# Historic American Buildings Survey
# Level II Report

# LORSTA
# SHOAL COVE

## Shoal Cove, Alaska

**Final**
**October 2011**

**Prepared by**

JACOBS™

**Jacobs Engineering Group Inc.**
**4300 B Street, Suite 600**
**Anchorage, Alaska 99503**

**COPIES OF COLOR TRANSPARENCIES**
**WRITTEN HISTORICAL AND DESCRIPTIVE DATA**
**REDUCED COPIES OF MEASURED & INTERPRETIVE DRAWINGS**

**HISTORIC AMERICAN BUILDINGS SURVEY**
**National Park Service**
**U.S. Department of the Interior**
**240 West 5th Avenue, Suite 114**
**Anchorage, Alaska 99501**

## TABLE OF CONTENTS

## ATTACHMENTS

**Name:** USCG LORAN-C Station Historic District, Shoal Cove

**Location:** Shoal Cove, Alaska

**Present Owner:** U.S. Forest Service (USFS)

A Memorandum of Understanding (MOU) was issued in 1976 by the USFS that allowed the U.S. Coast Guard (USCG) to build the Long Range Aid to Navigation (LORAN)-C station at Shoal Cove and use approximately 279 acres of adjacent lands throughout the Tongass National Forest indefinitely. According to the MOU, upon decommissioning of the LORAN station, the agreement was replaced with a communications lease to the USCG for a term of thirty years.

**Present Use:** Temporary logging operations are underway at Shoal Cove and there is a floating logging camp nearby. The surrounding area is also used by private outfitters and guides recreationally; there is one public recreation cabin (Fish Creek Public Recreation Cabin) in the vicinity.

**Significance** Long Range Aid to Navigation (LORAN) was a government-provided terrestrial navigation system established for military and civilian users throughout the United States, Canada, Europe, Asia, and Russia. Since its inception in 1940, LORAN provided marine, air, and land positions to users during World War II (WWII), through the Cold War and into the twenty-first century. LORAN-C, a later version of the long-range navigation series, operated as a low frequency hyperbolic navigation system using the time difference in pulses from three or more transmitting stations to obtain a position. It was highly accurate, all-weather, and available twenty-four hours a day. In 2010, the United States and Canada both ceased operation of the system.

The LORAN-C station at Shoal Cove was established in 1975 by USCG. Among other buildings, the station consists of an Administration and Barracks Building and four 695′ guyed towers. It is eligible as an historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation that represents the federal government’s growing involvement and responsibility for safe navigation. The station is also eligible under Criterion Consideration G as a property of exceptional importance that has achieved significance within the past fifty years.

The navigation towers (demolished September/October 2010) and all buildings associated with the operation of LORAN-C are considered contributing elements to the district.

**Historian:** Terri Asendorf, Architectural Historian, MSHP, Jacobs Engineering Group Inc.

**Project Information:** The USCG LORAN-C Station Historic District, Shoal Cove, Alaska, recording project was performed under contract with the U.S. Army Corps of Engineers (USACE) for the USCG under the direction of the Alaska State Historic Preservation Officer and the Advisory Council on Historic Preservation. The historical reports and photographs were prepared by Jacobs. Terri Asendorf served as architectural historian, and Casey Martin served as architect.

# I. Historical Information

## I.a. Physical History

### *I.a.i. Date of Erection*

1975

### *I.a.ii. Architect*

Leo A. Daly Architecture and Engineering (Headquarters in Nebraska)

### *I.a.iii. Original and Subsequent Owners, Occupants, Uses*

USFS, USCG LORAN-C Station

### *I.a.iv. Builder, Contractor, Suppliers*

Four 695′ guyed antennas built by Stainless Inc., Model 2515 (SLT)

### *I.a.v. Original Plans and Construction*

These are discussed individually below and on the attached architectural building inventory forms. Site plans and architectural drawings of the facilities are also provided.

### *I.a.vi. Alterations and Additions*

These are discussed individually below and on the attached architectural building inventory forms. Site plans and architectural drawings of the facilities are also provided.

## I.b. Historical Context

### *I.b.i. LORAN-A to C*

Historically, maritime and aviation positioning was done using dead reckoning, celestial navigation, and later, radio beacon. With the approach of WWII, the development of a more accurate system was needed for defense operations, and in 1940, the Army Signal Corps issued a requirement for “Precision Navigational Equipment for Guiding Airplanes.” The pulsed, hyperbolic, long-range radio navigation system that eventually became known as LORAN was proposed by physicist Alfred L. Loomis working under the direction of the National Defense Research Committee (NDRC). In 1941, his proposal was accepted and trial stations were established at inactive USCG lifeboat stations at Montauk Point in Long Island, New York, and Fenwick Island, Delaware. Corporations such as RCA, Sperry, Bell Laboratories, Westinghouse, and General Electric filled equipment orders for the model stations (Pierce, McKenzie, and Woodward 1948).

LORAN was further developed by scientists at the Radiation Laboratory of the Massachusetts Institute of Technology. Generally derived from the British GEE (generalized estimating equation) system, the first iteration of LORAN operated at the 1,850 and 1,950 kilohertz (kHz) frequencies. Later called “LORAN-A,” its use by naval and air convoys in defense missions quickly increased due to requirements by the Allied forces for a means of a

tactical bombing system (Joint Aids to Navigation Panel 1957). Under the Lend-Lease program established in 1941, the United States used LORAN-A to guide planes and bombers to the former Soviet Union during the war (Thomas 2011).

Between 1942 and 1944, LORAN-A use rapidly increased, and by 1945, there were stations built all over the world providing some sixty million square miles of coverage (Pierce, McKenzie, and Woodward 1948). The stations were grouped into regional chains consisting of one “master” transmitting station and two or more “secondary” transmitting stations, each separated by several hundred miles. Station location and orientation were determined by coverage requirements. By 1944, approximately 75,000 receivers were distributed to military and civilian users with seventy-five U.S. and fifteen British and Canadian LORAN transmitters providing coverage over 30 percent of the earth’s surface (Pierce, McKenzie, and Woodward 1948), including high-traffic water and air routes.

Originally a U.S. Army-driven effort, the LORAN-A program was later transferred to the U.S. Navy because of its mission to precisely and safely route convoys and guide and deliver defense material – tasks which could be achieved using LORAN. In November 1941, the U.S. Treasury Department transferred the USCG to the U.S. Navy to support war efforts. Given its official role as operator and administrator of U.S. Aids to Navigation, the USCG assumed management of the LORAN program for the Navy. After the war, in 1946, the USCG was transferred back to the Treasury Department and retained management of the LORAN program (Thomas 2011). Incidentally, USCG was transferred to the Department of Transportation in 1967, and then again to the Department of Homeland Security in 2002.

In 1947, the International Telecommunications Union Conference (ITU) allocated the frequency band 90–110 kHz for the development of a farther-reaching, long distance, radio navigation system on a worldwide basis (Dickinson 1959). This was partly in response to a need for less signal interference:  the higher ranges were allocated solely for military use during wartime, but when they were returned to civilian use after the war, signal interference increased. Over the next decade, various military branches were attempting to improve LORAN including the U.S. Air Force (USAF), which developed the Cycle Matching Tactical Bombing and Navigation System (CYTAC). CYTAC was an experimental electronic strategic bombing system that used the same hyperbolic principles as LORAN-A, but at the lower frequencies allocated by the ITU. Since the tactical bombing application of CYTAC was classified, its use for civilian navigation was limited; therefore, USAF declassified the civilian application of CYTAC and named it “LORAN-C,” while the tactical bombing application remained confidential (Joint Aids to Navigation Panel 1957).

The first LORAN-C navigation system was installed on the U.S. East Coast in 1957 at stations in Carolina Beach, North Carolina, Martha's Vineyard, Massachusetts, and Jupiter Inlet, Florida.

In 1974, LORAN-C was authorized by the Secretary of Transportation to be the federally provided radio navigation system for the U.S. Coastal Confluence Zone (CCZ), which is defined as the area seaward of a harbor entrance to fifty nautical miles offshore, or the edge of the Continental Shelf, whichever is greater. This mandate drove the expansion of LORAN-C service to all coasts of the United States – including Alaskan waters and the Gulf of Mexico – and to the Great Lakes by 1980. LORAN-C also aided early environmental initiatives. In the 1970s, the system was used to guide oil tankers along the Pacific Coast from Alaska to Canada and the contiguous United States to assure high precision navigation and minimize potential collision-related damage from growing tanker traffic.

### *I.b.ii. LORSTA Shoal Cove*

LORAN station (LORSTA) Shoal Cove is located in the Tongass National Forest on Revillagigedo Island, approximately twenty miles northeast of Ketchikan. The Shoal Cove LORAN-C station was constructed in 1975 by the international architecture and engineering firm Leo A. Daly, which has been headquartered in Omaha, Nebraska since 1915 (www.leoadaly.com). It was a dual-rated, double secondary station that produced secondary signals for both the Gulf of Alaska Chain that encompassed Narrow Cape (Kodiak), Tok, and Port Clarence, and for the Canadian West Coast Chain that encompassed George, Port Hardy, and Williams Lake.

Crewmembers lived in Ketchikan while off duty and at the station while working. A contracted civilian boat made one-hour trips between Ketchikan and Shoal Cove three days a week. USCG Station Ketchikan served as the Base Support Unit for Shoal Cove, routinely providing the station with logistics and supplies. Ketchikan provided a community with governmental and social services, recreational facilities, and commercial businesses for the USCG crewmembers.

According to Electronic Technician Steven Worthington, who served at LORAN-C Shoal Cove in 2010, leisure time for many of the crew consisted of watching movies and television; playing ping-pong, pool, or video games; and sometimes bicycling, hunting, or fishing. Occasionally, Hooverball, hacky sack, and basketball tournaments would be organized. In Ketchikan, volleyball tournaments were frequent during the summer months. According to Worthington, the town of Ketchikan was somewhat isolated during the winter months, when only a few restaurants, a grocery store, and a Wal-Mart remained open. The town depends upon summer tourism resulting in many businesses being closed from October to March.

### *I.b.iii. State of LORAN*

In 1993, as a response to the advent of Global Navigation Satellite Systems (GNSS), the Department of Defense advised that there was no longer a

requirement for LORAN. As a result, USCG attempted to close U.S. LORAN stations and returned operation of all international stations to the host countries. The Russian-American Chain that included Attu remained in operation as a gesture made by both countries to promote peace after the Cold War. Moreover, Congress did not allow for closure of U.S. stations based on the protests of civilian users, and the program continued in operation for another fourteen years (Thomas 2011).

In October 2009, in an overall effort to eliminate unnecessary federal programs, the U.S. Department of Homeland Security signed into law an act terminating the LORAN-C system. The USCG began a phased decommissioning of LORAN-C stations throughout the United States in February 2010 including demolishing transmission towers, which were an obstruction to air traffic, and placing all associated buildings in layaway. LORAN-C remains in use in several countries including the United Kingdom, France, Germany, Norway, Saudi Arabia, India, Korea, Japan, China, and Russia.

On August 3, the LORAN-C signal from LORSTA Shoal Cove was terminated. The Shoal Cove station was decommissioned and the towers razed in September/October 2010. By October 1, 2010, all LORAN systems ceased signal operation.

*Future of LORAN*

The termination of LORAN-C in the United States and Canada has incited speculation on the need for a backup navigation system should disruptions occur with GNSS. Enhanced LORAN, or eLORAN, is the latest iteration of LORAN technology, providing navigation services completely independent of GNSS. The eLORAN system has enhanced the LORAN-C signal by providing: (1) better control and tolerance of timing and pulse shape; (2) time-of-transmission synchronization to universal coordinated time (UTC) at each transmitter site independent of any changes in signal propagation; and (3) the addition of a digital data broadcast capability called the LORAN data channel that can be used to send time-synchronization and text messages.

Several European countries, including the United Kingdom, Saudi Arabia, and South Korea are converting former LORAN stations to eLORAN technology, while other countries, including Ireland and Sweden, are building new stations (Schue 2011). In North America, debate over which system should serve as backup for GNSS has prevented a transition from LORAN-C to eLORAN.

# II. Architectural Information

## II.a. Physical History of Buildings (USCG 2005)

### *II.a.i. Operations Building*

The Operations Building is a two-story, 18,365-square-foot building with an irregular massed plan and a flat roof. The building contains the generator room, transmitter room, operations room, barracks, offices, recreation area, galley, garage, and snow plenum. It was constructed in 1975 and underwent a minor renovation of the shower rooms in 1994 (USCG 2011b).

The foundation of the Operations Building consists of reinforced concrete with a spread footing foundation. The ground floors are concrete slab-on-grade. The walls are painted, textured, cast-in-place concrete. The upper floor consists of reinforced concrete beams supporting a concrete slab. Concrete bearing walls extend to the roof. Roof framing consists of open web steel joists supporting steel decks. At the generator and transmitter plenums, steel beams span between concrete bearing walls and directly support the steel deck.

The walls between the generator room and the garage bay, and at the entrance to the transmitter plenum, are concrete masonry unit (CMU), which are laterally supported at the roof with steel bracing. At the garage bay, a steel-framed storage mezzanine is suspended from the roof with round steel rods. The transmitter room and operations room have raised access tile floors at 12″ above the slab-on-grade floor.

The roofing over the major portion of the building consists of white elastomeric roofing. The roof over the galley is an inverted roof membrane system with rigid insulation over the membrane consisting of tongue and groove insulation with an integral concrete top coat. The perimeter and middle area of the roof is ballasted with concrete pavers. The windows are aluminum-insulated and include fixed, awning, and casement types. The doors are hollow metal.

### *II.a.ii. Upper Fuel Farm Building*

The Upper Fuel Farm Building is an unheated 300-square-foot building constructed in 1976. It has a conventional reinforced concrete spread footing foundation consisting of perimeter foundation wall strip footings. The floor is reinforced concrete slab-on-grade. The foundation supports 13-course, 8″-thick CMU walls. The walls support a flat reinforced concrete roof deck. The major portion of the building consists of built-up roofing. The building has no windows. The doors are hollow metal.

### *II.a.iii. Lower Fuel Farm Building*

This unheated, 300-square-foot building was constructed in 1976. It has a conventional reinforced concrete spread footing foundation consisting of perimeter foundation wall strip footings. The floor is reinforced concrete slab-on-grade. The foundation supports 13-course, 8″-thick CMU walls. The

walls support a flat reinforced concrete roof deck. The majority of the building has built-up roofing. The building has no windows. The doors are hollow metal.

### *II.a.iv. Microwave Hut*

The Microwave Hut at Tower Four is an 80-square-foot, pre-engineered fiberglass structure, approximately 8′ x 10’ in size. The date of construction is unknown. The foundation is a timber crib made from four 10’-long, 8″ x 8″, pressure-treated timbers supporting four 8′-long, 8″ x 8″, pressure-treated timbers. A two-step 48″-wide stairway provides access to a 49.5″ x 52″ landing at the hut door. The stairs and landing are made with pressure-treated 2″ x 2″ timbers. The roof is aluminum plate. There are no windows; the door is fiberglass in an aluminum frame.

### *II.a.v. Deck*

The deck is located directly in front of the south façade of the Operations Building and houses the gas grill. It is approximately 10′ x 5′. The foundation is composed of concrete footings supporting a wood deck. Six wood posts support the wood roof joists. The roofing is ribbed translucent plastic panels. The date of construction is unknown, but it looks to have been built circa 2009.

### *II.a.vi. Flammable Storage Locker (Small)*

The small flammable storage locker is a 111-square-foot, pre-fabricated steel structure built in 2004. The foundation is dry-laid concrete paver block. The locker has steel floor construction with raised fiberglass grating that is used as the floor surface. The walls and roof consist of flat steel sheet siding at the interior and exterior, and internal steel framing. The building has no windows. The doors are steel. The building houses equipment including a half-ton-capacity manually powered hoist mounted on a push trolley.

### *II.a.vii. Flammable Storage Locker (Large)*

The large flammable storage locker is a 181-square-foot, pre-fabricated steel structure built in 2004. The foundation is dry-laid concrete paver block. The locker has steel floor construction with raised fiberglass grating that is used as the floor surface. The walls and roof consist of flat steel sheet siding at the interior and exterior and internal steel framing. The building has no windows. The doors are steel.

### *II.a.viii. ATV Shed*

This 195-square-foot shed was constructed in 2001 at the exterior of the north wall of the garage bay to store all-terrain vehicles and morale equipment. The structure is partially enclosed by two walls and attached to the Operations Building at the roof and at one wall. The shed consists of pre-cast concrete prism footings supporting 4″ x 4″ timber posts, which support a double 2″ x 8″ eave. A 2″ x 8″ ledger is bolted to the exterior concrete wall of the main building. Spanning the 10′ between the ledger and

the eave beam are 2″ x 8″ rafters spaced at 36″ on-center. The rafters support flat 2″ x 4″ purlins at 33″ on-center, which support clear synthetic roof decking. The roof pitch is approximately 3 to12.. The east end of the space below the roof deck is enclosed by a timber-framed wall with plywood siding. The north edge of the space below the roof is partially enclosed by two lengths of wall under the eave beam. The west end of the space under the roof is open. The floor surface is gravel.

The exterior enclosure consists of 2″ x 4″ studs at 16″ on-center infill framing between columns with plywood siding. The roofing is ribbed translucent plastic panels. The building has no windows or doors.

### *II.a.ix. Fuel Tank Shed*

The 360-square-foot timber-framed Fuel Tank Shed is located at the west side of the Operations Building. The date of construction is unknown. The shed is 34′ x 12′ and houses a day tank. The structure is enclosed on three sides and features an open canopy on the south side. Pre-cast concrete prism footings support 4″ x 4″ timber posts. These posts support double 2″ x 8″ eave beams that in turn support 2″ x 8″ timber rafters spaced at 24″ on-center. The eave beams are spaced at 11′-6″ on-center. Roof joists are framed into the side of the eastern eave beam with galvanized steel joist hangers and bear on the west eave beam. The roof deck consists of clear synthetic panels. At the tank, there are two end walls spaced approximately 18′ apart and one side wall. The walls are framed with 2″ x 4″ timber studs and sheathed with plywood siding. The exterior enclosure consists of 2″ x 4″ studs at 16″ on-center infill framing between columns with plywood siding. The roofing is ribbed translucent plastic panels. The building has no windows. A door at each end is constructed of wood framing and plywood siding.

### *II.a.x. Morale Shed*

Ashore of the float abutment is a one-story, 64-square-foot, 8′ x 8′ timber-framed storage shed. The date of construction is unknown. The shed appears to be a kit from a local lumberyard. It is sheathed with plywood siding and has a plywood roof deck. The shed floor is a timber-framed platform with a plywood deck supported at the corners with concrete blocks. The exterior enclosure consists of plywood siding and a ribbed translucent plastic panel roof. The exterior doorway is a pair of doors also constructed out of plywood siding. The building has no windows.

### *II.a.xi. Beedy Storage Shed*

On the access road between the Operations Building and Tower Four is a 143-square-foot, timber-framed storage building constructed ca.1975. According to one crewmember, Electronic Technician Thomas Duprey, the shed was reportedly named for a former Commanding Officer. The structure is 13′-10″ x 11′-0″ and has a concrete slab-on-grade floor. It appears that the walls bear on the slab and no additional footings exist. The walls consist of 2″ x 4″ studs at 16″ on-center. Sidewalls support 2″ x 4″ rafters at 16″

spacing. The rafters frame into a 2″ x 6″ ridge beam and have horizontal 2″ x 4″ collar ties at mid-span. The rafters support ribbed translucent plastic panels. The walls consist of metal siding on the exterior. The wall bottom plate is not treated. The top of the wall top plate is 95″ above the slab. The roof slope is approximately 7.5″ on 12″ (vertical to horizontal).

The exterior enclosure consists of metal siding attached to 2″ x 4″ stud wall framing. The roofing is ribbed translucent plastic panels. The building has no windows. The exterior door consists of a pair of doors site built from 2″ x 4″ wood frames with metal siding.

### *II.a.xii. Incinerator Shed*

The Incinerator Shed is a 171-square-foot building consisting of three walls and a roof. The date of original construction is unknown. The structural system consists of a conventional concrete slab-on-grade foundation and perimeter foundation walls with strip footings supporting two rigid frames that support light gauge steel channel purlins under a metal deck. The frame columns consist of tube steel sections. Three sides of the structure are enclosed with metal siding supported by 2″ x 2.5″ timber framing.

The building roof was extended after original construction by the construction of an approximately 10′ x 10′ timber-framed roof supported by two 4″ x 4″ timber posts that are supported by pre-cast concrete prism footings. The posts are cross-braced with timber 2″ x 2.5″ braces. The extension roof framing consists of three 2″ x 2.5″ rafters that support 2″ x 2.5″ purlins, which, in turn, support the metal roof deck.

The exterior enclosure consists of wood stud framing between steel columns sheathed with metal siding. The roof over the incinerator consists of metal “V” roofing panels attached to the steel purlins. The roof over the added shed is ribbed metal attached to wood rafters. The building has no windows or doors.

### *II.a.xiii. Sewage Plant*

The 91-square-foot Sewage Plant was built in 1976 and consists of a reinforced concrete vault that serves as a foundation, galvanized steel grate floor supported by steel beams, timber stud walls, and timber roof framing. The walls and roof are sheathed with plywood. The roof is a single gable. The building is approximately 12′-8″ x 7′-0″ and 8′ tall. The exterior enclosure consists of plywood siding and corrugated metal roofing panels. The building has no windows. The door is constructed of wood framing and plywood siding.

### *II.a.xiv. Float Shoal Cove*

A timber-framed float, approximately 55′ x 14′, is moored along the shoreline approximately five miles northwest of the station buildings. The float construction consists of foam billets supporting 6″ x 6″ cross beams that, in turn, support 6″ x 6″ stringers. The cross beams are spaced at approximately 8′ on-center and are cross-braced with 6” x 6” timbers. The

foam billets are secured to the cross beams with a 3″ x 6″ sill and through bolts. A diagonally-sheathed timber deck is on top of the stringers.

The perimeter of the float has an 8″ x 8″ timber bullrail supported on scupper blocks. Light duty mooring cleats are mounted on the bullrail. The perimeter of the float below the deck is faced with rubber bumpers. The float is secured from the shore with two parallel, timber-pole struts, approximately 50′ apart that are hinged at the shore abutment and at the float's shoreward edge. The hinges are made of a welded galvanized steel plate assembly. The timber poles have steel side plates at these hinges; the plates are through-bolted to the timber poles. The timber-pole struts are laterally braced with two 1.5″ diameter galvanized steel cross bracing rods.

The float is accessed from shore by a 6′-wide x 62′-long x 4'-tall galvanized steel gangway with a timber deck. The gangway side rails serve as support trusses. The trusses are comprised of a 2-1/2″ diameter top chord rail, a 6″ steel channel bottom chord rail, and two 1″ x 4″ timber rails between them. The chords are separated by 1-1/4″ diameter vertical steel pipe at 5′ on-center and 1-1/4″ diameter steel pipe diagonals between the verticals Steel channel floor beams, 6″-wide, span between the side truss bottom chords. These floor beams are spaced at 5′ on-center and are directly below the side truss verticals. The floor beams support timber floor decking. Approximately 2′ of the gangway deck is cleated with triangular timber material that is nailed perpendicular to the decking and the direction of travel at 2′ on-center. Approximately 3′ of the deck is covered with metal mesh to aid with traction.

The gangway is supported at the shore by a hanging, double-hinge connector with steel straps connected to the abutment. At the float, the gangway is supported by skids that rest on a steel plate bolted to the float deck. The top and the base of the gangway have transition plates.

A 36′-long, cast-in-place concrete abutment supports the timber-pole struts, the gangway, and the steel cross bracing. This abutment cross-section consists of a footing 5′-6″ wide x 2′ thick and a 5′-high x 4′-wide top as measured in cross-section. The top has a 3′ diagonal chamfer. The abutment is secured by two concrete tie-backs approximately 12′ from the back and at each end of the abutment.

### *II.a.xv. Waterfront Bulkhead*

West of the Shoal Cove float, there is a 25′-wide bulkhead. The bulkhead has a top elevation of +12' Mean Lower Low Water (MLLW) and has a base elevation of approximately +1' MLLW. Sidewalls extend 16′ perpendicular to the bulkhead face and shoreline. The bulkhead walls consist of three 8″ H-piles embedded 3′ into rock and back braced with 5″ x 5″ steel L-angles bolted to the bedrock. Flat sheet pile sections are placed horizontally against and bolted to the exterior face of the H-piles. The sidewall H-piles are tied together with a 1-1/4″ diameter steel rod bolted to opposing H-piles. At the top of the bulkhead, there is a reinforced concrete cap that is 18″

wide x 14″ deep. In the top of the cap at the front wall and side wall intersection are embedded mooring rings made of a 2″ diameter bent steel rod. The bulkhead is backfilled with shot-rock fill and surfaced with crushed gravel.

### *II.a.xvi. Stringer Bridge*

The station access road that leads to the receiving antenna crosses East Shoal Creek with a log stringer bridge that was constructed in 1976. The bridge is single span, approximately 20′ long x 18′ wide. Log stringers are covered with approximately 3′ of earthen fill. The stringers appear to be 18″ to 24″ in diameter and bear on large diameter log abutments.

### *II.a.xvii. Painted Creek Bridge*

The access road that leads to the station from Shoal Cove crosses Painted Creek via a timber-decked, steel-girder bridge. This bridge was built in 2003 and is maintained by the USFS. It is used by the USCG under a letter of agreement with the USFS.

The bridge is a 122′ long single-span bridge with an 18′-wide timber deck. There are 12″ x 12″ bullrails on each side of the deck with the top of the bullrail being 20″ above the deck. The bridge structure consists of a rough-cut 4″ deck over 8″-wide GLULAM® members laid flat across the top of the steel plate girders. The girders are 78″ deep and have 8″ x 1″-thick flanges at the bridge ends. The flanges widen at mid-span. The girders are supported by a 15″-wide x 14″-deep I-beam pile cap with ½″ flanges. The pile cap is supported by pipe piles directly under the girders. There are 8″-thick concrete back walls that extend from the underside of the wear deck to the pile caps. There are no approach guardrails. Riprap has been placed to stabilize each bank under the bridge.

### *II.a.xviii. Towers*

Four 695′ guyed towers are laid out in a 1,000-linear-foot array surrounding the Operations Building. The Model 2515 (SLT) towers were built by Stainless, Inc. They are composed of galvanized steel structural members (legs, girts and diagonals) anchored by guys wires. Each tower features a ladder, safety rail, and lighting system, and is entirely painted in orange and white aviation warning paint. The base of each tower consists of a reinforced concrete foundation approximately 10′ x 10′ and 9′ thick with a fiberglass rod insulator out of which the towers rise. The four towers are connected to each other at the LORAN antenna termination base directly west of the transmitter room.

### *II.a.xix. Helipad*

The helipad is located approximately 2,000 linear feet northeast of the Operations Building and consists of a 65′ square concrete surface with a parking area.

### *II.a.xx. Beaver Pond Dam*

The Beaver Pond Dam is an earthen, manmade, rock fill dam enhanced by yearly beaver activity on Beaver Pond. The dam measures approximately 40 linear feet in width with an approximate 10′-wide spillway.

# III. Site Description (USCG 2005)

Shoal Cove is in the maritime climate zone, featuring mild winters, cool summers, and heavy precipitation, with an annual average rainfall of 130″ and snowfall of 32″. Summer temperatures range between 51°F and 65°F, while winter temperatures drop to between 29°F and 39°F. The terrain on the island is not suitable for landing airplanes; however, the station maintained both a helipad for helicopter landings and a float/dock for boat and seaplane access.

Nearby Ketchikan has regularly scheduled commercial flights to Seattle and Alaskan communities and is also accessible via the Alaska Marine Highway system.

The main facilities for the station are located five miles east of the USCG float and boat dock via a gravel road. The largest building, the Operations Building, consists of the generator room, garage, barracks, crews' area, galley, and transmitter room. Several smaller buildings surround the Operations Building including the fuel day tank to the west, the Sewage Treatment Plant to the east, and the incinerator and its fuel supply tank to the southeast. Additionally, the LORAN antenna termination base for the four towers is located directly west of the transmitter room, and the four towers are equally spaced 1,000′ from the base surrounding the Operations Building. Other utilities and infrastructure include a small deck, a water well, an underground fire protection tank, and a backwash seepage pit (USCG 2005). The helipad is located approximately 2,000′ northeast of this building and consists of a 65′ square concrete surface with a parking area.

