



THE STATE
of **ALASKA**
GOVERNOR MICHAEL J. DUNLEAVY

Department of Environmental Conservation

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

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File: 150.38.031

March 13, 2019

Electronic Delivery Only

Lance Raymore
Federal Aviation Administration
222 W. 7th Ave., P.O. Box 14
Anchorage, AK 99513-7587

Re: Decision Document - FAA Summit Radio Range (Hazard ID 311) Cleanup Complete Determination

Dear Mr. Raymore:

The Alaska Department of Environmental Conservation (DEC), Contaminated Sites Program has completed a review of the environmental records associated with the FAA Summit Station Radio Range Drum Storage Area located at Mile 201 Parks Highway, Cantwell. Based on the information provided to date, it has been determined that the contaminant concentrations remaining on site do not pose an unacceptable risk to human health or the environment and no further remedial action will be required unless new information becomes available that indicates residual contaminants may pose an unacceptable risk.

This Cleanup Complete determination is based on the administrative record for the FAA Summit Station, which is located in the DEC office in Fairbanks, Alaska. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

Site Name and Location:

FAA Summit Radio Range
Section 29, T18S, R8W
Mile 201 Parks Highway
Cantwell, AK 99729

Name and Mailing Address of Contact Party:

Lance Raymore
Federal Aviation Administration
222 W. 7th Ave., P.O. Box 14
Anchorage, AK 99513-7587

DEC Site Identifiers:

File No.: 150.38.031
Hazard ID.: 311

Regulatory Authority for Determination:

[18 AAC 75]

Site Description and Background

The FAA Summit Radio Range (Radio Range, Hazard ID 311) is located immediately adjacent to the George Parks Highway at Broad Pass, nine miles south of Cantwell and approximately 200 miles north of Anchorage. The land occupied by the station was designated for FAA use by the Federal Government

between 1939 and 1959. Much of the Summit FAA Station, including the former Radio Range, was conveyed to the State of Alaska in a Deed in May 1966 (Figure 1-1).

The Radio Range is located about two miles south of the main Summit Station and featured an electronics building (Former Building 401) used to house radio range electronics. There are two specific source areas that make up the Radio Range site: the Tank Rack (Source Area ID 78335), and the Drum Storage Area (Source Area ID 78336). Both were located in proximity to Former Building 401 (Figure 1-2).

At the Tank Rack area, a fuel tank was mounted adjacent to the Former Building 401. The Radio Range Tank Rack Area was investigated and a removal action was conducted in the 1990s. In 2009 the DEC made a “Cleanup Complete” determination for the Tank Rack area (detailed in a November 23, 2009 DEC Cleanup Complete letter). The remainder of this closure document addresses activities associated with the cleanup of the Drum Storage Area only.

The Radio Range Drum Storage Area required further remediation and remained an ‘Active’ site. The Radio Range Drum Storage Area is located approximately 50 feet from the concrete foundation of Former Building 401 and consists of a 15- by 20-foot area where drums and containers of herbicides were stored prior to use. The FAA reported that there are no records of spills at the Drum Storage Area.

A remedial action (RA) work plan for the drum storage area was approved in September 2018 and the work was carried out in October 2018. The primary objective of the RA was to remove soil with previous detections of herbicides greater than the DEC Title 18 of the Alaska Administrative Code (AAC), Chapter 75, Table B1, Method Two, Under 40-Inch Zone cleanup levels.

Contaminants of Concern

Based on historical use of the site and results from previous investigations, contaminants of concern at the Drum Storage Area are herbicides; specifically 2,4- dichlorophenoxyacetic acid (2,4-D) and 2,4,5-trichlorophenoxyacetic acid (2,4,5-T). According to the FAA, the herbicides could have originated from use or application of the herbicides or an unknown spill from a drum.

