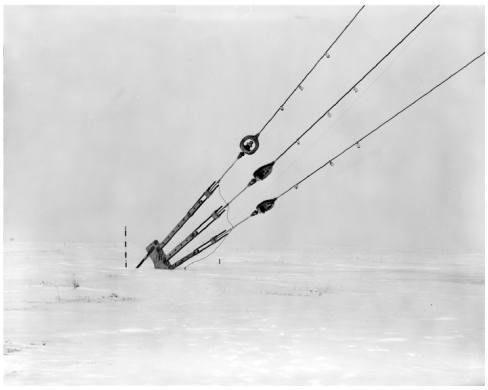

Historic American Buildings Survey
Level II Report

LORSTA
PORT CLARENCE

Port Clarence, Alaska

Final
October 2011

Prepared by

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U.S. Department of the Interior
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HABS Release Form

Name: USCG LORAN-C Station Historic District, Port Clarence

Location: Port Clarence, Alaska

Present Owner: U.S. Fish and Wildlife Service, 605 West 4th Avenue, Rm G-61, Anchorage, AK 99501

Present Use: None

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 Port Clarence was established in 1961 by the U. S. Coast Guard (USCG). Among other buildings, the station consisted of an Administration Building, Barracks Building, a generator, Transmitter Buildings, and one 1,350′ guyed tower. The LORAN-C Station at Port Clarence is eligible as an historic district under Criterion A, at the national level of significance, for its role as a historic aid to navigation that represented the federal government's growing involvement and responsibility for safe navigation. The former navigation tower (demolished on April 28, 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. (Jacobs)

Project Information: The USCG LORAN-C Station Historic District, Port Clarence, Alaska recording project was performed under contract with the U.S. Army Corps of Engineers (USACE) for 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

1961

I.a.ii. Architect

USCG

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

U.S. Army Air Corps camp and airfield (constructed but never used), 1945
USCG LORAN-C Station, 1962–2010

I.a.iv. Builder, Contractor, Suppliers

Station Construction – Raber-Kief Inc., B-E-C-K Constructors

1,350′ guyed antenna – SpyroDresser-Ideco, Model 19010

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 that provided 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 Port Clarence

LORSTA (LORAN Station) Port Clarence was established in 1961–62 by the USCG after it was determined by the Department of Defense (DOD) that the North Pacific Chain needed another station to provide additional coverage of the North Pacific Ocean and Bering Sea (Coulter and Fontaine 1962). It was during this time (Cold War era) that DOD accelerated the fleet ballistic missile weapon system in response to Russian advances in missile technology. This required the concurrent expansion of LORAN-C for use by submarines in positioning themselves to carry out their mission.

The location chosen was Point Spencer, a twelve-mile gravel spit extending into the Bering Sea at the west end of Alaska's Seward Peninsula. A U.S. Army Air Corps camp and airfield was constructed on the point in 1945, and while the camp was never used, the runway functioned. The station consists of an Administration Building, Barracks Building, Fitness Building, generator, Transmitter Building, Signal Power Building, Utilities Building, and garage. All of the major buildings are connected by aboveground heated passageways to allow for travel back and forth in extreme weather conditions. These connector halls also contained the electrical lines, telephone cables, and the water, sewage, and fuel pipes, to prevent them from freezing. The longest passageway at 1,850′ connected the Signal Power Building and the Transmitter Buildings. It was referred to as “the Tunnel” and was the only unheated passageway.

Construction

Representatives from the Raymond International Corporation – an engineering and construction company – and a local expert in Teller, Alaska were flown in to Port Clarence to determine what type of foundation would best support a 1,350′ antenna in an Arctic region on permafrost. For the station buildings, which were built on top of the permafrost, reinforced concrete was used for the foundation over course, non-cohesive soils that would not contract or expand with cycles of freezing and thawing (Coulter and Fontaine 1962). The construction contract went to Raber-Kief Inc. and B-E-C-K Constructors for more than $2 million, which included construction of the entire station except for the antenna.

The Sperry Gyroscope Company was hired to build the antenna. Construction of the tower in permafrost was extremely challenging. First, the permafrost layer, 8′

below the surface, had to be thawed with the aid of steam lances. Then, thousands of gallons of water had to be pumped into cofferdams to create a dry environment for pouring the concrete foundation. After the base of tower was erected and the first 30′ section of the antenna placed on top with a crane, the next forty-five sections (30′ each) were erected using a gin pole with a boom that hoisted the sections one on top of the other. The last weeks of construction were done in freezing winds (Coulter and Fontaine 1962).

Restricted Duty

Life on Port Clarence was difficult because of isolation and extreme weather conditions. The crew included twenty-four residents working and living at the station. Logistic supplies were received every three weeks via C-130 aircraft from Kodiak. Mail was received three days per week by commuter plane from Nome, Alaska (USCG 2005). Duty at Port Clarence was restricted to one year; from there, crew members got their choice of their next duty station.

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. 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.

The LORAN-C signal at Port Clarence was terminated on July 15, 2010 after forty-nine years of continuous operation. The tower was demolished on April 28, 2010. By October 1, 2010, all LORAN systems had ceased 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, which 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. Administration Building, 1965

Original Plans

The one-story Administration Building was constructed in 1965 and is approximately 7,840 square feet. It includes a mess hall, galley, recreation deck, storage, commander's quarters, sick bay and toilet, and administrative offices.

The structural system consists of a conventional spread footing foundation with perimeter foundation walls and strip footings and interior column spread footings. A slab-on-grade floor, concrete walls and columns supporting a concrete slab roof, and supporting concrete beams are also part of the structural system. The aboveground connector hall between the Administration Building and the Barracks Building consists of a series of strip footings transverse to the connector hall that each support two concrete columns which, in turn, support a timber edge beam beneath the walls of the connector hall. The walls are bearing walls with timber studs that support timber roof joists and a plywood roof deck. Timber floor joists span between the edge beams and support a plywood floor deck.

At the west side of the north end of the building, a small timber-framed roof covers a timber-framed platform that provides access to the metal freight containers used for sorting trash. The dumpsters/metal freight containers are 8′ wide x 8′ high and approximately 20′ long. The small timber roof consists of sawn timber rafters supporting a plywood roof deck and metal roofing. The timber platform is between two exterior concrete stoops that have been enclosed with timber stud walls. Inspection indicated that the space below the platform is not vented.

Roofing over the major portion of the building consists of a modified bitumen roof membrane on plywood substrate over wood furring and insulation. The roof over the exit at the administration portion is asphalt shingle on a plywood deck. Walls for the major portion of the building are painted concrete. The building appendages are sided with a variety of materials including exposed plywood at the incinerator addition, T1-11 at the administration exit, ribbed fiberglass panels at the electrical room, and asbestos board at the connector hall. The windows are aluminum-framed and insulated with an aluminum vent hood. The doors are hollow metal in hollow metal frames. The building does not have a sprinkler system.

Alterations and Additions

The building was renovated in 1988; however, it is unclear what occurred during the renovation (USCG 2005).

II.a.ii. Barracks Building, 1965

The two-story, 9,550 gross-square-feet Barracks Building was constructed in 1965. It consists of personnel living quarters, shared and private shower rooms, laundry

facilities, and two offices on the first floor; personnel living quarters and private shower rooms are on the second floor.

The structural system for the northern two-thirds of the building consists of a conventional spread footing foundation with perimeter foundation walls and strip footings and interior column spread footings. A slab-on-grade floor, concrete walls and columns supporting a concrete slab roof and supporting concrete beams are also part of the structural system. Lateral loads are resisted by the concrete shear walls and the concrete slab diaphragm.

The roof of this building was covered with a single gable, steel-framed roof, over the original concrete deck. The steel framing consists of periodically spaced, transverse, steel trusses that support a structural steel deck.

The southern one-third of the Barracks Building is a two-story structure with a crawl space. The foundation consists of two, north-south oriented pre-stressed, pre-cast, concrete I-girders: one along the east side of the building and one along the west side. Parallel chord steel trusses are placed transverse to and along these girders. The steel trusses consist of wide flange beams at the top and bottom chord separated by steel plates. A composite steel and concrete deck was placed over the transverse trusses. Steel tube columns bear on the first floor trusses supporting steel beams. The steel beams support a composite metal and concrete deck. Upper floor steel tube columns support steel roof beams which, in turn, support transverse steel trusses. Single gable roof trusses at 8:12 pitch support a metal roof deck and metal roofing. The lateral load-resisting system consists of braced steel frames at the perimeter walls, the metal roof deck, and the composite floor deck/diaphragm.

The aboveground connector halls between the Administration Building and the Barracks Building, and between the Barracks Building and the Water/Boiler/Sewage Building, consist of a series of strip footings transverse to the connector hall that support two concrete columns, which, in turn, support timber edge beams beneath the walls of the connector halls. The walls are bearing walls with timber studs and support timber roof joists and plywood roof deck. Timber floor joists span between the edge beams and support a plywood floor deck.

The roofing consists of standing seam metal with concealed fasteners over rigid insulation on metal deck on both the original structure and the two-story addition.

The walls for the northern end of the building consist of the original construction, load-bearing, concrete walls with 6″ metal stud cladding, batt insulation, and a layer of rigid insulation with vertical flat panel metal siding or horizontal ribbed metal siding. The walls for the two-story addition are 6″ metal studs with batt insulation and a layer of rigid insulation with vertical flat panel metal siding or horizontal ribbed metal siding. The windows are aluminum-framed insulated windows. The doors are hollow metal in hollow metal frames. The building does not have a sprinkler system.

Alteration

The building underwent substantial renovation, including the two-story barracks addition, in 1986.

II.a.iii. Water/Boiler/Sewage Building

This building was constructed in 1965 and is 8,950 square feet. It consists of water and sewer treatment facilities, boilers, a maintenance shop, associated offices, and supply storage.

The structural system for the building consists of a conventional spread footing foundation with perimeter foundation walls and strip footings and interior column spread footings. A slab-on-grade floor, concrete walls and columns supporting a concrete slab roof and supporting concrete beams are also part of the structural system. Lateral loads are resisted by the concrete shear walls and the concrete slab roof diaphragms.

The aboveground connector halls between the Barracks Building and the Water/Boiler/Sewage Building, and between the Water/Boiler/Sewage Building and the Signal Power Building, consist of a series of strip footings transverse to the connector hall that supports two concrete columns that, in turn, support timber edge beams beneath the walls of the connector halls. The walls are bearing walls with timber studs supporting timber roof joists and a plywood roof deck. Timber floor joists span between the edge beams and support a plywood floor deck.

There are two interior timber-framed storage mezzanines at the southern end of this building. One features stud walls on slab-on-grade foundation; the other is comprised of hanging rods anchored to the roof deck.

The sewage treatment room in this building has a floor slab 3′ to 4′ below the rest of the building. Retaining walls are present on three sides of the recessed slab. On the south side of the room is the exterior wall which features a large framed opening.

At the north end of the building is the water storage tanks area that consists of concrete walls and concrete floors. There are ten tanks with a central access walkway made of reinforced concrete. The walkway is supported by the tank walls.

The roofing over the major portion of the building consists of modified bitumen roof membrane on plywood substrate over wood furring and insulation. Asbestos exterior siding with furring and insulation clads the building at the water treatment room. A portion of metal siding has been installed at the sewer treatment area. There are no windows in this building. The doors are hollow metal in hollow metal frames. The building does not have a sprinkler system.

II.a.iv. Signal Power Building

The one-story Signal Power Building was constructed in 1965 and comprises 7,210 square feet. The building consists of vehicle storage bays and storage rooms. It includes miscellaneous mechanical and electrical equipment, the timer room and electronics shop, a toilet, and an office.

The structural system for the building consists of a conventional spread footing foundation with perimeter foundation walls and strip footings and interior column spread footings. A slab-on-grade floor, concrete walls and columns supporting a concrete slab roof, and supporting concrete beams are also part of the structural system. Lateral loads are resisted by the concrete shear walls and the concrete slab roof diaphragms.

The aboveground connector hall between the utilities facility and the storage bay building consists of a series of strip footings transverse to the connector hall that supports two concrete columns that, in turn, support a timber edge beam beneath the walls of the connector hall. The walls are bearing walls with timber studs and support timber roof joists and plywood roof deck. Timber floor joists span between the edge beams and support a plywood floor deck.

The roofing over the major portion of the building consists of modified bitumen roof membrane on plywood substrate over wood furring and insulation. The windows are aluminum with aluminum vent hoods. The doors are hollow metal in hollow metal frames; there are five steel sectional garage doors. The building does not have a sprinkler system.

Alterations

The building was renovated in 1988; however, it is unclear what occurred during renovation (USCG 2005).

II.a.v. Old Transmitter Building

The structural system for the building consists of a conventional spread footing foundation with perimeter foundation walls and strip footings. Interior column spread footings, a slab-on-grade floor, concrete walls and columns supporting a concrete slab roof and supporting concrete beams are also part of the structural system. Lateral loads are resisted by the concrete shear walls and the concrete slab diaphragm.

The building has no windows. The floor tiles, ceiling, and wall sheathing contain asbestos.

II.a.vi. Heavy Duty Shed

The one-story building, constructed in 1944, comprises 6,630 square feet. It serves as vehicle and equipment storage.

The structural system for this building consists of timber piles at the building perimeter below the ends of roof trusses and end wall posts; a slab-on-grade floor; timber stud walls; columns made of built-up studs under the roof trusses; and timber, clear-span trusses at 20′ on-center. Over the trusses are heavy timber purlins that support a straight-sheathed timber deck. The exterior stud walls are sheathed with diagonally sheathed 1″ x 1″ timber. There are knee braces between the roof trusses and the built-up stud columns under the trusses. These braces, the sidewall sheathing, and the roof diaphragm provide the lateral load-resisting system.

The roofing consists of galvanized corrugated metal roof with exposed fasteners. There are no windows. The doors are hollow metal in hollow metal frames; the garage doors are steel overhead coiling doors. The building does not have a sprinkler system nor is it heated.

Alterations

The building was renovated in 1988; however, it is unclear what occurred during renovation (USCG 2005.

II.a.vii. New Transmitter Building

The New Transmitter Building was constructed in 1997 and is 3,980 square feet. It contains the LORAN transmitter equipment.

The structural system consists of a conventional spread footing foundation with perimeter foundation walls and strip footings; a slab-on-grade floor; pre-cast concrete walls; tube steel columns supporting steel roof beams; and open web steel roof joists supporting a structural steel deck. Pre-cast panels are welded to each other at inserts cast into the edges. The panels are also welded to inserts at the foundation that are cast into the panels and the floor slabs. There is an elevated access floor over a recessed slab throughout the building, except the plenum and vestibule.

The roofing consists of ethylene propylene diene monomer (EPDM) membrane over rigid insulation with a walk protection layer over the entire roof. The exterior walls are exposed pre-cast concrete panels with interior metal stud furring and batt insulation. There are no windows. The doors are hollow metal in hollow metal frames. The transmitter rooms are protected with a Halon extinguishing system.

II.a.viii. Runway Transformer Building

The original building construction date is unknown. The building comprises 137 square feet and contains the electrical transformer.

The structural system consists of a perimeter foundation wall with strip footings, a slab-on-grade floor, and concrete block walls approximately 8′ tall topped with wood-framed walls on one side of the building. Timber rafters (2″ x 10″) support a plywood roof deck and are supported by the timber-framed wall and the concrete masonry unit (CMU) walls.

The roofing is metal with exposed fasteners over plywood deck. The walls are either uninsulated, painted concrete block or 2″ x 2″ wood-framed walls with plywood sheathing and vertical rib metal siding. T1-11 siding occurs at the fascia of the shed roof. There are no windows. The door is hollow metal with hollow metal frame. The building does not have a sprinkler system.

Alterations

A 35-square-foot addition consisting of timber-framed walls, timber rafters, and plywood deck was constructed on the rear of the building. The date is unknown.

II.a.ix. Tunnel

The “tunnel” is the longest aboveground connector hall and was constructed in 1961. It comprises approximately 14,800 square feet and is approximately 1,850 linear feet. The tunnel consisted of a walkway connecting the main buildings with the Old and New Transmitter Buildings. The tunnel does not have a sprinkler system and was the only unheated passageway. It was sometimes referred to as the “Deep Freeze.”

The structural system for the tunnel consists of timber sleepers bearing on a flat 2″ x 2″ timber sill on the ground transverse to the axis of the tunnel at periodic intervals. These sleepers, spaced approximately 20′ on-center, support timber edge beams under sidewalls. The edge beams support sawn timber floor joists with a plywood floor deck and timber stud walls with plywood sheathing. The beams and joists are above grade with the space below being open to the outside. Timber stud walls support timber roof joists with plywood sheathing. The sleepers extend approximately 6′ beyond the exterior wall. The ends of the sleepers are connected to the top plate of the sidewalls with wire rope guys, turnbuckles, and through-bolts.

The lateral load-resisting system consists of the roof diaphragm and sidewalls in the longitudinal direction, and the roof diaphragm and the external guy wires and sleepers in the transverse direction.

Alterations

Drawings from 1982 show the addition of emergency exits at passageways between the Administration and Barracks Buildings, the Barracks and Water/Boiler/Sewage Buildings, and the Water/Boiler/Sewage and Signal Power Buildings, and at periodic intervals in the tunnel. An escape consists of a timber-framed 4′ x 6′ platform supported on the passageway or tunnel structure and on two concrete spread footings with pilasters and timber posts. The platforms are enclosed with insulated timber-framed walls with gypsum wallboard interior sheathing and textured exterior plywood siding. The roof of this enclosure is timber-framed with a pre-manufactured hatch with a domed Plexiglas® lid. Ladders allow access to the hatch.

Exterior insulated steel doors allow access to an exterior timber-framed platform and stairs. These emergency exits are to provide egress in winter months when drifting snow may block conventional exits.

The roofing consists of modified bitumen roof membrane on plywood substrate. Exterior walls are clad in painted asbestos board; there is plywood in areas where the asbestos board has been removed. There are no windows. The exit alcoves have vertically-ribbed fiberglass siding. The doors are hollow metal in hollow metal frames.

II.a.x. Generator Building

The Generator Building, constructed in 1993, comprises 3,412 square feet. The structural system consists of a conventional spread footing foundation with perimeter foundation walls and strip footings; a slab-on-grade floor; pre-cast concrete walls; and tube steel columns supporting steel crane rail beams and rails. Wall panels support the open web steel roof joists, which support a structural steel deck. Pre-cast panels are welded to each other at inserts cast into the edges. The panels are also welded at the foundation to inserts cast into the panels and the floor slabs.

The roofing consists of EPDM membrane over rigid insulation with a walk protection layer over the entire roof. The exterior walls are exposed pre-cast concrete panels with interior metal stud furring and batt insulation. There are no windows. The doors are hollow metal in hollow metal frames. The building contains a sprinkler system.

II.a.xi. New Bay Oshkosh Garage

This 1,984-square-foot building was constructed in 1993 as a temporary contractor work bay. It served as storage for vehicles.

The foundation for the New Bay Oshkosh Garage is unknown. The known structural system consists of a slab-on-grade floor, timber-framed side and end walls, and clear-span roof trusses. The trusses are conventional metal plate connected timber trusses, with flat bottom chord and sloped top chord, spaced at 2′ on-center. The trusses support a plywood roof deck and a gypsum wallboard ceiling. Insulation rests over the ceiling. The lateral load-resisting system consists of the plywood roof diaphragm and plywood shear walls at the side and end walls.

The roofing consists of exposed-fastener delta rib metal roof. The roof trusses are insulated at the bottom chord and gypsum board is attached to the underside of truss. There are no windows. The doors are hollow metal in hollow metal frames and there is one steel sectional garage door. The building does not contain a sprinkler system.

II.a.xii. Fitness Building

The original building was constructed prior to 1988 and is approximately 1,300 square feet.

More than half of the Fitness Building floor is slab-on-grade. The other half has a timber-framed floor structure with a plywood deck supported by an untreated grade beam. Timber-framed side and end walls support conventional metal plate connected timber trusses. A central beam and bearing wall are not effectively load-bearing, as the truss configuration will not deliver a load to the central bearing point.

The roofing consists of exposed-fastener delta rib metal roof. The roof trusses are insulated at the bottom chord and gypsum board or plywood is attached to underside of the trusses. There are two site-built wood frame windows with

Plexiglas®. The doors are hollow metal in hollow metal frames. The building does not contain a sprinkler system.

Alterations

The building was expanded in 1990.

II.a.xiii. Old Water Pump House

The Old Water Pump House is an unused building approximately 63 square feet in size and 9′ tall. It has a concrete foundation. A portion of the building contains a vault that houses valves for incoming water lines, a pump, level switches, and an access ladder. The vault once received incoming water from the surrounding collection system. A submerged pump in the vault then pumped the water into the line to the station buildings. The other portion of the building consists of slab-on-grade and perimeter foundation walls with strip footings. Timber-framed walls support a timber-framed roof.

II.a.xiv. New Water Pump House

The New Water Pump House is a 24-square-foot timber-framed shed, 4′ tall, with a timber floor and a single gable timber-framed roof. The building houses the electric pump and electrical switch boxes.

II.a.xv. Fuel Pump House

The Fuel Pump House is a 64-square-foot, timber-framed shed, 8′ tall, with timber roof joists, asbestos siding, plywood roof sheathing, and a slab-on-grade foundation. It is likely the foundation consists of perimeter foundation walls with strip footings.

II.a.xvi. Gasoline Dispensing Locker

The Gasoline Dispensing Locker is a pre-engineered steel-framed and sheathed hazardous materials shelter. It is located north of the Signal Power Building.

III. Site Description (USCG 2005)

LORSTA Port Clarence is located on the tip of a sandy spit at Point Spencer at the west end of Alaska's Seward Peninsula. The USCG LORAN-C Station at Port Clarence is the northernmost USCG station in the world, and at eighty-five miles east of Siberia, also the closest U.S. military installation to Russia. The closest city is Nome, Alaska, which is approximately eighty miles southeast; however, two Inupiat villages, Teller and Brevig Mission, are approximately twelve miles west of the station.

Access to Port Clarence is limited to air via a charter flight from Nome to Port Clarence. Access from the water is limited to beach landings as there are no docks at Port Clarence. A beach landing site is located on the southern side of the station. Barge access is blocked by sea ice from October to June. There are no schools, hospitals, or health clinics in Port Clarence. Medically trained crewmembers provide limited health care at the station; full service health care is available in Nome and accessed by air.

Infrastructure at Port Clarence includes an asphalt runway, fuel tank farm, water containment area, landfills, sewer leach field, and approximately five miles of single-lane paved roads that connect the facilities. The station operated landfills and used an incinerator for a large portion of their waste. The buildings are situated in a cluster and include the fuel farm, the Administration Building, the Barracks Building, the Water/Boiler/Sewage Building, the water storage “super tank,” the Signal Power Building, the Fitness Building, the New Bay Oshkosh Garage, and the Generator Building. The New Water Pump House obtains water from two shallow lakes nearby. Additionally, three miles of 4’-tall wire snow fencing was installed around the lakes to assist in water collection. Water was pumped to the pump house and then stored in the Water/Boiler/Sewage Building in nine, 25,000-gallon concrete tanks. Two additional tanks were used to store sanitary water. Diesel fuel was stored in four 100,000-gallon steel tanks that provided fuel for one year and were re-filled each summer. Two steam boilers provided the majority of the heat supplied in the buildings.

The facilities are positioned east to west with the fuel farm at the easternmost point. The Administration Building is located approximately 90’ west of the fuel farm. The Barracks Building parallels and is connected to the west of the Administration Building by an 80′-long passageway. The Water/Boiler/Sewage Building is west of the Barracks Building; the two are connected by a 100′-long passageway. The water storage super tank is also connected to the Water/Boiler/Sewage Building to the north by an aboveground passageway. West of the Water/Boiler/Sewage Building is the Signal Power Building, connected by a 120′-long passageway. Located to the north of the connector hall and attached to the western side of the Water/Boiler/Sewage Building is the Fitness Building. The New Bay Oshkosh Garage is situated south of this passageway and coupled to the connector hall by a shorter hall. The Generator Building is located north of the connector hall and is attached to the Signal Power Building.

Northeast of the station buildings is a 2,786-linear-foot asphalt roadway leading to the 4,500′ asphalt runway. There is a 3,200′ gravel-surfaced runoff at the north end of the runway. On the east side of the runway is a parking area, the Heavy Duty Shed, and the former site of an abandoned U.S. Army facility. To the south of these facilities are the abandoned garbage dumps, an active landfill, a gravel pit, and a gravel roadway.

Directly to the north of the main station facilities is the water supply, which is comprised of two shallow man-made lakes with pumps and floats and two additional smaller man-made lakes encompassing approximately 100 acres.

West of the main station facilities is the antenna and grounding area which includes the 1,350’-tall LORAN-C tower and the Old and New Transmitter Buildings. This area is connected to the main facilities by an aboveground passageway referred to as the “tunnel.” A 1,460-linear-foot asphalt-surfaced roadway, “T-Building Road,” runs parallel to the tunnel for vehicle access. The Old and New Transmitter Buildings are adjoined and both buildings are connected to the tunnel. The LORAN-C tower is located west of the Transmitter Buildings, surrounded by a wood fence.

The beach landing and fuel oil connection point are located south of the main station facilities and are accessed via a 937′-long asphalt roadway called “Beach Access Road.”

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(COLOR TRANSPARENCIES CONTACT SHEETS)

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Dale Slaughter, Photographer, April 2011

Notes: All view perspectives corrected with a 4x5 view camera. Scale is 2 inches x 10 feet marked in alternating black and white units, except for the last section which is marked in one-inch units. The tower was three-sided, so there are only three elevations. The plans indicate the tower was about 10 foot 8 inches across. (The centers of the verticals were 10 feet apart.) The clarity of some of the distant views was hindered by low clouds and fog.

Date	Lens	Frame	Description
4/24/2010	90	1	South Elevation looking North
4/25/2010	90	2	Northeast Elevation looking Southwest
4/25/2010	90	3	Northwest Elevation looking Southeast
4/25/2010	65	4	North Oblique looking South
4/25/2010	90	5	Southwest Oblique looking Northeast
4/24/2010	90	6	Context View looking Southeast
4/24/2010	210	7	Tower Base looking Northeast
4/25/2010	210	8	Outer Guy A Anchor looking Southwest
4/24/2010	210	9	Outer Guy A Insulator looking West
4/25/2010	210	10	Top-loading Element C looking Southwest
4/24/2010	210	11	Doughnut Rings at Tower Base looking Northwest
4/25/2010	210	12	Inner Guy Anchor A looking Southwest

INDEX TO COLOR TRANSPARENCIES

Valerie Gomez and Eric Carlson, Photographers, July 2011

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

Date	Frame	View	Description
7/12/2010	1	Northwest	Aerial View
7/12/2010	2	Northwest	Aerial View
7/12/2010	3	Northwest	Overview of facility
7/12/2010	4	Northwest	Overview of facility
7/12/2010	5	West	Transmitter Buildings, East Façade
7/12/2010	6	Southwest	Transmitter Buildings, East Façade and North Elevation
7/12/2010	7	South	Transmitter Buildings, North Elevation
7/12/2010	8	Southeast	Transmitter Buildings, North and West Elevations
7/12/2010	9	East	Transmitter Buildings, West Elevation
7/12/2010	10	Northeast	Transmitter Buildings, South and West Elevations
7/12/2010	11	West	Transmitter Buildings, View of East Façade from roof of walkway
7/12/2010	12	West	Transmitter Buildings, Detail of front door of Old Transmitter Building (east façade)
7/12/2010	13	East	Transmitter Buildings, Detail on West Elevation
7/13/2010	14		Transmitter Buildings, Interior View
7/13/2010	15		Transmitter Buildings, Interior View
7/13/2010	16		Transmitter Buildings, Interior View
7/13/2010	17		Transmitter Buildings, Interior View
7/13/2010	18		Transmitter Buildings, Interior View
7/13/2010	19		Transmitter Buildings, Interior View
7/13/2010	20		Transmitter Buildings, Interior View
7/13/2010	21		Transmitter Buildings, Interior View
7/13/2010	22		Transmitter Buildings, Interior View
7/13/2010	23		Transmitter Buildings, Interior View
7/13/2010	24		Transmitter Buildings, Interior View
7/13/2010	25		Transmitter Buildings, Interior View
7/13/2010	26		Transmitter Buildings, Interior View
7/13/2010	27		Transmitter Buildings, Interior View
7/13/2010	28		Transmitter Buildings, Interior View
7/13/2010	29		Transmitter Buildings, Interior View
7/13/2010	30		Transmitter Buildings, Interior View
7/13/2010	31		Transmitter Buildings, Interior View
7/13/2010	32		Transmitter Buildings, Interior View

7/13/2010	33		Transmitter Buildings, Interior View
7/12/2010	34	West	Administration Building, East Façade
7/12/2010	35	West	Administration Building, Front Entrance, East Façade
7/12/2010	36	Southwest	Administration Building, East Façade and North Elevation
7/12/2010	37	Northwest	Administration Building, East Façade
7/12/2010	38	Northwest	Administration Building, East Façade and South Elevation
7/12/2010	39	South	Administration Building, North Elevation
7/12/2010	40	East	Administration Building, West Elevation
7/12/2010	41	North	Administration Building, South Elevation
7/12/2010	42	Northeast	Administration Building, South and West Elevations
7/12/2010	43	East	Administration Building, West Elevation
7/12/2010	44	West	Administration Building, Detail of Sign, East Façade
7/12/2010	45		Administration Building, Interior, Door Mat
7/12/2010	46		Administration Building, Interior, Mess Hall
7/12/2010	47		Administration Building, Interior, Hallway
7/12/2010	48		Administration Building, Interior, Hallway
7/12/2010	49		Administration Building, Interior, Hallway
7/12/2010	50		Administration Building, Interior, Hallway
7/12/2010	51	North	Barracks Building, South Elevation
7/12/2010	52	Northwest	Barracks Building, South and East Elevations
7/12/2010	53	West	Barracks Building, East Elevation
7/12/2010	54	Northeast	Barracks Building, South and West Elevations
7/12/2010	55	West	Barracks Building, West Elevation
7/12/2010	56	South	Barracks Building, North Elevation
7/12/2010	57	Southeast	Barracks Building, North and West Elevations
7/12/2010	58	Southwest	Barracks Building, North and East Elevations
7/12/2010	59		Barracks Building, Interior, Berth
7/12/2010	60	North	Water/Boiler/Sewage Building, South Elevation
7/12/2010	61	Northeast	Water/Boiler/Sewage Building, South and West Elevations
7/12/2010	62	Northwest	Water/Boiler/Sewage Building, South and East Elevations
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7/12/2010	65	Southeast	Water/Boiler/Sewage Building, North and West Elevations
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7/12/2010	70	West	Water/Boiler/Sewage Building, Detail on East Elevation
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7/12/2010	73		Water/Boiler/Sewage Building, Interior View

