and electricity. No overnight moorage is permitted without the Harbormaster's permission. No storage of any gear, nets, or materials is permitted without the Harbormaster's permission and only in case of an emergency. The Crescent Harbor, Float 4 work float is available for temporary winter moorage from Sept. 15 till April 15.

13.10.190 **AIRPLANE FLOAT** - The municipal airplane float shall be administered and enforced by the harbormaster but subject to the following:

A) There shall be no commercial operation based at the floats, except pick-ups;

B) The municipal plane floats are for the use of active planes;

C) Only repair and maintenance work of a minor nature shall be allowed on the float, which is defined as that work which would ordinarily be completed in one twenty-four hour period. The Harbormaster shall have discretion in enforcing this provision.

D) It is unlawful for the owner or person in charge of any boat to moor it at any municipal plane float. (S.C.C. §3-5-45.)

13.10.195 **AIRPLANES OPERATING WITHIN THE SITKA HARBOR SYSTEM SHALL** - A. Follow international navigation rules while operating as a vessel (i.e. on the water).

APPENDIX D

Sitka Harbor System Master Plan (partial)

SEAPLANE FLOAT

The seaplane float was originally designed by the State of Alaska, Department of Transportation in 1962.

Access to the seaplane float is provided by a 6-ft x 150-ft long timber approach trestle that intersects with Katlian Street. The approach trestle supports a 6-ft x 50-ft long steel gangway that lands on a 10-ft wide x 110-ft long main float. The main float provides transient moorage for approximately three seaplanes. Perpendicular to the main float is a 10-ft wide x 200-ft long float that provides moorage landings for up to eight seaplanes.

Observations

Approach Dock:
The timber approach dock is weathered and at 50 years old and has exceeded its life expectancy.

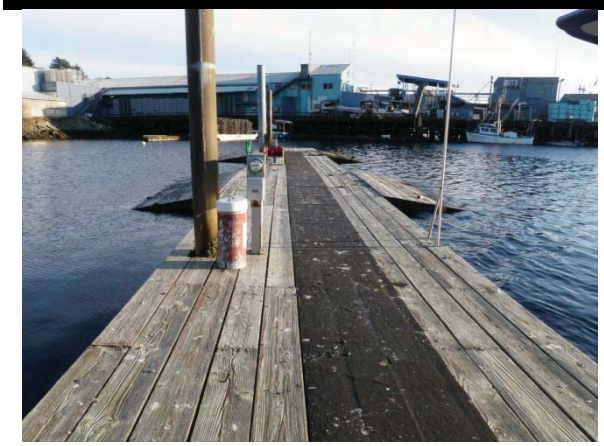
Gangway:
The gangway is of lightweight construction and its length is short, however its components are in fair condition. The primary concern regarding the gangway is its length. 50-ft gangways are no longer permitted in new construction due to the steep gradient that is created during low tides. 80-ft minimum length gangways are required to meet current American Disabilities Act (ADA) standards.

Floats:
In general the timber floats are weathered and shows signs of age. There is no remaining preservative treatment visible on the timbers. The float freeboard is approximately 8-in. The galvanized coatings of the steel pipe piles above the tidal level are beginning to disappear and surface rust on the piles was observed.

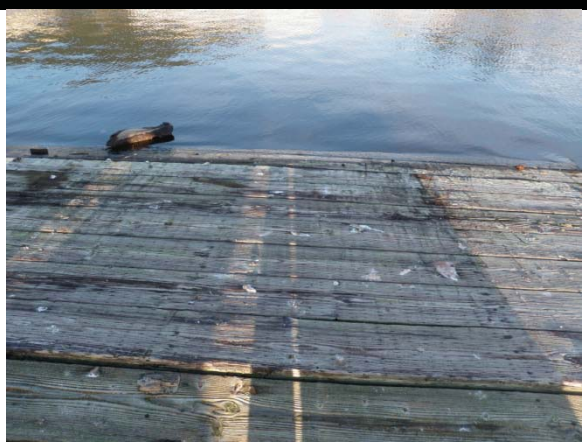
Conclusions

In general, the current overall condition of the seaplane float is fair to poor. The facility shows signs of age and is nearing the end of its useful design life. The seaplane float has an estimated remaining safe and usable service life of approximately 5 years.

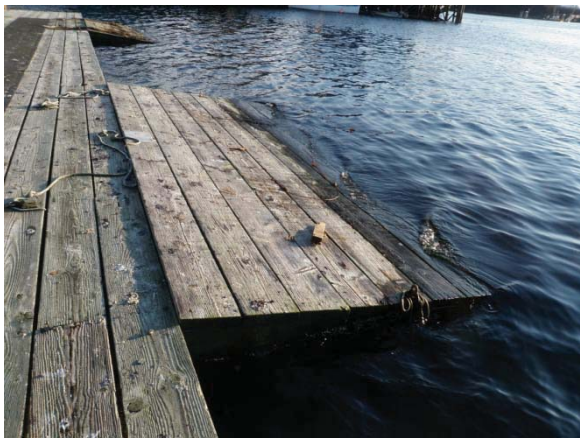
SEAPLANE FLOAT PHOTOGRAPH LOG



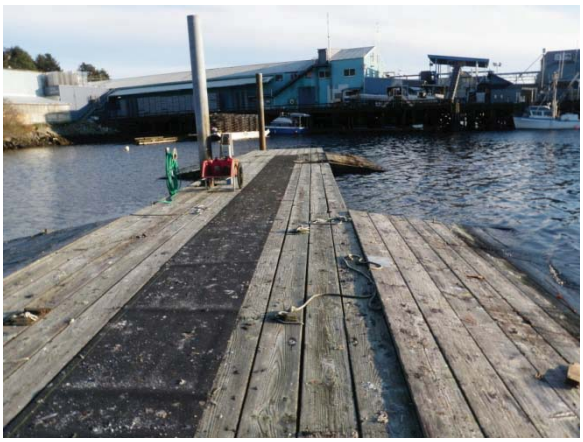
Seaplane Float



Landing



Landing



Seaplane Float

TIDAL DATA	
EHW	14.6'
EHT	12.7'
MHHW	9.9'
MHW	9.1'
MLLW	0.0'
ELW	-4.0'



CITY AND BOROUGH OF SITKA
DECEMBER 2, 1971

REVISIONS

REV.	DATE	DESCRIPTION	DWN.	CKD.	APP.

PND ENGINEERS, INC.
9360 Glacier Highway Ste 100
Juneau, Alaska 99801
Phone: 907-586-2093
Fax: 907-586-2099
www.pnd-anc.com

DESIGN: PND CHECKED: CRS
DRAWN: PND APPROVED: CRS

SCALE: SCALE IN FEET
0 40 80 FT.

DATE: FEB. 2012

SITKA, ALASKA
SITKA HARBOR SYSTEM MASTER PLAN

SHEET TITLE:
SEAPLANE FLOAT

PND PROJECT NO.: 112070.01 DWG. FILE:

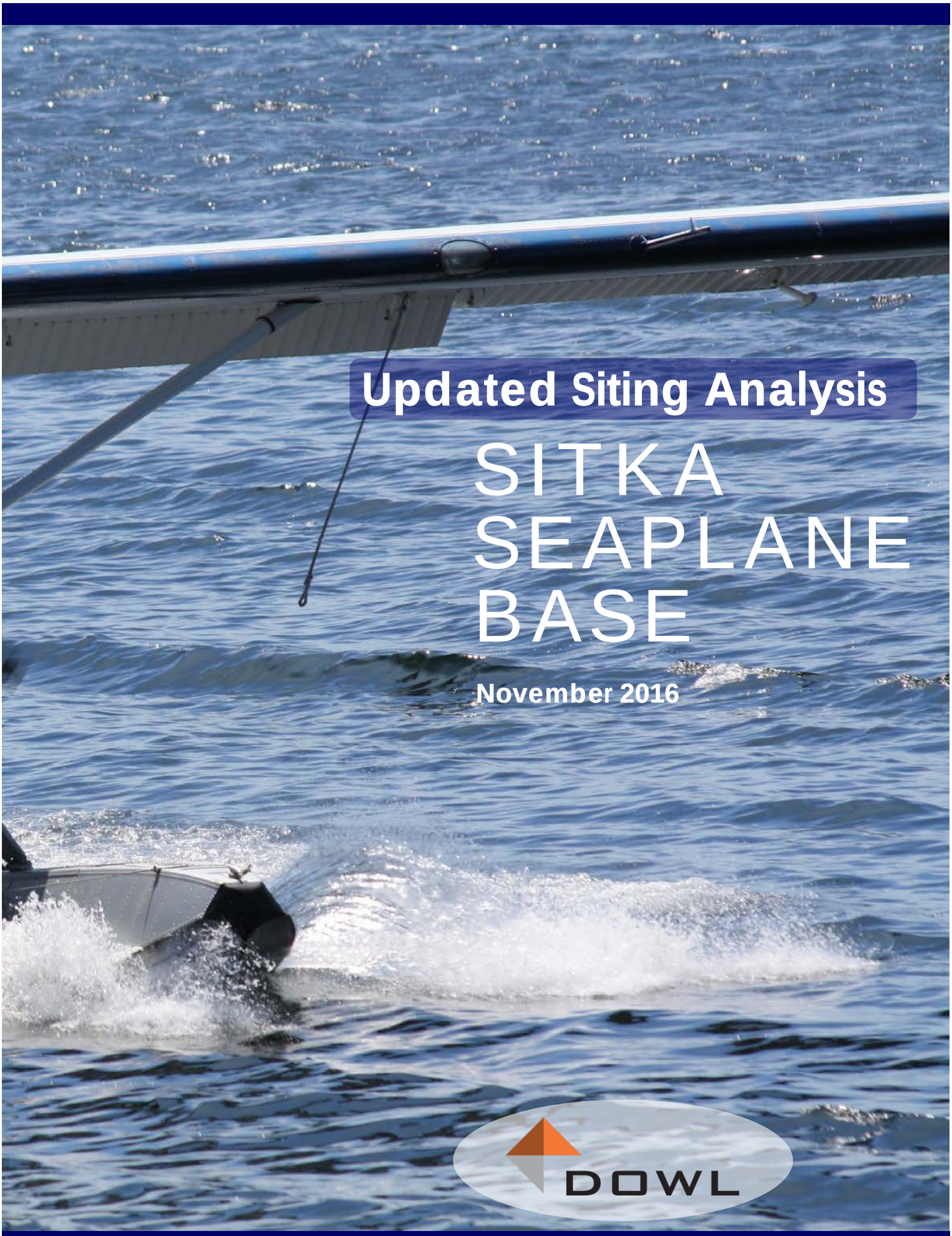
SHEET 1 OF 1

16 SEAPLANE FLOAT
IN KIND REPLACEMENT BUDGETARY ESTIMATE
Prepared By: PND Engineers, Inc., February 2012

Item	Item Description	Units	Quantity	Unit Cost	Amount
1	Seaplane Facility	LS	All Reqd	$11,200,000	$11,200,000

Cost estimate provided by DOWL, HKM for proposed Seaplane Replacement Facility.


DOWL HKM



Updated Siting Analysis

SITKA SEAPLANE BASE

November 2016

DOWL

UPDATED SITING ANALYSIS
SITKA SEAPLANE BASE
SITKA, ALASKA

Prepared for:

City and Borough of Sitka
100 Lincoln Street
Sitka, Alaska 99835

Prepared by:

DOWL
4041 B Street
Anchorage, Alaska 99503
(907) 562-2000

W.O. 62147

November 2016

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LIST OF ACRONYMS

A29 ..... Federal Aviation Administration Identifier for Sitka Seaplane Base
AC.....Advisory Circular
ADEC .....State of Alaska Department of Environmental Conservation
ADOL ..... State of Alaska Department of Labor
ADOT&PF.....State of Alaska Department of Transportation and Public Facilities
AIP ..... Airport Improvement Program
APDES.....Alaska Pollutant Discharge Elimination System
CBS..... City and Borough of Sitka
FAA ..... Federal Aviation Administration
GA.....general aviation
NPIAS.....National Plan of Integrated Airport Systems
SEARHC.....Southeast Alaska Regional Health Consortium
SIT ..... Federal Aviation Administration Identifier for Sitka Rocky Gutierrez Airport
SOA .....State of Alaska
SPB .....seaplane base
SSS..... Sitka Sound Seafoods
TAF .....Terminal Area Forecast
USEPA..... United States Environmental Protection Agency

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1.0 INTRODUCTION

This report evaluates sites for a new seaplane base (SPB) to serve the community of Sitka through the 20-year forecast period and beyond. It documents existing conditions, forecasts future seaplane activity, determines seaplane facility requirements, and recommends a preferred seaplane facility site. It also establishes a purpose and need for the project that will serve as a guide for a future environmental assessment and detailed design investigations.

This document updates and expands upon the "Sitka Seaplane Base Master Plan" that was prepared for the City and Borough of Sitka (CBS) in 2002 and a subsequent update in 2012. It is based upon existing data, findings from field visits, interviews with local officials and seaplane users, public meetings, and input from the Sitka Port and Harbors Commission and the Federal Aviation Administration (FAA).

2.0 PURPOSE AND NEED

The proposed SPB improvements are intended to address the existing seaplane base's (FAA identifier A29) capacity, safety, and operational and condition deficiencies. Capacity concerns are evidenced by A29's recent full occupancy, a waiting list of seaplane owners who had been waiting two years or more to rent a slip, and interviews of seaplane pilots and businesses wanting to use a public seaplane base in Sitka. Safety concerns include concentrations of seabirds in and around A29's operating area, conflicts with boat traffic, lack of adequate taxi lane clearance between the SPB floats and neighboring Sitka Sound Seafoods (SSS) facility, and the submerged rock obstructions adjacent to the floats. Operational concerns include the lack of fueling facilities that requires seaplane operators to carry and dispense fuel from small containers, and inadequate vehicle parking. A29 is also unable to adequately serve commercial traffic because it lacks sufficient vehicle parking, on-site aircraft maintenance, a drive-down ramp to the floats, a passenger shelter, and equipment storage. A29 has been operating at its current site for 65 years and is at the end of its useful life. The timber floats are weathered, have lost their preservative treatment, and are losing their floatation capability. In January, 2016 the facility was temporarily closed because one pile supporting the transient float collapsed, damaging the transient float. A dive inspection showed significant pile section loss for another 3 piles. CBS expended approximately $165,000 to repair and reopen A29 in Fall 2016. The repairs included sleeving the

piles with larger diameter piles, structural float repairs, and additional floatation for the floats. The repairs restored all of the 8 existing seaplane slips and they are available for lease and transient use.

3.0 INVENTORY

A29 is owned by the CBS. In 2015, A29 was listed in the FAA 2011-2015 *National Plan of Integrated Airport Systems* (NPIAS) as a general aviation (GA) Unclassified Airport because of a reduction in the number of based aircraft using A29. CBS has requested that A29's classification be upgraded to a higher NPIAS classification to increase its potential to receive FAA Airport Improvement Program Funding (see Appendix D).

A29's seaplane water operating area is located in Sitka Channel with an orientation of northwest/southeast between Baranof and Japonski Islands. The Alaska Supplement, a flight information publication issued by the FAA, lists the operating area as 4,000 feet long and 200 feet wide. Shoreline facilities consist of a three-float structure oriented parallel to Sitka Channel that accommodates 8 seaplane slips. A small transient dock with space for approximately 3 seaplanes was recently damaged when a support pile collapsed, and the transient dock was removed. Access to the floats from Katlian Street is provided by an elevated gangway and ramp. A screened gate on the walkway with a combination lock provides security. Parking space for two vehicles is available on Katlian Street. Electrical power is available on the floats, but there are no on-site fueling facilities, lease lots, storage areas, nor a seaplane take-out ramp.

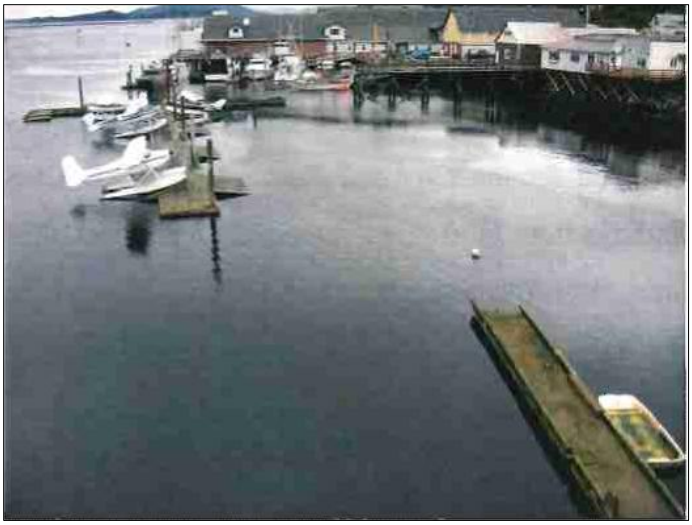


Figure 1: Existing Sitka SPB Looking North

The SPB is located between a storage building and dock on the north side and the SSS fish-processing facility to the south. The outfall from the processing facility is in the channel. Fish waste in the outfall attracts seagulls which congregate in the channel immediately adjacent to the SPB. Seagulls often roost on the SPB floats and on parked aircraft. The seabed is rocky with a shallow slope. The Harbormaster's Office reports that slip users prefer slips on the "outside" of the floats (i.e., on the channel side rather than the shore side of the float) because, during low tides, maneuvering room on the shore side of the floats is limited by exposed rocks.

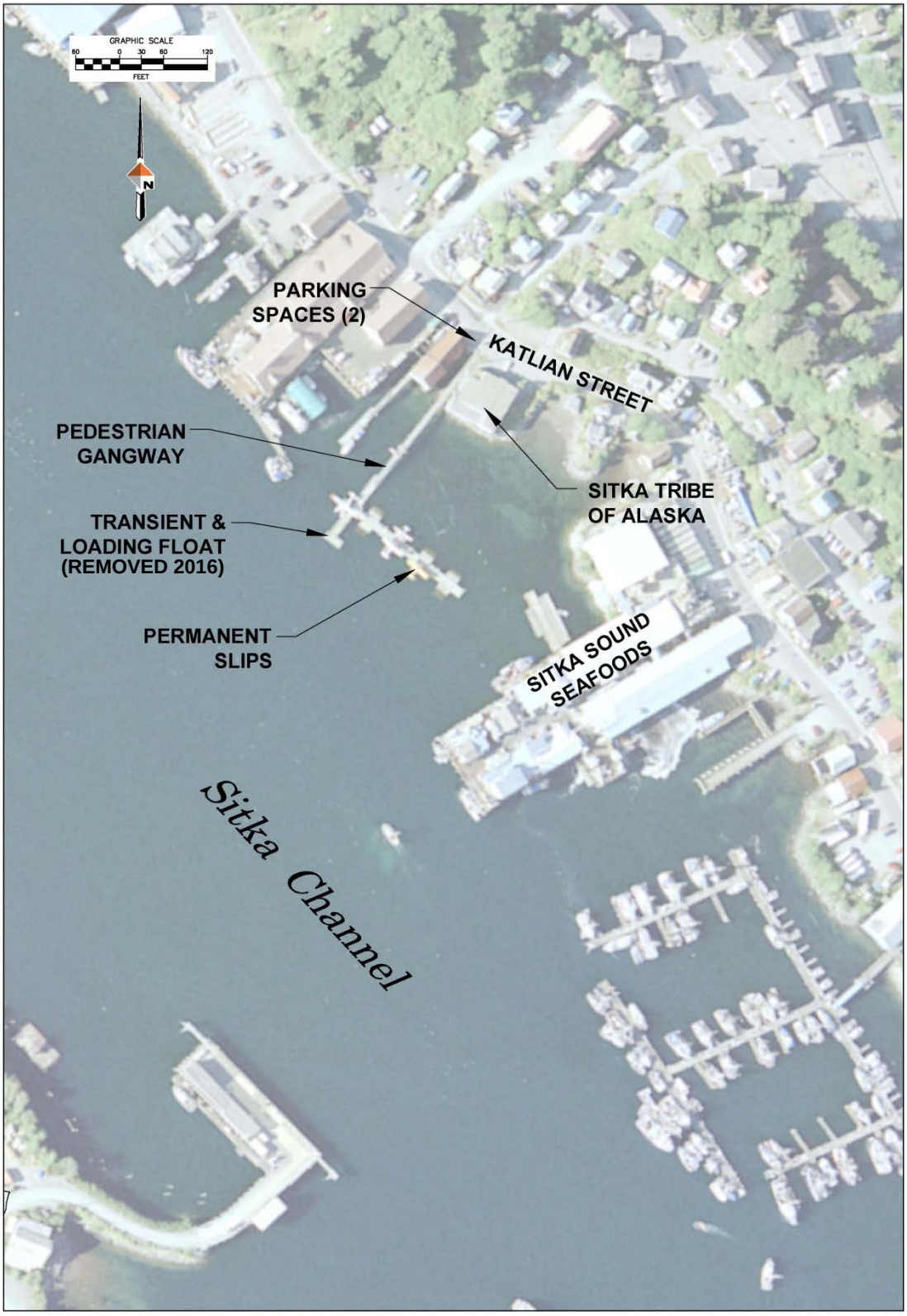


Figure 2: Existing Sitka SPB (A29)

There are no public SPB facilities available in Sitka for the moorage of seaplanes in commercial use with straight (non-amphibious) floats. A 1996 CBS Ordinance 96-1366, Section 13.10.190 *Airplane Float,* prohibited commercial use of the A29 except for picking up passengers, and only minor aircraft maintenance--work that can be accomplished in less than 24 hours--was allowed. This ordinance was superseded in 2005 by Ordinance 05-18, which allows commercial use of the SPB with the Harbormaster's approval (see Appendix C). Commercial operations have generally not been approved due to the space limitations of A29 and high demand for slips by non-commercial operators.

4.0 AVIATION FORECAST UPDATE

This section updates the aviation forecast contained in the 2012 "Siting Analysis - Sitka Seaplane Base". The following analysis is consistent with the process recommended in FAA Advisory Circular 150/5067-6B, a supplemental FAA guidance document titled Forecasting Aviation Activity by Airport (2001), and Airport Aviation Activity Forecasting: A Synthesis of Airport Practice, published by the Transportation Research Board in 2007.

Information considered for this update includes the forecasts from the 2002 "Sitka Seaplane Base Master Plan" and the 2012 “Siting Analysis – Sitka Seaplane Base” report, interviews with seaplane operators and CBS staff, an examination of local and regional economic and demographic trends, and comparisons with other local and regional aviation forecasts. A summary of these interviews can be found in Appendix B. Forecasts for low, medium, and high activity growth scenarios are shown in Section 4.6.

4.1 Historical Aviation Data

FAA Terminal Area Forecast (TAF): The FAA TAF contains estimates of historical aviation activity data and FAA's forecasts for airports receiving FAA and contract tower services. For non-towered facilities like A29, historical activity data is estimated by FAA staff from various sources, including information supplied by the airport owner. The TAF is often not accurate or up to date for small lower activity airports but, for many airports, it is the only airport use data that the FAA has.

As shown in the table below, the TAF shows operations at the seaplane base have remained steady over the past five years while based aircraft have declined. As discussed elsewhere, the recent decline in based aircraft is largely due to the poor condition and lack of amenities at the 38-year-old facility.

Table 1: FAA TAF for Sitka Seaplane Base

	2010	2011	2012	2013	2014
Based Aircraft	9	9	9	6	6
Annual Aircraft Operations	4750	4750	4750	4750	4750

Source: FAA Terminal Forecast for A29, 2016

4.2 Previous Sitka SPB Forecasts

Sitka Seaplane Base Master Plan: The 2002 "Sitka Seaplane Base Master Plan" noted that A29 was used most heavily in the summer (June to September) and that two local commercial charter operators (Harris Aircraft Services and Air Sitka) used seaplanes, although neither based their operations from the CBS facility. In 2002, the existing 8 slips were fully leased and there were 7 people on the waiting list. The master plan recommended a facility sized to accommodate a moderate growth scenario including commercial seaplane operations, with a short term (within 5 years) need for 13 slips, and a long-term (20 years) need for 15 slips. Further, the plan recommended the identification of a site with the flexibility to accommodate 20 slips to allow for a potential greater increase in demand.

Siting Analysis – Sitka Seaplane Base: The 2012 report forecasted growth in seaplane commercial activity based on a healthy local economy, particularly the fishery and tourism sectors, the existing seaplane base waiting list, and user interviews indicating unmet demand for private and commercial seaplane parking. In 2012, the existing 8 slips continued to be leased and there still was a waiting list. Users reported that a new facility in better condition, in a better location, with more amenities like parking and fuel, and with more seaplane parking would see significantly more use. The Siting Analysis recommended a location sized to accommodate 14 parking positions for based aircraft and 3 to 5 transient positions through 2016, with the flexibility to accommodate an additional 5 slips for based aircraft in the long term.

4.3 Updated Sitka SPB Forecast Data

Existing Based Aircraft: While three years ago all eight aircraft parking slips were occupied, by 2015 based seaplanes had declined to six aircraft and in January, 2016 the facility was temporarily closed due to damage to the floats. Interviews with local pilots indicate that concerns about the condition of the facility and the potential for damage to based aircraft have been a concern for over 10 years, leading to decreased use of the facility. Pilots also suggest that additional seaplane operators would lease slips at A29 if additional capacity and services were available, and if operational issues with rocks, birds, and boat conflicts were addressed.

Fleet Mix: Based on telephone interviews with regional commercial seaplane operators located within and outside Sitka and with local recreational GA seaplane operators, aircraft operating at A29 prior to its closure were primarily a mix of small single-engine aircraft such as the Cessna 180/185/206 and the deHavilland DHC-2 Beaver. This agrees with the based aircraft assessments in the 2002 Master Plan and the 2012 Siting Study. During the site visits, anecdotal information was offered that in recent years fewer Beavers utilized the facility due to a loss of buoyancy on the SPB's floats that made it difficult to get these larger aircraft out of the water once in the slip. There was also support among local pilots for designing a facility to accommodate some commercial use by the deHavilland DHC-3 Otter.

4.4 Updated Socioeconomic Data

Sitka is the third largest community in Southeast Alaska. It enjoys one of the most diversified economies in Alaska, composed of commercial fishing and fish processing, health care, cruise ship and independent tourism, education, and government. Sitka has two hospitals (Sitka Community and Sitka SEARHC). State and federal government agencies, such as the United States Forest Service, maintain offices in Sitka. Coast Guard Air Station Sitka, located just west of the city center on Japonski Island, is manned by 20 officers and 100 enlisted personnel.

The State-owned Sitka Rocky Gutierrez Airport (SIT) on Japonski Island has a 6,500-foot-long by 150-foot-wide paved and lighted runway. In addition to daily jet service, several scheduled air taxis, air charters, and helicopters routinely operate there. A seaplane takeout ramp for moving seaplanes from the water to land is available to facilitate maintenance and float-wheel changeovers. However, aircraft operators expressed reservations about using the takeout ramp

because of tidal constraints and because it required taxiing in the open ocean, and arranged escorts through the Aircraft Operating Area of SIT. One fixed base operator (Harris Air) with amphibious float-equipped aircraft (DHC-2 Beaver and Cessna 185) is located on the airport. Although not its primary use, the Harris Air Beaver is equipped to perform as an air ambulance.

The CBS operates five small boat harbors with 1,325 boat stalls and the SPB and other marine facilities. There is a breakwater float adjacent to Thomsen Harbor that provides transient moorage space. Boat launch, haul-out, boat repairs, and other services are offered in Sitka. Some cruise ships anchor in Crescent Bay and lighter visitors to shore. However, a privately-owned deep draft dock was completed in 2010 and now receives the majority of cruise ships. The Alaska Marine Highway System (state ferry) has a docking facility. The ferry serves Sitka several times a week with a 6-hour run to Juneau by fast ferry and 12-hour run by regular ferry. Freight arrives primarily by barge and cargo plane.

Table 2 shows the recent performance of several indicators of the health of Sitka's economy.

Table 2: Sitka Economic Indicators 2010-2014

	2010	**2014**	**Change 2010-14**
Population	8881	9061	2%
Total Seafood Employment	421	648	54%
Total Seafood Employment Earnings	$15,943,670	$29,910,590	88%
Other Maritime Wages	$7,074,209	$14,000,979	98%
Construction Employment	196	286	46%
Construction Wages	$12,620,024	$21,927,256	74%
Total Visitor Industry Employment	530	670	26%
Total Visitor Industry Wages	**$12,422,985**	**$18,283,024**	**47%**

Source: Rain Coast Data, 2015

Seafood, construction, and the visitor industry are healthy and growing sectors of Sitka's economy that depend on the aviation industry to move tourists, construction workers, fishermen, year-round residents, and freight to remote locations. Many of the remote locations are lodges, construction sites, fishing boats, canneries, and hatcheries that are only accessible by seaplanes or boats.

The Alaska Department of Commerce, Community, and Economic Development (DCCED) report *Alaska Visitor Statistics Program VI, Interim Visitor Volume Report, Summer 2015* found that on a statewide basis, visitor volume was up by 7 percent in 2015 due to increases in air and cruise ship travel. Domestic airline passengers exiting Alaska through Sitka Rocky Gutierrez Airport increased by 16% between the 2014 and 2015 summer tourist seasons. Cruise ship passenger counts have increased every year since 2010 and are expected to top the 1 million mark statewide in 2016. The Alaska Travel Industry Association predicts tourism will continue to grow in 2016. According to Cruise Line Agencies of Alaska, the number of cruise ship passengers traveling through Sitka is expected to increase to about 158,000 in 2017, which represents a 76% increase in three years (Alaska Public Media, September 16, 2016). They also said that there are not enough seaplane operators in Sitka to serve the current demand for flightseeing.

According to the Alaska Department of Labor (ADOL) *Alaska Population Projections 2012 - 2042,* Alaska's statewide population is projected to continue increasing, although as Alaska's population ages in the coming years, annual growth is expected to slow. This general growth trend is anticipated for all of Alaska's regions except Southeast. All of the boroughs/census areas of the Southeast Region are expected to experience net outmigration strong enough to limit any population growth. According to the ADOL 2012 to 2042 population forecast, the population of the CBS will experience a slight decline to 8,724 by 2032, although the report acknowledges that "users of this data should be aware that there is a high degree of uncertainty regarding the future of these area populations. Countless factors could sway many of these populations dramatically."

According to the FAA, Sitka has the fourth largest number of general aviation aircraft and pilots in Southeast Alaska; only Juneau, Haines, and Ketchikan have more aircraft and pilots. In 2015 Sitka had 54 planes and 49 certified pilots. Many of Sitka’s pilots are floatplane rated.

Interviews with local pilots, business owners and staff at CBS and the SEARHC Hospital, indicate that throughout the year, traffic using A29 came from dozens of communities and lodges and a network of other SPBs on Baranof, Chichagof, and Catherine Islands. Communities served by seaplanes that are nearest to Sitka include Angoon, Pelican, Tenakee Springs, and Port Alexander. Other communities outside the immediate area are also served from Sitka. In all,

there are 41 registered seaplane bases in Southeast Alaska, most which receive some floatplane service from Sitka. Some are owned by the Alaska Department of Transportation and Public Facilities while others are owned by local governments, federal agencies, and a logging company.

According to the Sitka Flight Service web site "There are 14 public use seaplane bases, in the Sitka flight plan area, not to mention the thousands of picturesque bays, coves, and lakes that are frequented by float plane pilots."

A list of SPBs within 100 miles of Sitka follows. Also shown are those seaplane bases that have air service from carriers receiving an Essential Air Services program subsidy.

Table 3: Seaplane Bases Within 100 Miles of Sitka

SPB Name	NPIAS?	Distance to Sitka	Essential Air Service Subsidy?
Angoon SPB	NPIAS	43	Yes
Baranof Warm Springs SPB	NPIAS	20	
Elfin Cove SPB	NPIAS	88	Yes
Excursion Inlet SPB	NPIAS	95	Yes
False Island SPB	non-NPIAS	33	
Funter Bay SPB	NPIAS	82	Yes
Hawk Inlet SPB	non-NPIAS	78	
Kake SPB	non-NPIAS	53	Yes
Pelican SPB	NPIAS	70	Yes
Port Alexander SPB	NPIAS	63	Yes
Port Armstrong SPB	non-NPIAS	59	
Port Walter SPB	non-NPIAS	54	
Saganaw Bay SPB	non-NPIAS	46	
Taku Harbor SPB	non-NPIAS	82	
Tenakee SPB	NPIAS	50	Yes

The listed facilities are located in small remote communities. While many of the communities in the northern part of Southeast Alaska have land runways and seaplane bases many more small communities in the southern part of Southeast Alaska only have seaplane bases. Within this sub-regional network of airports, A29 has served as a hub facility offering access to hospitals, retail outlets, and a connection to the statewide aviation system through Sitka Rocky Gutierrez Airport.

In addition, A29 serves commercial and private seaplane aircraft that are transiting from the continental United States or Southeast Alaska to Southcentral and Western Alaska, particularly during the summer months.

4.5 Forecast Methods

While there are several techniques described in the FAA AC that are acceptable for forecasting aviation activity at a specific airport or seaplane facility, forecasts at larger busy airports use mathematical techniques such as regression or share analysis that rely heavily on a baseline of historical statistical data that is not available for A29. This analysis will consider local socioeconomic conditions and comparisons with other forecasts, with special emphasis given to interviews with regional and local seaplane operators.

4.5.1 Comparisons With Other Local and Regional Aviation Forecasts

Two aviation activity forecasts contain aviation forecast data for the Sitka area - the *Southeast Region Aviation System Plan* (ADOT&PF, 2008), and the *FAA TAF 2010 Scenario* (FAA, 2006). Neither provide an in-depth view of A29, but their findings have been considered. These forecasts rely on historical activity data for the SPB to establish trends for the future. Since the capacity of the SPB has been constrained for many years by a lack of space and restrictions on commercial activities, historical data does not accurately reflect actual demand.

Southeast Region Aviation System Plan: According to this *2008 Regional Plan*, A29 is one of 41 registered SPBs in Southeast Alaska and is likely one of the top five busiest in terms of operations. This includes both public and privately-owned facilities. There are a number of other unregistered seaplane landing areas in Southeast that receive charter and scheduled air service, including numerous lodges and logging and mining camps. The *Regional Plan* anticipated that, although scheduled aviation activity at Sitka Rocky Gutierrez Airport and other airports in the region was expected to be stagnant or show a slight decline in response to increased fuel prices, a lackluster regional economy, and population outmigration, activity at A29 was likely to increase by an unspecified amount as air taxi activity grows to take up some of the demand previously served by scheduled carriers. However, as mentioned in Section 4.4, more recent assessments of economic conditions, population growth, and aviation activity for the area are considerably more optimistic. For example, as noted in the DCCED report, rather than

decreasing, passenger traffic through the Sitka Rocky Gutierrez Airport increased by 16% between the 2014 and 2015.

FAA TAF 2010 Scenario for A29: The 2015-2040 forecast developed by the TAF for A29 shows no growth throughout the forecast period. Activity is estimated to level out at 4,750 annual operations at the existing facility.

These prior forecasts do not offer strong insights into future activity levels. These forecasts are dated and are heavily influenced by trends and assumptions established through historical performance. The regional economy has rebounded from lows experienced in 2007-2008. As shown in Section 4.4, the visitor, fisheries, and construction industries in particular are very strong and growing in Sitka, showing double digit growth over the last four years. According to the International Air Transport Association (IATA), the recent sharp drop in oil prices and robust demand for travel are expected to boost demand for air travel, with growth of 6.9 percent expected next year, the best since 2010 and well above the 5.5 percent trend of the past 20 years.

Furthermore, historical usage for the A29 has been flat (no growth) because usage has been constrained by a lack of SPB facilities, lack of amenities like fuel and parking, and the poor condition and location of the SPB. In cases where usage trends have been influenced by supply constraints (i.e. a lack of, or a shortage of, SPB facilities) and condition constraints, the forecasts cannot be expected to accurately describe the activity (demand) that might occur if those supply and condition constraints did not exist.

4.5.2 User Interviews

In order to determine the level of demand for a new Sitka SPB, interviews were conducted with pilots operating seaplanes locally and in the Southeast Alaska Region. In January and February 2016, 38 seaplane pilots and seaplane businesses were contacted to learn more about why the current facility was seeing declining use, whether seaplane operators would use a new facility, and to determine what amenities would be needed in a new seaplane base. While many of the pilots and businesses interviewed were located in Sitka, others were in Juneau and Ketchikan and at remote lodges in the region that depend on seaplane facilities to access Sitka. A copy of the interview results can be found in Appendix B.

The first question asked of those interviewed was, if a new seaplane base was built by 2020, would you use it? If so, what type of use and number of aircraft? Of the 38 pilots and businesses interviewed, 33 said they would use a new seaplane base in 2020, 1 said maybe, and 4 said they would not use the seaplane base.

Of the 33 who said they would use the new seaplane base, 19 said they would base aircraft at the new seaplane base and 15 said they would operate on a transient basis. Some said they would operate both based and transient aircraft. Those who said they would base aircraft at the facility indicated that they would operate 25 - 30 aircraft at the new SPB. 25 of the 38 interviewed said they had previously used A29. The table below recaps the results of the interviews.

Table 4: Sitka Seaplane Base Interviews Summary of 2020 Demand

	Based	**Transient**
Commercial	4	9
Commercial & Recreation	5	2
Recreation	9	2
Government	1	2
Total	**19**	**15**
Number of Aircraft	**25 - 30**	**16**

Potential commercial users indicated that basing commercial aircraft at the SPB would be highly dependent on the extent to which amenities like vehicle parking, fuel, fresh water, and space for aircraft maintenance are provided. Only fresh water is currently available at A29. Aircraft maintenance and fueling is available at the nearby SIT, but the use of that facility requires operating with amphibious floats or landing in the open ocean. Ocean landings are only possible at limited times during favorable winds and tidal conditions. Floatplanes must also navigate a rocky area to access a seaplane haulout and arrange an escort by the Alaska DOT&PF to cross the SIT runway and access an aircraft parking apron. Commercial users indicate this unreliable and time-consuming access to SIT is not practical for commercial seaplane operations.

A few commercial seaplane operators who currently operate at SIT with amphibious floats indicate that they would switch to straight floats and move their floatplane operations to the new Sitka seaplane base. The opportunity to switch to straight floats is attractive to commercial operators because aircraft fitted with heavy amphibious floats burn more fuel, are slower, and

can carry less payload than aircraft flying with straight floats. This is why over 75% of all private seaplanes in Alaska are on straight floats. The reduced takeoff performance with amphibious gear also prevents access to many lakes local pilots access from Sitka. Many of the smaller aircraft have such a small useful load on amphibious gear so as to make it impossible to carry an adult passenger with enough fuel for a typical flight.

Most of those surveyed had used A29 in 2015 or sometime during the past 10 years. Former seaplane base users who left A29 reported that they:

1. Bought amphibious floats and based their aircraft on the nearby Sitka Airport
2. Moved their aircraft to Juneau or other less convenient seaplane bases outside of Sitka
3. Operated with wheeled aircraft in Sitka
4. Operated on a limited transient basis from the private seaplane float (which may not be available in the future as that property is for sale)
5. Sold their floatplanes

Most former A29 users and waitlisted slip applicants said they would use the new SPB if it was built. Some indicated they would convert from amphibious floats back to straight floats because of the higher costs of owning and operating amphibious aircraft. Former A29 users who moved their floatplanes to Juneau said they would move them back to Sitka, closer to where they live and fly. Several who are now operating on wheels or no longer own floatplanes said they would convert back to floats or buy a floatplane. Transient users, several who currently use the private seaplane dock, noted that the private dock was for sale and its future availability was uncertain.

Not all potential seaplane base users were able to be contacted for this study. Other potential users who operate floatplanes in the region - government agencies such as the US Fish and Wildlife Service and Alaska State Troopers, some of the floatplane businesses and lodges in the region who were not contacted, and some private wheeled and floatplane owners in Sitka who were not available for interviews - would also likely be interested in basing floatplanes at a new seaplane facility or for transient use.

4.6 Sitka Seaplane-Based Aircraft Forecast

Sitka's seaplanes are very important to the social and economic fabric of this coastal region's remote communities, lodges, recreation areas, hatcheries, and fishing fleets. Primary uses of seaplanes are for:

- **Community access** to small outlying communities that depend on seaplane access to Sitka for medical services, shopping and to access the paved SIT. As noted above, many of these communities have subsidized Essential Air Service.
- **Government agencies** such as the US Forest Service, US Fish and Wildlife Service, Alaska Department of Fish and Game, Alaska State Troopers, and the Civil Air Patrol require seaplanes to access remote communities and resources. Aircraft of these agencies generally operate or prefer to operate from straight floats (versus amphibious gear) because:

    1. many of their aircraft can only be configured with floats;
    2. they need the efficiency, performance, and payload capability of operating with straight floats;
    3. they need to reach remote locations only accessible by water; and
    4. seaplanes with straight floats operate better at low altitudes around terrain and meandering rivers and coastlines. These straight float aircraft must park on water at a float, preferably on a SPB with fuel available.

        - The **US Forest Service** has contract seaplanes in Sitka every summer. There currently is no seaplane float for them to dock that is designed for seaplanes of their size. They use a Forest Service boat float as an interim solution, but it is only available for seaplanes when there are no boats and it does not have aviation fuel. Their contractors would use a new Sitka SPB on a transient basis and/or a Sitka based contractor could base his seaplane at the new SPB instead of a Juneau contractor at a more distant and less efficient base 80 miles away in Juneau.

- The **US Fish and Wildlife Service** contractors fly biologists along Southeast Alaska coastal areas to conduct annual marine mammal surveys. They also use the Forest Service boat float when it's available. Because there is no fuel they must adjust their operations and fly to Juneau or other locations for fuel. Like the Forest Service, their contractors would likely use the new Sitka SPB with transient and/or based aircraft, especially if fuel were available.
- The **Alaska Department of Fish and Game** contractors have rented space at A29 for over 2 decades. They must operate from straight floats (not amphibious gear) so that they can carry sufficient fuel for the distances flown and so they can fly at low altitudes to conduct stream surveys. They fly stream surveys 3 – 4 times per week during pink and chum salmon runs. Their findings are used to determine the number of fish that are reaching spawning areas, and consequently when fishing periods should be opened or closed. These fisheries could not be authorized without their fish surveys.
- The **Alaska State Troopers** fly seaplanes with straight floats from Hoonah, covering a large geographic area. They would likely use a new Sitka SPB on a transient basis to refuel their aircraft instead of having to transport and reposition fuel into remote areas.
- The **Civil Air Patrol** operates a straight De Havilland DHC-3 Beaver in Sitka from A29 when conducting search missions for downed aircraft.

- **Sitka's large fishing industry** (1,300 boat slips in Sitka) is supported by seaplanes that are used to spot fish, deliver employees and materials to remote marine locations, serve fish hatcheries, and provide emergency rescue. Aviation support for the fishing industry is vital to Sitka, because of fisheries' large and growing importance to the Sitka economy.
- **Tourists** accessing lodges or flightseeing, hunting, fishing, and hiking. Similar to fishing, tourism is a major growing employer in Sitka and visitor employment has grown by 26% over the last 4 years while wages have grown by 47% to over $18 million per year.
- **Medical** evacuations and transport of medical personnel to remote communities and other marine locations. According to the Chief Flight Nurse for Mt. Edgecumbe Hospital,

approximately 40 seaplane medevac operations per year come to the hospital. Currently these are primarily handled by amphibious aircraft from the Sitka Airport but a new Sitka SPB would be more attractive for medivacs to communities like Angoon, Pelican, Port Alexander, and Elfin Cove that are only accessible by seaplanes. As noted earlier a seaplane operating with straight floats from a new Sitka SPB would be faster, more efficient, and less expensive compared to flying with amphibious gear from the Sitka Airport.

- **Regional aviation services** are provided in Sitka for seaplanes that are transiting between the Lower 48 states and other seaplane hubs in Southeast Alaska, Anchorage, and Interior Alaska. Sitka's geographical position and regional services makes it an attractive refueling and service hub for transiting seaplanes.
- **Recreational flying** by private seaplane pilots, both local and from outside the region. Sitka resident pilots want to access the unique fresh and saltwater recreation areas that surround them. Sitka has the fourth largest number of general aviation aircraft and pilots in Southeast Alaska.

Table 5 shows Low, Medium, and High growth forecasts for SPB activity for the 2016 – 2036 planning period. The 12 based aircraft demand in 2016 reflects the 8 slips that were leased in 2012, plus 4 seaplanes that were on a waiting list. This 2016 forecast is unconstrained by facility limitations and represents expected demand if there were enough parking spots at the existing SPB. This may underrepresent actual demand, since interviews with seaplane operators indicated that, due to the deteriorated condition of the nearly 40 year old facility, some had already moved operations from A29 or were otherwise disinclined to apply for the waiting list. A29 is also not well suited to the needs of commercial operations due to its small size and poor condition, lack of uplands for fuel facilities, maintenance and vehicle parking, and conflicts with adjacent land uses, boats and birds, etc.

The Low Growth forecast assumes current demand remains relatively unchanged, only growing at the 1% forecasted rate of 2012-2042 statewide population growth. It does not consider the growth in SPB demand expressed by existing and potential users and others in the interviews.

The Medium and High forecasts are primarily based upon interviews of local residents, regional seaplane operators, cruise ship interests, and other stakeholders. The Medium forecast assumes that the low range of based aircraft demand expressed in the interviews is accomplished by the year 2036 when 25 seaplanes would be based at a new SPB. The High forecast assumes that the high range of based aircraft demand expressed in the interviews is accomplished by the year 2036 when 30 seaplanes would be based at a new SPB. While the interviews indicated this level of based aircraft would be expected by 2020, this forecast takes a more conservative approach, and estimates that level of demand by 2036.

In both the Medium and High forecasts it is assumed that growth would be greatest in the early years, after a new SPB is built with more amenities and seaplane parking. It also assumes some of the commercial use would take longer to implement than was expressed in the surveys due to the lead times required to start up new businesses, move assets (aircraft, maintenance equipment, etc.) from other markets, or to obtain financing to acquire aircraft and/or construct hangars, storage, or office facilities.

Table 5: Low, Medium, and High Aircraft Activity Forecasts

Aircraft Operations	% Annual Growth	2015 (Base)	2016	2021	2026	2031	2036
Low Forecast	1.00%	4,750	11,400	11,982	12,593	13,235	13,910
Medium Forecast		4,750	11,400	19,000	20,900	22,800	23,750
High Forecast		4,750	11,400	20,900	23,750	26,600	28,500

Based Aircraft	% Annual Growth	2015 (Base)	2016**	2021	2026	2031	2036
Low Forecast	1.00%	5	12	13	13	14	15
Medium Forecast		5	12	20	22	24	25
High Forecast		5	12	22	25	28	30

** 2016 forecast assumes no constraints due to facility limitations and represents expected demand if there were enough parking spots at the existing SPB.

The following is a discussion of factors that were considered that would influence seaplane base demand in either a positive way or negative way.

Factors That Could Increase Seaplane Base Demand:

- As the State of Alaska reduces ferry service, primarily because of budget constraints, some existing ferry users may instead fly from SIT or the new seaplane base.
- The oil price drop between 2014 and 2015 will moderate some in later years, but is still expected to be negative in terms of real (inflation-adjusted) dollars in the long term. Low fuel costs positively impact air carriers in the region, and the lower costs may result in decreased air fares, which would tend to increase the demand for air travel. In addition, as fuel costs in rural Alaska fall, more disposable income will be available to rural residents that can be used for travel.
- The worldwide economy is improving, although slowly, but is still susceptible to shock and changes in direction.
- Concerns about the safety of international destinations have increased travel to destinations like Alaska that are considered safer.
- The ecotourism and outdoor recreation sector in Alaska has been growing. As the national economy improves, recreational trips increase. Air activity associated with ecotours, recreational fishing and hunting, and remote lodge and cabin visits increase. Cruise ship travel is increasing, and local representatives of the cruise ship industry indicate that the demand for flightseeing opportunities based in Sitka currently outstrips the ability of local operators to provide services.
- As noted in Table 2, the fishing industry is strong and growing in its importance, creating disposable income for seaplane flying as well as creating demand for commercial flights to remote hatcheries, fishing boats, and processors.
- Developing aviation technology is allowing flight in weather and light conditions that have in the past been marginal.
- Government use of seaplanes for fisheries, wildlife management, forestry, law enforcement, and health care will likely continue and may expand in the future.
- The extent to which the new SPB has facilities important to commercial SPB users: fresh water, electricity, vehicle parking, transient aircraft parking, aircraft maintenance, and a haul-out ramp, will greatly influence the amount of future demand by commercial users.

Factors That Could Decrease Seaplane Base Demand:

- Continued tightness of the Federal and State government budgets may mean less funding and services flowing to rural areas.
- Mineral exploration activity in Alaska will slow with lower metal prices. Some of that activity takes place in Southeast Alaska.
- According to an annual survey of General Aviation (GA) and air taxi operators performed by the Federal Aviation Administration, the number of active GA and AT aircraft in Alaska has declined over time, as has the average number of hours flown by those aircraft.
- Many of the aircraft used in Alaska for air taxi and GA operations are old, and no longer manufactured. Replacement aircraft are much more expensive, and parts for the older aircraft are getting scarce. This will increase the cost of operating GA and air taxi aircraft in the future.
- The number of certified pilots in Alaska has declined in recent years.

5.0 FACILITY REQUIREMENTS

This section identifies a set of SPB requirements will meet anticipated demand during the 20-year planning period. These requirements are based upon the planning criteria in FAA Advisory Circular AC 150/5395-1 "Seaplane Bases." These criteria can be grouped into the following three categories - each designed with a "Critical Aircraft" in mind:

- Water Operating Area
- Seaplane Docks
- Landside Facilities

To provide reasonable assurance that future needs can be accommodated without initially committing financial resources to a full build-out, it is recommended that a combination of the low and medium growth forecast be used, with initial construction of seaplane float slips for 14 based seaplanes, 3 to 5 transient seaplanes on the float, and parking for 2 land-based seaplanes to be built by 2021. Much of this demand will depend on the ability to provide amenities needed by

commercial users. Float designs should allow for phased expansion, perhaps at 5-year intervals, as demand materializes and future needs can be more accurately assessed. The facility should be designed to allow for future expansion for up to 25 based aircraft over the 20 year planning period.

Critical Aircraft: A Critical Aircraft, also known as the Design Aircraft, serves as the basis for project design. The Critical Aircraft is defined as the most demanding aircraft expected to use the facility on a regular basis, although smaller aircraft may also operate there. Although the largest commercial seaplane to use Sitka Channel in recent times was the deHavilland DHC-3 Single Otter, this currently occurs infrequently. The largest aircraft recently operating at the SPB is the deHavilland DHC-2 Beaver, although traffic more frequently consists of Cessna 206 (C-206) and 185 (C-185) type aircraft. This project's Critical Aircraft is the DHC-2 Beaver, although the SPB's design should accommodate a mix of DHC-2, C-206, and C-185 type aircraft with the ability to handle several DHC-3 Single Otters by commercial users.

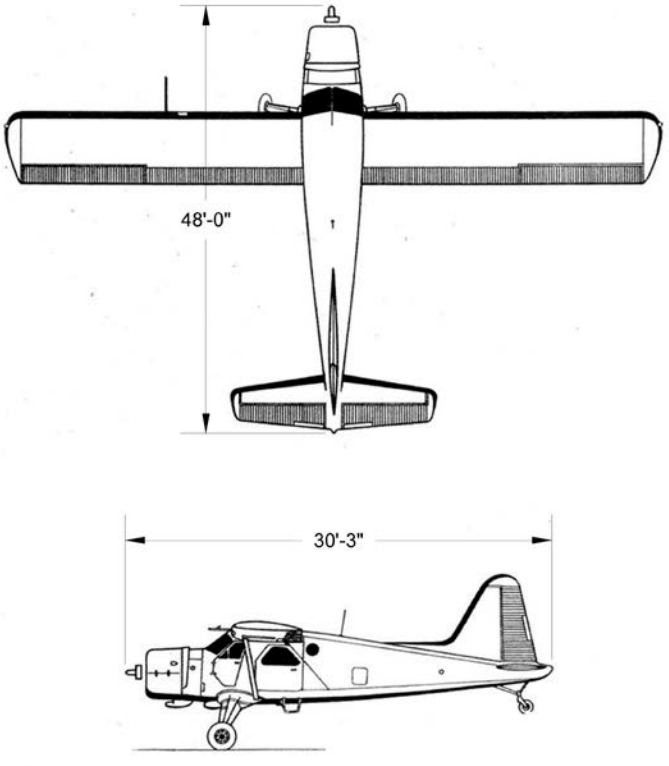


Figure 3: deHavilland DHC-2 Beaver Dimensions

Water Operating Area: The water operating area consists of that part of the SPB used for landings, takeoffs, taxiing, and turning aircraft on the water. Approaches to and departures from the water operating area should be away from established shipping and boating lanes whenever possible. The approach and departure pathways should avoid populated areas and structures along the shore. Obstructions to air navigation should be removed or marked in accordance with FAA standards and procedures.

The location of areas that attract birds should be noted and avoided when possible. According to AC 150/5200-33B Hazardous Wildlife Attractants On or Near Airports, the FAA recommends a separation distance of 5,000 feet between airports serving primarily piston-powered aircraft and hazardous wildlife attractants such as waste management or disposal facilities.

Landing and takeoff areas should be located where water currents do not exceed 3.5 miles per hour. Water surface conditions should be moderately disturbed (i.e., not "glassy"), but areas where large swells exist should be avoided. Areas where floating debris could be encountered should also be avoided.

A water operating area of at least 3,500 feet by 300 feet with 40:1 departure approaches is recommended for seaplane bases with limited commercial operations. For extensive commercial operations, a 5000 feet by 500 feet water operating area with a 40:1 approach is recommended. The water operating area should be oriented to maximize wind coverage. A depth of 6 feet is recommended, although a minimum depth of 3 feet is adequate for single-engine operations. A turning basin should be located at each end of the water operating area. A minimum of 50 feet should be provided between the side of the basin and the nearest obstruction.

The 4,000-foot-by-200-foot water operating area described in FAA's Alaska Supplement for A29 meets the length criteria but not the width criteria for seaplane bases with limited commercial operations. However, the water operating area must be used with due consideration of the boat traffic and wildlife hazards (seagulls) that also exist in the channel.

A taxi channel providing direct access to the seaplane dock should be at least 125 feet wide, although 150 feet or more is desirable. A minimum of 50 feet should be provided between the side of the channel and the nearest object.

Seaplane Docks: A seaplane dock is required to allow transient seaplanes to be serviced, loaded, unloaded, and moored without removing the aircraft from the water and to allow based seaplanes to be removed from the water for long-term parking and storage, washing, and maintenance. The dimensions of the docks should be suitable for 13 Cessna 206 and Beaver sized seaplanes with wingspans up to 36 feet and 48 feet, respectively and 1 single Otter with a wingspan of 42 feet. Parked aircraft should have wingtip to wingtip separations of 10 feet. The slips should be designed with tilt ramps that allow the seaplane floats to be brought completely out of the water to reduce saltwater corrosion and facilitate wash-downs and inspections.

A transient dock for 1 Single Otter aircraft and 4 Beavers should also be provided with a design length of 42 feet for the Otter, 30 feet for the Beaver plus 20 feet both fore and aft for each position where transient aircraft are to be moored parallel to the dock.

Gangways should connect the dock to a pier or the shore. Gangways should be designed at least 6 to 8 feet wide to enable baggage carts or other freight and equipment to pass. Single-lane vehicular or "drive-down" ramps should be 10 feet to 12 feet wide, but may be 18 feet wide if they incorporate a pedestrian walkway. Commercial users and some non-commercial users prefer vehicular gangways for 4 wheelers or preferably for trucks to facilitate the transfer of passengers, baggage, equipment, and freight. Handrails should be provided on both sides. A slope of 2.75:1 is typical. If vehicular gangways are not practical, pedestrian gangways should be designed to satisfy requirements of the Americans with Disabilities Act.

Fresh water, electricity, lighting, and fueling should be included in the seaplane dock design.

Landside Facilities: Commercial seaplane operators have indicated that on-site aircraft maintenance facilities would be needed if the facility is to serve commercial seaplane traffic, particularly for those businesses with more frequent operations and a frequent need for servicing aircraft. Hauling out seaplanes at the Sitka Airport is not dependable enough because it is located in unprotected ocean, is only available in certain tidal conditions, and it requires an escort by Sitka Airport staff to cross the Sitka Airport runway with a trailered seaplane. A haul-out ramp should be provided at the seaplane base to facilitate removal of seaplanes from the water to land for maintenance and storage, if site conditions allow. A service apron with space for tie downs and lease lots would require at least ½ acre to 2 acres. The availability of uplands for an apron

and tie-downs at the three alternative SPB sites under consideration is constrained by existing development or topographic challenges. Floating hangars are another less desirable option that could be considered. Parking of at least 2 based seaplanes on landside property is assumed, most likely for commercial use.

Initial parking for 12 vehicles and long-term parking for up to 15 vehicles should be provided on the side of the access roadway or in a dedicated parking lot. A 9-foot-by-18.5-foot parking area should be provided for each vehicle. According to FAA design guidelines, the number of parking spaces required should be approximately equal to the number of peak hour passengers multiplied by 1.5. Estimating the number of peak hour passengers 20 years in the future for a facility that does not currently accommodate commercial seaplane operations is difficult.

A fuel storage facility and a piped delivery system should be provided as well as the ability for a local vender to deliver fuel by truck.



Figure 4: Floating Hangar - Petersburg

6.0 ALTERNATIVE SITES

6.1 2002 Study

As explained previously, the evaluation of sites builds upon the siting analyses presented in the "Sitka Seaplane Base Master Plan" (HDR, 2002). The 2002 plan evaluated twelve alternative sites for their ability to safety accommodate anticipated demand and resolve deficiencies at A29. The sites considered were:

- Charcoal Island
- Jamestown Bay
- Sawmill Cove
- Herring Cove
- Starrigavan Bay
- Thomsen Harbor/Turnaround area
- Sitka Rocky Gutierrez Airport lagoon
- Former Safe Harbor site next to Japonski Island
- Work float site to Japonski Island
- Site near Mount Edgecumbe High School on Japonski Island
- Site west of Southeast Alaska Regional Health Consortium (SEARHC) on Japonski Island
- A29 site in Sitka Channel



Figure 5: Previously Evaluated Sites

Sites determined by that study to have fatal flaws were eliminated from further consideration. Although "fatal flaws" included characteristics that made the site unworkable from an environmental or capacity perspective, most sites were eliminated because they could not provide a safe operating or docking environment.

