

CHAPTER 2

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

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This chapter describes the proposed Global Hawk beddown and the five alternatives that would meet the need defined by the proposal. The proposed action is to implement the beddown of Global Hawk at a main operating base. The proposed action has five alternative basing locations: Beale AFB, California; Edwards AFB, California; Ellsworth AFB, South Dakota; Tinker AFB, Oklahoma; and Wright-Patterson AFB, Ohio. Each of these alternative bases meets the basing criteria outlined in Chapter 1. The Air Force has identified Beale AFB as the preferred alternative based on operational efficiency. The no-action alternative, also described in this chapter reflects the status quo, not basing the Global Hawk at any of these five bases at this time. The CEQ regulations (40 CFR 1502.14(d)) require analysis of the no-action alternative.

This chapter also presents the process used to identify and screen candidate bases and describes alternatives considered but not carried forward for further analysis.

2.1 ALTERNATIVE IDENTIFICATION PROCESS

2.1.1 Alternative Identification Process Methodology

Identification of alternative bases for the Global Hawk beddown followed a two-step process. In the first step, the operational and physical elements needed to support the program were defined by the Air Force. These elements were analyzed, and five primary requirements were identified. To be considered a viable base for the Global Hawk beddown, a base must fulfill these five requirements:

1. Air Force Base located in the contiguous United States - As an Air Force asset and responsibility, beddown of the Global Hawk needs to be at an Air Force base to maintain positive command and control and mission priority. It also needs a centralized, secure location within the contiguous United States to provide overall command, maintenance, data collection, upgrade, and training.
2. Runway Capacity - Global Hawk aircraft will be deployed overseas as needed. To support this deployment, the MCE and LRE, along with maintenance equipment and personnel, will need to be transported to overseas locations, which will require that large cargo/transport aircraft (e.g., C-141s, C-17s) can land and take off from the main operating base.
3. Accommodate Initial Beddown - To ensure that operations can begin as soon as feasible, an alternative base needs existing available facilities, housing, parking aprons, and infrastructure to support the initial beddown of Global Hawk.

Six alternatives are analyzed: five base alternatives and the no-action alternative. Beale AFB is the Air Force's preferred alternative.

4. Accommodate Final Build-up - To meet the beddown requirements, a base must have the space in which to expand or develop the buildings, facilities, housing, and infrastructure needed for up to 18 Global Hawk aircraft, a full complement of operations and maintenance personnel, and associated equipment.
5. Communications Capacity - Any base considered suitable for the beddown must have minimal interference from other communication sources and be able to accommodate additional communications functions associated with the final build-up.

The Air Force initially considered 43 bases; 5 bases met the Global Hawk requirements.

In the second step, the five requirements were used to assess candidate bases. A total of 43 Air Force bases were initially considered. The following summarizes the results of the evaluation process for the candidate alternatives.

<i>Requirement</i>	<i>Candidates Eliminated</i>	<i>Candidates Remaining</i>
1. Air Force Base in the contiguous U.S.	2	41
2. Runway Capacity	0	41
3. Accommodate Initial Beddown	36	5
4. Accommodate Final Build-Up	0	5
5. Communications Capacity	0	5
<i>Total Alternatives</i>	38	5

Based on the identification and evaluation process, five bases met the requirements and warranted full analysis in the EA: 1) Beale AFB, California; 2) Edwards AFB, California; 3) Ellsworth AFB, South Dakota; 4) Tinker AFB, Oklahoma; and 5) Wright-Patterson AFB, Ohio.

2.1.2 Alternatives Considered But Not Carried Forward

Because 38 bases were eliminated during the alternatives identification process, they were not carried forward for further detailed analysis.

Another potential alternative, "split" basing, was evaluated but failed to meet the fundamental requirements of the beddown. This approach would place the initial Global Hawk aircraft, associated equipment, and 50 personnel at one base in late 2001. At the start of the final build-up, these assets would be transferred to another base for the permanent beddown of the full Global Hawk operational capability. The second base would become the main operating base.

Splitting the two beddown phases would not permit continuous and consistent development of the Global Hawk program. The interruption of operational activities during the transfer of assets would jeopardize the ability of the Air Force to meet its intelligence-gathering requirements. Equipment and personnel would be disrupted twice under this alternative, and overall program costs would increase. For this reason, the split-basing approach was eliminated from further analysis.

2.1.3 Alternatives Carried Forward for Detailed Analysis

Six alternatives were carried forward for further detailed analysis in this EA: the no-action alternative and five base alternatives. The no-action alternative would involve

no changes to the current situation or conditions at any of the five bases. To provide a context for all the alternatives, the following briefly describes the bases and their missions.

Beale AFB: Located approximately 40 miles north of Sacramento, California, and 13 miles east of Yuba City and Marysville, Beale AFB occupies about 23,000 acres within a rural landscape of low rolling hills. Beale AFB includes three main developed areas: the runway and flight line in the northwest, a central cantonment area, and a housing area in the southeast. Most of the base is open space used for grazing. Established as Camp Beale for the Army in 1942, the base covered 86,000 acres. Since its transfer to the Air Force in 1947, Beale AFB's mission evolved from bombers (B-52s) and tankers (KC-135s) to high-technology reconnaissance aircraft (SR-71s, U-2s). The 9th Reconnaissance Wing at Beale AFB is the center for high-altitude reconnaissance. The wing currently operates the nation's fleet of U-2 manned reconnaissance aircraft and facilities for analyzing and using reconnaissance data.

Edwards AFB: Covering about 470 square miles in the Mojave Desert north of Los Angeles, California, Edwards AFB occupies an area dominated by large dry lakebeds. Edwards AFB, a major range and test facility base, is divided into two major sectors: the developed sector in the west-central portion of the base and the surrounding aircraft test ranges. The Air Force Research Laboratory, Propulsion Directorate occupies a site in the northeast portion of the base. Edwards AFB includes a main paved runway, a smaller paved runway to the south, and numerous other runways on dry lakebeds.

Used first by the military as a bombing and gunnery range in 1933, Edwards AFB (then Muroc Army Airfield) became the test site for the first jet aircraft in 1942. The legacy of this early program continued through the years with the base becoming the Air Force flight center and home of the flight test school where test pilots are trained. Numerous different aircraft fly at Edwards AFB including F-22s, F-15s, F-16s, B-1s, B-2s, C-141s, C-17s, T-38s, and T-39s. In addition, numerous other experimental and research support aircraft fly there temporarily, as do aircraft operated by the NASA Dryden Flight Research Center collocated at Edwards AFB. Under the ongoing demonstration and evaluation program, the Global Hawk operates out of Edwards AFB.

Ellsworth AFB: Situated 12 miles from Rapid City, South Dakota, Ellsworth AFB covers about 5,411 acres of rolling plains surrounded mostly by grazing land. The runway, flight line, and industrial facilities dominate the western half of the base, with housing and administrative areas in the east.

Established in 1942, Ellsworth AFB (then Rapid City Army Air Base) provided training for various bomber and fighter aircraft during World War II. Since its transfer to the Air Force in 1947, Ellsworth AFB has been the home of the 28th Bomb Wing and a succession of bomber aircraft starting with B-29s and currently including B-1s.

Tinker AFB: Tinker AFB occupies 5,041 acres surrounded by developed portions of Oklahoma City, Del City, and Midwest City, Oklahoma. Two intersecting runways and associated flight-line facilities dominate the central and eastern portions of the base. Industrial facilities occur in the east and southwest, while the housing area lies on the western margin of the base.

The five bases examined in this EA include Beale AFB, Edwards AFB, Ellsworth AFB, Tinker AFB, and Wright-Patterson AFB.