Shoal Cove generated its own electric power to support site operations. Approximately 230,000 gallons of Arctic grade fuel oil was delivered each year by barge, stored at the Upper Fuel Tank Farm, and piped to the Operations Building where it was used for operating and heating. The Upper Fuel Tank Farm is located approximately 2,000′ east of the Operations Building and included a Fuel Transfer Building, an aboveground 3″ fuel oil line, and two 225,000-gallon aboveground storage tanks (AST), which were removed during station layaway. The abandoned Lower Fuel Farm is located approximately 400′ east of the float and boat dock and includes a Fuel Transfer Building and the remnants of the concrete containment area for the two ASTs that were removed in 2004. A storage shed is located on the roadway leading to Tower Four, and a microwave hut and receiving antenna are located at the base of this tower.

Various roadways surrounding the towers are maintained by USCG and the USFS. Beaver Pond is located approximately 100′ east of the Operations Building and exhibits an earthen dam. There is a log stringer bridge on the access road to the receiving antenna (near Tower Four), and a timber-decked, steel-girder bridge on the access road from Shoal Cove to the station where it crosses Painted Creek.

# IV. Reference List

## IV.a. Primary Sources

### *IV.a.i. Interviews*

Marshall, Gary. 23 April 2011. Former crew member, USCG. LORSTA Tok, Alaska. Phone interview conducted from Austin, Texas by the author.

Ornelas, Vince. 21-31 July 2010. Electronics Technician First Class, USCG. LORSTA Attu, Alaska. 2010. Interview conducted at LORSTA Attu by the author.

Rosenberg, Jeff. 21-31 July 2010. Chief Warrant Officer 2, Commanding Officer, USCG. Attu, Alaska. Interview conducted at LORSTA Attu by the author.

Schue, Charles. 12 September 2011. President and CEO, UrsaNav, Inc. Phone interview conducted from Austin, Texas by the author.

Thomas, Gary. 27 June 2011. USCG Historian. Phone interview conducted from Dallas, Texas by the author.

Duprey, Thomas. 10 September 2010. MK1, USCG. LORSTA Shoal Cove, Alaska. Interview conducted by Leonard Voellinger at LORSTA Shoal Cove. Information collected from a tape recording of the interview.

Worthington, Steven. 10 September 2010. MK3 USCG. LORSTA Shoal Cove, Alaska. Interview by Leonard Voellinger at LORSTA Shoal Cove. Information collected from a tape recording of the interview.

### *IV.a.ii. Other Primary Sources*

American Consulate in Montreal to the Secretary of State in Washington, DC, Regarding Special NAT/PAC (LORAN A) Meeting, Montreal, November 4, 1974 [Electronic Record]; United States Department of State. National Archives [retrieved from http://aad.archives.gov/aad/. Accessed April 15, 2011 (Document No. D740195-1082)].

Dickinson, W.T. 1959. *Engineering Evaluation of the LORAN-C Navigation System Final Report.* Washington, D.C: Jansky and Bailey, Inc.

Engineering-Environmental Management, Inc ($E^2M$). 2009. *Programmatic Environmental Impact Statement on the Future of the United States Coast Guard Long Range Aids to Navigation (LORAN-C) Program.* Washington, D.C.

Jansky and Bailey. 1962. *The LORAN-C System of Navigation*. Washington, D.C.

Joint Aids to Navigation Panel. 1957 (March 22). *Report by the Joint Aids to Navigation Panel to the Joint Communications-Electronics Committee on Providing a Single Name and Proper Classification for the Navigation Aspects of the CYTAC System (U).* Washington, D.C.

Justice, Charles, LT Norm Mason, and CDR Doug Taggart. 1993. *LORAN-C Time Management.* Washington, D.C.: USCG Radionavigation Division.

State of Alaska, Department of Natural Resources. 1997. Letter from Alaska State Historic Preservation Officer to USCG. Division of Parks and Outdoor Recreation, Office of History and Archeology. Anchorage.

U.S. Coast Guard (USCG). April 2011a. *U.S. Coast Guard LORAN Station, Shoal Cove, Alaska, Draft Start-Up Manual.* Anchorage, Alaska. Prepared by Jacobs Engineering Group Inc.

USCG. April 2011b. *U.S. Coast Guard LORAN Station, Shoal Cove, Alaska, Draft Closure Report.* Anchorage, Alaska. Prepared by Jacobs Engineering Group Inc.

USCG. 2005. "U.S. Coast Guard, Shoal Cove, Alaska, Facility Condition Assessment." Juneau, Alaska. Prepared by PND, Inc.

USCG, Commandant. 1992. *LORAN-C User Handbook, Commandant Publication P16562.6.* Washington, D.C.

USCG, Commandant. 1964. *Aids to Navigation Manual, CG-222, Vol. 25_09.* Appendix C – LORAN System Operating Instructions. Washington D.C.

USCG. 1946. *The Coast Guard at War IV, LORAN Volume II*. Washington, D.C.: Historical Section, Public Information Division, USCG Headquarters.

USCG. 1944. *The Coast Guard at War: IV, LORAN Volume I.* Washington, D.C.: USCG Headquarters Office of Engineering.

USCG. n.d. *LORAN Station Attu Operating Manual, Change 4, Manuscript.* On file.

## IV.b. Secondary Sources

Delgado, James P. and Kevin J. Foster. 1992. *Guidelines for Evaluating and Documenting Historic Aids to Navigation*, *National Register Bulletin 34.* Washington, D.C: U.S. Department of the Interior, National Park Service, Interagency Resources Division.

Research and Radionavigation, General Lighthouse Authorities, United Kingdom and Ireland. http://www.gla-rrnav.org/radionavigation/eloran/index.html. Accessed September 12, 2011.

**INDEX TO PHOTOGRAPHS**
**NATIONAL REGISTER OF HISTORIC PLACES PHOTOGRAPH LOG**
**(COLOR TRANSPARENCIES CONTACT SHEETS)**

# HISTORIC AMERICAN BUILDINGS SURVEY

## INDEX TO PHOTOGRAPHS

U.S. COAST GUARD LORSTA SHOAL COVE HABS AK-235
Ketchikan
Ketchikan Gateway Borough
Alaska

## INDEX TO COLOR TRANSPARENCIES

Terri Asendorf, Photographer, September 2010

Photographic documentation was conducted according to the National Register of Historic Places (NRHP) standards, per the stipulations in the Programmatic Agreement.

| Date | Frame | Description |
|---|---|---|
| 9/10/2010 | 1 | Operations Building - East Elevation 1 |
| 9/10/2010 | 2 | Operations Building - East Elevation 2 |
| 9/10/2010 | 3 | Operations Building - East Elevation 3 |
| 9/10/2010 | 4 | Operations Building - East Elevation 4 |
| 9/10/2010 | 5 | Operations Building - North Elevation 1 |
| 9/9/2010 | 6 | Operations Building - North Elevation 2 |
| 9/9/2010 | 7 | Operations Building - North Elevation 3 |
| 9/10/2010 | 8 | Operations Building - North Elevation 4 |
| 9/10/2010 | 9 | Operations Building - North Elevation 5 |
| 9/10/2010 | 10 | Operations Building - South Elevation 1 |
| 9/9/2010 | 11 | Operations Building - South Elevation 2 |
| 9/10/2010 | 12 | Operations Building - South Elevation 3 |
| 9/10/2010 | 13 | Operations Building - South Elevation 4 |
| 9/10/2010 | 14 | Operations Building - South Elevation 5 |
| 9/9/2010 | 15 | Operations Building - Generator - West Elevation 1 |
| 9/9/2010 | 16 | Operations Building - Generator - West Elevation 2 |
| 9/9/2010 | 17 | Operations Building - West Elevation 1 |
| 9/9/2010 | 18 | Operations Building - West Elevation 2 |
| 9/9/2010 | 19 | Operations Building - West Elevation 3 |
| 9/10/2010 | 20 | Operations Building - West Elevation 4 |
| 9/10/2010 | 21 | Operations Building - West Elevation Oblique |
| 9/10/2010 | 22 | ATV Shed - East Elevation |
| 9/10/2010 | 23 | ATV Shed - North Elevation |
| 9/9/2010 | 24 | Beedy Storage Shed - North Elevation |
| 9/9/2010 | 25 | Beedy Storage Shed - Northeast Oblique |
| 9/9/2010 | 26 | Beedy Storage Shed - West Elevation |

| | | |
|---|---|---|
| 9/10/2010 | 27 | Deck - View Looking Northeast |
| 9/9/2010 | 28 | Deck - West Elevation |
| 9/10/2010 | 29 | Small and Large Flammable Storage Lockers - South Elevation |
| 9/9/2010 | 30 | Small and Large Flammable Storage Lockers - Southwest Oblique |
| 9/10/2010 | 31 | Small Flammable Storage Locker - South Elevation |
| 9/10/2010 | 32 | Small Flammable Storage Locker - West Elevation |
| 9/9/2010 | 33 | USFS Float and Gangway - Southeast View |
| 9/10/2010 | 34 | USFS Float and Gangway - West View |
| 9/9/2010 | 35 | USCG Float Dock - South View |
| 9/9/2010 | 36 | USCG Float Dock - Southeast View |
| 9/9/2010 | 37 | Waterfront Bulkhead - Southeast View |
| 9/9/2010 | 38 | Fuel Tank Shed - Detail |
| 9/10/2010 | 39 | Fuel Tank Shed - East Elevation |
| 9/10/2010 | 40 | Fuel Tank Shed - North Elevation |
| 9/10/2010 | 41 | Fuel Tank Shed - South Elevation |
| 9/9/2010 | 42 | Helipad - Detail |
| 9/9/2010 | 43 | Helipad - Southwest View |
| 9/9/2010 | 44 | Helipad - West View |
| 9/10/2010 | 45 | Incinerator - North Elevation |
| 9/10/2010 | 46 | Incinerator - Northeast Oblique |
| 9/10/2010 | 47 | Incinerator - South Elevation |
| 9/10/2010 | 48 | Incinerator - Southwest Oblique |
| 9/9/2010 | 49 | Lower Fuel Farm - Abandoned Tank Pad - South View |
| 9/9/2010 | 50 | Lower Fuel Farm - Building - Southeast Elevation |
| 9/9/2010 | 51 | Upper Fuel Farm - Building - Northwest Elevation |
| 9/9/2010 | 52 | Upper Fuel Farm - Building - Southwest Elevation |
| 9/9/2010 | 53 | Upper Fuel Farm - Building - North View |
| 9/9/2010 | 54 | Upper Fuel Farm - Building - Southeast Elevation |
| 9/9/2010 | 55 | Upper Fuel Farm - Tank 1 and 2 - East Elevation |
| 9/9/2010 | 56 | Upper Fuel Farm - Tank 1 - East Elevation |
| 9/9/2010 | 57 | Upper Fuel Farm - Tank 1 - South Elevation |
| 9/9/2010 | 58 | Upper Fuel Farm - Tank 1 - West Elevation |
| 9/9/2010 | 59 | Upper Fuel Farm - Tank 2 - East Elevation |
| 9/9/2010 | 60 | Microwave Hut - East Elevation |
| 9/9/2010 | 61 | Microwave Hut - North Elevation |
| 9/9/2010 | 62 | Microwave Hut - North Elevation 2 |
| 9/9/2010 | 63 | Microwave Hut - Northeast Oblique |
| 9/9/2010 | 64 | LORAN Tower - Base Detail |
| 9/9/2010 | 65 | LORAN Tower - Base Detail 2 |
| 9/9/2010 | 66 | LORAN Tower - Cable Detail |
| 9/9/2010 | 67 | LORAN Tower - Detail |

| | | |
|---|---|---|
| 9/9/2010 | 68 | LORAN Tower - Elevation 1 |
| 9/9/2010 | 69 | LORAN Tower - Elevation 2 |
| 9/9/2010 | 70 | LORAN Tower - Elevation 3 |
| 9/9/2010 | 71 | LORAN Tower - Elevation 4 |
| 9/9/2010 | 72 | LORAN Tower - Lighting Detail |
| 9/9/2010 | 73 | LORAN Tower - Top Detail |
| 9/9/2010 | 74 | Morale Shed - South View |


AK_ShoalCove_LORANStation_001.TIF


AK_ShoalCove_LORANStation_002.TIF


AK_ShoalCove_LORANStation_003.TIF


AK_ShoalCove_LORANStation_004.TIF


AK_ShoalCove_LORANStation_005.TIF


AK_ShoalCove_LORANStation_006.TIF


AK_ShoalCove_LORANStation_007.TIF


AK_ShoalCove_LORANStation_008.TIF


AK_ShoalCove_LORANStation_009.TIF


AK_ShoalCove_LORANStation_010.TIF


AK_ShoalCove_LORANStation_011.TIF


AK_ShoalCove_LORANStation_012.TIF


AK_ShoalCove_LORANStation_013.TIF


AK_ShoalCove_LORANStation_014.TIF


AK_ShoalCove_LORANStation_015.TIF


AK_ShoalCove_LORANStation_016.TIF


AK_ShoalCove_LORANStation_017.TIF


AK_ShoalCove_LORANStation_018.TIF


AK_ShoalCove_LORANStation_019.TIF


AK_ShoalCove_LORANStation_020.TIF


AK_ShoalCove_LORANStation_021.TIF


AK_ShoalCove_LORANStation_022.TIF


AK_ShoalCove_LORANStation_023.TIF


AK_ShoalCove_LORANStation_024.TIF


AK_ShoalCove_LORANStation_025.TIF


AK_ShoalCove_LORANStation_026.TIF


AK_ShoalCove_LORANStation_027.TIF


AK_ShoalCove_LORANStation_028.TIF


AK_ShoalCove_LORANStation_029.TIF


AK_ShoalCove_LORANStation_030.TIF

AK_ShoalCove_LORANStation_031.TIF

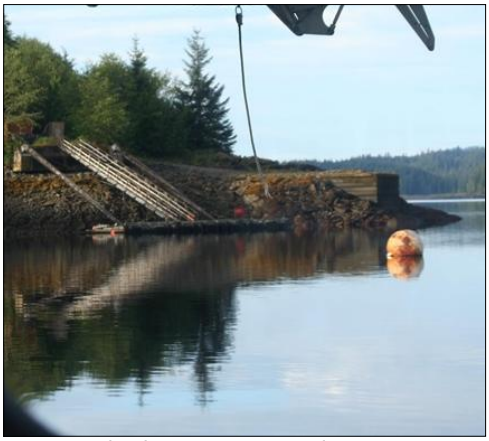
AK_ShoalCove_LORANStation_032.TIF

AK_ShoalCove_LORANStation_033.TIF

AK_ShoalCove_LORANStation_034.TIF

AK_ShoalCove_LORANStation_035.tif

AK_ShoalCove_LORANStation_036.tif



AK_ShoalCove_LORANStation_037.TIF


AK_ShoalCove_LORANStation_038.TIF


AK_ShoalCove_LORANStation_039.TIF


AK_ShoalCove_LORANStation_040.TIF


AK_ShoalCove_LORANStation_041.TIF

AK_ShoalCove_LORANStation_042.TIF


AK_ShoalCove_LORANStation_043.TIF


AK_ShoalCove_LORANStation_044.TIF


AK_ShoalCove_LORANStation_045.TIF


AK_ShoalCove_LORANStation_046.TIF


AK_ShoalCove_LORANStation_047.TIF


AK_ShoalCove_LORANStation_048.TIF


AK_ShoalCove_LORANStation_049.TIF


AK_ShoalCove_LORANStation_050.TIF


AK_ShoalCove_LORANStation_051.TIF


AK_ShoalCove_LORANStation_052.TIF


AK_ShoalCove_LORANStation_053.TIF


AK_ShoalCove_LORANStation_054.TIF


AK_ShoalCove_LORANStation_055.TIF


AK_ShoalCove_LORANStation_056.TIF


AK_ShoalCove_LORANStation_057.TIF


AK_ShoalCove_LORANStation_058.TIF


AK_ShoalCove_LORANStation_059.TIF


AK_ShoalCove_LORANStation_060.TIF


AK_ShoalCove_LORANStation_061.TIF


AK_ShoalCove_LORANStation_062.TIF


AK_ShoalCove_LORANStation_063.TIF

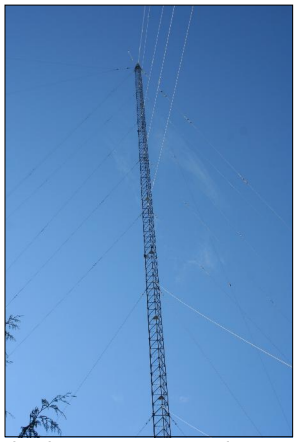

AK_ShoalCove_LORANStation_064.TIF


AK_ShoalCove_LORANStation_065.TIF

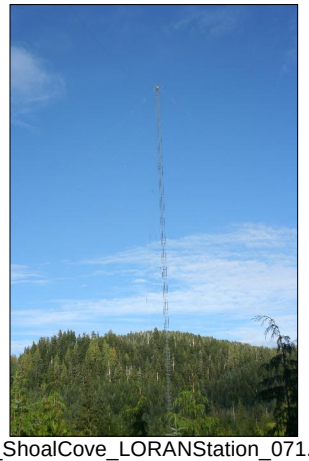

AK_ShoalCove_LORANStation_066.TIF


AK_ShoalCove_LORANStation_067.TIF


AK_ShoalCove_LORANStation_068.TIF


AK_ShoalCove_LORANStation_069.TIF


AK_ShoalCove_LORANStation_070.TIF


AK_ShoalCove_LORANStation_071.TIF


AK_ShoalCove_LORANStation_072.TIF


AK_ShoalCove_LORANStation_073.TIF


AK_ShoalCove_LORANStaiton_074.tif

# ALASKA BUILDING INVENTORY FORMS

# Alaska Building Inventory Form

**AHRS:** KET-00551 **Associated District:** USCG LORAN-C Station Historic District Shoal Cove

| | | | |
|---|---|---|---|
| **Historic Name:** ATV Shed | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U **Easting** 356889.41 **Northing** 6145915.64 | |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** 1. N/A | 2. | **Significant Dates** 1. 2001 | 2. |
| **Architect, Builder, Contractor, Designer:** USCG | | **Original Owner:** USCG | |

## Architectural Information:

| | | | |
|---|---|---|---|
| **Date of Construction:** 2001 | **Date Moved:** N/A | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** 1. | 2. | 3. | 4. |
| | | | |
| **Resource Type** [x] **Building** [ ] **Site** [ ] **Structure** [ ] **Object** | | **Stories** 1. one | 2. |
| **Architectural Style:** Utilitarian | | **Building Type:** | |
| **Number of Ancillary Structures:** 0 | **Plan:** Rectangular | **Cultural Affiliation:** US Government | |
| **Foundation Materials:** 1. Concrete Footings 2. | **Roof Materials:** 1. Plastic 2. | **Exterior Wall Materials:** 1. Wood 2. | **Other Materials:** 1. Fiberglass 2. |

| **Architectural Description (Include setting & outbuildings):** | **Statement of Significance:** |
|---|---|
| A 195-SF shed was constructed in 2001 at the exterior of the north wall of the garage bay to store all-terrain vehicles and morale equipment. The structure is partially enclosed by two walls and attached to the Operations Building at the roof and at one wall. The shed consists of pre-cast concrete prism footings supporting 4" × 4" timber posts, which, in-turn, support a double 2" × 8" eave beam. A 2" × 8" ledger was bolted to the exterior concrete wall of the main building. 2" × 8" rafters, spaced at 36" on-center, span the 10' between the ledger and the eave beam. The rafters support flat 2" × 4 "purlins at 33" on-center, which in turn support clear synthetic roof decking. The roof slopes up from the eave at an approximate slope of 3 on 12 (vertical to horizontal). The east end of the space below the roof deck is enclosed by a timber-framed wall with plywood siding. The north edge of the space below the roof is partially enclosed by two lengths of wall under the eave beam. The west end of the space under the roof is open. The floor surface is gravel. | The LORAN-C Station at Shoal Cove is eligible as an historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation within the Gulf of Alaska. Long-Range Aid to Navigation (LORAN) was the federally-provided radio navigation system for maritime and some aviation activity from approximately 1940 to 2010. The station is also eligible under Criterion Consideration G as a property of exceptional importance that has achieved significance within the past fifty years.<br>At the beginning of WWII, positioning was done using dead reckoning, celestial navigation, and later, radio beacon. As state and federal responsibility for providing navigational aids increased, the development of a more accurate system was needed. The LORAN system was developed under a program of the federal government by scientists at MIT, and modeled after the British Gee system. LORAN-C provided a highly accurate, all-weather navigational system, available twenty-four hours per day. It operated as a low-frequency hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard in 1943. Stations were built throughout the U.S., Russia, Canada, Asia, and Europe eventually to provide some 70 million square miles of coverage. |
| The exterior enclosure consists of 2" x 4" studs at 16" on-center infill framing between columns with plywood siding. Roofing is ribbed translucent plastic panels. The building has no windows or doors. | The Shoal Cove LORAN-C Station was constructed in 1975 by USCG and decommissioned in 2010. The station consisted of four 695-foot guyed towers and served as a dual-rated, double secondary station, producing signals for the Gulf of Alaska and Canadian West Coast chains. The ATV Shed is a contributing feature to the Shoal Cove LORAN-C Station Historic District. |

| Eligibility: | | | | | Criteria Considerations: | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [x] Yes | [ ] No | If yes: | [x] A | [ ] B | [ ] C | [ ] D | [ ] B | [ ] C | [ ] D | [ ] E | [ ] F | [x] G |

| Prepared by: | Reviewed by Professional that meets the following Professional Qualifications: | | | | | Date: |
|---|---|---|---|---|---|---|
| Terri Asendorf | [ ] Architect | [x] Architectural Historian | [ ] Historian | [ ] Historic Architect | [ ] None | |

**SHPO Response:**

[ ] Eligible (Concur) [ ] Eligible (Do Not Concur) [ ] Not Eligible (Concur) [ ] Not Eligible (Do Not Concur)

Minor Recommendations and Comments Include:

[ ] Need more information related to: [ ] Historic Context [ ] Integrity [ ] Architectural Description [ ] Period of Significance

| Authorized Signature: | Date: |
|---|---|
| | |

# Alaska Building Inventory Form

**AHRS:** KET-00551 **Associated District:** USCG LORAN-C Station Historic District Shoal Cove

| | | | |
|---|---|---|---|
| **Historic Name:** Beaver Dam | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U | **Easting** 356889.41 **Northing** 6145915.64 |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** 1. N/A | 2. | **Significant Dates** 1. 1976 | 2. |
| **Architect, Builder, Contractor, Designer:** Leo A. Daly Architecture and Engineering for USCG | | **Original Owner:** USCG | |

## Architectural Information:

| | | | |
|---|---|---|---|
| **Date of Construction:** 1976 | **Date Moved:** N/A | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** 1. | 2. | 3. | 4. |
| | | | |
| **Resource Type** **[ ] Building [ ] Site [ ] Structure [x] Object** | | **Stories** 1. | 2. |
| **Architectural Style:** Utilitarian | | **Building Type:** | |
| **Number of Ancillary Structures:** 0 | **Plan:** | | **Cultural Affiliation:** US Government |
| **Foundation Materials:** 1. Earth 2. | **Roof Materials:** 1. 2. | **Exterior Wall Materials:** 1. 2. | **Other Materials:** 1. 2. |

| **Architectural Description (Include setting & outbuildings):** | **Statement of Significance:** |
|---|---|
| Beaver Dam, an earthen, manmade, rock fill dam enhanced by yearly beaver activity, is located on Beaver Pond. The dam measures approximately 40 linear feet in width with an approximate 10'-wide spillway. | The LORAN-C Station at Shoal Cove is eligible as an historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation within the Gulf of Alaska. Long-Range Aid to Navigation (LORAN) was the federally-provided radio navigation system for maritime and some aviation activity from approximately 1940 to 2010. The station is also eligible under Criterion Consideration G as a property of exceptional importance that has achieved significance within the past fifty years.<br><br>At the beginning of WWII, positioning was done using dead reckoning, celestial navigation, and later, radio beacon. As state and federal responsibility for providing navigational aids increased, the development of a more accurate system was needed. The LORAN system was developed under a program of the federal government by scientists at MIT, and modeled after the British Gee system. LORAN-C provided a highly accurate, all-weather navigational system, available twenty-four hours per day. It operated as a low-frequency hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard in 1943. Stations were built throughout the U.S., Russia, Canada, Asia, and Europe eventually to provide some 70 million square miles of coverage.<br><br>The Shoal Cove LORAN-C Station was constructed in 1975 by USCG and decommissioned in 2010. The station consisted of four 695-foot guyed towers and served as a dual-rated, double secondary station, producing signals for the Gulf of Alaska and Canadian West Coast chains. Beaver Dam is a contributing feature to the Shoal Cove LORAN-C Station Historic District. |
| Eligibility:<br>[x] Yes [ ] No If yes: [x] A [ ] B [ ] C [ ] D | Criteria Considerations:<br>[ ] B [ ] C [ ] D [ ] E [ ] F [x] G |
| Prepared by:<br>Terri Asendorf | Reviewed by Professional that meets the following Professional Qualifications:<br>[ ] Architect [x] Architectural Historian [ ] Historian [ ] Historic Architect [ ] None |
| Date: | |
| **SHPO Response:**<br>[ ] Eligible (Concur) [ ] Eligible (Do Not Concur) [ ] Not Eligible (Concur) [ ] Not Eligible (Do Not Concur) | |
| Minor Recommendations and Comments Include:<br>[ ] Need more information related to: [ ] Historic Context [ ] Integrity [ ] Architectural Description [ ] Period of Significance | |
| Authorized Signature: | Date: |

# Alaska Building Inventory Form

**AHRS:** KET-00551 **Associated District:** USCG LORAN-C Station Historic District Shoal Cove

| | | | |
|---|---|---|---|
| **Historic Name:** Beedy Storage Shed | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U | **Easting** 356889.41 **Northing** 6145915.64 |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** 1. N/A | 2. | **Significant Dates** 1. | 2. |
| **Architect, Builder, Contractor, Designer:** USCG | | **Original Owner:** USCG | |

## Architectural Information:

| | | | |
|---|---|---|---|
| **Date of Construction:** ca. 1980 | **Date Moved:** N/A | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** 1. | 2. | 3. | 4. |
| | | | |
| **Resource Type** [x] **Building** **[ ] Site** **[ ] Structure** **[ ] Object** | | **Stories** 1. one | 2. |
| **Architectural Style:** Utilitarian | | **Building Type:** | |
| **Number of Ancillary Structures:** 0 | **Plan:** Rectangular | | **Cultural Affiliation:** US Government |
| **Foundation Materials:** 1. Concrete Slab on Grade 2. | **Roof Materials:** 1. Plastic 2. | **Exterior Wall Materials:** 1. Wood, Metal 2. | **Other Materials:** 1. 2. |

**Architectural Description (Include setting & outbuildings):**

On the access road between the main station building and Tower 4 is a 143-SF timber-framed storage building. The date of construction is unknown. The structure is 13'-10"× 11' and has a concrete slab-on-grade floor. It appears that the walls bear on the slab and no additional footings exist. The walls consist of 2" × 4" studs at 16" on-center. Sidewalls support 2" × 4" rafters at 16" spacing. The rafters frame into a 2" × 6" ridge beam and have horizontal 2" × 4" collar ties at mid-span. The rafters support ribbed translucent plastic panels. The walls consist of metal siding on the exterior. The wall bottom plate is not treated. The pinnacle of the wall top plate is 95-inches above the slab. The roof slope is approximately 7.5 on 12 (vertical to horizontal).

The exterior enclosure consists of metal siding attached to 2" × 4" stud wall framing. The roofing is ribbed translucent plastic panels. The building has no windows.The exterior door consists of a pair of doors, site-built, of 2" × 4" wood frame with metal siding.

**Statement of Significance:**

The LORAN-C Station at Shoal Cove is eligible as an historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation within the Gulf of Alaska. Long-Range Aid to Navigation (LORAN) was the federally-provided radio navigation system for maritime and some aviation activity from approximately 1940 to 2010. The station is also eligible under Criterion Consideration G as a property of exceptional importance that has achieved significance within the past fifty years.

