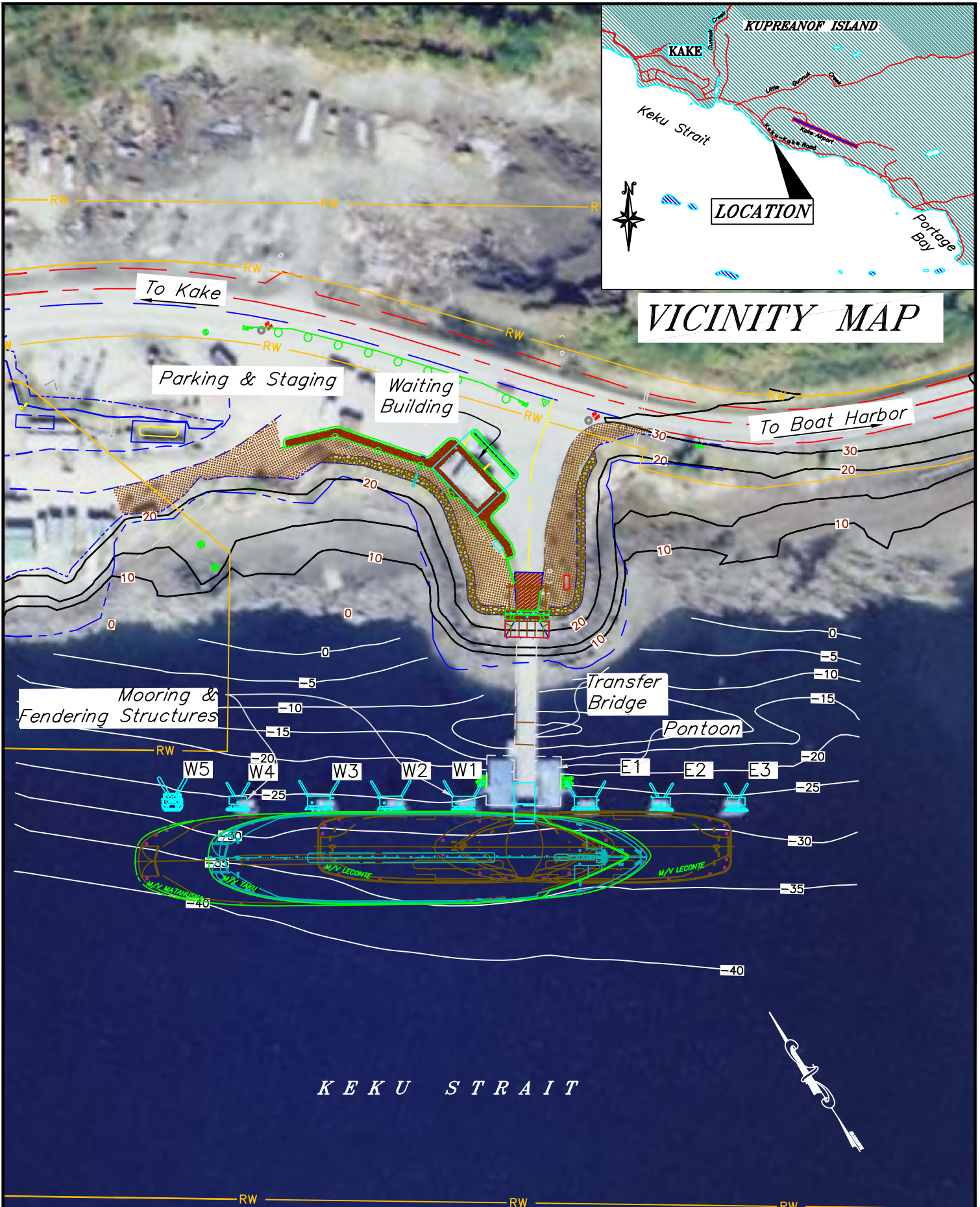


# VICINITY MAP



# GENERAL LAYOUT KAKE

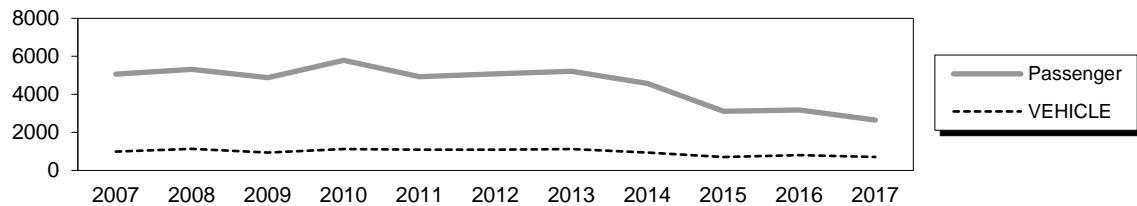
# Kake Ferry Terminal

264 Keku Road

**Owner:** State of Alaska

**Contact:** Simon Bradley, AMHS Terminal Ops Manager (Ketchikan) – 907-228-7290

**Terminal Description:** Kake Ferry Terminal was originally constructed in 1974 to provide service to the communities of Kupreanof Island via the LeCONTE Class vessels. A new mooring dolphin (W5) was added in 2006 to allow service by the larger AMHS vessels. The M/V LeConte no longer visits Kake. Kake is a side-berth facility consisting of a transfer bridge, steel support float, and eight steel mooring dolphins. This terminal is capable of berthing all AMHS vessels. Uplands include an open waiting shelter, paved parking and overhead lighting. Kake's past 10 years of total passenger and vehicle traffic counts are shown below.



The most recent above water survey was completed on June 29, 2017. The underwater inspection occurred on August 17, 2016.

Vessels	
Name	Berthing, Alignment
Malaspina / Matanuska	Port
Taku	Port
LeConte / Aurora	Port

Uplands	
Short-Term Parking:	8 cars
Long-Term Parking:	0
Staging Area:	200 lineal feet, 1 lane
Paint Striping:	No
Driving Surface:	Asphalt

Tidal Data (MLLW 0.0 feet)	