7/12/2010	74		Water/Boiler/Sewage Building, Interior View
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7/12/2010	100	East	Signal Power Building, West Elevation
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7/12/2010	106		Signal Power Building, Interior View
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7/12/2010	123	North	Heavy Duty Shed, South Elevation
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7/12/2010	125	West	Heavy Duty Shed, East Elevations
7/12/2010	126	Southwest	Heavy Duty Shed, North and East Elevations
7/12/2010	127	South	Heavy Duty Shed, North Elevation
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7/12/2010	135		Heavy Duty Shed, Interior View
7/12/2010	136		Heavy Duty Shed, Interior View
7/12/2010	137		Heavy Duty Shed, Interior View
7/12/2010	138		Heavy Duty Shed, Interior View
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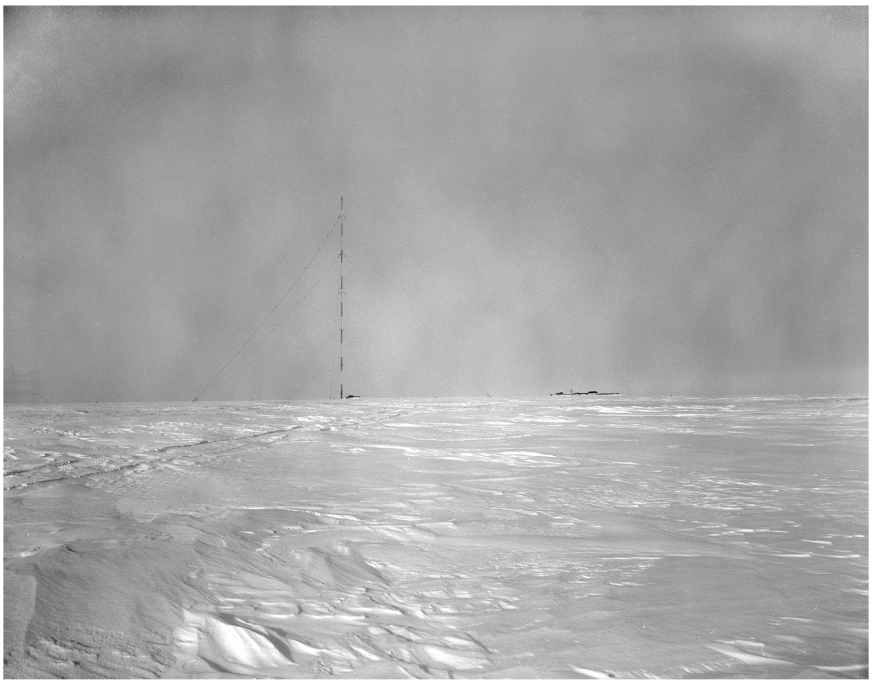
7/12/2010	140	Southeast	Remnants of demolished transmitter tower
7/12/2010	141	South	Remnants of demolished transmitter tower
7/12/2010	142	Northeast	Fuel Tanks
7/12/2010	143	South	Water tank



1. South elevation

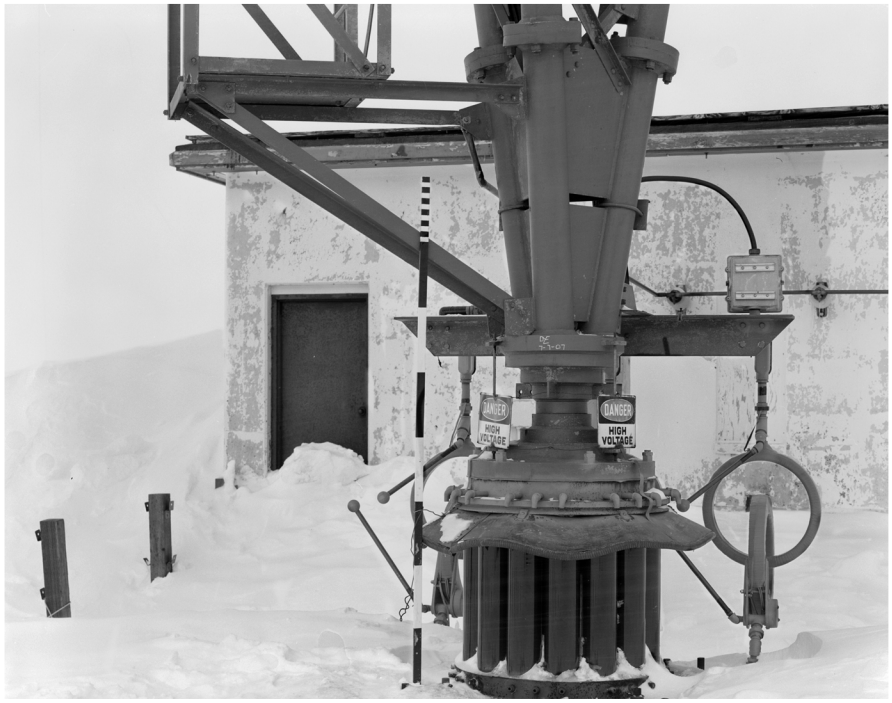
2. Northeast elevation

3. Northwest elevation

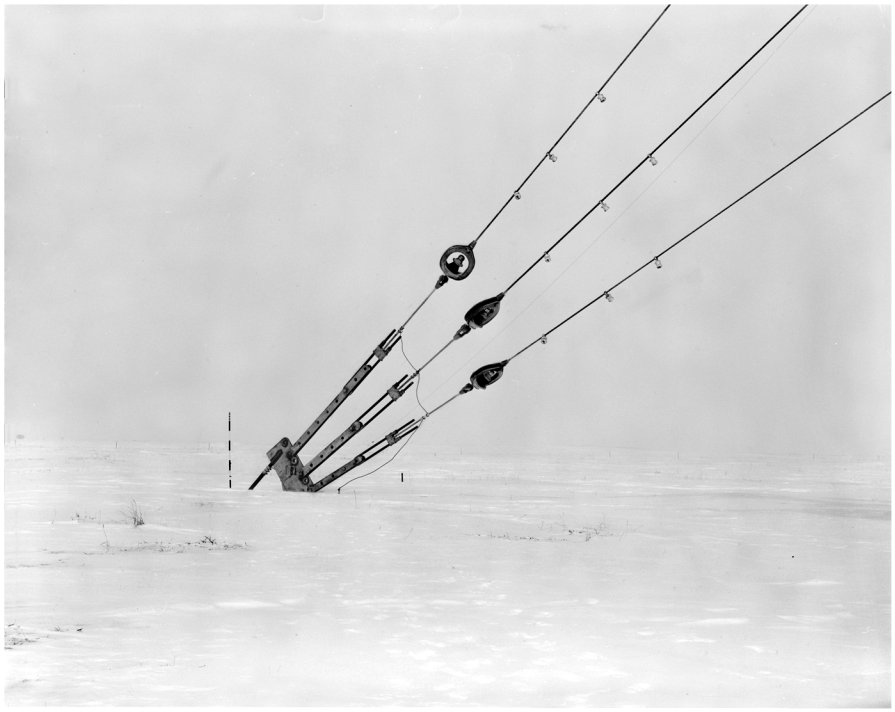
4. North oblique

5. Southwest oblique

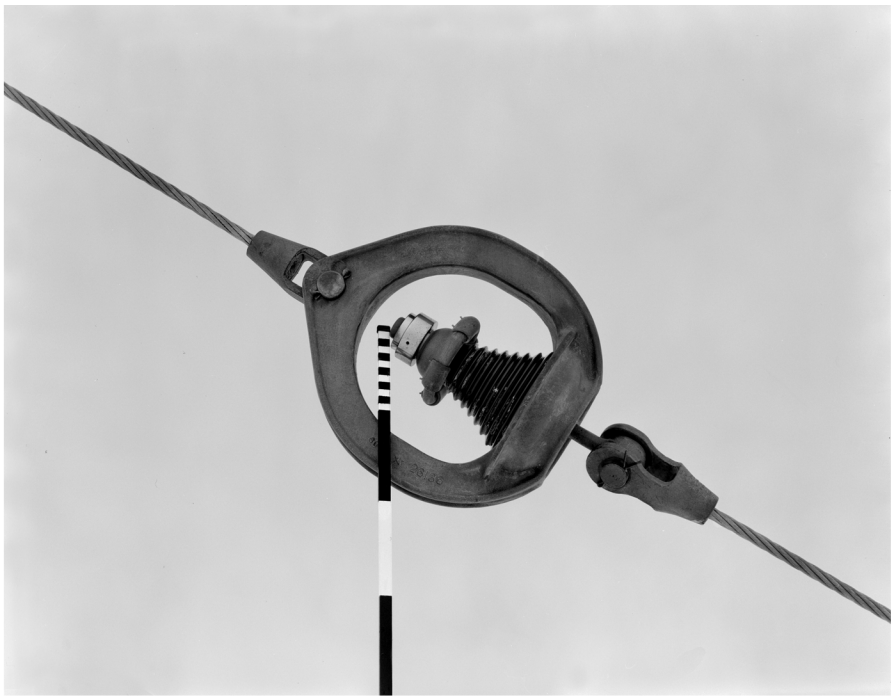
6. Context view looking southeast



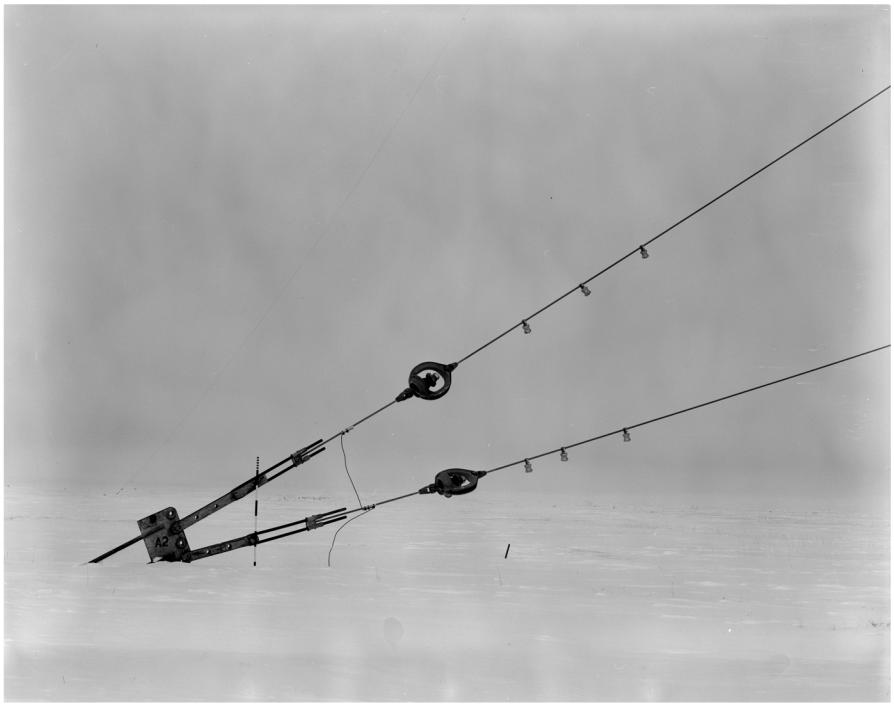
7. Tower base looking northeast



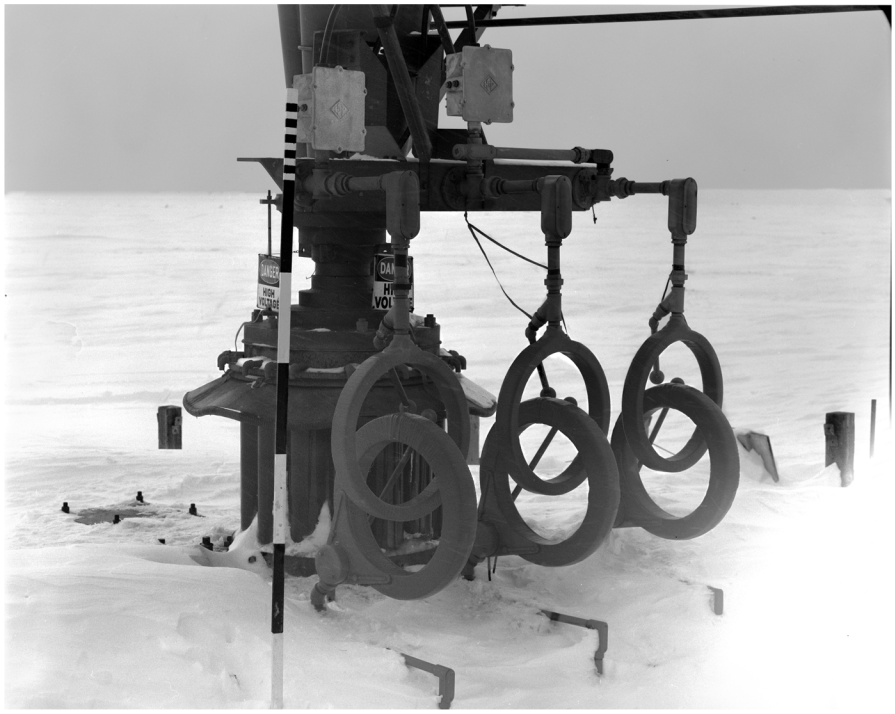
8. Outer guy anchor B looking southwest



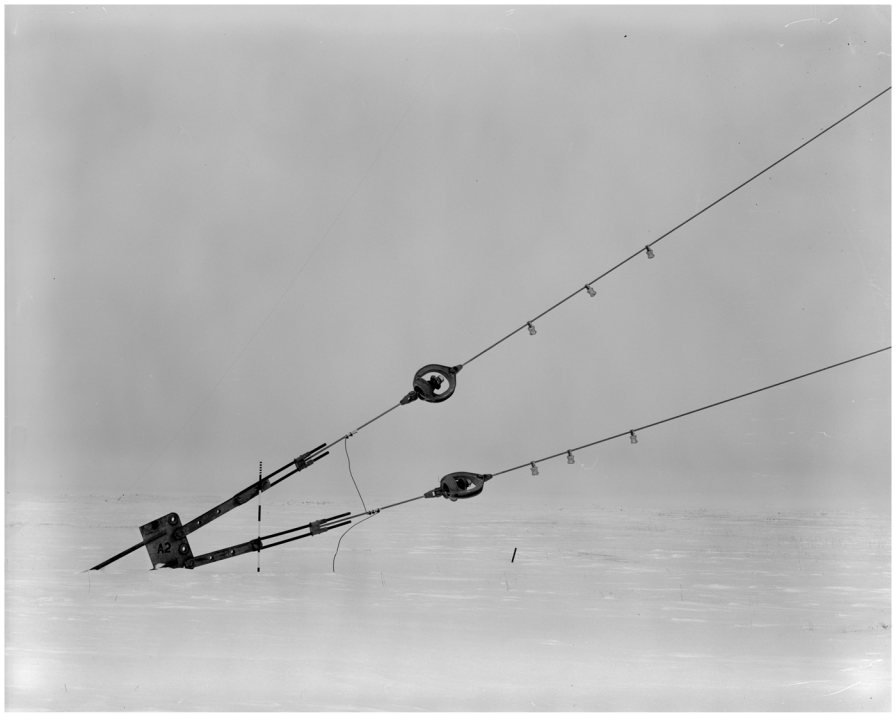
9. Insulator on outer guy A looking west



10. Top loading element C anchor looking southwest



11. Doughnut rings at tower base looking northwest



12. Inner guy A anchor looking southwest

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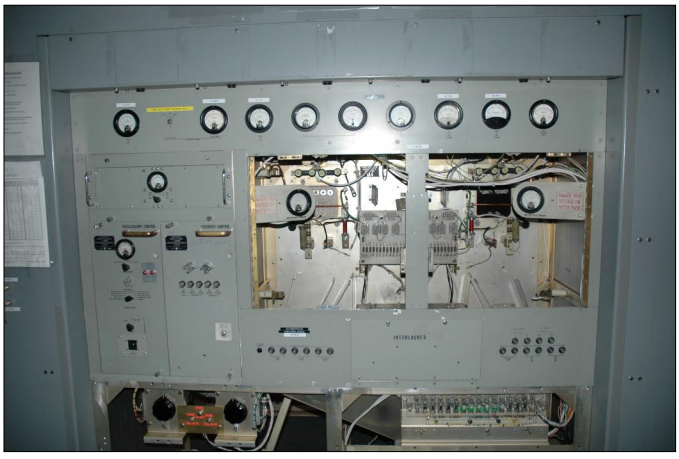

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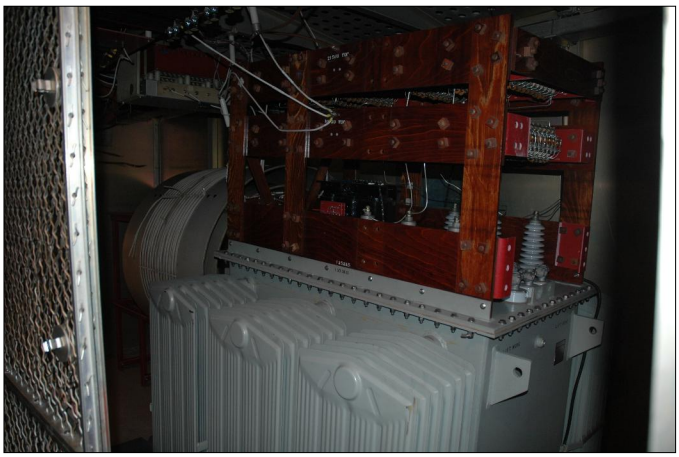

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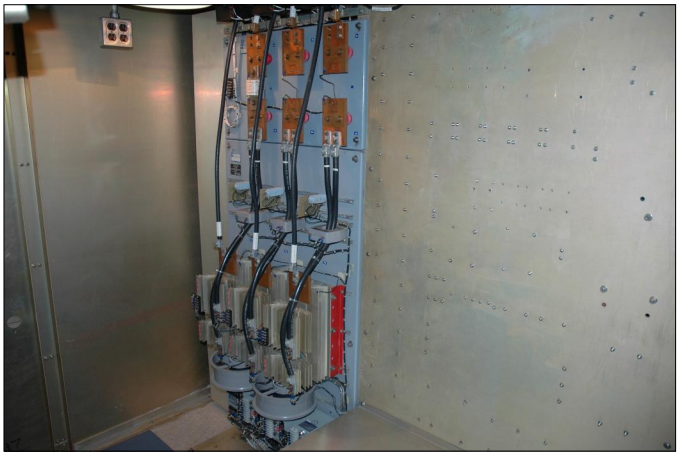

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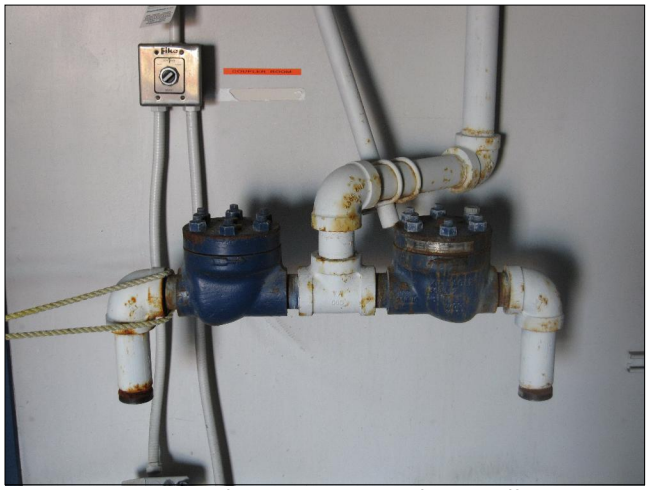
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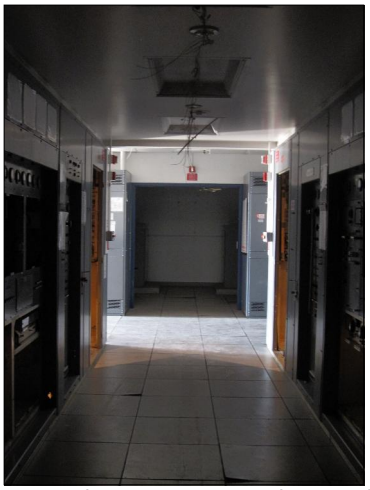
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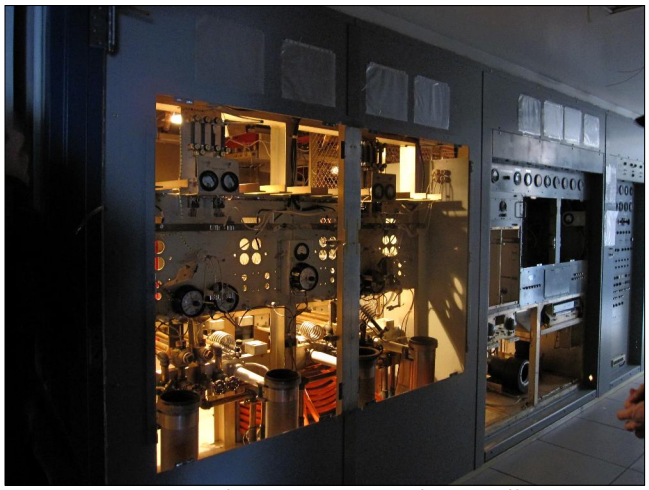
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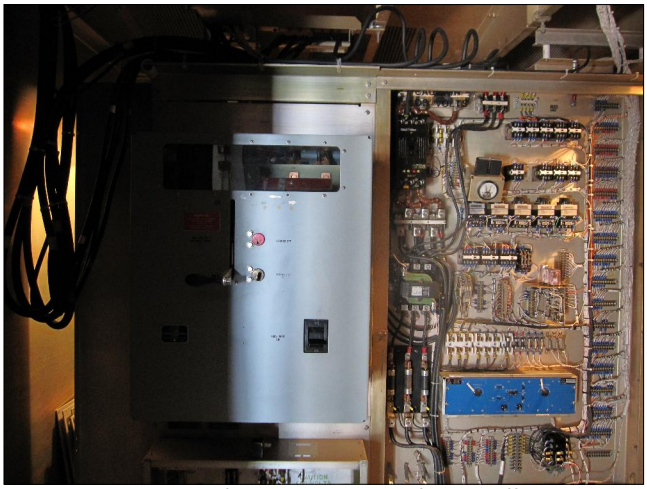

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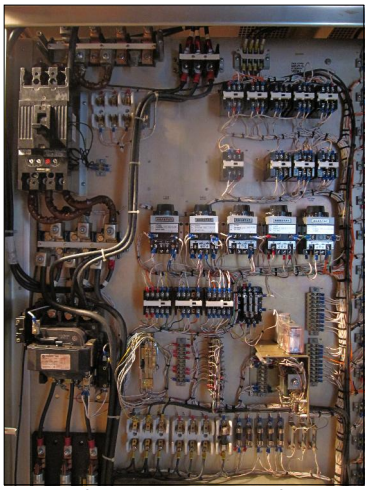


AK_PortClarence_LORANStation_033.tif

AK_PortClarence_LORANStation_034.tif

AK_PortClarence_LORANStation_035.tif

AK_PortClarence_LORANStation_036.tif

AK_PortClarence_LORANStation_037.tif

AK_PortClarence_LORANStation_038.tif

AK_PortClarence_LORANStation_039.tif

AK_PortClarence_LORANStation_040.tif

AK_PortClarence_LORANStation_041.tif

AK_PortClarence_LORANStation_042.tif

AK_PortClarence_LORANStation_043.tif

AK_PortClarence_LORANStation_044.tif

AK_PortClarence_LORANStation_045.tif

AK_PortClarence_LORANStation_046.tif

AK_PortClarence_LORANStation_047.tif

AK_PortClarence_LORANStation_048.tif

AK_PortClarence_LORANStation_049.tif

AK_PortClarence_LORANStation_050.tif

AK_PortClarence_LORANStation_051.tif

AK_PortClarence_LORANStation_052.tif

AK_PortClarence_LORANStation_053.tif

AK_PortClarence_LORANStation_054.tif

AK_PortClarence_LORANStation_055.tif

AK_PortClarence_LORANStation_056.tif

AK_PortClarence_LORANStation_057.tif

AK_PortClarence_LORANStation_058.tif

AK_PortClarence_LORANStation_059.tif

AK_PortClarence_LORANStation_060.tif


AK_PortClarence_LORANStation_061.tif


AK_PortClarence_LORANStation_062.tif


AK_PortClarence_LORANStation_063.tif


AK_PortClarence_LORANStation_064.tif


AK_PortClarence_LORANStation_065.tif

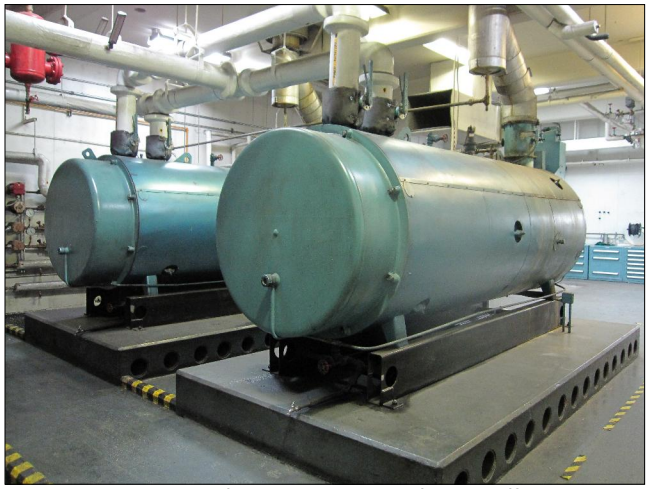

AK_PortClarence_LORANStation_066.tif


AK_PortClarence_LORANStation_067.tif


AK_PortClarence_LORANStation_068.tif


AK_PortClarence_LORANStation_069.tif


AK_PortClarence_LORANStation_070.tif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AK_PortClarence_LORANStation_076.tif

AK_PortClarence_LORANStation_077.tif

AK_PortClarence_LORANStation_078.tif

AK_PortClarence_LORANStation_079.tif

AK_PortClarence_LORANStation_080.tif

AK_PortClarence_LORANStation_081.tif

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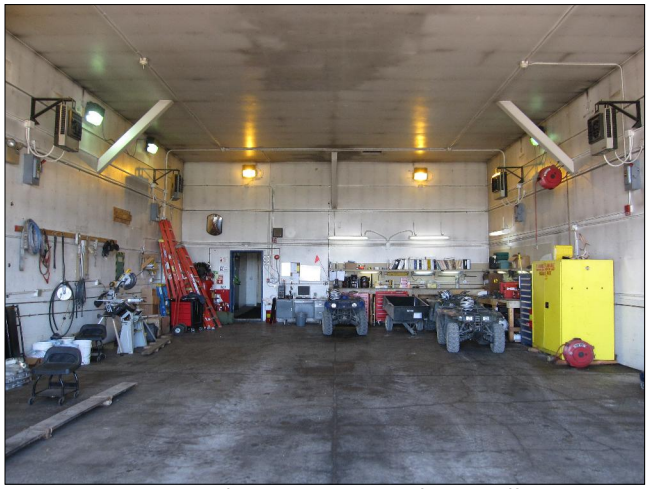
AK_PortClarence_LORANStation_083.tif

AK_PortClarence_LORANStation_084.tif



AK_PortClarence_LORANStation_085.tif

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AK_PortClarence_LORANStation_087.tif

AK_PortClarence_LORANStation_088.tif

AK_PortClarence_LORANStation_089.tif

AK_PortClarence_LORANStation_090.tif

AK_PortClarence_LORANStation_091.tif

AK_PortClarence_LORANStation_092.tif

AK_PortClarence_LORANStation_093.tif

AK_PortClarence_LORANStation_094.tif

AK_PortClarence_LORANStation_095.tif

AK_PortClarence_LORANStation_096.tif

AK_PortClarence_LORANStation_097.tif

AK_PortClarence_LORANStation_098.tif

AK_PortClarence_LORANStation_099.tif

AK_PortClarence_LORANStation_100.tif

AK_PortClarence_LORANStation_101.tif

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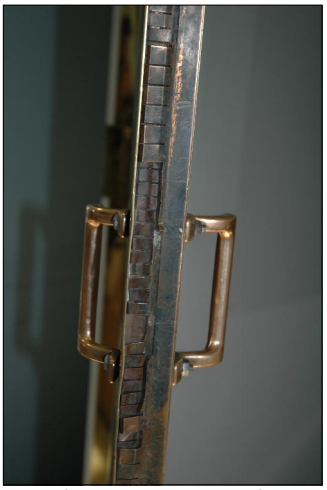

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AK_PortClarence_LORANStation_111.tif

AK_PortClarence_LORANStation_112.tif

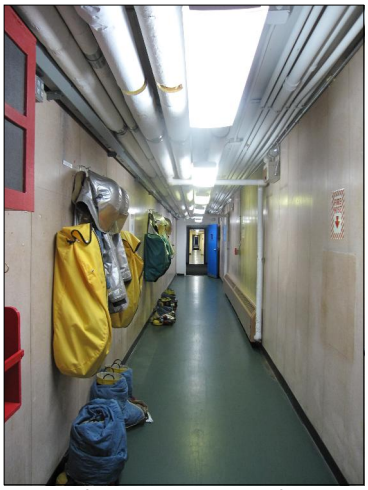
AK_PortClarence_LORANStation_113.tif

AK_PortClarence_LORANStation_114.tif


AK_PortClarence_LORANStation_115.tif


AK_PortClarence_LORANStation_116.tif

AK_PortClarence_LORANStation_117.tif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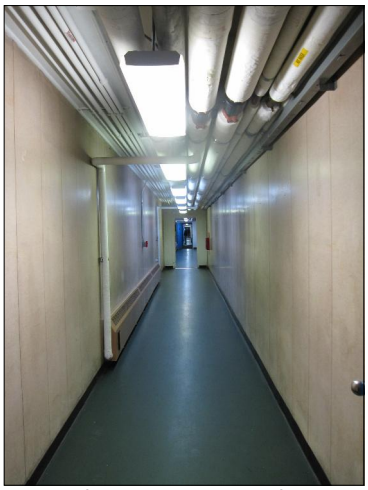
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AK_PortClarence_LORANStation_123.tif

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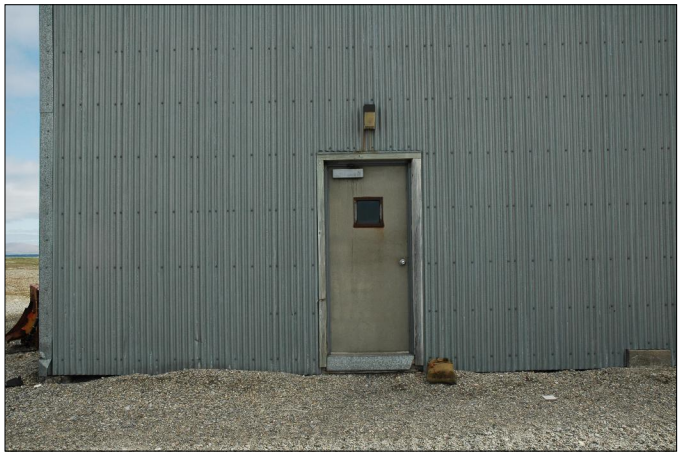
AK_PortClarence_LORANStation_125.tif

AK_PortClarence_LORANStation_126.tif

AK_PortClarence_LORANStation_127.tif

AK_PortClarence_LORANStation_128.tif



AK_PortClarence_LORANStation_129.tif

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AK_PortClarence_LORANStation_138.tif

AK_PortClarence_LORANStation_139.tif

AK_PortClarence_LORANStation_140.tif

AK_PortClarence_LORANStation_141.tif

AK_PortClarence_LORANStation_142.tif

AK_PortClarence_LORANStation_143.tif

ALASKA BUILDING INVENTORY FORMS

Alaska Building Inventory Form

AHRS: TEL-220 **Associated District:** Port Clarence

Historic Name: Administration Building		**Other Name:** B1	
Building Address:		**City:** Port Clarence	
Current Owner's Name and Address: United States Coast Guard, 709 West 9th Street, Juneau, AK 99801			
USGS Quad Name and Map Sheet: Teller A4	**Section:** SEC.09	**Township:** T35	**Range:** R40W, KM
GPS Coordinate (NAD-27 Alaska): 65 14 35.3682, -166 52 58.4487		**UTM:** **Zone** 3 **Easting** 412026.8252	**Northing** 7236867.314

Historic Associations

Historic Function and Sub-function: 1. U.S. Coast Guard LORAN Station	2.	3.	4.
Current Function and Sub-function: 1. U.S. Coast Guard LORAN Station	2.	3.	4.
Significant Person(s): 1. N/A	2.	**Significant Dates** 1. 1961-1962	2.
Architect, Builder, Contractor, Designer: Raber-Kief Inc, & B-E-C-K Constructors		**Original Owner:** U.S. Coast Guard	

Architectural Information:

Date of Construction: 1961-1962	**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 Story Building	2.
Architectural Style: No Style		**Building Type:** Utilitarian	

Number of Ancillary Structures:	Plan:	Cultural Affiliation:
1	Rectangular Plan	Anglo-American

Foundation Materials:	Roof Materials:	Exterior Wall Materials:	Other Materials:
1. Concrete	1. Asphalt	1. Concrete	1.
2.	2.	2.	2.
	3.	3.	3.