Three sites were selected for further evaluation:

- Former Safe Harbor site on Japonski Island
- Site near Mount Edgecumbe High School on Japonski Island
- Site west of SEARHC on Japonski Island

Ultimately, the 2002 study recommended the site west of SEARHC on Japonski Island for further environmental and design investigations, citing several advantages over the other sites evaluated including the potential that the new site could result in decreased aircraft noise along the most heavily developed stretch of the channel. However, two concerns with this site were identified: a potential increase in aircraft noise and vehicular activity in the immediate area, and

it was not clear that access to the site through the United States Coast Guard property could be acquired.

6.2 2012 Study

The purpose of the 2012 study was to reevaluate three potential seaplane base sites and recommend a preferred site for more detailed design and environmental investigations. Sites evaluated during the 2002 study were visited and key seaplane operators, staff from the CBS and FAA, the Sitka Port and Harbors Commission, and other individuals identified by CBS were interviewed. It was agreed that the previous study was justified in removing potential SPB sites outside the Sitka Channel from further consideration. The 2012 study focused on the re-evaluation of three potential SPB sites in Sitka Channel, referred to here as:



Figure 6: Re-evaluated Sites

1. The Existing SPB site (A29)
2. The Eliason Harbor Site
3. The Japonski Island Site

Conceptual layouts were developed for each site based upon the facility requirements identified in Section 5.0. For each of the three sites, the layout that best met the project's purpose and need was selected for a comparison evaluation against alternatives from the other sites. The objective of this comparison was to identify a preferred site as the basis for further more detailed analysis. It is anticipated that further refinements will be made to the conceptual layouts recommended for the site during the project's environmental and design phases.

At each site, the goal of the conceptual layout was to provide the following features:

- 12 vehicle parking spaces

- Fuel storage and distribution system
- On-site aircraft maintenance capability
- A drive-down ramp to the SPB floats
- Electricity and potable water
- Float slips for 14 based seaplanes and positions for 3 to 5 transient seaplanes
- Safe access between the parking positions and the water operating area
- Minimize environmental impacts
- Accommodate future growth

6.2.1 Existing Seaplane Base Site

The existing SPB site, A29, is severely constrained by adjacent development, a fact which initially caused CBS to eliminate this site for new development. Due to interest in the site expressed by local pilots, a considerable effort was made to find a conceptual layout in this location that would address the project's purpose and need. Four layout alternatives (Layouts 1A through 1D) were developed and evaluated for this site. However, SSS provided a letter to CBS citing objections to the noise and traffic generated by A29 and any proposed expansion of the facility (Appendix B).

Alternative Layout 1A: This alternative (Figure 7) was an attempt to meet the SPB requirements within the CBS-owned property footprint of A29. CBS property at A29 is limited, consisting of two vehicle parking spaces on Katlian Street and a 10-foot to 12-foot-wide corridor for the walkway leading from the street to the SPB floats. Because of the lack of upland property, the conceptual layout for this alternative does not include additional parking spaces, a fuel storage or distribution system, an on-site maintenance facility, or a drive-down ramp. Electricity and potable water is included. Because of the proximity of adjacent buildings and docks, only enough parking slips and positions for 10 based aircraft and two transients could be accommodated. Access to the slips nearest to the shore is constrained by a taxi lane that is only 68 feet wide nearest to the SSS plant, far below the FAA recommended 225-foot minimum This would reduce wingtip clearances for a taxiing Beaver to about 10 feet. This site is well protected from wind and wave action.

Dredging would be required to provide adequate depth for the floats and for maneuvering the seaplanes. Conflicts with the movement of large boats loading/offloading at the SSS plant would continue. The distance between A29 and the focus of seabird activity at the SSS outfall would be unchanged. This layout could not be easily expanded to accommodate future growth. This alternative is estimated to cost $4.6 million in 2012 dollars. Detailed cost estimates for each alternative can be found in Appendix A.

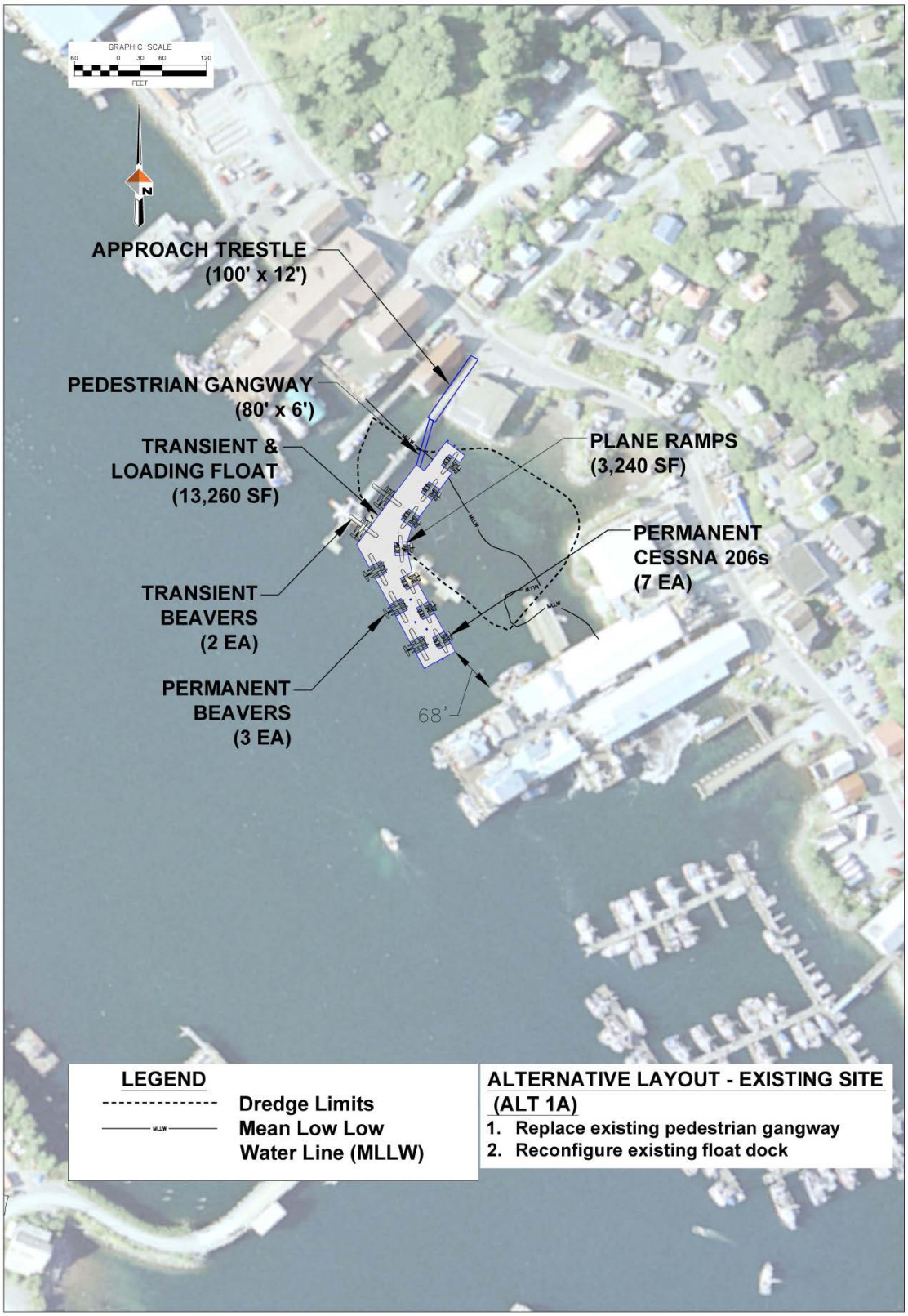


Figure 7: Alternative Layout 1A – Existing Site (A29)

Alternative Layout 1B: This alternative (Figure 8) would require the purchase of additional property at A29. The specific parcels acquired to provide 12 parking spaces, a fuel storage or distribution system, and a drive-down ramp could vary depending upon the SPB's final design and the availability of willing sellers. Figure 8 shows a building immediately north of the approach trestle as acquired to provide parking, fuel storage, and a drive-down ramp. Alternately, lots on the north side of Katlian Street could be acquired for parking and/or a lot on the south side of the Sitka Tribes of Alaska building could be acquired for fuel storage, parking, and a drive-down ramp. Electricity and potable water is included. Because of the proximity of adjacent buildings and docks, only enough parking slips and positions for 10 based aircraft and 2 transients could be accommodated and facilities for on-site aircraft maintenance were not included. Access to the slips nearest to the shore is constrained by a taxi lane that is only 68 feet wide nearest to the SSS plant, far below the FAA recommended 225-foot minimum for safe maneuvering. This would reduce wingtip clearances for a taxiing Beaver to about 10 feet. This site is well protected from wind and wave action. Dredging would be required to provide adequate depth for the floats and for maneuvering the seaplanes. Conflicts with the movement of large boats loading/offloading at the SSS plant would continue. The distance between A29 and the focus of seabird activity at the SSS outfall would be unchanged and this layout could not be easily expanded to accommodate future growth. This alternative is estimated to cost $5.1 million in 2012 dollars.

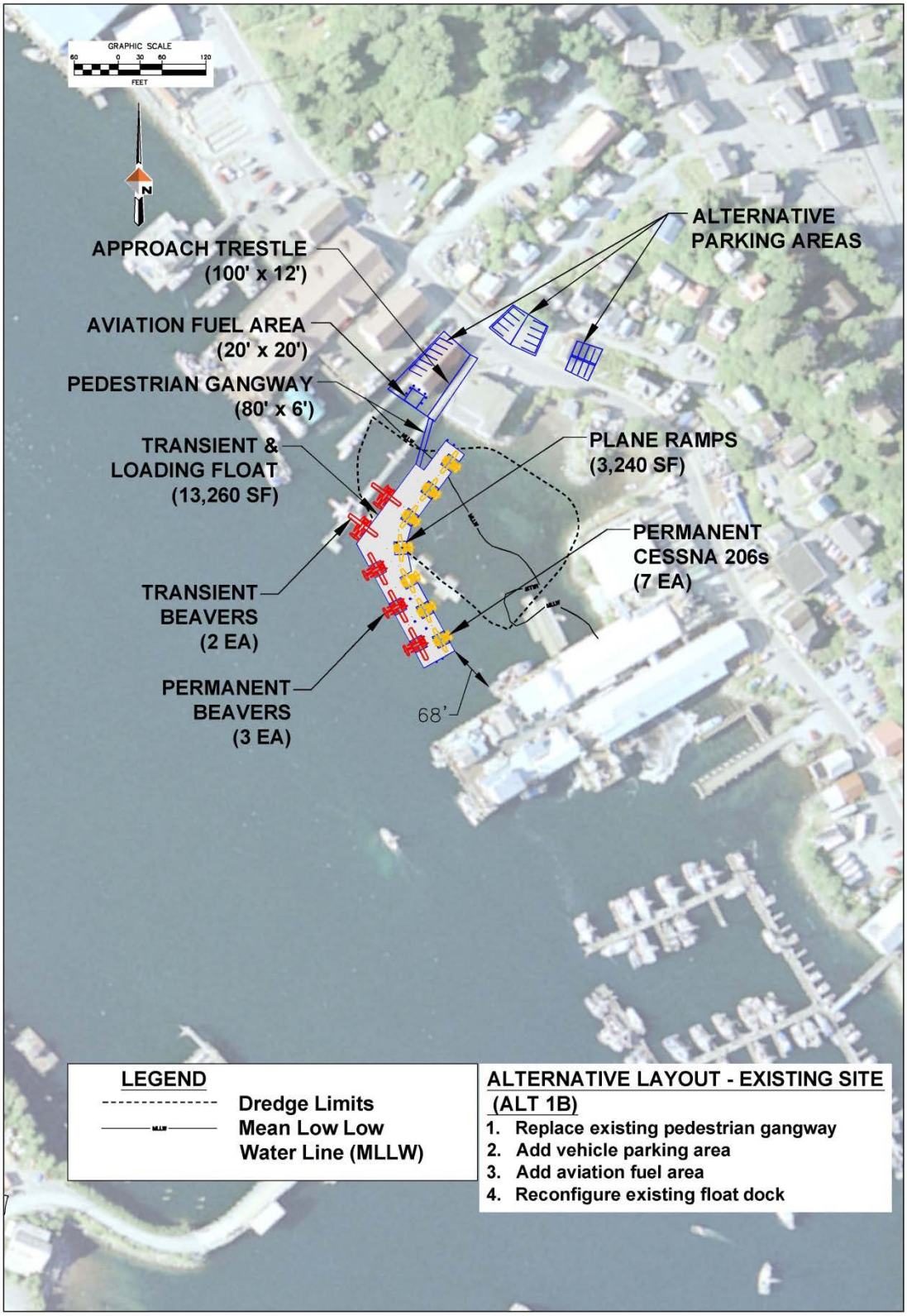


Figure 8: Alternative Layout 1B – Existing Site (A29)

Alternative Layout 1C: This alternative (Figure 9) was developed in response to a request from local pilots who requested the evaluation of an H-shaped float layout. This alternative would require the purchase of additional property at A29. The specific parcels acquired to provide 12 parking spaces, a fuel storage or distribution system, and a drive-down ramp could vary depending upon the SPB's final design and the availability of willing sellers. Figure 9 shows several possible acquisition scenarios. Electricity and potable water is included. Because of the proximity of adjacent buildings and docks, only enough parking slips and positions for 13 based aircraft and two transients could be accommodated and facilities for on-site aircraft maintenance were not included. Access to the slips nearest to SSS is constrained by a taxi lane that is 96 feet to 59 feet wide, far below the FAA recommended 225-foot minimum for safe maneuvering. This would reduce wingtip clearances for a taxiing Beaver to about 5 feet at the narrowest point. Access to the slips on the interior of the facility is via a taxi lane that is 84 feet wide, also far below the FAA recommended minimum. Such a taxi lane would provide a clearance of about 18 feet between the wingtip of a taxiing Beaver and the tails of parked aircraft. This site is well protected from wind and wave action. Dredging would be required to provide adequate depth for the floats and for maneuvering the seaplanes. Conflicts with the movement of large boats loading/offloading at the SSS plant would increase and boat moorage on the north side of SSS may be severely restricted. The distance between A29 and the focus of seabird activity at the SSS outfall would be unchanged. This layout could not easily be expanded to accommodate future growth. Since it is doubtful that access to/from any of the slips could be accomplished in a consistently safe manner, and boat access to the SSS plant is restricted, a cost estimate was not developed for this alternative.

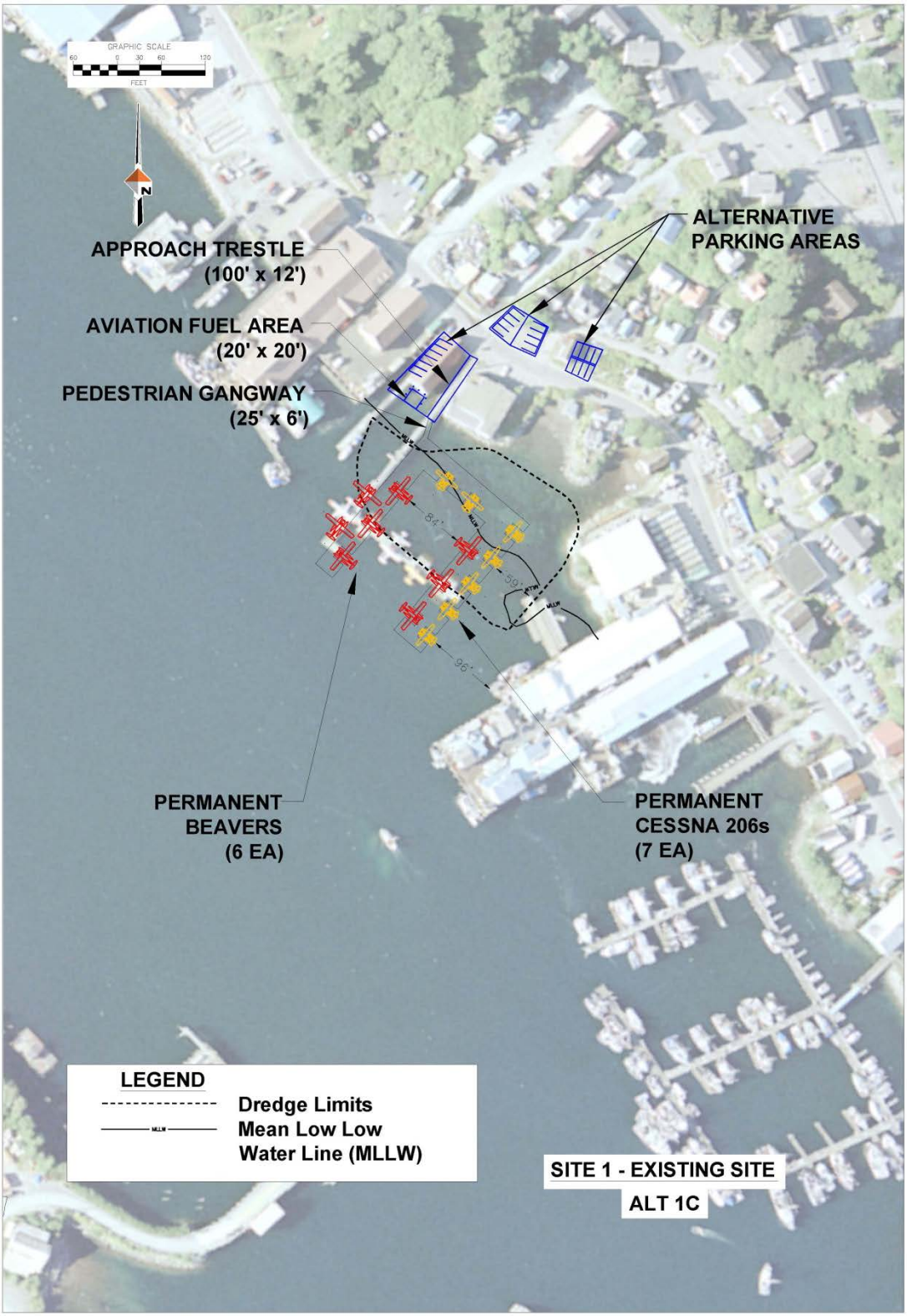


Figure 9: Alternative Layout 1C – Existing Site (A29)

Alternative Layout 1D: This alternative (Figure 10) was also developed in response to a request from local pilots who requested the evaluation of an H-shaped float layout. Alternative Layout 1D is very similar to Alternative 1C. Alternative 1D would require the purchase of additional property at A29. The specific parcels acquired to provide 12 parking spaces, a fuel storage or distribution system, and a drive-down ramp could vary depending upon the SPB's final design and the availability of willing sellers. Figure 10 shows one possible acquisition scenario. Electricity and potable water is included. The interior taxi lane has been expanded to 150 feet to make the slips on the inside of the floats more accessible and increase the total number of slips for based aircraft to 14. Because of space constraints, facilities for on-site aircraft maintenance were not included. Access to the slips nearest to SSS is rendered impossible by a taxi lane that is 31 feet wide at its widest, effectively reducing A29's capacity to 9 based aircraft and two transients. Access to the slips on the interior of the facility is via a taxi lane that is 150 feet wide, still below the FAA recommended minimum but providing wingtip clearances for a Beaver of about 51 feet. This site is well protected from wind and wave action. Dredging would be required to provide adequate depth for the floats and for maneuvering the seaplanes. The distance between A29 and the focus of seabird activity at the SSS outfall would be unchanged. Boat access to the north side of the SSS facility would be eliminated. This layout could not be easily expanded to accommodate future growth. Since this alternative does not meet the project's capacity goal and eliminates boat access to part of the SSS plant, a cost estimate was not developed.

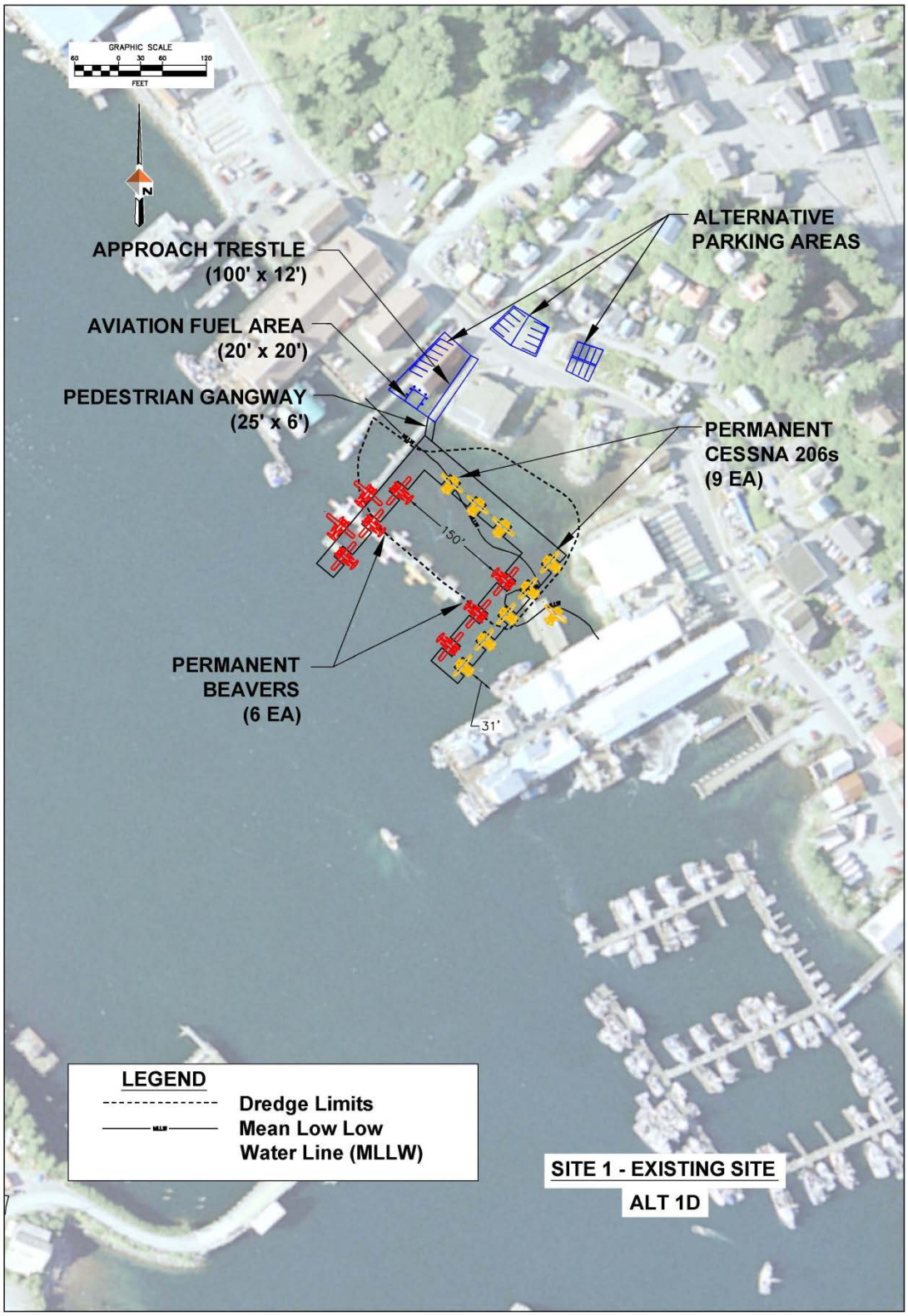


Figure 10: Alternative Layout 1D – Existing Site (A29)

Table 3 compares the four layouts at the A29 site. Although none of the four alternative layouts for A29 met all of the facilities' requirements, Alternative Layout 1B was carried forward to be compared to alternative layouts from the other two potential sites.

Table 6: Comparison of Existing SPB Layout Alternatives

Design Criteria	Alternative 1A	Alternative 1B	Alternative 1C	Alternative 1D
12 parking spaces	No	Yes	Yes	Yes
Fuel storage & distribution system	No	Yes	Yes	Yes
On-site maintenance facility	No	No	No	No
Drive-down ramp	No	Yes	Yes	Yes
Electricity & potable water	Yes	Yes	Yes	Yes
14 based aircraft slips, 3-5 transient positions	No	No	No	No
Safe access/maneuvering to slips	Poor	Poor	Unworkable	Unworkable
Protected from wind and waves	Yes	Yes	Yes	Yes
Allows for future expansion	No	No	No	No
Minimal environmental impacts	No	No	No	No

6.2.2 Eliason Harbor Alternative

This alternative (Figure 12) was an attempt to meet the SPB requirements using CBS-owned property at Eliason Harbor. The conceptual layout for this site includes parking spaces, a fuel storage and distribution system, an on-site maintenance facility (two optional floating hangars), and a drive-down ramp. Electricity, a potable water distribution system, and seaplane parking slips and positions for 14 based aircraft and three transients are included. The floats are arranged in a linear fashion with seaplane parking positions on the east side to separate boat and seaplane traffic. Access to the slips is by a taxi lane that approximates the FAA recommended 225-foot minimum width. Extensive dredging would be required to provide adequate depth for the floats and for maneuvering the seaplanes. Some conflicts with the movement of boats moving to/from the harbor could be expected, but at a reduced level compared to the A29. Water discharging from Turnaround Creek could be expected to freeze and render this site at least partially unusable during some winter months. Protection from easterly winds would be somewhat less than that experienced at the A29 site. The distance between the SPB and the focus of seabird activity at the SSS outfall would be increased to approximately 3,000 feet. Aircraft-generated

noise from this facility may impact nearby structures. This layout is estimated to cost $13.2 million in 2012 dollars without the floating aircraft maintenance hangars and $15.6 million in 2012 dollars with the floating hangars.

Note that the SPB floats shown in Figure 12 generally follow the alignment of the existing pilings that are positioned in the water just beyond the shoreline in Figure 11. Turnaround Creek is just outside the frame to the right.

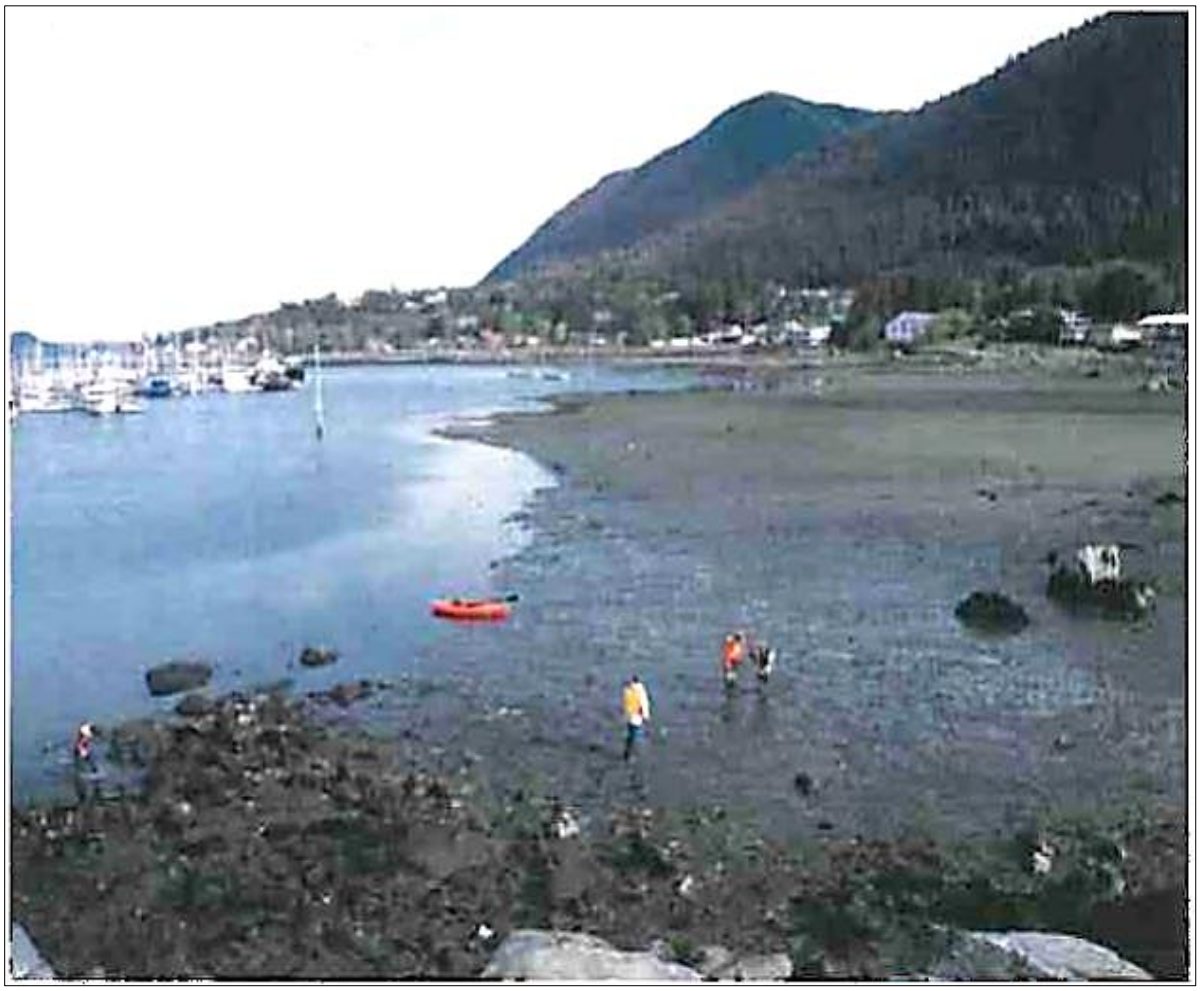


Figure 11: Eliason Harbor Site at Low Tide

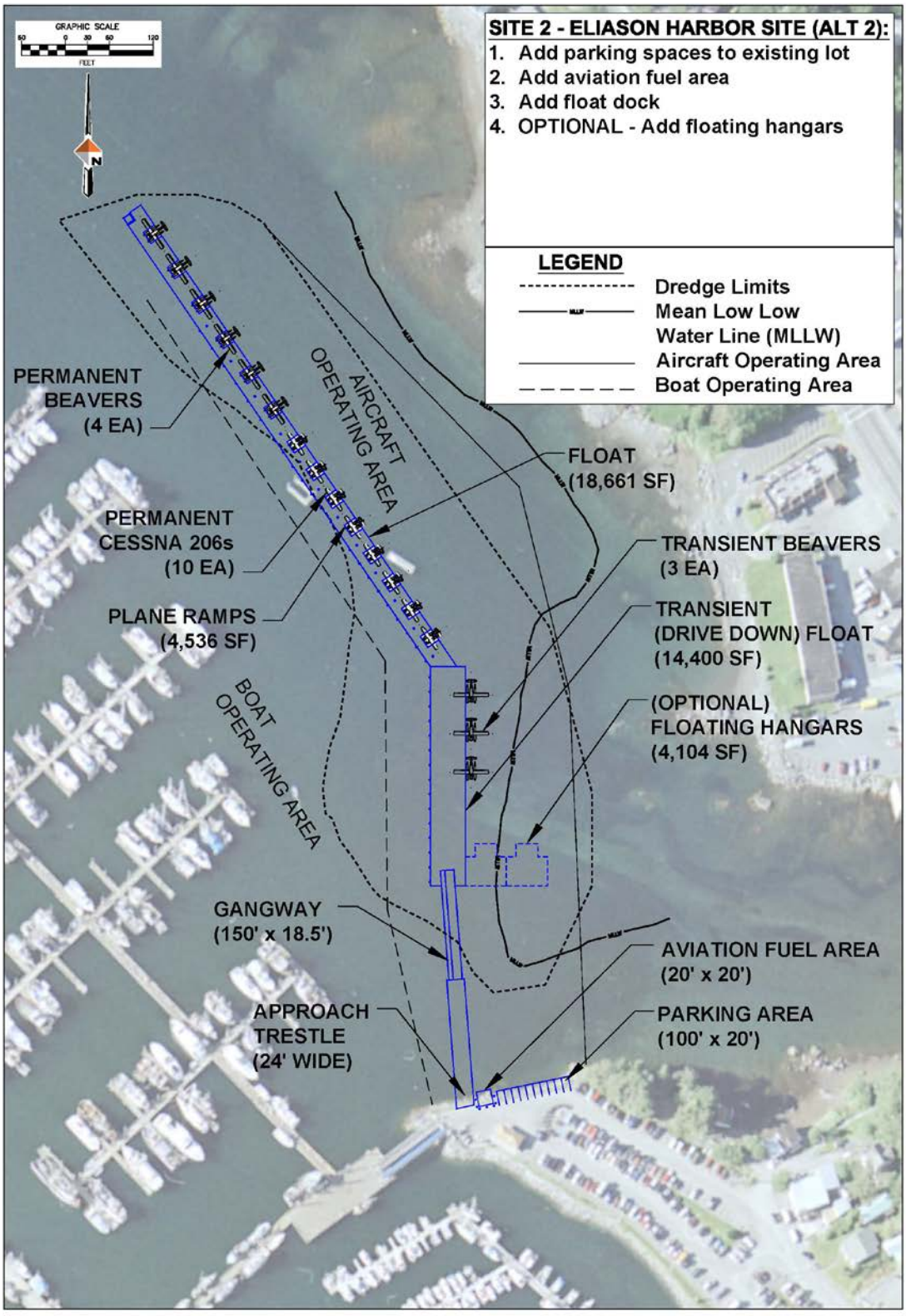


Figure 12: Alternative Layout 2 – Eliason Harbor Site

6.2.3 Japonski Island Alternative

Alternative Layout 3A: This alternative (Figure 13) was an attempt to meet the SPB requirements at a site at the north end of Seward Avenue on Japonski Island. The conceptual layout for this site includes 12 vehicle parking spaces, a fuel storage and distribution system, and a drive-down gangway. Although not shown in Figure 13, an on-site maintenance facility (an on-shore facility or two optional floating hangars) could be accommodated at this site. Electricity, a potable water distribution system, and 14 seaplane parking float slips, 5 transient float parking spots, and positions for 2 shore-based based aircraft are included. Depending on final property acquisition and design, a haul out ramp with lease lots could be provided. The floats are arranged to align all slips with the prevailing wind. This location is removed from areas of concentrated boat traffic and access to the slips is unrestricted. Dredging would not be required to provide adequate depth for the floats and for maneuvering the seaplanes. Protection from easterly winds would be somewhat less than that experienced at the A29 site and long period swells may penetrate the nearby breakwaters to reach the floats. The distance between the SPB and the focus of seabird activity at the SSS outfall would be increased to approximately 4,300 feet. Aircraft-generated noise from this facility may impact nearby structures, although a SPB at this location may also reduce noise in the channel by moving the water operating area further to the north. This layout is estimated to cost $9.3 million in 2012 dollars without the floating aircraft maintenance hangars and $11.7 million in 2012 dollars with floating hangars.

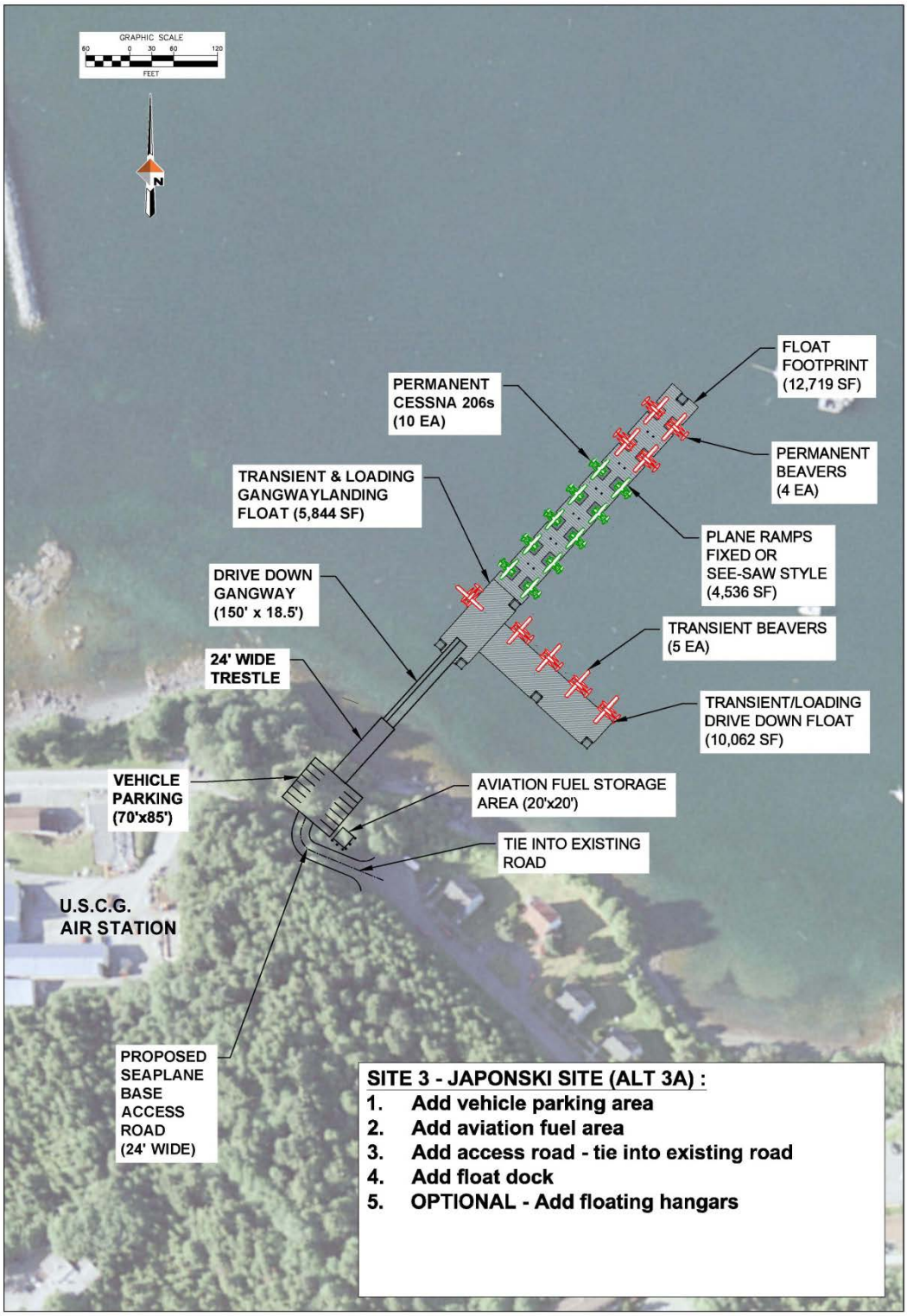


Figure 13: Alternative Layout 3A – Japonski Site

The SPB would be located on state-owned tidelands. Uplands owned by the State of Alaska Department of Education and Early Development would likely be required for the SPB at this location. Mount Edgecumbe High School provided two letters (Appendix B) expressing a lack of support for a SPB at this location, siting the agency's interest in using the property for other unspecified purposes in the future, possible impacts to nearby structures, increased vehicular traffic, and other concerns. That position has softened however, based on more recent discussions.

While this specific location was used for the 2012 siting analysis, it is possible that another location along the adjacent 1000 feet of shoreline on Japonski Island could be more readily available and suitable or a combination of sites along this shoreline could be developed (see Figure 14). This entire 1000 feet of shoreline has similar siting conditions.

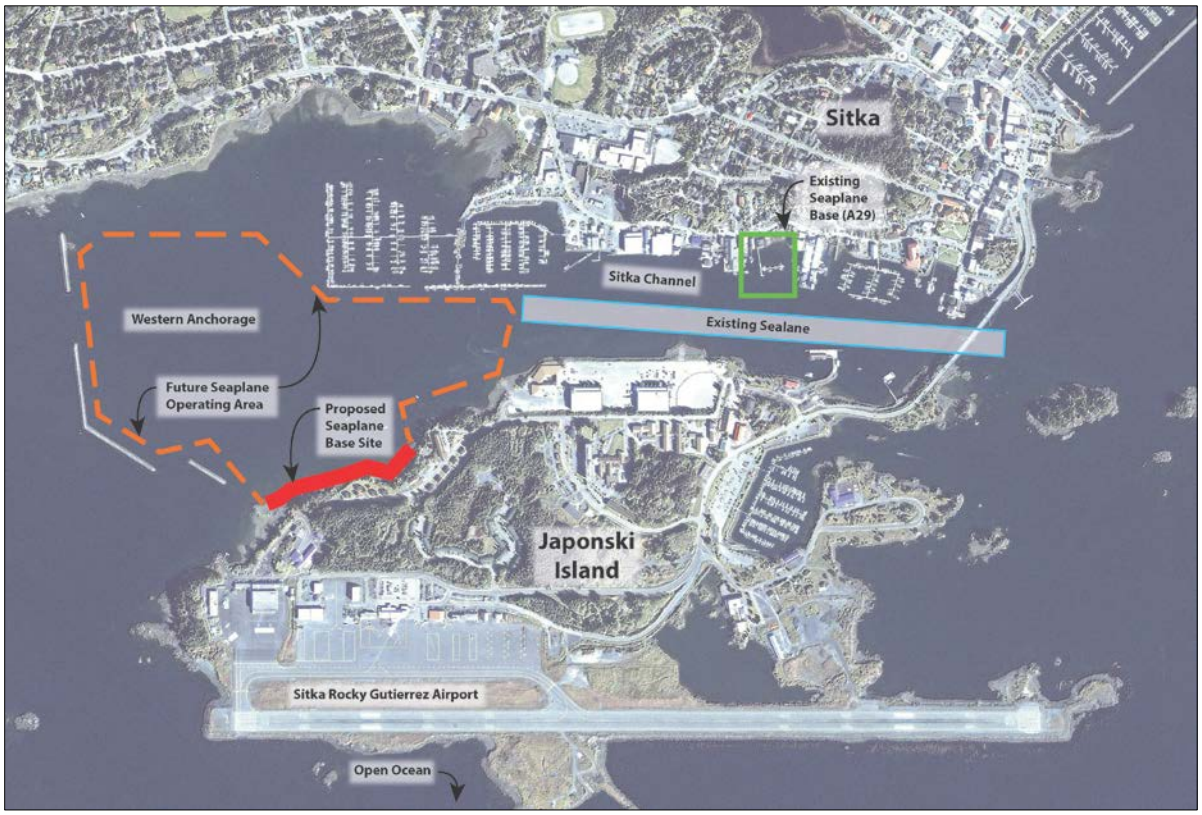


Figure 14: Japonski Island Site and Operating Area

6.2.4 Evaluation of Alternative Layouts

A set of evaluation criteria was developed to assist in the selection of a recommended alternative. The alternatives were given a rating for each criterion and the ratings were summed for an overall score. The summed scores were discussed during workshops with seaplane pilots and several other local residents and, where necessary, adjustments were made to reflect local knowledge and experience.

The ratings or values assigned for each criterion were arrived at through a process of comparing the alternatives--a "beauty contest" so to speak --where the "best" alternative for a given criterion was given the highest rating, and the "worst" alternative the lowest rating. No weightings were used to assign greater importance to any of the criterion.

The criteria used in evaluating alternatives are listed below, grouped by category:

Facility Requirements

- Wind protection: degree to which aircraft and SPB floats will be protected from wind
- Wave protection: degree to which aircraft and SPB floats will be protected from waves
- Icing: degree to which the site is exposed to icing in the winter
- Capacity: degree to which the layout meets the initial capacity goal of 14 based seaplane slips and 3 to 5 transient positions.
- Room for growth: degree to which the site could accommodate future growth in demand
- Aircraft maneuvering room: degree to which aircraft have space to maneuver to/from parking spaces in less than ideal conditions (wind, waves, currents)
- Taxi distance: distance between the SPB facility and designated water lane for takeoffs and landings
- Vehicle parking: provides 12 vehicle parking spaces
- Fueling facilities: provides storage space for fueling system
- Drive-down ramp: provides drive-down ramp to facilitate movement of passengers and equipment to the aircraft parking positions by car, truck, or van

- On-site aircraft maintenance: provides option to locate floating or onshore aircraft maintenance facilities

Safety Concerns

- Wildlife hazards: Degree to which the site is protected from wildlife hazards (mainly birds)
- Potential conflicts with boat traffic: degree to which taxiing aircraft may encounter boat traffic

Environmental Concerns

- Dredging or rock removal: degree to which dredging/rock removal is required
- Adjacent land uses: degree to which SPB operation is consistent with adjacent land uses

Cost and Feasibility Concerns

- Capital cost
- Property acquisition: degree to which property must be acquired to construct the SPB
- Operating and maintenance cost: how much it may cost to operate and maintain the facility
- Revenue generating potential: degree to which the facility can be expected to generate revenue to cover its operating and maintenance costs

Each alternative was rated on these criteria. The results of this evaluation, summed by criteria category, follow in Table 7.

Table 7: Sitka Seaplane Base Siting Study and Conceptual Design
Draft Evaluation Criteria

Scoring Range 1 - 3 (worst - best); 0 = non-responsive
Unweighted criteria

Notes	SPB Site Selection Criteria	Alternatives		
		Eliason Harbor	Japonski Island	Existing SPB ALT 1B
	Facility Requirements			
1	Wind protection	2	1	3
2	Wave protection	2	1	3
3	Icing	1	3	3
4	Capacity	3	3	1
5	Accommodate future growth	2	3	0
6	Aircraft maneuvering room	2	3	1
7	Taxi distance to takeoff area	3	3	2
8	Vehicle parking	3	3	3
9	Fueling facilities	3	3	3
10	Drive-down ramp to floats	3	3	1
11	On-site aircraft maintenance	3	3	0
	Category Score Total	27	29	20
	Category Rank	2nd Best	Best	3rd Best
	Safety Concerns			
12	Wildlife hazards	2	3	1
13	Potential conflicts with boat traffic	1	3	1
	Category Score Total	3	6	2
	Category Rank	2nd Best	Best	3rd Best
	Environmental Concerns			
14	Dredging and/or rock removal	1	3	2
15	Adjacent land uses	1	1	1
	Category Score Total	2	4	3
	Category Rank	3rd Best	Best	2nd Best
	Cost and Feasibility Concerns			
16	Property acquisition	3	1	1
17	Capital cost	1	2	3
18	Operating and maintenance cost	1	2	3
19	Revenue generation potential	3	3	1
	Category Score Total	8	8	8
	Category Rank	Tie	Tie	Tie
	Cumulative Scores	40	47	33
	Overall Rankin	2nd Best	Best	3rd Best

Table 8: Explanatory Notes for Table 7

Note	Description
1	Japonski is exposed to southeast winds in summer and east winds in winter. Eliason is exposed to east winds in winter. Existing SPB sites are sheltered by adjacent development.
2	Japonski is partially exposed to swells due to the gap in the breakwater and to chop from the east and south. Eliason has less exposure to long period waves. Existing SPB receives some chop from the south.
3	Icing occurs seasonally at the outfall of Turnaround Creek close to the site of the proposed
4	The capacity objective is 12 to 14 slips for based aircraft and 3 to 5 positions available for transient aircraft. The Eliason and Japonski sites meet this objective. At the existing SPB site, 1B provides slips for 10 based aircraft and 2 transients.
5	The ability of the existing SPB alternative to be expanded is constrained by adjacent development. Eliason can be extended in a linear configuration, but the long narrow pier may create logistical problems for users, require more dredging, and may increase boat conflicts. Japonski can be expanded in various configurations.
6	Japonski is open with minimal boat traffic; Eliason is near boat harbor; Existing SPB taxi lanes do not meet FAA guidelines and conflict with the SSS plant.
7	Measured from the site to the north end of the designated water lane in Sitka Channel. Eliason = .8 mile; Japonski = .4 mile; Existing SPB Alternatives = .5
8	All sites can accommodate 12 vehicle parking spaces.
9	All sites can accommodate fuel storage and distribution systems.
10	Existing SPB Alt 1B may not provide a drive-down ramp because of space constraints.
11	Existing SPB Alt 1B does not provide floating hangars or upland facilities because of space constraints.
12	The main wildlife hazard consists of birds attracted by the outfall from fish processing plants just south of the existing SPB. Although it is anticipated that this will diminish within the next years because of stricter EPA/ADEC permitting requirements, a lower level of bird activity associated with the fish processing facilities may remain. Eliason is 3,000 feet from the fish processing plants, Japonski about 4,300 feet, and the existing SPB alternatives about 350 feet away.
13	Eliason is immediately adjacent to Eliason Harbor. Existing SPB site is in a busy area of the Sitka Channel. Japonski is away from most boat traffic.
14	Japonski does not require dredging or rock removal. Eliason requires significant dredging and rock removal at the outfall of Indian Creek. Alt 1B requires limited rock removal and some dredging.
15	Land use at Eliason harbor is C-1 (Commercial), Japonski is P (Public Lands District), existing SPB is W (Waterfront District). SPB is a permitted use in W and conditional use in P and C-1, but there are conflicts with the seafood plant and other users. R (Residential) land uses are less than .5 mile from Eliason and the existing SPB sites. Mount Edgecumbe High School and
16	Eliason does not require the acquisition of additional property - site is owned by CBS.
17	Eliason = $13.2 to $15.6 million; Japonski = $9.3 to $11.7 million; Existing SPB Alt 1B = $5.1 million
18	Eliason = $8,868/year; Japonski = $4,836/year; Existing SPB Alt 113 = $2,820/year
19	Revenue estimate based entirely on number of seaplane slips.

7.0 RECOMMENDED SITE

Based upon the analysis described in this report and input received from local officials, residents and pilots, this study recommends a site on Japonski Island be carried forward for further site analysis, discussions with property owners, environmental investigations, and design. None of the alternative sites studied in this or the 2002 or 2012 studies are perfectly suited for the development of a seaplane base. Topography and existing development limit the choices available. However, of all the potential sites evaluated, a Japonski site has the most positive attributes and least negative attributes.

Although the construction of a new SPB at the existing site would be less expensive than at the other two sites because it would be smaller, a SPB at this site could not be designed to meet the project's capacity goal for based aircraft and positions, provide on-site maintenance facilities, and safe access to/from the slips from the water operating area. Commercial operations at this site would likely be limited. Existing adjacent development would make right-of-way acquisition for vehicle parking, fuel storage, and a drive-down ramp very difficult and expensive. This site also could not accommodate future growth. An expanded SPB at the existing site would increase boat conflicts, particularly with boat traffic to SSS. SSS has also objected to the continued operation or expansion of the existing SPB.

The Eliason Harbor site would be the most expensive to develop. Extensive dredging required for the project would result in impacts to a sensitive near-shore tidal area and would very likely not make it through the permitting process. This site could accommodate the project's initial capacity goal, on-site maintenance facilities could be provided, and a taxi lane of adequate width would safe access to/from the slips from the water operating area. However, future expansion of the facility would create logistical challenges for users. Although the floats could be designed to segregate boat and seaplane traffic, occasional boat/seaplane conflicts at the northern entrance to the SPB could be expected. This site is away from the concentration of seabirds near the fish processing plants, but freezing fresh water from nearby Turnaround Creek would make the facility unusable during some winter months. Aircraft-generated noise could adversely impact nearby residences and businesses.

A Japonski Island site has a mid-range cost, can meet the project's capacity goal, can accommodate on-site maintenance, and can easily be expanded in the future to accommodate growth. Access between the slips and the water operating area is open water free of obstructions. The site is removed from most boat traffic and away from the concentration of seabirds near the fish processing plants.

Property may have to be acquired from the State of Alaska Department of Education and Early Development or others. Aircraft-generated noise from the SPB may increase for nearby residences and businesses, but it may also reduce noise in the Channel overall by moving the water operating area further to the north. This site was preferred by local seaplane pilots.

It is anticipated that this project would be eligible for environmental, design, and construction funding through the FAA's Airport Improvement Program (AIP). AIP funding would pay 93.75% of eligible project costs. The CBS would be expected to provide the remainder. Based upon the preliminary cost estimate of $11,700,000 in 2012 dollars for the Japonski Island Alternative with floating hangars, funding for the project would be as follows:

Table 9: Cost

Cost	Source
$10,968,750	FAA AIP
$731,250	CBS
$11,700,000	

The Japonski Island Alternative final layout, property requirements and costs presented in this report will be further refined during the project's design and environmental phases.

8.0 PUBLIC INVOLVEMENT

Appendix B contains a summary of public involvement efforts conducted during the preparation of this report, including personal and telephone interviews, correspondence, and meetings with user groups, the general public, and the CBS Port and Harbor Commission. On April 17, 2012,

the Port and Harbor Commission issued a memorandum supporting the Japonski Island Alternative for further study.

9.0 ECONOMIC IMPACT OF A NEW SEAPLANE FACILITY AT SITKA

Economic impacts of the new expanded seaplane facility were estimated under a separate report "Economic Impact of a New Public Seaplane Facility at Sitka" in July, 2016, found in Appendix E. The study interviewed Sitka's commercial flying community and agencies and businesses that depend on them, regional air carriers, lodges, government agencies, and other businesses not based in Sitka that use seaplane transportation to and from Sitka. The study considered the economic importance of the existing seaplane base and the additional benefits expected from an new expanded facility. The study estimates how much of the benefits stay in Sitka versus how much ends up outside the local Sitka economy.

The study first estimated the economic impacts of the first year of development and operations, which are expected to be heightened by the benefits from expected initial private investment at the new seaplane base.

First Year Benefits of a New Public Seaplane Base

- **Total Earnings by Sitka Businesses** - $1,606,444 in total direct impacts and multiplier affects (indirect and induced impacts) from Sitka-based aviation businesses and visitor spending. Just 39.3% of that money stays in Sitka.
- **Earnings Staying in Sitka -** $631,788 in business revenue (direct and multiplier impacts) from Sitka seaplane activity is spent in Sitka. This includes:
  - $397,675 in wages and salaries paid and proprietors' income;
  - $123,147 in rents, royalties and dividends paid (mostly to private industry);
  - $110,966 in local fees and taxes paid (mostly to government); and
  - 10.9 full-time-equivalent jobs created in Sitka.

The study estimated the economic benefits of the following years after the initial construction is completed.

Recurring Annual Economic Impacts of a New Public Seaplane Base

- **Total Earnings by Sitka Businesses** - $815,755 in total direct impacts and multiplier affects (indirect and induced impacts) from Sitka-based aviation businesses and visitor spending. Just 44.6% of that money stays in Sitka.
- **Earnings Staying in Sitka -** $364,159 in business revenue (direct and multiplier impacts) from Sitka seaplane activity is spent in Sitka. This includes:
  - $235,071 in wages and salaries paid and proprietors' income;
  - $72,025 in rents, royalties and dividends paid (mostly to private industry);
  - $57,063 in local fees and taxes paid (mostly to government); and
  - 5.8 full-time-equivalent jobs created in Sitka.

The dollar value of impacts presented in the study should be considered conservative, and a minimum expected impact, as it does not address some benefits that could not be quantified, namely:

- Construction of a new facility.
- Maintenance and operation of a new facility.
- Impacts to air carriers not based in Sitka from seaplane aviation activity in Sitka.
- Spending in Sitka by GA seaplane operators for non-aviation goods and services.
- Spending in Sitka by air carriers not based in Sitka for non-aviation goods and services.
- Spending in Sitka by lodges using seaplanes at Sitka for non-aviation goods and services.
- Possible lower seat fares and freight costs for seaplane transportation throughout the region.
- Sales taxes from seaplane-related activity and spending by visitors using seaplanes in Sitka.
- Impacts from the repurposed use of the site.

- Possible increases in business investment and earnings in Sitka as seaplane activity grows several years after the facility is built.

The study also recaps "qualitative" statements from seaplane operators about the economic importance of a new Sitka Seaplane Base.

10.0 REFERENCES

Alaska Department of Labor and Workforce Development, Alaska Populations Projections 2010-2034, February 2011

DOT&PF, Alaska Aviation System Plan Forecasts, June 2011

DOT&PF, Southeast Region Aviation System Plan, September 2008

FAA, APO Terminal Area Forecast Report: Forecast Issued December 2010, for A29, downloaded 4/1/2011; http://aspm.faa.gov/main/tafasp

FAA, National Plan of Integrated Airport Systems (NPIAS) Reports, downloaded 4/1/2011; http://vvww.faa.gov/airports/planning_capacity/npias/reports/

HDR, Sitka Seaplane Base Master Plan, August 2002

US DOT, Federal Aviation Administration, Final Environmental Impact Statement for Sitka Rocky Gutierrez Airport, Sitka Alaska, May 2009

APPENDIX A

Cost Estimates (2012)

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SITKA SEAPLANE BASE
PRELIMINARY COST SUMMARY FOR ALTERNATIVES 1A, 1B, 2, AND 3

	ALT 1A Existing Site (w/out landside property acquisition)	ALT 1B Existing Site (w/landside property acquisition)	ALT 2 Eliason Site	ALT 3 Japonski Site
Landside Costs	$0	$164,920	$164,920	$217,840
Waterside Costs	$4,569,110	$4,569,110	$11,706,923	$8,798,010
Property Acquisition	$0	$296,856	$55,944	$323,316
Mitigation	$80,000	$80,000	$1,340,000	$0
TOTAL	**$4,649,110**	**$5,110,886**	**$13,267,787**	**$9,339,166**
Optional (Float Plane Maintenance Area)	$0	$0	$2,340,000	$2,340,000
TOTAL + Optional	**$4,649,110**	**$5,110,886**	**$15,607,787**	**$11,679,166**

NOTE:
1. Design, environmental, relocation, and construction adminstration costs are not included in this estimate.

