2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

This section presents a detailed description of four alternatives. Three alternatives, all of which involve development of a training range and other facilities, support the proposed action of Enhanced Training in Idaho (ETI). The No-Action Alternative provides for no development of new facilities and no enhanced training. This section includes a discussion of the characteristics used to identify and screen candidate alternatives for providing quality, combat-effective training. It also discusses alternatives considered but not carried forward for further analysis. Finally, the chapter summarizes and compares the environmental impacts of the four alternatives.

2.1 IDENTIFICATION OF ALTERNATIVES

Identification and analysis of alternatives is one of the core elements of the environmental process under the National Environmental Policy Act (NEPA) and Air Force Instruction (AFI) 32-7061. For this proposal to enhance training, the Air Force worked with the Bureau of Land Management (BLM), consulted with the Shoshone-Paiute Tribes, the State of Idaho, and other agencies, and listened to the public to help identify potential alternatives. This effort also involved seeking input from these groups on the characteristics of alternative sites that would make them suitable or unsuitable to contain training facilities. The Air Force considered these characteristics and integrated them into the identification of the alternatives.

2.1.1 Alternative Identification Process

As discussed in Chapter 1, this proposal seeks to provide the 366th Wing with enhanced training opportunities that offer quality, realism, and flexibility. Existing local training ranges, airspace, and emitter sites used by the 366th Wing offer limited realism, flexibility, and quality. Training at remote ranges requires transit time that expends finite flying hours and funding, yet yields minimal training value. An integrated set of training facilities would achieve the goal of enhanced training if it incorporates Saylor Creek Range (SCR) and the existing military operations areas (MOAs); provides the flexibility to vary attacks and tactics; presents aircrews with challenging, realistic battlefield situations; and allows for ready access on a day-to-day basis. The Air Force also recognized that, to the extent possible, these facilities should be compatible with the surrounding environment and natural setting.

2.1.1.1 INITIAL INTERAGENCY AND INTERGOVERNMENTAL DISCUSSIONS

Identification of alternatives seeking to enhance training for the 366th Wing involved extensive interagency and intergovernmental discussions. Representatives from Headquarters Air Force, the Department of Interior, State of Idaho, and the Shoshone-Paiute Tribes reviewed Air Force concepts for a tactical training range based on 366th Wing training activities. In addition, the Air Force identified that no-drop targets, emitter sites, and airspace would be required in this

area to enhance training. The interagency and intergovernmental discussions resulted in the identification of possible land areas that would provide opportunities for this enhanced training. These initial search areas were located in eastern Owyhee County, south and southwest of SCR, and provided the basis for preliminary identification of six candidate range alternatives. The Air Force identified two additional candidate range alternatives with similar characteristics to those found in the initial search areas.

Discussions of this type have continued throughout the environmental impact statement (EIS) process, especially with the BLM. These have led to the refinement of information, analysis, and explanation, as well as to the definition of the preferred alternative.

2.1.1.2 OPERATIONAL CONSIDERATIONS

To provide a more precise evaluation of potential candidate range alternatives, the 366th Wing further refined the operational considerations. As presented in Chapter 1, the training range, no-drop targets, emitter sites and airspace required to enhance training must offer operational attributes that provide for flexibility, realism, and quality. The operational considerations used are presented below.

Provide 360-degree axis of attacks on targets. To enhance realism and avoid unnecessary repetition in training, target areas and a range site should allow aircrews to approach from all axes and angles. By offering 360-degree access, aircrews could vary their training missions on a daily basis, creating a multitude of opportunities to simulate actual combat conditions. This type of access would also enhance the ability to conduct simultaneous and precision-timing training attacks by multiple aircraft at a single target area, thereby supporting Composite Wing Training (CWT) and Operational Readiness Exercise / Inspections (ORE / ORIs). The Air Force determined, based on the tactics required of aircraft in the 366th Wing, that the site for the targets should be at least 15 miles from the edge of a MOA to ensure 360 degrees of access.

Accommodate establishment of restricted airspace over a range where non-explosive training ordnance would be used. Air Force and Federal Aviation Administration (FAA) requirements dictate the need to establish restricted airspace over training ranges where potentially hazardous activities (e.g., training ordnance delivery) occur. Therefore, such a training range would lie in an area where restricted airspace could be established without conflicting with FAA-charted airspace. Such airspace should extend at least 5 nautical miles (NM) in all directions from the center of the target area within the range.

Offer approximately 12,000 acres of land within which specific targets could be used to drop non-explosive training ordnance. As described in Chapter 1, the Air Force established that realistic training requires a variety of targets that allow training ordnance delivery. The delivery of training ordnance and the rapid return in scoring information provide the aircrew with essential information on the quality of performance that cannot be obtained through a no-drop target. To provide the 366th Wing an effective tactical range that allows training ordnance delivery and includes a variety of targets, it is necessary to have a relatively square

tract of land covering about 12,000 acres. To determine this size, the Air Force identified all of the training ordnance delivery events (e.g., high-angle dive bomb) that each aircrew needs to conduct during training. Then it considered the weapons safety footprints (i.e., the distance within which a 99.99 percent probability exists that training ordnance would impact or come to rest) for each aircraft and event in order to determine the area that would be needed to accommodate all events. Using this information, the Air Force identified those primary training ordnance delivery events that would maximize training while using the least amount of land. By eliminating all events that involved use of training ordnance larger than 25 pounds, and even eliminating some events using small training ordnance, the Air Force defined an area of approximately 12,000 acres within which all weapons safety footprints for proposed events would be contained.

Ensure flexibility and realism in target and emitter site configuration, location, and appearance. At SCR, the targets lie unrealistically close to each other, and these targets offer abundant visual cues. These situations can be used effectively for mastering conventional training ordnance delivery that involves repeated actions under controlled conditions. However, realistic, quality tactical training for the 366th Wing requires that targets

- have an appearance similar to real combat targets;
- are widely distributed, consistent with battlefield conditions; and
- offer aircrews a wide variety of appearances when approaching from different angles.

In addition, these targets would be defended by electronic emitters that simulate an enemy defensive line to protect targets and attack incoming aircraft. Many possible locations at which emitters could be situated provide the element of surprise and variation for aircrews. On average, five to eight emitter sites would be in use each weekday. During CWT exercises, emitters could occupy approximately 15 of the sites over a 2-to 3-day period.

To provide a variety of targets with their emitters, yet use the smallest amount of land possible, the Air Force recognized that areas other than the 12,000-acre site would be necessary. However, to minimize the amount of affected land, the Air Force decided that these additional no-drop targets would not be used for any training ordnance delivery. Whereas aircrews would fly the same as if they were delivering training ordnance, they would not release any training ordnance at these no-drop targets. Without training ordnance delivery and its associated safety requirements, these no-drop target areas only require land area sufficient to accommodate the actual targets.

By using no-drop targets and expanding the emitter capabilities associated with the range, the 366th Wing could obtain access to a larger number of dispersed, variable targets with a number of associated emitters, while minimizing the amount of lands needed. Therefore, the Air Force examined the area for possible no-drop target sites and emitter locations, ensuring adequate separation from one another, SCR, and any proposed range sites.

Permit simultaneous use of SCR and a new tactical range. To enhance daily training and especially CWT, the site for a 12,000-acre range needed to be separated sufficiently from SCR. In this way, aircraft could attack both areas simultaneously, replicating tactics used in actual combat. In addition, the deliveries of larger, inert training ordnance and strafing could be conducted at SCR in conjunction with smaller (up to 25 pounds) training ordnance delivery at targets on the 12,000-acre range, providing a variety of deliveries. A minimum distance of 15 miles from the limits of SCR's target area would allow simultaneous approaches and departures of multiple aircraft at each site, thus enhancing CWT.

Offer relatively flat terrain. To facilitate construction and reduce the potential for erosion, the Air Force determined that the sites for the 12,000-acre range and the no-drop targets should consist of relatively flat terrain. Flat terrain is also conducive to cleaning and maintaining the target area.

Provide reasonable, year-round access. To increase their utility and reduce potential effects from construction and maintenance, the sites for the 12,000-acre range, the no-drop targets, and the emitters would need to lie near an established road system. For the 12,000-acre range, the system must also provide a high probability of access throughout most of the year.

2.1.1.3 ENVIRONMENTAL CONSIDERATIONS

In addition to operational considerations, the Air Force identified environmental considerations for location of ground-based elements of ETI. The Air Force considered the ability of a candidate range alternative to address competing demands for land uses while avoiding ground disturbance to or protecting environmental and cultural resources. The following describes those considerations.

Avoid special use land management areas. Wilderness Study Areas (WSAs), Areas of Critical Environmental Concern (ACECs), and other special use land management areas all contain lands and resources for which certain protections have been established regarding on-the-ground development and use. In southwest Idaho, many of these areas correlate to river and creek canyons. The Air Force recognized the special status of these lands and considered them in the siting of possible alternative sites for a training range, no-drop targets, and emitter sites.

Consider concerns of Native Americans regarding specific training sites. Through discussions with the Shoshone-Paiute Tribes, the Air Force learned of their concerns regarding the locations of possible sites for a training range, no-drop targets, and emitter sites (refer to section 1.4.4). The Air Force considered these concerns when identifying alternatives. As a result of these discussions, the Air Force eliminated the western half of Owyhee County from consideration early in the identification process.

Avoid areas containing known (and documented) critical or crucial habitat for wildlife, particularly threatened, endangered, or other special status species. The Air Force used this consideration to screen out locations (including prospective emitter and no-drop target sites) in

order to reduce the potential for impacts. For example, Air Force and BLM biologists re-sited several potential emitter sites to avoid sage grouse habitat and leks.

While the Air Force used these three main environmental considerations to assist in eliminating locations, it also considered other concerns in its screening process for identifying potential sites for on-the-ground facilities. Chief among these concerns was reducing the potential to impede road access to ranchers, recreationists, and others.

2.1.1.4 USING THE ENVIRONMENTAL AND OPERATIONAL CONSIDERATIONS TO EVALUATE CANDIDATE RANGE ALTERNATIVES AND OTHER PROJECT COMPONENTS

Candidate range alternatives were evaluated using all the considerations presented above. Application of these operational and environmental considerations to the eight candidate range alternatives identified through interagency / intergovernmental discussions and by the Air Force yielded

- Two candidate alternatives that conformed to the considerations and were carried forward for analysis in the draft environmental impact statement (DEIS); and

- Six candidate alternatives eliminated from further analysis due to nonconformance with the considerations.

For other project components, no-drop targets and emitter sites, the Air Force identified potential sites based on operational and environmental factors. Due to the size and limited impacts of no-drop targets and emitter sites, the Air Force had more flexibility to site these project components.

The Air Force identified an initial set of 20 one-quarter-acre and 10 one-acre locations for emitter sites, based on operational and environmental considerations. Through consultation with the BLM, research of existing information, and field studies, the Air Force chose to replace 14 of these locations with different sites that still met operational requirements, but offered a lower potential for environmental impacts. Some of the reasons for eliminating the original locations included evidence of a current sage grouse lek, the presence of even a small archaeological site, and sensitivity of viewpoints encompassing the site. Replacement sites were screened using field studies (i.e., biological surveys, archaeological surveys) to avoid potential impacts.

Similarly, a possible site for a five-acre no-drop target was eliminated due to both environmental and operational considerations. Its replacement better met operational considerations and offered no documented environmental concerns.

2.1.2 Candidate Alternatives

Two types of alternatives were considered in the identification process: candidate range development alternatives and the No-Action Alternative. Although representative of an array

of locations, all range development alternatives lie within the portion of eastern Owyhee County encompassed by the initial search area defined using the operational and environmental considerations from sections 2.1.1.2 and 2.1.1.3. In contrast, the No-Action Alternative includes the existing training assets in southwest Idaho, as well as existing ranges and airspace in Nevada and Utah.

2.1.2.1 CANDIDATE RANGE DEVELOPMENT ALTERNATIVES

Figure 2.1-1 shows the locations of the candidate range development alternatives. Table 2.1-1 lists these candidates and their conformance to the environmental and operational considerations used in the identification process.

CANDIDATE ALTERNATIVES IDENTIFIED BY THE AIR FORCE

1. Table Butte

Located about 11 miles southwest of SCR, this candidate alternative would allow the establishment of restricted airspace, acquisition of 12,000 acres, and flexibility of target use but would not allow a 360-degree approach. Since it lies less than 15 miles from SCR, it cannot be used simultaneously with SCR. It also lacks flat terrain and proximity to an established road system, which would require extensive road building that would have economic and environmental costs. Although not overlapping any WSA or canyon, it abuts a WSA associated with Bruneau Canyon. For these reasons, the alternative was not carried forward for detailed analysis.

2. Jacks Creek

This candidate alternative is located about 26 miles west of SCR. Although a 360-degree approach would not be possible, it would allow target flexibility. The site is dominated by rough terrain, making access and construction difficult. It also contains potential habitat for California bighorn sheep, a special status species. This candidate also abuts the Big Jacks Creek WSA. For these reasons, the alternative was not carried forward for detailed analysis.

3. Rattlesnake

This candidate alternative is located approximately 28 miles southwest of SCR. It was not carried forward due to its proximity to the Duck Valley Reservation, potential conflicts with cultural resources, and its location near a special land use management area.

4. Saylor 1

This candidate alternative, located just outside of the southeastern boundary of SCR, is 6 miles from the existing range. It was not carried forward due to its proximity to SCR, which would not allow a simultaneous use of both ranges, a lack of existing roads and access, and presence of steep, rocky terrain, making access and training ordnance cleanup activities very difficult.

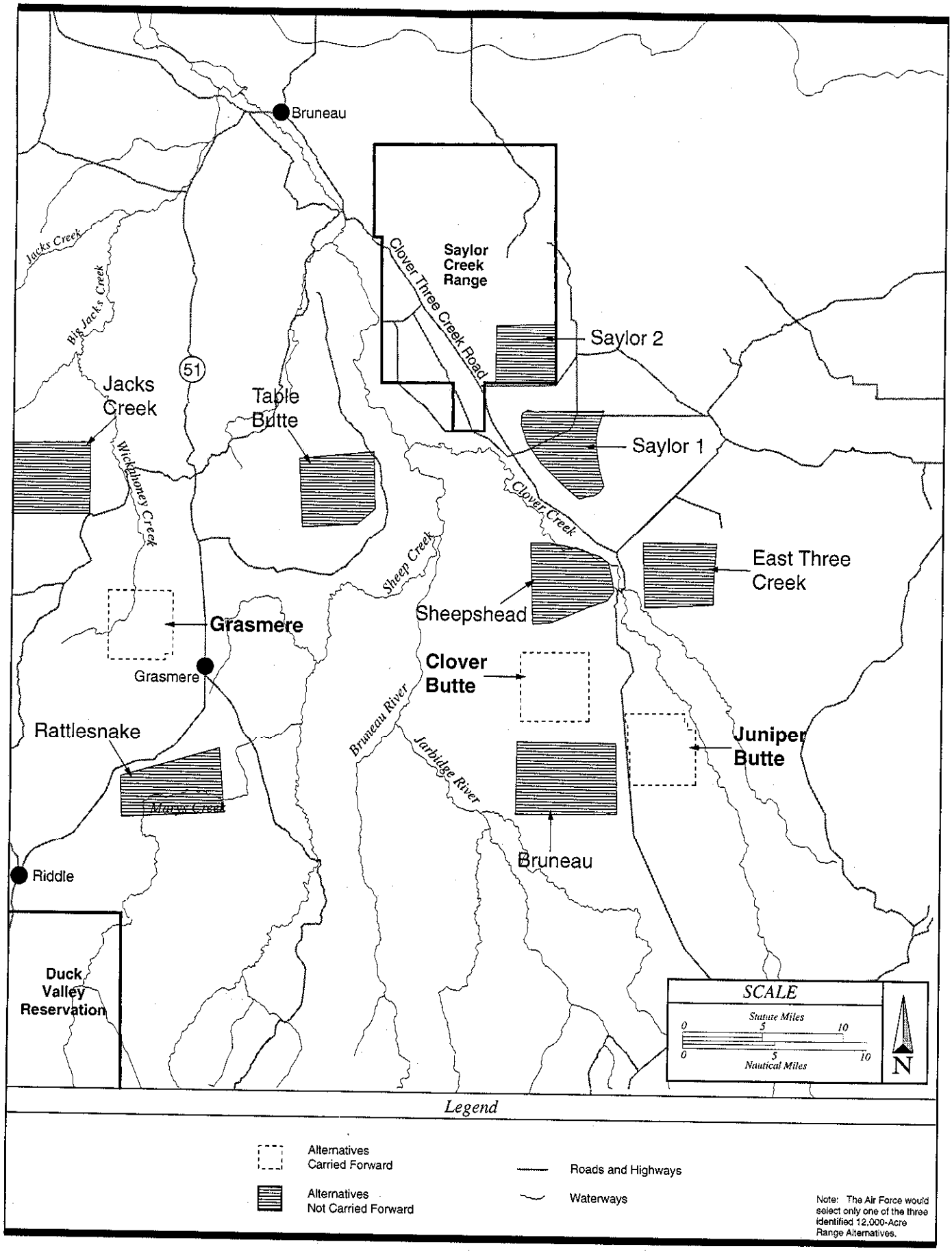


Figure 2.1-1 Candidate Range Development Alternatives

Table 2.1-1. Candidate Range Development Alternatives and Environmental and Operationa

Candidate Alternatives	*360 Degree Approach*	*Establish Restricted Airspace*	*12,000 Acres Available*	*Flexibility*	*Simultaneous SCR Use*	*Flat Terrain*	*Access*	*Special Use Lands*
1. Table Butte	no	yes	yes	yes	no	no	no	yes
2. Jacks Creek	no	yes	yes	yes	yes	no	no	yes
3. Rattlesnake	yes	yes	yes	yes	yes	yes	yes	yes
4. Saylor 1	yes	yes	yes	yes	no	no	no	no
5. Sheepshead	yes	yes	yes	yes	no	no	no	no
6. Bruneau	yes	yes	yes	yes	yes	yes	yes	yes
7.	yes	yes	yes	yes	yes	yes	yes	no
8. Grasmere	yes	yes	yes	yes	yes	yes	yes	no
9. Saylor 2	no	yes	yes	yes	no	yes	yes	no
10. East Three Creek	yes[2]	yes	yes	yes	no	no	yes	no
11. Juniper Butte	yes[2]	yes	yes	yes	yes	yes	yes	no

Notes: 1. Considerations were based on evaluation prior to field analysis
2. This consideration applies with a 2-mile extension on the eastern boundary of the MOA
Shading = Desirable attribute / conformance with consideration

5. Sheepshead

Located about 12 miles south of SCR, this candidate was not carried forward primarily because it would not allow a simultaneous use of the SCR. Portions of the site also contained steep and rocky terrain, making construction, access, and cleanup activities very difficult, as well as increasing the potential for erosion.

