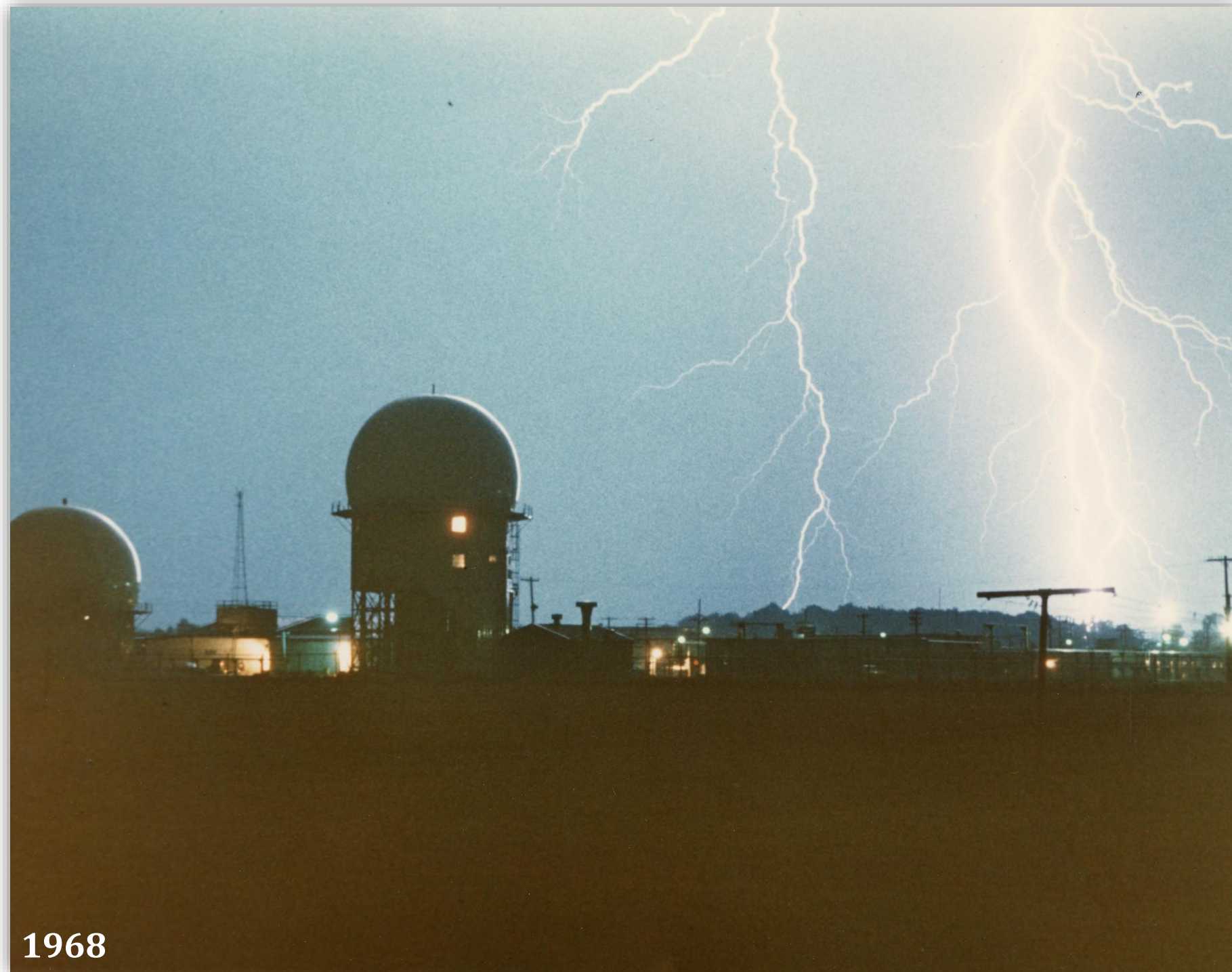




Former Lockport Air Force Station, NY

HISTORICAL PHOTO ANALYSIS (FUDS C02NY0868)



1968

Source: National Archives at College Park, Maryland, Still Pictures Branch, RG 342-B, Box 935

U.S. Army Corps of Engineers
Army Geospatial Center
Warfighter Support Directorate
Hydrologic & Environmental Analysis Branch
Environmental Analysis Team
7701 Telegraph Road
Alexandria, Virginia 22315-3864

FORMER LOCKPORT AIR FORCE STATION || MARCH 2019
Prepared for USACE – New England District

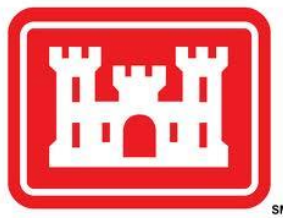


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Source: National Air Defense Radar Museum



Notice and Introduction

Former Lockport Air Force Station, NY (FUDS C02NY0868) Historical Environmental Photographic Analysis

By
U.S. Army Corps of Engineers
Army Geospatial Center
Warfighter Support Directorate
Hydrologic and Environmental Analysis Branch
Environmental Analysis Team
7701 Telegraph Road
Alexandria, Virginia 22315-3864

March 2019 Report

Prepared for
U.S. Army Corps of Engineers, New England District,
Concord, MA

NOTICE

The views, opinions, and conclusions in this report are those of the author and should not be construed as official Department of Army positions or policy unless so designated by other documentation.

Photographic items contained in this report may be restricted for use other than research. It is the responsibility of the party using photographs from this study to contact the Army Geospatial Center, Warfighter Support Directorate in order to ascertain clearance for use.

INTRODUCTION

This report of findings presents the results of a historical photographic analysis (HPA) of the former Lockport Air Force Station (AFS), located in Lockport, New York. The Hydrologic and Environmental Analysis Branch of the Warfighter Support Directorate was tasked to search for, collect, and analyze historical photographic records and historical map data relative to the project area. The primary objective of this study was to identify disposal activities within four areas of interest from 1955-2010. This report contains select findings which spatially and temporally define the activities on the site.



Methodology

The analysis presented in this report is primarily based upon interpretation of panchromatic and multispectral aerial photography and satellite imagery over the project area, spanning the years of 1938 to 2017 (to include pre- and post- operational years). Significant features, derived through photo analysis, are displayed on select photos in this study.

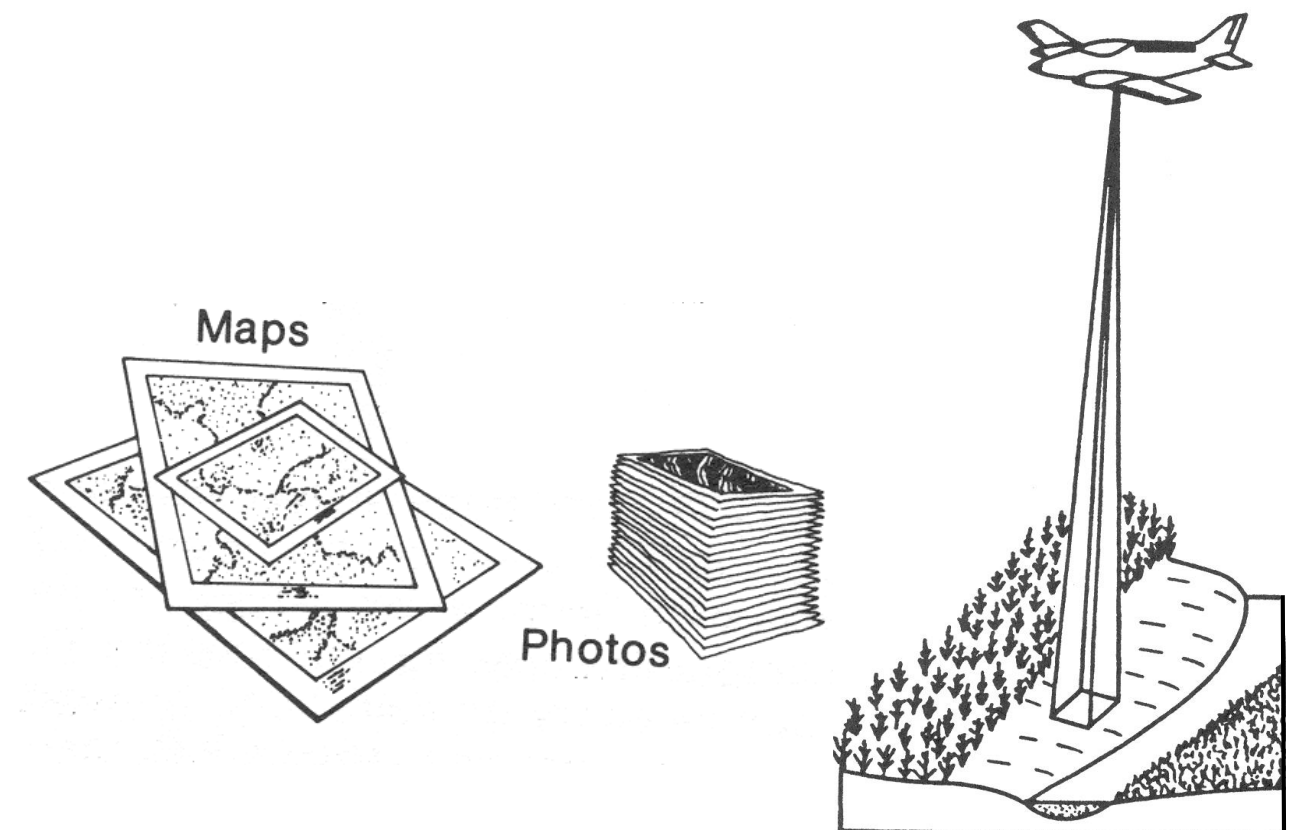
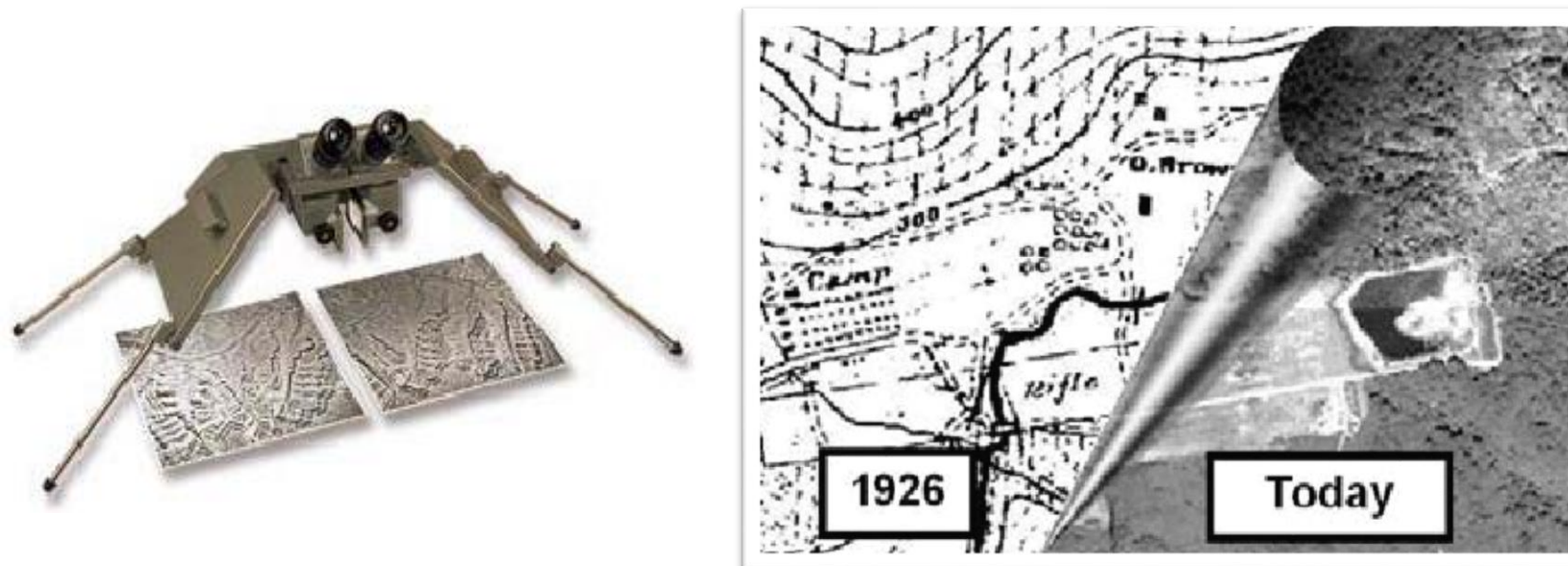
Visible signatures such as size, shape, shadow, tone, texture, and pattern allow features to be identified on image data. Limitations inherent in some of these data include substandard photo reproduction (i.e. granularity, washout, or vagueness of the image, scale, variations in time of day and tidal levels, and atmospheric haze).

Building, road, and other site names and numbers are derived from historical maps, still photographs, and other textual documents.

Images are projected in New York State Plane Coordinate System Zone West, North American Datum of 1983 (NAD83). Georectification was completed using ArcGIS. Measurements in this report are in feet and are approximated.

Historical Aerial Photographic Study

- Identification of features by size, shape, shadow, tone, texture and pattern
- Change detection of man-made or naturally-occurring features
- Placing locations of historical features on the current landscape



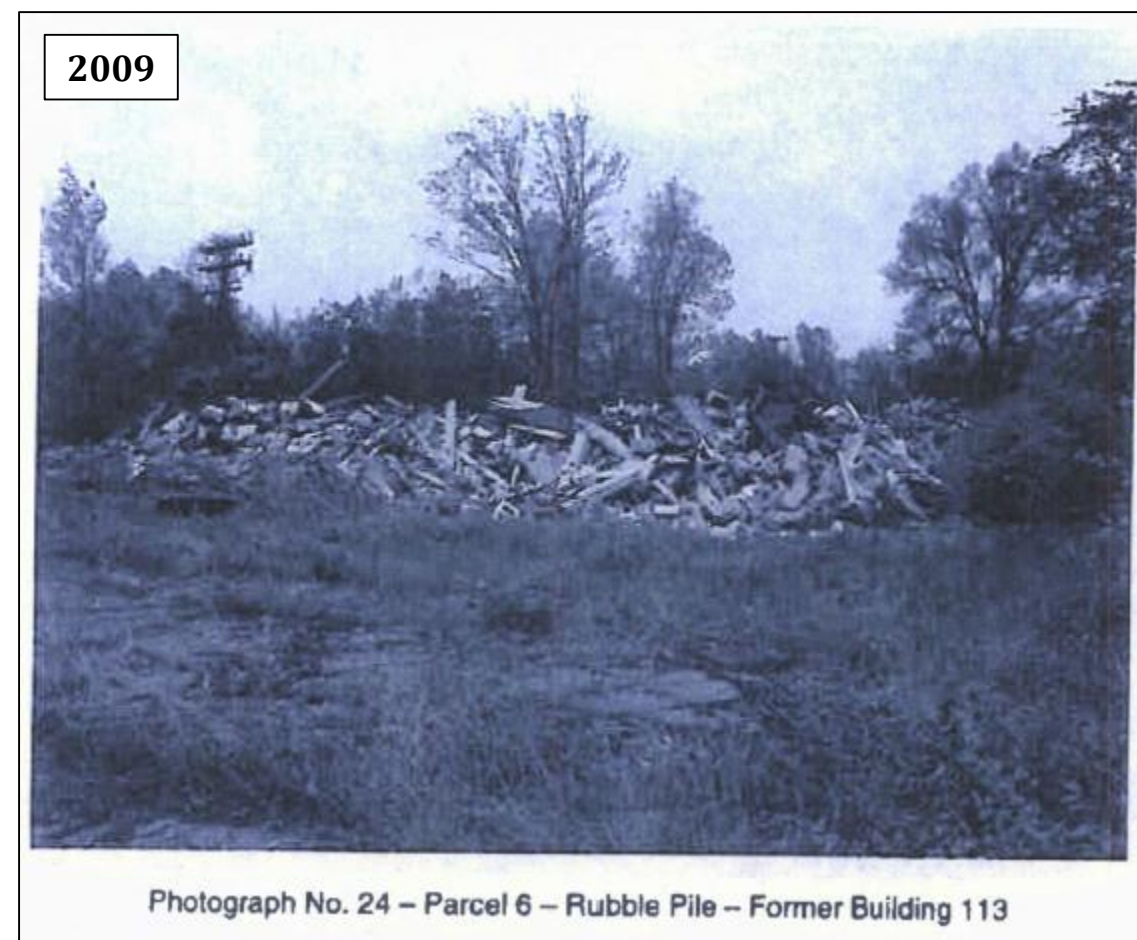


Project Objectives

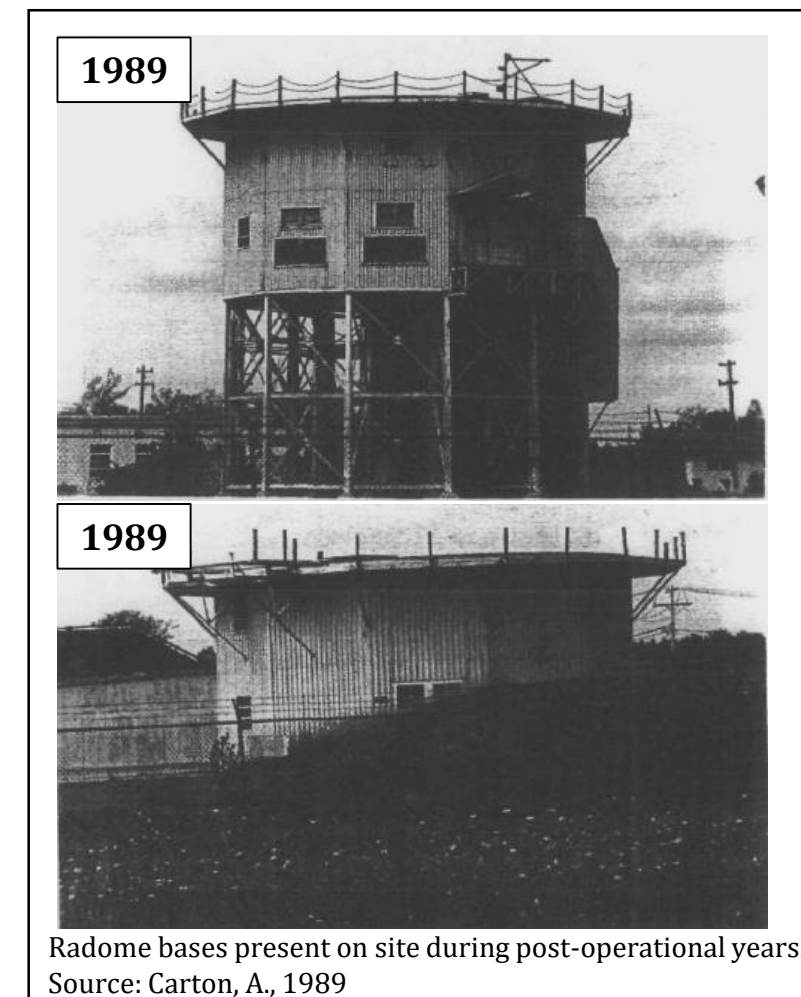
The Hydrologic and Environmental Analysis Branch, Warfighter Support Directorate of the Army Geospatial Center (AGC) was tasked to conduct analysis of historical aerial photography and satellite imagery between 1955 and 2010 covering the project area.

Analysis focused on the following:

1. Overall analysis of site activities on the former Lockport Air Force Station site.
2. Site activities, especially dumping, associated with four designated areas of interest.
3. Two time periods: Operational (1955-1980) and Post-operational (1980-2010)
4. Structure Contaminant Maps using information researched and provided by the USACE New England District.

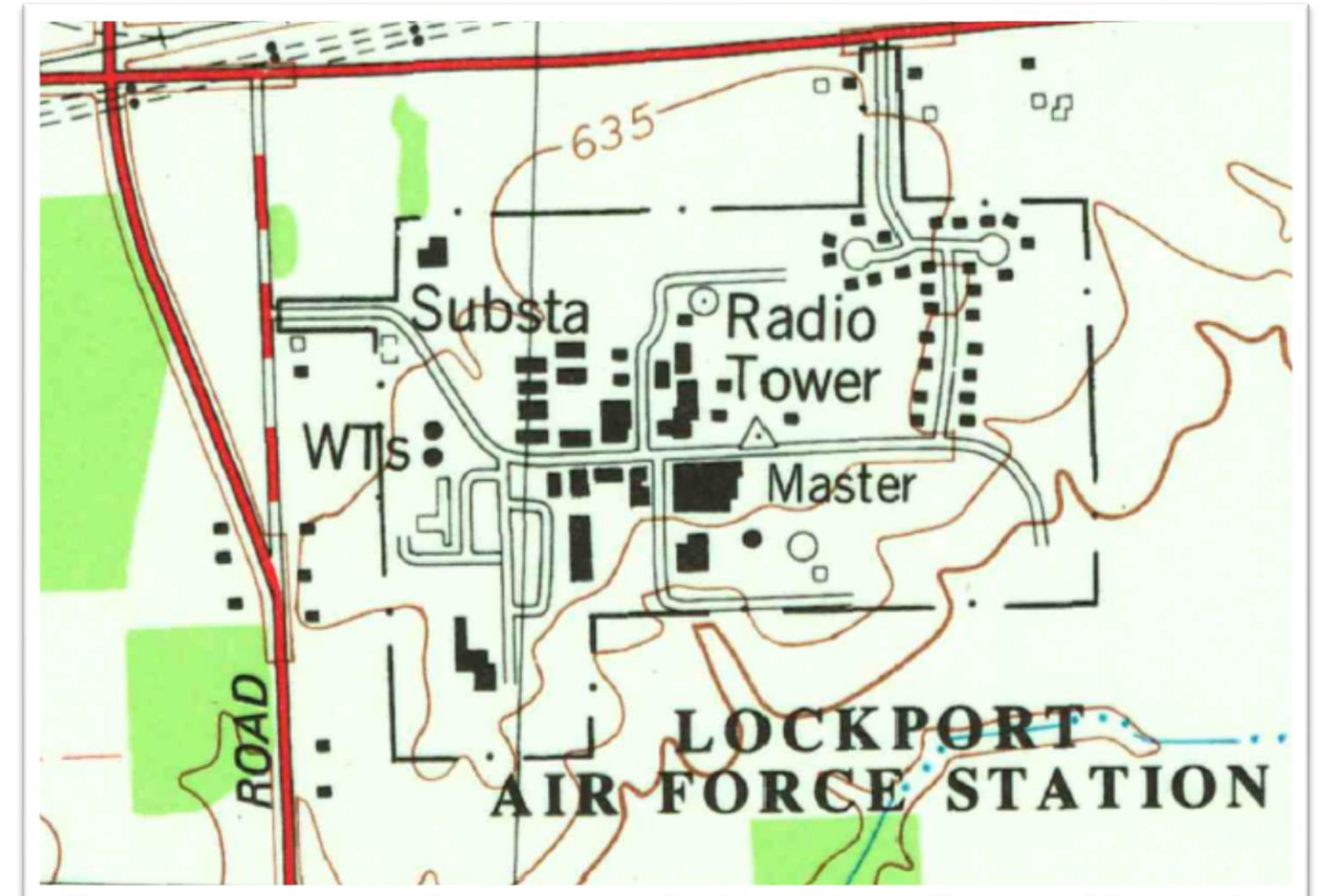
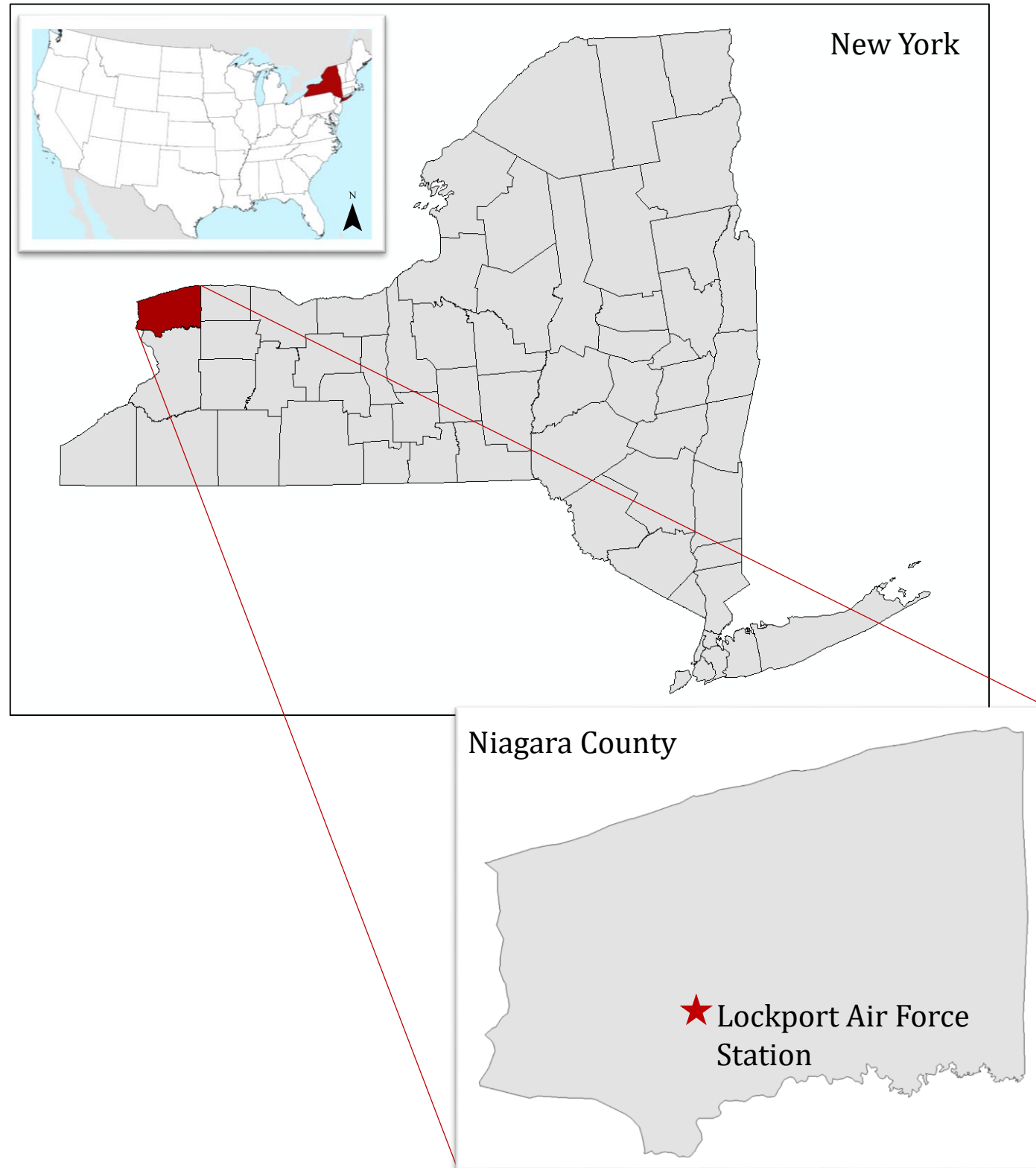


Source: TVGA Consultants, 2009





Project Area Location

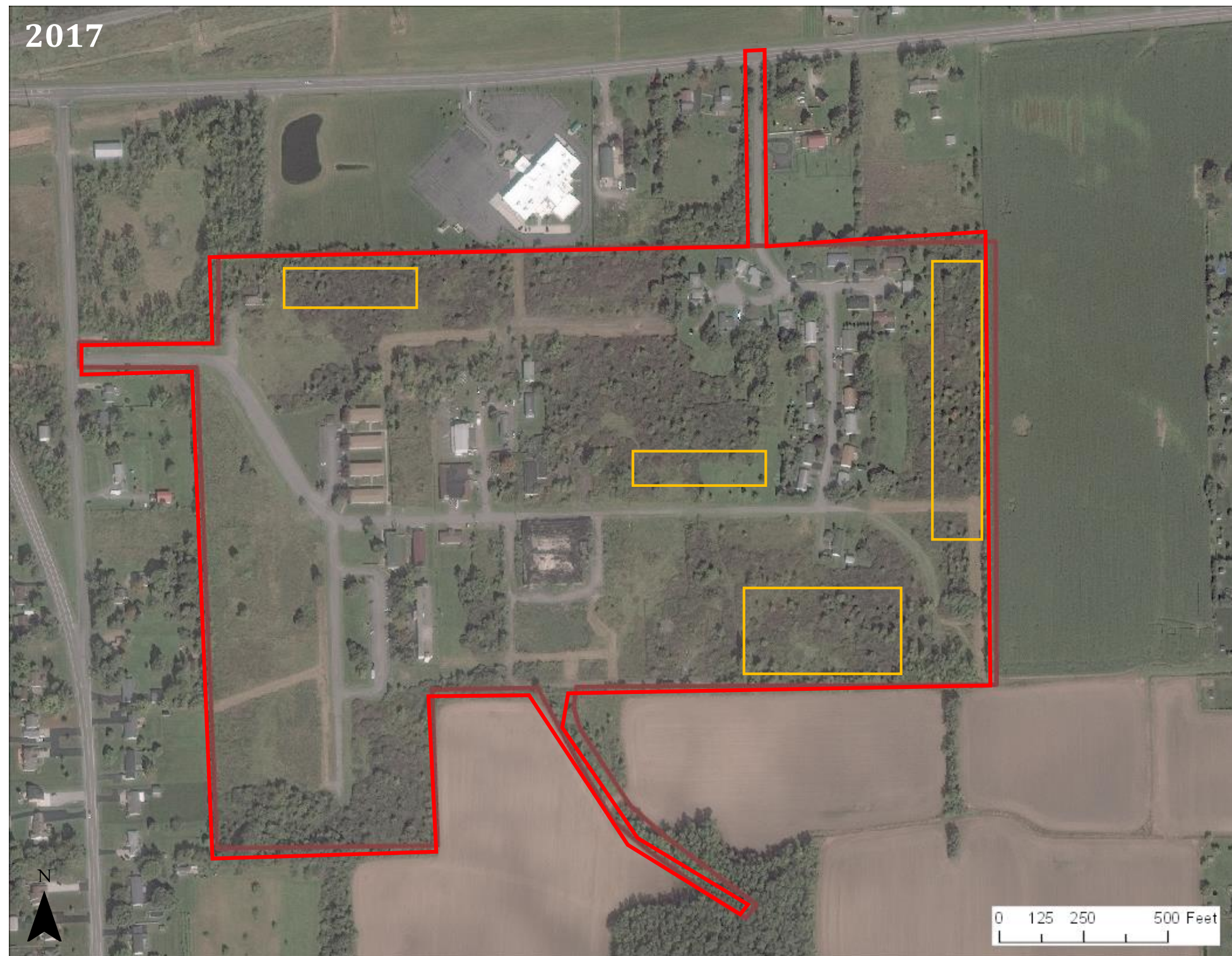
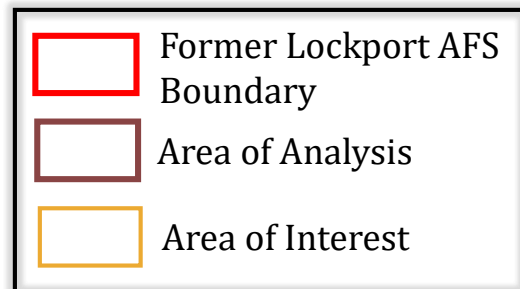


Source: U.S. Geological Survey (USGS) 1980 Topo Map Cambria, NY 7 ½ Minute Quadrangle

The former Lockport Air Force Station, approximately 81 acres, is located in the town of Cambria, Niagara County, New York. The former Lockport Air Force Station is located in an area known as Shawnee, 17 miles north of Buffalo and 7 miles southwest of Lockport.

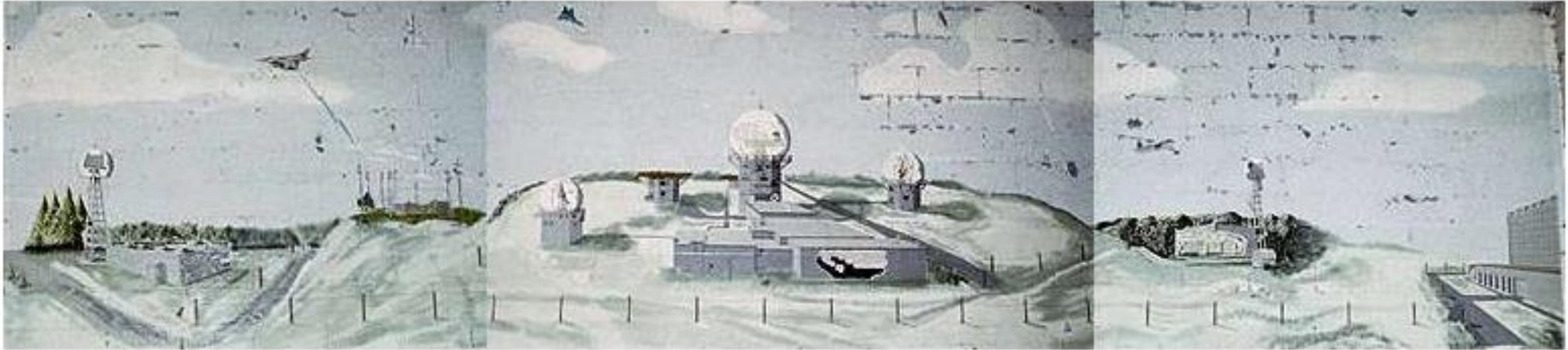


Project Area– Areas of Interest



Source: Digital Globe

Project Area Location Source: 1956 Lockport Air Force Station Real Estate Map



Photographic Source: National Air Defense Radar Museum

Historical Review



Source: National Air Defense Radar Museum



Historical Review: Overview

1950s:

The Shawnee Radar Site, which would later be renamed the Lockport Air Force Station (AFS), was established in Cambria New York during September 1951 and manned by the 763rd AC&W Squadron (re-designated from the 540th Aircraft Control & Warning Group at Fort Niagara, New York).

1960s:

From 1960 to 1970, the Army unit responsible for missile air defense in the Niagara-Buffalo area was collocated with the 763rd Radar Squadron at Lockport AFS. The Army Air Defense Command Post (AADCP) was relocated to this site from Fort Niagara, New York.

1970s:

In December 1970, the USAF Office of Special Investigation (OSI) Detachment 2203, became a tenant at Lockport Air Force Station. The 763rd Radar Squadron was integrated into the 21st Air Division in 1970 and was placed under Aerospace Defense Command (ADCMD) at Hancock Field, Syracuse, NY. The Department of Health, Education and Welfare (HEW) Head Start Program became tenants at the Lockport AGS in July 1971. In July 1972, the State of New York (Buffalo Region) Civil Air Patrol was granted indefinite tenant status. In the fourth quarter of 1972, the station population consisted of 201 personnel (military, civilians, and dependents housed on station). On 01 April 1979 Lockport AFS was decommissioned, with limited staff remaining for site maintenance through 1981.

1980s:

In 1980 the site was declared excess for the needs of the Air Force and was made available for purchase in 1982. In 1984 the Town of Cambria purchased the site, and it was subsequently sold to a private property owner. The site was partially sold back to the Town of Cambria in 2000 (OARS, 2018). The town acquired additional parcels in 2016 (OARS, 2018).

Affiliated Sites:

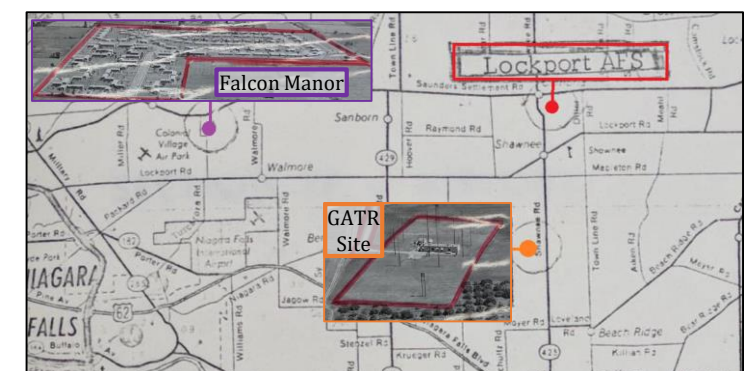
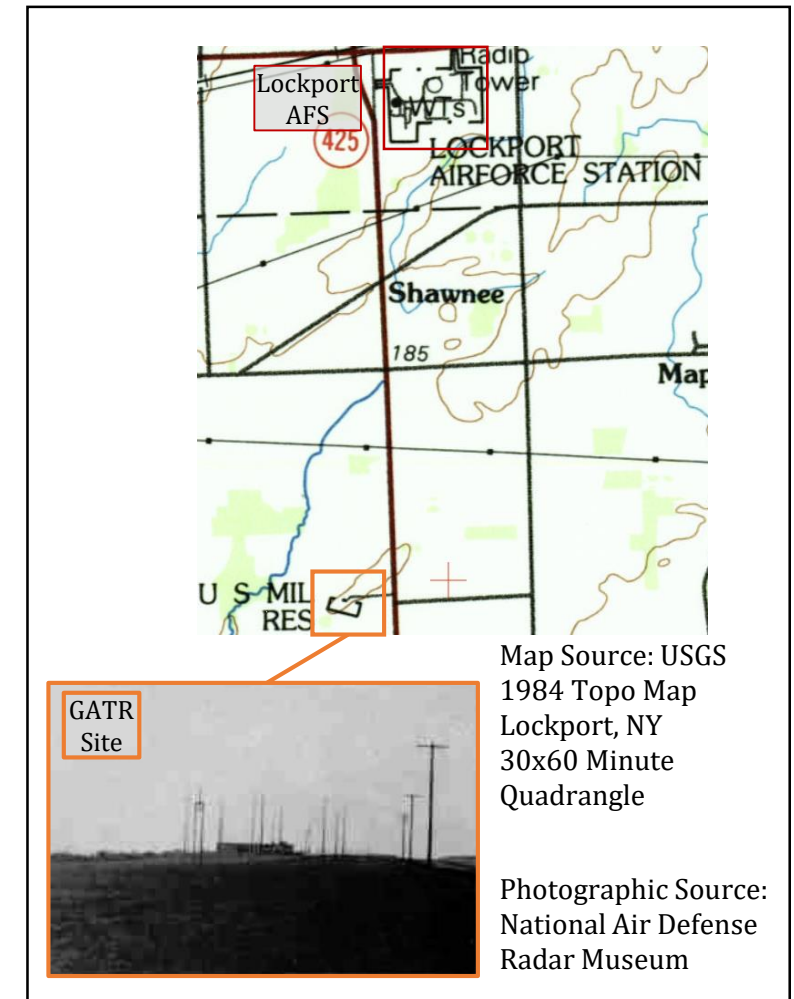
There was a Ground-Air Transmitter (GATR) site affiliated with Lockport AFS located approximately 2.5 miles to its south named the Sanborn-Lockport GATR. There was an off-site family housing development associated with the Lockport AFS, the Falcon Manor, located approximately 6 miles to the west of the station. These sites are outside of the scope of effort for this project. See maps on the right for the approximate location of these affiliated sites relative to Lockport AFS.