Cleanup Levels

Media potentially impacted by contaminants of concern include surface soil, subsurface soil, and sediment, and surface water. DEC 18 AAC 75, Table B1, Method Two cleanup levels (DEC, 2018) for soil contamination in the under-40 inch climate zone apply to this area of concern. The most stringent Method Two cleanup levels (Migration to Groundwater) were applied. Groundwater may be present but there are no reported wells in the area near the Drum Storage Area. The nearest drinking water source is 9 miles north in Cantwell, Alaska. Groundwater was not encountered during 2018 RA activities.

Table 1 – Approved Cleanup Levels

| Contaminant | Soil (mg/kg) | Groundwater (mg/L) | Surface Water (µg/L) |
|-------------|-----------------|-----------------------|-------------------------|
| 2,4-D | 0.53 | N/A | N/A |
| 2,4,5-T | 0.66 | N/A | N/A |

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

µg/L = micrograms per liter

Characterization and Cleanup Activities

During 1995-1996 Site Investigations, analytical samples were collected from three surface soil locations at the Drum Storage Area. Contaminants of concern were identified to be chlorinated herbicides, including 2,4-D and 2,4,5-T, and DRO. 2,4-D concentrations ranged from 43 milligrams per kilogram (mg/kg) to 450 mg/kg. 2,4,5-T concentrations ranged from 520 mg/kg to 2,100 mg/kg. Diesel Range Organic (DRO) concentrations ranging from 2,460 mg/kg to 4,600 mg/kg were also detected in surface soil. DRO was considered incidental to the herbicides for cleanup purposes, according to FAA's contractor (Montgomery Watson [MW] 1998) who also proposed the theory that petroleum hydrocarbons are generally used as carriers in commercial formulations of the herbicides. DRO appears to have been limited to the surface soil layer, and evidence of contamination (petroleum odor, soil staining) was not noted in bore logs to 7 ft bgs. DEC concurs that DRO contamination was incidental to the herbicide contamination and herbicides were correctly identified as risk drivers for the site. This resulted in DRO not being carried forward as a Contaminant of Concern. It is likely that any surface soil contaminated with DRO was excavated and removed in the 1997 removal action when 14 cubic yards of soils was removed from a 50 square foot area, centered on the pesticide detections, to a depth of 2 feet bgs. The origin of the herbicide contaminants in soil is unknown. According to the FAA, the herbicides could have originated from use or application of the herbicides. FAA reports that there are no records of spills at the Drum Storage Area (MW, 1997).

An Expanded Site Investigation was conducted in 1996 to delineate horizontal and vertical extent of contamination at the Drum Storage Area. Ten boreholes were drilled at the Drum Storage Area, and seven confirmation samples were collected. Results from the samples showed that 2,4-D concentrations ranged from non-detect (ND) to 580 mg/kg and 2,4,5-T concentrations ranged from ND to 4,000 mg/kg (MW, 1997).

During a Remedial Action in 1997, a total of 14 cubic yards (cy) of herbicide-impacted soil was removed from the Drum Storage Area. The excavation depth was approximately 5 feet below ground surface (bgs). Confirmation soil samples collected from the limits of the excavation indicated that 2,4-D and 2,4,5-T concentrations were 1.2 mg/kg and 3.5 mg/kg respectively. Confirmation sample results indicated that concentrations met project goals (MW, 1997), but these concentrations exceed the DEC 18 AAC 75, Method Two Migration to Groundwater cleanup levels (DEC, 2018). When the 1997 project goals were achieved, a 10-mil poly liner was placed at the bottom of the excavation and the backfill was placed in the excavation and compacted using a loader. In addition, the perimeter of the excavation at the Drum Storage Area was marked with rebar topped with an aluminum cap. The caps were labeled with the designation 'EX1,' 'EX2,' etc.