EHW	18.1
MHHW	14.0
MHW	13.2
ELW	-4.6

Terminal Building	
Year Built:	2016
Square Footage:	933 s.f.
Heating System:	Heat Pump & Baseboard
Utilities:	Water, sewer, electric
Fire Protection:	N/A
Condition:	New

Vehicle Transfer Bridge - #0177	
Type:	16' x 132' steel multi-girder open deck
Year Built:	2015
Shoreward support:	Spread footing with tiebacks
Seaward support:	Steel Support Float
Coating:	Wasser Paint
Pedestrian Access:	Concrete 4' wide on bridge
Lighting:	3 light poles
Condition:	New

Bridge Support Float	
Type:	40' x 60' Steel Flexi-float
Year Built:	2015
Ballasted:	Yes
Ramp lift:	Hydraulic/Cable
Apron lift:	Hydraulic/Cable
Anodes:	Yes
Condition:	New
Load Posting Sign:	N/A
Original Design Load:	HS 20-44

<b>Dolphins</b>							
<b>Dolphins</b>	<b>Dolphin Piles</b>	<b>Fender Support</b>	<b>Fender Face</b>	<b>Anodes</b>	<b>Built</b>	<b>Cond.</b>	<b>Notes</b>
W5	2B, 2V	Hanging	UHMW	Yes	2006	New	Red navlight
W4	2B, 1V	4V	Ekki Timber	Yes	1993	Good	
W3	2B, 1V	4V	Ekki Timber	No	1998	Good	
W2	2B, 1V	4V	Ekki Timber	Yes	1998	Good	
W1	2B, 1V	4V	Ekki Timber	Yes	1998	Good	
E1	2B, 1V	4V	Ekki Timber	Yes	1998	Good	
E2	2B, 1V	4V	Ekki Timber	Yes	1993	Good	Windsock
E3	2B, 1V	4V	Ekki Timber	Yes	1993	Good	Red navlight
ERS	2B, 1V	-	-	Yes	1993	Good	
WRS	2B, 1V	-	-	Yes	1993	Good	