Architectural Description (Include setting & outbuildings):

The Port Clarence Site originally consisted of 6 main buildings. The old transmitter building was located adjacent to the radio transmitter tower with a 1900 foot long enclosed walkway connecting the building to the 4 other 1961 constructed buildings. Each building is connected via an enclosed walkway to shield personnel from the frigid temperatures. The Heavy Duty Shed was constructed c. 1945 at the time the Army Air Corps were building their facility at Port Clarence. The Shed is located near the runway, northeast of the LORAN buildings. Over the years, a few additional buildings were constructed at the site. All of them are attached to the original 1961 LORAN station buildings.

The Administration Building is one of the original 1961 buildings. It houses the administrative offices, officers' quarters and the mess hall. The building has a rectangular floorplan with a poured concrete foundation that rests over a 3-inch layer of Styrofoam to insulate the floors and reduce the disturbance of the permafrost. The walls are constructed of 8-inch reinforced concrete. The flat roof is built up roofing with a 3-inch layer of Styrofoam insulation. The windows are original fixed-pane and small louvered window above.

Thick vinyl storm windows have been placed on the exterior to protect from harsh temperatures. The original fenestration is only visible from in the interior of the building. The east façade of the Administration Building contains the main entrance. An enclosed walkway connects the Administration Building to the Barracks Building.

Statement of Significance:

Long-Range Navigation (LORAN) was the federally-provided radio navigation system for the U.S. Coastal Confluence Zone (CCZ) from approximately 1940 to 2010. (The CCZ is defined as the area seaward of a harbor entrance to 50 nautical miles offshore or the edge of the Continental Shelf, whichever is greater.) The LORAN-C Station at Attu is eligible as a historic district under Criterion A, at the national level of significance, for its role as a historic aid to navigation that represented growing State and Federal government 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 50 years.

At the beginning of WWII, positioning was done using dead reckoning or celestial navigation. 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 the Massachusetts Institute of Technology and generally modeled after the British Gee system. The first LORAN system (later called “LORAN -A”) operated at frequencies between 1,850 and 1,950 kHz. In 1947, the International Telecommunications Union Conference allocated the frequency band 90-110 kHz for the development of a further-reaching long distance radio-navigation system on a world-wide basis. LORAN-C operated in this low-frequency as a hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. The system was highly accurate (better than 0.25 nautical mile absolute accuracy in the defined coverage area), all-weather, long-range, and available 24 hours per day.

Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard (USCG) in 1943. By that time, stations were built throughout the U.S., Russia, Canada, Asia, and Europe to eventually provide some 70 million square miles of coverage. While LORAN-A stations were built during WWII and used for war-time activity throughout the Cold War, by the time it was developed in 1957, the LORAN C technology was primarily used as an aid to civilian navigation. After World War II, the USCG shifted its mission from military support to providing navigational assistance to civilians, including mariners and aviators (and some terrestrial users later). In 1991 there were estimated to be more than 572,000 users of the LORAN C system, with 82 percent domestic and international marine users, 14 percent civil aviation and 3.8 percent land users.

Port Clarence is located northwest of Nome, AK on a peninsula just south of the Arctic Circle. The location of Port Clarence was chosen due to the need for a LORAN transmitter station to cover the North Pacific Ocean and Bering Sea area and the presence of a U.S. Army Air Corps airfield and camp that was abandoned in 1945. The USCG began work in 1961 and the station was completed in just under a year, with the commissioning ceremony held on January 29, 1962.

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

Prepared by:	Reviewed by Professional that meets the following Professional Qualifications:					Date:
Valerie Gomez	[ ] Architect	[x] Architectural Historian	[ ] Historian	[ ] Historic Architect	[ ] None	7/19/2010

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: TEL-221 **Associated District:** Port Clarence

Historic Name: Barracks Building		**Other Name:** B2	
Building Address:		**City:** Port Clarence	
Current Owner's Name and Address: United States Coast Guard, 709 West 9th Street, Juneau, AK 99801			
USGS Quad Name and Map Sheet: Teller A4	**Section:** SEC.09	**Township:** T3S	**Range:** R40W, KM
GPS Coordinate (NAD-27 Alaska): 65 14 35.3682, -166 52 58.4487		**UTM:** **Zone** 3	**Easting** 412026.8252 **Northing** 7236867.314

Historic Associations

Historic Function and Sub-function: 1. U.S. Coast Guard LORAN Station	2.	3.	4.
Current Function and Sub-function: 1. U.S. Coast Guard LORAN Station	2.	3.	4.
Significant Person(s): 1. N/A	2.	**Significant Dates** 1. 1961-1962	2.
Architect, Builder, Contractor, Designer: Raber-Kief Inc, & B-E-C-K Constructors		**Original Owner:** U.S. Coast Guard	

Architectural Information:

Date of Construction: c. 1993	**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. Two Story Building	2.
Architectural Style: No Style		**Building Type:** Utilitarian	

Number of Ancillary Structures:	**Plan:**	**Cultural Affiliation:**
1	Rectangular Plan	Anglo-American

Foundation Materials:	**Roof Materials:**	**Exterior Wall Materials:**	**Other Materials:**
1. Concrete	1. Metal	1. Metal	1.
2.	2.	2.	2.
	3.	3.	3.

Architectural Description (Include setting & outbuildings):

The Port Clarence Site originally consisted of 6 main buildings. The old transmitter building was located adjacent to the radio transmitter tower with a 1900 foot long enclosed walkway connecting the building to the 4 other 1961 constructed buildings. Each building is connected via an enclosed walkway to shield personnel from the frigid temperatures. The Heavy Duty Shed was constructed c. 1945 at the time the Army Air Corps were building their facility at Port Clarence. The Shed is located near the runway, northeast of the LORAN buildings. Over the years, a few additional buildings were constructed at the site. All of them are attached to the original 1961 LORAN station buildings.

The original Barracks Building no longer exists. The current Barracks Building was constructed c. 2000 to accommodate the growing space requirements of personnel. The building is a modular prefabricated metal structure. The southern portion of the building is two-story, while the northern portion is one-story. Both portions of the building are rectangular in plan and rest on a concrete block foundation. The walls are clad with metal sheet siding. The clipped front gable roof is clad with standing seam metal.

The windows are double-paned vinyl sash windows. The building is connected to the Administration Building and Water/Boiler/Sewage Building by enclosed walkways.

Statement of Significance:

Long-Range Navigation (LORAN) was the federally-provided radio navigation system for the U.S. Coastal Confluence Zone (CCZ) from approximately 1940 to 2010. (The CCZ is defined as the area seaward of a harbor entrance to 50 nautical miles offshore or the edge of the Continental Shelf, whichever is greater.) The LORAN-C Station at Attu is eligible as a historic district under Criterion A, at the national level of significance, for its role as a historic aid to navigation that represented growing State and Federal government 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 50 years.

At the beginning of WWII, positioning was done using dead reckoning or celestial navigation. 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 the Massachusetts Institute of Technology and generally modeled after the British Gee system. The first LORAN system (later called "LORAN -A") operated at frequencies between 1,850 and 1,950 kHz. In 1947, the International Telecommunications Union Conference allocated the frequency band 90-110 kHz for the development of a further-reaching long distance radio-navigation system on a world-wide basis. LORAN-C operated in this low-frequency as a hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. The system was highly accurate (better than 0.25 nautical mile absolute accuracy in the defined coverage area), all-weather, long-range, and available 24 hours per day.

Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard (USCG) in 1943. By that time, stations were built throughout the U.S., Russia, Canada, Asia, and Europe to eventually provide some 70 million square miles of coverage. While LORAN-A stations were built during WWII and used for war-time activity throughout the Cold War, by the time it was developed in 1957, the LORAN C technology was primarily used as an aid to civilian navigation. After World War II, the USCG shifted its mission from military support to providing navigational assistance to civilians, including mariners and aviators (and some terrestrial users later). In 1991 there were estimated to be more than 572,000 users of the LORAN C system, with 82 percent domestic and international marine users, 14 percent civil aviation and 3.8 percent land users.

Port Clarence is located northwest of Nome, AK on a peninsula just south of the Arctic Circle. The location of Port Clarence was chosen due to the need for a LORAN transmitter station to cover the North Pacific Ocean and Bering Sea area and the presence of a U.S. Army Air Corps airfield and camp that was abandoned in 1945. The USCG began work in 1961 and the station was completed in just under a year, with the commissioning ceremony held on January 29, 1962.

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

Prepared by:	Reviewed by Professional that meets the following Professional Qualifications:					Date:
Valerie Gomez	[ ] Architect	[x] Architectural Historian	[ ] Historian	[ ] Historic Architect	[ ] None	7/19/2010

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: TEL-222 **Associated District:** Port Clarence

Historic Name: Fitness Gym Building		**Other Name:** B12	
Building Address:		**City:** Port Clarence	
Current Owner's Name and Address: United States Coast Guard, 709 West 9th Street, Juneau, AK 99801			
USGS Quad Name and Map Sheet: Teller A4	**Section:** SEC.09	**Township:** T3S	**Range:** R40W, KM
GPS Coordinate (NAD-27 Alaska): 65 14 35.3682, -166 52 58.4487		**UTM:** **Zone** 3 **Easting** 412026.8252	**Northing** 7236867.314

Historic Associations

Historic Function and Sub-function: 1. U.S. Coast Guard LORAN Station	2.	3.	4.
Current Function and Sub-function: 1. U.S. Coast Guard LORAN Station	2.	3.	4.
Significant Person(s): 1. N/A	2.	**Significant Dates** 1. 1961-1962	2.
Architect, Builder, Contractor, Designer: Raber-Kief Inc, & B-E-C-K Constructors		**Original Owner:** U.S. Coast Guard	

Architectural Information:

Date of Construction: c. 1988	**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 Story Building	2.
Architectural Style: No Style		**Building Type:** Utilitarian	

Number of Ancillary Structures:	**Plan:**	**Cultural Affiliation:**
0	Rectangular Plan	Anglo-American

Foundation Materials:	**Roof Materials:**	**Exterior Wall Materials:**	**Other Materials:**
1. Concrete	1. Metal	1. T1-11	1.
2.	2.	2.	2.
	3.	3.	3.

Architectural Description (Include setting & outbuildings):

The Port Clarence Site originally consisted of 6 main buildings. The old transmitter building was located adjacent to the radio transmitter tower with a 1900 foot long enclosed walkway connecting the building to the 4 other 1961 constructed buildings. Each building is connected via an enclosed walkway to shield personnel from the frigid temperatures. The Heavy Duty Shed was constructed c. 1945 at the time the Army Air Corps were building their facility at Port Clarence. The Shed is located near the runway, northeast of the LORAN buildings. Over the years, a few additional buildings were constructed at the site. All of them are attached to the original 1961 LORAN station buildings.

The Fitness Gym Building was constructed c. 1988 and rests on a concrete foundation. The building is rectangular in plan and is connected to the Water/Boiler/Sewage Building. The side gable roof is clad with corrugated metal. The walls are clad with T1-11 siding. The main entrance to the building is through the Water/Boiler/Sewage Building, but there is an emergency exit located on the north facade. The north facade also contains two fixed-pane windows with wooden surrounds.

Statement of Significance:

Long-Range Navigation (LORAN) was the federally-provided radio navigation system for the U.S. Coastal Confluence Zone (CCZ) from approximately 1940 to 2010. (The CCZ is defined as the area seaward of a harbor entrance to 50 nautical miles offshore or the edge of the Continental Shelf, whichever is greater.) The LORAN-C Station at Attu is eligible as a historic district under Criterion A, at the national level of significance, for its role as a historic aid to navigation that represented growing State and Federal government 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 50 years.

At the beginning of WWII, positioning was done using dead reckoning or celestial navigation. 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 the Massachusetts Institute of Technology and generally modeled after the British Gee system. The first LORAN system (later called "LORAN -A") operated at frequencies between 1,850 and 1,950 kHz. In 1947, the International Telecommunications Union Conference allocated the frequency band 90-110 kHz for the development of a further-reaching long distance radio-navigation system on a world-wide basis. LORAN-C operated in this low-frequency as a hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. The system was highly accurate (better than 0.25 nautical mile absolute accuracy in the defined coverage area), all-weather, long-range, and available 24 hours per day.

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Port Clarence is located northwest of Nome, AK on a peninsula just south of the Arctic Circle. The location of Port Clarence was chosen due to the need for a LORAN transmitter station to cover the North Pacific Ocean and Bering Sea area and the presence of a U.S. Army Air Corps airfield and camp that was abandoned in 1945. The USCG began work in 1961 and the station was completed in just under a year, with the commissioning ceremony held on January 29, 1962.

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

Prepared by:	Reviewed by Professional that meets the following Professional Qualifications:					Date:
Valerie Gomez	[ ] Architect	[x] Architectural Historian	[ ] Historian	[ ] Historic Architect	[ ] None	7/19/2010

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: TEL-223 **Associated District:** Port Clarence

Historic Name: Generator Building		**Other Name:** B10	
Building Address:		**City:** Port Clarence	
Current Owner's Name and Address: United States Coast Guard, 709 West 9th Street, Juneau, AK 99801			
USGS Quad Name and Map Sheet: Teller A4	**Section:** SEC.09	**Township:** T3S	**Range:** R40W, KM
GPS Coordinate (NAD-27 Alaska): 65 14 35.3682, -166 52 58.4487		**UTM:** **Zone** 3 **Easting** 412026.8252	**Northing** 7236867.314

Historic Associations

Historic Function and Sub-function: 1. U.S. Coast Guard LORAN Station	2.	3.	4.
Current Function and Sub-function: 1. U.S. Coast Guard LORAN Station	2.	3.	4.
Significant Person(s): 1. N/A	2.	**Significant Dates** 1. 1961-1962	2.
Architect, Builder, Contractor, Designer: Raber-Kief Inc, & B-E-C-K Constructors		**Original Owner:** U.S. Coast Guard	

Architectural Information:

Date of Construction: c. 1993	**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 Story Building	2.
Architectural Style: No Style		**Building Type:** Utilitarian	

Number of Ancillary Structures:	**Plan:**	**Cultural Affiliation:**
0	Rectangular Plan	Anglo-American

Foundation Materials:	**Roof Materials:**	**Exterior Wall Materials:**	**Other Materials:**
1. Concrete	1. Concrete	1. Concrete	1.
2.	2.	2.	2.
	3.	3.	3.

Architectural Description (Include setting & outbuildings):

The Port Clarence Site originally consisted of 6 main buildings. The old transmitter building was located adjacent to the radio transmitter tower with a 1900 foot long enclosed walkway connecting the building to the 4 other 1961 constructed buildings. Each building is connected via an enclosed walkway to shield personnel from the frigid temperatures. The Heavy Duty Shed was constructed c. 1945 at the time the Army Air Corps were building their facility at Port Clarence. The Shed is located near the runway, northeast of the LORAN buildings. Over the years, a few additional buildings were constructed at the site. All of them are attached to the original 1961 LORAN station buildings.

The Generator Building was constructed c. 1993. It is rectangular in shape and rests on a concrete foundation. The building is reinforced concrete utilitarian structure. There are no windows and the garage door on the north elevation has been boarded up. The vents and shafts have been painted blue.

Statement of Significance:

Long-Range Navigation (LORAN) was the federally-provided radio navigation system for the U.S. Coastal Confluence Zone (CCZ) from approximately 1940 to 2010. (The CCZ is defined as the area seaward of a harbor entrance to 50 nautical miles offshore or the edge of the Continental Shelf, whichever is greater.) The LORAN-C Station at Attu is eligible as a historic district under Criterion A, at the national level of significance, for its role as a historic aid to navigation that represented growing State and Federal government 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 50 years.

At the beginning of WWII, positioning was done using dead reckoning or celestial navigation. 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 the Massachusetts Institute of Technology and generally modeled after the British Gee system. The first LORAN system (later called "LORAN -A") operated at frequencies between 1,850 and 1,950 kHz. In 1947, the International Telecommunications Union Conference allocated the frequency band 90-110 kHz for the development of a further-reaching long distance radio-navigation system on a world-wide basis. LORAN-C operated in this low-frequency as a hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. The system was highly accurate (better than 0.25 nautical mile absolute accuracy in the defined coverage area), all-weather, long-range, and available 24 hours per day.

Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard (USCG) in 1943. By that time, stations were built throughout the U.S., Russia, Canada, Asia, and Europe to eventually provide some 70 million square miles of coverage. While LORAN-A stations were built during WWII and used for war-time activity throughout the Cold War, by the time it was developed in 1957, the LORAN C technology was primarily used as an aid to civilian navigation. After World War II, the USCG shifted its mission from military support to providing navigational assistance to civilians, including mariners and aviators (and some terrestrial users later). In 1991 there were estimated to be more than 572,000 users of the LORAN C system, with 82 percent domestic and international marine users, 14 percent civil aviation and 3.8 percent land users.

Port Clarence is located northwest of Nome, AK on a peninsula just south of the Arctic Circle. The location of Port Clarence was chosen due to the need for a LORAN transmitter station to cover the North Pacific Ocean and Bering Sea area and the presence of a U.S. Army Air Corps airfield and camp that was abandoned in 1945. The USCG began work in 1961 and the station was completed in just under a year, with the commissioning ceremony held on January 29, 1962.

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

Prepared by:	Reviewed by Professional that meets the following Professional Qualifications:					Date:
Valerie Gomez	[ ] Architect	[x] Architectural Historian	[ ] Historian	[ ] Historic Architect	[ ] None	7/19/2010

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: TEL-224 **Associated District:** Port Clarence

Historic Name: Heavy Duty Shed		**Other Name:**	
Building Address:		**City:** Port Clarence	
Current Owner's Name and Address: United States Coast Guard, 709 West 9th Street, Juneau, AK 99801			
USGS Quad Name and Map Sheet: Teller A4	**Section:** SEC.09	**Township:** T3S	**Range:** R40W, KM
GPS Coordinate (NAD-27 Alaska): 65 14 35.3682, -166 52 58.4487		**UTM:** **Zone** 3	**Easting** 412026.8252 **Northing** 7236867.314

Historic Associations

Historic Function and Sub-function: 1. U.S. Air Army Building	2.	3.	4.
Current Function and Sub-function: 1. U.S. Coast Guard LORAN Station	2.	3.	4.
Significant Person(s): 1. N/A	2.	**Significant Dates** 1. 1961-1962	2.
Architect, Builder, Contractor, Designer: Raber-Kief Inc, & B-E-C-K Constructors		**Original Owner:** U.S. Coast Guard	

Architectural Information:

Date of Construction: c. 1945	**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 Story Building	2.
Architectural Style: No Style		**Building Type:** Utilitarian	

Number of Ancillary Structures:	Plan:	Cultural Affiliation:
0	Rectangular Plan	Anglo-American

Foundation Materials:	Roof Materials:	Exterior Wall Materials:	Other Materials:
1. Concrete	1. Asphalt	1. Metal	1.
2.	2.	2.	2.
	3.	3.	3.

Architectural Description (Include setting & outbuildings):

The Port Clarence Site originally consisted of 6 main buildings. The old transmitter building was located adjacent to the radio transmitter tower with a 1900 foot long enclosed walkway connecting the building to the 4 other 1961 constructed buildings. Each building is connected via an enclosed walkway to shield personnel from the frigid temperatures. The Heavy Duty Shed was constructed c. 1945 at the time the Army Air Corps were building their facility at Port Clarence. The Shed is located near the runway, northeast of the LORAN buildings. Over the years, a few additional buildings were constructed at the site. All of them are attached to the original 1961 LORAN station buildings.

The Heavy Duty Shed is the one remaining building from the occupation of Port Clarence by the U.S. Army Air Corps camp after World War II. The building is adjacent to the runway and located northeast of the other USCG facilities. It was constructed c. 1945 and has a rectangular plan. The building rests on a poured concrete foundation. The building has a solid wood frame and a fairly elaborate wood truss system to support the roof. The side gable roof appears to be clad with rolled roofing paper. The walls are clad with corrugated metal.

There are no windows, but a series of six garage doors on the west façade. The openings appear to be original, but the garage doors are replacements. There are two pedestrian doors on the structure; one on the west façade, the other on the south façade. The doors appear original. The wood truss system is visible from the interior. The Heavy Duty Shed is currently used for storage.

Statement of Significance:

Long-Range Navigation (LORAN) was the federally-provided radio navigation system for the U.S. Coastal Confluence Zone (CCZ) from approximately 1940 to 2010. (The CCZ is defined as the area seaward of a harbor entrance to 50 nautical miles offshore or the edge of the Continental Shelf, whichever is greater.) The LORAN-C Station at Attu is eligible as a historic district under Criterion A, at the national level of significance, for its role as a historic aid to navigation that represented growing State and Federal government 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 50 years.

At the beginning of WWII, positioning was done using dead reckoning or celestial navigation. 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 the Massachusetts Institute of Technology and generally modeled after the British Gee system. The first LORAN system (later called "LORAN -A") operated at frequencies between 1,850 and 1,950 kHz. In 1947, the International Telecommunications Union Conference allocated the frequency band 90-110 kHz for the development of a further-reaching long distance radio-navigation system on a world-wide basis. LORAN-C operated in this low-frequency as a hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. The system was highly accurate (better than 0.25 nautical mile absolute accuracy in the defined coverage area), all-weather, long-range, and available 24 hours per day.

Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard (USCG) in 1943. By that time, stations were built throughout the U.S., Russia, Canada, Asia, and Europe to eventually provide some 70 million square miles of coverage. While LORAN-A stations were built during WWII and used for war-time activity throughout the Cold War, by the time it was developed in 1957, the LORAN C technology was primarily used as an aid to civilian navigation. After World War II, the USCG shifted its mission from military support to providing navigational assistance to civilians, including mariners and aviators (and some terrestrial users later). In 1991 there were estimated to be more than 572,000 users of the LORAN C system, with 82 percent domestic and international marine users, 14 percent civil aviation and 3.8 percent land users.

Port Clarence is located northwest of Nome, AK on a peninsula just south of the Arctic Circle. The location of Port Clarence was chosen due to the need for a LORAN transmitter station to cover the North Pacific Ocean and Bering Sea area and the presence of a U.S. Army Air Corps airfield and camp that was abandoned in 1945. The USCG began work in 1961 and the station was completed in just under a year, with the commissioning ceremony held on January 29, 1962.

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

Prepared by:	Reviewed by Professional that meets the following Professional Qualifications:					Date:
Valerie Gomez	[ ] Architect	[x] Architectural Historian	[ ] Historian	[ ] Historic Architect	[ ] None	7/19/2010

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: TEL-225 **Associated District:** Port Clarence

Historic Name: New Bay Oshkosh Garage		**Other Name:** B11	
Building Address:		**City:** Port Clarence	
Current Owner's Name and Address: United States Coast Guard, 709 West 9th Street, Juneau, AK 99801			
USGS Quad Name and Map Sheet: Teller A4	**Section:** SEC.09	**Township:** T3S	**Range:** R40W, KM
GPS Coordinate (NAD-27 Alaska): 65 14 35.3682, -166 52 58.4487		**UTM:** **Zone** 3	**Easting** 412026.8252 **Northing** 7236867.314

Historic Associations

Historic Function and Sub-function: 1. U.S. Coast Guard LORAN Station	2.	3.	4.
Current Function and Sub-function: 1. U.S. Coast Guard LORAN Station	2.	3.	4.
Significant Person(s): 1. N/A	2.	**Significant Dates** 1. 1961-1962	2.
Architect, Builder, Contractor, Designer: Raber-Kief Inc, & B-E-C-K Constructors		**Original Owner:** U.S. Coast Guard	

Architectural Information:

Date of Construction: c. 1988	**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 Story Building	2.
Architectural Style: No Style		**Building Type:** Utilitarian	

Number of Ancillary Structures:	Plan:	Cultural Affiliation:
1	Rectangular Plan	Anglo-American

Foundation Materials:	Roof Materials:	Exterior Wall Materials:	Other Materials:
1. Concrete	1. Metal	1. T1-11	1.
2.	2.	2.	2.
	3.	3.	3.

Architectural Description (Include setting & outbuildings):

The Port Clarence Site originally consisted of 6 main buildings. The old transmitter building was located adjacent to the radio transmitter tower with a 1900 foot long enclosed walkway connecting the building to the 4 other 1961 constructed buildings. Each building is connected via an enclosed walkway to shield personnel from the frigid temperatures. The Heavy Duty Shed was constructed c. 1945 at the time the Army Air Corps were building their facility at Port Clarence. The Shed is located near the runway, northeast of the LORAN buildings. Over the years, a few additional buildings were constructed at the site. All of them are attached to the original 1961 LORAN station buildings.

The New Bay Oshkosh Garage was constructed in 1988 and rests on a poured concrete foundation and is rectangular in plan. The front gable roof is clad with corrugated metal. The walls are clad with T1-11 siding. The south façade has the one large garage door opening. There is a pedestrian entrance on the west elevation. The building is connected to an enclosed walkway between the Water/Boiler/Sewage Building and the Signal Power Building.

Statement of Significance:

Long-Range Navigation (LORAN) was the federally-provided radio navigation system for the U.S. Coastal Confluence Zone (CCZ) from approximately 1940 to 2010. (The CCZ is defined as the area seaward of a harbor entrance to 50 nautical miles offshore or the edge of the Continental Shelf, whichever is greater.) The LORAN-C Station at Attu is eligible as a historic district under Criterion A, at the national level of significance, for its role as a historic aid to navigation that represented growing State and Federal government 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 50 years.

At the beginning of WWII, positioning was done using dead reckoning or celestial navigation. 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 the Massachusetts Institute of Technology and generally modeled after the British Gee system. The first LORAN system (later called "LORAN -A") operated at frequencies between 1,850 and 1,950 kHz. In 1947, the International Telecommunications Union Conference allocated the frequency band 90-110 kHz for the development of a further-reaching long distance radio-navigation system on a world-wide basis. LORAN-C operated in this low-frequency as a hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. The system was highly accurate (better than 0.25 nautical mile absolute accuracy in the defined coverage area), all-weather, long-range, and available 24 hours per day.

Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard (USCG) in 1943. By that time, stations were built throughout the U.S., Russia, Canada, Asia, and Europe to eventually provide some 70 million square miles of coverage. While LORAN-A stations were built during WWII and used for war-time activity throughout the Cold War, by the time it was developed in 1957, the LORAN C technology was primarily used as an aid to civilian navigation. After World War II, the USCG shifted its mission from military support to providing navigational assistance to civilians, including mariners and aviators (and some terrestrial users later). In 1991 there were estimated to be more than 572,000 users of the LORAN C system, with 82 percent domestic and international marine users, 14 percent civil aviation and 3.8 percent land users.

Port Clarence is located northwest of Nome, AK on a peninsula just south of the Arctic Circle. The location of Port Clarence was chosen due to the need for a LORAN transmitter station to cover the North Pacific Ocean and Bering Sea area and the presence of a U.S. Army Air Corps airfield and camp that was abandoned in 1945. The USCG began work in 1961 and the station was completed in just under a year, with the commissioning ceremony held on January 29, 1962.