During a 2010 Site Investigation, four boreholes were drilled at the Drum Storage Area within the footprint of the 1997 excavation. Four soil samples were collected from the native soil located beneath the backfill material in the excavation at approximately 6 to 8 feet bgs. The soil samples were analyzed for dioxins/furans and pesticides. These analytes were selected because the manufacturing process for 2,4-D and 2,4,5-T often contaminates these chemicals with trace amounts of tetrachloro-dibenzo-p-dioxin (TCDD). All dioxin/furans and pesticide compounds were not detected in the four analytical soil samples collected during the 2010 Site Investigation, and were therefore not considered to be contaminants of concern at the Drum Storage Area. The 2013 Site Investigation Report recommended that additional soil be removed from the Drum Storage Area in order to remove any residual 2,4-D and 2,4,5-T contamination in soil and achieve Cleanup Complete determination from DEC (Ahtna, 2013).

A final remedial action occurred in 2018 where a total of 10 cubic yards (cy) of impacted soil was excavated in the same rebar cap-labeled area where the 1997 excavation took place. This was followed by excavation floor and sidewall confirmation sampling.

All confirmation sample results from excavation base and sidewall samples were “non-detect” for the 2,4-D and 2,4,5-T herbicide contaminants of concern.

Cumulative Risk Evaluation

Pursuant to [18 AAC 75.325(g) or 18 AAC 78.600(d)], when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be made that the risk from hazardous substances does not exceed a cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative noncarcinogenic risk standard at a hazard index of one across all exposure pathways.

All detectable contamination has been removed/remediated from the drum storage area and no contamination remains within the standard of 1/10th the human health cleanup level. Based on a review of the environmental record, DEC has determined that residual contaminant concentrations meet the human health cumulative risk criteria for residential land use.

Exposure Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using DEC’s Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be incomplete. A summary of this pathway evaluation is included in Table 2.

Table 2 – Exposure Pathway Evaluation

| Pathway | Result | Explanation |
|---|--------------------|--|
| Surface Soil Contact | Pathway Incomplete | Contamination is not present in surface soil (0 to 2 feet below ground surface). |
| Sub-Surface Soil Contact | Pathway Incomplete | Contamination is not present in sub-surface soil (2 to 15 feet below ground surface) |
| Inhalation – Outdoor Air | Pathway Incomplete | Contamination is not present/not volatile. |
| Inhalation – Indoor Air (vapor intrusion) | Pathway Incomplete | Contamination is not present/no buildings present. |
| Groundwater Ingestion | Pathway Incomplete | Contamination is not present. |
| Surface Water Ingestion | Pathway Incomplete | Contamination is not present/Surface water is not used as a drinking water source in the vicinity of the site. |
| Wild and Farmed Foods Ingestion | Pathway Incomplete | Contamination is not present. |
| Exposure to Ecological Receptors | Pathway Incomplete | Contamination is not present/no potential for exposure to ecological receptors |

Notes to Table 2: “Pathway Incomplete” means that in DEC’s judgment contamination has no potential to contact receptors.

DEC Decision

Soil contamination at the site has been cleaned up to concentrations below the approved cleanup levels suitable for residential land use. This site will receive a “Cleanup Complete” designation on the Contaminated Sites Database, subject to the following standard conditions.

Standard Conditions

1. Any proposal to transport soil or groundwater off-site requires DEC approval in accordance with [18 AAC 75.325(i)]. A “site” [as defined by 18 AAC 75.990 (115)] means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership. (See attached site figure.)
2. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.
3. Groundwater throughout Alaska is protected for use as a water supply for drinking, culinary and food processing, agriculture including irrigation and stock watering, aquaculture, and industrial use. Contaminated site cleanup complete determinations are based on groundwater being considered a potential drinking water source. In the event that groundwater from this site is to be used for other purposes in the future, such as aquaculture, additional testing and treatment may be required to ensure the water is suitable for its intended use.

This determination is in accordance with [18 AAC 75.380] and does not preclude DEC from requiring additional assessment and/or cleanup action if future information indicates that contaminants at this site may pose an unacceptable risk to human health, safety, or welfare or to the environment.