At the beginning of WWII, positioning was done using dead reckoning, celestial navigation, and later, radio beacon. As state and federal responsibility for providing navigational aids increased, the development of a more accurate system was needed. The LORAN system was developed under a program of the federal government by scientists at MIT, and modeled after the British Gee system. LORAN-C provided a highly accurate, all-weather navigational system, available twenty-four hours per day. It operated as a low-frequency hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard in 1943. Stations were built throughout the U.S., Russia, Canada, Asia, and Europe eventually to provide some 70 million square miles of coverage.

The Shoal Cove LORAN-C Station was constructed in 1975 by USCG and decommissioned in 2010. The station consisted of four 695-foot guyed towers and served as a dual-rated, double secondary station, producing signals for the Gulf of Alaska and Canadian West Coast chains. The Beedy Storage Shed is a contributing feature to the Shoal Cove LORAN-C Station Historic District.

| | |
|---|---|
| Eligibility:<br>[x] Yes [ ] No If yes: [x] A [ ] B [ ] C [ ] D | Criteria Considerations:<br>[ ] B [ ] C [ ] D [ ] E [ ] F [x] G |
| Prepared by:<br>Terri Asendorf | Reviewed by Professional that meets the following Professional Qualifications:<br>[ ] Architect [x] Architectural Historian [ ] Historian [ ] Historic Architect [ ] None |
| Date: | |
| **SHPO Response:**<br>[ ] Eligible (Concur) [ ] Eligible (Do Not Concur) [ ] Not Eligible (Concur) [ ] Not Eligible (Do Not Concur) | |
| Minor Recommendations and Comments Include:<br>[ ] Need more information related to: [ ] Historic Context [ ] Integrity [ ] Architectural Description [ ] Period of Significance | |
| Authorized Signature: | Date: |

# Alaska Building Inventory Form

**AHRS:** KET-00551 **Associated District:** USCG LORAN-C Station Historic District Shoal Cove

| | | | |
|---|---|---|---|
| **Historic Name:** Deck | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U | **Easting** 356889.41 **Northing** 6145915.64 |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** 1. N/A | 2. | **Significant Dates** 1. | 2. |
| **Architect, Builder, Contractor, Designer:** USCG | | **Original Owner:** USCG | |

## Architectural Information:

| | | | |
|---|---|---|---|
| **Date of Construction:** ca. 2009 | **Date Moved:** N/A | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** 1. | 2. | 3. | 4. |
| | | | |
| **Resource Type** [x] **Building** [ ] **Site** [ ] **Structure** [ ] **Object** | | **Stories** 1. one | 2. |
| **Architectural Style:** Utilitarian | | **Building Type:** | |
| **Number of Ancillary Structures:** 0 | **Plan:** Rectangular | **Cultural Affiliation:** US Government | |
| **Foundation Materials:** 1. Concrete Footings/ Wood Deck 2. | **Roof Materials:** 1. Plastic 2. | **Exterior Wall Materials:** 1. N/A 2. | **Other Materials:** 1. 2. |

| **Architectural Description (Include setting & outbuildings):** | **Statement of Significance:** |
|---|---|
| The deck is located directly in front of the south façade of the Operations Building and supports the gas grill. It is approximately 10' × 5'. The foundation is composed of concrete footings supporting a wood deck. Six wood posts support the wood roof joists. The roofing is ribbed translucent plastic panels. | The LORAN-C Station at Shoal Cove is eligible as an historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation within the Gulf of Alaska. Long-Range Aid to Navigation (LORAN) was the federally-provided radio navigation system for maritime and some aviation activity from approximately 1940 to 2010. The station is also eligible under Criterion Consideration G as a property of exceptional importance that has achieved significance within the past fifty years.<br>At the beginning of WWII, positioning was done using dead reckoning, celestial navigation, and later, radio beacon. As state and federal responsibility for providing navigational aids increased, the development of a more accurate system was needed. The LORAN system was developed under a program of the federal government by scientists at MIT, and modeled after the British Gee system. LORAN-C provided a highly accurate, all-weather navigational system, available twenty-four hours per day. It operated as a low-frequency hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard in 1943. Stations were built throughout the U.S., Russia, Canada, Asia, and Europe eventually to provide some 70 million square miles of coverage.<br><br>The Shoal Cove LORAN-C Station was constructed in 1975 by USCG and decommissioned in 2010. The station consisted of four 695-foot guyed towers and served as a dual-rated, double secondary station, producing signals for the Gulf of Alaska and Canadian West Coast chains. The deck is a contributing feature to the Shoal Cove LORAN-C Station Historic District. |

| Eligibility: | | | | | Criteria Considerations: | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [x] Yes | [ ] No | If yes: | [x] A | [ ] B | [ ] C | [ ] D | [ ] B | [ ] C | [ ] D | [ ] E | [ ] F | [x] G |

| Prepared by: | Reviewed by Professional that meets the following Professional Qualifications: | | | | | Date: |
|---|---|---|---|---|---|---|
| Terri Asendorf | [ ] Architect | [x] Architectural Historian | [ ] Historian | [ ] Historic Architect | [ ] None | |

**SHPO Response:**

[ ] Eligible (Concur) [ ] Eligible (Do Not Concur) [ ] Not Eligible (Concur) [ ] Not Eligible (Do Not Concur)

Minor Recommendations and Comments Include:

[ ] Need more information related to: [ ] Historic Context [ ] Integrity [ ] Architectural Description [ ] Period of Significance

| Authorized Signature: | Date: |
|---|---|
| | |

# Alaska Building Inventory Form

**AHRS:** KET-00551 **Associated District:** USCG LORAN-C Station Historic District Shoal Cove

| | | | |
|---|---|---|---|
| **Historic Name:** Flammable Storage Locker (small) | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U | **Easting** 356889.41 **Northing** 6145915.64 |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** 1. N/A | 2. | **Significant Dates** 1. 2004 | 2. |
| **Architect, Builder, Contractor, Designer:** USCG | | **Original Owner:** USCG | |

## Architectural Information:

| | | | |
|---|---|---|---|
| **Date of Construction:** 2004 | **Date Moved:** N/A | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** 1. | 2. | 3. | 4. |
| | | | |
| **Resource Type** [x] **Building** **[ ] Site** **[ ] Structure** **[ ] Object** | | **Stories** 1. one | 2. |
| **Architectural Style:** Utilitarian | | **Building Type:** | |
| **Number of Ancillary Structures:** 0 | **Plan:** Rectangular | **Cultural Affiliation:** US Government | |
| **Foundation Materials:** 1. Concrete Paver 2. | **Roof Materials:** 1. Steel 2. | **Exterior Wall Materials:** 1. Steel 2. | **Other Materials:** 1. Fiberglass 2. |

**Architectural Description (Include setting & outbuildings):**
The Small Flammable Storage Locker is a 111-SF, pre-fabricated steel structure built in 2004. The foundation is dry-laid, concrete paver-block. The locker has steel floor construction with raised fiberglass grating that is used as the floor surface. Walls and the roof consist of flat steel sheet siding at the interior and exterior, and internal steel framing. The building has no windows. The doors are steel.

**Statement of Significance:**
The LORAN-C Station at Shoal Cove is eligible as an historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation within the Gulf of Alaska. Long-Range Aid to Navigation (LORAN) was the federally-provided radio navigation system for maritime and some aviation activity from approximately 1940 to 2010. The station is also eligible under Criterion Consideration G as a property of exceptional importance that has achieved significance within the past fifty years.

At the beginning of WWII, positioning was done using dead reckoning, celestial navigation, and later, radio beacon. As state and federal responsibility for providing navigational aids increased, the development of a more accurate system was needed. The LORAN system was developed under a program of the federal government by scientists at MIT, and modeled after the British Gee system. LORAN-C provided a highly accurate, all-weather navigational system, available twenty-four hours per day. It operated as a low-frequency hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard in 1943. Stations were built throughout the U.S., Russia, Canada, Asia, and Europe eventually to provide some 70 million square miles of coverage.

The Shoal Cove LORAN-C Station was constructed in 1975 by the USCG and decommissioned in 2010. The station consisted of four 695-foot guyed towers and served as a dual-rated, double secondary station, producing signals for the Gulf of Alaska and Canadian West Coast chains. The Small Flammable Storage Locker is a contributing feature to the Shoal Cove LORAN-C Station Historic District.

| | |
|---|---|
| Eligibility:<br>[x] Yes [ ] No If yes: [x] A [ ] B [ ] C [ ] D | Criteria Considerations:<br>[ ] B [ ] C [ ] D [ ] E [ ] F [x] G |
| Prepared by:<br>Terri Asendorf | Reviewed by Professional that meets the following Professional Qualifications:<br>[ ] Architect [x] Architectural Historian [ ] Historian [ ] Historic Architect [ ] None |
| Date: | |
| **SHPO Response:**<br>[ ] Eligible (Concur) [ ] Eligible (Do Not Concur) [ ] Not Eligible (Concur) [ ] Not Eligible (Do Not Concur) | |
| Minor Recommendations and Comments Include:<br>[ ] Need more information related to: [ ] Historic Context [ ] Integrity [ ] Architectural Description [ ] Period of Significance | |
| Authorized Signature: | Date: |

# Alaska Building Inventory Form

**AHRS:** KET-00551 **Associated District:** USCG LORAN-C Station Historic District Shoal Cove

| | | | |
|---|---|---|---|
| **Historic Name:** Float/Dock | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U | **Easting** 356889.41 **Northing** 6145915.64 |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** 1. N/A | 2. | **Significant Dates** 1. 1976 | 2. |
| **Architect, Builder, Contractor, Designer:** Leo A. Daly Architecture and Engineering for USCG | | **Original Owner:** USCG | |

## Architectural Information:

| | | | |
|---|---|---|---|
| **Date of Construction:** 1976 | **Date Moved:** N/A | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** 1. | 2. | 3. | 4. |
| | | | |
| **Resource Type** **[ ] Building [ ] Site [x] Structure [ ] Object** | | **Stories** 1. N/A | 2. |
| **Architectural Style:** Utilitarian | | **Building Type:** | |
| **Number of Ancillary Structures:** 0 | **Plan:** Rectangular | **Cultural Affiliation:** US Government | |
| **Foundation Materials:** 1. Wood 2. | **Roof Materials:** 1. N/A 2. | **Exterior Wall Materials:** 1. N/A 2. | **Other Materials:** 1. Concrete, Rubber 2. |

**Architectural Description (Include setting & outbuildings):**

A timber-framed float, approximately 55' × 14', is located five miles northwest of the Operations Building. The float is constructed of foam billets supporting 6" × 6" cross beams that support 6" × 6" stringers. The cross beams are spaced at approximately 8' on-center and are cross-braced with 6" × 6" timbers. The foam billets are secured to the cross beams with a 3" x 6" sill and through bolts. A 2" x 2", diagonally-sheathed deck is on top of the stringers. The perimeter of the float has an 8" × 8" timber bullrail supported on 4" x 4" scupper blocks. Light-duty mooring cleats are mounted on the bullrail. The perimeter of the float below the deck is faced with rubber bumpers. The float is secured from the shore with two parallel timber-pole struts that are approximately 50' apart and hinged at the shore abutment and at the float's shoreward edge. The hinges are a welded, galvanized steel plate assembly. The timber-poles have steel side plates at these hinges; the plates are through bolted to the timber-poles. The timber-pole struts are laterally braced with two 1.5"-diameter galvanized steel cross-bracing rods.

The float is accessed from shore by a 6'-wide by 62'-long galvanized steel gangway with a timber deck. The gangway side rails serve as support trusses. The trusses consist of 2 1/2"-diameter top chord/rail and 6" steel channel bottom chord. The chords are separated by 1 1/4"-diameter steel pipe verticals at 5' on-center and 1 1/4" diameter steel pipe diagonals between the verticals. There are two 1" × 4" timber intermediate rails on the side trusses that limit the opening size of the side trusses. Steel channel floor beams (6") span between the side truss bottom chords. These floor beams are spaced at 5' on-center and are directly below the side truss verticals. The floor beams support 2" x 2" timber floor decking.

Approximately 2' of the gangway deck is cleated with triangular timber 2x material nailed perpendicular to the decking and direction of travel, at 2' on-center. Approximately 3' of the deck is covered with metal mesh, which aids in traction. The gangway is supported at the shore by a hanging, double-hinge connector with steel straps connected to the abutment. At the float, the gangway is supported by skids that rest on a steel plate bolted to the float deck.The top and the base of the gangway have transition plates. A 36'-long, cast-in-place concrete abutment supports the timber-pole struts, the gangway, and the steel cross bracing. This abutment cross-section consists of a 5'6" wide by 2'-thick footing and a 5'-high by 4'-wide top as measured in cross-section. The top has a 3' diagonal chamfer. The abutment is secured by two concrete deadmen approximately 12' from the back of the abutment at each end of the abutment.

**Statement of Significance:**

The LORAN-C Station at Shoal Cove is eligible as an historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation within the Gulf of Alaska. Long-Range Aid to Navigation (LORAN) was the federally-provided radio navigation system for maritime and some aviation activity from approximately 1940 to 2010. The station is also eligible under Criterion Consideration G as a property of exceptional importance that has achieved significance within the past fifty years.

At the beginning of WWII, positioning was done using dead reckoning, celestial navigation, and later, radio beacon. As state and federal responsibility for providing navigational aids increased, the development of a more accurate system was needed. The LORAN system was developed under a program of the federal government by scientists at MIT, and modeled after the British Gee system. LORAN-C provided a highly accurate, all-weather navigational system, available twenty-four hours per day. It operated as a low-frequency hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard in 1943. Stations were built throughout the U.S., Russia, Canada, Asia, and Europe eventually to provide some 70 million square miles of coverage.

The Shoal Cove LORAN-C Station was constructed in 1975 by the USCG and decommissioned in 2010. The station consisted of four 695-foot guyed towers and served as a dual-rated, double secondary station, producing signals for the Gulf of Alaska and Canadian West Coast chains. The Float/Dock is a contributing feature to the Shoal Cove LORAN-C Station Historic District.

| Eligibility: | | | | | Criteria Considerations: | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [x] Yes | [ ] No | If yes: | [x] A | [ ] B | [ ] C | [ ] D | [ ] B | [ ] C | [ ] D | [ ] E | [ ] F | [x] G |

| Prepared by: | Reviewed by Professional that meets the following Professional Qualifications: | | | | | Date: |
|---|---|---|---|---|---|---|
| Terri Asendorf | [ ] Architect | [x] Architectural Historian | [ ] Historian | [ ] Historic Architect | [ ] None | |

**SHPO Response:**

[ ] Eligible (Concur) [ ] Eligible (Do Not Concur) [ ] Not Eligible (Concur) [ ] Not Eligible (Do Not Concur)

Minor Recommendations and Comments Include:

[ ] Need more information related to: [ ] Historic Context [ ] Integrity [ ] Architectural Description [ ] Period of Significance

| Authorized Signature: | Date: |
|---|---|
| | |

# Alaska Building Inventory Form

**AHRS:** KET-00551 **Associated District:** USCG LORAN-C Station Historic District Shoal Cove

| | | | |
|---|---|---|---|
| **Historic Name:** Fuel Tank Shed | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U | **Easting** 356889.41 **Northing** 6145915.64 |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** 1. N/A | 2. | **Significant Dates** 1. | 2. |
| **Architect, Builder, Contractor, Designer:** USCG | | **Original Owner:** USCG | |

## Architectural Information:

| | | | |
|---|---|---|---|
| **Date of Construction:** ca. 1980 | **Date Moved:** N/A | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** 1. | 2. | 3. | 4. |
| | | | |
| **Resource Type** [x] **Building** **[ ] Site** **[ ] Structure** **[ ] Object** | | **Stories** 1. one | 2. |
| **Architectural Style:** Utilitarian | | **Building Type:** | |
| **Number of Ancillary Structures:** 0 | **Plan:** Rectangular | **Cultural Affiliation:** US Government | |
| **Foundation Materials:** 1. Concrete Footings 2. | **Roof Materials:** 1. Plastic 2. | **Exterior Wall Materials:** 1. Wood 2. | **Other Materials:** 1. Fiberglass 2. |

**Architectural Description (Include setting & outbuildings):**

A 360-SF timber-framed hazardous fuel tank shed is located at the west side of the Operations Building. The date of construction is unknown. The fuel tank is 34’ x 12’. The structure is a partially-enclosed shed with walls on three sides and an additional open canopy on the south side. The structure consists of timber 4" × 4" posts supported by pre-cast concrete prism footings. These footings support double 2" × 8" eave beams that in turn support 2" × 8" timber rafters spaced 24” on-center. The eave beams are spaced at 11’ 6” center-to-center. Roof joists are framed into the side of the eastern eave beam with galvanized steel joist hangers and bear on the west eave beam. The roof deck consists of clear synthetic panels.

At the tank, there are two end walls spaced approximately 18’ apart and one side wall. The walls are framed with 2" × 4" timber studs and sheathed with plywood siding. The exterior enclosure consists of 2" × 4" studs at 16” on-center infill framing between columns with plywood siding. The roofing is ribbed translucent plastic panels. The building has no windows. A door at each end is constructed of wood framing and plywood siding.

**Statement of Significance:**

The LORAN-C Station at Shoal Cove is eligible as an historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation within the Gulf of Alaska. Long-Range Aid to Navigation (LORAN) was the federally-provided radio navigation system for maritime and some aviation activity from approximately 1940 to 2010. The station is also eligible under Criterion Consideration G as a property of exceptional importance that has achieved significance within the past fifty years.

At the beginning of WWII, positioning was done using dead reckoning, celestial navigation, and later, radio beacon. As state and federal responsibility for providing navigational aids increased, the development of a more accurate system was needed. The LORAN system was developed under a program of the federal government by scientists at MIT, and modeled after the British Gee system. LORAN-C provided a highly accurate, all-weather navigational system, available twenty-four hours per day. It operated as a low-frequency hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard in 1943. Stations were built throughout the U.S., Russia, Canada, Asia, and Europe eventually to provide some 70 million square miles of coverage.

The Shoal Cove LORAN-C Station was constructed in 1975 by USCG and decommissioned in 2010. The station consisted of four 695-foot guyed towers and served as a dual-rated, double secondary station, producing signals for the Gulf of Alaska and Canadian West Coast chains. The Fuel Tank Shed is a contributing feature to the Shoal Cove LORAN-C Station Historic District.

| Eligibility: | | | | | | Criteria Considerations: | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| [x] Yes | [ ] No | If yes: | [x] A | [ ] B | [ ] C | [ ] D | [ ] B | [ ] C | [ ] D | [ ] E | [ ] F | [x] G |

| Prepared by: | Reviewed by Professional that meets the following Professional Qualifications: | | | | | Date: |
|---|---|---|---|---|---|---|
| Terri Asendorf | [ ] Architect | [x] Architectural Historian | [ ] Historian | [ ] Historic Architect | [ ] None | |

**SHPO Response:**

[ ] Eligible (Concur) [ ] Eligible (Do Not Concur) [ ] Not Eligible (Concur) [ ] Not Eligible (Do Not Concur)

Minor Recommendations and Comments Include:

[ ] Need more information related to: [ ] Historic Context [ ] Integrity [ ] Architectural Description [ ] Period of Significance

| Authorized Signature: | Date: |
|---|---|
| | |

USCG LORAN-C Station
Historic District Shoal Cove

# Alaska Building Inventory Form

**AHRS:** KET-00551 **Associated District:**

| | | | |
|---|---|---|---|
| **Historic Name:** Helipad | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U | **Easting** 356889.41 **Northing** 6145915.64 |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** 1. N/A | 2. | **Significant Dates** 1. 1976 | 2. |
| **Architect, Builder, Contractor, Designer:** Leo A. Daly Architecture and Engineering for USCG | | **Original Owner:** USCG | |

## Architectural Information:

| | | | |
|---|---|---|---|
| **Date of Construction:** 1976 | **Date Moved:** N/A | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** 1. | 2. | 3. | 4. |
| | | | |
| **Resource Type** **[ ] Building [ ] Site [ ] Structure [x] Object** | | **Stories** 1. | 2. |
| **Architectural Style:** Utilitarian | | **Building Type:** | |
| **Number of Ancillary Structures:** 0 | **Plan:** | | **Cultural Affiliation:** US Government |
| **Foundation Materials:** 1. Concrete 2. | **Roof Materials:** 1. 2. | **Exterior Wall Materials:** 1. 2. | **Other Materials:** 1. 2. |

| **Architectural Description (Include setting & outbuildings):** | **Statement of Significance:** |
|---|---|
| The helipad is located approximately 2,000 F northeast of the Operations Building and consists of a 65-foot square, concrete surface that includes a vehicle parking area. | The LORAN-C Station at Shoal Cove is eligible as an historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation within the Gulf of Alaska. Long-Range Aid to Navigation (LORAN) was the federally-provided radio navigation system for maritime and some aviation activity from approximately 1940 to 2010. The station is also eligible under Criterion Consideration G as a property of exceptional importance that has achieved significance within the past fifty years.<br><br>At the beginning of WWII, positioning was done using dead reckoning, celestial navigation, and later, radio beacon. As state and federal responsibility for providing navigational aids increased, the development of a more accurate system was needed. The LORAN system was developed under a program of the federal government by scientists at MIT, and modeled after the British Gee system. LORAN-C provided a highly accurate, all-weather navigational system, available twenty-four hours per day. It operated as a low-frequency hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard in 1943. Stations were built throughout the U.S., Russia, Canada, Asia, and Europe eventually to provide some 70 million square miles of coverage.<br><br>The Shoal Cove LORAN-C Station was constructed in 1975 by the USCG and decommissioned in 2010. The station consisted of four 695-foot guyed towers and served as a dual-rated, double secondary station, producing signals for the Gulf of Alaska and Canadian West Coast chains. The Helipad is a contributing feature to the Shoal Cove LORAN-C Station Historic District. |
| Eligibility:<br>[x] Yes [ ] No If yes: [x] A [ ] B [ ] C [ ] D | Criteria Considerations:<br>[ ] B [ ] C [ ] D [ ] E [ ] F [x] G |
| Prepared by:<br>Terri Asendorf | Reviewed by Professional that meets the following Professional Qualifications:<br>[ ] Architect [x] Architectural Historian [ ] Historian [ ] Historic Architect [ ] None |
| Date: | |
| **SHPO Response:**<br>[ ] Eligible (Concur) [ ] Eligible (Do Not Concur) [ ] Not Eligible (Concur) [ ] Not Eligible (Do Not Concur) | |
| Minor Recommendations and Comments Include:<br>[ ] Need more information related to: [ ] Historic Context [ ] Integrity [ ] Architectural Description [ ] Period of Significance | |
| Authorized Signature: | Date: |

# Alaska Building Inventory Form

**AHRS:** KET-00551 **Associated District:** USCG LORAN-C Station Historic District Shoal Cove

| | | | |
|---|---|---|---|
| **Historic Name:** Incinerator Shed | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U **Easting** 356889.41 **Northing** 6145915.64 | |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** 1. N/A | 2. | **Significant Dates** 1. | 2. |
| **Architect, Builder, Contractor, Designer:** USCG | | **Original Owner:** USCG | |

## Architectural Information:

| | | | |
|---|---|---|---|
| **Date of Construction:** ca. 1980 | **Date Moved:** N/A | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** 1. | 2. | 3. | 4. |
| | | | |
| **Resource Type** [x] **Building** **[ ] Site** **[ ] Structure** **[ ] Object** | | **Stories** 1. one | 2. |
| **Architectural Style:** Utilitarian | | **Building Type:** | |
| **Number of Ancillary Structures:** 0 | **Plan:** Rectangular | **Cultural Affiliation:** US Government | |
| **Foundation Materials:** 1. Concrete 2. | **Roof Materials:** 1. Built-up Roofing 2. | **Exterior Wall Materials:** 1. CMU 2. | **Other Materials:** 1. Hollow Metal Doors 2. |

| **Architectural Description (Include setting & outbuildings):** | **Statement of Significance:** |
|---|---|
| The incinerator shed is a 171-SF building consisting of three walls and a roof. The date of original construction is unknown. The structural system consists of a conventional concrete slab-on -grade and perimeter wall foundation. Strip footings underlay two rigid frames that support light gauge steel channel purlins that, in turn, support a metal deck. Frame columns consist of tube steel sections. Three sides of the structure are enclosed with metal siding supported on 2" x 2.5" timber framing.<br>The building roof was extended after original construction by the construction of a timber-framed roof, approximately 10' × 10' supported by two 4"× 4" timber posts that are supported on pre-cast concrete prism footings. The posts are cross-braced with timber 2" × $2^1/_2$" braces. The extension roof framing consists of three 2" × $2^1/_2$" rafters that support 2" × $2^1/_2$" purlins, which, in turn, support the metal roof deck. The exterior enclosure consists of wood stud framing between steel columns and metal siding applied vertically at walls. The roof over the incinerator is metal "V" roofing panels attached to the steel purlins. The roof over the added shed is ribbed metal roof attached to wood rafters. The building has no windows or doors. | The LORAN-C Station at Shoal Cove is eligible as an historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation within the Gulf of Alaska. Long-Range Aid to Navigation (LORAN) was the federally-provided radio navigation system for maritime and some aviation activity from approximately 1940 to 2010. The station is also eligible under Criterion Consideration G as a property of exceptional importance that has achieved significance within the past fifty years.<br>At the beginning of WWII, positioning was done using dead reckoning, celestial navigation, and later, radio beacon. As state and federal responsibility for providing navigational aids increased, the development of a more accurate system was needed. The LORAN system was developed under a program of the federal government by scientists at MIT, and modeled after the British Gee system. LORAN-C provided a highly accurate, all-weather navigational system, available twenty-four hours per day. It operated as a low-frequency hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard in 1943. Stations were built throughout the U.S., Russia, Canada, Asia, and Europe eventually to provide some 70 million square miles of coverage.<br><br>The Shoal Cove LORAN-C Station was constructed in 1975 byUSCG and decommissioned in 2010. The station consisted of four 695-foot guyed towers and served as a dual-rated, double secondary station, producing signals for the Gulf of Alaska and Canadian West Coast chains. The Incinerator Shed is a contributing feature to the Shoal Cove LORAN-C Station Historic District. |
| Eligibility:<br>[x] Yes [ ] No If yes: [x] A [ ] B [ ] C [ ] D | Criteria Considerations:<br>[ ] B [ ] C [ ] D [ ] E [ ] F [x] G |
| Prepared by:<br>Terri Asendorf | Reviewed by Professional that meets the following Professional Qualifications:<br>[ ] Architect [x] Architectural Historian [ ] Historian [ ] Historic Architect [ ] None |
| Date: | |
| **SHPO Response:**<br>[ ] Eligible (Concur) [ ] Eligible (Do Not Concur) [ ] Not Eligible (Concur) [ ] Not Eligible (Do Not Concur) | |
| Minor Recommendations and Comments Include:<br>[ ] Need more information related to: [ ] Historic Context [ ] Integrity [ ] Architectural Description [ ] Period of Significance | |
| Authorized Signature: | Date: |

# Alaska Building Inventory Form

**AHRS:** KET-00551 **Associated District:** USCG LORAN-C Station Historic District Shoal Cove

| | | | |
|---|---|---|---|
| **Historic Name:** Flammable Storage Locker (large) | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U | **Easting** 356889.41 **Northing** 6145915.64 |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** | | | |
| 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** | | | |
| 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** | | **Significant Dates** | |
| 1. N/A | 2. | 1. 2004 | 2. |
| **Architect, Builder, Contractor, Designer:** USCG | | **Original Owner:** USCG | |

## Architectural Information:

| | | | |
|---|---|---|---|
| **Date of Construction:** 2004 | **Date Moved:** N/A | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** | | | |
| 1. | 2. | 3. | 4. |
| | | | |
| **Resource Type** [x] **Building** **[ ] Site** **[ ] Structure** **[ ] Object** | | **Stories** 1. one | 2. |
| **Architectural Style:** Utilitarian | | **Building Type:** | |
| **Number of Ancillary Structures:** 0 | **Plan:** Rectangular | **Cultural Affiliation:** US Government | |
| **Foundation Materials:** | **Roof Materials:** | **Exterior Wall Materials:** | **Other Materials:** |
| 1. Concrete Paver | 1. Steel | 1. Steel | 1. Fiberglass |
| 2. | 2. | 2. | 2. |

**Architectural Description (Include setting & outbuildings):**
The Flammable Storage Locker Large (LG) is a 181-SF, pre-fabricated steel structure built in 2004. The foundation is dry-laid, concrete paver-block. The locker has steel floor construction with raised fiberglass grating that is used as the floor surface. The walls and roof consist of flat steel sheet siding overlaying both sides of internal steel framing. The building has no windows. The doors are steel.