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

Prepared by:	Reviewed by Professional that meets the following Professional Qualifications:					Date:
Valerie Gomez	[ ] Architect	[x] Architectural Historian	[ ] Historian	[ ] Historic Architect	[ ] None	7/19/2010

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: TEL-226 **Associated District:** Port Clarence

Historic Name: Signal Power Building		**Other Name:** B4	
Building Address:		**City:** Port Clarence	
Current Owner's Name and Address: United States Coast Guard, 709 West 9th Street, Juneau, AK 99801			
USGS Quad Name and Map Sheet: Teller A4	**Section:** SEC.09	**Township:** T3S	**Range:** R40W, KM
GPS Coordinate (NAD-27 Alaska): 65 14 35.3682, -166 52 58.4487		**UTM:** **Zone** 3 **Easting** 412026.8252	**Northing** 7236867.314

Historic Associations

Historic Function and Sub-function: 1. U.S. Coast Guard LORAN Station	2.	3.	4.
Current Function and Sub-function: 1. U.S. Coast Guard LORAN Station	2.	3.	4.
Significant Person(s): 1. N/A	2.	**Significant Dates** 1. 1961-1962	2.
Architect, Builder, Contractor, Designer: Raber-Kief Inc, & B-E-C-K Constructors		**Original Owner:** U.S. Coast Guard	

Architectural Information:

Date of Construction: 1961-1962	**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 Story Building	2.
Architectural Style: No Style		**Building Type:** Utilitarian	

Number of Ancillary Structures:	**Plan:**	**Cultural Affiliation:**
2	Rectangular Plan	Anglo-American

Foundation Materials:	**Roof Materials:**	**Exterior Wall Materials:**	**Other Materials:**
1. Concrete	1. Asphalt	1. Concrete	1.
2.	2.	2.	2.
	3.	3.	3.

Architectural Description (Include setting & outbuildings):

The Port Clarence Site originally consisted of 6 main buildings. The old transmitter building was located adjacent to the radio transmitter tower with a 1900 foot long enclosed walkway connecting the building to the 4 other 1961 constructed buildings. Each building is connected via an enclosed walkway to shield personnel from the frigid temperatures. The Heavy Duty Shed was constructed c. 1945 at the time the Army Air Corps were building their facility at Port Clarence. The Shed is located near the runway, northeast of the LORAN buildings. Over the years, a few additional buildings were constructed at the site. All of them are attached to the original 1961 LORAN station buildings.

The Signal Power Building is one of the original 1961 buildings. It was used to house the generator before the new building was constructed. It also housed a radio room and a shielded room for the LORAN-C timers. The building has a rectangular plan with a poured concrete foundation that rests over a 3-inch layer of Styrofoam to insulate the floors and reduce the disturbance of the permafrost. The walls are constructed of 8-inch reinforced concrete. The flat roof is built up roofing with a 3-inch layer of Styrofoam insulation.

The windows are original fixed-paned and small louvered window above. Thick vinyl storm windows have been placed on the exterior to protect from harsh temperatures. The original fenestration is only visible from in the interior of the building. There are a series of garage doors located on the west elevation of the building. Additionally, a portion of the building north appears to have been demolished. This alteration likely occurred when the new generator building was constructed, c. 1993. The Generator Building is connected to the Signal Power Building. Enclosed walkways connect the Signal Power Building with the Water/Boiler/Sewage Building and the Transmitter Building.

Statement of Significance:

Long-Range Navigation (LORAN) was the federally-provided radio navigation system for the U.S. Coastal Confluence Zone (CCZ) from approximately 1940 to 2010. (The CCZ is defined as the area seaward of a harbor entrance to 50 nautical miles offshore or the edge of the Continental Shelf, whichever is greater.) The LORAN-C Station at Attu is eligible as a historic district under Criterion A, at the national level of significance, for its role as a historic aid to navigation that represented growing State and Federal government 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 50 years.

At the beginning of WWII, positioning was done using dead reckoning or celestial navigation. 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 the Massachusetts Institute of Technology and generally modeled after the British Gee system. The first LORAN system (later called "LORAN -A") operated at frequencies between 1,850 and 1,950 kHz. In 1947, the International Telecommunications Union Conference allocated the frequency band 90-110 kHz for the development of a further-reaching long distance radio-navigation system on a world-wide basis. LORAN-C operated in this low-frequency as a hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. The system was highly accurate (better than 0.25 nautical mile absolute accuracy in the defined coverage area), all-weather, long-range, and available 24 hours per day.

Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard (USCG) in 1943. By that time, stations were built throughout the U.S., Russia, Canada, Asia, and Europe to eventually provide some 70 million square miles of coverage. While LORAN-A stations were built during WWII and used for war-time activity throughout the Cold War, by the time it was developed in 1957, the LORAN C technology was primarily used as an aid to civilian navigation. After World War II, the USCG shifted its mission from military support to providing navigational assistance to civilians, including mariners and aviators (and some terrestrial users later). In 1991 there were estimated to be more than 572,000 users of the LORAN C system, with 82 percent domestic and international marine users, 14 percent civil aviation and 3.8 percent land users.

Port Clarence is located northwest of Nome, AK on a peninsula just south of the Arctic Circle. The location of Port Clarence was chosen due to the need for a LORAN transmitter station to cover the North Pacific Ocean and Bering Sea area and the presence of a U.S. Army Air Corps airfield and camp that was abandoned in 1945. The USCG began work in 1961 and the station was completed in just under a year, with the commissioning ceremony held on January 29, 1962.

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

Prepared by:	Reviewed by Professional that meets the following Professional Qualifications:					Date:
Valerie Gomez	[ ] Architect	[x] Architectural Historian	[ ] Historian	[ ] Historic Architect	[ ] None	7/19/2010

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: TEL-154 **Associated District:** Port Clarence

Historic Name: 1,350-foot Guyed Antenna, 3 Antenna Towers		**Other Name:** N/A	
Building Address:		**City:** Attu	
Current Owner's Name and Address: United States Coast Guard, 709 West 9th Street, Juneau, AK 99801			
USGS Quad Name and Map Sheet: Teller A4	**Section:** SEC.09	**Township:** T35	**Range:** R40W, KM
GPS Coordinate (NAD-27 Alaska): 65 14 35.3682, -166 52 58.4487		**UTM:** **Zone** 3	**Easting** 412026.8252 **Northing** 7236867.314

Historic Associations

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

Architectural Information:

Date of Construction: 1962; post-1962	**Date Moved:** N/A	**Destruction Date:** N/A	**Reconstruction Date:** N/A
Alteration Dates 1. N/A	2.	3.	4.
Resource Type [ ] **Building** **[ ] Site** **[x] Structure** **[ ] Object**		**Stories** 1. N/A	2.
Architectural Style: Utilitarian		**Building Type:** Structure	

Number of Ancillary Structures:	Plan:	Cultural Affiliation:
0	N/A	US Government

Foundation Materials:	Roof Materials:	Exterior Wall Materials:	Other Materials:
1. Concrete	1. N/A	1. Galvanized Steel	1. Copper
2. Galvanized Steel	2.	2.	2.

Architectural Description (Include setting & outbuildings):

The tower was demolished on April 28, 2010.

Statement of Significance:

Long-Range Navigation (LORAN) was the federally-provided radio navigation system for the U.S. Coastal Confluence Zone (CCZ) from approximately 1940 to 2010. (The CCZ is defined as the area seaward of a harbor entrance to 50 nautical miles offshore or the edge of the Continental Shelf, whichever is greater.) The LORAN-C Station at Attu is eligible as a historic district under Criterion A, at the national level of significance, for its role as a historic aid to navigation that represented growing State and Federal government 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 50 years.

At the beginning of WWII, positioning was done using dead reckoning or celestial navigation. 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 the Massachusetts Institute of Technology and generally modeled after the British Gee system. The first LORAN system (later called “LORAN -A”) operated at frequencies between 1,850 and 1,950 kHz. In 1947, the International Telecommunications Union Conference allocated the frequency band 90-110 kHz for the development of a further-reaching long distance radio-navigation system on a world-wide basis. LORAN-C operated in this low-frequency as a hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. The system was highly accurate (better than 0.25 nautical mile absolute accuracy in the defined coverage area), all-weather, long-range, and available 24 hours per day.

	Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard (USCG) in 1943. By that time, stations were built throughout the U.S., Russia, Canada, Asia, and Europe to eventually provide some 70 million square miles of coverage. While LORAN-A stations were built during WWII and used for war-time activity throughout the Cold War, by the time it was developed in 1957, the LORAN C technology was primarily used as an aid to civilian navigation. After World War II, the USCG shifted its mission from military support to providing navigational assistance to civilians, including mariners and aviators (and some terrestrial users later). In 1991 there were estimated to be more than 572,000 users of the LORAN C system, with 82 percent domestic and international marine users, 14 percent civil aviation and 3.8 percent land users. Port Clarence is located northwest of Nome, AK on a peninsula just south of the Arctic Circle. The location of Port Clarence was chosen due to the need for a LORAN transmitter station to cover the North Pacific Ocean and Bering Sea area and the presence of a U.S. Army Air Corps airfield and camp that was abandoned in 1945. The USCG began work in 1961 and the station was completed in just under a year, with the commissioning ceremony held on January 29, 1962.
Eligibility: [x] Yes [ ] No If yes: [x] A [ ] B [ ] C [ ] D	Criteria Considerations: [ ] A [ ] B [ ] C [ ] D [ ] E [ ] F [x] G
Prepared by: Valerie Gomez	Reviewed by Professional that meets the following Professional Qualifications: [ ] Architect [x] Architectural Historian [ ] Historian [ ] Historic Architect [ ] None
Date: 7/19/2010	
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: TEL-154 **Associated District:** Port Clarence

Historic Name: Transmitter Buildings		**Other Name:** B5 and B7	
Building Address:		**City:** Port Clarence	
Current Owner's Name and Address: United States Coast Guard, 709 West 9th Street, Juneau, AK 99801			
USGS Quad Name and Map Sheet: Teller A4	**Section:** SEC.09	**Township:** T3S	**Range:** R40W, KM
GPS Coordinate (NAD-27 Alaska): 65 14 35.3682, -166 52 58.4487		**UTM:** **Zone** 3 / **Easting** 412026.8252 / **Northing** 7236867.314	

Historic Associations

Historic Function and Sub-function: 1. U.S. Coast Guard LORAN Station	2.	3.	4.
Current Function and Sub-function: 1. U.S. Coast Guard LORAN Station	2.	3.	4.
Significant Person(s): 1. N/A	2.	**Significant Dates** 1. 1961-1962	2.
Architect, Builder, Contractor, Designer: Raber-Kief Inc, & B-E-C-K Constructors		**Original Owner:** U.S. Coast Guard	

Architectural Information:

Date of Construction: 1961-1962 and c. 1993	**Date Moved:** N/A	**Destruction Date:** N/A	**Reconstruction Date:** N/A
Alteration Dates 1. 1993	2.	3.	4.
Resource Type [x] **Building** **[ ] Site** **[ ] Structure** **[ ] Object**		**Stories** 1. One Story Building	2.
Architectural Style: No Style		**Building Type:** Utilitarian	

Number of Ancillary Structures:	**Plan:**	**Cultural Affiliation:**
2	Rectangular Plan	Anglo-American

Foundation Materials:	**Roof Materials:**	**Exterior Wall Materials:**	**Other Materials:**
1. Concrete	1. Asphalt	1. Concrete	1.
2.	2. Concrete	2.	2.
	3.	3.	3.

Architectural Description (Include setting & outbuildings):

The Port Clarence Site originally consisted of 6 main buildings. The old transmitter building was located adjacent to the radio transmitter tower with a 1900 foot long enclosed walkway connecting the building to the 4 other 1961 constructed buildings. Each building is connected via an enclosed walkway to shield personnel from the frigid temperatures. The Heavy Duty Shed was constructed c. 1945 at the time the Army Air Corps were building their facility at Port Clarence. The Shed is located near the runway, northeast of the LORAN buildings. Over the years, a few additional buildings were constructed at the site. All of them are attached to the original 1961 LORAN station buildings.

The Old Transmitter Building is one of the original 1961 buildings. It houses all the necessary equipment to utilize the LORAN transmit tower. The building is adjacent to the tower. The building has a rectangular floor plan with a poured concrete foundation that rests over a 3-inch layer of Styrofoam to insulate the floors and reduce the disturbance of the permafrost. The walls are constructed of 8-inch reinforced concrete. The flat roof is built up roofing with a 3-inch layer of Styrofoam insulation. There are no windows.

The front is located on the east facade and has an arctic entry which connects to the enclosed walkway. The Old Transmitter Building was no longer operational after the construction of the new facility due to significant amounts of asbestos. Access was restricted.

In 1933, the new Transmitter Building was constructed as an addition to the Old Transmitter Building. The structure is also reinforced concrete with no windows.

A 1900 foot enclosed walkway was constructed to connect the Transmitter Building with the Signal Power Building. The walkway has concrete post pilings, T1-11 siding and an asphalt roof. The passageway was named the "deep freeze" as it was unheated.

Statement of Significance:

Long-Range Navigation (LORAN) was the federally-provided radio navigation system for the U.S. Coastal Confluence Zone (CCZ) from approximately 1940 to 2010. (The CCZ is defined as the area seaward of a harbor entrance to 50 nautical miles offshore or the edge of the Continental Shelf, whichever is greater.) The LORAN-C Station at Attu is eligible as a historic district under Criterion A, at the national level of significance, for its role as a historic aid to navigation that represented growing State and Federal government 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 50 years.

At the beginning of WWII, positioning was done using dead reckoning or celestial navigation. 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 the Massachusetts Institute of Technology and generally modeled after the British Gee system. The first LORAN system (later called "LORAN -A") operated at frequencies between 1,850 and 1,950 kHz. In 1947, the International Telecommunications Union Conference allocated the frequency band 90-110 kHz for the development of a further-reaching long distance radio-navigation system on a world-wide basis. LORAN-C operated in this low-frequency as a hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. The system was highly accurate (better than 0.25 nautical mile absolute accuracy in the defined coverage area), all-weather, long-range, and available 24 hours per day.

Operation and maintenance of LORAN stations was transferred to the U.S. Coast Guard (USCG) in 1943. By that time, stations were built throughout the U.S., Russia, Canada, Asia, and Europe to eventually provide some 70 million square miles of coverage. While LORAN-A stations were built during WWII and used for war-time activity throughout the Cold War, by the time it was developed in 1957, the LORAN C technology was primarily used as an aid to civilian navigation. After World War II, the USCG shifted its mission from military support to providing navigational assistance to civilians, including mariners and aviators (and some terrestrial users later). In 1991 there were estimated to be more than 572,000 users of the LORAN C system, with 82 percent domestic and international marine users, 14 percent civil aviation and 3.8 percent land users.

Port Clarence is located northwest of Nome, AK on a peninsula just south of the Arctic Circle. The location of Port Clarence was chosen due to the need for a LORAN transmitter station to cover the North Pacific Ocean and Bering Sea area and the presence of a U.S. Army Air Corps airfield and camp that was abandoned in 1945. The USCG began work in 1961 and the station was completed in just under a year, with the commissioning ceremony held on January 29, 1962.

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

Prepared by:	Reviewed by Professional that meets the following Professional Qualifications:					Date:
Valerie Gomez	[ ] Architect	[x] Architectural Historian	[ ] Historian	[ ] Historic Architect	[ ] None	7/19/2010

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: TEL-228 **Associated District:** Port Clarence

Historic Name: Water/Boiler/Sewage Building		**Other Name:** B3	
Building Address:		**City:** Port Clarence	
Current Owner's Name and Address: United States Coast Guard, 709 West 9th Street, Juneau, AK 99801			
USGS Quad Name and Map Sheet: Teller A4	**Section:** SEC.09	**Township:** T3S	**Range:** R40W, KM
GPS Coordinate (NAD-27 Alaska): 65 14 35.3682, -166 52 58.4487		**UTM:** **Zone** 3 **Easting** 412026.8252	**Northing** 7236867.314

Historic Associations

Historic Function and Sub-function: 1. U.S. Coast Guard LORAN Station	2.	3.	4.
Current Function and Sub-function: 1. U.S. Coast Guard LORAN Station	2.	3.	4.
Significant Person(s): 1. N/A	2.	**Significant Dates** 1. 1961-1962	2.
Architect, Builder, Contractor, Designer: Raber-Kief Inc, & B-E-C-K Constructors		**Original Owner:** U.S. Coast Guard	

Architectural Information:

Date of Construction: 1961-1962	**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 Story Building	2.
Architectural Style: No Style		**Building Type:** Utilitarian	

Number of Ancillary Structures:	**Plan:**	**Cultural Affiliation:**
2	Rectangular Plan	Anglo-American

Foundation Materials:	**Roof Materials:**	**Exterior Wall Materials:**	**Other Materials:**
1. Concrete	1. Asphalt	1. Concrete	1.
2.	2.	2. Asbestos	2.
	3.	3.	3.

Architectural Description (Include setting & outbuildings):

The Port Clarence Site originally consisted of 6 main buildings. The old transmitter building was located adjacent to the radio transmitter tower with a 1900 foot long enclosed walkway connecting the building to the 4 other 1961 constructed buildings. Each building is connected via an enclosed walkway to shield personnel from the frigid temperatures. The Heavy Duty Shed was constructed c. 1945 at the time the Army Air Corps were building their facility at Port Clarence. The Shed is located near the runway, northeast of the LORAN buildings. Over the years, a few additional buildings were constructed at the site. All of them are attached to the original 1961 LORAN station buildings.

The Water/Boiler/Sewage Building is one of the original 1961 buildings. It houses the basic utilities for the complex. The building has a rectangular plan with a poured concrete foundation that rests over a 3-inch layer of Styrofoam to insulate the floors and reduce the disturbance of the permafrost. The walls are insulated with Styrofoam and covered with cement asbestos board. There are also several drainpipes on the north section of the building.

The flat roof is built up roofing with a 3-inch layer of Styrofoam insulation. The building has no window. The south façade has a garage door that has been covered by corrugated metal with a small pedestrian door cut out. The building has the Fitness Gym facility attached on the northwest elevation. The enclosed walkways connect to the Barracks Building and the Signal Power Building.

Statement of Significance:

Long-Range Navigation (LORAN) was the federally-provided radio navigation system for the U.S. Coastal Confluence Zone (CCZ) from approximately 1940 to 2010. (The CCZ is defined as the area seaward of a harbor entrance to 50 nautical miles offshore or the edge of the Continental Shelf, whichever is greater.) The LORAN-C Station at Attu is eligible as a historic district under Criterion A, at the national level of significance, for its role as a historic aid to navigation that represented growing State and Federal government 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 50 years.

At the beginning of WWII, positioning was done using dead reckoning or celestial navigation. 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 the Massachusetts Institute of Technology and generally modeled after the British Gee system. The first LORAN system (later called "LORAN -A") operated at frequencies between 1,850 and 1,950 kHz. In 1947, the International Telecommunications Union Conference allocated the frequency band 90-110 kHz for the development of a further-reaching long distance radio-navigation system on a world-wide basis. LORAN-C operated in this low-frequency as a hyperbolic radio navigation system using the time difference in pulses from two pairs of transmitting stations to obtain a navigation fix. The system was highly accurate (better than 0.25 nautical mile absolute accuracy in the defined coverage area), all-weather, long-range, and available 24 hours per day.

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

Prepared by:	Reviewed by Professional that meets the following Professional Qualifications:					Date:
Valerie Gomez	[ ] Architect	[x] Architectural Historian	[ ] Historian	[ ] Historic Architect	[ ] None	7/19/2010

SHPO Response:

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

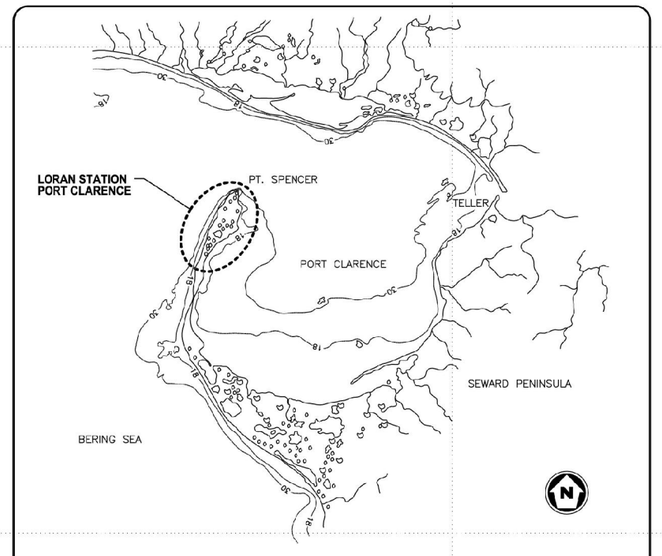
Minor Recommendations and Comments Include:

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

Authorized Signature:	Date:

ARCHITECTURAL DRAWINGS

U.S. COAST GUARD
CIVIL ENGINEERING UNIT
LORSTA PORT CLARENCE



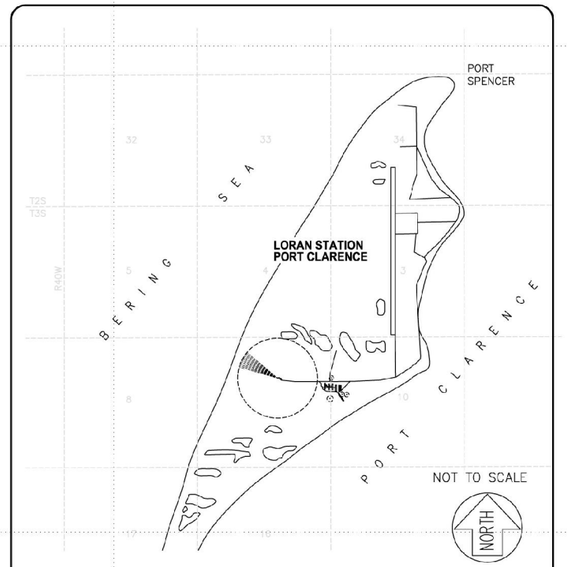
VICINITY MAP

ALASKA – AREA MAP
NOT TO SCALE

ATU = 17
OPFAC = 40198
INSTALLATION = 17030
SITE = 00

DRAWING INDEX

SHEET NO.	DWG. NO.	TITLE
1 OF 18	C1	COVER, VICINITY MAP, DRAWING INDEX
2 OF 18	C2	OVERALL SITE PLAN
3 OF 18	C3	PARTIAL SITE PLAN
4 OF 18	C4	PARTIAL SITE PLAN
5 OF 18	C5	PARTIAL SITE PLAN
6 OF 18	C6	PARTIAL SITE PLAN
7 OF 18	A1	OVERALL SITE PLAN
8 OF 18	A2	ADMINISTRATION BUILDING (BLDG 1)
9 OF 18	A3	BARRACKS (BLDG 2)
10 OF 18	A4	UTILITY BUILDING (BLDG 3)
11 OF 18	A5	STORAGE BUILDING (BLDG 4&5)
12 OF 18	A6	FITNESS BUILDING
13 OF 18	A7	NEWBAY GARAGE
14 OF 18	A8	GENERATOR BUILDING
15 OF 18	A9	TUNNEL
16 OF 18	A10	HEAVY DUTY BUILDING
17 OF 18	A11	TRANSMITTER BUILDING
18 OF 18	A12	TRANSFORMER BUILDING



U.S.G.S. TOPOGRAPHIC SERIES, TELLER QUADRANGLE, A-4 & B-4 (1950).

LORAN STATION
PORT CLARENCE

ASBUILT

CONSULTANTS

P N D CONSULTING ENGINEERS
Incorporated
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Juneau, Alaska 99801
Phone: 907.586.2093
Fax: 907.586.2099

STATE OF ALASKA
Christopher Gianotti
CE-7509
REGISTERED PROFESSIONAL ENGINEER

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CIVIL ENGINEERING UNIT
JUNEAU

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

ISSUE		
		–
		–
REV.1	8/31/05	ASBUILT
MARK	DATE	DESCRIPTION

A/E PROJECT NO:	042071.02
CAD FILE NAME:	S-3674D-C1-ASBUILT.dwg
DESIGNED BY:	KEI
DRAWN BY:	LRG
EDITED BY:	LRG
CHECKED BY:	CMG

SCALE: AS INDICATED PLOT SCALE: 1:1

SHEET TITLE

FY 2004 FAC. COND. ASSESSMENT
USCG LORSTA PORT CLARENCE
PORT CLARENCE ALASKA
LORSTA
CIVIL
COVER

REVIEWED BY:	REVIEWED BY:	REVIEWED BY:
MLG	RCD	JSC
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

KARL H. CALVO, CAPT.
APPROVING OFFICER — DATE

PROJECT NUMBER	DRAWING NUMBER
17-40198	S-3674D
DISCIPLINE/SHT NO	
C1	SHEET 1 OF 18

DRAWN BY: USCG

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

LOCATION AND VICINITY MAP
PORT CLARENCE
ALASKA
SURVEY NO. AK-233
HISTORIC AMERICAN BUILDINGS SURVEY 1 OF 23
LIBRARY OF CONGRESS PRINT NUMBER

RPFN [redacted]
NAME: L001
DESCRIPTION: LAND
SIZE: 2,646 AC.

RPFN [redacted]
NAME: T4
DESCRIPTION: RADIO BEACON
SIZE: 1 EA.

EXIST. USGS MON.

ACCESS ROAD

BERING SEA

BERING SEA

DEPRESSION, TYP.

RPFN [redacted]
NAME: C01
DESCRIPTION: LANDFILLS
SIZE: UNKNOWN
9 LOCATIONS, TYP.

US ENG. SURVEY MARKER

PARKING ROAD B

PARKING ROAD A

WATER CONTAINMENT AREA

SHALLOW LAKES

HEAVY DUTY ROAD

OLD ARMY ROAD

RUNWAY

LANDFILL ROAD

DEBRIS FIELDS (LANDFILLS)

TOWER ROAD

ANTENNA GROUND AREA TYPICAL 360° 1500' RADIUS

1 C6

ANTENNA AND GROUND AREA 1500' RADIUS (162.27 AC.)

T-BUILDING ROAD

1 C4

1 C5

WATER CONTAINMENT ROAD

PORT CLARENCE

PORT CLARENCE

1 C3

WIND CONE & DIRECTION MARKER

ADMINISTRATION ROAD

BEACH ACCESS ROAD

BEACH LANDING

RUNWAY ROAD

TRANSFORMER ROAD

RUNWAY BI-PASS ROAD

HEAVY DUTY ROAD

LANDFILL ROAD

ACCESS ROAD

LANDFILL CELLS

2 PLAN – MAIN LANDFILL

0 80' 160'

NOTE:
1. CONTOURS & COORDINATE SYSTEM BASED ON CEU JUNEAU DRAWINGS #S-1433, SHEET 71 (1965 AS-BUILT) & #S-1248, SHEET 1 (1963 AS-BUILT).

