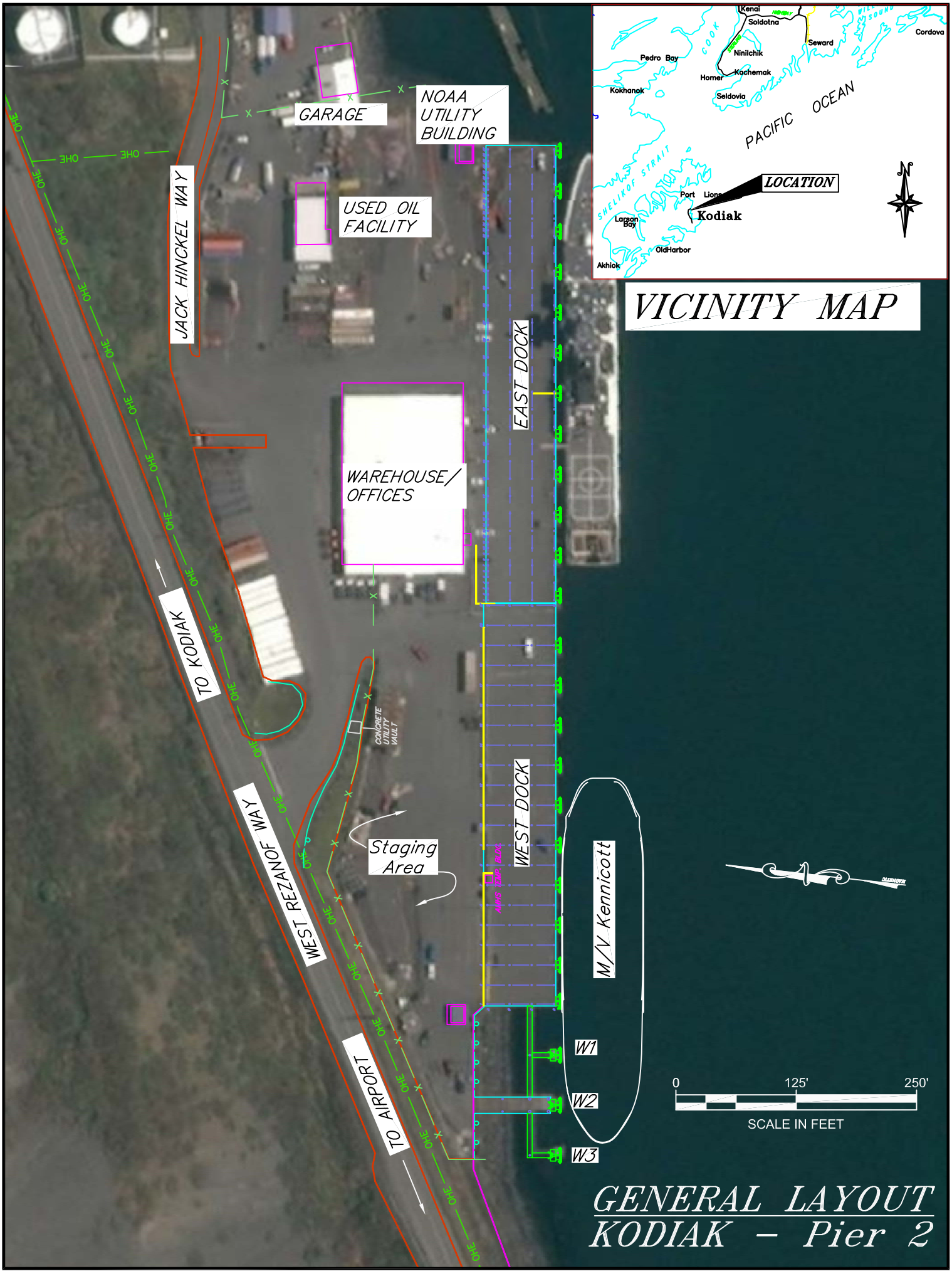


VICINITY MAP

GENERAL LAYOUT
KODIAK – Pier 2

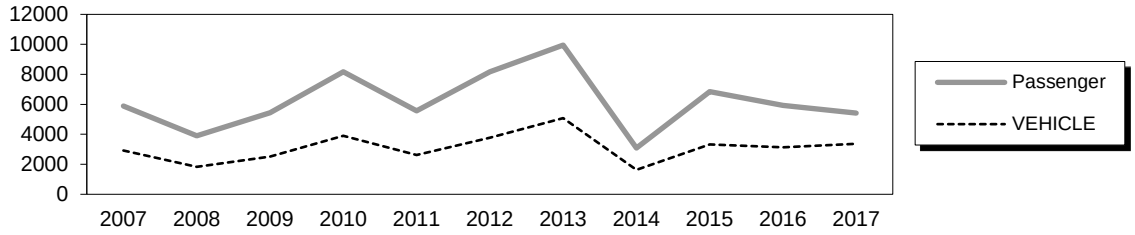
Kodiak Pier 2

Jack Hinckel Way

Owner: City of Kodiak

Terminal Manager: Martin Owen, Harbormaster, City of Kodiak, 907-486-8080

Terminal Description: The M/V Kennicott docks at Pier 2 on its turnaround between Homer and Kodiak. The facility is a rectangular dock comprised of two adjacent dock sections: AMHS primarily uses the West dock which was constructed in 1988 (approximately 418'x 75'). The East dock was constructed in 2006 and is approximately 475'x 73'. There is no apparent division or break between the two dock sections. The past 10 years of total passenger and vehicle traffic at Kodiak Pier 2 is shown below. The M/V Kennicott was only in service for 7 months in 2014, resulting in a steep dropoff in traffic at the terminal.



The most recent above water survey was completed on August 11, 2016. The most recent underwater inspection occurred on July 9, 2014. The most recent fracture critical inspection was on September 29, 2012.

Vessels	
Name	Berthing, Alignment
Kennicott	Port / Starboard

Tidal Data (MLLW=0.0 feet)	
EHW	13.1
MHHW	8.7
MHW	7.8
ELW	-3.5

Terminal Building
There is no terminal building at this dock. Tickets are taken from an 8'x8' pursers shack.

Generator & Building
This facility does not have a generator on-site.

Utilities @ Dock	
Water:	Yes
Electric:	N/A