6. Bruneau

This candidate alternative, located about 26 miles south of SCR, conformed to the operational considerations, but also contained environmental concerns. It was not carried forward because it was near the Bruneau River-Sheep Creek WSA and because it contained three known rare plant species.

7. Clover Butte

This alternative conforms to all operational and environmental considerations. It lies a sufficient distance from the edge of the MOA and from SCR (about 19 miles), and it does not include or abut special use land management areas or habitat for protected species. Access from Clover-Three Creek Road is good, and relatively flat terrain dominates the site. Based on these considerations, this alternative warranted further environmental analysis and was designated Alternative B.

8. Grasmere

Located about 22 miles southwest from the target area on SCR, this candidate alternative offers predominantly flat terrain, excellent access from State Highway 51, a location that ensures 360 degrees of access by aircraft, and sufficient size to accommodate the required training activities. During the alternative identification process, no known habitat or cultural sites were noted based on existing information. This candidate alternative also conformed to the defined operational and environmental considerations. Therefore, this alternative warranted further environmental analysis in this EIS and was designated Alternative C.

CANDIDATE ALTERNATIVES IDENTIFIED THROUGH PUBLIC SCOPING

The scoping process, in which the Air Force and BLM received input from the public and other agencies, offered the opportunity for the public to suggest different candidate alternatives and alternative sites. Scoping yielded three suggested alternatives: Saylor 2, located on the southeast corner of the existing SCR withdrawal; East Three Creek, located north of Clover Butte and east of Clover-Three Creek Road; and Juniper Butte, located south of Clover Butte and east of Clover-Three Creek Road. These candidate alternatives were then evaluated using the same process as discussed above.

9. Saylor 2

This candidate alternative was suggested because it would preclude the need for withdrawal of additional land for use by the Air Force. Saylor 2 lies within the existing boundaries of SCR, about 7 miles from the center of the target area. It also underlies R-3202. As such, this candidate alternative would be subject to all the airspace limitations associated with SCR. Moreover, it would not provide a 360-degree approach, nor would it provide sufficient geographic separation to permit simultaneous use of the tactical training range and existing SCR targets. Because of these limitations, this alternative was not carried forward in the analysis.

10. East Three Creek

This alternative is located about 15 miles southeast of SCR but approximately 13 miles from the eastern edge of the existing MOA, offering less than a 360-degree approach; with a two-mile extension of the MOA, the full 360-degree approach would be possible. Operationally, the location would provide the minimum distance from SCR. Environmentally, however, the steep and rugged terrain would hamper construction and cleanup of used training ordnance and could increase the possibility of erosion and sediment transport into the East Fork Bruneau Canyon (Clover Creek). Because of these limitations, this alternative was not carried forward in the analysis.

11. Juniper Butte

Juniper Butte, located about 25 miles southeast of SCR, offers relatively flat terrain, good access from Clover-Three Creek Road, and sufficient internal access. Similarly, it lies well away from special use land management areas and contains no known crucial or critical wildlife habitat, based on existing information. The East Fork of the Bruneau River lies adjacent to the northeast corner of the candidate site; this segment and nearby portions of this canyon do not contain any special use land management areas.

Operationally, the Juniper Butte candidate alternative lies 13 miles, not 15 miles from the eastern edge of the existing MOA. The alternative offered less than 360 degrees of access for aircraft without the eastward expansion of the MOA airspace; with expansion, the required full 360 degrees would be available to all aircraft. Since it conformed to all other environmental and operational considerations, the Air Force, in consultation with the BLM, determined it reasonable to propose a 2-mile expansion of the MOA to accommodate this candidate alternative. Therefore, Juniper Butte was carried forward for detailed environmental analysis and designated Alternative D.

2.1.2.2 NO-ACTION ALTERNATIVE

In the absence of developing a new local training range, no-drop targets, emitter sites, and associated airspace, the 366th Wing would continue to train using SCR, the MOAs, and Military Training Routes (MTRs) and the existing remote ranges at Nellis Air Force Range

(NAFR) and Fallon Training Range Complex (FTRC) in Nevada, and the Utah Test and Training Range (UTTR) in northwestern Utah. Continuation of training under the No-Action Alternative would not provide the enhancements needed by the 366th Wing, particularly because finite flying hours and funding would be expended in transit, not in training.

The No-Action Alternative was carried forward as Alternative A for detailed environmental analysis in this EIS. Section 2.2, below, describes this alternative.

2.1.2.3 ALTERNATIVES CARRIED FORWARD FOR DETAILED ENVIRONMENTAL ANALYSIS

As a result of the alternative identification process, four alternatives were carried forward for detailed environmental analysis in this EIS:

- Alternative A – No Action
- Alternative B – Clover Butte (Range Development)
- Alternative C – Grasmere (Range Development)
- Alternative D – Juniper Butte (Range Development)

Each of these four alternatives is described in detail in sections 2.2 and 2.3.

2.2 ALTERNATIVE A — NO-ACTION

Under NEPA, "No Action" means that a proposed action (e.g., range development) would not take place, and the resulting environmental effects from taking no action would be compared with the effects of permitting the proposed activity or an alternative activity to go forward. Under the No-Action Alternative for ETI, no additional training range sites, emitter sites, or airspace would be developed. This alternative would not involve any land and realty actions, nor any modification to special use airspace. Aircrews would continue to perform the same training activities as they currently conduct, using existing local and remote ranges and airspace. However, cold spots or no spotting charges would be used at SCR. This would reduce the already low potential for non-explosive training ordnance-caused fires.

2.2.1 Range Use

Many comments were received from the public during the scoping process that expressed a desire for the Air Force to simplify the way it describes flights and aircraft operations in training airspace. In response, the following discussion provides a description of aircraft operations out of Mountain Home Air Force Base (AFB).

During the course of flight from takeoff through landing, military aircraft often use more than one defined airspace area. An airspace area may be a MOA, restricted area, or an MTR. For example, an aircrew in an F-15E would take off from Mountain Home AFB and fly in Paradise MOA, Owyhee MOA, SCR, then land at Mountain Home AFB. This results in one *sortie*, but would also account for three *sortie-operations*, one for each of the airspace areas. Sortie and sortie-operation (refer to section 1.1.2 and Appendix N for additional description) are used throughout this document to characterize aircraft operations.

This method of characterizing aircraft operations is used to differentiate between the flights conducted from takeoff to landing (sorties) and the use of airspace areas (sortie-operations). The number of sortie-operations is used to quantify the number of uses by aircraft and to accurately measure potential impacts, i.e., noise, air quality, and safety impacts. A sortie-operation is not a measure of time, nor does it indicate the number of aircraft in an airspace area during a given period.

Under the No-Action Alternative, the number and distribution of sorties and sortie-operations for ranges would remain the same as baseline. The 366th Wing would continue to train at SCR and the remote ranges – NAFR, FTRC, and UTTR.

2.2.1.1 BASELINE SORTIE-OPERATIONS AND NO-ACTION ALTERNATIVE SORTIE-OPERATIONS

Baseline and No-Action Alternative sortie-operations form the measure against which changes resulting from the different alternatives are evaluated. These sortie-operations account for the following:

- All annual aircraft sortie-operations conducted by the 366th Wing and other users of SCR and the MOAs within southwest Idaho and its vicinity;

- Annual sortie-operations for B-1B aircraft based at Mountain Home as part of the 366th Wing, projected according to the proposed action presented in the Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the Relocation of the 34th Bomb Squadron to Mountain Home AFB (Air Force 1996b); and

- Annual sortie-operations for A-10 and C-130 aircraft based at Gowen Field as replacements for the F-4G aircraft operated by the Idaho Air National Guard (IDANG), projected according to the proposed action presented in the EA and FONSI for the Aircraft Conversion for the 124th Wing (National Guard Bureau [NGB] 1996a).

The following discussion details the sources of the annual baseline and No-Action Alternative sorties for all users of SCR and the MOAs.

366th Wing. With the exception of the B-1B aircraft, the type, nature, and number of sorties and sortie-operations used in the baseline represent actual counts derived from scheduling and other information maintained by the managers of the airspace – the 366th Wing and 124th Wing. This information covers actual annual sorties by F-15E, F-16C, F-15C, and KC-135R aircraft from the 366th Wing, which account for 73 percent of the activity in the airspace. While sorties by these units may vary slightly (5-10 percent) from year to year due to deployments, utilization rates, weather conditions, and other factors, these totals represent the best available information on aircraft activities for baseline and the No-Action Alternative.

B-1Bs as Part of the 366th Wing. B-1B aircraft have operated in this airspace for several years, including as part of the 366th Wing while the B-1Bs were stationed at Ellsworth AFB. As noted in Chapter 1, this assigned B-1B squadron transferred to Mountain Home AFB in August of 1996. Since these aircraft have not been based at Mountain Home AFB for a year and were not based there for the period used to define the baseline for the remainder of the 366th Wing, projected numbers of sorties in each airspace unit were incorporated into baseline conditions and the No-Action Alternative. B-1Bs account for 3 percent of the sorties in the airspace. The projected annual sorties described in this EIS match those presented in the EA and FONSI (Air Force 1996b) addressing the relocation of the B-1Bs to Mountain Home AFB.

124th Wing (IDANG). Like the B-1Bs, the A-10 and C-130 aircraft were phased into the 124th Wing over a period of months (July-November) in 1996. The F-4G aircraft, which they replaced, had not been flown or had been removed very early in 1996. To consider the actual sorties performed by the 124th Wing during this period as baseline would yield an inaccurate description of the overall airspace use. Therefore, the projected number of sorties by A-10 and C-130 (19 percent of total sortie-operations in all local airspace) aircraft in each airspace unit were integrated with all other sorties for the baseline and No-Action Alternative. The projected

annual sorties described in this EIS match those presented in the EA and FONSI (NGB 1996a) addressing the conversion of the 124th Wing from F-4Gs to A-10s and C-130s.

Other Users. Aircraft from other Air Force units and services (e.g., Navy) have regularly used SCR and the MOA airspace over the past three decades. Indeed, sorties by these other users, known as transients, accounted for a much larger proportion of the total activity in the past (i.e., 25 percent in 1991-1992). Currently, transients annually conduct less than 5 percent of the sortie-operations in each airspace unit. This would continue under the No-Action Alternative. The nature and number of sorties used in the baseline and No-Action Alternative reflecting transient activities consist of actual counts derived from scheduling and other information maintained by the 366th Wing and IDANG. The design of ETI to match the 366th Wing needs and the scheduling mitigations incorporated into range operations are expected to prevent any increased demand for airspace or range time by transient users.

ANNUAL VARIATIONS IN SORTIES AND SORTIE-OPERATIONS

Several factors influence annual variation in the number and distribution of sorties and sortie-operations for the 366th Wing:

- **Utilization rate**. The utilization rate essentially represents the number of sorties that a single aircraft will fly in a month. As such, it also influences the number of sortie-operations to a degree. The utilization rate is normally determined at the beginning of the fiscal year, and remains relatively constant during the year. Utilization rates vary from year to year due to changing Congressional appropriations and Air Force allocation of flying hours, which can cause variations to predicted use under any alternative, including the No-Action Alternative.

- **Evolution of training**. Baseline sortie-operations reflect the influence of the evolution of training for the 366th Wing. Changes in tactics associated with this evolution resulted in aircrews using higher altitudes for a greater proportion of training and conducting generally shorter duration sorties. Tactics will continue to evolve as the world geopolitical situation changes and as aircraft capabilities improve.

- **Weather**. Weather can influence where and when sortie-operations occur. It can also lead to concentrations of sortie-operations following periods of severe weather conditions. Weather conditions in the local flying area associated with Mountain Home AFB are rarely severe enough to cause such problems. However, such conditions vary from year to year, and could cause variations to predicted use under any of the alternatives, including No-Action.

- **Deployments**. The 366th Wing is deployed to other bases throughout the year, usually for two periods of two weeks, to support a variety of training missions. National defense needs may require any portion of the Wing to deploy more

frequently or for longer periods of time. For example, during 1996, the 366th Wing deployed parts of four squadrons to Turkey for Operation Provide Comfort, and part of one squadron to Jordan as part of an Air Expeditionary Force. Deployments vary from year to year, and can cause variations to predicted sortie-operations.

BASELINE AND NO-ACTION ALTERNATIVE TRAINING ACTIVITIES

The 366th Wing represents the primary user of the existing airspace for SCR and the MOAs in southwest Idaho and its vicinity. As the primary user, scheduler, and manager of the airspace, the 366th Wing conducts a range of training activities, including continuation training (CT), limited CWT, and occasional OREs / ORIs. Section 1.3.1 of this EIS describes each of these sets of training activities in detail; Table 2.2-1 summarizes these activities and the general use of the airspace.

Table 2.2-1. Baseline and No-Action Alternative Training Activities and Airspace Use by the 366th Wing at SCR and Local Airspace

Training Activity	*Primary Airspace Used*	*Frequency*
CT		
Air-to-Ground		
Surface Attack Tactics	SCR and associated MOAs, Owyhee MOA	Multiple times daily
Conventional Weapons Delivery	SCR and associated MOAs	Multiple times daily
Tactical Weapons Delivery	SCR and associated MOAs*	Multiple times daily*
Air-to-Air Training		
Advanced Handling	Paradise and Owyhee MOAs	Multiple times daily
Air Combat	Paradise and Owyhee MOAs	Multiple times daily
Low Altitude Air-to-Air	Owyhee MOA	Multiple times daily
Air Intercept	Paradise and Owyhee MOAs	Multiple times daily
Other Training Requirements		
Low-Level Navigation	MTRs and Owyhee MOA	Daily
Electronic Combat	SCR and associated MOAs, Owyhee MOA	Multiple times daily
Aerial Refueling	Aerial Refueling Tracks (above MOAs)	Daily
CWT including ORE/ORI	All*	21 per year (51 performed at remote ranges)

*Limitations of SCR and airspace restrict maneuvering and the number of aircraft that can participate.

The 366th Wing, as well as the other units using SCR and the existing MOAs, also dispense chaff and flares as part of training. Similarly, aircraft also conduct supersonic operations above 10,000 feet above ground level (AGL) in the MOAs over Idaho (excluding Duck Valley Reservation) as part of air-to-air training.

On average, the 366th Wing and other users conduct training at SCR and in the MOA airspace about 260 days per year. Normally, the 366th Wing conducts training Monday through Friday, including CT and CWT activities. About 85 percent of these sorties occur between 9 A.M. and 4 P.M., with some activity between 4 P.M. and 10 P.M. (9 to 11 percent) and after 10 P.M. (4 to 6 percent). A-10s and C-130s from the IDANG represent the primary users of the airspace during weekends, with some sorties occurring an average of two weekends per month. Transient use occurs primarily during the week.

The 366th Wing trains most of the year from Mountain Home AFB in the local airspace. Major elements of the Wing are deployed to other bases throughout the year, usually for two periods of two weeks, to support a variety of training missions. National defense needs may require any portion of the Wing to deploy more frequently or for longer periods of time.

2.2.1.2 SCR AND ASSOCIATED MOA USE

SORTIE-OPERATIONS

The 366th Wing represents the primary user of SCR and its six associated MOAs, accounting for 64 percent (4,965 of 7,737) of the sortie-operations. The IDANG accounts for about 32 percent (2,450 of 7,737 sortie-operations), whereas transients perform about 4 percent (322 of 7,737) of the annual sortie-operations.

SCR and its associated MOAs (Sheep Creek 1-3, Bruneau 1-2, Saylor) would continue to be scheduled together and receive use for CT (primarily air-to-ground training) and limited CWT. The 366th Wing would use the remote ranges for CT requirements that could not be fulfilled locally, a majority of CWT, especially that involving larger forces and more sophisticated tactical scenarios, and most OREs / ORIs. Table 2.2-2 presents a typical annual use of SCR and the remote ranges under the No-Action Alternative.

Table 2.2-2. Use of SCR and Remote Ranges: Baseline and No-Action Alternative

	ANNUAL USE	
Range	*366th Wing*	*Total*
SCR and six associated MOAs: **Sortie-operations**	**4,965**	**7,737**
NAFR: *Sorties*	*1,492*	*64,333*
FTRC: *Sorties*	*267*	*31,147*
UTTR: *Sorties*	*669*	*15,797*

Source: Mountain Home AFB 1996a

Under the No-Action Alternative, aircrews would continue to conduct the same type of training activities at SCR as occur now. Air-to-ground training would dominate the use of SCR and its associated restricted airspace. MOAs adjoining SCR would continue to be used and

scheduled along with SCR, providing maneuvering and support airspace for range training activities.