Sources:

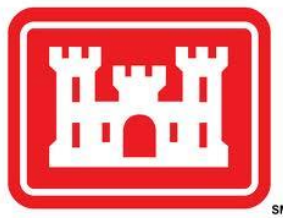
LaFalce, J. (2000) Letter Re: Request for District to Make Remediation a Priority. (USACE: C02NY086801_09.01_0010_a)

Online Assessment Roll System (OARS). *Town of Cambria*. 2018. <http://cambria.oarsystem.com/SearchOARS.aspx>.

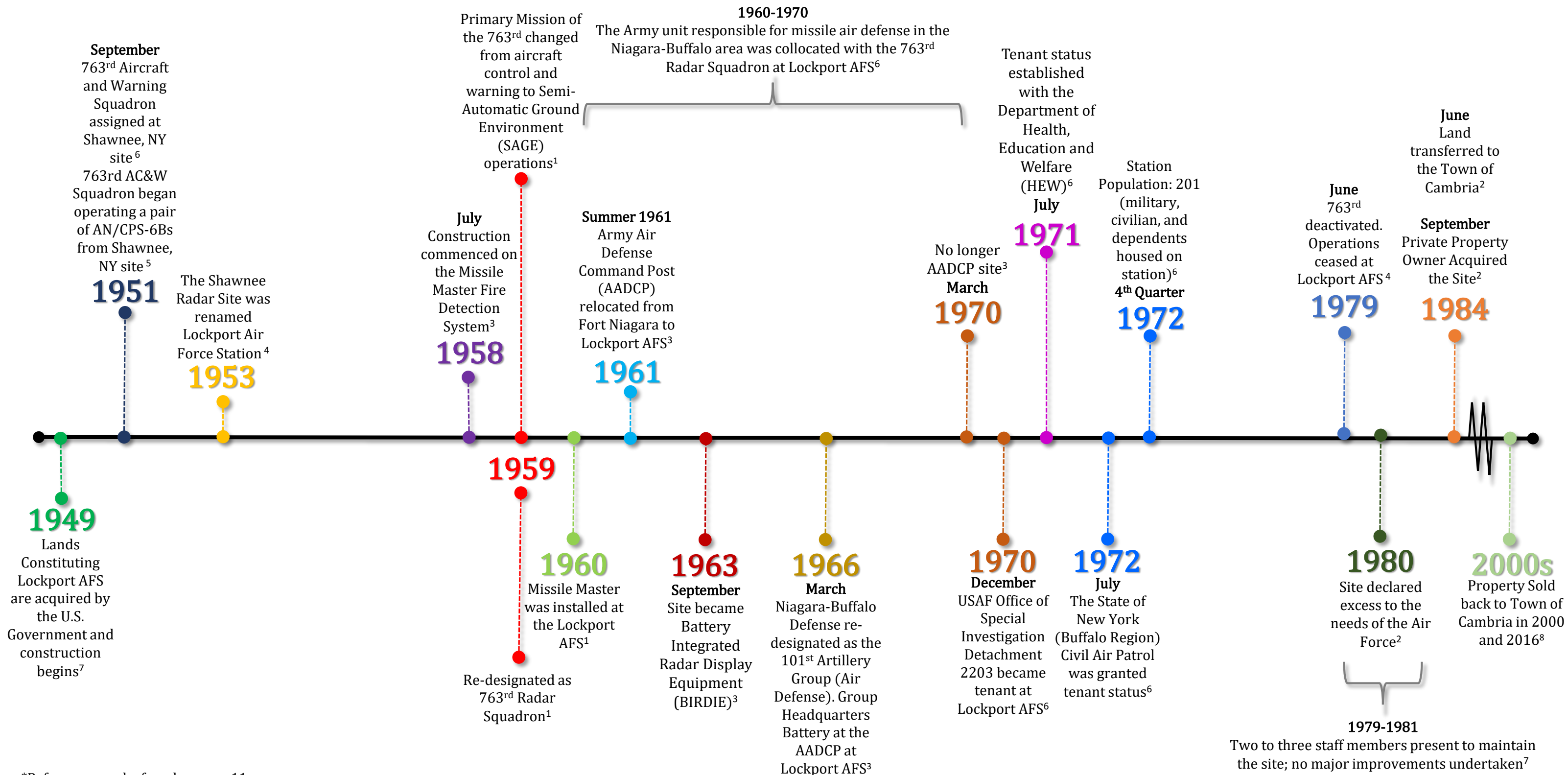
National Archives at College Park, Maryland, Textual Records Branch, RG 121, Entry UD-WW/5, FRC Box 2. (Department of the Air Force. (1972). Installation Survey Report of Lockport Air Force Station 30 August – 1 September 1972).



Source: Department of the Air Force 1972 Installation
Survey Report of Lockport Air Force Station



Timeline of Activities at the Lockport Air Force Station



*References can be found on page 11



Timeline References

¹Undated Lockport Air Force Station Magazine Article (from National Air Defense Radar Museum).
http://www.radomes.org/museum/parsehtml.php?html=LockportAFSnyarticle.html&type=doc_html.

²U.S. Army Corps of Engineers New York District. (2002 June). Former Lockport Air Force Station, NY Fact Sheet. (USACE: C02NY086801_02.01_0004_p).

³Robitaille, Paul. (2015). History of the Niagara-Buffalo Army Air Defense 1952-1970. *The Nike Historical Society*.
<http://nikemissile.org/NFBU/NFBU52-70.pdf>.

⁴Wolcott, Bill. (2012, August 30). Bye, bye, Lockport Air Field. *Lockport Union-Sun & Journal*.
http://www.lockportjournal.com/news/local_news/bye-bye-lockport-air-field/article_869dea85-9eba-580d-b4ec-bb7421d9b23f.html.

⁵Winkler, David F., and Julie L. Webster. (1997). Searching the skies: the legacy of the United States Cold War defense radar program. No. SR-97-78. Construction Engineering Research Lab (Army) Champaign IL.
<http://www.dtic.mil/dtic/tr/fulltext/u2/a331231.pdf>.

⁶Department of the Air Force. (1972). Installation Survey Report of Lockport Air Force Station. National Archives at College Park, Maryland, Textual Records branch, RG 121, Entry UD-WW/5, FRC Box 2.

⁷LaFalce, J. (2001) Letter Re: Request for District to Make Remediation a Priority. (USACE: C02NY086801_09.01_0010_a).

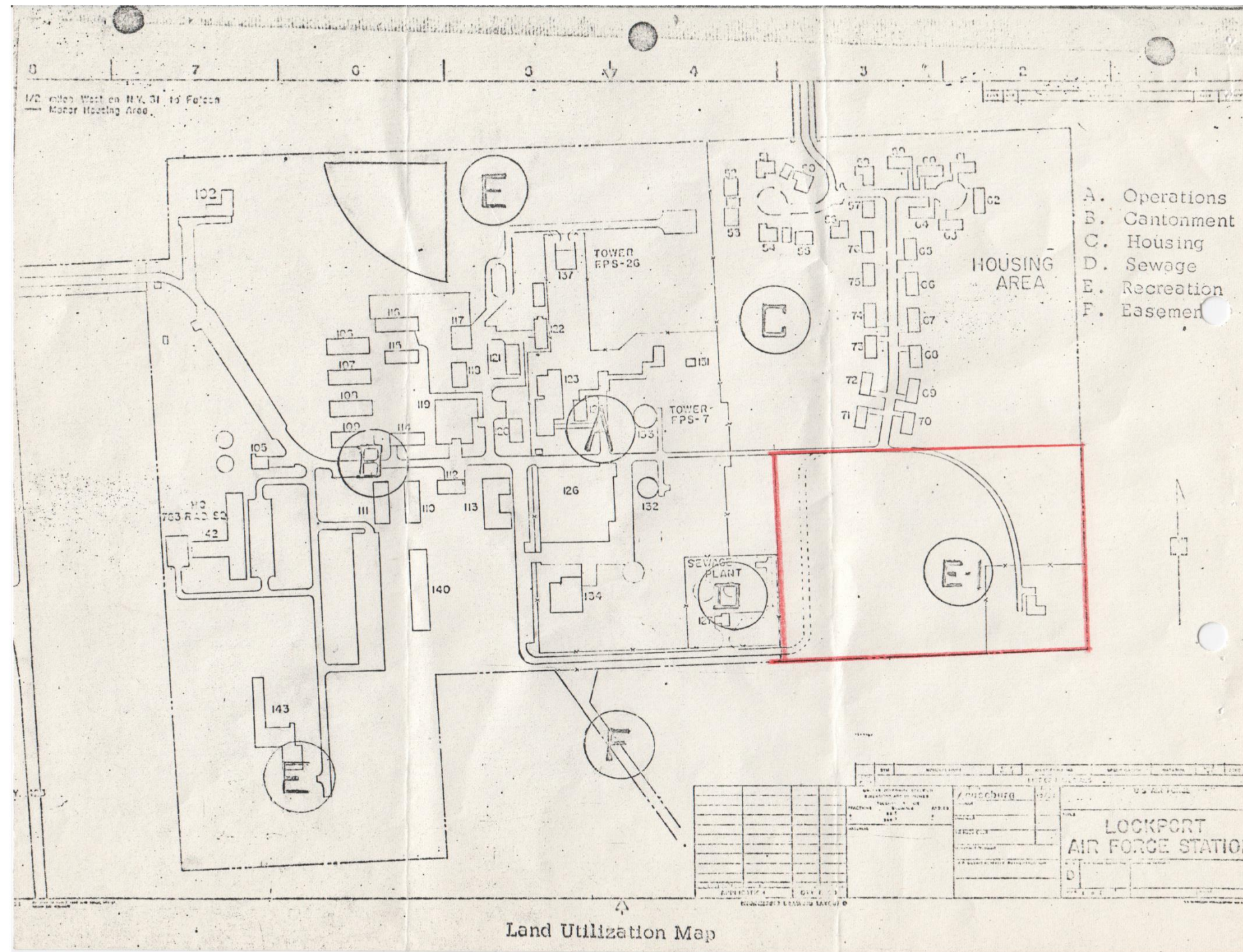
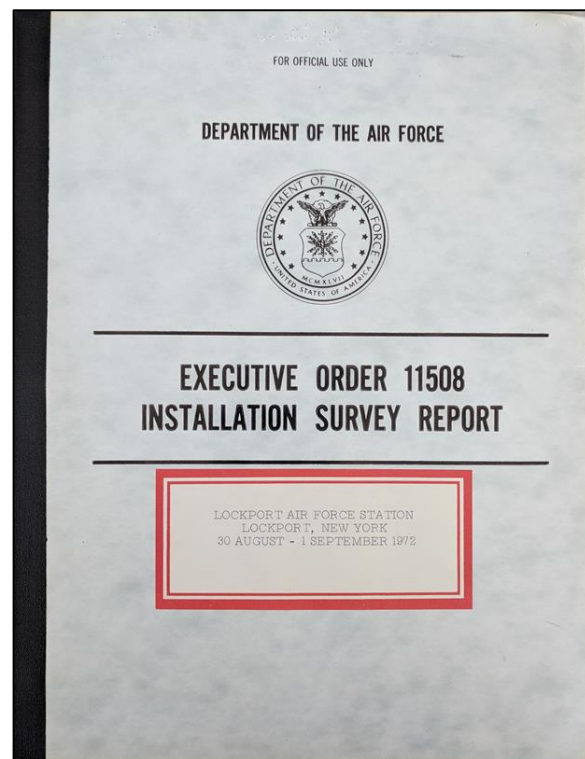
⁸Online Assessment Roll System (OARS). *Town of Cambria*. 2018. <http://cambria.oarsystem.com/SearchOARS.aspx>.

Site	Location	Units Assigned	Years
NF-17	Lockport AFS Shawnee	AADCP (Initially Missile Master, became BIRDIE 9/63	8/61 - 3/70
		HQ 2 nd AAA Group (Air Defense)	8/61 – 10/61
		31 st Artillery Brigade (Air Defense)	10/61-
		Redesignated to 101 st Artillery Group (Air Defense)	3/66 – 11/68
		18 th Artillery Group (Air Defense)	11/68-3/70

Source: Robitaille, P., 2015



Historical Review: Installation Layout (1972)



General Areas of the Lockport Air Force Station in 1972

Areas A: Operations – contains 8 buildings including two radar towers.

Areas B: Cantonment Area – general administrative support area; contains 22 buildings.

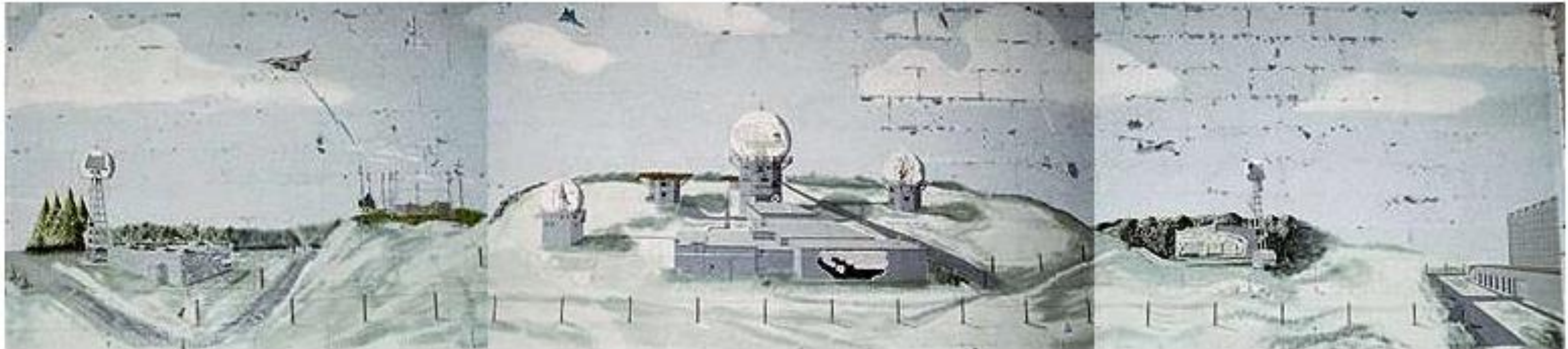
Areas C: Base Housing Area – 16.36 acres containing 27 family units.

Areas D: Sanitary Sewage Treatment & Disposal plant – This plant rated at 152,000 gallons per day capacity (in 1972).

Areas E: Recreational Area – contains softball field, archery range and multi-purpose building (gymnasium and bowling alley). Also contains a former receiver building turned radio station.

Areas F: Easement– 0.74 acres for sewage effluent from the station sewage plant.

Source: National Archives at College Park, Maryland, Textual Records branch, RG 121, Entry UD-WW/5, FRC Box 2. (Department of the Air Force 1972 Installation Survey Report of Lockport Air Force Station)



Source: National Air Defense Radar Museum

Photographic Analysis

Lockport AFS: An Introduction



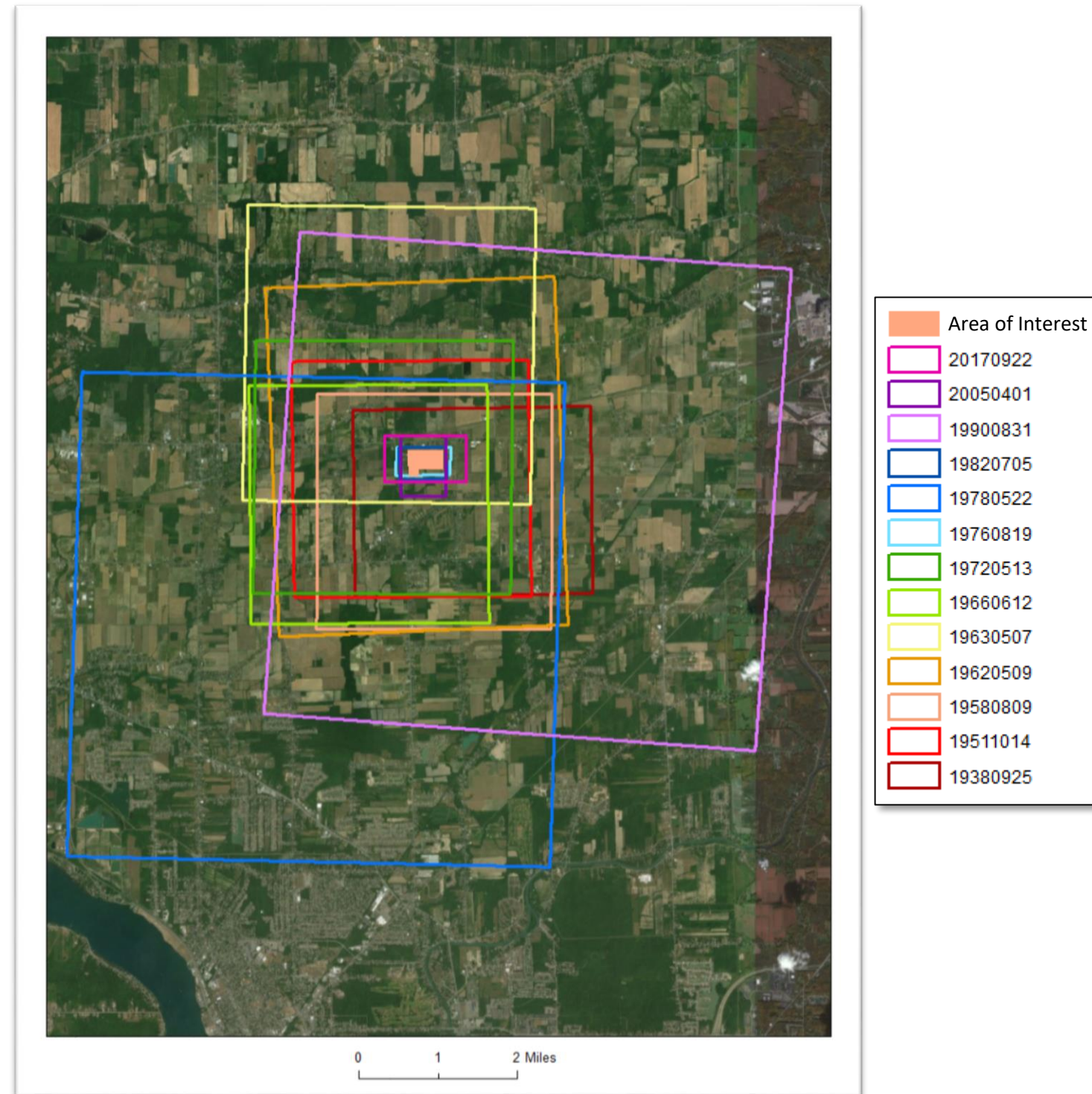
Selected Spatial Sources

Date	Scale	Source
1938, September 25	1:20,000	NARA
1951, October 14	1:20,000	NARA
1958, August 09	1:20,000	USDA
1962, May 09	1:25,000	NARA
1963, May 07	1:24,000	USGS
1966, June 12	1:20,000	USDA
1972, May 13	1:20,500	USGS
1975, June 30	2 to 4 feet pixel resolution	NARA
1976, August 19	2 to 4 feet pixel resolution	NARA
1978, May 22	1:40,000	USDA
1982, July 05	2 to 4 feet pixel resolution	NARA
1990, August 31	1:40,000	USDA
2005, April 01	1 foot pixel resolution	USGS
2017, September 22	0.5 meter pixel resolution	Digital Globe

USDA: U.S. Department of Agriculture
USGS: U.S. Geological Survey
NARA: National Archives at College Park



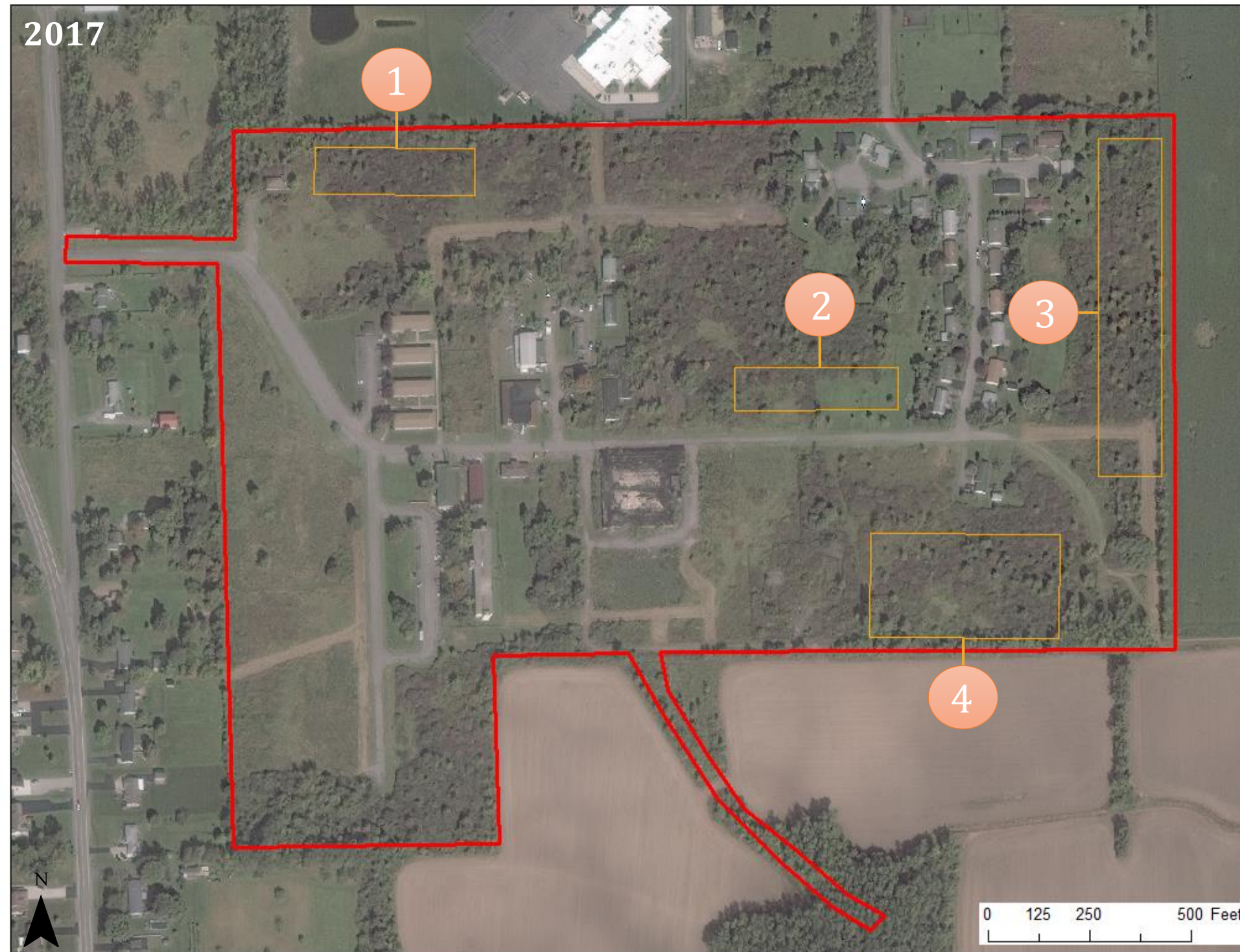
Selected Spatial Sources: Project Area Coverage



Photographic Source: Esri Basemap : Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Analysis Areas



Source: Digital Globe

Areas requested for further investigation by the U.S. Army Corps of Engineers New England District. These areas were identified in the Phase I Environmental Site Assessment Report for Former Lockport Air Force base (TVGA Consultants, 2009). The areas are numbered solely for identification purposes in this report.

Areas:

Northwest: Area 1

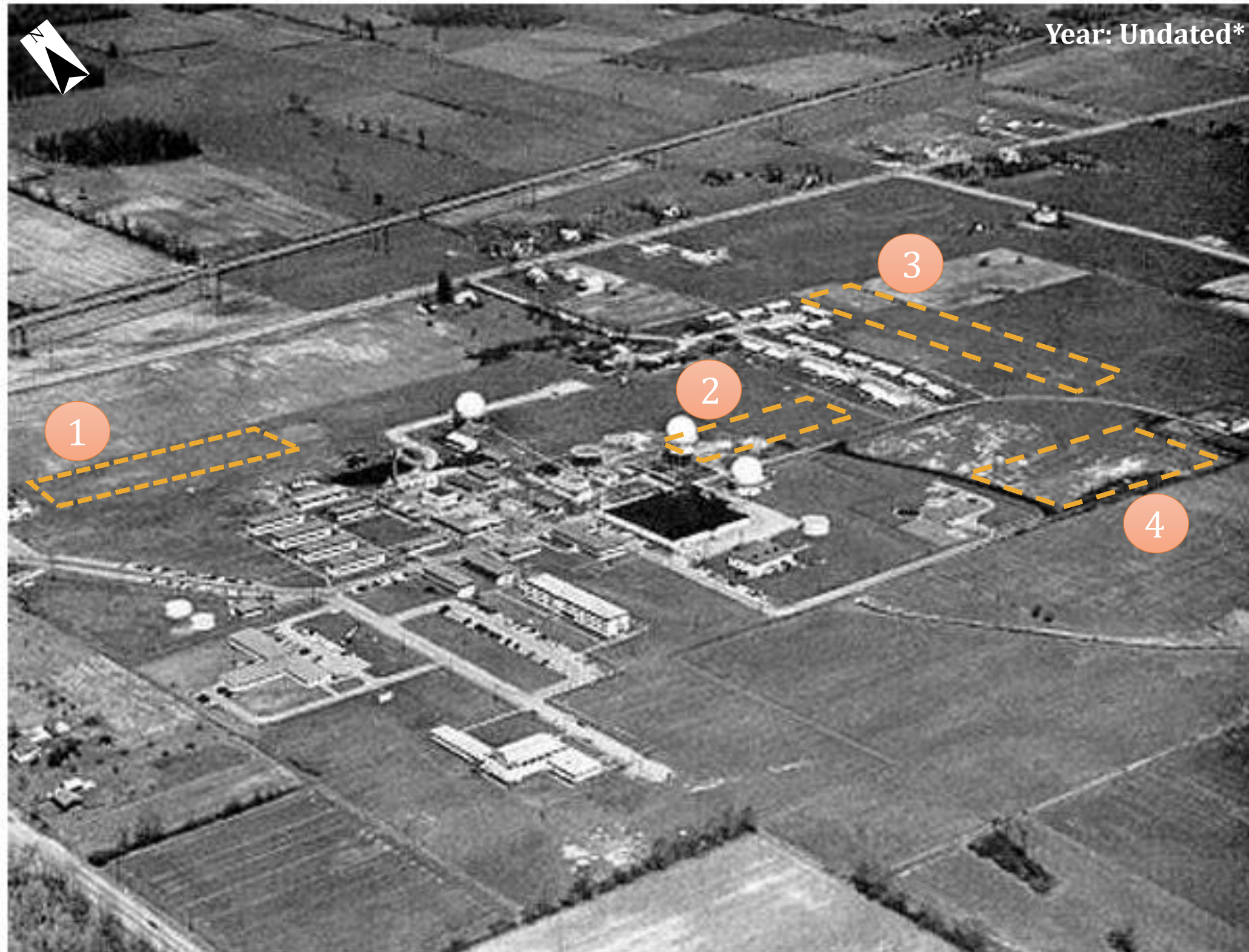
Center: Area 2

East: Area 3

South- Former Landfill: Area 4



Analysis Areas – Oblique View



Year: Undated*

Areas:
Northwest: Area 1
Center: Area 2
East: Area 3
South- Former Landfill: Area 4

Source: National Air Defense Radar Museum

*Year photographed estimated between 1969-1972



Lockport Air Force Station Building Layout

Building Number	Building Name	Building Number	Building Name
100	Unknown	123	Computer Building
101	Pump Shed	125	Generator Building
102	Dispensary	126	Concrete Air Raid Shelter; Missile Master
105	Garage/Shop	127	Part of Sewage Treatment Plan
106	Barracks	129	Main Radio Building
107	Barracks	132	Radome
108	Barracks	133	Radome Tower FPS-107
109	Barracks	134	Diesel Generating Station
110	Barracks	137	Radar Tower FPS-26
111	N.C.O Club	140	Barracks
112	Hobby Shop	142	Administration Building
113	Visiting Guest Housing	143/145	Bowling Alley & Gym
114	Day Room	150	Shed
115	Snack Bar	151	Unknown
116	Carpenter Shop	350	Water Tank
117	Heating Plant	352	Water Tank
118	Motor Pool (Garage)	353	Water Tank
119	Dining Hall	50-76	Family Housing
120	Unknown	TEL	Telephone Building
121	Storage		
122	Plumbing Shop		

Source: Maps from: National Air Defense Radar Museum; TVGA Consultants, 2009

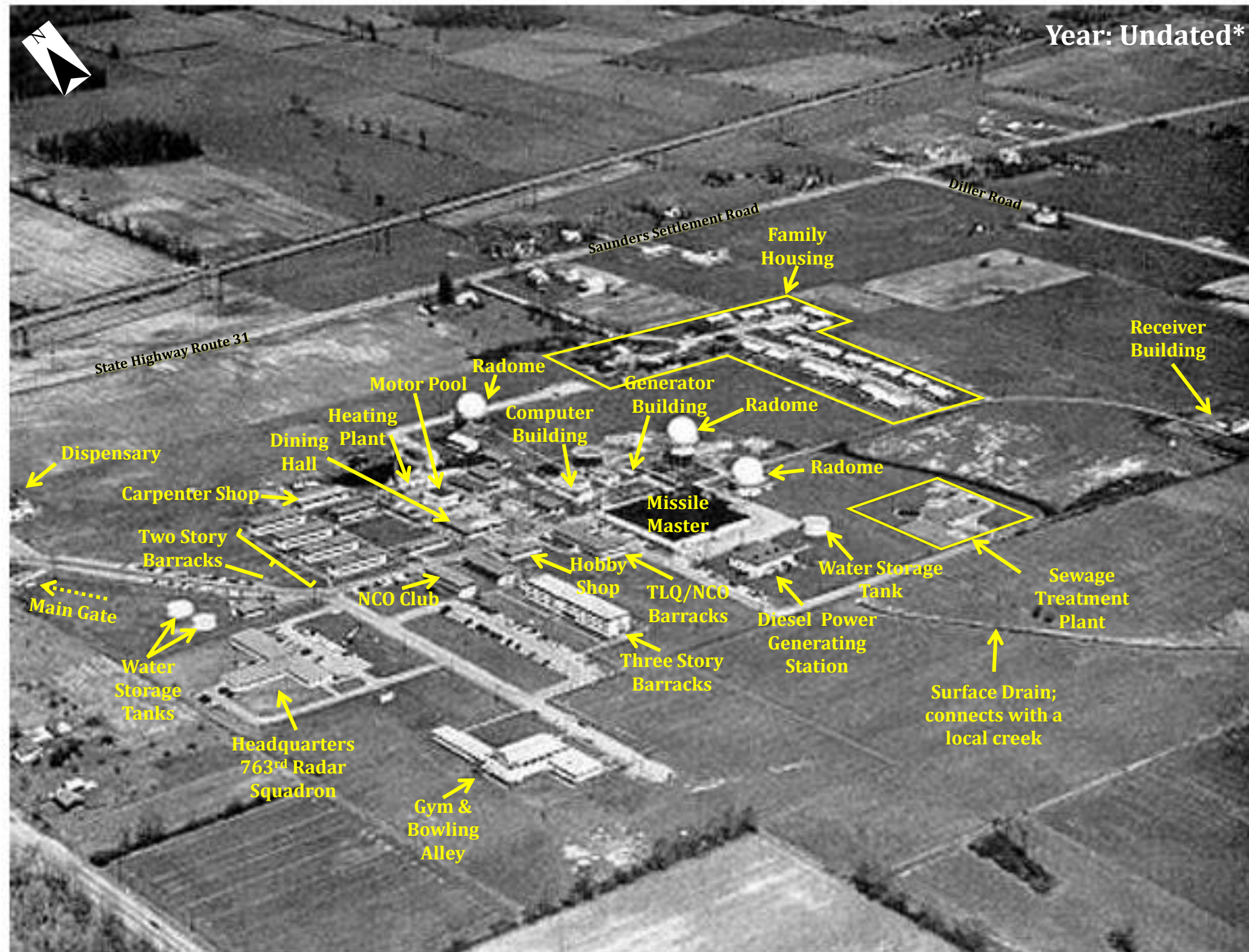


Source: National Archives at College Park, Maryland

May 09, 1962



Lockport Air Force Station Building Layout – Oblique View



Source: National Air Defense Radar Museum

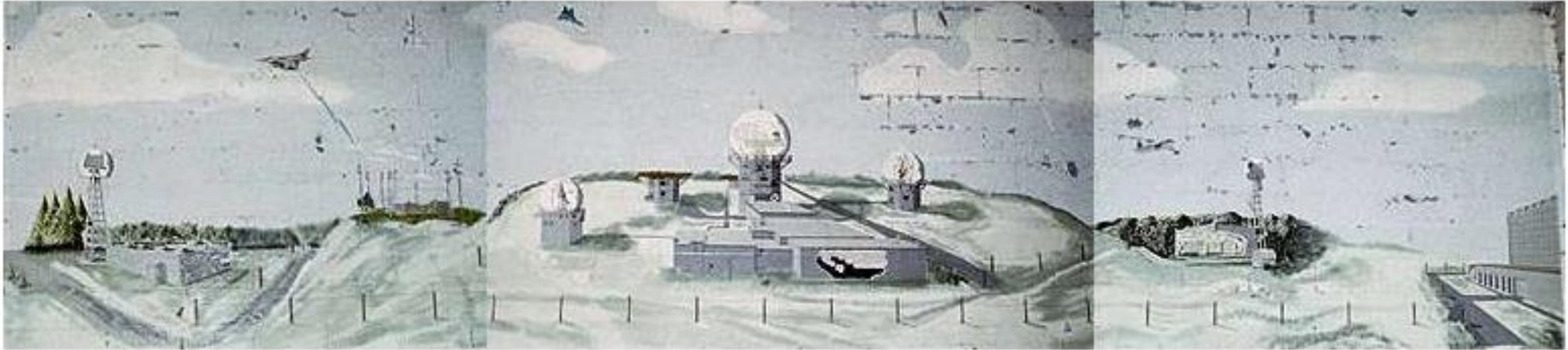
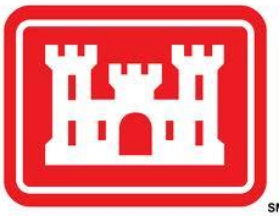
*Year photographed estimated between 1969-1972



Lockport Air Force Station Oblique View



Source: National Archives at College Park, Maryland, Textual Records branch, RG 121, Entry UD-WW/5, FRC Box 2. (Department of the Air Force 1972 Installation Survey Report of Lockport Air Force Station)



Source: National Air Defense Radar Museum

Photographic Analysis

Lockport AFS: Site Overview

This section provides the overall photographic analysis of the Lockport Air Force Station site from 1938-2017. The analysis for each potential area of interest (Areas 1-4) will follow.