Started as a supply and maintenance depot in 1942, Tinker AFB expanded its functions after World War II. Since the mid-1950s, Tinker AFB has been a major maintenance facility for a huge variety of bomber, fighter, transport, and communications aircraft. It also supports active missions. Currently, Tinker AFB is home to an air logistics center (maintenance), a wing of E-3 AWACS aircraft, and a wing of refueling tankers. The Navy also flies E-6B aircraft from Tinker AFB.

Wright-Patterson AFB: Directly northeast of Dayton, Ohio, Wright-Patterson AFB covers slightly more than 8,100 acres. It lies within the developed communities of Huber Heights, Fairborn, and Riverside. Divided into three main areas (A, B, and C), the installation is composed of Wright Field (Area B to the southwest) and Patterson Field (Areas A and C to the northeast). Two active, parallel runways lie within Area C.

Flying at Wright-Patterson AFB started in 1904 with the Wright brothers. This auspicious start led to the growth and development of the base as the Air Force's premier acquisition, logistics, and research center. From World War I through World War II, the base also supported active flight training. The base, under the Air Force Materiel Command, houses 15 major organizations, including the Aeronautical Systems Center, the National Airborne Intelligence Center, and several laboratories. Aircraft operating out of Wright-Patterson AFB include C-141s, C-21s, and E-4s.

2.1.4 Identification of the Preferred Alternative

The Air Force has evaluated operational information on the Global Hawk unmanned aerial vehicle and identified Beale AFB as the preferred location for the aircraft's first main operating base. Beale AFB is preferred because the operational synergies of collocating Global Hawk with Beale's 9th Reconnaissance Wing would provide invaluable mission assistance as Global Hawk transitions from initial beddown to full operational capability. Beale AFB, with the U-2, is the center for high-altitude reconnaissance. Additionally, Beale AFB already supports the Distributed Common Ground System, the Air Force's primary resource for analyzing and using reconnaissance data. Collocation of the Global Hawk mission with this system would enhance coordination and mission responsiveness by establishing a direct connection between collection and use of data. Essentially, it ensures that issues associated with supporting unmanned strategic reconnaissance are in the hands of the Air Force's experts at Beale AFB. They are best suited to complete the transition with the least disruption to the mission.

2.2 PROPOSED ACTION AND ALTERNATIVES

The Air Force proposes to establish a main operating base for the Global Hawk within the contiguous United States. The proposed beddown would occur in two phases:

Initial Phase - 2001 to 2002: This initial phase would involve the beddown of up to four Global Hawk aircraft at the selected main operating base. The aircraft would come from Edwards AFB in late 2001 and consist of the Global Hawks used in the demonstration and evaluation program. Two MCEs and three LREs, up to 50 Air Force personnel, and additional contractor support personnel would accompany these aircraft. Only existing facilities, including hangars and operations buildings, would be used for the initial beddown. The Air Force expects the Global Hawk to conduct training and undertake actual missions as soon as possible during the initial beddown.

*The beddown would occur
in two phases over
twelve years.*

Final Build-up Phase - 2002 to 2012: In 2002, the Air Force anticipates starting the final build-up phase of the Global Hawk beddown. Available information indicates that, beginning in 2002, two Global Hawk aircraft would be delivered to the main operating base each year. From 2002 through 2012, two aircraft per year would be delivered to the base, which, when combined with the original aircraft from the initial phase, would form two squadrons. This set of aircraft would form the operational wing for the Global Hawk program. All personnel, equipment, and facilities--including seven MCEs and six LREs (nine sets of common ground segments), associated equipment, and all needed infrastructure--would be in place and functioning by 2012.

After 2012, the Air Force may receive four Global Hawks per year. These additional aircraft would function as reserves; the base would support only 18 operational aircraft.

Table 2.2-1 summarizes the projected schedule for the proposed action. As noted above, the operational, personnel, and construction aspects would be completed in 2012. Delivery of additional reserve aircraft after 18 operational aircraft are delivered would not increase flight operations, aircraft maintenance, personnel requirements, or demands for facilities. Because only 18 aircraft would operate at any time, this EA does not evaluate beddown of the reserve aircraft.

The proposed beddown would add 918 personnel at the selected base.

Table 2.2-1 Estimated Schedule for Proposed Action			
<i>Calendar Year</i>	<i>Number of Global Hawks Beddown per Year/Total Based</i>	<i>Personnel Additions per Year</i>	<i>Total Additional Personnel</i>
2001 (initial)	2/2 ¹	50	50
2002 (final)	2/4	20	70
2003	2/6	200	270
2004	2/8	50	320
2005	2/10	150	470
2006	2/12	50	520
2007	2/14	150	670
2008	2/16	50	720
2009	2/18	50	770
2010	2/20 ²	50	820
2011	2/22 ²	50	870
2012	4/26 ²	48	918
¹ There could be up to 4 aircraft in the initial beddown			
² 18 operational aircraft; additional are reserve aircraft			

The proposed action consists of four related components: aircraft and airfield flight operations; ground-based operations and maintenance; construction; and personnel. The manner in which each component applies to each of the five alternative bases would be similar in many cases, so the following uses a comparative approach to address each component at each base.

2.2.1 Aircraft and Airfield Flight Operations

Beddown of up to 18 Global Hawk aircraft would increase the aircraft inventory at any of the five alternative bases (Table 2.2-2) from 23 to 78 percent.

Once based, the Global Hawk would perform two types of flight activities from the main operating base: operational missions and training flights. An operational mission would take off from the main operating base, fly through United States airspace to airspace outside the United States, conduct its mission for an extended period, and return to land at either the main operating base or at an overseas base. Such a mission could last up to 30 hours including a 24-hour surveillance period at the mission site. Training flights would be similar but shorter, lasting about 12 hours. For either flight activity, the aircraft would spend 90 percent of the time above 50,000 feet MSL. The Global Hawk will also conduct missions at forward operating bases.

Table 2.2-2 Current and Projected Aircraft Inventory				
<i>Base</i>	<i>Current Based Aircraft</i>	<i>Projected Global Hawk Aircraft</i>	<i>Projected Total</i>	<i>% Increase</i>
Beale	51	18	69	35%
Edwards	80	18	98	23%
Ellsworth	26	18	44	69%
Tinker	32	18	50	56%
Wright-Patterson	23	18	41	78%

Two specialized terms--sortie and airfield operation--describe important flight activities.

- A *sortie* consists of a single military aircraft flight from takeoff through landing.
- An *airfield operation* represents a single movement or an individual flight in the base airfield-airspace environment, such as one takeoff or one landing. Thus, a single sortie generates two or more airfield operations.

Current projections indicate that each Global Hawk aircraft could fly between 19 and 35 sorties per year. By completing the build-up of the full squadrons by 2012, Global Hawk aircraft could fly up to 624 sorties annually. Each time a Global Hawk performed a sortie from the main operating base, it would involve only two airfield operations: one takeoff and one landing. Figure 2.2-1 presents the number of airfield operations from the initial beddown to the build-up of two operational squadrons. By 2012, Global Hawk could be conducting between three and four airfield operations per day, or a total of 700 to 1,248 per year.