SCR, along with the existing MOAs, would also continue to be used for limited CWT. Currently, the 366th Wing conducts approximately 72 CWT exercises per year, with 21 occurring in the airspace that includes SCR, its surrounding MOAs, the Owyhee, Paradise and Saddle MOAs, and MTRs. Under the No-Action Alternative, the 366th Wing would conduct the same number of CWT exercises as at present, although this CWT would continue to offer limited training value. The majority of CWT exercises would continue to be performed at remote ranges.

TRAINING ORDNANCE USE

At SCR and surrounding MOAs, the use of training ordnance would remain the same as baseline under the No-Action Alternative. Use of small (up to 25 pounds) training ordnance would be 22,725, whereas the use of larger (250 to 2,000 pounds) inert training ordnance would remain at approximately 1,049 annually.

The following lists the types of training ordnance that are currently used at SCR and would continue to be used under the No-Action Alternative.

- Bomb Dummy Unit (BDU)-33 or equivalent – Weighing 25 pounds, a BDU-33 is a small cast-iron and steel non-explosive training ordnance that can include a spotting charge to aid in visual scoring of weapons delivery. On impact, the spotting charge expels a plume of white smoke.

- BDU-50 – A BDU-50 consists of a concrete-filled steel shell weighing 531 pounds. This type of inert training ordnance includes a parachute-like device that deploys after release in order to slow its speed.

- Mk 82 Inert and 84 Inert – This type of inert training ordnance consists of a steel shell filled with concrete that weighs between 500 and 2,000 pounds.

- 20 millimeter (mm) and 30 mm steel cannon rounds (training rounds) used at approved strafe targets only.

Training ordnance is considered non-explosive since the training ordnance itself is not capable of exploding. Other than a spotting charge that creates smoke to aid in visual scoring and determine accuracy, the BDU-33 has no explosive material inside and does not explode into fragments on impact. A photograph of a used BDU-33 taken at SCR is on this section 2.0 divider page. BDU-33s or equivalent are referred to as non-explosive training ordnance, or just as training ordnance, throughout this EIS. Inert ordnance, such as the BDU-50 and Mk82 and 84, contain no explosive material.

To reduce the effects of self-imposed restrictions on training ordnance delivery training, the Air Force will transition from the use of training ordnance with hot spot and cold spot spotting charges to training ordnance with cold spots or no marking devices. The spotting charges either consist of red phosphorous (hot spot) expelled by the explosive equivalent of two shotgun shells, or titanium tetrachloride (cold spot) expelled by about 2 grams of gunpowder. Upon impact, training ordnance containing hot spots discharge a narrow flame lasting a fraction of a second and is followed by smoke to aid in visual scoring. Cold spots discharge smoke, but no flame. Rather, the small amount of titanium tetrachloride mixes with moisture in the air to form, for a few seconds, a small marking plume. The cold spot ingredients become inert and dissipate upon contact with the air.

Since the potential for fire in the high desert represents a concern to all its users, elimination of training ordnance containing hot spots would remove one potential source of ignition. While current restrictions and precautions concerning the use of hot spots reduce this potential to negligible levels, the Air Force plans to eliminate use of training ordnance containing hot spots on SCR by about the year 2000.

Instead of training ordnance with hot spots, the Air Force will employ a combination of cold spots and training ordnance without spotting charges. Technological improvements in scoring systems cameras permit accurate scoring of non-explosive training ordnance deliveries (day or night) using only non-explosive training ordnance with cold spots or no spotting charges. The existing scoring system at SCR will be modified with the improved cameras, also by about the year 2000.

CHAFF USE

Use of chaff has been approved and conducted at SCR, its associated MOAs, and throughout the Owyhee MOA for many years. Chaff is used by military aircraft as a defensive countermeasure to avoid detection by radar. It consists of fibers (called dipoles) coated with aluminum, about the thickness of fine human hair. This type of chaff has been used exclusively in the military training airspace over southwest Idaho and portions of Nevada and Oregon. When released in bundles from a dispenser in an aircraft, it spreads in the air to form an "electronic smoke screen" that reflects radar signals. In the air, the initial burst from a bundle forms a sphere about 300 feet in diameter, appearing on radar screens as an electronic cloud. The aircraft is obscured by the cloud, which confuses enemy radar. Two types of chaff are used by the Air Force: tactical chaff (RR-170) and training chaff (RR-188). Tactical chaff is primarily used during combat and consists of fibers with a variety of lengths cut to match radar radio frequencies. This type of chaff provides a false target to the radar. Usage of tactical chaff may obstruct radar used by commercial and civil aviation. To prevent this type of obstruction, any use of tactical chaff at SCR and the Owyhee and Paradise MOAs is coordinated with the FAA. The 366th Wing enforces strict vertical and horizontal limits for the use of chaff to ensure non-interference with non-military traffic.

The preferred type of chaff used for aircraft training operations is RR-188 training chaff. Unlike tactical chaff, training chaff does not obstruct radar used by commercial and civil aviation. Specific chaff fiber lengths that may cause this type of obstruction, which is present in tactical chaff, are excluded during the manufacture of training chaff.

Chaff is dispensed in 4-ounce bundles composed of 500,000 to 3 million fibers, each with a diameter of 0.001 to 0.003 inches. Each fiber is coated with aluminum of 99 percent purity and a second coating of stearic acid. Fiber lengths vary from 0.375 to 2 inches for tactical chaff. The 2-inch length, which may obstruct air traffic control radars, is replaced with additional shorter length fibers in training chaff. Each chaff bundle is packaged in a plastic cartridge measuring 1 by 1 by 7 inches. The chaff is ejected from the plastic cartridge using a small, pyrotechnic device that remains on the aircraft, but chaff itself is not explosive. The chaff is dispensed into the atmosphere along with a small plastic end cap.

Currently, the 366th Wing and other users dispense almost 27,000 bundles of chaff per year over SCR and in its adjacent MOAs. Under the No-Action Alternative, chaff use would remain the same. Prohibitions against dispensing chaff over the Duck Valley Reservation and other communities would continue.

FLARE USE

The use of defensive countermeasure flares by aircraft forms a necessary part of realistic training; these defensive countermeasures provide false targets for adversary aircraft using thermal seekers or ground-based threats that simulate firing heat-seeking missiles. Flares consist of magnesium and teflon pellets that burn completely within 4 to 4.5 seconds after being dispensed. A flare begins burning immediately after it is expelled, reaching its highest temperature (1,000° Fahrenheit [F]) by the time it passes the tail of the aircraft.

As of March 1993, with the signing of the Interagency Agreement between the BLM and Mountain Home AFB, defensive countermeasure flares are approved for use within SCR and the Owyhee and Paradise MOAs, as well as those MOAs associated with SCR. Approximately 15,000 flares are dispensed over SCR and in its associated MOAs annually. A set of fire hazard and altitude restrictions (Mountain Home AFB Instruction 13-287 1995c) applied to all users of the airspace and supported by a fire management plan developed with the BLM, govern flare use in these areas. When operating over the SCR exclusive use area, aircrews may release flares as low as 700 feet AGL. Depending upon the fire index rating defined by the BLM with information from the National Weather Service, this minimum altitude can be raised to 2,000 feet AGL or prohibited completely. For activities over the remainder of the SCR and lands under all of the MOAs, minimum flare release altitude is 2,000 feet AGL. These minimum altitudes provide sufficient time for complete combustion and consumption of the flares before potential contact with the ground. The altitude restrictions provide a considerable buffer against inadvertent low releases that might result in a burning material contacting the ground. In addition, the 366th Wing has dictated to all aircrews that flares will not be released over inhabited areas.

ELECTRONIC EMITTERS

A total of four electronic emitter sites provide locations for simulated ground-based threats against which aircrews from the 366th Wing and other units currently train. Three fixed electronic emitter sites lie within the exclusive use area of SCR, providing simulated threat signals out to a radius of about 10 NM. A fourth fixed emitter occurs within the existing Grasmere electronic combat site located along Highway 51, just south of the town of Grasmere. This emitter also provides coverage for a 10 NM-radius area.

2.2.1.3 REMOTE RANGES

For the No-Action Alternative, the 366th Wing would continue to use remote ranges and airspace at NAFR, FTRC, and UTTR. Training at these range complexes would include the following:

- Major exercises
- Live ordnance deliveries and missile firing
- Ordnance deliveries against tactical targets
- Simulated combat against dispersed electronic emitters

For the NAFR ranges and associated airspace, activities by the 366th Wing account for an estimated 5 percent of the cumulative total of sorties at the range complex. Like the local airspace, NAFR includes many ranges and MOAs, so a single aircraft can account for multiple sortie-operations during a single sortie, especially if it passes in and out of a specific airspace unit more than once. For FTRC, 366th Wing sorties represent less than 0.1 percent of the total; at UTTR they account for 4 percent. Under the No-Action Alternative, no change to this activity would occur. Given the low total number and proportion of sorties it conducts, the aircraft activities of the 366th Wing have negligible potential to influence overall environmental conditions at these ranges complexes. For this reason, discussion (see below) of NAFR, FTRC, and UTTR will be restricted to Chapter 2 of this EIS.

NELLIS AIR FORCE RANGE

NAFR is located in southern Nevada, 330 NM from Mountain Home AFB. NAFR includes approximately 3 million acres and consists of over 20 individual sub-ranges encompassed by five restricted areas and the adjacent Desert MOA. This complex is the largest in the Air Force inventory and provides Composite Force Training for strike forces that include nearly every type of combat and support aircraft. Approximately 64,000 sorties per year are conducted within this airspace. The North Range, which includes Restricted Areas R-4807 and R-4809, provides a full tactical range capability that consists of simulated surface-to-air missile and anti-aircraft artillery sites, strategic electronic emitter systems, and appropriate acquisition and ground-controlled intercept radar. The South Range is included within Restricted Area R-4806 and consists of two manned and three unmanned weapons delivery sub-ranges that are used

for testing, tactics development, and continuation training. These sub-ranges provide a variety of tactical and conventional weapons training capabilities that include target bombing circles, strafe pits, and a range of tactical type targets. The use of live ordnance, laser guided weapons, chaff, and flares is permitted within the designated range and target areas of both the North and South ranges.

The restricted airspace overlying the ranges extends from the ground surface to unlimited altitudes and is continuously active to support various Department of Defense (DoD) and Department of Energy missions and activities. The Desert MOA extends from 100 feet AGL up to but not including 18,000 feet above mean sea level (MSL) and has an overlying Air Traffic Control Assigned Airspace (ATCAA) up to 55,000 feet MSL. A range of air-to-air training missions is conducted in the MOA / ATCAA.

NAFR is used by the 57th Wing and the 99th Air Base Wing stationed at NAFR; other units from other bases and services also use NAFR. However, priority in scheduling of use is given to the primary users, those stationed at NAFR. During large group operations, range time is not available to non-participating or transient units. The primary users also have precedence for day-to-day training. Situations develop where aircrews from Mountain Home AFB or other bases are refused access to the range because of conflicts in schedules with primary users. Currently, the 366th Wing conducts about 1,500 sorties annually at the NAFR and associated MOAs; if the No-Action Alternative is selected, this level of activity would continue.

NAFR encompasses a large area that has been used for training for decades. Issues of environmental concern on the NAFR include access to geological deposits, relationship to DOE activities, effects of military operations on sensitive biological species, Air Force activities on Desert Wildlife Refuge, access to and protection of Native American sacred areas, and management of threatened and endangered species. The Air Force is preparing a draft EIS due in November 1998 for the renewal of the NAFR in accordance with Public Law (PL) 99-606.

UTAH TEST AND TRAINING RANGE

The UTTR, located in northwestern Utah in the Great Salt Lake Desert, is a dedicated military reservation that provides the capabilities to support both conventional and tactical CT, CWT, and a multitude of weapons systems test programs. This range complex (scheduled and maintained by Hill AFB) encompasses five restricted areas and five MOAs that are divided to form the UTTR North and South Ranges. The North Range (350,000 acres) lies 175 NM from Mountain Home AFB. Segmented and small airspace units, along with a training range offering limited quality and realism, reduce the training value of the North Range to the 366th Wing. In contrast, the South Range, located about 200 NM from Mountain Home AFB, offers extensive MOA and restricted airspace opportunities to employ live ordnance and missiles, and the capacity to perform supersonic operations in a broad range of altitudes. Given these differences, the 366th Wing attempts to primarily use the South Range. All of the restricted airspace overlying UTTR generally extends from the surface or 100 feet AGL to 58,000 feet MSL. The MOAs extend from 100 feet AGL to ceiling altitudes varying from 6,500 to 14,500

feet MSL, with the exception of the Gandy MOA, which extends to, but does not include, 18,000 feet MSL.

UTTR is currently used by the squadrons stationed at Hill AFB. It is a primary Air Force training and operation center, with an average of over 15,000 sorties per year. UTTR receives considerable use for weapons and aircraft testing, both of which can dominate use of the range to the exclusion of training activities. Similar to NAFR, scheduling use of the range is difficult for transient aircraft because of the priority given to primary users. The 366th Wing conducts about 700 sorties per year at UTTR, including CWT exercises. Under Alternative A, the number of CWT exercises and sortie-operations conducted at UTTR would remain the same.

Issues of environmental concern at the UTTR include the effects of noise on civilian populations in the area, noise over WSAs, management of sensitive species, and the proximity to Fish Springs National Wildlife Refuge, and historic trails.

FALLON TRAINING RANGE COMPLEX

The FTRC, located 240 NM from Mountain Home AFB in west-central Nevada, consists of five range areas and associated airspace infrastructure, including eight restricted areas and the Austin, Gabbs, Carson, and Ranch MOAs. This complex is used for both continuation and composite force training and is currently the only Navy-maintained facility where advanced integrated Carrier Air Wing strike training can take place. The FTRC impact area has four weapons delivery ranges and an electronic warfare range. Live and inert ordnance is used, where authorized, on the different weapons range target areas.

FTRC supports many priority missions including Top Gun, Top Dome, test and evaluation, and combat training. These Navy missions dominate range use, accounting for more than 90 percent of the sorties.

All restricted airspace, except R-4816, begins at the ground surface and extends to ceilings that currently vary from 8,000 to 18,000 feet MSL. The MOAs and their overlying ATCAA are used for air-to-air training and provide additional maneuvering airspace relative to the ranges. Out of a total of over 30,000 sorties performed at FTRC annually, the 366th Wing conducts less than 300, including CWT exercises. This level of use would not change under the No-Action Alternative. Such low amounts of use by the 366th Wing reflect the priority given to Navy Carrier Air Wing Training and associated uncertainties in scheduling operations at FTRC.

There are varied issues of environmental concern at FTRC, including the effects of military operations on Native American traditional use and sacred areas. More than 15 tribes are represented from the area and have an interest in the military use of the region by the federal government. The compatibility of high- and low-altitude, high-speed, aerial weapons training with underlying land uses, wilderness areas, recreation sites, and wild horse herds is a major concern. The Navy is currently preparing an EIS for the withdrawal of 189,000 acres of public

land in north-central Nevada. The U.S. Navy is also preparing a draft EIS due in November 1998 for the renewal of the Bravo-20 portion of the FRTC in accordance with P.L. 99-606.

2.2.2 MOAs

Under the No-Action Alternative, MOAs would continue to be used as in baseline. As presented previously, aircrews conduct a wide range of training activities in MOAs. Because of their vertical and horizontal dimensions, MOAs often offer the latitude to conduct air-to-air combat, air intercepts, and other training that requires maneuvering space. The 366th Wing primarily uses the six MOAs associated with SCR, and the Owyhee, Paradise, and Saddle MOAs; the latter three MOAs form the focus of this description. Use for the six MOAs associated with SCR was presented above in section 2.2.1.

Under No-Action, no modifications to the MOAs would occur. No MOA airspace would be established over the Little Jacks Creek area. However, this area would continue to form part of the FAA-approved Area X-Ray through which 366th Wing and other military aircraft would transit to and from the MOAs.

2.2.2.1 MOA SORTIE-OPERATIONS

Table 2.2-3 presents the use of the MOAs under baseline and the No-Action Alternative.

Table 2.2-3. MOA Use: Baseline and No-Action Alternative

	ANNUAL SORTIE-OPERATIONS		
Range	*366th Wing*	*Others*	*Total*
Owyhee	5,465	1,885	7,350
Paradise	4,604	487	5,091
Saddle	1,397	589	1,986

Source: Mountain Home AFB 1996a

Air-to-air training activities that could result in supersonic events would continue to be conducted above 10,000 feet AGL in the existing airspace over Idaho. This excludes airspace over the Duck Valley Reservation (refer to section 1.3.2.2 for details of these restrictions). Based on substantial field monitoring, analysis, and modeling (see section 3.2, Noise, for a detailed description), it has been established that, on average, 10 percent of sorties engaged in air combat maneuvering will perform activities that could involve brief supersonic flight. Currently, in the portion of the Paradise MOA overlying Idaho and portions of the MOAs associated with SCR, approximately 537 annual sortie-operations conduct the type of maneuvering potentially resulting in supersonic flight. All of this activity occurs above 10,000 feet AGL, as required, and most of it is performed in the ATCAA above the MOAs that extends from 18,000 feet MSL (12,000-15,000 feet AGL) to 50,000 feet MSL. For the No-Action

Alternative, sortie-operations with the potential to result in supersonic events would remain the same. The air combat maneuvering that potentially results in supersonic flight would remain brief (16 to 90 seconds) for an individual sortie-operation.

