NPS Form 10-900
(Rev. Oct. 1990)

OMB No. 1024-0018

United States Department of the Interior
National Park Service

1342

NATIONAL REGISTER OF HISTORIC PLACES REGISTRATION FORM

1. Name of Property

historic name: Airway Radio Station

other name/site number: Airway Communication Station; Interstate Airway Communication Station (INSAC); Three Forks Airport Terminal

2. Location

street & number: Pogreba Field/Three Forks Airport

not for publication: na
vicinity: X

city/town: Three Forks

state: Montana code: MT county: Gallatin code: 031 zip code: 59752

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this X nomination __ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property X meets __ does not meet the National Register Criteria. I recommend that this property be considered significant __ nationally __ statewide X locally.

9-29-98

Signature of certifying official/Title — Date

Montana State Historic Preservation Office

State or Federal agency or bureau — (__ See continuation sheet for additional comments.)

In my opinion, the property __ meets __ does not meet the National Register criteria.

Signature of commenting or other official — Date

State or Federal agency and bureau

4. National Park Service Certification

I, hereby certify that this property is:

Signature of the Keeper — Date of Action

Susan G. Beall — 11.5.98

√ entered in the National Register
__ see continuation sheet
__ determined eligible for the National Register
__ see continuation sheet
__ determined not eligible for the National Register
__ see continuation sheet
__ removed from the National Register
__ see continuation sheet
__ other (explain): _____

5. Classification

Ownership of Property: Public-Local

Category of Property: Building

Number of contributing resources previously listed in the National Register: na

Name of related multiple property listing: na

Number of Resources within Property	
Contributing	Noncontributing
1	___ building(s)
___	___ sites
___	___ structures
___	___ objects
1	___ TOTAL

6. Function or Use

Historic Functions:

TRANSPORTATION/air-related

Current Functions:

TRANSPORTATION/air-related

7. Description

Architectural Classification:

Late 19th and Early 20th Century American Movements/ Craftsman

Materials:

foundation: Concrete
walls: Clapboards
roof: Asphalt Shingles
other:

Narrative Description

The Airway Radio Station is located on Pogreba Field at the Three Forks Airport. The building faces southeast toward the airport's runway. Mature evergreen trees line the front of the building. The airport is just to the southwest of the town of Three Forks, Montana. The building was constructed by the U.S. Department of Commerce at nearby Siefert Field about 1933. After its functions became obsolete, the Gallatin County Commissioners moved the building to Pogreba Field in 1953.

The Airway Radio Station displays Craftsman Style details. It is side-gabled and measures 14 feet by 18 feet with a 6-foot 6-inch by 10-foot shed roofed wing. The asphalt shingled roof has exposed rafter tails. The location identifier, "3 Forks", is painted on the southeast slope of the roof. Each gable end contains a revival style lunette with a fake voussoir. The glazing of the lunettes is in a fanlight pattern. The clapboard siding is laid with a narrow exposure. The clapboards are set in panels created by corner boards and vertical boards placed at third points on the long sides and half points on the ends. The building rests on a concrete foundation.

Centered in the middle panel on the front (southeast) facade is a door. In each of the panels flanking the door is a nine-over-one double-hung windows (the bottom sash of the northernmost window contains a telephone box). A simple hood supported by brackets protects the door. A single six-over-one double-hung window is on the southeast side and two six-over-one double-hung windows are on the southwest side. The wing has two six-light windows.

The building serves as the Pogreba Field/Three Forks Airport Terminal.

8. Statement of Significance

Applicable National Register Criteria: A and C

Areas of Significance: TRANSPORTATION/ ARCHITECTURE

Criteria Considerations (Exceptions): B

Period(s) of Significance: c1935

Significant Person(s): N/A

Significant Dates: c1935

Cultural Affiliation: N/A

Architect/Builder: U.S. Department of Commerce

Narrative Statement of Significance

The Airway Radio Station, now at the Three Forks Airport, is eligible for listing in the National Register of Historic Places under Criteria A and C. The building is associated with the development of air mail service in the United States, and the technological advances that made nighttime and all-weather flying possible and safe. The small building housed navigational, communication, and weather observation equipment on the Minneapolis-Spokane-Seattle civil airway. The building is a rare surviving example of the U.S. Department of Commerce's standardized-plan buildings designed to house its equipment along the airways.

Development of the Nation's Airway System

During the early 1920s, the U.S. Post Office Department spearheaded the development of nighttime navigational aides for aircraft. The Department lighted the middle of the New York City to San Francisco airway, between Chicago and Cheyenne, in July 1924, and implemented the nation's first regularly scheduled coast-to-coast airmail service. Pilots leaving either coast during daylight hours reached the lighted airway before dark and could continue to the other coast. The Post Office completed lighting the entire airway in July 1925.