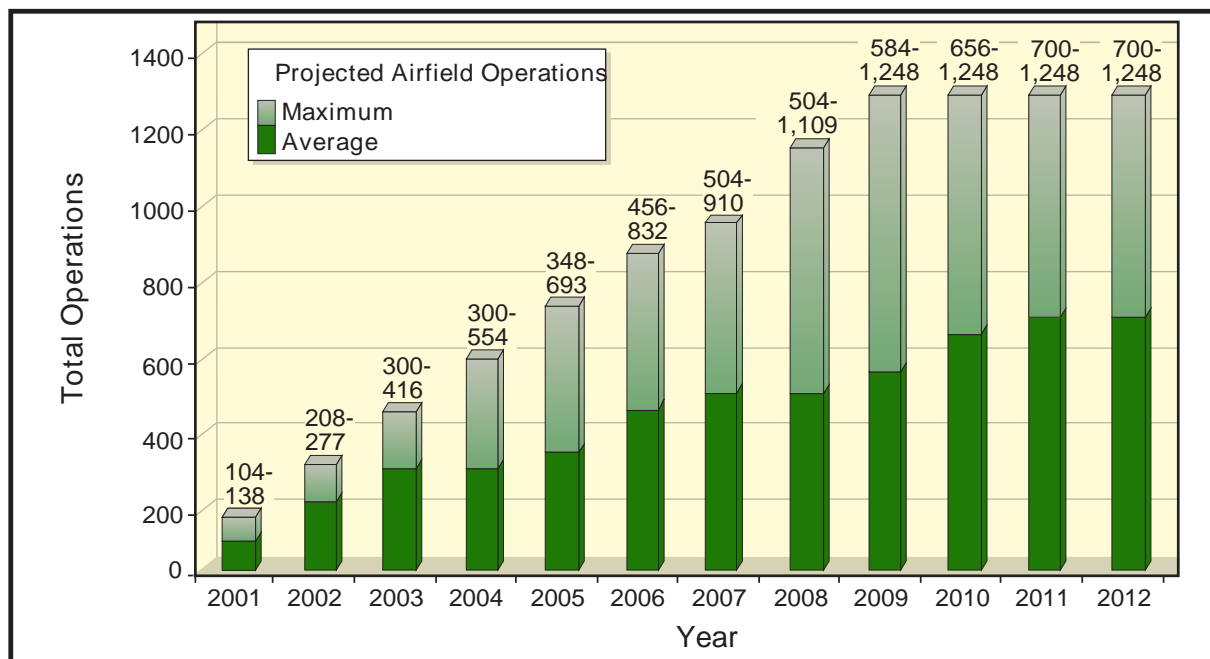


Figure 2.2-1 Projected Annual Airfield Operations

Unlike many other aircraft, the Global Hawk does not require that pilots fly patterns around an airfield or perform "touch and go" maneuvers for practice. Training would primarily be accomplished in ground-based simulations matching the exact conditions and requirements of an actual flight.

The number of baseline annual airfield operations varies among the five alternative bases due to differences in the number and mix of aircraft present. Tinker AFB supports the most airfield operations (Figure 2.2-2), with Wright-Patterson AFB conducting the fewest. The addition of Global Hawk airfield operations to the baseline totals would not substantially increase activity for any base. Airfield operations would not increase more than 3.1 percent at any base (Wright-Patterson AFB).

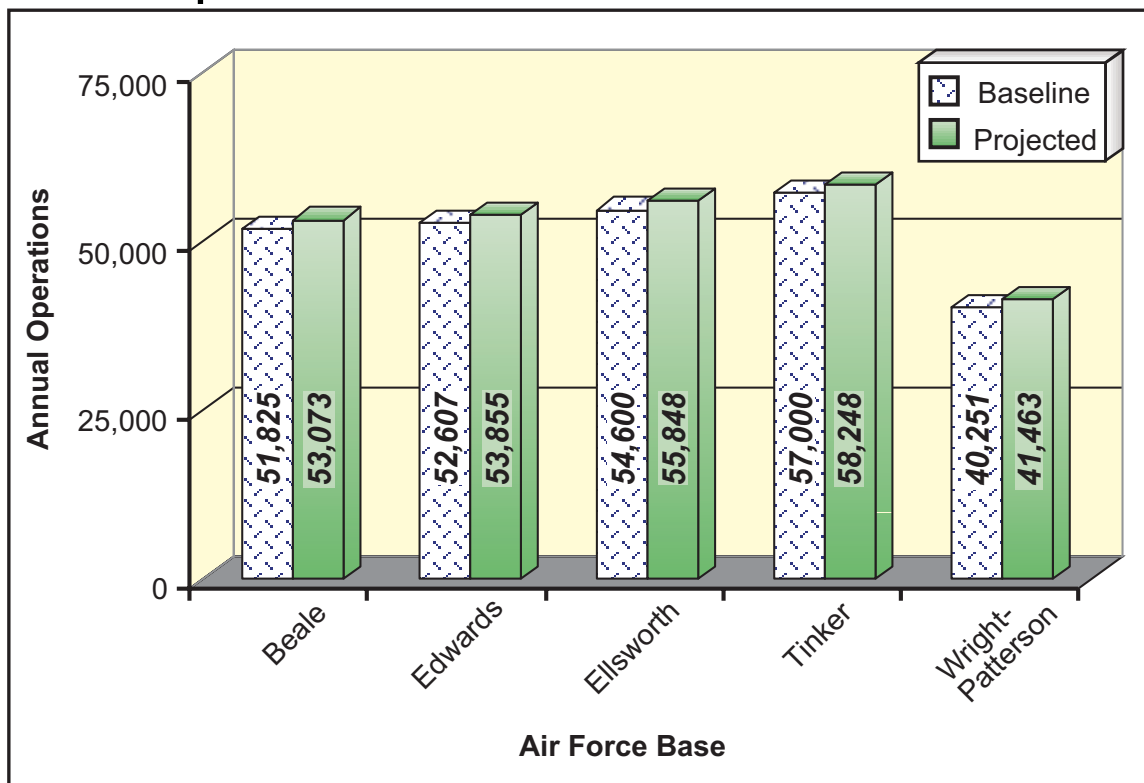


Figure 2.2-2 Baseline and Projected Airfield Operations

The Global Hawk would fly 90 percent of its time above 50,000 feet MSL and spend minimal time at 18,000 feet MSL or lower (Table 2.2-3). Roughly 1.2 percent of the projected total annual flight activity would occur below 18,000 feet MSL. Less than 0.3 percent would take place below 5,000 feet above ground level (AGL).

Table 2.2-3 Time at Altitude for Global Hawk Takeoff and Landing		
<i>Altitude (feet)</i>	<i>Time in Minutes¹</i>	
	<i>Takeoff</i>	<i>Landing</i>
0-2,000	0.67	1.56
2,001-5,000	1.00	2.34
5,001-18,000	4.34	10.34
Total	6.01	14.24

¹ Based on 160 knots indicated air speed.

The Global Hawk must operate in the U.S. National Airspace System when flying to and from the main operating base, and it must also follow Federal Aviation Administration (FAA) regulations. Currently, the Global Hawk can operate only within restricted airspace or warning areas, or under a certificate of authorization. Ongoing Global Hawk test flights have operated within Edwards AFB restricted airspace or under certificates of authorization granted by the FAA. The Air Force is conducting ongoing consultation with the FAA to integrate Global Hawk operations fully into the National Airspace System.

2.2.2 Ground-based Operations and Maintenance

Ground-based activities for the Global Hawk will focus on the planning, operations, and maintenance of the aircraft and its communications and data management systems. The core of the ground-based components consist of LREs and MCEs. Each of these self-contained "trailers" performs essential mission functions (refer to Section 1.2.1). A total of up to nine sets of LREs and MCEs would be stationed at the main operating base. Two sets would be permanently incorporated into buildings on base, one for operations, and one for training. The remaining sets would be used for deployments and as reserves.

Besides the 18 primary aircraft used for operations and training, the Air Force may hold additional aircraft in reserve. These reserve aircraft may be stored at the main operating base or at another Air Force installation until needed. These aircraft would not be used for operations, nor would they require maintenance or ground-based support.

The ground support segment includes all equipment required to operate and maintain the system, spare and repair parts, and personnel trained to maintain the aircraft and ground elements. Support equipment includes 30- and 90-kW power generators, trailers, maintenance vans, test equipment, and tools. The support segment will include all equipment required to perform system, segment, and subsystem checkout; ground test; and end-to-end testing. All of these items would be stored, used, and maintained on base.