1 GRAPHIC SCALE
SCALE: 1" = 800'
0 800' 1600'

SITE [redacted]
ATU: 17
OPFAC: 40198
INSTALLATION: 17026
NUMBER: 00
DESCRIPTION: USCG LORSTA PORT CLEARANCE

LEGEND

- TOWER GUYS
- ANTENNA CURTAIN BACKSTAYS
- ANTENNA CURTAIN
- LIMIT OF GROUND PLANE
- TELEPHONE LINES
- ELECTRICAL LINES
- WATER LINE
- SEWER LINE
- COMMUNICATION LINE
- FUEL OIL LINE
- FIRE WATER LINE
- BUILDINGS
- ROADS
- ASPHALT SURFACE
- LANDFILL
- VEGETATION AREA
- U.S. COAST GUARD BRASS CAP MONUMENT

ASBUILT

CONSULTANTS

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3220 Hospital Drive Ste 200 Juneau, Alaska 99801
Phone: 907.586.2093 Fax: 907.586.2099

STATE OF ALASKA 49TH Christopher Gionotti CE-7559 REGISTERED PROFESSIONAL ENGINEER

U. S. COAST GUARD
CIVIL ENGINEERING UNIT
JUNEAU

UNITED STATES COAST GUARD 1790

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

ISSUE		
		–
		–
REV.1	8/31/05	ASBUILT
MARK	DATE	DESCRIPTION

A/E PROJECT NO:	042071.02
CAD FILE NAME:	S-3674D-C2-ASBUILT.dwg
DESIGNED BY:	KEI
DRAWN BY:	LRG
EDITED BY:	LRG
CHECKED BY:	CMG

SCALE: AS INDICATED PLOT SCALE: 1:1

SHEET TITLE

FY 2004 FAC. COND. ASSESSMENT
USCG LORSTA PORT CLARENCE
PORT CLARENCE ALASKA
LORSTA
CIVIL
OVERALL SITE PLAN

REVIEWED BY: MLG	REVIEWED BY: RCD	REVIEWED BY: JSC
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

KARL H. CALVO, CAPT. — APPROVING OFFICER — DATE

PROJECT NUMBER	DRAWING NUMBER
17-40198	S-3674D
DISCIPLINE/SHT NO	
C2	SHEET 2 OF 18

DRAWN BY: USCG

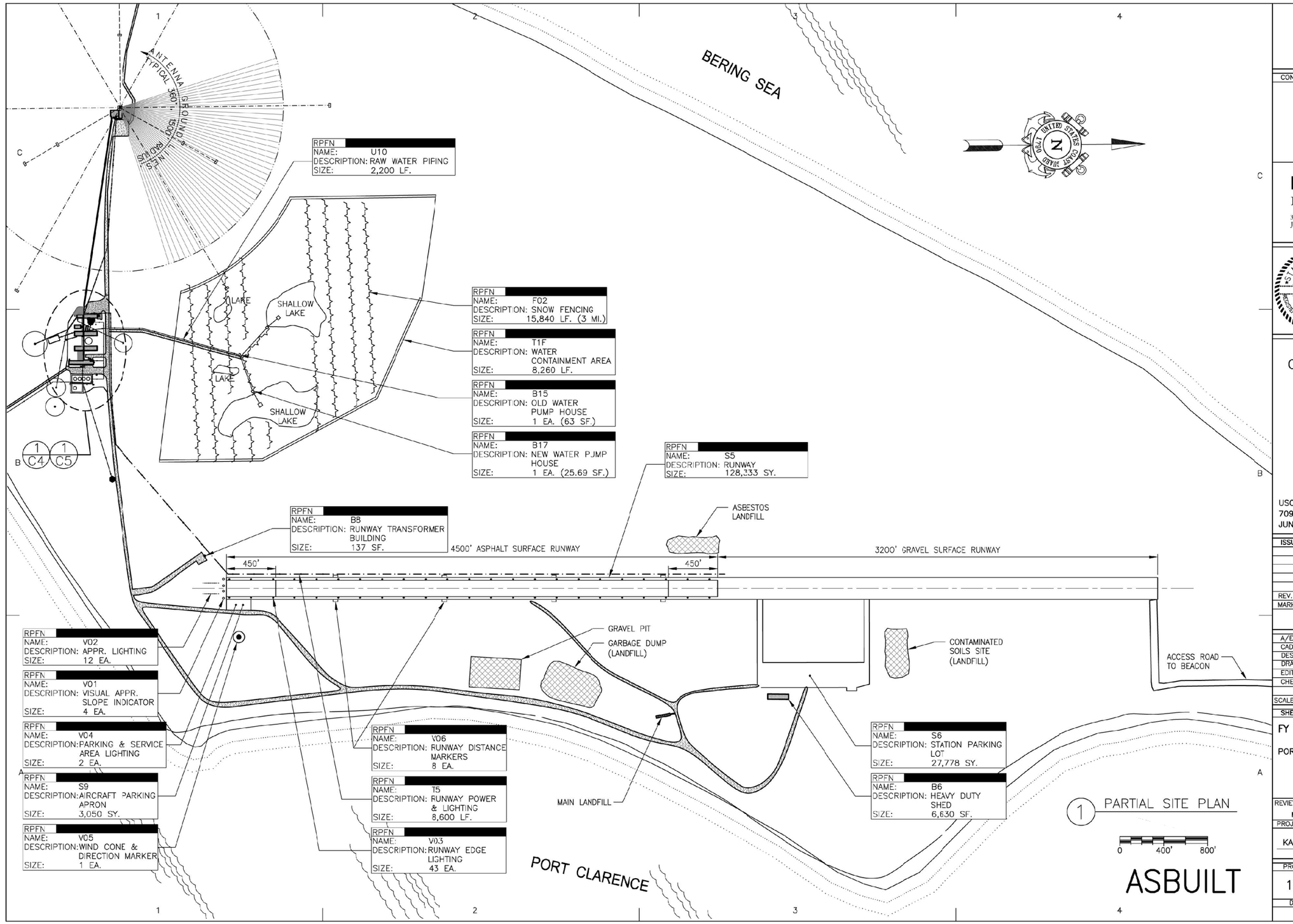
USCG ALASKA LORAN-C STATIONS RECORDATION
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

OVERALL SITE PLAN
PORT CLARENCE
ALASKA

SURVEY NO. AK-233

HISTORIC AMERICAN BUILDINGS SURVEY
2 OF 23

LIBRARY OF CONGRESS PRINTS & PHOTOGRAPHS



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STATE OF ALASKA
10TH
Christopher Glanotti
CE-7559
REGISTERED PROFESSIONAL ENGINEER

U. S. COAST GUARD
CIVIL ENGINEERING UNIT
JUNEAU

USCG. CEU JUNEAU
709 WEST 9TH STREET, ROOM 617
JUNEAU, ALASKA 99801

ISSUE		
		–
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REV.1	8/31/05	ASBUILT
MARK	DATE	DESCRIPTION

A/E PROJECT NO:	042071.02
CAD FILE NAME:	S-3674D-C3-ASBULT.dwg
DESIGNED BY:	KEI
DRAWN BY:	LRG
EDITED BY:	LRG
CHECKED BY:	CMG

SCALE: AS INDICATED PLOT SCALE: 1:1

SHEET TITLE

FY 2004 FAC. COND. ASSESSMENT
USCG LORSTA PORT CLARENCE
PORT CLARENCE ALASKA
LORSTA
CIVIL
PARTIAL SITE PLAN

REVIEWED BY:	REVIEWED BY:	REVIEWED BY:
MLG	RCD	JSC
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

KARL H. CALVO, CAPT.
APPROVING OFFICER
DATE

PROJECT NUMBER	DRAWING NUMBER
17-40198	S-3674D
DISCIPLINE/SHT NO	
C3	SHEET 3 OF 18

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

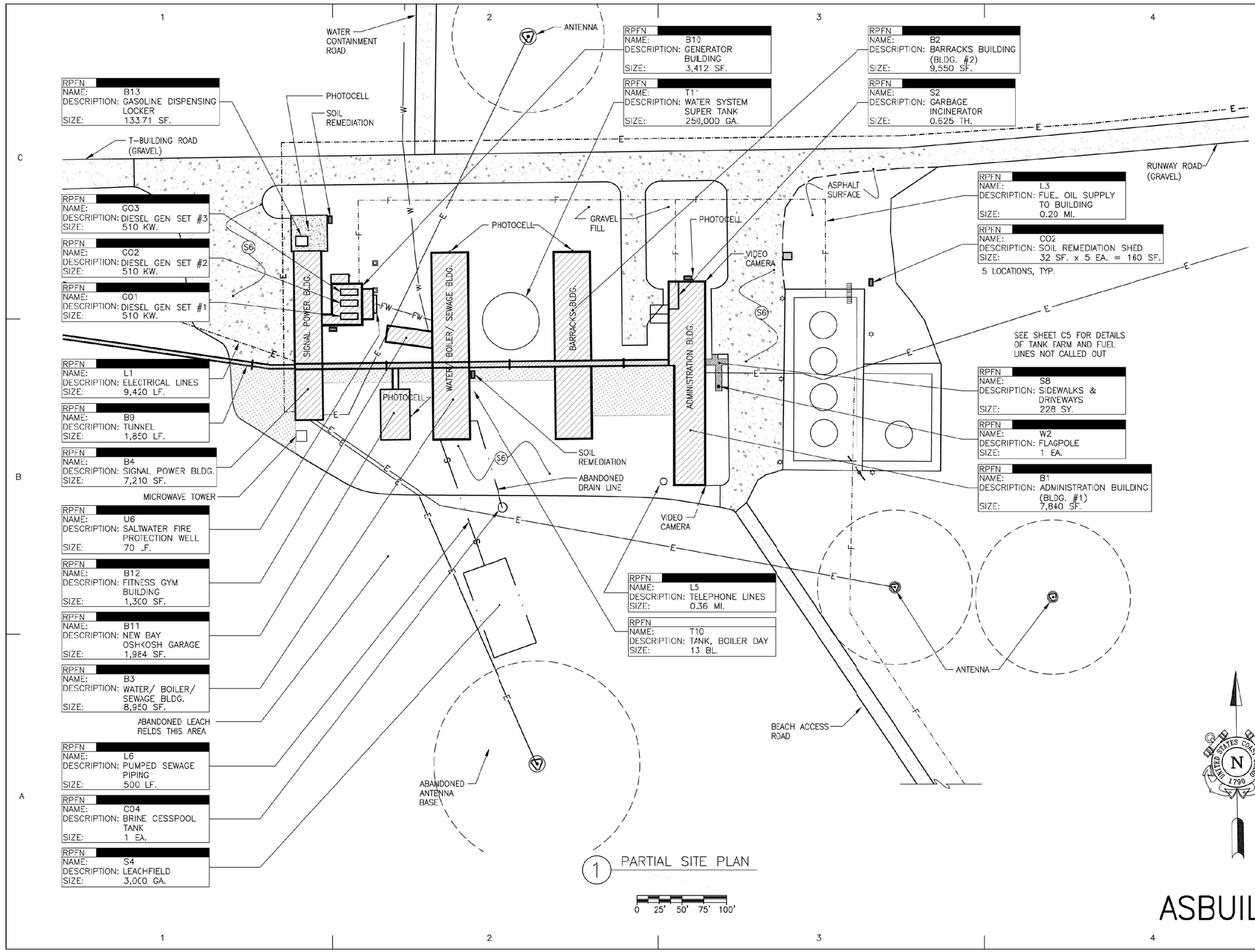
HISTORIC AMERICAN BUILDINGS SURVEY
3 OF 23

SURVEY NO. AK-233

ALASKA

PARTIAL

PORT CLARENCE



1 PARTIAL SITE PLAN

ASBUILT

CONSULTANTS

PND CONSULTING ENGINEERS Incorporated
3220 Hospital Drive Ste 200, Juneau, Alaska 99801
Phone: 907.586.2093 Fax: 907.586.2099

STATE OF ALASKA 49TH — Christopher Gianotti CE-7559 — REGISTERED PROFESSIONAL ENGINEER

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CIVIL ENGINEERING UNIT
JUNEAU

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

ISSUE		
		–
		–
REV.1	8/31/05	ASBUILT
MARK	DATE	DESCRIPTION

A/E PROJECT NO:	042071.02
CAD FILE NAME:	S-3674D-C4-ASBUILT.dwg
DESIGNED BY:	KEI
DRAWN BY:	LRG
EDITED BY:	LRG
CHECKED BY:	CMG

SCALE: AS INDICATED PLOT SCALE: 1:1

SHEET TITLE

FY 2004 FAC. COND. ASSESSMENT
USCG LORSTA PORT CLARENCE
PORT CLARENCE ALASKA
LORSTA
CIVIL
PARTIAL SITE PLAN

REVIEWED BY: MLG	REVIEWED BY: RCD	REVIEWED BY: JSC
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

KARL H. CALVO, CAPT. — APPROVING OFFICER — DATE

PROJECT NUMBER	DRAWING NUMBER
17-40198	S-3674D
DISCIPLINE/SHT NO	
C4	SHEET 4 OF 18

DRAWN BY: USCG

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

HISTORIC AMERICAN BUILDINGS SURVEY 4 OF 23

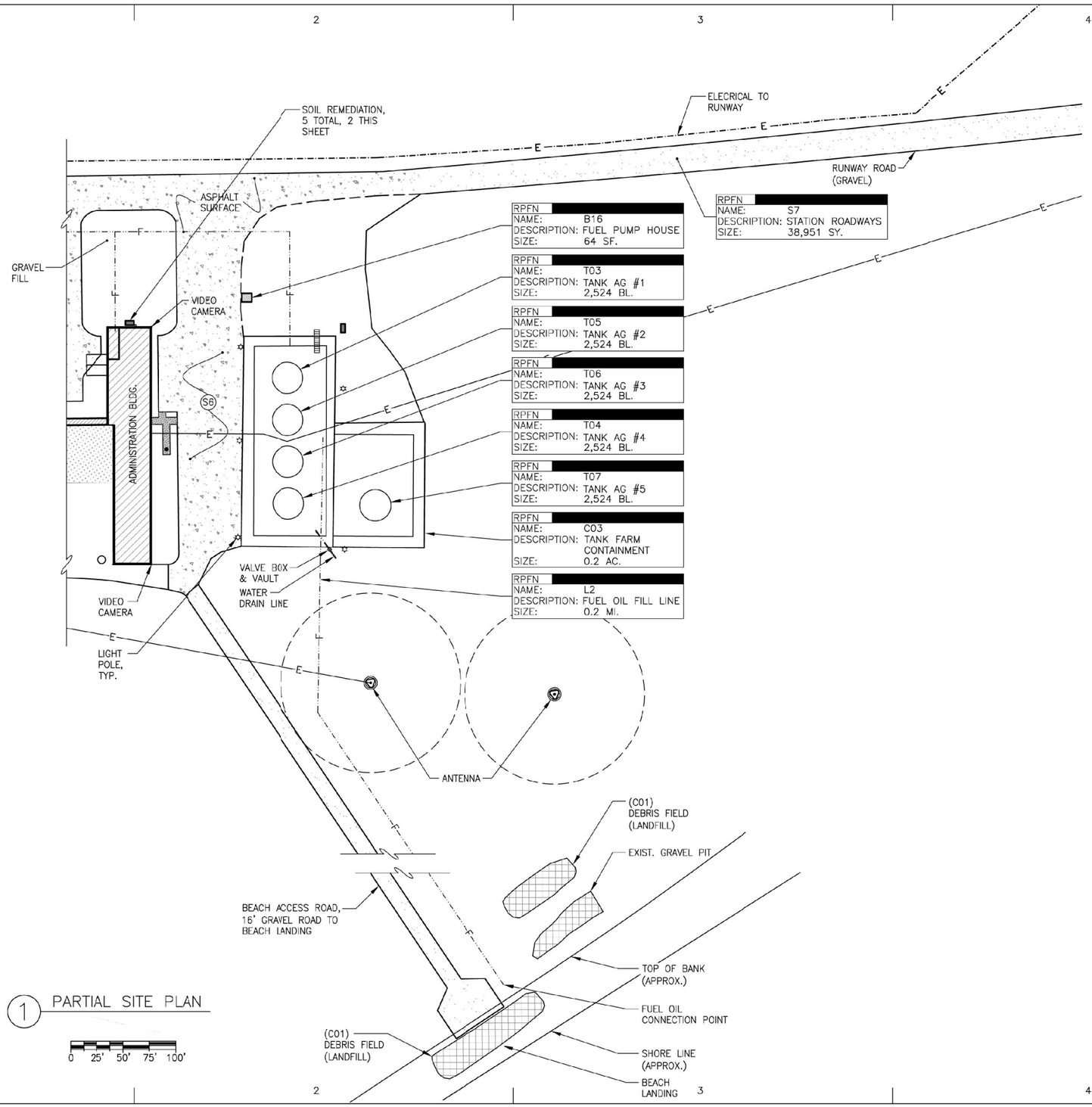
SURVEY NO. AK-233

ALASKA

PARTIAL SITE PLAN 2

PORT CLARENCE

PARTIAL



1 PARTIAL SITE PLAN

0 25' 50' 75' 100'

ASBUILT

CONSULTANTS

P N D CONSULTING ENGINEERS Incorporated
3220 Hospital Drive Ste 200 Juneau, Alaska 99801
Phone: 907.586.2093 Fax: 907.586.2099

STATE OF ALASKA 49TH
Christopher Glanotti CE-7556
REGISTERED PROFESSIONAL ENGINEER

U. S. COAST GUARD
CIVIL ENGINEERING UNIT
JUNEAU

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

ISSUE		
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REV.1	8/31/05	ASBUILT
MARK	DATE	DESCRIPTION

A/E PROJECT NO:	042071.02
CAD FILE NAME:	S-3674D-C5-ASBUILT.dwg
DESIGNED BY:	KEI
DRAWN BY:	LRG
EDITED BY:	LRG
CHECKED BY:	CMG

SCALE: AS INDICATED PLOT SCALE: 1:1

SHEET TITLE

FY 2004 FAC. COND. ASSESSMENT
USCG LORSTA PORT CLARENCE
PORT CLARENCE ALASKA
LORSTA
CIVIL
PARTIAL SITE PLAN

REVIEWED BY:	REVIEWED BY:	REVIEWED BY:
MLG	RCD	JSC
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

KARL H. CALVO, CAPT. — APPROVING OFFICER — DATE

PROJECT NUMBER	DRAWING NUMBER
17-40198	S-3674D
DISCIPLINE/SHT NO	SHEET 5 OF 18
C5	

DRAWN BY: USCG

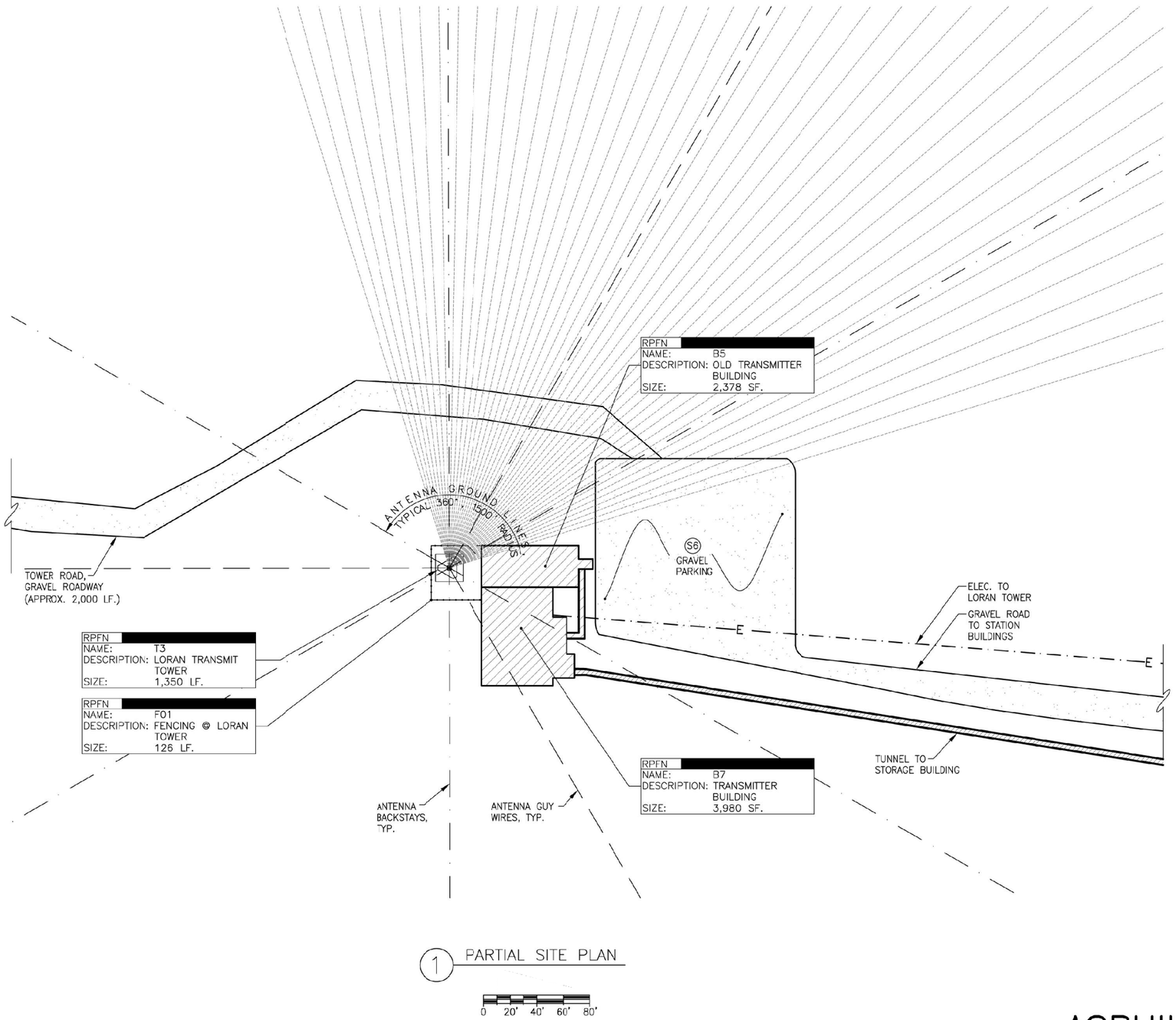
USCG ALASKA LORAN-C STATIONS RECORDATION
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

PARTIAL SITE PLAN 3
PORT CLARENCE
ALASKA

SURVEY NO. AK-233

HISTORIC AMERICAN BUILDINGS SURVEY
5 OF 23

LIBRARY OF CONGRESS PRINT NUMBER



1 PARTIAL SITE PLAN

0 20' 40' 60' 80'

ASBUILT

CONSULTANTS

P N D CONSULTING ENGINEERS
Incorporated
3220 Hospital Drive Ste 200
Juneau, Alaska 99801
Phone: 907.586.2093
Fax: 907.586.2099

STATE OF ALASKA 49TH
Christopher Gianotti
CE-7559
REGISTERED PROFESSIONAL ENGINEER

U. S. COAST GUARD
CIVIL ENGINEERING UNIT
JUNEAU

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

ISSUE		
		–
		–
REV.1	8/31/05	ASBUILT
MARK	DATE	DESCRIPTION

A/E PROJECT NO:	042071.02
CAD FILE NAME:	S-3674D-C6-ASBUILT.dwg
DESIGNED BY:	KEI
DRAWN BY:	LRG
EDITED BY:	LRG
CHECKED BY:	CMG

SCALE: AS INDICATED PLOT SCALE: 1:1

SHEET TITLE

FY 2004 FAC. COND. ASSESSMENT
USCG LORSTA PORT CLARENCE
PORT CLARENCE ALASKA
LORSTA
CIVIL
PARTIAL SITE PLAN

REVIEWED BY:	REVIEWED BY:	REVIEWED BY:
MLG	RCD	JSC
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

KARL H. CALVO, CAPT.
APPROVING OFFICER
DATE

PROJECT NUMBER	DRAWING NUMBER
17-40198	S-3674D
DISCIPLINE/SHT NO	
C6	SHEET 6 OF 18

DRAWN BY: USCG

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

LIBRARY OF CONGRESS CONTROL NUMBER

HISTORIC AMERICAN BUILDINGS SURVEY
6 OF 23

SURVEY NO. AK-233

ALASKA

PARTIAL SITE PLAN 4

PORT CLARENCE

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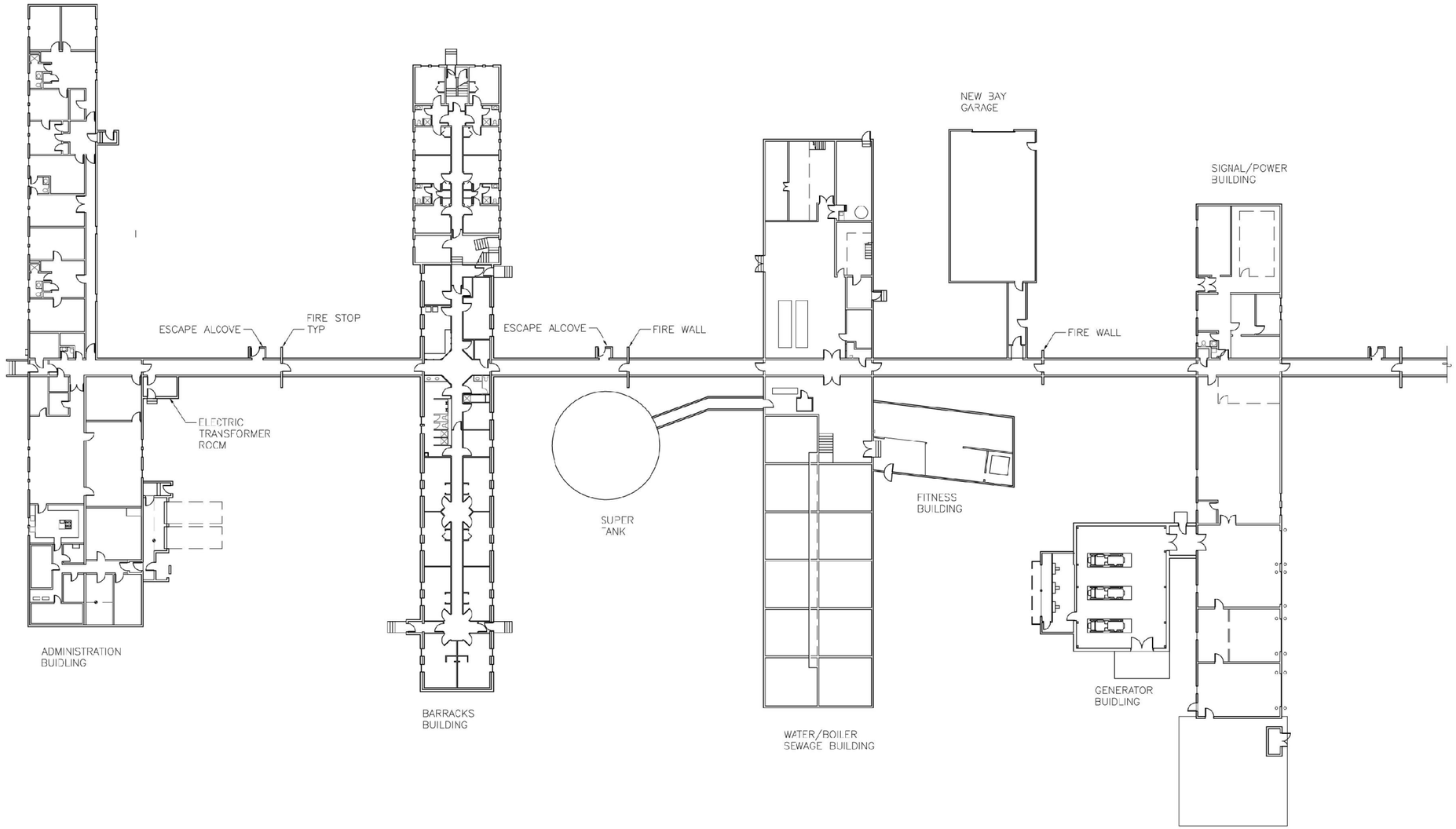

1 OVERALL SITE PLAN
SCALE: 0' 10' 20' 40'

ASBUILT

CONSULTANTS

P N D CONSULTING ENGINEERS Incorporated
3220 Hospital Drive Ste 200 Juneau, Alaska 99801
Phone: 907.586.2093 Fax: 907.586.2099

Jensen Yorba Lott Inc.
522 West 10th Street
Juneau, Alaska 99801
phone 907-586-1070 fax
907-586-3959
jensenyorbalott.com

STATE OF ALASKA — JOHN E. LOTT JR. — Mar 10, 2010 — NO. A 7805 — REGISTERED PROFESSIONAL ENGINEER

U. S. COAST GUARD
CIVIL ENGINEERING UNIT
JUNEAU

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

ISSUE		
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JL	02/21/05	ASBUILT
MARK	DATE	DESCRIPTION

A/E PROJECT NO:	0441
CAD FILE NAME:	S-3674D-A1-ASBUILT.dwg
DESIGNED BY:	.
DRAWN BY:	LE
EDITED BY:	DF
CHECKED BY:	JL

SCALE: AS INDICATED PLOT SCALE: 1:1

SHEET TITLE

FY 2004 FAC. COND. ASSESSMENT
LORSTA PORT CLARENCE
PORT CLARENCE ALASKA
PORT CLARENCE
ARCHITECTURE
OVERALL SITE PLAN

REVIEWED BY:	REVIEWED BY:	REVIEWED BY:
MLG	RCD	JSC
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

KARL H. CALVO, CAPT. — APPROVING OFFICER — DATE

PROJECT NUMBER	DRAWING NUMBER
17-40198	S-3674D
DISCIPLINE/SHT NO	
A1	

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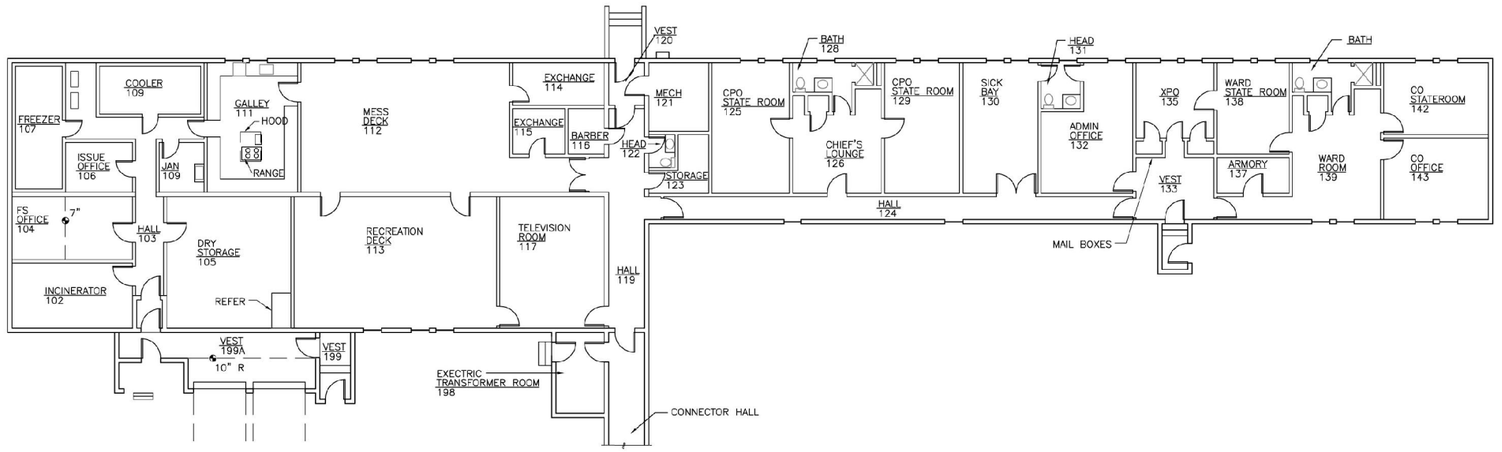
USCG ALASKA LORAN-C STATIONS RECORDATION
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

HISTORIC AMERICAN BUILDINGS SURVEY 7 OF 23
SURVEY NO. AK-233
ALASKA
PORT CLARENCE

FLOOR PLAN
OVERALL SITE AND FLO

ASBUILT:
DRAWINGS PROVIDED BY THE USCG WERE VERIFIED FOR GENERAL PLAN ACCURACY BY JENSEN YORBA LOTT, INC. FIELD VERIFICATION OF ALL DIMENSIONS WAS NOT PROVIDED



1 FLOOR PLAN ADMINISTRATION BUILDING (BLDG 1)
RPFN B1

SCALE: 0 5' 10' 20'

ASBUILT

CONSULTANTS

PND CONSULTING ENGINEERS Incorporated
3220 Hospital Drive Ste 200
Juneau, Alaska 99801
Phone: 907.586.2093
Fax: 907.586.2099

Jensen Yorba Lott Inc.
522 West 10th Street
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907-586-3959
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STATE OF ALASKA 49TH
JOANN E. LOTT
Mar 10, 2010
NO. A 7836
REGISTERED PROFESSIONAL ARCHITECT

U. S. COAST GUARD
CIVIL ENGINEERING UNIT
JUNEAU

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

ISSUE		
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JL	02/21/05	ASBUILT
MARK	DATE	DESCRIPTION

A/E PROJECT NO:	0441
CAD FILE NAME:	S-3674D-A2-ASBUILT.dwg
DESIGNED BY:	–
DRAWN BY:	LE
EDITED BY:	DF
CHECKED BY:	JL
SCALE: AS INDICATED	PLOT SCALE: 1:1

