III. PROPOSED PROJECTS FOR CONSTRUCTION YEARS 2017-2020



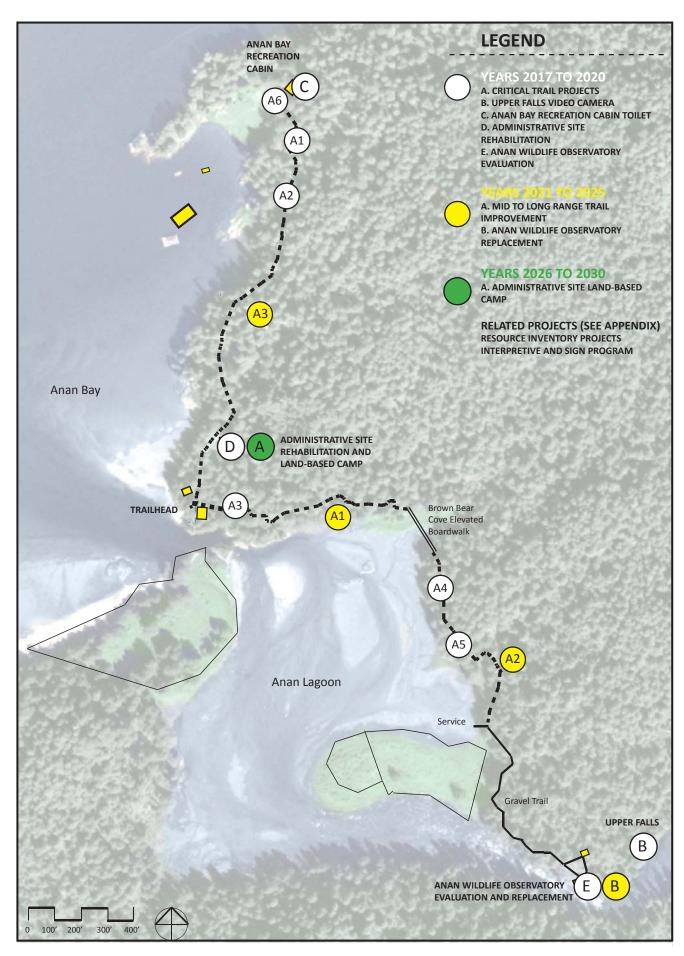
This section describes the proposed projects for the years 2017 to 2020 that are a result of the preceding analysis. The projects are listed in prioritized order based on urgency of safety needs, such as failing structural conditions, areas where there are unprotected steep drop offs, or where remediation is required after a natural event like a mud slide or downed tree. Secondary factors that determine target dates for the projects include availability of funding, size and scope of the projects and available staffing. In addition, descriptions of recommended Resource Inventory projects for Bear Habitat and Behavior and for Cultural Resources are included in Appendix D. A proposed Interpretive and Sign Program is described in Appendix E.

The Anan Wildlife Observatory Project Chart, following, presents a summary of the Anan projects in progress and identifies future projects, including those to year 2030. The projects have been prioritized based on immediacy of needs and practicality of implementation. The priority order may change based on other factors such as impacts from natural events.

In addition to the planning, design, cost estimating and funding tasks related to the projects, a variety of permits and approvals may be required. It is important that planning and design work on these projects commences early, to allow sufficient time to engage the necessary resource specialists; and to determine and prepare the other reviews and permits needed. Potential agencies include: Alaska Department of Fish & Game, Department of Environmental Quality, U.S. Army Corps of Engineers, the National Environmental Protection Agency (NEPA) and the Alaska State Historic Preservation Office (SHPO). Where access or facilities are desired on Sealaska property, they will be consulted early.

Alternative funding sources should be researched. In addition to the Forest Service Capital Improvements Projects Program, other sources may be available via grants or partnering with other agencies or non-profits. Recommendations for Materials Selection and for Construction Considerations are contained in Appendices F and G respectively.