SITKA SEAPLANE BASE

Cost Estimate - Alternative 1A - (Existing Site w/out Property Acquisition)

Existing Site - Alt 1A (w/out Property Acquisition)

	Pay Unit	Quantity	Unit Price	Total Amount
Landside Costs				
1.	LS	0	$0	$0
			Subtotal:	$0
			(30%) Contingency:	$0
			(10%) Mob & Demob:	$0
			Landside Costs Total:	**$0**
Waterside Costs				
1. Mobilization	LS	1	$300,000	$300,000
2. Demo Existing Float System	LS	1	$150,000	$150,000
3. Dredging (rock removal)	LS	1	$50,000	$50,000
4. Trestle	SF	1,200	$200	$240,000
5. Gangway 6' wide	SF	480	$150	$72,000
6. Floats (includes piling)	SF	16,500	$135	$2,227,500
7. Piling socket 24-Inch	EA	15	$15,000	$225,000
8. Water System	LS	1	$40,200	$40,200
9. Fuel System	LS	1	$50,000	$50,000
10. Lighting & Electrical System	LS	1	$100,000	$100,000
11. Cathodic Protection System	LS	1	$60,000	$60,000
			Subtotal:	$3,514,700
			(30%) Contingency:	$1,054,410
			Waterside Costs Total:	**$4,569,110**
			Property Acquisition:	$0
			Mitigation:	$80,000
			ALT 1A TOTAL:	**$4,649,110**
XX. Optional (Float Plane Maintenance Area)	LS	0	$0	$0
			(30%) Contingency:	$0
			Optional Total:	$0
			ALT 1A TOTAL + Optional:	**$4,649,110**

NOTE:

1. Design, environmental, relocation, and construction adminstration costs are not included in this estimate.

SITKA SEAPLANE BASE

Cost Estimate - Alternative 1B - (Existing Site w/Property Acquisition)

Existing Site - Alt 1B (w/Property Acquisition)

	Pay Unit	Quantity	Unit Price	Total Amount
Landside Costs				
1. Vehicle Parking	LS	1	$117,800	$117,800
Parking Lot (14 spaces + AST area)	*SF*	*10,600*		
	SF	*10,600*		
Construction	*SY*	*1,178*	*$100*	
Property Acquisition (moved to summary sheet)	*LS*			
			Subtotal:	$117,800
			(30%) Contingency:	$35,340
			(10%) Mob & Demob:	$11,780
			Landside Costs Total:	**$164,920**
Waterside Costs				
1. Mobilization	LS	1	$300,000	$300,000
2. Demo Existing Float System	LS	1	$150,000	$150,000
3. Dredging (rock removal)	LS	1	$50,000	$50,000
4. Trestle	SF	1,200	$200	$240,000
5. Gangway 6' wide	SF	480	$150	$72,000
6. Floats (includes piling)	SF	16,500	$135	$2,227,500
7. Piling socket 24-Inch	EA	15	$15,000	$225,000
8. Water System	LS	1	$40,200	$40,200
9. Fuel System	LS	1	$50,000	$50,000
10. Lighting & Electrical System	LS	1	$100,000	$100,000
11. Cathodic Protection System	LS	1	$60,000	$60,000
			Subtotal:	$3,514,700
			(30%) Contingency:	$1,054,410
			Waterside Costs Total:	**$4,569,110**
			Property Acquisition:	$296,856
			Mitigation:	$80,000
			ALT 1B TOTAL:	**$5,110,886**
XX. Optional (Float Plane Maintenance Area)	LS	0	$0	$0
			(30%) Contingency:	$0
			Optional Total:	$0
			ALT 1B TOTAL + Optional:	**$5,110,886**

NOTE:

1. Design, environmental, relocation, and construction adminstration costs are not included in this estimate.

SITKA SEAPLANE BASE

Cost Estimate - Alternative 2 - Eliason Site (w/Property Acquisition)

Eliason Site - (w/Property Acquisition)

	Pay Unit	Quantity	Unit Price	Total Amount
Landside Costs				
1. Vehicle Parking	LS	1	$117,800	$117,800
Parking Lot (14 spaces + AST area)	*SF*	*10,600*		
	SF	*10,600*		
Construction	*SY*	*1,178*	*$100*	
Property Acquisition (moved to summary sheet)	*LS*			
			Subtotal:	$117,800
			(30%) Contingency:	$35,340
			(10%) Mob & Demob:	$11,780
			Landside Costs Total:	**$164,920**
Waterside Costs				
1. Mobilization	LS	1	$300,000	$300,000
3. Dredging	CY	10,000	$40	$400,000
3. Trestle	SF	4,200	$200	$840,000
4. Gangway 18.5' wide	SF	2,775	$300	$832,500
5. Floats Transient	SF	14,400	$225	$3,240,000
6. Floats (including piling)	SF	23,197	$125	$2,899,625
7. Piling socket 24-Inch	EA	30	$7,500	$225,000
8. Water System	LS	1	$58,200	$58,200
9. Fuel System	LS	1	$50,000	$50,000
10. Lighting & Electrical System	LS	1	$100,000	$100,000
11. Cathodic Protection System	LS	1	$60,000	$60,000
			Subtotal:	$9,005,325
			(30%) Contingency:	$2,701,598
			Waterside Costs Total:	**$11,706,923**
			Property Acquisition:	$55,944
			Mitigation:	$1,340,000
			ALT 2 TOTAL:	**$13,267,787**
XX. Optional (Float Plane Maintenance Area)	LS	2	$900,000	$1,800,000
			(30%) Contingency:	$540,000
			Optional Total:	$2,340,000
			ALT 2 TOTAL + Optional:	**$15,607,787**

NOTE:

1. Design, environmental, relocation, and construction adminstration costs are not included in this estimate.

SITKA SEAPLANE BASE

Cost Estimate - Alternative 3 - Japonski Site (w/Property Acquisition)

Japonski Site - (w/Property Acquisition)

	Pay Unit	Quantity	Unit Price	Total Amount
Landside Costs				
1. Vehicle Parking	LS	1	$117,800	$117,800
Parking Lot (14 spaces + AST area)	*SF*	*10,600*		
	SF	*10,600*		
Construction	*SY*	*1,178*	*$100*	
Property Acquisition (moved to summary sheet)	*LS*			
2. Access Road	LS	1	$37,800	$37,800
Seward Avenue Access Road Tie-in	*LF*	*200*		
Construction-access road	LF	*200*	*$189*	
Property Acquisition	*SY*			
			Subtotal:	$155,600
			(30%) Contingency:	$46,680
			(10%) Mob & Demob:	$15,560
			Landside Costs Total:	**$217,840**
Waterside Costs				
1. Mobilization	LS	1	$300,000	$300,000
2. Site Preparation	LS	1	$25,000	$25,000
3. Trestle	SF	2,400	$200	$480,000
4. Gangway 18.5' wide	SF	2,775	$300	$832,500
5. Floats Transient	SF	10,400	$225	$2,340,000
6. Floats, Type A (including piling)	SF	18,064	$125	$2,258,000
7. Piling socket 24-Inch	EA	16	$15,000	$240,000
8. Water System	LS	1	$82,200	$82,200
9. Fuel System	LS	1	$50,000	$50,000
10. Lighting & Electrical System	LS	1	$100,000	$100,000
11. Cathodic Protection System	LS	1	$60,000	$60,000
			Subtotal:	$6,767,700
			(30%) Contingency:	$2,030,310
			Waterside Costs Total:	**$8,798,010**
			Property Acquisition:	$323,316
			Mitigation:	$0
			ALT 3 TOTAL:	**$9,339,166**
XX. Optional (Float Plane Maintenance Area)	LS	2	$900,000	$1,800,000
			(30%) Contingency:	$540,000
			Optional Total:	$2,340,000
			ALT 3 TOTAL + Optional:	**$11,679,166**

NOTE:

1. Design, environmental, relocation, and construction adminstration costs are not included in this estimate.

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APPENDIX B

Public Involvement

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Sitka SPB Siting Study, 2011
Summary of Telephone and Personal Interviews, e-mail

Date	Name	Phone #	Representing	Comments
15-Feb	Mike Bills	738-8023	CAP	CAP no longer keeps seaplane in Sitka. CAP seaplane on amphib floats kept in Juneau. CAP member Bill Lance has personal seaplane (C-180). Also Ron Handerson.
2-Mar	Scott Harris	966-3050	Harris Air	Has Beaver and C-185 on State airport. Both on amphib floats. Uses them for tourism (including cruise ships), to support area lodges (6) and air ambulance (Beaver). Doesn't use CBS SPB because no upland facilities for maintenance and tie-downs. State seaplane ramp inadaquate (tides, need escourt on arpt). At CBS SPB poor fueling situation - jerry cans. "Used to be more seaplane traffic 20-30 years ago." With econ downturn, traffic moved to JNU; Forest Service activity reduced because no logging in Tongass.
24-Feb	George Burnstein	966-8965	Mt. Edgecumbe Hospital (IHS)	He's Chief Flight Nurse. The seaplanes (SPs) they use are on amphib floats from State airport. Some patients come in by charter (Harris Air or Sitka Air) or by USCG helicopter. SPs come to Sitka from Angoon, Pelican, Tenakee Springs. Total transport via SP about 40/year.
24-Feb	Dave Gordon	747-6688	ADF&G Sitka	ADF&G rents slip at SPB for Super Cub. Busy season June - August. Fly 4-5 days/week, about 38 flights/summer. He also "hot berths" his own plane (C-180) in the CAP slip. Problems at SPB: no electricity, slippery surface (guano), poor fueling situation, very little parking. Manuvering aircraft in SPB difficult due to narrow clearances. Need to get SP out of the water to reduce corrosion. State SP ramp "horrible" for maintenance. Eliason Harbor protected like existing site but more taxiing. Boat-aircraft conflicts rare. Boaters accept plane traffic.
2-Mar	Karen Fredrickson	966-2411	SEARHC	She is Travel Coordinator for SEARHC. All or almost all patient travel by SP is through the State airport. They use Air Sitka, Wings, and Harris Air. About 400 patients/year come by SP.
7-Mar	Doug Riemer	772-3535	Nordic Air	He won't be at 3/9 meeting but will be in Sitka for herring opening. He flies SPs to State airport or Ken Bellows (Air Sitka). CBS SPB is "inadaquate" - congested, poor condition. He would need upland lease lot for aircraft maintenance and tie down. He has not used State SP haul out. He 22 years in business. Flies C-185 on amphib floats.
7-Mar	Cole Rhoden	772-4258	Pacific Wing	Flies C-185 on amphib floats, Beaver on straight floats. When in Sitka uses Ken Bellows' float or Forest Service float (location?). No maintnenace available at CBS SPB.
7-Mar	Dave Galla	874-2319	Sunrise Aviation	Doesn't operate on floats in Sitka. Only on wheels - gets fuel at State airport.
7-Mar	Randy Kiesel	789-9150	Ward Air	They use the Forest Service float when in Sitka. City SPB too tight (lacks manuvering room). Eliason site "great idea" - away from Japonski Island. They get fuel near the High School (on channel via truck). They fly many aircraft from Cessnas to turban Otter on straight and amphib floats. At new SPB would like fueling and pay phone.
7-Mar	Name?	518-0600	Kupreanof Flying Service	Flies C-180 on straight floats. Eliason site bad - potential conflicts with boats. Existing SPB needs fueling facility.
8-Mar	Dwayne Lambeth	747-5660	Dove Island Lodge	Operates Beaver on floats out of Jamestown Bay. CBS SPB inadaquate - weight of Beaver sinks the float. No security. Fuel is stolen. Location convenient, however. He used CBS float for one summer. Eliason Harbor site has good access and parking but potential conflicts with boats and wind. Historically many seaplane facilities were located in Jamestown Bay but this location no longer popular (residential development).

10-Mar	Ken Bellows	747-7920 (land) 738-2363 (Cell)	Air Sitka	Flies, fuels, does maintenance from his own float on channel. Both Eliason and SEARHC site are exposed to winds, especially in winter. Eliason too shallow and freezes (fresh water outfall). Best site is existing site, protected from wind but needs parking.
30-Mar	Mark Shimshimer	771-3066	AIDEA	Proposal to AIDEA by SMOG LLC turned down by AIDEA Board. Proposal would have implemented re-processing of fish processor waste into marketable by-products, reducing bird hazard for existing SPB.
4-Apr	Shawn Stokes	269-7504	ADEC Permits	Fish processor permits expired but still in effect.
13-Apr	Randy Hawk	966-3201	Mt. Edgecumbe High School	HS has no plans for property at end of Seward Avenue.
13-Apr	Sam Kito III	465-6906	ADOE	ADOE has no plans for "SEARHC Site". Will confirm by letter. Site might be acquired by CBS in exchange for service.
18-Apr	Chris Foley	269-4632	ADEC Compliance	New permits required w/in 12-24 months. Processors expected to barge fish waste 3+ miles to sea and dump.
26-Apr	Mike Edleman & John Lovett	271-5026	FAA Airports Division	FAA requires (it is one of the AIP grant assurances) that the airport owner/operator take steps to make the airport (or in this case the seaplane base) as self sustaining as possible. If it is too expensive to construct upland facilities, lease lots , etc, the report should show the costs and summarize why they were not built.
27-Apr	William Lantz	738-3075	Himself	Eliason Harbor site bad - too shallow, too little room to manuever, potential conflicts with boats. SEARHC site good for vehicle parking and access by fuel trucks but lacks wind protection. Existing SPB site is protected from wind but needs parking and fuel - also has bird problem. If more slips available might have flight school and more use by transients. Should have 12-15 slips with flexibility for future growth. Design should include fueling, vehicle parking, bird deterrant (overhangs to keep bird guano off aircraft). Should also use Bellow's see-saw ramp design to get aircraft up out of the water. Need fresh water to wash down aircraft and floats. Electricity not essential except for lighting. Limited storage desireable for oil and float pumps. Drive down ramps desireable. He keeps a seaplane at CBS SPB in CAP slip.
27-Apr	Francois Bakkes	351-7483	Himself & wife (both pilots)	Existing SPB site is best, most practical. Eliason too shallow, with wind there is no room to manuever, and the fresh water from creek freezes. SEARHC - he has no strong opinion, but concerned about lack of wind protection. Vehicle ramp to SPB desireable but not essential. He doesn't use existing SPB, but SPB needs fuel. They have C-172 on wheels at State airport. Would like to acquire 185 on amphib floats so can keep aircraft out of the water when not in use. See-saw ramp design good idea - saw in use at Bellows and Ketchikan. He will probably not use CBS facility if he gets seaplane - won't leave aircraft in the water because of corrosion. He has access to hanger on State airport. 12-15 slips at a new facility would be about right. Need transient float that can accomodate 2-3 planes at a time like Angoon, Tanakee Springs, or JNU. Fuel should be available at transient ramp, also fresh water for wash-down of aircraft. Electricity not necessary except for lights - maintenance would be done on land elsewhere.

27-Apr Kevin Mulligan	480-225-2217	himself	He wants a ssfe facility and one where he can get fuel. Would be good to acquire Henry Jimmy property to add to existing SPB. Need a drive down ramp to floats for handicapped people and fluel (delivery truck). Eliason is not a good site - problems with tides and boats. He lives in Port ALexander and flies to Sitka, sometimes carying sick or injured people (pro bono). Waves at SEARHC site a concern - need breakwater, maybe floating breakwater, but that site would require long taxi. 12-15 slips reasonable for new site. Vehicle parking would be enforcement problem (keeping abandoned cars and non-SPB users out). He has stall at CBS SPB (C-185). His maintenance is done in Wrangell. New SPB need electricity to heat aircraft in winter.
28-Apr David Gordon	dave.gordon@alaska.gov	Self	Existing site provides best protection from winds but vehicle parking space is limited; need parking for 3-4 vehicles; new facility should provide 8 to 10 SP slips; fueling not necessary but desireable; need electrical service; ramps should get floats out of the water; he owns a SP and leases a slip at the CBS SPB.
2-May Jim Edson	723-2137	self	Likes where the SPB is because of wind/water protection, but too small and "insane" guano problem. Eliason site gets wind from Indian River Valley, also too much boat traffic. SEARHC site better but ocean swells a problem, also strong N winds in winter. Facilty needs wider float (like Petersburg) to allow nose to nose parking and walk-around pre-flight inspection. See-saw ramps good but a possible maintenance problem. He does not want to start a Part 135 operation - he flies for recreation and to support his non-aviation business. He flies a C-180 on straight floats. New facility would need 20 slips.
2-May Ron Handerson	747-1077	self	Likes Eliason Harbor site. Existing site - no fuel, no vehicle parking. Cant use existing SPB at extreme low tide because of rocks (two); one just landside of stall #5 and the other under the floats (causes tilting). He has 3 float planes (C-185, Taylorcraft, PA-12). He is interested in starting Part 135 operation. SPB would need a drive-down ramp to floats. 12 to 16 slips would be adaquate with space for 2-3 transients. Air Sitka facility will soon not be available (fueling, etc.) - what to do then? New (commercial) facility will need fresh water, electricity, small storage, small office or waiting room.
2-May Kevin Mulligan	568-2399	self	Would be interested in starting Part 135 operation if economy gets better. His lodge business is booming (2011 50% increase over 2010), but economy in general not strong. Would like to be able to do maintenance at SPB. Says Harris Air too busy to do maintenance for him. SPB at Craig is very "super nice" (model?).
2-May Tor Svendson	738-6130	self	Pilot for ADF&G stream surveys. Flies Super Cub on straight floats. For past three years has berthed plane in ADF&G slip at CBS SPB. Has flown in Sitka area for 22 years. Existing site not good - birds. Likes Eliason site - parking and fuel better than existing. SEARHC not protected enough from wind/waves. He would be interested in starting Part 135 business. Sitka worst SPB in SE AK for straight floats. New facility would need vehicle ramp, local FBO to provide fuel by card lock system, water, electricity, and equipment storage. He flies C-185, C-206 now. Might buy Beaver later if economy gets better. Comfortable doing aircraft maintenance and storage at State airport
2-May Francois Bakkes	351-7483	self & wife	Not interested in doing Part 135 operation.

2-May Ron Salmon	738-2288	self	He prefers the Japonski site (SEARHC) - better for fuel and parking. Also closer to where old sea land was. He landed here often and had no problem with sea states. Existing site has no parking - Aero Services probably would not deliver fuel there. Eliason site would conflict with boat traffic and require significant dredging. He would be interested in Sitka Part 135 operation - he moved his operation from Sitka to Wrangell because of competition in Sitka. New facility would need fuel, drive down ramp, electricity, fresh water, and equipment storage. Part 135 operation would be pick-up, drop-off. Little or no need for landside office. Ketchikan and Hoonah are model facilities. He flies a Beaver on straight floats
2-May William Lantz	738-3075	Himself	He would be interested in starting a Part 91 commercial operation for sight seeing tours. Need drive down ramp, lighting, and passenger shelter.

SITKA SEAPLANE BASE SITING STUDY
SUMMARY OF MEETINGS HELD IN SITKA AT CENTENNIAL HALL
MARCH 9, 2011

Port and Harbor Commission (6:00 to 6:30 p.m.)

Mark Mayo and Brian Hanson (DOWL HKM) gave a PowerPoint presentation to the Commission. The presentation described the current project, past efforts, next steps, as well as local and DOWL HKM points of contact. At the conclusion of the presentation, a Commission member noted that provisions should be made at the new Seaplane Base for fuel services, vehicle parking, and lease lots for commercial buildings.

Public Meeting (7:00 to 8:30 p.m.)

This meeting was public noticed in the local paper and via e-mail. Following an introduction by the City and Borough of Sitka (CBS) Public Works Director Michael Harmon, Brian Hanson delivered a similar presentation to the public. Questions and comments were then invited from those in attendance.

An individual stated that, in winter, both the Eliason Harbor and Japonski Island alternative sites would be subject to 75 mile per hour winds in the winter, and suggested that the CBS would be liable for resulting damages to aircraft using seaplane base (SPB) facilities in those locations. Further, he said that the Eliason site would occasionally freeze in winter due to the fresh water outfall just east of the site, and that it would be "high and dry" during a minus tide. He said that the second best site was the Japonski Island site, but that the best site was where the existing SPB was located because it is sheltered from the wind. He said that aircraft parked at that facility had sustained no wind damage. The only collision related damage to aircraft was due to boats that had come loose from their moorings and drifted into parked aircraft. He recognized, however, that the existing site is in need of parking and better access to fuel.

The existing site was mentioned by more than one person as the optimal location. Suggestions were offered for improving the float configuration and regarding the purchase of upland and adjacent dock property to provide space for vehicle parking and services.

CBS Public Works Director Michael Harmon asked if everyone was comfortable with the Japonski Island site. He also noted that CBS wanted to avoid condemning property.

An individual who had participated in the 2002 SPB study said that the earlier study was done with the assumption that using the existing site was not an option. He said that the Indian Valley winds would damage aircraft parked at the Eliason Harbor site, especially if they were parked as shown on the preliminary drawings with their tails to the east. He claimed direct personal knowledge of this since his fishing boat is moored in the harbor close to this location. He also said that Eliason Harbor would interfere with boats using the designated boat loading area.

Another person suggested that the Eliason Harbor alternative would require dredging in an area where Eel Grass grows – a potential environmental concern and permitting challenge.

Someone suggested that it might be possible to acquire property just north of the existing SPB for vehicle parking and expansion of the SPB float system.

Someone noted that relatively little commercial seaplane activity in the winter (November - March).

Another person noted that there was no surplus vehicle parking space available to Eliason Harbor, that a new parking area would need to be constructed, and that this alternative allowed little room to maneuver seaplanes near the float.

Summary of follow up meeting with CBS Public Works Director Michael Harmon (1:00 p.m., March 10, 2010)

CBS is willing to consider a project alternative at the site of the existing SPB. The facility's upland configuration could be made more workable through the acquisition of an adjacent dock and uplands. Economic conditions since the 2002 study may result in reduced forecasted use and smaller SPB facility size. It would be reasonable to expect reduction in bird conflicts when seafood outfalls are prohibited in near future.

Attachments: Ports and Harbor PowerPoint Presentation
Sitka Port and Harbors Commission Agenda
Public Meeting Notice
Public Meeting PowerPoint Presentation
Public Meeting Attendance List
Comment Form

D60581.Mtg 1 Notes.MM.031611.mas

Project Comments - *Please provide any comments on the project below.*

Would like to see fresh water, electricity, be able to use Comercially, Maintance hanger on shore Road access to Airport for hanger storage. Fuel facility, Put docks into Prevaling Winds, parking area for comercial customers

Please indicate your preferred alternative: ☐ 1A ☐ 1B ☐ 2 ☑ 3

To receive project information, please provide your name and an e-mail or postal address:

Name: Ron Handerson

Address: 165 Price St. Sitka Ak 99835

E-mail: rhandersonsr@Yahoo.com

Telephone: 907-747-1077

To submit comments or contact the project team:

CBS Project Manager
Michael Harmon, Director
Department of Public Works
100 Lincoln Street
Sitka, Alaska 99835T
Telephone: (907) 747-1823
Fax: (907) 747-3158
E-mail: michael@cityofsitka.com

DOWL HKM Project Manager
Tom Middendorf
4041 B Street
Anchorage, Alaska 99503
Telephone: (907) 562-2000
Fax: (907) 563-3953
E-mail: tmiddendorf@dowlhkm.com

Project Comments - *Please provide any comments on the project below.*

Fuel, Fresh water, access to hangers

Please indicate your preferred alternative: ☐ 1A ☐ 1B ☐ 2 ☑ 3

To receive project information, please provide your name and an e-mail or postal address:

Name: Shane Snyder

Address: 118 Lincoln

E-mail: AKSLumord@Hotmail.com

Telephone: 907 738 3288

To submit comments or contact the project team:

CBS Project Manager
Michael Harmon, Director
Department of Public Works
100 Lincoln Street
Sitka, Alaska 99835T
Telephone: (907) 747-1823
Fax: (907) 747-3158
E-mail: michael@cityofsitka.com

DOWL HKM Project Manager
Tom Middendorf
4041 B Street
Anchorage, Alaska 99503
Telephone: (907) 562-2000
Fax: (907) 563-3953
E-mail: tmiddendorf@dowlhkm.com

Project Comments - *Please provide any comments on the project below.*

- Wind only deficit
- Allows for expansion
  - potential hangar
  - easy fuel
  - easier commercial and transient use
  - parking

Please indicate your preferred alternative: ☐ 1A ☐ 1B ☐ 2 ☒ 3

To receive project information, please provide your name and an e-mail or postal address:

Name: Kari Lundgren

Address: 2702 Sawmill Creek Rd. Sitka, 99835

E-mail: coastal.rentals@yahoo.com

Telephone: 907-738-2089

To submit comments or contact the project team:

CBS Project Manager
Michael Harmon, Director
Department of Public Works
100 Lincoln Street
Sitka, Alaska 99835T
Telephone: (907) 747-1823
Fax: (907) 747-3158
E-mail: michael@cityofsitka.com

DOWL HKM Project Manager
Tom Middendorf
4041 B Street
Anchorage, Alaska 99503
Telephone: (907) 562-2000
Fax: (907) 563-3953
E-mail: tmiddendorf@dowlhkm.com

Project Comments - *Please provide any comments on the project below.*

Would like to see comercial Operation facility for my business, Possible hanger for maintance, Fuel.

Put docks into prevailing winds.

by Phone 10/25/11 Ron Handerson

Please indicate your preferred alternative: ☐ 1A ☐ 1B ☐ 2 ☑ 3

To receive project information, please provide your name and an e-mail or postal address:

Name: Tor Svenson

Address: Sitka Ak.

E-mail:

Telephone: 907 738 6130

To submit comments or contact the project team:

CBS Project Manager
Michael Harmon, Director
Department of Public Works
100 Lincoln Street
Sitka, Alaska 99835T
Telephone: (907) 747-1823
Fax: (907) 747-3158
E-mail: michael@cityofsitka.com

DOWL HKM Project Manager
Tom Middendorf
4041 B Street
Anchorage, Alaska 99503
Telephone: (907) 562-2000
Fax: (907) 563-3953
E-mail: tmiddendorf@dowlhkm.com

Project Comments - *Please provide any comments on the project below.*

Fueling, Comercial Operation, onland work Hanger, Road Access to Airport

If Sitka dosen't Want this send it Pelican;

by Phone 11/25/11 Ron Handerson

Please indicate your preferred alternative: ☐ 1A ☐ 1B ☐ 2 ☑ 3

To receive project information, please provide your name and an e-mail or postal address:

Name: Ron Salmon

Address: PO 1264 Pelersburg 99833

E-mail: rsalmon@GCI.net

Telephone: 907-738 2288

To submit comments or contact the project team:

CBS Project Manager
Michael Harmon, Director
Department of Public Works
100 Lincoln Street
Sitka, Alaska 99835T
Telephone: (907) 747-1823
Fax: (907) 747-3158
E-mail: michael@cityofsitka.com

DOWL HKM Project Manager
Tom Middendorf
4041 B Street
Anchorage, Alaska 99503
Telephone: (907) 562-2000
Fax: (907) 563-3953
E-mail: tmiddendorf@dowlhkm.com

Project Comments - *Please provide any comments on the project below.*

Im out of area for now but have needed a better floatp lane dock for long time.

Would be nice to have fresh water, power, + be Able to work comercially from facility. Access to Airport for Maintance + potential hanger storage during winter mo.

by Phone Ron Handerson
10/10/2011

Please indicate your preferred alternative: ☐ 1A ☐ 1B ☐ 2 ☑ 3

To receive project information, please provide your name and an e-mail or postal address:

Name: Bill Salt

Address: Honalulu Hi

E-mail:

Telephone: 808- 381- 9578

To submit comments or contact the project team:

CBS Project Manager
Michael Harmon, Director
Department of Public Works
100 Lincoln Street
Sitka, Alaska 99835T
Telephone: (907) 747-1823
Fax: (907) 747-3158
E-mail: michael@cityofsitka.com

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Tom Middendorf
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E-mail: tmiddendorf@dowlhkm.com

STATE OF ALASKA

SEAN PARNELL, GOVERNOR

DEPARTMENT OF EDUCATION AND EARLY DEVELOPMENT

MT. EDGECUMBE HIGH SCHOOL

1330 SEWARD AVENUE
SITKA, ALASKA 99835-9438
PHONE: 907-966-3200
FAX: 907-966-2442

April 26, 2011

RECEIVED
APR 29 2011
DOWL HKM

Mark D. Mayo
Transportation Planner
4041 B Street
Anchorage AK 99503

Mr. Mayo:

I am responding to your inquiry regarding the interest that the City and Borough of Sitka has expressed in relocating their seaplane base. Currently I have discussed the issue with the Mount Edgecumbe Building Maintenance Manager, Stan Johnson, and Facilities Engineer, Sam Kito, with the Department of Education and Early Development (Department). At this time the Department does not support locating the seaplane base on the Japonski Island side of the harbor. The location of the access road for the proposed facility eliminates the ability for the Department to utilize the property in the future. Attached is a copy of the plat that identifies the property location (Lot 15A).

The Department is also concerned that the proposed use will have a detrimental effect on the Mt. Edgecumbe High School (MEHS) residence located near the proposed facility. Additionally we have concerns about the increased noise impacting the MEHS students and their activities in the school. Finally, we are concerned about increased traffic in that area which could result if a seaplane base were located on the island.

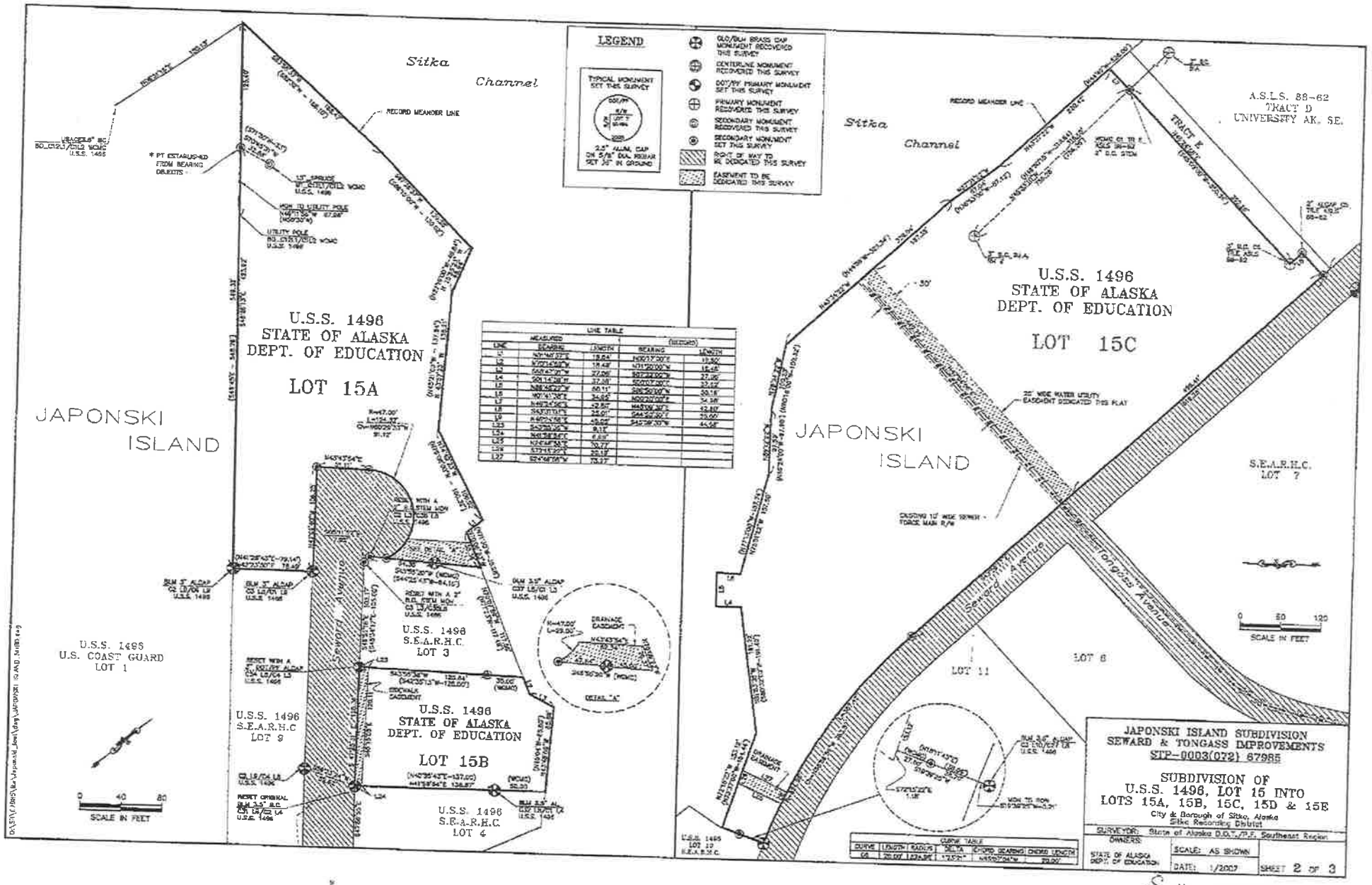
Please feel free to contact me if you have further questions regarding the Department's position on the seaplane base location.

Best regards,

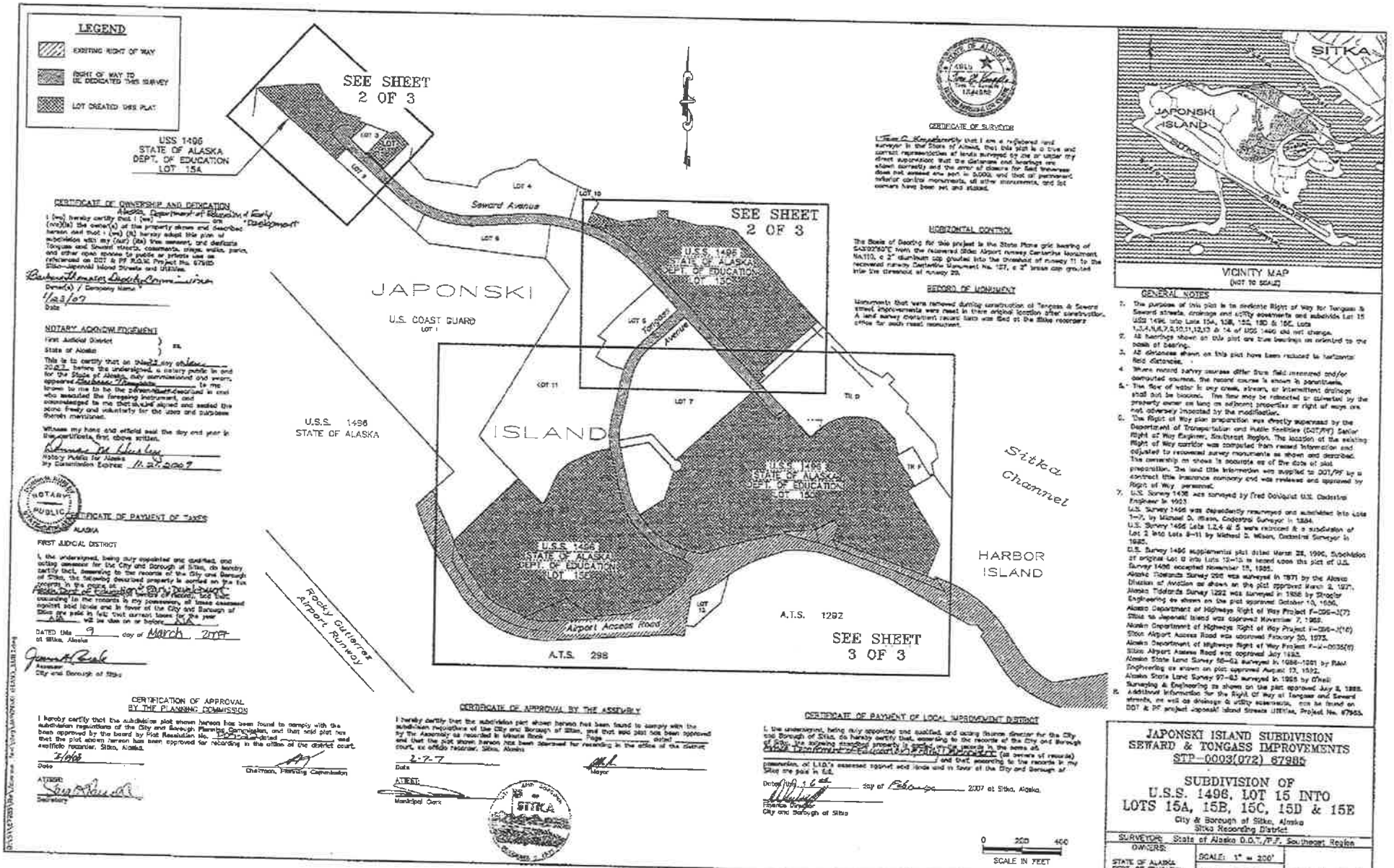
Randy Hawk

Randy Hawk
Superintendent

cc: Les Morse, Deputy Commissioner


LEGEND
TYPICAL MONUMENT SET THIS SURVEY
2.5" ALUM. CAP ON 5/8" DIA. REBAR SET 30" IN GROUND
GLO/BLM BRASS CAP MONUMENT RECOVERED THIS SURVEY
CENTERLINE MONUMENT RECOVERED THIS SURVEY
DOT/PF PRIMARY MONUMENT SET THIS SURVEY
PRIMARY MONUMENT RECOVERED THIS SURVEY
SECONDARY MONUMENT RECOVERED THIS SURVEY
SECONDARY MONUMENT SET THIS SURVEY
RIGHT OF WAY TO BE DEDICATED THIS SURVEY
EASEMENT TO BE DEDICATED THIS SURVEY
Sitka Channel
RECORD MEANDER LINE
U.S.S. 1496
STATE OF ALASKA
DEPT. OF EDUCATION
LOT 15A
LOT 15C
JAPONSKI ISLAND
U.S.S. 1496
U.S. COAST GUARD
LOT 1
U.S.S. 1496
S.E.A.R.H.C.
LOT 3
U.S.S. 1496
S.E.A.R.H.C
LOT 9
U.S.S. 1496
S.E.A.R.H.C.
LOT 4
LOT 15B
A.S.L.S. 88-62
TRACT D
UNIVERSITY AK. SE.
TRACT E
S.E.A.R.H.C.
LOT 7
LOT 6
LOT 11
Seward Avenue
Tongass Avenue
20' WIDE WATER UTILITY EASEMENT DEDICATED THIS PLAT
EXISTING 12' WIDE SEWER FORCE MAIN R/W
DRAINAGE EASEMENT
SCALE IN FEET
LINE TABLE
CURVE TABLE
JAPONSKI ISLAND SUBDIVISION
SEWARD & TONGASS IMPROVEMENTS
STP-0003(072) 67985
SUBDIVISION OF
U.S.S. 1496, LOT 15 INTO
LOTS 15A, 15B, 15C, 15D & 15E
City & Borough of Sitka, Alaska
Sitka Recording District
SURVEYOR: State of Alaska D.O.T./P.F. Southeast Region
OWNERS: STATE OF ALASKA DEPT. OF EDUCATION
SCALE: AS SHOWN
DATE: 1/2007
SHEET 2 OF 3

Sitka 2007-7



CERTIFICATE OF OWNERSHIP AND DEDICATION

Alaska Department of Education & Early Development

I (we) hereby certify that I (we) am (are) the owner(s) of the property shown and described hereon and that I (we) (it) hereby adopt this plan of subdivision with my (our) (its) free consent, and dedicate Tongass and Seward streets, easements, alleys, parks, and other open spaces to public or private use as referenced on DOT & PF SLUC Project No. 67985 Sitka-Japonski Island Streets and Utilities.

Robert Lomax, Deputy Commissioner
Owner(s) / Company Name

1/23/07
Date

NOTARY ACKNOWLEDGEMENT

First Judicial District)
State of Alaska) ss.

This is to certify that on this 23 day of January 2007, before the undersigned, a notary public in and for the State of Alaska, duly commissioned and sworn, appeared Robert Lomax, Deputy Commissioner to me known to me to be the person named in and who executed the foregoing instrument, and acknowledged to me that he signed and sealed the same freely and voluntarily for the uses and purposes therein mentioned.

Witness my hand and official seal the day and year in this certificate first above written.

Notary Public for Alaska
My Commission Expires: 11.27.2009

NOTARY PUBLIC STATE OF ALASKA

CERTIFICATE OF PAYMENT OF TAXES

FIRST JUDICIAL DISTRICT

I, the undersigned, being duly appointed and qualified, and acting assessor for the City and Borough of Sitka, do hereby certify that, according to the records of the City and Borough of Sitka, the following described property is carried on the tax rolls in the name of Alaska Dept. of Education, and that according to the records in my possession, all taxes assessed against said lands are in favor of the City and Borough of Sitka are paid in full; that current taxes for the year 2007 will be due on or before Aug 15.

DATED this 9 day of March 2007 at Sitka, Alaska

Assessor
City and Borough of Sitka

CERTIFICATION OF APPROVAL BY THE PLANNING COMMISSION

I hereby certify that the subdivision plat shown hereon has been found to comply with the subdivision regulations of the City and Borough Planning Commission, and that said plat has been approved by the board by Plat Resolution No. 2007-3 adopted _____ and that the plat shown hereon has been approved for recording in the office of the district court, ex officio recorder, Sitka, Alaska.

2/1/07
Date

Chairman, Planning Commission

ATTEST:

Secretary

CERTIFICATE OF APPROVAL BY THE ASSEMBLY

I hereby certify that the subdivision plat shown hereon has been found to comply with the subdivision regulations of the City and Borough of Sitka, and that said plat has been approved by the Assembly as recorded in Minute Book _____ Page _____ dated _____ and that the plat shown hereon has been approved for recording in the office of the district court, ex officio recorder, Sitka, Alaska.

2-7-7
Date

Mayor

ATTEST:

Municipal Clerk

CERTIFICATE OF SURVEYOR

I, Tom C. Knapp, hereby certify that I am a registered land surveyor in the State of Alaska, that this plat is a true and correct representation of lands surveyed by me or under my direct supervision that the distances and bearings are shown correctly and the error of closure for field traverses does not exceed one part in 10,000, and that all permanent exterior control monuments, all other monuments, and lot corners have been set and staked.

HORIZONTAL CONTROL

The Basis of Bearing for this project is the State Plane grid bearing of S43°07'50"E from the recovered Sitka Airport runway Centerline Monument No.110, a 2" aluminum cap grouted into the threshold of runway 11 to the recovered runway Centerline Monument No. 107, a 2" brass cap grouted into the threshold of runway 29.

RECORD OF MONUMENT

Monuments that were recovered during construction of Tongass & Seward street improvements were reset in their original location after construction. A land survey monument record form was filed at the Sitka recorders office for each reset monument.

GENERAL NOTES

1. The purpose of this plat is to dedicate Right of Way for Tongass & Seward streets, drainage and utility easements and subdivide Lot 15 USS 1496 into Lots 15A, 15B, 15C, 15D & 15E. Lots 1,2,4,5,6,7,8,10,11,12,13 & 14 of USS 1496 did not change.
2. All bearings shown on this plat are true bearings as oriented to the basis of bearing.
3. All distances shown on this plat have been reduced to horizontal field distances.
4. Where record survey courses differ from field measured and/or computed courses, the record course is shown in parenthesis.
5. The flow of water in any creek, stream, or intermittent drainage shall not be blocked. The flow may be redirected or culverted by the property owner on land on adjacent properties or right of ways are not adversely impacted by the modification.
6. The Right of Way plan preparation was directly supervised by the Department of Transportation and Public Facilities (DOT/PF) Senior Right of Way Engineer, Southcoast Region. The location of the existing Right of Way corridor was compiled from record information and adjusted to recovered survey monuments as shown and described. The ownership on shown is accurate as of the date of plat preparation. The land title information was supplied to DOT/PF by a contract title insurance company and was reviewed and approved by Right of Way personnel.
7. U.S. Survey 1496 was surveyed by Fred Ochiquist U.S. Cadastral Engineer in 1903.
   U.S. Survey 1496 was dependently resurveyed and subdivided into Lots 1-15, by Michael D. Wilson, Cadastral Surveyor in 1984.
   U.S. Survey 1496 Lots 1,2,4 & 5 were replaced & a subdivision of Lot 2 into Lots 8-11 by Michael D. Wilson, Cadastral Surveyor in 1985.
   U.S. Survey 1496 supplementa plat dated March 28, 1990, Subdivision of original Lot 6 into Lots 12-15 is based upon this plat of U.S. Survey 1496 accepted November 19, 1985.
   Alaska Tidelands Survey 1292 was surveyed in 1971 by the Alaska Division of Aviation as shown on the plat approved March 2, 1977.
   Alaska Tidelands Survey 1292 was surveyed in 1986 by Shaefer Engineering as shown on the plat approved October 10, 1986.
   Alaska Department of Highways Right of Way Project F-026-3(7) Sitka to Japonski Island was approved November 7, 1969.
   Alaska Department of Highways Right of Way Project F-026-3(10) Sitka Airport Access Road was approved February 20, 1973.
   Alaska Department of Highways Right of Way Project F-ul-0035(9) Sitka Airport Access Road was approved July 1980.
   Alaska State Land Survey 96-62 surveyed in 1986-1991 by R&M Engineering as shown on plat approved August 13, 1992.
   Alaska State Land Survey 97-83 surveyed in 1995 by O'Neil Surveying & Engineering as shown on the plat approved July 8, 1998.
8. Additional information for the Right of way at Tongass and Seward streets, as well as drainage & utility easements, can be found on DOT & PF project proposal Island Streets Utilities, Project No. 67985.

CERTIFICATE OF PAYMENT OF LOCAL IMPROVEMENT DISTRICT

I, the undersigned, being duly appointed and qualified, and acting finance director for the City and Borough of Sitka, do hereby certify that, according to the records of the City and Borough of Sitka, the following described property is carried on the tax rolls in the name of _____ (or owners of records) _____ and that, according to the records in my possession, all LID's assessed against said lands and in favor of the City and Borough of Sitka are paid in full.

Dated this 6th day of February 2007 at Sitka, Alaska.

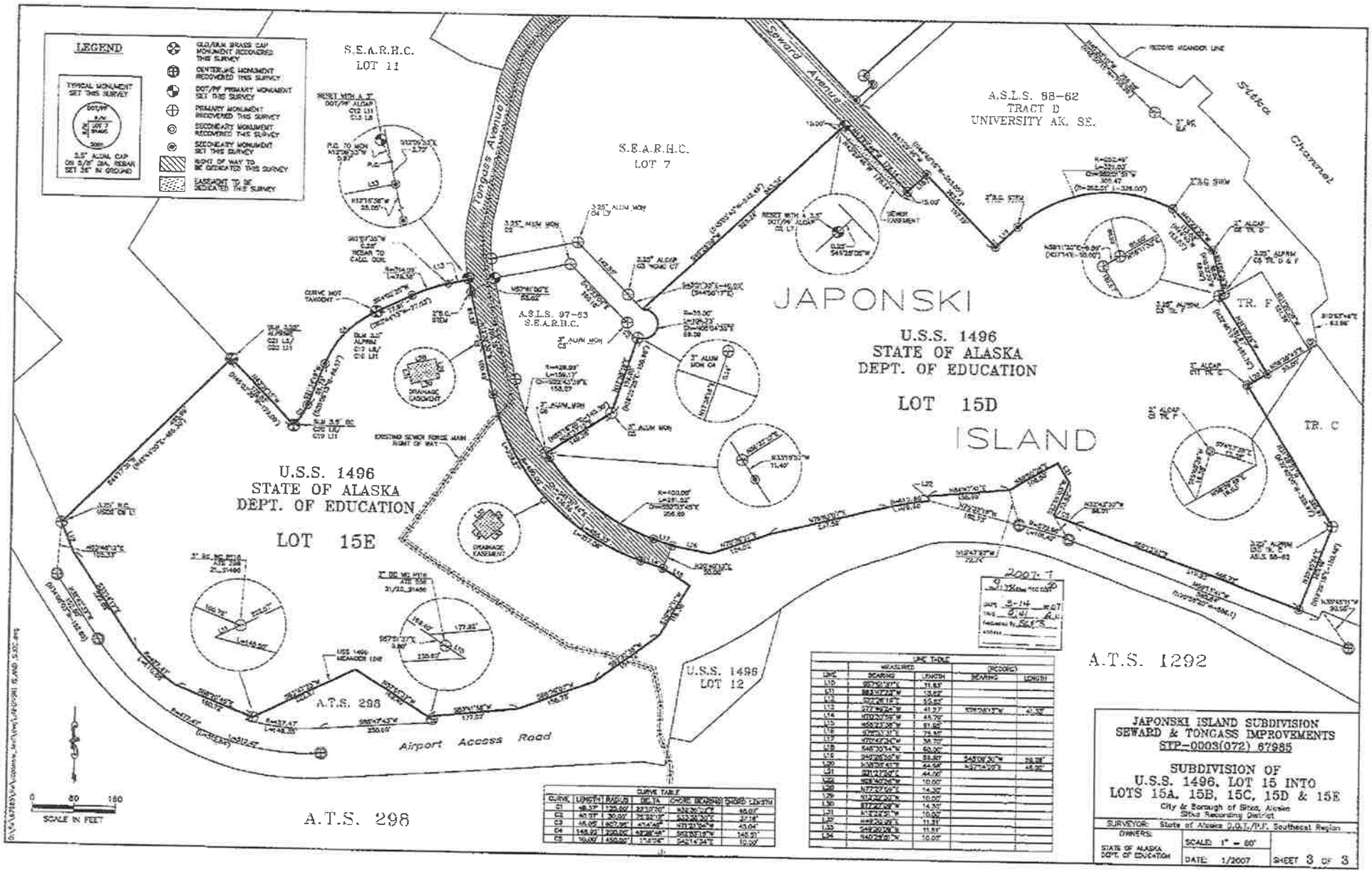
Finance Director
City and Borough of Sitka

JAPONSKI ISLAND SUBDIVISION
SEWARD & TONGASS IMPROVEMENTS
STP-0003(072) 67985

SUBDIVISION OF
U.S.S. 1496, LOT 15 INTO
LOTS 15A, 15B, 15C, 15D & 15E
City & Borough of Sitka, Alaska
Sitka Recording District

SURVEYOR: State of Alaska D.O.T./P.F. Southcoast Region	
OWNERS: STATE OF ALASKA DEPT. OF EDUCATION	SCALE: 1" = 200'
	DATE: 1/2007
	SHEET 1 OF 3

SITKA 2007-7


LEGEND
S.E.A.R.H.C.
LOT 11
S.E.A.R.H.C.
LOT 7
A.S.L.S. 98-62
TRACT D
UNIVERSITY AK. SE.
Sitka Channel
Seward Avenue
Tongass Avenue
A.S.L.S. 97-63
S.E.A.R.H.C.
JAPONSKI
U.S.S. 1496
STATE OF ALASKA
DEPT. OF EDUCATION
LOT 15D
ISLAND
TR. F
TR. C
U.S.S. 1496
STATE OF ALASKA
DEPT. OF EDUCATION
LOT 15E
U.S.S. 1496
LOT 12
A.T.S. 1292
A.T.S. 298
A.T.S. 298
Airport Access Road
DRAINAGE EASEMENT
DRAINAGE EASEMENT
EXISTING SEWER FORCE MAIN RIGHT OF WAY
SEWER EASEMENT
RECORD MEANDER LINE
USS 1496 MEANDER LINE
SCALE IN FEET
JAPONSKI ISLAND SUBDIVISION
SEWARD & TONGASS IMPROVEMENTS
STP-0003(072) 67985
SUBDIVISION OF
U.S.S. 1496, LOT 15 INTO
LOTS 15A, 15B, 15C, 15D & 15E
City & Borough of Sitka, Alaska
Sitka Recording District
SURVEYOR: State of Alaska D.O.T./P.F. Southeast Region
OWNERS: STATE OF ALASKA DEPT. OF EDUCATION
SCALE: 1" = 60'
DATE: 1/2007
SHEET 3 OF 3

Sitka Seaplane Base Siting Study

10/5/11 User Group Meeting Summary

7 pm to 9 pm in the Maksoutoff Room at Centennial Hall, Sitka

CBS staff – Michael Harmon

DOWL HKM staff – Tom Middendorf and Mark Mayo

Attendance list attached

The purpose of the meeting was to introduce conceptual float layouts for the three sites and solicit comments from potential users in the hopes of narrowing down the number of potential sites to one preferred site. The meeting began with a PowerPoint presentation (attached) and was then opened for general questions and discussion.

User group comments:

Japonski Site

- Exposure to wind is a concern.
- Based aircraft slips should be aligned with the prevailing wind (S or SE) and tidal currents. Flip the arrangement of based and transient floats to achieve this
- The floating hangers on the end of the based float not a good idea. Better to put the hangers on the beach.
- Ocean swell not much of a problem at this site – it is shielded by the island
- Uniform agreement that this site is worthy of further consideration

Existing Site

- Birds at this site are severe maintenance problem for parked aircraft. Guano is more corrosive than salt.
- A drive down ramp would be needed for ambulance service and loading supplies and baggage. Also would eliminate need for on-site fuel storage since fuel could be dispensed from a truck.
- Explore potential to buy property from Harry Jimmy and Sitka Sound Seafood to better access and vehicle parking. Perhaps tidelands could be exchanged for property from Harry Jimmy.
- Evaluate an "H" (maybe better described as a C) configuration float layout
- Sitka Sound Seafood should be invited to future meetings
- Development at this site may block or impede access to Sitka Channel by adjacent properties on the shoreline

Eliason Site

- Freezing fresh water will constrain use of this site frequently in winter
- Maneuvering space will be very limited even at high tide
- Too exposed to wind and the slips can't be aligned with prevailing wind
- Houses nearby will experience noise impacts
- Uniform agreement from attendees that Eliason site will not work and is "off the table".

Miscellaneous

- A lot of swell are anticipated at the new State SP pullout. This makes a pullout at the CBS facility even more desirable.

Conclusions: The Eliason site and Alternatives 1 and 1A will not be carried forward. The Japonski site will be carried forward. Evaluate the "H" (or C) layout at the existing site together with potential land acquisitions. Bring new layout and evaluation back to a future User Group meeting prior to going before opening the planning process to wider public participation.

NEW SITKA SEAPLANE BASE

PROGRESS MEETING

SIGN-IN-SHEET • October 5, 2011

NAME	ADDRESS	E-MAIL	TELEPHONE
Kari Lundgren	2702 SMC, Sitka, 99835	coastal.rentals@yahoo	907-738-2089
Ron Handelson	2702 SMC, Sitka	rhandersonsr@yahoo	907 747 1077 WK
Dave Gordon	717 Lake St Sitka	dave.gordon@alaska.gov	747-3724
Scott Saline	434 BACK ST @Bx 3183	s45saline@gci.net	7-7889
Ken Bowers	405 KATLIAN ST SITKA	KEN@PRIMERIGGING.com	738-2363
Kris Mulley	#Breakwater Lane Port Alexander	KMULLEY@gci.com	907-568-2399
SONNY Crowley	256 LINCOLN ST., STE 103	SONNYCrowley@GMAIL.Com	738-3535
David Roberts	301 Marine St		752-0964

email dated: 10/15/11
from J. Baird (Sitka Sound Seafoods)
to M. Harmon (CBS)

To: Michael Harmon
Fr: John Baird

Dear Michael,

I caught wind of a meeting that you have had with local airplane pilots on October 6th in regards to finding a float dock area suitable for expanding opportunities for more commercial float planes then currently exist. I have only seen generalized concepts of the three areas that are being thought of but not knowing all of the particulars of each area I will speak to the one I do know, that being the current float dock area next to Sitka Sound Seafoods.

Foremost, I would like to say that I fully support float plane pilots and their leisure and business aspirations. The Sitka area is indeed a float plane and boating paradise, albeit a wet one at times! From a commercial fishing stand point, they are often very helpful during the herring and salmon fisheries, as well as Civil Air Patrol. Certainly they are a wonderful way to introduce folks from other parts of the Country to our beautiful area. Having said that, I have serious concerns about the current location of the float plane dock, and even greater concerns for its' possible expansion.

In its current form it is an extreme noise hazard. When the aircraft return from their flight, they have to rev the engine to get up on the float and this creates a noise decimal level far in excess of what is safe for our staff at the plant. In addition, we cannot carry on normal business inside the office as the noise level is tremendous. This is but one problem but it is a severe one. This does not even take into consideration the unbelievable decimals created by aircraft taking off right in front of our dock, which needs to stop. With the possible expansion of the dock, we will have the same problems only magnified 4-5 times in frequency and noise level. Water traffic wise we already have a very tight space for both vessels and aircraft transiting each dock. The addition of 4-5 time of commercial plane operations in what is already a very small area will cause major disruption to our vessels coming and going to our dock and a tremendous safety issue and liability for plane, boat, City and State.

Other issues of concern, for this area, would be an additional fueling station over water, a tremendous increase in the number of people needing parking in an already very congested area for traffic and lack of parking on Katlian.

Michael, I have to travel out of town tomorrow but I would appreciate the opportunity to discuss further with you and others these points expressed and concerns, and be kept advised of future meetings in advance so we can be present.

To summarize I will say that North Pacific Seafoods (i.e. Sitka Sound Seafoods) is definitely against the expansion of the current Seaplane float in its current location, and in addition, feel the current dock needs to be moved for the aforementioned comments. While I am gone Tim Ryan can certainly speak to this issue to clarify or give feedback to any questions you may have.

With Regards,

John Baird
General Manager
Sitka Sound Seafoods

Sitka Seaplane Base Siting Study

12/15/11 User Group Meeting Summary

7 pm at Centennial Hall, Sitka

CBS staff – Michael Harmon, Marlene Campbell, Stephen Weatherman

DOWL HKM staff – Tom Middendorf and Mark Mayo (by telephone)

Attendance list attached

The purpose of the meeting was to review action items from the October 5 User Group meeting and obtain input for the SPB site selection process.

A PowerPoint presentation (attached) was delivered to the group by Michael Harmon, Tom Middendorf and Mark Mayo. The meeting was then opened for questions and discussion.

Question: What if an agreement can't be reached with the Coast Guard and AK Department of education to acquire/develop the Japonski site?