SHEET TITLE

FY 2004 FAC. COND. ASSESSMENT
LORSTA PORT CLARENCE
PORT CLARENCE ALASKA
ADMINISTRATION BUILDING
ARCHITECTURE
FLOOR PLAN

REVIEWED BY:	REVIEWED BY:	REVIEWED BY:
MLG	RCD	JSC
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

KARL H. CALVO, CAPT.
APPROVING OFFICER — DATE

PROJECT NUMBER	DRAWING NUMBER
17-40198	S-3674D
DISCIPLINE/SHT NO	

DRAWN BY: USCG

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

PORT CLARENCE
ADMINISTRATION BUILDING
ALASKA

SURVEY NO. AK-233

HISTORIC AMERICAN BUILDINGS SURVEY
8 OF 23

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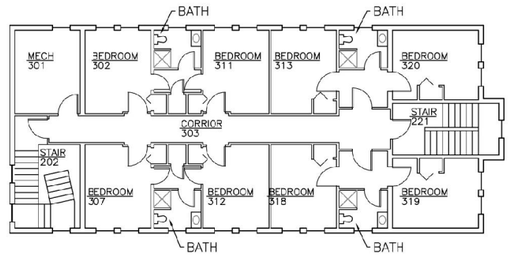
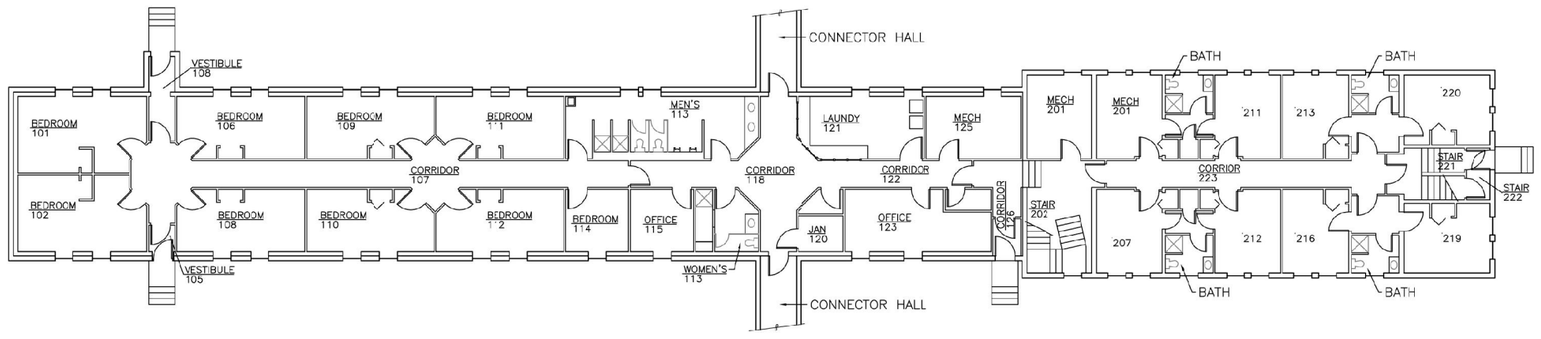


1 SECOND FLOOR PLAN BARRACKS BUILDING (BLDG 2)
RPFN B2

SCALE: 0 5' 10' 20'



2 FIRST FLOOR PLAN BARRACKS BUILDING (BLDG 2)
RPFN B2

SCALE: 0 5' 10' 20'

ASBUILT

CONSULTANTS

PND CONSULTING ENGINEERS Incorporated
3220 Hospital Drive Ste 200, Juneau, Alaska 99801
Phone: 907.586.2093 Fax: 907.586.2099

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jensenyorbalott.com

STATE OF ALASKA 49TH
JOANN E. LOTT
Mar 10, 2010
NO. A 7806
REGISTERED PROFESSIONAL ENGINEER

U. S. COAST GUARD
CIVIL ENGINEERING UNIT
JUNEAU

UNITED STATES COAST GUARD 1790

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

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MARK	DATE	DESCRIPTION
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JL	02/21/05	ASBUILT

A/E PROJECT NO:	0441
CAD FILE NAME:	S-3674D-A3-ASBUILT.dwg
DESIGNED BY:	-
DRAWN BY:	LE
EDITED BY:	DF
CHECKED BY:	JL

SCALE: AS INDICATED PLOT SCALE: 1:1

SHEET TITLE

FY 2004 FAC. COND. ASSESSMENT
LORSTA PORT CLARENCE
PORT CLARENCE ALASKA
BARRACKS
ARCHITECTURE
FLOOR PLAN

REVIEWED BY:	REVIEWED BY:	REVIEWED BY:
MLG	RCD	JSC
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

KARL H. CALVO, CAPT. — APPROVING OFFICER — DATE

PROJECT NUMBER	DRAWING NUMBER
17-40198	S-3674D
DISCIPLINE/SHT NO	
A3	SHEET 9 OF 18

DRAWN BY: USCG

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

BARRACKS FLOOR PLAN
PORT CLARENCE

DEPARTMENT OF COMMERCE
NPS NUMBER
HISTORIC AMERICAN BUILDINGS SURVEY 9 OF 23
SURVEY NO. AK-233
ALASKA

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

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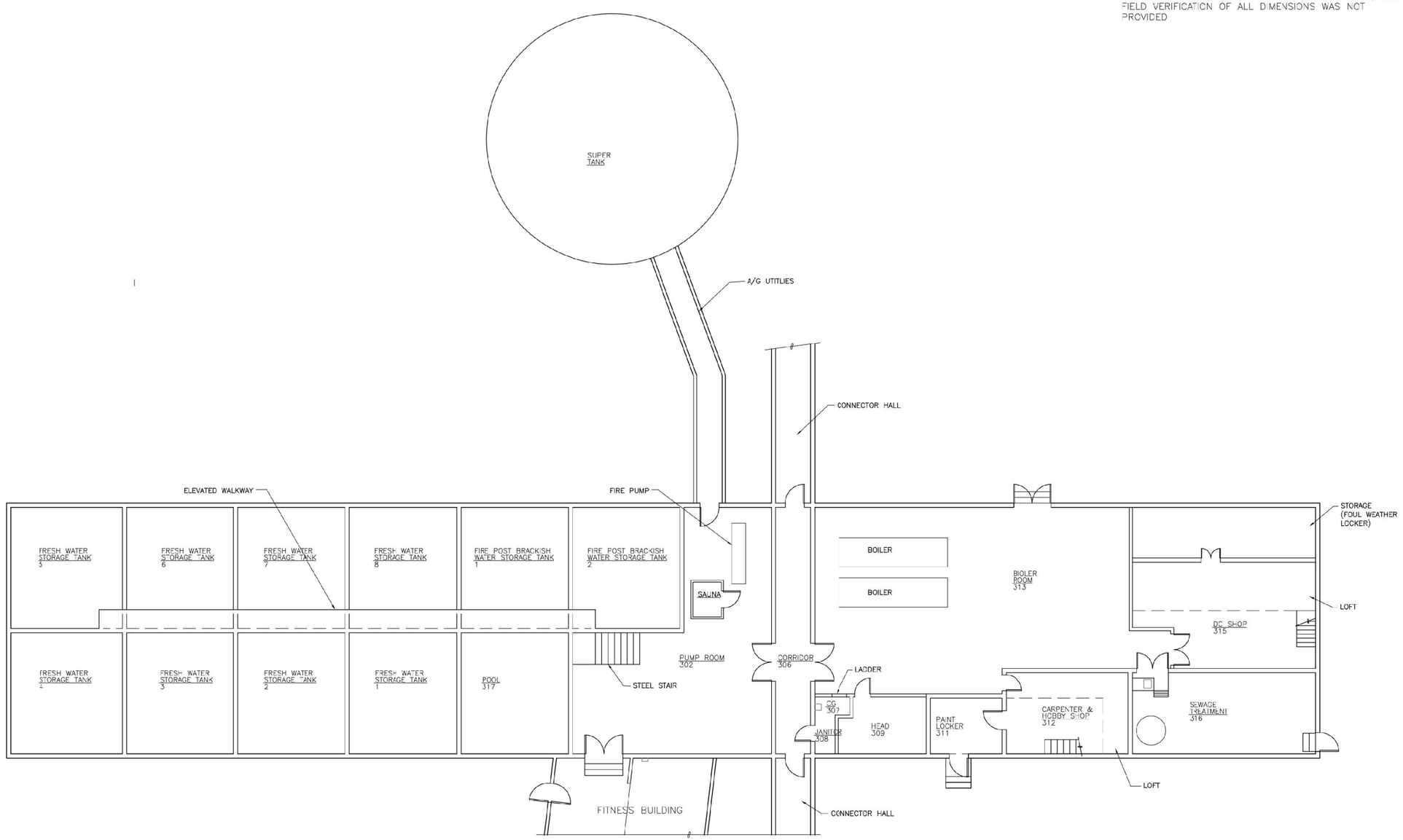

1 FLOOR PLAN UTILITY BUILDING (BLDG 3)
RPFN B3

SCALE: 0 4' 8' 16'

ASBUILT

CONSULTANTS

P N D CONSULTING ENGINEERS Incorporated
3220 Hospital Drive Ste 200 Juneau, Alaska 99801
Phone: 907.586.2093 Fax: 907.586.2099

Jensen Yorba Lott Inc.
522 West 10th Street
Juneau, Alaska 99801
phone 907-586-1070 fax
907-586-3959
jensenyorbalott.com

STATE OF ALASKA 49TH — JOANN E. LOTT — Mar 10, 2010 — NO. A 7806 — REGISTERED PROFESSIONAL ARCHITECT

U. S. COAST GUARD
CIVIL ENGINEERING UNIT
JUNEAU

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

ISSUE		
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JL	02/21/05	ASBUILT
MARK	DATE	DESCRIPTION

A/E PROJECT NO:	0441
CAD FILE NAME:	S-3674C-A4-ASBUILT.dwg
DESIGNED BY:	-
DRAWN BY:	LE
EDITED BY:	DF
CHECKED BY:	JL

SCALE: AS INDICATED PLOT SCALE: 1:1

SHEET TITLE

FY 2004 FAC. COND. ASSESSMENT
LORSTA PORT CLARENCE
PORT CLARENCE ALASKA
UTILITY BUILDING
ARCHITECTURE
FLOOR PLAN

REVIEWED BY:	REVIEWED BY:	REVIEWED BY:
MLG	RCD	JSC
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

KARL H. CALVO, CAPT. — APPROVING OFFICER — DATE

PROJECT NUMBER	DRAWING NUMBER
17-40198	S-3674D
DISCIPLINE/SHT NO	SHEET 10 OF 18
A4	

DRAWN BY: USCG

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

UTILITY BUILDING FLOOR PLAN
PORT CLARENCE

HISTORIC AMERICAN BUILDINGS SURVEY 10 OF 23
SURVEY NO. AK-233
ALASKA

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

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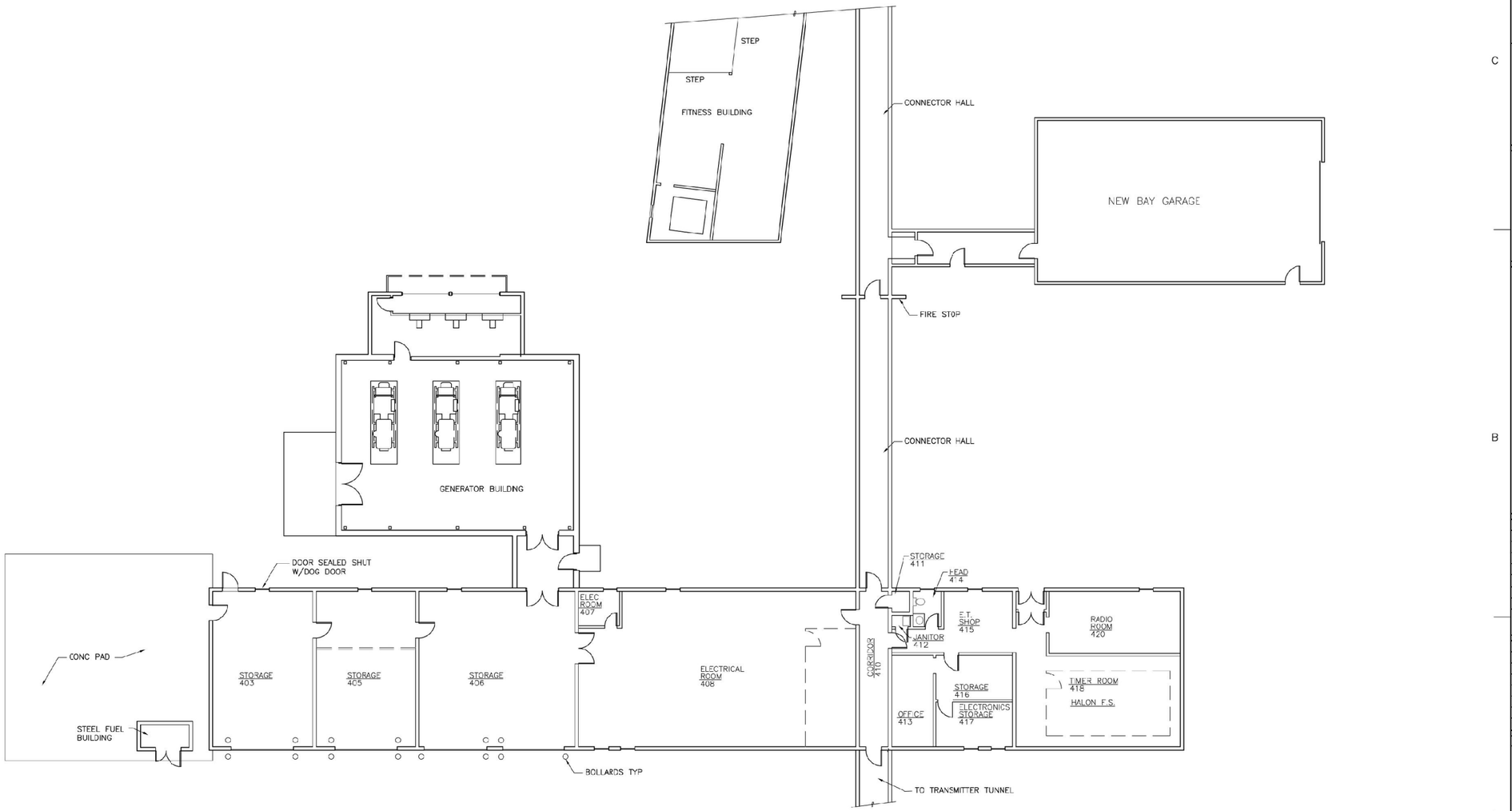

FLOOR PLAN SIGNAL POWER BLDG (BLDG 4) + GENERATOR BLDG
(1) RPFN B4

SCALE: 0 5' 10' 20'

ASBUILT

CONSULTANTS

P N D CONSULTING ENGINEERS Incorporated
3220 Hospital Drive Ste 200, Juneau, Alaska 99801
Phone: 907.586.2093 Fax: 907.586.2099

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907-586-3959
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STATE OF ALASKA 49TH JOANN E. LOTT Exp. Mar 10, 2010 NO. A 7806 REGISTERED PROFESSIONAL ARCHITECT

U. S. COAST GUARD
CIVIL ENGINEERING UNIT
JUNEAU

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

ISSUE		
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JL	02/21/05	ASBUILT
MARK	DATE	DESCRIPTION

A/E PROJECT NO:	0441
CAD FILE NAME:	S-3674D-A5-ASBUILT.dwg
DESIGNED BY:	.
DRAWN BY:	LE
EDITED BY:	DF
CHECKED BY:	JL
SCALE: AS INDICATED	PLOT SCALE: 1:1

SHEET TITLE

FY 2004 FAC. COND. ASSESSMENT
LORSTA PORT CLARENCE
PORT CLARENCE ALASKA
SIGNAL/POWER BUILDING
ARCHITECTURE
FLOOR PLAN

REVIEWED BY:	REVIEWED BY:	REVIEWED BY:
MLG	RCD	JSC
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

KARL H. CALVO, CAPT. — APPROVING OFFICER — DATE

PROJECT NUMEER	DRAWING NUMBER
17-40198	S-3674D
DISCIPLINE/SHT NO	
A5	SHEET 11 OF 18

DRAWN BY: USCG

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

HISTORIC AMERICAN BUILDINGS SURVEY 11 OF 23

SURVEY NO. AK-233

ALASKA

PORT CLARENCE

SIGNAL AND POWER BUILDING FLOOR PLAN

ASBUILT:
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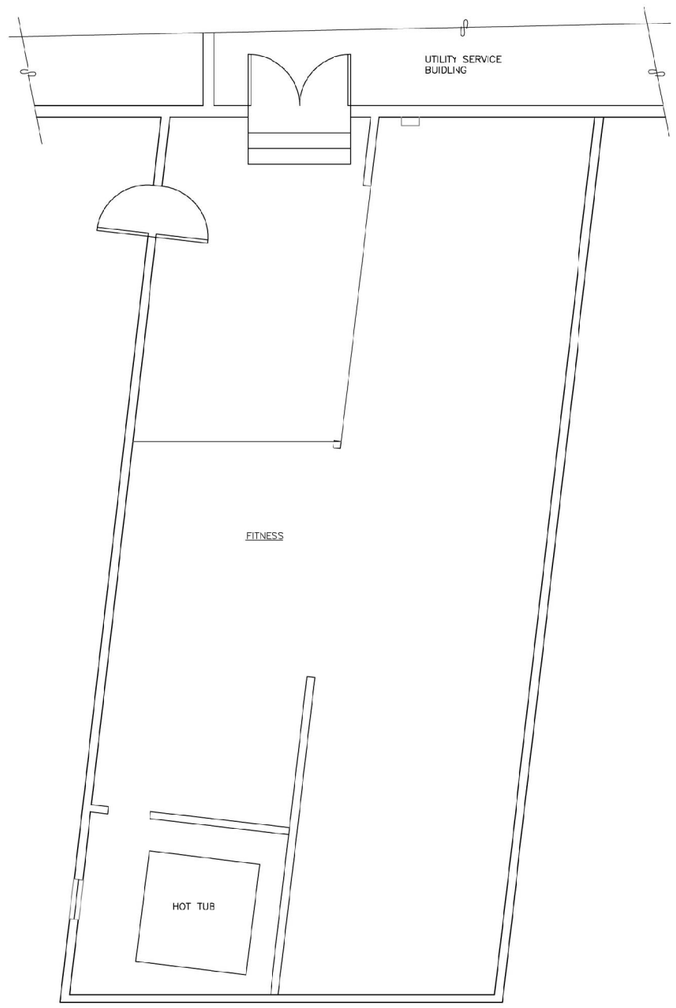

1 FLOOR PLAN FITNESS BUILDING
RPFN B12

SCALE: 0 2' 4' 8'

ASBUILT

CONSULTANTS

P N D CONSULTING ENGINEERS
Incorporated
3220 Hospital Drive Ste 200
Juneau, Alaska 99801
Phone 907.586.2093
Fax 907.586.2099

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STATE OF ALASKA 49TH
JOANN E. LOTT
Mar 16, 2010
NO. A 7806
REGISTERED PROFESSIONAL ARCHITECT

U. S. COAST GUARD
CIVIL ENGINEERING UNIT
JUNEAU

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

ISSUE		
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		–
JL	02/21/05	ASBUILT
MARK	DATE	DESCRIPTION

A/E PROJECT NO:	0441
CAD FILE NAME:	S-3674D-A6-ASBUILT.dwg
DESIGNED BY:	-
DRAWN BY:	LE
EDITED BY:	DF
CHECKED BY:	JL

SCALE: AS INDICATED PLOT SCALE: 1:1

SHEET TITLE

FY 2004 FAC. COND. ASSESSMENT
LORSTA PORT CLARENCE
PORT CLARENCE ALASKA
FITNESS BUILDING
ARCHITECTURE
FLOOR PLAN

REVIEWED BY:	REVIEWED BY:	REVIEWED BY:
MLG	RCD	JSC
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

KARL H CALVO, CAPT. — APPROVING OFFICER — DATE

PROJECT NUMBER	DRAWING NUMBER
17-40198	S-3674D
DISCIPLINE/SHT NO	
A6	SHEET 12 OF 18

HISTORIC AMERICAN BUILDINGS SURVEY 12 OF 23
SURVEY NO. AK-233
ALASKA
FITNESS BUILDING FLOOR PLAN
PORT CLARENCE
DRAWN BY: USCG
USCG ALASKA LORAN-C STATIONS RECORDATION
NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

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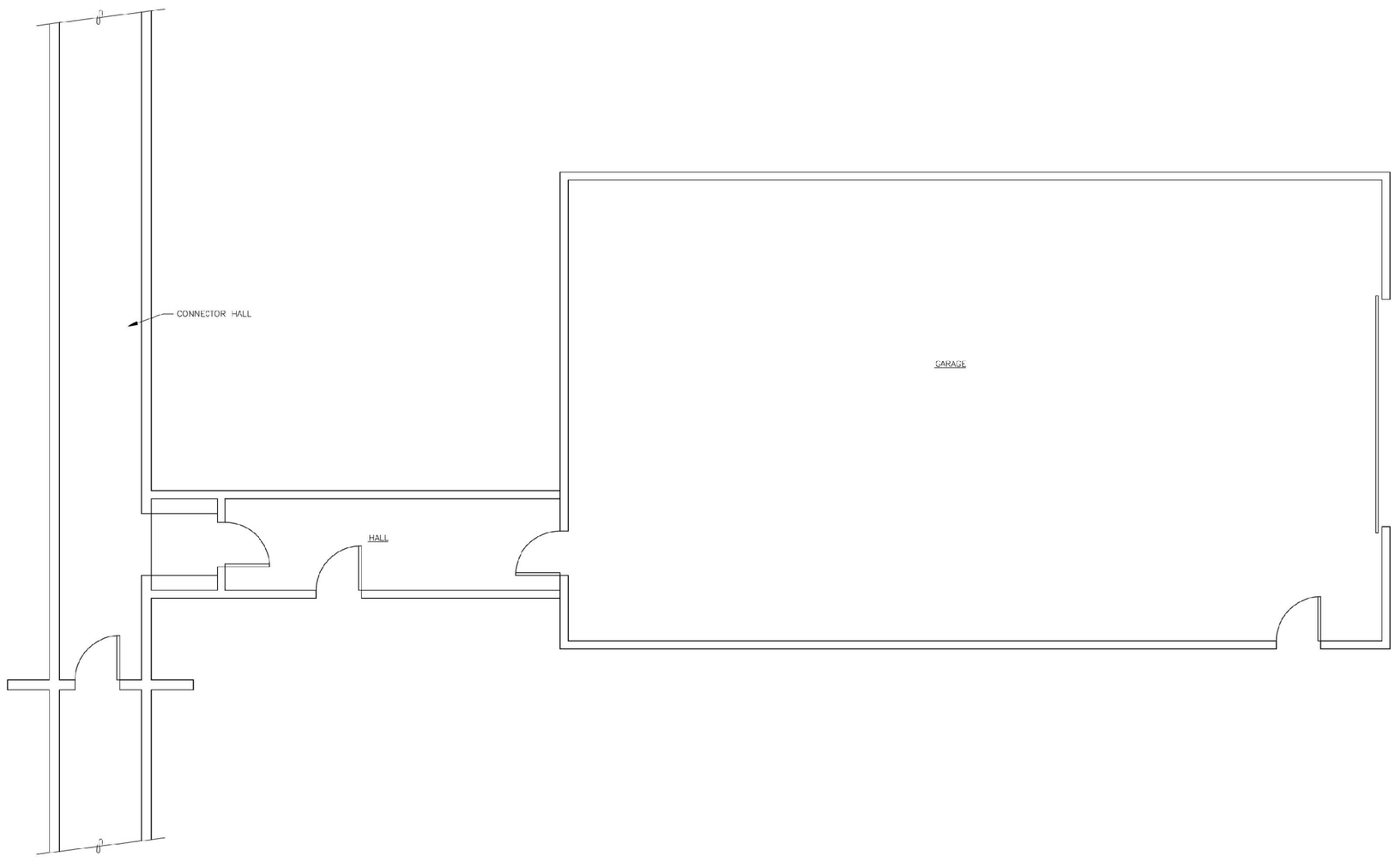

1 FLOOR PLAN NEW BAY OSHKOSH GARAGE
RPFN B11

SCALE: 0 2' 4' 8'

ASBUILT

CONSULTANTS

P N D CONSULTING ENGINEERS
Incorporated
3220 Hospital Drive Ste 200
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Fax: 907.586.2099

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jensenyorbalott.com

STATE OF ALASKA 49TH
JOANN E. LOTT
REG. Mar 10, 2010
NO. A 7806
REGISTERED PROFESSIONAL ARCHITECT

U. S. COAST GUARD
CIVIL ENGINEERING UNIT
JUNEAU

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

ISSUE		
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JL	02/21/05	ASBUILT
MARK	DATE	DESCRIPTION

A/E PROJECT NO:	0441
CAD FILE NAME:	S-3674D-A7-ASBUILT.dwg
DESIGNED BY:	.
DRAWN BY:	LE
EDITED BY:	DF
CHECKED BY:	JL

SCALE: AS INDICATED PLOT SCALE: 1:1

SHEET TITLE

FY 2004 FAC. COND. ASSESSMENT
LORSTA PORT CLARENCE
PORT CLARENCE ALASKA
NEWBAY GARAGE
ARCHITECTURE
FLOOR PLAN

REVIEWED BY:	REVIEWED BY:	REVIEWED BY:
MLG	RCD	JSC
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

KARL H. CALVO, CAPT.
APPROVING OFFICER
DATE

PROJECT NUMEER	DRAWING NUMBER
17-40198	S-3674D
DISCIPLINE/SHT NO	
A7	SHEET 13 OF 18

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

HISTORIC AMERICAN BUILDINGS SURVEY
13 OF 23

SURVEY NO. AK-233

ALASKA

NEWBAY GARAGE FLOOR PLAN

PORT CLARENCE

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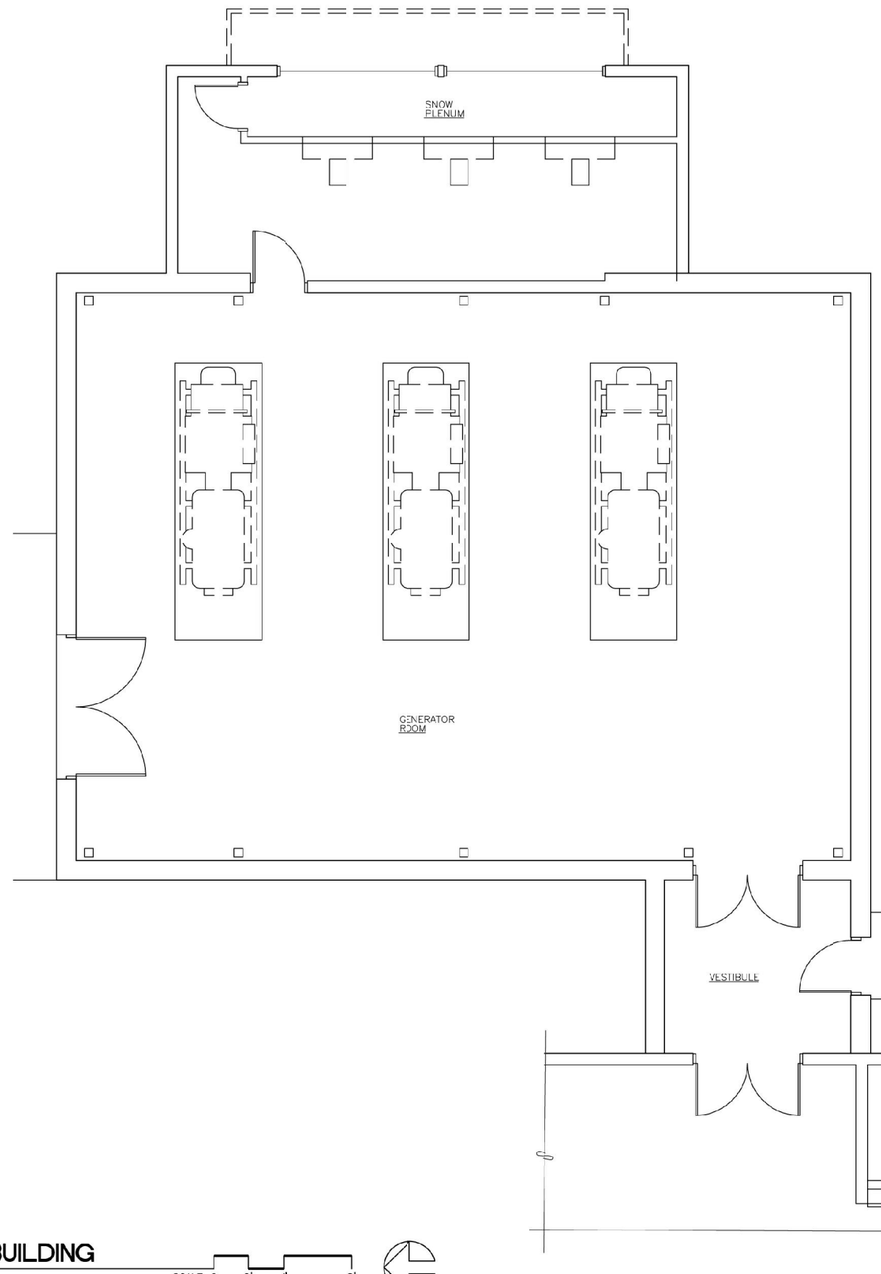

1 FLOOR PLAN GENERATOR BUILDING
RPFN B10

SCALE: 0 2' 4' 8'

ASBUILT

CONSULTANTS

P N D CONSULTING ENGINEERS
Incorporated
3220 Hospital Drive Ste 200
Juneau, Alaska 99801
Phone: 907.586.2093
Fax: 907.586.2099

Jensen Yorba Lott Inc.
522 West 10th Street
Juneau, Alaska 99801
phone 907-586-1070 fax
907-586-3959
jensenyorbalott.com

STATE OF ALASKA
JOANN E LOTT
Mar 10, 2010
NO. A 7606
REGISTERED PROFESSIONAL ENGINEER

U. S. COAST GUARD
CIVIL ENGINEERING UNIT
JUNEAU

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

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JL	02/21/05	ASBUILT
MARK	DATE	DESCRIPTION