**LEGEND**

ERS = East Float Restraint Structure

B = Battered Steel Pipe Piles

V = Vertical Steel Pipe Piles

<b>Terminal Projects</b>			
<b>Year</b>	<b>Project #</b>	<b>Project Name</b>	<b>Description</b>
1973	S-0915(1)	Kake Ferry Terminal Construction	Original fill onto tidelands, with Shelter and separate vault toilet on uplands; built transfer bridge, flexifloat seaward support (w/ concrete anchors), ramp lift system and four concrete capped, steel pile mooring dolphins (E1, W1-3).
1987	RS-0005(78)	Southeast Secondary Upgrade	Recoated and installed new zincs on flexi-floats; Recoated ramp, apron, transfer bridge; Replaced expanded metal mesh on bridge; Upgrade to dolphin fenders.
1993	75186-RS-0915(3)	Kake Ferry Terminal Mooring Improvements	Installed new mooring structures W4 & E2-3; replaced fender on W1; installed new barge fenders and restraint structures - released chains to concrete anchors and abandoned in place; inspected and replaced ribs on transfer bridge; installed electrical power upgrades.
1994	75377 - STP-0930(5)	Kake Ferry Terminal Ramp & Apron Upgrade	Replaced ramp and apron with newer hydraulically controlled units; installed electrical power upgrades.
1998	75525-STP-0939(6)	Kake Dolphin Replacement & Bridge Rehabilitation	Replaced mooring dolphins W1-3 & E1; re-coated bridge; replaced elastomeric bearing under shoreward swivel beam; replaced west hinge pin on swivel beam; inspected & repaired ribs in 5 seaward bays between floor beams.
2006	67488	Kake & Hoonah Ferry Terminal Dolphins	Install new lead-in dolphin W5.

<b>Terminal Projects (cont'd.)</b>			
<b>Year</b>	<b>Project #</b>	<b>Project Name</b>	<b>Description</b>
2015	68238	Kake Ferry Terminal Improvements	Replaced the older orthotropic bridge and corroding seaward floats with new multi-girder bridge and flexifloats. Replaced the abutment with new spread footing with tiebacks.
2015	SAMHS0002	Kake Ferry Terminal Passenger Facility	Removed dilapidated shelter. Constructed new 20.5' x 45.5' waiting building with indoor plumbing (mens and womens bathrooms), connections to city water and sewer utilities, curb and sidewalk, safety handrail and area lighting.

### Observations

1. The transfer bridge & support float was replaced in 2015. The apron, ramp, and lift system were originally built in 1994. A new waiting building and pursers shelter were constructed in 2016.
2. There is a loose nut that connects the transition plate to the top of the bridge.
3. Three additional mooring dolphins (W4, E2 & E3) were installed to allow Taku Class vessels to moor at this facility in 1993. A new fender system was installed on dolphin W1. The original dolphins (W1-W3 and E1) and remaining fender systems were replaced with new dolphins and fenders in a 1998 Dolphin Replacement and Bridge Rehabilitation Project. Dolphin W5 was constructed in 2007 to provide mainline vessel (Matanuska/Malaspina/Columbia) berthing capacity. The shore-powered dolphin navlights were removed and replaced with solar-powered lights in 2009.
4. The sacrificial zinc anodes are depleted on all but dolphin W1. Several UHMW mounting bolts have sheared off the fender panel of dolphin W5.
5. AMHS has mounted a pendant in an SS box below the intermediate ramp, for emergency cases when the ship personnel are without a pendant. AMHS maintenance installed a containment pan beneath the hydraulic power unit in '17. Electrical conduit connectors are freely corroding where mounted on the intermediate ramp. Apron fingers do not move freely and require maintenance.

<b>Inspection Summary</b>		
<b>Structure</b>	<b>Priority</b>	<b>Recommendations</b>
<i>Category I - Safety Repairs</i>		
Nothing required		
<i>Category II - Rehabilitation Work</i>		
Dolphin anodes	1	Replace/add anodes to all in-water piles.
Bridge transition plate	2	Install a stop-nut (second nut) or cross drill and install cotter pin on the transition plate hinge pin at the top of the bridge.
Ramp electrical	3	Replace corroded electrical conduit clamps at intermediate ramp.
Dolphin fender panels		Monitor the UHMW fender panel attachment studs and nuts. A plan to refurbish the UHMW fender panels should be made in the next 5 years. The refurbishment shall include welding new studs to the front face of the steel fender panels in the tidal zone and re-securing the associated UHMW panels to the studs with new nuts.
Apron		Replace hinges on apron fingers.
<i>Category III - Upgrades Needed</i>		
Nothing required		