Answer: The previous (2002) and current site studies have thoroughly evaluated all the potentially feasible sites. The Japonski site was recommended in the 2002 study and this selection appears to have been confirmed by the current study as the only feasible site. In the absence of an agreement, CBS would have no alternative but to continue operating the current SPB facility.

Question: Why did the high school oppose the Japonski site?

Answer: The school has identified concerns about noise. In an April 26, 2011 letter we received from Superintendant Randy Hawk, he states that the Department of Education does not support the selection of this site because it would preclude their ability to use the property in the future, would increase aircraft noise levels near the high school, and would increase vehicular traffic in the area. We have not met with them to discuss property acquisition. Before we could move ahead with acquisition, the site would have to go through detailed environmental process (NEPA) and design. However, at the current time it appears that the Japonski site could actually decrease noise impacting the school by moving the area where aircraft start their take off run further to the north in the channel.

Comment: Noise levels generated by SPs now is significantly lower than in the 1970s and 1980s when the regional economy was must stronger and there was more SP traffic.

Question: With regard to protecting the Japonski site from waves, what plans exist to connect the gaps in the breakwater?

Answer: This was studied by the Corps of Engineers but due to the high cost ($23M) of closing the gaps and environmental concerns, they have elected to not move ahead with the proposal.

Question: Could a floating breakwater help?

Answer: This has not been considered to date. The focus of wave investigations has been the main entrance to the channel. It may be that putting a SPB at this location would make a floating breakwater in the near shore area more viable from a cost/benefit perspective.

Straw Poll: Unanimous support among those in meeting for the Japonski site, Alternative 3A.

Suggestions:

- For the upcoming public meetings, bring photos of SPB facilities in Petersburg, Juneau, Tenakee Springs, and Ketchikan to compare with the existing facility in Sitka.
- Emphasize the impact of SP traffic within the local economy.
- Move gangway (?) to accommodate more aircraft on shore side of transient float

Question: What will happen to the existing SPB site?

Answer: It would probably be re-purposed by CBS for harbor-related use. Insurance and administrative issues would preclude operation of two SPB site. FAA has also indicated that they would not favor two SPB's.

Next step: A draft report will be issued and CBS will arrange a public meeting on site selection.

City and Borough of Sitka
DEPARTMENT OF PUBLIC WORKS
100 Lincoln Street, Sitka, Alaska 99835
(907) 747-1804 • Fax (907) 747-3158

PROJECT _____
LOCATION _____
DATE _____ BY _____
SCALE _____ SHEET ____ OF ____

SEA PLANE BASE 12/15/11

NAME	PHONE	EMAIL	
John BAIRD	738-1270	JBaird@npsi.us	Sitka Sound Seafoods
Dave Gordon	747-3724	dave.gordon@alaska.gov	
RON HANDERSON	747-1077	rhandersonsr@yahoo.com	
Kari Lundgren	738-2089	coastal.rentals@yahoo.com	
Jeannie Frank	738-1029	Jeanniem@acsalaska.net	
KEM BELLOWS	738-2363	KEM@FLYINFISHINN.COM	
Marlene Campbell	747-1865	campbell@cityofsitka.com	
STAN ELIASON	747-3439	STAN@cityofSITKA.COM	
DAN TADIC	747-1807	dantadic@cityofsitka.com	
KEVIN KNOX	738-4664	kevin@bluesteel.org	

Sitka Seaplane Base Siting Study
Summary
4/11/12 Ports and Harbors Commission Meeting

CBS Staff – Dan Tadic, Stan Eliason, Michael Harmon, Stephen Weatherman
DOWL HKM Staff – Tom Middendorf

A PowerPoint presentation (attached) was delivered to the Commission. The following is a summary of comments or questions received from commission members together with responses from project staff.

Comment: Aircraft noise at Japonski may be less noticeable due to presence of existing background noise from the Sitka Airport and Coast Guard helicopter operations nearby.

Comment: There is also existing noise from seaplane operations in Sitka Channel that could go down when fewer aircraft will operate from this narrower area.

Comment: You could consider options to reduce noise from aircraft powering up to load onto the ramp by investigating mechanical systems to assist aircraft in getting onto the ramp.
Response: We will look into this.

Comment: Has the presence of swell been considered?
Response: Yes. This was considered by our float designer and the pilots and while we expect to see swell at this site, it can be handled by float design and layout.

Comment: Can you shift the float within the site, if needed?
Response: There are some limited options to shift it on the site, but the Coast Guard is on one side and residential and clinic properties on the other side.

Comment: Can you consider anchoring systems instead of pile systems to keep the float in place? Piles would probably not be as effective with swell, would cost more, and could be more complicated with airplane wings to avoid.
Response: Yes we will look at that during more detailed conceptual design.

Comment: Who will control what kind of vehicles will use the drive down ramp?
Response: The harbormaster.

Comment: If you have the correct fuel piping system going down to the float you will not need to have access for a fuel truck on the float.
Response: We will look into fueling options.

Comment: Why was Jamestown Bay eliminated as an option?
Response: Primarily because of residential development in the area, turbulent wind conditions, exposure to swells, and boat traffic.

The Ports and Harbors Commission approved the recommended Japonski site for further studies.

MEMORANDUM

To: Jim Dinley, Administrator

From: Grant Miller, Port and Harbor Commission

Date: April 17th 2012

Subject: Seaplane base

The consultant team and Public Works Staff presented the results of the Seaplane Base Siting Analysis to the Port and Harbor Commission on April 11, 2012. The Commission members voted unanimously to approve the recommended site for further study.

Grant Miller, Chairman

Sitka Seaplane Base Siting Study
Summary
4/11/12 Public Meeting

CBS Staff – Dan Tadik, Michael Harmon, Steve Weatherman
DOWL HKM Staff – Tom Middendorf

A PowerPoint presentation (attached) was delivered to those attending the meeting. The following is a summary of comments or questions received from members of the public together with responses from project staff.

Comment: A meeting attendee reported operating a glass bottom tour boat along the shoreline in the area and at the site of the seaplane float. The tour boat views the ocean bottom in the near shore area and turns around once it approaches the breakwater. It also covers other areas with the tour, but the Japonski site is good for bottom viewing. He noted support for a seaplane base but wondered if other sites were dismissed without full consideration.
Response: The attendee was asked to document his concerns on a comment sheet and to show the areas he uses for his business on the sheet.

Comment: The same person asked why Herring Cove was dismissed.
Response: A pilot in the room reported Herring Cove is a very windy area – a blow hole – that would be unsuitable for floatplanes. He reported it freezes in winter. The prior study also eliminated this site because it has:

Long fetch with direct access to open ocean (i.e., waves & swell)
Large chop from prevailing winds
Strong turbulent winds from Blue Lake
Limiting topography during cloudy/foggy conditions
Too far from town

Comment: The same person also asked whether Whiting Harbor would work.
Response: The pilot in the audience commented that Whiting Harbor was exposed to waves and rough water and access to the site was restricted by the airport and FAA.

Comment: The same person asked if there was wind data available for each site.
Response: No, wind information is not available for each site, and wind information was based on local knowledge.

Comment: Is the Department of Education in the driver's seat on this project because of land acquisition?
Response: We will work with the Department of Education on land acquisition. Our chances of success will be greater if it is clear the community considers the seaplane base at this site is the best option. There may be ways to configure the seaplane base to minimize affects on Department of Education property. SEARHC also has property along Seward Avenue that might be investigated for parking.

Comment: I don't think there are any other reasonable options. This is the best site.

Comment: This is the perfect location. It is good for establishing commercial operations. I am personally interested in starting commercial operations if this is built.

Comment: This sounds like a great idea.

Comment: I can't imagine why the community would turn down the opportunity to have this project built with 97.5% federal and state funding.

Comment: The fees for use of the facility need to be reasonable. It is expensive to own and operate seaplanes and we already pay fees and property taxes.

Comment: This seems like a small facility when compared to the extent of boat harbor facilities that have been built in Sitka. Other smaller communities like Kodiak and Petersburg have bigger and better seaplane bases.

Comment: There may be potential for aircraft using the seaplane base to carry medical patients from villages to SEARHC.

Comment: You should consider including a seaplane pullout at this site, connected by road to the airport and its hangars. Then the State would not need to build its pullout area, which is proposed in a much less favorable site.
Response: We will look at this during the more detailed design. It is possible if funding is an issue that this could be a later phase, unless the State builds it's haulout first.

Comment: Tsunami warning noise is perhaps more annoying than seaplane operations noise.

Comment: The CBS Assembly needs to understand the extent of study – 2 studies over 10 years – that has gone into this project and that both studies recommended the same site.

SITKA SEAPLANE BASE

PUBLIC MEETING

SIGN-IN-SHEET • April 24, 2012

NAME	ADDRESS	E-MAIL	TELEPHONE
Tom Middendorf	4161 Tahoe Dr ANC 99502	tmiddendorf@dowlhkm.com	562-2000
KEN REAR	118 DARRIN DR. SITKA AK	KEN@SLDTOURS.COM	(907)738-3301
Kari Lundgren	2702 SMC Sitka, AK	coastal-rentals@yahoo.com	735-2089
Jeannie Frank	116 D. Harvest Way Sitka	jeannie.m@acsalaska.net	738-1029
RON HANDERSON	165 Price St Sitka	rhandersonsr@yahoo.com	747-1077
Bill LANTZ	105 KAASDA HEEN CIR	WMLANTZ@MSN.COM	738-3075

Mayo, Mark

From: Jim Edson [jim.m.edson@gmail.com]
Sent: Tuesday, April 17, 2012 5:00 PM
To: Mayo, Mark
Subject: Re: Sitka Seaplane Base Siting Study - final recommendations

Mark, Good work! Although I've given up on Sitka and moved to Petersburg I'm in total agreement on where the new base should be. Thanks, Jim

On Mon, Apr 16, 2012 at 11:38 AM, Mayo, Mark <MMayo@dowlhkm.com> wrote:

Attached you will find a copy of the PowerPoint presentation delivered at the April 11, 2012 public meeting in Sitka. The presentation reviews the need for seaplane base (SPB) improvements in Sitka, summarizes the SPB site selection process, and recommends a preferred site for detailed planning and environmental review prior to design and construction.

Please review the presentation and provide us with your email comments by April 30, 2012.

Questions about the project should be directed to CBS Project Manager Dan Tadic (907-747-1807 or dantadic@cityofsitka.com) or DOWL HKM Project Manager Tom Middendorf (907-562-2000 or tmiddendorf@dowlhkm.com).

Thanks in advance for your participation.

Mark D. Mayo
Transportation Planner

DOWL HKM

(907) 562-2000 | Fax (907) 563-3953 | 4041 B Street | Anchorage, Alaska 99503 | www.dowlhkm.com

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SEAN PARNELL, GOVERNOR

DEPARTMENT OF EDUCATION AND EARLY DEVELOPMENT

MT. EDGECUMBE HIGH SCHOOL

1330 SEWARD AVENUE
SITKA, ALASKA 99835-9438
PHONE: 907-966-3200
FAX: 907-966-2442

April 23, 2012

Mark D. Mayo
Transportation Planner
4041 B Street
Anchorage AK 99503

Mr. Mayo:

I received your email pertaining to the Sitka Seaplane Base Study – Final Recommendations sent on April 16, 2012. In it, it asks for comments pertaining to the final recommendations to be sent to you by April 30th. Please consider this letter as comments from Mt. Edgecumbe High School (MEHS) related to the final recommendations.

In our view, the Final Recommendations should be rejected and sent back for further study. As you know, MEHS commented on this proposal in the letter we sent to you a year ago, dated April 26, 2011. The concerns we raised in that letter have not been addressed, and we incorporate them by reference into this letter.

Specific reasons to reject this study include:

- The study fails to take into account the wishes of the property owner. Neither MEHS nor the Alaska Department of Education and Early Development are interested in this site being utilized as a seaplane base.
- The study fails to take in to account the legal impediments to development of the site as a seaplane base. MEHS is not expert in NEPA or FAA requirements, but this site would almost certainly have great difficulty in obtaining federal administrative approval.
- The study does not take into account that under FAA guidelines the proposed seaplane base will have a decibel level of greater than 65 and is incompatible with operation of MEHS as school. That incompatibility is magnified here because MEHS is a boarding school.
- The study does not take into account the historic/archeological value of the site.
- The study does not take into account other impacts on the continued use of MEHS as a school, including that the increased traffic would be a detriment to our students, especially when the new pool gets built. (Tongass Avenue would be the direct route for our students to walk to the pool. They would have to cross over Tongass Avenue

to access the pool.) In addition, the increase of industrial traffic (fuel trucks, etc.) on Tongass Avenue due to the seaplane base would create an undesirable impact on the campus and a hazard for our students.

- The study fails to take into account local land use and the potential impact on property value. The proposed seaplane base is located in a residential neighborhood and it would dramatically change the activity of that neighborhood.

As you can see from the comments listed above, our concerns are many. We strongly urge that additional study be conducted and that alternatives be considered that do not have the same impacts and barriers to development. Please feel free to contact me if you have further questions regarding the Department's position on the seaplane base location.

Best regards,

Randy Hawk

Randy Hawk
Superintendent

cc: Les Morse, Deputy Commissioner

Mayo, Mark

From: Dan Tadic [dantadic@cityofsitka.com]
Sent: Monday, April 30, 2012 9:01 AM
To: Middendorf, Thomas
Cc: Mayo, Mark
Subject: FW: Seaplane Base

Good morning,

Please see email below from Ken Rear – the owner of the glass bottom boat tour who came to our public meeting earlier this month.

Thanks,

Dan Tadic, P.E.
Senior Engineer
City and Borough of Sitka
Department of Public Works
100 Lincoln Street
Sitka, AK 99835
P (907) 747-1807
F (907) 747-3158

From: sldt@ak.net [mailto:sldt@ak.net] **On Behalf Of** Kenneth Rear
Sent: Sunday, April 29, 2012 12:57 PM
To: dantadic@cityofsitka.com
Subject: Seaplane Base

Hello Dan

We spoke at the public information meeting about the proposed seaplane base at Japonski Island where I raised concerns about the potential negative impact that the base would have on the underwater viewing tour that I now operate at the proposed location. While these concerns remain I am not interested in standing in the way of the proposed seaplane base. With the decline in the number of summer visitors to Sitka the future of Sea Life Discovery Tours in Sitka is uncertain. So it would not be right for me to raise opposition and raise costs associated with the design and construction and then move the Sea Life Discovery to another port. For planning my business operations it would be helpful if you would keep me informed of your plans especially construction dates.

Best Regards
Kenneth J Rear
Sea Life Discovery Tours

Sitka SPB Interviews Results – February, 2016

- 38 pilots and companies interviewed
- 24 have used the existing Sitka Seaplane Base

Demand

- 33 of the 38 interviewed indicated they would use the new SPB if built by 2020; 1 maybe; 4 no
- 19 users said they would base aircraft at the new SPB
- 15 users said they would use the new SPB on a transient basis
- Pilots and companies interviewed would base 25 - 30 aircraft at the new SPB or would operate 16 aircraft on a transient basis

	Based	**Transient**
Commercial	4	9
Commercial & Recreation	5	2
Recreation	9	2
Government	1	2
Total	**19**	**15**
Number of Aircraft	**25- 30**	**16**

Amenities

- Nearly all prefer tilt ramp
- Nearly all want fresh water on floats
- About half want electricity, others felt it was optional
- Most want overhead lighting
- Most prefer vehicle access to the float, though some think its optional or that 4 wheeler access is more affordable
- All want transient parking
- Nearly all want on-land vehicle parking
- Nearly all felt that fuel delivered from a hose on the dock is critical; some preference for an on-land tank but many supported either an on-land tank or truck delivery
- Mixed opinions on need for an on-land office. Many supported it being built by a commercial user, if needed.
- Mixed opinions on the need for an on-land or floating hangar. Some concerns about costs and extent of use. Ability to use existing hangars on Sitka Airport.
- Other amenities included toilet, bird control, storage area, security, waiting room, loading dock, pull out ramp, scale, winter aircraft storage, protected water, freight staging area, and facilities to support commercial operations
- General support for Cessna 180/185/206 for most parking with some Beaver and turbine Otter parking for commercial use.

Sitka Seaplane Base Interviews - Verbal Pilot Comments

There is no other public seaplane base in Sitka. Without a public seaplane base, we will not have floatplane operations in Sitka, except by expensive amphibious aircraft. Not everyone can afford amphibious aircraft. If we don't build a public seaplane base, floatplanes will go away altogether. Floatplanes are a part of our economy. If the boat harbor fell apart, would we send the boats away?

Having a Sitka SPB is crucial to the health of this part of SE AK. Seaplanes are a traditional mode of transportation across the region. The use of the current SPB does not show a realistic view of demand, given its current condition and lack of fuel. A new seaplane base could be used year-round.

If you build a new, nice, large facility, many more planes will show up. A similar situation occurred in Kodiak. There were 4-6 planes based at the old facility, after the new facility was built at Trident Basin, we have seen 12-14 planes based there.

Please consider the existing site with reconfiguration as already submitted. It consisted of two wings oriented perpendicular to the channel with room for 3 planes apiece. A small dock on the first wing.

We have a private dock that serves a lot of transient aircraft. This may not be available in the future. This is where much of the traffic has gone since the existing facility has fallen into disrepair.

Adding a hangar and using it with the University and SEARHC as a vocational program for training mechanics would be ideal.

The existing facility drove the airplanes away. It is a shame. There is a demand. People moved to amphib floats or got rid of their airplanes due to the condition of the existing float. The new SPB would open up competition. It would allow small Part 135 operators doing flight seeing and other services. This would open up the country to more people.

We normally take our wheel Caravans to Sitka so the facility would not be of much use to us, but I still think the project is well worth it, and is needed in Sitka.

There have been up to eight regular users of the existing facility. The state of the existing facility discouraged pilots. There was such a poor situation there; no parking, no access to fuel, inside four ramps unusable at low tides, inadequate maintenance for at least the last 10 years. Pilots have had damage to their planes by boats and due to the close proximity of other ramps. There are rock piles.

Also consider similar situation like in Kodiak where seaplane activity grew after and SPB was built.

Sitka and most other SE communities should have a public seaplane facility for local and transient use.

There is a lot of demand for a floatplane facility. I can't believe we have gotten by so long with so little. A lot more floatplanes would be here if we had places to park more floatplanes. The City charges property taxes for our planes, and we don't get anything for it. They need to spend some tax money for floatplane parking.

The current facility is between 2 seafood processors with a lot of boat traffic coming and going. That plus the hundreds of seagulls makes the current site unsafe.

A new seaplane base is needed to get to remote areas in Sitka. The City of Sitka is missing out on a significant amount of tourism economic benefits and taxation, by not having a good seaplane base. Most communities try to take advantage of economic opportunities like this.

There used to be 10 – 14 operators at the Sitka Seaplane Base. Floatplane owners have moved away from Sitka, have moved their floatplanes to other locations, or have had to switch to expensive amphib gear because of lack of floatplane facilities in Sitka. I am frustrated with how long it has taken to make progress on a new Sitka Seaplane Base.

Floatplanes really benefit the Sitka Region. Floatplanes are required to access to Sitka's pristine wilderness. Floatplanes are a low impact form of transportation to the region. A small facility has fewer benefits to residents and visitors than a larger facility. The small size of the current facility has limited the amount of floatplane activity in the region.

I think it is a good idea. I wish you luck.

The Department of Fish and Game has rented a space at the existing facility for decades. The Department has had a contracted plane at the existing facility since the facility was built. The Department requires a specialized plane to monitor pink and chum salmon runs in the Sitka area which is essential to provide commercial pink and chum salmon fishing opportunities to the area. These fisheries could not be authorized without this flying.

A new seaplane base is needed because the existing seaplane base is outdated and there is aviation activity in the region to justify it. Sitka also needs to serve others outside the region who are flying transient to Sitka.

Because of lack of space at the Sitka SPB I bought amphib aircraft and operate from Sitka Airport. I am currently happy with this amphib arrangement.

However, I believe a new SPB is needed and would be used. There are people in Sitka who have not bought floatplanes because there is no place to park them.

Ken Bellows facility is for sale. If it is no longer available for others to use, there will be no floatplane parking in Sitka.

Southeast is a floatplane area. We need a reasonable place to moor floatplanes when we go to Sitka. Out of towners need a place to go. It helps the Sitka economy.

New Sitka Seaplane Base Interview Results - February, 2016

	Interview Questions																		
	Would Use New SPB in 2020?	Recreation, Commercial, Government User	Based or Transient	Number of aircraft	Current/Former User of Existing Seaplane Base	Fixed or Tilt Ramp	Water	Electricity	Lighting	Vehicle Ramp	Transient Pakring	Onland Vehicle Parking	Fuel on Floats	Fuel by Truck or On Land Storage	On Land Office	On Land or Floating Hangar	Other	Design Aircraft	Your Estimate of Number of Based/Transient Aircraft Parking Needed in 2020
1	Yes	Recreation	Based	1 to 2	Yes	Tilt	Yes	Optional	Optional	Optional	Yes	Yes	Yes	On Land	No	No	Security, Bird Control	Beaver, 1 Turbine Otter	6-10 Based 4-6 Transient
2	Yes	Recreation Commercial	Based	1	Yes	Tilt	Yes	Yes	Yes	Optional	Yes	Yes	Yes	Either	No	Yes	Security, Bathroom, Waiting Room	Up to Beaver	3 Commercial 9 Recreational
3	No																		
4	Yes	Recreation	Based	1	Yes	Tilt	Yes	Yes	Yes	No	Yes	Yes	Yes	Either	By Commercial Users	Yes	Storage, Bird Control, Security	Beaver	8-10 Based 4 Transient
5	Yes	Recreation	Based	1	Yes	Tilt	Yes	Optional	Yes	4-wheeler	Yes	Yes	Yes	On Land	Yes	Optional	Commercial User Needs	Supercub, some Beaver or Otter	12 Based 6-8 Transient
6	Yes	Commercial	Based	2	No	Tilt	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Truck	No	No	Toilet	Up to Otter	3 Based 6 Loading Float
7	Yes	Recreation	Based	1	Yes	Tilt	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Either	By Commercial Users	Yes	Toilet	Cessna 182, some Beaver	12-16 Based 4-6 transient
8	Yes	Commercial	Transient	1							Yes								
9	Yes	Recreation Commercial	Based	2	Yes	Tilt	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Truck	No	No	Loading Dock, Pull Out Ramp	Supercub, Single Otter	12 Based 6 Transient
10	Yes	Government	Based	1	Yes	Tilt	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Either	No	No		Supercub, Beaver, Turbine Otter	8 Based 4 Transient 6 Loading Float
11	Yes	Commercial	Transient	1	Yes					Yes	Yes	Yes	Yes	Either	No	No	Toilet	Up to Otter	4 Based 8 Loading Float
12	Maybe	Recreation	Based	1	Yes	Tilt	Yes	Optional	Yes	Optional	Yes	Yes	Yes	Either	By Commercial Users	Optional	Toilet	Beaver,1 Turbine Otter	8-10 Based 2-3 Transient
13	Yes	Recreation Commercial	Based	1 to 2	Yes	Tilt	Yes	Optional	Optional	Yes	Yes	Yes	Yes	On Land	Yes	On Land		Cessna 185, Some Beaver	10-20 Based 4-6 Transient
14	Yes	Recreation Commercial	Based	2 to 3	Yes	Tilt	Yes	Optoinal	optional	Yes	Yes	Yes	Yes	On Land	By Commercial Users	On Land		Cessna 180/185, seval Beaver and Otter	12 Based 6 Transient
15	Yes	Commercial	Based	4	No	Tilt	Yes	Yes	Yes	Yes	Yes	Yes	Yes	On Land	Yes	On Land	Pull Out Ramp	Caravan, Beaver, Cessna 185	26 Based 12 Transient
16	Yes	Commercial	Based	1	Yes	Fixed	Yes	Yes	Yes	No	Yes	Yes	Yes	On Land	Yes	No	Pull Out Ramp	Beaver, Otter	6 Based 6 Transient
17	Yes	Government	Transient	1	Yes					Yes	Yes	Yes	Yes	On Land	No	No	Toilet, Scale	Up to Turbine Otter	4 Based 4 Transient 4 Loading
18	Yes	Commercial	Transient	1	Yes					Yes	Yes	Yes	Yes	Either	No	No	Toilet, Scale	Cessna Caravan	2-4 Transient 8 Loading Float
19	Yes	Commercial Recreation	Transient	1	Yes	Either	No	No	Yes	Yes	Yes	Yes	Yes	Either	No	Pull Out Ramp		Up to Otter	6 based 2 Transient
20	Yes	Recreation	Based	1	No	Tilt	Yes	Optional	Yes	4-wheeler	Yes	Yes	Yes	Either	Optional	Yes	Security	Beaver, a Few Otter	10-12 Based 4 Transient
21	Yes	Commercial	Transient	1	No	Tilt	Yes	Optional	Optional	Yes	Yes	Yes	Yes	Yes	Yes	Either	Pull Out Ramp, Winter Aircraft Storage	Beaver, Several Otter	20-25 Based 5-6 Transient
22	Yes	Recreation	Based	1 to 2	Yes	Tilt	Yes	Optional	Yes	Yes	Yes	Yes	Yes	Yes	By Commercial Users	Yes	Pull Out Ramp, Storage, Bird Control	Cessna 185, Some Beaver and Otter	10-15 Based 1-2 Transient
23	Yes	Recreation	Transient	1	No	Tilt		Yes		Yes	Yes	Yes	Yes	Either	No	No	Toilet, Waiting Room	Up to Beaver	4-5 Based 3 Transient 5 Loading Float
24	No																		6-10 Based 2 Transient
25	Yes	Commercial	Based	1 to 2	Yes	Tilt	Yes	Yes	Yes	Optional	Yes	Yes	Either	Yes	Optional	Either	Bird control	Cessna 185 to Beaver	12 Based 4 Transient
26	Yes	Commercial	Transient	1	Yes	Tilt				Yes	Yes	Yes	Yes	Truck	No	No	Toilet, Waiting Room	Up to Otter	2 Based 2 Transient 2 Loading Float
27	Yes	Commercial	Transient	1	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Protected Water, Japonski is Good	Supercub, Turbine Otter	on Based 3 Transient 4-5 Loading Float
28	Yes	Commercial	Transient	1	Yes	Tilt	Yes	Yes	Yes	Yes	Yes	Yes	yes	Yes	No	No	Toilet	Up to Turbine Otter	6-8 Based 4 Loading Float
29	Yes	Aircraft Maintenance				Tilt	Yes	Yes		Yes	Yes	Yes		Yes	Yes	Floating Hangar	Toilet, Freight Staging	Up to Beaver	1 Loading Float
30	Yes	Recreation	Transient	1	Yes	Either	Yes	Optional	Yes	Yes	Yes	Yes	Yes	Either	By Commercial Users	By Commercial Users	Security, Tie Downs	Beaver, Some Single Otter	12 Based 3- 4 Transient
31	No				Yes	Tilt	Yes	Optional	Yes	No	Yes	Yes	Yes	Either	By Commercial Users	Optional		Beaver	10 Based 4-5 Transient
32	Yes	Recreation	Based	1	Yes	Either	Yes	Optional	Optional	Optional	Yes	Yes	Vehicle Access	Truck	By Commercial Users		Storage, Pull Out Ramp	Cessna 180/185, Some Beaver	10-12 Based 8 Transient
33	Yes	Commercial Recreation	Based and Transient	2 Based 1 Transient	Yes	Tilt	Yes	Yes	Yes	Yes	Yes	Yes	Yes	On Land	Yes	Pull Out Ramp	Avoid wing/piling conflicts	Several Otter	5-6 Based Up to 20 Transient
34	Yes	Recreation	Based	1	Yes	Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Either	Yes	Yes	No	Toilet	Beaver	20 Based 5 Transient 10 Loading
35	Yes	Commercial	Transient	1	Yes					Yes	Yes	Yes	Yes	On Land	No	No	Toilet	Beaver	12 Based 6 Transient
36	No																		
37	Yes	Government	Transient	2	No	Tilt	Yes	Yes	Yes	Yes	Yes	Yes	Yes	On Land	Yes	Yes	Toilet, Baggage Staging	Up to Turbine Otter	3 Transient 5 Loading Float
38	Yes	Commercial	Transient	1	No					Yes		No	Yes	Either	No	No	Toilet, Waiting Room	Up to Beaver	4 Based 2 Transient 4-6 Loading Float
	2020 Demand					Seaplane Base Amenities													

SITKA SEAPLANE BASE SITING ANALYSIS UPDATE

Public Meeting – Sign In Sheet

Wednesday, February 17, 2016

NAME	ADDRESS	EMAIL	TELEPHONE
Sonny Cripley	not needed	only needed if you did not get email	
Ken Bellows		notice of meeting	
Francois Blakiles.			
Scott Harris			
Scott Saline			
Michael Brooks			
Ron Henderson Sr			
Kevin Knox			
Andy Coykendall (C.A.P.)			
Mark Morris			
Stan Elmore			

SITKA SEAPLANE BASE SITING ANALYSIS UPDATE Public Meeting Notes Wednesday, February 17, 2016

CBS Staff – Dan Tadic, Stan Eliason
DOWL Team – Tom Middendorf, Mark Morris
Attendees – 9 pilots, aviation businesses and interested parties

Presentation: Dan and Tom recapped the results of the 2002 and 2012 studies and Dan explained that DOWL was hired to address recent FAA questions about demand. Dan explained that the City has also hired PND to evaluate the problems with the current seaplane base and determine the improvements and costs to make it serviceable until a new seaplane base can be built. Tom presented a recap of the results of the survey of demand and amenities for the new seaplane base and handed out the survey results.

Discussion/Comments:

- DOWL asked whether the survey results are overstating demand. Several commercial and non-commercial pilots responded that the numbers appear to understate the demand.
- Roughly 50 airplanes flying between Seattle and Anchorage use the private seaplane base every summer. This facility formerly had 7 employees during peak years of the 1970's and 80's. The age and condition of the current facility has caused many to avoid Sitka, switch to amphibs or wheels, or base aircraft in other locations.
- The seaplane base needs to service both commercial and non-commercial users, based and transient.
- To make commercial operations viable, the facility needs to provide an aircraft haul-out ramp and space for aircraft maintenance. The current practice of using the minimal DOT&PF ramp on the other side of the Sitka Airport requires careful timing with tides, is not useable in strong wind conditions, and requires airport staff to be available to escort trailered aircraft across the runway. None of this is reliable enough for regular maintenance needs of commercial users. DOWL should ask the airport whether they would support increased escorts if more users needed it.
- The demand numbers appear to be understated. There are various levels and types of potential commercial use of the seaplane base. Guaranteed aircraft parking spots, an aircraft maintenance area and on-site fuel would be critical for commercial use. Many of the users would be seasonal, such as herring spotters. Transient users have avoided the existing facility due to its condition.
- The Department of Education should be encouraged to support an aviation school that would take advantage of the region's use of floatplanes.
- The existing and new seaplane base are critical for outlying communities that are dependent on seaplanes for access. There is a need for space for transient floatplane parking this

summer and until a new facility is built. Consider an expansion to the current Work Float on an interim basis.

- There is private land available next to the current seaplane base that could be sold to Sitka for parking and other uplands uses. Dan Tadic noted that the current site has many other issues besides parking, such as conflicts with boats and birds from the adjacent seafood processor, not enough space to expand the seaplane base, and shallow water.
- Petersburg has a drive down ramp so fuel trucks can deliver fuel plus they have private floating hangars.
- Would city insurance pay for any damage from wind?
- The City could be the fuel provider.
- Ketchikan has a great video showing the economic importance of seaplanes in Ketchikan. We need to do an economic impact study showing what seaplanes can do for Sitka – tourism, taxes, fuel sales, etc.

APPENDIX C

CBS Seaplane Base Ordinances

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Sponsor: Administrator

CITY AND BOROUGH OF SITKA

ORDINANCE NO. 2005-18

AN ORDINANCE OF THE CITY AND BOROUGH OF SITKA, ALASKA AMENDING TITLE 13, PORTS AND HARBORS, OF THE SITKA GENERAL CODE BY AMENDING SECTION 13.10.190, AIRPLANE FLOAT, TO ALLOW COMMERCIAL OPERATIONS AT THE AIRPLANE FLOAT UNTIL THE NEW FLOAT PLANE FACILITY IS CONSTRUCTED OR DECEMBER 31, 2006, WHICHEVER IS SOONER

1. **CLASSIFICATION.** This ordinance is of a permanent nature and is intended to become a part of the Sitka General Code.

2. **SEVERABILITY.** If any provision of this ordinance or any application thereof to any person or circumstance is held invalid, the remainder of this ordinance and application thereof to any person or circumstances shall not be affected thereby.

3. **PURPOSE.** Currently there is no location within the harbor system for commercial float planes to operate. Other privately owned facilities are no longer available, leaving the very small commercial floatplane industry in Sitka no place to stage. This ordinance would allow commercial operations at the City and Borough-owned airplane float facility until December 31, 2006 or until the new floatplane facility is built, whichever comes sooner.

4. **ENACTMENT.** NOW, THEREFORE, BE IT ENACTED by the Assembly of the City and Borough of Sitka that Section 13.10.190, Airplane float, is hereby amended to read as follows:

13.10.190 Airplane float.

The municipal airplane float shall be administered and enforced by the harbormaster but subject to:

A. Commercial operations shall be allowed at the municipal airplane float with the Harbormaster's approval and proper permitting in place until such time as a new floatplane facility is constructed or December 31, 2006, whichever is earlier. Such operations shall be charged an appropriate user fee.

B. (No change.)

C. (No change.)

D. (No change.)

5. **EFFECTIVE DATE.** This ordinance shall become effective on the day after the date of its passage.

PASSED, APPROVED, AND ADOPTED by the Assembly of the City and Borough of Sitka, Alaska this 26th day of April, 2005.

Marko Dapcevich, Mayor

ATTEST:

April Jensen
Deputy Municipal Clerk

Sponsor: Port and Harbors Commission

ORDINANCE 96-1366

AN ORDINANCE OF THE CITY AND BOROUGH OF SITKA ADOPTING THE NEW HARBOR ORDINANCE REVISING TITLE 13 OF THE SITKA GENERAL CODE

1. **CLASSIFICATION.** This ordinance is of a permanent nature and is intended to become a part of the Sitka General Code.

2. **SEVERABILITY.** If any provision of this ordinance or any application thereof to any person or circumstance is held invalid, the remainder of this ordinance and application thereof to any person or circumstances shall not be affected thereby.

3. **PURPOSE.** Over the past year, the Ports and Harbor Commission has been reviewing and revising Title 13, The Harbor Ordinance. This ordinance adopts the new Title 13.

4. **ENACTMENT.** Now, Therefore, be it enacted by the Assembly of the City and Borough of Sitka that Title 13 of the Sitka General Code is hereby repealed and reenacted as set forth in Exhibit A. which is attached hereto and incorporated herein by reference.

5. **EFFECTIVE DATE.** This ordinance shall become effective on the day after the date of its passage.

PASSED, APPROVED, AND ADOPTED by the Assembly of the City and Borough of Sitka, Alaska this 28th day of May, 1996.

Peter S. Hallgren, Mayor

ATTEST:

Rita Heathman
Acting Municipal Clerk

TITLE 13
PORT AND HARBORS

CHAPTERS:

13.02. GENERAL PROVISIONS
13.04 DEFINITIONS
13.06 CHARGES / FEES
13.08 RESERVED MOORAGE
13.10 FLOAT REGULATIONS
13.12 ENFORCEMENT

CHAPTER 13.02 GENERAL PROVISIONS

13.02.010 PURPOSE - The purpose of these regulations is to provide for orderly development, management, protection, safety and efficient use of all harbor spaces and port facilities within the municipal harbor system by commercial vessels, government vessels, pleasure vessel and the boating public. By the mooring of any vessel within the harbor system, the owner of all said vessels agrees to follow the rules and requirements of all the provisions within this title.

13.02.020 HARBORMASTER - There is hereby created a Ports and Harbors Department which will be operated under a Harbormaster and staff. The Harbormaster will have supervision responsibility and authority to administer all City and Borough owned or operated floats, harbor spaces and port facilities, subject to supervision by the City and Borough Administrator. The Harbormaster will have the powers to assign to all vessels, aircraft and other waterborne structures; places for docking, berthing, mooring and anchoring within the floats and docks and within all water area in the designated harbor system and to reassign any such stall or space should condition warrant the same. The Harbormaster will have the municipal police powers in the enforcement of the Harbor Ordinance and places within the harbor system but the use of said power is limited to the harbor system unless specifically designated and authorized by the Chief of Police. It is illegal to moor, dock or anchor in any area within Harbor jurisdiction unless specifically authorized by the Harbormaster. The Harbormaster will have the authority to issue harbor tickets and to impound or seize any vessel within

the system for improper moorage activities or dead storage. Without any obligation or liability on Harbormaster's part or that of the Municipality for his failure to do so, or duty to do so; The Harbormaster may replace defective mooring lines, pump boats which are found in a dangerous condition, move any boat found endangering other vessels or raise any sunken vessel found to be endangering others. The Harbormaster will have the authority to board, inspect for Title 13 infractions and require compliance prior to the vessel owner continuing the activity that resulted in the infraction. (The responsible boat owner will be billed actual costs associated with any emergency services.)

13.02.030 **PORTS AND HARBOR COMMISSION** - There exists a Ports and Harbor Commission consisting of seven (7) members who act as an advisory body to the assembly on matters concerning the harbor system. Their duties will include; working with the Harbormaster and Administrator planning for new harbors, evaluating needs for harbor services, examining and updating harbor ordinances, review of current harbor operations and annual budgets, recommend priorities, moorage rates and other charges, receive and evaluate formal and informal advice on harbor operations from citizens and will prepare a yearly report to the Assembly on the status of the municipal harbor system. The commission will meet nine times per year with additional meetings as needed at the discretion of the Chairperson.

13.02.040 **JURISDICTION LIMITS** - The geographic boundaries of jurisdiction for the Harbormaster will be: that area seaward of the western shore of Baranof Island from the southern tip of Harris Island southwest to the southern tip of Galankin Island, then north and westerly along the eastern side of Galankin Island to the southern point of the Sitka Airport runway, then continuing north and east along the southerly and easterly shores of Charcoal and Alice Island and continuing northerly and westerly along the easterly shore of Japonski Island to the northwesterly side of the breakwater established in Western Anchorage. Then continuing north and easterly along said breakwater to the westerly shore of

Baranof Island, thence continuing southerly and easterly along the shores of Sitka Channel through Jamestown Bay and back to the point of beginning. This area includes Jamestown Bay, the Eastern anchorage area, Sitka Channel and the Western anchorage area to the breakwater. Within these geographic confines are contained, the municipally owned or operated Crescent Harbor, Sealing Cove Harbor, ANB Harbor, Seaplane Float, Thomsen Harbor, Japonski work float, as well as any and all other public spaces, parking lots, ramps, restrooms, docks or port facilities. (SEE JURISDICTION MAP - EXHIBIT " A ")

CHAPTER 13.04 DEFINITIONS

13.04.010 **ANCHOR** - to secure a vessel to a bed or body of water by dropping a weighted ground line or tackle or by use of a buoy or other means to prevent more than a measurable movement of the vessel.

13.04.020 **CHARTER/VESSELS FOR HIRE** - Any vessel licensed to carry passengers for hire; bare boat - boat rented with or without crew or operator.

13.04.030 **DERELICT** - any vessel which is or reasonably appears to be forsaken, abandoned, deserted, cast off, unsound, unseaworthy or unfit for its use or occupation.

13.04.040 **DINGHY/LIGHTER** - a small vessel normally carried aboard a larger vessel or towed as a life boat or tender.

13.04.050 **DISTRESS** - a state of disability or a present or obvious imminent danger which if unduly prolonged could endanger life or property

13.04.060 **EMERGENCY** - a state of immediate danger to life or property in which time is of the essence.

13.04.070 **HARBOR** - all waters, tidal areas and adjacent uplands areas, together with all facilities of a port or maritime nature publicly owned that are primarily used by or for the service of vessels, including docks, pilings, ramps, hoists, parking areas, leased water areas, concessions and/or service facilities located within.

13.04.080 **HARBORMASTER** - means the individual described in Section 13.02.020 and any Assistant Harbormaster or other person designated to act in the Harbormaster's place.

13.04.090 **HOT BERTH** - the practice of allowing a vessel to temporarily occupy a stall or space not reserved to said vessel.

13.04.100 **LIVEABOARD** - any vessel utilizing the harbor as a primary residence. Any vessel thus used must still comply with all vessel requirements of the harbor system which includes being powered by an engine of sufficient size to propel the vessel at a speed allowing normal steerage and to maneuver out of and into the harbor.

13.04.110 **MOOR**- to secure a vessel by the use of lines to a dock, pier or other object providing a more secure fastening to a particular location than by anchoring.

13.04.120 **NUISANCE OR HAZARDOUS** - a derelict or a vessel which is not kept and regularly pumped free of excess water inside its hull, or is submerged, or which constitutes a fire, health, safety or navigation hazard. A vessel is presumed to constitute a "nuisance" if; the vessel is sunk; in immediate danger of sinking; obstructing a waterway; endangering life or property; vessel has been moored or otherwise left in the harbor and has expired vessel registration numbers; the registered owner no longer resides at the address listed on same registration or other marine documentation papers, or the last known registered owner disclaims ownership and the current owner cannot be determined, or if other means of identification have been obliterated or removed in a manner which precludes identification; or if the vessel does not clear the harbor, under its own power, at least four (4) times per year.

13.04.130 **PERSON** - means any natural person, individual, married couple, partnership, corporation or governmental agency. A corporation and natural person or individual will be considered the same person if the natural person has control over the former.

13.04.140 **QUALIFYING INTEREST** - In a vessel the interest of a person who owns the vessel or under provisions of written charter or lease has exclusive control over the operation and navigation of the vessel. A person who transfers title to a vessel or enters into a charter or lease of the vessel to another, seasonally or permanently, thereby relinquishes exclusive control over the use and operation of said vessel and ceases to have a qualifying interest in a said vessel.

13.04.150 **STALL** - a place to moor individual vessels in the harbor.

13.04.160 **TRANSIENT VESSELS** - any vessel occupying space in the Sitka Harbor System for which a regular reserved stall has not been assigned.

13.04.170 **TRANSFER OF CARGO** - means all types of loading, unloading, transfer and/or containerization of any type of cargo including, but not limited to; fish, shellfish and other seafood products thereof.

13.04.180 **TRAFFIC LANES** - (navigation lanes) those areas specifically set aside for movement to and from other locations and which will be kept open, free of obstructions and not for use for anchoring or mooring.

13.04.190 **VESSEL** - means any ship, boat, skiff, barge, dredge and craft of every kind or description, whether used for commercial or pleasure purposes, which is on the water and is capable of being used as a means of transportation on or through the water, excluding seaplanes.

13.04.200 **VESSEL SEAWORTHINESS** - means a state of readiness or safety which all vessels moored or docked in the Sitka Harbor system must meet including the following criteria:

A) be capable of getting underway under its own power at all times;

B) meet all U.S. Coast Guard Requirements; and;

C) be a watercraft constructed and maintained for the primary purpose of navigating the waterways of Alaska and not solely for the specific purposes of maintaining a stationary place of residence, floating storage, shop, office or other non-navigational purposes.

D) Any vessel found to be in violation of the above requirements shall be given ninety days to comply. Failure to comply will result in the cancellation of reserved moorage.

13.04.210 VESSEL LENGTH - The method of determining vessel length within the harbor system. Vessel length will be computed at the actual overall length of any vessel, including bow sprits, outboards or other extensions.

13.04.220 WATERBORNE STRUCTURES - means other than a vessel. Examples include but are not limited to barges, float houses, or other, usually unpowered, structures.

CHAPTER 13.06 CHARGES/FEES

13.06.010 MOORAGE CHARGES - There is hereby established, determined and levied upon all vessels and waterborne structures moored, tied to, or in any other way, attached by rope, cable, gangplank or other means to any float, piling, dock, mooring buoy or other harbor improvement which is owned, constructed, maintained or operated by the City and Borough of Sitka, a rental charge for the privilege and use of said facilities. The rental charges for each vessel or waterborne structures will be imposed and levied upon and collected from the owners of all such vessels and waterborne structures at the following monthly rates according to the classification set forth in the following schedule:

A) Permanent Moorage - eighty ($0.80) cents per foot, per month (or portion thereof) of overall vessel length, or stall length, whichever is greater or portion thereof, payable in advance for such term quarterly, semiannually or annually, but not to exceed one year.

B) Transient Moorage - Vessels will be charged at a rate of twenty-four ($.24) cents per foot per day, if paid in full, in advance or prior to departure. If billing required, the moorage fee will be forty-eight ($.48) cents per foot per day. In any event, moorage is calculated by overall vessel length.

C) Port Facility Charges - There will be a charge of twenty-four cents ($0.24) per foot, per day, used in the municipal port facility by vessels eighty (80) feet and under. The rate per foot for vessels eighty-one (81) feet to one hundred and fifty (l50) feet will be forty cents ($0.40) per foot,

per day. The rate for any vessel greater than one hundred fifty (150) feet will be seventy-five ($0.75) cents per foot, per day.

D) **Liveaboard Vessels** - will pay the regular monthly mooring fee. In addition, they will pay the minimum residential user's fees for garbage, water and sewer on a monthly basis.

E) **Monthly Transient Permit** - monthly permit fees will be assessed at a rate of two dollars and twenty-eight ($2.28) cents per foot of overall vessel length and paid in advance. Each additional month of moorage will be collected in advance and will not be refundable should the vessel leave the community prior to the end of the thirty (30) day period.

F) **Seasonal Transient Permit Fees** - seasonal fees will be assessed at Four Dollars and fifty-six ($4.56) Cents per foot of actual overall length, paid in advance and will allow the permit holder to moorage, as available for any consecutive three (3) months of a specific calendar year and will not be refundable should the vessel leave the community prior to the end of the ninety days.

G) **Transient Electricity** - the fee for using an electrical meter other than meter in the vessel owner's name will be five dollars ($5) per day.

H) **Tourship Lightering Fees** - the fee for the use of the lightering floats will be three hundred dollars ($300) per ship, per day for the 1996 season.

A. $425 per ship, per day for the 1997 and 1998 season.

B. $450 per ship per day for the 1999 season.

C. Future lightering fees will be negotiated prior to the year 2000 season.

I) **Airplane Float Reserved Mooring** - fees will be thirty-five dollars ($35) per month. A transient aircraft fee of five dollars ($5) per day or a thirty-day permit for $100.00 will be assessed. It is unlawful for any boat to moor at, or in any way obstruct the airplane float.

13.06.020 REVIEW OF CHARGES - the rates stated in this Title are determined to be fair, just and reasonable rates. All rates charged or assessed by the Harbormaster, will be paid by the owner, master or other person having charge of the vessel. But will be subject to review for fairness, by the municipal Administrator.

13.06.030 NONPAYMENT - It is unlawful for any person to moor, berth, tie, attach or in any other manner, connect to any harbor improvement or facility with any vessel or airplane, for a period not to exceed one (I) day, without paying the prescribed rental charges noted above or without causing the Harbormaster to assess a stall as above provided. Any delinquent personal property tax on a vessel will be paid prior to any mooring or being placed on a municipal waiting list. A late or penalty fee will be assessed after thirty (30) days, if in arrears, as prescribed by municipal code.

13.06.040 UNPAID STALLS - If the applicable moorage fees have not been paid by the date due, following delinquent notification within 30 days, the Harbormaster may declare the stall released and it may be reassigned to the next person on the waiting list for that appropriate sized boat.

CHAPTER 13.08 RESERVED MOORING STALLS

13.08.010 REGISTRATION REQUIRED - every owner, master or managing agent of a vessel using the harbor, even temporarily, will be required to register with the office of the Harbormaster within eight (8) hours of entering the harbor system. Said registration will contain the following information: Owners or managing agents name; address and phone number, the vessels name and home port, official documentation or State I.D. number, color, length, breadth and draft. If a different phone number or contact person is required for an emergency phone number or contact person will also be listed.

13.08.020 RESERVED MOORAGE - reserved moorage space may be obtained, as available at locations designated or assigned by the Harbormaster. Reserved space will be assigned based on a waiting list which will be maintained in the Harbor office and will be on a first come-first serve basis determined upon the

date the application was received, the type and size boat space required and the availability of such spaces. Any stall holder is allowed only one reserved stall within the confines of the municipal harbor system except that the Administrator may authorize an additional stall of a vessel of not more than eighteen feet in length.

13.08.030 **NUMBER OF MOORAGE SPACES ALLOWED** - Moorage spaces may only be held in the names of individual persons. Corporations, business's and partnerships may ONLY hold a slip if the chief executive officer or president utilizes his/her own individual name along with the name of the corporation represented. A Partnership must, in fact be a true partnership at the time of requesting a stall with the stall held in the name of both joint partners. The Harbormaster retains the right to review and obtain a copy if necessary of U.S. Coast Guard documentation papers or other registration papers to provide proof of any ownership. Should the partnership dissolve, it will be up to the partner retaining the stall to submit a release from the other partner indicating their agreement to the retention. The stall will then transfer into the individual retaining the stall. Any holder of a reserved mooring stall shall NOT sublease, rent or in any other manner permit or allow any other vessel to occupy said space, unless specifically permitted and approved by the Harbormaster for sufficient reason given.

13.08.040 **WAITING LIST** - There will be a moorage waiting list maintained by the Harbormaster and displayed in said office for public inspection. A listing will be established by receipt of a non-refundable deposit of the first quarter's mooring fee. When a stall is assigned the deposit will be applied to first quarters moorage fee, (based on size of the vessel being placed on said list). All permanent moorage vacancies will be filled by the first person on that list who has a vessel of the required length, beam, electrical needs or other overall factors deemed by the Harbormaster to be most suitable for the empty berth.

13.08.050 **RETENTION OF WAITING LIST PRIORITY** - An applicant who does not respond to a written notice by the Harbormaster, by certified mail, to the last address in the files of the Harbor Department will be removed from the wait list

the first stall assignment, does not immediately lose his/her position on waiting list, however if an applicant refuses for a second time, when offered, the applicant will be removed from the waiting list and the deposit will be forfeited.

13.08.060 **UTILIZING A RESERVED STALL** - The Municipality reserves the right to provide temporary or "Hot Berthing" of another vessel within a reserved mooring space when said space is unoccupied. A holder of a reserved stall or space within the City and Borough of Sitka harbor system should provide a usage plan to the Harbormaster, if he/she knows he/she will be absent for any reasonable extended length of time more than seventy-two (72) hours, giving his/her estimated time of departure and return. The stall holder will NOT have the right to designate any specific vessel to use the stall. Should the reserved stall holder return earlier than expected, the holder will contact the Harbormaster, as early as possible, to facilitate time to remove the temporary vessel from the reserved space. If the Harbormaster is not available, the reserved stall holder will moor at the transient area until he/she can contact the Harbor Department. The Harbormaster will inform temporary users of any absent holder's reserved mooring space that said use will continue only for the duration of the holder's boat absence and that the Harbormaster is authorized to move the temporary vessel to another location upon return of the holder's boat. Any temporary stall user will therefore be required to keep the Harbormaster notified of his/her whereabouts. Any boat owner desiring to moor temporarily in a reserved but vacant stall will apply to the Harbormaster. No such stall or space will be utilized unless authorized and the appropriate fee is paid in advance. The boat owner temporarily assigned to a reserved mooring space, will NOT utilize the utilities which may have been provided for the reserved stall holder unless authorized by the Harbormaster. If electricity is used, a rate of five Dollars ($5.00) per day will be charged and the stall holder will be credited to his current usage for that month. Nothing in this section limits the Harbormaster's authority to move any moored boat to another location in the event of a fire or other emergency requiring such action.

13.08.070 **STALL - SALE OF BOAT** - when a person sells his/her boat, he/she will notify the Harbormaster within one week of the sale and state whether the stall will be released. A stall is not transferrable by the holder. Persons who sell their boat but intend to purchase another one which is of a proper size to fit into the existing stall, may retain their stall for a period of up to six (6) months. If at the end of that time, they have not obtained ownership of another boat or furnished proof of intent to procure a boat within a reasonable extended period of time as determined by the Harbormaster, the reserved space will be forfeited. Any such person wishing to retain the stall will be responsible for the continued mooring rate fee as established by Chapter 13.06.010. The fee will be based on the length of the stall plus 10 feet.

13.08.080 **TRANSFER OF RESERVED MOORING** - Any person holding a reserved mooring space or a position on the approved waiting list may NOT transfer such space or list position to any other person except that a preferential annual slip assigned to a vessel may be retained if the transfer is between husband and wife, to a natural or legally adopted son or daughter or is legally inherited by a member of the owner's family and documented as such to the satisfaction of the Harbormaster.

13.08.090 **NON-USE OF A STALL** - If the owner of a vessel, to which a reserved mooring space is assigned, does not use that space or slip for at least three (3) months of each calendar year, the reserved mooring space will be forfeited and the Harbormaster will notify said owner, in writing. The Harbormaster may waive this requirement, on a case by case basis, under exceptional circumstances such as extended ocean voyages or major vessel repair, provided however, that the waiver does not exceed twelve (12) months.

CHAPTER 13.10 FLOAT REGULATIONS

13.10.010 **NOTICE TO OWNERS** - By the mooring of any vessel within the Sitka Harbor system, the owner or master of any vessel agrees to all of the provisions contained within this Title.

13.10.020 DEAD STORAGE - It is declared that the City and Borough of Sitka owned or operated floats, mooring spaces or other facilities have been installed and are operated for the convenience and use of fishermen and pleasure boat owners and are **NOT** for the purposes of providing source of inexpensive alternative housing or dead storage. Moorage of any type of waterborne structure, houseboat, flatboat or barge is specifically prohibited. This prohibition extends to the entire area of jurisdiction of the Harbor System but will exclude those fishing scows specifically owned or operated by on-shore cold storage plants which are brought into Sitka for maintenance or off-season storage only.

13.10.030 MAXIMUM LENGTH - The maximum length of any boat or ship or any other object which moors at any City and Borough of Sitka harbor float, will be based on the length of the stall with a vessel maximum of ten (10) feet in excess of the stall length, unless special exception is granted, after consultation and approval by the Municipality. This size restriction does **NOT** apply to the Municipal Port Development area, Thomsen Harbor floating breakwater or other specific areas where oversize packers, tour vessels or large visiting yachts are specifically permitted.

13.10.040 VEHICLES AND PARKING - No vehicle will be allowed or permitted to park on the approach to any float so as to obstruct said approach except as a necessary purpose of discharging passengers or freight.

13.10.045 VEHICLES PROHIBITED - It is unlawful for any person to ride a bicycle, motorscooter, motorcycle, skateboard, roller skates or other similar device on any Municipal float.

13.10.050 GENERAL REQUIREMENTS - The following rules are intended to minimize adverse effects on neighboring shore side properties adjacent to the harbors.

A) To the extent allowed by safety considerations, harbor lights, all bright lights, including vessel deck lights will be directed away from the shoreline.

B) The use of crab lights (sodium, mercury, crab, flood, etc.) is prohibited within the harbors and between the breakwaters and O'Connell Bridge.

C) The use of any sound system, public address and/or paging systems of any sort will be limited to the hours of 7:00 A.M. and 8:00 P.M. The performance of

any vessel repairs requiring noisy activities, including the revving of vessel engines will be limited to the same hours. In case of emergencies contact the Harbormaster.

13.10.060 HARBOR ELECTRICAL SYSTEM - The following regulations govern the use of electricity within the harbor system:

A) Connections to any vessel moored within the municipal system are under the direction of the Harbormaster and are subject to the following:

1) Use of non-marine battery chargers are strictly prohibited. All chargers used within the system must contain an isolator circuit or be run through an isolator so that no current is discharged into the municipal system.

2) Use of extension cords, plugs, caps and other components between the vessels private system and the municipal shore side system will comply with the electrical code of the City and Borough and be of a specific marine design recognized and approved by the City and Borough of Sitka.

3) Only heating lamps with porcelain type sockets may be used.

4) Any onboard heater capable of causing a fire if overturned, must be equipped with a safety switch which will automatically disconnect the electrical power, if so overturned.

5) Violation of any of the provisions of this section is punishable up to the maximum of five hundred ($500.00) dollars.

B) The Harbormaster will, by permission of vessel owner or agent, have the authority to enter any vessel connected to the municipal electrical system to inspect electrical equipment to assure compliance with this and other applicable codes. If permission is not granted, the Harbormaster may disconnect said shore power from the offending vessel.

C) It is unlawful for any person to interfere, tamper with, or connect any wires, plugs or other devices to any of the electrical wiring or electrical outlets upon any of the docks, floats or gangways maintained, constructed or owned by the City and Borough of Sitka without the permission of the harbormaster.

D) Violation of any of the provisions of this section is punishable up to the maximum of five hundred ($500.00) dollars.

13.10.070 **NOTICES / BILLBOARDS** - It is unlawful for any person, firm or corporation to post any matter upon any bulletin board or to create any writing or printed material and post it to any float, piling, dock or any other portion of the municipal harbor system, except in those areas designated by the Harbormaster. Any unauthorized material will be immediately removed by the Harbormaster and destroyed. All material will be dated and is limited to thirty (30) days.

13.10.080 **DISTRIBUTION OF COMMERCIAL HANDBILL AND LEAFLETS** - Permit required - Distribution of commercial handbills and leaflets is forbidden in harbor facility areas and in the adjacent public parking areas except in those locations designated by the municipality for such distribution.

Persons intending to distribute commercial handbills and leaflets in the harbor area will be required to obtain a permit from the municipality.

A condition for the issuance of such permits shall be that the permittee agree to clean up any discarded handbills and leaflets in the harbor area and adjacent parking lot areas at the end of each day. Failure to properly clean up the area may result in revocation of such permits by the administrator or his/her agent. (Ord. 92-1055 § 4, 1992; Ord. 85-640 § 4, 1985.)

13.10.090 **SKIFFS OR SECOND VESSEL MOORING** - No skiff or other secondary vessel will be separately moored to the municipal harbor system except at a berth specifically assigned for moorage to the owner of that skiff and with appropriate fees paid. No floating skiff will be tied or otherwise moored to any other vessel moored to that berth in any way as to protrude into the passage lane to another berth or in such a way to block passage from any other vessel.