A/E PROJECT NO:	0441
CAD FILE NAME:	S-3674D-A8-ASBUILT.dwg
DESIGNED BY:	.
DRAWN BY:	LE
EDITED BY:	DF
CHECKED BY:	JL

SCALE: AS INDICATED PLOT SCALE: 1:1

SHEET TITLE

FY 2004 FAC. COND. ASSESSMENT
LORSTA PORT CLARENCE
PORT CLARENCE ALASKA
GENERATOR BUILDING
ARCHITECTURE
FLOOR PLAN

REVIEWED BY:	REVIEWED BY:	REVIEWED BY:
MLG	RCD	JSC
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

KARL H. CALVO, CAPT. — APPROVING OFFICER — DATE

PROJECT NUMBER	DRAWING NUMBER
17-40198	S-3674D
DISCIPLINE/SHT NO	
A8	SHEET 14 OF 18

DRAWN BY: USCG

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

GENERATOR BUILDING FLOOR PLAN
PORT CLARENCE
ALASKA

SURVEY NO. AK-233

HISTORIC AMERICAN BUILDINGS SURVEY
14 OF 23

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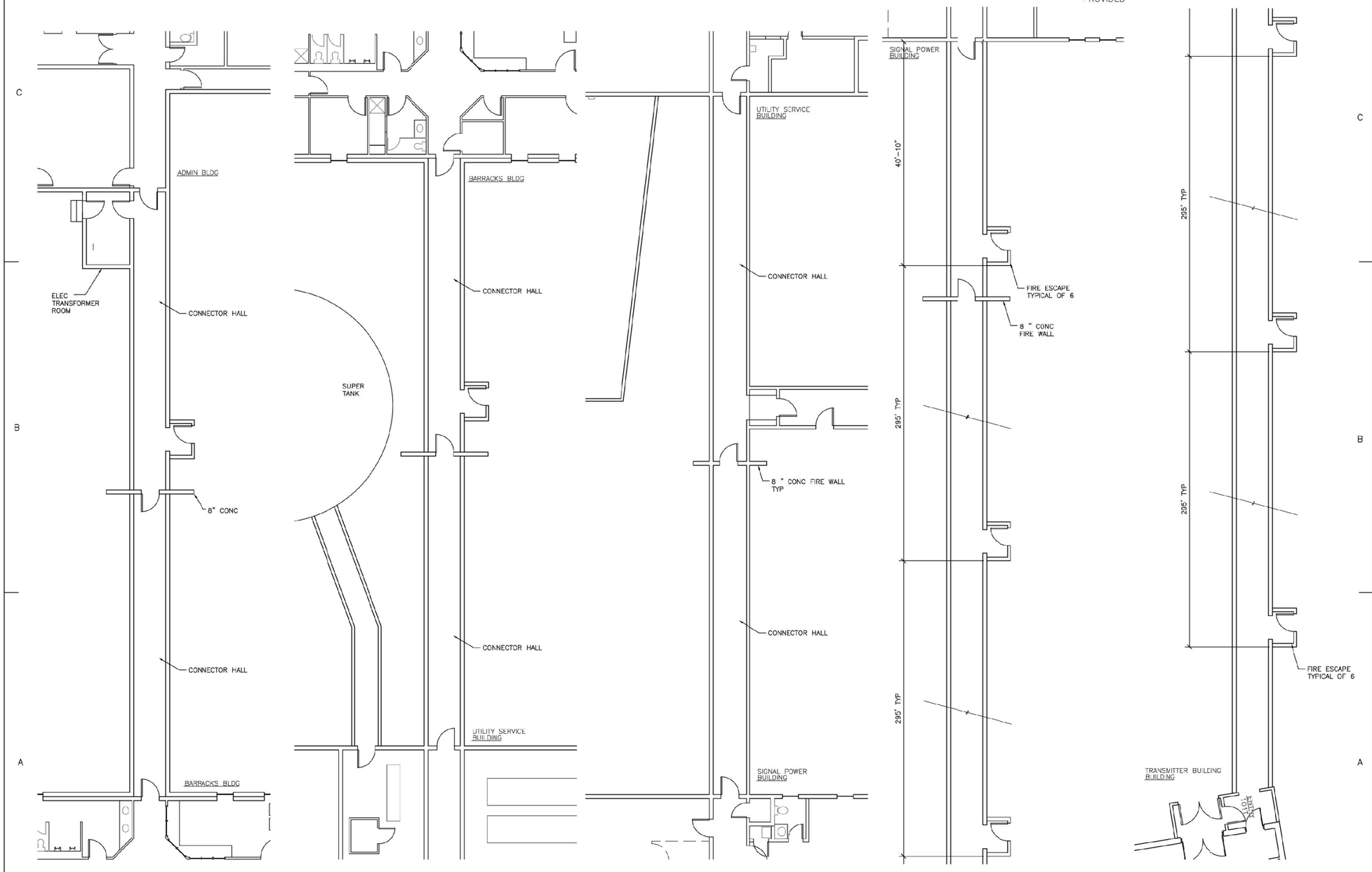

1 CONNECTOR HALL SCALE: 0 4' 8' 16'

2 CONNECTOR HALL SCALE 0 4' 8' 16'

3 CONNECTOR HALL SCALE: 0 4' 8' 16'

4 TUNNEL SCALE: 0 4' 8' 16'

5 TUNNEL SCALE: 0 4' 8' 16'

CONSULTANTS

P N D CONSULTING ENGINEERS Incorporated
3220 Hospital Drive Ste 200, Juneau, Alaska 99801
Phone 907.586.2093 Fax 907.586.2099

Jensen Yorba Lott Inc.
522 West 10th Street
Juneau, Alaska 99801
phone 907-586-1079 fax
907-586-3959
jenseyorbalott.com

STATE OF ALASKA 49TH
JOANN E. LOTT
Mar 10, 2010
NO. A 7806
REGISTERED PROFESSIONAL ARCHITECT

U. S. COAST GUARD
CIVIL ENGINEERING UNIT
JUNEAU

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

ISSUE		
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JL	02/21/05	ASBUILT
MARK	DATE	DESCRIPTION

A/E PROJECT NO:	0441
CAD FILE NAME:	S-3674D-A9-ASBUILT.dwg
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CHECKED BY:	JL

SCALE: AS INDICATED PLOT SCALE: 1:1

SHEET TITLE

FY 2004 FAC. COND. ASSESSMENT
LORSTA PORT CLARENCE
PORT CLARENCE ALASKA
TUNNEL
ARCHITECTURE
FLOOR PLAN

REVIEWED BY:	REVIEWED BY:	REVIEWED BY:
MLG	RCD	JSC
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

KARL H. CALVO, CAPT. — APPROVING OFFICER — DATE

PROJECT NUMBER	DRAWING NUMBER
17-40198	S-3674D
DISCIPLINE/SHT NO	
A9	SHEET 15 OF 18

DRAWN BY: USCG

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

TUNNEL

PORT CLARENCE

ALASKA

SURVEY NO. AK-233

HISTORIC AMERICAN BUILDINGS SURVEY 15 OF 23

LIBRARY OF CONGRESS PRINT NUMBER

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

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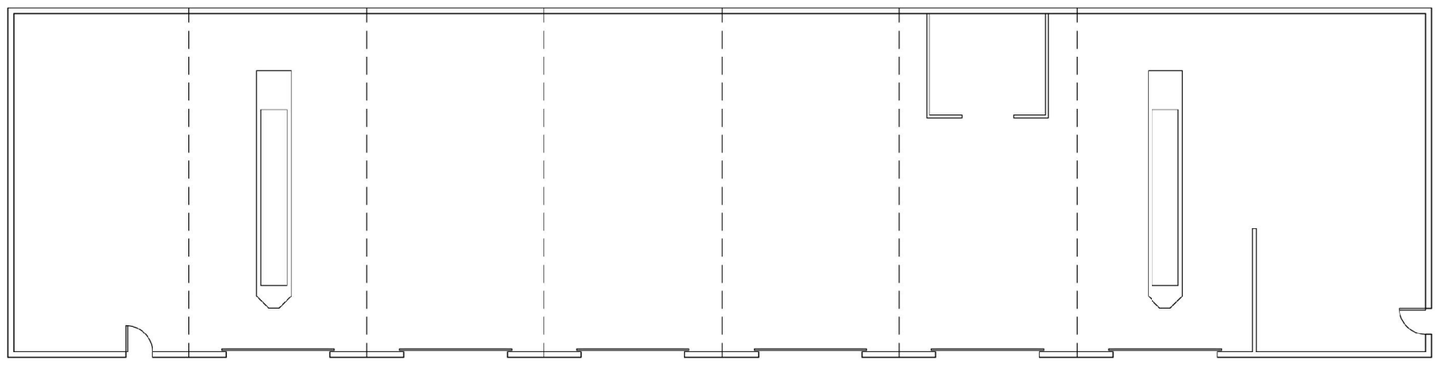

1 FLOOR PLAN HEAVY DUTY BUILDING
RPFN B6

SCALE: 0 4' 8' 16'

ASBUILT

CONSULTANTS

PND CONSULTING ENGINEERS Incorporated
3220 Hospital Drive Ste 200 Juneau, Alaska 99801
Phone: 907.586.2093 Fax: 907.586.2099

Jensen Yorba Lott Inc.
522 West 10th Street
Juneau, Alaska 99801
phone 907-586-1070 fax
907-586-3959
jensenyorbalott.com

STATE OF ALASKA 49TH
JOANN E. LOTT Jr.
Mar 10, 2010
NO. A 7806
REGISTERED PROFESSIONAL ARCHITECT

U. S. COAST GUARD
CIVIL ENGINEERING UNIT
JUNEAU

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

ISSUE		
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		–
JL	02/21/05	ASBUILT
MARK	DATE	DESCRIPTION

A/E PROJECT NO:	0441
CAD FILE NAME:	S-3674D-A10-ASBUILT.dwg
DESIGNED BY:	.
DRAWN BY:	LE
EDITED BY:	DF
CHECKED BY:	JL

SCALE: AS INDICATED PLOT SCALE: 1:1

SHEET TITLE

FY 2004 FAC. COND. ASSESSMENT
LORSTA PORT CLARENCE
PORT CLARENCE ALASKA
HEAVY DUTY BUILDING
ARCHITECTURE
FLOOR PLAN

REVIEWED BY:	REVIEWED BY:	REVIEWED BY:
MLG	RCD	JSC
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

KARL H. CALVO, CAPT. — APPROVING OFFICER — DATE

PROJECT NUMBER	DRAWING NUMBER
17-40198	S-3674D
DISCIPLINE/SHT NO	
A10	SHEET 16 OF 18

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

HEAVY DUTY BUILDING FLOOR
PORT CLARENCE
ALASKA

SURVEY NO. AK-233

HISTORIC AMERICAN BUILDINGS SURVEY
16 OF 23

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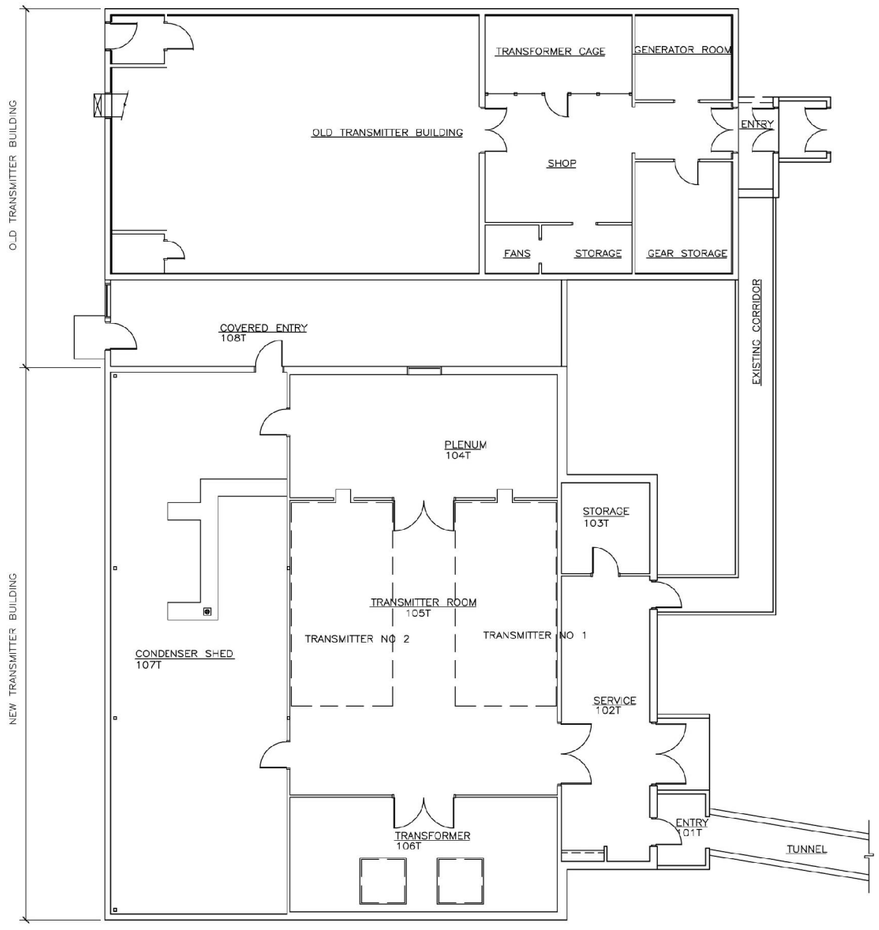

(1) FLOOR PLAN NEW TRANSMITTER BUILDING AND OLD TRANSMITTER BUILDING RPFN B7 AND RPFN B5

SCALE: 0 4' 8' 16'

ASBUILT

CONSULTANTS

P N D CONSULTING ENGINEERS Incorporated
3220 Hospital Drive Ste 200
Juneau, Alaska 99801
Phone: 907.586.2093
Fax: 907.586.2099

Jensen Yorba Lott Inc.
522 West 10th Street
Juneau, Alaska 99801
phone 907-586-1070 fax
907-586-3959
jensenyorbalott.com

STATE OF ALASKA 49TH JOANN E. LOTT Mar 10, 2010 NO. A 7806 REGISTERED PROFESSIONAL ENGINEER

U. S. COAST GUARD
CIVIL ENGINEERING UNIT
JUNEAU

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

ISSUE		
		–
		–
JL	02/21/05	ASBUILT
MARK	DATE	DESCRIPTION

A/E PROJECT NO:	0441
CAD FILE NAME:	S-3674D-A11-ASBUILT.dwg
DESIGNED BY:	.
DRAWN BY:	LE
EDITED BY:	DF
CHECKED BY:	JL

SCALE: AS INDICATED PLOT SCALE: 1:1

SHEET TITLE

FY 2004 FAC. COND. ASSESSMENT
LORSTA PORT CLARENCE
PORT CLARENCE ALASKA
TRANSMITTER BUILDING
ARCHITECTURE
FLOOR PLAN

REVIEWED BY:	REVIEWED BY:	REVIEWED BY:
MLG	RCD	JSC
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

KARL H. CALVO, CAPT. — APPROVING OFFICER — DATE

PROJECT NUMBER	DRAWING NUMBER
17-40198	S-3674D
DISCIPLINE/SHT NO	SHEET 17 OF 18
A11	

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

HISTORIC AMERICAN BUILDINGS SURVEY 17 OF 23

SURVEY NO. AK-233

ALASKA

PORT CLARENCE

TRANSMITTER BUILDING FLOOR

ASBUILT:
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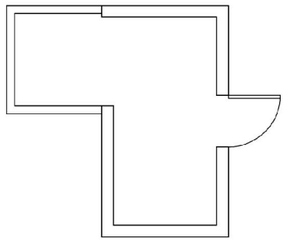

1 FLOOR PLAN RUNWAY TRANSFORMER BUILDING
RPFN B8

SCALE: 0 4' 8' 16'

ASBUILT

CONSULTANTS

PND CONSULTING ENGINEERS
Incorporated
3220 Hospital Drive Ste 200
Juneau, Alaska 99801
Phone: 907.586.2093
Fax: 907.586.2099

Jensen Yorba Lott Inc.
522 West 10th Street
Juneau, Alaska 99801
phone 907-586-1070 fax
907-586-3959
jensenyorbalott.com

STATE OF ALASKA 49TH
JOANN E. LOTT
EXP. Mar 10, 2010
NO. A 7839
REGISTERED PROFESSIONAL ARCHITECT

U. S. COAST GUARD
CIVIL ENGINEERING UNIT
JUNEAU

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

ISSUE		
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		–
JL	02/21/05	ASBUILT
MARK	DATE	DESCRIPTION

A/E PROJECT NO:	0441
CAD FILE NAME	S-3674D-A12-ASBUILT.dwg
DESIGNED BY:	–
DRAWN BY:	LE
EDITED BY:	DF
CHECKED BY:	JL

SCALE: AS INDICATED PLOT SCALE: 1:1

SHEET TITLE

FY 2004 FAC. COND. ASSESSMENT
LORSTA PORT CLARENCE
PORT CLARENCE ALASKA
TRANSFORMER BUILDING
ARCHITECTURE
FLOOR PLAN

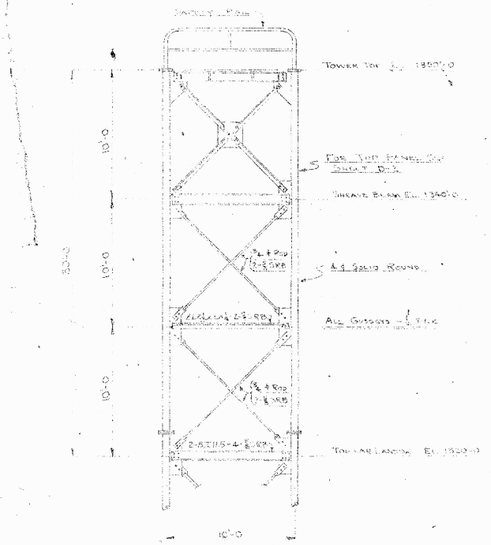
REVIEWED BY:	REVIEWED BY:	REVIEWED BY:
MLG	RCD	JSC
PROJECT ENG.	BRANCH CHIEF	TECH. DIRECTOR

KARL H. CALVO, CAPT.
APPROVING OFFICER
DATE

PROJECT NUMBER	DRAWING NUMBER
17-40198	S-3674D
DISCIPLINE/SHT NO	
A12	SHEET 18 OF 18

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

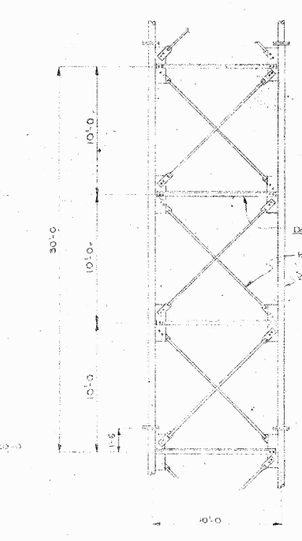
HISTORIC AMERICAN BUILDINGS SURVEY
18 OF 23
SURVEY NO. AK-233
ALASKA
TRANSFORMER BUILDING FLOOR
PORT CLARENCE



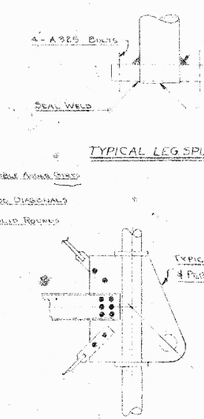
TOWER TOP

For Portion Section See Sht. D-3

SECTION 44

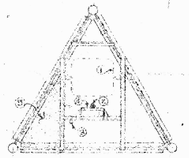


TYPICAL TOWER SECTION

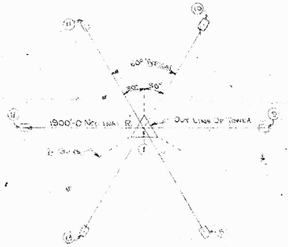


TYPICAL LEG SPLICE

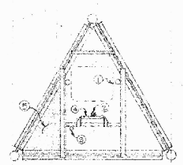
TYPICAL GUY PULLOFF



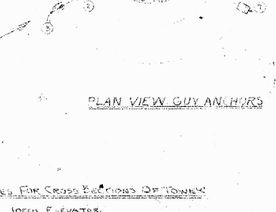
TYPICAL 8 LIGHT ELEV.



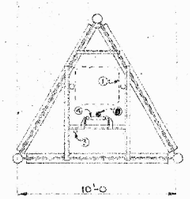
PLAN VIEW TOP RADIALS



TYPICAL REST PLATFORM



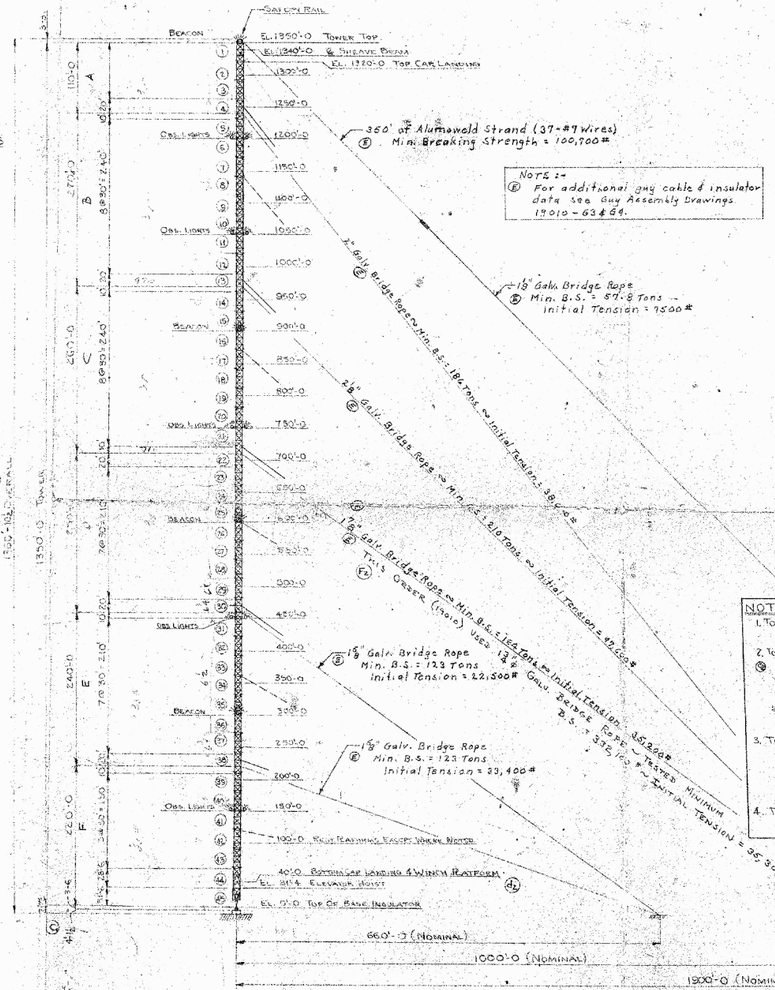
PLAN VIEW GUY ANCHORS



TYPICAL CROSS SECTION

Notes For Cross Elevations Of Towers

1. Ideco Elevator.
2. Safety Device By Safety Tower Ladder Co. Or Equiv.
3. Lighting Conduit.
4. Rod Ladder - 3/4" Rounds @ 12" C/C. And 3/4" Rails 15" C/C.
5. Burried Plate - 1/4" Thick.



TOWER ELEVATION

Section	Leg Length	Leg Size	Diag Size	Diag Bolt	Girt Size	Girt Bolt	Guss. Thk.
1	28'-6	4 ϕ	Sag	Rods			¼
2	30'-0	4	3 ϕ	2-⅝ ϕ	3"x2"x¼	⅝	⅜
3		4	1½	⅝	3"x2"x¼	⅝	½
4		4½	1¼	⅝	3"x2"x¼	⅝	½
			1¼	⅝	3"x2½"x¼	⅝	½
5		4½	1¼	⅝	3"x2½"x¼	⅝	½
6		4½	1	¾	3"x2"x¼	⅝	⅜
7		4½	1	¾	2½"x2"x¼	⅝	⅜
8		4½	¾	⅝	2½"x2"x¼	⅝	⅜
9		4½	¾	⅝	2½"x2"x¼	⅝	⅜
10		4½	1	¾	3"x2"x¼	⅝	⅜
11		4½	1½	¾	3"x2"x¼	⅝	½
12		5	1½	⅝	3½"x2½"x¼	¾	½
13		5½	1⅝	1	3½"x3½"x¼	¾	½
			1½	⅝	3½"x2½"x¼	¾	½
14		5½	1½	⅝	3"x2½"x¼	⅝	½
15		5½	1⅝	¾	3"x2"x¼	⅝	½
16		5½	⅞	⅝	3"x2"x¼	⅝	⅜
17		5½	⅞	⅝	2½"x2"x¼	⅝	⅜
18		5½	⅞	⅝	2½"x2"x¼	⅝	⅜
19		5½	1⅝	⅝	3"x2"x¼	⅝	⅜
20		5½	1⅝	¾	3½"x2"x¼	⅝	½
21		5½	1⅝	1	3"x2½"x¼	⅝	½
22		6½	1⅝	1	3½"x3½"x¼	¾	½
			1½	⅝	3"x2½"x¼	¾	½
23		6	1⅝	¾	3"x2"x¼	⅝	½
24		6	1	¾	3"x2"x¼	⅝	⅜
25		6	⅞	⅝	2½"x2"x¼	⅝	⅜
26		6	⅞	⅝	2½"x2"x¼	⅝	⅜
27		6	⅞	⅝	2½"x2"x¼	⅝	⅜
28		6	1	¾	3"x2"x¼	⅝	⅜
29		6½	1⅜	⅞	3"x2½"x¼	⅝	½
30		6½	1⅜	⅞	3½"x2½"x¼	¾	½
			1⅜	¾	3"x2"x¼	⅝	½
31		6½	1⅜	¾	3"x2"x¼	⅝	½
32		6½	1	¾	3"x2"x¼	⅝	⅜
33		6½	⅞	⅝	2½"x2"x¼	⅝	⅜
34		6½	⅞	⅝	2½"x2"x¼	⅝	⅜
35		6½	⅞	⅝	2½"x2"x¼	⅝	⅜
36		6½	⅞	⅝	3"x2"x¼	⅝	⅜
37		6½	1⅜	¾	3"x2"x¼	⅝	½
38		7	1¼	⅞	3"x2½"x¼	⅝	½
			1⅜	¾	3"x2"x¼	⅝	½
39		7	1⅜	¾	3"x2"x¼	⅝	½
40		7	1	¾	3"x2"x¼	⅝	⅜
41		7	⅞	⅝	2½"x2"x¼	⅝	⅜
42		7	⅞	⅝	2½"x2"x¼	⅝	⅜
43		7	⅞	⅝	2½"x2"x¼	⅝	⅜
44	30'-0	7¼	See Detail				
45		7½	See Dwg 19010 Sht D-5				

NOTES

1. Tower designed according to Sperry Gyroscope Co. specifications Number 4123-96304 revision B dated June 7, 1961.
2. Tower components to comply with the following A.S.T.M. specs.
   a. Legs - Modified A440-59T (Min. YP 45,000 PSI)
   b. Guys - Bridge Strand, A218 Class C Galvanize.
   c. Radials - Top 350' Only: Aluminum Coated Steel Conn. & (K) Remainder: Same As Guys
   d. All Other Steel - A-7 ®
3. Tower bolts to comply with the following A.S.T.M. specs.
   a. Leg Splice Bolts - A325 With Palnut
   b. Main Web Bolts - Structural Rib Bolts with Angle Nuts.
   c. All Others - Standard Machine Bolt with Hex Head Hvy. Hut & And Palnut.
4. Tower to be Hot Dip Galvanized and shop painted one base coat and one color coat as per spec.

PORT CLARENCE, AK

F2	Third Guy From Bottom Added, Data F2, 1¾" ϕ 2 Rope Used On This Order (19010)	SHS	8-31-61
F1	Rev. Third Guy From Base to 1"A" @ E 3.5 to 16.4 Tons	SHS	8-29-61
E	Revised Guy Data	AWF	15/15/61
D3	Changed Guy Pull-Off	CBV	
D2	Changed Width Elevation	9/7/61	
D1	Changed Diag. Size		
D	D-10 Was D-1C		
C4	Changed Note 2a	CBV	8-25-61
C3	Revised Guy Pull-Off & Base Height	CBV	7-27-61
C2	D-1C Was D-1B	CBV	7-27-61
C1	D-1B Was D-1A	CBV	7-18-61
B	General Revision	CBV	
A	General Revision	CBV	
	D-1A Was D-1	CBV	5-10-61
NO.	DESCRIPTION	DW.	CH.

REVISIONS

DRESSER-IDECO COMPANY
A DIVISION OF DRESSER INDUSTRIES, INC.
COLUMBUS 15, OHIO

1350' INSULATED GUYED TOWER
SPERRY GYROSCOPE COMPANY
GREAT NECK, N.Y.

DESIGN

ORDER NO.	19010			
	DRAWN	CHECKED	APPROVED	SCALE
NAME	CBV			
DATE	6-15-61			SHEET NO.
DRAWING NO.	19010	DIF		OF SHEETS

DRAWN BY: DRESSER IDECO CO.