Fuel:	Yes (Truck Fill)
Telephone:	N/A
Sewer:	No

Uplands	
Short-Term Parking:	0
Long-Term Parking:	0
Staging Area:	4 lanes, ~ 1600 ft

Pier 2 Dock	
Year Built:	1988/2006
Dock Structure:	Steel pipe piles supporting steel girder and floor beam fram with prestressed concrete deck panels
Steel Coating:	Galvanized
Fenders:	22 pin pile units spaced ~ 42' apart; east unit consists of a pair of steel support piles, a steel framework, a timber wearing surface and two rubber cylinders.
Mooring Bollards/Cleats:	20 bollards/cleats mounted between breaks in the bullrail along the dock face.
Lighting:	6 light poles spaced 150'-200' apart, mounted ~87' back from the dock face
Condition:	Good
Load Posting Sign:	N/A
Original Design Load:	400 psf / 988 Wheel Loader / 150 Ton Track Crane

Observations

1. The dock is comprised of precast, pre-stressed concrete deck panels spanning between steel pier caps supported by steel pipe piles. There are three steel pile supported mooring/breasting dolphins off the end of the West dock connected by steel catwalks. The middle dolphin is connected to the dock by an 80'x 17' timber dock extension. The Kennicott ties up so that the vehicle ramp lines up with the moveable bullrail in the center of the West dock. Embarking vehicles line up on an adjacent paved area behind concrete barriers. Ticket sales are performed at the Pier 1 facility and passenger amenities are not available at this location.