Overall AOI Pre-Development (1938)

Area of Analysis

Area of Interest*

*As defined on page 16



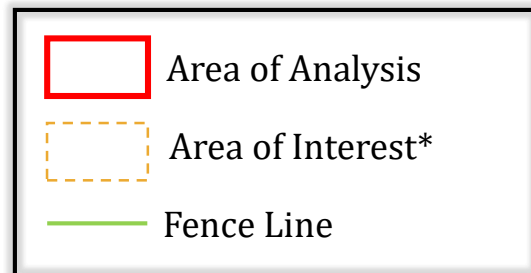
Source: National Archives at College Park, Maryland

September 25, 1938

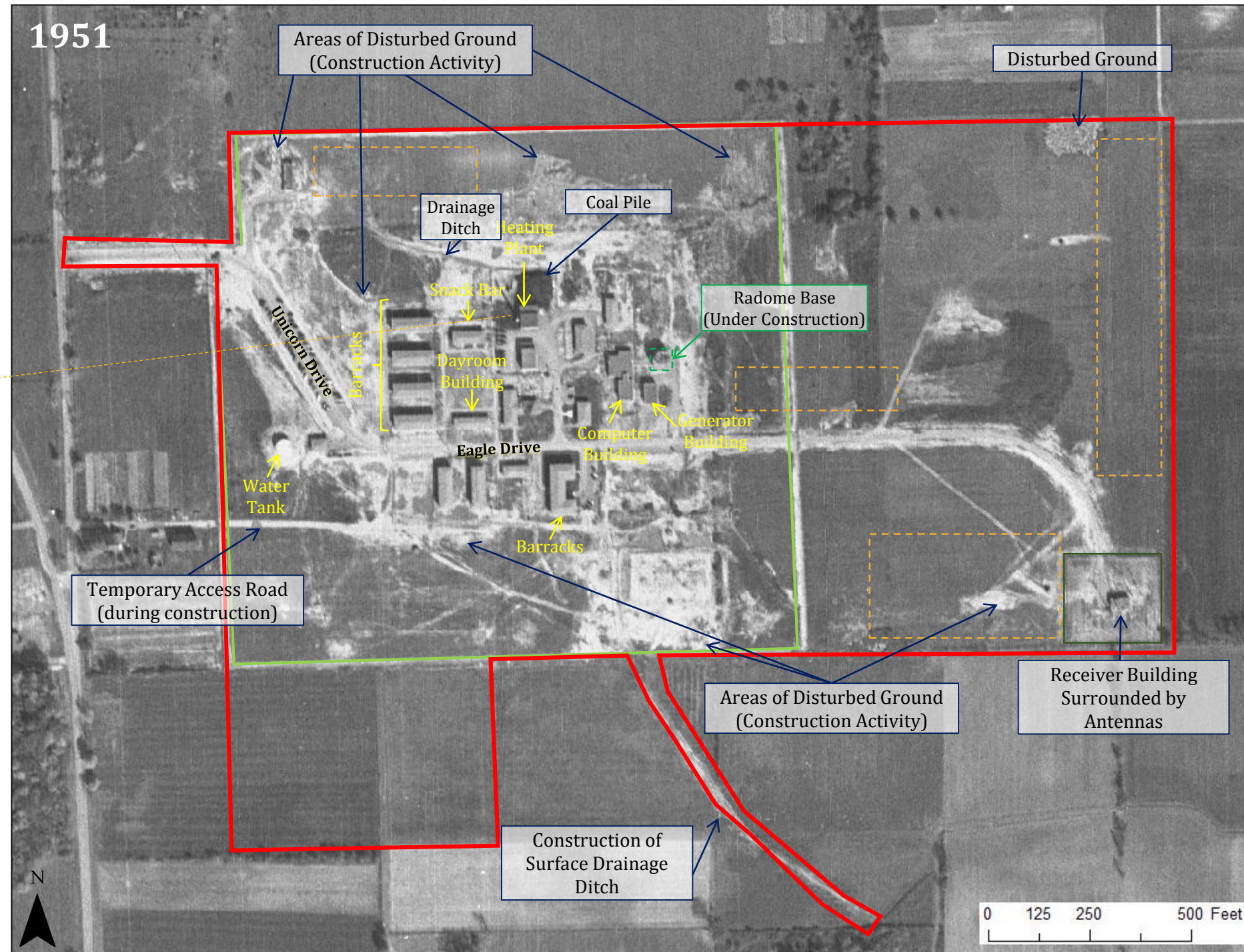
In 1938 the site was primarily agricultural land.



Photographic Analysis- Overview (1951)



*As defined on page 16

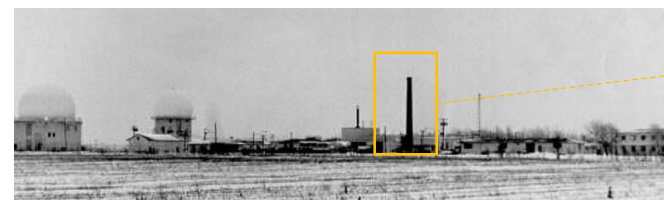


Source: National Archives at College Park, Maryland

October 14, 1951

By October 1951, numerous structures were constructed, to include fencing bordering the site. Dense disturbed ground is visible and indicative of recent and on-going construction. A surface drainage ditch leads to a local creek south of the site.

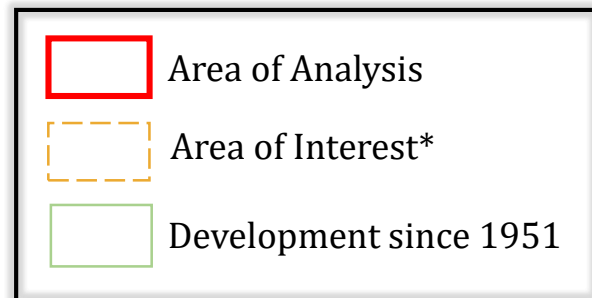
The site is surrounded by agricultural land.



The chimney for the heating plant can be seen in this undated ground photograph.
Source: National Air Defense Radar Museum



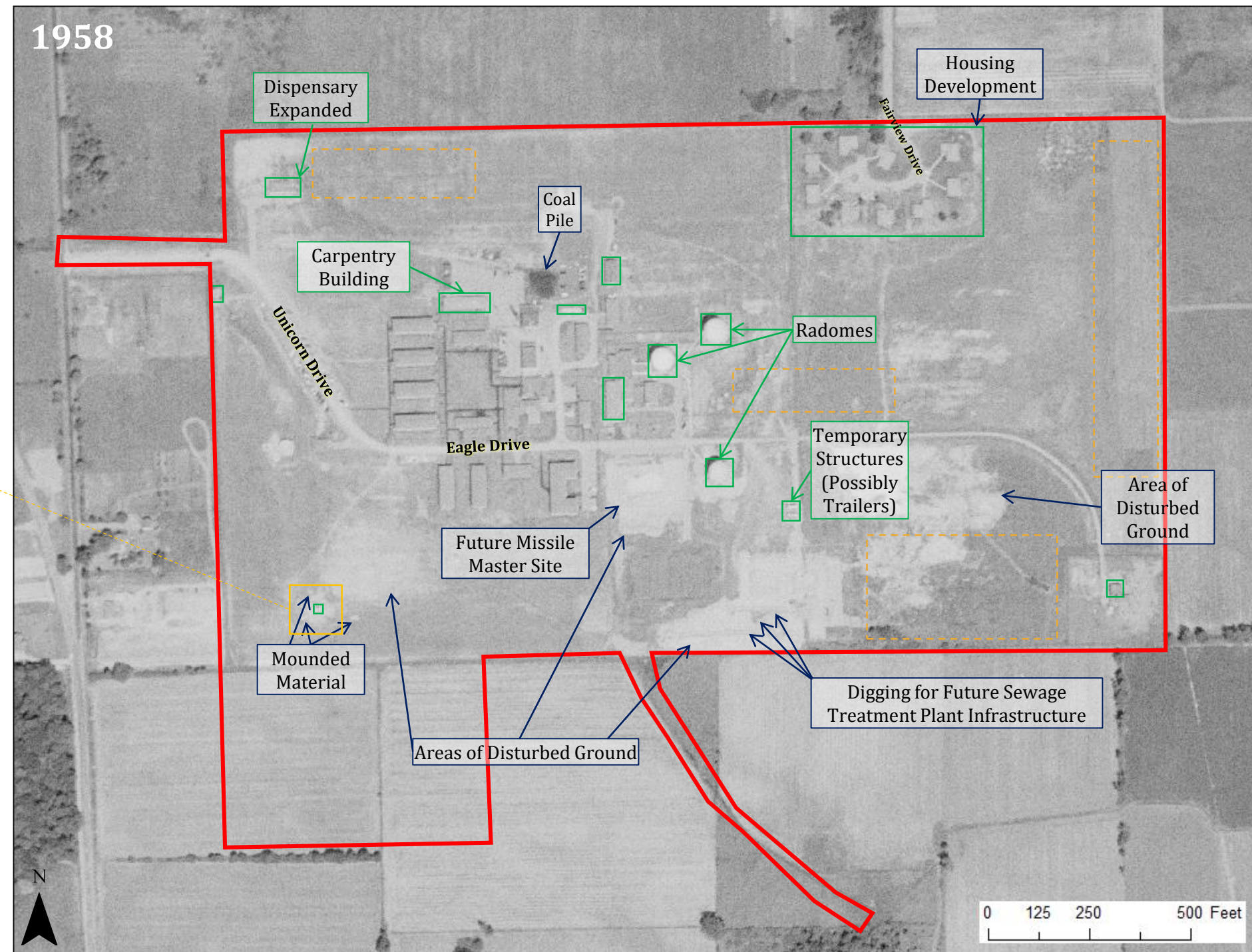
Photographic Analysis- Overview (1958)



*As defined on page 16



55 gallon UST recovered from this location next to a small concrete foundation.
Source: Green Seal Environmental, Inc. (2011)



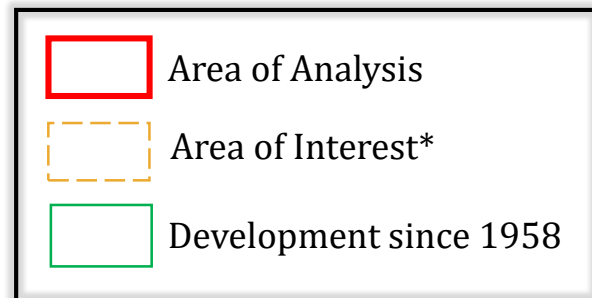
Source: U.S. Department of Agriculture, Farm Service Agency

August 09, 1958

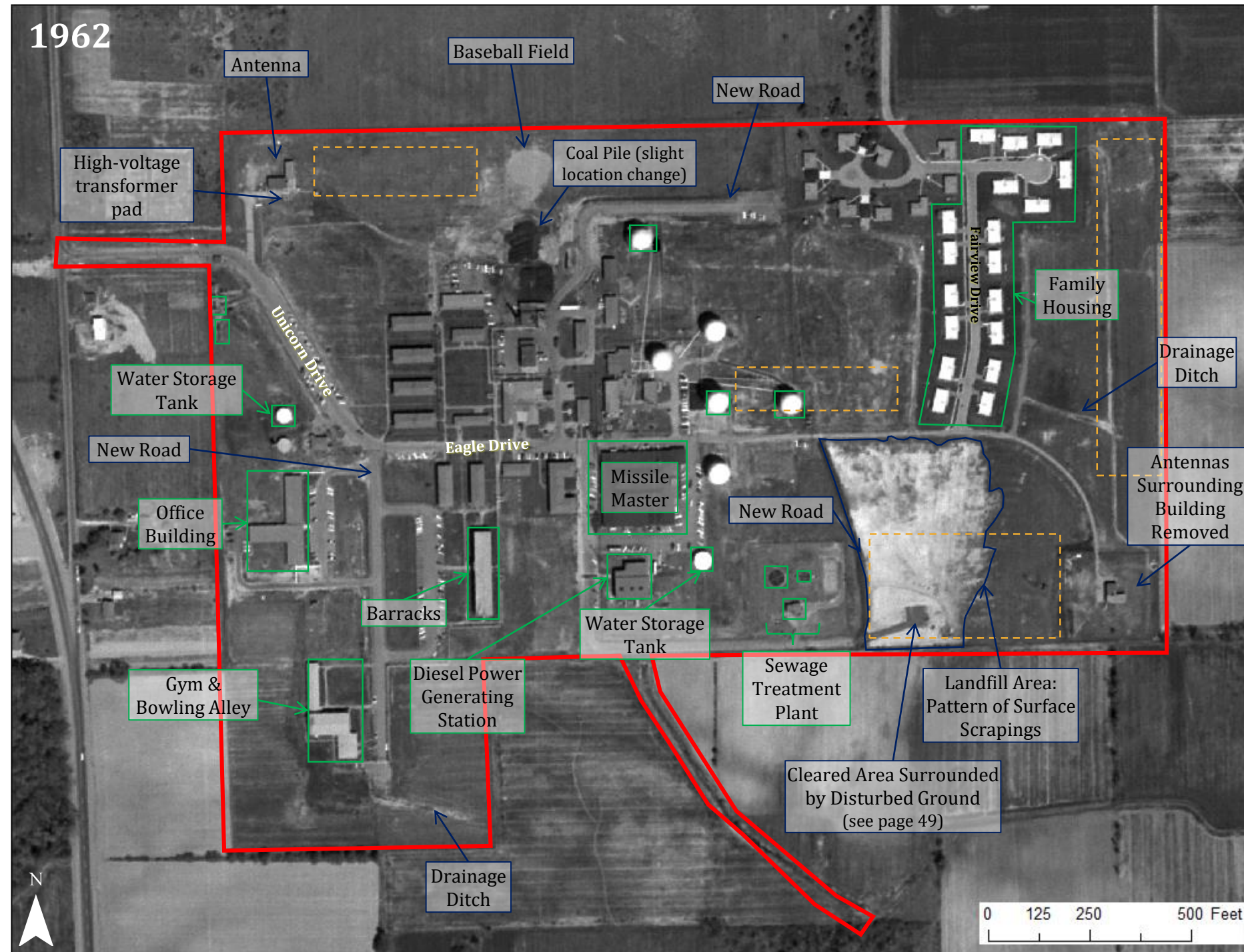
Extensive development occurred between 1951-1958, that included a small housing development. Continued construction is observed with large areas of disturbed ground. Three radar domes (radomes) have been constructed and appear complete.



Photographic Analysis- Overview (1962)



*As defined on page 16



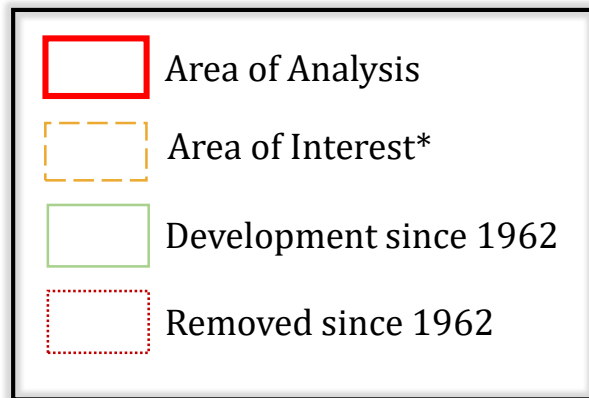
Source: National Archives at College Park, Maryland

May 09, 1962

Development continued on the site between 1958 and 1962, with the expansion of the housing development. A high-voltage transformer pad (referenced in TVGA Consultants, 2009) is observed south of the dispensary.



Photographic Analysis- Overview (1963)



*As defined on page 16



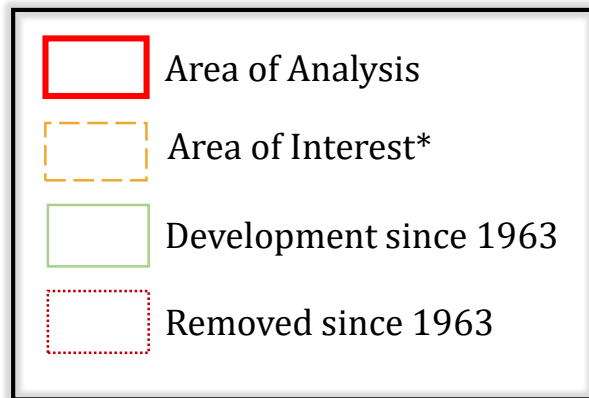
Source: U.S. Geological Survey, EarthExplorer

May 07, 1963

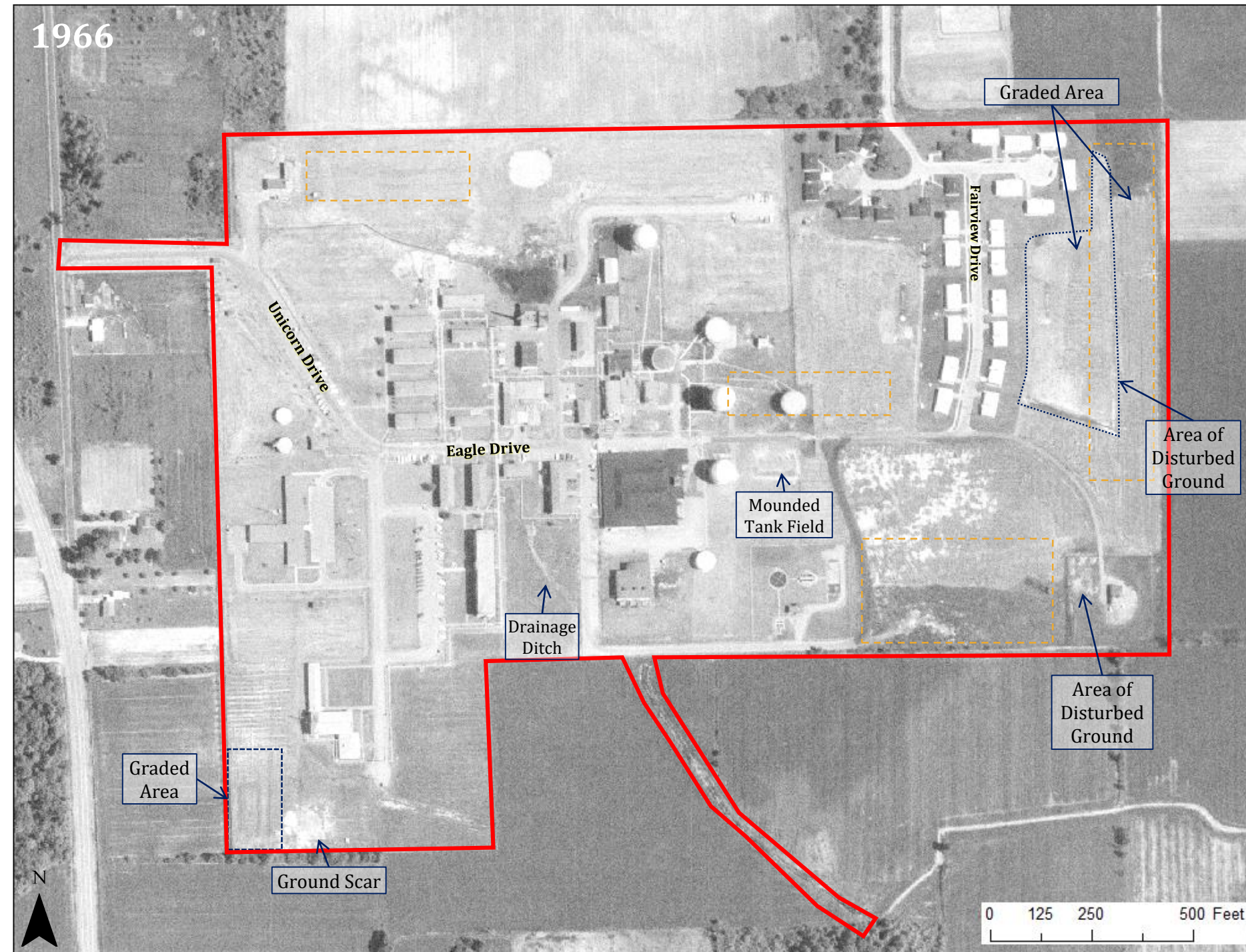
A large amount of disturbed ground is present between 1962 and 1963 in the southwestern corner of the area of analysis. This area has had increased activity since 1962 and contains possible mounded material or temporary structures. Development of the site includes the removal of one of the radomes (west of Area 2) and the construction of a baseball field fence (inside Area 1).



Photographic Analysis- Overview (1966)



*As defined on page 16



Source: U.S. Department of Agriculture, Farm Service Agency

June 12, 1966

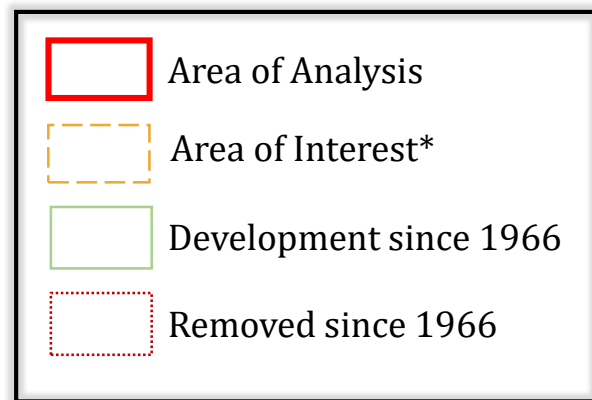
Most of the area of disturbed ground noted in the 1963 photograph (southwest corner) has become a graded area. Given the possible mounded material from 1963 and the graded area present in 1966, it is possible something was buried in this area. There is a large area of disturbed ground east of the family housing.



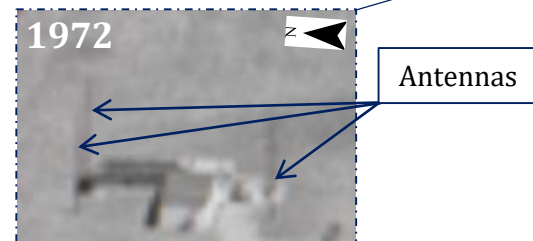
Source: National Air Defense Radar Museum



Photographic Analysis- Overview (1972)



*As defined on page 16



Source: National Archives at College Park, Maryland, Textual Records branch, RG 121, Entry UD-WW/5, FRC Box 2. (Department of the Air Force 1972 Installation Survey Report of Lockport Air Force Station)

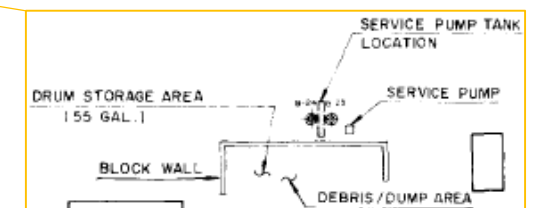
The above oblique photograph shows at least three antennas located at building 102, the dispensary building.



Source: U.S. Geological Survey, EarthExplorer

May 13, 1972

Two radomes and their bases have been removed since 1966. A third radome has been removed, but the base remains. By August 1972, the former Receiver Building was a Military Affiliate Radio Station and electronic hobby shop.



Source: 1991 Site Investigation and Sampling Plan



Photographic Analysis- Overview (1975)

- Area of Analysis
- Area of Interest*
- Development since 1972
- Removed since 1972

*As defined on page 16

Stationary Plane (see page 31 to see plane in same location in 1978)



Source: National Air Defense Radar Museum (USAF Information Brochure 763rd Radar Squadron, May 1977)







Source: National Archives at College Park, Maryland

June 30, 1975

By 1975, a plane has been displayed by the main entrance of the Lockport Air Force Station. Athletic facilities (a track and baseball field) are observed in the northern part of the area of analysis. The baseball field existed prior to 1975, but appears to be revived from several years of disuse.



Photographic Analysis- Overview (1976)

-  Area of Analysis
-  Area of Interest*
-  Development since 1975
-  Removed since 1975

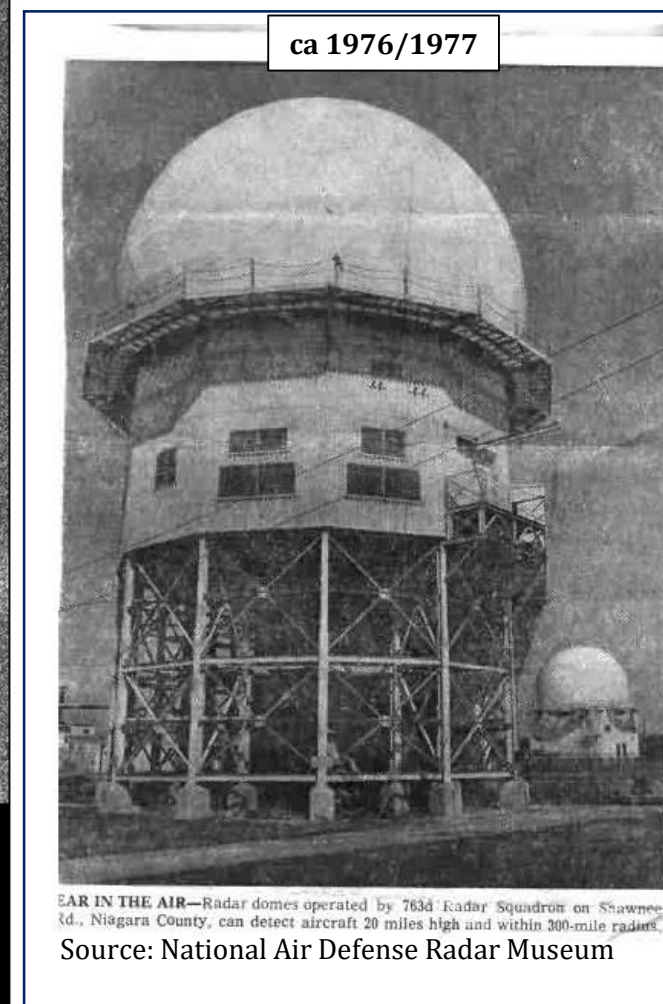
*As defined on page 16



Source: National Archives at College Park, Maryland

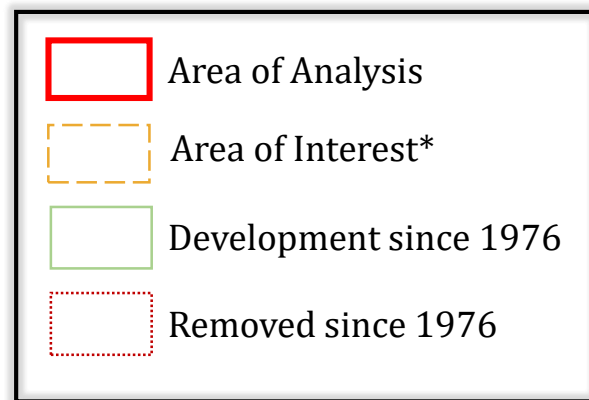
August 19, 1976

A small structure, usage unknown, was constructed between 1975 and 1976. Besides this construction, no notable changes occurred to the Lockport Air Force station between 1975 and 1976.

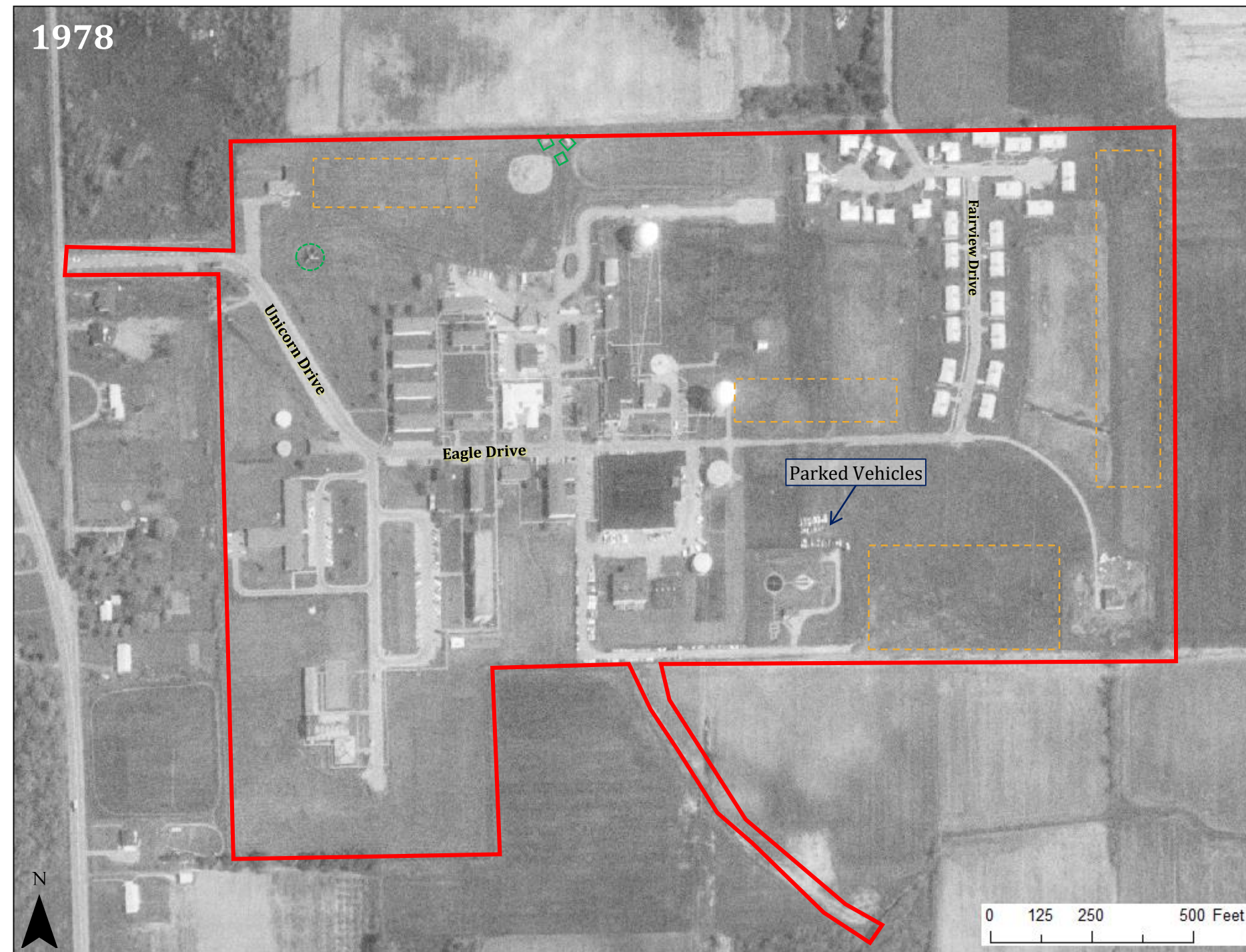




Photographic Analysis- Overview (1978)



*As defined on page 16



Source: U.S. Department of Agriculture, Farm Service Agency

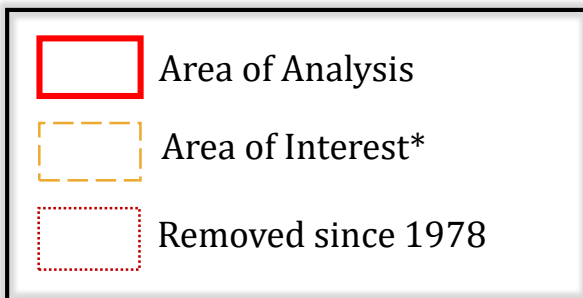
May 22, 1978

Two small structures, presumably related to the athletic facilities, were constructed between 1976 and 1978. The stationary plane, first noted in the 1975 analysis, is very discernable in the 1978 photograph.

An area of parked vehicles is observed north of the sewage treatment plant. This is the only year with parked vehicles present in this location.



Photographic Analysis- Overview (1982)



*As defined on page 16



Source: National Archives at College Park, Maryland

July 05, 1982

Lockport AFS was declared excess by the U.S. Air Force in 1980. Both the static plane display and the remaining radome were removed by July of 1982.



Photographic Analysis- Overview (1990)

Area of Analysis

Area of Interest*

*As defined on page 16



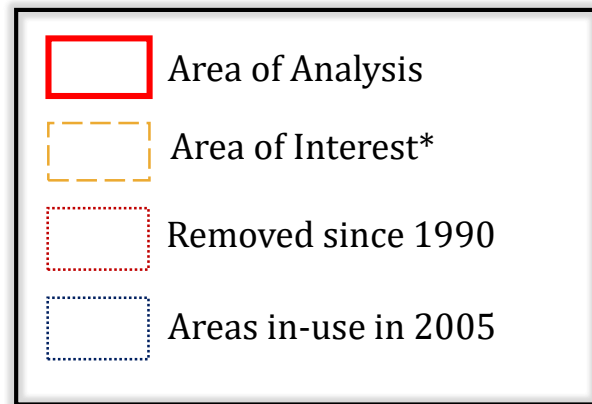
Source: U.S. Department of Agriculture, Farm Service Agency

August 31, 1990

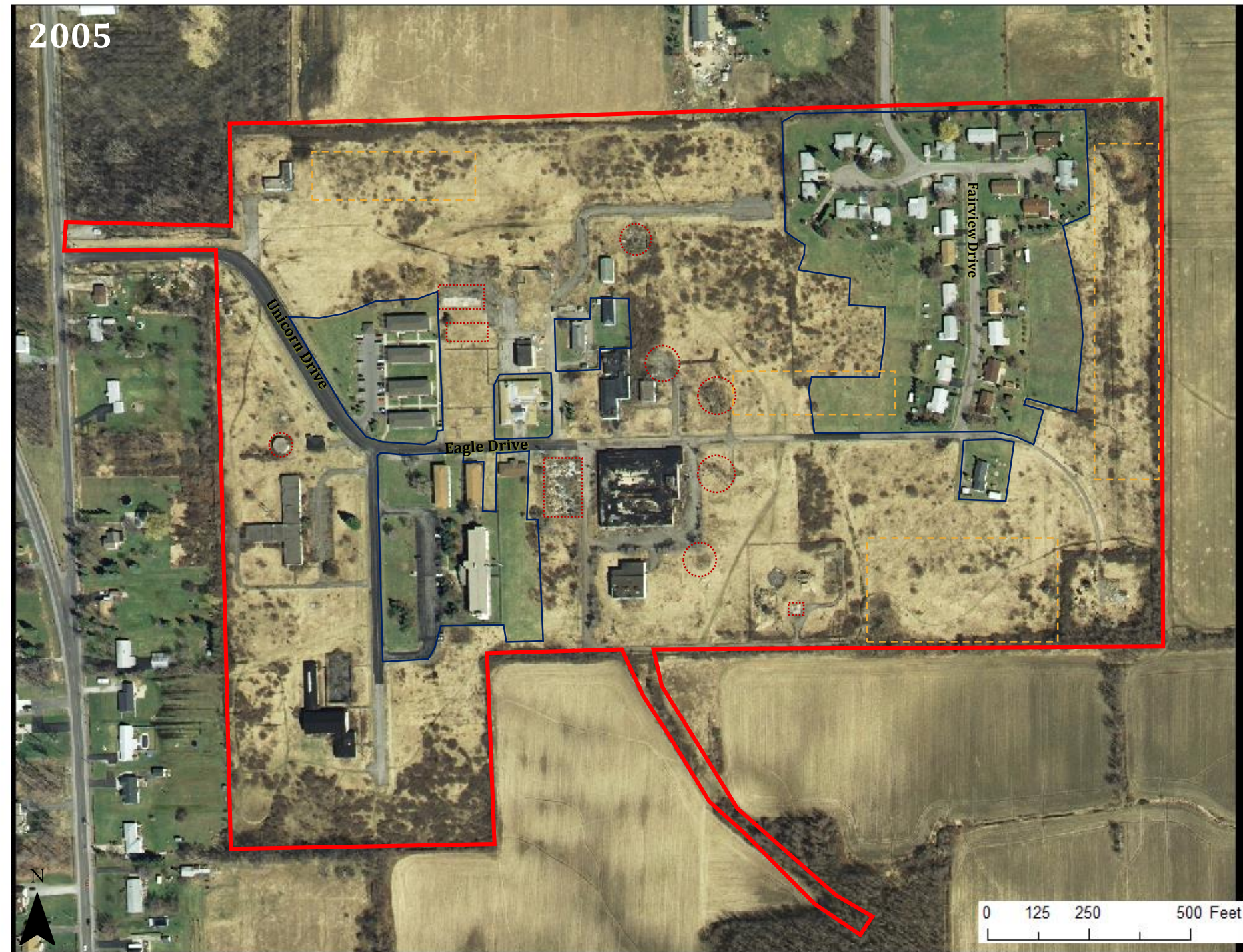
In 1990, most of the structures were still observed intact. The former Missile Master building and gym appear to be deteriorating. The heating plant building is gone (or severely deteriorated), but its chimney is still present. By 1990 a residential home was built to the south of the existing neighborhood, at the intersection of Fairview Drive and Eagle Drive.