**Statement of Significance:**
The LORAN-C Station at Shoal Cove is eligible as an historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation within the Gulf of Alaska. Long-Range Aid to Navigation (LORAN) was the federally-provided radio navigation system for maritime and some aviation activity from approximately 1940 to 2010. The station is also eligible under Criterion Consideration G as a property of exceptional importance that has achieved significance within the past fifty years.

At the beginning of WWII, positioning was done using dead reckoning, celestial navigation, and later, radio beacon. As state and federal responsibility for providing navigational aids increased, the development of a more accurate system was needed. The LORAN system was developed under a program of the federal government by scientists at MIT, and modeled after the British Gee system. LORAN-C provided a highly accurate, all-weather navigational system, available twenty-four hours per day. It operated as a low-frequency hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard in 1943. Stations were built throughout the U.S., Russia, Canada, Asia, and Europe eventually to provide some 70 million square miles of coverage.

The Shoal Cove LORAN-C Station was constructed in 1975 by USCG and decommissioned in 2010. The station consisted of four 695-foot guyed towers and served as a dual-rated, double secondary station, producing signals for the Gulf of Alaska and Canadian West Coast chains. The Large Flammable Storage Locker is a contributing feature to the Shoal Cove LORAN-C Station Historic District.

| | |
|---|---|
| Eligibility:<br>[x] Yes [ ] No If yes: [x] A [ ] B [ ] C [ ] D | Criteria Considerations:<br>[ ] B [ ] C [ ] D [ ] E [ ] F [x] G |
| Prepared by:<br>Terri Asendorf | Reviewed by Professional that meets the following Professional Qualifications:<br>[ ] Architect [x] Architectural Historian [ ] Historian [ ] Historic Architect [ ] None |
| | Date: |
| **SHPO Response:**<br>[ ] Eligible (Concur) [ ] Eligible (Do Not Concur) [ ] Not Eligible (Concur) [ ] Not Eligible (Do Not Concur) | |
| Minor Recommendations and Comments Include:<br>[ ] Need more information related to: [ ] Historic Context [ ] Integrity [ ] Architectural Description [ ] Period of Significance | |
| Authorized Signature: | Date: |

# Alaska Building Inventory Form

**AHRS:** KET-00551 **Associated District:** USCG LORAN-C Station Historic District Shoal Cove

| | | | |
|---|---|---|---|
| **Historic Name:** Lower Fuel Farm Building | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U **Easting** 356889.41 **Northing** 6145915.64 | |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** 1. N/A | 2. | **Significant Dates** 1. 1976 | 2. |
| **Architect, Builder, Contractor, Designer:** Leo A. Daly Architecture and Engineering for USCG | | **Original Owner:** USCG | |

## Architectural Information:

| | | | |
|---|---|---|---|
| **Date of Construction:** 1976 | **Date Moved:** N/A | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** 1. | 2. | 3. | 4. |
| | | | |
| **Resource Type** [x] **Building** [ ] **Site** [ ] **Structure** [ ] **Object** | | **Stories** 1. one | 2. |
| **Architectural Style:** Utilitarian | | **Building Type:** Rectangular | |
| **Number of Ancillary Structures:** 3 | **Plan:** | **Cultural Affiliation:** US Government | |
| **Foundation Materials:** 1. Concrete 2. | **Roof Materials:** 1. Built-up Roofing 2. | **Exterior Wall Materials:** 1. CMU 2. | **Other Materials:** 1. Hollow Metal Doors 2. |

| **Architectural Description (Include setting & outbuildings):** | **Statement of Significance:** |
|---|---|
| This is an unheated 300-SF building constructed in 1976. It has a conventional reinforced concrete spread footing foundation consisting of a perimeter wall with strip footings. The floor is reinforced concrete slab-on-grade. The foundation supports 13-course, 8"-thick CMU walls. The walls support a flat, reinforced concrete roof deck. The major portion of the building consists of built up roofing. The building has no windows. The doors are hollow metal. | The LORAN-C Station at Shoal Cove is eligible as an historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation within the Gulf of Alaska. Long-Range Aid to Navigation (LORAN) was the federally-provided radio navigation system for maritime and some aviation activity from approximately 1940 to 2010. The station is also eligible under Criterion Consideration G as a property of exceptional importance that has achieved significance within the past fifty years.<br><br>At the beginning of WWII, positioning was done using dead reckoning, celestial navigation, and later, radio beacon. As state and federal responsibility for providing navigational aids increased, the development of a more accurate system was needed. The LORAN system was developed under a program of the federal government by scientists at MIT, and modeled after the British Gee system. LORAN-C provided a highly accurate, all-weather navigational system, available twenty-four hours per day. It operated as a low-frequency hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard in 1943. Stations were built throughout the U.S., Russia, Canada, Asia, and Europe eventually to provide some 70 million square miles of coverage.<br><br>The Shoal Cove LORAN-C Station was constructed in 1975 by USCG and decommissioned in 2010. The station consisted of four 695-foot guyed towers and served as a dual-rated, double secondary station, producing signals for the Gulf of Alaska and Canadian West Coast chains. The Lower Fuel Farm Building is a contributing feature to the Shoal Cove LORAN-C Station Historic District. |
| Eligibility:<br>[x] Yes [ ] No If yes: [x] A [ ] B [ ] C [ ] D | Criteria Considerations:<br>[ ] B [ ] C [ ] D [ ] E [ ] F [x] G |
| Prepared by:<br>Terri Asendorf | Reviewed by Professional that meets the following Professional Qualifications:<br>[ ] Architect [x] Architectural Historian [ ] Historian [ ] Historic Architect [ ] None |
| Date: | |
| **SHPO Response:**<br>[ ] Eligible (Concur) [ ] Eligible (Do Not Concur) [ ] Not Eligible (Concur) [ ] Not Eligible (Do Not Concur) | |
| Minor Recommendations and Comments Include:<br>[ ] Need more information related to: [ ] Historic Context [ ] Integrity [ ] Architectural Description [ ] Period of Significance | |
| Authorized Signature: | Date: |

# Alaska Building Inventory Form

**AHRS:** KET-01191 **Associated District:** USCG LORAN-C Station Historic District Shoal Cove

| | | | |
|---|---|---|---|
| **Historic Name:** Operations Building | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U | **Easting** 356889.41 **Northing** 6145915.64 |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** 1. N/A | 2. | **Significant Dates** 1. 1975 | 2. |
| **Architect, Builder, Contractor, Designer:** Leo A. Daly Architecture and Engineering for USCG | | **Original Owner:** USCG | |

## Architectural Information:

| | | | |
|---|---|---|---|
| **Date of Construction:** 1975 | **Date Moved:** N/A | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** 1. 1994 | 2. | 3. | 4. |
| | | | |
| **Resource Type** [x] **Building** **[ ] Site** **[ ] Structure** **[ ] Object** | | **Stories** 1. two | 2. |
| **Architectural Style:** Modern | | **Building Type:** | |
| **Number of Ancillary Structures:** 4 | **Plan:** Irregular | **Cultural Affiliation:** US Government | |
| **Foundation Materials:** 1. Concrete 2. | **Roof Materials:** 1. Concrete Pavers, Elastomeric 2. | **Exterior Wall Materials:** 1. Textured Cast-in-Place Concrete 2. | **Other Materials:** 1. Aluminum Windows 2. |

| **Architectural Description (Include setting & outbuildings):** | **Statement of Significance:** |
|---|---|
| The Operations Building is a two-story, 18,365-square foot building with an irregular L-plan and a flat roof. The building contains the generator room, transmitter room, offices, barracks, recreation area, galley, garage, and snow plenum. It was constructed in 1975 and underwent a minor renovation of the shower rooms in 1994. The foundation of the Operations Building consists of reinforced concrete with a spread footing foundation. The ground level floors are concrete slab-on-grade. The walls are painted, textured, cast-in-place concrete. The upper floor consists of reinforced concrete beams supporting a concrete slab. Concrete bearing walls extend to the roof. The roof framing consists of open web steel joists supporting steel decks. | The LORAN-C Station at Shoal Cove is eligible as an historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation within the Gulf of Alaska. Long-Range Aid to Navigation (LORAN) was the federally-provided radio navigation system for maritime and some aviation activity from approximately 1940 to 2010. The station is also eligible under Criterion Consideration G as a property of exceptional importance that has achieved significance within the past fifty years. |
| At the generator and transmitter plenums, steel beams span between concrete bearing walls and directly support the steel deck. The walls between the generator room and the garage bay and at the entrance to the transmitter plenum are concrete masonry unit laterally supported at the roof with steel bracing. At the garage bay, there is a steel-framed storage mezzanine suspended from the roof with round steel rods. In the transmitter room and operations room there is a raised access tile floor 12” above the slab-on-grade floor. The roofing over the major portion of the building consists of white elastomeric roofing. The roof over the galley is an inverted roof membrane system with rigid insulation over the membrane consisting of tongue-and-groove insulation with an integral concrete top coat. The perimeter and middle area of the roof is ballasted with concrete pavers. Windows are aluminum-insulated and include fixed, awning, and casement types. The doors are hollow metal. | At the beginning of WWII, positioning was done using dead reckoning, celestial navigation, and later, radio beacon. As state and federal responsibility for providing navigational aids increased, the development of a more accurate system was needed. The LORAN system was developed under a program of the federal government by scientists at MIT, and modeled after the British Gee system. LORAN-C provided a highly accurate, all-weather navigational system, available twenty-four hours per day. It operated as a low-frequency hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard in 1943. Stations were built throughout the U.S., Russia, Canada, Asia, and Europe eventually to provide some 70 million square miles of coverage. |
| There are four outbuildings/structures, including the Fuel Day Tank to the west, the Sewage Treatment Plant to the east, the incinerator and its fuel supply tank to the southeast, and the wood deck directly in front of the main entry. Additionally, the LORAN antenna termination base for the four towers is located directly west of the transmitter room, and the four towers are equally spaced 1,000' from this base surrounding the Operations Building. | The Shoal Cove LORAN-C Station was constructed in 1975 by USCG and decommissioned in 2010. The station consisted of four 695-foot guyed towers and served as a dual-rated, double-secondary station, producing signals for the Gulf of Alaska and Canadian West Coast chains. The Main Building is a contributing feature to the Shoal Cove LORAN-C Station Historic District. |

| Eligibility: | | | | | Criteria Considerations: | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [x] Yes | [ ] No | If yes: | [x] A | [ ] B | [ ] C | [ ] D | [ ] B | [ ] C | [ ] D | [ ] E | [ ] F | [x] G |

| Prepared by: | Reviewed by Professional that meets the following Professional Qualifications: | | | | | Date: |
|---|---|---|---|---|---|---|
| Terri Asendorf | [ ] Architect | [x] Architectural Historian | [ ] Historian | [ ] Historic Architect | [ ] None | |

| **SHPO Response:** | | | |
|---|---|---|---|
| [ ] Eligible (Concur) | [ ] Eligible (Do Not Concur) | [ ] Not Eligible (Concur) | [ ] Not Eligible (Do Not Concur) |

| Minor Recommendations and Comments Include: | | | | |
|---|---|---|---|---|
| [ ] Need more information related to: | [ ] Historic Context | [ ] Integrity | [ ] Architectural Description | [ ] Period of Significance |

| Authorized Signature: | Date: |
|---|---|
| | |

# Alaska Building Inventory Form

**AHRS:** KET-00551 **Associated District:** USCG LORAN-C Station Historic District Shoal Cove

| | | | |
|---|---|---|---|
| **Historic Name:** Microwave Hut | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U | **Easting** 356889.41 **Northing** 6145915.64 |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** 1. N/A | 2. | **Significant Dates** 1. | 2. |
| **Architect, Builder, Contractor, Designer:** USCG | | **Original Owner:** USCG | |

## Architectural Information:

| | | | |
|---|---|---|---|
| **Date of Construction:** ca. 1980 | **Date Moved:** N/A | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** 1. | 2. | 3. | 4. |
| | | | |
| **Resource Type** [x] **Building** **[ ] Site** **[ ] Structure** **[ ] Object** | | **Stories** 1. one | 2. |
| **Architectural Style:** Utilitiarian | | **Building Type:** | |
| **Number of Ancillary Structures:** 3 | **Plan:** Rectangular | **Cultural Affiliation:** US Government | |
| **Foundation Materials:** 1. Wood 2. | **Roof Materials:** 1. Aluminum Plate 2. | **Exterior Wall Materials:** 1. Wood 2. | **Other Materials:** 1. Fiberglass 2. |

**Architectural Description (Include setting & outbuildings):**
The Microwave Hut at Tower 4 is an 80-square-foot, pre-engineered fiberglass structure that measures approximately 8' × 10'. The date of construction is unknown. The foundation is a timber crib made from four 10' × 8" × 8" pressure-treated timbers supporting four 8' × 8" × 8" pressure-treated timbers. A two-step 48"-wide stairway provides access to a 49 1/2" x 52" landing at the hut door. The stairs and landing are made with pressure-treated 2" × 2" timbers. The roof is aluminum plate. There are no windows; the door is fiberglass in an aluminum frame.

**Statement of Significance:**
The LORAN-C Station at Shoal Cove is eligible as an historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation within the Gulf of Alaska. Long-Range Aid to Navigation (LORAN) was the federally-provided radio navigation system for maritime and some aviation activity from approximately 1940 to 2010. The station is also eligible under Criterion Consideration G as a property of exceptional importance that has achieved significance within the past fifty years.

At the beginning of WWII, positioning was done using dead reckoning, celestial navigation, and later, radio beacon. As state and federal responsibility for providing navigational aids increased, the development of a more accurate system was needed. The LORAN system was developed under a program of the federal government by scientists at MIT, and modeled after the British Gee system. LORAN-C provided a highly accurate, all-weather navigational system, available twenty-four hours per day. It operated as a low-frequency hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard in 1943. Stations were built throughout the U.S., Russia, Canada, Asia, and Europe eventually to provide some 70 million square miles of coverage.

The Shoal Cove LORAN-C Station was constructed in 1975 by the USCG and decommissioned in 2010. The station consisted of four 695-foot guyed towers and served as a dual-rated, double secondary station, producing signals for the Gulf of Alaska and Canadian West Coast chains. The Microwave Hut is a contributing feature to the Shoal Cove LORAN-C Station Historic District.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eligibility: | | | | | | Criteria Considerations: | | | | | | |
| [x] Yes | [ ] No | If yes: | [x] A | [ ] B | [ ] C | [ ] D | | [ ] B | [ ] C | [ ] D | [ ] E | [ ] F | [x] G |
| Prepared by: | | Reviewed by Professional that meets the following Professional Qualifications: | | | | | | | | | | Date: |
| Terri Asendorf | | [ ] Architect | | [x] Architectural Historian | | | | [ ] Historian | | [ ] Historic Architect | | [ ] None | |
| **SHPO Response:** | | | | | | | | | | | | |
| [ ] Eligible (Concur) | [ ] Eligible (Do Not Concur) | | | [ ] Not Eligible (Concur) | | | [ ] Not Eligible (Do Not Concur) | | | | | |
| Minor Recommendations and Comments Include: | | | | | | | | | | | | |
| [ ] Need more information related to: | | [ ] Historic Context | | [ ] Integrity | | [ ] Architectural Description | | | | [ ] Period of Significance | | |
| Authorized Signature: | | | | | | | | | | | | Date: |

# Alaska Building Inventory Form

**AHRS:** KET-00551 **Associated District:** USCG LORAN-C Station Historic District Shoal Cove

| | | | |
|---|---|---|---|
| **Historic Name:** Morale Shed | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U **Easting** 356889.41 **Northing** 6145915.64 | |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** 1. N/A | 2. | **Significant Dates** 1. | 2. |
| **Architect, Builder, Contractor, Designer:** USCG | | **Original Owner:** USCG | |

## Architectural Information:

| | | | |
|---|---|---|---|
| **Date of Construction:** ca. 1980 | **Date Moved:** N/A | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** 1. | 2. | 3. | 4. |
| | | | |
| **Resource Type** [x] **Building** [ ] **Site** [ ] **Structure** [ ] **Object** | | **Stories** 1. one | 2. |
| **Architectural Style:** Utilitarian | | **Building Type:** | |
| **Number of Ancillary Structures:** 0 | **Plan:** Rectangular | **Cultural Affiliation:** US Government | |
| **Foundation Materials:** 1. Concrete/Plywood 2. | **Roof Materials:** 1. Plywood Shingle 2. | **Exterior Wall Materials:** 1. Plywood 2. | **Other Materials:** 1. 2. |

**Architectural Description (Include setting & outbuildings):**
Ashore of the float abutment is a one-story, 64-square-foot, 8'× 8' timber framed storage shed. The date of construction is unknown. The shed appears to be a kit from a local lumberyard. It is sheathed with plywood siding and has a plywood roof deck. The shed floor is a timber-framed platform with plywood deck supported at the corners with concrete blocks. The exterior enclosure consists of plywood siding with a shingled roof. The exterior door consists of a pair of doors also constructed out of plywood siding. The building has no windows.

**Statement of Significance:**
The LORAN-C Station at Shoal Cove is eligible as an historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation within the Gulf of Alaska. Long-Range Aid to Navigation (LORAN) was the federally-provided radio navigation system for maritime and some aviation activity from approximately 1940 to 2010. The station is also eligible under Criterion Consideration G as a property of exceptional importance that has achieved significance within the past fifty years.

At the beginning of WWII, positioning was done using dead reckoning, celestial navigation, and later, radio beacon. As state and federal responsibility for providing navigational aids increased, the development of a more accurate system was needed. The LORAN system was developed under a program of the federal government by scientists at MIT, and modeled after the British Gee system. LORAN-C provided a highly accurate, all-weather navigational system, available twenty-four hours per day. It operated as a low-frequency hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard in 1943. Stations were built throughout the U.S., Russia, Canada, Asia, and Europe eventually to provide some 70 million square miles of coverage.

The Shoal Cove LORAN-C Station was constructed in 1975 by the USCG and decommissioned in 2010. The station consisted of four 695-foot guyed towers and served as a dual-rated, double secondary station, producing signals for the Gulf of Alaska and Canadian West Coast chains. The Morale Shed is a contributing feature to the Shoal Cove LORAN-C Station Historic District.

Eligibility:
[x] Yes [ ] No If yes: [x] A [ ] B [ ] C [ ] D

Criteria Considerations:
[ ] B [ ] C [ ] D [ ] E [ ] F [x] G

Prepared by:
Terri Asendorf

Reviewed by Professional that meets the following Professional Qualifications:
[ ] Architect [x] Architectural Historian [ ] Historian [ ] Historic Architect [ ] None

Date:

**SHPO Response:**
[ ] Eligible (Concur) [ ] Eligible (Do Not Concur) [ ] Not Eligible (Concur) [ ] Not Eligible (Do Not Concur)

Minor Recommendations and Comments Include:
[ ] Need more information related to: [ ] Historic Context [ ] Integrity [ ] Architectural Description [ ] Period of Significance

Authorized Signature:

Date:

USCG LORAN-C Station
Historic District Shoal Cove

# Alaska Building Inventory Form

**AHRS:** KET-00551 **Associated District:**

| | | | |
|---|---|---|---|
| **Historic Name:** Painted Creek Bridge | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U **Easting** 356889.41 **Northing** 6145915.64 | |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** 1. N/A | 2. | **Significant Dates** 1. 2003 | 2. |
| **Architect, Builder, Contractor, Designer:** USCG | | **Original Owner:** USCG | |

## Architectural Information:

| | | | |
|---|---|---|---|
| **Date of Construction:** 2003 | **Date Moved:** N/A | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** 1. | 2. | 3. | 4. |
| | | | |
| **Resource Type** **[ ] Building [ ] Site [x] Structure [ ] Object** | | **Stories** 1. N/A | 2. |
| **Architectural Style:** Utilitarian | | **Building Type:** | |
| **Number of Ancillary Structures:** 0 | **Plan:** Rectangular | **Cultural Affiliation:** US Government | |
| **Foundation Materials:** 1. Wood 2. | **Roof Materials:** 1. N/A 2. | **Exterior Wall Materials:** 1. N/A 2. | **Other Materials:** 1. Steel 2. |

**Architectural Description (Include setting & outbuildings):**

The access road that leads to the LORAN-C station from Shoal Cove crosses Painted Creek via a timber-decked, steel-girder bridge. This bridge was built in 2003 and is maintained by the USFS. It is used by the USCG under a letter of agreement with the USFS. The bridge is single-span, 122' long, with an 18'-wide timber deck. There are 12" × 12" bullrails on each side of the deck with the top of the bullrail 20" above the deck.

The bridge structure consists of a rough-cut 4" deck over 8"-wide glu lam members laid flat across the top of the steel plate girders. The girders are 78" deep and have 8" × 1"-thick flanges at the bridge ends. The flanges widen mid-span. The girders are supported by a 15"-wide by 14"-deep I-beam pile cap with ½" flanges. The pile cap is supported by pipe piles directly under the girders. There are 8"-thick concrete block walls that extend from the underside of the wear deck to the pile caps. There are no approach guardrails. There is riprap placed on each bank under the bridge.

**Statement of Significance:**

The LORAN-C Station at Shoal Cove is eligible as an historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation within the Gulf of Alaska. Long-Range Aid to Navigation (LORAN) was the federally-provided radio navigation system for maritime and some aviation activity from approximately 1940 to 2010. The station is also eligible under Criterion Consideration G as a property of exceptional importance that has achieved significance within the past fifty years.

At the beginning of WWII, positioning was done using dead reckoning, celestial navigation, and later, radio beacon. As state and federal responsibility for providing navigational aids increased, the development of a more accurate system was needed. The LORAN system was developed under a program of the federal government by scientists at MIT, and modeled after the British Gee system. LORAN-C provided a highly accurate, all-weather navigational system, available twenty-four hours per day. It operated as a low-frequency hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard in 1943. Stations were built throughout the U.S., Russia, Canada, Asia, and Europe eventually to provide some 70 million square miles of coverage.

The Shoal Cove LORAN-C Station was constructed in 1975 by USCG and decommissioned in 2010. The station consisted of four 695-foot guyed towers and served as a dual-rated, double secondary station, producing signals for the Gulf of Alaska and Canadian West Coast chains. The Painted Creek Bridge is a contributing feature to the Shoal Cove LORAN-C Station Historic District.

| Eligibility: | | | | | Criteria Considerations: | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [x] Yes | [ ] No | If yes: | [x] A | [ ] B | [ ] C | [ ] D | [ ] B | [ ] C | [ ] D | [ ] E | [ ] F | [x] G |

| Prepared by: | Reviewed by Professional that meets the following Professional Qualifications: | | | | | Date: |
|---|---|---|---|---|---|---|
| Terri Asendorf | [ ] Architect | [x] Architectural Historian | [ ] Historian | [ ] Historic Architect | [ ] None | |

**SHPO Response:**

[ ] Eligible (Concur) [ ] Eligible (Do Not Concur) [ ] Not Eligible (Concur) [ ] Not Eligible (Do Not Concur)

Minor Recommendations and Comments Include:

[ ] Need more information related to: [ ] Historic Context [ ] Integrity [ ] Architectural Description [ ] Period of Significance

| Authorized Signature: | Date: |
|---|---|
| | |

# Alaska Building Inventory Form

**AHRS:** KET-00551 **Associated District:** USCG LORAN-C Station Historic District Shoal Cove

| | | | |
|---|---|---|---|
| **Historic Name:** Sewage Plant | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U | **Easting** 356889.41 **Northing** 6145915.64 |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** 1. N/A | 2. | **Significant Dates** 1. 1976 | 2. |
| **Architect, Builder, Contractor, Designer:** Leo A. Daly Architecture and Engineering for USCG | | **Original Owner:** USCG | |

## Architectural Information:

| | | | |
|---|---|---|---|
| **Date of Construction:** 1976 | **Date Moved:** N/A | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** 1. | 2. | 3. | 4. |
| | | | |
| **Resource Type** [x] **Building** [ ] **Site** [ ] **Structure** [ ] **Object** | | **Stories** 1. one | 2. |
| **Architectural Style:** Utilitarian | | **Building Type:** | |
| **Number of Ancillary Structures:** 0 | **Plan:** Rectangular | **Cultural Affiliation:** US Government | |
| **Foundation Materials:** 1. Reinforced Concrete Vault 2. | **Roof Materials:** 1. Plywood 2. | **Exterior Wall Materials:** 1. Wood 2. | **Other Materials:** 1. Galvanized Steel 2. |

# Alaska Building Inventory Form

**AHRS:** KET-00551 **Associated District:** USCG LORAN-C Station Historic District Shoal Cove

| | | | |
|---|---|---|---|
| **Historic Name:** Sewage Plant | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U | **Easting** 356889.41 **Northing** 6145915.64 |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** 1. N/A | 2. | **Significant Dates** 1. | 2. |
| **Architect, Builder, Contractor, Designer:** USCG | | **Original Owner:** USCG | |

## Architectural Information:

| | | | |
|---|---|---|---|
| **Date of Construction:** 2008-2009 | **Date Moved:** N/A | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** 1. | 2. | 3. | 4. |
| | | | |
| **Resource Type** **[ ] Building [ ] Site [x] Structure [ ] Object** | | **Stories** 1. N/A | 2. |
| **Architectural Style:** Utilitarian | | **Building Type:** | |
| **Number of Ancillary Structures:** 0 | **Plan:** Rectangular | **Cultural Affiliation:** US Government | |
| **Foundation Materials:** 1. N/A 2. | **Roof Materials:** 1. N/A 2. | **Exterior Wall Materials:** 1. N/A 2. | **Other Materials:** 1. Plastic, PVC 2. |

# Alaska Building Inventory Form

**AHRS:** KET-00551 **Associated District:** USCG LORAN-C Station Historic District Shoal Cove

| | | | |
|---|---|---|---|
| **Historic Name:** Stringer Bridge | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U | **Easting** 356889.41 **Northing** 6145915.64 |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** 1. N/A | 2. | **Significant Dates** 1. 1976 | 2. |
| **Architect, Builder, Contractor, Designer:** Leo A. Daly Architecture and Engineering for USCG | | **Original Owner:** USCG | |

## Architectural Information:

| | | | |
|---|---|---|---|
| **Date of Construction:** 1976 | **Date Moved:** N/A | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** 1. | 2. | 3. | 4. |
| | | | |
| **Resource Type** **[ ] Building [ ] Site [x] Structure [ ] Object** | | **Stories** 1. N/A | 2. |
| **Architectural Style:** Utilitarian | | **Building Type:** | |
| **Number of Ancillary Structures:** 0 | **Plan:** Rectangular | **Cultural Affiliation:** US Government | |
| **Foundation Materials:** 1. Log, Earth 2. | **Roof Materials:** 1. N/A 2. | **Exterior Wall Materials:** 1. N/A 2. | **Other Materials:** 1. 2. |

| **Architectural Description (Include setting & outbuildings):** | **Statement of Significance:** |
|---|---|
| The station access road that leads to the receiving antenna crosses East Shoal Creek with a log stringer bridge constructed in 1976. The bridge is single span and approximately 20' long× 18' wide. The log stringers are covered with approximately 3' of earthen fill. The stringers appear to be 18" - 24" in diameter and bear on large-diameter log abutments. | The LORAN-C Station at Shoal Cove is eligible as an historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation within the Gulf of Alaska. Long-Range Aid to Navigation (LORAN) was the federally-provided radio navigation system for maritime and some aviation activity from approximately 1940 to 2010. The station is also eligible under Criterion Consideration G as a property of exceptional importance that has achieved significance within the past fifty years.<br>At the beginning of WWII, positioning was done using dead reckoning, celestial navigation, and later, radio beacon. As state and federal responsibility for providing navigational aids increased, the development of a more accurate system was needed. The LORAN system was developed under a program of the federal government by scientists at MIT, and modeled after the British Gee system. LORAN-C provided a highly accurate, all-weather navigational system, available twenty-four hours per day. It operated as a low-frequency hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard in 1943. Stations were built throughout the U.S., Russia, Canada, Asia, and Europe eventually to provide some 70 million square miles of coverage.<br><br>The Shoal Cove LORAN-C Station was constructed in 1975 by USCG and decommissioned in 2010. The station consisted of four 695-foot guyed towers and served as a dual-rated, double secondary station, producing signals for the Gulf of Alaska and Canadian West Coast chains. The Stringer Bridge is a contributing feature to the Shoal Cove LORAN-C Station Historic District. |
| Eligibility:<br>[x] Yes [ ] No If yes: [x] A [ ] B [ ] C [ ] D | Criteria Considerations:<br>[ ] B [ ] C [ ] D [ ] E [ ] F [x] G |
| Prepared by:<br>Terri Asendorf | Reviewed by Professional that meets the following Professional Qualifications:<br>[ ] Architect [x] Architectural Historian [ ] Historian [ ] Historic Architect [ ] None |
| Date: | |
| **SHPO Response:**<br>[ ] Eligible (Concur) [ ] Eligible (Do Not Concur) [ ] Not Eligible (Concur) [ ] Not Eligible (Do Not Concur) | |
| Minor Recommendations and Comments Include:<br>[ ] Need more information related to: [ ] Historic Context [ ] Integrity [ ] Architectural Description [ ] Period of Significance | |
| Authorized Signature: | Date: |

# Alaska Building Inventory Form

**AHRS:** KET-01192 **Associated District:** USCG LORAN-C Station Historic District Shoal Cove

| | | | |
|---|---|---|---|
| **Historic Name:** LORAN-C Antennas (Towers) | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U | **Easting** 356889.41 **Northing** 6145915.64 |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** 1. N/A | 2. | **Significant Dates** 1. 1976 | 2. |
| **Architect, Builder, Contractor, Designer:** USCG | | **Original Owner:** USCG | |

## Architectural Information:

| | | | |
|---|---|---|---|
| **Date of Construction:** 1976 | **Date Moved:** N/A | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** 1. | 2. | 3. | 4. |
| | | | |
| **Resource Type** **[ ] Building [ ] Site [x] Structure [ ] Object** | | **Stories** 1. N/A | 2. |
| **Architectural Style:** Utilitarian | | **Building Type:** | |
| **Number of Ancillary Structures:** 0 | **Plan:** N/A | **Cultural Affiliation:** US Government | |
| **Foundation Materials:** 1. Concrete 2. | **Roof Materials:** 1. N/A 2. | **Exterior Wall Materials:** 1. N/A 2. | **Other Materials:** 1. Steel 2. |

**Architectural Description (Include setting & outbuildings):**
The LORAN-C station at Shoal Cove exhibited four 695-foot guyed towers laid out in a 1,000-foot array surrounding the Operations Building. The towers were built by Stainless, Inc., Model 2515 (SLT). They are composed of galvanized steel structural members (legs, girts and diagonals) anchored by guy wires (some copper). The towers feature a ladder, safety rail, and lighting system, and are entirely painted in orange and white aviation warning paint. The base of the towers consists of a reinforced concrete foundation, approximately 10' long x 10' wide x 9' tall with fiberglass rod insulator, out of which the tower rises. The four towers are connected to each other at the LORAN antenna termination base directly west of the transmitter room.