PRIORITY ORDER	PROJECT NAME	DESIGN NARRATIVE YEAR	SURVEY AND DESIGN YEAR	CONSTRUCTION YEAR
PROJECTS IN PROGRESS DURING YEARS 2015 - 2017				
Α	Trailhead Improvements			
	Trailhead Access	Complete	2015 - In Progress	2016
	Trailhead Toilets	Complete	2015 - In Progress	2016
	Salt Chuck Overlook Deck Replacement/Upgrade	Complete	2015 - In Progress	2017
В	Anan Wildlife Observatory Enhancements			
	New Ramp to Deck	Complete	2015 - In Progress	2016
	Replace Toilet	Complete	2015 - In Progress	2016
С	Anan Mooring Float	2015 - In Progress	2015 - In Progress	2016
D	Brown Bear Cove Elevated Boardwalk	Complete	2015 - In Progress	2017
PROPOSED	PROJECTS FOR CONSTRUCTION YEARS 2017-2020			
Α	Critical Trail Safety Improvements			
	1 Recreation Cabin Trail to Bridge 1	2015 - in Master Plan	2016	2017
	2 Recreation Cabin to Steep Turn	2015 - in Master Plan	2016	2017
	3 Salt Chuck Overlook trail transition on east end	2015 - in Master Plan	2016	2017
	4 "Pinch Point" reconstruction	2015 - in Master Plan	2016	2017
	5 Steep drop-off reconstruction (2 locations)	2015 - in Master Plan	2016	2017
	6 Trail access to Recreation Cabin	2015 - in Master Plan	2016	2017
В	Upper Falls Video Camera	2015 - in Master Plan	2016	2017
C	Anan Bay Recreation Cabin Toilet	2017	2018	2019
D	Administrative Site Rehabilitation	2017	2018	2019
E	Anan Wildlife Observatory Evaluation	2016 & per schedule	N/A	N/A
PROPOSED	PROJECTS FOR CONSTRUCTION YEARS 2021-2025			
Α	Mid to Long Range Trail Improvements			
	1 Trailhead to Brown Bear Cove Boardwalk	2015 - in Master Plan	2018-2019	2021-2023
	2 Brown Bear Cove Boardwalk to Gravel Trail	2015 - in Master Plan	2018-2019	2021-2023
	3 Cabin to Trailhead	2015 - in Master Plan	2018-2019	2021-2023
В	Anan Wildlife Observatory Replacement	2018	2019-2020	2022
PROPOSED	PROJECTS FOR CONSTRUCTION YEARS 2026-2030			
Α	Administrative Site Land-based Camp	2020	2022-2024	2026
RELATED P	ROJECTS (SEE APPENDIX)			
Α	Resource Inventory Projects			
	Anan Wildlife Observatory Bear Habitat Use Survey	2015 - in Master Plan	2016	2017
	2 Comprehensive Cultural Resources Survey	2015 - in Master Plan	2016	2017
В	Interpretive and Sign Program for Anan Wildlife Observatory	2016	2017	2018



ANAN WILDLIFE OBSERVATORY MASTER PLAN

A. CRITICAL TRAIL PROJECTS

Issues and Needs: Overall the boardwalk trail from the Anan Public Recreation Cabin to the beginning of the gravel trail at the lagoon access has a potential life of about 10 to 15 years with regular maintenance. However, various locations along the trail need immediate safety improvements. The following are the issues that have been identified:

- 1. Recreation Cabin Trail to Bridge 1: Bridge 1 has an old railing built of log posts and rails. The railing is unstable and wood is decayed.
- 2. Recreation Cabin to Steep Turn: After ascending a flight of seven steps with a handrail, the trail reaches a narrow level area adjacent to a large rock on the left. The trail turns abruptly and traverses an area with a steep exposed drop off on the right. There is no handrail. The area with the narrow trail and steep drop off extends about 16 feet.
- 3. Salt Chuck Overlook trail transition on east end: The new Salt Chuck Overlook is planned to tie into the existing boardwalk. At this location there are awkward angles and the trail narrows quickly. It descends about five steps, and then traverses a flat narrow shelf for about 45 feet. At the next location, a tree has overturned, leaving boulders exposed adjacent to the disturbed trail. It ascends several steps through here to arrive at an area of flat boardwalk. This area poses a hazard for visitors who have just arrived and are descending from the new widened overlook.
- **4.** "Pinch Point" reconstruction: There is a pinch point on the trail shortly after rounding the Brown Bear Cove bay area. It is a blind corner with very limited sightlines, especially approaching from the opposite direction. There has been a serious bear encounter here.
- **5. Steep drop-off reconstruction (2 locations)**: There are two trail segments that traverse areas of steep slopes, with sharp drop offs on one side. People have fallen off the trail and slid down the slopes in these locations.
- **6. Trail Access to Recreation Cabin:** Visitors arriving by boat, access the Recreation Cabin from the beach. However, there is no formalized route. The upper section of the access area is becoming worn and eroded in two informal trail locations. There are also many invasive plants in the area.