None of the LREs, MCEs, or associated ground equipment contains exotic or unusual substances or materials. All components would be common to any electronic, communications, and vehicle operations conducted by the Air Force. Maintenance of this equipment would use standard fuels, oils, lubricants, and cleaners. No hazardous materials different from those already used on the five alternative bases would be introduced by Global Hawk operations.

Command and control of the aircraft from the ground segment requires either direct or satellite communication with the Global Hawk. Downloading imagery from the Global Hawk requires similar communications systems. These systems generate radio frequency emissions. The types and power levels of emissions employed by the Global Hawk are equivalent to those used by a shortwave radio.

2.2.3 Construction

For the initial beddown, the Global Hawk would use existing facilities and infrastructure--one of the selection criteria--on the base. All five alternative bases could accommodate the four aircraft, equipment, and personnel that would be moved to the main operating base from the demonstration and evaluation phase at Edwards AFB. For the final build-up, the facilities that have been identified to support long-term beddown of the Global Hawk program include the following:

- | | |
|-----------------------|---------------------------|
| • Hangars | 67,000 square feet (sf) |
| • Apron | 130,000 square yards (sy) |
| • Training facility | 11,000 sf |
| • Squadron operations | 24,000 sf |
| • Maintenance | 20,000 sf |
| • Storage | 45,000 sf |

LREs and MCEs could be transported overseas for deployed Global Hawk missions.

• Communications	5,000 sf
• Radar technology pad	2,500 sf
• Infrastructure	10%
• Dormitory	200 person
• Family housing	600 units

Construction to support the Global Hawk would vary from base to base.

These facilities would provide adequate space for the 18 aircraft, associated common ground segments, and manpower for two operational squadrons. However, the nature, amount, location, and timing of construction to meet these facility/infrastructure requirements differs at each base (Table 2.2-4).

Beale AFB. During the initial beddown, Buildings 1025 and 1200 would serve as operations, administrative, and maintenance facilities. Building 1074 would be used as the hangar (Figure 2.2-3). All of these buildings would be used in their present form; no renovation would be necessary.

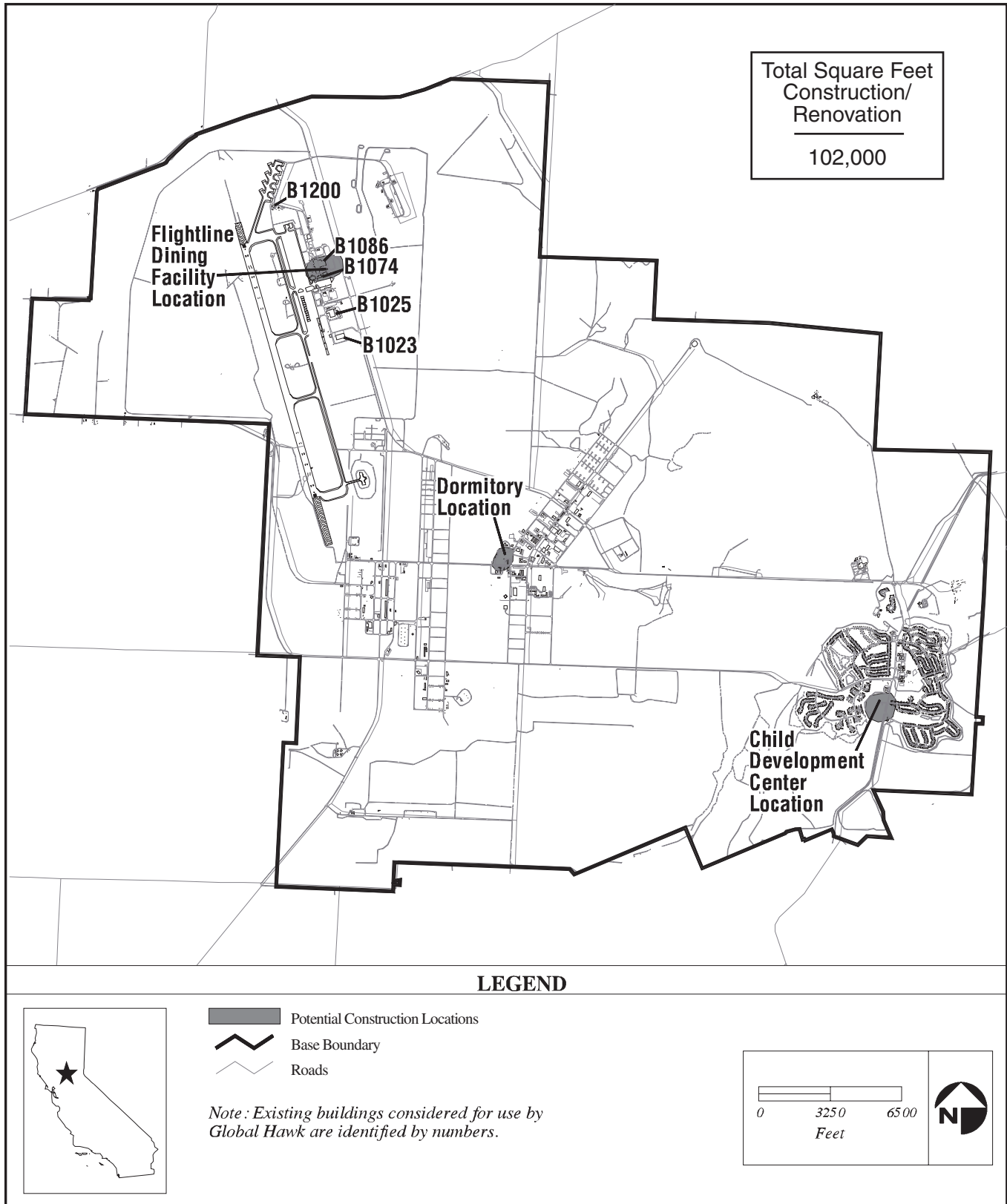
For the final build-up, existing hangars that were associated with the SR-71 and Building 1086 and the adjacent vacated fire station would provide coverage, space, and maintenance facilities for the Global Hawk. The dining area in Building 1086 would be renovated to accommodate maintenance administration. Building 1025 would be used as an operations facility, and Building 1023 as a supply area. The mobility bag storage areas in Building 1025 would be renovated.

A new flight-line dining facility, a 200-person dormitory, and a base child development center would need to be constructed. Construction would occur in two phases beginning in 2004, with all but the dormitory completed in 2005.