**Statement of Significance:**
The LORAN-C Station at Shoal Cove is eligible as an historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation within the Gulf of Alaska. Long-Range Aid to Navigation (LORAN) was the federally-provided radio navigation system for maritime and some aviation activity from approximately 1940 to 2010. The station is also eligible under Criterion Consideration G as a property of exceptional importance that has achieved significance within the past fifty years.

At the beginning of WWII, positioning was done using dead reckoning, celestial navigation, and later, radio beacon. As state and federal responsibility for providing navigational aids increased, the development of a more accurate system was needed. The LORAN system was developed under a program of the federal government by scientists at MIT, and modeled after the British Gee system. LORAN-C provided a highly accurate, all-weather navigational system, available twenty-four hours per day. It operated as a low-frequency hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard in 1943. Stations were built throughout the U.S., Russia, Canada, Asia, and Europe eventually to provide some 70 million square miles of coverage.

The Shoal Cove LORAN-C Station was constructed in 1975 by USCG and decommissioned in 2010. The station consisted of four 695-foot guyed towers and served as a dual-rated, double secondary station, producing signals for the Gulf of Alaska and Canadian West Coast chains. The Four Guyed Towers are contributing features to the Shoal Cove LORAN-C Station Historic District.

| | |
|---|---|
| Eligibility:<br>[x] Yes [ ] No If yes: [x] A [ ] B [ ] C [ ] D | Criteria Considerations:<br>[ ] B [ ] C [ ] D [ ] E [ ] F [x] G |
| Prepared by:<br>Terri Asendorf | Reviewed by Professional that meets the following Professional Qualifications:<br>[ ] Architect [x] Architectural Historian [ ] Historian [ ] Historic Architect [ ] None |
| | Date: |
| **SHPO Response:**<br>[ ] Eligible (Concur) [ ] Eligible (Do Not Concur) [ ] Not Eligible (Concur) [ ] Not Eligible (Do Not Concur) | |
| Minor Recommendations and Comments Include:<br>[ ] Need more information related to: [ ] Historic Context [ ] Integrity [ ] Architectural Description [ ] Period of Significance | |
| Authorized Signature: | Date: |

# Alaska Building Inventory Form

**AHRS:** KET-00551 **Associated District:** USCG LORAN-C Station Historic District Shoal Cove

| | | | |
|---|---|---|---|
| **Historic Name:** Upper Fuel Tank Containment Area | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U | **Easting** 356889.41 **Northing** 6145915.64 |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** 1. N/A | 2. | **Significant Dates** 1. 1976 | 2. |
| **Architect, Builder, Contractor, Designer:** USCG | | **Original Owner:** USCG | |

## Architectural Information:

| | | | |
|---|---|---|---|
| **Date of Construction:** 1976 | **Date Moved:** 2010 | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** 1. | 2. | 3. | 4. |
| | | | |
| **Resource Type** **[ ] Building [ ] Site [x] Structure [ ] Object** | | **Stories** 1. one | 2. |
| **Architectural Style:** Utilitarian | | **Building Type:** | |
| **Number of Ancillary Structures:** 0 | **Plan:** N/A | **Cultural Affiliation:** US Government | |
| **Foundation Materials:** 1. Steel 2. | **Roof Materials:** 1. Steel 2. | **Exterior Wall Materials:** 1. Steel 2. | **Other Materials:** 1. 2. |

**Architectural Description (Include setting & outbuildings):**

The Upper Tank Farm has a concrete-lined secondary containment area for the single-wall above ground fuel tanks. This containment area is approximately 8,778 SF and provides 9,532 barrels of containment volume. It was constructed in 1976. The containment area was excavated out of bedrock and covered with a granular leveling course topped with 3" of concrete. The fuel tanks sat within concrete rings in the containment area, but have since been removed as part of the building layaway plan. The containment area has an upper and lower area. The upper area is approximately 7,172 SF and is approximately 5' deep. There are approximately 268' of walls around the perimeter of the upper area. The lower area is approximately 1,605 SF and is approximately 11' deep. On one side of this lower area is an 11'-6" tall, 12"-thick, 21'-long concrete wall.

Rainfall and other liquids trapped in the containment area drain from the upper area to the lower area. The lower area has a 12" corrugated metal pipe drain that is controlled by an 8" gate valve. The valve stem is accessed by a galvanized steel grate platform that is supported by the concrete wall. The valve is normally closed where contained liquids are monitored. Contaminants are removed prior to valve opening. The pipe drain empties into a natural drainage. Fuel piping within the containment area is supported on steel supports. Steel access stairs provide access into the upper level of the containment area from the surrounding ground level. The surrounding ground level is higher than the containment area.

**Statement of Significance:**

The LORAN-C Station at Shoal Cove is eligible as an historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation within the Gulf of Alaska. Long-Range Aid to Navigation (LORAN) was the federally-provided radio navigation system for maritime and some aviation activity from approximately 1940 to 2010. The station is also eligible under Criterion Consideration G as a property of exceptional importance that has achieved significance within the past fifty years.

At the beginning of WWII, positioning was done using dead reckoning, celestial navigation, and later, radio beacon. As state and federal responsibility for providing navigational aids increased, the development of a more accurate system was needed. The LORAN system was developed under a program of the federal government by scientists at MIT, and modeled after the British Gee system. LORAN-C provided a highly accurate, all-weather navigational system, available twenty-four hours per day. It operated as a low-frequency hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard in 1943. Stations were built throughout the U.S., Russia, Canada, Asia, and Europe eventually to provide some 70 million square miles of coverage.

The Shoal Cove LORAN-C Station was constructed in 1975 by USCG and decommissioned in 2010. The station consisted of four 695-foot guyed towers and served as a dual-rated, double secondary station, producing signals for the Gulf of Alaska and Canadian West Coast chains. The upper fuel tank containment area is a contributing feature to the Shoal Cove LORAN-C Station Historic District; however, the fuel tanks have been removed.

| | |
|---|---|
| Eligibility:<br>[x] Yes [ ] No If yes: [x] A [ ] B [ ] C [ ] D | Criteria Considerations:<br>[ ] B [ ] C [ ] D [ ] E [ ] F [x] G |
| Prepared by:<br>Terri Asendorf | Reviewed by Professional that meets the following Professional Qualifications:<br>[ ] Architect [x] Architectural Historian [ ] Historian [ ] Historic Architect [ ] None |
| Date: | |
| **SHPO Response:**<br>[ ] Eligible (Concur) [ ] Eligible (Do Not Concur) [ ] Not Eligible (Concur) [ ] Not Eligible (Do Not Concur) | |
| Minor Recommendations and Comments Include:<br>[ ] Need more information related to: [ ] Historic Context [ ] Integrity [ ] Architectural Description [ ] Period of Significance | |
| Authorized Signature: | Date: |

# Alaska Building Inventory Form

**AHRS:** KET-00551 **Associated District:** USCG LORAN-C Station Historic District Shoal Cove

| | | | |
|---|---|---|---|
| **Historic Name:** Upper Fuel Farm Building | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U **Easting** 356889.41 **Northing** 6145915.64 | |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** 1. N/A | 2. | **Significant Dates** 1. 1976 | 2. |
| **Architect, Builder, Contractor, Designer:** Leo A. Daly Architecture and Engineering for USCG | | **Original Owner:** USCG | |

## Architectural Information:

| | | | |
|---|---|---|---|
| **Date of Construction:** 1976 | **Date Moved:** N/A | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** 1. N/A | 2. | 3. | 4. |
| | | | |
| **Resource Type** [x] **Building** [ ] **Site** [ ] **Structure** [ ] **Object** | | **Stories** 1. one | 2. |
| **Architectural Style:** Utilitarian | | **Building Type:** | |
| **Number of Ancillary Structures:** 4 | **Plan:** Rectangular | | **Cultural Affiliation:** US Government |
| **Foundation Materials:** 1. Concrete 2. | **Roof Materials:** 1. Built-up Roofing 2. | **Exterior Wall Materials:** 1. CMU 2. | **Other Materials:** 1. Hollow Metal Doors 2. |

| **Architectural Description (Include setting & outbuildings):** | **Statement of Significance:** |
|---|---|
| This is an unheated 300-square-foot building constructed in 1976. It has a conventional reinforced concrete spread footing foundation consisting of perimeter foundation wall strip footings. The floor is reinforced concrete slab-on-grade. The foundation supports 13-course, 8"-thick CMU walls. The walls support a flat reinforced concrete roof deck. The major portion of the building consists of built up roofing. The building has no windows. The doors are hollow metal. | The LORAN-C Station at Shoal Cove is eligible as an historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation within the Gulf of Alaska. Long-Range Aid to Navigation (LORAN) was the federally-provided radio navigation system for maritime and some aviation activity from approximately 1940 to 2010. The station is also eligible under Criterion Consideration G as a property of exceptional importance that has achieved significance within the past fifty years.<br>At the beginning of WWII, positioning was done using dead reckoning, celestial navigation, and later, radio beacon. As state and federal responsibility for providing navigational aids increased, the development of a more accurate system was needed. The LORAN system was developed under a program of the federal government by scientists at MIT, and modeled after the British Gee system. LORAN-C provided a highly accurate, all-weather navigational system, available twenty-four hours per day. It operated as a low-frequency hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard in 1943. Stations were built throughout the U.S., Russia, Canada, Asia, and Europe eventually to provide some 70 million square miles of coverage.<br><br>The Shoal Cove LORAN-C Station was constructed in 1975 by USCG and decommissioned in 2010. The station consisted of four 695-foot guyed towers and served as a dual-rated, double secondary station, producing signals for the Gulf of Alaska and Canadian West Coast chains. The Upper Fuel Farm Building is a contributing feature to the Shoal Cove LORAN-C Station Historic District. |
| Eligibility:<br>[x] Yes [ ] No If yes: [x] A [ ] B [ ] C [ ] D | Criteria Considerations:<br>[ ] B [ ] C [ ] D [ ] E [ ] F [x] G |
| Prepared by:<br>Terri Asendorf | Reviewed by Professional that meets the following Professional Qualifications:<br>[ ] Architect [x] Architectural Historian [ ] Historian [ ] Historic Architect [ ] None |
| Date: | |
| **SHPO Response:**<br>[ ] Eligible (Concur) [ ] Eligible (Do Not Concur) [ ] Not Eligible (Concur) [ ] Not Eligible (Do Not Concur) | |
| Minor Recommendations and Comments Include:<br>[ ] Need more information related to: [ ] Historic Context [ ] Integrity [ ] Architectural Description [ ] Period of Significance | |
| Authorized Signature: | Date: |

# Alaska Building Inventory Form

**AHRS:** KET-00551 **Associated District:** USCG LORAN-C Station Historic District Shoal Cove

| | | | |
|---|---|---|---|
| **Historic Name:** Waterfront Bulkhead | | **Other Name:** N/A | |
| **Building Address:** | | **City:** Shoal Cove | |
| **Current Owner's Name and Address:** United States Coast Guard, Civil Engineering Unit, PO Box 21747, Juneau, AK, 99802-1747 | | | |
| **USGS Quad Name and Map Sheet:** Ketchikan Quadrangle, AK 12 | **Section:** 22 | **Township:** 74 S | **Range:** 93 E |
| **GPS Coordinate (NAD-27 Alaska):** 55° 26' 20.940" N, 131° 15' 19.094" W | | **UTM:** **Zone** 9U | **Easting** 356889.41 **Northing** 6145915.64 |

## Historic Associations

| | | | |
|---|---|---|---|
| **Historic Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Current Function and Sub-function:** 1. Defense | 2. Coast Guard Facility | 3. | 4. |
| **Significant Person(s):** 1. N/A | 2. | **Significant Dates** 1. 1976 | 2. |
| **Architect, Builder, Contractor, Designer:** Leo A. Daly Architecture and Engineering for USCG | | **Original Owner:** USCG | |

## Architectural Information:

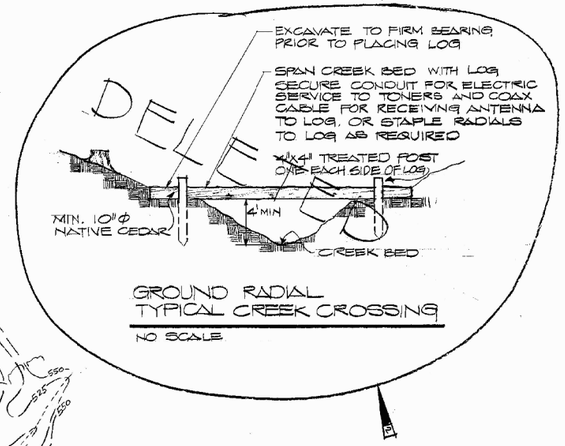
| | | | |
|---|---|---|---|
| **Date of Construction:** 1976 | **Date Moved:** N/A | **Destruction Date:** N/A | **Reconstruction Date:** N/A |
| **Alteration Dates** 1. | 2. | 3. | 4. |
| | | | |
| **Resource Type** **[ ] Building [ ] Site [x] Structure [ ] Object** | | **Stories** 1. N/A | 2. |
| **Architectural Style:** Utilitarian | | **Building Type:** | |
| **Number of Ancillary Structures:** 0 | **Plan:** Rectangular | | **Cultural Affiliation:** US Government |
| **Foundation Materials:** 1. N/A 2. | **Roof Materials:** 1. N/A 2. | **Exterior Wall Materials:** 1. Shot-rock fill, gravel 2. | **Other Materials:** 1. Steel 2. |

| **Architectural Description (Include setting & outbuildings):** | **Statement of Significance:** |
|---|---|
| West of the Shoal Cove float, there is a 25'-wide bulkhead. The bulkhead has a top elevation of +12' Mean Lower Low Water (MLLW) and has a base elevation of approximately +1' MLLW. Sidewalls extend 16-feet perpendicular to the bulkhead face and shoreline. The bulkhead walls consist of three 8" H-piles embedded 3' into rock and back braced with 5" × 5" L steel angles bolted to the bedrock. Flat sheet pile sections are placed horizontally against the exterior face of the H-piles and bolted to the H-pile flanges. Sidewall H-piles are tied together with a $1\frac{1}{4}$"-diameter steel rod bolted to opposing H-piles. At the top of the bulkhead, there is an 18" wide× 14" deep reinforced concrete cap. In to the top of the cap at the front wall and side wall intersection are embedded 2" diameter bent steel rod mooring rings. The bulkhead is backfilled with shot-rock fill and surfaced with crushed gravel. | The LORAN-C Station at Shoal Cove is eligible as an historic district under Criterion A, at the national level of significance, for its role as an historic aid to navigation within the Gulf of Alaska. Long-Range Aid to Navigation (LORAN) was the federally-provided radio navigation system for maritime and some aviation activity from approximately 1940 to 2010. The station is also eligible under Criterion Consideration G as a property of exceptional importance that has achieved significance within the past fifty years.<br>At the beginning of WWII, positioning was done using dead reckoning, celestial navigation, and later, radio beacon. As state and federal responsibility for providing navigational aids increased, the development of a more accurate system was needed. The LORAN system was developed under a program of the federal government by scientists at MIT, and modeled after the British Gee system. LORAN-C provided a highly accurate, all-weather navigational system, available twenty-four hours per day. It operated as a low-frequency hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard in 1943. Stations were built throughout the U.S., Russia, Canada, Asia, and Europe eventually to provide some 70 million square miles of coverage.<br><br>The Shoal Cove LORAN-C Station was constructed in 1975 by USCG and decommissioned in 2010. The station consisted of four 695-foot guyed towers and served as a dual-rated, double-secondary station, producing signals for the Gulf of Alaska and Canadian West Coast chains. The Waterfront Bulkhead is a contributing feature to the Shoal Cove LORAN-C Station Historic District. |
| Eligibility:<br>[x] Yes [ ] No If yes: [x] A [ ] B [ ] C [ ] D | Criteria Considerations:<br>[ ] B [ ] C [ ] D [ ] E [ ] F [x] G |
| Prepared by:<br>Terri Asendorf | Reviewed by Professional that meets the following Professional Qualifications:<br>[ ] Architect [x] Architectural Historian [ ] Historian [ ] Historic Architect [ ] None |
| Date: | |
| **SHPO Response:**<br>[ ] Eligible (Concur) [ ] Eligible (Do Not Concur) [ ] Not Eligible (Concur) [ ] Not Eligible (Do Not Concur) | |
| Minor Recommendations and Comments Include:<br>[ ] Need more information related to: [ ] Historic Context [ ] Integrity [ ] Architectural Description [ ] Period of Significance | |
| Authorized Signature: | Date: |

# ARCHITECTURAL DRAWINGS

## GENERAL NOTES

1. REFER TO SHEET C-2 FOR APPROXIMATE TOWER LAYOUT.
2. THE EXACT HORIZONTAL AND VERTICAL POSITION OF GUY AND STRUCTURAL ANCHORS TO BE GIVEN BY THE TOWER FABRICATOR AND SHOWN ON THE TOWER ERECTION DRAWINGS
3. ADDITIONAL MASS WASTING SITES TO BE FIELD LOCATED WITHIN THE COAST GUARD BOUNDRY BY CONTRACTOR AND APPROVED BY THE ENGINEER.
4. EROSION CONTROL PLAN TO BE SUBMITTED FOR APPROVAL PRIOR TO LAND CLEARING.
5. CONTRACTOR'S CAMP FACILITIES AND STORAGE AREA SHALL BE LOCATED OUTSIDE OF THE ANTENNA GROUND SYSTEM AREA, UNLESS OTHERWISE APPROVED.
6. THE AREA DESIGNATED "MASS WASTING AREA" SHALL BE NO MORE THAN THREE FEET ABOVE THE ADJACENT ROAD LEVEL.
7. ALL MASS WASTING AREAS SHALL BE RESTORED TO BLEND WITH SURROUNDING TERRAIN. NO PROTRUDING LOGS, BRUSH, ETC. WITH TOP SURFACE BACK BLADED SMOOTH AND SEEDED.
8. ALL STAGING AREAS MUST BE RESTORED BY BACK BLADING SMOOTH, PLACEMENT OF 3-INCH MINIMUM LAYER OF NATIVE TOP SOIL AND SEEDED.




GROUND RADIAL
TYPICAL CREEK CROSSING
NO SCALE


SITE PLAN

HUTCHISON WASHINGTON D.C. REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE | APPD. | BY |
|---|---|---|---|
| 2 | 1/8/78 | [illegible] | AS-BUILT CORRECTIONS | JC |
| 1 | 1-22-76 | [illegible] | ADD ADDENDUM NO. 1 THRU NO. 6 | J.B. |

U. S. COAST GUARD — 17TH DISTRICT — JUNEAU, ALASKA

**CIVIL ENGINEERING**

DESIGNED - J.H.
DRAWN - J.B.
TRACED -
CHECKED -
REVIEWED: [illegible] Morgan PE SUPV. GEN. ENGR.
SUBMITTED:

LORAN "C" STATION
SHOAL COVE ALASKA
OPERATIONS BUILDING
SITE PLAN

APPROVED [illegible] PE 10-21-76 DATE
COMMANDER CHIEF OF BRANCH

LEO A DALY
PLANNING ARCHITECTURE ENGINEERING

C.G. DRAWING NO. 2377
SCALE NOTED SHEET C-2 OF 38

DRAWN BY: USCG

USCG ALASKA LORAN-C STATIONS RECORDATION
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

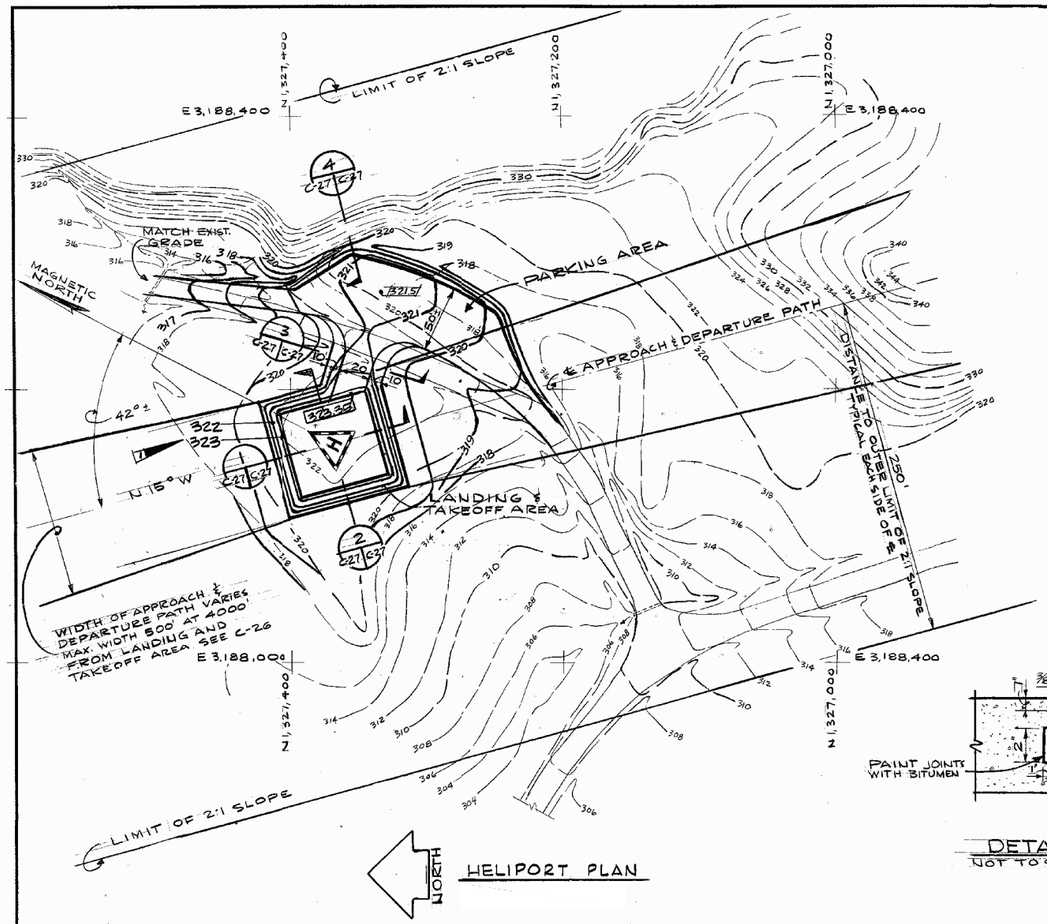
KETCHIKAN

ALASKA SURVEY NO. AK-235

HISTORIC AMERICAN BUILDINGS SURVEY 1 OF 10

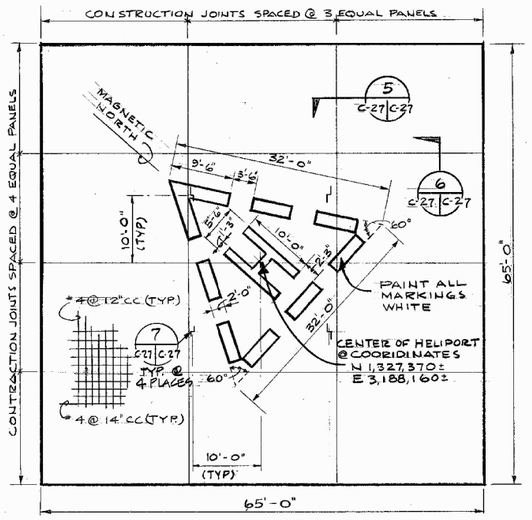
LIBRARY OF CONGRESS PRINT ROOMS

OPERATIONS BUILDING SITE PLAN



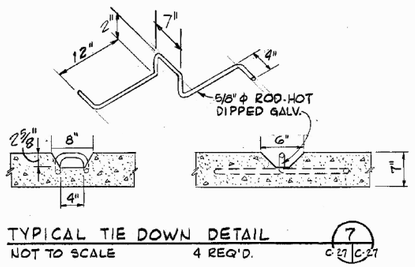

NORTH

## HELIPORT PLAN




## TOUCHDOWN PAD

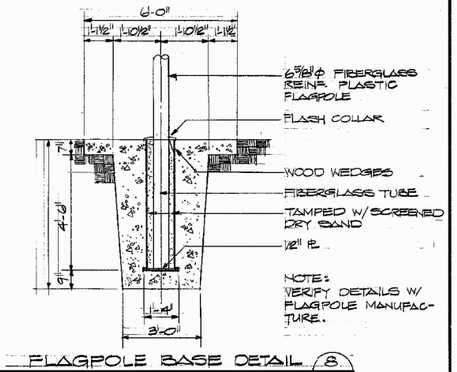
SCALE: 1"=10'-0"




## TYPICAL TIE DOWN DETAIL

NOT TO SCALE — 4 REQ'D. — 7 C-27|C-27

NOTE:
HELIPAD MARKING PAINT SHALL CONFORM TO ALASKA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION SECTION 708-2.03, PAINT FOR TRAFFIC MARKINGS FOR WHITE TRAFFIC LINE PAINT




NOTE:
VERIFY DETAILS W/ FLAGPOLE MANUFACTURE.