USCG ALASKA LORAN-C STATIONS RECORDATION

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

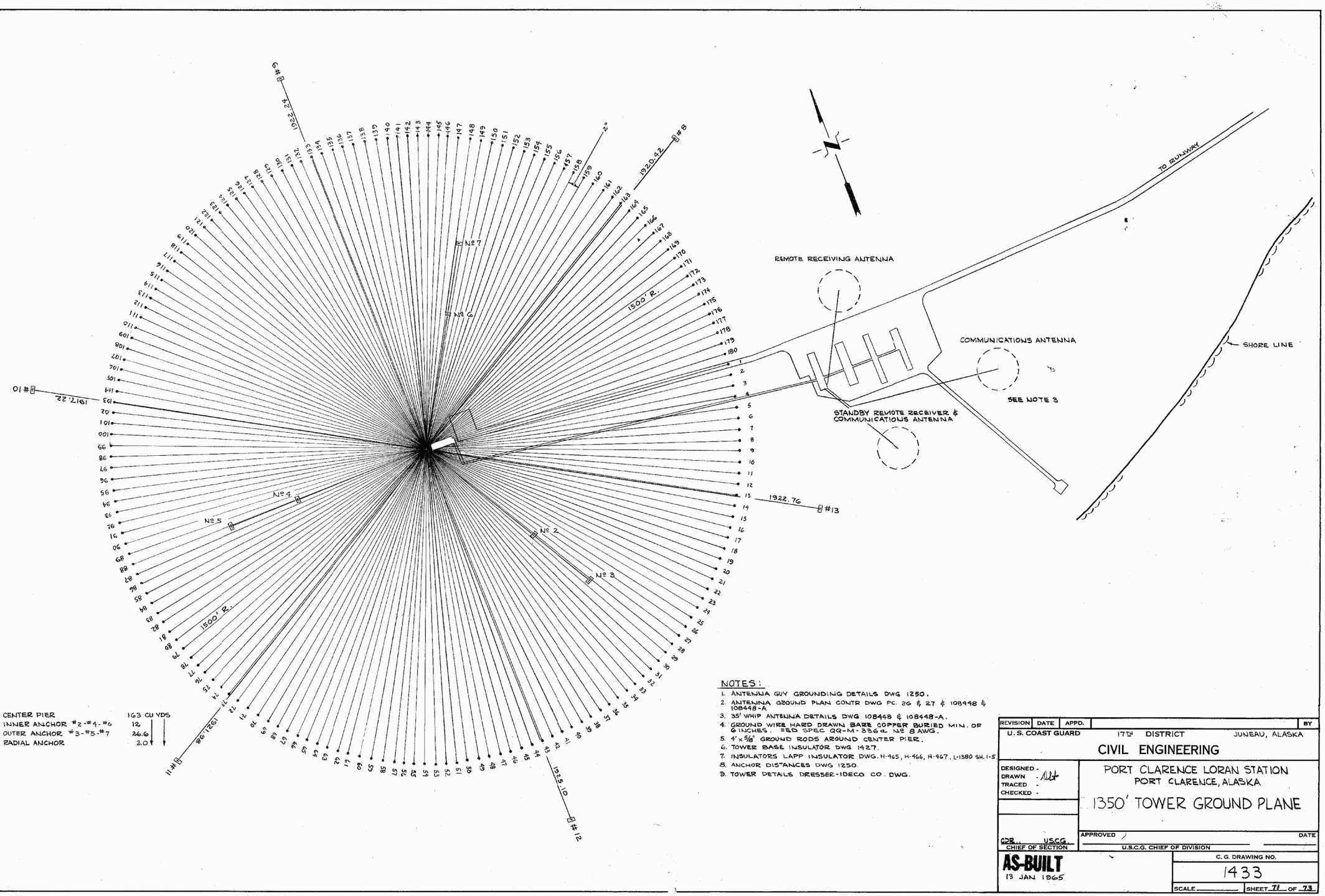
HISTORIC AMERICAN BUILDINGS SURVEY
19 OF 23

SURVEY NO. AK-233

ALASKA

PORT CLARENCE

INSULATED GUY TOWER DESIGN



1.	CENTER PIER	163 CU YDS
2.	INNER ANCHOR #2-#4-#6	12
3.	OUTER ANCHOR #3-#5-#7	26.6
4.	RADIAL ANCHOR	2.0

NOTES:

1. ANTENNA GUY GROUNDING DETAILS DWG 1250.
2. ANTENNA GROUND PLAN CONTR DWG PC. 26 & 27 & 108448 & 108448-A
3. 35' WHIP ANTENNA DETAILS DWG 108448 & 108448-A.
4. GROUND WIRE HARD DRAWN BARE COPPER BURIED MIN. OF 6 INCHES. FED SPEC QQ-M-336a Nº 8 AWG.
5. 4' x 5/8" GROUND RODS AROUND CENTER PIER.
6. TOWER BASE INSULATOR DWG 1427.
7. INSULATORS LAPP INSULATOR DWG. H-965, H-966, H-967, L-1380 SH. 1-5.
8. ANCHOR DISTANCES DWG 1250.
9. TOWER DETAILS DRESSER-IDECO CO. DWG.

REVISION	DATE	APPD.		BY

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

CIVIL ENGINEERING

DESIGNED -
DRAWN - ALH
TRACED -
CHECKED -

PORT CLARENCE LORAN STATION
PORT CLARENCE, ALASKA

1350' TOWER GROUND PLANE

CDR., USCG
CHIEF OF SECTION

APPROVED _____ DATE _____
U.S.C.G. CHIEF OF DIVISION

AS-BUILT
13 JAN 1965

C. G. DRAWING NO.
1433

SCALE _____ SHEET 71 OF 73

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

PORT CLARENCE

1350' TOWER GROUND PLANE

ALASKA AK-233

SURVEY NO.

HISTORIC AMERICAN BUILDINGS SURVEY
20 OF 23

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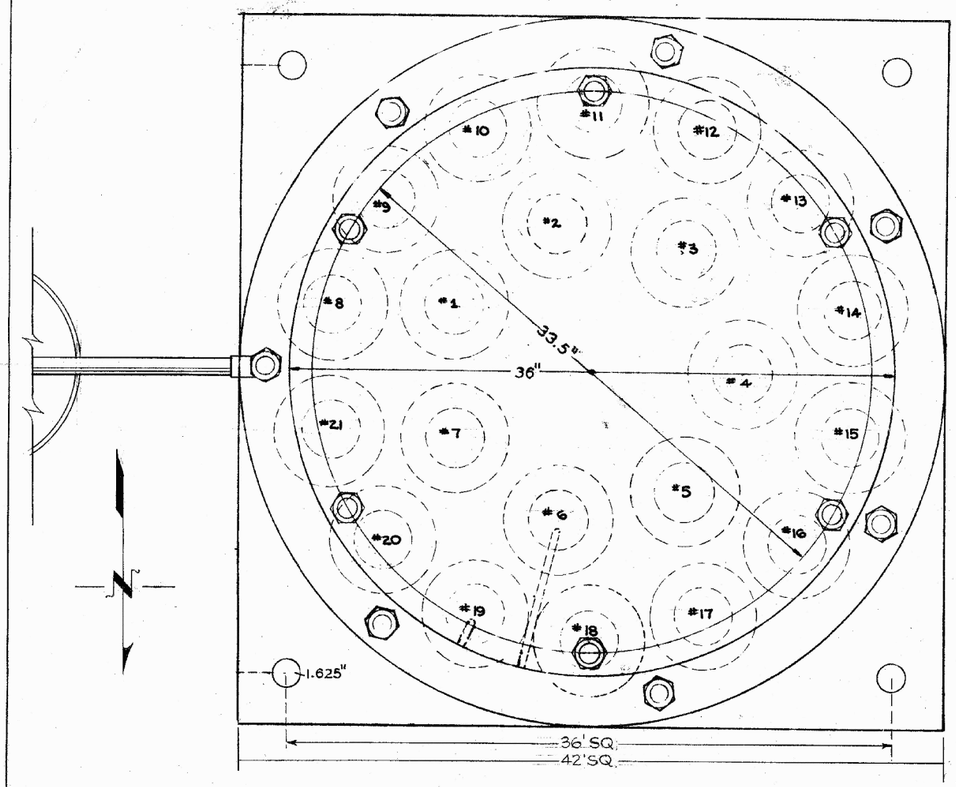
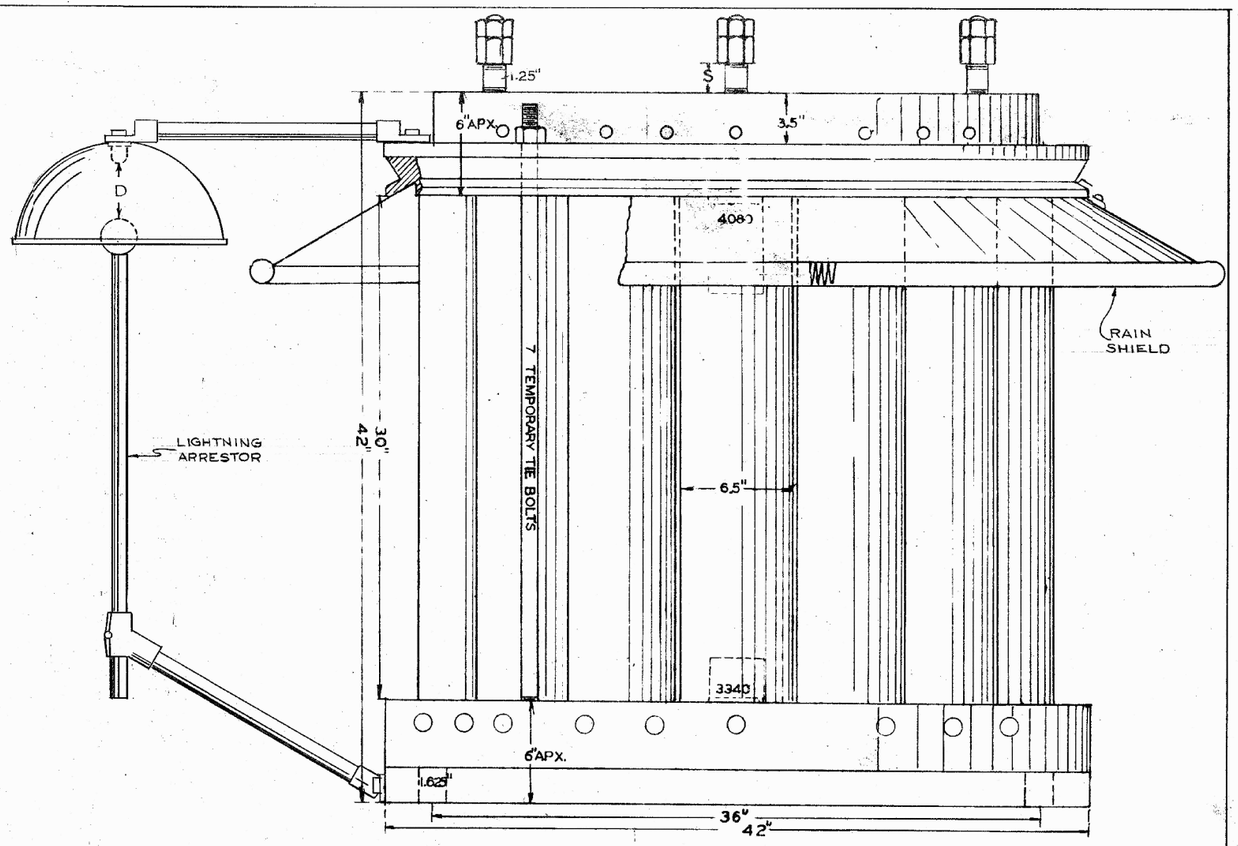


PLAN

NOTE: REFERENCE NUMBERS ON EACH INSULATOR ELEMENT.

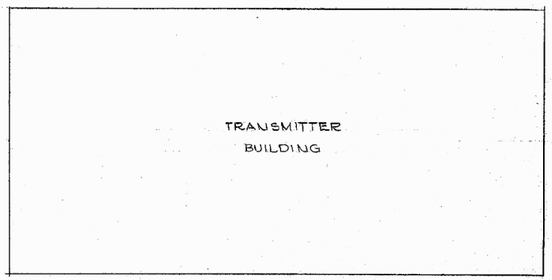


ELEVATION

MULTI-ELEMENT RADIO BASE INSULATOR
DATE 7-29-'61

A-4598

A.O. AUSTIN, BARBERTON, OHIO.



PLOT PLAN

THIS DRAWING TRACED FROM A.O. AUSTIN CO. DRAW. NO. A-4598

REVISION	DATE	APPD.		BY

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

CIVIL ENGINEERING

DESIGNED - B.E.
DRAWN - RAF
TRACED -
CHECKED rbm

PORT CLARENCE
PORT CLARENCE, ALASKA

MULTI-ELEMENT RADIO BASE INSULATOR
FOR
1350 FOOT TOWER

D.S. Goews CDR. U.S.C.G. CHIEF OF BRANCH

APPROVED Arthur Schaffer CAPT., U.S.C.G. CHIEF OF DIVISION

DATE 9-13-62

C.G. DRAWING NO. 1427

SCALE AS SHOWN SHEET 1 OF 1

CG-3424-A 12-5-

DRAWN BY: USCG

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

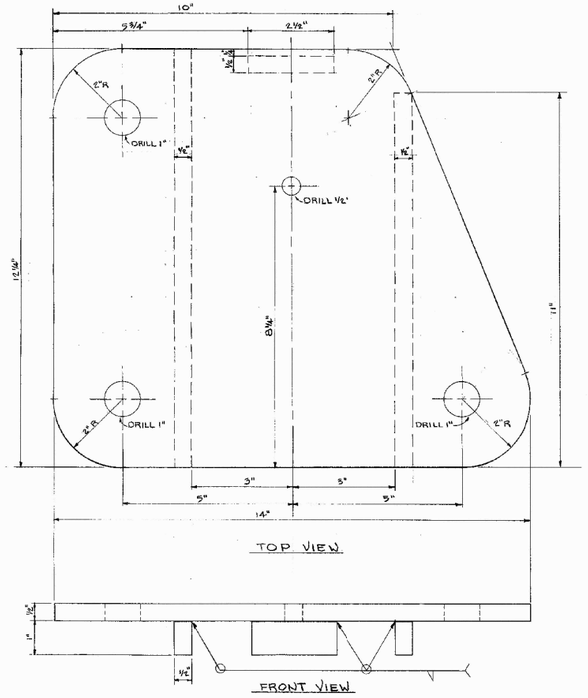
PORT CLARENCE

MULTI-ELEMENT RADIO BASE INSULATOR

ALASKA SURVEY NO. AK-233

HISTORIC AMERICAN BUILDINGS SURVEY
21 OF 23

LIBRARY OF CONGRESS PRINTS & PHOTOGRAPHS



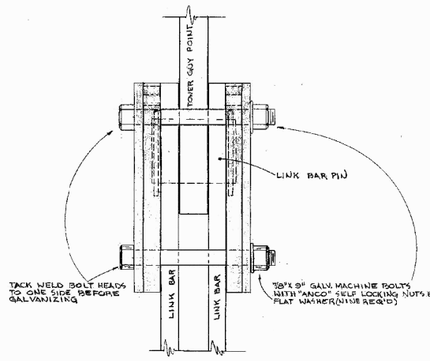
TOP VIEW

FRONT VIEW

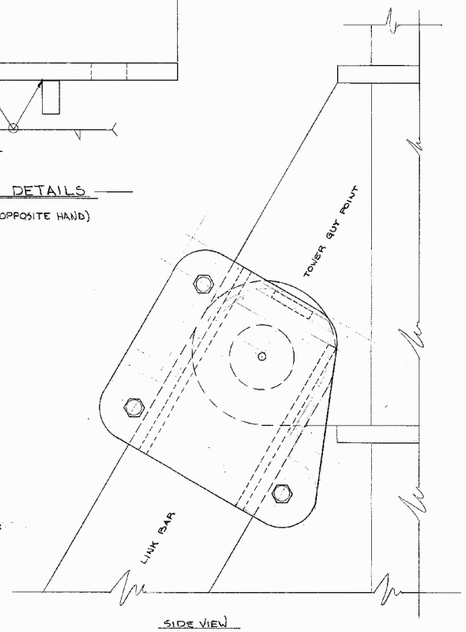
LINK BAR PIN RETAINER DETAILS

1/2 SIZE

6 REQ'D (3 AS SHOWN, 3 OPPOSITE HAND)



FRONT VIEW

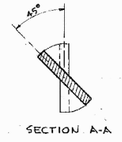


SIDE VIEW

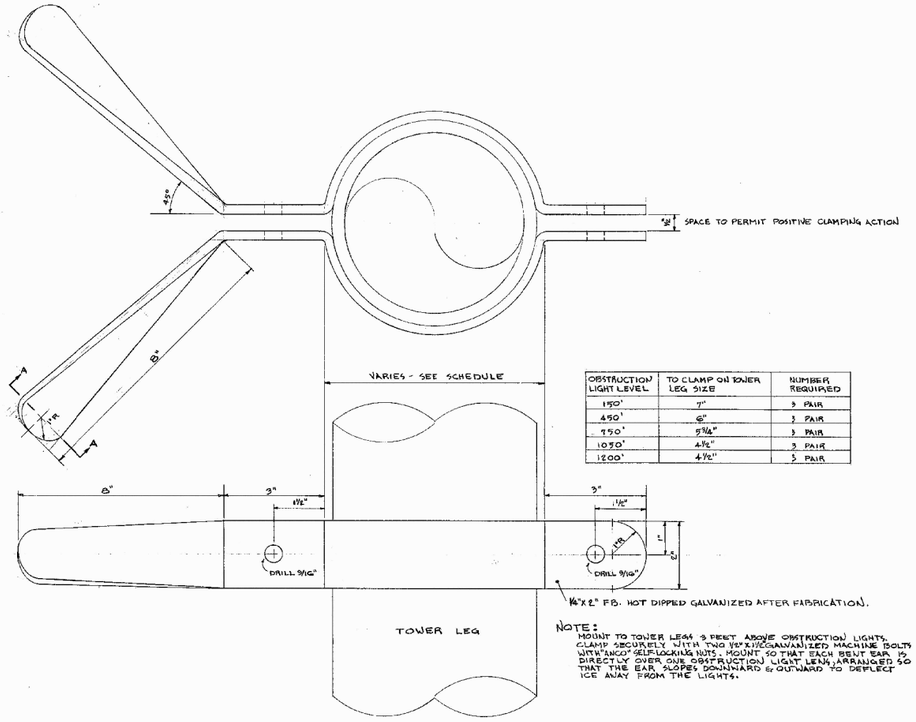
LINK BAR PIN RETAINER INSTALLATION

1/4 SIZE

NOTES:
1. FABRICATE FROM A36 CARBON STEEL.
2. HOT DIP GALVANIZE AFTER FABRICATION.
3. INSTALL AS SHOWN ON THE THREE-EIGHTH LEVEL GUY LINK BAR



SECTION A-A



OBSTRUCTION LIGHT LEVEL	TO CLAMP ON TOWER LEG SIZE	NUMBER REQUIRED
150'	7"	3 PAIR
450'	6"	3 PAIR
750'	5 3/4"	3 PAIR
1050'	4 1/2"	3 PAIR
1200'	4 1/2"	3 PAIR

NOTE:
MOUNT TO TOWER LEGS 3 FEET ABOVE OBSTRUCTION LIGHTS. CLAMP SECURELY WITH TWO 1/2"X1" GALVANIZED MACHINE BOLTS WITH "ANCO" SELF LOCKING NUTS. MOUNT SO THAT EACH BOLT EAR IS DIRECTLY OVER ONE OBSTRUCTION LIGHT LEAD, ARRANGED SO THAT THE EAR SLOPES DOWNWARD & OUTWARD TO DEFLECT ICE AWAY FROM THE LIGHTS.

OBSTRUCTION LIGHT ICE DEFLECTOR

1/2 SIZE

REVISION	DATE	APPD.		BY
1				

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

CIVIL ENGINEERING

DESIGNED - M.H.
DRAWN - R.E.L.
TRACED -
CHECKED - A. Hall
REVIEWED:
SUPV. GEN. ENGR.
SUBMITTED: C.G.D.
CHIEF OF BRANCH

PORT CLARENCE LORAN STATION
PORT CLARENCE, ALASKA

1350' TOWER
LINK BAR PIN RETAINERS
&
ICE DEFLECTORS

APPROVED: Dwight F. Hall — DATE 2-14-69
CAPTAIN U.S.C.G. CHIEF OF DIVISION

C. G. DRAWING NO.
1939

SCALE AS SHOWN — SHEET 1 OF 1

DRAWN BY: USCG

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

LINK BAR PIN RETAINERS AND ICE REFLECTORS

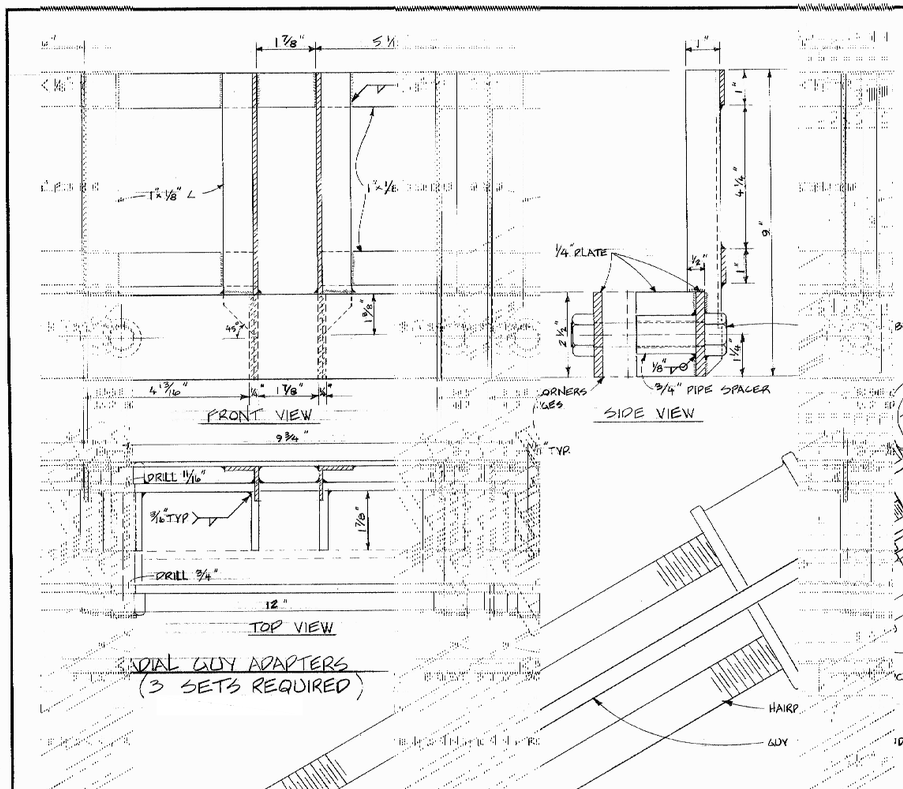
PORT CLARENCE

ALASKA

SURVEY NO. AK-233

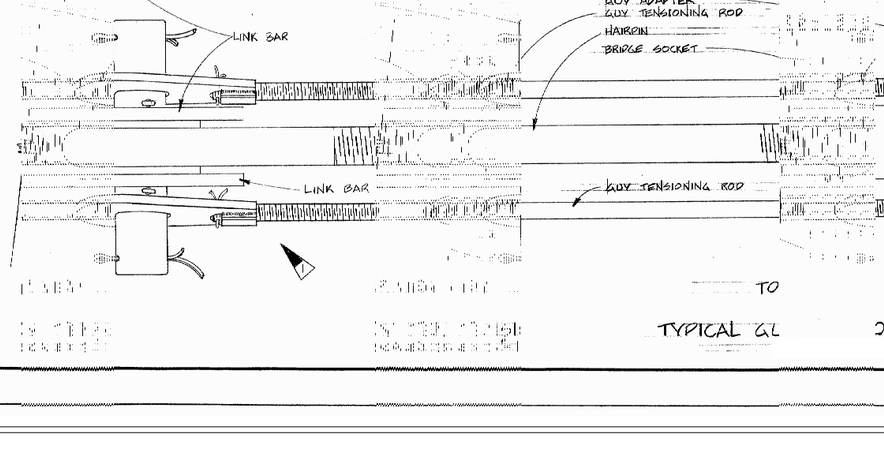
HISTORIC AMERICAN BUILDINGS SURVEY
22 OF 23

LIBRARY OF CONGRESS PRINT NUMBER

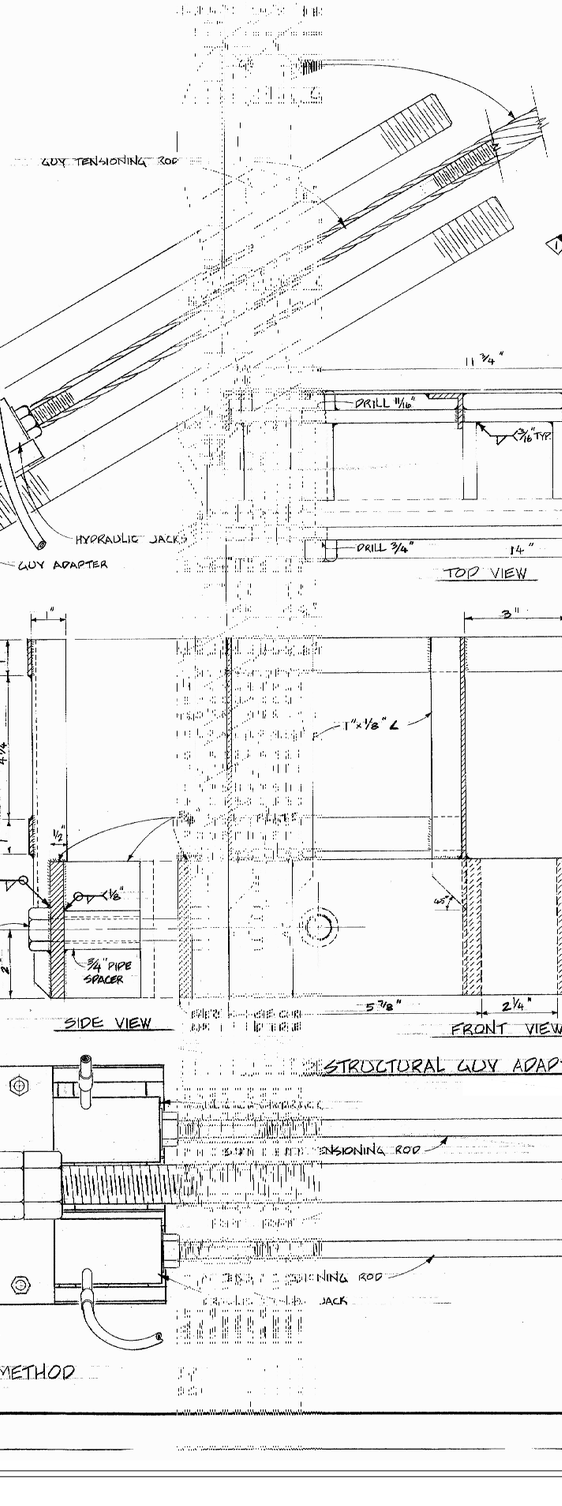


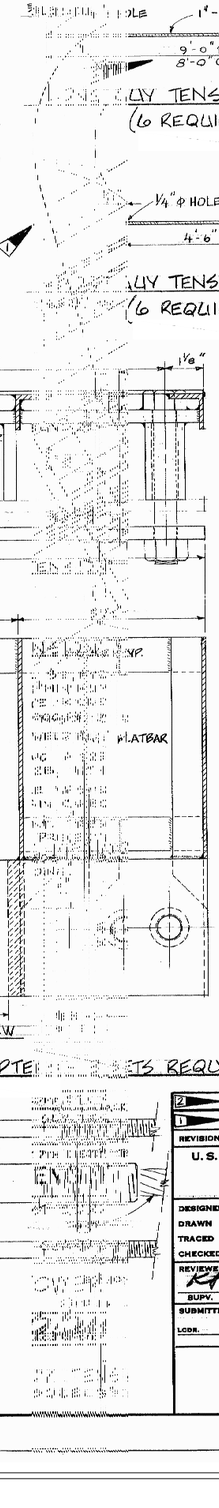
DIAL GUY ADAPTERS
(3 SETS REQUIRED)

TYPICAL GUY TENSIONING

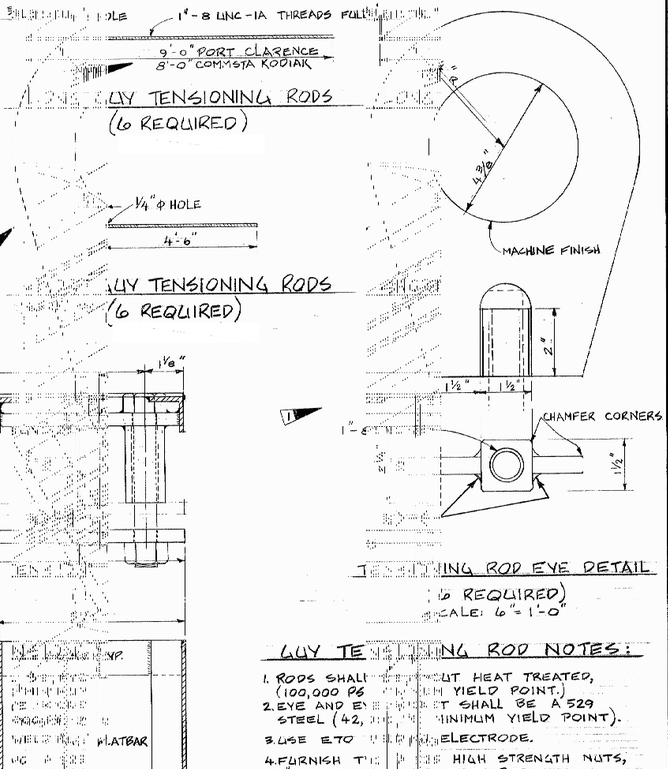


TYPICAL GUY TENSIONING METHOD





STRUCTURAL GUY ADAPTER
(3 SETS REQUIRED)



TENSIONING ROD EYE DETAIL
(6 REQUIRED)
SCALE: 6"=1'-0"

GUY TENSIONING ROD NOTES:

1. RODS SHALL BE CUT HEAT TREATED, (100,000 PSI YIELD POINT.)
2. EYE AND EYE NUT SHALL BE A 529 STEEL (42, MINIMUM YIELD POINT).
3. USE E70 ELECTRODE.
4. FURNISH TWO 1"-8 UNC-3 HIGH STRENGTH NUTS, EACH ROD.
5. FURNISH ONE 3, 1/4" THICK x 1 1/8" I.D. x 4" O.D., PLATE STEEL, WITH EACH ROD.
6. DO NOT PAINT, PRESERVE WITH THIN FILM CORROSION PREVENTIVE COMPOUND.
7. RECUT THREADS AFTER WELDING TENSIONING ROD EYES

REVISION	DATE	APPD.	BY
2	6-17-75	KBM	ADDED C… KODIAK REQUIREMENTS	JDF
1	6-17-74	KBM	REVISED …SIONING RODS	JDF

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

CIVIL ENGINEERING

DESIGNED - MJM
DRAWN - JDF
TRACED -
CHECKED KBM

REVIEWED KBM
SUPV. GEN. ENGR.

SUBMITTED:
LCDR. U.S.C.G.

US COAST GUARD LORAN STATION PT. CLARENCE
PT. CLARENCE, ALASKA
US COAST GUARD COMMUNICATION STATION KODIAK
KODIAK, ALASKA

TALL TOWER TENSIONING SYSTEM

APPROVED [signature] DATE 5/7/74

C. G. DRAWING NO.
2260

SCALE AS SHOWN SHEET 1 OF 1

DRAWN BY: USCG

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

PORT CLARENCE

TALL TOWER TENSION SYSTEM

HISTORIC AMERICAN BUILDINGS SURVEY
23 OF 23

SURVEY NO. ALASKA AK-233

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