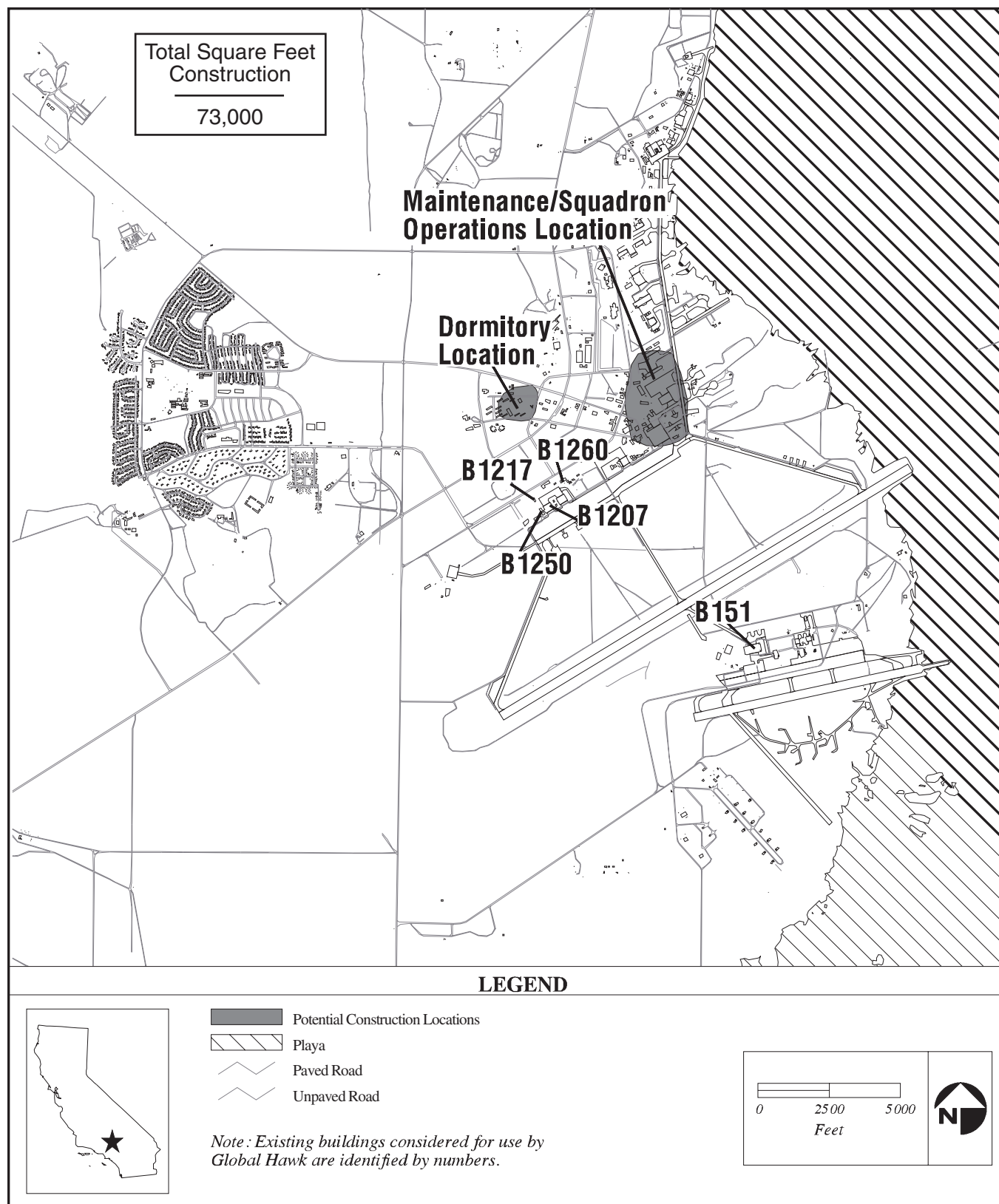
Edwards AFB. The initial beddown would occur in Building 151, which would supply operations, administrative, and hangar space for aircraft and personnel (Figure 2.2-4). For the final phases of the beddown, the Global Hawk would use a combination of Hangar 1207, Building 1250, Building 1260, and Building 1217 for all functions. These facilities are currently being used by the 412 Test Wing, although they are planning to consolidate their functions to other facilities. If the test wing needs to be moved to new facilities, they would be constructed northeast of their existing structures on the main base (Figure 2.2-4) beginning in 2004. Edwards AFB has existing dormitory space for 100 people. In 2006, a 100-person dormitory would be constructed for Global Hawk personnel.

Ellsworth AFB. Building 7504 (the PRIDE hangar) or the base education complex (Buildings 901, 902, 903, 1009, and 1010) would accommodate the initial beddown (Figure 2.2-5). Existing hangars near the south apron would house aircraft and maintenance functions.

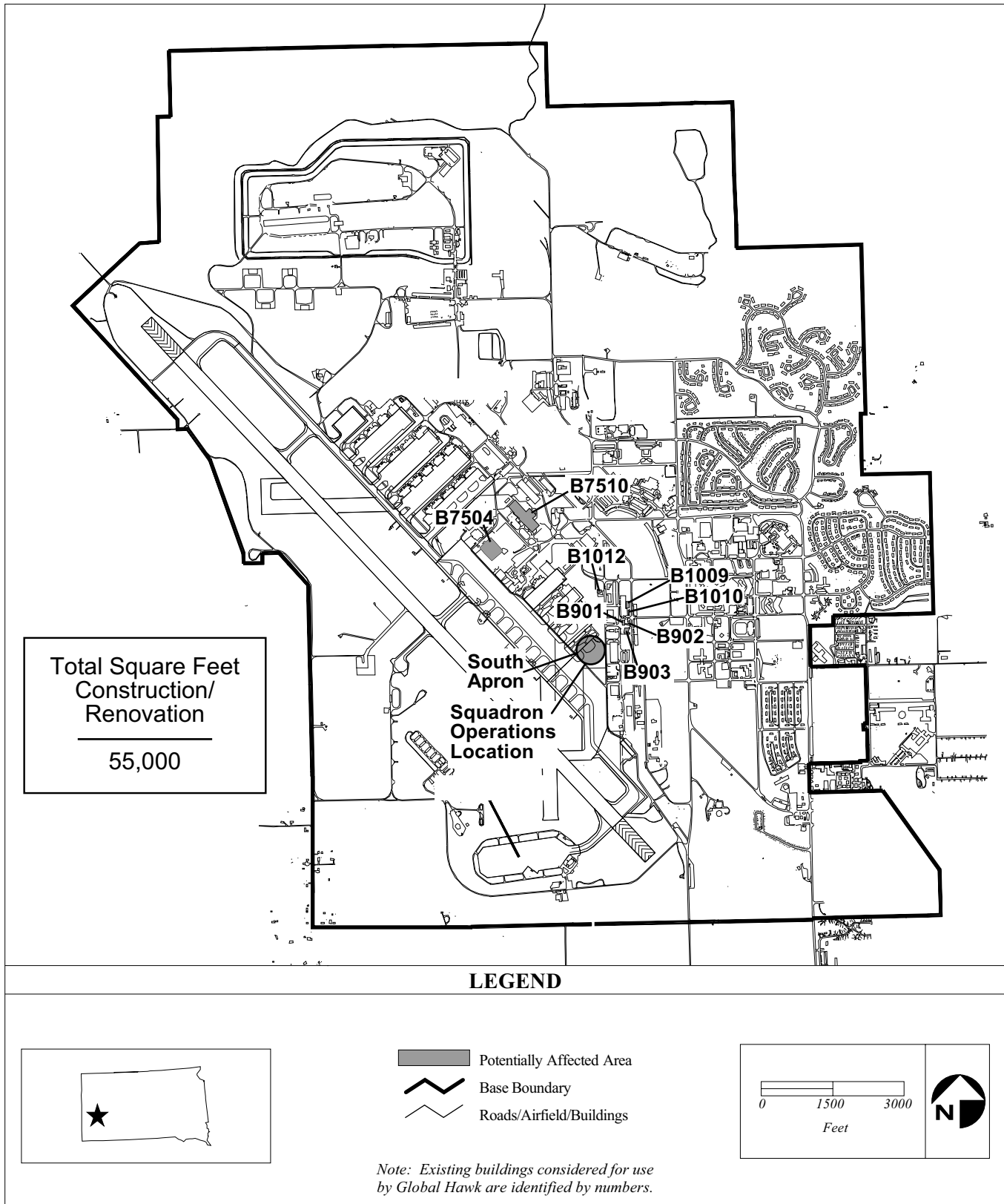
Ellsworth AFB would require limited construction to accommodate the Global Hawk. A new squadron operations facility would be constructed near the south apron in 2004. Ellsworth AFB has existing equipment shops, fuel shops, and corrosion control hangars; adequate housing is available in existing dormitories and family housing. Building 7510 can provide supply areas, and the south apron has parking space for all Global Hawk aircraft. Aircraft parking spots near the south apron would be moved to allow a safe distance for ordnance storage. Building 1012 would be used for training.