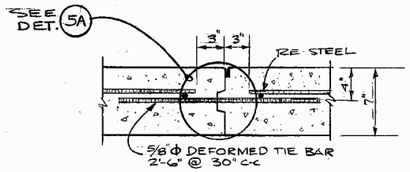
## FLAGPOLE BASE DETAIL

8 C-31|C-27



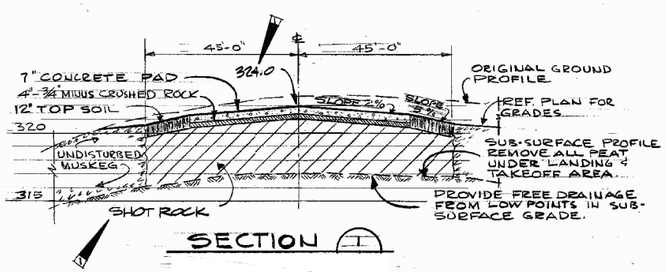

## DETAIL

NOT TO SCALE — 5A

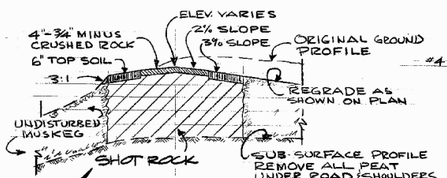



## CONSTRUCTION JOINT

NOT TO SCALE — 5 C-27|C-27

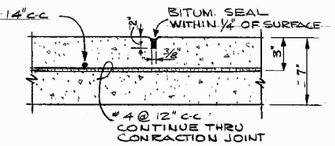



## SECTION 1



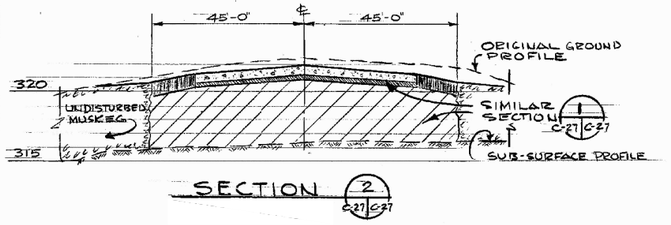

## SECTION 3

HORIZ. SCALE: 1"=20'-0" VERT. SCALE: 1"= 5'-0" — C-27|C-27

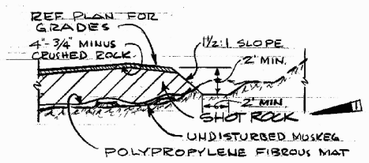



## CONTRACTION JOINT

NOT TO SCALE — 6 C-27|C-27

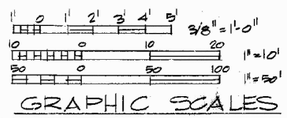



## SECTION 2




## SECTION 4

NOT TO SCALE C-27|C-27




GRAPHIC SCALES

NOTE: HELIPORT, PARKING AREA, APPROACH AND DEPARTURE PATH AND ASSOCIATED FACILITIES ARE AN ADDITIVE ALTERNATE. SEE BID SCHEDULE.

JOHN R. HUTCHISON — STATE OF WASHINGTON — 13741 — REGISTERED PROFESSIONAL ENGINEER

| REVISION | DATE | APPD. | BY |
|---|---|---|---|
| 1 | 1-18-78 | AEK | AS-BUILT CORRECTIONS |

U. S. COAST GUARD — 17TH DISTRICT — JUNEAU, ALASKA

# CIVIL ENGINEERING

DESIGNED - J.H.
DRAWN - J.B.
TRACED -
CHECKED -
REVIEWED: K.M. Morgan PE SUPV. GEN. ENGR.
SUBMITTED:

LORAN C' STATION
SHOAL COVE ALASKA
OPERATIONS BUILDING
HELIPORT PLAN & DETAILS

APPROVED E.Z. Cunwald PE COMMANDER CHIEF OF BRANCH — DATE 10-21-75

LEO A DALY
PLANNING ARCHITECTURE ENGINEERING

C. G. DRAWING NO. 7377
SCALE AS NOTED — SHEET C-27 OF 38

DRAWN BY: USCG

USCG ALASKA LORAN-C STATIONS RECORDATION
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

OPERATIONS BUILDING HELIPORT PLAN AND DETAILS
KETCHIKAN ALASKA

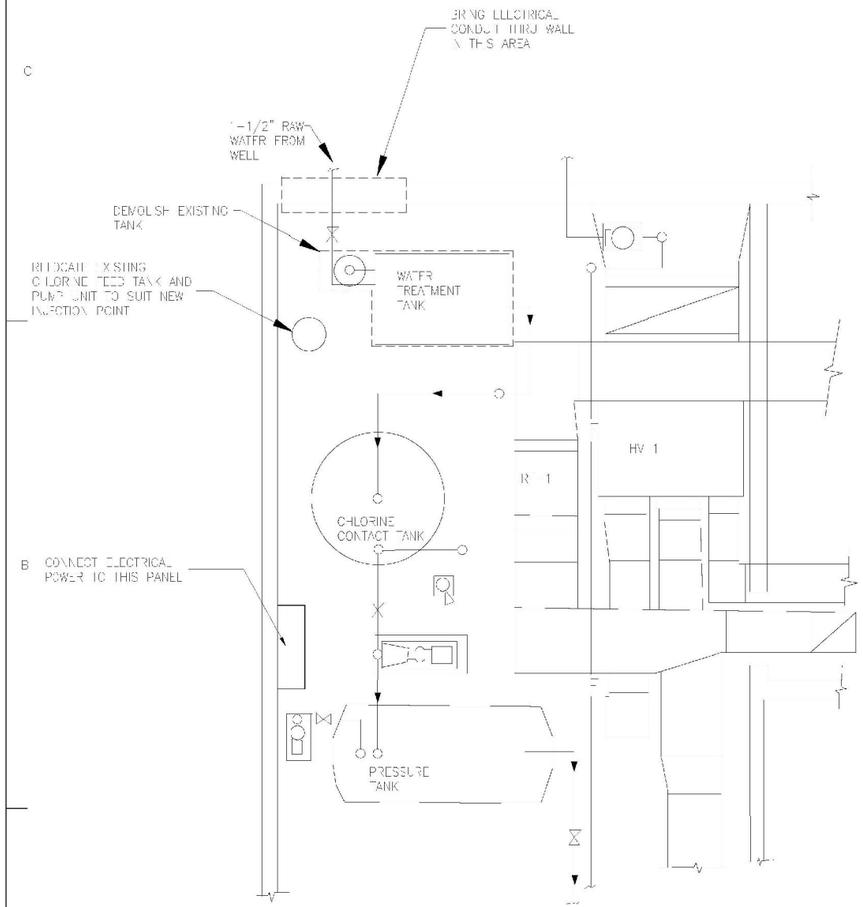
SURVEY NO. AK-235

HISTORIC AMERICAN BUILDINGS SURVEY
2 OF 10

LIBRARY OF CONGRESS PRINT ROOMS

NOTES:

1. CHLORINE CONTACT TANK SHALL BE FULL BEFORE DISCONNECTING SYSTEM.
2. COORDINATE SYSTEM SHUTDOWN WITH OWNER AT LEAST 48 HOURS IN ADVANCE.

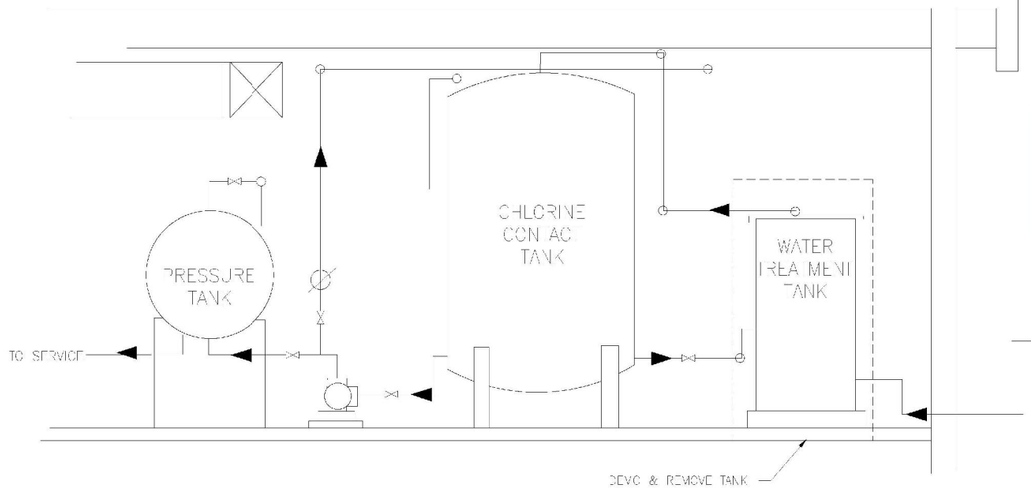



LEGEND

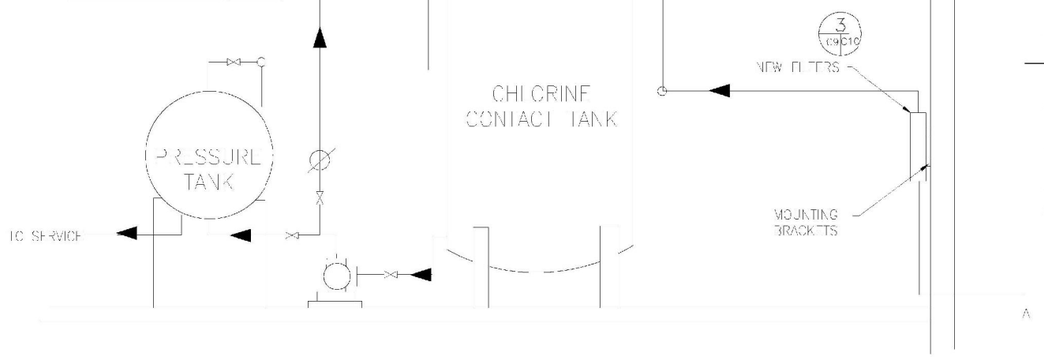
- ELECTRICALLY OPERATED VALVE
- RELIEF VALVE
- PUMP
- VALVE
- CHECK VALVE
- GAUGE

WWTP- WASTEWATER TREATMENT PLANT

**1 MECHANICAL PLAN**
C9|C9 SCALE: NTS




**2 MECHANICAL ROOM SECTION**
C9|C9 SCALE: NTS




**3 MECHANICAL ROOM SECTION**
C9|C9 SCALE: NTS

NOTE: MOUNT FILTER & PIPING ON BACK WALL WITH BRACKET & RESTRAINT SYSTEM PER CODE.

AKS ARCHITECTURE INTERIOR DESIGN

TNH ENGINEERING/SURVEYING & LANDSCAPE ARCHITECTURE
TRYCK NYMAN HAYES, INC.

STATE OF ALASKA 49TH
Carl M. Ferraute
10845-CE
REGISTERED PROFESSIONAL ENGINEER

U. S. COAST GUARD
CIVIL ENGINEERING UNIT
JUNEAU

USCG. CEU JUNEAU
709 WEST 9TH STREET, ROOM 817
JUNEAU, ALASKA 99801

| ISSUE | | |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | 08/05/08 | |
| MARK | DATE | DESCRIPTION |

| | |
|---|---|
| A/E PROJECT NO: | |
| CAD FILE NAME: | |
| DESIGNED BY: | CMF |
| DRAWN BY: | DJS |
| EDITED BY: | CMF |
| CHECKED BY: | CMF |
| SCALE: NTS | PLOT SCALE: 1:1 |

SHEET TITLE

WATER/WASTEWATER DESIGN
AND MODIFICATION
LORAN STATION SHOAL COVE ALASKA

INTERIOR DETAILS

| REVIEWED BY: | REVIEWED BY: | REVIEWED BY: |
|---|---|---|
| ERG | DAL | ASB |
| PROJECT ENG. | BRANCH CHIEF | TECH. DIRECTOR |

D. SAVATGY, CDR, USCG — APPROVING OFFICER — DATE

| PROJECT NUMBER | DRAWING NUMBER |
|---|---|
| 17-J00164 | C9 |
| DISCIPLINE/SHT NO | |
| S3592 | SHEET 11 OF 12 |

DRAWN BY: USCG

USCG ALASKA LORAN-C STATIONS RECORDATION
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

INTERIOR DETAILS

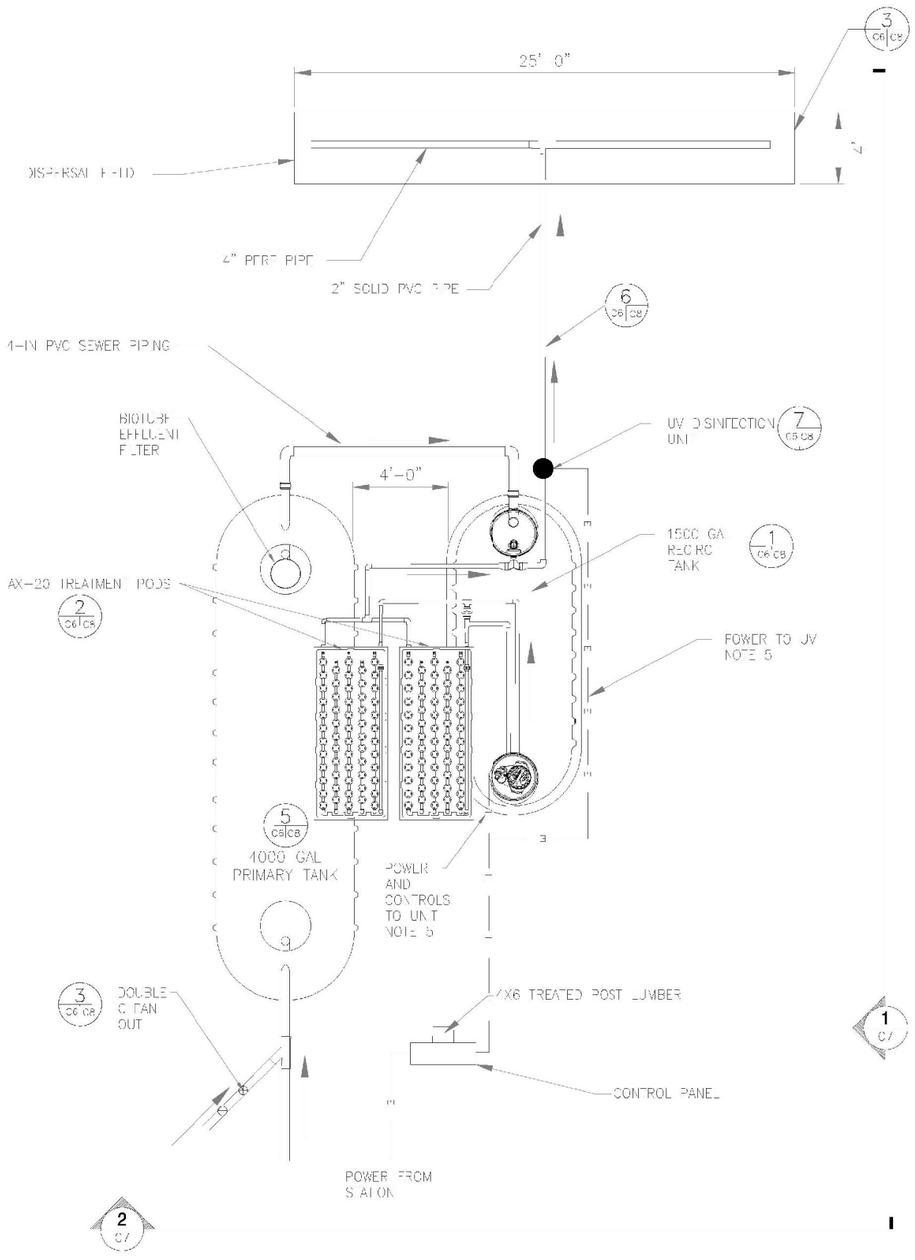
KETCHIKAN

HISTORIC AMERICAN BUILDINGS SURVEY
8 OF 10

SURVEY NO. AK-235

ALASKA

IF REPRODUCED, PLEASE CREDIT THE HISTORIC AMERICAN BUILDINGS SURVEY, NATIONAL PARK SERVICE, NAME OF DELINEATOR, DATE OF DRAWING



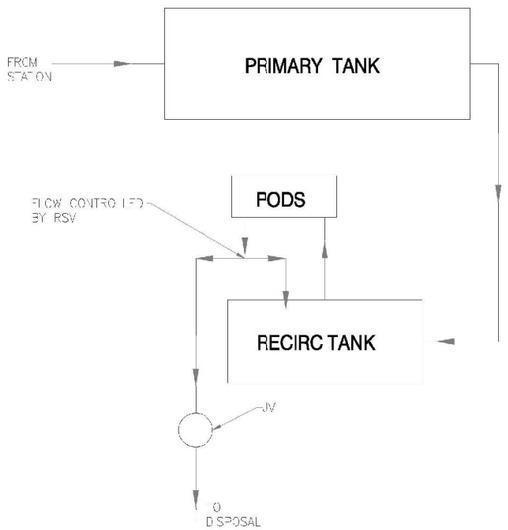

**1 SYSTEM PLAN**
C8 C8 / SCALE: NTS

NOTES:

1. WWTP IS A COMPLETE AND INTEGRATED SYSTEM, SPECIFICALLY APPROVED BY ADEC FOR THIS LOCATION/PROJECT.
2. SELECT PRIMARY TANK THAT MEETS ORENCO STANDARDS AND CRITERIA IN THE PLANS.
3. TANK, FITTINGS, AND ACCESSORIES SHALL BE INSTALLED PER MANUFACTURERS INSTALLATION MANUAL AND ACCORDING TO THE PLANS.
4. TREATMENT SYSTEM SHALL CONSIST OF 2 AX-20 PODS WITH BIO-TUBE AND A 1-COMM CONTROL PANEL.
5. INSTALL POWER AND CONTROL CIRCUITS IN APPROPRIATE CONDUIT PER MANUFACTURERS INSTALLATION INSTRUCTIONS.

**ORENCO AX-20 WWTP UNIT**

| ITEM | MODEL # | QTY |
|---|---|---|
| RECIRC TANK | 1,500 GAL | 1 |
| COMM CONTROL PANEL | ATRTU-NET | 1 |
| DUPLEX PUMP ASSEMBLY | SEE COMPONENTS BELOW | 1 |
| HIGH HEAD EFFLUENT PUMPS | PF5007 | 2 |
| BIO-TUBE PUMP VAULT | PVU 57-36-25- | 1 |
| PVC SPLICE BOX | | 1 |
| FLOAT SWITCH ASSEMBLY | MI | 1 |
| ELECTRICAL SPLICE BOX | S36 | 1 |
| TREATMENT PODS | AX-20 | 2 |




**2 SYSTEM SCHEMATIC**
C8 C8 SCALE: NTS

AKS ARCHITECTURE INTERIOR DESIGN

TNH ENGINEERING/SURVEYING & LANDSCAPE ARCHITECTURE
TRYCK NYMAN HAYES, INC.

STATE OF ALASKA 49 TH
Carl M. Ferdula
10845-CE
REGISTERED PROFESSIONAL ENGINEER

U. S. COAST GUARD
CIVIL ENGINEERING UNIT
JUNEAU

USCG. CEU JUNEAU
709 WEST 9TH STREET, ROOM 817
JUNEAU, ALASKA 99801

| ISSUE | | |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | 08/05/08 | |
| MARK | DATE | DESCRIPTION |

| | |
|---|---|
| A/E PROJECT NO: | |
| CAD FILE NAME: | |
| DESIGNED BY: | CMF |
| DRAWN BY: | DJS |
| EDITED BY: | CMF |
| CHECKED BY: | CMF |
| SCALE: NTS | PLOT SCALE: 1:1 |

SHEET TITLE

WATER/WASTEWATER DESIGN
AND MODIFICATION
LORAN STATION SHOAL COVE ALASKA

SYSTEM PLAN

| REVIEWED BY: ERG | REVIEWED BY: DAL | REVIEWED BY: ASB |
|---|---|---|
| PROJECT ENG. | BRANCH CHIEF | TECH. DIRECTOR |

D. SAVATGY, CDR, USCG
APPROVING OFFICER — DATE

| PROJECT NUMBER | DRAWING NUMBER |
|---|---|
| 17-J00164 | C6 |
| DISCIPLINE/SHT NO | |
| S3592 | SHEET 8 OF 12 |

DRAWN BY: USCG

USCG ALASKA LORAN-C STATIONS RECORDATION
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

SYSTEM PLAN
KETCHIKAN

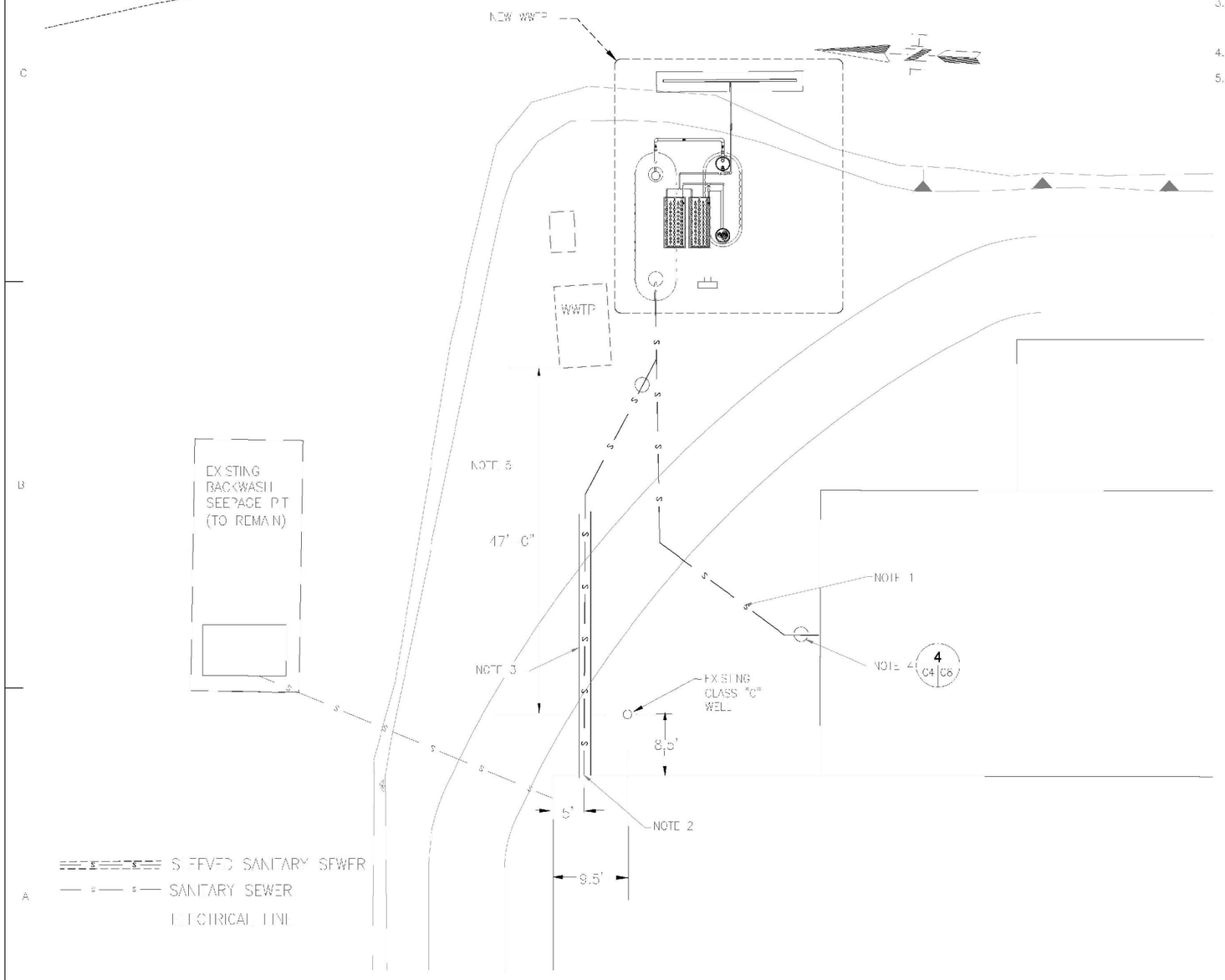
HISTORIC AMERICAN BUILDINGS SURVEY
7 OF 10

SURVEY NO. AK-235
ALASKA

IF REPRODUCED, PLEASE CREDIT THE HISTORIC AMERICAN BUILDINGS SURVEY, NATIONAL PARK SERVICE, NAME OF DELINEATOR, DATE OF DRAWING

NOTES

1. CONTRACTOR SHALL INSTALL NEW 4" INCH HDPE SEWER LINE AS SHOWN ON PLANS.
2. TIE IN TO EXISTING CONNECTION UNDER MAIN BUILDING. INSTALL TRANSITION FROM EXISTING PIPE TO NEW HDPE USING ISCO DIPS MC ADAPTER W/ KIT, OR EQUAL.
3. INSTALL 4-INCH HDPE SEWER PIPING INSIDE 8-INCH HDPE SLEEVE AS SHOWN ON PLANS. LOCATE SLEEVE AS FAR PAST THE OLD/NEW CONNECTION AS PRACTICABLE. BUTTWELD ALL PIPING AS PER MANUFACTURERS REQUIREMENTS.
4. INSTALL DOUBLE CLEANOUTS IN APPROXIMATE LOCATION SHOWN.
5. INSTALL A MINIMUM OF 30' FEET OF SLEEVED HDPE.




1 CIVIL SITE PLAN
C4 C4
SCALE: NTS

AKS ARCHITECTURE INTERIOR DESIGN

TNH ENGINEERING/SURVEYING & LANDSCAPE ARCHITECTURE
TRYCK NYMAN HAYES, INC.

STATE OF ALASKA 49 TH
Carl M. Ferrazzo
10845-CE
REGISTERED PROFESSIONAL ENGINEER

U. S. COAST GUARD
CIVIL ENGINEERING UNIT
JUNEAU

USCG. CEU JUNEAU
709 WEST 9TH STREET, ROOM 817
JUNEAU, ALASKA 99801

| ISSUE | | |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | 08/05/08 | |
| MARK | DATE | DESCRIPTION |

| | |
|---|---|
| A/E PROJECT NO: | |
| CAD FILE NAME: | |
| DESIGNED BY: | CMF |
| DRAWN BY: | DJS |
| EDITED BY: | CMF |
| CHECKED BY: | CMF |

SCALE: NTS PLOT SCALE: 1:1

SHEET TITLE

WATER/WASTEWATER DESIGN
AND MODIFICATION
LORAN STATION SHOAL COVE ALASKA

CIVIL SITE PLAN

| REVIEWED BY: | REVIEWED BY: | REVIEWED BY: |
|---|---|---|
| ERG | DAL | ASB |
| PROJECT ENG. | BRANCH CHIEF | TECH. DIRECTOR |

D. SAVATGY, CDR, USCG
APPROVING OFFICER — DATE

| PROJECT NUMBER | DRAWING NUMBER |
|---|---|
| 17-J00164 | C4 |
| DISCIPLINE/SHT NO | |
| S3592 | SHEET 6 OF 12 |

DRAWN BY: USCG

USCG ALASKA LORAN-C STATIONS RECORDATION
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

CIVIL SITE PLAN

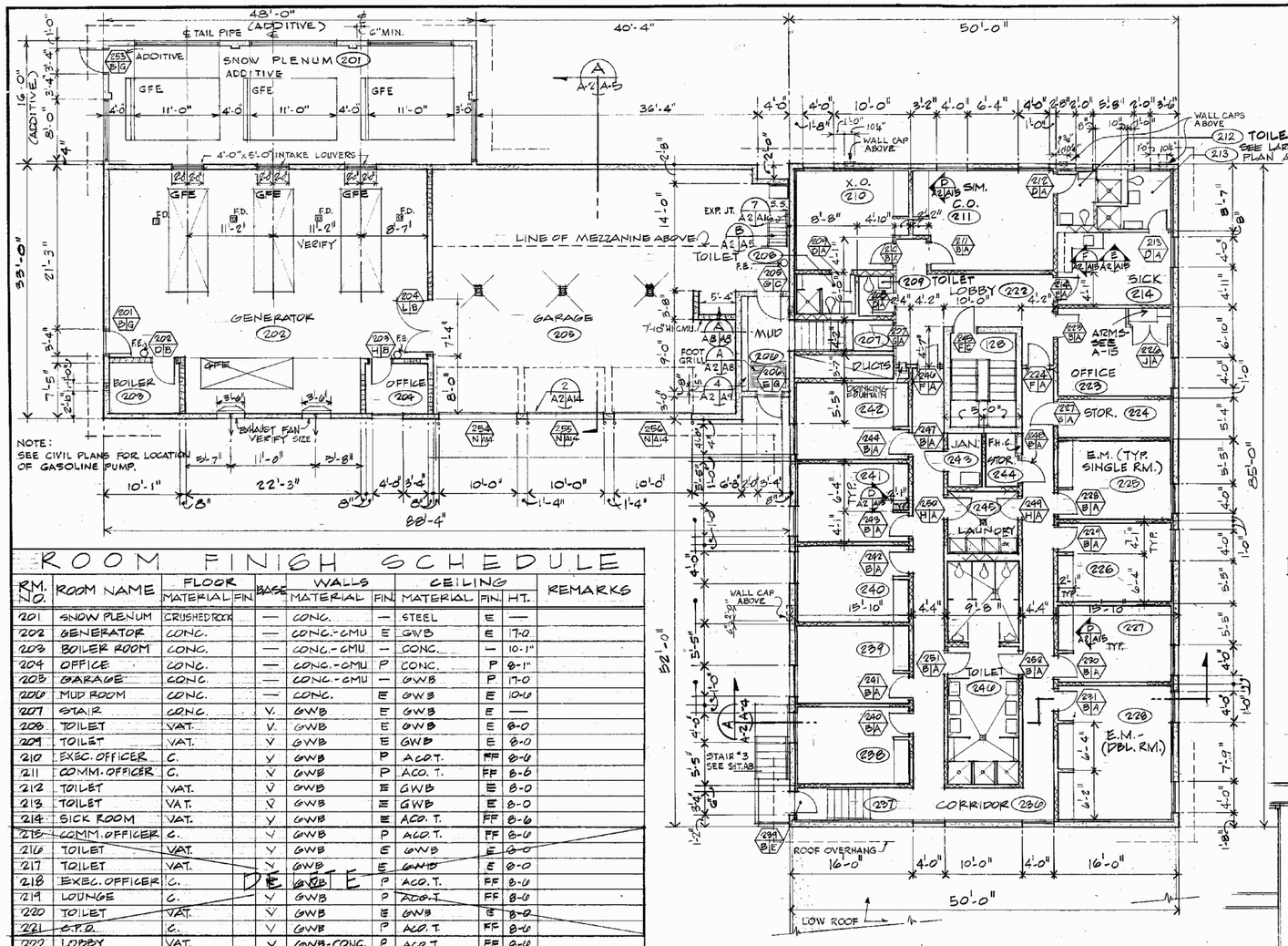
KETCHIKAN

ALASKA AK-235

SURVEY NO.