The Air Commerce Act of May 20, 1926 transferred control of the nation's airways from the U.S. Post Office Department to the U.S. Department of Commerce. The Airway's Division established a standard transcontinental lighting system using rotating beacons and course lights. The beacons, mounted on 51-foot tall towers about ten miles apart, produced a beam of 1 million candlepower and rotated three times a minute. Smaller candlepower course lights provided signals telling the pilot where he was within a one hundred-mile stretch of airway. Each beacon tower sat on a 70-foot long concrete arrow directing the pilot to the next beacon. A small generator shed also sat on the arrow. Modifications to the beacons in the early 1930s permitted spacing up to 15 miles apart. Lighting of postal routes progressed quickly and "By 1935, the Federal Airway system comprised 18,000 miles of lighted airways on which were installed 1,550 rotating light beacons and 263 intermediate landing fields."

While the Airways Division was lighting airways, the Aeronautics Branch experimented with radio---both as a means of ground-to-air communication and as navigational beacons. By 1927, improved technology permitted ground-to-air communications for up to 150 miles, and the Aeronautics Branch began installing transmitters and receivers along the airway system. At about the same time, the Aeronautics Branch also "began installing . . . the four-course radio range. This facility became, and remained until after World War II, the standard civil air-navigation aid on the U.S. airways. In the process, it revolutionized the flying technique of commercial air carriers."

The four-course radio range transmitted a signal from the ground to receivers on aircraft giving pilots their line of position. This permitted pilots to fly without the direct ground visibility the lighted beacons required. The equipment to produce the signal---a 1,500-watt tone-modulated transmitter with motor generator, goniometer, loop-tuning equipment, and an automatic keying device---was housed in small, standardized buildings placed every 200 miles along the airways. Wires ran from the building to an antenna stretched between five poles. To permit the pilot to determine his location, another transmitter connected to a single-wire antenna emitted an identifying signal. The Aeronautics Bureau installed the first radio range stations along the New York to San Francisco route in 1930. By mid-1933, 90 stations covered 18,000 miles of the airways. "A typical 1,000-mile segment of airway had 30 intermediate fields, 60 electric light beacons, 20 gas beacons, 5 radio stations, 5 radio range beacons, and a number of radio marker beacons. The cost of constructing a 1,000 mile segment came to approximately $450,000." The United States proudly claimed the most advanced airway system in the world.

9. Major Bibliographic References

See continuation sheet

Previous documentation on file (NPS):
___ preliminary determination of individual listing (36 CFR 67) has been requested.
___ previously listed in the National Register
___ previously determined eligible by the National Register
___ designated a National Historic Landmark
___ recorded by Historic American Buildings Survey # _____
___ recorded by Historic American Engineering Record # _____

Primary Location of Additional Data:
_X_ State Historic Preservation Office
___ Other State agency
___ Federal agency
___ Local government
___ University
___ Other -- Specify Repository:

10. Geographical Data

Acreage of Property: Less than one

UTM References:	**Zone**	**Easting**	**Northing**
	12	456350	5081190

Legal Location (Township, Range & Section(s)): NE¼ Section 35, T2N, R1E, MPM

Verbal Boundary Description

The Airway Radio Station boundary is a rectangle measuring 100 feet by 75 feet. From the southeast corner of the building run 35.5 feet in a southwesterly direction parallel to the front of the building to THE POINT OF BEGINNING. From the point of beginning proceed 46.0 feet in a southeasterly direction; thence 100.0 feet in a northeasterly direction; thence 75.0 feet in a northwesterly direction; thence 100.0 feet in a southwesterly direction; thence 29.0 feet in a southeasterly direction to the point of beginning.

Boundary Justification

The boundary includes the Airway Radio Station and its immediate surroundings while excluding newer airport improvements.

11. Form Prepared By

name/title: Lon Johnson
organization: State Historic Preservation Office
street & number: 1410 Eighth Avenue
city or town: Helena
date: July 1998
telephone: 406-444-7742
state: MT zip code: 59620

Property Owner

name/title: Gallatin County Commissioners
street & number: Gallatin County Courthouse
city or town: Bozeman
state: MT
telephone: 406-582-3000
zip code: 59715

Airport Development in the Gallatin Valley

During the late 1920s, Americans became obsessed with flying. Such "firsts" as Charles Lindburgh's trans-Atlantic flight captivated the nation. Gallatin County, Montana saw its first traffic jam in 1929 when 8,000 people attended the opening of the valley's first airport, Siefert Field, constructed by the town of Belgrade, much to the chagrin of Bozeman, the county seat.

Although Bozeman immediately set out investigating sites for an airport of its own, Belgrade had usurped the best location in the valley. Siefert Field served the Gallatin Valley until the early 1940s when Bozeman purchased land adjacent to it, and with the assistance of a $400,000 federal grant, constructed what is now known as Gallatin Field. Regularly scheduled passenger service finally arrived in 1947.