Project Description:

1. Recreation Cabin Trail to Bridge 1: Replace 25 feet of railing for Bridge 1.



2. Recreation Cabin to Steep Turn (see image on left):

Excavate towards the rock on the uphill side of the trail to widen the trail platform by one to two feet as available. The area with the narrow trail and steep drop off extends about 16 feet. Evaluate the structural options to use the bedrock as a footing for a lumber structure that will contain the gravel trail and support the railing. Extend the trail and railing for 16 feet. Widen trail to 30 to 36 inches. Construct a guardrail as well as handrail on the existing staircase.

3. Salt Chuck Overlook to trail transition on east end (see image on right):

Develop a smooth transition from the overlook by providing a flared landing at the end of the bridge that transitions into a flight of five evenly spaced stairs with equal risers. All will be constructed of lumber. The landing will transition from the width of the overlook to the width of the staircase at 36 inches. There will be a guardrail on the landing and a handrail along the steps.



On the flat section, build a log retaining structure to support a 30 inch wide gravel trail, with a ditch on the uphill side and add two (or more) 18 inch culverts to convey water that may seep from above. At the area where the tree overturned, use the site boulders to support the side of a gravel trail. The area will need rock fill and base course, and a couple of stone steps. Transition up to meet the existing boardwalk. Smoothly angle the gravel trail back to 24 inch trail width to match that already existing.

4. "Pinch Point" reconstruction

At the **pinch point**, broaden views by removing vegetation around the tight corner while maintaining slope stability.



5. Steep drop-off reconstruction (2 locations):

At both locations reconstruct the sides of the trail with lumber or stone retaining structures. Provide a 30 to 36 inch wide gravel trail on base course through these areas. Attach a simple railing (hand/guard) to supports that are firmly footed between the retaining structure.

6. Trail Access to Recreation Cabin:



A new gravel trail segment from the high tide line to the right of the cabin steps will be constructed. The trail will begin at the high tide line and end at the corner of the cabin steps. On the short steep section below the cabin, five wide, gentle stone (or wood framed, gravel filled) steps will be installed and a gravel landing area will be constructed at the corner of the cabin steps. This gravel trail will facilitate transport of gear to and from the cabin while reducing impacts to vegetation. The gravel trail will be 48 inches wide and the landing will be 36 inches wide by 60 inches long on each of the two sides of the steps. This gravel trail will facilitate transport of gear to and from the cabin while reducing impacts to vegetation. The invasive plants will be controlled. Note that to maintain a more primitive feel; there will

not be a formal trail connection to the current recreation cabin trailhead. That area is in the vicinity of the high water line and does not show effects of erosion from use.

Public Needs Met: The primary public need met is increased safety for visitors using the trail. Greater stability, side protection and better viewing distance with regard to bears are provided. The public has expressed appreciation of the gravel trail. A principle of the Master Plan is that when boardwalk trail falls into disrepair, the terrain will be evaluated for suitability for conversion to gravel trail. All new trail widths will be 30 to 36 inches, based on terrain and drainage.

Planning and Design: These projects are high priority safety improvements. The narrative provided in this Master Plan will form the basis for the next step, preparation of a Capital Improvements Program (CIP) Request for funding for the work. The design should be further developed to verify the preliminary cost estimate. Further evaluation of the need for additional permitting and approvals should begin prior to or at the time of the CIP request being compiled, to be included in the CIP request. The next phases of work will include detailed design, construction drawings and specifications, cost estimates, project administration and project construction. Access, staging and construction logistics should be further developed.

Agencies and Funding: The U.S. Forest Service would be the lead agency and funding would likely be pursued through a Capital Improvements Project (CIP) grant.

B. UPPER FALLS VIDEO CAMERA

Issues and Needs: The primitive Upper Falls Trail is currently closed during the season and is anticipated to remain closed. However, it is of public benefit to observe activity at the area for the public's enjoyment/education and for research through remote sensing.

Project Description:

A video camera (videocam) will be installed at the Upper Falls and video will be transmitted to a screen at the Wildlife Observatory in the next couple of years, pending funding. The videocam will be powered by solar panels that will be located in the area of the Upper Falls. The videocam and screen will be removed and stored seasonally. It is essential that electronic information dissemination remains subordinate to visitors' experience of the natural environment. The equipment must also be bearproof.