**Figure 2.2-3 Construction Areas
Beale AFB, California**



**Figure 2.2-4 Construction Areas
Edwards AFB, California**



**Figure 2.2-5 Construction Areas
Ellsworth AFB, South Dakota**

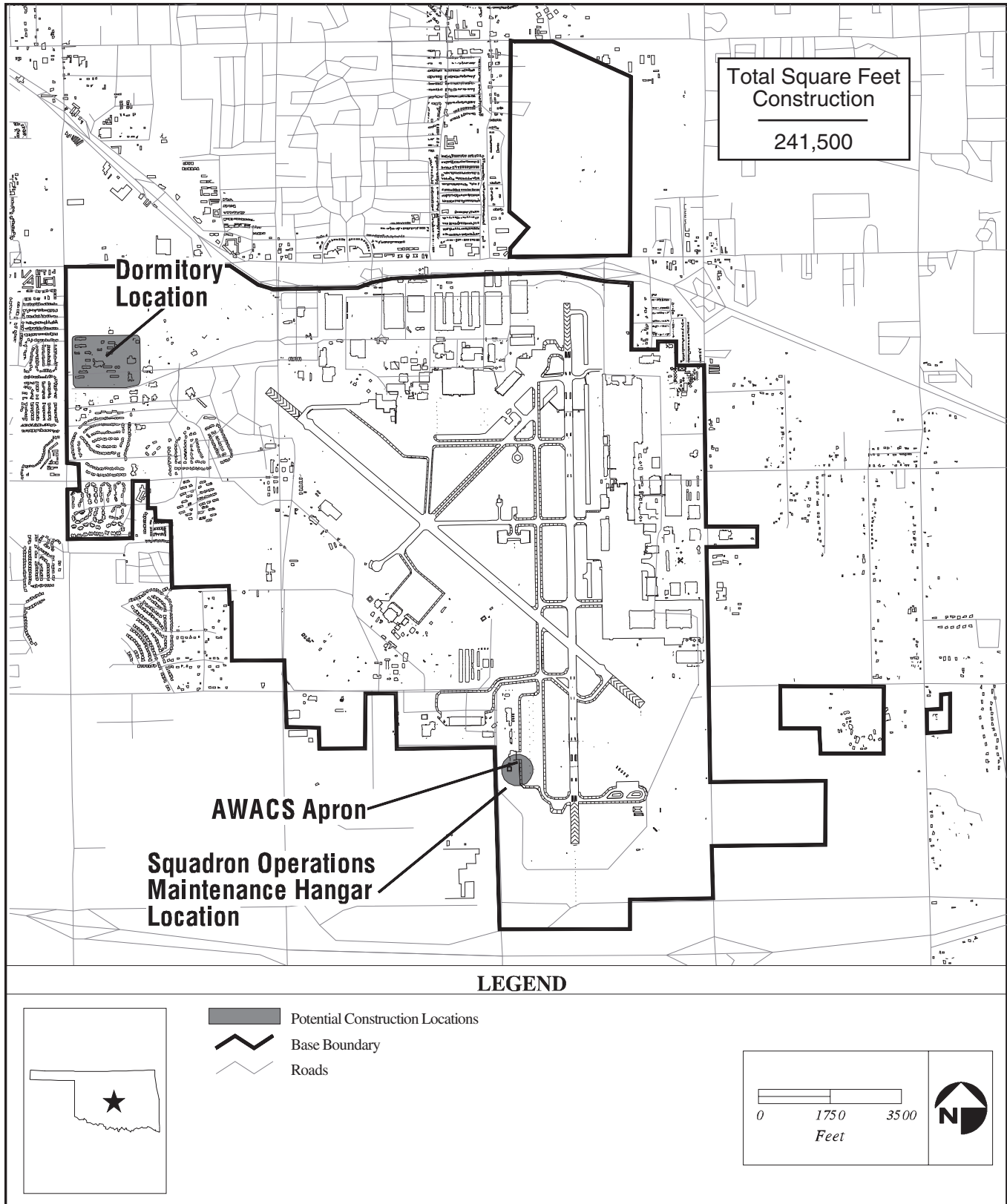
Tinker AFB. For the initial beddown, the AWACS alert apron to the south (Figure 2.2-6) has adequate parking space for the Global Hawks. The open space south of the apron would be used for temporary operations and maintenance facilities. For the final beddown, this space would be used for constructing permanent hangars, operations, maintenance, communications, and training facilities beginning in 2004. The existing security fence would be relocated to allow for construction. In 2006, a 200-person dormitory would be constructed for Global Hawk personnel.

Wright-Patterson AFB. The Global Hawk beddown would use mostly existing facilities. Global Hawk operations, communications, training, and maintenance would be housed in Building 101 (Figure 2.2-7). Building 268 would provide space for the supply and support equipment and, along with Building 206, for parking aircraft. Buildings 93 and 105 could supply additional support equipment maintenance facilities. Fuel cell and corrosion hangars may need to be constructed if support cannot be provided by the 445 Air Wing. In 2006, a 140-person dormitory would be constructed for incoming Global Hawk personnel.

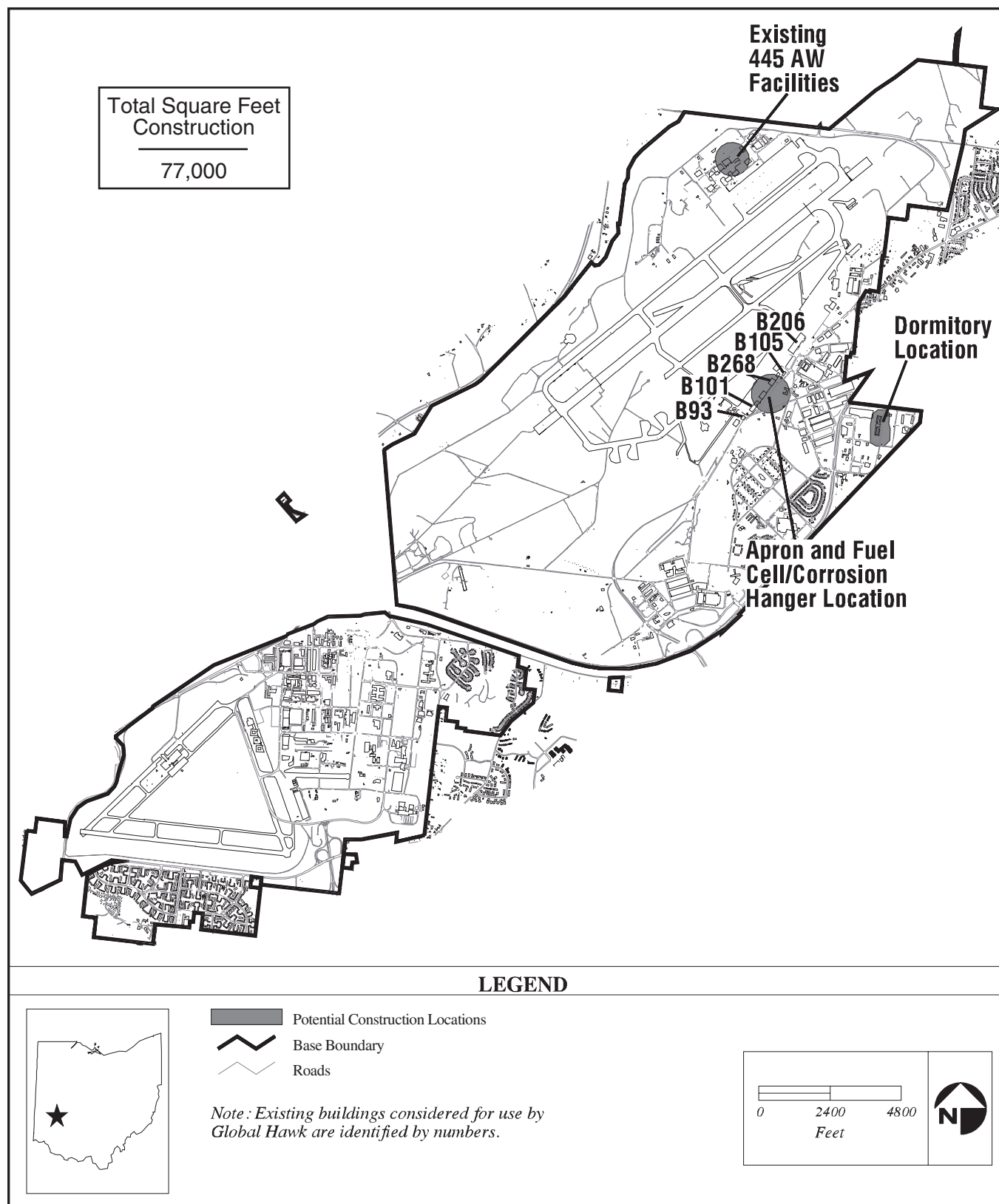
Construction associated with the Global Hawk beddown would vary from 55,000 to 241,500 square feet.