2.2.2.2 CHAFF AND FLARE USE

Chaff has been used in the military training airspace associated with SCR for many years. Flares have been used in this same airspace for over five years. Neither chaff nor flares are used in the Saddle MOA. Table 2.2-4 presents chaff and flare use under baseline conditions and the No-Action Alternative.

Table 2.2-4. Chaff and Flare Use in Owyhee and Paradise MOAs: Baseline and No-Action Alternative

MOA	*Annual Chaff Use (Bundles)*	*Annual Flare Use*
Owyhee	12,142	6,053
Paradise	9,934	4,566

Note: Refer to Table 2.3-14 for chaff and flare use in SCR.
Source: Mountain Home AFB 1996a

Dispensing of chaff under any alternative would continue to follow current procedures. These include no releases over the Duck Valley Reservation or other communities under the airspace and adherence to altitude and locational restrictions for dispensing chaff so as to not cause interference with air traffic control radar and communications. Flare use would remain the same. As described for SCR and its associated MOAs, the 2,000-foot AGL restriction provides more than ample time for a flare to burn completely prior to contact with the ground.

2.2.3 MTRs

As described in Chapter 1, a set of 13 MTRs in the region provide for low-altitude navigation training and access to MOAs. Although MTRs are important assets for training, current levels of use (i.e., annual sortie-operations) provide sufficient training opportunities for the 366th Wing and other users. For this reason, no changes in the types or number of aircraft using these existing MTRs would occur under the No-Action Alternative or any other alternative.

Portions, also known as segments, of MTRs underlie the existing Saddle and Paradise MOAs. Segments also underlie areas slated for the proposed Paradise East MOA expansion. While these overlapping MOAs would not alter the use of the MTR segments, this EIS accounts for the potential combined effects of the use of overlapping MTR segments and MOA airspace.

2.3 RANGE DEVELOPMENT ALTERNATIVES

The proposed action consists of enhancing training in Idaho for the 366th Wing. Because each of the three equivalent range development alternatives could provide the necessary enhancement, none represents the proposed action, or even the preferred alternative. Rather, any of the range development alternatives would meet the 366th Wing's needs for training. The Air Force, in consultation with the BLM, has chosen to use the environmental analysis process and public and agency input to assist in identifying a preferred alternative to fulfill the proposed action.

In the Notice of Intent (NOI) published on 12 April 1996 in the *Federal Register*, the Air Force identified two alternatives (B and C) under which a range would be established, airspace modifications would occur, and emitter sites would be developed. Public scoping sessions yielded a third alternative (D) that conformed to the defined operational and environmental considerations. Either Alternative B (Clover Butte), Alternative C (Grasmere), or Alternative D (Juniper Butte) could be developed and used in identical fashion and each would include the same number and size of no-drop targets and emitter sites. The three alternatives are also very similar in the modifications to airspace; however, Alternative D includes a 2-mile extension of the eastern boundary to existing MOAs (Bruneau 1 and 2). As such, the components comprising each alternative that warrant analysis in the EIS and associated studies are the same, even though the locations of the proposed components differ. Table 2.3-1 lists the proposed components for these alternatives.

The following section describes the three range development alternatives currently under consideration: Clover Butte, Grasmere, and Juniper Butte. Under any of these alternatives, the Air Force would establish a tactical training range, along with other facilities. Figures 2.3-1, 2.3-2, and 2.3-3 depict the on-the-ground components of Alternative B, Alternative C, and Alternative D, respectively. The training range would be used with the existing and proposed training assets for the 366th Wing, Alternative B, C, or D would include the following:

- Construction, operation, and use of a tactical training range covering approximately 12,000 acres;
- Development and use of four five-acre and one 640-acre no-drop areas on which only simulated ordnance training (i.e., no training ordnance would be dropped) would occur;
- Establishment of 20 one-quarter-acre and 10 one-acre sites for use by electronic emitter units; and
- Modification of existing airspace, including expansion of MOA airspace and establishment of a restricted area over the tactical training range.

Table 2.3-1. Components of Alternatives B, C, and D

Alternative Component	*Training Range*	*No-Drop Targets*	*Emitter Sites*	*Airspace Modification*
Land and Realty Action				
Land Withdrawal – Federal Lands	x	x	x	
Rights of Way – Federal Lands[1]	x	x	x	
Lease – State School Endowment Lands	x	x	x	
Construction/Maintenance				
Targets	x	x		
Roads	x	x	x	
Maintenance Facility	x			
Generators / Fuel Storage	x	x	x[2]	
Electrical Lines	x[3]			
Fencing	x	x	x[4]	
Surfacing / Grading	x	x	x	
Communications	x		x[6]	
Scoring System	x			
Fire Prevention / Suppression	x	x	x	
Waste Management	x	x	x	
Training Ordnance Clean-Up	x			
Training Activities				
Training Ordnance Use	x			
Chaff / Flares[5]	x	x	x	x
Airspace Use	x	x	x	x
Land Use Management				
Grazing / Grazing Privileges	x	x[7]		
Access / Safety	x	x	x	x
Natural and Cultural Resources	x	x	x	x

Notes:
1. Includes access rights to training range, no-drop targets, and emitter sites
2. Only one-acre emitter sites would include permanent fuel storage in double-walled above-ground tanks with secondary containment
3. Alternative B and D would involve construction of a 208-volt line from linking an existing transmission line to the maintenance facility; no line is proposed for Alternative C
4. Only one-acre emitter sites would be fenced; one quarter-acre emitter sites would not be fenced or include any features other than a gravel parking pad and a grounding rod
5. Use of chaff and flares throughout the airspace has been approved and conducted since 1992; for all alternatives this use would continue under existing restrictions
6. Communication monopole only at selected one-acre emitter sites
7. Only ND-1 (640-acre no-drop target)

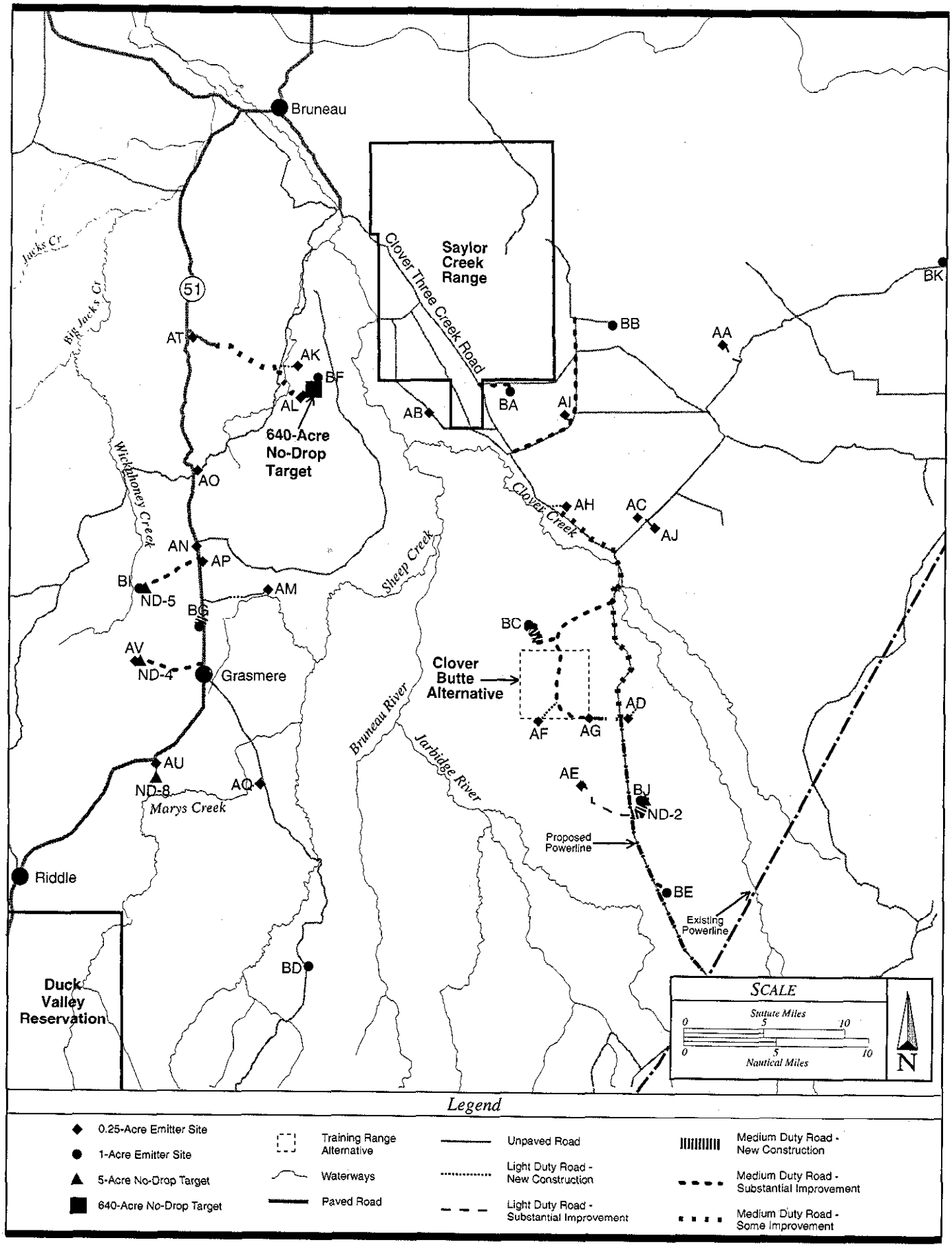


Figure 2.3-1 Components for Alternative B - Clover Butte

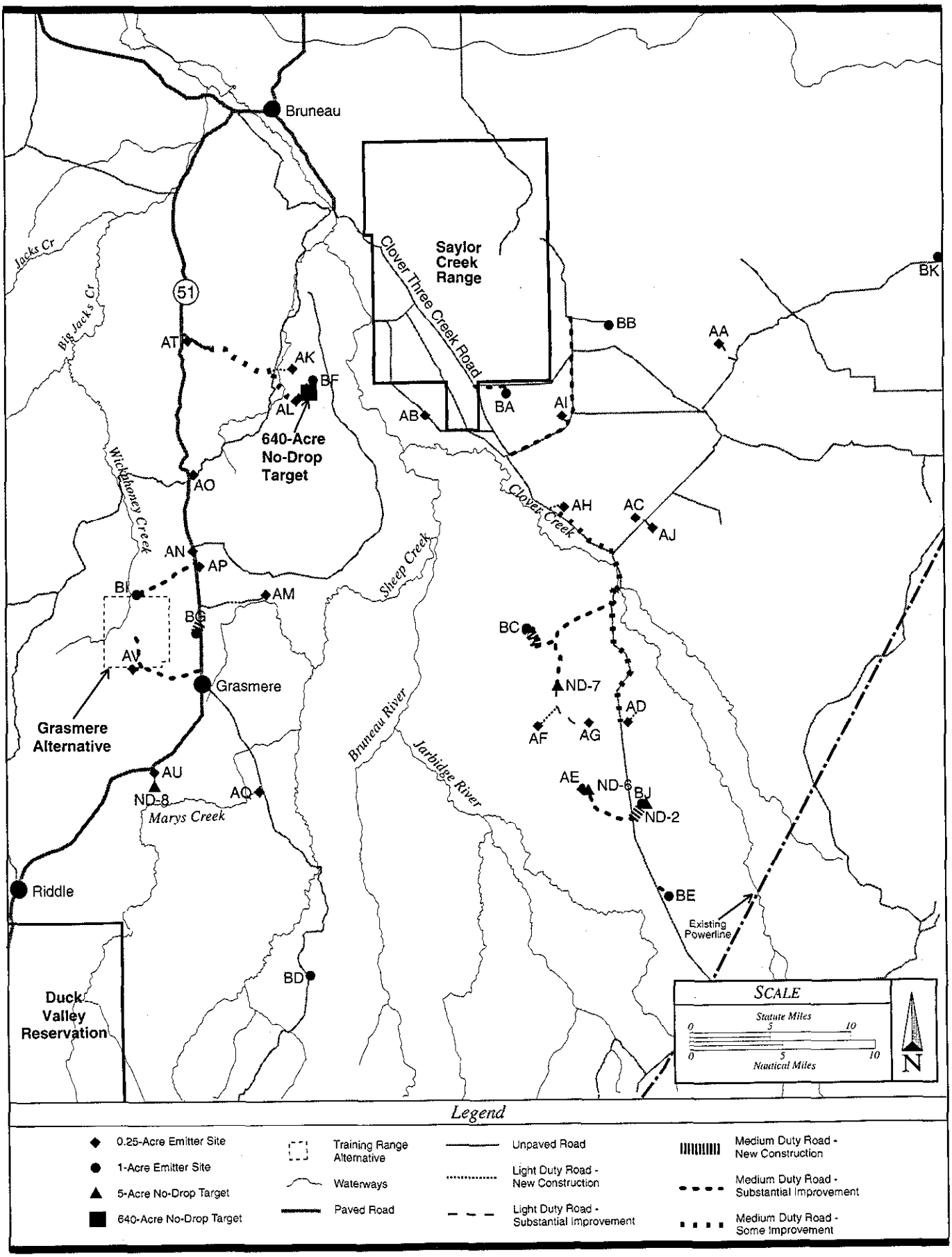


Figure 2.3-2 Components for Alternative C - Grasmere

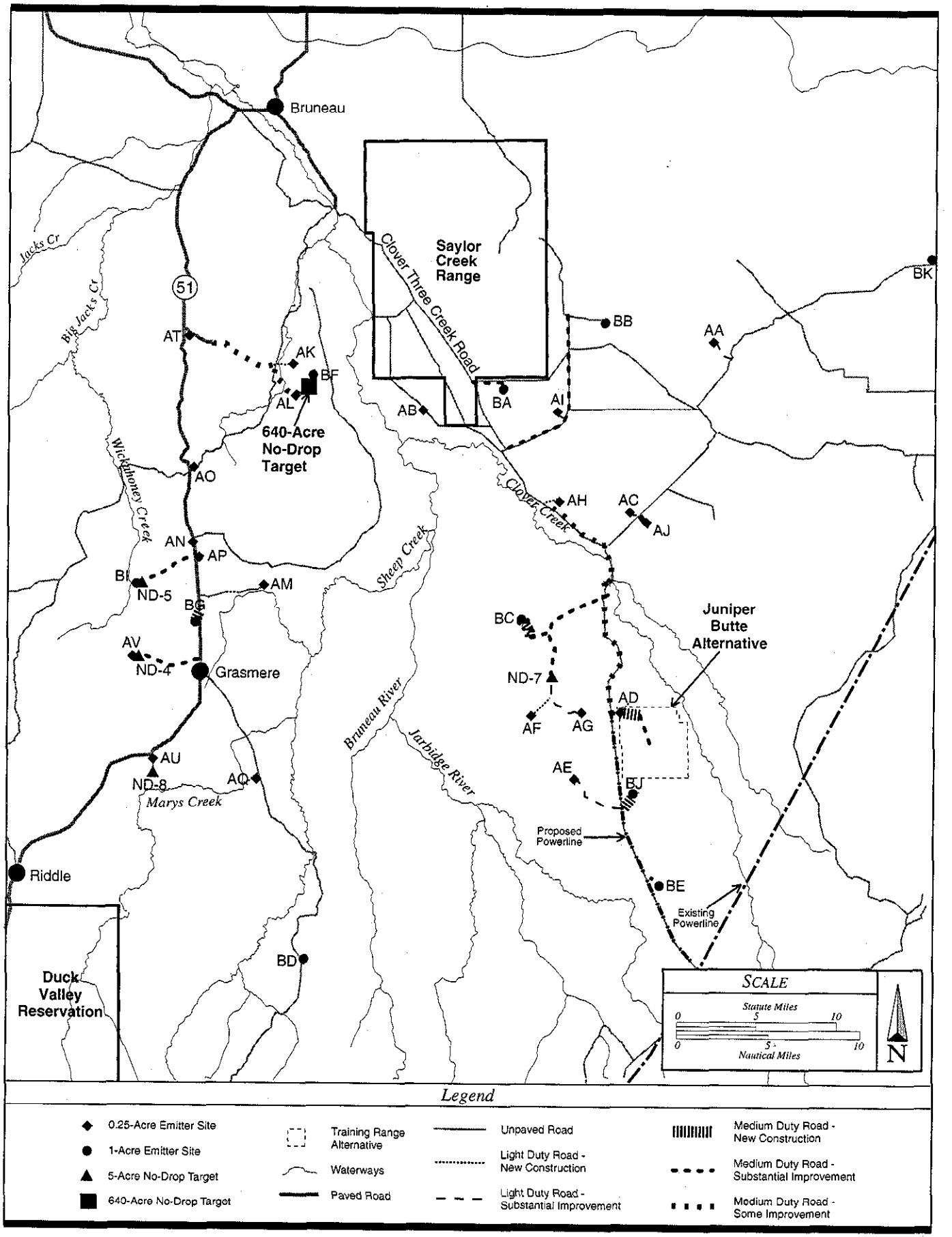


Figure 2.3-3 Components for Alternative D - Juniper Butte

The following section outlines the elements of these alternatives according to seven major categories: land and realty actions (2.3.1), construction and maintenance (2.3.2), proposed airspace modifications (2.3.3), training ordnance use (2.3.5), chaff and flares (2.3.6), other activities (2.3.7), and land use management (2.3.4).

2.3.1 LAND AND REALTY ACTIONS

Most of the lands within the proposed tactical range, no-drop targets, and emitter sites for these alternatives consist of public lands administered by the BLM. The remainder of the affected lands are owned by the State of Idaho. No private lands would be used for the training range, no-drop sites, emitters, or roads.