Example of screen for fish videocam installed on the wall of the Anan Wildlife Observatory shelter.

Public Needs Met: This will provide additional (though remote) viewing opportunities for visitors at the Wildlife Observatory and will be especially useful in periods when there is minimal bear activity in the immediate vicinity. The recorded information will serve research needs.

Planning and Design: Based on the current fish videocam at the waterfall, Forest Service staff will research and select the best equipment for this videocam project. They will visit the site and determine the best location for the videocam at the Upper Falls. Additional technology may include the ability for on-site visitors to obtain live footage from the videocam on their personal electronic devices. A CIP or other grant request will be compiled and submitted. NEPA requirements for the project will be determined and coordinated. Once funding is received, the videocam will be installed.

Agencies and Funding: The US Forest Service will be responsible for installing and maintaining the videocam and screen. Alaska Department of Fish & Game might be a funding partner.

C. ANAN BAY RECREATION CABIN TOILET

Issues and Needs: The Anan Bay Recreation Cabin has a burn type toilet that should be replaced with a vault system to be consistent with the other types of toilets being installed at Anan so that the practice of burning can be discontinued. This toilet will still be available for year round use.

Project Description: The existing toilet will be replaced once the new trailhead and observatory toilets are installed. The cabin toilet will be of similar technology to the new toilets. Ideally, the toilet will be housed in the current structure.

Public Needs Met: Once the toilet is replaced, the practice of burning will cease, providing healthier and safer conditions for the Forest Service staff. The burning site will be remediated (see E. Administrative Site Rehabilitation, below), which will also be an improvement.

Planning and Design: The project is a safety improvement. The narrative provided in this Master Plan will form the basis for the next step, preparation of a Capital Improvements Program (CIP) Request for funding for the work. The design should be further developed to verify the preliminary cost estimate. Further evaluation of the need for additional permitting and approvals should begin prior to or at the time of the CIP request being compiled, to be included in the CIP request. The next phases of work will include construction drawings and specifications, cost estimates, project administration and project construction. The scope of the toilet change will depend on the type of toilet selected. Access, staging and construction logistics should be further developed. Using the recreation cabin beach as an access point is recommended. Cultural sites evident on the beach at low tide must be avoided.

Agencies and Funding: Additional permitting and approvals agencies will be identified and contacted. They may include the Department of Environmental Quality (for toilet location and type).

D. ADMINISTRATIVE SITE REHABILITATION

Issues and Needs: The most urgent need is for a new storage shed as the current building is in poor condition, nearing the end of its functional life. The steps and deck that access the entry are broken. Second, as soon as the practice of burning waste ceases, the burning area should be sanitized and restored to a natural condition. In the interim, a maintenance project is to add a culvert and gravel to the burning area so that it drains better. Access to the shed location is not well defined or maintained.

Planning and Design: Demolish or disassemble the existing structure as needed. Prepare footings and install a replacement one level pan abode building of a similar size, to match the Anan Recreational Cabin style. The building is required for storage. Include a four to six foot wide deck in front. Develop a 30 inch wide gravel trail from the main trail to the new shed building. Ramp up to the deck with a wood boardwalk. Reclaim the burning site per appropriate sanitizing processes. Maintain an open area in front of the shed that may be used for on-site work or staging of projects. Revegetate the area to provide screening from the Cabin Trail.

Public Needs Met: The restoration would provide a healthier and more scenic environment.

Planning and Design: The discussion provided in this Master Plan will form the basis for the next step, preparation of a Design Narrative(s) for a Capital Improvements Program (CIP) Request(s) to fund the work.

E. ANAN WILDLIFE OBSERVATORY STRUCTURAL EVALUATION

Issues and Need: The Anan Wildlife Observatory was originally constructed in 1967 and rebuilt/renovated in 1983. The design life of treated lumber is usually around 20 to 30 years, so it can be expected that the decks and foundations may need replacement in the next 10 years or so. There were no comments on structural issues at the time of the last Conditions Survey in 2009; however a current Conditions Survey is overdue. The bears regularly spend time beneath the decks and also gnaw on the structure and railings.

Project Description: A Conditions Survey should be completed within the next year (2016) to determine the current condition of the structure. This information will inform the project schedule for replacement of the Observatory.

Public Needs Met: Through the regular Conditions Surveys, the public will be assured of the safety of the Observatory structure, which is located dramatically above the Anan Creek Falls.