Photographic Analysis- Overview (2005)



*As defined on page 16





Source: U.S. Geological Survey, EarthExplorer

April 01, 2005

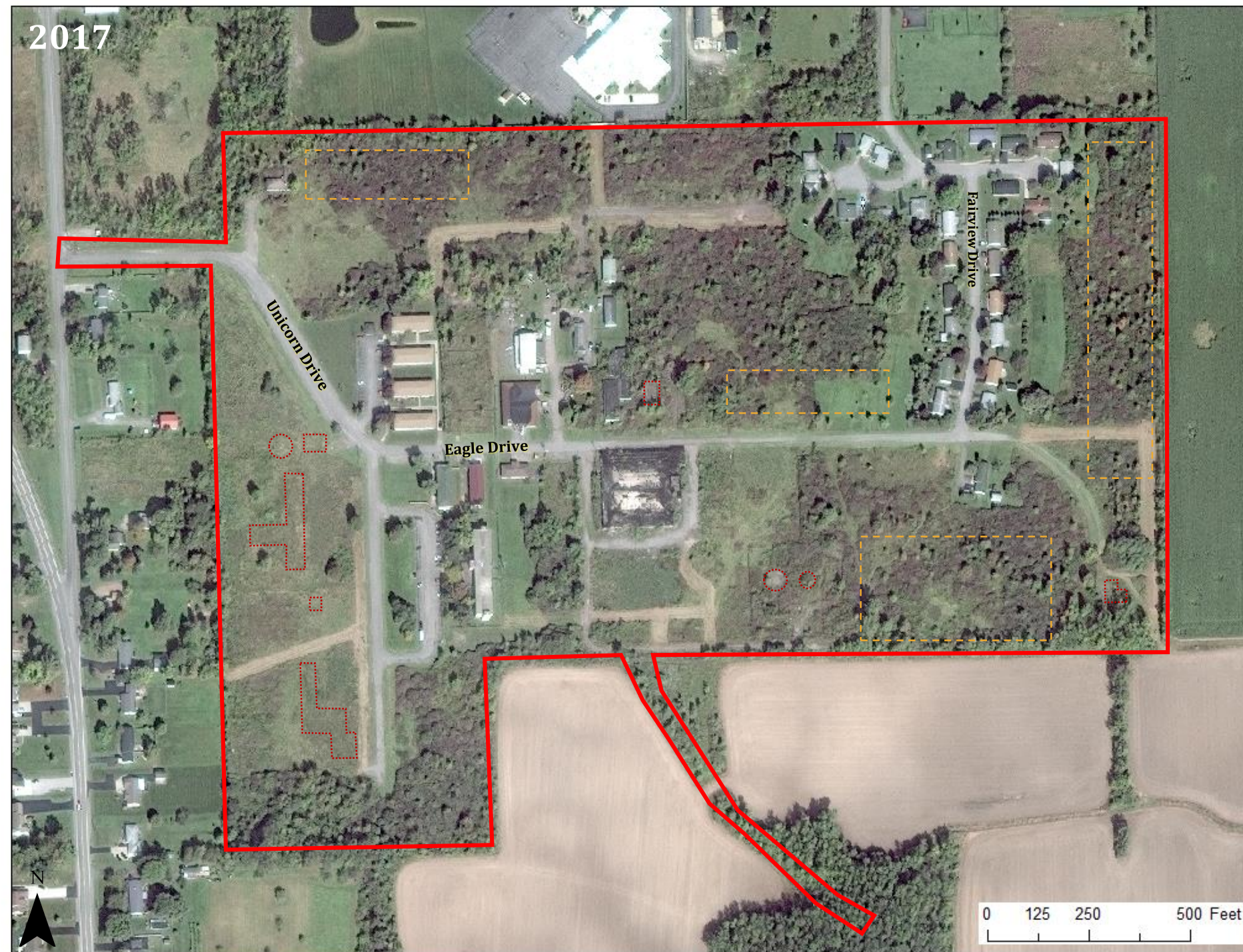
While many structures formerly a part of Lockport AFS remained standing in 2005, not all of them were still in use. Those buildings surrounded by grass (as opposed to overgrown vegetation) were in-use in 2005. These areas are specified on the image. An indicator of abandonment, besides vegetation overgrowth, is state of the parking lots for each building (vehicle activity, vegetation overgrowth), and the state of the buildings themselves (especially the roof structure).



Photographic Analysis- Overview (2017)

-  Area of Analysis
-  Area of Interest*

*As defined on page 16



Source: Digital Globe

September 22, 2017

By 2017, many of the unused structures were demolished, although some, including the former Missile Master Building, remain standing. Most buildings appear to be active and in-use. Re-vegetation has occurred throughout the entire site.



Radomes Onsite Throughout the Years



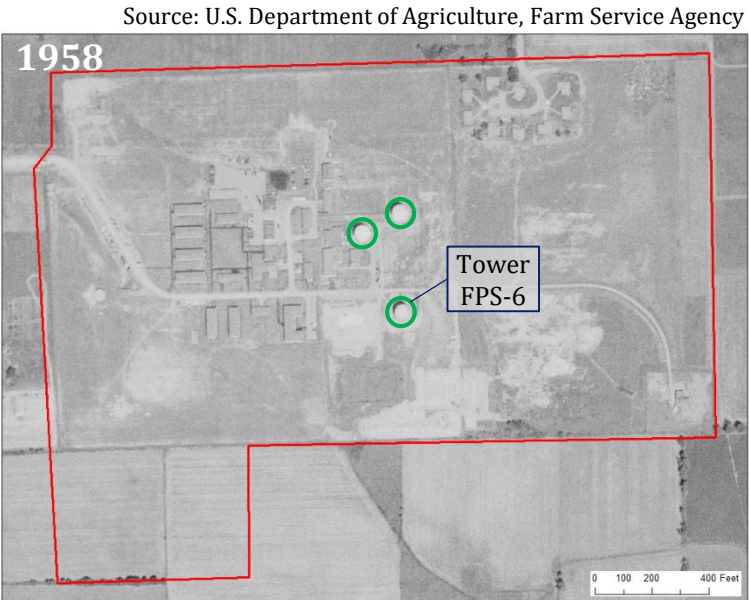
Above: Undated photograph of radomes at Lockport AFS.
Below: Photograph of Radomes at Lockport AFS ca 1967
Source: National Air Defense Radar Museum



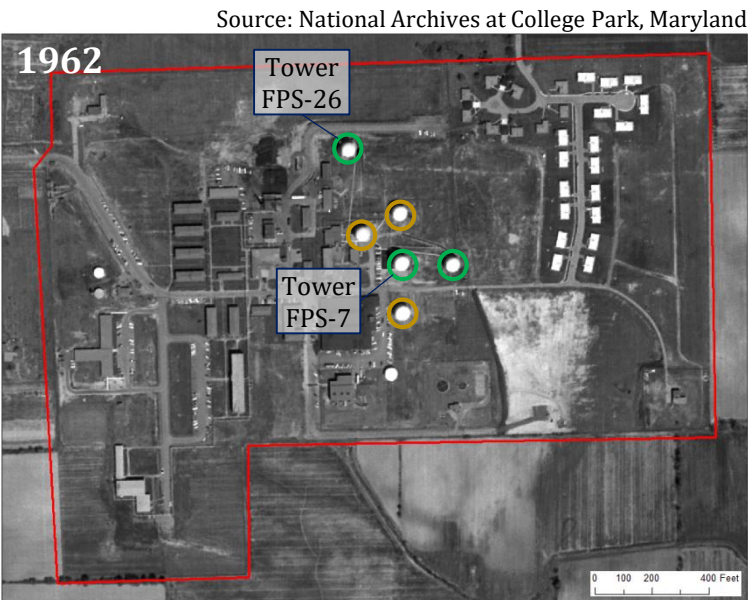
- Area of Analysis
- Radome Under Construction
- New Radome
- Radome Present
- Radome Removed



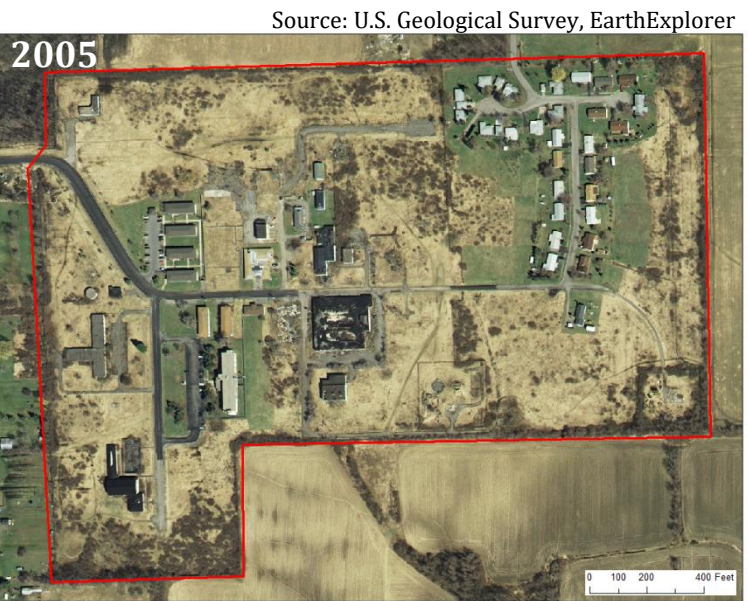
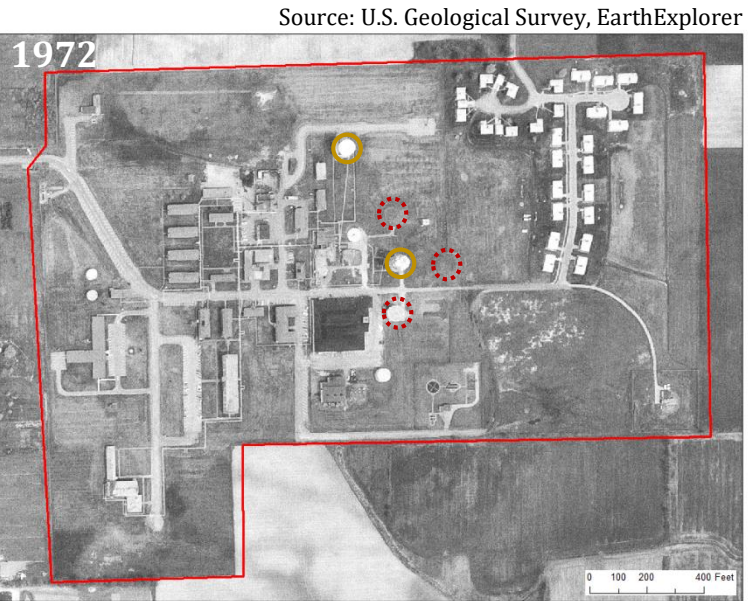
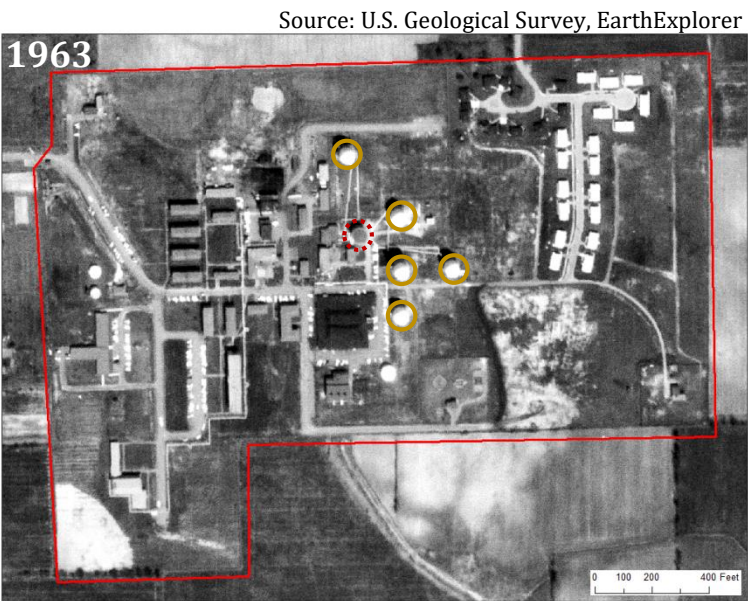
At the end of 1951, a pair of AN/CPS-6Bs systems began operating at this site.



Two of the three radomes present in 1958 are presumed to be the AN/CPS-6Bs. These two systems were phased out at the end of the decade.



In 1960 the site started operating an AN/FPS-7 radar on the site, in addition to the two AN-FPS 6s used as height finding radar. In 1962, one of the AN-FPS 6s was replaced by an AN/FPS-26. The AN/FPS-7 was later modified to an AN/FPS-107.

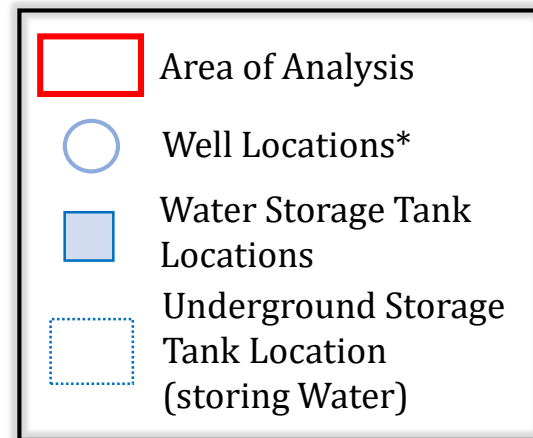


By 2005, the all of the radome bases have been removed from the site.

Information Source: USAF Welcome Brochure Map (1977); Winkler et al., 1997



Water Sources and Storage



*Source: USGS Groundwater Supply



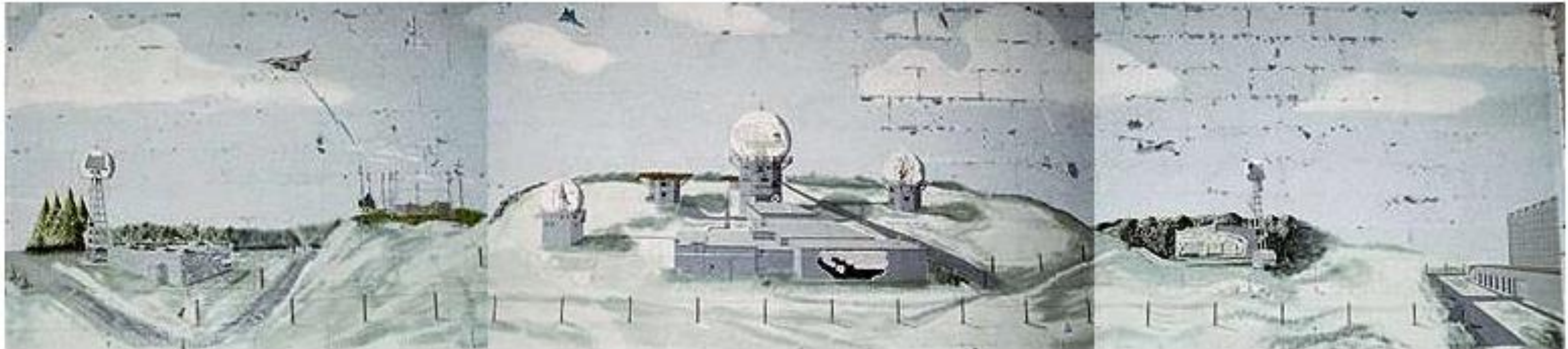
Source: National Archives at College Park, Maryland

May 09, 1962

Seven 20,000 gallon water USTs were identified in a mounded tank field and removed in 2010.



Source: Green Seal Environmental, Inc. (2011)



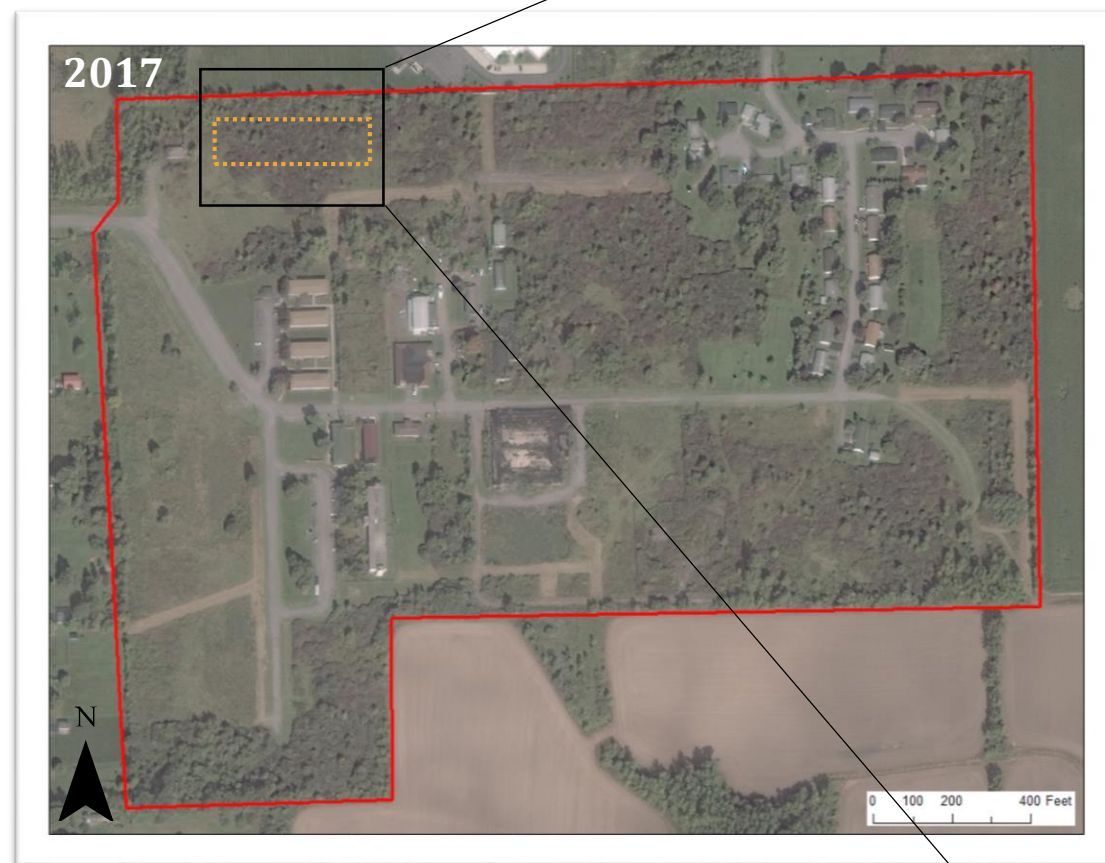
Source: National Air Defense Radar Museum

Photographic Analysis

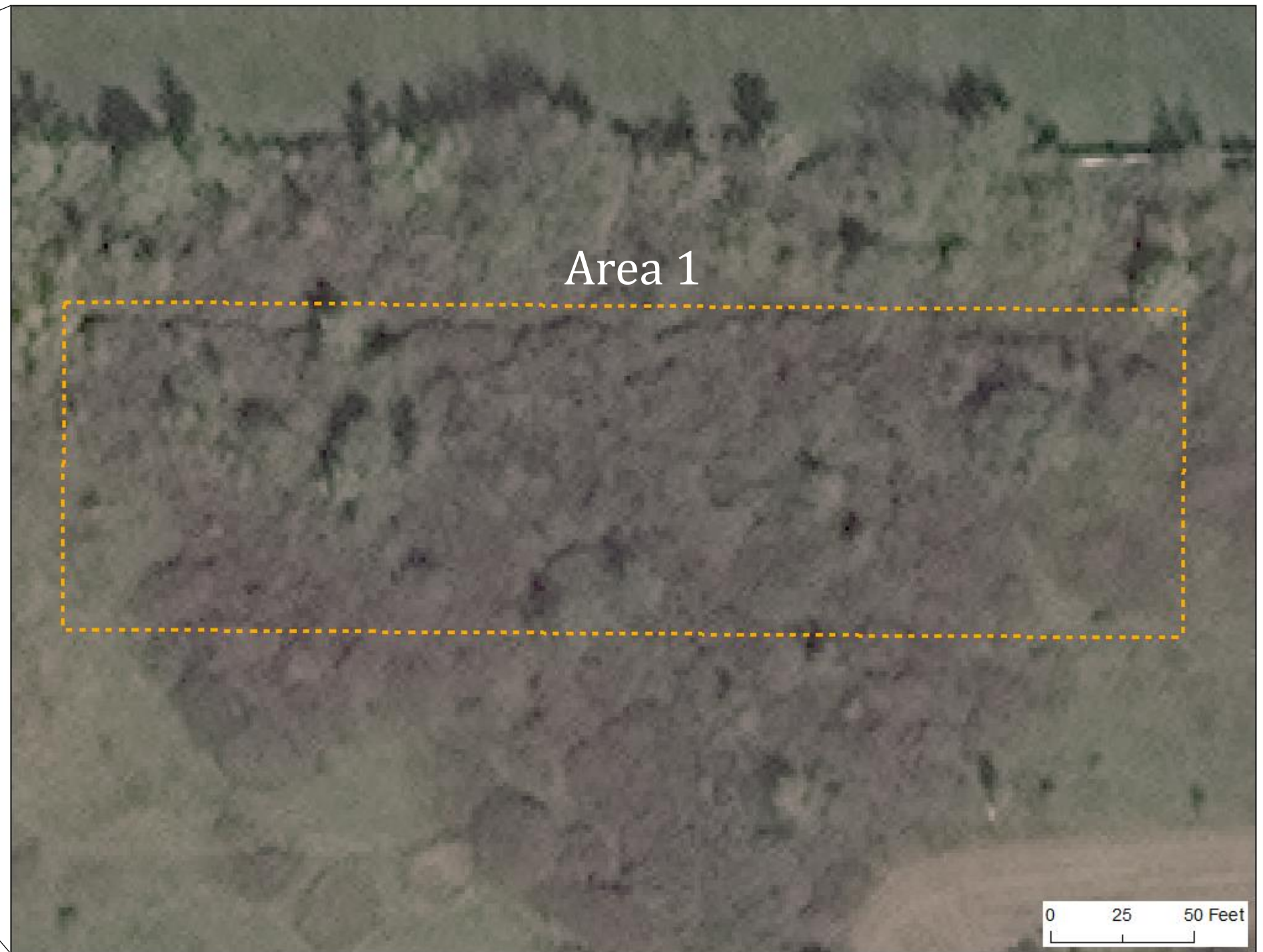
Lockport AFS: Areas of Interest



Photographic Analysis – Area 1

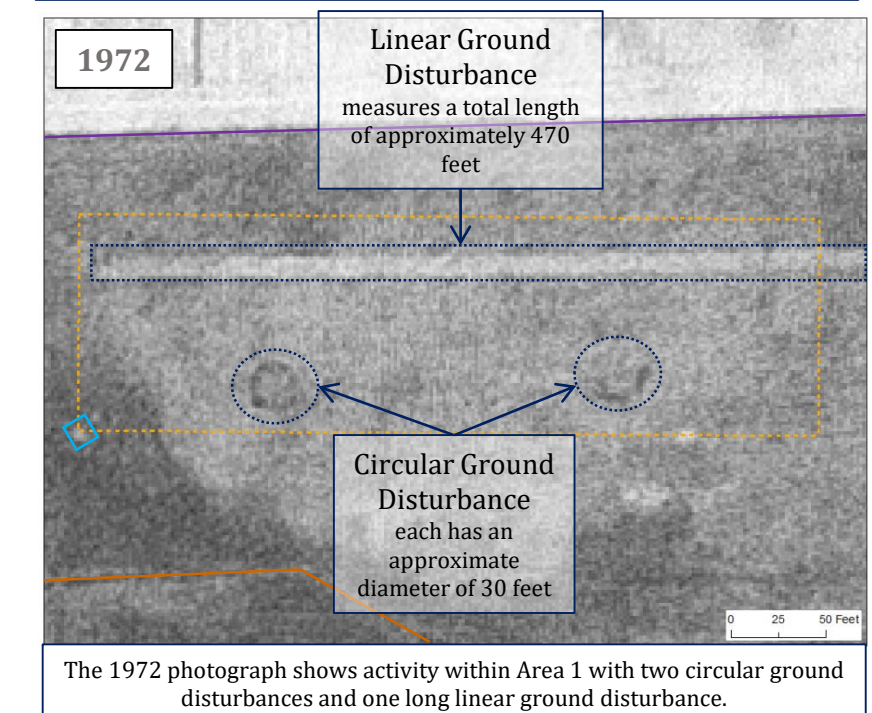
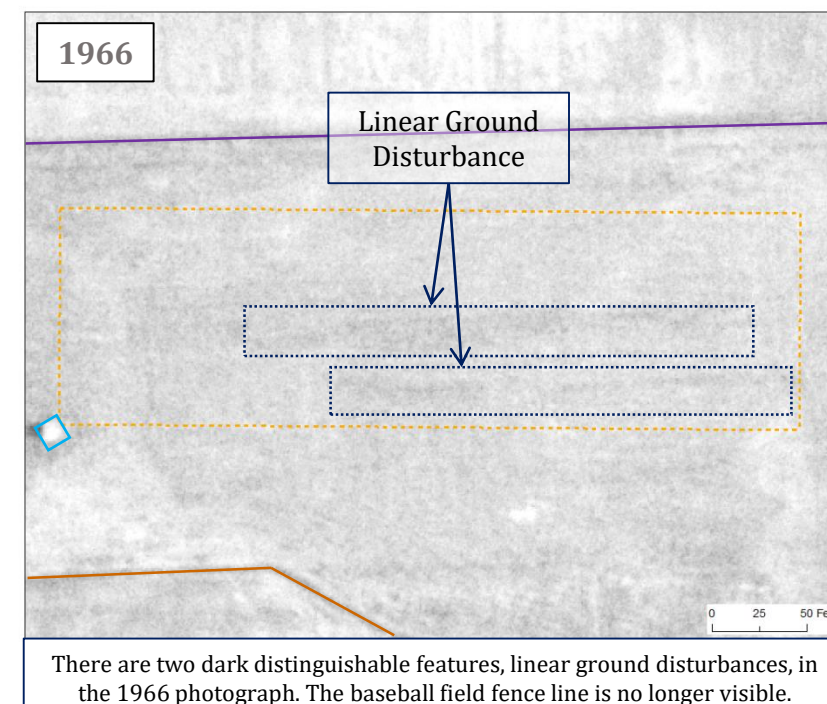
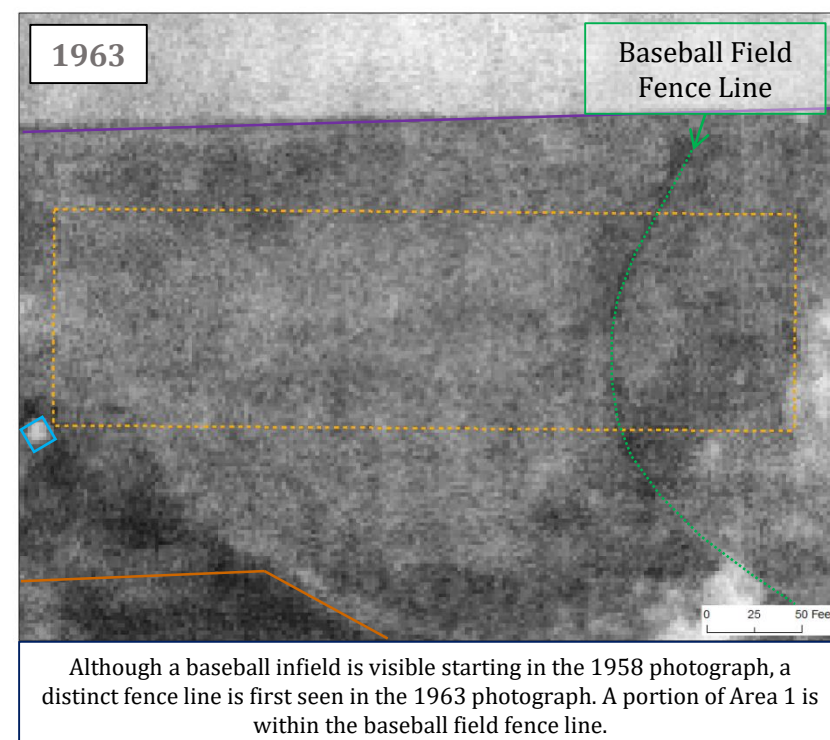
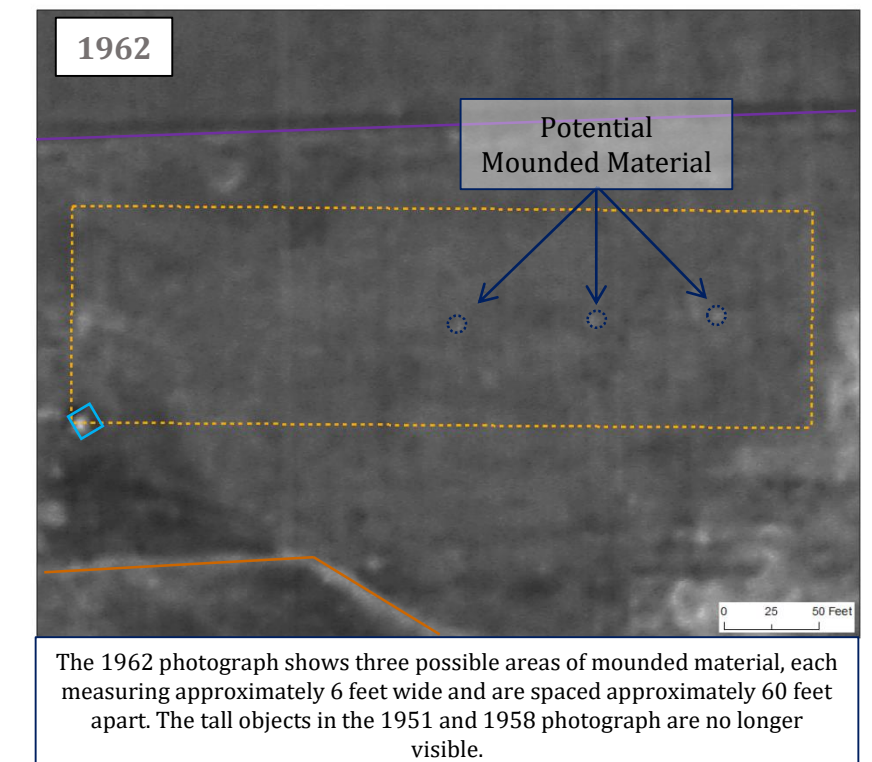
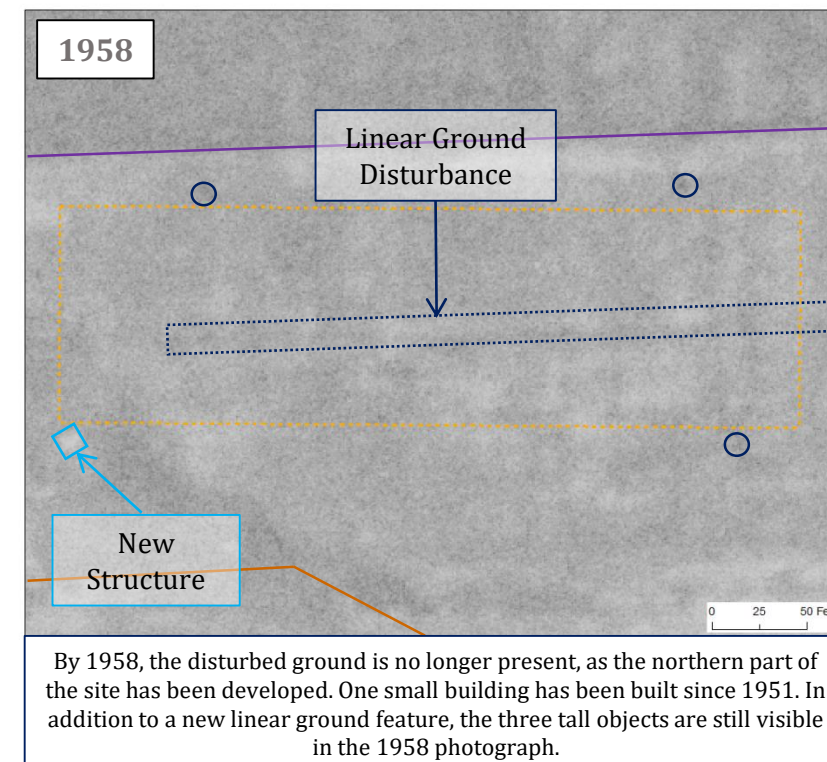
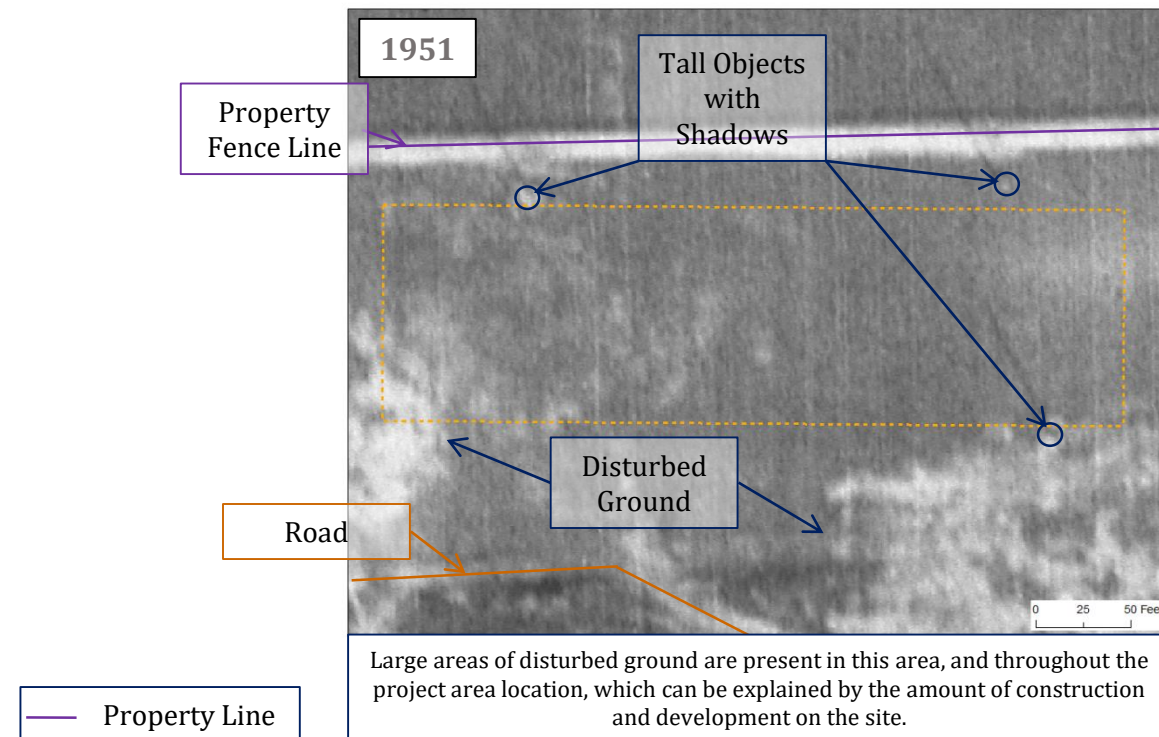