13.10.100 **PETS WITHIN THE HARBOR SYSTEM** - Any dog, cat or other pet living aboard any boat in the Sitka Harbor system, or crossing the floats to a vessel shall be subject to the entirety of the Sitka General Code Title 8 as enforcement guidelines and to include. "Three Strikes and you're Out" rule. Any person who observes an animal defecating, spraying, exhibiting excessive aggressive

behavior or otherwise creating a problem on the floats or another vessel other than where the animal originated which is not immediately corrected by its owner will:

A) Contact the owner of the animal and explain the offense observed AND report the incident to the Office of the Harbormaster, who will prepare a written report, for the record.

B) On the second such incident with the same animal, the Harbormaster will prepare a written warning report which will be sent to the owner stating the pet will be subject to removal from the harbor system if the problem is not corrected.

C) If the same animal is observed for the third time, defecating, spraying, exhibiting excessive behavior or otherwise displaying improper behavior within the Harbor system, a written letter will be sent to the owner declaring the particular animal is barred from the harbor system. The owner will be granted ten (l0) days to remove the animal, if existing on a liveaboard, or be prohibited from accompanying the owner to their vessel through the harbor system floats. Any owner having an animal barred from the harbor system may appeal the harbormaster's decision to the Administrator of the City and Borough of Sitka. If not resolved, an appeal may be presented to the Ports and Harbors Commission, acting as a recommending body for the Assembly. The Assembly may then hear any additional appeal not resolved. As with any other appeal of an administrative decision, this may be appealed to a Court of Competent Jurisdiction.

13.10.110 **DUMPING TRASH INTO HARBOR PROHIBITED** - It is unlawful to:

A) Dump offal, garbage or trash into any boat harbor, harbor uplands or associated tidelands.

B) Abandon or leave old boats, hulks or wrecks within the Sitka Harbor system.

C) Spill, dump, discharge or in any other manner dispose of flammable waste such as gasoline, lubricating oil or other combustible liquids into any boat harbor, uplands, or associated tidelands.

D) Leave or dispose of spoiled fish, bait, or gear on the city floats. Vessel owners will tend to their gear promptly after each commercial opening. Any failure to provide necessary cleanup action will be considered a nuisance.

13.10.120 **FIRES** - A boat owner is strictly liable for the damages caused by a fire originating in his vessel to any municipal floats or structures.

13.10.130 **HOUSEKEEPING IN CRESCENT HARBOR** - It is unlawful to live aboard or conduct housekeeping activities aboard any vessel moored in Crescent Harbor. It is recognized that on an occasional basis, vessels moored in Crescent Harbor may desire to leave very early in the morning due to a fisheries opening. Owners will notify the Harbormaster on those times when they feel they must nap on the boat in preparation for an early departure.

13.10.140 **CLEANING FISH** - It is unlawful to clean fish on any portion of a City and Borough dock or float, except at designated fish cleaning stations. See Exhibit A.

13.10.150 **STORAGE PROHIBITED** - It is unlawful for any person to use any harbor for storage, on any floats, docks or gangways or any other portion of the municipal harbor system, of any pipes, nets, wares, merchandise, or gear of any sort or type without the permission of the Harbormaster. Even when permission is given, it is for a specific short length of time to facilitate gear changing, loading or other necessary activity and not as a convenient place of storage of personal items. Should a skiff or other item having value be found stored on the docks or floats in violation of this section, the Harbormaster will impound said items and dispose of them as follows:

A) They will be stored for thirty (30) days;

B) The owner will be notified, if known, by certified mail, that the items have been impounded and must be reclaimed within the thirty days, after paying reasonable storage and associated costs, or there will be subject to sale at the end of thirty days with the owner responsible for any unrecovered costs. Public and owner notification shall run concurrently.

13.10.160 **GRID**- No boat more than thirty-five (35) tons per bent, will be allowed on the south Grid. No boat more than six (6) tons per bent, will be allowed on the north end grid. Persons wishing to exceed the above limits wish to use the grid, they must contact the Harbormaster for special consideration. Maximum time on grid is ninety-six (96) hours.

13.10.170 **GEAR/CARGO LOADING FLOAT** - The time limit on the loading float is two hours, unless other arrangements with the Harbor Department have been made. Improper use of this float is unlawful.

13.10.180 **WORK FLOAT** - A year round work float is available for use and located on Sitka Channel across from ANB harbor. The intent for this work float is gear work only. This float is equipped with water and electricity. No overnight moorage is permitted without the Harbormaster's permission. No storage of any gear, nets, or materials is permitted without the Harbormaster's permission and only in case of an emergency. The Crescent Harbor, Float 4 work float is available for temporary winter moorage from Sept. 15 till April 15.

13.10.190 **AIRPLANE FLOAT** - The municipal airplane float shall be administered and enforced by the harbormaster but subject to the following:

A) There shall be no commercial operation based at the floats, except pick-ups;

B) The municipal plane floats are for the use of active planes;

C) Only repair and maintenance work of a minor nature shall be allowed on the float, which is defined as that work which would ordinarily be completed in one twenty-four hour period. The Harbormaster shall have discretion in enforcing this provision.

D) It is unlawful for the owner or person in charge of any boat to moor it at any municipal plane float. (S.C.C. §3-5-45.)

13.10.195 **AIRPLANES OPERATING WITHIN THE SITKA HARBOR SYSTEM SHALL** - A. Follow international navigation rules while operating as a vessel (i.e. on the water).

B. Not taxi on step in the channel except during take-off and landing. This is to a no wake zone in affect in Sitka Channel from O'Connell Bridge to the rubble mound breakwater north of Thomsen Harbor.

C. Use the take-off and landing corridor located on the southwest side of western anchorage, paralleling Japonski Island, from the government pier (USCG cutter Woodrush), out to the breakwater. Pilots have the option to use other areas when wind and weather conditions require, but must maintain adequate separation from vessel traffic. Approximately 80% of seaplane operations will be conducted in the designated area.

D. Pilots are reminded not to fly within 500 feet of any structures, except as necessary for take-off and landing. This includes the O'Connell Bridge.

13.10.200 **GARBAGE FACILITIES** - Objects too large to fit into the litter container shall be disposed of at the municipal landfill by the owner at his/her expense. (Ord. 84-463 § 4 (part), 1981.)

13.10.210 **CHILDREN** - Unless walking with or otherwise closely accompanied by parents or a responsible adult, it is unlawful for any child under the age of twelve to be on the city and borough owned floats, docks or wharves unless wearing a life preserver. Parents and guardians shall be responsible for compliance with this regulation. (Ord. 81-463 § 4 (part), 1981.)

CHAPTER 13.12 ENFORCEMENT

13.12.010 GENERAL - Violations of any portion of the Harbor Ordinance will be subject to punishment as provided in this Chapter. The Harbormaster hereby is granted the authority to issue citations, impound vessels and remove vessels from the harbor system either temporarily or permanently, under the provisions of this ordinance. The owner of record or the person in charge of will be responsible for any and all infractions charged against his/her vessel.

13.12.020 NEGLIGENT OPERATION - It is unlawful for any person in charge of a vessel to, operate or propel the boat in a negligent manner. A person who operates a vessel in a manner which creates an unjustifiable risk of harm to any person or property and who, as a result of the creation of that risk actually endangers a person or property is guilty of negligent operation. That a defendant actually endangered a person or property is established by showing that, as a result of the defendant action; an accident occurred or evasive action was required or a person was forced to dramatically slow down or stop to avoid an accident or a person or property was otherwise endangered. The offense of negligent operation is a lesser offense than, and is included in the offense of reckless operation.

13.12.030 RECKLESS OPERATION - It is unlawful for any person in charge or operating or propelling any boat within the Sitka Harbor System to do so in a reckless manner. A person who operates a vessel in a manner which creates a substantial and unjustifiable risk of harm to a person or property is guilty of reckless operation. A substantial and unjustifiable risk of harm to a person or property is a risk of such a nature and degree that the conscious disregard of it or a failure to perceive it constitutes a gross deviation from the standards of conduct a reasonable person would observe in the situation. Any damage to other boats moored at floats in the harbor system will be prima facie evidence of reckless operation.

13.12.040 **WRITTEN WARNING** - If, at the discretion of the Harbormaster, an infraction of the rules of the harbor system may be resolved with a written warning to the offending vessel owner, he may do so, with a copy sent to the municipal Administrator and to the Harbor files. Said letter will specifically spell out the infraction and notify the owner that further action will be taken if the offense is repeated or does not cease immediately. Any such letter will be hand delivered or certified mail so proof of delivery is assured.

13.12.050 **FINES** - The maximum penalty will be five hundred ($500.00) dollars. Bail schedule and a standard penalty for violations will be as follows:

A) Negligent Operation of Vessel - Minimum penalty of one hundred ($100) dollars.

B) Reckless Operation of Vessel - Minimum penalty of two hundred ($200) dollars.

C) All other Violations - Minimum Penalty of fifty ($50) dollars.

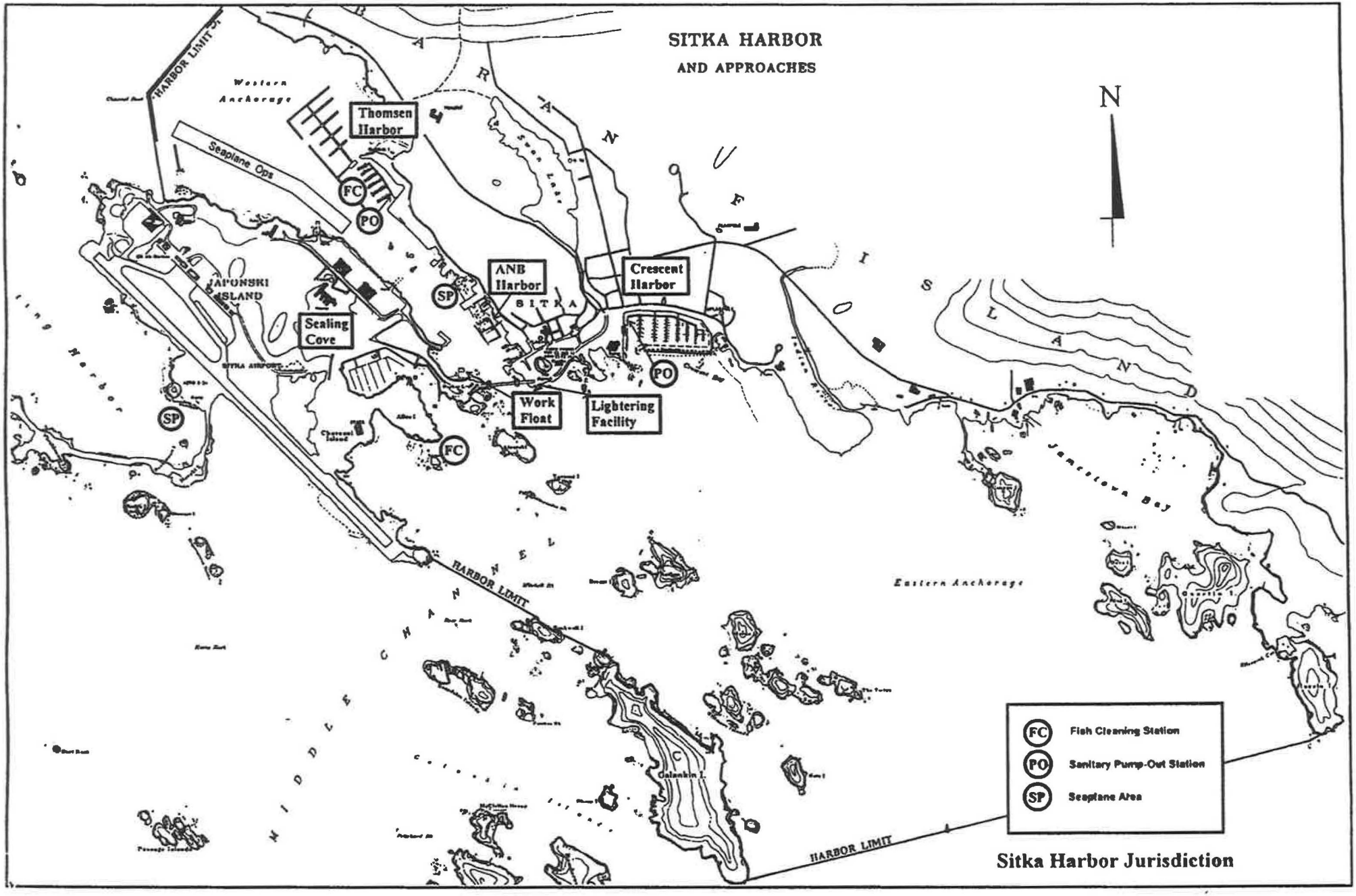
13.12.060 **IMPOUNDMENT** - The Harbormaster is authorized to impound a vessel under any of the following circumstances; the vessel is a derelict, nuisance or abandoned as defined in this ordinance; the moorage or other fees imposed by the municipality are delinquent; the vessel is improperly located in violation of this title or the vessel is improperly or incorrectly identified.

13.12.070 **NOTICE TO OWNER** - The notice will contain; the name and/or official number of the vessel; the name and address, if known, of the owner, operator, master or managing agent; the reason for the impoundment, the actual date of impoundment and the reserved moorage space that will be forfeited when the vessel is impounded. The notice will be hand delivered or mailed, by certified U.S. Mail, return receipt requested, to the last known address. In addition, a copy of the same notice of impoundment, will be physically placed on the subject vessel at the most logically appearing point of entry to the inside of the boat. A third copy will be posted in the Harbormaster's office on a visible bulletin board and a fourth copy in the local Sitka Post Office.

13.12.080 RIGHT TO HEARING - The owner, operator, master or managing agent in lawful possession of a vessel given notice for impoundment has the right to an administrative hearing to determine whether there is just cause to impound the vessel. Any person desiring such an appeal must file a written request with the Municipal Clerk within ten (I0) days after mailing and posting of said notice.

13.12.090 HEARING PROCEDURE - The hearing will be conducted by the Ports and Harbor Commission, acting as a board of inquiry on behalf of the municipality and will be held at their next meeting following receipt of said request. The person will have the right to submit written evidence or provide a list of witnesses or persons who will speak on his or her behalf. The Harbormaster will likewise prepare written material outlining previous steps taken to resolve this issue, earlier correspondence, and reasoning leading up to the impoundment. Following the hearing, the Ports and Harbor Commission will cause to have prepared, a written decision outlining the rational and results of their findings.

13.12.100 ASSEMBLY OVERSIGHT - As with any administrative action, if the owner, operator or master of a said vessel involved in the hearing, still disagrees with the decision to impound, they may file a formal appeal, through the Administrator, to the Assembly of the City and Borough of Sitka. The report or findings, prepared by the Ports and Harbors Commission, along with all written or presented oral or visual testimony, will be forwarded to the Assembly, who, will review the report and uphold or overturn the recommendation.


SITKA HARBOR
AND APPROACHES
N
HARBOR LIMIT
Western Anchorage
Thomsen Harbor
Seaplane Ops
FC
PO
SP
ANB Harbor
Crescent Harbor
SITKA
JAPONSKI ISLAND
Sealing Cove
SITKA AIRPORT
Work Float
Lightering Facility
BARANOF ISLAND
Eastern Anchorage
HARBOR LIMIT
MIDDLE CHANNEL
Galankin I.
HARBOR LIMIT
FC Fish Cleaning Station
PO Sanitary Pump-Out Station
SP Seaplane Area
Sitka Harbor Jurisdiction

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APPENDIX D

Request for Entry into the NPIAS-Sitka Seaplane Base

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Request for Entry into the NPIAS
Sitka Seaplane Base (A29)
Sitka, Alaska

On May 23, 2016 the City and Borough of Sitka, Alaska requested that Alaskan Region Airports Division reclassify the Sitka Seaplane Base (A29) in the NPIAS in consideration of the seaplane base's proposed relocation and expansion.

Background:

A29 was originally constructed in 1952 by the Territory of Alaska with funding from the Civil Aeronautics Administration, FAA's predecessor agency. The facility was later improved several times by the State of Alaska and City of Sitka (later the City and Borough of Sitka), acting as co-sponsors. The City and Borough of Sitka (CBS) became sole sponsor of A29 in 1977.

Federal Investments in Support of the Sitka Seaplane Base (A29)

Granting Agency	Facility Sponsor	Grant Year	Grant Amount
Civil Aeronautics Administration	Territory of Alaska	1952	$45,000
Civil Aeronautics Administration	Territory of Alaska/City of Sitka	1957	$9,718
Civil Aeronautics Administration	Territory of Alaska/City of Sitka	1958	$40,112
Federal Aviation Agency	State of Alaska/City of Sitka	1960	$25,374
Federal Aviation Administration	City & Borough of Sitka	1977	$175,121
Federal Aviation Administration	City & Borough of Sitka	2010 (planning grant)	$300,000
Total			**$595,325**

After operating in its current location for nearly 65 years, A29 has reached the end of its useful life. In 2002 the City and Borough of Sitka completed *The Sitka Seaplane Base Master Plan* and in 2003 an ALP was approved. The 2002 Master Plan determined that A29 should be relocated for the following reasons:

- Insufficient capacity at A29 and inadequate space to expand at the current site
- Conflicts with boat traffic and the adjacent Sitka Sound Seafoods dock traffic
- Inability to access some seaplane ramps during low tide due to large rock knobs
- Lack of shoreside space for vehicle parking and for fueling seaplanes from truck or fuel tank
- Congested sea lane with boats and bird hazards

The 2002 Master Plan evaluated demand for a new seaplane base (SPB) and forecasted the need to provide 13 slips within 5 years and 15 slips within 20 years at a site that could accommodate up to 20 slips, should economic conditions change. It noted that A29's 8 existing slips were fully leased in 2001, with 7 names on a waiting list. The 2002 Master Plan identified a tentative preferred site for a relocated SPB near the opening of Sitka Channel on the north end of Japonski Island.

Potential SPB relocation sites identified in the 2002 Master Plan were further evaluated in *Siting Analysis: Sitka Seaplane Base* (2012). In 2012, all 8 slips were leased and there was a waiting list. A copy of the waiting list from 2008 is available. Based on a 2016 survey of recent and potential SPB users, those on the waiting list in 2008 have, since then, either subsequently leased a slip at A29, moved their seaplanes to Juneau but have indicated a preference to move to the new Sitka SPB, are currently rebuilding their seaplane, or have moved their residence and seaplane from Sitka.

During the 2012 Siting Analysis, users raised similar concerns as were discussed in the 2002 Study:

- The facility was showing increasing signs of its age and it needed to be replaced
- The SPBs location in the heart of Sitka Channel adjacent to a seafood processing facility (a bird attractant) caused safety and liability concerns involving seaplanes, boat traffic, and birds. A letter included in the appendix of the 2012 Study from the Manager of the Sitka Sound Seafoods processing facility describes these concerns. The NTSB Brief of Accident for ID SEA89LA063 also documented a nonfatal accident attributed to an encounter between a seaplane operating from A29 and the wake from a large boat.
- Shallow waters and rocks prevent use of 4 of 8 parking spots during low tides (see photo below).



- Conditions at the existing SPB (age, small size, loss of float buoyancy, lack of amenities such as fuel and vehicle parking) discouraged recreational use in general and commercial use in particular.

Pilots indicated in 2012 that additional seaplane operators would lease slips at a new public SPB in Sitka if additional capacity and services were available, and if a new facility was in better operating condition. That study forecasted a demand for 14 slips in the short term and 15 slips in the long term, with additional space for 3 – 5 transient aircraft parking positions. It also reaffirmed selection of a site for a relocated SPB near the opening of Sitka Channel on the north end of Japonski Island.

A small private seaplane float is also available in Sitka, but it has space only for based aircraft operated by the seaplane float owner for his business plus up to 3 transient aircraft. The owner has expressed uncertainty whether it would continue to be available for seaplanes in the future, as it is for sale. In the recent pilot survey for the new Sitka SPB, that owner indicated interest in basing his seaplane at the new Sitka SPB.

Since 2012, the City and Borough of Sitka has continued communications with the FAA on funding the new SPB and continued discussions with property owners about property acquisition, as the City and Borough of Sitka does not own any waterfront property on the north end of Japonski Island. There was little interest in making major investments in the aging A29, given the multiple issues at the current site and plans to replace it with a new facility in a new location. By 2015, the average SPB use had declined to 5 leased slips (including the continued use by the Alaska Department of Fish and Game to monitor Southeast Alaska pink and chum salmon runs, a remote lodge owner, a seaplane repair/restoration business, and several private recreational pilots) plus transient traffic.

In January, 2016 A29 was temporarily closed because one pile supporting the transient float collapsed, damaging the transient float. A dive inspection showed significant pile section loss for another 3 piles. A subsequent assessment of A29 completed in early March indicates that it could cost as much as $170,000 to repair and reopen it, which Sitka plans to do in Summer 2016 while working toward obtaining funds for a new facility. The repairs will include sleeving the piles with larger diameter piles, structural float repairs, and additional floatation for the floats. The repairs will make all of the 8 existing seaplane slips available for lease and transient use.

Nearly 40 pilots and aviation businesses were interviewed in January 2016 to ascertain why A29 had seen reduced use and to determine whether they would use a new SPB. There was unanimous agreement that a new SPB in better condition, with basic amenities, and in a new location would see much greater use than the existing A29.

Most of those surveyed had used A29 in 2015 or sometime during the past 10 years. Former SPB users who left A29 reported that they:

1. Bought amphibious floats and based their aircraft on the nearby Sitka Airport
2. Moved their seaplanes to Juneau or other less convenient SPB outside of Sitka
3. Operated with wheeled aircraft in Sitka
4. Operated on a limited transient basis from the private seaplane float (which may not be available in the future)
5. Sold their seaplanes

Most former A29 users and waitlisted slip applicants said they would use the new SPB if it was built. Some indicated they would convert from amphibious floats back to straight floats because of the higher costs of owning and operating amphibious aircraft. Seaplanes have a significantly reduced useful load when operating with amphibious rather than straight floats. This is why over 75% of all private seaplanes in Alaska are on straight floats. The reduced takeoff performance with amphibious gear also prevents access to many lakes that local pilots access from Sitka.

Many of the smaller aircraft have such a small useful load on amphibious gear so as to make it impossible to carry an adult passenger with enough fuel for a typical flight.

Former A29 users who moved their seaplanes to Juneau said they would move them back to Sitka, closer to where they live and fly. Several who are now operating on wheels or no longer own seaplanes said they would convert back to floats or buy a seaplane. Transient users, several who currently use the private seaplane dock, noted that the private dock was for sale and its future availability was uncertain.

Of the 38 pilots and businesses interviewed, 33 said they would use the new SPB. 19 said they would base seaplanes at a new Sitka SPB and 13 said they would operate from the new Sitka SPB as transient users. This included 13 commercial businesses users, 7 mixed commercial and recreation users, 11 recreation users, and 3 pilots from the US Forest Service and Alaska Department of Fish and Game. When asked how many seaplanes they would base at the facility if it were available in 2020, they indicated they would base 25 to 30 seaplanes at the new Sitka SPB (see table below).

Sitka Seaplane Base Interviews Summary of 2020 Demand

	Based Users	Transient Users
Commercial	4	9
Commercial & Recreation	5	2
Recreation	9	2
Government	1	2
Total Users	**19**	**15**
Number of Aircraft	**25 – 30**	**16**

The attractiveness of the SPB to those interested in basing commercial seaplanes at the SPB would be highly dependent on the extent to which amenities like vehicle parking, fuel, fresh water, and space for aircraft maintenance are provided. Only fresh water is currently available at A29. Aircraft maintenance and fueling is available at the nearby Sitka Rocky Gutierrez (SIT) airport, but the use of that facility requires operating with amphibious gear or landing in the open ocean and is only available at limited times during favorable winds and tidal conditions. Seaplanes must also navigate a rocky area to access a seaplane haulout and arrange an escort by the Alaska DOT&PF to cross the SIT runway and access an aircraft parking apron. Commercial users indicate this unreliable and time-consuming access to SIT is not practical for commercial seaplane operations.

A few commercial seaplane operators who currently operate at SIT with amphibious floats indicate that they would switch to straight floats if a new Sitka SPB were built. The opportunity to switch to straight floats is attractive to commercial operators because aircraft fitted with heavy amphibious floats burn more fuel, are slower, and can carry less payload than aircraft flying with straight floats, as discussed previously.

Not all potential SPB users were able to be contacted for this study. Other potential users who operate seaplanes in the region - government agencies such as the US Fish and Wildlife Service and Alaska State Troopers, some of the seaplane businesses and lodges in the region who were

not contacted, and some private wheeled and seaplane owners in Sitka who were not available for interviews - would also likely be interested in basing seaplanes at a new facility or for transient use.

Justification:

Sitka is located in Southeast Alaska in a region dominated by water, small coastal communities and lodges served by a mix of land airports and SPB's. Access is by air and by sea only. There are no road connections to communities outside Sitka; road access is not feasible because of mountainous terrain and wide expanses of ocean water. Sitka is the hub for the west central part of Southeast Alaska, serving as both a center for transportation, health services and commerce.

Sitka is the third largest community in Southeast Alaska. It enjoys one of the most diversified economies in Alaska, composed of commercial fishing and fish processing, health care, cruise ship and independent tourism, education, and government. Sitka has two hospitals - Sitka Community and Sitka SEARHC (aka, Mt. Edgecumbe Hospital). SEARHC is a non-profit tribal health consortium of 18 Native communities, which serves the health interests of the Tlingit, Haida, Tsimshian, and other Native people of Southeast Alaska. SEARHC was established in 1975 under the provisions of the Indian Self-Determination Act.

State and federal government agencies, such as the United States Forest Service, maintain offices in Sitka. Coast Guard Air Station Sitka, located just west of the city center on Japonski Island, is manned by 20 officers and 100 enlisted personnel.

The table below shows the recent performance of several indicators of the health of Sitka's economy.

Sitka Economic Indicators 2010-2014

	2010	2014	Change 2010-14
Population	8,881	9,061	2%
Total Seafood Employment	421	648	54%
Total Seafood Employment Earnings	$15,943,670	$29,910,590	88%
Other Maritime Wages	$7,074,209	$14,000,979	98%
Construction Employment	196	286	46%
Construction Wages	$12,620,024	$21,927,256	74%
Total Visitor Industry Employment	530	670	26%
Total Visitor Industry Wages	$12,422,985	$18,283,024	47%

Source: Rain Coast Data, 2015

These healthy and growing sectors of Sitka's economy depend on the aviation industry to move tourists, construction workers, fishermen, year-round residents, and freight to remote lodges, construction sites, fishing boats, canneries and hatcheries that are only accessible by seaplanes.

Interviews with local pilots, business owners and staff at CBS and SEARHC Hospital, indicate that traffic using the Sitka SPB came from communities, lodges, and a network of other SPBs on Baranof, Chichagof, and Catherine Islands.

According to the Sitka Flight Service web site "There are 14 public use seaplane bases, in the Sitka flight plan area, not to mention the thousands of picturesque bays, coves and lakes that are frequented by float plane pilots."
http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/systemops/fs/alaskan/alaska/jnu/sit/

A list of SPBs within 90 miles of Sitka follows. Also shown are those SPB's that have air service from carriers receiving an Essential Air Services program subsidy.

SPB Name	NPIAS?	Distance to Sitka	Essential Air Service Subsidy?
Angoon SPB	NPIAS	43	Yes
Baranoff Warm Springs SPB	NPIAS	20	
Elfin Cove SPB	NPIAS	88	Yes
Excursion Inlet SPB	NPIAS	95	Yes
False Island SPB	non-NPIAS	33	
Funter Bay SPB	NPIAS	82	Yes
Hawk Inlet SPB	non-NPIAS	78	
Kake SPB	non-NPIAS	53	Yes
Pelican SPB	NPIAS	70	Yes
Port Alexander SPB	NPIAS	63	Yes
Port Armstrong SPB	non-NPIAS	59	
Port Walter SPB	non-NPIAS	54	
Saganaw Bay SPB	non-NPIAS	46	
Taku Harbor SPB	non-NPIAS	82	
Tenakee SPB	NPIAS	50	Yes
Warm Springs SPB	NPIAS	20	

Sitka's seaplanes are very important to the social and economic fabric of this coastal region's remote communities, lodges, recreation areas, hatcheries, and fishing fleets. Primary uses of seaplanes are for:

- **Community access** to small outlying communities that depend on seaplane access to Sitka for medical services, shopping and to access the paved Sitka Airport. As noted above, many of these communities have subsidized Essential Air Service.
- **Government agencies** such as the **US Forest Service**, **US Fish and Wildlife Service**, **Alaska Department of Fish and Game**, **Alaska State Troopers**, and the **Civil Air Patrol** require seaplanes to access remote communities and resources. Aircraft of these

agencies generally operate or prefer to operate from straight floats (versus amphibious gear) because:
1. many of their aircraft can only be configured with floats;
2. they need the efficiency, performance, and payload capability of operating with straight floats;
3. they need to reach remote locations only accessible by water; and
4. seaplanes with straight floats operate better at low altitudes around terrain and meandering rivers and coastlines. These straight float aircraft must park on water at a float, preferably on a SPB with fuel available.

- The **US Forest Service** has contract seaplanes in Sitka every summer. There currently is no seaplane float for them to dock that is designed for seaplanes of their size. They use a Forest Service boat float as an interim solution, but it is only available for seaplanes when there are no boats and it does not have aviation fuel. Their contractors would use a new Sitka SPB on a transient basis and/or a Sitka based contractor could base his seaplane at the new SPB instead of a Juneau contractor at a more distant and less efficient base 80 miles away in Juneau.
- The **US Fish and Wildlife Service** contractors fly biologists along Southeast Alaska coastal areas to conduct annual marine mammal surveys. They also use the Forest Service boat float when it's available. Because there is no fuel they must adjust their operations and fly to Juneau or other locations for fuel. Like the Forest Service, their contractors would likely use the new Sitka SPB with transient and/or based aircraft, especially if fuel were available.
- The **Alaska Department of Fish and Game** contractors have rented space at A29 for over 2 decades. They must operate from straight floats (not amphibious gear) so that they can carry sufficient fuel for the distances flown and so they can fly at low altitudes to conduct stream surveys. They fly stream surveys 3 – 4 times per week during pink and chum salmon runs. Their findings are used to determine the number of fish that are reaching spawning areas, and consequently when fishing periods should be opened or closed. These fisheries could not be authorized without their fish surveys.
- The **Alaska State Troopers** fly seaplanes with straight floats from Hoonah, covering a large geographic area. They would likely use a new Sitka SPB on a transient basis to refuel their aircraft instead of having to transport and reposition fuel into remote areas.
- The **Civil Air Patrol** operates a straight De Havilland DHC-3 Beaver in Sitka from A29 when conducting search missions for downed aircraft.

- **Sitka's large fishing industry** (1,300 boat slips in Sitka) is supported by seaplanes that are used to spot fish, deliver employees and materials to remote marine locations, serve fish hatcheries, and provide emergency rescue. Aviation support for the fishing industry is vital to Sitka, because of fisheries' large and growing importance to the Sitka economy. Over the last 4 years alone, seafood employment grew by 54% and seafood earnings grew by 88% to nearly $30 million in employment earnings per year. Other maritime wages grew by 98% to over $14 million per year.
- **Tourists** accessing lodges or flightseeing, hunting, fishing, and hiking. Similar to fishing, tourism is a major growing employer in Sitka and visitor employment has grown

by 26% over the last 4 years while wages have grown by 47% to over $18 million per year. Statewide visitor volume was up by 7 percent in 2015 due largely to increases in air and cruise ship travel. Domestic airline passengers exiting Alaska through Sitka Rocky Gutierrez Airport increased by 16% between the 2014 and 2015 summer tourist seasons. According to Cruise Line Agencies of Alaska, the number of cruise ship passengers traveling through Sitka is expected to remain stable over the next few years at about 118,000/year. They also said that there are not enough seaplane operators in Sitka to serve their customers' current demand for flightseeing. One lodge owner who participated in the interviews has their own seaplane on straight floats. They transport their guests to and from Sitka with their seaplane. Because they would not have enough payload capacity if they transfer it to amphibious floats, it would be uneconomical to operate. They will be prevented from operating without A29.

- **Medical** evacuations and transport of medical personnel to remote communities and other marine locations. According to the Chief Flight Nurse for Mt. Edgecumbe Hospital, approximately 40 seaplane medevac operations per year come to the hospital. Currently these are primarily handled by amphibious aircraft from the Sitka Airport but a new Sitka SPB would be more attractive for medivacs to communities like Angoon, Pelican, Port Alexander and Elfin Cove that are only accessible by seaplanes. As noted earlier a seaplane operating with straight floats from a new Sitka SPB would be faster, more efficient, and less expensive compared to flying with amphibious gear from the Sitka Airport.
- **Regional aviation services** are provided in Sitka for seaplanes that are transiting between the Lower 48 states and other seaplane hubs in Southeast Alaska, Anchorage, and Interior Alaska. Sitka's geographical position and regional services makes it an attractive refueling and service hub for transiting seaplanes.
- **Recreational flying** by private seaplane pilots, both local and from outside the region. Sitka resident pilots want to access the unique fresh and saltwater recreation areas that surround them. Sitka has the fourth largest number of general aviation aircraft and pilots in Southeast Alaska; only Juneau, Haines, and Ketchikan have more aircraft and pilots. In 2015 Sitka had 54 planes and 49 certified pilots. Many of Sitka's pilots are seaplane rated.

Airport/Sponsor/Infrastructure Data:

- The new Sitka SPB will be a publicly owned, public use facility.
- Sponsor will be continue to be the City and Borough of Sitka and is an eligible sponsor.
- The new Sitka SPB will utilize a new waterlane west of the existing waterlane published in the Alaska Supplement. The current unmarked 4,000 foot by 200 foot waterlane is within the Sitka Channel, a narrow 400 to 500 foot wide channel shared with a considerable amount of boat traffic accessing boat harbors, fish processing plants, and other public and private facilities. It also crosses beneath the O'Connell Bridge. The new waterlane has not been precisely positioned yet, but will be in the wider, less congested West Anchorage area which will have fewer boat, noise, and bridge conflicts than the current waterlane (see attached map showing existing and proposed water operating areas).
- The existing SPB was constructed with a Civil Aeronautics Authority grant in 1952 and improved with FAAP and ADAP grants in 1961 and 1979 respectively, all totaling $295,325. An AIP grant issued in 2010 for $300,000 funded the 2012 siting analysis which identified

the proposed new SPB site within a 1,000 foot section of shoreline on Japonski Island. Discussions are underway with several government and non-profit property owners to determine the final location within this area. The existing SPB would be decommissioned once the new SPB was built.

- The new SPB will be constructed to meet all current FAA standards.

Entry Criteria:

- The current SPB has 5 based aircraft, and approx. 4,750 yearly operations based on the most recent 5010 Airport Master Record.
- A 2016 forecast completed by the City and Borough of Sitka is based on a recent survey of 38 pilots and businesses. As noted above, of the 38 pilots and businesses interviewed, 33 said they would use the new SPB and 19 said they would base from 25 – 30 commercial, recreational, and government seaplanes at a new Sitka SPB (see attached interview summary).

The table below shows Low, Medium, and High growth forecasts for SPB activity for the 2016 – 2036 planning period. The 12 based aircraft demand in 2016 reflects the 8 slips that were leased in 2012, plus 4 seaplanes that were on a waiting list. This 2016 forecast is unconstrained by facility limitations and represents expected demand if there were enough parking spots at the existing SPB. This may underrepresent actual demand, since interviews with seaplane operators indicated that, due to the deteriorated condition of the nearly 40 year old facility, some had already moved operations from A29 or were otherwise disinclined to apply for the waiting list. A29 is also not well suited to the needs of commercial operations due to its small size and poor condition, lack of uplands for fuel facilities, maintenance and vehicle parking, and conflicts with adjacent land uses, boats and birds, etc.

The Low Growth forecast assumes current demand remains relatively unchanged, only growing at the 1% forecasted rate of 2012-2042 statewide population growth. It does not consider the growth in SPB demand expressed by existing and potential users and others in the interviews.

The Medium and High forecasts are primarily based upon interviews of local residents, regional seaplane operators, cruise ship interests, and other stakeholders. The Medium forecast assumes that the low range of based aircraft demand expressed in the interviews is accomplished by the year 2036 when 25 seaplanes would be based at a new SPB. The High forecast assumes that the high range of based aircraft demand expressed in the interviews is accomplished by the year 2036 when 30 seaplanes would be based at a new SPB. While the interviews indicated this level of based aircraft would be expected by 2020, this forecast takes a more conservative approach, and estimates that level of demand by 2036.

In both the Medium and High forecasts it is assumed that growth would be greatest in the early years, after a new SPB is built with more amenities and seaplane parking. It also assumes some of the commercial use would take longer to implement than was expressed in the surveys due to the lead times required to start up new businesses, move assets (aircraft, maintenance equipment, etc.) from other markets, or to obtain financing to acquire aircraft and/or construct hangars, storage, or office facilities.

Low, Medium, and High Aircraft Activity Forecasts

Aircraft Operations	% Annual Growth	2015 (Base)	2016	2021	2026	2031	2036
Low Forecast	1.00%	4,750	11,400	11,982	12,593	13,235	13,910
Medium Forecast		4,750	11,400	19,000	20,900	22,800	23,750
High Forecast		4,750	11,400	20,900	23,750	26,600	28,500
Based Aircraft	**% Annual Growth**	**2015 (Base)**	**2016****	**2021**	**2026**	**2031**	**2036**
Low Forecast	1.00%	5	12	13	13	14	15
Medium Forecast		5	12	20	22	24	25
High Forecast		5	12	22	25	28	30

** 2016 forecast assumes no constraints due to facility limitations and represents expected demand if there were enough parking spots at the existing SPB.

- Nearby NPIAS airports (within 30 miles) include:
  - Sitka Rocky Gutierrez Airport (SIT), NPIAS 02-0268, Service Level: Primary
    - Distance to proposed airport: 0.667 mile, less than 5 minutes road travel.
  - Baranof Warm Springs SPB (BNF), NPIAS 02-0451, Service Level: General Aviation
    - Distance to proposed airport: 20.11 mile, not on road system, no travel time available.
- The current Sitka SPB is classified in the Alaska State System Plan as a Local NPIAS Lower Activity public use SPB. The new SPB is expected to retain that classification in the short term.
- The new SPB is expected to be a General Aviation airport which will fulfill a Basic airport role under the ASSET criteria.

Financial:

- Based on the 2012 siting study, the new Sitka SPB is estimated to cost $11.7 million. AIP funding required is currently estimated at $10.97 million.
- The City and Borough of Sitka's ability to operate, maintain and develop the new SPB is most readily evidenced by its current management of A29, the over 1,300 boat slips in Sitka, plus other marine facilities, for commercial and recreational use. The Ports and Harbors Department operates these facilities under a self-supporting enterprise Harbor Fund. Through good stewardship, over $6 million in undesignated funds are currently

available within the Harbor Fund. A system of rates and fees generates over $2.5 million per year in revenues that cover operation, maintenance and capital costs. City and Borough general funds are not needed to subsidize the harbor system. Because of the high quality and strategic importance of these facilities, the boat harbor has a 278 vessel waiting list.

- While a 30 year useful life is typically used in other Alaska communities for harbor facilities, Sitka's strong routine maintenance program has extended marine facility life to 40 years in many cases per the 2012 City and Borough of Sitka Harbor System Master Plan. It should be note that A29 is nearly 40 years old and near the very end of its service life. Efforts to develop a replacement SPB in Sitka have been ongoing for nearly two decades during which A29 has continued to age to a point where it will require up to $170,000 in capital expenditures this summer to remain open to the public.
- Sitka is forward looking and proactive in planning for harbor and SPB maintenance and development. In 2012 it adopted a Harbor System Master Plan that includes the SPB. This Plan provides an engineering assessment of the existing condition of municipal harbor and SPB infrastructure, provides budgetary cost estimates for the necessary improvements, and organizes the projects into a Capital Improvement Projects (CIP) Plan. The Master Plan also recommends a moorage rate structure to provide the necessary capital funding to implement the CIP Plan. The City Assembly approved moorage rate increases in each of the past four years and is anticipated to take up the next increase this year (see attached pages from the master plan).
- Seaplane rates/fees have not been adjusted in Sitka along with boat moorage rates, since A29 is at the end of its service life and an increase in rates may only further decrease demand until a new facility can be constructed. However, similar to boat moorage rates, seaplane rates/fees for a new facility will be structured to cover operations, maintenance and replacement costs. SPB revenues are expected from commercial and recreational slip rentals, fees for transient use, and potentially from hangar rental, fuel sales, and ground leases. Sitka's required share of costs under a construction grant will be made from bonding, Harbor Fund reserve working capital, or other municipal sources.

Compliance:

- The new SPB will be in compliance with all grant obligations.

Name of Congressional Contacts (House & Senate) for this airport:

Senator Lisa Murkowski
Senator Dan Sullivan
Representative Don Young

Approval:

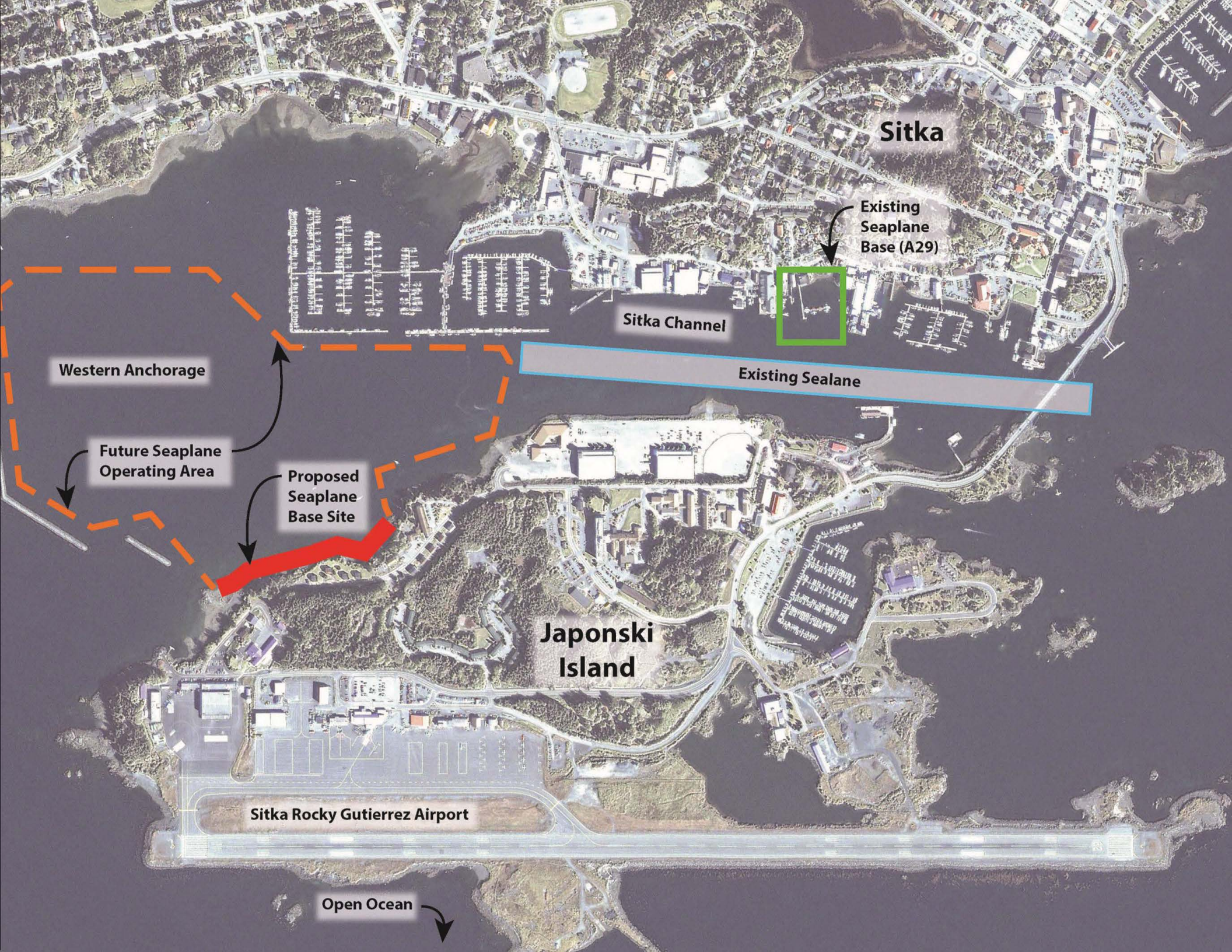
Regional Division Manager: _____ Date: _____

APP-400 Manager: _____ Date: _____

APP-1 Director: _____ Date: _____

Attachments:

Map of existing and proposed SPB's
User interview results
Harbor Master Plan information


Sitka
Existing Seaplane Base (A29)
Sitka Channel
Western Anchorage
Existing Sealane
Future Seaplane Operating Area
Proposed Seaplane Base Site
Japonski Island
Sitka Rocky Gutierrez Airport
Open Ocean

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APPENDIX E

Economic Impact Study

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Economic Impact of a New Public Seaplane Facility at Sitka

Executive Summary

The public Sitka Seaplane Base (A29) in Sitka Channel closed down temporarily for repairs in January of 2016 after operating for nearly 65 years. In addition to needing substantial repairs, the facility has insufficient capacity and the inability to expand due to the constraints of the current location. The current location also has a congested sealane to take off and land and has conflicts with boat traffic and birds. Because of these multiple issues, A29 has seen less and less use over time. The facility will be repaired and reopened in the fall of 2016 while plans are underway to develop a new facility at a different site.

Interviews of 38 seaplane owners and operators in 2016 documented demand for a facility with 20 permanent slips in 2020, and need for expansion to 25 slips by 2036. A new seaplane base site has been proposed at the north end of Japonski Island to meet current and future commercial and recreational seaplane demand. This economic impact report estimates the economic importance of the new, expanded facility.

To estimate the economic impacts that a new facility will bring to Sitka, members of the commercial Sitka flying community and those agencies and businesses that depend on them were interviewed. Also interviewed were regional air carriers, lodges, government agencies, and other impacted businesses not based in Sitka that use seaplane transportation to and from Sitka. Interviews of local and regional carriers suggest that at least 230 visitors came to Sitka via seaplane charter in 2015, and impacts of their spending is also considered here. This report attempts to estimate the dollar value of the impacts to the Sitka economy of a new seaplane facility with increased capacity by capturing the economic importance of activity at the current A29, combined with increased economic activity created from the new, expanded facility. The economic impacts identified that could be estimated in terms of dollar values include:

- Increased business investment in Sitka by air carriers and aviation support businesses associated with a new seaplane base;
- Revenue earned from use of A29 by Sitka-based aviation-related businesses, and increased revenues earned by those businesses associated with a new public seaplane base; and
- Revenue earned from visitors to Sitka using A29 and increased visitor activity in Sitka associated with a new facility, such as increased spending in hotels, restaurants, shops, and on tours.

In some cases, it was impossible to estimate a dollar value to Sitka of certain economic

impacts, however, those impacts are undeniable, and are discussed in general terms in this report. Positive economic impacts from the following activities are discussed but no dollar estimates were developed:

- Construction of a new facility.
- Maintenance and operation of a new facility.
- Impacts to air carriers not based in Sitka from seaplane aviation activity in Sitka.
- Spending in Sitka by GA seaplane operators for non-aviation goods and services.
- Spending in Sitka by air carriers not based in Sitka for non-aviation goods and services.
- Spending in Sitka by lodges using seaplanes at Sitka for non-aviation goods and services.
- Possible lower seat fares and freight costs for seaplane transportation throughout the region.
- Sales taxes from seaplane-related activity and spending by visitors using seaplanes in Sitka.
- Impacts from the repurposed use of the A29 site.
- Possible increases in business investment and earnings in Sitka as seaplane activity grows several years after the facility is built.

Consequently, the dollar value of impacts presented here should be considered conservative, and a minimum possible impact.

A well-known econometric model (IMPLAN) specific to the Sitka economy was used to calculate impacts to the Sitka economy of seaplane-related activity by aviation industries and industries earning income from visitors using seaplane services at Sitka assuming a new public seaplane base is built to replace A29. Impacts are defined as follows:

- ***Direct impacts*** are economic impacts created from earnings by Sitka businesses related to seaplane activity and spending of visitors using seaplane services.
- ***Indirect impacts*** (multiplier effects) result from additional spending in the Borough by businesses earning revenue directly from seaplane activity and spending of visitors using seaplane services in Sitka.
- ***Induced impacts*** (multiplier effects) result from additional spending in the Borough by households earning income from seaplane activity and spending of visitors using seaplane services in Sitka.

While these impacts are created from activity in Sitka, not all of them result in spending in Sitka. Many businesses purchase goods and services outside of the community where they are located. For this report, in addition to total economic impacts wherever they occur, we report those dollars spent and jobs created within the Sitka economy. These direct and multiplier impacts that remain in the Sitka economy are reported as:

- Wages and Salaries paid (including income to the business owner);
- Rents, Royalties and Dividends paid (generally payments to the private parties);
- Fees and Taxes paid (generally payments to federal, state, and local governments); and
- Jobs created (number of full-time-equivalent jobs).

All of these impacts, wherever they occur, are summarized below. Details about the model and methodology used for this analysis are included at the end of this report.

Table 1 shows estimated economic impacts in the first year of use of a new larger public seaplane base in Sitka. These impacts result from both one-time business investments, and changes in first year business income (revenues minus costs) for affected air carriers and related businesses. In addition to seaplane aviation-related business impacts, visitor spending impacts to the Sitka economy from seaplane activity are also estimated.

Table 1 shows total economic impacts from this activity in Sitka, as well as impacts to areas outside of Sitka, and includes:

- **Total Earnings by Sitka Businesses** - $1,606,444 in total direct impacts and multiplier affects (indirect and induced impacts) from Sitka-based aviation businesses and visitor spending. Just 39.3% of that money stays in Sitka.
- **Earnings Staying in Sitka** - $631,788 in business revenue (direct and multiplier impacts) from Sitka seaplane activity is spent in Sitka. This includes:
    - $397,675 in wages and salaries paid and proprietors' income;
    - $123,147 in rents, royalties and dividends paid (mostly to private industry);
    - $110,966 in local fees and taxes paid (mostly to government); and
    - 10.9 full-time-equivalent jobs created in Sitka.

Table 1
First Year Economic Impacts within the Sitka Borough
of a New Public Seaplane Base

	From Aviation Activity	From Visitor Spending	Total Impacts
Total Earnings by Sitka Businesses	**$1,371,566**	**$234,878**	**$1,606,444**
Direct Impacts	$1,014,396	$168,000	$1,182,396
Indirect Impacts	$256,832	$37,700	$294,533
Induced Impacts	$100,337	$29,178	$129,515
Earnings Staying in Sitka	**$489,778**	**$142,010**	**$631,788**
Payroll and Proprietors' Income	$308,038	$89,637	$397,675
Rent, Royalties and Dividends	$90,802	$32,345	$123,147
Local Fees and Taxes	$90,938	$20,028	$110,966
Jobs Created (Full-time equivalent)	7.0	3.9	10.9
Percent Earnings Staying in Sitka	**35.7%**	**60.5%**	**39.3%**

Source: Southeast Strategies and IMPLAN, 2016.

The impacts shown above emanate only from expenditures by businesses located within the Sitka Borough or visitors to the Borough. However, other *direct* economic impacts of about $256,780 per year were also understood to occur outside of the Sitka Borough from seaplane activity at Sitka. Since those direct impacts do not occur in Sitka, no multiplier affects (indirect

and induced impacts) from that spending occur in Sitka either. No multiplier affects were estimated for out-of-borough areas.

In addition to the initial year impacts, which include one-time business investment such as building a hangar or purchasing aircraft equipment, additional business spending will occur in future years of the facility's operation. Table 2 presents recurring annual economic impacts resulting from a new public seaplane base in Sitka. There is strong potential for even more business investment and growth in business earnings as seaplane activity grows in Sitka over time, however, estimates of longer term economic impacts were not made for this report.

Table 2 presents total economic impacts occurring each year from this activity in Sitka, as well as impacts to areas outside of Sitka, and includes:

- **Total Earnings by Sitka Businesses** - $815,755 in total direct impacts and multiplier affects (indirect and induced impacts) from Sitka-based aviation businesses and visitor spending. Just 44.6% of that money stays in Sitka.
- **Earnings Staying in Sitka** - $364,159 in business revenue (direct and multiplier impacts) from Sitka seaplane activity is spent in Sitka. This includes:
    - $235,071 in wages and salaries paid and proprietors' income;
    - $72,025 in rents, royalties and dividends paid (mostly to private industry);
    - $57,063 in local fees and taxes paid (mostly to government); and
    - 5.8 full-time-equivalent jobs created in Sitka.

Table 2
Recurring Annual Economic Impacts within the Sitka Borough of a New Public Seaplane Base

	From Aviation Activity	From Visitor Spending	Total Impacts
Total Earnings by Sitka Businesses	**$580,897**	**$234,878**	**$815,775**
Direct Impacts	$429,396	$168,000	$597,396
Indirect Impacts	$103,942	$37,700	$141,642
Induced Impacts	$47,559	$29,178	$76,737
Earnings Staying in Sitka	**$222,149**	**$142,010**	**$364,159**
Payroll and Proprietor's Income	$145,434	$89,637	$235,071
Rent, Royalties and Dividends	$39,680	$32,345	$72,025
Local Fees and Taxes	$37,035	$20,028	$57,063
Jobs (Full-time equivalent)	3.1	2.7	5.8
Percent Earnings Staying in Sitka	**38.2%**	**60.5%**	**44.6%**

Source: Southeast Strategies and IMPLAN, 2016.

The impacts shown above emanate only from expenditures by businesses located within the Sitka Borough, or visitors to the Borough. However, other *direct* economic impacts of about $256,780 per year were also understood to occur outside of the Sitka Borough from seaplane activity at Sitka. Since those direct impacts do not occur in Sitka, no multiplier affects (indirect and induced impacts) from that spending occur in Sitka either. No multiplier affects were estimated for out-of-borough areas.

Introduction

The public Sitka Seaplane Base (A29) in Sitka Channel closed down temporarily for repairs in January of 2016 after operating for nearly 65 years. In addition to needing substantial repairs, the facility has been deemed to have insufficient capacity and the inability to expand due to the constraints of the current location. The space constraints and current location have also given rise to congested sealanes and conflicts with boat traffic and birds, and this facility has seen less and less use over time. The facility will be repaired and reopened in the fall of 2016 while plans are underway to develop a new facility at a different site.

Interviews of 38 seaplane owners and operators (both commercial and general aviation) were completed in early 2016. All those interviewed agreed that if A29 were in better condition, had more room for aircraft, less traffic conflicts, and better access to fuel and other services, it could have substantially more use. The air traffic forecast developed for seaplane activity in Sitka for the *Request for Entry into NPIAS – Sitka Seaplane Base* report (DOWL Engineers, 2016) documented demand for a facility with 20 permanent slips available at opening in 2020, and need for expansion to accommodate 25 based aircraft by 2036.

The preferred new seaplane base site at the north end of Japonski Island will allow sufficient space to meet anticipated future demand for seaplane use and sufficient uplands to support that use. The new facility will be located in an area that has a larger sealane and is far away from fish processing activities, greatly reducing conflicts with boats and birds. With the 2016 summer flying season under way, and fishing and tourism seasons in progress, the flying community of Sitka and those who depend on them are beginning to understand the impacts of the temporary closure of A29, and what a new expanded facility might mean to their business and the community in general. This report attempts to estimate the dollar value of the impacts to the Sitka economy of a new seaplane facility with increased capacity by capturing the economic importance of activity at the current A29, combined with increased economic activity created from the existence of a new, expanded facility.

To estimate the economic impacts that a new facility vs no facility will bring to Sitka, members of the commercial Sitka flying community and those agencies and businesses that depend on them were interviewed. Also interviewed were regional air carriers, lodges, government agencies, and other impacted businesses not based in Sitka that use seaplane transportation to and from Sitka. The economic impacts identified that could be estimated in terms of dollar values include:

- Increased business investment in Sitka by air carriers and aviation support businesses associated with a new seaplane base;
- Revenue earned from use of A29 by Sitka-based aviation-related businesses, and increased revenues earned by those businesses associated with a new public seaplane base; and

- Revenue earned from visitors to Sitka using A29 and increased visitor activity in Sitka associated with a new facility, such as increased spending in hotels, restaurants, shops, and on tours.

In some cases, it was impossible to estimate a dollar value to Sitka of certain impacts, however, those impacts are undeniable, and are discussed in general terms in this report. Impacts from the following activities are discussed but no dollar value estimates were developed:

- Construction of a new facility.
- Maintenance and operation of a new facility.
- Impacts to Air Carriers not based in Sitka from seaplane aviation activity.
- Spending in Sitka by GA seaplane operators.
- Spending in Sitka by air carriers not based in Sitka for non-aviation supplies and services.
- Spending in Sitka by lodges using seaplanes at Sitka for non-aviation supplies and services.
- Possible lower seat fares and freight costs for seaplane transportation throughout the region.
- Impacts from the repurposed use of the A29 site.
- Possible increases in business investment and earnings in Sitka in future years.

The Sitka Economy

The City and Borough of Sitka (2015 population of 8,929) encompasses nearly all of Baranof Island and portions of Chichagof Island, and is accessible only by sea or air transportation. The Second Class City of Port Alexander (2015 population of 62) is located on Baranof Island, but is not part of the Borough. The Sitka Borough has one of the most stable and diverse economies in Alaska. Important economic sectors include tourism, commercial fishing, health care services, military (U.S. Coast Guard Air Station Sitka), and government (Alaska State Trooper Academy, Sitka Tribe of Alaska, Borough government, U.S. Forest Service). Sitka serves as a regional hub for retail goods and services including health care and connections to jet air and public ferry transportation services. The population of Sitka was down slightly (-1.5%) and employment was up slightly (0.7%) between 2014 and 2015. The number of visitors to Sitka has been increasing, as has commercial fish harvest in the area. The following table presents selected economic indicators for Sitka in 2010 and 2014.