To assume management responsibility for the training range, targets, and emitter locations, the Air Force needs to accomplish several types of land and realty actions with BLM and the State of Idaho. These actions include withdrawal of land, real property leases, right-of-way agreements, and use agreements. Federal, state and local agencies hold relevant rights and authorities to these lands. Table 2.3-2 includes a summary of these processes and Table 2.3-3 identifies the current land status for the proposed tactical range, no-drop targets, and emitter sites.

2.3.1.1 LAND WITHDRAWAL — FEDERAL LAND

The Air Force proposes to withdraw public lands for the tactical range, no-drop target sites, and the one-acre emitter locations. A withdrawal would allow for the transfer of all or part of the management responsibility from the BLM to the Air Force. Under the Engle Act of 1958, a military withdrawal of over 5,000 acres of public land must be approved by Congress. For Alternatives B, C, and D, the proposed withdrawal of public lands would exceed 5,000 acres.

Alternative B – Clover Butte. The Air Force proposes to withdraw 11,864 acres of public land in Owyhee County consisting of approximately 11,200 acres within the proposed Clover Butte site, the entire 640-acre target area, three five-acre no-drop target areas, and nine one-acre emitter sites (Table 2.3-4).

Alternative C – Grasmere. For Alternative C, the Air Force proposes to withdraw approximately 9,264 acres of public land in Owyhee County. This land consists of approximately 8,600 acres within the proposed Grasmere site, the 640-acre no-drop target area, three five-acre target areas, and the same nine, one-acre emitters described for Alternative B.

Alternative D – Juniper Butte. The Air Force proposes to withdraw approximately 11,269 acres of public land in Owyhee County. This land includes approximately 10,600 acres for the proposed Juniper Butte site, the entire 640-acre no-drop target area, four five-acre target areas, and the same set of one-acre emitter sites as listed for Alternative B.

Table 2.3-2. Summary of Federal, State and Local Agency Lands and Realty Processes

Jurisdiction	*Project Component*	*Process*	*Elements*	*Decisionmaker*	*Permit Type*
BLM	Portions of 12,000-acre range, 640-acre no-drop, five-acre no drop targets, one-acre emitter sites	Withdrawal of Lands	• Application Interagency Consultation • NEPA documentation and studies • Withdrawal Resource Management Plan • State and national review • Congressional action	Congress	Act of Congress
BLM	One-quarter-acre emitters sites, roads, powerline, access to emitter sites, no-drop targets, and training range Water pipeline relocation	Right-of-way	• Application • Environmental information • District level review and decision • NEPA documentation and studies	Area manager	Right-of-way
State of Idaho	Portions of 12,000-acre range, one-quarter-acre and one-acre emitter sites, five-acre no-drop targets	Lease	• Application • Management Plan preparation • Agency and State Land Board review • Board decision	State Land Board	Lease
State of Idaho	Access to emitter sites and no-drop targets	Lease or easement	• Application • Management Plan preparation (lease application only) • Agency and State Land Board review Board decision	State Land Board	Lease
Owyhee County	Access to emitter sites and no-drop targets	Use agreement	• Acknowledgment of use	Owyhee County Commissioners	Use agreement
Local Highway District	Access to emitter sites and no-drop targets	Use agreement	• Acknowledgment of use	Local highway district	Use agreement

Table 2.3-3. Land Status for Alternative Components

Component	LAND STATUS		
	Alternative B Clover Butte	*Alternative C Grasmere*	*Alternative D Juniper Butte*
Tactical Training Range	BLM, State of Idaho	BLM, State of Idaho	BLM, State of Idaho
640-acre No-Drop Target (ND-1)	BLM	BLM	BLM
Five-acre ND-2*	State	State	NA
Five-acre ND-4	BLM	NA	BLM
Five-acre ND-5	BLM	NA	BLM
Five-acre ND-6	NA	BLM	NA
Five-acre ND-7	NA	BLM	BLM
Five-acre ND-8	BLM	BLM	BLM
One-acre Emitter Sites*			
BA, BB, BC, BD, BE, BF, BG, BI, BK	BLM	BLM	BLM
BJ	State	State	State
One-quarter-acre Emitter Sites*			
AA, AB, AD, AE, AF, AG, AH, AI, AK, AL, AM, AN, AO, AP, AQ, AT, AU, AV	BLM	BLM	BLM
AC, AJ,	State	State	State

*Note: ND-3, BH, AR, and AS were eliminated due to environmental and operational considerations.

Table 2.3-4. Acreages[1] of Proposed Land and Realty Actions for Proposed Training Range, No-Drop Targets, and Emitter Sites

Land Status	*Action*	*Alternative B*	*Alternative C*	*Alternative D*
Public Land	Withdrawal	11,864	9,264	11,269
	Right of Way[2]	4.50	4.50	4.50
State Land	Lease	646.50	2,406.50	961.50
Total		12,515	11,675	12,235

Notes: 1. Acreage represents the legal land records recorded on the BLM's Master Title Plats; proposed acreage references have been rounded up for lands subject to withdrawal.
2. Includes only rights-of-way for emitter sites; road rights-of-way are discussed in section 2.3.2.4.

The final withdrawn acreage may vary slightly (1-2 percent) in a legal survey of the site. For the purposes of this EIS, 12,000-acre areas are used to describe the tactical training range.

2.3.1.2 RIGHTS-OF-WAY — FEDERAL LAND

For all range alternatives, a total of 18 one-quarter-acre emitter sites are located on public lands. To use these lands, the Air Force proposes to obtain rights-of-way from the BLM. Similarly, roads crossing public lands would require rights-of-way (see section 2.3.2.3).

One or more stock water pipelines may cross a 12,000-acre tactical range site in such a fashion that the Air Force may need to relocate these pipelines for protection against damage from training activities. Relocating a water pipeline on BLM land would require obtaining either a range improvement permit or an amended or new BLM right-of-way. A stock water pipeline may also be relocated through Air Force withdrawn lands, if necessary, to ensure in-kind compensation for ranching operations. If a pipeline is relocated, the Air Force would work with the BLM and owner of the pipeline using the appropriate process. The Air Force's normal practice involves the local owner relocating the pipe with the Air Force paying the local owner for the cost of relocation.

2.3.1.3 LEASE — STATE LAND

Use of State of Idaho school endowment lands would be permitted through a lease agreement with the State of Idaho, Department of Lands.

Alternative B – Clover Butte. State school endowment lands would comprise approximately 646.50 acres, with 640 acres within the proposed range site and the remainder consisting of one five-acre target area, one one-acre emitter site, and two one-quarter-acre emitter sites.

Alternative C – Grasmere. State school endowment lands would account for 2,406.50 acres, most of which lie within the Grasmere tactical range site. State school endowment lands would also include one five-acre no-drop target area, and the same set of emitter sites as in Alternative B. Roads and other rights-of-way would remain the same as in Alternative B.

Alternative D - Juniper Butte. A total of 961.50 acres of state school endowment lands would be leased. About 960 of these acres would lie within the proposed training range site, with the remainder consisting of lands for emitter sites.

2.3.1.4 OTHER PARTY AGREEMENTS

Use of some access roads may also require authorization from Owyhee County or the Three Creek Good Roads Highway District. The Air Force would enter into appropriate agreements with these entities.

2.3.1.5 NON-PROJECT LANDS

No private land will be acquired or used for any project components. To the extent that livestock grazing operations are disrupted, the Air Force proposes to compensate the permittee through monetary or in-kind compensation. In-kind compensation could include fencing, moving pipelines, extending pipelines, and constructing above-ground water reservoirs as required to meet permittee requirements and to comply with accepted grazing management practices. In-kind compensation could involve acquisition of private lands for in-kind livestock grazing operations. The lands would consist of those already used for livestock grazing. No in-kind compensation land could be used for any training range facilities including no-drop targets or emitters.

2.3.2 Construction/Maintenance

2.3.2.1 TRAINING RANGE AND NO-DROP TARGETS

Under any of the three training range development alternatives, the tactical training range would be surrounded by a fence (see Fencing below for more details) and contain four targets consisting of a simulated industrial complex, two surface-to-air missile targets, and a forward edge of battle area array. Target type and construction would remain the same for all alternatives. Limited grading would be required since the targets would be constructed atop the ground surface. The targets would be situated within fenced areas totaling 300 acres in the center of the range, known as the primary training ordnance impact area. The targets themselves, without the encompassing impact areas, cover roughly 70 acres. The primary training ordnance impact area, which encompasses the targets, represents the land area most subject to ground disturbance impacts from training ordnance. It is estimated that approximately 95 percent of training ordnance would impact in this zone. Observations at SCR concerning BDU-33 or equivalent training ordnance indicate that ordnance impacts predominantly occur within 300 feet of a target (Peter 1989). For the proposed target

configurations associated with Alternatives B, C, and D, the zone including the targets and 300 feet beyond their limits encompasses about 250 acres. Thus, the 300-acre primary training ordnance impact area defined for this analysis provides roughly 20 percent more area for which primary training ordnance impacts are assessed. A gravel road would provide access to these targets from the three-acre maintenance facility located at an edge of the 12,000-acre site.

Alternative B – Clover Butte. The 12,000-acre tactical range at the Clover Butte location would contain four targets as described above (Figure 2.3-4). A three-acre maintenance facility, linked to the targets by a gravel road, would lie in the southeast corner of the site. The Clover Butte alternative would include the 640-acre no-drop target (ND-1) and four five-acre no-drop targets (Table 2.3-5) located west and southeast of the range site. These dispersed no-drop targets would consist of a Forward Edge of Battle Area (FEBA) array (ND-1), two simulated industrial sites (ND-4 and 5), a surface-to-air missile (SAM) site (ND-8), and a simulated early warning radar site (ND-2). All of the targets would be painted in desert beige to reduce their contrast with the surrounding landscape.

Table 2.3-5. No-Drop Target Areas under Alternatives B, C, and D[1]

Alternative	*ND-1*	*ND-2*	*ND-4*	*ND-5*	*ND-6*	*ND-7*	*ND-8*
B-Clover Butte	x	x	x	x			x
C-Grasmere	x	x			x	x	x
D-Juniper Butte	x		x	x		x	x

Note: 1. The site considered for ND-3 was replaced by ND-8 and excluded from further analysis as part of the Air Force's efforts to mitigate by avoidance.

Alternative C – Grasmere. This alternative would consist of a tactical training range with four targets (Figure 2.3-5), a 640-acre no-drop target (ND-1), and four five-acre no-drop targets (see Table 2.3-5). The types, structures, and arrangement of targets would be the same as in Alternative B. Located at the southern edge of the 12,000-acre training range site, the three-acre maintenance facility would connect to the targets via a gravel road.

Alternative D – Juniper Butte. The 12,000-acre tactical range at the fenced Juniper Butte location would include the same four targets and maintenance facility as described above (Figure 2.3-6). The maintenance facility would be located in the northeast corner of the site. Under this alternative, the 640-acre no-drop site (ND-1) and three of the five-acre sites (ND-4, 5, and 8) would remain the same as in Alternative B. Due to the location of the 12,000-acre training range in Alternative D, one of the five-acre sites (ND-7) would shift location.