Source: Digital Globe



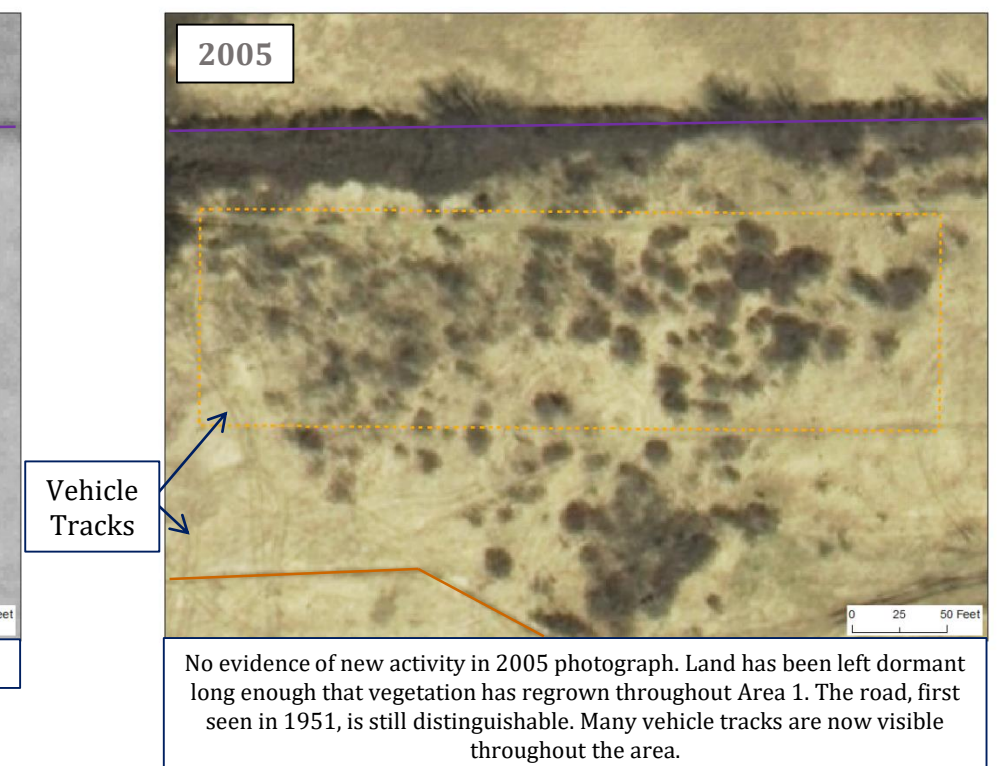
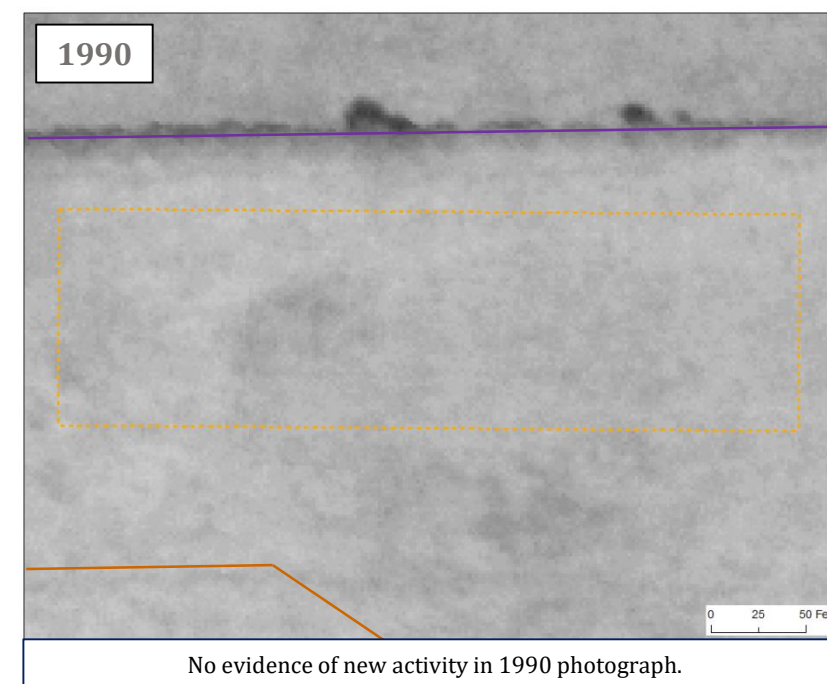
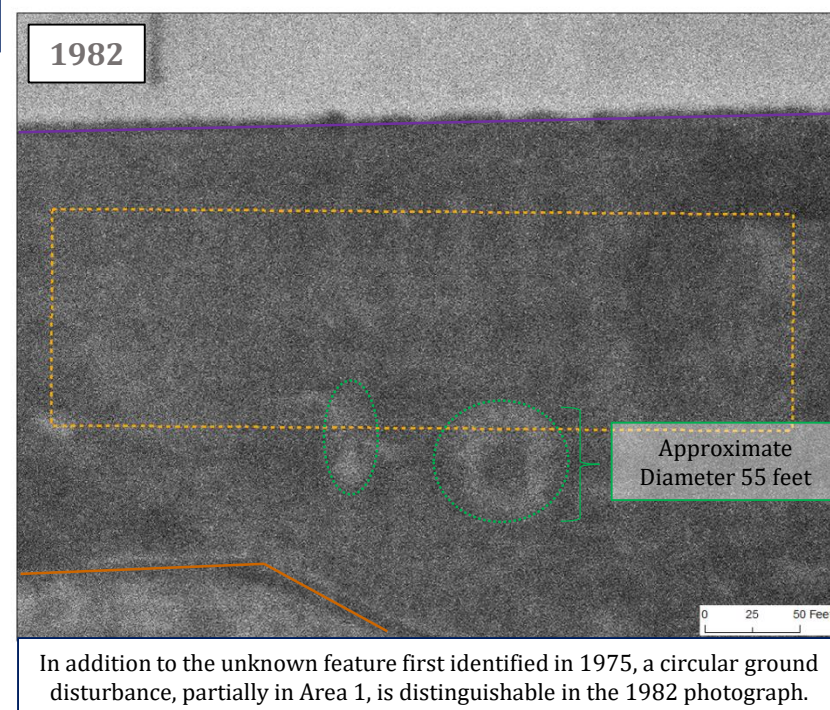
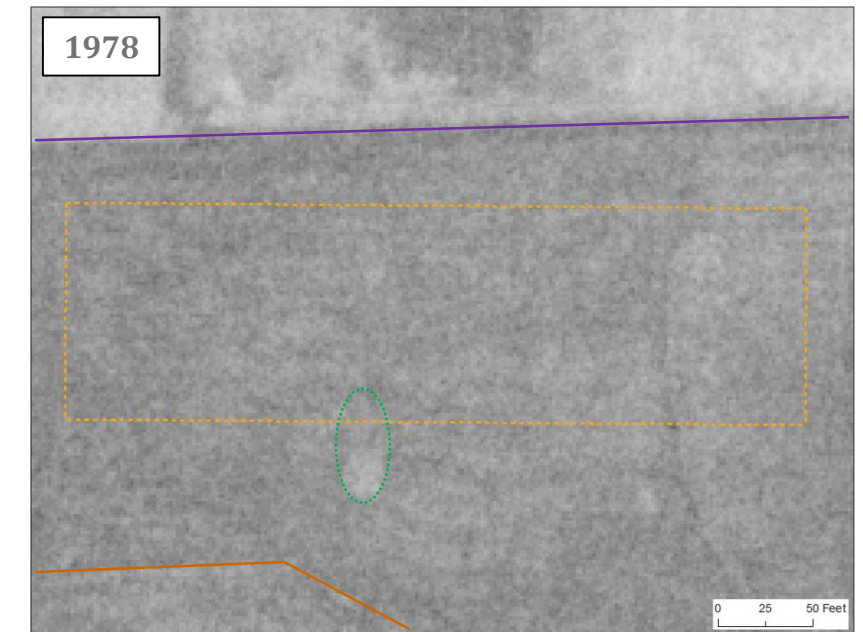
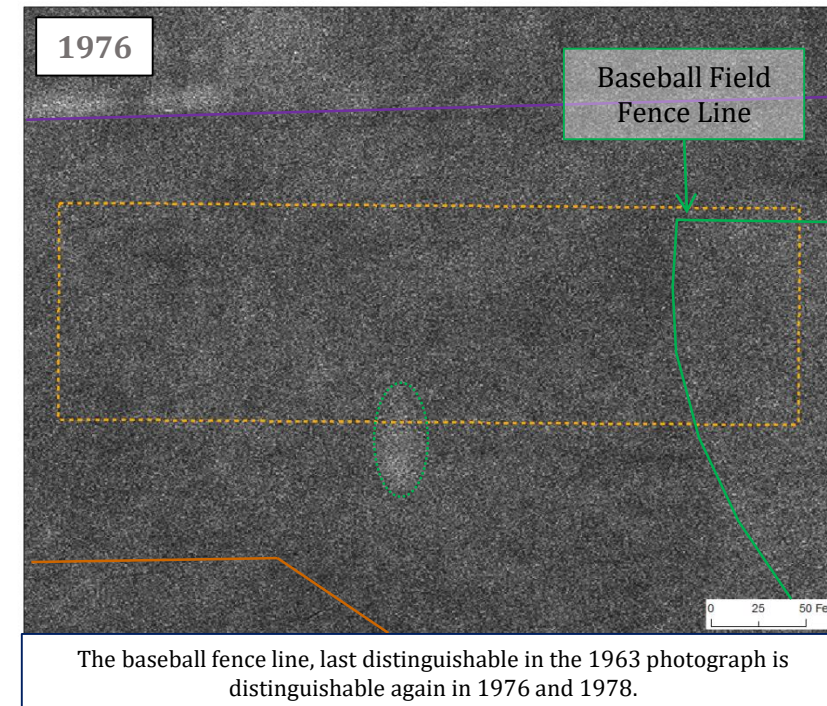
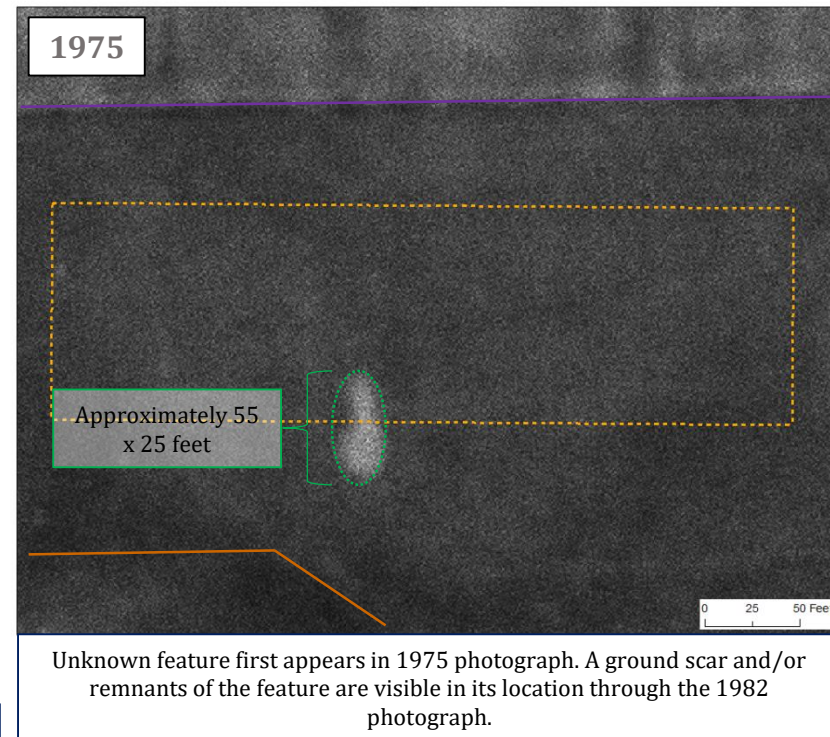


Photographic Analysis – Area 1





Photographic Analysis – Area 1

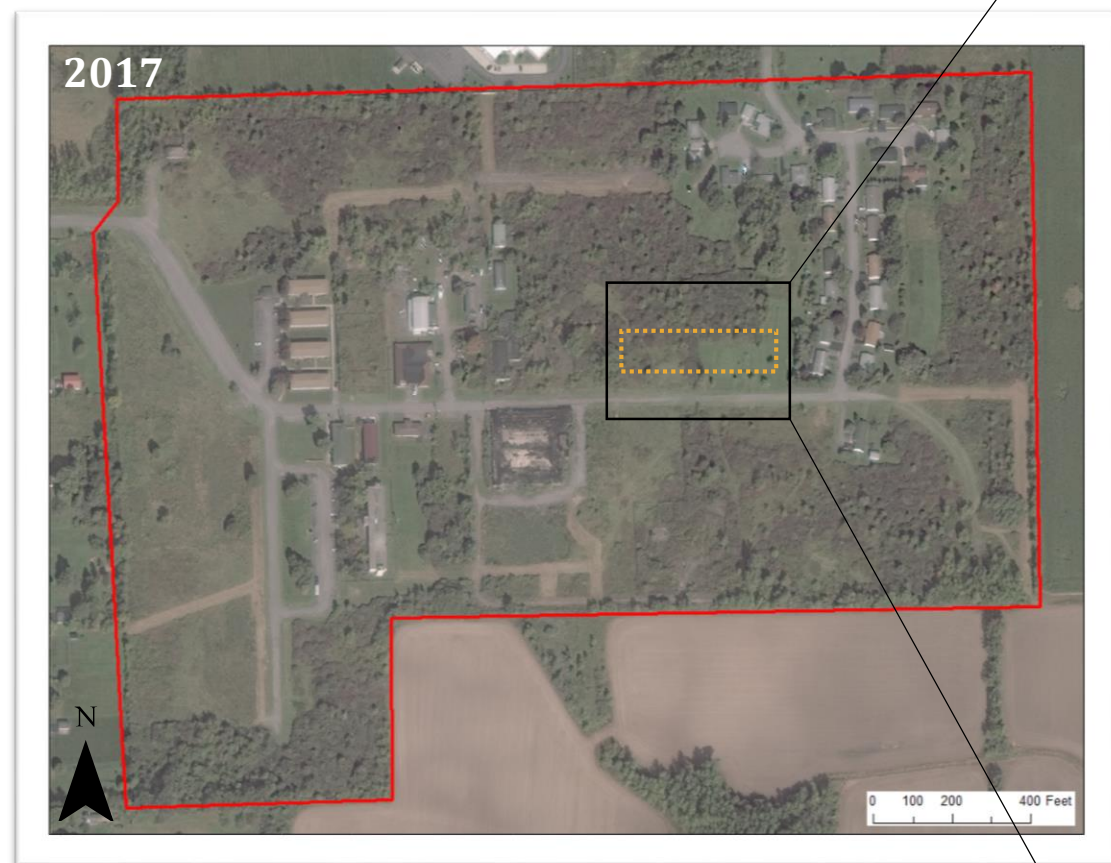


- Property Line
- Road
- Area 1

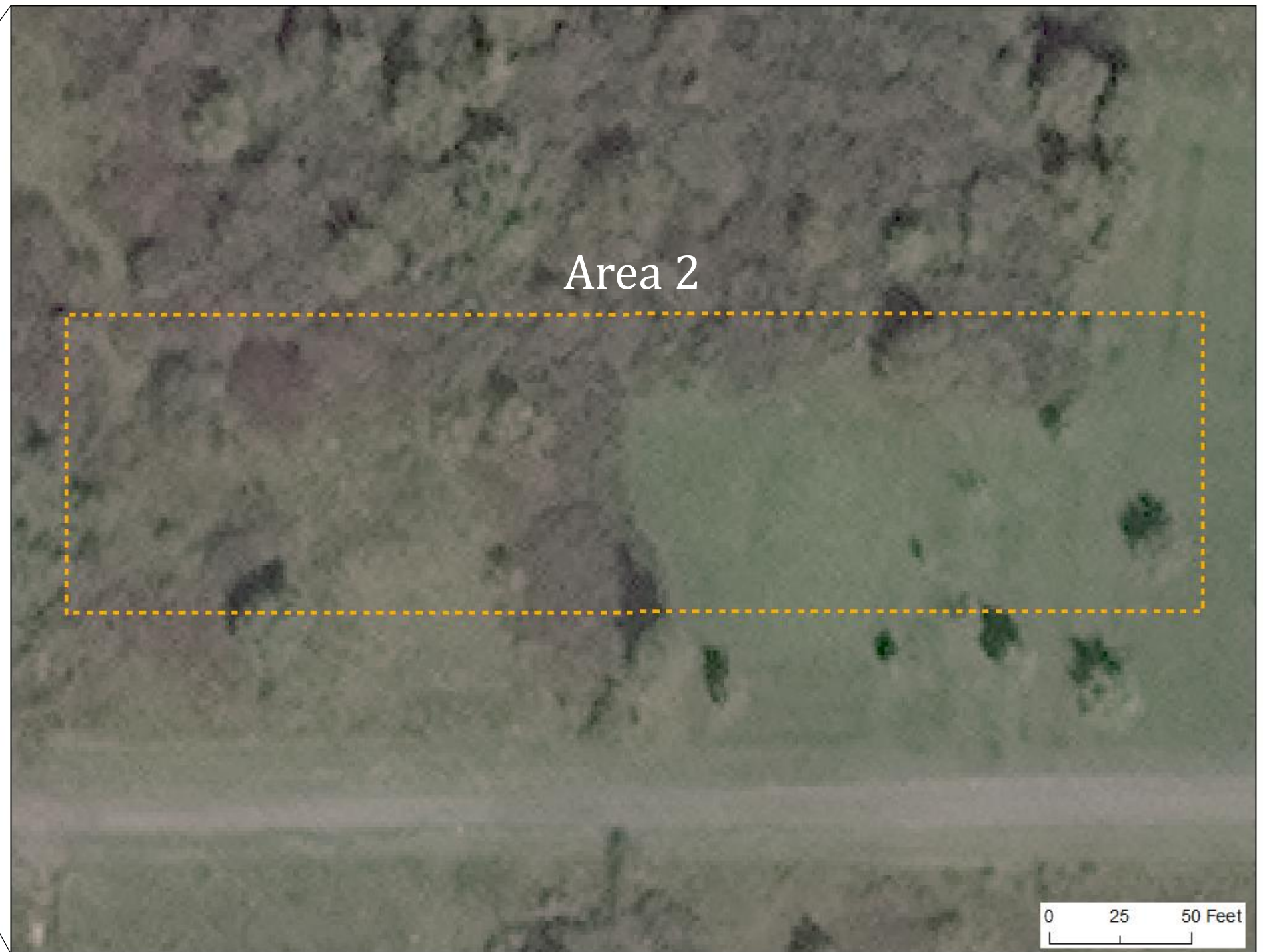




Photographic Analysis – Area 2

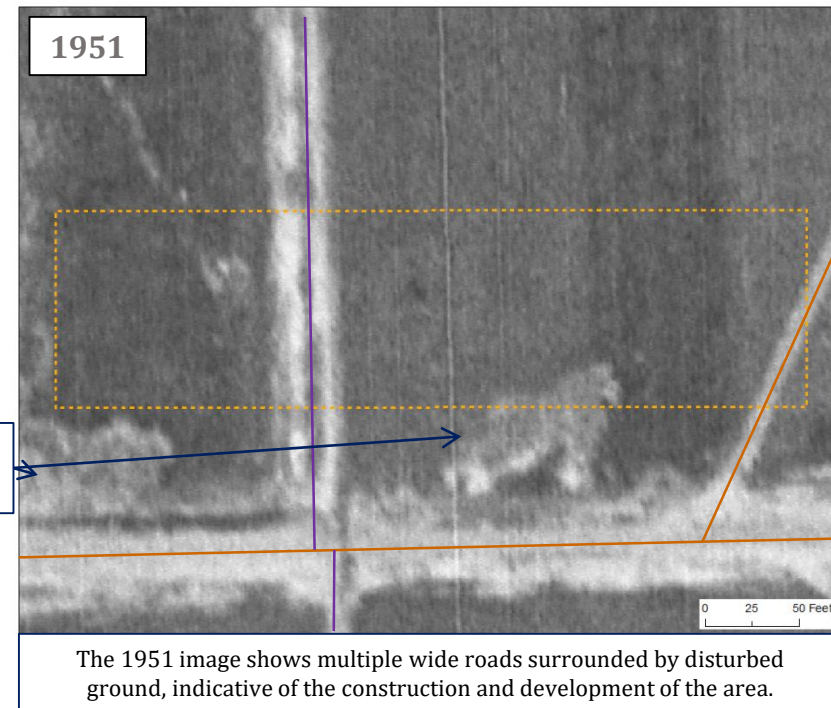


Source: Digital Globe

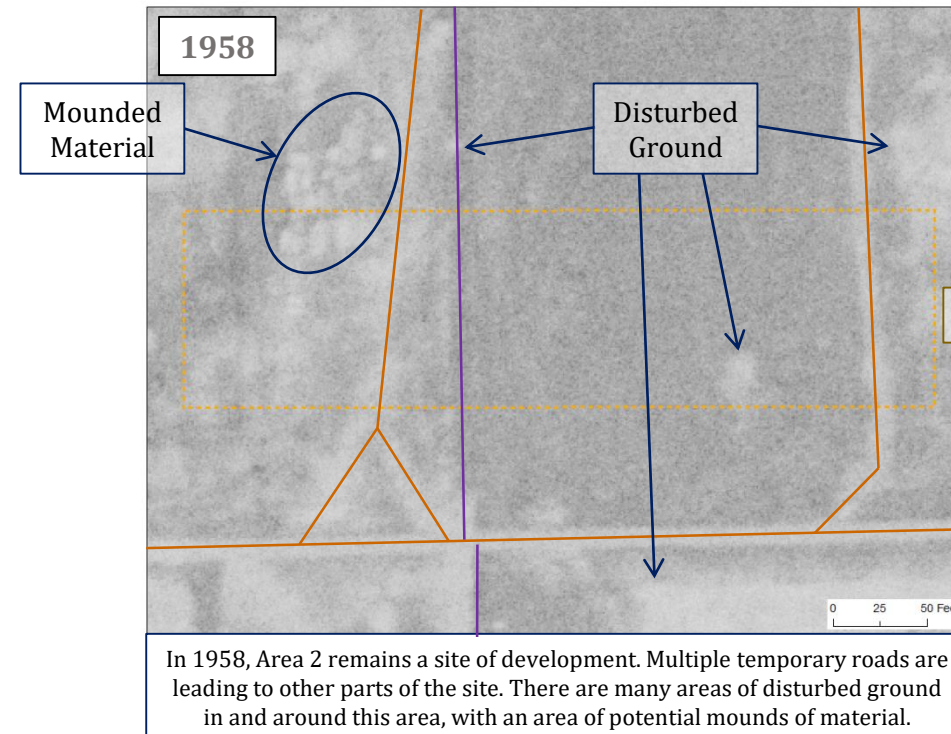




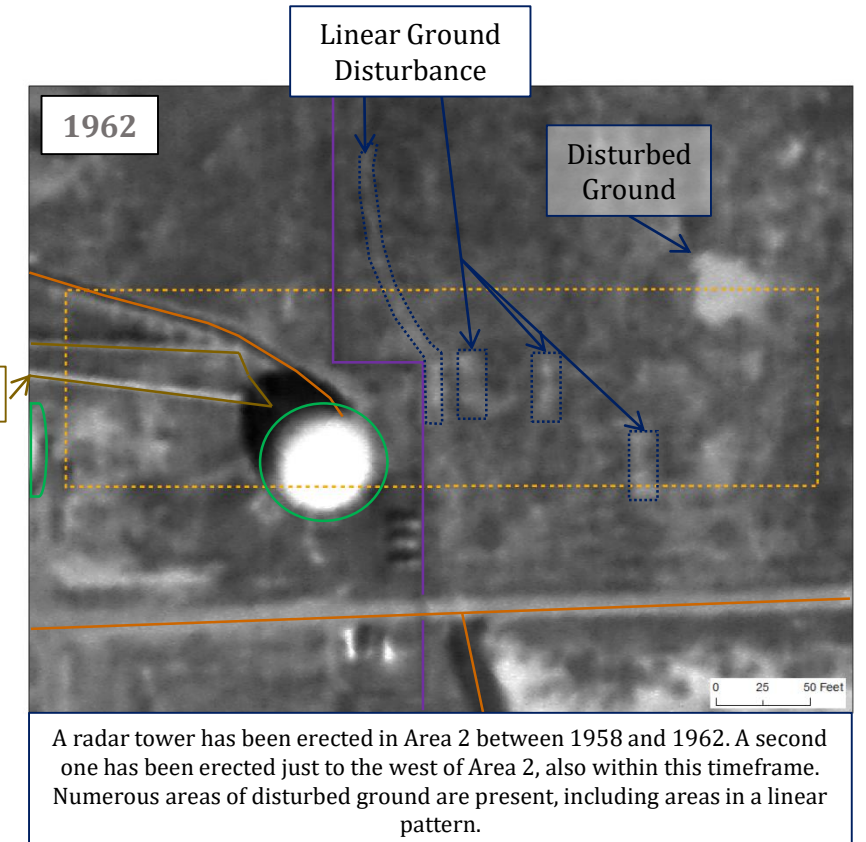
Photographic Analysis – Area 2



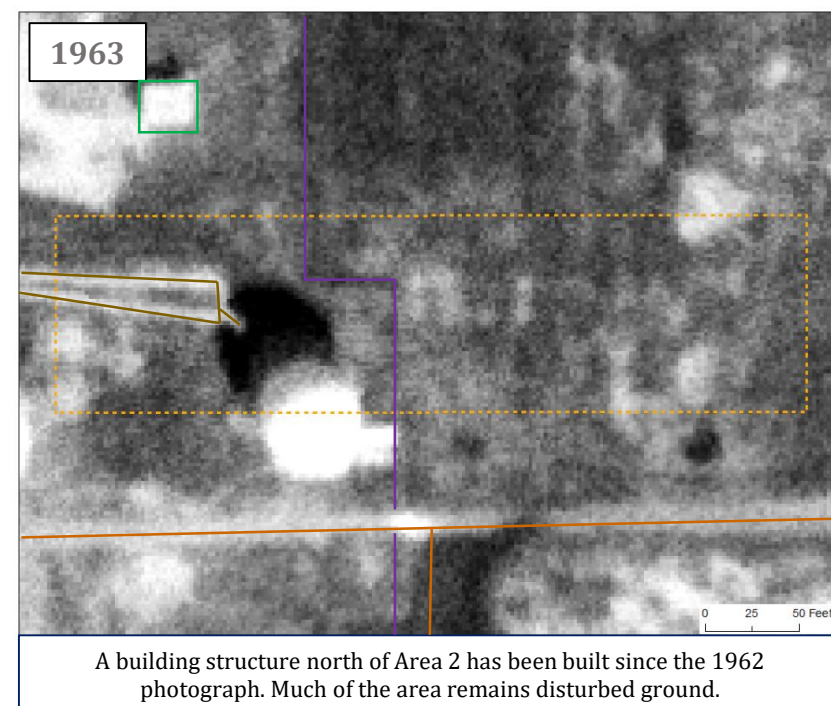
The 1951 image shows multiple wide roads surrounded by disturbed ground, indicative of the construction and development of the area.



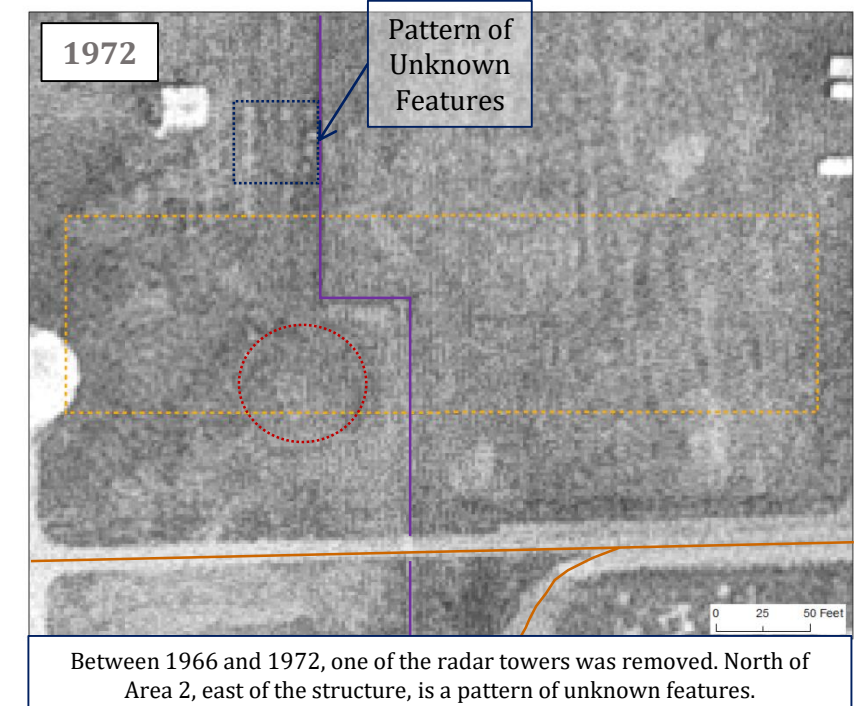
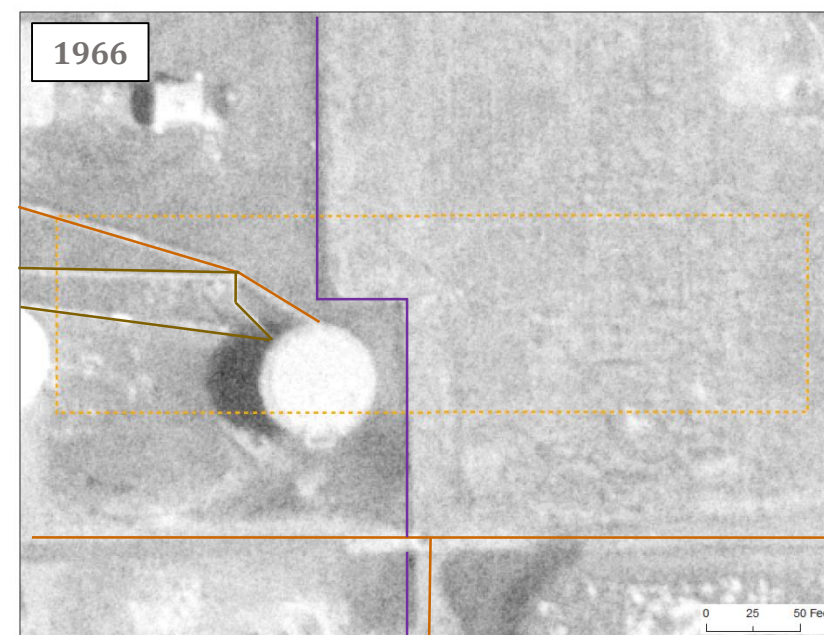
In 1958, Area 2 remains a site of development. Multiple temporary roads are leading to other parts of the site. There are many areas of disturbed ground in and around this area, with an area of potential mounds of material.



A radar tower has been erected in Area 2 between 1958 and 1962. A second one has been erected just to the west of Area 2, also within this timeframe. Numerous areas of disturbed ground are present, including areas in a linear pattern.



A building structure north of Area 2 has been built since the 1962 photograph. Much of the area remains disturbed ground.



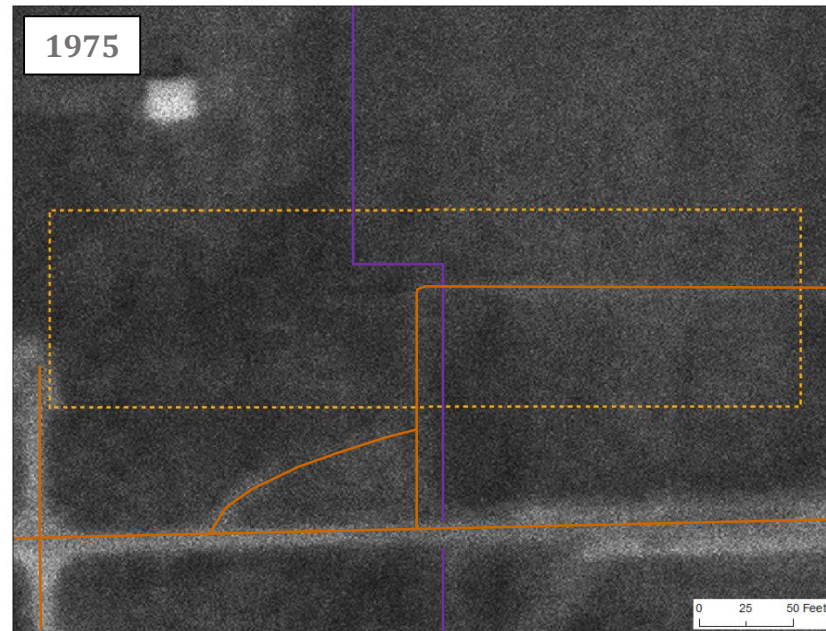
Between 1966 and 1972, one of the radar towers was removed. North of Area 2, east of the structure, is a pattern of unknown features.

- Property Line
- Road
- Path
- Area 2
- Development
- Removal

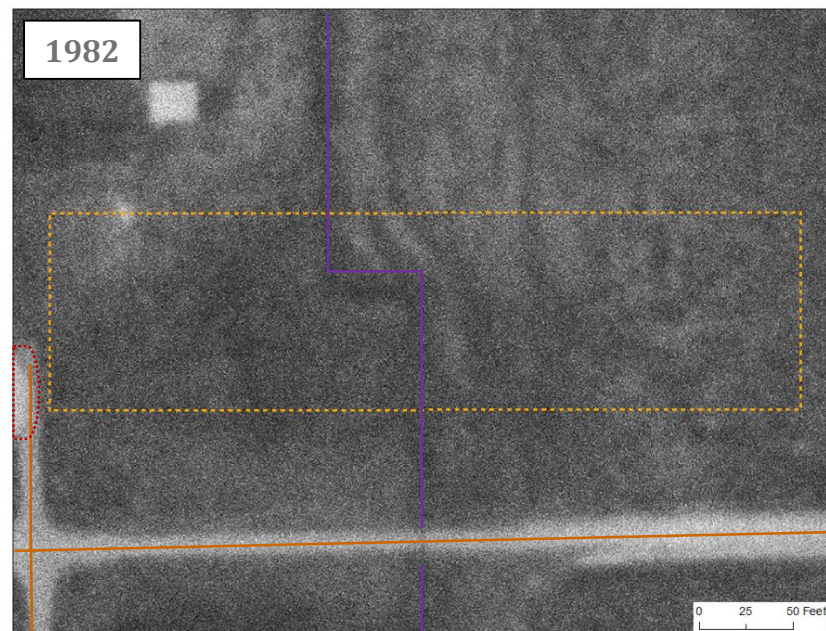
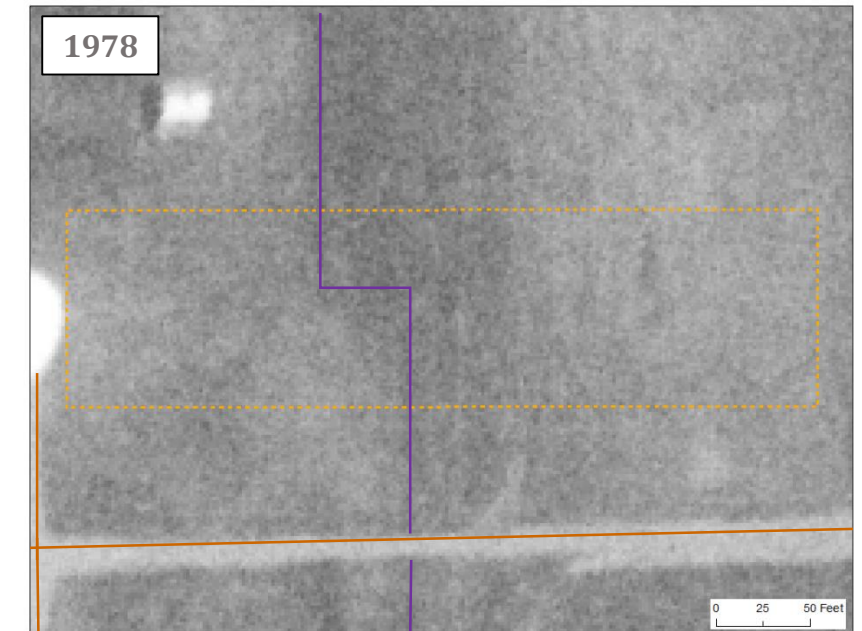
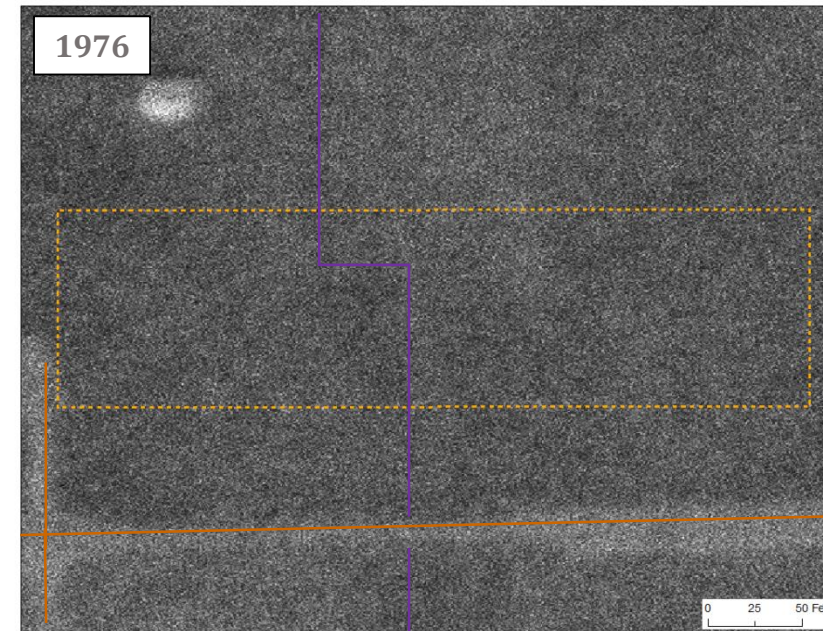




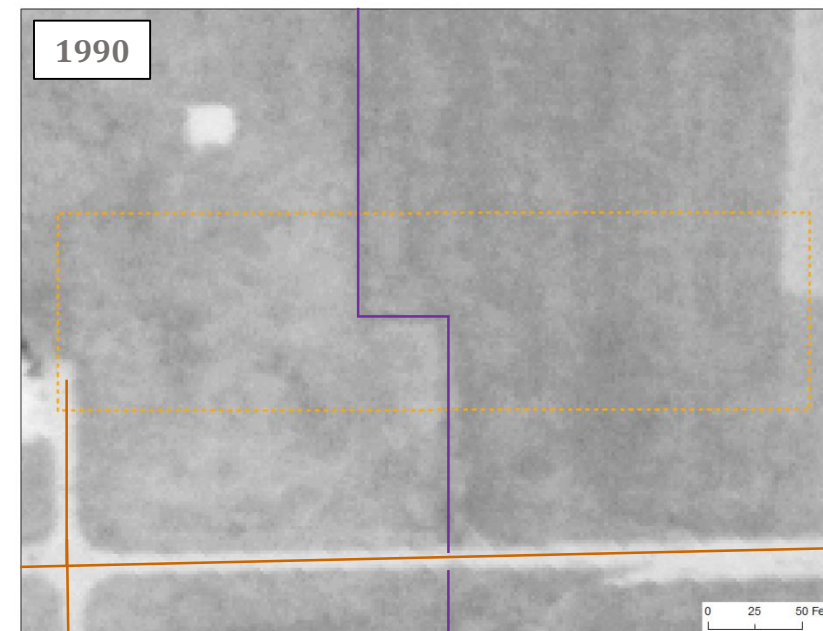
Photographic Analysis – Area 2



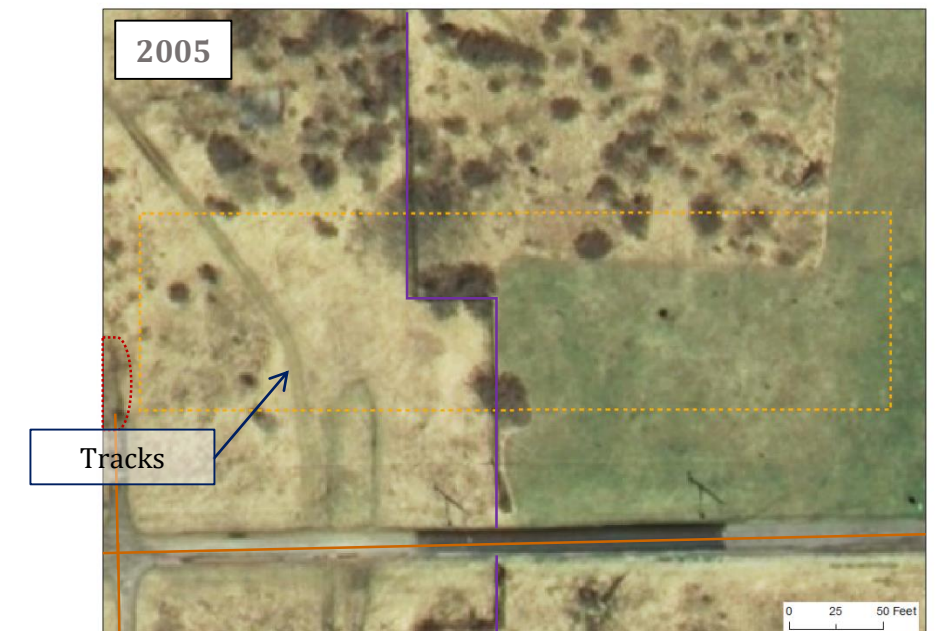
Distinct roads/tracks appear within Area 2 by 1975, but are no longer visible by 1976.