Table 3
Sitka Economic Indicators 2010-2014

	2010	2014	Change 2010-14
Population	8,881	9,061	2%
Total Seafood Employment	421	648	54%
Total Seafood Employment Earnings	$15,943,670	$29,910,590	88%
Other Maritime Wages	$7,074,209	$14,000,979	98%
Construction Employment	196	286	46%
Construction Wages	$12,620,024	$21,927,256	74%
Total Visitor Industry Employment	530	670	26%
Total Visitor Industry Wages	$12,422,985	$18,283,024	47%

Source: Rain Coast Data, 2015.

Use of Seaplanes in Sitka

Like many towns in Southeast Alaska, Sitka and the small communities around it are accessed only by air or sea, and many have no runways or airstrips on land. Consequently, air access to many communities, lodges, hatcheries, and remote camps near Sitka is only by seaplane. Many of these communities have little or no ferry access, making seaplane transportation all the more essential. Table 4 describes many of the seaplane bases near Sitka.

Table 4
Seaplane Bases Near Sitka

Facility	Distance to Sitka (Miles)	Essential Air Service Subsidy?	Ferry Service?	Runway on Land?	2014 Estimated Air Taxi Operations
Angoon SPB	43	Yes	Yes	No	1,000
Baranof Warm Springs SPB	20	No	No	No	250
Elfin Cove SPB	88	Yes	No	No	300
Excursion Inlet SPB	95	Yes	No	No	200
False Island SPB	33	No	No	No	600
Kake SPB	53	Yes	Yes	Yes	500
Pelican SPB	70	Yes	Limited	No	300
Port Alexander SPB	63	Yes	No	No	250
Port Walter SPB	54	No	No	No	100
Tenakee Springs SPB	50	Yes	Yes	No	500
Sitka SPB	0	No	Yes	Yes	4,000

Sources: *Sitka Seaplane Base Request for Entry Into NPIAS*, May 2016, DOWL Engineers, 5010 Airport Master Records, AirportIQ, 2016, and Southeast Strategies.

Sitka is a regional hub for goods and services, and supports commercial fishing and visitor industries. Some of the many uses for seaplanes at Sitka include:

- Access to goods and services by residents and businesses from outlying communities;
- Access from outlying communities to direct jet aircraft and ferry transportation services to other parts of Alaska, and beyond;
- Access to the Southeast Alaska Regional Health Consortium Native hospital;
- Access to rural lodges that provide fishing, hunting and wildlife viewing experiences;
- Access to Sitka by visitors to the region, including air tours of the Sitka area;
- Access by businesses and agencies to remote sites, and to monitor fisheries or other activities they are tasked with overseeing.
- Fish spotting for commercial fishers and fish processors; and
- Recreational flying in the community and the region.

Table 4 shows the high level of activity at A29 in 2014, relative to other seaplane bases in the region. Due to its poor condition, space constraints, limited amenities and boat/bird conflicts, A29 has not been able to meet the demand for seaplane access in Sitka. As a consequence, aircraft have been reequipped with wheels or amphibious floats, and aircraft have been sold or moved to other communities (such as Juneau) with better seaplane facilities. With the temporary closure of A29, some seaplanes rent high-cost private slips, or moor to boat docks or buoys, often causing safety and convenience of loading concerns.

Proposed New Seaplane Base

The new Sitka Seaplane Base on the north side of Japonski Island is proposed to have the following configuration upon opening:

- 14 permanent seaplane slips;
- Slip or dock space for 5 transient seaplanes;
- A ramp with the ability to drive a vehicle down it (at least a 4-wheeler, maybe larger);
- Possibility of a floating hangar; and
- Shoreside facilities, including;
    - aviation fuel storage:
    - service apron with tiedowns;
    - parking for 12 to 15 vehicles;
    - room for hangars; and
    - haulout ramp.

Business and Agency Survey

To develop this economic impact estimate, specific groups of businesses and government agencies were surveyed for impacts related to current seaplane use, and changes to activity related to the development of a new Sitka seaplane base. They were asked what new investments in Sitka they might make, and what new revenues they might earn if the seaplane

base is built. They were also asked what losses they might realize from foregone revenues or more costly operations if the facility is not built, and A29 is permanently closed. The groups interviewed are described below.

Local-based Air Carriers

There are two Part 135 (small commuter and charter operations) air carriers based in Sitka. One has a private float in the harbor for their one seaplane. This carrier provides on-demand charter services for flightseeing tours, transportation to lodges and other remote sites, and other purposes as requested. In addition, this carrier sells fuel, and rents parking space to transient aircraft at this dock. An aviation mechanic associated with this carrier provides services to outside customers at the float. The owner of this carrier business is considering retirement, and the facility is for sale. At this time it is not clear whether a new owner would continue to provide aviation facilities or if this business activity and its associated economic benefits would leave Sitka. The current owner has expressed interest in moving to the new public seaplane base.

The second Sitka-based carrier is located at the Sitka Rocky Gutierrez Airport and has two wheeled aircraft and two aircraft equipped with amphibious floats for the ability to land on water or land. The carrier provides scheduled service to outlying communities, and charters to bring patients (often from rural areas) to the Alaska Native hospital in Sitka. They also charter with the several state and federal agencies, and outlying camps, hatcheries, and lodges. This carrier provides maintenance and repair service for their own aircraft, as well as for outside customers. With development of a new SPB, this carrier would be able to change their landing gear on two aircraft from amphibious floats to straight floats (decreasing costs and increasing payload), and move the seaplane portion of the operation from the Sitka Airport to the new public seaplane facility, build a new office and hangar on-shore, and expand their operations.

In addition, one Juneau-based carrier recently started scheduled wheeled-plane service at the Sitka Airport. They currently contract out support for those flights, but may hire Sitka employees in the future. Economic impacts to this carrier of a new Sitka public seaplane base would only occur if this carrier had no wheeled planes available for these flights because of mechanical issues, and would need to bring in aircraft on straight floats for this service.

Two other Sitka-based pilots are considering applying for Part 135 certification to provide charter fishing, flightseeing, and possibly fish spotting services. These pilots currently are concerned that without development of a new seaplane base, they will have no safe place to park their seaplanes in Sitka, and no convenient way to load and unload passengers and cargo. With development of a new public seaplane base, these operators would have a safe place from which to develop their new businesses.

Air Carriers not Based in Sitka

Several Part 135 air carriers based in other Southeast Alaska communities occasionally provide charters with seaplanes to Sitka for a variety of clients for a variety of purposes. Some trip purposes include:

- Bringing yacht passengers to and from their ships;
- Bringing cruise ship passengers not scheduled to travel to Sitka in for day trips;
- Bringing outlying lodge clients to Sitka to access transportation to the lodges;
- Bringing in clients for specialty purposes, such as crews making films or marine pilots accessing their ships;
- Performing contract fish spotting for commercial fishermen, fish processors, or regulatory agencies; and
- Charters to state and federal agencies within the region wishing to access the Sitka area.

While revenue earned by these carriers is generally spent in the community they are based, they do sometimes purchase fuel, pay slip fees, eat at restaurants, and purchase other goods and services at Sitka. Many of the visitors traveling to Sitka via these carriers have high disposable incomes, and tend to spend a substantial amount of money in Sitka. A later section of this report estimates these visitor expenditures, and their impacts to the Sitka economy. These business owners reported that they would likely increase their level of operations at a new public seaplane base in Sitka.

Remote Lodges

There are several remote lodges in the Sitka area. The ones closest to Sitka tend to transport clients by boat to and from town, but use seaplanes to fly clients to remote locations from the lodge. Other lodges out of convenient boat range from Sitka charter with one or both of the Sitka-based Part 135 carriers to transport clients by seaplane to and from the lodge. Impacts to these lodges are estimated under impacts to the carriers that serve them. One lodge located at Port Alexander brings clients in from Sitka via the lodge's own seaplane. The owner exclusively uses A29 for his business, and without this facility or a replacement, he would not be able to keep his lodge open. Lodges outside of the Sitka Borough (such as those in Port Alexander) do not pay taxes in Sitka, however, they often purchase goods and services in Sitka. The direct impacts from lodges outside the Borough are considered in this report, but multiplier effects to the Sitka economy would not occur. With development of this new public facility, lodges using seaplane transportation would have safe transfer facilities for their clients, which would strengthen their businesses.

Agencies

State and Federal regulatory agencies such as the Alaska State Troopers, the Alaska Wildlife Troopers, the Alaska Department of Fish and Game, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the U.S. Forest Service (some with offices in Sitka) all occasionally travel to and from Sitka to access rural areas with only seaplane access. Agency representatives have expressed concern about the current lack of a safe seaplane facility at Sitka. The Alaska State Troopers have had to tie up to the Sitka Troopers boat dock in Sitka, and cut the trip short because A29 is temporarily closed. The U.S. Forest Service has a boat dock for its own use that can accommodate seaplanes when not used by boats, but the dock has no convenient access to aviation fuel. Several of these agency representatives commented that they

would either be forced to forgoe traveling to Sitka, or would have to pay higher aviation costs to charter aircraft with amphibious floats if A29 was permanently closed and no replacement was built. Most of the impacts to these agencies from seaplane activity are estimated under impacts to the carriers that serve them, and mainly consist of decreased agency costs to access Sitka and its outlying areas.

Fish Spotters

Fish spotting is performed by aircraft operators who charter to fisheries businesses and regulatory agencies during the commercial herring and salmon seasons. Wheeled planes can be used for herring spotting, but are not preferred for the salmon season. Salmon spotting requires low and slow flying, and there is an important safety benefit to having floats for that kind of flying. In addition, salmon spotters must often stop in outlying areas to talk to ground crew, and need float equipped aircraft for that. The commercial salmon season in the Sitka area lasts for about nine weeks, from late June through August. With development of a new seaplane base in Sitka, costs of fish spotting contracts will decrease, and safety of the contractors will increase.

Aircraft Support Services

Several Sitka businesses provide fuel and maintenance services for aircraft in the Borough. These businesses were asked to estimate investment they would undertake and revenues gained from the development of a new seaplane base. In addition, they were asked about lost revenue from not having the base in Sitka. A local fuel seller would invest in a self-serve fuel facility on shore at a new seaplane base and earn additional revenue from increased activity there. Aircraft maintenance businesses anticipate increased revenue from a new seaplane facility. A new seaplane facility would expand aircraft support businesses because their customer base at Sitka would expand.

Visitors

Visitors were not directly surveyed, but the carriers who bring them to and from Sitka estimated the number of visitors using seaplane service at Sitka, and the amount these visitors spend in Sitka.

The visitor industry is an important sector of the Sitka economy, and the following table shows revenues from that sector are increasing. While visitor expenses on seaplane transportation are considered under air carrier impacts, these visitors also contribute to the Sitka economy through local spending that is estimated in Table 6. The most valuable visitors are the independent ones who stay overnight and spend money in hotels, restaurants, gift shops, and on tours and recreation activities such as museums and fishing charters. These are the types of visitors using seaplane services at Sitka. Table 5 presents some bed tax and sales tax revenues earned by the City and Borough of Sitka from visitors and visitor industries between 2011 and 2015. While it is difficult to determine all of the sales taxes paid by visitors to Sitka, the table below gives an indication of the strong growth in some visitor paid taxes, indicating growth in visitor spending

over time. Sitka is a desirable visitor destination, and it is likely that the past growth shown below will continue.

Table 5
Selected City and Borough of Sitka Taxes Collect

Tax	Rate	2011	2012	2013	2014	2015
SALES TAXES - Total	**5%-6%**	$8,516,594	$8,633,514	$8,903,953	$9,584,295	$9,449,766
Charters	**5%-6%**	$101,838	$98,706	$121,417	$136,113	$130,008
Lodges	**5%-6%**	$303,319	$308,592	$445,379	$494,113	$556,965
Percent Lodges/Charters		4.8%	4.7%	6.4%	6.6%	7.3%
BED TAXES - Total	**6%**	$155,980	$323,708	$347,165	$375,181	$411,339
Lodges	**6%**	$101,052	$102,635	$103,501	$110,328	$117,016
Percent Lodges		64.8%	31.7%	29.8%	29.4%	28.4%
FISH BOX TAXES	**$10/box**	$115,140	$102,240	$114,000	$135,450	$128,360
CAR RENTAL TAXES	**4%**	$37,107	$37,109	$40,404	$40,551	$45,615
TOTAL TAX REVENUE		**$8,824,821**	**$9,096,571**	**$9,405,522**	**$10,135,477**	**$10,035,080**
Percent Visitor Taxes		**7.5%**	**7.1%**	**8.8%**	**9.0%**	**9.7%**

Source: City and Borough of Sitka Finance Department and Southeast Strategies.

Representatives of the cruise ship industry in Sitka were asked about the possibility of increased seaplane tours by cruise ship passengers once a new expanded seaplane facility is built. It was felt that the demand for seaplane tours was met adequately by tours in Ketchikan and Juneau. While the carriers surveyed did not specifically mention starting or increasing visitor seaplane tours, it is likely that some increase in tours by seaplanes using Sitka will occur.

In addition, carriers were asked about their passengers, their characteristics, activities and expenditures in the Sitka Borough. From this information we estimated an impact of spending by visitors to Sitka using a public seaplane base. Celebrity and wealthy visitors come to Sitka via seaplane by chartering with regional carriers. Yacht passengers, film crews, marine pilots, small cruise ship passengers on daytrips, lodge clients, and others often charter with air carriers based in Juneau and other regional communities to fly to Sitka. Interviews of local and regional carriers suggest that at least 230 visitors came to Sitka via seaplane charter in 2015. These carriers reported that such visitors tended to spend large amounts of money in Sitka for high end hotels and restaurants, expensive fishing charters, and high cost art and gift items. Table 6 estimates expenditures by these visitors. These estimates could be considered minimum direct impacts occurring from this visitor spending, and do not include multiplier effects of this spending. Multiplier effects are estimated later in this report.

Table 6

Estimated Expenditures by Visitors Arriving in Sitka via Seaplane

	Percent of Cost	2 Nights	1 Night	0 Nights*	Totals
Number		130	40	60	230
$ per stay		$1,000	$500	$300	
Hotels	40%	$52,000	$8,000		$60,000
Restaurant	10%	$13,000	$2,000	$3,600	$18,600
Tours and Recreation	25%	$32,500	$5,000	$7,200	$44,700
Gifts and Other Goods	25%	$32,500	$5,000	$7,200	$44,700
TOTALS		$130,000	$20,000	$18,000	$168,000

Source: Carrier and other business interviews, Southeast Strategies, 2016.

*The percent cost used for day visitors with no overnight stay was 20% spent in restaurants, 40% spent on tours and recreation, and 40% spent on gifts and other goods.

With the development of a new public seaplane facility at Sitka, it is likely that visitors using seaplane transportation will increase visits to and expenditures in Sitka. In addition, it is possible that businesses could develop seaplane tours of the Sitka area that are based from the new facility.

General Aviation Users

GA users, both local and transient, were not surveyed for this report. GA use and the intent to increase use at Sitka with a new seaplane base is well documented in the *Request for Entry into the NPIAS – Sitka Seaplane Base* report (DOWL Engineers, 2016). While these impacts to Sitka's economy are expected to be less than business impacts, they are not easy to estimate. Economic impacts from GA spending on aviation fuel and maintenance services in Sitka have been estimated for this report by the Sitka businesses providing those services.

Economic Impacts

Decreases in capacity and safety, and the temporary closure of A29 has necessitated changes in aviation activities in Sitka by carriers with aircraft on seaplane floats. Owners and operators of aircraft with straight floats wishing to land at Sitka now (with the temporary closure of A29) must rent or borrow space from area carriers or agencies (sometimes at a high cost), or tie up to boat docks or buoys in the Sitka Channel. These options are generally more costly, and less safe than having a designated public seaplane float. In addition, on and offloading of passengers and freight can be problematic with these options. Consequently, carriers have sought other options for their operations at Sitka.

One alternative for these seaplane operators using Sitka is to change their aircraft landing gear from straight floats to amphibious gear, which allows an aircraft to land on either water or land.

Changing landing gear to amphibious floats can increase costs and reduce commercial revenue because:

- ***Amphibious floats cost more than straight floats to purchase and install***. Interviews with aircraft operators and review of seaplane float manufacturers' information indicates that the purchase and installation of amphibious floats can cost from $20,000 to $150,000[1] more that the cost of straight floats per aircraft, depending on the type of aircraft.
- ***Additional weight of amphibious floats reduces revenue potential.*** Amphibious floats weigh more than straight floats (between 200 and 400 lbs more depending on the type of aircraft), so the commercial payload that can be safely carried will be reduced by that weight. With the average passenger weighing 170 lbs (new averages used by the Federal Aviation Administration), this means aircraft with amphibious floats have 1 to 2 passengers less capacity, and less baggage and cargo capacity than aircraft with straight floats, which translates to less revenue for commercial carriers.
- ***Amphibious floats increase the operating costs of aircraft***. The cost of aircraft insurance and maintenance is higher for aircraft equipped with amphibious floats than those equipped with straight floats. In addition, with the higher weight of amphibious floats, fuel consumption for these aircraft is higher.
- ***Additional skills are needed to pilot aircraft with amphibious floats.*** It is reported to be difficult to find pilots with the ability to fly amphibious aircraft, and could increase the operating costs for affected carriers.
- ***Flight flexibility can be reduced with additional weight of amphibious floats.*** GA aircraft are often too small to handle the additional weight of amphibious floats without increases in length needed to land and takeoff, eliminating access to favorite lakes and other areas for these GA fliers.

Because of the increased costs of adding and operating with amphibious floats, it is likely that seat and cargo fares for commercial carriers making this change will increase.

Air carriers and other effected parties were asked what impacts to their business would occur with the loss of the Sitka Seaplane Base, or alternatively, what would change with development of a new public seaplane base. These two occurrences capture the total economic impacts of a new public seaplane base at Sitka. Some air carriers and other related businesses were planning to make additional capital investments of buildings, aircraft and employees at a new facility. With reduced capacity at A29, others had already, or were planning to change their aircraft from straight floats to amphibious floats. Still others were making plans for reduced business activity and revenues from reduced capacity at A29 that would increase again with a new facility. All of

[1] According to the Wipline 8750 Float webpage (http://www.wipaire.com/myaircraft/cessna/208/8750-floats.php#pricing), purchase and installation of amphibious floats for a Cessna 208 can be as much as $148,600 more than the purchase and installation of seaplane floats.

these impacts are considered in this report. To consider the impact of developing this new facility, increased business investment and foregone expenses were combined, and lost revenues from not having the facility were added back into business income. Other economic impacts considered include lost revenue from fuel sales and maintenance services for local and transient seaplanes in Sitka, and lost revenue to Sitka from visitors using seaplanes.

A well-known econometric model (IMPLAN) specific to the Sitka economy was used to calculate impacts to the Sitka economy of seaplane-related earnings by aviation industries and industries earning income from visitors using seaplane services at Sitka in 2016 as follows:

- ***Direct impacts*** are economic impacts created from earnings by Sitka businesses related to aviation and the visitor industry.
- ***Indirect impacts*** (multiplier effects) result from additional spending in the Borough by businesses earning revenue directly from aviation related and visitor businesses in Sitka.
- ***Induced impacts*** (multiplier effects) result from additional spending in the Borough by households earning income from aviation related and visitor businesses in Sitka.

These direct and multiplier impacts that remain in the Sitka economy are reported as:

- Employment (number of full-time equivalent jobs);
- Wages and Salaries paid (including income to the business owner);
- Rents, Royalties and Dividends paid (generally payments to the private parties); and
- Fees and Taxes paid (generally payments to federal, state, and local governments).

All of these impacts, summarized in the following tables, represent money and jobs that stay within the Sitka economy. Details about the model and methodology used for this analysis are included at the end of this report.

Table 7 shows first year economic impacts resulting from a new public seaplane base in Sitka, which includes positive impacts of both the current A29 and the increased seaplane activity from developing a new public seaplane base with more capacity. These impacts result from both one-time business investments, and changes in first year business income (revenues minus costs) for affected air carriers and related businesses. In addition to seaplane aviation-related business impacts, visitor spending impacts to the Sitka economy from seaplane activity are also estimated.

Table 7
First Year Economic Impacts within the Sitka Borough
of a New Public Seaplane Base

	From Aviation Activity	From Visitor Spending	Total Impacts
Total Earnings by Sitka Businesses	**$1,371,566**	**$234,878**	**$1,606,444**
Direct Impacts	$1,014,396	$168,000	$1,182,396
Indirect Impacts	$256,832	$37,700	$294,533
Induced Impacts	$100,337	$29,178	$129,515
Earnings Staying in Sitka	**$489,778**	**$142,010**	**$631,788**
Payroll and Proprietor's Income	$308,038	$89,637	$397,675
Rent, Royalties and Dividends	$90,802	$32,345	$123,147
Local Fees and Taxes	$90,938	$20,028	$110,966
Jobs (Full-time equivalent)	7.0	3.9	10.9
Percent Earnings Staying in Sitka	**35.7%**	**60.5%**	**39.3%**

Source: Southeast Strategies and IMPLAN, 2016.

These impacts only consider expenditures within the Sitka Borough by business located there, or visitors to the Borough. However, other *direct* economic impacts of about $256,780 per year was also understood to occur outside of the Sitka Borough, through indirect and induced impacts were not estimated for out-of-borough areas.

Table 8 presents subsequent year recurring economic impacts resulting from a new public seaplane base in Sitka, which includes positive impacts of both the current A29 and the increased seaplane activity from developing a new public seaplane base with more capacity. Table 2 presents the subsequent year recurring economic impacts of developing a public seaplane base at Sitka. There is strong potential for additional business investment and growth in business earnings from seaplane activity in Sitka, however, estimates of those changes were not made for this report.

Table 8
Recurring Annual Economic Impacts within the Sitka Borough of a New Public Seaplane Base

	From Aviation Activity	From Visitor Spending	Total Impacts
Total Earnings by Sitka Businesses	**$580,897**	**$234,878**	**$815,775**
Direct Impacts	$429,396	$168,000	$597,396
Indirect Impacts	$103,942	$37,700	$141,642
Induced Impacts	$47,559	$29,178	$76,737
Earning Staying in Sitka	**$222,149**	**$142,010**	**$364,159**
Payroll and Proprietor's Income	$145,434	$89,637	$235,071
Rent, Royalties and Dividends	$39,680	$32,345	$72,025
Local Fees and Taxes	$37,035	$20,028	$57,063
Jobs (Full-time equivalent)	3.1	2.7	5.8
Percent Earnings Staying in Sitka	**38.2%**	**60.5%**	**44.6%**

Source: Southeast Strategies and IMPLAN, 2016.

These impacts only consider expenditures within the Sitka Borough by business located there, or visitors to the Borough. However, other *direct* economic impacts of about $256,780 per year was also understood to occur outside of the Sitka Borough, through indirect and induced impacts were not estimated for out-of-borough areas.

Table 2 presents subsequent year recurring economic impacts resulting from a new public seaplane base in Sitka, which includes positive impacts of both the current A29 and the increased seaplane activity from developing a new public seaplane base with more capacity. Table 2 presents the subsequent year recurring economic impacts of developing a public seaplane base at Sitka. There is strong potential for additional business investment and growth in business earnings from seaplane activity in Sitka, however, estimates of those changes were not made for this report.

Unquantified Socioeconomic Impacts from a New Sitka Seaplane Base:
The following impacts will likely accrue to the Sitka economy from seaplane activity and development of a new public seaplane base, but they are difficult to quantify due to unknown factors. They are presented here in qualitative terms.

- ***Construction of a new facility.*** It is most likely that the contractor hired will be located outside of Sitka, and the docks and other facility infrastructure will be purchased outside of Sitka. The project is estimated to cost between $12 and $13 million. A few Sitka residents may be hired, and living accommodations and meals will be purchased by managers and workers brought in to town. In addition, transportation and other services will be used in Sitka for this project. While it is difficult to quantify the economic impact

to Sitka, it is not expected to be substantial. There will be more substantial economic impact to the economies where the contractors are based, and where the docks and other infrastructure are built and purchased. This one-time impact will only occur during the year the facility is built.

- ***Maintenance and operation of a new facility***. This new facility will be owned by CBS and managed by the CBS harbor department. It is anticipated that this work as it will be handled by the existing harbor department staff. Some revenue from slip rental will accrue to CBS, but it will roughly be equal to the costs of seaplane base ownership, maintenance and operation. With development of uplands lease lots belonging to CBS, lease or rental fees could represent additional revenue.
- ***Impacts to air carriers and lodges not based in Sitka from seaplane activity.*** Air taxis, commuter airlines, and contract fish spotters based outside of Sitka will receive benefits from a new Sitka public seaplane base. Dollar values of direct impacts were estimated and presented after the impact tables, but no multiplier impacts were estimated. Nearly $97,000 of direct benefits to air carriers based outside of Sitka will accrue. Another $160,000 in direct benefits will go to lodges outside of the Sitka Borough. Multiplier economic benefits will occur in the communities where these carriers and lodges are located.
- ***Spending in Sitka by GA aircraft operators.*** Spending on aviation fuel and maintenance services by GA pilots is estimated as part of Aviation Activity impacts. However, these pilots may spend money in Sitka for other goods and services that has not been estimated.
- ***Spending in Sitka by air carriers not based in Sitka for non-aviation supplies and services.*** Air carriers not based in Sitka using the new seaplane base may purchase goods and services (not including aviation fuel and maintenance and repair services) in Sitka, such as restaurant meals.
- ***Spending in Sitka by lodge owners for non-aviation supplies and services.*** Some of this spending may be related to impacts from this seaplane base. It is difficult to determine the amount of this impact on Sitka.
- ***Sales taxes from seaplane-related activity and spending by visitors using seaplanes in Sitka***. Most spending in Sitka is subject to sales taxes paid to the Borough Government, and are used for general government expenses in the community.
- ***Impacts from the repurposed use of the A29 location.*** When a new facility is developed, the current location can be used for other purposes, such as a boat dock. This use will likely provide economic impacts to Sitka from rental fees, purchases of goods and services such as fuel, maintenance and repair services, and spending on non-aviation related goods and services in Sitka.
- ***Lower seat air fares and air freight costs throughout the region.*** These fares may be lower because the air carriers will have lower costs, and will pass those on to customers. These benefits will impact Sitka as well as other communities in the region and beyond.

Rural areas around Sitka that rely on seaplane transportation may benefit largely from this change.

- ***Possible increases in business investment and earnings in Sitka in future years.*** Potential growth in activity and earnings by businesses impacted by seaplane activity in Sitka was not estimated, but is likely to occur. Increased air tours by seaplanes may occur in the future. Additional business investment by these industries may occur also.

Community Support

The Sitka Economic Development Association (SEDA) holds an annual Sitka Economic Innovation Forum where development projects are considered. This year, the attendees included members of the public at large, representatives from the non-profit sector, payroll workers from both the private and government sectors, self-employed and business owners, City and Borough of Sitka staff, retired residents, and members of the Sitka Tribe of Alaska. At this forum was held on May 17, 2016.

A summary of development ideas was presented to the attendees, and they were invited to vote for their top priority project(s) to move forward. The Seaplane base project, describes as follows, received the third highest score from participants.

> ***Rebuild Seaplane Base:*** *support and move the expansion of the seaplane base. This could bring in new seaplane operations such as providing access to outlying communities that are dependent on this. Also, regain the transient business and permanent based users back to the facility.*

In addition, the new Sitka Seaplane Base received unanimous support from all businesses and agencies surveyed for this study. A recap of interview comments from additional interviews by DOWL is included as Appendix A to this report.

Methodology

In order to determine the 2016 impact of a new public seaplane facility at Sitka on the economy of Sitka, Southeast Strategies followed the methodology outlined here. Because the new seaplane facility does not yet exist, and the old facility has only been closed a short time and is due to reopen soon, impacts of not having a seaplane base in Sitka are not easy to quantify. Much of the information used for the impact estimates in this report came from those directly impacted, and involved their judgement and informed guesses. Some businesses considered negative impacts to not having a facility, and some addressed positive impacts of the new SPB. In this case, lost income from facility closure and the new income and investment from the development of a new facility with increased safety and capacity combine to estimate impacts of an improved public seaplane facility vs. no facility, or the economic impacts of seaplane activity in total with a new facility.

It is human nature to overestimate harm, and much of the information for these estimates came from business and entities who are being or will be harmed by this closure. While these estimates may be overstated, it is almost certain that some impacts in the community and the region have not been brought to light by this investigation, or have not been fully considered. In addition, other impacts are indicated, but cannot be adequately estimated in this report. Consequently, the impact estimates developed in this report can be considered conservative, and a minimum possible impact.

Some businesses and agencies dependent on seaplane transportation to and from Sitka tend to contract that service with local or regional carriers. In order to not double count impacts, it was assumed that the impacts estimated by the carriers themselves covered impacts to those who contracted with them. That situation would include health care facilities in Sitka that contract local carriers to transport patients into Sitka from communities with only seaplane access, as well as government agencies, lodges, and rural camps and hatcheries using air transportation from Sitka.

Some impacts from seaplane activity with a new public seaplane base at Sitka are unknown, or are known but not easily quantified, including possible growth over time of previously quantified and unquantified impacts. Consequently, the dollar values of impacts presented here are conservative, and should be considered a minimum impact.

Econometric Model

Sitka and regional businesses determined to be directly impacted by seaplane service in Sitka were interviewed about the impact to their businesses of developing a new public seaplane facility at Sitka. These businesses included local and regional air carriers, remote fishing and hunting lodges, government agencies using seaplane services, seaplane support services, and contract fish spotters.

Impacts to business revenue, and additional business investment information were then fed through a well-known economic input/output model (IMPLAN) calibrated to fit the Sitka's economy to determine secondary impacts of initial spending in the Sitka area. The most current full year of information available for all variables considered for these estimates was used to capture as close to current (2016) estimates as possible. The IMPLAN (IMpact Analysis for PLANning) model is a community and regional level input/output model initially developed by the U.S. Forest Service in cooperation with the Federal Emergency Management Agency, and the U.S. Department of the Interior, Bureau of Land Management to assist the Forest Service in land and resource management planning.

The model uses census area level data about employment, income, and other indicators to determine how direct economic impacts will produce multiplier effects (indirect and induced economic impacts) within the Sitka Borough. The most current full year of information available for all variables considered for these estimates was used to capture as close to a current

(2016) estimate as possible. For purposes of this study, indirect and induced economic impacts were only calculated for those direct impacts occurring within the Sitka Borough. Impacts outside of the Borough will have multiplier affects also, but those affects will not accrue to the Sitka economy. These out-of-borough direct impacts were reported in this study.

The IMPLAN model is detailed enough to address industries individually within a local area. Survey responses were compiled by type of industry and that information was run separately through a model specific to that industry within the Sitka Borough. Results for each industry type were then compiled to get the aggregate impacts presented here.

In addition to annual impacts created from businesses related to seaplane service in Sitka, an estimate of annual spending in the Sitka by visitors to using seaplane service was developed from estimated visitor activity given by commercial air carriers in Sitka and the region. The information was also fed through the IMPLAN model to obtain secondary impacts of this spending.

The IMPLAN model calculated direct, indirect, and induced impacts on the Sitka economy of seaplane-related spending of industries surveyed and visitors using seaplane service at Sitka in 2016 in terms of:

- Employment;
- Wages and Salaries;
- Business Revenue;
- Rents, Royalties and Dividends paid; and
- Fees and Taxes paid.

Types of impacts are defined below:

- **Direct** impacts are primary impacts in the Sitka Borough that are a direct result of a new public seaplane facility being developed at Sitka that would not exist in the absence of such a facility. These impacts are to air carrier and related support businesses, and others that depend heavily on these carriers, such as remote lodges and agencies. Direct impacts also include primary impacts created from increased visitor activity at Sitka because of this facility, including impacts to non-aviation related businesses such as hotels, restaurants, gift shops, and tour and recreations businesses. These impacts count money spent in the Sitka economy by residents from outside the economy, or money spent by local residents in the Sitka Borough which would be spent outside the Sitka Borough if this facility did not exist.
- **Indirect** impacts are secondary impacts created by additional spending in the Sitka Borough by **businesses** earning revenue directly from facility construction, aviation activity, or activity of visitors using aviation services at Sitka. These impacts are created from

responding within the local economy (multiplier effect) of money created from direct impacts.

- **Induced** impacts are secondary impacts created by additional spending in the Sitka Borough by **households** who earn income (usually as wages and salaries) directly from facility construction, aviation activity, or activity of visitors using aviation services at Sitka. These impacts are created from respending within the local economy (multiplier effect) of money created from direct impacts.

Author
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Sitka Seaplane Base Interviews - Verbal Pilot Comments

This section includes comments paraphrased from interviews of past and present Sitka Seaplane Base (A29) users. These interviews were separate from business and agency interviews used for the economic impact analysis, and did not include questions about economic impacts of a new public seaplane base. While these comments cannot help estimate the dollar value of impacts to Sitka, they do indicate intended increased use, which would create impacts, even if they are difficult to quantify.

- There is no other public seaplane base in Sitka. Without a public seaplane base, we will not have floatplane operations in Sitka, except by expensive amphibious aircraft. Not everyone can afford amphibious aircraft. If we don't build a public seaplane base, floatplanes will go away altogether. Floatplanes are a part of our economy. If the boat harbor fell apart, would we send the boats away?
- Having a Sitka SPB is crucial to the health of this part of SE AK. Seaplanes are a traditional mode of transportation across the region. The use of the current SPB does not show a realistic view of demand, given its current condition and lack of fuel. A new seaplane base could be used year-round.
- If you build a new, nice, large facility, many more planes will show up. A similar situation occurred in Kodiak. There were 4-6 planes based at the old facility, after the new facility was built at Trident Basin, we have seen 12-14 planes based there.
- Please consider the existing site with reconfiguration as already submitted. It consisted of two wings oriented perpendicular to the channel with room for 3 planes apiece. A small dock on the first wing. We have a private dock that serves a lot of transient aircraft. This may not be available in the future. This is where much of the traffic has gone since the existing facility has fallen into disrepair. Adding a hangar and using it with the University and SEARHC as a vocational program for training mechanics would be ideal.

- The existing facility drove the airplanes away. It is a shame. There is a demand. People moved to amphib floats or got rid of their airplanes due to the condition of the existing float. The new SPB would open up competition. It would allow small Part 135 operators doing flight seeing and other services. This would open up the country to more people.
- We normally take our wheel Caravans to Sitka so the facility would not be of much use to us, but I still think the project is well worth it, and is needed in Sitka.
- There have been up to eight regular users of the existing facility. The state of the existing facility discouraged pilots. There was such a poor situation there; no parking, no access to fuel, inside four ramps unusable at low tides, inadequate maintenance for at least the last 10 years. Pilots have had damage to their planes by boats and due to the close proximity of other ramps. There are rock piles.
- Also consider similar situation like in Kodiak where seaplane activity grew after and SPB was built.
- Sitka and most other SE communities should have a public seaplane facility for local and transient use.
- There is a lot of demand for a floatplane facility. I can't believe we have gotten by so long with so little. A lot more floatplanes would be here if we had places to park more floatplanes. The City charges property taxes for our planes, and we don't get anything for it. They need to spend some tax money for floatplane parking.
- The current facility is between 2 seafood processors with a lot of boat traffic coming and going. That plus the hundreds of seagulls makes the current site unsafe.
- A new seaplane base is needed to get to remote areas in Sitka. The City of Sitka is missing out on a significant amount of tourism economic benefits and taxation, by not having a good seaplane base. Most communities try to take advantage of economic opportunities like this. There used to be 10 – 14 operators at the Sitka Seaplane Base. Floatplane owners have moved away from Sitka, have moved their floatplanes to other locations, or have had to switch to expensive amphib gear because of lack of floatplane facilities in Sitka. I am frustrated with how long it has taken to make progress on a new Sitka Seaplane Base.
- Floatplanes really benefit the Sitka Region. Floatplanes are required to access to Sitka's pristine wilderness. Floatplanes are a low impact form of transportation to the region. A small facility has fewer benefits to residents and visitors than a larger facility. The small size of the current facility has limited the amount of floatplane activity in the region.
- I think it is a good idea. I wish you luck.
- The Department of Fish and Game has rented a space at the existing facility for decades. The Department has had a contracted plane at the existing facility since the facility was built. The Department requires a specialized plane to monitor pink and chum salmon runs in the Sitka area which is essential to provide commercial pink and chum salmon fishing opportunities to the area. These fisheries could not be authorized without this flying.
- A new seaplane base is needed because the existing seaplane base is outdated and there is aviation activity in the region to justify it. Sitka also needs to serve others outside the region who are flying transient to Sitka.

- Because of lack of space at the Sitka SPB I bought amphib aircraft and operate from Sitka Airport. I am currently happy with this amphib arrangement. However, I believe a new SPB is needed and would be used. There are people in Sitka who have not bought floatplanes because there is no place to park them. Ken Bellows facility is for sale. If it is no longer available for others to use, there will be no floatplane parking in Sitka.
- Southeast is a floatplane area. We need a reasonable place to moor floatplanes when we go to Sitka. Out of towners need a place to go. It helps the Sitka economy.
- From an economic standpoint, a new seaplane base would attract local and transient users and seasonal operators that would generate jobs and tax revenues for Sitka. With a maintenance facility it could generate even greater economic benefits.


DOWL

Alternatives Report

Sitka Seaplane Base Master Plan

DRAFT

Prepared for:

City and Borough of Sitka

Sitka, Alaska

Prepared by:

HDR Alaska, Inc.

May 2002

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1.0 Seaplane Base Master Plan Overview

The City and Borough of Sitka is developing a Seaplane Base Master Plan that will be used as a guideline for relocating and upgrading the seaplane base on Japonski Island. The plan is intended to meet the parking demand and facility requirements for 20 years. The plan development process will be used to select a preferred location for an upgraded seaplane base and to seek federal funding for the new facility. The existing seaplane float is in poor condition and is not large enough to meet current needs. In addition, there are safety concerns with the present location and conflicts with other adjacent uses. The master plan process encompasses two phases: (1) analysis of the conditions and needs of seaplane facilities in Sitka (HDR 2002), and (2) development and evaluation of alternatives that will resolve the identified issues and meet future seaplane needs in the community.

1.2 Condition and Needs Assessment Report

The first phase of planning concluded with the development of a report documenting the condition of the existing seaplane base facilities and the need for seaplane base improvements, forecasting future demand, and determining the seaplane base facility requirements. The inventory of existing conditions was based on an onsite inspection of the seaplane base, published data, and the public involvement efforts made during the first phase of the plan. The results of that phase of work are contained in a separate document entitled *Sitka Seaplane Base Master Plan Condition and Needs Assessment Report* (HDR 2002).

1.3 Alternatives Scoping Report

The second phase of planning entailed developing and evaluating alternatives for relocation of the Sitka Seaplane facility. This present report describes the preliminary alternatives that were considered. These 12 alternatives were evaluated for their ability to accommodate the anticipated seaplane demand and to resolve the safety and capacity deficiencies that have been identified at the existing seaplane base. Each alternative was also evaluated for compliance with applicable Federal Aviation Administration (FAA) requirements. The seaplane facility requirements are based on the FAA planning criteria presented in Advisory Circular (AC) 150/5395-1, Seaplane Bases. The report identifies areas where a future seaplane base could be developed, and concludes with a series of alternative development options for the Sitka Seaplane Base with cost estimates.

2.0 Facility Requirements Summary

This section presents a summary of the facility requirements and conditions needed to provide a safe and efficient seaplane base and operating area in Sitka that will meet the forecast demand for the next 20 years. The following elements are summarized in this report: future demand, water operating area characteristics, shoreside facilities, upland facilities, and the seaplane base design concept.

2.1 Future Demand

Based on the information analyzed during the first phase, the moderate growth scenario is the recommended base for planning. The moderate growth scenario represents the most realistic estimate of existing and future based aircraft demand. Under the moderate growth scenario, the Sitka Seaplane Base should accommodate the following:

- A short-term (5-year) forecast of 13 slips.
- An intermediate-term (10-year) forecast of 14 slips.
- A long-term (20-year) forecast of 15 slips.

2.2 Water Operating Area Characteristics

The water operating area is that part of the seaplane base used or intended to be used for the landing and takeoff of aircraft, as well as taxiing, turning, and maneuvering of aircraft on the water surface. The area needs to have sufficient size and water characteristics to allow the safe operation of aircraft during all phases of flight. The following characteristics are recommended (see AC 150/5395-1, Seaplane Bases):

- **Sufficient Size**—The existing water operating area dimensions (4,000 feet by 200 feet) are sufficient and should be used for planning the upgraded seaplane base.

- **Slow Currents**—Landing and takeoff areas in locations where the currents are less than 3.5 mph are preferable. Locations where the currents exceed 7.0 mph should be avoided.

- **Sufficient Water Level**—The minimum depth for seaplane operation is 3 feet, although 6 feet is preferable.

- **Safe from Wave Action**—Locations where large swells occur or are frequently created by vessels should be avoided.

- **Debris Free Area**—Areas subject to excessive debris or to debris over extended periods of time should be avoided.

- **Safe Maneuvering Space**—Ample maneuvering and turning areas should be provided, considering boats, prevailing winds, and currents.

- **Sheltered Moorage**—A sheltered mooring or anchorage area, protected from winds and currents, is recommended. A cove, small bay, or other protected area is ideal.

- **Safe Bottom Conditions**—A facility should be free of bottom hazards. Objects that project from the bottom and constitute a hazard should be removed. If this is impractical, the objects should be conspicuously marked to alert users to their presence.

- **Free from Wildlife Attractants**—To the extent practicable, the distance between the seaplane base's aircraft movement areas, loading ramps, or aircraft parking areas and a wildlife attractant should be 5,000 feet for

facilities serving piston-powered aircraft. The FAA recommends against new development projects that would increase the number of aircraft operations or that would accommodate larger or faster aircraft near putrescible-waste disposal operations (such as the seafood processing outfalls located in Sitka Channel).

- **Operational Flexibility**—An unmarked water lane or water operating area is normally the choice of seaplane pilots and is recommended.

- **Prevailing Winds**—If a water lane is designated, it should be aligned to provide maximum wind coverage.

- **Approach and Departure Paths**—The approach and departure paths should be clear of established shipping or boating lanes and airspace hazards. An over-water approach or departure is preferable to an approach-departure path over populated areas, beaches, and shore developments.

2.3 *Shoreside Facilities*

- **Floating Dock**—Because of the large tidal variation at Sitka, a floating seaplane dock that provides slips with individual ramps and an associated gangway designed to accommodate a 19-foot variation is the recommended design.

- **Haul-out Ramp**—The most recent airport master plan (DOT&PF 1999) for the Sitka Rocky Gutierrez Airport recommends development of a haul-out at the eastern end of the airport. An additional haul-out ramp at the seaplane facility is not recommended.

- **Gangways**—A gangway of sufficient length and width should be provided to permit easy walking and the passage of baggage carts. The gangway should meet all requirements contained in the accessibility guidelines of the Americans with Disabilities Act (42 USC 126, Section 12101 et seq.). A short pier is recommended to connect the gangway with the seaplane float.

2.4 *Upland Facilities*

- **Lease Lots**—Lease lot development is not essential to the functioning of the seaplane base and is not recommended for short-term development. There could, however, be demand for up to three lease lots beyond the 20-year planning horizon.

- **Administration Building**—Administration facilities are not recommended for short-term development.

- **Access**—Vehicle access to the seaplane base should be by an all-weather road (paved or gravel) with adequate width (a 24-foot-wide road consisting of two 12-foot lanes plus 2-foot shoulders on either side).

- **Parking Areas**—Up to 18 parking spaces should be provided for seaplane pilots and commercial users.

2.5 Seaplane Facility Design Concept

A number of site-specific design concepts are possible. Layout and design elements will be used to enhance the locational attributes of each site to further protect based aircraft from wind and wave activity and to facilitate ingress and egress of the seaplanes into parking positions. Based on the facility requirements analysis, the design should have the following characteristics.

- Piers: 20 feet wide
- Gangway: 12 feet x 170 feet with a maximum 12% grade at low tide
- Docks wide enough to accommodate tie down lines, pedestrian traffic and a drive-down for a pickup sized vehicle.
- Parking lot space, per vehicle: 9 feet by 18.5 feet
- Seaplane tie down ramps: 18 feet square
- Docked Seaplane Wingtip to Wingtip Separation Distance: 10 feet

3.0 Alternatives Development Process

The alternatives development, and subsequent analysis, was accomplished in four primary steps.

1. Site Identification
2. Fatal Flaw Screening
3. Conceptual Layouts and Evaluation
4. Preferred Alternative Recommendation

3.1 Step 1 – Site Identification

The first step was to identify a list of potential locations that might possess the necessary physical, environmental, and locational attributes with the potential for seaplane base development. The following list of sites (Figures 1 and 2) was developed through discussions with pilots and city officials, field reconnaissance, and research.

- Charcoal Island shore
- Jamestown Bay
- Sawmill Cove
- Herring Cove
- Starrigavan Bay
- Thomsen Harbor/Turnaround area
- Sitka Rock Gutierrez Airport lagoon
- Safe Harbor
- Work float site
- Mt. Edgecumbe site
- Southeast Alaska Regional Health Consortium (SEARHC) cove site
- Existing seaplane base site

Figure 1
Location Map

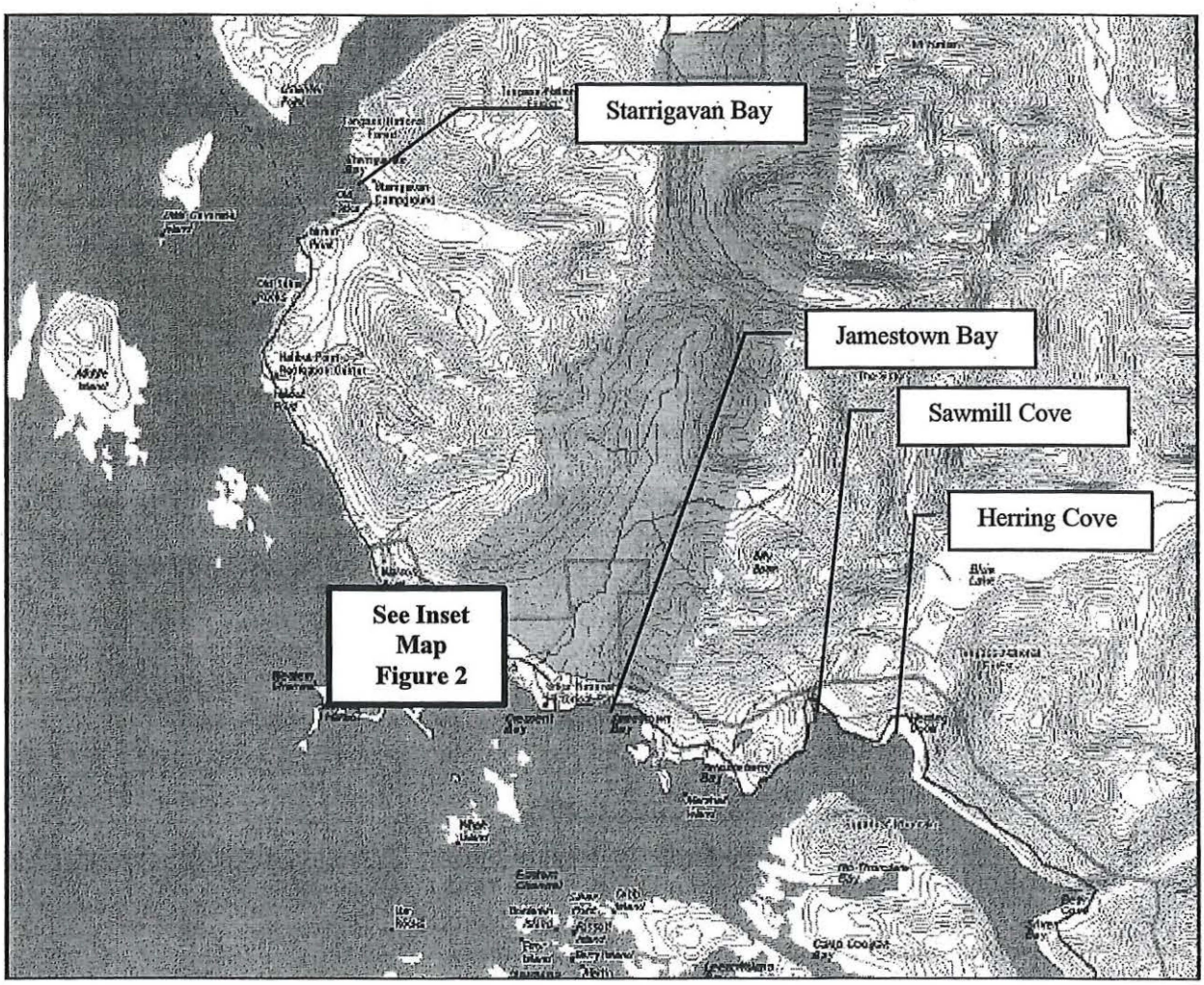
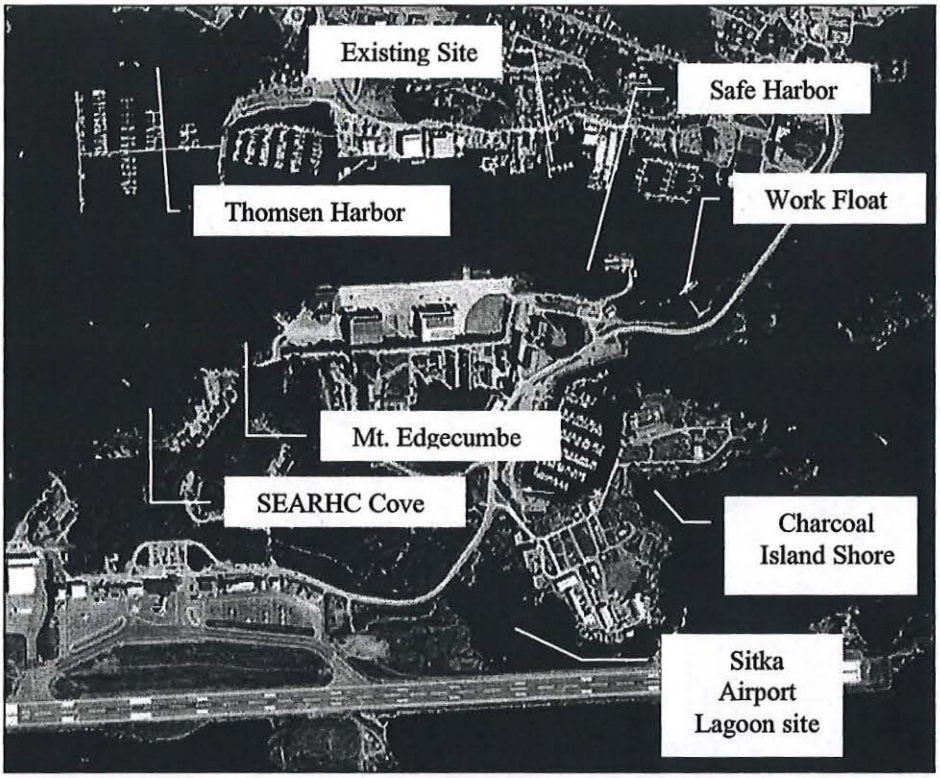


Figure 2
Location Inset



3.2 Step 2 – Fatal Flaw Screening

The second step was to evaluate the identified sites and narrow the list to those that do not have fatal flaws. Fatal flaws are obvious site characteristics that make the site unreasonable from a safety, environmental, or capacity perspective. The sites were considered for their ability to safely accommodate seaplane base facilities and operations, and were compared against the FAA planning criteria found in the seaplane base advisory circular (AC 150/5395-1).

3.2.1 Topography

Sitka is located in an extremely mountainous area of coastal Alaska. Mountains on Baranof Island in the vicinity of Sitka rise from sea level to over 4,000 feet. The fiord conditions of Silver Bay (Sawmill and Herring coves) typify the extreme elevation changes experienced along the coast of Baranof Island.



Herring Cove, at the foot of Bear Mountain (4,000 feet), faces severe topographical constraints.

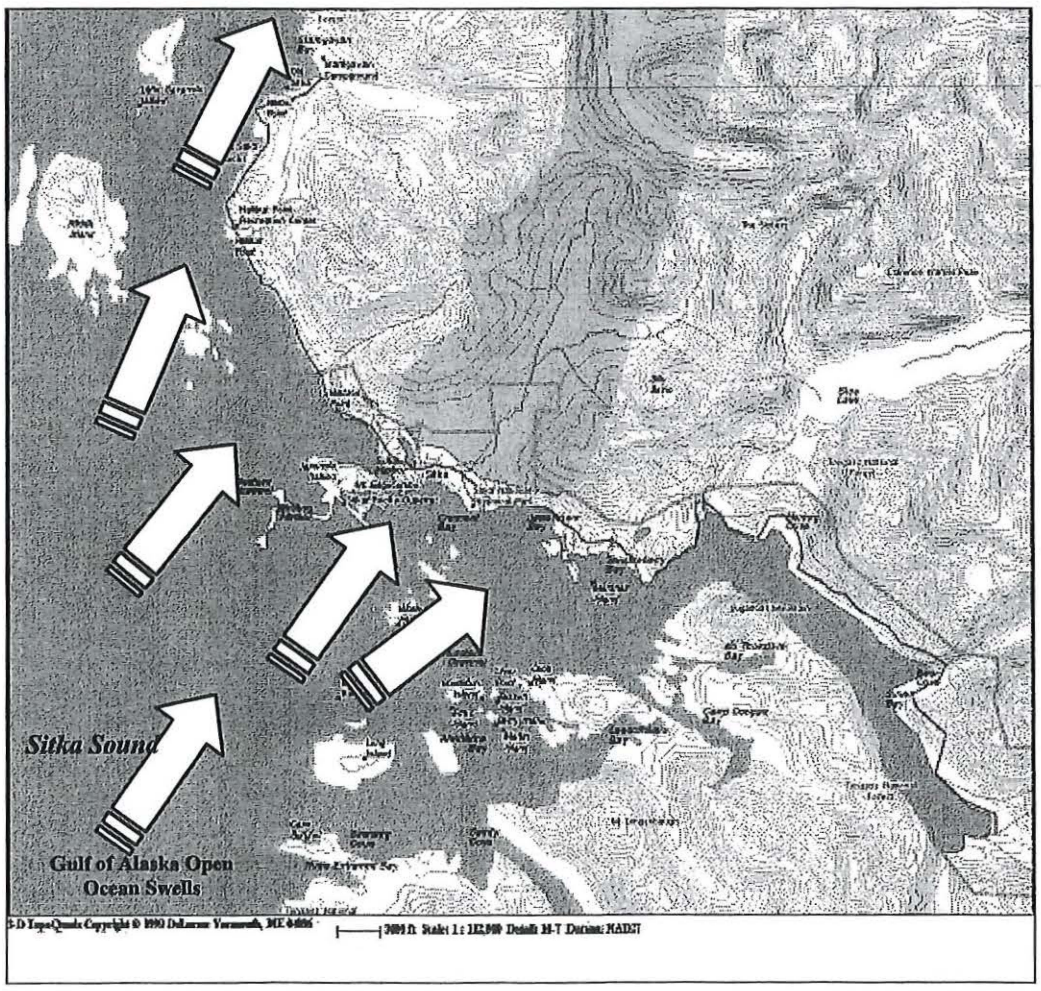
Topography is a crucial limiting factor affecting the location of aviation facilities. Airports and seaplane

bases are required to have sufficient airspace in the vicinity of their operating areas to allow safe operations. Federal Aviation Regulation Part 77 (see 49 CFR 77 and 14 CFR Part 77) establishes the standards and notification requirements for objects affecting navigable airspace. This regulation applies to terrain, permanent or temporary construction (or alteration), or any object of natural growth that penetrates the airspace surrounding an airport or seaplane operating area.

3.2.2 Weather Conditions Analysis

Finding a site protected from wind and waves proved to be the most challenging aspect of the site selection process. Sitka, which is located on Sitka Sound, is exposed to the North Pacific Ocean and Gulf of Alaska with few islands or reefs to protect it or absorb wave energy (Figure 3). Sea swells and open ocean conditions make any unprotected site less than desirable for seaplane base facilities and normal seaplane operations. This limits the potential for seaplane base development to only a few locations that have adequate protection. Unlike the more protected, Inland Passage areas of Southeast Alaska, Sitka is also directly exposed to storms from the Gulf of Alaska. For this reason, finding a location where the seaplane base and its operating area is protected from the wind is also a concern.

Figure 3
Wave Conditions



There is currently only one meteorological station near Sitka. An automated weather observation site operated and maintained by the FAA is located approximately halfway down the southwest edge of the runway for Sitka Rock Gutierrez Airport. The automated equipment records hourly data on wind speed and wind direction. Wind speed and direction data were acquired for a period of five years (1996 through 2001) and used to generate a color-coded wind rose (Figure 4) for Sitka. The wind rose was overlaid onto base maps for each of the proposed sites to evaluate their exposure to prevailing wind patterns (see, also, Appendix A). Micro-climate predictions, based on topography and local knowledge, were also evaluated to estimate the appropriateness of each location relative to wind conditions. The following weather analysis was confirmed by local pilots who felt quite strongly that there is no reasonably protected location outside of the harbor for a seaplane facility.