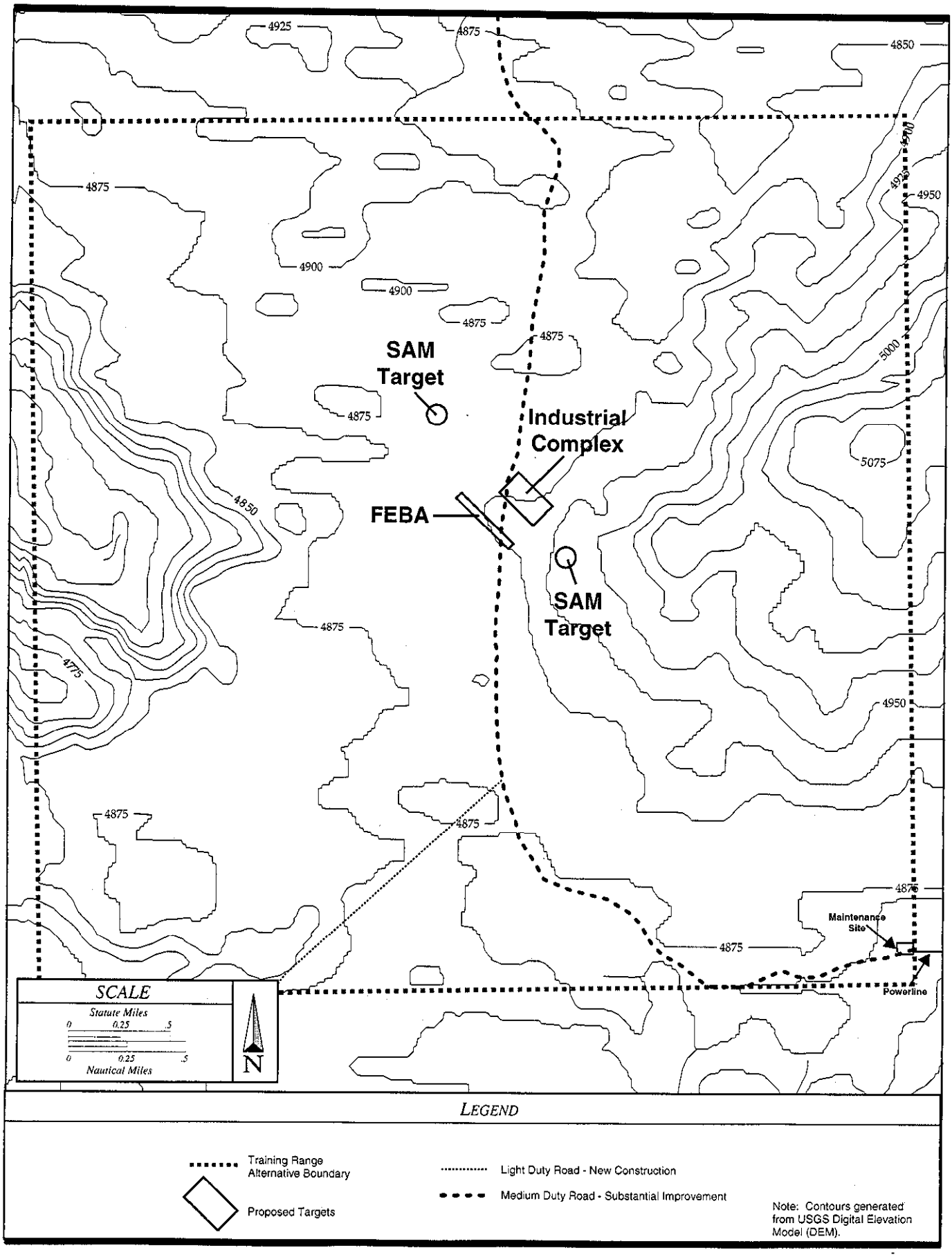


Figure 2.3-4 Target Areas in Alternative B: Clover Butte

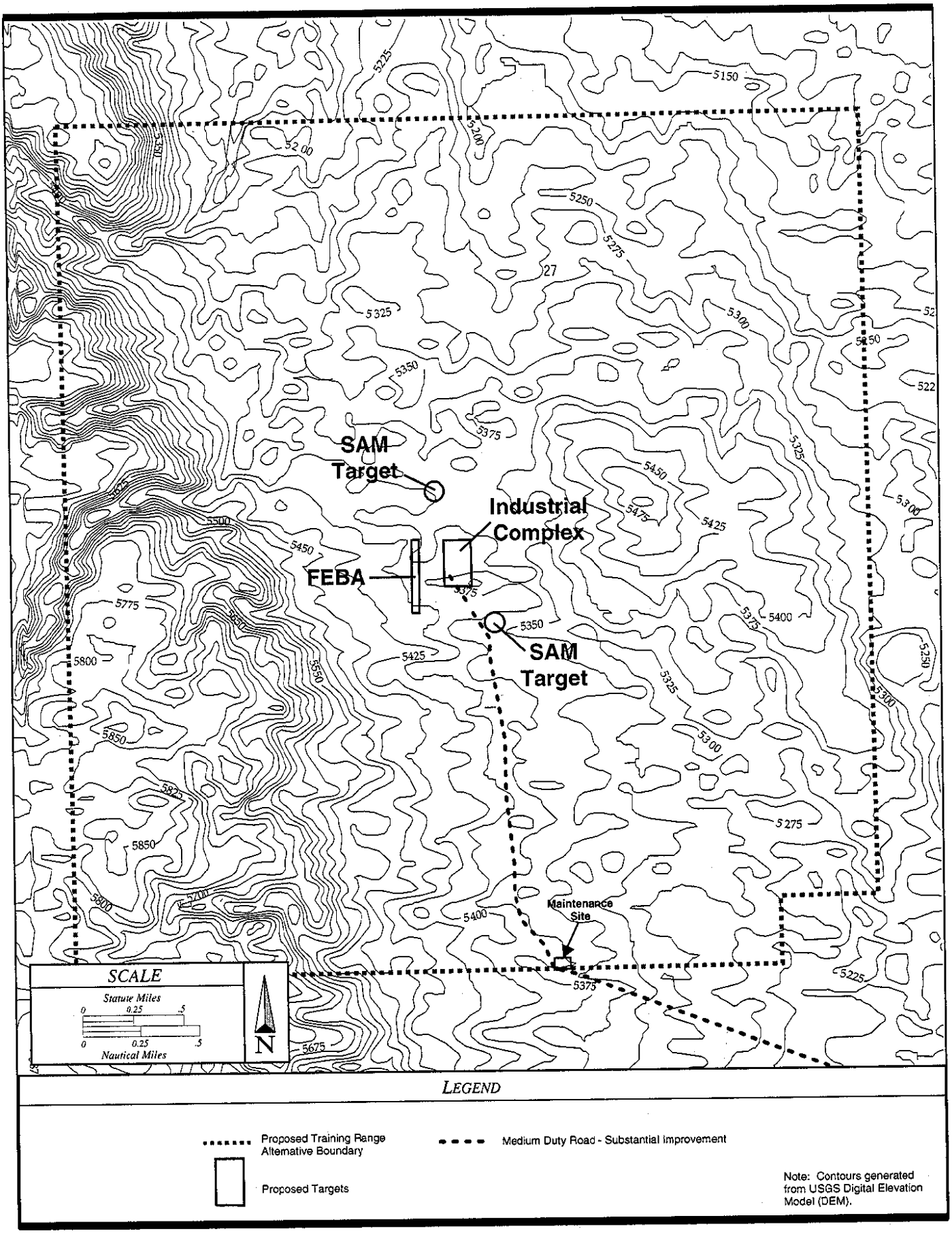
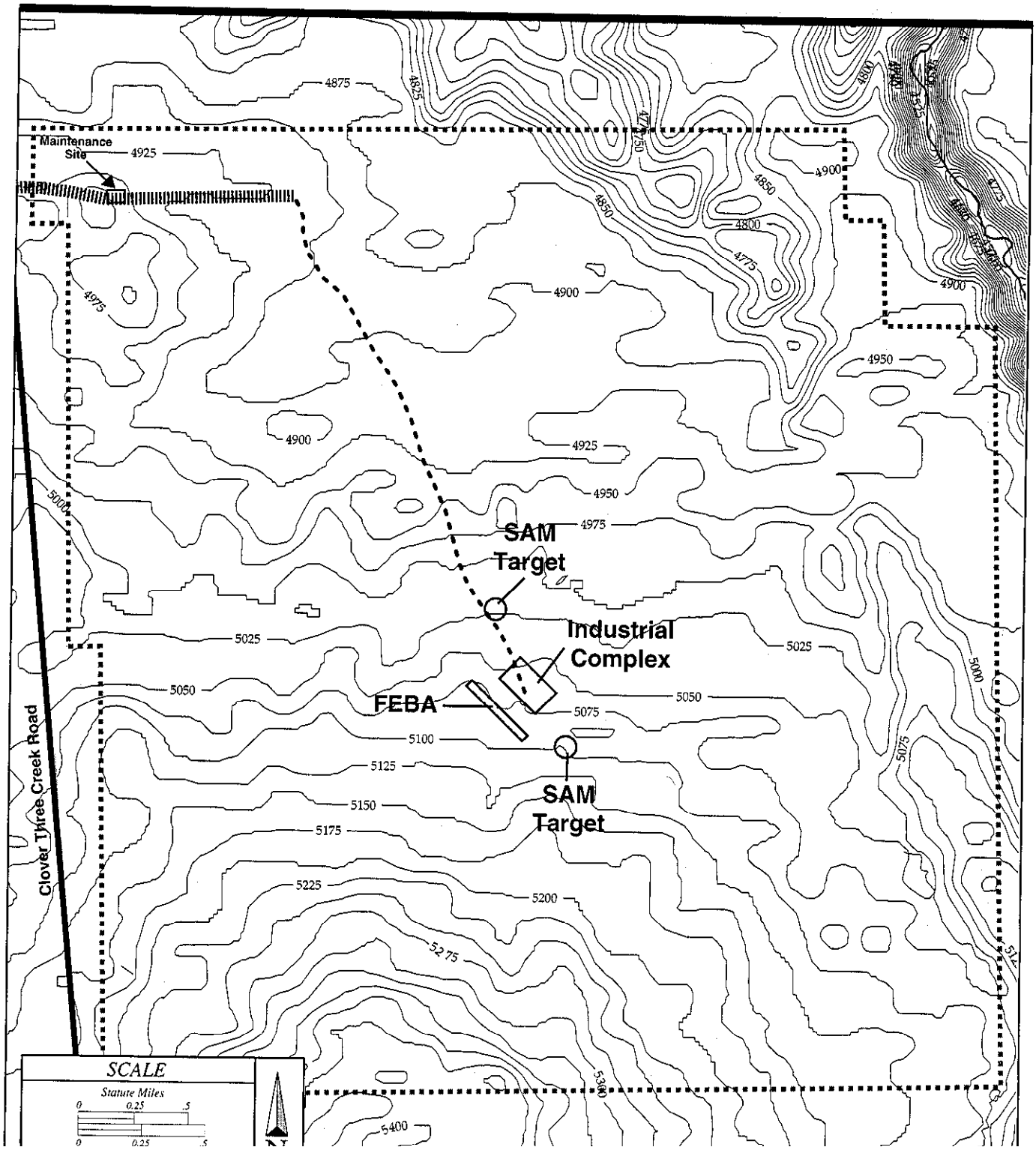


Figure 2.3-5 Target Areas in Alternative C: Grasmere


Maintenance Site
SAM Target
Industrial Complex
FEBA
SAM Target
Clover Three Creek Road
SCALE
Statute Miles
0 0.25 .5
0 0.25 .5
4875
4925
4900
4850
4800
4775
4975
4950
5000
5025
5050
5075
5100
5125
5150
5175
5225
5200
5275
5400

TACTICAL TRAINING RANGE TARGETS

As depicted on Figure 2.3-7, at the tactical training range, the industrial complex target would consist of various buildings and storage tanks located on about a 30-acre area surrounded by a fence that could permit wildlife passage (BLM 1989e). Within the 30-acre area, the industrial target would be arranged into six "city blocks" of buildings. These blocks of buildings would vary from four to eight structures and be dispersed over five acres. The buildings would consist of agricultural style structures similar to the ones used by ranchers. The height of four of the blocks is about 25 feet. The other two blocks are about 60 feet and 40 feet, respectively.

One of the blocks consists of five round, simulated storage tanks. The industrial target would also include a simulated railyard area. The railyard would consist of 24 rail cars located on two parallel tracks approximately 0.75 mile in length.

Two of the targets would represent SAM sites with simulated vehicles and plastic piping for missiles. The fenced SAM targets consist of six missiles arranged in a circle within a five-acre area. The missiles would be about 30 feet long and 4 feet in diameter. They would be placed at an angle with the base on the ground and the end of the missile about 12 feet up from the ground. Revetments (berms) built from gravel piles would enclose the individual simulated missile targets.

The fourth target on the tactical range would represent the array of vehicles and tanks commonly associated with a battlefront. The FEBA array would consist of 25 plastic, fiberglass, or obsolete Army tanks on a 1,000 by 3,000-foot site. The tanks, which are approximately 7 to 10 feet in height, would physically cover about 30 acres and be arranged to simulate an actual enemy formation. If obsolete Army tanks were used, all hazardous materials would be removed prior to emplacement. Development of this target area would not require grading or excavation, although transport and placement of the vehicles could result in surface disturbance.

Some of these targets would include propane-powered or electric heaters to provide infrared training opportunities. These heaters would be protected from training ordnance damage by placing them in vaults or surrounding them with concrete barriers.

NO-DROP TARGETS

Five no-drop targets would be developed on sites separated from the tactical range to provide more flexible and realistic training opportunities. No training ordnance would be released on to these targets, although aircrews would approach them and simulate ordnance delivery. Metal structures simulating industrial targets would be constructed on two of the five-acre sites, whereas the other five-acre sites would contain structures simulating a SAM installation and a radar site, respectively. The industrial target would consist of about 15 buildings and storage tanks similar to the one described for the 12,000-acre training range (Figure 2.3-8). Four 2,000-gallon propane above-ground storage tanks (ASTs) would also be located on site. The SAM site located at ND-8 would be similar to that described for the 12,000-acre training range

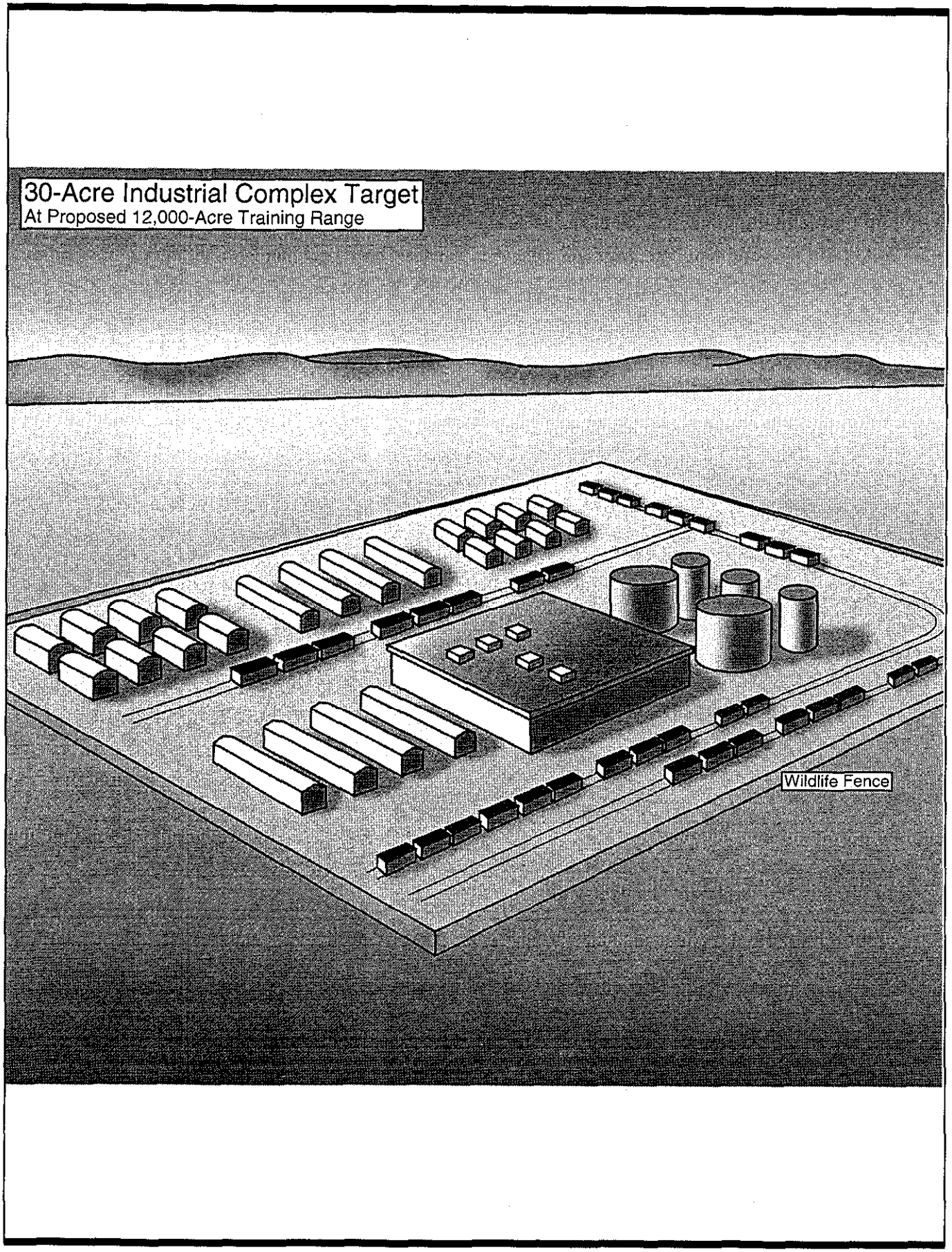


Figure 2.3-7 Industrial Complex Target

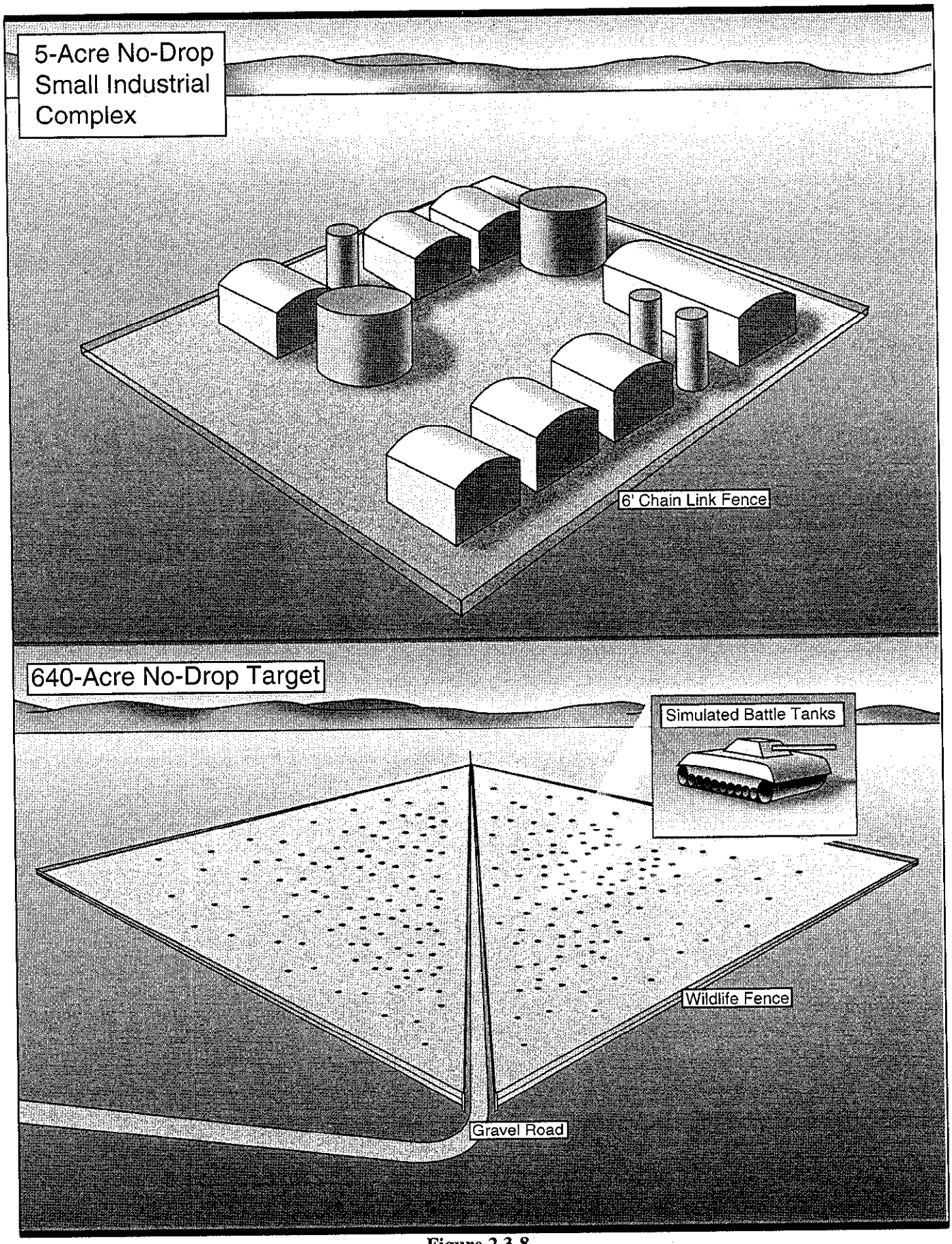


Figure 2.3-8
5-Acre No-Drop Small Industrial Complex and 640-Acre No-Drop Target

except the missile sites would be completely enclosed by a 12-foot cedar fence. ND-8 is also slightly larger (5.85 acres vs. 5 acres) than the other no-drop targets[2]. The early warning radar installation would consist of four 20-foot radar dishes mounted on earthen berms approximately 6 feet in height. One 2,000-gallon propane tank would also be located on this site. Construction for these targets would mirror that used on the tactical range. Propane heaters fueled by protected propane tanks would be employed at several no-drop targets. Located along an existing road, the 640-acre site would contain roughly 200 real (non-functioning and with hazardous material removed) or simulated (fabricated from plastic or fiberglass) military vehicles and tanks (Figure 2.3-8). As with some of the targets at the 12,000-acre tactical range, a portion of these tank and vehicle targets would include propane heaters to provide infrared signatures for aircraft.

Table 2.3-6 presents the attributes of the no-drop target sites. As this information shows, seven of the eight sites consist of locations characterized by seeding (ND-1, 5, 6, and 7), non-native vegetation (ND-2), or previous development (ND-8). ND-8, a five-acre no-drop target site represents a location developed for the Pershing II missile program in 1980. Although never used for the program, development resulted in widespread ground disturbance. An EA and environmental baseline survey (EBS) (Mountain Home AFB 1995a) were completed for this and five other former Pershing II missile sites as possible locations for emitters. These studies found no evidence of hazardous waste contamination and no environmental issues at these sites. ND-4 (five acres) includes sagebrush habitat, yet has received disturbance through grazing and fire.

Table 2.3-6. Attributes of Proposed No-Drop Targets

Site	*Acres*	*Propane Gas Tank (2,000 gallons)*	*Road Type*	*Site Characteristics*
ND-1	640	4	MDG	Seeded
ND-2	5	1	MDG	Non-Native
ND-4	5	4	MDG	Native
ND-5	5	4	MDG	Seeded
ND-6	5	4	MDG	Seeded
ND-7	5	4	MDG	Seeded
ND-8	5	0	MDG	Developed

MDG = Medium Duty Gravel
Seeded = Seeded with Crested Wheatgrass
Non-Native = Introduced Cheatgrass or other invasive species
Native = Native Vegetation
Developed = Former Pershing II Missile Site

[2] For the remainder of this document, ND-8 is referred to as a five-acre no-drop target site.

MAINTENANCE FACILITY

The maintenance facility for the tactical range would consist of one building situated on a three-acre site (Figure 2.3-9). The site would include a 7,000-square-foot building that houses range maintenance activities, a maintenance garage, and emitter maintenance. This structure would house facilities to repair and construct individual targets or portions thereof, provide storage for range vehicles and fire suppression equipment, and support communications. The entire area within the three acres would be graveled and graded. The roads to the maintenance facility would not be plowed in winter, unless required under emergency conditions.