HISTORIC AMERICAN BUILDINGS SURVEY
6 OF 10

LIBRARY OF CONGRESS PRINTS & PHOTOGRAPHS




## ROOM FINISH SCHEDULE

| RM. NO. | ROOM NAME | FLOOR MATERIAL | FIN | BASE | WALLS MATERIAL | FIN | CEILING MATERIAL | FIN. | HT. | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| 201 | SNOW PLENUM | CRUSHED ROCK | | — | CONC. | — | STEEL | E | — | |
| 202 | GENERATOR | CONC. | | — | CONC.-CMU | E | GWB | E | 17-0 | |
| 203 | BOILER ROOM | CONC. | | — | CONC.-CMU | — | CONC. | — | 10-1" | |
| 204 | OFFICE | CONC. | | — | CONC.-CMU | P | CONC. | P | 9-1" | |
| 205 | GARAGE | CONC. | | — | CONC.-CMU | — | GWB | P | 17-0 | |
| 206 | MUD ROOM | CONC. | | — | CONC. | E | GWB | E | 10-6 | |
| 207 | STAIR | CONC. | | V. | GWB | E | GWB | E | — | |
| 208 | TOILET | VAT. | | V. | GWB | E | GWB | E | 8-0 | |
| 209 | TOILET | VAT. | | V | GWB | E | GWB | E | 8-0 | |
| 210 | EXEC. OFFICER | C. | | V | GWB | P | ACO.T. | FF | 8-6 | |
| 211 | COMM. OFFICER | C. | | V | GWB | P | ACO. T. | FF | 8-6 | |
| 212 | TOILET | VAT. | | V | GWB | E | GWB | E | 8-0 | |
| 213 | TOILET | VAT. | | V | GWB | E | GWB | E | 8-0 | |
| 214 | SICK ROOM | VAT. | | V | GWB | E | ACO. T. | FF | 8-6 | |
| 215 | COMM. OFFICER | C. | | V | GWB | P | ACO.T. | FF | 8-6 | |
| 216 | TOILET | VAT. | | V | GWB | E | GWB | E | 8-0 | |
| 217 | TOILET | VAT. | | V | GWB | E | GWB | E | 8-0 | |
| 218 | EXEC. OFFICER | C. | | V | GWB | P | ACO. T. | FF | 8-6 | |
| 219 | LOUNGE | C. | | V | GWB | P | ACO.T. | FF | 8-6 | |
| 220 | TOILET | VAT. | | V | GWB | E | GWB | E | 8-0 | |
| 221 | C.P.O. | C. | | V | GWB | P | ACO.T. | FF | 8-6 | |
| 222 | LOBBY | VAT. | | V | GWB-CONC. | P | ACO.T. | FF | 8-6 | |
| 223 | OFFICE | VAT. | | V | GWB | P | ACO.T. | FF | 8-6 | |
| 224 | STORAGE | VAT. | | V | GWB | E | GWB | E | 8-0 | |
| 225 | ENLISTED MAN | C. | | V | GWB | P | ACO.T. | FF | 8-6 | |
| 226 | ENLISTED MAN | C. | | V | GWB | P | ACO.T. | FF | 8-6 | |
| 227 | ENLISTED MAN | C. | | V | GWB | P | ACO.T. | FF | 8-6 | |
| 228 | ENLISTED MAN | C. | | V | GWB | P | ACO.T. | FF | 8-6 | |
| 229 | STORAGE | VAT. | | V | GWB | E | GWB | E | 8-0 | |
| 230 | STORAGE | VAT. | | V | GWB | E | ACO. T. | FF | 8-6 | |
| 231 | ENLISTED MAN | VAT. | | V | GWB | P | ACO. T. | FF | 8-6 | |
| 232 | ENLISTED MAN | VAT. | | V | GWB | P | ACO. T. | FF | 8-6 | |
| 233 | ENLISTED MAN | VAT. | | V | GWB | P | ACO. T. | FF | 8-6 | |
| 234 | ENLISTED MAN | VAT. | | V | GWB | P | ACO. T. | FF | 8-6 | |
| 235 | ENLISTED MAN | VAT. | | V | GWB | P | ACO.T. | FF | 8-6 | |
| 236 | CORRIDOR | VAT. | | V | GWB | P | ACO. T. | FF | 8-6 | |
| 237 | STAIR | CONC. | | V | GWB | P | ACO. T. | FF | — | |
| 238 | ENLISTED MAN | C. | | V | GWB | P | ACO. T. | FF | 8-6 | |
| 239 | ENLISTED MAN | C. | | V | GWB | P | ACO. T. | FF | 8-6 | |
| 240 | ENLISTED MAN | C. | | V | GWB | P | ACO. T. | FF | 8-6 | |
| 241 | ENLISTED MAN | C. | | V | GWB | P | ACO. T. | FF | 8-6 | |
| 242 | ENLISTED MAN | C. | | V | GWB | P | ACO. T. | FF | 8-6 | |
| 243 | JANITOR | CONC. | | V | GWB-CONC. | E | GWB | E | 8-0 | |
| 244 | STORAGE | VAT. | | V | GWB-CONC. | E | GWB | E | 8-0 | |
| 245 | LAUNDRY | CONC. | | V | GWB | E | GWB | E | 8-0 | |
| 246 | TOILET ROOM | C.T. | | C.T. | GWB | E | GWB | E | 8-0 | |

DELETE

NOTES:

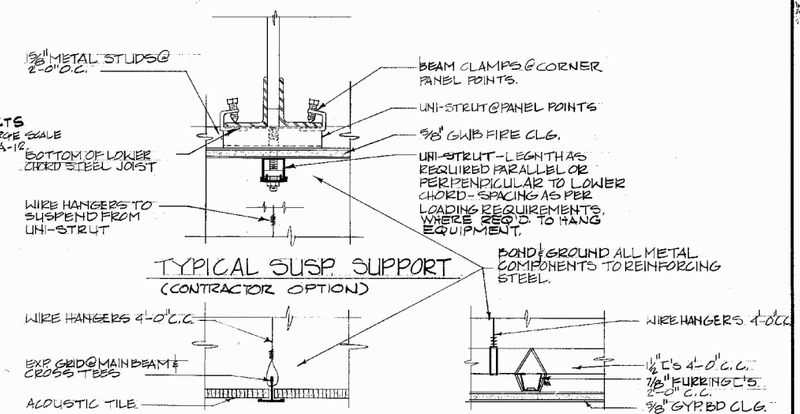
- DOOR NOS. 215 THRU 222, 225 & 232 THRU 238 ARE DELETED.
- SEE SPECIFICATIONS FOR ADD ALTERNATES.

## UPPER FLOOR PLAN

SEE GRAPHIC SCALE 1/8" = 1'-0"

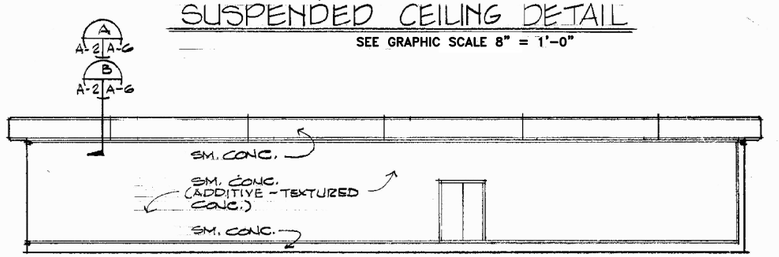
NORTH

- PAINT A SIGN OF 2" HIGH LETTERS ON EDGE OF CONCRETE CEILING DECK ABOVE BOILER RM. & OFFICE #204, READING THUS: "100 LBS. PER SQ. FT. MAX. LOADING."
- PAINT A SIGN ON BEAMS WHERE SHACKLES ARE LOCATED IN GARAGE AS DIRECTED. SEE STRUCTURAL PLANS. PAINT 2" HIGH LETTERS READING THUS: "ONE TON CAPACITY"



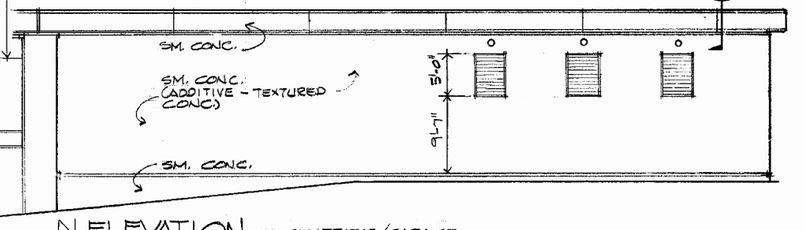

## SUSPENDED CEILING DETAIL

SEE GRAPHIC SCALE 8" = 1'-0"




E. ELEVATION OF PLENUM/TRANSMITTERS/OPERATIONS (BASE BID) 101 102 103

8" = 1'-0"




N. ELEVATION OF GENERATOR/GARAGE (BASE BID) 202 205

SEE GRAPHIC SCALE 8" = 1'-0"


3" 0 3" 6" 3"=1'-0"

5' 0 5' 10' 15' 1/8"=1'-0"

GRAPHIC SCALES

| NO. | REVISION | DATE | APPD. | BY |
|---|---|---|---|---|
| 1 | | | | |

U. S. COAST GUARD — 17TH DISTRICT — JUNEAU, ALASKA

**CIVIL ENGINEERING**

DESIGNED - J.C.
DRAWN - R.E.
TRACED -
CHECKED -
REVIEWED: R. Morgan PE SUPV. GEN. ENGR.
SUBMITTED:

LORAN 'C' STATION
GHOAL COVE ALASKA
OPERATIONS BUILDING
UPPER FLOOR PLAN

APPROVED E. J. Crowell PE 10/21/75 DATE
COMMANDER CHIEF OF BRANCH

LEO A DALY
PLANNING ARCHITECTURE ENGINEERING

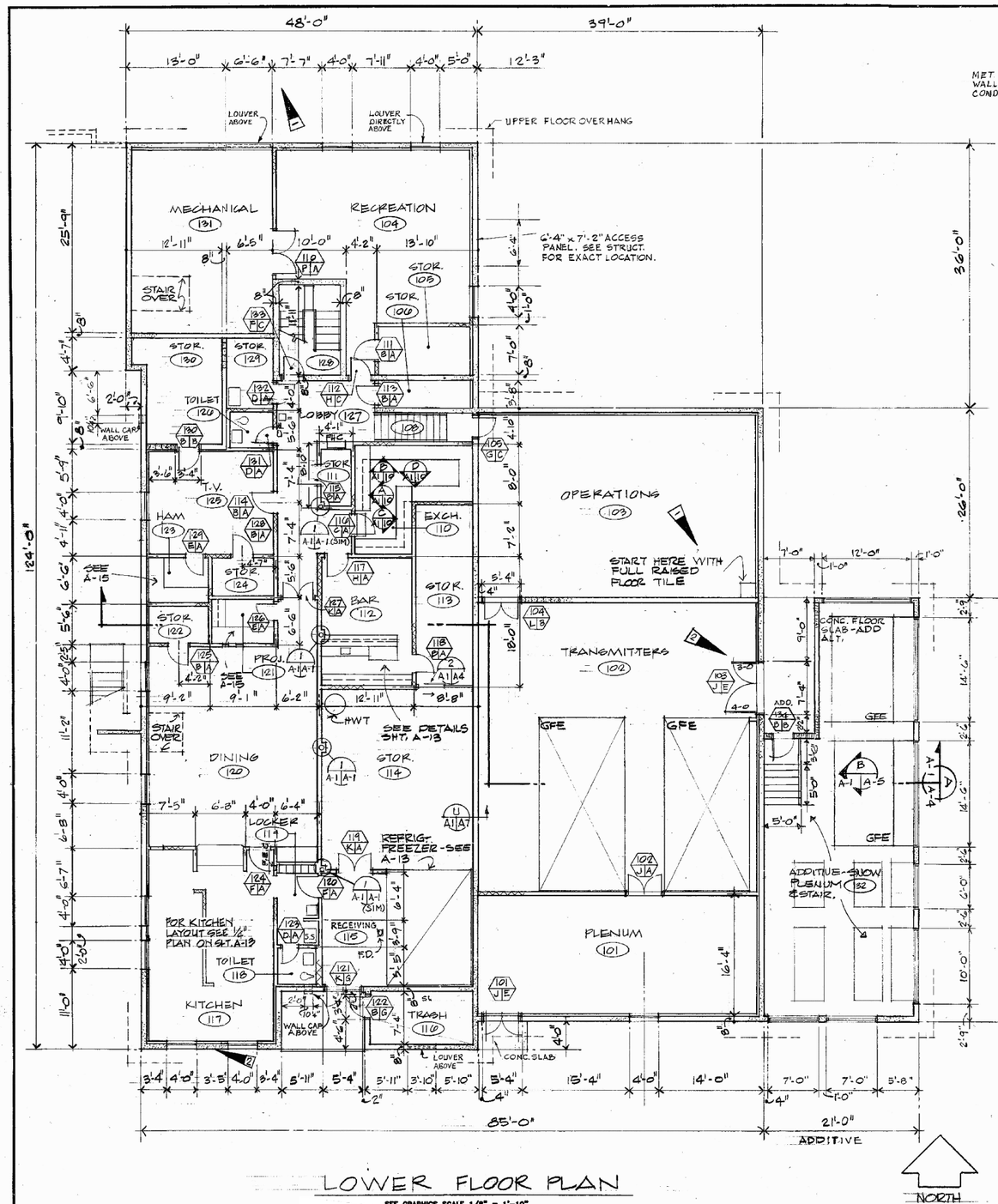
C. G. DRAWING NO. 2377

SCALE AS NOTED SHEET A-2 OF 16

HISTORIC AMERICAN BUILDINGS SURVEY
SURVEY NO. AK-235
ALASKA
KETCHIKAN

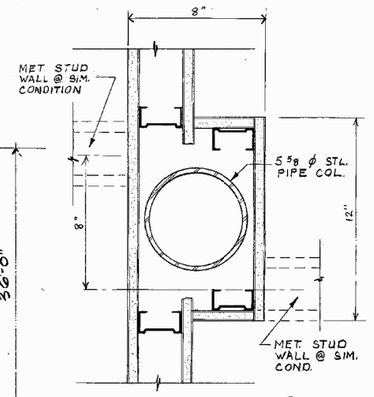
OPERATIONS BUILDING UPPER FLOOR PLAN

USCG ALASKA LORAN-C STATIONS RECORDATION
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR




LOWER FLOOR PLAN

SEE GRAPHICS SCALE 1/8" = 1'-10"




PILASTER DETAIL 1 / A-1 | A-1

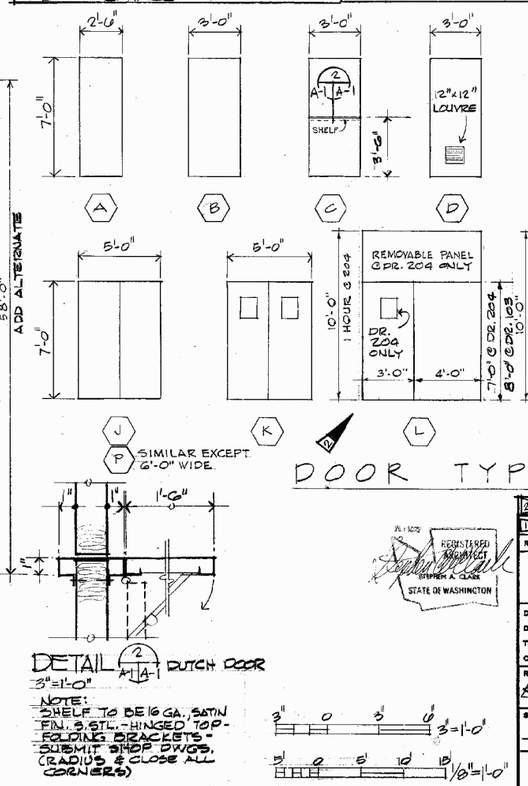
SEE GRAPHICS SCALE 3" = 1'-10"

## FINISH SCHEDULE LEGEND

| | |
|---|---|
| VAT | VINYL ASBESTOS TILE |
| GWB | GYPSUM WALLBOARD |
| C. | CARPET |
| CONC. | CONCRETE |
| ACO. T. | ACOUSTICAL TILE |
| CMU | CONCRETE MASONRY UNIT |
| P | PAINT |
| FF | FACTORY FINISH |
| V | VINYL |
| E | ENAMEL |

## ROOM FINISH SCHEDULE

| RM. NO. | ROOM NAME | FLOOR MATERIAL | FIN. | BASE | WALLS MATERIAL | FIN. | CEILING MATERIAL | FIN. | HT. | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| 101 | PLENUM | RAISED | FF | V | GWB-CONC. | E | GWB | E | 11-3 | |
| 102 | TRANSMITTERS | RAISED | FF | V | GWB-CONC-CMU | E | GWB-ACO. T. | E/FF | 7'6/8'6 | |
| 103 | OPERATIONS | RAISED | FF | V | GWB-CONC-CMU | P | ACO. T. | FF | 8'-0 | |
| 104 | RECREATION | VAT. | FF | V | GWB-CONC. | P | ACO. T. | FF | 8'-0 | |
| 105 | STORAGE | VAT. | FF | V | GWB-CONC. | E | GWB | E | 8'-0 | |
| 106 | STORAGE | CONC. | — | — | CONC.-GWB | E | CONC. | E | 7'-0 | |
| ~~107~~ | ~~STORAGE~~ | ~~CONC.~~ DELETE | V | | ~~GWB-CONC.~~ | E | ~~CONC.~~ | E | 7'-0 | |
| 108 | STAIR | CONC. | — | V | GWB-CONC. | P | ACO. T. | FF | — | |
| ~~109~~ | ~~STORAGE~~ | ~~VAT.~~ DELETE | V | | ~~GWB-CONC.~~ | E | ~~GWB~~ | E | 8'-0 | |
| 110 | EXCHANGE | VAT. | FF | V | GWB | E | GWB | E | 8'-0 | |
| 111 | STORAGE | VAT. | FF | V | GWB | E | GWB | E | 8'-0 | |
| 112 | BAR | VAT. | FF | V | GWB | P | ACO. T. | FF | 8'-0 | |
| 113 | STORAGE | CONC. | — | V* | GWB-CONC. | E | CONC. | E | — | * GWB WALLS ONLY |
| 114 | STORAGE | CONC. | — | V* | GWB-CONC. | E | CONC. | E | — | * GWB WALLS ONLY |
| 115 | RECEIVING | CONC. | — | V.* | GWB-CONC. | E | CONC. | E | — | * GWB WALLS ONLY |
| 116 | TRASH | CONC. | — | — | CONC. | — | CONC. | — | — | |
| 117 | KITCHEN | SHEET VINYL | FF | V | GWB | E | WASH. ACO. T. | FF | 10-0 | |
| 118 | TOILET | VAT. | FF | V | GWB | E | GWB | E | 8'-0 | |
| 119 | LOCKER ROOM | VAT. | FF | V | GWB | E | GWB | E | 8'-0 | |
| 120 | DINING | VAT. | FF | V | GWB | P | ACO. T. | FF | 10'-0 | |
| 121 | PROJECTION | VAT. | FF | V | GWB | P | GWB | P | 8'-0 | |
| 122 | STORAGE | VAT. | FF | V | GWB | E | GWB | E | 8'-0 | |
| 123 | HAM | VAT. | FF | V | GWB | P | GWB | P | 8'-0 | |
| 124 | STORAGE | VAT. | FF | V | GWB | E | GWB | E | 8'-0 | |
| 125 | T.V. ROOM | VAT. | FF | V | GWB | P | ACO. T. | FF | 8'-0 | |
| 126 | TOILET | VAT. | FF | V | GWB-CMU | E | GWB | E | 8'-0 | |
| 127 | LOBBY | VAT. | FF | V | GWB-CONC. | P | ACO. T. | P | 8'-0 | |
| 128 | STAIR | CONC. | — | — | CONC. | P | GWB | P | — | |
| 129 | STORAGE | VAT. | FF | V | GWB-CONC-CMU | E | GWB. | E | 8'-0 | |
| 130 | STORAGE | CONC. | — | — | CONC.-CMU | — | CONC. | — | — | |
| 131 | MECHANICAL | CONC. | — | V* | GWB-CONC | — | CONC. | — | — | * GWB WALLS ONLY |
| 132 | SNOW PLENUM | CRUSHED ROCK | — | — | CONC. | — | STEEL | E | — | |




NOTES:
- DOORS 106 THRU 109 & 114 ARE DELETED.
- ALL DOORS ARE 1¾" TH., HOLLOW METAL.
- ALL 1 & 1½ HR. DOORS TO HAVE U.L. LABEL ON DOOR & FRAME.

DOOR TYPES




DETAIL 2 / A-1 | A-1 DUTCH DOOR

3"=1'-0"

NOTE: SHELF TO BE 16 GA., SATIN FIN., 3 STL.-HINGED TOP-FOLDING BRACKETS - SUBMIT SHOP DWGS. (RADIUS & CLOSE ALL CORNERS)




GRAPHIC SCALES

REGISTERED PROFESSIONAL ENGINEER STEPHEN A. COLE STATE OF WASHINGTON

| REVISION | DATE | APPD. | | BY |
|---|---|---|---|---|
| 2 | 1-22-76 | MEK | ADD & RELOCATE EQUIPMENT - ENLARGE DR. | JC |
| 1 | 1-22-76 | MEK | ADD ADDENDUM Nº 1 THRU Nº 6 | JC |

U. S. COAST GUARD — 17TH DISTRICT — JUNEAU, ALASKA

**CIVIL ENGINEERING**

DESIGNED - J.C.
DRAWN - R.E.
TRACED -
CHECKED -
REVIEWED: K.M. Loran PE SUPV. GEN. ENGR.
SUBMITTED:

LORAN 'C' STATION
SHOAL COVE ALASKA
OPERATIONS BUILDING
LOWER FLOOR PLAN

APPROVED E.R. Crawell PE 10/21/75 DATE
COMMANDER, CHIEF OF STAFF

LEO A DALY
PLANNING ARCHITECTURE ENGINEERING

C.G. DRAWING NO. 2377

SCALE AS NOTED SHEET A-2 OF 16

DRAWN BY: USCG

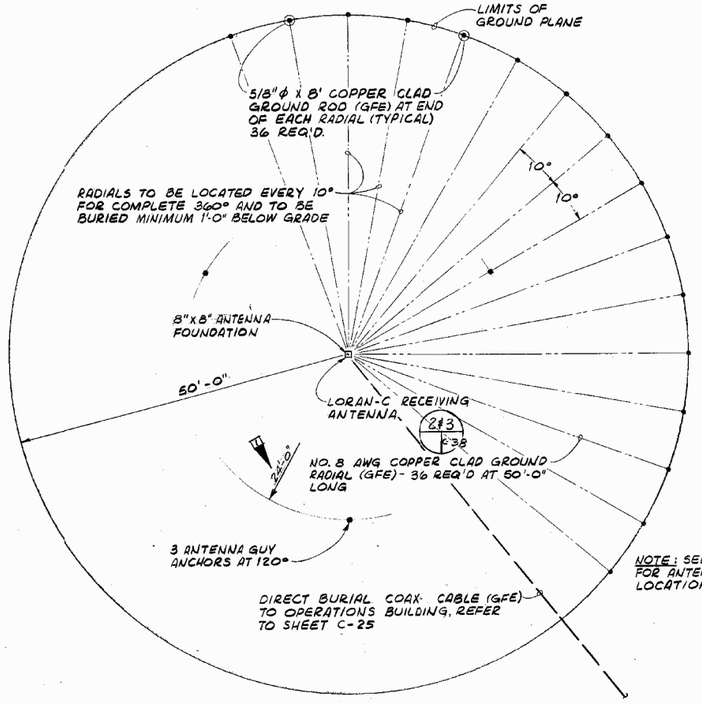
USCG ALASKA LORAN-C STATIONS RECORDATION
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

HISTORIC AMERICAN BUILDINGS SURVEY
4 OF 10

SURVEY NO. ALASKA AK-235

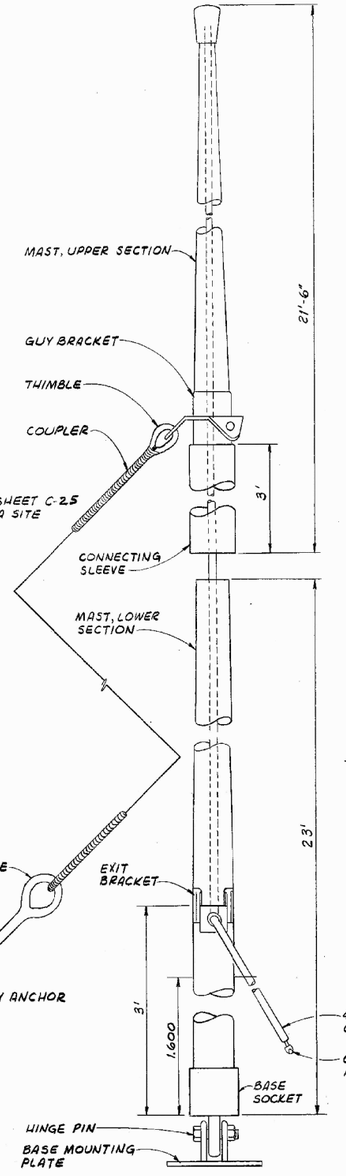
OPERATIONS BUILDING LOWER FLOOR PLAN

KETCHIKAN



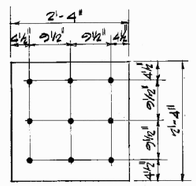

GROUND PLANE PLAN (1, C-38)
SEE GRAPHICS SCALE

NOTE: SEE SHEET C-25 FOR ANTENNA SITE LOCATION

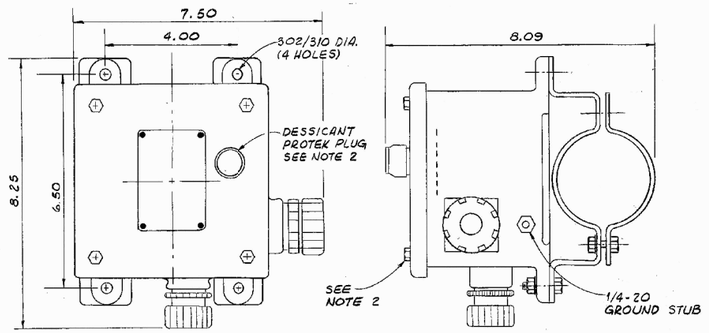



LORAN RECEIVING ANTENNA (3, C-38)
NOT TO SCALE (GFE)