Figure 4
Wind Rose for Sitka, Alaska

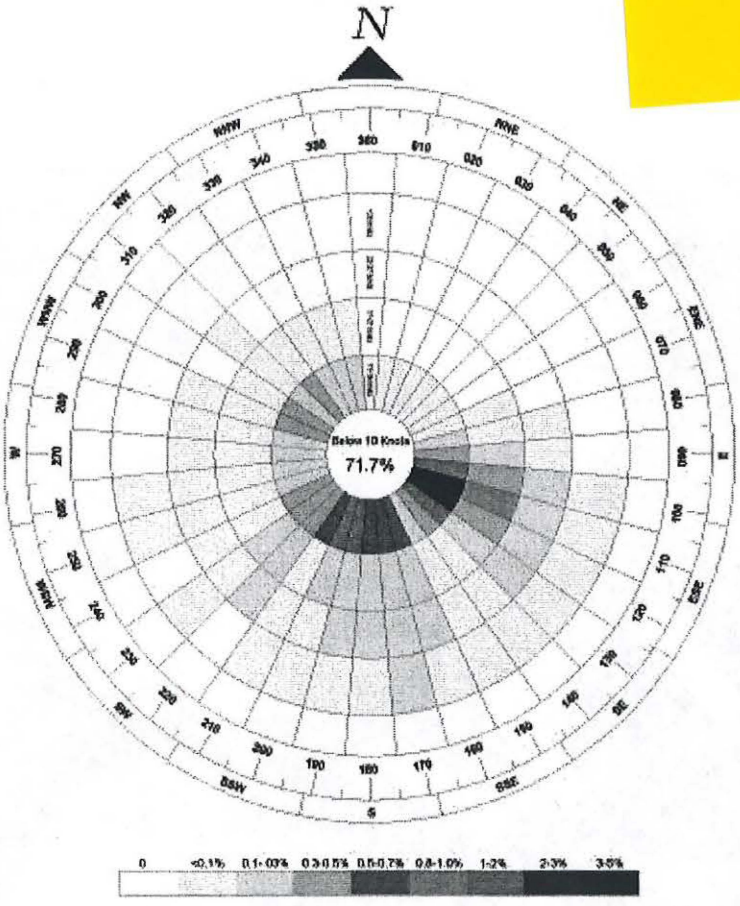


Figure 4 shows the frequency of the winds by direction and speed on a 360° compass. Lighter colors indicate less frequent winds and darker colors indicate more frequent winds. Wind speed increases as the colors move farther from the center of the wind rose. Winds recorded below 10 knots are not shown in Figure 4, but account for 71.7%

of the total winds recorded. Winds below 10 knots have not been shown to negatively impact aircraft operations.

For the remaining winds (those above 10 knots), the recorded data indicate that approximately 16% come from the southeast quadrant (90° to 180°). Winds from the southwest quadrant (180° to 270°) account for 4.3%, and easterly winds (~79° to ~101°) account for 2.3% of the total. Winds coming from the northwest (~282° to ~350°) account for 2.45% of the total, whereas westerly winds (~259° to ~281°) account for only 0.65%. Less than 0.7% of the winds were recorded as coming from the north or northeast quadrant. Few winds come from the north or northwest quadrants.

The wind rose analysis indicates that the prevailing winds come from the south and southeast and that the strongest winds come from the southeast. Sites without good protection from these directions would not offer the necessary shelter and were deemed unsafe for based seaplanes and operations.

The primary reason for excluding sites from the list developed in Step 1 was the lack of protection from large sea swells and waves originating in the North Pacific Ocean and the Gulf of Alaska, and inadequate protection from winds generated by large Pacific storms (Figures 3 and 4). Such conditions make most of the sites that were eliminated unsafe for seaplane base facilities or seaplane operations.

3.2.3 Fatally Flawed Locations

The following sites were considered, but were rejected as fatally flawed for weather concerns due to wind and waves—particularly when coupled with other upland constraints such as topography and land use (Charcoal Island, Jamestown Bay, Sawmill Cove, Herring Cove, and Starrigavan Bay). The remaining locations (Thompsen Harbor/ Turnaround area, existing seaplane base site, Japonski airport lagoon, and the Work Float site) showed some promise for offering the protection from wind and waves needed for safe seaplane base operations but were fatally flawed for other reasons. Primarily, these areas showed promise, but were located either within Sitka Harbor or at the main airport. Three of the areas were deemed to have fatal flaws because they lacked sufficient space to provide a safe operating environment and a seaplane base would conflict with other uses of the upland and water environment. The bullets following each site description summarize the justification for excluding the site.

Charcoal Island Shore

Charcoal Island forms the southeast portion of the Sitka Rocky Gutierrez Airport (Figure 5). The airport master plan currently proposes a seaplane haul-out ramp along this shoreline. The shoreline also has a number of small coves and these were considered for potential seaplane base development. Because the area is unprotected from the strongest and most prevalent winds coming from the southeast, a seaplane base would be unsafe without breakwater protection. Swells from Sitka Sound that consistently come through Middle Channel would also make the water operating area unsafe. Identified problems with the site include:

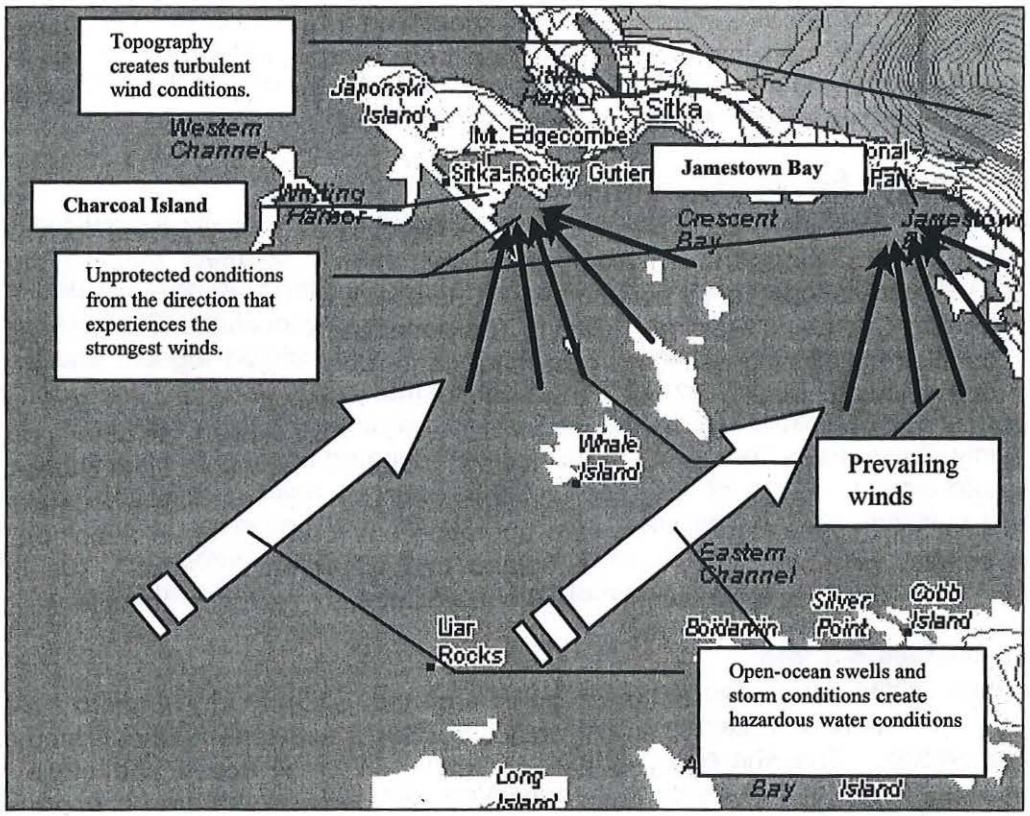
- Significant wave, sea swell, and wind energy.
- Long taxi into Sitka Channel.

Jamestown Bay

Jamestown Bay was the site of a former seaplane base operation more than 35 years ago. In the intervening time, a considerable amount of residential development has occurred adjacent to and overlooking the bay. The area is only semi-protected and suffers from exposure to ocean swells and turbulent wind conditions (Figure 5). Identified problems with the site include:

- Turbulent wind due to surrounding topography.
- Large number of downwind takeoffs.
- Significant exposure to southwest swells.
- High level of small and large boat traffic.
- Upland area mostly residential.

Figure 5
Charcoal Island and Jamestown Bay Site Analysis

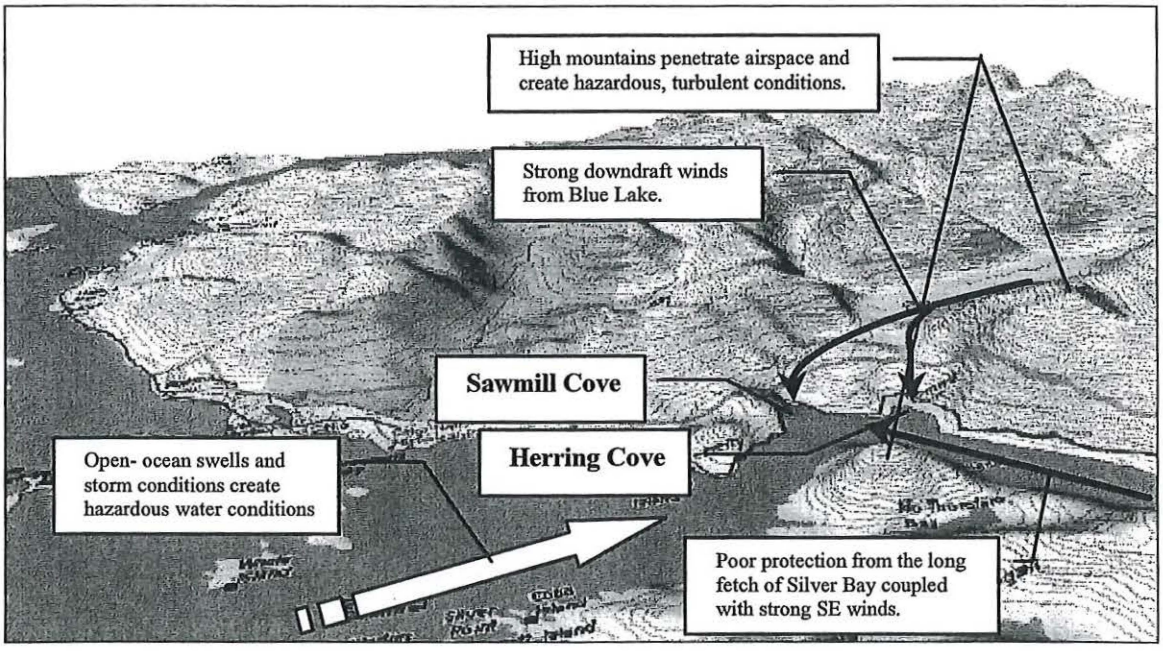


Sawmill Cove and Herring Cove

Sawmill and Herring coves are located on Silver Bay east of Sitka (Figure 6). The alignment of Eastern Channel funnels ocean swells up into the bay. Silver Bay is well aligned with the prevailing winds, but the long, unprotected fetch generates wind-driven waves of considerable size. The Sawmill Cove and Herring Cove sites are located at the confluence of these systems. In addition, mountainous terrain exacerbates the winds, creating turbulent conditions and considerable funneling of winds out of the Blue Lake area. The mountains also create safety hazards as airspace penetrations. Identified problems with these sites include:

- Long fetch of Silver Bay with direct access to the open ocean via Eastern Channel.
- Large wind chop from prevailing winds.
- Strong and turbulent winds from Blue Lake.
- Topography limits during cloudy or foggy conditions.
- Too far from town for seaplane pilots and the community.

Figure 6
Sawmill Cove and Herring Cove Site Analysis

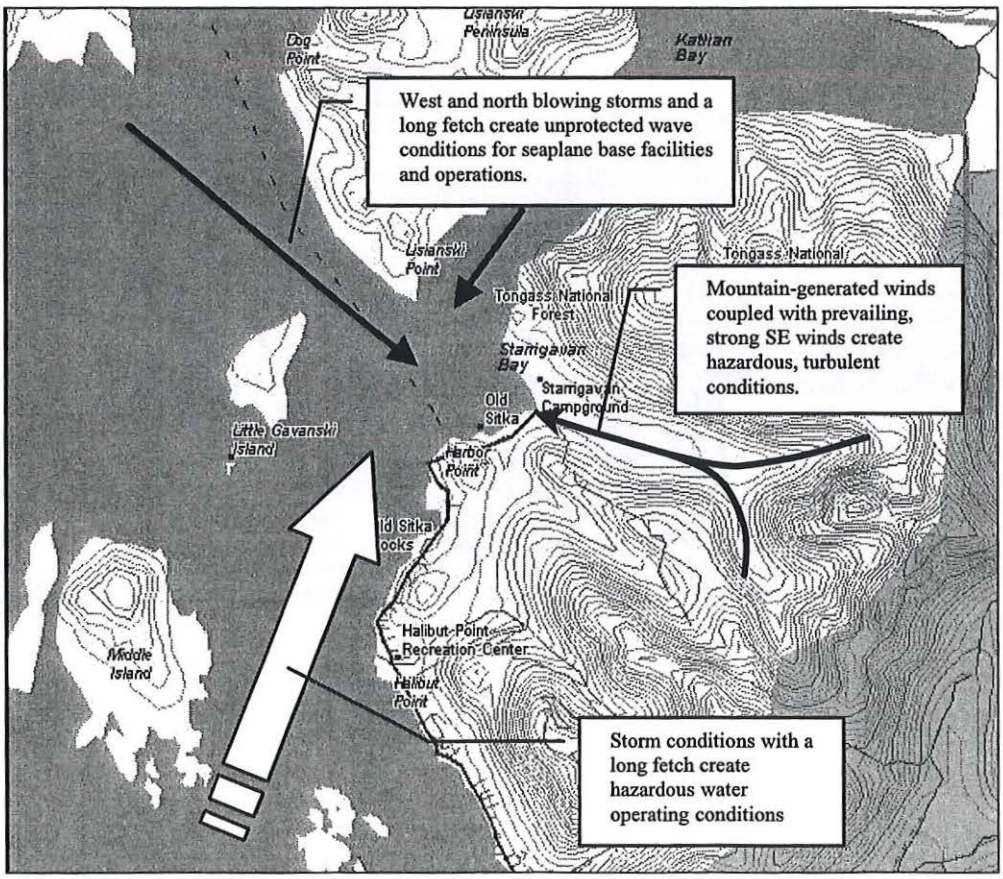


Starrigavan Bay

Starrigavan Bay is located north of Sitka. The state ferry dock, a small-boat launch ramp, campground, and industrial-container shipping dock are located adjacent to the bay. No breakwater protection is available and seaplane facilities would be subject to northerly and westerly winds with no protection from waves (Figure 7). The proposed water operating area is subject to ocean swells and long fetches of water from several directions, which create choppy conditions from wind-driven waves. The upland area holds little capacity for parking or other development. Identified problems with the site include:

- No protection from open-ocean swells.
- Large wind chop from southeast, north, and west winds.
- Water typically choppy and rough.
- Huge wakes from large boats and ferry.
- No room for upland development.
- High level of salmon and waterfowl use.
- Too far from town for seaplane pilots and the community.

Figure 7
Starrigavan Bay Site Analysis

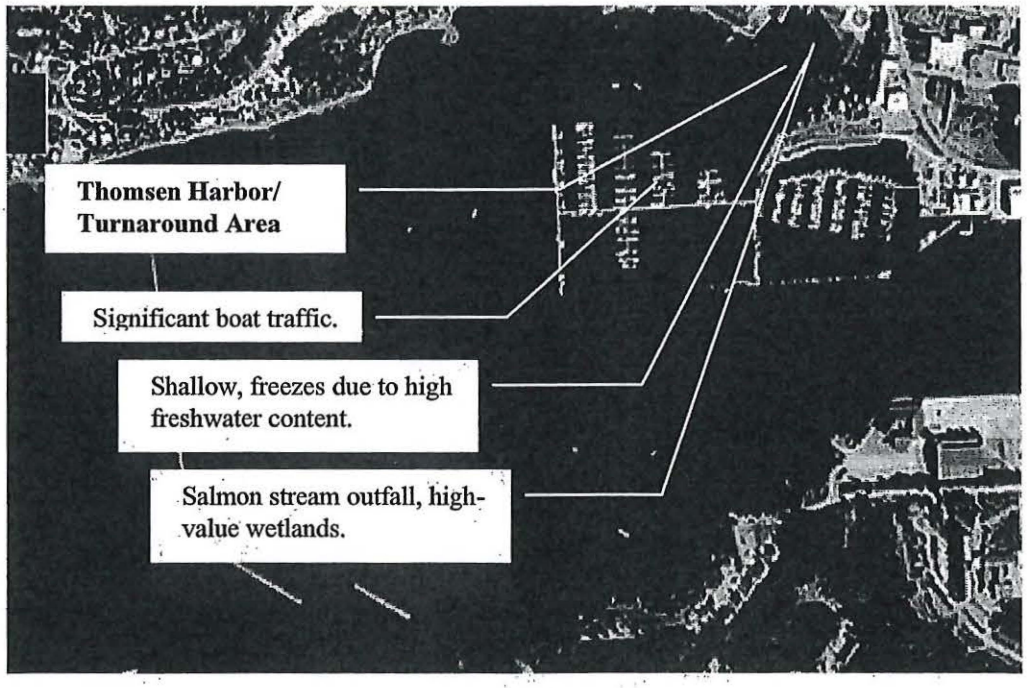


Thomsen Harbor Area

The Thomsen Harbor/Turnaround area was suggested because it offers a well-protected location behind the breakwater of the Western Anchorage (Figure 8). The area is already extremely congested with small boat traffic from Thomsen Harbor. At low tides, the taxi lane into the area becomes extremely narrow and floatplanes would need to share it with a considerable number of boats. Also, the area is the mouth of an anadromous stream with important intertidal habitat and high-value wetlands. The freshwater from the stream frequently causes the area to freeze in winter. Identified problems with the site include:

- Constrained by a large boat harbor and shallow water.
- Insufficient space at low tide to safely accommodate the passage of seaplanes and boats without significant dredging.
- Salmon run in the vicinity.
- Would need cost-prohibitive dredging and development.
- High-value wetlands in the intertidal area.
- Freezing due to freshwater concentration from the anadromous stream.
- High level of boat traffic.
- Possible strong local opposition to upland development for seaplane facilities.

Figure 8
Thomsen Harbor Site Analysis

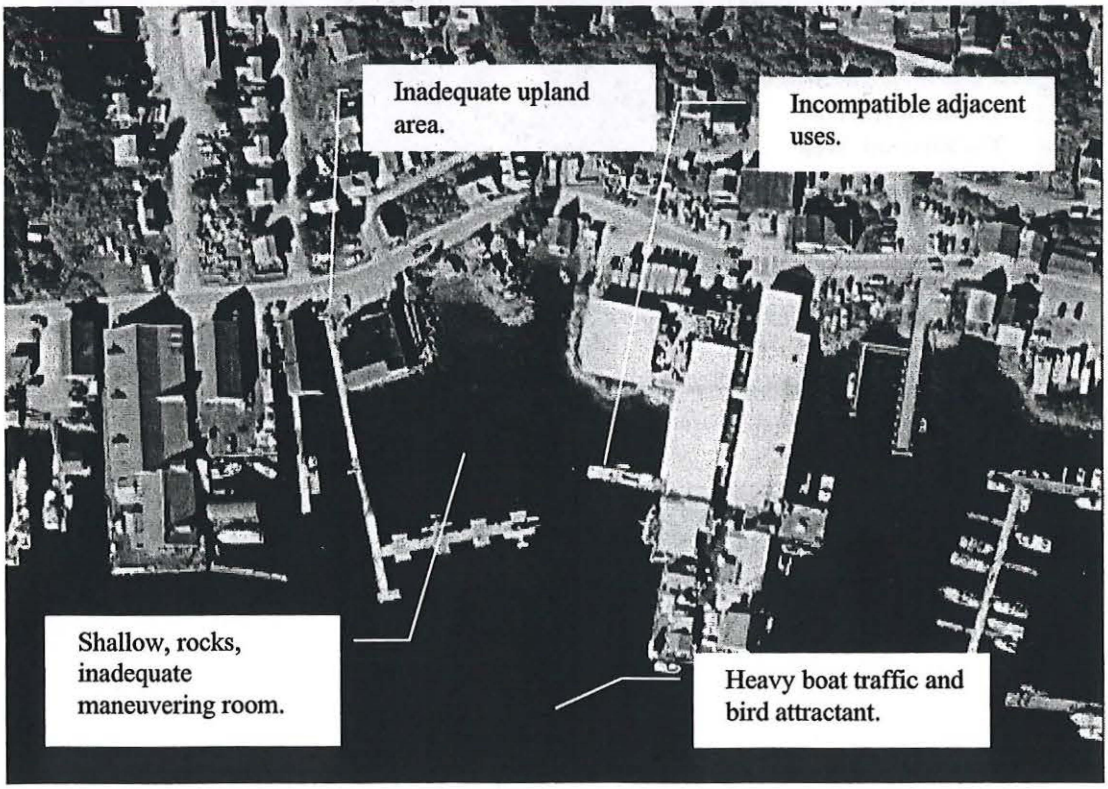


Existing Seaplane Base Site

In response to comments from pilots indicating the existing site is the most protected from winds of any site considered (Figure 9), it was also evaluated for expansion potential. The existing site is severely constrained and has minimal area for expansion either in tideland or upland areas. There is not enough room at the existing location to safely provide ramp space to meet the forecast increase in use and development. Because the site also conflicts with adjacent uses, it would be extremely difficult to solve the existing safety issues and upgrade the seaplane base. As documented in the *Sitka Seaplane Base Master Plan Condition and Needs Assessment Report* (HDR 2002), the site suffers from a number of problems that have prompted the desire to relocate the seaplane base. Identified problems with the site include:

- Rocks and boulders under the water.
- Heavy bird attractant at the adjacent fish processing plant.
- Significant fishing and boat traffic.
- Inadequate size for safe maneuvering room.
- No expansion room to meet existing and forecast demand.
- No upland area for parking.
- Small expansion area available only in other developed land.
- Narrow wingtip clearances between seaplanes.

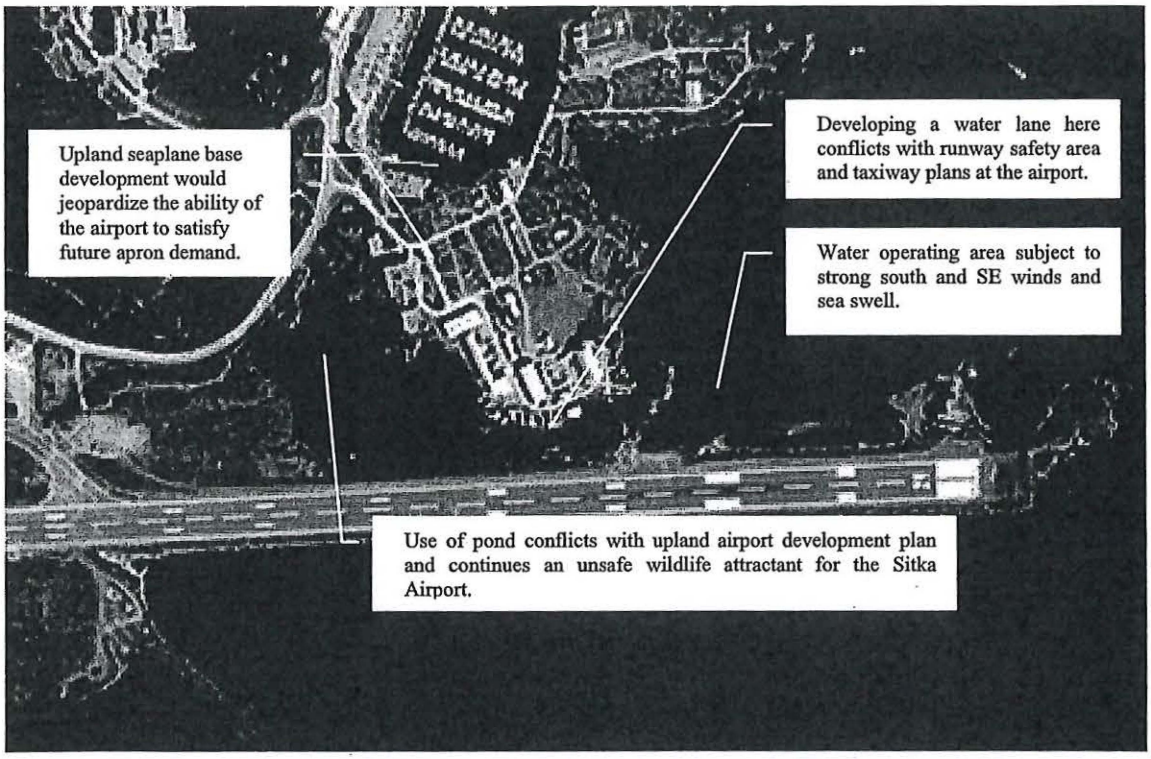
Figure 9
Existing Seaplane Base Site Analysis



Japonski Airport Lagoon Site

This site is located in the lagoon formed in between Japonski and Charcoal islands and the runway of the Sitka Rocky Gutierrez Airport (Figure 10). This site would require the use of land set aside for future expansion of the Sitka airport. For this site to be feasible, a channel would need to be blasted in the western end of Charcoal Island to create a 200-foot-wide sea-lane. The airport's runway embankment would serve to protect the sea-lane and intercept the prevailing sea swells. After the runway embankment is extended for the new safety area at the airport, there would be a total of between 3,400 and 3,800 feet of protected sea-lane.

Figure 10
Japonski Airport Lagoon Site Analysis



The site is considered fatally flawed because it conflicts significantly with the airport master plan for Sitka Rocky Gutierrez Airport (DOT&PF 1999). Development would conflict significantly with planned improvements at the airport, including runway safety areas, a proposed parallel taxiway, and needed apron expansion. Using these areas for seaplane base development would affect the ability of the airport to accommodate future demand and comply with FAA regulations and recommendations.

In addition, the lagoon is a large safety hazard for the airport because it is a major wildlife attractant. Plans are currently under review for filling in the lagoon to improve airport safety and protect the aircraft operating at the airport. Safety for both wheeled and floatplanes would be compromised if the seaplane base were located in the lagoon because the major wildlife attractant would not be removed. Sea swells coming through Middle Channel would decrease the safety of a landing and takeoff area adjacent to the seaplane base. Identified problems with the site include:

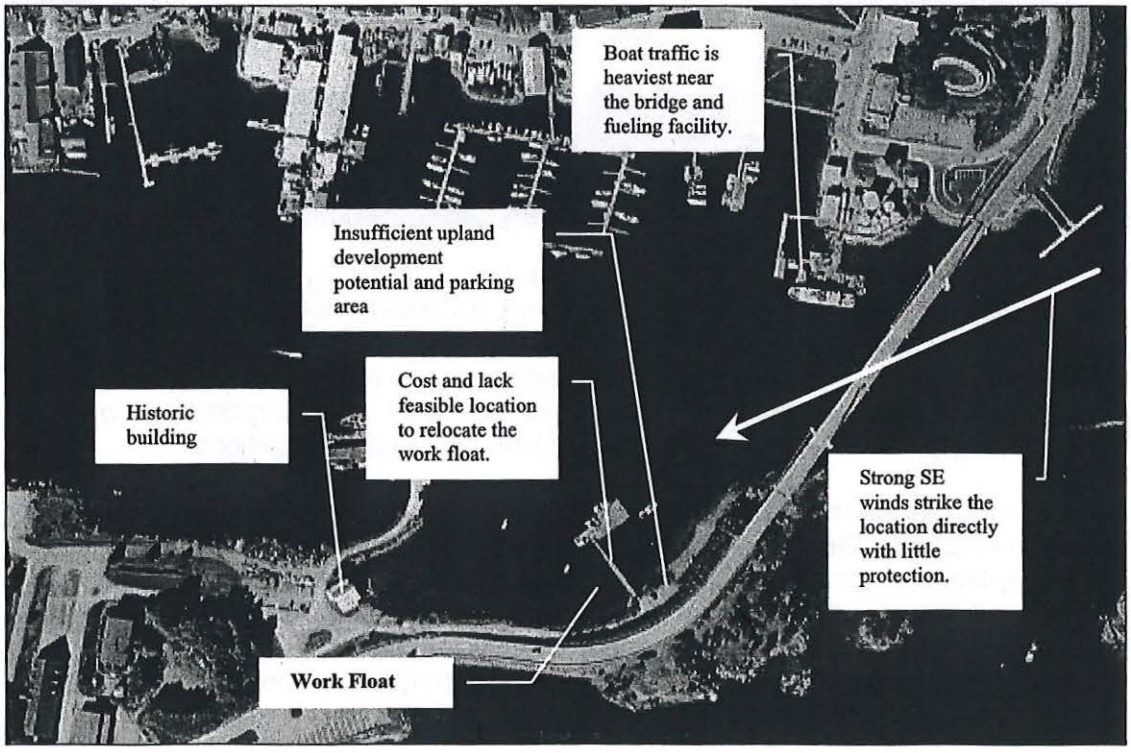
- Incompatible with 1999 Sitka Rocky Gutierrez Airport Master Plan.
- Safety problem of the wildlife hazard posed by the lagoon.
- Wind exposure.
- Sea-lane only partially protected from sea swells and larger waves.
- Expense of blasting the sea-lane channel.
- No breakwater protection for eastern side of sea-lane.

Work Float Site

This site is located along Airport Road between the U.S. Coast Guard dock and the western end of O'Connell Bridge, on the southeast side of Japonski Island (Figure 11). Located near the mouth of the channel across from the fueling facility, the area is one of the more congested and traveled areas of the harbor. The site is relatively unprotected from strong prevailing southeast winds. Sandwiched between the road embankment and the water, seaplane facilities would have little to no upland development area for parking or other needs. Identified problems with the site include:

- Not well protected from wind.
- Cost and lack of a feasible location to relocate the work float.
- Seaplanes in close proximity to U.S. Coast Guard vessels and dock.
- Difficult to control access to the storage area and dock.
- Heavy boat traffic at the fueling facility and at the mouth of the harbor under the bridge.
- Insufficient upland parking area and development potential.

Figure 11
Work Float Site Analysis



3.3 Step 3 – Conceptual Layouts and Evaluation

The third step involved preparing conceptual engineering layouts for the remaining sites to determine if they would be feasible, relative to the facility requirements for the seaplane base in Sitka. Included in the discussion of each site is an identification of the pros and cons associated with each of these sites as compared against key FAA siting criteria and facility requirements. The following sites were identified as having the potential for providing an improved operating area and location for developing a seaplane base:

- Safe Harbor Site
- Mt. Edgecumbe Site
- SEARHC Cove Site

These sites are considered reasonable and should be further evaluated under the National Environmental Policy Act, if such analysis becomes required. It should be noted, however, that none of these sites meet the minimum FAA recommended distance from wildlife attractants.

3.3.1 Alternative 1 – Safe Harbor Site

Alternative 1 proposes development of a new seaplane facility at Safe Harbor. Safe Harbor was the location of the airport ferry dock prior to the construction of O'Connell Bridge. The relocated seaplane base facility (Layout 1) would be on Japonski Island, directly across Sitka Channel from the existing seaplane base and between the U.S. Coast Guard dock and University of Alaska property.

This area of Sitka Channel provides improved seaplane maneuvering room as compared with the existing facility and is large enough to accommodate safe taxiing and turning movements into the facility. Dredging and construction of a seawall are proposed as a means of tightening its position as close as possible to the shoreline to keep it out of Sitka Channel. This would protect the facility from boat traffic. The U.S. Coast Guard dock would further protect the takeoff and landing area from swell, waves, and wind coming up the channel. Japonski Island protects the area from open-ocean wave action and the site provides a relatively sheltered moorage area from local winds. Nautical charts indicate that there are submerged piles in this location which would likely need to be removed. The dredging and seawall construction would also ensure that the bottom is free of hazards and that sufficient water depth is maintained at the full tidal range.

It is expected that a seaplane base at Safe Harbor would continue to use the FAA-designated landing and takeoff area along the centerline of Sitka Channel. This lane is well aligned for the prevailing winds, but bird hazards associated with the landing and takeoff area would remain. If the facility were to be relocated to the Safe Harbor site, bird hazard mitigation measures recommended in the Wildlife Hazard Assessment report prepared for the Sitka Rocky Gutierrez Master Plan (DOT&PF 1999) should be implemented. The takeoff and landing lane should be marked on all charts because the lane is split by O'Connell Bridge (an obstruction) at its southeastern end. Taxiing under the bridge would continue to be required for approach and departure operations in that direction. Access to the new facility would be along Seward Avenue. The area

proposed for vehicle parking is currently used for that purpose, along with the storage of miscellaneous fishing and marine equipment.

The upland area adjacent to this site is zoned as "Public" land (see Appendix B) and is owned by the State of Alaska, Department of Education. The State of Alaska also owns and manages the tidelands. Nearby land uses include the U.S. Coast Guard dock, the University of Alaska, Southeast campus, and Mt. Edgecumbe High School dormitories. Access and upland development of parking facilities would require acquisition of land from the Department of Education. Noise would be the primary impact to the upland properties. Because takeoffs and landings would occur on the same water operating area and in an identical manner as the existing conditions, no noticeable change in noise conditions is anticipated. Zoning and ownership maps for Japonski Island are contained in Appendix B.

The location of Alternative 1 would be close to the wildlife attractant created by the fish processing waste outfalls in Sitka Channel. Safe Harbor is approximately 600 feet from the processing facility itself. The Alternative 1 site might be an improvement over the existing seaplane facility, in that the birds tend to gather at the processing plant, which is directly adjacent to it.

According to the 1999 Wildlife Hazard Assessment (WHA) for the Sitka Rocky Gutierrez Airport, Sitka Channel frequently attracts large numbers of gulls and smaller numbers of diving ducks and bald eagles. Outfall pipes discharge waste into the bottom of Sitka channel approximately 200 yards from the docking area of the processors. Seafood wastes consist mainly of water with chunks of fish waste that have been ground to one-half inch in size. Some fish wastes (those that are probably high in oils) float to the surface, where it becomes available to scavenging birds such as gulls. Fish waste from seafood processing activities located along the channel appears to be the primary attractant for gulls. Waste in the area includes fish remains resulting from sport fishing activity as well as that discharged from underwater outfall pipes, dockside transfers, and cleaning operations. Large flocks of mixed gull species feeding directly above the seafood waste outfall pipes of Seafood Producers Cold Storage and Sitka Sound Seafoods were recorded during the WHA.

The WHA reports that a meeting was held with two of the seafood processors to inform them of the problem. Several possible remedies were discussed, including night dumping and a possible increase in fish waste composting. The WHA recommends further study to understand the relationship between the discharge of seafood wastes and seabird movements in the area.

The estimated cost of Alternative 1 is $4,700,000. Please note that this is a planning estimate only. Details of the cost estimate are contained in Appendix C.

Advantages	*Disadvantages*
▪ Sufficient upland area to develop vehicle parking. ▪ Nearby U.S. Coast Guard dock provides some protection from sea swells, wind, and waves. ▪ Can be easily accessed from the existing road system. ▪ Least constrained future landside development of the three alternatives.	▪ Seaplane operations (noise) remain in Sitka Channel. ▪ More exposed to prevailing winds and wave action than the existing site. ▪ Seaplanes operations in close proximity to the U.S. Coast Guard vessels and dock. ▪ Operations still in a relatively congested boat traffic area. ▪ No substantially increased distance from wildlife.

3.3.2 Alternative 2 – Mt. Edgecumbe Site

Alternative 2 explores relocating the new seaplane facility to the northern end of Japonski Island (Layout 2) in the cove adjacent to the Mt. Edgecumbe High School (MEHS) at a seaplane ramp formerly used by the U.S. Navy.

This site is adjacent to a wider open area of the harbor known as the Western Anchorage. The Western Anchorage provides a significant improvement over the existing location for providing maneuvering room to accommodate safe taxiing and turning movements into the facility. The area would also increase pilot flexibility for choosing the direction and location for take off and landing to take advantage of wind conditions or to avoid hazards such as birds and boats. The site is approximately 2,000 feet from the main concentration of birds in Sitka Channel

The Alternative 2 site provides a relatively sheltered moorage area. Japonski Island and breakwaters forming the harbor protect the site from open-ocean wind and wave action. Sea swells have been a problem at Thomsen Harbor and could be a concern at the Mt. Edgecumbe site. However, a project for expansion of the harbor breakwaters is being prepared. This project would add 150 feet to the smaller, near-shore breakwater and 200 feet to the larger, central-channel breakwater. Such additions would further reduce wave activity for seaplane facilities and seaplane operations. Dredging and construction of a seawall are proposed as a means of moving the moorage area close to shore to take advantage of the sheltering effect of the slight cove offered by the location. These activities would also ensure that the bottom is free of hazards and that there would be sufficient water depth at the full tidal range.

A question has been raised about the lack of protection from west and north winds at this site. West and north winds, particularly during winter storms, would be a concern and wind damage to planes during these events is a possibility. Analysis of the wind data, however, indicates that such events are not common. South and southeast winds are not only the prevailing winds, they are also consistently the strongest winds experienced in Sitka.

The site is adjacent to the main school buildings of Mt. Edgecumbe High School. The State of Alaska, Department of Education, and the Southeast Alaska Regional Health Consortium own the upland area above the site, which is zoned as "Public" land. The

tidelands are owned and managed by the State of Alaska, Department of Natural Resources. Appendix B contains the zoning and ownership maps.

A primary concern with this alternative is noise. Idling and taxiing seaplanes would be in relatively close proximity to the school, but landing and takeoff operations would not occur as consistently in Sitka Channel as presently occurs. This may actually reduce noise effects at the school. The school is at the north end of the channel and experiences considerable noise from northbound departures and southbound arrivals to the current seaplane base. Southbound departures are also conducted by back-taxiing in front of the high school to the north end of the harbor. If the seaplane base were relocated, northbound departures would likely start at the seaplane base and occur in a direction taking them away from the high school. Because pilots tend to land as close to the seaplane base as possible, and with prevailing winds from the south and southeast, most landings would have an approach path from the north over the Western Anchorage, with landing occurring before the noise would affect the school.

This site is accessible from Seward Avenue. Parking could occur in the existing parking lot behind the high school or could be developed in an undeveloped upland area across Seward Avenue. Land would need to be acquired form the Sitka School District to develop the recommended parking spaces. The existing cement seaplane launch ramp could be used for minor maintenance or airplane fueling.

The site and operating area is within 5,000 feet of known wildlife attractants (the fish waste outfalls). Pilots may choose to operate out of the Western Anchorage near the new facility rather than in Sitka Channel, which could potentially reduce the bird strike hazard.

Advantages	*Disadvantages*
▪ Most seaplane operations in the Western Anchorage, not in Sitka Channel, increasing flexibility and reducing congestion in the channel. ▪ Well protected from south and SE winds. ▪ Would increase the separation from the primary source of bird attraction to 2,000 feet. ▪ Potential use of the existing ramp for light maintenance and fueling.	▪ Aircraft noise more audible near residential and institutional areas, but quieter in Sitka Channel. ▪ More exposure of dock location to wind and wave action than the existing site. ▪ Concern over north and west winds. ▪ Insufficient upland area available for future seaplane base development. ▪ The cove has a ramp owned by Mt. Edgecumbe High School; the school has been unsupportive to having seaplanes near the school in the past.

The estimated cost of Alternative 2 is $5,500,000. This is a planning estimate only. Details of this cost estimate are contained in Appendix C.

3.3.3 Alternative 3 – SEARHC Cove Site

Alternative 3 would develop a seaplane facility on the northern end of Japonski Island in the cove adjacent 1210 Seward Avenue, behind the SEARHC clinic, daycare, and staff residential buildings (Layout 3).

Similar to Alternative 2, this site is adjacent to the area of the harbor known as the Western Anchorage, which would provide sufficient maneuvering room to accommodate safe taxiing and turning movements into the proposed facility. Like Alternative 2, the area would also increase pilot flexibility and choice of take off and landing directions to take advantage of wind conditions or to avoid bird and boat hazards.

Like the other two alternatives, this location provides a relatively sheltered moorage area. The concerns about sea swells, west and north winds, and the breakwater improvements discussed above for Alternative 2 apply to this alternative as well. The land ownership issues are also the same. Currently, only one of the homes along this segment of the shoreline is occupied.

For this alternative, access would be aligned near the end of Seward Avenue, where there is currently a cul-de-sac. From the cul-de-sac leading down to the high-tide line, there is approximately a 20-foot drop in elevation. Based upon acceptable grades of 10% for vehicle access, the elevation difference could force the seaplane base further out into the harbor. However, with the tidelands sloping gradually away at approximately a 2-3% grade, this increased distance from shore would already be required to accommodate the low-tide water levels. Parking would be developed behind or adjacent to the existing residential homes. Land would need to be acquired from the Sitka School District or SEARHC, depending on the specific design configuration of the vehicle parking area.

With development of this alternative, noise would increase in the area from taxiing planes and idling aircraft engines. As with Alternative 2, northbound departures would likely start at the seaplane base and occur in a direction away from the residential properties. With prevailing winds from the south and southeast, and because pilots tend to land as close to the seaplane base as possible, most landings would have an approach path from the north over the Western Anchorage. Landings would occur before the noise affected properties near the seaplane base.

The site is approximately 3,500 feet from the primary fish processing facility. Because many operations would move to the west end of the harbor, they would occur even farther from the primary bird attractant in Sitka Channel than the other alternatives.

Advantages	*Disadvantages*
▪ Most seaplane operations in the Western Anchorage, not in the Sitka Channel. ▪ The seaplane dock size not constrained by the surrounding land. ▪ May be the best location operationally. ▪ Reduces proximity to the primary bird hazard in Sitka channel. ▪ increases separation from the primary source of bird attraction to 3,500 feet.	▪ Dock location exposed to more sea swells as they come in between the breakwater and Japonski Island. ▪ Seaplane operations very close to the SEARHC clinic and residential areas. ▪ Insufficient upland area for seaplane base development. ▪ Very shallow coves, with a fairly far waterline retreat during low tide. ▪ Increased road traffic on the road next to the SEARHC hospital. ▪ More seaplane noise for land uses at the north end of Japonski Island.

The estimated cost of Alternative 3 is $5,500,000. This is only a planning estimate; for more details, see Appendix C.

3.4 Step 4 – Preferred Alternative Recommendation

The fourth step involves identification of a preferred location and conceptual layout for advancement in the master plan. The ultimate selection of a preferred alternative will be made after the public has had an opportunity to evaluate and discuss the various options.

None of the alternatives presented meet the minimum FAA recommended distance between wildlife attractants and a seaplane facility. The lack of available land without topographical constraints and lack shelter from open ocean waves and wind confines the study area for a new seaplane facility to those inside the harbor. The existing seaplane facility represents the least desirable location regarding proximity to a known wildlife attractant. All of the proposed relocation sites presented in this report increase separation from the attractant, but not sufficiently to be in compliance with FAA recommendations.

Alternative 1 provides the shortest separation from the wildlife attractants in Sitka Channel and keeps seaplane operations in a congested, narrow part of the harbor. Alternatives 2 and 3 increase the separation from wildlife attractants and increase operational flexibility and maneuvering room for seaplane operations.
The three alternatives were the only feasible sites of those identified offering protection from Gulf of Alaska wave action. Alternatives 2 and 3 appear to be the most sheltered from the prevailing wind direction, which is also the direction of the strongest winds. Storm winds from the north and west could result in aircraft damage. Alternative 1 appears to offer better protection for north and west winds.

Each of the alternatives requires the acquisition of land from the State of Alaska, Department of Education, or SEARHC. Depending on the ultimate location and layout, land could be required from both entities.

The following table summarizes the analysis of the three alternatives.

	Alternative 1	**Alternative 2**	**Alternative 3**
Wind	Well protected.	Moderately well protected. North and west winds are a concern.	Moderately well protected. North and west winds are a concern.
Waves	Well protected.	Well protected after breakwater expansion.	Well protected after breakwater expansion.
Upland Ownership	Department of Education.	Department of Education/SEARHC.	Department of Education/SEARHC.
Land Use	U.S. Coast Guard Dock & University of Alaska, Southeast.	Adjacent to Mt. Edgecumbe High School.	Adjacent to SEARHC housing.
Bird Hazard	600 feet from the primary hazard source.	2,000 feet from the primary hazard source.	3,500 feet from the primary hazard source.

	Alternative 1	**Alternative 2**	**Alternative 3**
Operations	Heavy boat traffic.	Minor boat traffic, increased flexibility for operating.	Minor boat traffic, increased flexibility for operating.
Cost	$4,700,000	$5,500,000	$5,500,000

Condition and Needs Assessment Report

Sitka Seaplane Base Master Plan

DRAFT

Prepared for:

City and Borough of Sitka

Sitka, Alaska



Prepared by:

HDR Alaska, Inc.

and

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Seaplane Base Master Plan Overview

The City and Borough of Sitka is developing a Seaplane Base Master Plan that will be used as a guideline for upgrading and relocating its seaplane base. The plan is intended to meet floatplane traffic and aircraft parking demand for 20 years, and to meet seaplane facility requirements according to a 20-year forecast.

The plan development process will be used to select a preferred location for an upgraded seaplane base and to seek federal funding for the new facility. The existing seaplane float is in poor condition and is not large enough to meet current needs. In addition, its present location has safety concerns and conflicts with other adjacent uses in its current layout.

Condition and Needs Report

This document presents an inventory of the existing seaplane facility. The inventory of existing conditions is based on an onsite inspection of the seaplane base, published data, and the public involvement efforts made during the first phase of the project. The report evaluates the effectiveness of the existing seaplane base facilities, documents the need for seaplane base improvements, and provides a base of information for making decisions about the future of the existing seaplane base.

Inventory of Existing Conditions

Overview

The existing Sitka Seaplane Base is owned by the City and Borough of Sitka and is located on the industrial waterfront on Sitka Channel between 429 and 435 Katlian Avenue. The area of the lot is 83 square feet. The dock is northwest of the North Pacific Processors, Inc. facility.

The seaplane base consists of a float and an adjacent water runway. All eight ramps are leased, and according to the Federal Aviation Administration (FAA), there are approximately 100 operations per week on average. Title 13 of the Sitka General Code indicates that the seaplane base is for active planes and prohibits commercial operations except for pickups and drop-offs (Sitka Ordinance 96-1366). Only minor repair and maintenance work is allowed. Moorage of any boat is prohibited.

The cost of leasing a slip is $35 per month for a permanent slip. Transient fees are $5 per day or a 30-day permit for $100. The seaplane base brought in approximately $4,000 in revenue in 2000 from leasing fees.

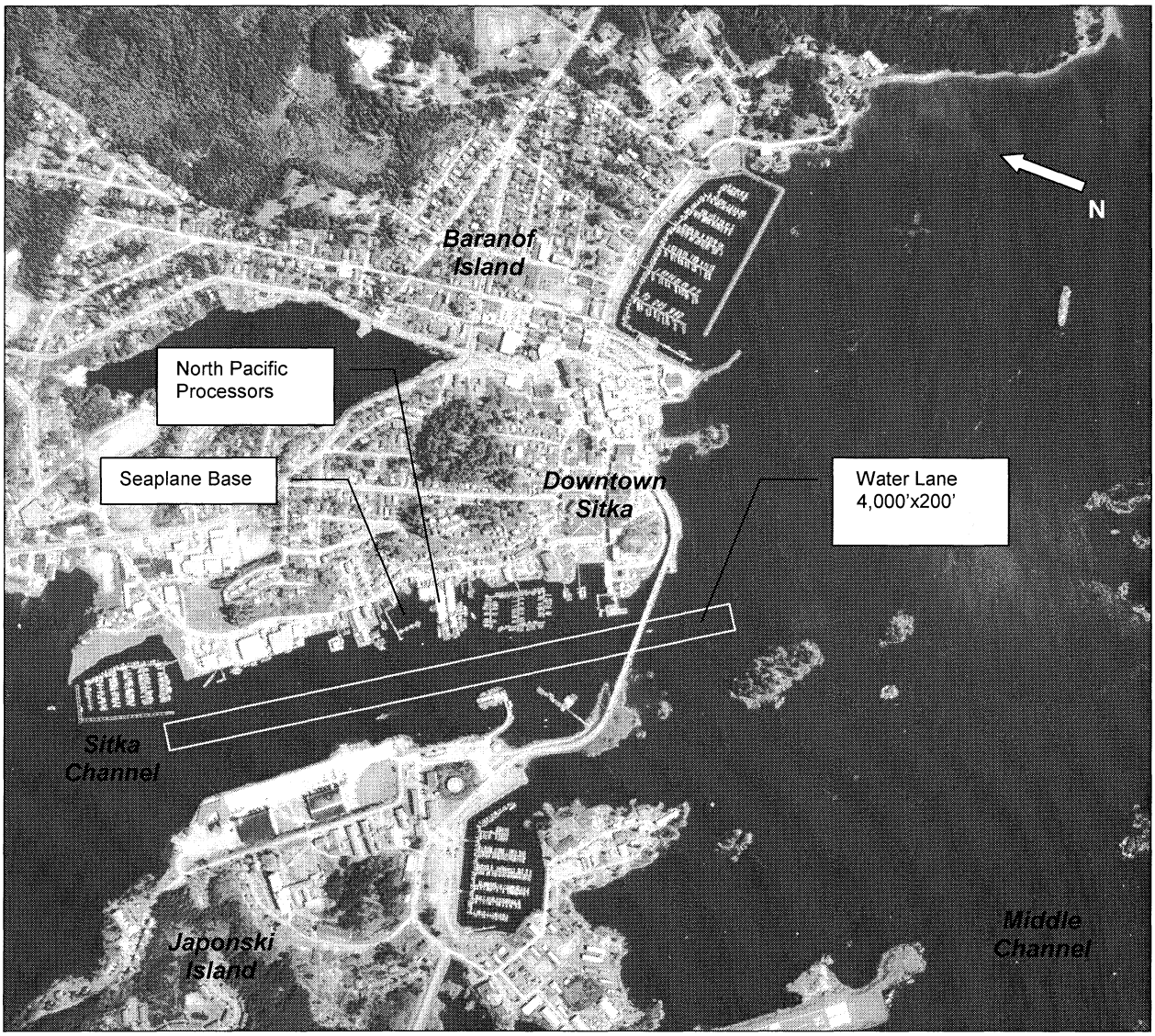


Figure 1. Seaplane Base Location.

Water Lane

The water operating area is in the Sitka Channel. The Sitka Channel is the section of water between the City of Sitka and Japonski Island. The Channel is bound by Baranof Island to the northeast, Japonski Island to the southwest, the O'Connell Bridge to the south, and Thomson Harbor to the north. In the vicinity of the seaplane dock, the channel is approximately 545 feet wide. The Alaska Supplement lists the seaplane sea-lane as 4,000 feet long by 200 feet wide. This sea-lane is aligned northwest to southeast and occupies most of the central part of Sitka Channel. The sea-lane is in fair alignment with the prevailing southeast winds. The magnetic heading northwest is 296° (300°) and southeast is 116° (120°). The National Oceanic and Atmospheric Administration (NOAA) "Tide and Current Tables" indicate that the current in Sitka Channel is 0.61 knots or 0.7 mph.

Table 1
Width of Sitka Channel at Various Locations

Channel Location	Channel Width (feet)
Existing Seaplane Dock	545
USCG Pier to ANB Float	435
At O'Connell Bridge	280
South Buoy at Harbor Rock	190

Distances measured off NOAA Chart 17327, Sitka Harbor Inset.

According to Title 13 of the Sitka General Code, in addition to FAA regulations and international rules of navigation for vessels, no step taxiing is allowed except during landing and takeoff. This is to reduce the wake through the channel.

Approach and Departure Paths

Aircraft departing to the northwest or landing to the southeast fly over Western Anchorage and the western end of the channel. Western Anchorage is wider than the Sitka Channel, allowing boats and seaplanes more room to maneuver. Seaplanes operating in the Western Anchorage area are further away from Sitka's residential areas but closer to the hospital on Japonski Island.

Aircraft departing to the southeast must either fly over the O'Connell Bridge or taxi under the bridge prior to departure. To fly over the bridge seaplanes must back-taxi to the northwest to allow sufficient room to takeoff and climb high enough to safely clear the bridge. For safety reasons, pilots are not allowed to fly under the bridge. The lift off point is adjacent to Aleutski or Turning Islands. Operating southeast of the bridge exposes the seaplane to increased boat traffic and ocean swell.

Seaplane Base Condition

The existing seaplane docking structure consists of a pier, a gangway and three floats. The gangway connects the pier to the seaplane floats. The floats are held in position by seven 12-inch diameter steel piles. The floats have space for 8 leaseholders and 3 or 4 transient seaplanes.

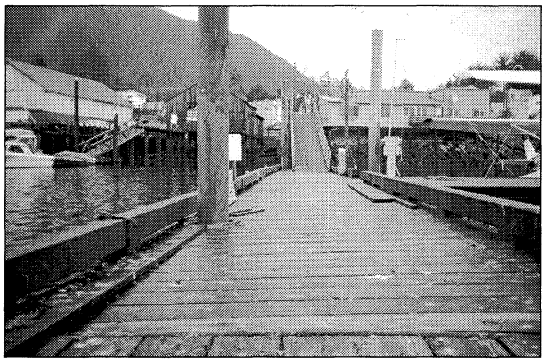


Figure 2. Water-logged floats on one side of the dock cause it to list.

The pier is supported on wooden piles and extends 192 feet out from the shore. The landward end of the pier is at street level. The wooden deck is 6 feet wide; the railing is 32 inches high. A 12-foot landing separates the top of the gangway and the gate. An access gate and security fence are mounted on the pier. A combination lock secures the gate; the combination is available from the harbormaster. Three overhead lights illuminate the pier.

The gangway is a 51-foot long by 6-foot wide galvanized steel structure with wood planks on the walking surface. One-half of the ramp is covered with asphalt roofing material; the other half has a series of wooden cleats for traction. The upper end is hinged to the pier while the lower end rests on the access float, sliding on a pair of angle iron guides.

The pier and gangway appear to be in fair condition. Both are weathered and exhibit the effects of a humid environment—rust, green algae, and moss.

The access float connects the transient float and the leaseholder float (seaplane dock) to the gangway. This float is 120 feet long by 12 feet wide and held in place by two steel piles. A 10-inch by 10-inch bull rail runs along the outer edge. Two or three seaplanes can tie up to the north side. The exact number depends on the plane size and how tightly they are spaced together. A fire extinguisher and overhead light are located on the south side. This float has a slight list; the northern edge is lower.

The transient float is located at the western end of the access float and measures 25 feet long by 10 feet wide. One seaplane can tie up to the west side. This float has the same construction and bull rail design as the access float.

The seaplane dock is 183 feet long by 12 feet wide and has eight short ramps; these ramps are used to store the seaplanes out of the water. The ramps are 18 feet wide and approximately 18 feet long; the angle varies between 8.4° and 10°. Each ramp has four tie-down eyebolts located at the outer edges of each ramp. The wings are tied to the eyebolts. The ramps are not long enough to allow all seaplanes to be pulled up entirely out of the water. Storing seaplanes out of the water is important to reduce corrosion and barnacle and seaweed growth.

The nose of each aircraft float is supposed to be tied to an eyebolt located in front of the ramp on the dock. To get as much of the aircraft float out of the water as possible, the seaplanes are pulled high up on the ramps such that the nose of the aircraft floats extend

beyond the near eyebolts. Because of this situation, the seaplanes are tied to the eyebolts of the opposite ramp.

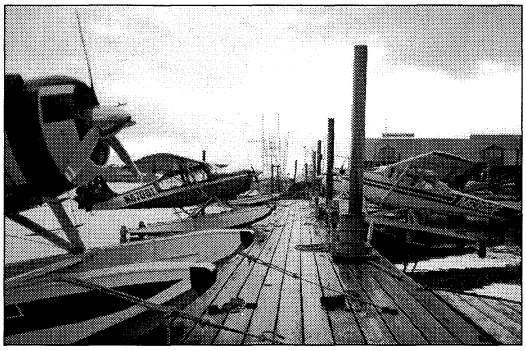


Figure 3. The existing 8 ramps are leased and 7 lease applicants are on the waiting list.

A tripping hazard is created where these tie-down ropes extend to the opposite eyebolts because the ropes extend diagonally across the dock.

The seaplane ramp centerlines are spaced 45.5 feet apart. This is too close, and seaplanes with long wingspans overlap or interfere with each other. For example, two DHC-2 Beavers cannot use adjacent ramps because there would be 2.5 feet of wingtip overlap. There would only be a 3.5-foot gap between wingtips if a Cessna 180 with a 36-foot wingspan were parked next to a Beaver with a 48-foot wingspan.

Four metal stanchions support the eight electric meters that supply electric power to each of the ramps. Fresh water is piped to faucets located along the dock. No illumination is provided along the dock. Five steel piles hold this dock in place.

The access float, transient float, and seaplane dock are made of wood and appear to be in fair condition. They are weathered and have areas covered with green algae or moss. Because of this, the walking surface can be very slippery.

As of October 2001, the overhead lights, electrical circuits, and fresh water supply pipe were operational.

This seaplane facility is in need of minor repair and a major inspection.

Landside Facilities

The existing seaplane base has approximately 24 feet of shoreline from which to access the seaplane dock. This 24-foot wide space provides only enough room for two 9-foot wide parking stalls and the 6-foot wide pier. There is no room to provide any other shoreline facility at this location, unless additional land is purchased.

This seaplane facility serves primarily as a place to store aircraft, with only some light maintenance and refueling possible. Seaplanes needing heavy maintenance, haul-out, or storage on land must go elsewhere.

Anchorage Area

The current location of the seaplane dock provides good protection from wind and waves. Large buildings on either side of the dock are supported on piers. These piers extend out at least as far as the seaplane dock and tend to protect the airplanes from the wind. The close proximity of Japonski Island tends to protect the dock from the prevailing ocean swells.

Waves created by the wind are sometimes a problem for the current dock location. Strong southeast winds can make seaplane operations south of O'Connell Bridge hazardous due to wave height.

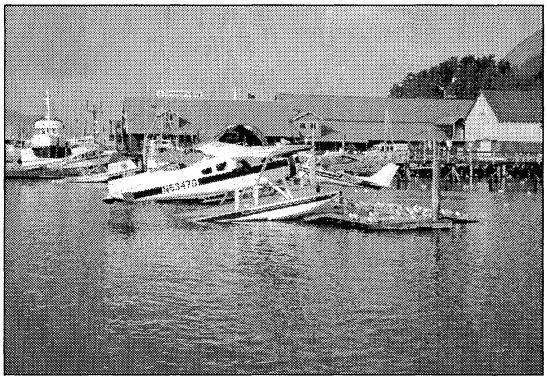


Figure 4. Wind conditions at the existing seaplane base are good due to the proximity of buildings on three sides, which extend out over the water.