Planning and Design: The Conditions Survey would occur as part of the regular maintenance process and budget. The results will be filed in the Forest Service database.

IV. PROPOSED PROJECTS FOR CONSTRUCTION YEARS 2021-2025



A. MID TO LONG RANGE TRAIL IMPROVEMENTS

Issues and Needs: The boardwalk trails at Anan were constructed primarily in the 1980s and 1990s using a step-and-run design that is often found on hiking trails in Southeast Alaska. While the trails were well-constructed using quality materials, they are narrow (24" wide in most places), elevated above the ground and contain numerous steps - all factors that contribute to users stepping from the trail and feeling unsteady and unable to focus on the surrounding environment while walking the path to the observatory. A better design for the current user profile of older visitors would be a combination of wider boardwalk (36") and gravel trail surfacing where it fits the site conditions.

The boardwalks can be expected to have about 10 to 15 years of service life remaining. It is prudent to begin planning and design well prior to the anticipated end of service life so funding can be secured for replacement and there is no interruption of service to the public.

Since the boardwalks are well built and not decayed, we do not recommend removing them until their service life has been achieved, except as previously described in "Critical Trails Projects". At the appropriate time, they would be replaced with a combination of gravel trail and wider (36") boardwalk.

Project Description:

- The trail is defined in three segments that are listed in the current priority order.
 - Trailhead to Brown Bear Cove Boardwalk
 - Brown Bear Cove Boardwalk to Gravel Trail
 - Recreation Cabin to Trailhead
- Within the time frame of years 2021 to 2025, replace the trail with a combination of gravel and boardwalk sections, as determined by the terrain. It is estimated that at least 30% of the trail reconstruction could be gravel.
- Future trail design and construction will plan for impacts of extreme storm events including heavy rains, strong winds and extreme tides.
- Trails will be widened to three feet where terrain allows and will be 30 inches minimum. The wider trails may be
 cut into the side slope where soil and geologic conditions allow and may need additional side slope stabilization
 with logs or stone retaining.
- Future trail construction should seek opportunities to reduce the number of steps. Trail segments will be replaced with gravel where possible to provide a smoother, sturdier walking surface.

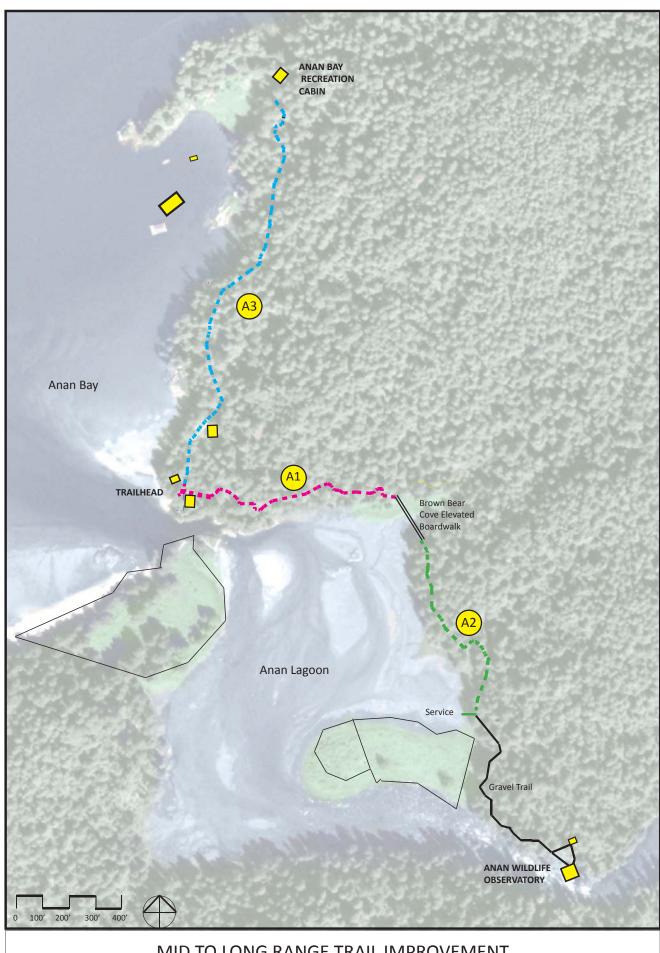


- Evaluate the existing bridges for lifespan and anticipated replacement date. Replacement bridges will also be built of lumber. Evaluate the spans of the bridges to determine whether modifying the spans will eliminate steps.
- The alignments for new gravel trails need to be carefully studied during rain events to determine where trail dips, culverts and other means of water conveyance are required, in order to prevent washouts. Gravel trail construction budgets should include a contingency for remedying minor washout areas that may occur within the first few years.
- See the "Proposed Trails Projects Plan" for the identification of trail segments.