By 1982 the radome west of Area 2 has been removed, but the base remains.



There are no significant changes to this area between 1975 to 1990, however the poor resolution of these images makes it difficult to see any subtle changes that may have occurred.



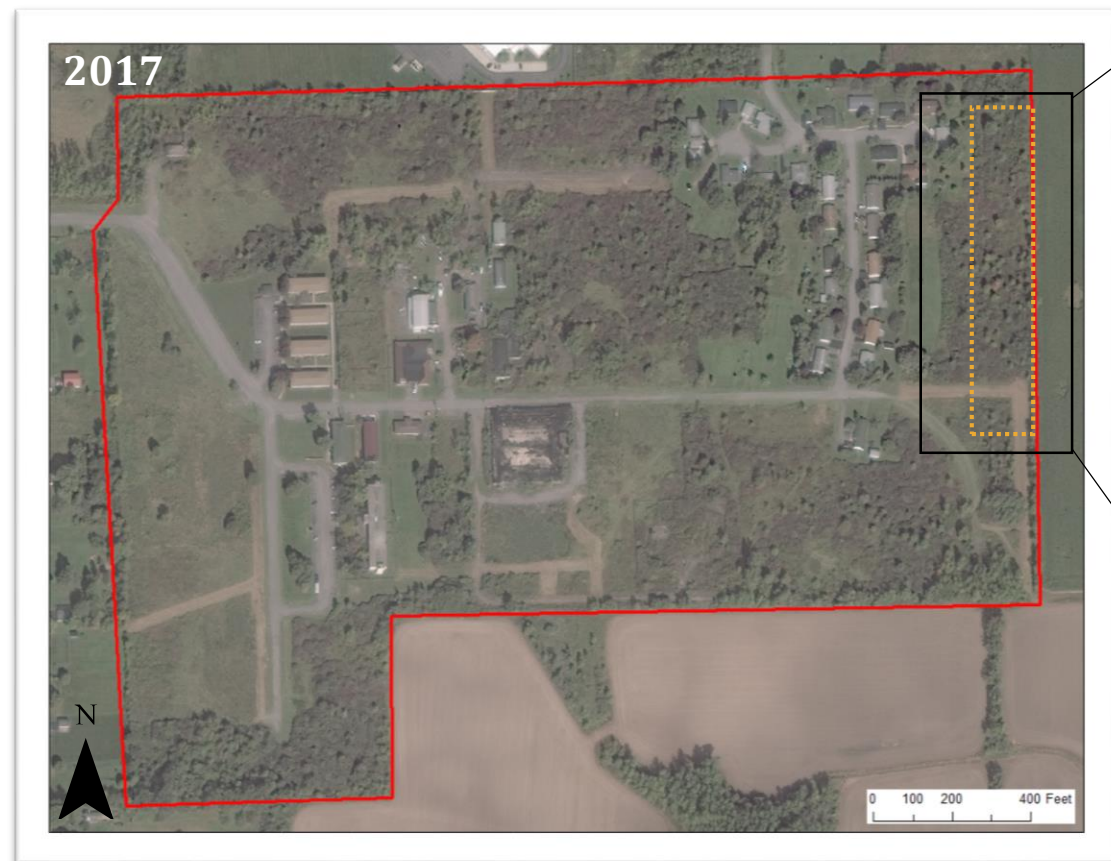
Land has been left dormant long enough that vegetation has regrown throughout most of Area 2. Vehicle tracks are visible going through Area 2. The area to the right of these tracks lacks vegetation re-growth. The section of green grass is part of the family housing area.

- Property Line
- Road
- Path
- Area 2
- Development
- Removal





Photographic Analysis – Area 3



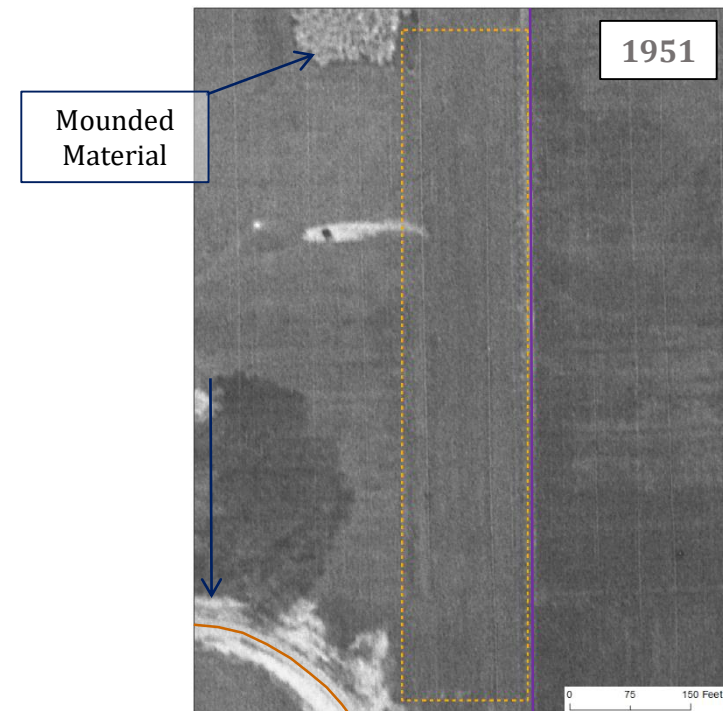
Source: Digital Globe

Area 3



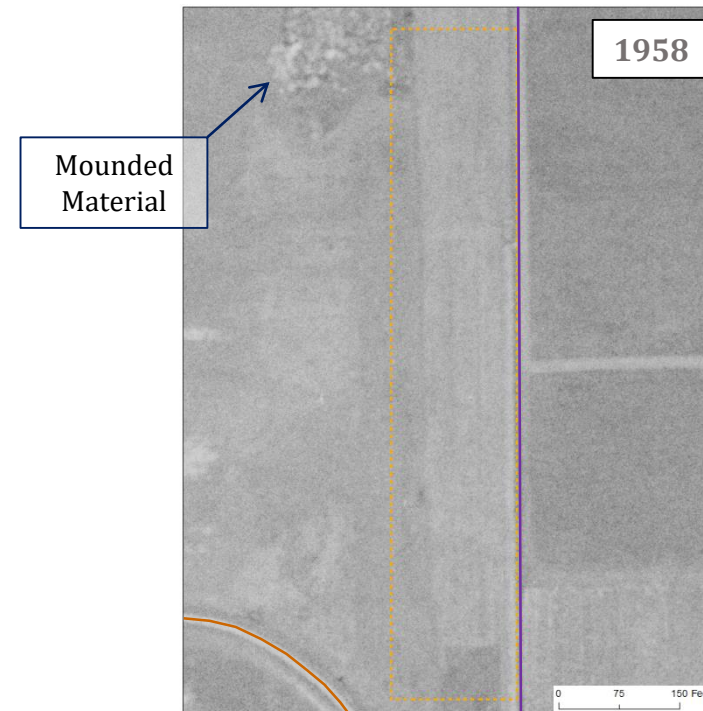


Photographic Analysis – Area 3



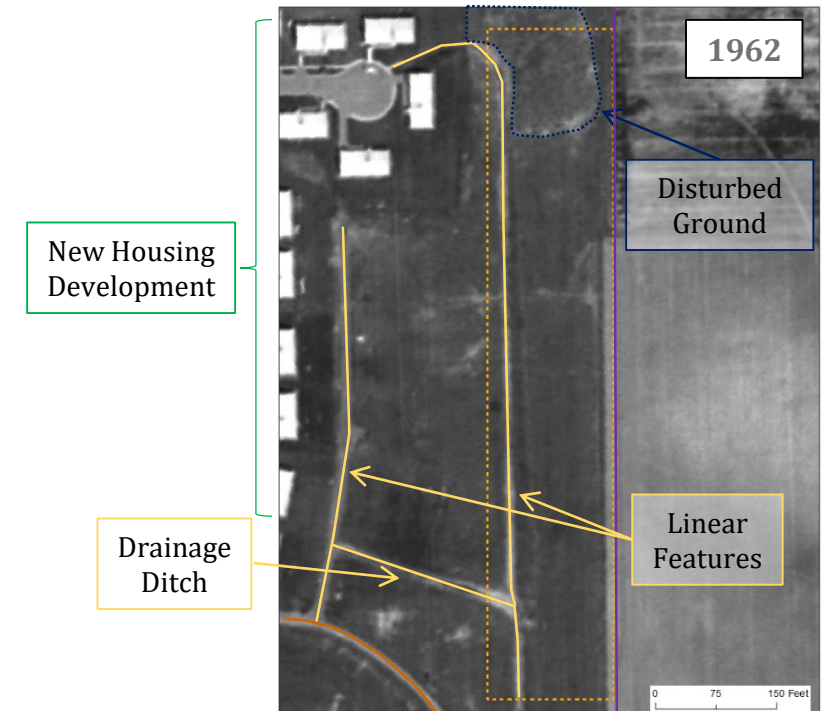
Mounded Material

The area west of Area 3 is primarily agricultural land.



Mounded Material

The area of mounded material north of Area 3 has changed shape and pattern, but is still evident in the 1958 photograph.



New Housing Development

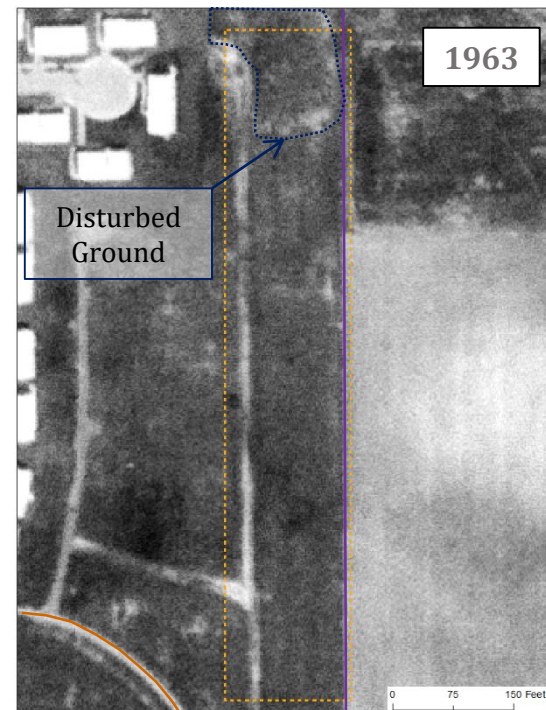
Disturbed Ground

Drainage Ditch

Linear Features

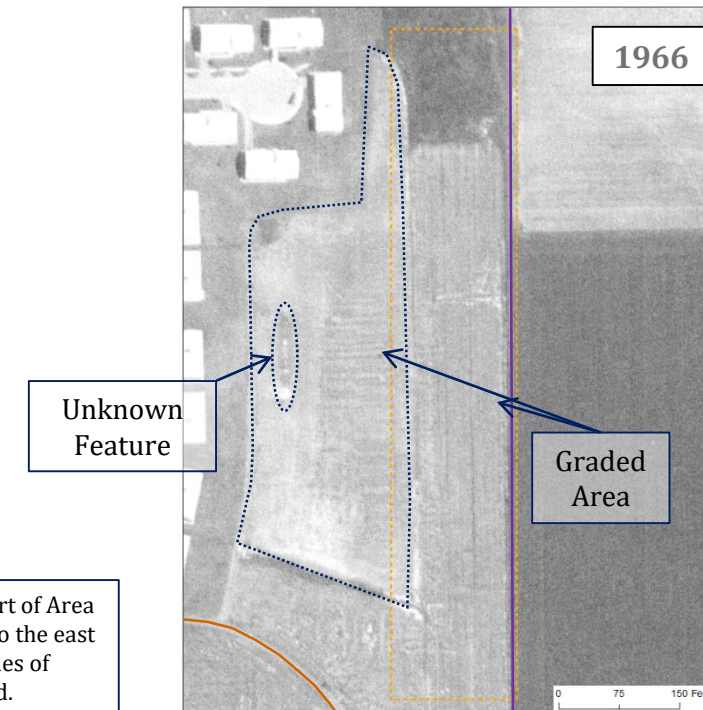
Between 1958 and 1962, a housing development was built to the West of Area 3. Many linear features were created during this time – possibly buried pipeline or a drainage ditch.

- Property Line
- Road
- Area 3



Disturbed Ground

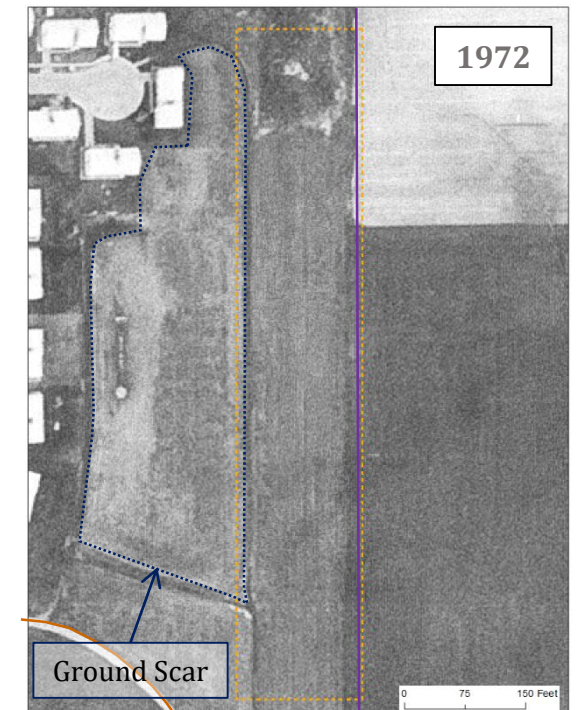
In 1963, the northern part of Area 3, like much of the area to the east of it, has many patches of disturbed ground.



Unknown Feature

Graded Area

The appearance of a graded area to the west of Area 3 is indicative of something possibly being buried. It could be associated with the unknown feature that is first observed in 1966.



Ground Scar

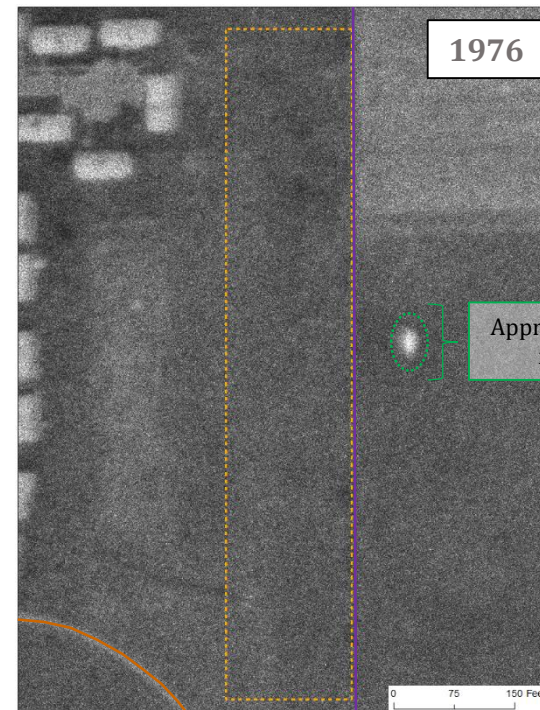




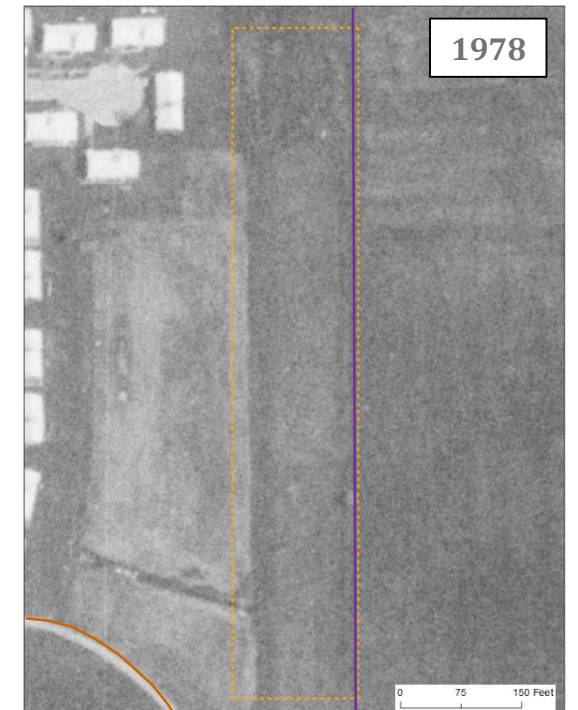
Photographic Analysis – Area 3



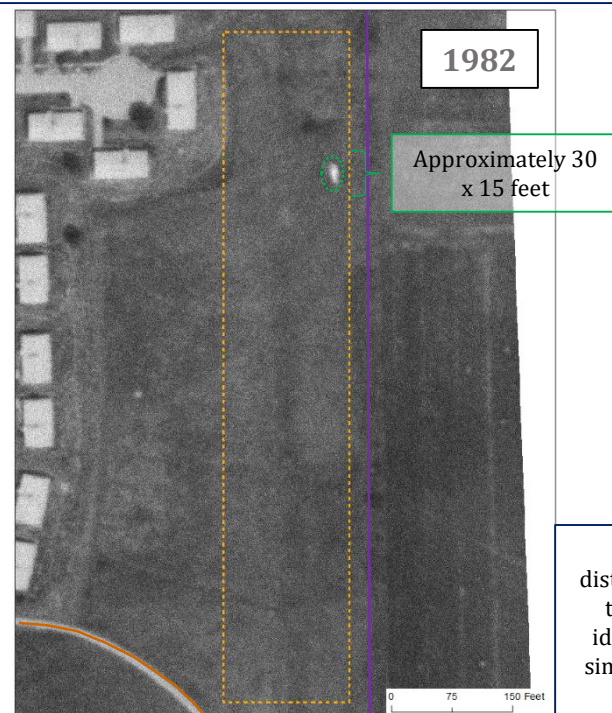
Activity appears to have occurred between the 1972 and 1975 photographs. Much of Area 3 has disturbed ground, including a small area of extreme disturbed ground measuring approximately 45 x 25 feet.



In 1976, neither areas of disturbed earth nor signs of activity are present in Area 3. The area noted above (measuring approximately 40 x 25 feet) appears to be off of the property, east of Area 3.



- Property Line
- Road
- Area 3

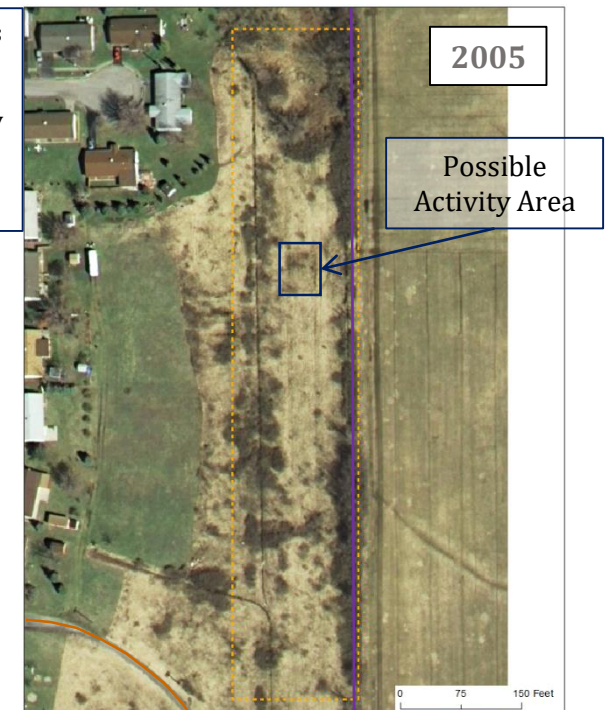


In 1982, an area of extreme disturbed ground appears around the same location as the area identified in 1975. The area is a similar shape but is considerably smaller.



By 1990, the northern part of Area 3 has been left dormant long enough for a large amount of vegetation to grow and take over the area. No evidence of activity is present in the remainder of Area 3.

By 2005, most of Area 3 has been overgrown with vegetation. There is a ground scar (approximately 40 x 50 feet) indicating an area of possible activity since 1990.

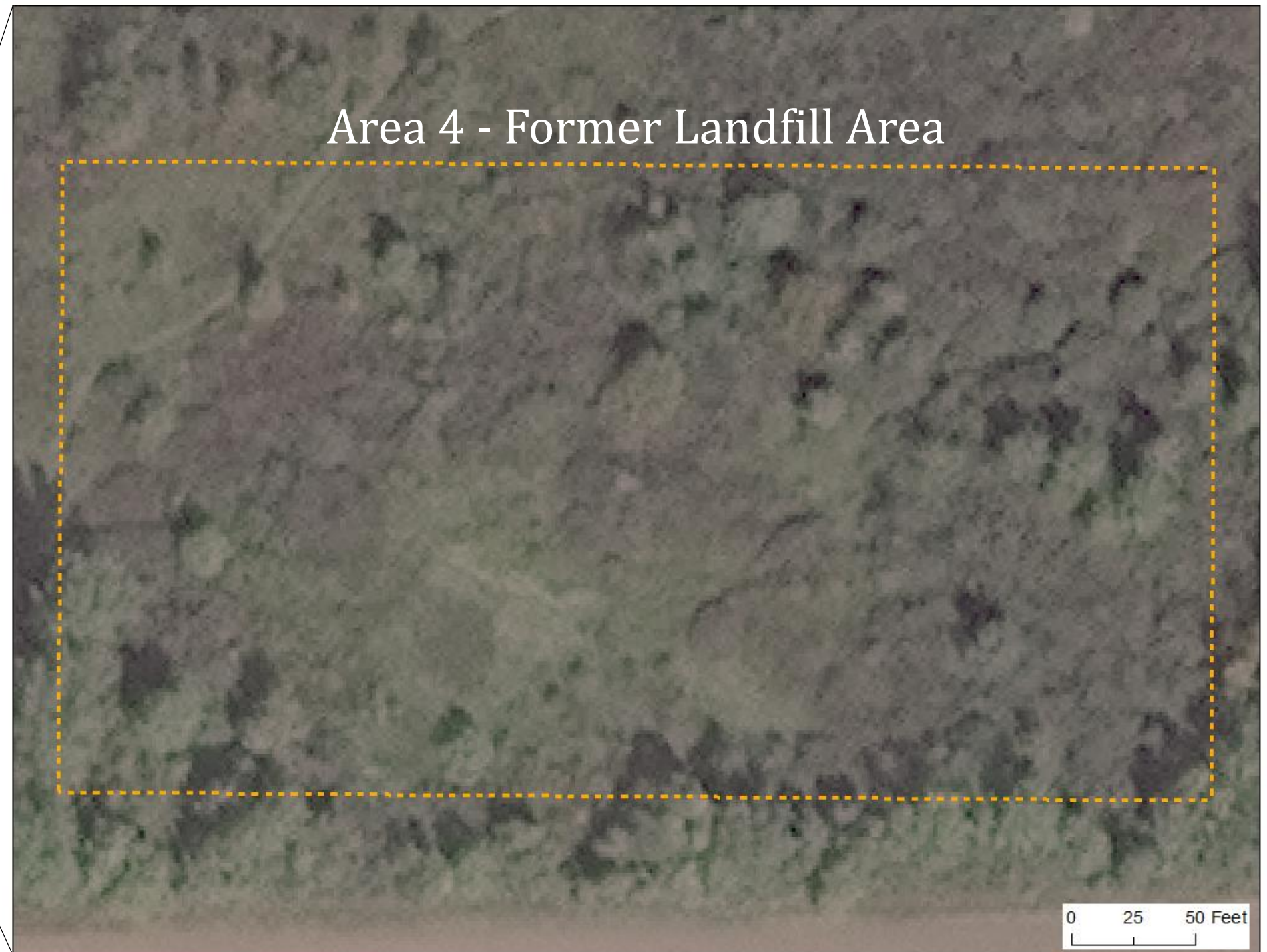




Photographic Analysis – Area 4

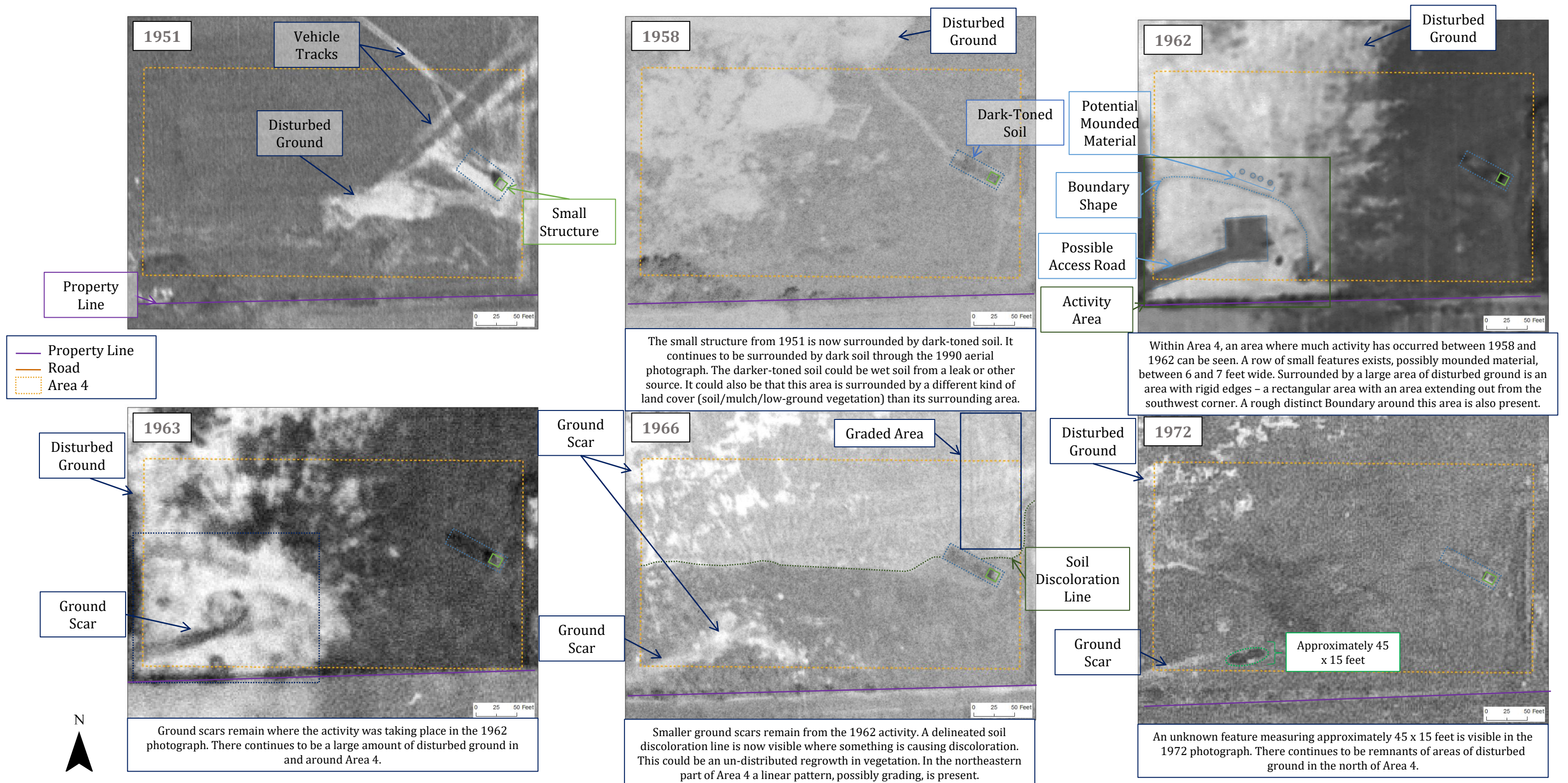


Source: Digital Globe



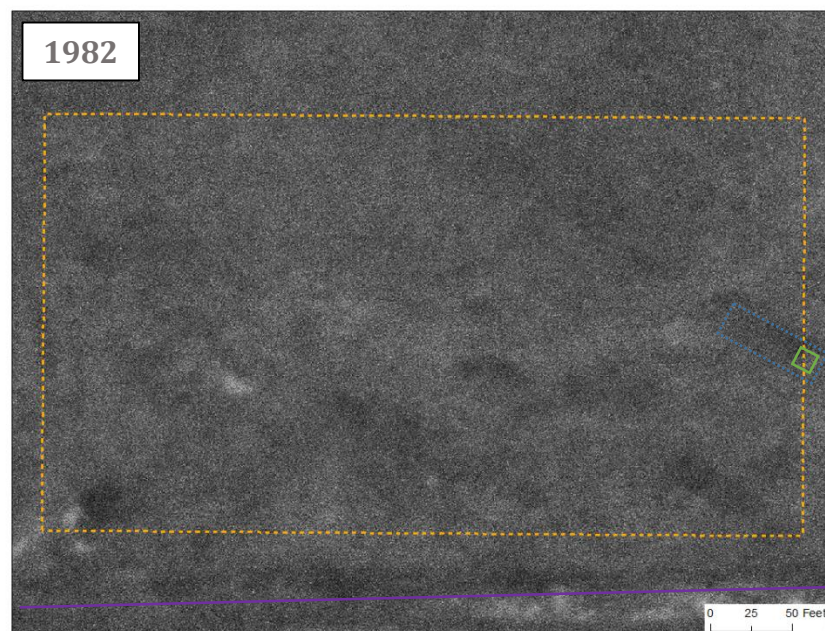
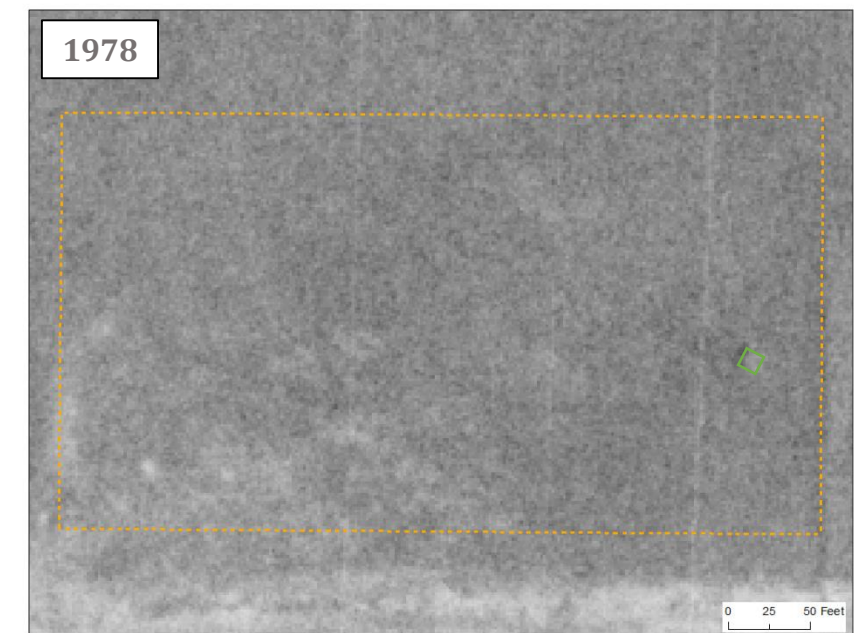
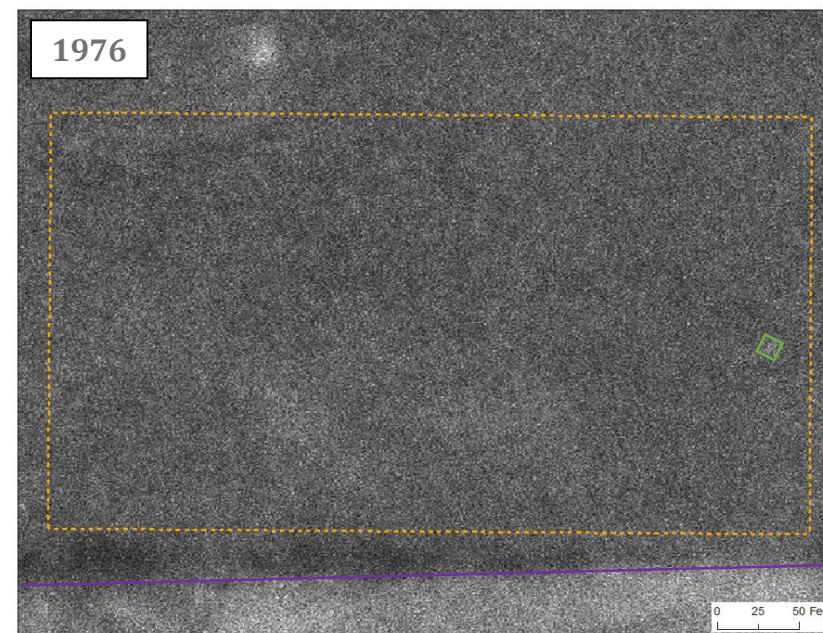
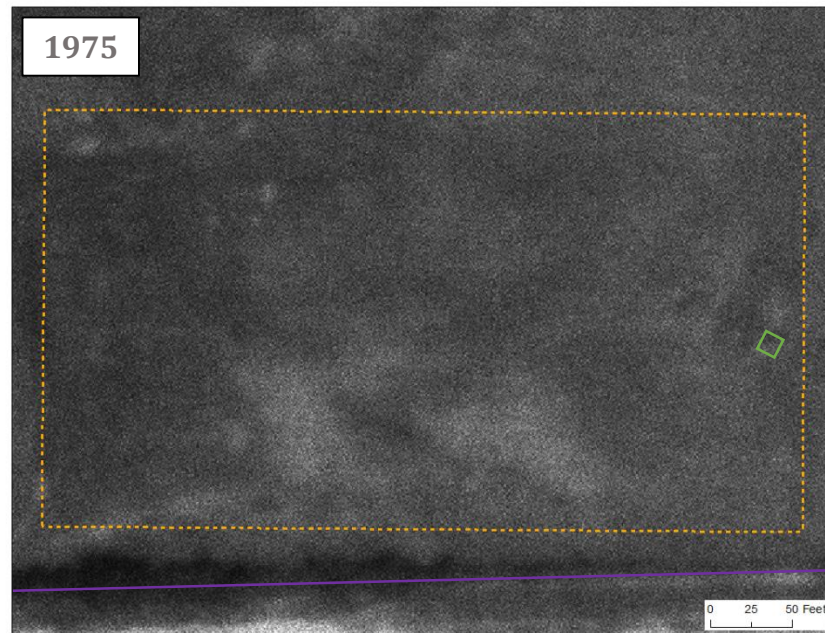


Photographic Analysis – Area 4

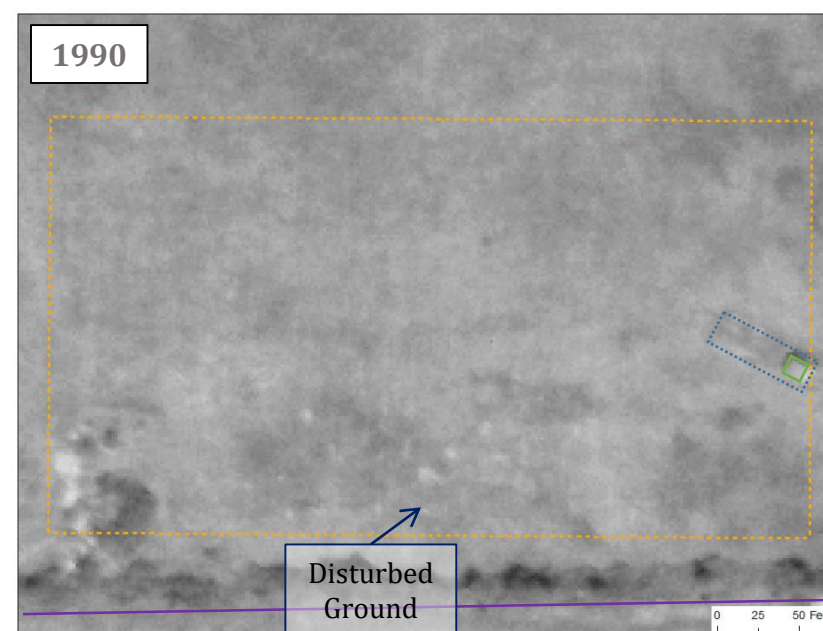




Photographic Analysis – Area 4

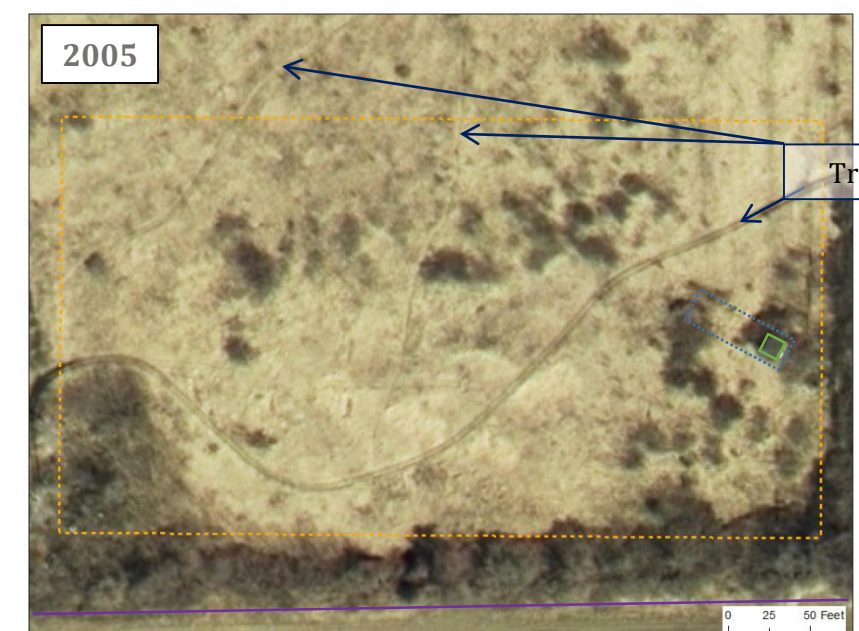


Little evidence of activity is apparent from the aerial photographs between 1975 and 1982.