The seabed condition under the current seaplane dock is rocky with a very shallow slope. The shallow slope causes the water's edge to travel a large horizontal distance between high and low tides. During extreme low tides, the tidal range leaves no room between the shoreline and the ramps for maneuvering. Also, exposed rocks make it difficult and unsafe navigating into and out of the anchorage area.

Problem Identification

Insufficient Capacity

The current seaplane facility is too small and the site too constrained to accommodate the demand for seaplane ramp space and associated services. Currently, each of the eight ramps is leased and there are seven people on the waiting list. The harbormaster indicates that this situation has persisted for a number of years. Unfortunately, the current site leaves little room to accommodate the demand for additional ramp space or for the expansion of upland facilities.

Not having sufficient seaplane docking space is a safety issue. Because there is not enough capacity, a number of pilots are unable to put their planes on floats, which means local pilots must use amphibious floats (if their plane can accommodate them) or wheels. Many choose wheels because of the expense of buying and maintaining the amphibious floats. Flying with wheels, however, is not as safe because of the limited locations to land in case of an emergency (due to the shortage of land based airports in the area around Sitka). It is not possible for wheeled planes to land at lakes and villages near Sitka.

In addition to being unable to accommodate the demand for seaplane ramp space, the lack of upland and waterfront area at the current site leaves no room for associated facilities such as vehicle parking, fixed base operations, terminal development, restrooms, fuel facilities, a drive-down ramp, or haul-out ability. The congested upland and waterfront conditions provide only 2 vehicle parking spaces for the 8 ramps and no room to add additional spaces. Moreover, there is no leaseable space available, and no haul-out facility.

The lack of a drive-down ramp prohibits any mechanized loading or

other access to the aircraft. Fueling can only be done by pouring gas from a jug, which is unsafe and risks fuel spills. It is also extremely inefficient, especially for larger aircraft.

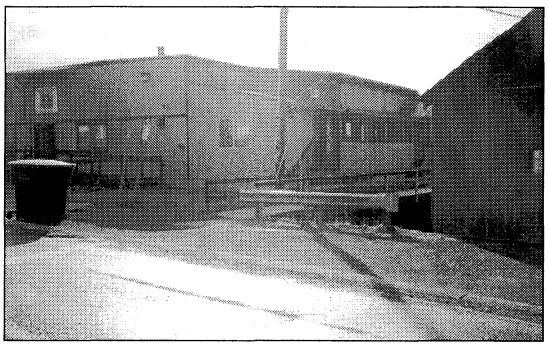


Figure 5. The entire upland area is limited to two parking stalls (pictured above) in front of the guardrail.

Pilots indicate that there is a real need for a good haul-out for seaplanes. Seaplanes need to be stored out of the water to reduce the corrosion to the floats. Barnacles also grow fast on floats left in the water. Currently seaplanes are hauled out on a ramp that is west of the airport runway across Japonski Island and put on a trailer. Coordination with the airport manager is required to obtain escorted access through the secure area of the airport. Wind, tides, waves, and rocks make using that ramp risky. It is, however, the only place to haul out seaplanes for maintenance or on-land storage.

Boat Traffic and Adjacent Land Uses

The current seaplane dock is located in a constrained and busy location. The primary location for the unloading of fishing boats is at the north side of the North Pacific Processors dock. There is very little maneuvering room into and out of the seaplane ramps when tenders and other fishing boats are unloading. This is an unsafe condition and has caused conflicts between the seaplanes and the fishing boats. The problem is exacerbated by a very small turning basin for seaplanes maneuvering landward of the float; this turning basin is further limited by rocks at low tide.

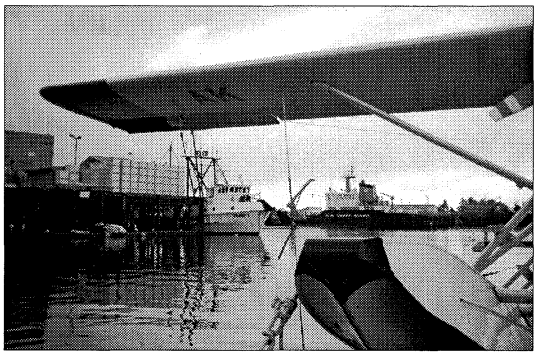


Figure 6. This photo shows the location of the seaplane dock relative to North Pacific Processors, Inc. The dock frontage at the left of the photo is the location where tenders unload. It is also the channel used to access the 4 ramps on the landside of the dock.

Because planes must operate in this constrained location, there is very little room for error on the part of seaplane and boat pilots. If either a boat or a plane loses power, it will drift into something before there is time to get help or react. Such conditions have occurred in the past, and boats have been blown into airplanes or have lost power and drifted into airplanes. Seaplanes have also struck boats.

Insufficient Space Coupled with Tides Limit Safe Operation at the Base

The turning basin on the landward side of the basin is too small to safely maneuver a seaplane. The limited maneuvering space is exacerbated by low tides and rocky bottom conditions. The situation is

such that at low tides there is not enough room between the landward seaplane ramps and the water's edge for seaplanes to safely maneuver. In addition, there are a number of large rocks in the turning basin that are exposed at low tides.

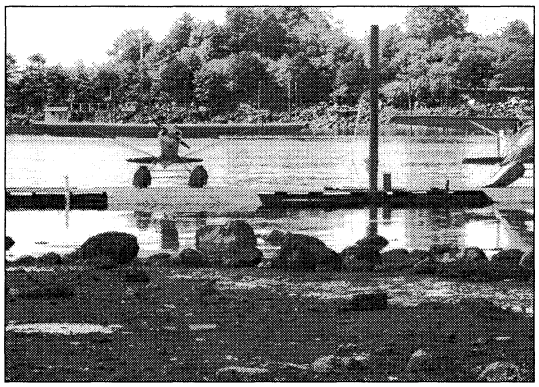


Figure 7. Large rocks in the turning basin landward of the dock cause a serious navigation hazard at low tides.

Operating an airplane from the shore side of the dock at low tide can be dangerous. In fact, airplane floats have been ripped open by these rocks. This problem limits the utilization of the dock for several hours around low tide.



Figure 8. During low tides there is very little maneuvering room landward of the dock. During minus tides the water goes out as far as the ramps.

Personal Safety

The conditions of the dock itself present personal safety problems for users. The dock surface is relatively narrow causing tie-down lines to cross the central walkway, meaning that users must step over each set of tie-down lines. In addition, the dock surface is typically wet and slippery (a condition exacerbated by bird guano).

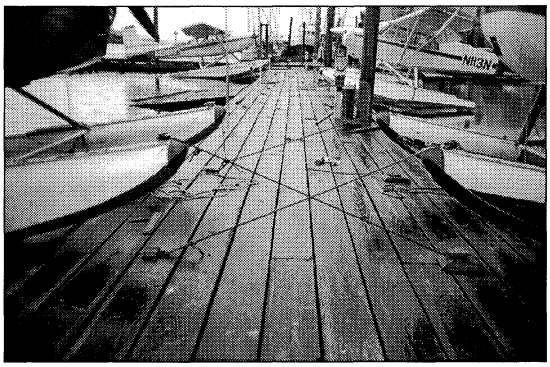


Figure 9. The dock is narrow, slippery (a condition exacerbated by bird guano), and congested with tie-down lines.

Another condition affecting personal safety is the design of the ramps themselves. Essentially, the ramps are just wide enough to accommodate the seaplane floats such that most of the wing extends over the water. This means there is no dock surface to stand on for tying down planes, fueling, or for maintenance. The narrow ramps are also difficult to maneuver the planes onto, especially in gusting winds or congested conditions.

Fueling Conditions

There is no fueling facility at the seaplane base and no ramp for trucked delivery of fuel. This makes fueling planes very difficult and necessitates that owners haul jerry cans of fuel down a steep, slippery gangway, across a narrow slippery dock, which is crisscrossed by tie-

down lines. This fueling situation raises concerns for:

- Personal safety in handling and loading fuel.
- Contamination of the fuel with water — which would cause engine problems resulting in safety issues for pilots.
- Water quality concerns in the channel.

Potential for Plane-Boat Conflicts in the Channel

The water lane used for takeoffs and landings is located in Sitka Channel along an industrial portion of the waterfront. The operating channel is identified in the Alaska Supplement as being 4,000 feet long by 200 feet wide; the channel is not marked.

Land uses fronting the Sitka Channel — particularly on the Baranof Island side — are largely industrial, characterized by fish processing facilities, dock space, and harbors. The industrial nature of the channel contributes to heavy boat traffic. Boat traffic is heavy both parallel with the channel as well as perpendicular to the channel. All boats needing to go north or south without going out to open ocean must transit the Channel; thus, there is considerable boat use year round.

The boat fueling facility that is located on the east side of the bridge attracts significant numbers of boats and results in a large number of boats crossing the channel. The commercial boat dock (work dock) is located on the west side of the bridge across the channel from supply stores and lodging. This location creates considerable cross-channel skiff traffic. Marking the water lane with buoys in the channel might be one way to help designate the landing area thereby alerting both seaplane pilots and boats to the potential for conflicts.

The O'Connell Bridge between Japonski Island and Baranof Island crosses the channel at its southeastern end. This cable-stay bridge is 70 feet high at its deck and has towers approximately 160 feet high. Local pilots indicate the location of the bridge is not a problem if pilots are aware and smart about operating around the structure. The bridge's location within the water lane requires pilots to taxi under the bridge before taking off to the southeast.

Bird Hazards

Sitka Channel attracts a large number of gulls and a smaller number of diving ducks and bald eagles. According to the Wildlife Hazard Assessment for the Sitka Rocky Gutierrez Airport (USDA 1999), the primary attractants are fish waste from processing facilities located along the channel. The waste includes fish waste discharged in underwater outfalls, miscellaneous waste generated during dockside transfer and cleaning operations, and fish remains from sport fish cleaning throughout the harbor.

According to the Wildlife Hazard Assessment (USDA 1999), large flocks of mixed gull species feed directly above the waste outfall

pipes of Seafood Producers Cold Storage and North Pacific Processors, Inc. (NPPI). These outfall pipes discharge in the channel approximately 200 yards out from the dock area of the processors at the bottom of the channel. The waste consists mainly of water with chunks of fish ground to ½ inch in size. Some of the waste floats to the surface where it attracts sea gulls.

A large number of sea gulls are attracted to the NPPI facility directly adjacent to the seaplane facility. The outfall of this facility is located in the middle of Sitka Channel approximately 300 feet from the seaplane dock. The birds gather on the roof of the NPPI buildings and on the seaplane dock. These sea gulls also spend time floating in the middle of Sitka Channel feeding on the processing waste; this feeding area is located in the middle of the seaplane water lane.



Figure 10. Bird activity in the direct vicinity of the seaplane base is heavy due to the location of the adjacent fish processing plant (pictured).

The location of this bird attractant to the seaplane base and water lane creates a safety concern relating to bird strikes. The FAA has specifically identified fish waste outfalls as a wildlife attractant and has found that such attractants in close proximity of aviation activity significantly increases the potential for wildlife and aircraft collisions and creates conditions hazardous to aircraft safety. The FAA considers such uses in close proximity incompatible land uses. The FAA also recommends against siting land uses that attract or sustain populations of hazardous wildlife within the vicinity of airports or cause movement of hazardous wildlife onto, into, or across the approach or departure airspace, aircraft movement area, loading ramps, or aircraft parking area of airports.

In addition to safety concerns, the heavy bird use of the area causes unpleasant conditions affecting the use of the seaplane base. The birds leave a thick layer of sea gull guano covering the dock and parts of some aircraft. This feces causes unsanitary conditions on the dock, damages the dock surface, damages the paint and finish on planes, and makes the decking extremely slippery. Moreover, birds have pecked through the fabric on planes and have caused serious damage to multiple aircraft.

Based Aircraft Forecast

This section addresses the issue of current and future demand at the seaplane base and documents the importance of the facility in the transportation system of the region. The proposed methodology for the air traffic forecast is consistent with the process recommended in FAA Advisory Circular 150/5070-6A, *Airport Master Plans* and is updated

in *Forecasting Aviation Activity by Airport* (FAA).

These documents provide national guidance for the preparation of master plans. The advisory circular has been the primary guidance in the preparation of master plans since enactment of the Airport and Airways Development Act of 1970 and has been recently updated with a seven-step process for the development of aviation forecasts:

Step 1. Identify aviation activity parameters and measures to forecast.
Step 2. Collect and review previous airport forecasts.
Step 3. Gather historical data.
Step 4. Select forecast methods.
Step 5. Apply forecast methods and evaluate results.
Step 6. Summarize and document results.
Step 7. Compare airport planning forecast results with Terminal Area Forecast (TAF).

Step 1. Identify Aviation Activity Parameters and Measures to Forecast

To determine the additional capacity that will be needed at the Sitka Seaplane Base, the existing conditions and market for the seaplane base need to be examined, and demand and use factors recommended by the FAA need to be explored.

The primary element to be forecasted is the number of seaplanes that will be based at the facility and how many seaplanes the facility should accommodate in the future. According to FAA Advisory Circular AC 150/5395-1, a forecast of the number of seaplanes to be based at a seaplane facility, currently and within five years, is suggested. The five-year forecasted need will assist in identifying the appropriate size and support requirements for the seaplane base.

Step 2. Collect and Review Previous Airport Forecasts

This step recommends acquiring existing FAA and other related air traffic forecasts for the area served. There are three air traffic forecasts for the Sitka Seaplane Base that have been prepare in the past; the 2000 FAA Terminal Area Forecast (TAF), the 1996 Alaska Aviation System Plan, and the 1999 Sitka Rocky Gutierrez Airport Master Plan.

Federal Aviation Administration, Terminal Area Forecast

The FAA Terminal Area Forecast (Table 2) for the Sitka Seaplane Base contains an air traffic forecast for fiscal years 2001 – 2015. The TAF reports activity data for the following major users of the Sitka Seaplane Base: local commuter and general aviation (GA) operations and itinerant GA operations. Local operations are defined as those operations that occur within the local airspace of the airport, such as touch and go operations. Itinerant operations occur when aircraft enter or exit the local airspace typically en-route to or from other airports.

Table 2

FAA, TAF Sitka Seaplane Base

	Local			Itinerant		Total
Year	AT	GA	Total	GA	Total	Operations
2000	2500	2000	4500	500	500	5000
2001	2500	2000	4500	500	500	5000
2002	2500	2000	4500	500	500	5000
2003	2500	2000	4500	500	500	5000
2004	2500	2000	4500	500	500	5000
2005	2500	2000	4500	500	500	5000
2006	2500	2000	4500	500	500	5000
2007	2500	2000	4500	500	500	5000
2008	2500	2000	4500	500	500	5000
2009	2500	2000	4500	500	500	5000
2010	2500	2000	4500	500	500	5000
2011	2500	2000	4500	500	500	5000
2012	2500	2000	4500	500	500	5000
2013	2500	2000	4500	500	500	5000
2014	2500	2000	4500	500	500	5000
2015	2500	2000	4500	500	500	5000

Source: FAA, Terminal Area Forecast, 2002

Alaska Aviation System Plan

Table 3 presents the 20-year air traffic forecasts for the Sitka Seaplane Base reported in the 1996 Alaska Aviation System Plan (AASP). The AASP forecast is important because it reflects local conditions and policy considerations at a state level.

Table 3

Air Traffic Forecast, Sitka Seaplane Base

Alaska Aviation System Plan Update

Operations	Base (1988)	1995	2000	2005	2010
Air Carrier	0	0	0	0	0
Air Taxi	2,500	2,700	3,300	3,700	4,300
-GA Local	500	560	680	800	920
-GA Itinerant	2,000	2,240	2,720	3,200	3,680
GA Total	2,500	2,800	3,400	4,000	4,600
Total	5,000	5,500	6,700	7,700	8,900

Fleet Mix (Sitka SPB)	Base (1990)	1995	2000	2005	2010
Single Engine	10	11	12	13	14
Multi Engine	0	0	0	0	0
Jet	0	0	0	0	0
Rotorcraft	0	0	0	0	0
Other	0	0	0	0	0
Total	***10***	***11***	***12***	***13***	***14***

Source: 1996, Alaska Aviation System Plan

1990 Sitka Rocky Gutierrez Airport Master Plan

Table 4 presents the air traffic forecast for the Sitka Rocky Gutierrez Airport as developed in the 1999 Sitka Rocky Gutierrez Airport Master Plan. The aircraft operations forecast in Table 4 were presented in Table 24, page 32 of the Sitka Rocky Gutierrez Airport Master Plan. These are operations forecast to occur at the waterfront and do not include aircraft operations performed at the Sitka Airport.

Table 4
Aircraft Operations
Sitka Waterfront

Year	Aircraft Operations
1996	3,000
1997	3,015
1998	3,030
1999	3,045
2000	3,060
2001	3,075
2002	3,091
2003	3,106
2004	3,122
2005	3,138
2006	3,153
2007	3,169
2008	3,185
2009	3,200
2010	3,217
2011	3,233
2012	3,249
2013	3,265
2014	3,282
2015	3,298
2016	3,315

Source: DOT&PF, Sitka Rocky Gutierrez Airport Master Plan, 1999

Step 3. Gather Historical Data

Socioeconomic Conditions

The socioeconomic situation in a community or region can have a significant impact on the future demand for air travel and air traffic activity. This section presents information on the socioeconomic factors affecting aviation demand at Sitka.

Population. Population size and potential growth are key features in forecasting needs for air transportation services. A community's historic population trends are useful in indicating a predisposition for air traffic and are key factors in determining potential air transportation demand. Table 5 compares historic and forecast population data for Alaska, Southeast Alaska, and the City and Borough of Sitka.

Table 5
Population, 1990–2000 (Forecast 2003-2018)

Year	Statewide	Southeast Alaska	City and Borough of Sitka
1990	553,171	73,302	8,588
1991	569,054	73,759	8,878
1992	586,722	73,830	9,059
1993	596,906	73,706	9,083
1994	600,622	73,061	8,941
1995	601,581	73,054	8,868
1996	605,212	73,188	8,650
1997	609,655	72,612	8,708
1998	617,082	71,077	8,722
1999	622,000	68,989	8,681
2000	627,601	73,082	8,835
Ann. Avg.	1.3%	0.0%	0.3%
2003	656,150[1]	76,298[1]	8,590[1]
2008	693,018[1]	78,687[1]	8,409[1]
2013	733,852[1]	81,462[1]	8,226[1]
2018	776,488[1]	83,976[1]	7,978[1]

[1] Population Projection, Alaska Dept. of Labor, Research
Source: Alaska Dept. of Labor, Research & Analysis Section, 2000

As shown in Table 5 the population of Sitka has grown at an annual average rate of 0.3%. This rate of growth is less than the annual average growth for the state as a whole but greater than the Southeast region of Alaska.

Employment. Employment characteristics of a region or city can significantly affect the potential for generating air traffic. Employment is also an important indicator of the propensity to travel. Employment opportunities drive population fluctuations that in turn increase demand for travel. Table 6 presents average annual labor force statistics for Alaska, Southeast Alaska, and the City and Borough of Sitka.

The annual average unemployment rate in the City and Borough of Sitka (5.8%) is less than that of the state (8.0%) or Southeast Alaska (7.2%).

Table 6

Unemployment Rate (%), 1990-2000

Year	Statewide	Southeast Alaska	City and Borough of Sitka
1995	7.30%	7.3%	6.2%
1996	7.80%	7.9%	6.8%
1997	7.70%	8.2%	6.6%
1998	9.20%	6.8%	5.2%
1999	8.70%	6.8%	5.2%
2000	7.00%	6.4%	5.0%
Ann. Avg.	8.0%	7.2%	5.8%

* Year 2000 data is provisional.
Source: Alaska Dept. of Labor, Research & Analysis Section.

Sitka Seaplane Market

Typically, resident, private pilot operations plus fixed base operator activities will constitute the primary demands for seaplane ramp space. Fixed base operators may use seaplanes to provide chartered flights, student training, aerial photography, and air cargo services. In emergencies, seaplanes are used to evacuate people and deliver food and medical supplies. The combinations of these activities are typical market factors affecting demand at a seaplane facility. The Sitka market typifies a strong aviation market situation and demonstrates a need for a seaplane base.

Sitka is situated on Baranof Island on the outer waters of Alaska's Inside Passage, and is accessible only by air and by sea. It is a regional transportation and health services hub, serving smaller communities of Pelican, Elfin Cove, Tenakee Springs, Angoon, Kake, Port Alexander, and Baranof Warm Springs. Improving Sitka's seaplane facilities will improve services for persons utilizing Sitka's seaplane facilities for traveling to or from these communities.

The existing seaplane dock is most heavily used during the summer tourist season from June to September (with shoulder seasons from March to May and October, depending on the weather).

In the current commercial air taxi market there are two air charter operators in Sitka that use seaplanes — Air Sitka's operation is based in the harbor and operates with a 185 Cessna on floats, and Harris Aircraft is based at Sitka Airport and operates with a Cessna 185 and a DeHavilland Beaver, both on amphibious floats.

The market served by these charters includes:

- The United States Forest Service
- Alaska Department of Fish and Game
  - Herring Operations Management
  - Commercial Fishing Operations
- Fishing Boat Owners
  - Flights to and from boats and tenders during openings to move crew around
- Wilderness Lodges
  - Ferrying guests to and from lodges
  - Freight service - transporting food and equipment
- Medical Evacuations for Southeast Alaska Regional Health Consortium (division of Community Health Services)
  - Primary communities include Angoon, Pelican, Kake, and Tenakee Springs
- Southeast Alaska Regional Health Consortium travel

  - Transporting patients to and from remote villages to Sitka
  - Staff visits to villages
- Northern Southeast Regional Aquaculture Association
  - Freight and passengers to Hidden Falls and Deer Lake
- Individual charters to access area for recreation (hiking, fishing, hunting)

According to the City, there are a number of commercial operators who would like to expand their operations to Sitka, either to unload passengers or to conduct flight seeing or other operations, but public commercial facilities are not available. In addition, the U.S. Forest Service and other agencies would like to lease floatplane dock facilities, but no space exists.

There are several economic reasons for commercial operators to be on straight floats. In addition to the sheer number of destinations that require seaplane access in the region, flying with amphibious floats costs the operator more to insure and maintain and decreases the load that planes can carry. For example, when compared with straight floats, amphibious floats decrease a Cessna 206's payload by 190 pounds and a Beaver's payload by 474 pounds. The extra weight is due to the landing gear and retraction mechanism. The extra weight means fewer passengers, a lower freight payload, and ultimately, lost revenue. This makes it difficult to compete in the market in the Sitka area without straight floats.

In December of 1997, the City of Sitka surveyed local commercial and GA seaplane operators in an effort to analyze the future need for an expanded and/or relocated seaplane facility. The respondents indicated that they would like to see an improved or expanded public seaplane facility in Sitka that would include fuel and cargo services, passenger facilities, such as a shelter and restrooms, and improved road access and vehicle parking.

In early 2002, HDR contacted several seaplane operators in Juneau and Haines to identify potential regional demand for the Sitka Seaplane Base. Nearly all of the operators contacted indicated they primarily use a private seaplane facility in Sitka because of the lack of services and space at the public seaplane dock. Access to and use of the private facility is not, however, guaranteed, and there was general consensus that better public commercial seaplane facilities are needed and would be used.

One of the operators contacted is currently under contract by the U.S. Forest Service and flies to Sitka weekly. This operator expressed interest in using the public seaplane dock if it were improved to accommodate larger aircraft such as the DeHavilland Beaver or Otter and if fuel service were available. The operator also expressed interest in basing aircraft at Sitka and possibly acquiring a lease lot adjacent to a future seaplane facility if it were expanded and improved.

The consensus of the information collected during contact with these operators indicates that the facility would get considerable use for

itinerant commercial aircraft operations and fueling and that some operators would be interested in leasing slips or lease lots at the facility.

Other Demand and Use Factors

There are a number of other extenuating factors typically investigated when estimating the level of demand for a seaplane facility. In addition to understanding the typical aviation market, the following factors can influence the level of demand or justify the need for improvement at a seaplane facility:

- Geographical isolation.
- Lack of land airports in neighboring communities.
- Special flight activities.
- Recreational access.

Geographical Isolation

Sitka, population of 8,835, is located on the west coast of Baranof Island fronting the Pacific Ocean, on Sitka Sound. Sitka is accessible only by air or water. It is located approximately 95 miles from Juneau and 150 miles from the Alaska road system at Haines.

Due to its geographical isolation, Sitka is heavily dependent on air travel. The State-owned Rocky Gutierrez Airport on Japonski Island has a 6,500-foot paved and lighted runway, an instrument landing system, and a 24-hour FAA Flight Service Station. Daily jet service is provided, and scheduled air taxis and air charters are available. The City & Borough operates five boat harbors with 1,350 slips in addition to the seaplane base on Sitka Channel (http://www.dced.state.ak.us).

Lack of Land Airports in Neighboring Communities

Despite its relative isolation, Sitka serves as a hub for health care, goods distribution, and transportation for a number of neighboring communities. Southeast Alaska Health Consortium is based in Sitka, and its Mt. Edgecumbe Hospital serves the entire Southeast Region. Most of the smaller communities served are accessible only by seaplane. As such, seaplane access to Sitka makes up a critical component to the health and welfare of residents in communities in the region.

Moreover, seaplanes are an important part of the Sitka economy — largely due to the fact that many of the communities surrounding Sitka do not have land-based airports, which makes the availability of float plane transportation very important to the residents of those communities — for medical, personal, and tourism reasons. Some of the communities around Sitka are briefly described below including whether or not they have an airport or a seaplane float and the importance of air transportation. There are also other settlements and locations that have seaplane floats including: Chatham Cannery, Baranof Warm Springs/Manleyville, Little Port Walter Hatchery, Hidden Falls Hatchery, Port Armstrong Hatchery, and Saginaw Bay that are dependent on access from Sitka by seaplane.

The following communities are within the Sitka seaplane market area and rely on seaplane access.

Angoon. This Tlingit community (population 572) is the only permanent settlement on Admiralty Island. Angoon is 45 miles northeast of Sitka. Angoon is accessible only by floatplane or boat and has no land-based airport. Scheduled and charter floatplane services are available from the State-owned seaplane base on Kootznahoo Inlet. Angoon's facilities also include a deep draft dock, a small boat harbor, and state ferry terminal. Freight arrives by barge, ferry, or seaplane.

Elfin Cove. Elfin Cove (population 32) lies on the northern shore of Chichagof Island, 85 miles north of Sitka and is accessible only by seaplane or boat. A state-owned seaplane base is available, and skiffs are the primary means of local transportation. The state ferry lands once a month at nearby Pelican. Freight arrives by seaplane or boat.

Gustavus. Gustavus (population 429) lies on the north shore of Icy Passage 95 miles north of Sitka at the entrance to Glacier Bay National Park and Preserve and is accessible only by plane or boat. Gustavus has a seasonal economy; the lodge and park, located northwest of Gustavus, attract a tourists and recreation enthusiasts during summer months. Gustavus offers a state-owned airport with jet capability and other scheduled flights. The airport has a 6,700-foot asphalt runway and is undergoing major improvements. Floatplanes land at nearby Bartlett Cove. Air traffic is relatively high during peak summer months, and several cruise ship lines include the bay in their itinerary.

Hoonah. Hoonah (population of 860) is a Tlingit community located on the northeast shore of Chichagof Island, 75 air miles north of Sitka and is accessible only by plane or boat. Fishing, logging and local government are mainstays of the economy. Hoonah is dependent on air transportation for movement of small freight and passengers. The State of Alaska owns and operates an airport with a 3,000-foot paved runway and a seaplane base that is served by scheduled small aircraft from Juneau. A state ferry terminal and harbor/dock area is available. Freight arrives by barge or plane.

Juneau. Located on the mainland of Southeast Alaska, along the Gastineau Channel, Juneau (population 30,903) lies 90 miles northeast of Sitka. Juneau is accessible only by air and sea. Juneau serves as a regional transportation and service center and there is significant air travel between Sitka and Juneau. Scheduled jet flights and air taxis are available at the municipally-owned Juneau International Airport. The airport includes a paved 8,456-foot runway and a seaplane landing area. Marine facilities include a seaplane landing area at Juneau Harbor, two deep draft docks, five small boat harbors, and a state ferry terminal. The Alaska Marine Highway System and cargo barges provide year-round services.

Kake. Kake (population 710) is located on the northwest coast of Kupreanof Island along Keku Strait, 55 miles west of Sitka. Kake can be reached by only air and sea. There are scheduled floatplane and air taxi flights from Petersburg, Juneau, Sitka, and Wrangell. Kake has a state-owned 4,000-foot lighted paved runway west of town, and a seaplane base at the city dock. State ferry and private barge services are available. Facilities also include a small boat harbor, boat launch, deep-water dock and state ferry terminal.

Pelican. Pelican (population 163) is located on the northwest coast of Chichagof Island 80 miles north of Sitka. Commercial fishing and seafood processing are the mainstays of Pelican's economy. Pelican is dependent on floatplanes and the state ferry (once a month) for travel. Daily scheduled air taxi services are available from Juneau and Sitka. Facilities include a state-owned seaplane base, a small boat harbor, dock, and state ferry terminal. The ferry provides two monthly departures during summer months, and one monthly departure during the winter.

Port Alexander. Port Alexander (population of 81) is located on the south end of Baranof Island, 65 miles south of Sitka. Transportation is by floatplane and boat. A state-owned seaplane base is available. Passengers can fly on the mail floatplane from Sitka or can charter flights from Sitka, Petersburg, Wrangell, and Juneau. A freight barge delivers lumber and other goods each summer. Most families purchase groceries and other items from outside of the community brought in largely by seaplane.

Tenakee Springs. Tenakee Springs (population of 104) is located on the east side of Chichagof Island, 50 miles north of Sitka. Tenakee Springs has long been considered a retirement community, though commercial fishing is an important source of income. Tenakee Springs is dependent on seaplanes and the Alaska Marine Highway for transport. The city owns a seaplane base and heliport.

Special Flight Activities

Much of the commercial seaplane activity in Sitka is generated through special flight activities. The primary markets served include government and business charters accessing remote camps and research locations. These activities include charter flights to fishing lodges, fish camps, hunting trips, and government charter flights.

Medical Evacuations. Another market is medical evacuations. The Southeast Alaska Regional Health Consortium (SEARHC), whose facilities are located in Sitka, moves patients and staff in and out of a number of locations by seaplane. They conduct approximately 170 medical evacuations per year and approximately 14% are on floatplanes. Most of these flights are to Angoon. Other sites include Pelican, Tenakee Springs, and Port Alexander. SEARHC is looking at starting a scheduled flight to Kake and Angoon with stops at Baranoff Warm Springs and Hidden Falls Hatchery.

Flight Training. There has been great interest at the University of Alaska Southeast in Sitka toward starting an aviation ground school. In the past, classes have been full when offered. The problem is that once students are finished with the ground school there are no businesses offering flight instruction. One commercial operator is considering purchasing a trainer to serve this market.

Civil Air Patrol. The Civil Air Patrol (CAP) is a humanitarian and educational nonprofit organization which serves thousands of communities across America via three Congressionally chartered missions: Aerospace Education, a Cadet Program, and Emergency Services, including emergency services (http://www.akwg.cap.gov/). Sitka's Baranof Composite Squadron of CAP keeps a DeHavilland Beaver at the city seaplane float. During the summer (April to October) they average 5 to 6 flights per week and during the winter (November to March) they average 2 to 3 flights per week. There are more flights when a search and rescue mission is undertaken.

Government Operations. The U.S. Forest Service is a big user of seaplanes, generally chartering with local air taxi operators for as much as 200 hours of flying activity each season. Occasionally, additional planes are brought in from Juneau because the demand is so great.

Other government users include the Alaska Department of Fish and Wildlife Game (ADF&G), which spends upwards of 50 to 70 hours monitoring fishing grounds during the herring fishery and upwards of 40 hours monitoring for trollers. In fact, ADF&G has a policy that their employees are to use only seaplanes, not wheel-only planes, for field activities in Southeast Alaska. The reason is that wheel-only planes do not have enough landing options in the region.

Recreational Access

One of the biggest markets for floatplanes in Sitka is the various wilderness lodges and recreational activities that exist in the area. The primary season is from June to September. There are six lodges currently served out of Sitka with up to 150 people being moved in and out each week during the season. Business to lodges involves large amounts of freight in addition to the passengers. The wilderness lodges prefer their clients to come through Sitka rather than Petersburg or Juneau because of the Alaska Airlines schedule and because there are fewer problems with weather delays. All of these lodges are only accessible by seaplane or boat. The lodges served out of Sitka include:

- Baranof Wilderness Lodge
- Laughing Raven Lodge – Port Alexander
- Camp Whale Bay – Duncan & Son
- Kiui Island – Bay of Pillars
- Alaska Experience Lodge
- Fisherman's Inn – Port Alexander

The Baranof Wilderness Lodge provides an example of a fairly typical lodge operation. The Baranof Wilderness Lodge offers guided fishing tours, wildlife

viewing, hiking opportunities, and sight seeing expeditions. Every Monday, approximately 14 guests are moved out to Baranof Warm Springs and 14 are transported back in; all by seaplane.

The Fishermen's Inn in Port Alexander typifies the difficulty in using the existing seaplane facility for commercial use. The Fishermen's Inn flies guests and supplies to and from Sitka. The owners lease a ramp at the Sitka Seaplane Base, but use the Sitka Air dock for pickup of guests and fueling as these facilities are not safely handled at the public facility. Also, commercial activities at the current seaplane base are not allowed by local ordinance.

Several other remote lodges, to be managed out of Sitka, are also currently being developed.

Cruise Ship Activity. Tourism is an industry vital to the State of Alaska and its economy — and southeast Alaska is an area of the state where it is a particularly important industry. Within the tourism sector of the Southeast Alaska economy, the cruise ship industry is the biggest contributor to local employment, earnings, and revenues from sales taxes derived from passenger and cruise ship employee expenditures. A study entitled *Economic Impacts of the Cruise Industry in Southeast Alaska* by the McDowell Group, Inc. (October 2000) attempts to quantify those impacts on Sitka and 3 other southeast communities.

In 1999, employment resulting from the direct spending of cruise passengers and crews accounted between 9%-16% of the basic industry employment[1] of Ketchikan, Sitka, Juneau, and Haines. Cruise-related employment is one of the main impacts that the cruise industry has on local communities such as Sitka. McDowell estimated that approximately 199 average annual equivalent jobs (10%) out of a total of 2,124 basic industry jobs in Sitka were cruise-related.

Sitka also has a significant independent (non cruise-related) visitor industry consisting of charter fishermen, convention visitors, and other visitors. Jobs related to these independent visitors account for about 12% of the community's economic base employment. This means that a total of 22% of Sitka's basic industry employment is a direct result of the visitor industry (McDowell 2000).

Cruise ship visits relate to air traffic because of the potential for the local flight seeing industry. In many Southeast Alaskan communities with cruise ship service, commercial aviation operators provide flight seeing services timed to correspond with cruise ship arrivals and departures.

Because, Sitka is one of the last stops for many cruise ship passengers and they have participated in flight seeing trips at prior stops, local aviation operators in Sitka indicate that there is not much demand for flight seeing from cruise ship passengers. Most cruise

[1] The basic industry sector consists of the industries that produce goods and services that are consumed by nonresidents of the community, thereby attracting new money into the local economy.

ship passengers prefer to go fishing upon reaching Sitka. Despite, not currently serving this market, cruise ship passengers do engage in flight seeing and fishing and there is a solid potential for this strong market sector of Sitka's economy to have a positive affect on the demand for seaplane flights.

Step 4. Select Forecasting Methods

Application of a growth rate was selected as the method for forecasting air traffic activity at the Sitka Seaplane Base. In this method, the value being forecast (based aircraft) is related to time through the application of a selected growth rate. Application of a growth rate was selected over a regression analysis since the historical data for Sitka Seaplane Base is minimal and somewhat unreliable.

Step 5. Apply Forecast Methods and Evaluate Results

This section presents three scenarios for based aircraft demand at the Sitka Seaplane Base.

This scenario assumes the demand for based aircraft facilities will be low. The low scenario forecasts based aircraft demand at 0.5% annually. This scenario assumes population growth will remain slight and the economic situation will not improve from its current condition.

The moderate scenario forecasts based aircraft demand at 1.25% annually. This scenario assumes the existing demand will continue to grow at a modest rate corresponding to average population growth and modest economic success.

The high scenario forecasts based aircraft demand at 2.5% annually. This scenario assumes demand will grow in response to accelerated population growth as well as greater economic growth than has been experienced since the shut down of the pulp mill. The high scenario assumes aircraft currently based elsewhere would be relocated to Sitka in response to the development of improved and expanded facilities.

Each scenario starts with a base-year (2002) demand of 12 slips. This demand is estimated based on the number of persons currently leasing ramps (8), the number of pilots on the waiting list (7), the estimates of transient traffic (peak periods of 10 planes), the interest of local commercial operators, and considering the importance of seaplane activity to the Sitka area.

Step 6. Summarize and Document Results

Based Aircraft Forecast

Table 7 presents the 20-year forecast for the three scenarios described above.

Table 7
Based Aircraft
Sitka Seaplane Base

Year	Low	Moderate	High
2002	12	12	12
2007	12	13	14
2012	13	14	15
2017	13	14	17
2022	13	15	20

Source: HDR Alaska, Inc., 2002

Based on the information presented and on personal communication with seaplane operators in the area, it is recommended that moderate growth scenario represents the most realistic estimate of existing and future based aircraft demand. Under the moderate growth scenario, the Sitka Seaplane Base should accommodate the following:

- A short-term (5-year) forecast of 13 slips.
- An intermediate-term (10-year) forecast of 14 slips.
- A long-term (20-year) forecast of 15 slips.

The ultimate size of 15 slips, should be planned for to satisfy the long-term forecast for development. This would accommodate immediate demand and allows for future growth of seaplane activity in Sitka. It is recommended that the seaplane base have sufficient expansion capability for up to 20 slips in the event that the demographic or economic climate were to change and the community finds itself under the high scenario.

Step 7. Compare Airport Planning Forecast Results with TAF

The FAA TAF does not forecast based aircraft for the Sitka Seaplane Base. Therefore, a comparison is not possible.

Design Aircraft. The seaplane base should be able to accommodate a mix of aircraft. The largest commercial seaplane on floats to historically land in the Sitka Channel is a DeHavilland DHC-6 Twin Otter, with a wingspan of 65 feet. This is the largest seaplane likely to use the facility. The typical general aviation seaplane can be represented by the Cessna C206. A Cessna Caravan on floats will have the longest takeoff run at 3,500 feet. If design standards accommodate a mix of these aircraft, the seaplane base will have the flexibility to accommodate the range and mix of seaplanes that are likely to use the facility in the future.

Facility Requirements Analysis

In this section, the existing seaplane base facilities are evaluated for compliance with applicable FAA requirements and their ability to satisfy aviation demand. Seaplane facility requirements were largely based on the FAA planning criteria presented in Advisory Circular 150/5395-1, "Seaplane Bases". Among the elements that are analyzed are waterways; taxiway access; navigational aids; lighting; buoys; docks; floats; ramps; pull-outs; hanger leases; moorage space; utilities; fuel; land access; freight transfer and storage facilities; passenger shelters; and vehicle access and vehicle parking.

For each of these items, the consultant team has assessed the deficiencies of existing facilities and made recommendations on needed facility improvements. This analysis, in turn, provides the basis for developing alternatives for the seaplane base master plan.

Seaplane Base Siting Criteria

Water Operating Area

The water operating area is that part of the seaplane base used or intended to be used for the landing and takeoff of aircraft, taxiing, turning, and maneuvering aircraft on the water surface.

Size. According to the FAA, the size of the water operating area depends on the performance characteristics of the seaplanes using the site, existing or potential obstructions in the surrounding area, water currents, and wave action. A water operating area at least 2,500 feet by 200 feet is recommended by AC 150/5395-1. This size will accommodate a sea-lane 2,500 feet long by 100 feet wide with a 200-foot diameter turning basin at each end. Although a depth of 6 feet is preferred, a minimum depth of 3 feet is adequate for single-engine operations.

The existing water operating area in Sitka is 4,000 feet long by 200 feet wide. This length allows for flexibility in the operations and permits large loads often hauled as freight to communities and lodges. These operating area dimensions should be maintained.

Currents. Landing and takeoff areas should be located where the currents are less than 3.5 mph. Where currents exceed this recommendation, provisions should be made to allow space to accommodate handling difficulties particularly in the slow taxiing mode used to approach a floating dock or in beaching operations. It is preferable to have the current flow away from the dock or float. Prevailing winds may negate some adverse effect of currents. Locations where the currents exceed 7.0 mph should be avoided. The maximum current expected in the Sitka Channel is 0.7mph.

Water Level. As a general rule, if the change in water level exceeds 18-24 inches, floating structures or moderately inclined beaching facilities may be necessary to accommodate aircraft at the shoreline or waterfront area. Where water level variations exceed 6 feet, accommodation for docking the aircraft should be provided. Examples for accommodating water variations exceeding six feet include a dredged channel, an extended pier, or special hoisting equipment. In the Sitka area it is expected that a floating seaplane dock will be used. This dock and associated gangway must accommodate a 19-foot tide variation. The following table shows the tides in Sitka. Given the difference in high and low tides, a 19-foot variation will be used for design.

Table 8
Tide Observations at Sitka

Highest observed water level (1948)	14.68'
Mean higher high water	9.91'
Mean lower low water	0.00'
Lowest observed water level (1978)	3.82'
Tide variation used for design	19'

Source: The Center for Operational Oceanographic Products & Services (Co-ops), http://co-ops.nos.noaa.gov/co-ops.html

Wave Height. The most desirable conditions exist where the surface of the water is moderately disturbed. Locations where large swells occur, or are frequently created by deep draft vessels and/or tugboats, should be avoided. The present water lane is disturbed by the regular passage of moderately sized fishing boats and pleasure craft. The largest waves occur during storms with high winds. Japonski Island protects the central section of the sea-lane from large storm generated sea swells.

Floating Debris. Areas subject to excessive debris or debris over extended periods of time should be avoided. Floating debris is not considered a problem with the existing water lane and operating area.

Other Activity. Seaplane base activities should be planned with other users and interested parties in the area. Ample maneuvering and turning areas should be provided with considerations made for boats, prevailing winds, and currents. The current facility has limited maneuvering room, little room for expansion, and conflicts with adjacent users.

Sheltered Anchorage Area. A sheltered mooring or anchorage area, protected from winds and currents, is recommended. A cove, small bay, or other protected area is ideal. The existing facility is well protected from wind and wave activity by adjacent structures.

Bottom Conditions. Bottom conditions can influence construction of seaplane dock structures, as well as affect taxi operations from the water operating area to the shoreline facility. For example a bottom, of shale or solid rock can make construction of structures difficult and costly. Debris from the trees, stumps, or large cobbles can damage aircraft floats and hulls as it rises to the surface during tidal changes or if it remains partially submerged. Objects that project from the bottom and constitute a hazard should be removed. If this is impractical, then the objects should be conspicuously marked to alert users to their presence. As documented above, the existing site has a number of hazards associated with the bottom conditions. These hazards should be removed.

Bird Hazards. If possible, areas that attract birds should be avoided when orienting water-operating areas.

Sea Lane Alignment

Operational Flexibility. An unmarked water lane or water operating area is normally the choice of seaplane pilots. This allows the pilot to take advantage of the entire water area in order to adjust landing and takeoff

operations for current, wind, and waves.

Boats also operate in unmarked sea-lanes. Most boat captains are not aware of, and nautical charts do not show, the location of the seaplane waterlines. Therefore, pilots will land or take off in areas clear of boats whether they are in the sea-lane or not.

The Sitka Channel is narrow and the water lane is located in the center of the channel. Many boats tie up along its shore. Boats traveling in the channel tend to travel in the center of the sea-lane. If use of the channel for seaplane operations continues, the lane should be identified on all charts.

Prevailing Winds. If a water lane is designated, it should be aligned to provide maximum wind coverage. It may be desirable to limit wind analyses to wind data taken during daylight hours since seaplane operations are extremely limited after dark.

The water lane in Sitka Channel is oriented nearly along the same orientation as that of the Sitka Rocky Gutierrez Airport. The airport layout plan wind rose for Sitka Rocky Gutierrez Airport indicates that the present runway has a 98% wind coverage allowing a 15 mph crosswind. Based on that analysis it is anticipated that Sitka Channel has an adequate orientation with sufficient wind coverage.

Approach and Departure Paths. The approach and departure paths should be clear of established shipping or boating lanes. An over-water approach is preferable to an approach-departure path over populated areas, beaches, and shore developments. Where surrounding development mitigate against straight-in approach and/or straight-out departure paths, an over water climbing turn or letdown procedure may be possible.

The approach and departure paths should be clear of hazards. If an obstruction to air navigation determined to be a hazard cannot be altered or removed, the FAA may impose aircraft operational limitations, e.g., limit the type of aircraft operations, to mitigate the hazard. Lighting, or marking obstructions to air navigation is frequently sufficient to preclude an object being a hazard and avoid the need for operational limitations.

The existing approach and departure paths have an over-water approach but do conflict with boating lanes. The existing approach also has to contend with the hazard posed by the O'Connell Bridge, which does penetrate the airspace of the water lane. The bridge is marked and lighted.

Shoreside Facilities

Shoreside installations provide two general functions: (1) enable servicing, loading and unloading, and mooring without removing the aircraft from the water, primarily for short-term moorage, and (2) providing haul-out facilities for removing seaplanes from the water for fresh water wash downs, maintenance and storage.

Fixed Docks. Fixed docks are not suitable where the tide variation is large. Sitka's 19-foot tidal range is too large to safely tie seaplanes to a fixed dock. Aircraft structures can be overstressed or damaged if a tie-down rope is not continually adjusted as the tide rises and falls. Fixed docks are not recommended for Sitka Seaplane Base development.

Floating Docks. Floating docks offer great flexibility. These facilities ride the waves and work satisfactorily in areas of significant water level variation. Floating docks are commonly referred to as "floats" (not to be confused with aircraft floats).

The size and shape of the floating dock will be determined by the number of seaplanes that will tie up to it simultaneously (in this case 15), the contour of the basin, and adjacent development.

Due to Sitka's tidal range of 19 feet, it is not suitable to excavate seaplane slips into the shoreline; a floating dock should be used. This dock should be located so that it floats in a minimum of 6 feet of water at low tide. Six feet is the preferred depth for large multi-engine seaplanes; 3 feet of depth is acceptable for single-engine seaplanes. The dock should be located to provide a minimum of 100 feet of water to the nearest obstruction; this 100-foot setback should have a minimum depth of 3 feet adjacent to the shore at low tide.

The seaplane dock could be brought closer to shore if the sea bottom at the existing location were to be dredged and a seawall built. In this case the bottom should be dredged to provide a depth of 6 feet at low tide. This depth would allow for a build up of sediment and debris without posing a hazard.

Also affecting the dock design is how the seaplanes are expected to tie up to the dock. In theory, more seaplanes can be accommodated along the length of a dock if they tie up nose to tail. This is because aircraft lengths are generally shorter than wingspans. However, tying up to the side of the dock allows only the inner or dockside wing to be tied down; a strong wind can lift the outer wing and possibly flip the seaplane. It is also more difficult to refuel a seaplane tied to the side of the dock. To fuel the outer tank the plane either must be untied and rotated around to bring the outer tank over the dock or the fuel hose is dragged over the floats and up the outer side of the seaplane to reach the outboard tank.

In a saltwater environment it is preferred that the dock have an individual haul-out area associated with each tie-down or slip. The seaplane should be able to be launched or hauled out without taking too much time. Slips built into the floating dock provide both wings a tie-down and allow access to both sides of the seaplane for servicing and fueling.

The existing Sitka seaplane dock is a combined float and ramp type facility consisting of a long narrow float with eight individual ramps fastened at right angles. It has

ramps associated with each slip, but they are of insufficient size to allow the entire plane to be hauled from the water and securely tied down. Slip width should be 2 to 3 feet wider than the design aircraft float width and slip length should be 3 to 4 feet longer than the full length of the design aircraft float. It is desirable that a minimum of 10-foot wide floats separate each of the ramps.

Advisory Circular 150/5395-1 recommends 20 feet of separation between seaplanes parked nose to tail and 10 feet of separation between wing tips for planes parked in slips. These recommendations essentially even out the differences between wingspan and length; therefore, from a design perspective, neither parking style has an advantage over the other for the number of seaplanes that can be parked along a length of dock if the above recommendations are followed.

For these reasons, slips with individual ramps are recommended for the dock design in Sitka. Transient aircraft could be accommodated nose to tail on a large dock frontage. The large frontage should also be designed to allow efficient transfer of passengers and baggage to accommodate pickup and drop-off of passengers and luggage.

Based on discussions with local pilots and potential mix of based aircraft, slips to accommodate the following mix of aircraft should be developed.

Table 9

Design Aircraft Mix

	Aircraft	Design Wingspan
1	DeHavilland DHC-6 Twin Otter	65'
1	DeHavilland DHC-3 Single Otter	58'
13	Cessna C206	36'

Source: HDR Alaska, Inc., 2002

Fuel, electricity, and fresh water for wash downs should be made available at the dock and considered in the design.

Haul-out Ramp. A ramp to launch and haul-out seaplanes from the shore is desirable. The surface of a seaplane launch ramp should be at least as wide as the floats of the design aircraft plus 10 feet on each side (approximately 40 feet) with wingtip clearance plus 10 feet on each side (approximately 85 feet) These design criteria will accommodate a DeHavilland DHC-6 Twin Otter. A slope of 6:1 to 10:1 is acceptable for most seaplanes. Water depth at the toe of the ramp should be at least 3 feet at low tide.

There is no haul-out ramp associated with the current facility. Haul-outs must occur at the Sitka Rocky Gutierrez Airport. Using the haul-out ramp requires an escort from the airport manager and crossing the active runway. The ramp is in poor condition, too steep, and is not well protected from weather and waves.

Gangways. Floats are usually connected to the shore or pier by a gangway. The length of the gangway depends on the maximum water level variation. Gangways should not be less than 15 feet long, the normal being 40 to 50

feet. A slope of 2.75:1 or less permits easy walking. The minimum gangway length, given Sitka's 19-foot maximum tide range, is 51 feet. Widths of 6 to 8 feet enable baggage carts or other freight equipment to be used. If a fuel truck is to be driven onto the floats, the gangway floats would need to be wider. If the facility is to adequately serve the public, requirements contained in the Americans With Disabilities Act (ADA) accessibility guidelines should also be satisfied.

Piers. Piers are used to provide access to floating docks located far enough offshore to remain floating at low tides. The larger the tide range and the shallower the shore, the longer the pier. A fixed pier should extend into the water to a point where the depth at low tide is at least 3 feet. Fixed piers should be 8 to 10 feet wide and built strong enough to support a loaded pickup truck.

Table 10

Summary of Sitka Seaplane Dock Requirements

	FAA Minimum Recommendations (AC 150/5395-1)	Existing Condition
Sea Lane Length	2,500'	4,000'
Sea Lane Width	200'	200'
Turning Area Diameter	200'	Greater than 200ft[1]
Preferred Depth	6'	Greater than 6ft[2]
Width of Unobstructed Water in Front of Ramps	100'	Greater than 100' at high tide About 35' at low tide[3]
Docked Seaplane Wingtip to Wingtip Separation Distance	10'	9.5' between planes of 36' wingspans[4] 3.5' when parked next to a DHC-2
Water Current Speed	Preferred <3.5mph, 7mph maximum	Maximum = 0.7mph
Distance between adjacent docks and structures	Minimum = 100'	150'

[1] There is no defined Turning Area; seaplanes use the Sitka Channel.
[2] The area of the Sitka Channel delineated by the FAA for the sea-lane ranges in depth from 25.5' to 54'; the channel center adjacent the seaplane dock is 36' deep.
[3] This refers to the ramps facing the shore.
[4] Small, 2 to 6 seat, single engine floatplane wingspans range from 30 to 36'.
[5] The Sitka Airport runway orientation has 98.3% coverage for a 15mph crosswind component.

Landside Facilities

Lease lots. Lease lots to provide for tie-down areas and hangers are frequently constructed in conjunction with a seaplane base. The number of lease lots and leasable tie-downs is based on the 5-year forecasted need. In general, there should be sufficient leasable space to accommodate the based aircraft that will need landside tie-downs plus a conservative estimate of the peak demand for itinerant parking, loading, or tie-down positions.

If lease lot space is desired in Sitka, there is sufficient demand to

justify up to three developable lease lots (1 for the administration building, 1 for a commercial operator, 1 for a fixed base operator) over the 20-year forecast period.

A tie-down apron that accommodates half of the forecast demand for based aircraft to be tied down on an apron or in T-hangars is often included in the plan. If the Sitka Seaplane Base is to accommodate tie-downs, the minimum size tie-down dimension should be 70 feet by 45 feet. If desired by the community, the facility would have sufficient demand for up to 8 tie-down positions. Hangars and tie-down areas should have a functional and orderly relationship to haulout and ramp facilities Hangars intended for seaplane use must have doors that are high enough to clear the tail of the design seaplane while it is on a dolly.

Administration Building and Common Use Area. A separate administration building may be desired to provide space for a manager's office, passenger and pilot's lounge, restrooms, commercial counter space, display space, restaurant, snack bar, or observation deck. An uncomplicated, functional design that can adequately respond to the administrative needs of the facility is recommended. The administration functions may be able to be contracted to a vendor or fixed based operator.

The building should be located in a prominent position on the site, readily accessible to aircraft, as well as to the arrival of customers and visitors from the surrounding community. Visibility of the water area from the administration building is desirable. Where upland space is not available, it is possible to locate the administration building on piers over the water.

Access and Parking

Access. Vehicle access to the seaplane base, both for customers and for service personnel, should be by an all-weather road (paved or gravel). The access road should have adequate width (a 24-foot wide road consisting of two 12-foot lanes plus 2-foot shoulders) to serve the anticipated traffic, and permit safe and easy circulation throughout the landside of the facility.

A public roadway should not be part of the interior road system of a seaplane base. Vehicular through traffic interferes with movement of aircraft and can be hazardous to aircraft operations, service personnel, and other pedestrians. To permit authorized access and provide circulation routes for emergency vehicles, deliveries of gasoline, oil, fuel, and refuse removal, a limited access service roadway may be needed. The limited access service roadway should be marked and controlled by devices such as removable posts or chains located at the entrance to the areas of seaplane activity.

Parking Areas. Parking space should be provided in a dedicated automobile parking lot. A 9-foot by 18.5-foot parking area should

be provided for each car. A 26-foot aisle width allows two-way circulation and is generally used with 90-degree parking. The parking area should be located for convenient access to the various onshore and shoreline facilities. Given the forecast demand, it is recommended to plan for 15 parking spaces.

Date: 3/29/2002 7:23 PM
Sender: Jim Lomen
To: Rich@cityofsitka.com; jmcphers@hdrinc.com
Priority: Normal
Subject: Sitka Seaplane Base Condition and Needs Report

John/Rich;

I just wanted to confirm with both of you our discussion regarding the Sitka Seaplane Base.

After my review the Condition and Needs report the single item that jumped out at me was the bird problem in the channel. Because of the close proximity of the fish processing plants our Advisory Circular 150/5200-33, Hazardous Wildlife Attractants on or Near Airports, needs to be considered. The identification of a new Seaplane base needs to address the bird hazards.

If you have any questions please give me a call, 271-5816.

Thanks,

Jim

MAR 1 2002

Transmittal

HDR Alaska, Inc.

2525 C Street
Suite 305
Anchorage, Alaska
99503-2639

Telephone
907 274-2000
Fax
907 274-2022

HDR

Attention | Date 2/28/02 | Job No.

To Jim Lomen

~~Richard Russ~~ Rick @ cityofsitka.com

Regarding Sitka Seaplane Base

We are sending you: ☑ **Attached** ☐ **Under separate cover via** _____ **the following items:**

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications

☐ Copy of letter ☐ Change order ☐ Other

Copies	Date	No.	Description
✓		1	Draft Condition & Needs Report

These are transmitted as checked below:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval

☑ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution

☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints

☑ For review/comment ☐ Other

☐ **For bids due** _____ **19** ____ ☐ **Prints returned after loan to us**

Remarks Jim:

This document is to accompany the letter from Sitka (sent directly).

Copy to

Signed John McPherson

If enclosures are not as noted please notify us at once.

March13, 2002

Allen S. Barnett
1840 Edgecumbe Dr.
Sitka, AK 99835-9614

Subject: Sitka Seaplane Base Master Plan
Advisory Committee Review

Dear Allen S. Barnett:

The City and Borough of Sitka is developing a Sitka Seaplane Base Master Plan that will be used as a guideline for upgrading and relocating its seaplane base. As a member of the Sitka Seaplane Advisory Committee we are looking for your input as we develop the plan. As you may recall, the committee's function is to act as a sounding board for issues and ideas, to review draft documents, and to share information as needed with others in the community.

With this in mind, a draft copy of the "Condition and Needs Assessment" report is attached for your review and comment. This report describes the deficiencies with the current facility, as they relate to the condition as well as the location. The report documents that the current seaplane facility is too small and the site too constrained to accommodate the demand for seaplane ramp space and associated services. Currently, each of the eight ramps is leased and there are seven people on the waiting list. Forecasting, included in the report, indicates that there is demand for a larger facility.

We would like to make sure the information contained in the report is as accurate as we can make it and insure that it reflects the local knowledge of the advisory committee members. We will be holding an advisory committee meeting on **Tuesday, April 2nd at 2:00** at the City and Borough of Sitka offices to get your input on this draft report, and to continue discussing alternatives to advance for further study in the master plan.

On behalf of the project team, I would like to thank you for your input and assistance on this important project. I look forward to working and talking with each of you. If you have any questions, or cannot make the meeting but would like to discuss the project, please feel free to call me at (800) 478-2514.

Sincerely,

HDR, Alaska Inc.

John McPherson
Project Manager

Attachment

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Employee Owned

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