The U.S. Department of Commerce constructed the Airway Radio Station at Siefert Field about 1935. It housed the radio range and ground-to-air radio systems used by airmail pilots flying from Minneapolis to the West coast. Aeronautics Bureau employees manned the station twenty-four hours a day. Besides operating the radio equipment, the employees made local weather observations which were transmitted over teletype four times a day. They received an annual salary of $2400 in the early 1930s.

Gallatin County constructed a new FAA building/airport terminal at Gallatin Field in 1947. High frequency VHF signals proved more reliable in the late-1930s, and the radio range equipment in the Airway Radio Station was obsolete. The County moved the building to Pogreba Field at Three Forks in January 1953. The Three Forks Airport had served as an intermediate (or emergency) landing field as early as 1935. The Airway Radio Station now serves as the Three Forks Airport terminal.

Architectural Significance

An exact date of construction for the Airway Radio Station has not been documented. It most likely occurred in 1935. That year, Northwest Airways received federal approval to provide Montana with east-west airmail service. The Minneapolis to Seattle route included radio broadcasting stations and intermediate fields every 50 miles. Planes landed at Glendive, Miles City, Billings, Butte, and Missoula. Documented locations of other Airway Radio Stations are Miles City (remodeled), Custer (no longer extant), and Horseshoe Hill (lighted beacon only).

The Airway Radio Station is representative of hundreds of standardized-plan buildings constructed by the Aeronautics Bureau of the U.S. Department of Commerce during the fledgling years of the nation's air service. A photograph in the files of the Federal Aviation Administration identify a larger version of this building as a "Type K structure." Another photograph identifies them as being Sears, Roebuck and Company mail order buildings.

The Airway Radio Station provided critical services necessary for the development of civil aviation. The small scale buildings exhibit the careful attention of an architect. The designer combined simple, contemporary craftsman details with a revival style gable-end lunette. The latter detail lends a pretentiousness to the building defining its federal ownership. Except for location (see Criterion Consideration B discussion below), the building retains complete architectural integrity from the time of construction.

Criterion Consideration B

The Gallatin County Airport Board moved the Airway Radio Station from Siefert Field (adjacent to Gallatin Field) to Pogreba Field at the Three Forks Airport in January 1953. Thus, it must meet National Register Criterion Consideration B for moved properties. Under Criterion A, the building is believed to be one of two extant examples of an Airway Radio Station in Montana. The other surviving building at Horseshoe Hill is not as strongly associated with the development of the nation's airway system. The building housed the equipment for a lighted beacon, but did not provide radio navigational or communication functions or weather observation capabilities. Ned Preston, the Federal Aviation Administration's historian, believes that on a nationwide level, some of these buildings still exist, but that they are "pretty rare." Under Criterion C, the Airway Radio Station must "retain enough historic features to convey its architectural

values and retain integrity of design, materials, workmanship, feeling, and association." With the exception of its foundation, the building retains complete architectural integrity from the time of its construction. Its current location at a functioning airport places it in a setting and environment similar to its historic site. In fact, the general environment of the small Three Forks Airport is closer to its historic setting than if it was still at Gallatin Field, which is now one of Montana's busiest airports.

Bibliography

For information on the development of the United States' airway navigational and communication systems, see:

U.S. Department of Transportation, Federal Aviation Administration. *Bonfires to Beacons: Federal Civil Aviation Policy under the Air Commerce Act 1926-1938*, by Nick A. Komons. Washington, D.C.: U.S. Government Printing Office, 1978.

For information on Siefert Field and Gallatin Field, see:

Belgrade Centennial Committee, comp. *Belgrade, Montana: The First One Hundred Years, 1886-1986.* Dallas, Texas: Taylor Publishing Company, 1986.

The Bozeman Daily Chronicle, April 19, 20, 21, 22, 23, and 29, 1929.

Smith, Phyllis. *Bozeman and the Gallatin Valley: A History.* Helena: Twodot, 1996.

Other Sources:

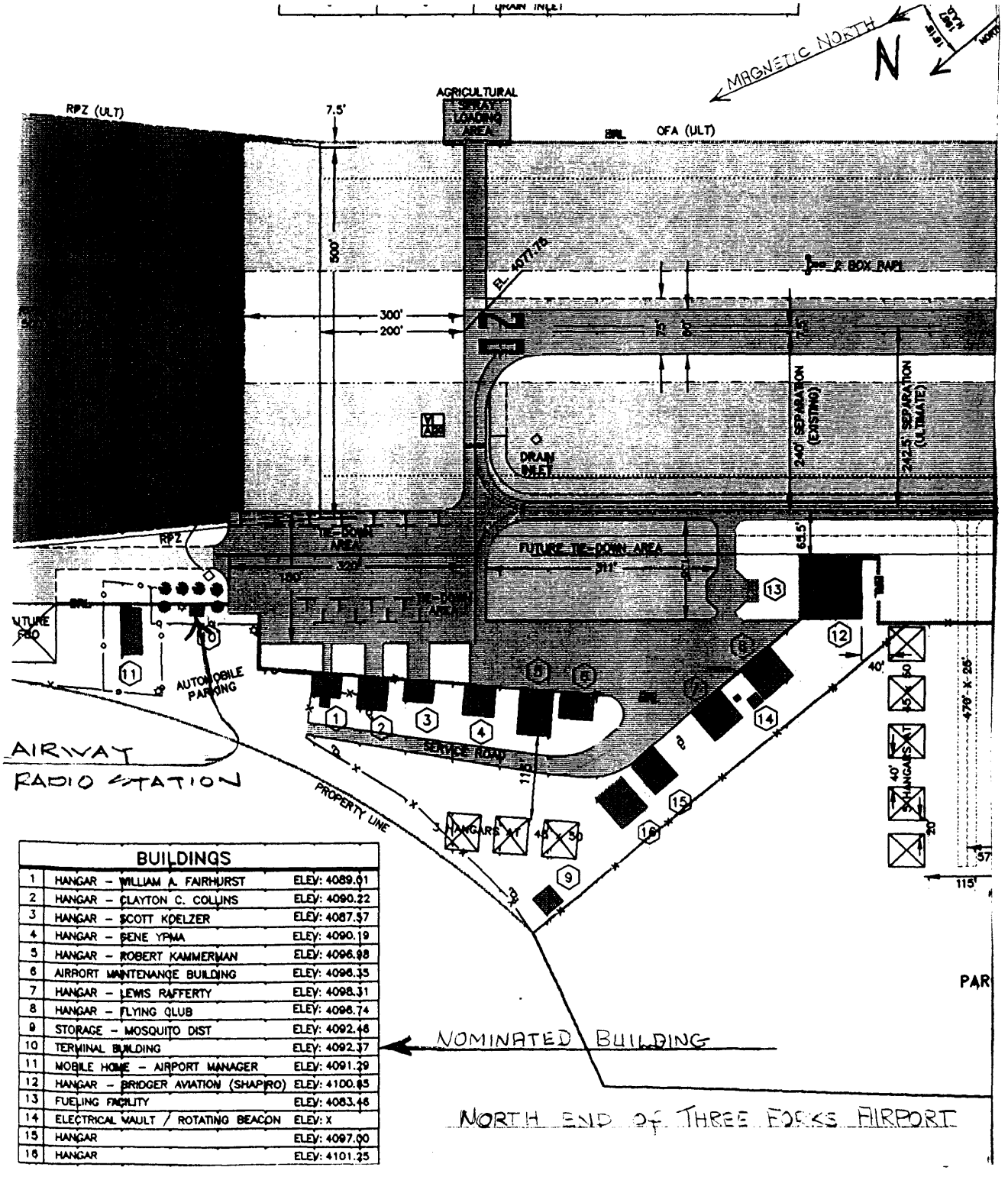
Fairhurst, William A., provided background information on the building in the National Register of Historic Places Workbook.

Preston, Ned, Federal Aviation Administration agency historian, provided information on buildings of similar design.

Redmond, Clarence J. Telephone interview by Lon Johnson, July 17 and 21, 1998. Mr. Redmond worked at the Miles City Airport and Gallatin Field. He provided helpful information on the functions performed from the building.

Map of Site

AIRWAY RADIO STATION
Gallatin County
Montana



BUILDINGS		
1	HANGAR – WILLIAM A. FAIRHURST	ELEV: 4089.01
2	HANGAR – CLAYTON C. COLLINS	ELEV: 4090.22
3	HANGAR – SCOTT KOELZER	ELEV: 4087.57
4	HANGAR – GENE YPMA	ELEV: 4090.19
5	HANGAR – ROBERT KAMMERMAN	ELEV: 4096.98
6	AIRPORT MAINTENANCE BUILDING	ELEV: 4096.35
7	HANGAR – LEWIS RAFFERTY	ELEV: 4098.31
8	HANGAR – FLYING CLUB	ELEV: 4096.74
9	STORAGE – MOSQUITO DIST	ELEV: 4092.48
10	TERMINAL BUILDING	ELEV: 4092.37
11	MOBILE HOME – AIRPORT MANAGER	ELEV: 4091.29
12	HANGAR – BRIDGER AVIATION (SHAPIRO)	ELEV: 4100.85
13	FUELING FACILITY	ELEV: 4083.48
14	ELECTRICAL VAULT / ROTATING BEACON	ELEV: X
15	HANGAR	ELEV: 4097.00
16	HANGAR	ELEV: 4101.25