Approximately 8 to 12 people would work on site during days when flying occurs. Target maintenance would occur regularly throughout the year. For about one week during the year (typically in the period from May through October), the range would be closed to training ordnance delivery and approximately 20 people would work on site conducting a comprehensive training ordnance cleanup. Although no personnel would live on site, the facility would include sleeping and cooking accommodations for use on a temporary, as-needed basis. A wastewater septic system would be installed. Solid waste would be removed by Mountain Home AFB to an approved disposal facility.

FUELS, STORAGE TANKS, AND ELECTRICAL POWER

Diesel fuel for range maintenance vehicles would be stored at the maintenance facility under Alternative B, C, or D using four double-walled 250-gallon ASTs with approved secondary containment features such as a catchment and berm system to prevent any spills from contacting the ground. The maintenance facility would employ federally approved practices when using petroleum products, paints, and lubricants. Any waste of this type, as well as solid waste, would be stored temporarily and removed to an approved disposal site at regular intervals. In addition, any of the three range development alternatives would support six 2,000-gallon propane tanks used for either power or to fuel heaters within targets.

The range maintenance facility would also contain a 50,000-gallon water tank to support fire suppression and for maintenance activities. Water to fill this tank would be trucked from Mountain Home AFB or supplied by a contractor.

Many concerns were expressed in public and agency comments on the DEIS regarding the possibility of range fires or disruption to ranching operations from increased human presence. In response to these concerns, the Air Force proposes to develop a less than one-acre above-ground reservoir within a corner of the 12,000-acre training range for Alternative B or D. This reservoir is not required at Alternative C since alternate sources of water are available. This less than one-acre above-ground reservoir would be linked to existing pipelines and be available for ranching operations. At all times, the proposed reservoir would have 50,000 gallons of water reserved to support fire suppression. Within the proposed withdrawal area, the water from the joint-use reservoir would be accessible from both outside and inside the perimeter fence.

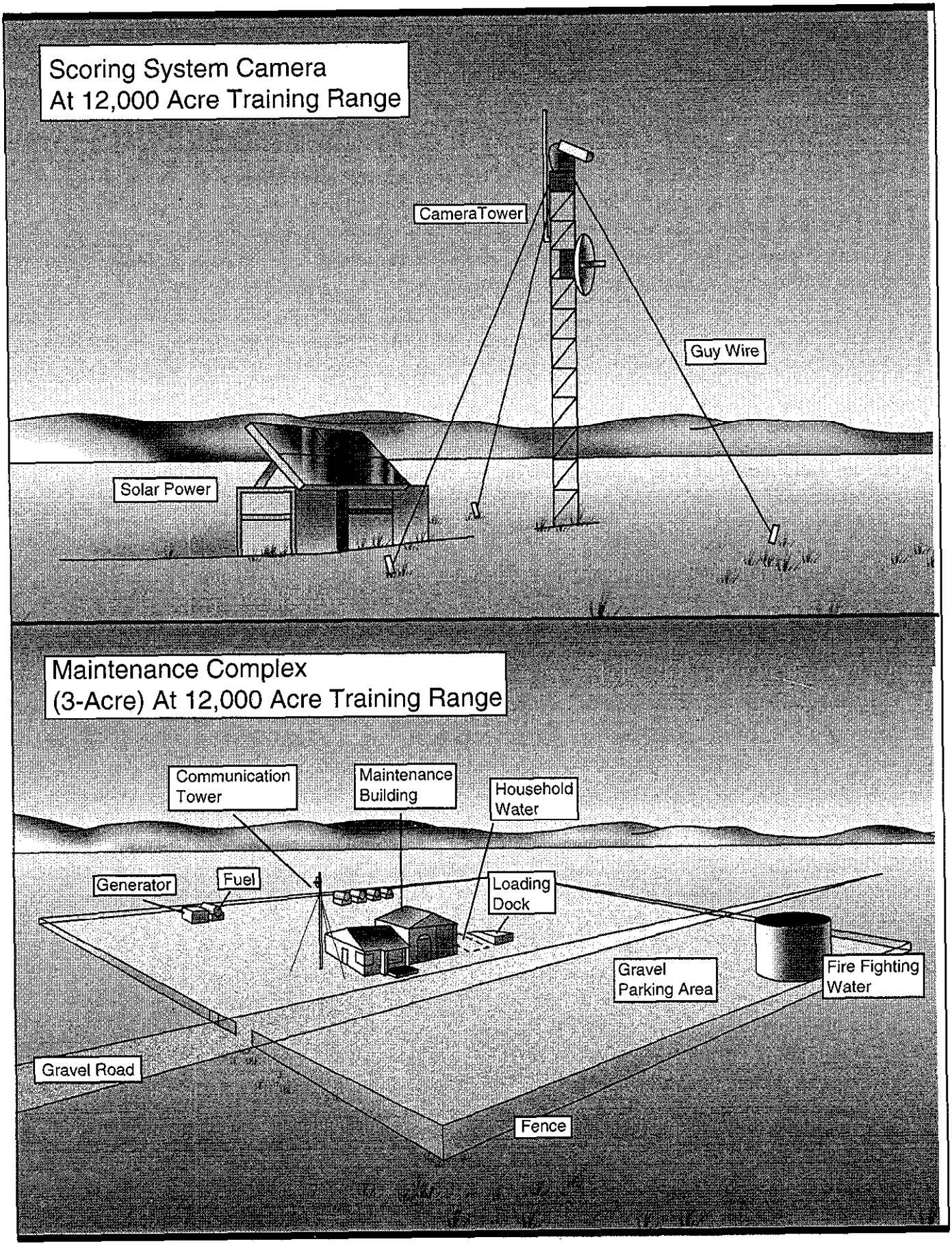


Figure 2.3-9 Scoring System and 3-Acre Maintenance Complex

Alternative B – Clover Butte. Fuel and water storage tanks for Clover Butte would be as described above. This alternative would include the less than one-acre above-ground reservoir. For Alternative B, electrical power would be derived from a 208-volt, three-phase transmission line linked to the main transmission line located roughly 15 miles to the southeast. To provide this source of electricity, the Air Force proposes to construct an above-ground, eagle-safe line (40-foot high wooden poles with cross-bars) extending along Clover-Three Creek Road **(**Idaho Power 1994**).** As depicted in Figure 2.3-10, the proposed transmission line would leave Clover-Three Creek Road, extend westward for about 0.45 mile until it intersects the road into the Clover Butte site. At this point, the proposed line would connect to the range maintenance facility.

Alternative C – Grasmere. Fuels and storage tanks would be the same as Alternative B, except no above-ground reservoir would be needed. For Alternative C, propane-powered generators using two additional fuel storage tanks would provide all electrical power to the site. No transmission line is proposed.

Alternative D – Juniper Butte. Fuels and storage tanks would be the same as Alternative B, including the above-ground reservoir. For Alternative D, electrical power would be derived from a 208-volt, three-phase transmission line linked to the main transmission line, as proposed for Alternative B. For this alternative, however, the proposed line would diverge eastward from its northernmost extent along Clover-Three Creek road for about 0.5 mile to the maintenance facility.

FENCING

The perimeter of the 12,000-acre tactical training range would be surrounded by a wildlife (BLM 1989e) wire fence. This fence would have three wires; a smooth wire 18 inches above ground and two barbed wires for a total height of 36 inches. Up to four gates would be constructed to allow for livestock access and exit. Contained within the training range would be four separate targets. Each of these targets would be fenced to prevent livestock entry but still allow for wildlife passage. Around ND-1, the 640-acre no-drop target site, the wildlife fencing would extend along both sides of the existing road that crosses through the proposed site, allowing for continued access of all users of this road. Gates would be installed at strategic locations to permit livestock entry and exit.

To prevent theft and vandalism, other types of fencing would be used at the five-acre no-drop targets. At the five-acre no-drop target sites, a six-foot chainlink fence would be utilized.

At all of the facilities, signs would be posted describing their use and access. This would be done in compliance to Air Force instructions and policies. Further discussion of access is provided in section 2.3.8.2.

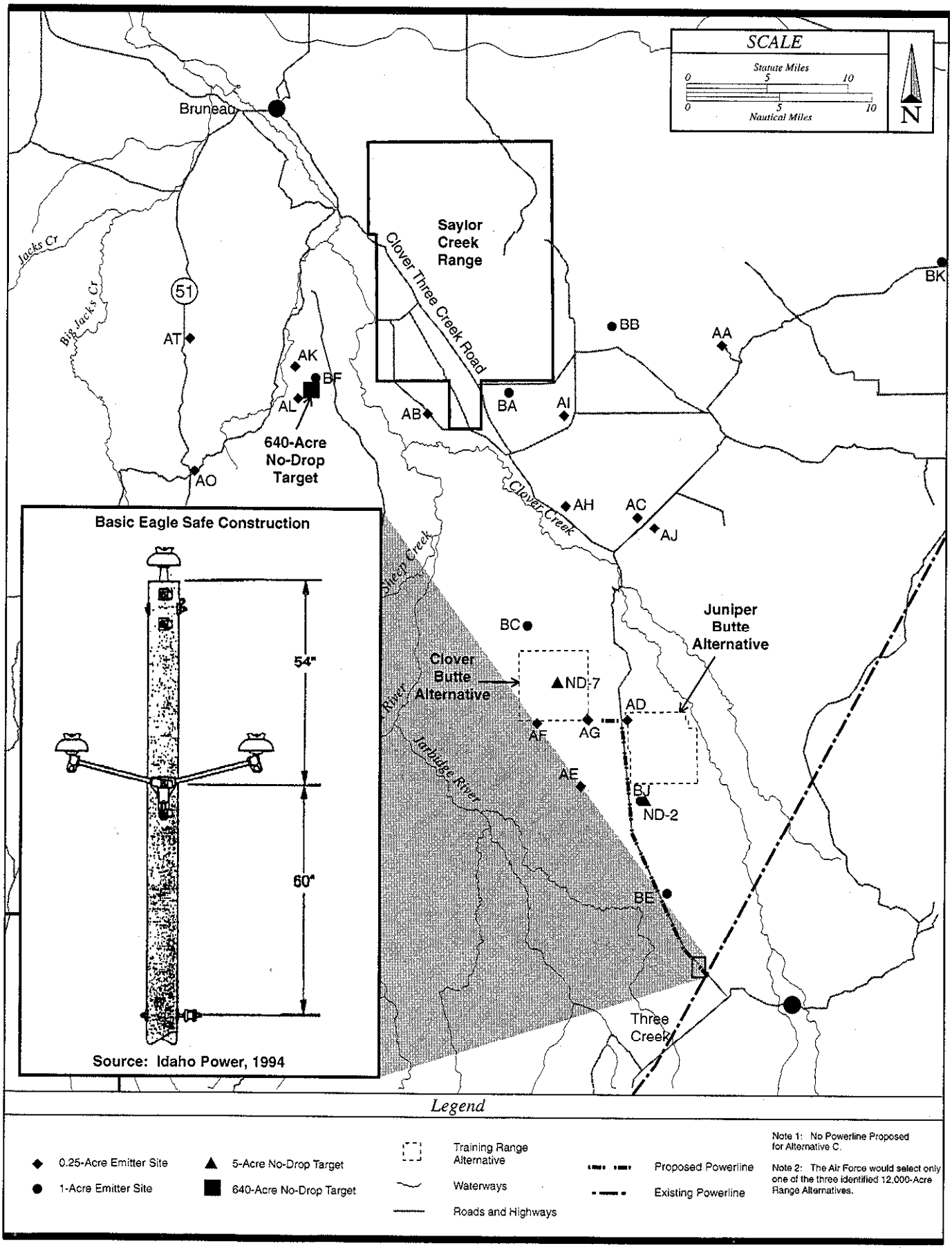


Figure 2.3-10 Proposed Powerline for Alternatives B and D

COMMUNICATIONS

A variety of communications equipment would be used under any of the range development alternatives.

The training range maintenance facility would be equipped with

- Telephones (via a microwave communications system) for communicating with other government agencies, emergency services, and for normal administrative purposes
- Permanently installed and mobile radios for communicating between the training range, emitter sites, en route personnel, and Mountain Home AFB
- Permanently installed and mobile radios for communicating with aircraft

One-acre emitter sites would be equipped with

- Permanently installed and mobile radios for communicating between the training range, other emitter sites, en route personnel, and Mountain Home AFB
- Mobile telephones for communicating with other government agencies, emergency services, and for normal administrative purposes

When manned for operations or maintenance, one-quarter-acre emitter sites and no-drop targets would be equipped with

- Mobile radios for communicating between the training range, other emitter sites, en route personnel, and Mountain Home AFB
- Mobile telephones for communicating with other government agencies, emergency services, and for normal administrative purposes

SCORING SYSTEM

A set of scoring system cameras would be installed to provide scoring of training ordnance delivery events. Low-light television or infrared cameras would be used, enabling scoring at night. The cameras would be powered by solar cells and batteries, and would be mounted on towers ranging in height from 10 to 40 feet (refer to Figure 2.3-9). Each of these towers and associated equipment covers a 50-by-50-foot area, with some components enclosed within a six-foot-high chain link fence, where required. The cameras would be linked to an existing control facility on Mountain Home AFB via a microwave communications system. Due to variable terrain, a solar powered microwave repeater station would be required at one emitter site. For Alternative B and D, this would be emitter site BC. For Alternative C, emitter site BG

would be used. Maintenance of the equipment would occur quarterly, unless system malfunctions require more frequent visits. Roads to the cameras would not be necessary.

MAINTENANCE ACTIVITIES

Fire Prevention and Suppression

The Air Force proposes to restrict the use of defensive countermeasure flares and training ordnance. All training ordnance will either contain cold-spotting charges or lack spotting charges. Under extreme fire risk conditions, determined from the same information and criteria used by the BLM, no training ordnance would be used, and maintenance activities would be carefully monitored. Flare use may also be eliminated during extreme fire risk conditions. During other times, flares would be released only above 2,000 feet AGL, under the same restrictions that apply today for this area. Therefore, no firebreaks are proposed on the 12,000-acre training range. Nevertheless, equipment supporting fire suppression will be located at the maintenance facility during range operations as required by prevailing fire conditions. This equipment would include a 1,200-gallon fire truck, two pickup trucks equipped with 200-gallon "slip-ons," and a tank truck capable of transporting approximately 5,000 gallons of water that would be available to refill the pumpers away from the maintenance facility. Maintenance personnel would be qualified and available for priority assignment to fire suppression duty. Backup fire-fighting personnel are available at SCR, Mountain Home AFB, and BLM. A 50,000-gallon water storage tank (non-potable) would be located at the maintenance facility within the 12,000-acre range. This tank would be filled throughout the fire season, and would be available for interagency use for fire suppression. In response to public and agency concerns expressed during the DEIS public hearings and comment period, the Air Force will construct a pipeline-supplied, less than one-acre above-ground reservoir capable of storing sufficient water to provide 50,000 gallons for fire suppression on the proposed Clover Butte or Juniper Butte location. This additional storage capacity is not required at the proposed Grasmere location since alternate sources of water supply are available.

Waste Management

Waste management procedures would include the disposal of hazardous waste using approved practices currently followed at SCR and removal of solid waste to an approved landfill or recycling facility. All solid and hazardous waste collection, transport, recycling, and disposal practices would be in accordance with approved Air Force instructions and policies.

Training Ordnance Clean-up

Weapons delivery training required by the 366th Wing would involve delivery of small (up to 25 pounds) non-explosive training ordnance on the target areas of the training range. The training ordnance debris, cast iron and steel, would be collected and recycled. For about one week per year (typically in the period from May through October), the range would be closed to training ordnance delivery and approximately 20 people would work on site conducting a comprehensive training ordnance cleanup. Other smaller scale training ordnance cleanup

activities would be conducted periodically throughout the year, depending upon weather and operational constraints.

Personnel

Between 8 and 12 full- and part-time personnel would perform maintenance on targets, vehicles, facilities, and equipment, as well as operate communications equipment. Personnel would commonly be at the range on weekdays. None of the personnel assigned would live on site, although temporary living quarters (for emergency use only) would be available at the maintenance site. Personnel would routinely commute in groups to the site on a daily basis during weekdays, or as needed.

2.3.2.2 EMITTERS AND EMITTER SITES

Electronic emitter units simulate enemy surface-to-air threats to which aircrews must respond effectively. By constantly changing the arrangement, number, and location of emitter units, aircrews are required to adapt and respond to a variety of realistic threats. To provide this capability, 30 emitter sites would be established in eastern Owyhee County. Figure 2.3-11 shows the 30 emitter sites under evaluation and Table 2.3-7 presents their attributes. Twenty sites would cover one-quarter acre each, consisting of a gravel, unfenced parking area designed to support temporary use. Measuring one acre each, the other 10 sites would contain one 400-square-foot building approximately 15 feet in height. Building material would be either concrete block or painted metal. A 40-foot monopole supporting communications would also be located on these sites, if required. A one-acre site would also contain a generator building, a 2,000-gallon propane tank, and a 250-gallon fuel AST. The emitters, mounted on trucks, would be 17 feet tall. Under Alternatives B and D, emitter site BC would include a 50-foot radio tower instead of the monopole. For Alternative C, the communications relay tower would be established at emitter site BG. The radio tower would consist of a 40-foot tower topped with four 10-foot microwave dishes to provide communication relay from the range to the base. All one-acre sites would be surrounded by a 6-foot high chain link fence topped with an additional 2 feet of barbed wire.