Disturbed Ground

A collection of small areas of disturbed ground indicate a possible area of activity before or during 1990. These areas may be present prior to 1990, but the poor resolution of these images makes it difficult to see any subtle changes that may have occurred.

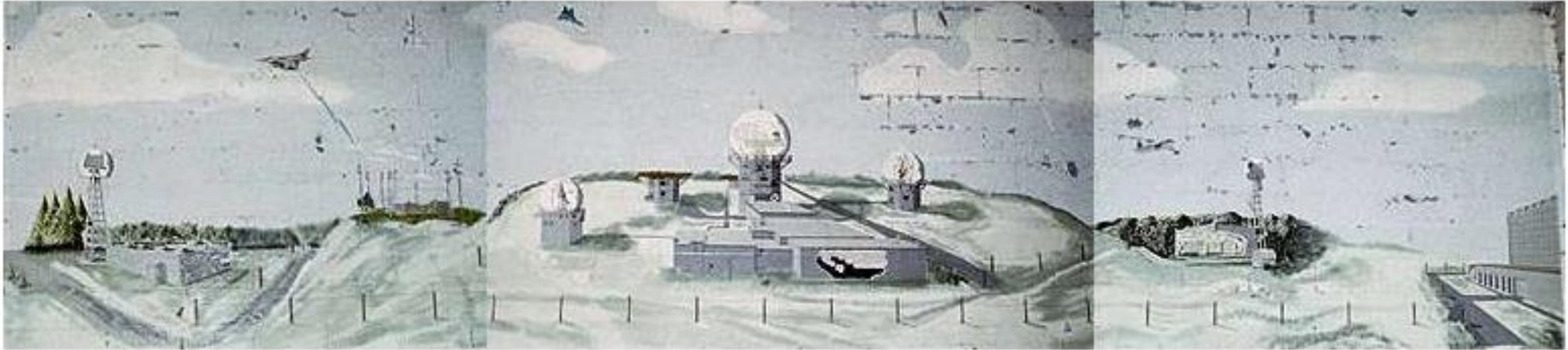
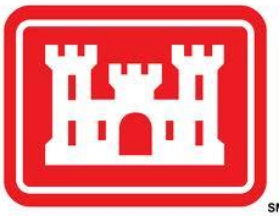


Tracks

By 2005 a cleared path can be seen, with distinct tire tracks, cutting east/west across Area 4. Faint paths can be seen running north/south, indicating they are no longer used often, if ever.

- Property Line
- Road
- Area 4





Source: National Air Defense Radar Museum

Potential Contaminants of Concern

Lockport AFS

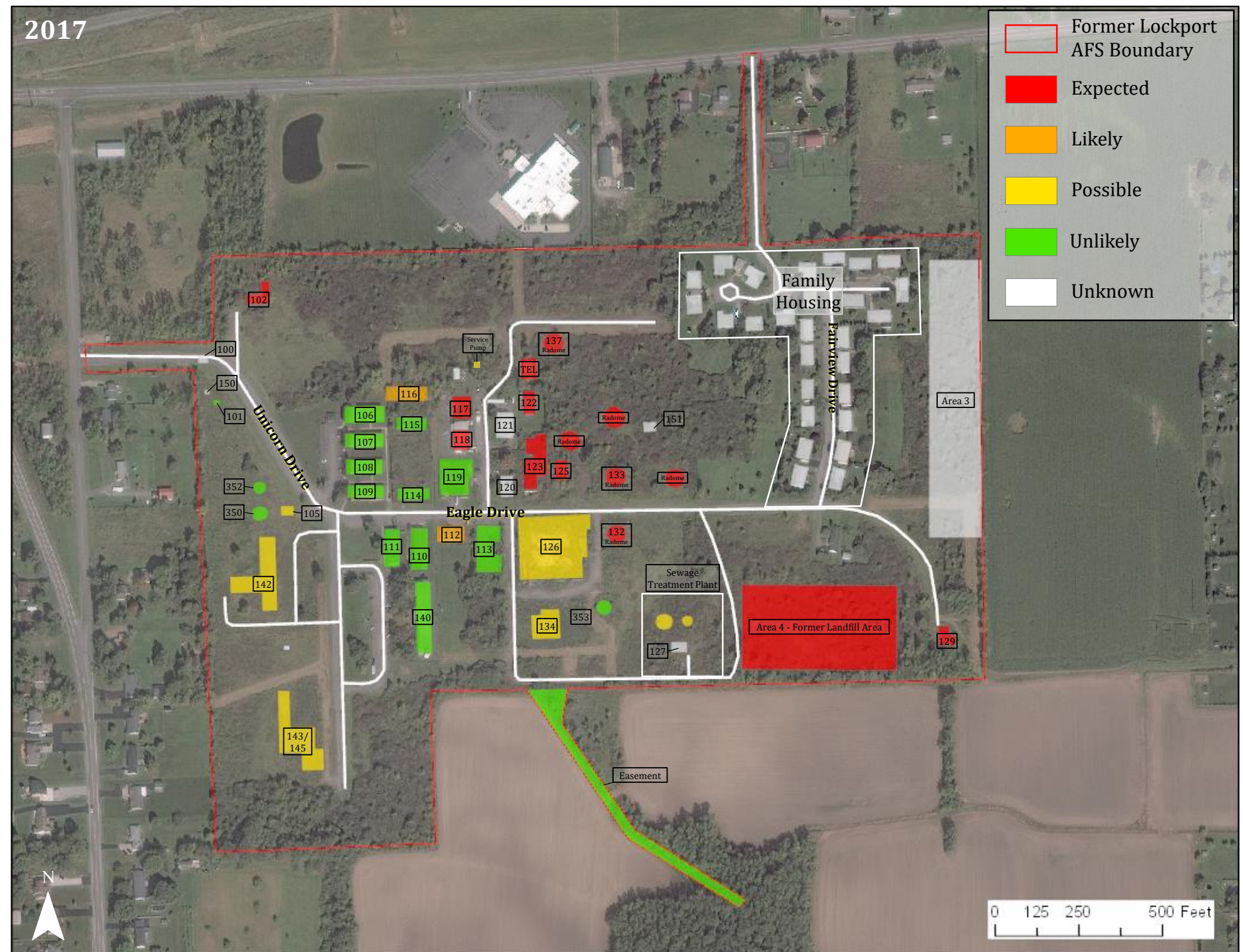
This section depicts buildings and facilities that potentially stored, used, and/or disposed of contaminants of concern (COCs). The common operations and investigation documents associating these COCs with building or facility operations and likelihood of residual contamination being present are listed on page 57.



Buildings and Facilities with Potential Chlorinated Volatile Organic Compounds (CVOC)

Building Number	Building Name	Building Number	Building Name
100	Unknown	123	Computer Building
101	Pump Shed	125	Generator Building
102	Dispensary	126	Concrete Air Raid Shelter; Missile Master
105	Garage/Shop	127	Part of Sewage Treatment Plan
106	Barracks	129	Main Radio Building
107	Barracks	132	Radome
108	Barracks	133	Radome Tower FPS-107
109	Barracks	134	Diesel Generating Station
110	Barracks	137	Radar Tower FPS-26
111	N.C.O Club	140	Barracks
112	Hobby Shop	142	Administration Building
113	Visiting Guest Housing	143/145	Bowling Alley & Gym
114	Day Room	150	Shed
115	Snack Bar	151	Unknown
116	Carpenter Shop	350	Water Tank
117	Heating Plant	352	Water Tank
118	Motor Pool (Garage)	353	Water Tank
119	Dining Hall	TEL	Telephone Building
120	Unknown		
121	Storage		
122	Plumbing Shop		

Source: Maps from: National Air Defense Radar Museum; TVGA Consultants, 2009



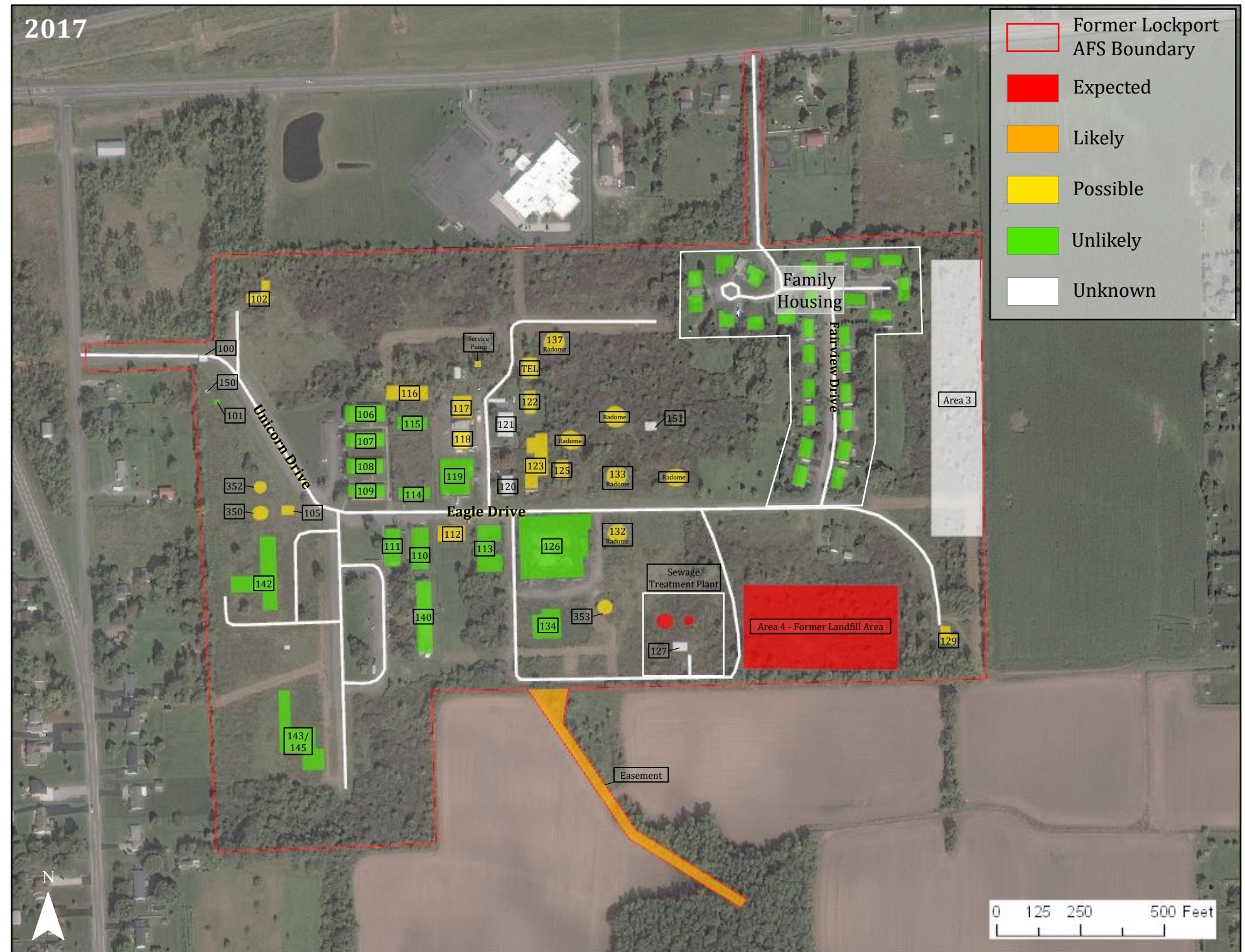
Photographic Source: Digital Globe

September 22, 2017



Buildings and Facilities with Potential Heavy Metals

Building Number	Building Name	Building Number	Building Name
100	Unknown	123	Computer Building
101	Pump Shed	125	Generator Building
102	Dispensary	126	Concrete Air Raid Shelter; Missile Master
105	Garage/Shop	127	Part of Sewage Treatment Plan
106	Barracks	129	Main Radio Building
107	Barracks	132	Radome
108	Barracks	133	Radome Tower FPS-107
109	Barracks	134	Diesel Generating Station
110	Barracks	137	Radar Tower FPS-26
111	N.C.O Club	140	Barracks
112	Hobby Shop	142	Administration Building
113	Visiting Guest Housing	143/145	Bowling Alley & Gym
114	Day Room	150	Shed
115	Snack Bar	151	Unknown
116	Carpenter Shop	350	Water Tank
117	Heating Plant	352	Water Tank
118	Motor Pool (Garage)	353	Water Tank
119	Dining Hall	TEL	Telephone Building
120	Unknown	Source: Maps from: National Air Defense Radar Museum; TVGA Consultants, 2009	
121	Storage		
122	Plumbing Shop		



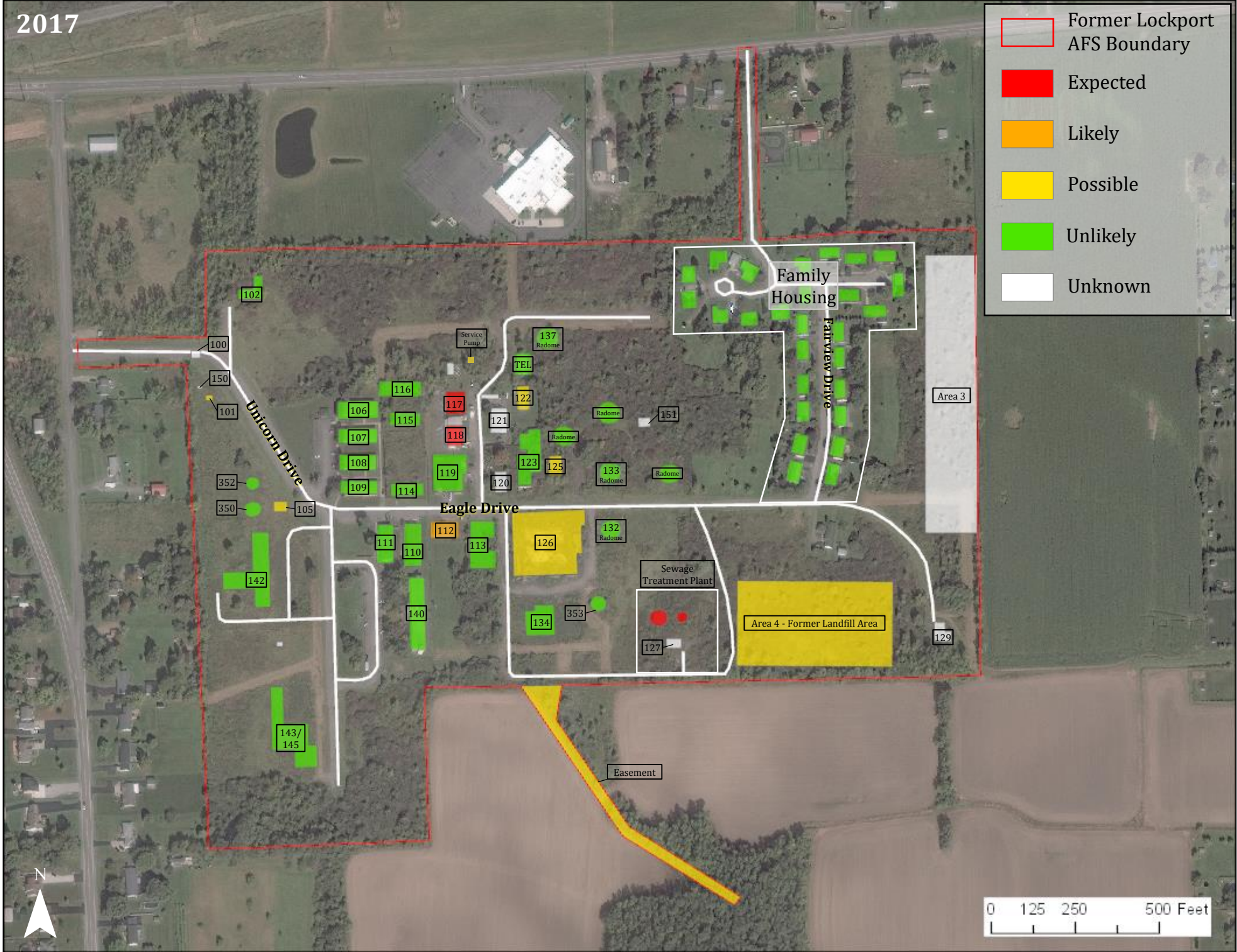
Photographic Source: Digital Globe

September 22, 2017



Buildings and Facilities with Potential Polycyclic Aromatic Hydrocarbon (PAH)

Building Number	Building Name	Building Number	Building Name
100	Unknown	123	Computer Building
101	Pump Shed	125	Generator Building
102	Dispensary	126	Concrete Air Raid Shelter; Missile Master
105	Garage/Shop	127	Part of Sewage Treatment Plan
106	Barracks	129	Main Radio Building
107	Barracks	132	Radome
108	Barracks	133	Radome Tower FPS-107
109	Barracks	134	Diesel Generating Station
110	Barracks	137	Radar Tower FPS-26
111	N.C.O Club	140	Barracks
112	Hobby Shop	142	Administration Building
113	Visiting Guest Housing	143/145	Bowling Alley & Gym
114	Day Room	150	Shed
115	Snack Bar	151	Unknown
116	Carpenter Shop	350	Water Tank
117	Heating Plant	352	Water Tank
118	Motor Pool (Garage)	353	Water Tank
119	Dining Hall	TEL	Telephone Building
120	Unknown	Source: Maps from: National Air Defense Radar Museum; TVGA Consultants, 2009	
121	Storage		
122	Plumbing Shop		



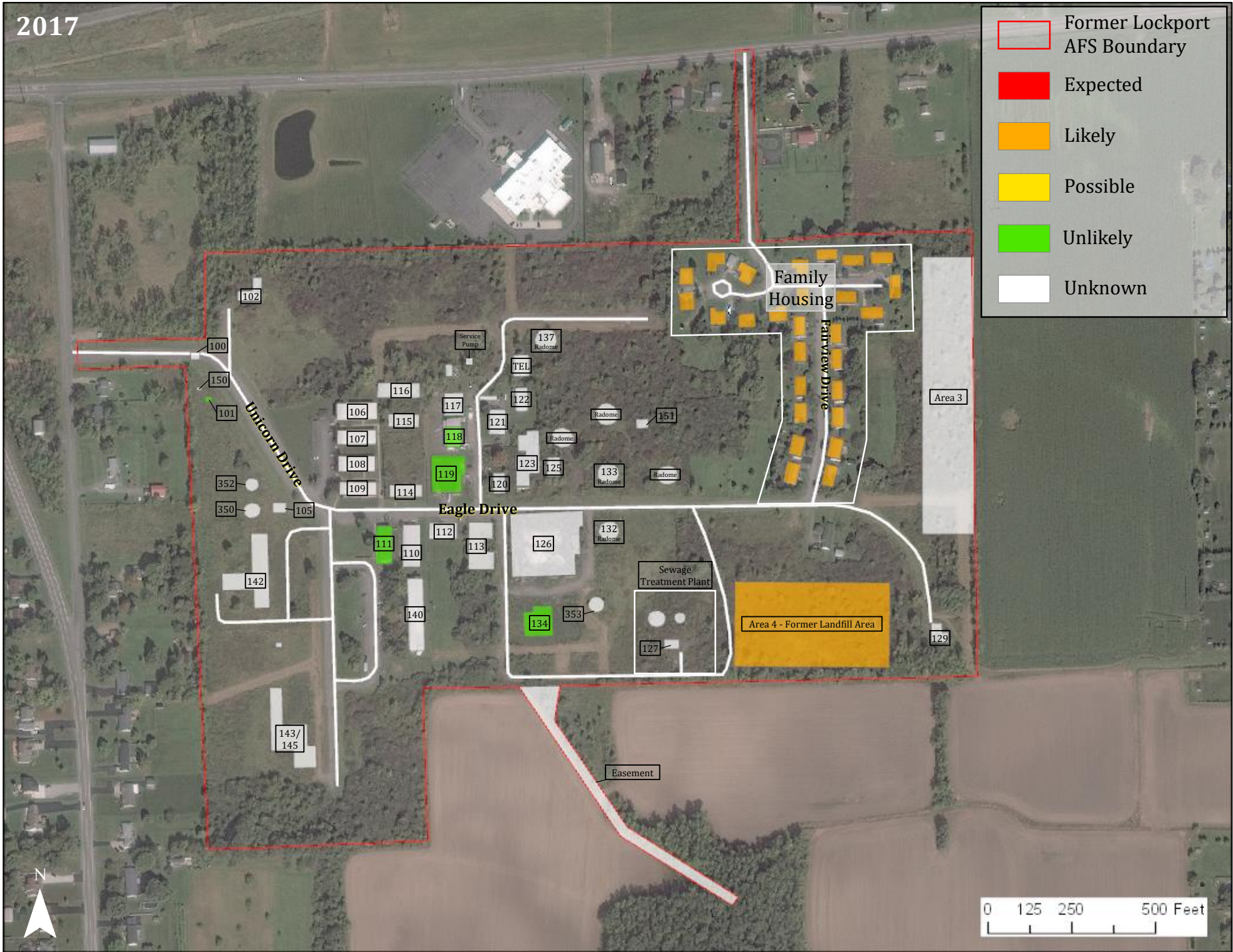
Photographic Source: Digital Globe

September 22, 2017



Buildings and Facilities with Potential Pesticides and/or Herbicides

Building Number	Building Name	Building Number	Building Name
100	Unknown	123	Computer Building
101	Pump Shed	125	Generator Building
102	Dispensary	126	Concrete Air Raid Shelter; Missile Master
105	Garage/Shop	127	Part of Sewage Treatment Plan
106	Barracks	129	Main Radio Building
107	Barracks	132	Radome
108	Barracks	133	Radome Tower FPS-107
109	Barracks	134	Diesel Generating Station
110	Barracks	137	Radar Tower FPS-26
111	N.C.O Club	140	Barracks
112	Hobby Shop	142	Administration Building
113	Visiting Guest Housing	143/145	Bowling Alley & Gym
114	Day Room	150	Shed
115	Snack Bar	151	Unknown
116	Carpenter Shop	350	Water Tank
117	Heating Plant	352	Water Tank
118	Motor Pool (Garage)	353	Water Tank
119	Dining Hall	TEL	Telephone Building
120	Unknown	Source: Maps from: National Air Defense Radar Museum; TVGA Consultants, 2009	
121	Storage		
122	Plumbing Shop		



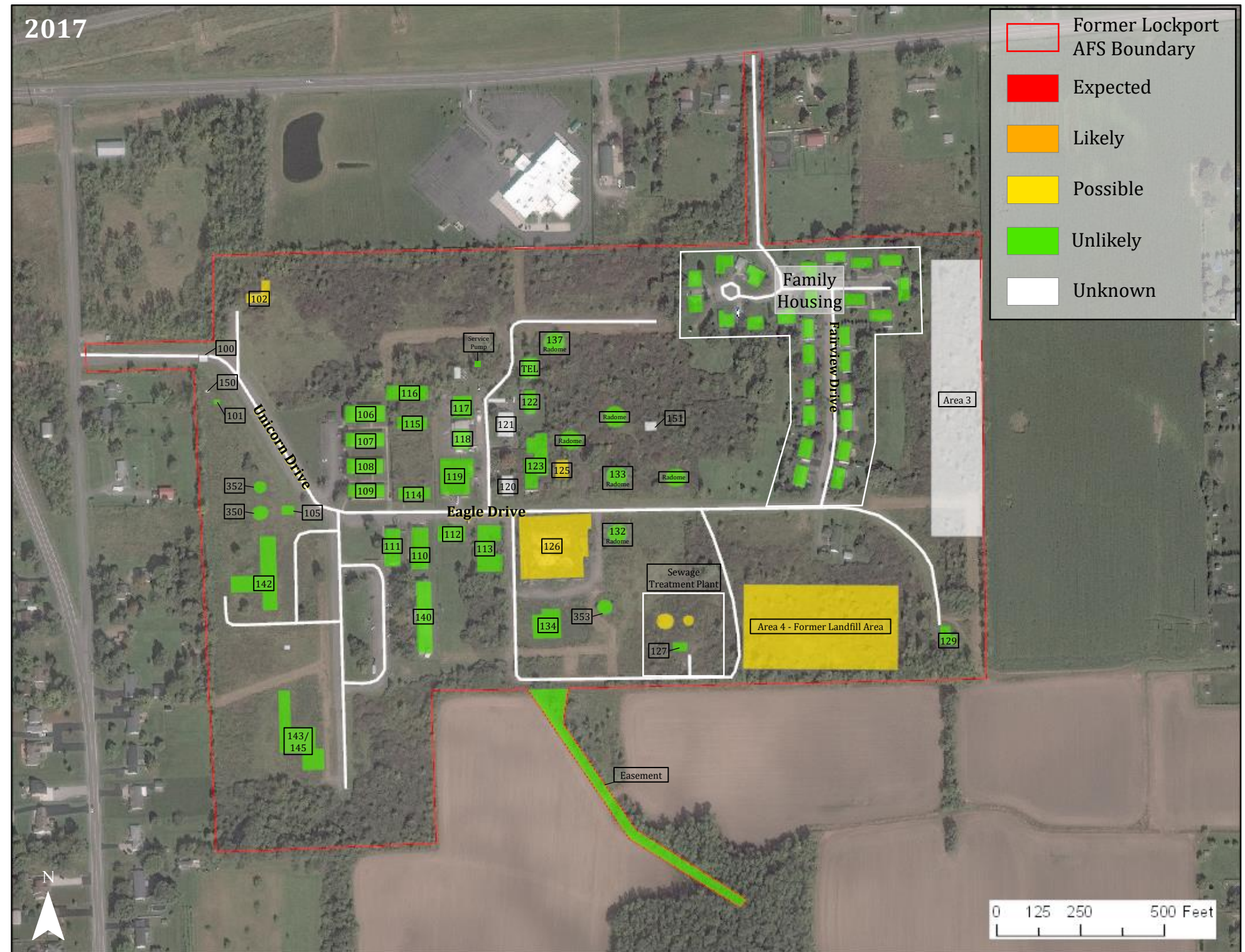
Photographic Source: Digital Globe

September 22, 2017



Buildings and Facilities with Potential Polychlorinated Biphenyls (PCBS) Dioxin & Furan

Building Number	Building Name	Building Number	Building Name
100	Unknown	123	Computer Building
101	Pump Shed	125	Generator Building
102	Dispensary	126	Concrete Air Raid Shelter; Missile Master
105	Garage/Shop	127	Part of Sewage Treatment Plan
106	Barracks	129	Main Radio Building
107	Barracks	132	Radome
108	Barracks	133	Radome Tower FPS-107
109	Barracks	134	Diesel Generating Station
110	Barracks	137	Radar Tower FPS-26
111	N.C.O Club	140	Barracks
112	Hobby Shop	142	Administration Building
113	Visiting Guest Housing	143/145	Bowling Alley & Gym
114	Day Room	150	Shed
115	Snack Bar	151	Unknown
116	Carpenter Shop	350	Water Tank
117	Heating Plant	352	Water Tank
118	Motor Pool (Garage)	353	Water Tank
119	Dining Hall	TEL	Telephone Building
120	Unknown	Source: Maps from: National Air Defense Radar Museum; TVGA Consultants, 2009	
121	Storage		
122	Plumbing Shop		



Photographic Source: Digital Globe

September 22, 2017



Potential Contaminants of Concern References

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Cartographic Sources

Date	Title	Scale	Source
1948	Tonawanda Quadrangle New York 15-minute topographic	1:62,500	USGS
1949	Cambria Quadrangle New York-Niagara Co. 7.5 minute topographic	1:24,000	USGS
1956*	Lockport Air Force Station Real Estate		USACE: USACE-C02NY086801_01.04_0002_p
1965	Cambria Quadrangle New York-Niagara Co. 7.5 minute topographic	1:24,000	USGS
1972 July*	Lockport Air Force, Master Plan		USACE: C02NY086801_01.04_0001_p
1972 September*	Lockport Air Force Station Land Utilization Map		Department of the Air Force Installation Survey Report of Lockport Air Force Station 30 August – 1 September 1972 (NARA)
1977 May*	Lockport Air Force Station		Information Brochure 763 rd Radar Squadron May 1977 (National Air Defense Radar Museum)
1979 March*	Lockport AFS -NY	1:24,000	Phase I Environmental Site Assessment Report for Former Lockport Air Force Base (USACE: C02NY086801_01.06_0003_a)
1980	Cambria Quadrangle New York-Niagara Co. 7.5 minute topographic	1:25,000	USGS
1984	Lockport New York Quadrangle 30x60 minute topographic	1:100,000	USGS
1984 July	Real Estate Lockport Air Force Station		USACE: C02NY086801_01.04_0002_p
1991 January	Lockport Air Force Station Site Investigation and Sampling Plan	1:12,000	USACE: C02NY086801_02.04_0001_a
1997 September*	Former Cambria Nike Base Town of Cambria Site Utilities Map		Provided by U.S. Army Corps of Engineers, New England District
Unknown	Lockport Air Force Station		Phase I Environmental Site Assessment Report for Former Lockport Air Force Base (USACE: C02NY086801_01.06_0003_a)

NARA: National Archives at College Park

USACE: U.S. Army Corps of Engineers

USGS: U.S. Geological Survey

*Map can be viewed in appendix



Sources of Information and Data

Archival Sources:

Imagery:

National Archives at College Park, Maryland, Cartographic Branch, Record Groups: 145, 263, 373,

National Archives at College Park, Maryland, Still Pictures Branch, RG 342-B, Entry 06-13 Box 935

Textual:

National Archives at College Park, Maryland, Textual Records Branch, RG 121, Entry UD-WW/5, FRC Box 2. (Department of the Air Force. (1972). Installation Survey Report of Lockport Air Force Station 30 August – 1 September 1972.)

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 - Palazzetti, A. (c.a. 1976-77). Radar Squad Ready in Case of Disaster.
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- LaFalce, J. (2000) Letter Re: Request for District to Make Remediation a Priority. (USACE: C02NY086801_09.01_0010_a)
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Other Maps & Imagery:

U.S. Geological Survey

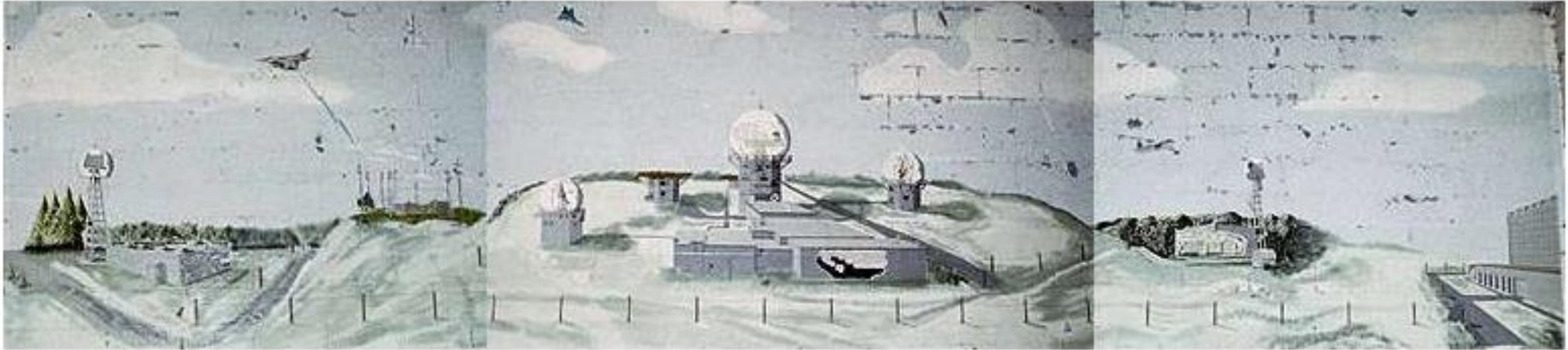
U.S. Department of Agriculture



Repositories Contacted by AGC

Various repositories located outside of the National Capital Area were contacted by AGC regarding information and records (photographs, maps, and textual records) about the former Lockport Air Force Station in New York. These repositories were not visited, but remarks about their responses are shown below.

Contact	Remarks
Buffalo Library	Does not hold any historical data related to the area of interest.
Lockport Public Library	Does not hold any historical data related to the area of interest.
New York State Archives	Possible records located here, including aerial photographs with possible coverage of the area of interest.
Niagara County Historian	Has also been doing research on this site. Checked photo files, newspaper archive, and files on military bases and did not come up with any records on the area of interest.
Niagara County Historical Society	Does not hold any historical data related to the area of interest.
Old Fort Niagara	Does not hold any historical data related to the area of interest.
Syracuse University	Aerial photographs in collection are duplicates of those collected from USDA in 1966.
SUNY College of Environmental Science and Forestry	No aerial photographs of Niagara County in their collection.
Town of Cambria Historian	No response after multiple attempts at contacting.
University of Buffalo	Aerial photographs in collection are duplicates of those collected from USDA in 1966 and 1978.