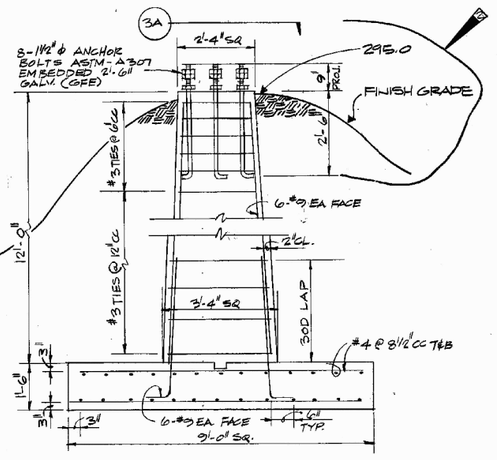
NOTES:
* 1. TUNE ANTENNA COUPLING UNIT PER INSTRUCTION BOOK.
* 2. TIGHTEN COVER BOLTS TO 20-25 IN. LBS. TORQUE.
* 3. CONNECT DIRECT BURIAL COAX CABLE & INNER CONDUCTOR & SEAL CABLE OPENINGS.
4. BOND ALL REINFORCING STEEL TO COPPER GROUND STRIP.
*COAST GUARD INSTALLED




SECTION (5A)
NOT TO SCALE




ANTENNA COUPLER (4, C-38)
NOT TO SCALE (GFE)

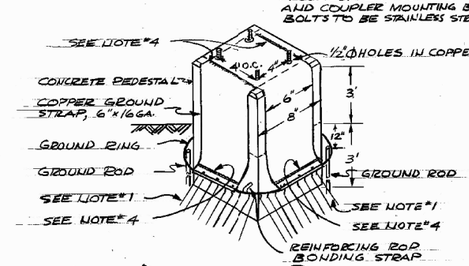



ANTENNA TERMINATION STRUCTURE (5, C-25, C-38)
NOT TO SCALE




BASE MOUNTING PLATE (3A, GFE)
NOT TO SCALE

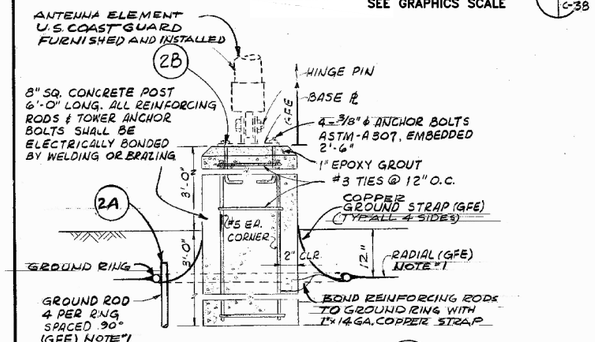
ANTENNA BASE MOUNTING BOLTS TO EXTEND 3" ABOVE PEDESTAL TO ACCOMODATE ANTENNA BASE PLATE AND COUPLER MOUNTING BRACKET. BOLTS TO BE STAINLESS STEEL ⅜"ϕ-20




DETAIL (2C)

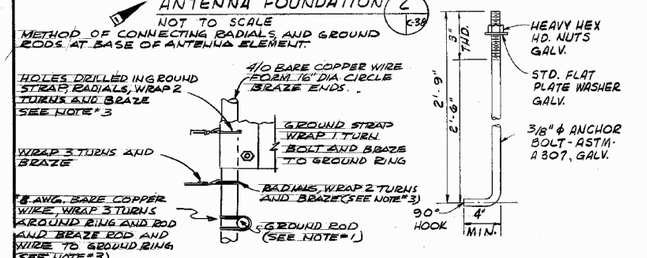
METHOD OF CONNECTING GROUND STRAPS AT BASE OF ANTENNA ELEMENT

NOTES:
1. GROUND SYSTEM FOR LORAN-C RECEIVING ANTENNA TO CONSIST OF 36 RADIALS (1 EACH 10°) 50' LONG OF #8 HARD DRAWN COPPER COR COPPER-WELD WIRE. THE OUTER END OF EACH RADIAL TO BE TERMINATED AT A ⅝" DIA. 8'-0" LONG COPPER-WELD GROUND ROD.
2. TRANSMISSION LINE RG-111 A/U (MOD.) TO BE SUPPLIED GFE.
3. EXOTHERMIC WELDING MAY BE USED FOR THESE CONNECTIONS.
4. SWEAT SILVER BRAZE LAP JOINT ON COPPER GROUND STRAPS
5. CONTRACTOR TO INSTALL FOUNDATION, GROUND SYSTEM AND GUY ANCHORS.




ANTENNA FOUNDATION (2, C-38)
NOT TO SCALE

METHOD OF CONNECTING RADIALS AND GROUND RODS AT BASE OF ANTENNA ELEMENT.




ENLARGED SECTION 16" DIA. RING (2A)
NOT TO SCALE

ANCHOR BOLT (2B)
NOT TO SCALE (4 REQ'D)

| REVISION | DATE | APPD. | BY |
|---|---|---|---|
| 2 | 1-18-78 | ASCE | AS-BUILT CORRECTIONS | EJO |
| 1 | 1-22-76 | ASCE | ADD ADDENDUM NO. 1 THRU NO. 5 | J.E. |

U.S. COAST GUARD — 17TH DISTRICT — JUNEAU, ALASKA

CIVIL ENGINEERING

DESIGNED: J.H.
DRAWN: P.A.M.
TRACED:
CHECKED:
REVIEWED: R.M. Morgan PE
SUPV. ARCH. ENGR.
SUBMITTED:

LORAN 'C' STATION
SHOAL COVE ALASKA
LORAN RECEIVING ANTENNA
PLAN AND DETAILS

APPROVED: [signature] PE 10/21/75 DATE
COMMANDER CHIEF OF BRANCH

LEO A DALY
PLANNING ARCHITECTURE ENGINEERING

C.G. DRAWING NO. 2377
SCALE AS NOTED
SHEET C38 OF 38

GRAPHIC SCALES 10 0 10 20 1"=10'

"FROM U.S. COAST GUARD - 11th DIST. OFFICE - LONG BEACH, CA.- DWG. NO. 1379-S 'LORAN RECEIVING ANTENNA PLAN & DETAILS' DATED 8/20/75

JOHN R. HUTCHINS — STATE OF WASHINGTON — 13579 — REGISTERED PROFESSIONAL ENGINEER

DRAWN BY: USCG

USCG ALASKA LORAN-C STATIONS RECORDATION
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

KETCHIKAN

ALASKA AK-235

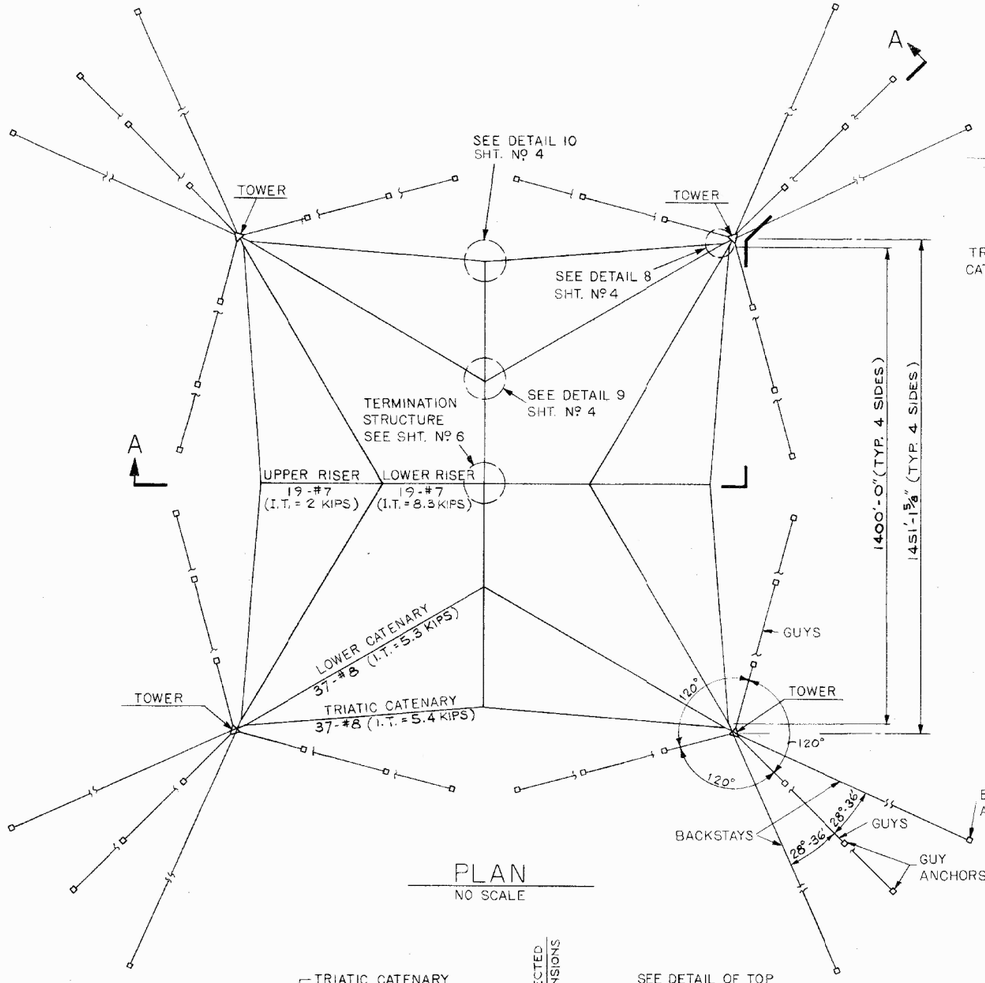
SURVEY NO.

HISTORIC AMERICAN BUILDINGS SURVEY
3 OF 10

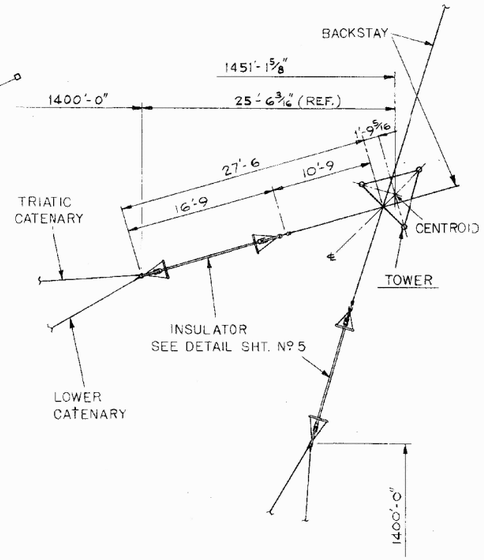
LIBRARY OF CONGRESS PRINT ROOM

RECEIVING ANTENNA PLAN AND DETAILS

IF REPRODUCED, PLEASE CREDIT THE HISTORIC AMERICAN BUILDINGS SURVEY, NATIONAL PARK SERVICE, NAME OF DELINEATOR, DATE OF DRAWING

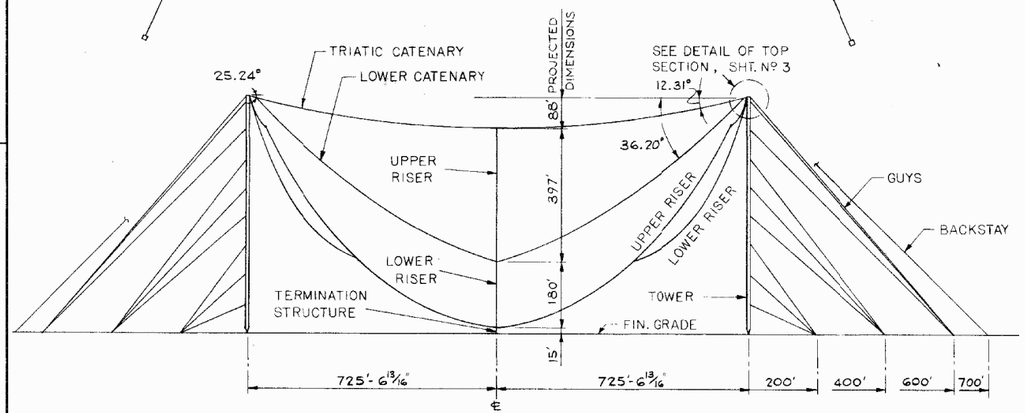



PLAN
NO SCALE

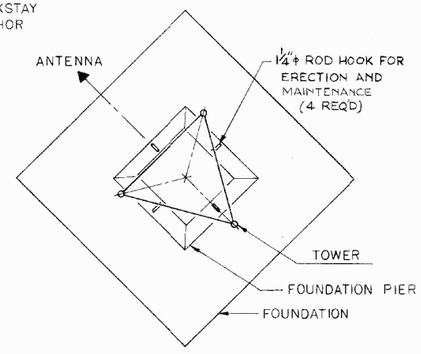



ANTENNA CORNER DETAIL
NO SCALE

DIMENSIONS SHOWN ARE ACTUAL




SECTION A-A
NO SCALE




FOUNDATION ORIENTATION
NO SCALE

| REVISIONS | | | | |
|---|---|---|---|---|
| ZONE | LTR | DESCRIPTION | DATE | APPROVED |

GENERAL NOTES

1. THESE ARE A & E DESIGN DRAWINGS AND DETAILING BY THE FABRICATOR SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER.
2. DURING DETAILING OF THE STRUCTURES EXACT DIMENSIONS AND ANGLES SHALL BE DETERMINED BY THE FABRICATOR.
3. IT IS REQUIRED THAT THE FABRICATOR SHALL DETAIL AND FABRICATE THE STRUCTURES IN SUCH A WAY THAT JOINT ECCENTRICITIES ARE VIRTUALLY ELIMINATED.
4. ALL STEEL FIELD CONNECTIONS SHALL USE TWO BOLTS AS MINIMUM. THE DISTANCE FROM THE CENTER OF A BOLT TO THE FACE OF THE OUTSTANDING LEG OF AN ANGLE SHALL BE SUCH AS TO PERMIT THE USE OF A SOCKET WRENCH IN TIGHTENING THE BOLT.
5. WHERE FILLS ARE REQUIRED AT TWO OR MORE ADJACENT HOLES, A SINGLE-PLATE FILL SHALL BE USED INSTEAD OF RING FILLS.
6. ALL DOUBLE-ANGLE MEMBERS SHALL BE CONNECTED AT INTERVALS BETWEEN THE END CONNECTIONS BY STITCH BOLTS ½ INCH IN DIAMETER AND WASHERS.
7. SIZE AND TYPE OF BOLTS SPECIFIED FOR EACH CONNECTION SHALL NOT BE SUBSTITUTED WITHOUT APPROVAL OF THE ENGINEER. THE DETERMINATION OF BOLT LENGTHS IS THE RESPONSIBILITY OF THE FABRICATOR.
8. THE MINIMUM SIZE OF WELD ALLOWED IS 3/16". THE DETERMINATION OF THE WELD SIZE, IN ACCORDANCE WITH THE WELD TYPE INDICATED ON THE DRAWINGS TO DEVELOP THE FULL STRENGTH OF THE CONNECTED MEMBERS, IS THE RESPONSIBILITY OF THE FABRICATOR, UNLESS OTHERWISE NOTED.
9. ALL DIMENSIONS ON THE DRAWINGS ARE TO MEMBER CENTROIDS OR TO WORKING POINTS (INTERSECTION OF CENTROIDS), EXCEPT AS NOTED.
10. ALL STEEL MEMBERS SHALL BE OF ASTM-A36 STEEL, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
11. ALL STEEL FIELD CONNECTIONS SHALL BE MADE BY ASTM-A325 HIGH STRENGTH BOLTS WITH ANCO LOCK NUTS AND THE BOLTS SHALL BE INSTALLED BY THE TURN-OF-THE-NUT METHOD, UNLESS OTHERWISE NOTED ON THE DRAWINGS OR ERECTION MANUAL.
12. ALL ALUMINUM SHAPES SHALL BE OF 6061-T6 ALUMINUM.
13. ALL STRUCTURAL STEEL SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM SPEC. A123 . ALL BOLTS, NUTS AND OTHER HARDWARE, EXCEPT SWAGE COMPRESSION SLEEVES SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM SPEC. A153 .
14. WASHERS AND COTTER PINS IN CABLE HARDWARE SHALL BE STAINLESS STEEL, TYPE 304.
15. ALL CABLES SHALL BE ALUMOWELD STRAND, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
16. PREFORMED GUY GRIPS SHALL BE ALUMOWELD WITH SAME LAY AS CABLE.
17. ALL INSULATORS SHALL BE AS INDICATED ON THE DRAWINGS.
18. TOWERS TO BE LIGHTED IN ACCORDANCE WITH FAA ADVISORY CIRCULARS, AC 70/7460-1D AND AC150/5345-43B.
19. EACH TOWER LADDER SHALL BE EQUIPPED WITH A CLIMBING SAFETY DEVICE IN ACCORDANCE WITH TYPE 1 OF FEDERAL SPECIFICATION RR-S-001301.
20. LAYING OUT:
    A. HOLE CENTERS MAY BE CENTER PUNCHED AND CUTOFF LINES MAY BE PUNCHED OR SCRIBED. CENTER PUNCHING AND SCRIBING SHALL NOT BE USED WHERE SUCH MARKS WOULD REMAIN ON FABRICATED MATERIAL.
21. CUTTING:
    A. RE-ENTRANT CUTS SHALL BE AVOIDED WHEREVER POSSIBLE. IF USED, THEY SHALL BE FILLETED BY DRILLING PRIOR TO CUTTING.
    B. OXYGEN CUTTING OF ALUMINUM ALLOYS IS NOT PERMITTED.
22. HEATING:
    STRUCTURAL MATERIAL SHALL NOT BE HEATED FOR STRAIGHTENING.
23. REAMING:
    A. IF ANY HOLES MUST BE ENLARGED TO ADMIT THE BOLTS, THEY SHALL BE REAMED. POOR MATCHING OF HOLES SHALL BE CAUSE FOR REJECTION. HOLES SHALL NOT BE DRIFTED IN SUCH A MANNER AS TO DISTORT THE METAL. ALL CHIPS LODGED BETWEEN CONTACTING SURFACES SHALL BE REMOVED BEFORE ASSEMBLY.
24. AFTER SHOP INSPECTION, ALL STEEL SHALL BE CLEANED OF RUST, LOOSE MILL SCALE, DIRT, OIL, GREASE AND BURRS.
25. WELDING:
    A. STEEL IN ACCORDANCE WITH THE LATEST AMERICAN WELDING SOCIETY SPECIFICATIONS FOR ARC AND GAS WELDING.
26. DIAGONALS SHALL BE DETAILED IN A MANNER TO DEVELOP TENSION AND PREVENT SAGGING.
27. EQUIVALENT MATERIAL AND TECHNIQUES SHALL BE APPROVED BY THE ENGINEER.
28. STEEL DETAILING AND FABRICATION SHALL BE IN ACCORDANCE WITH AISC MANUAL OF STEEL CONSTRUCTION 7TH EDITION.

Skoal Cove

| QTY. REQD. | PART NUMBER | MANUFACTURER | SPEC OR BOM | BOM ITEM | DESCRIPTION | ITEM |
|---|---|---|---|---|---|---|

LIST OF MATERIALS

M. J. VLISSIDES, P.E.
ENG. CONSULTANT
McLEAN, VIRGINIA

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON
FRACTIONS ±
DECIMALS ±
ANGLES ±
MATERIAL

CONTRACT NO.

| TITLE | NAME | DATE |
|---|---|---|
| DRAFTSMAN | W. CRENSHAW | 8/29/75 |
| CHECKER | ae | 8-29-75 |
| ENGINEER | M.J. Vlissides | 8-29-75 |
| CHIEF ENGINEER | | |

APPROVED FOR
APPROVED FOR

STAINLESS, INC.
NORTH WALES, PENNSYLVANIA 19454

U.S. COAST GUARD
SECTIONALIZED LORAN TRANSMITTING ANTENNA

ANTENNA SYSTEM LAYOUT

| SIZE | CODE IDENT. NO. | DRAWING NO. |
|---|---|---|
| D | — | II-2515 2410 |

SCALE NONE
SHEET 1 OF 23

DRAWN BY: M.J. VLISSIDES

USCG ALASKA LORAN-C STATIONS RECORDATION
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

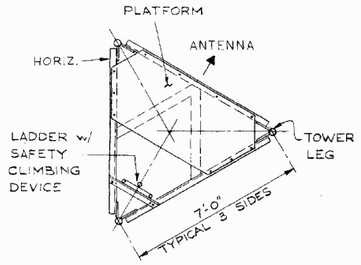
HISTORIC AMERICAN BUILDINGS SURVEY
9 OF 10

SURVEY NO. AK-235

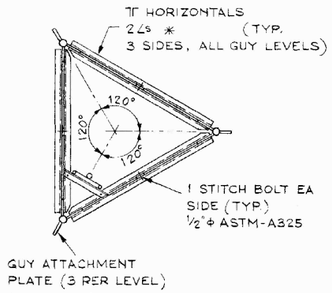
ALASKA
KETCHIKAN

ANTENNA SYSTEM LAYOUT

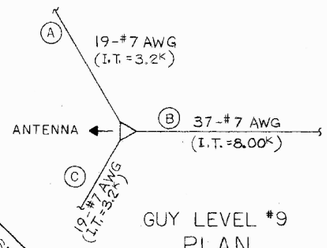
IF REPRODUCED, PLEASE CREDIT THE HISTORIC AMERICAN BUILDINGS SURVEY, NATIONAL PARK SERVICE. NAME OF DELINEATOR. DATE OF DRAWING




PLAN OF TOP
CORONA SHIELD OMITTED FOR CLARITY



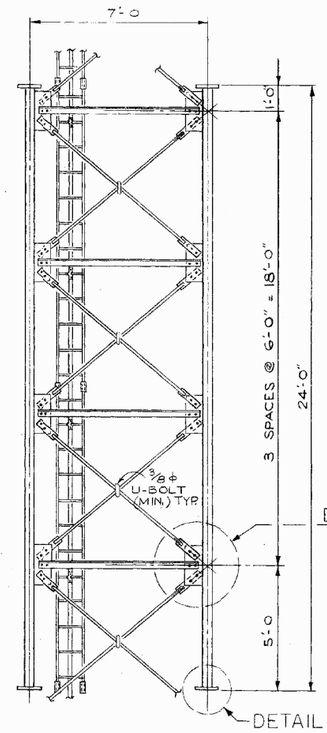

GUY LEVEL ARRANGEMENT
NO SCALE



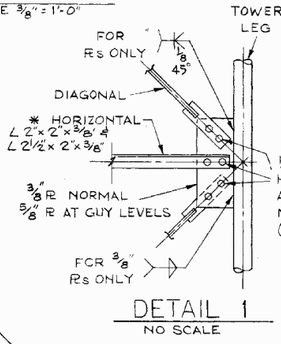

GUY LEVEL #9
PLAN




TOWER ELEVATION
SCALE 1"=60'-0"




TYPICAL
24'-0" SECTION
SCALE 3/8"=1'-0"



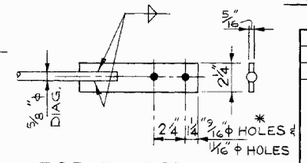

DETAIL 1
NO SCALE




TOP SECTION
NO SCALE
NOTE BACKSTAY SNATCH BLOCKS NOT SHOWN FOR CLARITY

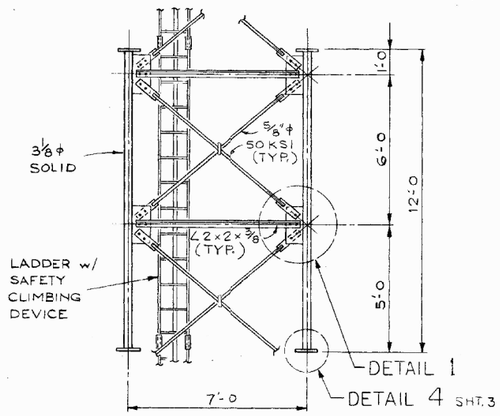



BASE SECTION
SCALE 3/8"=1'-0"



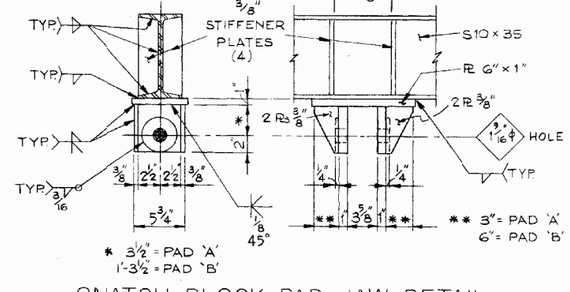

ROD DIAGONAL
CONNECTION DETAIL

* NOTE:
a) FOR 4"Φ & 3½"Φ LEGS USE ⅝"Φ BOLT FOR BRACING CONNECTION, USE L2½"x2"x3/8 FOR HORIZONTALS.
b) FOR 3¼"Φ & 3⅛"Φ LEGS USE ½"Φ BOLT FOR BRACING CONNECTION, USE L2"x2"x3/8" FOR HORIZONTALS.




TYPICAL 12'-0" SECTION

NOTE: THIS SECTION IS TO BE USED WHEN T BECOMES NECESSARY TO ALTER TOWER HEIGHT BY 12'-0± DUE TO UNEVEN TERRAIN.




SNATCH BLOCK PAD JAW DETAIL
SCALE 1½"=1'-0"

| REVISIONS | | | | |
|---|---|---|---|---|
| ZONE | LTR | DESCRIPTION | DATE | APPROVED |

| QTY REQD | PART NUMBER | MANUFACTURER | SPEC OR BOM | BOM ITEM | DESCRIPTION | ITEM |
|---|---|---|---|---|---|---|

LIST OF MATERIALS

Shoal Cove

M.J. VLISSIDES, P.E.
ENG. CONSULTANT
McLEAN, VIRGINIA

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.
TOLERANCES ON:
FRACTIONS ±
DECIMALS ±
ANGLES ±
MATERIAL:

CONTRACT NO.

| TITLE | NAME | DATE |
|---|---|---|
| DRAFTSMAN | W. CRENSHAW | 8/29/75 |
| CHECKER | MJV | 8-29-75 |
| ENGINEER | M.J. Vlissides | 8-29-75 |
| CHIEF ENGINEER | | |

APPROVED FOR
APPROVED FOR

STAINLESS, INC.
NORTH WALES, PENNSYLVANIA 19454

U.S. COAST GUARD
SECTIONALIZED LORAN TRANSMITTING ANTENNA
700 FT SUPPORTING TOWER DESIGN

| SIZE | CODE IDENT NO | DRAWING NO |
|---|---|---|
| D | — | II-2515 2/10 |

SCALE NOTED | SHEET 2 OF 23

DRAWN BY: M.J. VLISSIDES
USCG ALASKA LORAN-C STATIONS RECORDATION
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

HISTORIC AMERICAN BUILDINGS SURVEY
10 OF 10
SURVEY NO. AK-235
ALASKA
KETCHIKAN

700 FT SUPPORTING TOWER DESIGN

# HABS RELEASE FORM

## COPYRIGHT RELEASE FORM

The form must be used as written below. Send the completed form with the final historical report.

### RELEASE AND ASSIGNMENT

I, _____, am the owner, or am authorized to act on behalf of the owner, of the materials described below including but not limited to copyright therein, that the National Park Service has requested to use, reproduce and make available as public domain materials at the Library of Congress as part of the Historic American Buildings Survey/Historic American Engineering Record collections. (If not the sole copyright owner, please specify in the space below any additional permissions needed, if any, to grant these rights.) I hereby transfer and assign to the National Park Service any and all rights including but not limited to copyrights in the materials specified below.

**Survey Number:** HABS No. _____, HAER No. _____ *or*
HALS No. _____

**Types of Materials** (please check all that apply)**:**
Photographs ____ Illustrations ____ Textual materials _____
Oral History/Interviews ____ Audiotape ____ Videotape ____
Other (describe) _____

**Detailed Description of Materials** (attach additional pages if necessary)**:**
_____
_____
_____

**Additional Permissions Needed, if any** (for example, copyright owner, subjects in photographs, illustrations in text):
_____

**Disposition of Materials After Use** (please check one): ____ Return to owner
____ May be retained

_____ _____ _____
Name (please print) Signature Date

_____ _____
Address Telephone Number