Appeal

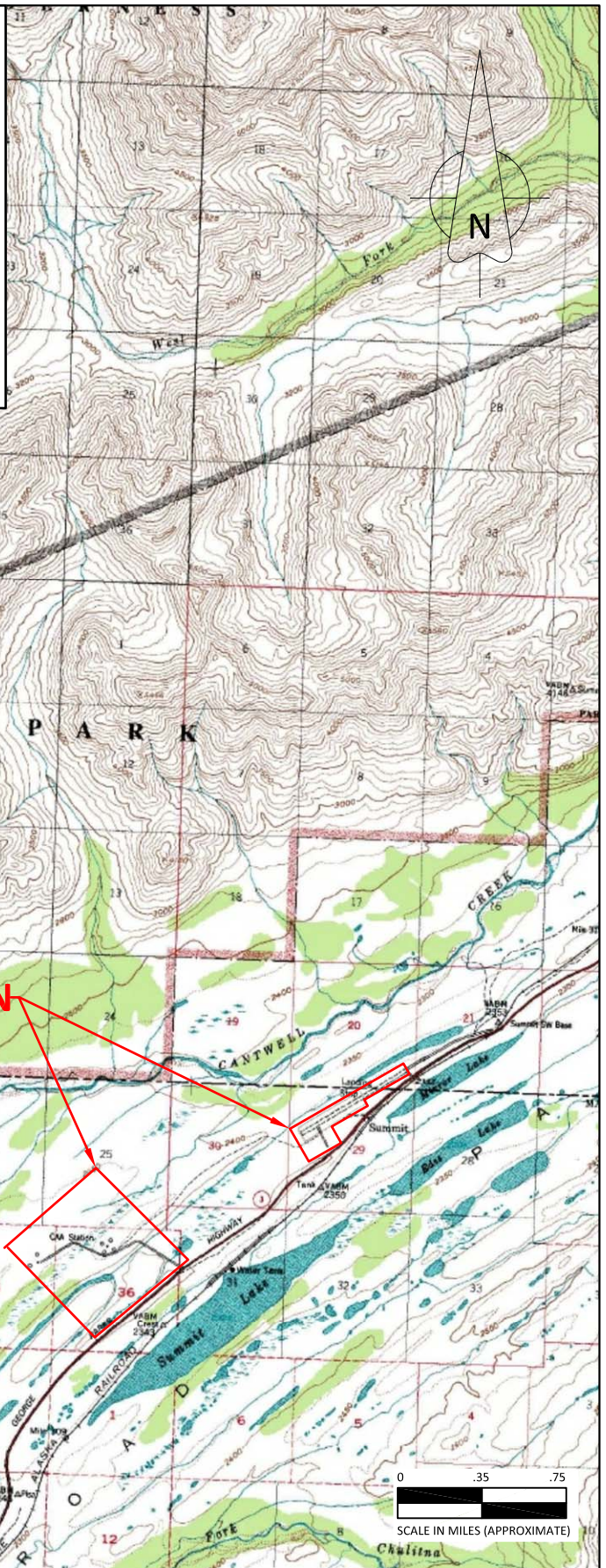
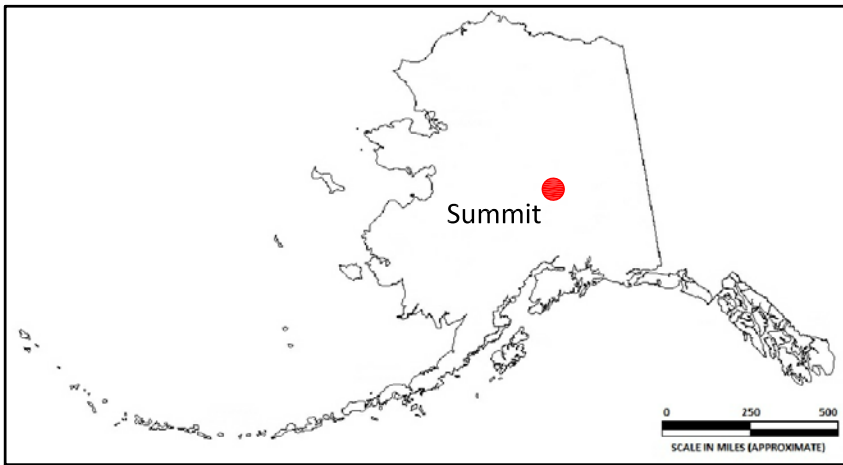
Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 555 Cordova Street, Anchorage, Alaska 99501-2617, within 15 days after receiving the department’s decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, P.O. Box 111800, Juneau, Alaska 99811-1800, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