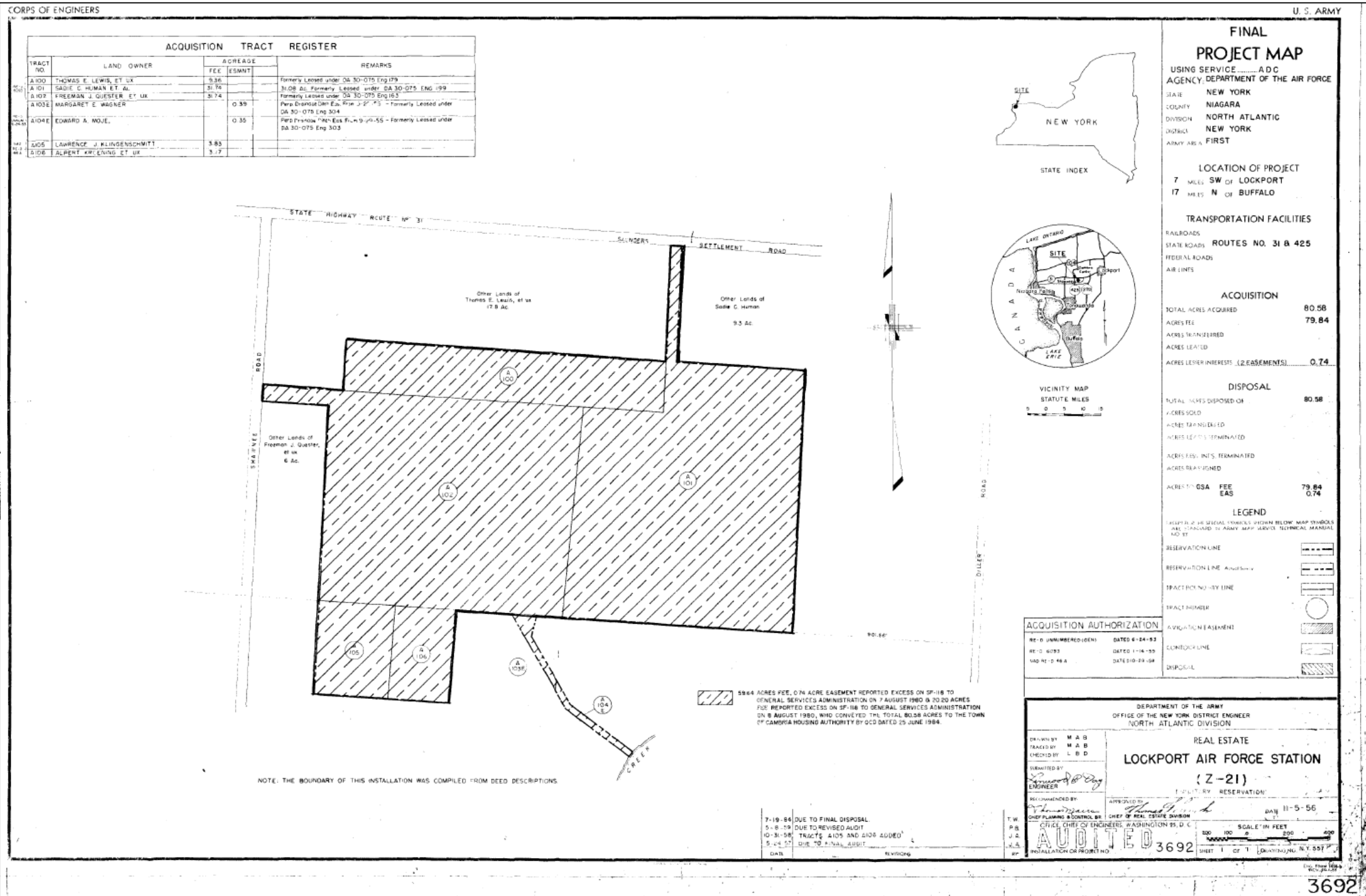


Photographic Source: National Air Defense Radar Museum

Appendix: Select Maps of Lockport AFS



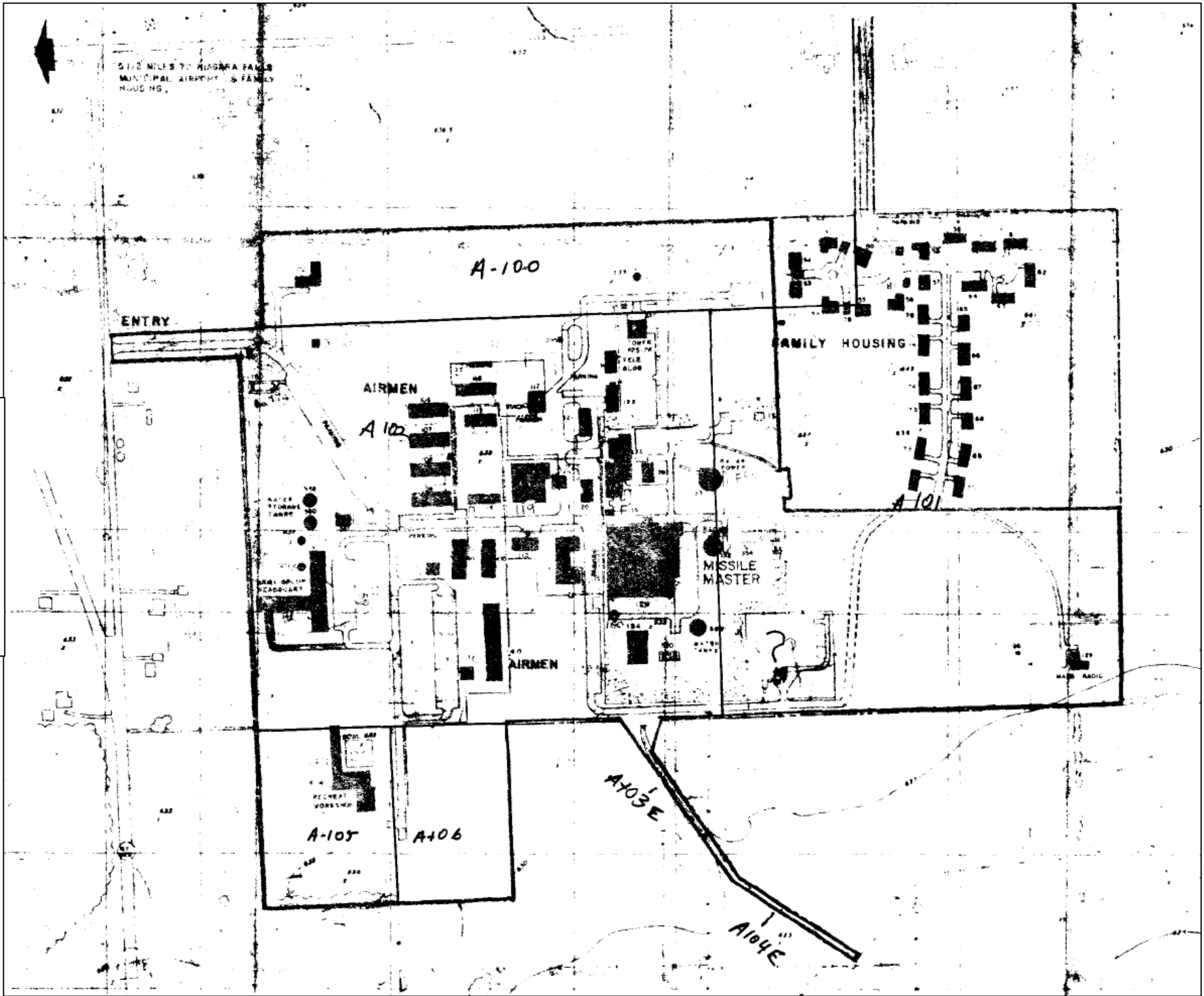
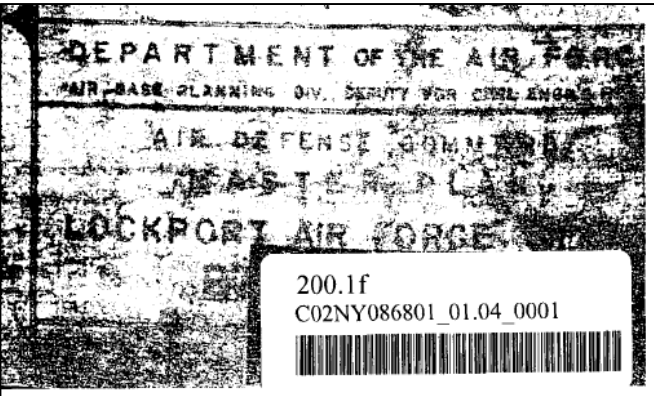
Lockport Air Force Station Real Estate Map (1956)



Source: USACE Project Information and Retrieval System for FUDS (FUDS PIRS): C02NY0868 / LOCKPORT AFS



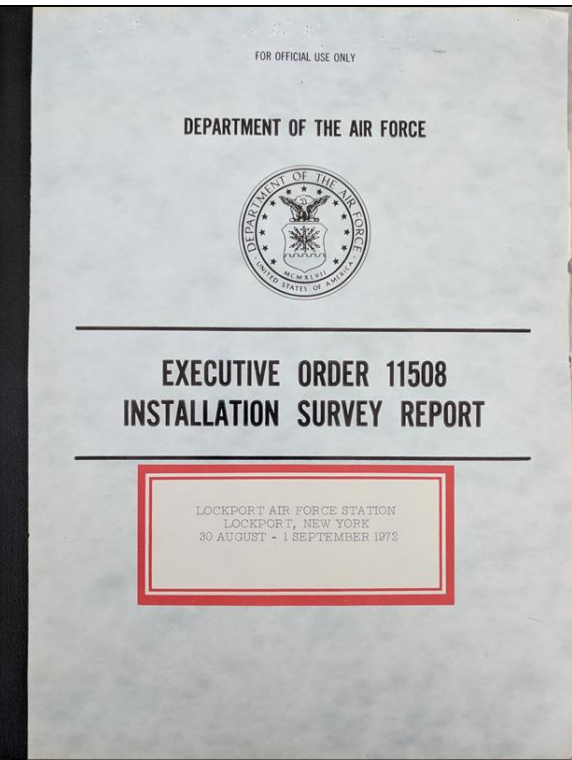
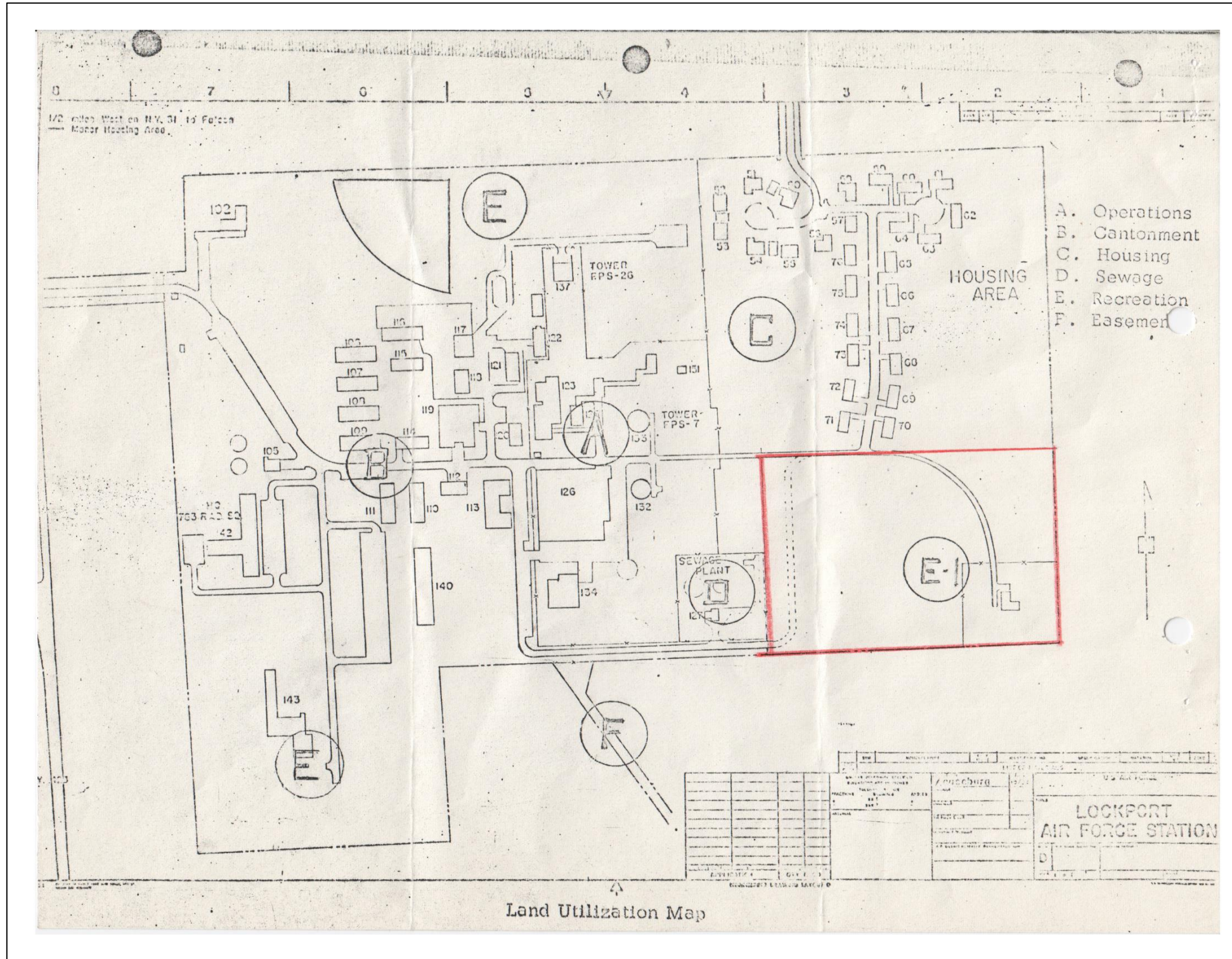
Lockport Air Force Station Map (1972)



Source: USACE Project Information and Retrieval System for FUDS (FUDS PIRS): C02NY0868 / LOCKPORT AFS



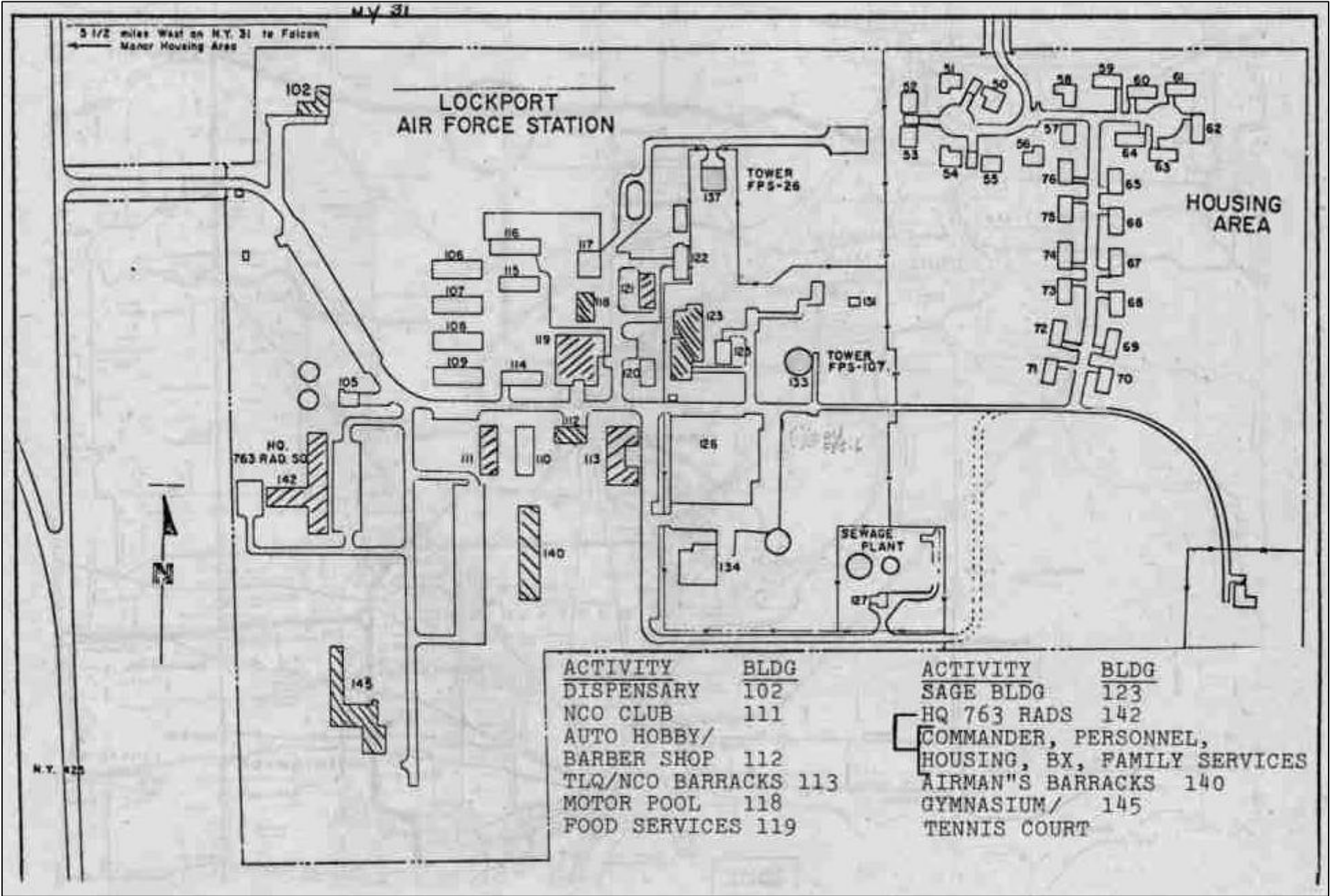
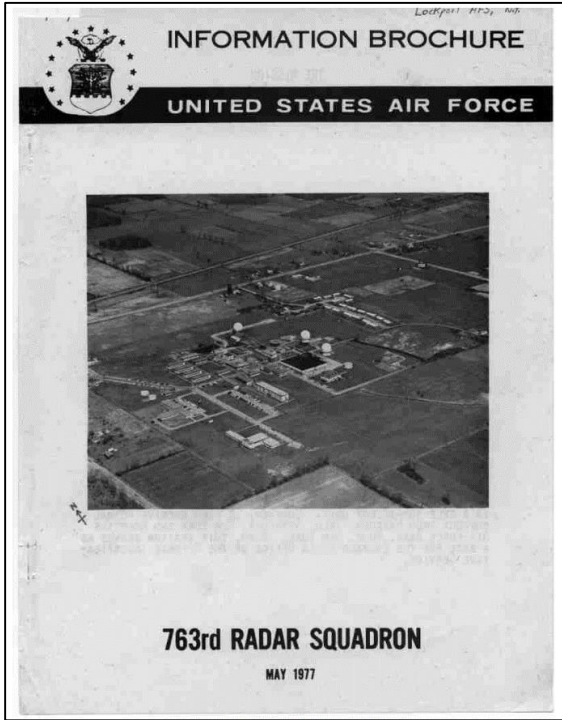
Land Utilization Map(1972)



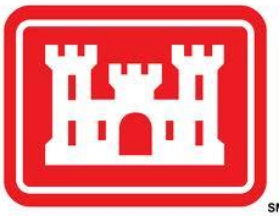
Source: National Archives at College Park, Maryland, Textual Records branch, RG 121, Entry UD-WW/5, FRC Box 2. (Department of the Air Force 1972 Installation Survey Report of Lockport Air Force Station)



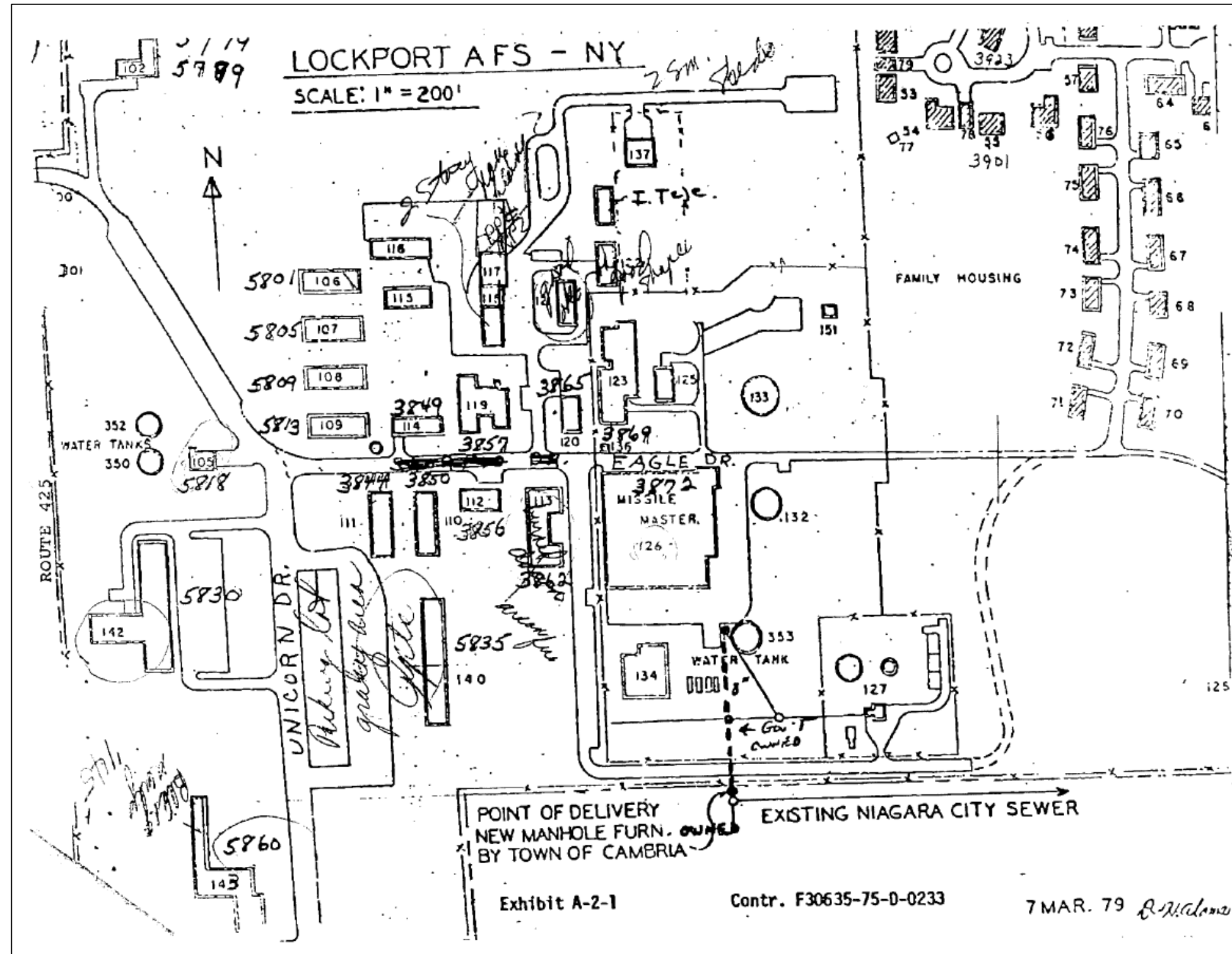
Lockport Air Force Station Map (1977)



Source: National Air Defense Radar Museum (USAF Information Brochure 763rd Radar Squadron, May 1977)



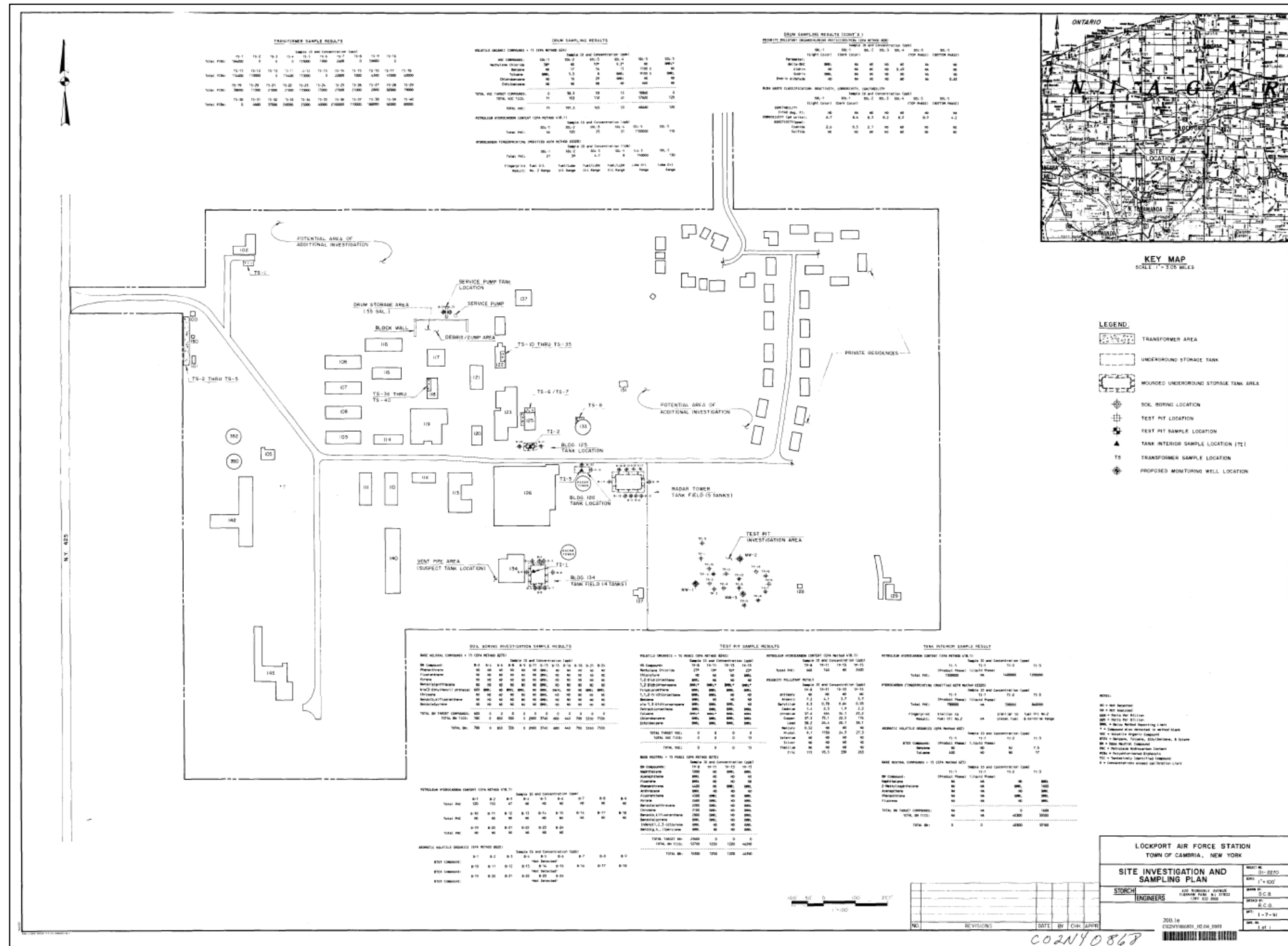
Lockport Air Force Station Map (1979)



Source: USACE Project Information and Retrieval System for FUDS (FUDS PIRS): C02NY0868 / LOCKPORT AFS



Lockport Air Force Station Site Investigation and Sampling Plan (1991)

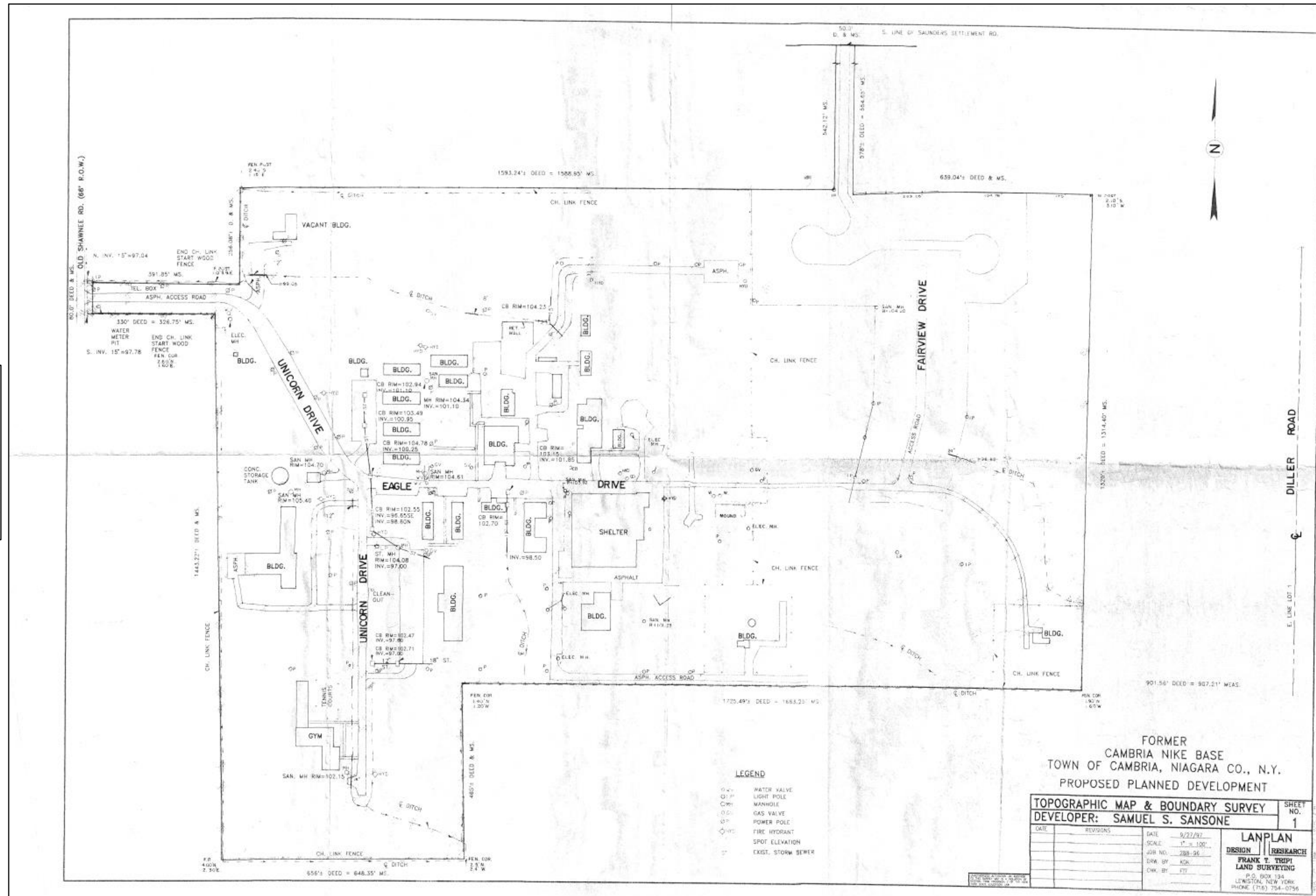


Source: USACE Project Information and Retrieval System for FUDS (FUDS PIRS): C02NY0868 / LOCKPORT AFS (TVGA Consultants (2009))



Former Cambria Nike Base Town of Cambria Proposed Planned Development (1997)

FORMER CAMBRIA NIKE BASE TOWN OF CAMBRIA, NIAGARA CO., N.Y. PROPOSED PLANNED DEVELOPMENT			
TOPOGRAPHIC MAP & BOUNDARY SURVEY		SHEET NO. 1	
DEVELOPER: SAMUEL S. SANSONE			
DATE	REVISIONS	DATE	9/27/97
		SCALE	1" = 100'
		JOB NO.	288-96
		DRW. BY	KGR
		CHK. BY	FTT
		LANPLAN	
		DESIGN	
		RESEARCH	
		FRANK T. TRIPI	
		LAND SURVEYING	
		P.O. BOX 194	
		LEWISTON, NEW YORK	
		PHONE (716) 754-0756	



Source: Provided by U.S. Army Corps of Engineers, New England District



Glossary



Commonly Used HPA Feature Definitions

Access Road A paved or unpaved route of vehicular access.

Activity Area An area depicting various ground disturbances (to include any of: disturbed ground, cleared area, ground scars, etc.) related to military usage including possible waste disposal operations.

Bare Area An unvegetated ground surface; may be areas which have not revegetated at a normal rate.

Berm/Dike A man-made ridge or embankment, constructed of natural or man-made materials, often used to prevent movement of materials, usually liquids.

Building Relatively permanent, usually box-like and roofed, man-made structure.

Cleared Area An area from which man has removed the trees, shrubs or other natural vegetative cover.

Container Something such as a can, box, bucket or barrel; which is used to hold, store and/or transport materials. Drums and tanks are subclasses of container.

Containment Area/Structure An area designed to restrain the movement of, or impound liquid, semi-liquid or dry unconsolidated material. Impoundments are a subclass of containment areas.

Debris The scattered remains of anything broken or destroyed.

Depression A sunken surface area.

Disturbed Ground A rough ground surface which has been cleared, overturned, dug up, filled and/or changed from the immediate environs in some manner for an unknown purpose.

Drainage, Surface The routes by which liquid flows. Surface drainage includes perennial, intermittent, channelized and suspected pathways.

Drums Cylindrical, plastic, metal, or fiber container for storing and/or transporting materials; typically of a 55 gallon capacity, but ranging widely to suit industrial applications. Drums smaller than 55 gallons can be difficult to identify on aerial photography and may be placed in the more general category of container.

Dump A site used to dispose of solid wastes without environmental controls; i.e., not directly associated with a waste generating facility where disposal of waste is regulated.

Edge of Slope A topographic contour which simulates a relatively sharp and distinct downward inclination of the ground surface.

Effluent Substance which flows out of a containing space. Outflow or discharge. Generally refers to water and/or wastes, treated or untreated, flowing out of a treatment plant, impoundment, sewer, storm drain or industrial outfall onto the ground or into surface waters.

Excavation A cavity in the earth formed by digging or scooping out materials.



Glossary (continued)



Commonly Used HPA Feature Definitions

Extraction An area where earthen materials, such as minerals, sand and gravel or metals, have been removed for use elsewhere. Examples are quarries, borrow pits, pit and strip mines.

Fence A structure serving as an enclosure, barrier or boundary, usually made of posts, boards, wire and/or rails.

Fill Area Area where material, either earthen and/or non-earthen, has been deposited either for disposal, to level the ground surface, or to eliminate a wet area.

Fill Material Material, earthen and/or non-earthen, that has been deposited in a fill area.

Fox Hole A hole of varying depth (based on the height of the occupant(s), 4–6') and about 3–4' wide (One-Man, Two-Man would be wider) dug into the Earth serving as a defense position. Can be circular or rectangular and connected to other Fox Holes.

Graded Area Area where the ground surface has been shaped; usually leveled to a smooth horizontal or sloping surface.

Ground Scar A ground surface, vegetated or unvegetated, where marks from a previous activity or feature or from a subterranean feature are visible. Ground scars can result from many things and therefore vary greatly in appearance (e.g. septic drain fields, archaeological features, buried waste disposal pits, trench scars, etc.)

Historical Boundary A line on a map or an overlay which delineates the area where a facility or activity was previously located or conducted.

Impoundment/Lagoon/Pit A containment area, man-made or naturally occurring, that appears to be used for waste and/or water storage, disposal, or treatment.

Impact Crater A crater formed on a surface by the impact of an unspecified projectile.

Landfill A land disposal site, usually for solid waste which intermittently employs a cover material. At a regulated sanitary landfill, waste is spread in layers, compacted to the smallest practical volume, with cover material applied at the end of each operating day.

Material A substance (usually a non-liquid, if that distinction can be made) placed, bulldozed, graded, mixed, spread, etc., over an area. Generally refers to raw or waste materials on or in the vicinity of the site.

Mounded Material Material which has been placed in piles or mounds. Frequently extraction materials, construction materials, or industrial raw materials are stored in large mounds in the open. At fill areas and landfills uniformly dump truck size mounds of material are often present.

Open Storage An open-air, outdoor area for storage of materials, supplies, vehicles and/or equipment; may or may not be enclosed by a fence.

Outfall The place where effluent is discharged.



Glossary (continued)



Commonly Used HPA Feature Definitions

Pill Box Reinforced, usually concrete, emplacement for a gun.

Pit A relatively deep, steep sided hold in the ground surface.

Scrap Discarded materials that may be suitable for reprocessing

Sediment Material that settles to the bottom of a liquid. Material suspended in water or in the air.

Site Boundary A line on a map or an overlay which delineates the area where any facility or activity is located or conducted. This area is determined from the aerial photography supplemented with information provided by the client, and does not necessarily denote legal property lines.

Sludge A semi-solid residue from any number of air or water treatment processes.

Stain An area that is soiled or discolored and distinct from the surrounding area.

Standing Liquid A temporary collection of liquid on a surface.

Structure A man-made feature which cannot be classified as a building or a shed. Something made up of a number of parts that are held or put together in a particular way.

Tones, Light/Medium/Dark A general, and somewhat subjective, classification of the wide range of tones/shades visible on panchromatic photography/imagery.

Trailer A transport vehicle designed to be hauled; a van drawn by a truck or automobile and used as a house or an office. Both semi and house trailers are often used for storage or office space on a site. Specific trailer types are annotated if the spatial resolution permits and if the feature is deemed significant.

Treatment/Storage/Disposal Facility Site where a hazardous substance is treated, stored and/or disposed of.

Trench A long, narrow excavation.

Vat A large vessel, such as a tub, cistern or barrel, used to store or hold liquids.

Vegetation Stress A condition wherein vegetation has been weakened and exhibits physiologic stress due to any number of changes in the environment; such as, exposure to toxic substances or weather extremes, lack of nourishment, inundation, parasites, or disease.

Vehicle A device for carrying passengers, goods or equipment, such as a car or a truck. Specific types of motor vehicles are annotated as such if the imagery permits their positive identification and if they are deemed significant.

Vertical Tank A usually metallic receptacle, container, or structure for holding liquid, gaseous, or granular materials that has a greater vertical extent than horizontal.

Waste Disposal Area An area directly associated with a waste generating facility (as opposed to a dump site), where waste materials are discarded.



Glossary (continued)



Commonly Used HPA Feature Definitions

Well Head That portion of a well that is visible above the ground surface of which opens at ground level.

Wet Area Saturated ground which may or may not be an established wetland.

Wetland Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.