Table 2.2-4 Comparison of Construction by Base

<i>Base</i>	<i>Construction Activity</i>	<i>Size (Square Feet)</i>	<i>Year</i>
Beale	Construct new dining area	9,700	2004-2005
	Renovate storage (B.1025)		
	Renovate dining area (B.1086)	16,200	
	Construct child development center	9,100	
	Construct 200-person dormitory	67,000	2006-2007
Edwards	Construct maintenance/squad operations	40,000	2004
	Construct 100-person dormitory	33,500	2006
Ellsworth	Construct squadron operations	55,000	2004
Tinker	Construct squadron operations	24,000	2004-2006
	Construct hangar	67,000	
	Construct training facility	11,000	
	Construct communications facility	5,000	
	Construct tech pad	22,500	
	Construct supply warehouse	45,000	2006-2007
	Construct 200-person dormitory	67,000	
	Relocate security fence	NA	
Wright-Patterson	Construct fuel cell/corrosion hangars	30,000	2004
	Construct 140-person dormitory	47,000	2006



**Figure 2.2-6 Construction Areas
Tinker AFB, Oklahoma**



**Figure 2.2-7 Construction Areas
Wright-Patterson AFB, Ohio**

2.2.4 Personnel

The Global Hawk beddown would require 918 additional personnel to operate and maintain equipment and aircraft. The majority of personnel would be active duty military while a few of the personnel would be derived from reserve units, federal civilian employees, and contractors. At any time after full operational capability, approximately 133 active duty personnel may have temporary duty at forward operating bases..

Table 2.2-5 Global Hawk Personnel

<i>Active Duty</i>	<i>Reserve</i>	<i>Contractors/Civilians</i>	<i>Total Global Hawk</i>
831	74	13	918

Table 2.2-6 Baseline and Global Hawk Personnel

<i>Base</i>	<i>Current Number of Personnel</i>			<i>Global Hawk Personnel</i>			<i>% Increase</i>
	<i>Military</i>	<i>Civilian</i>	<i>Total</i>	<i>Military</i>	<i>Civilian</i>	<i>Total</i>	
Beale	3,114	651	3,765	905	13	918	24%
Edwards	3,623	7,495	11,118	905	13	918	8%
Ellsworth	3,252	830	4,082	905	13	918	22%
Tinker	7,183	23,710	30,893	905	13	918	3%
Wright-Patterson	6,782	12,600	19,382	905	13	918	5%

The Global Hawk beddown would increase current base population from 3 to 24 percent (Table 2.2-6). The largest increase would be at Beale AFB and the smallest at Tinker AFB. However, prior to a decline in population, most of these bases have had a higher population than they would acquire under the Global Hawk beddown (Figure 2.2-8). Ellsworth AFB has had a 45 percent drop in base population--from 7,363 in 1991 to current rates of 4,082. Beale, Edwards, and Wright-Patterson AFBs populations have dropped 23, 28 and 33 percent, respectively, since 1990. Tinker AFB population has remained at approximately the same level (around 30,000) in the last 10 years.

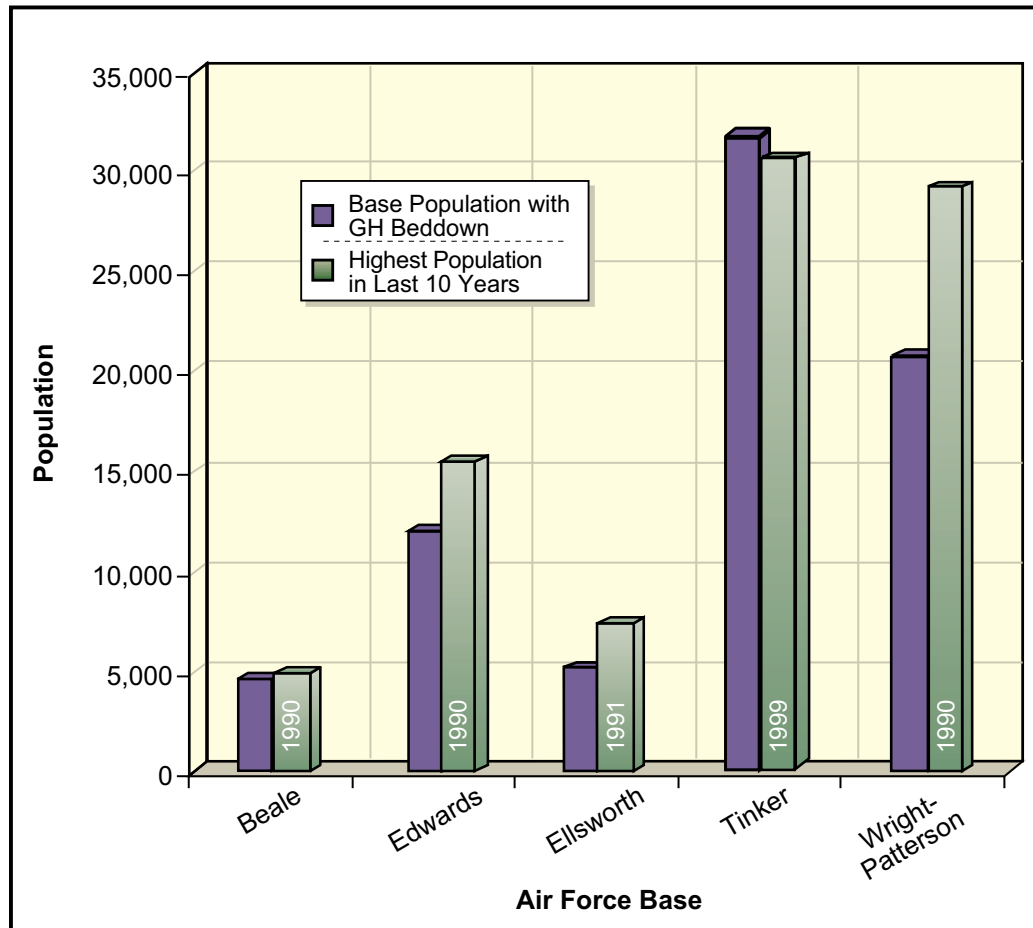


Figure 2.2-8 Comparison of Base Personnel with Global Hawk Beddown to 10-Year High

2.2.5 No-Action Alternative

The National Environmental Policy Act (NEPA) and CEQ regulations require analysis of a no-action alternative along with other action alternatives; for this EA, no-action would be the status quo at the five bases. Because the Air Force would not locate the Global Hawk at any of these bases at this time, no aircraft beddown, personnel changes, or construction would occur.