If you have questions about this closure decision, please feel free to contact me at (907) 451-2181, or email at john.obrien@alaska.gov.

Sincerely,

John O’Brien
Project Manager

cc: Spill Prevention and Response, Cost Recovery Unit
Eric Breitenberger, DEC
Kara Kusche, DEC



Summit Site Investigation
Summit FAA Station, Summit, Alaska

AHTNA
Government Services Corporation
560 E. 34th Street - Suite 101 - Anchorage, Alaska 99503

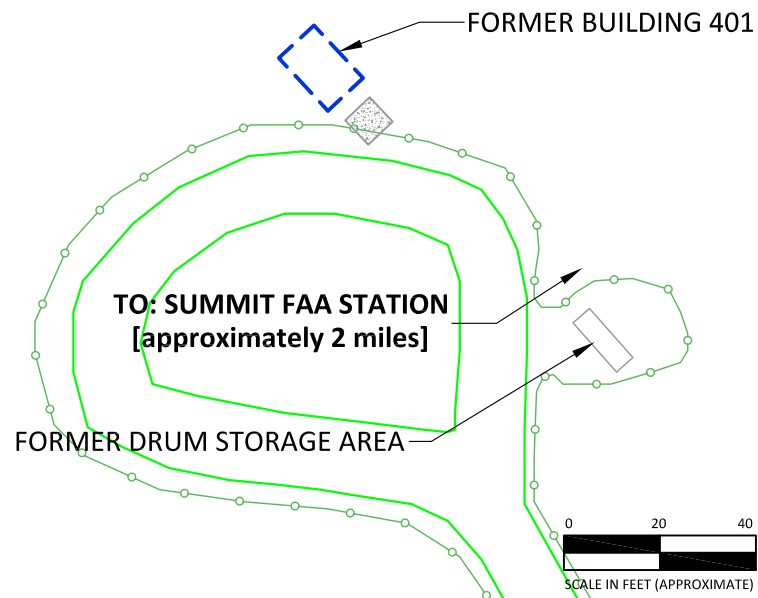
State and Site Vicinity Maps

Date:
03-11-2013
Project Number:
10002.055
Drafted By:
L.B.