Public Needs Met: The trail improvements will provide safety benefits to the public, providing firmer footing and reducing risks of slipping. The gravel trail will have a longer design life and reduced maintenance costs.

Planning and Design: These trail improvement projects are for safety. The narrative provided in this Master Plan will form the basis for the next step(s), to prepare a Capital Improvements Program (CIP) Request for funding. The trail replacement may occur by the segments identified above, based on the trail conditions. The design should be further developed to verify the preliminary cost estimate. Work on the CIP Request should begin in anticipation of when the improvements will be required so that there is a well-developed design and cost estimate. Further evaluation of the need for additional permitting and approvals should begin prior to or at the time of the CIP request being compiled, to be included in the CIP request. The next phases of work will include construction drawings and specifications, cost estimates, project administration and project construction. Access, staging and construction logistics should be further developed.

Agencies and Funding: The Alaska State Historic Preservation Office (SHPO) will be consulted. The Forest Service is the lead agency for funding.



MID TO LONG RANGE TRAIL IMPROVEMENT

ANAN WILDLIFE OBSERVATORY MASTER PLAN

B. ANAN WILDLIFE OBSERVATORY REPLACEMENT

Issues and Need: The Anan Wildlife Observatory was originally constructed in 1967 and rebuilt/renovated in 1983. The design life of treated lumber is usually around 20 to 30 years, so it can be expected that the decks and foundations may need replacement in the next 10 years or so. See the previous section for recommendations on completing regular Conditions Surveys. It is imperative to begin the planning and design of a replacement observatory well in advance of finding a structural inadequacy, as waiting until then would result in closing the observatory for an extended period of time, thus displacing the public and guides who rely on Anan. This study will provide an opportunity to consider new designs for the observatory that might better fit the site, accommodate users and maximize its compatibility with the bears.

Project Description: An evaluation of the structure's historic significance should be included to determine the appropriate architectural response. If identified as a historic resource, the structure would be reconstructed in a similar style to the existing observatory. If not, a new structure and style may be proposed that is consistent with the Anan Wildlife Observatory design aesthetic and that addresses human-bear use and interaction at the site. There is an opportunity to maximize the dramatic cliff and waterfall setting through creative design of the new facility.

Overall, the area and lineal footage of viewing area decks are anticipated to remain within 15% of the current size. This serves the current capacity of 40 people at one time (PAOT) that will be maintained. The decks may be reconfigured to maximize viewing opportunities of the bears' activities and to provide a smooth flow of movement. There will be a covered shelter, similar in scale to the existing shelter that includes updated interpretive materials. Electronic technology, for example the current videocam, is appropriate to use in a focused manner, provided a person's experience of the natural environment remains dominant.

The covered steps and the photo blind will be upgraded using current technologies and materials that serve the specific functions of safe access and structural integrity close to the waterfall. The general color will be consistent with the existing Anan Wildlife Observatory colors (earth tones). The new tensile and fabric technology may be suitable for use for covering the staircase and the upper part of the photo blind. Deck railings would be replaced with the specified railing types for Anan Wildlife Observatory, a combination of lumber and metal mesh.

Public Needs Met: Through the regular Conditions Surveys, the public will be assured of the safety of the Observatory structure, which is located dramatically above the Anan Creek Falls. The new Wildlife Observatory will apply the most current thinking and design strategies to maximizing visitor experience and the safety of visitors and bears.

Planning and Design: The discussion provided in this Master Plan will form the basis for the next step, preparation of a Design Narrative for a Capital Improvements Program (CIP) Request for funding for the work. The design and cost estimate should be further developed. Additional research and development is suggested to identify any new and appropriate technologies that are consistent with the existing Anan design aesthetic. Further evaluation of the need for additional permitting and approvals should begin prior to or at the time of the CIP request being compiled, to be included in the CIP request. The next phases of work will include construction drawings and specifications, cost estimates, project administration and project construction. Access, staging and construction logistics should be further developed.

Agencies and Funding: Additional permitting and approvals required may include: Alaska Department of Fish & Game, Department of Environmental Quality (for toilet location and type). The Alaska State Historic Preservation Office (SHPO) will be consulted.