2.3 ENVIRONMENTAL IMPACT ANALYSIS PROCESS

This EA examines the specific affected environment for each alternative, considers the current conditions of the affected environment, and compares those to conditions that might occur under other alternatives, including no action. The following steps are involved in the preparation of the EA for this proposed action.

1. Announce that an EA will be prepared. A Notice of Intent was published on June 5, 2000, in the Federal Register.
2. Conduct scoping. Scoping was the first major step in identifying relevant issues to be analyzed in depth and eliminating issues that were not relevant. For this process, comments were solicited from the public, local governments,

federal and state agencies, and interest groups to ensure their concerns and issues about the proposal were included in the analysis. In June 2000, the Air Force sent over 100 Intergovernmental Interagency Coordination of Environmental Planning (IICEP) letters to announce the Air Force's proposal and planned scoping meetings and to request input from government agencies (see Chapter 6 for a list of agencies contacted).

3. Prepare a draft EA. After relevant issues have been identified in the scoping step, the environmental impacts of each alternative, including the no-action alternative, are analyzed. Results are described in the draft EA, the first comprehensive document for public and agency review. The draft EA is available on a web site (www.cevp.com). After the draft EA is distributed, a 30-day public comment period begins.
4. Provide a public comment period. Our goal during this process is to solicit comments concerning the analysis presented in the draft EA.
5. Prepare a final EA. Following the public comment period, a final EA will be prepared. This document will be a revision of the draft EA, include consideration of all comments, and provide the decisionmaker a comprehensive review of the alternatives and their potential environmental impacts.
6. Issue a Finding of No Significant Impact (FONSI). The final step in the NEPA process for the EA is a FONSI, if the analysis supports this conclusion.

This EA emphasizes comparative analysis among the alternatives. Since the nature of the proposed action is very similar, if not identical, at each of the five alternative bases, this EA presents data and then concisely compares environmental conditions and potential impacts between the alternatives. Tables and graphics are used to portray information and enhance the narrative.

NEPA regulations (40 CFR Parts 1500-1508) require an EA to discuss impacts in proportion to their significance and present only enough discussion of issues deemed not significant to show why more study is not warranted. Preliminary evaluation of the proposed action reveals four impact "drivers," or action elements that could affect the environment:

- Aircraft and airfield flight operations
- Ground-based operations and maintenance
- Construction
- Personnel changes

When these drivers are compared with the baseline conditions and situations at the five alternative bases, the affected area and resources impacted by each can be defined.

The public comment period allowed time for people to express their views on the draft EA.

2.3.1 Scoping and Public Involvement

To determine issues to be addressed during the impact analysis, the regulations implementing NEPA provide for a process called "scoping." Scoping is important to NEPA because it invites public input early in the process. In addition to this public input, the Air Force sought feedback from federal, state, and local agencies; elected officials; and technical specialists. The official scoping period for the Global Hawk EA began with the June 5, 2000, publication of the Notice of Intent in the Federal Register and concluded on July 7, 2000.

A public scoping meeting was held at communities associated with each of the five bases.

The scoping process for the Global Hawk EA included one scoping meeting at each of the five local communities. The meetings were held in an open house format with a formal presentation given by Air Force personnel. Meeting attendees were invited to ask questions or provide comments about the proposal. A court reporter recorded oral comments. In addition, written comments were received during the meetings and throughout the scoping period. A total of 277 people attended these meetings.

Through the scoping process, concerns about flight safety and air quality were raised by five citizens. Other questions concerned the radio frequencies used by the aircraft, any special needs (such as facilities), noise levels generated by the Global Hawk, and the ability of one base (that might be too densely populated) to support flight of an unmanned vehicle. These concerns are addressed in the EA. In general, most of those who commented supported the beddown of the Global Hawk in their community.

2.3.2 Public Comment on the Draft EA

The draft EA was published on November 8, 2000. More than 280 copies of the draft EA were distributed to agencies, the public, and repositories. The repositories included local libraries and the public affairs office on each base. The public comment period lasted from November 8 to December 7, 2000. The Air Force received 19 letters from federal and state agencies and members of the public. Each comment was reviewed and responses were prepared (see Appendix G). These public and agency comments also provided input for change to and clarification of this final EA.

The Air Force has contacted regional offices of the FAA, U.S. Fish and Wildlife Service, SHPOs, and Native American groups.

Comments provided during the public comment period restated concerns raised during scoping. These issues included: the proximity of construction to contaminated areas, depiction of flight safety, and the degree of contribution of the beddown to the local economy. Most of those who commented supported the beddown of the Global Hawk.

2.3.3 Consultation

Currently, airspace requirements for aircraft such as the Global Hawk are governed by FAA Order 7610.4, Special Military Operation, Chapter 12, Section 9. This order requires that operations of this type of aircraft be normally conducted within restricted areas or warning areas. For operations outside Restricted or Warning Areas, the FAA Regional Office-Air Traffic Division may grant a Certificate of Authorization, not to exceed 1 year in duration. The eventual goal is to integrate Global Hawk operations fully into the National Airspace System.

To meet these requirements, the Air Force has begun discussions with the FAA. These discussions have focused on defining the operational, procedural, and analytical requirements for the Global Hawk at and around bases and in the National Airspace System. Formal consultation with the FAA would take place once a main operating base is selected.

In accordance with the Endangered Species Act and the National Historic Preservation Act, the Air Force has begun discussions with the U.S. Fish and Wildlife Service and the California, Oklahoma, South Dakota, and Ohio State Historic Preservation Officers (SHPOs). Government-to-government consultation with 21 Native American tribes and reservations is ongoing in accordance with the Presidential Memorandum of 29 April 1994, Executive Order 13084 (Consultation and Coordination with Indian Tribal Government), and the DOD American Indian and Alaskan Native Policy (1998). All of these agencies and tribes have been notified of the proposed action and the Air Force has solicited their concerns (Appendix F). SHPOs from Oklahoma and South Dakota have expressed concern about effects to archaeological sites from construction and the National Park Service has indicated a concern for any ground-disturbance activities near the Dayton Aviation Heritage National Historical Park and the Huffman Prairie Flying Field National Historic Landmark in Ohio and the Badlands National Park in South Dakota. These concerns are addressed in sections 3.7 and 4.7. U.S. Fish and Wildlife Service offices from Ventura, California; Reynoldsburg, Ohio; and Sacramento, California provided lists of threatened and endangered species from their regions. Consultation associated with the Endangered Species Act would take place once a beddown location is selected.

2.3.4 Permits

Under the Clean Air Act (CAA) of 1990, Title V requires that major sources of air pollutants within each air district obtain a federal operating permit. This permit is an all-encompassing permit that includes all local air district permits (that is, criteria pollutants and hazardous air pollutants [HAPs]) and documents compliance with other CAA regulations. Ellsworth AFB has a Title V permit. Edwards AFB, Tinker AFB, and Wright-Patterson AFB have filed Title V permit applications that are currently pending review and approval by the air districts. Compliance with local air district permits and other CAA regulations are required until the permit is approved. Once issued, Title V permit compliance would be an additional requirement. Beale AFB is not classified as a major stationary source and is not subject to the requirements of Title V of the CAA.

New construction at Tinker AFB would require an air quality construction permit from the State of Oklahoma. The permit application for the Oklahoma Department of Environmental Quality requires detailed process and operations information, emissions estimates, and floor plans. The time needed to obtain the permit will vary depending on the complexity of the application and on whether the application is submitted before or after the Tinker AFB initial Title V operating permit is issued. Oklahoma Department of Environmental Quality may take up to nine months to issue an individual source permit or Title V permit modification. If Oklahoma County is designated as a nonattainment area for ozone before the permit application is submitted, additional constraints associated with the nonattainment status may be necessary.

Once the Global Hawk main operating base is selected, construction permits appropriate to the magnitude of construction necessary would be obtained.