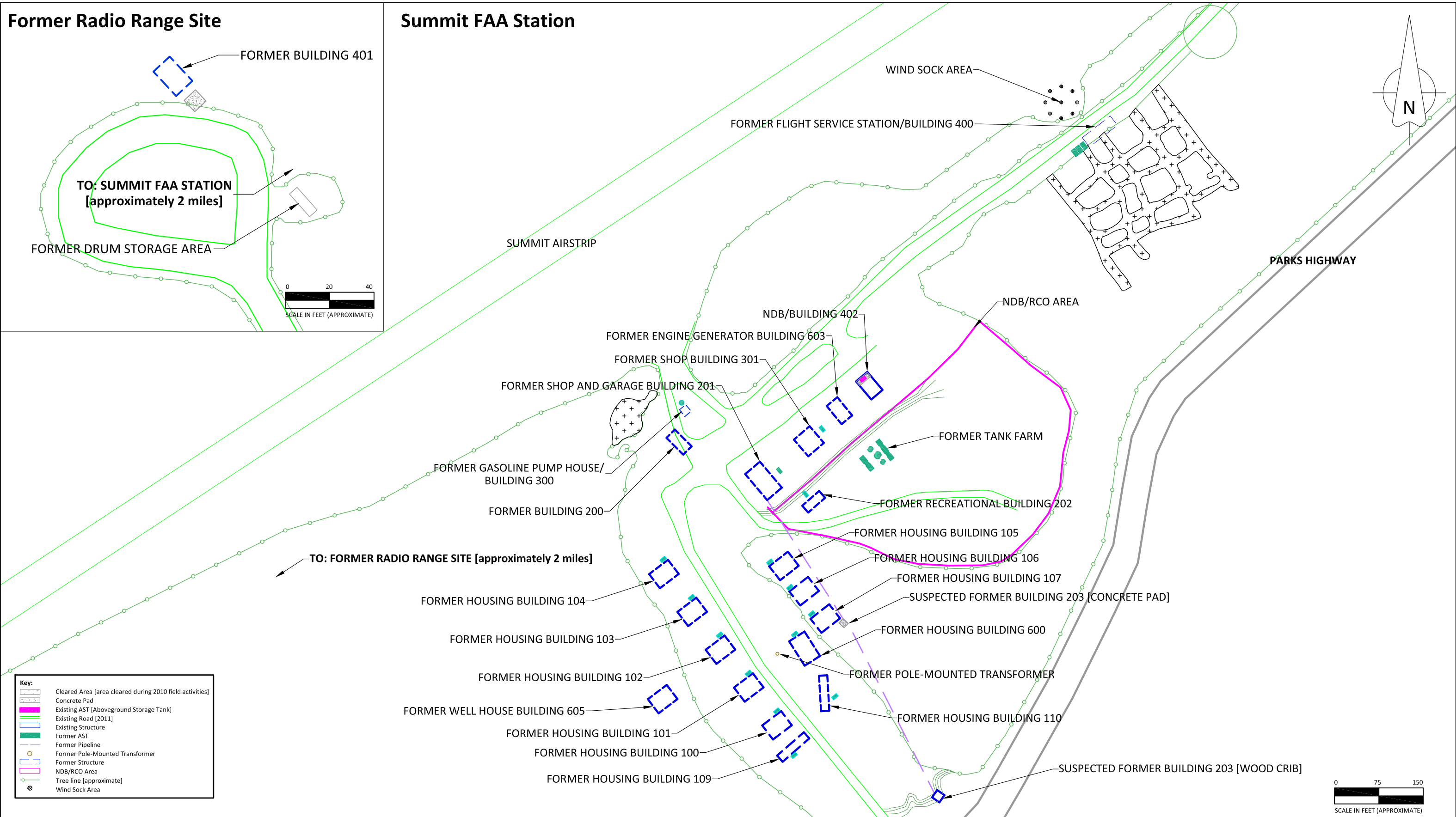
Figure Number:

1-1

Former Radio Range Site



Summit FAA Station



Key:

| | |
|--|--|
| | Cleared Area [area cleared during 2010 field activities] |
| | Concrete Pad |
| | Existing AST [Aboveground Storage Tank] |
| | Existing Road [2011] |
| | Existing Structure |
| | Former AST |
| | Former Pipeline |
| | Former Pole-mounted Transformer |
| | Former Structure |
| | NDB/RCO Area |
| | Tree line [approximate] |
| | Wind Sock Area |

Notes:

1. Site Investigation locations surveyed by Alaska Registered Land Surveyors in October 2010 by St. Denny's Surveying and in September 2011 by Mammoth Consulting.
2. The Former Utility Building 203 wood crib structure was relocated during the 2010 Site Investigation, however, it is labeled as "former" since it is decrepit and no longer utilized for its former purpose.

Site Investigation Report Summit FAA Station, Summit, Alaska

Site Plan



| | |
|------------------------------|----------------|
| Date: 03-11-2013 | Figure Number: |
| Project Number: 10002.055 | 1-2 |
| Drafted By: L.B. | |