   The dock is currently used for transfer of general cargo/fuel, mooring of the NOAA R/V Oscar Dyson, fishing vessels and summer cruise ships, in addition to ferry operations. There are potential conflicts in mooring and dock activities, especially during the summer cruise ship season. There is not enough dock space for simultaneous moorage of both the Kennicott and large cruise ships.
2. Overall the deck panels appear to be in fair condition. Steel plates, cast into the precast concrete deck panels above the floor beams, are severely corroded and cracks run longitudinally from these plates in the concrete. The cracks are parallel, not perpendicular to the direction of reinforcing as would occur if the panel had been overloaded. These cracks may have occurred after the panels were installed to the stringers and developed when shrinkage and temperature movement was restrained. Asphalt concrete covers the surface of the deck, so inspection of the topside of the concrete panels is not possible. The dock sees a variety of heavy traffic, but is not load posted.
3. The pier caps consist of built-up steel box girders supported by vertical steel pipe piles. The pipe piles are fillet-welded directly to the bottom flange of the cap. The pier caps are in good condition, but exhibit minor misalignment and excessive weld build-up at all field splice locations, surface rust is typical on the girder flanges at pile connections, and white rust covers the rest of the exposed surface of the caps.
4. The support pipe piles are 18" diameter and are in good condition. All piles exhibit surface rust with the splash (tidal) zone. Galvanized coatings on the steel pipe piles of the eastern dock are clearly depleted.
5. The timber planks show moderate signs of wear on the dock extension to dolphin W2. A fence, originally intended to restrict access from the uplands, is missing a 3-foot section and is open to dock traffic. There is a sign posted on the remaining fence that reads 'SEE HARBORMASTER FOR VEHICULAR ACCESS GVW 30,000 LBS. MAX AXLE 24,000 LBS.'. While not used by AMHS traffic, the timber dock extension to dolphin W2 appears to be in good condition.
6. The moveable bull rail does not have any bolts placed in base plates or between sections of rail to lock it in place, i.e. restrain a moving vehicle.
7. The steel fender piling and frames are in good condition. Steel is galvanized. Minor abrasions were noted on the timber face but the surface is still serviceable. The 2016 inspection measured structure-seawater potentials of -0.84 V at the western dock, and -0.66V at the eastern dock. The most recent Fracture Critical (FC) report found that there is surface rust within the tidal fluctuation zone of the piles.
8. Dock-side studs for fender donut mount brackets have insufficient thread length and multiple washers were used as spacers to make up the difference during construction. This feature is common throughout the facility.
9. Fishing vessels tie to horns of bollards because mooring line end loops are too small to pass over main bollard pipes. A pipe on the side of the fender panels runs full length and provides smaller vessels an all-tide mooring point. Unfortunately the only horizontal connection from the fender panel to the dock is the rubber donut bracket, which was not designed for transfer of mooring loads.
10. At the transition of the uplands to dock, a pavement crack and one-inch grade drop runs the length of the dock due to settlement of structural uplands fill.
11. In October of 2010, a mooring cleat was pulled out of the reinforced concrete base. Both the coast guard ice breaker Healey and M/V Kennicott were tied off to the cleat during a storm. Repairs have been made. Wave activity at the Pier 1 location can result in difficult mooring and elevator loading operations – primarily during winter months.
12. The concrete mounting bases for all the mooring bollards were replaced with same geometric shape but heavier steel reinforcement.

Inspection Summary		
Structure	Priority	Recommendations
Category I - Safety Issues		
Safety Ladders	1	Inspect all fasteners to ensure ladders are securely and safely fastened.
Category II - Rehabilitation Work		
Concrete Dock Panels	2	Monitor the cracked dock panels
Fender Panels	3	Install sacrificial anodes on steel pin piles and framework of fender units. Also install lateral cross-chains that will distribute mooring loads from the fender panel mooring pipes to the dock backup structure.
Category III - Upgrades Needed		
Upland Staging Improvements	4	Investigate provision of upland improvements for vehicle staging, security and visitor amenities (heated waiting and restroom facilities) if Pier 2 is to remain in long term use by the M/V Kennicott.