V. PROPOSED PROJECTS FOR CONSTRUCTION YEARS 2026-2030



A. ADMINISTRATIVE SITE LAND-BASED CAMP

Issues and Needs: This is considered on a long term basis, should a land camp be reconsidered to replace the administrative float. The previous administrative site would be a suitable site. It is already disturbed, is open due to previous tree blow down and is in close proximity to good trail access and visitor facilities. A land camp might be considered to resolve the issues of high maintenance and transportation costs of the float house. A land camp would also be a little more spacious, however potential interactions with bears would need to be addressed and resolved.

Project Description: The land camp is anticipated to consist of several small structures located close together and connected with a walkway. The structures may be pan abode style buildings and may include tensioned membrane yurts. Using a brown to beige shade of fabric will maintain consistency with the Anan Wildlife Observatory color scheme. Separation between people and bears is essential and can be maintained by using electric fencing around the perimeter of the land camp.

The program is anticipated to be as follows:

Kitchen/Dining Area: 250 to 320 square feet Bathroom (Shower, sink and toilet, may be separate): 80 to 100 square feet

Sleeping Areas for eight people

(may be two or three rooms or structures): 320 to 420 square feet Shed for storage: 150 to 250 square feet

Subtotal: 800 to 1090 square feet

Additional: Decks, Covered Walkway, Paths, Outdoor Work Area, Bear Proof or Electric Fence

The land camp will need to be sited and landscaped to screen it from view of visitors using the trails. Excavated material may be used to create berms for screening. The existing drainage to the south of the site should be protected and a 50 foot setback is recommended. The land camp design will address drainage solutions to potential large storm events, for example by defining drainage around the land camp site and elevating the camp structures.

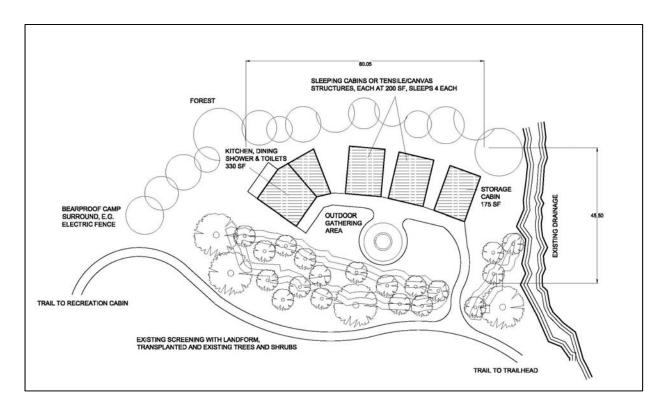
Public Needs Met: A land camp would reduce the amount of maintenance and transportation that is currently required for the float house. A land camp would need to meet accessibility standards.

Planning and Design: The discussion provided in this Master Plan will form the basis for the next step, preparation of a Design Narrative(s) for a Capital Improvements Program (CIP) Request(s) for funding for the work. The design should be further developed to address the site challenges and the needs of a land based camp, such as water supply, toilet and waste disposal and then to provide a preliminary cost estimate. Further research and development is suggested to identify any new and appropriate technologies that are consistent with the existing Anan design aesthetic at the time a land camp is considered.

Further evaluation of the need for additional permitting and approvals should begin prior to or at the time of the CIP request being compiled, to be included in the CIP request. The next phases of work will include construction drawings and specifications, cost estimates, project administration and project construction. Access, staging and construction logistics should be further developed.

Agencies and Funding: Additional permitting and approvals required may include: Department of Environmental Quality (for toilet location and type). The Alaska State Historic Preservation Office (SHPO) will be consulted.

If a land-based camp were proposed in the future, there would need to be a full study of bear movement and activities to find the best site and minimize conflicts.



CONCEPTUAL LAND-BASED CAMP DIAGRAM Not to scale

INTERDISCIPLINARY TEAM

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Forest Service Personnel Consulted, with regard to Bear Observatory Chart:

Jon Hyde: Fish Wildlife Watershed Botany Staff, Ketchikan-Misty Fiords Ranger District Kendra Adams: Natural Resource Specialist, Ketchikan-Misty Fiords Ranger District

Harry Tullis: Lead Wilderness Ranger, Admiralty Island National Monument

Katie Rooks: Forestry Technician (Recreation), Craig Ranger District

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