The one-quarter-acre emitter sites would support a mobile emitter approximately 17 feet in height. Fencing would not be used to surround these smaller emitter sites. Figure 2.3-12 depicts the layout of typical one-acre and one-quarter-acre sites. When in operation, an emitter antenna would be pointed up toward the sky.

On average, five to eight emitter sites would be in use each weekday. During some exercises, approximately 16 times per year, emitters could occupy approximately 15 of the sites over a 2- to 3-day period. Due to changing training scenarios, weather, and road conditions, it is likely that some sites would receive more use than others. The number of days of use would range from about 50 to 260 for these various sites.

The emitter units would range in size from a pickup truck to a tractor-trailer combination. Use of the smaller units would be common, since not all roads to the sites would accommodate the

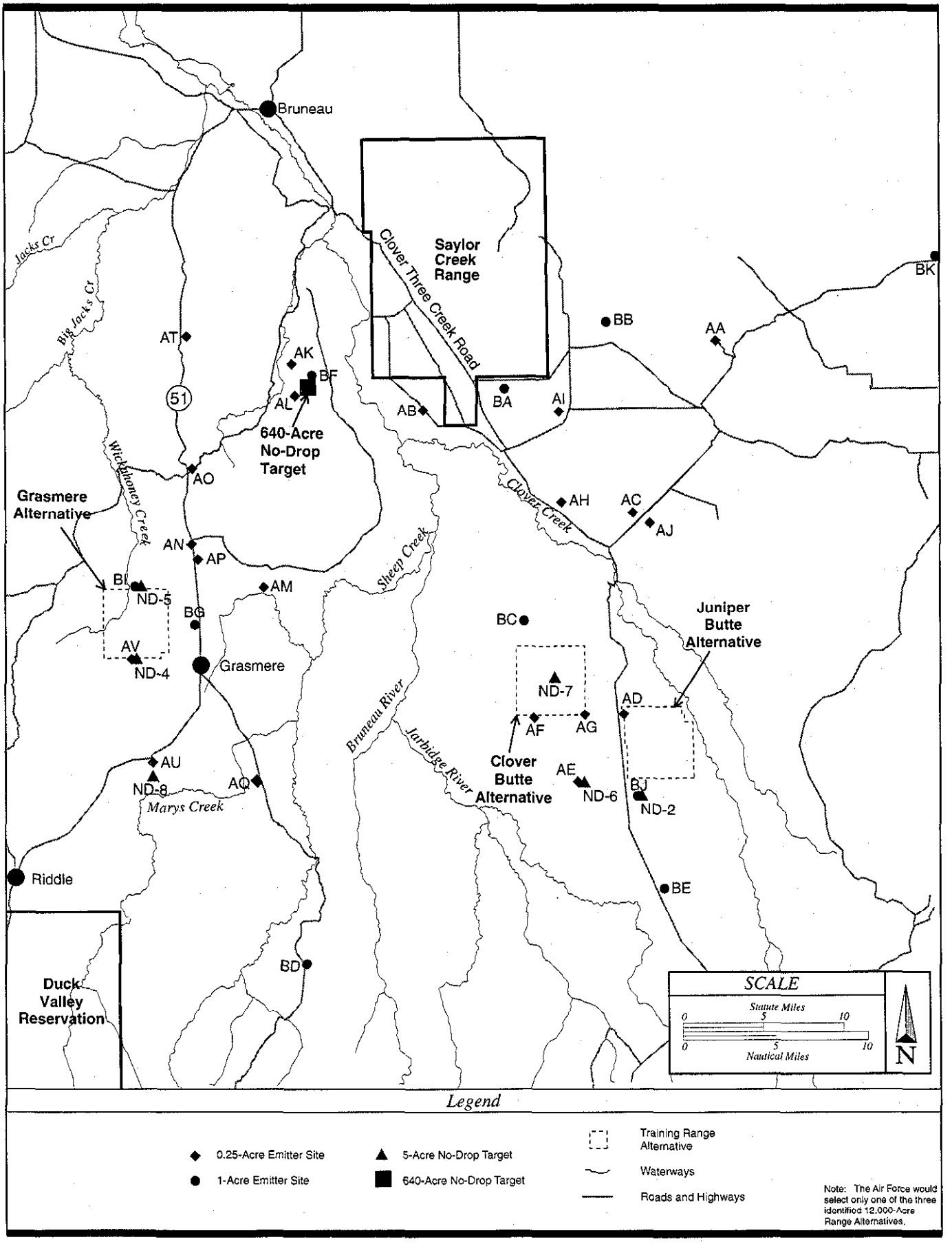


Figure 2.3-11 Proposed Emitter Sites

Table 2.3-7. Attributes of Proposed Emitter Sites

No Drop Targets/ Emitters	*Size (acres)*	*Propane Gas Tank 2,000 Gallons*	*Diesel Fuel Tank 250 Gallons*	*Road Type*	*Site Vegetation Characteristics*
BA	1	1	1	MDG	Non-Native
BB	1	1	1	MDG	Seeded
BC	1	1	1	MDG	Seeded
BD	1	1	1	MDG	Native
BE	1	1	1	MDG	Seeded
BF	1	1	1	MDG	Seeded
BG	1	1	1	MDG	Native
BI	1	1	1	MDG	Seeded
BJ	1	1	1	MDG	Native
BK	1	1	1	MDG	Developed
AA	0.25	NA	NA	LDG	Seeded
AB	0.25	NA	NA	LDG	Non-Native
AC	0.25	NA	NA	LDG	Seeded
AD	0.25	NA	NA	LDG	Seeded
AE	0.25	NA	NA	LDG	Seeded
AF	0.25	NA	NA	LDG	Non-Native
AG	0.25	NA	NA	LDG	Seeded
AH	0.25	NA	NA	LDG	Non-Native
AI	0.25	NA	NA	LDG	Non-Native
AJ	0.25	NA	NA	LDG	Native
AK	0.25	NA	NA	LDG	Native
AL	0.25	NA	NA	LDG	Native
AM	0.25	NA	NA	LDG	Non-Native
AN	0.25	NA	NA	LDG	Non-Native
AO	0.25	NA	NA	LDG	Seeded
AP	0.25	NA	NA	LDG	Developed
AQ	0.25	NA	NA	LDG	Native
AT	0.25	NA	NA	LDG	Non-Native
AU	0.25	NA	NA	LDG	Developed
AV	0.25	NA	NA	LDG	Non-Native

Notes: BA-BK = One-acre Emitter Sites; AB-AV = One-quarter-acre Emitter Sites
MDG = Medium Duty Gravel
LDG = Light Duty Gravel
Seeded = BLM-seeded crested wheatgrass
Non-Native = Introduced cheatgrass or invasive weeds such as tumble mustard
Native = Native vegetation such as Sandberg bluegrass, Wyoming big sagebrush, or low sagebrush
Developed = Site has been improved for specific use (gravel pit or Pershing missile site)

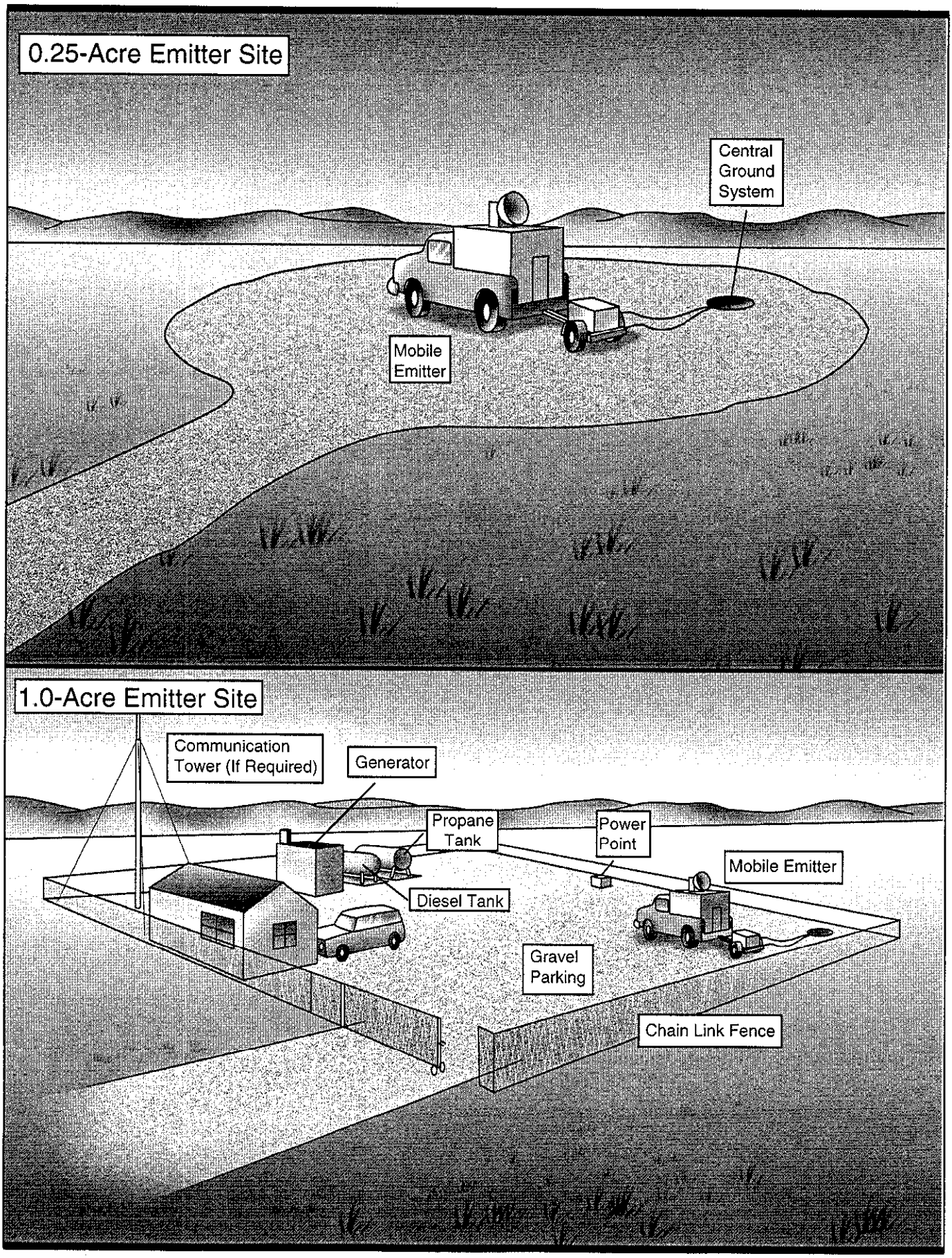


Figure 2.3-12 Emitter Sites with Mobile Electronic Emitters in Place

larger units during all seasons of the year. Personnel would always be present during emitter operations. Secured and nonoperating emitters would occasionally be left overnight at the one-acre sites.

For all alternatives, operation of the one-acre emitter sites would involve use of a small diesel (60 kilowatt) generator to power the units. Generators will run an estimated 6 to 8 hours a day when emitters are on an emitter site. These sites would contain 250-gallon above-ground fuel tanks with double walls and secondary containment such as a catchment and berm system to prevent accidental releases. The one-quarter-acre emitter sites would utilize mobile diesel generators.

As illustrated under site characteristics in Table 2.3-7, each candidate emitter site was evaluated to minimize effects from direct ground disturbance. Fourteen candidate emitter sites were deleted from consideration as part of the effort to mitigate by avoidance. Emitter site characteristics are divided into four categories: seeded (planted crested wheatgrass), non-native (introduced cheatgrass or invasive weeds), native (vegetation native to Idaho), or developed (gravel pit or former Pershing II missile site). At the ten one-acre emitter sites, five sites have been seeded, three sites contain native vegetation, one site has non-native vegetation, and one site is developed, consisting of a former Pershing II missile site. Of the 20 one-quarter-acre emitter sites, eight are covered with non-native vegetation, six have been seeded, four sites have native vegetation, and two sites are developed (AP is an active gravel pit; AU is a former Pershing II missile site).

The Air Force previously evaluated the former (and unused) Pershing II missile sites for use as locations for mobile emitters. An EBS and EA for this proposal established no significant impacts (Mountain Home AFB 1995a).

Distribution of the proposed emitter sites reflects a balance of operational requirements for dispersal and relationship to SCR, proposed training range sites, and no-drop targets, accessibility, and considerations of environmental and cultural resources (refer to Figure 2.3-12). With the exception of a single one-acre emitter site BK, all emitter sites occur under existing airspace. Site BK, a former Pershing II missile program facility, lies about 5 miles northeast of the current Bruneau 1 MOA and proposed Jarbidge MOA boundary. Since the emitter units project a simulated threat detectable by aircraft at distances greater than 5 miles, this site would provide useful training even though it lies outside MOA airspace.

2.3.2.3 ROADS

Access to and within the area would be provided by a limited set of roads, primarily consisting of existing roads. To provide access to training range sites, the Air Force would need to improve or construct some roads or sections of roads. A series of short connecting roads and driveways would also be constructed to provide access to target and emitter sites. Based on the Air Force's proposal, two classes of roads are expected to be necessary: light duty and medium duty (Table 2.3-8).

Table 2.3-8 Proposed Road Categories

Road Category	*Improvement Type*	*Training Range*	*No-Drop Target*	*One-Acre Emitter Sites*	*One-Quarter-Acre Emitter Sites*
Light duty gravel	No Improvements Needed	X	X		X
	Substantial Improvements	X	X		X
	New Construction	X	X		X
Medium duty gravel	No Improvements Needed	X	X	X	
	Some Improvements	X	X	X	
	Substantial Improvements	X	X	X	
	New Construction	X	X	X	

A *light duty road* would be designed to accommodate all types of vehicular traffic to serve the one-quarter-acre emitter sites during the approximate 260 days of training activity. As such, the typical use of the road would be for a small pickup truck with a trailer. User levels on these roads would range from one or two vehicles traveling each training day approximately 50 to 260 days per year. A light duty road would be approximately 10-feet wide, surfaced with approximately 3 inches of gravel base. Where required to prevent soil erosion, a shallow ditch, about 8 feet wide, would be constructed along the sides of the road. Culverts and water bars would also be installed where required to prevent effects on wetlands, waters of the U.S., and downstream habitats. The Air Force would meet the construction requirements established by the lead agency from whom they obtained the right-of-way.

A *medium duty road* would be designed to accommodate all types of vehicular traffic. However, use of the road would likely be limited to the 260 days of the year when training activity is anticipated. In some instances, they would also accommodate use from other roads that intersect them. The roads would be designed to serve the training range areas, no-drop target areas, and one-acre emitter sites. The medium duty road would be designed for the heavy duty trucks and equipment required during construction of these areas, as well as routine maintenance. Once the areas are constructed, use levels on these roads would range from zero vehicles per week for some emitter sites, to as many as 32 trips during the week of comprehensive training ordnance cleanup at the 12,000-acre training range. A medium duty road would be approximately 14 feet wide, surfaced with approximately 6 inches of gravel base. Where required to prevent soil erosion, a shallow ditch, about 8 feet wide, would be constructed along the sides of the road. Culverts and water bars would also be installed where required to prevent effects on wetlands, Waters of the U.S., and downstream habitats. The Air Force would meet the construction requirements established by the lead agency from whom they obtained the right-of-way.

Some roads do not require improvements. A portion of these would be used by the Air Force based on seasonal limitations. Highway 51 and Clover-Three Creek Road would not require seasonal limitations; these roads are already able to accommodate light or medium duty travel most of the year. Access to some emitter sites would not be required at all times; therefore, during wet periods the Air Force would discontinue use of these sites.

In all cases, roads would not be used when weather conditions do not permit travel. The Air Force would not routinely plow or remove snow. Snowmobiles or helicopters could be used on rare occasions to ensure access for emergencies at the 12,000-acre training range site. The Air Force intends to develop interagency service agreements with the applicable jurisdiction for annual road maintenance.

Different road and improvement types apply to the various alternative components. Under the proposed Juniper Butte Alternative, the primitive two-track road along the East Fork of the Bruneau River (along the northeast corner of the proposed range site) would be re-routed to be outside the range's perimeter fencing, and thus be accessible to the public.

More than one improvement type can apply to different segments of the same road. The types of improvements also vary according to the nature of proposed vehicle traffic. Table 2.3-9 outlines the length in miles and type of improvements for light and medium duty roads.

Table 2.3-9. Projected Improvements and Miles[1] of Roads

Road Category	*Improvement Type*	*Alternative B*	*Alternative C*	*Alternative D*
Light duty gravel	Substantial Improvements	6	6	10
	New Construction	8	8	8
	Subtotal	14	14	18
Medium duty gravel	Some Improvements	25	25	25
	Substantial Improvements	28	30	27
	New Construction	11	11	12
	Subtotal	64	66	64
	Total	78	80	82

Note: 1. Mileage rounded to nearest mile.

As part of the road improvements, the Air Force proposes to replace the bridge at Clover Creek Crossing to accommodate heavier equipment use. The bridge, made from pre-stressed concrete, would have a 40-foot span and be 16-feet wide. A private dam exists a few yards downstream of the current bridge site. The bridge improvement would involve all best

management practices to avoid sediment load, construction at a low-water season, and temporary re-routing of minimal flow from the dam and around the construction site. Using this EIS as a basis, the Air Force would develop the necessary documentation for a Section 404 permit, including a finding of no practicable alternative, and consult with the U.S. Army Corps of Engineers should a decision be made to proceed with the action. Safety measures would be implemented as necessary including use of safety markers and flags. Access during construction would be available through the existing bridge.

2.3.3 Proposed Airspace Modifications

Implementation of a range development alternative would not alter the basic types of training conducted by the 366th Wing in the local airspace. However, the presence of a tactical training range, dispersed no-drop targets, emitter sites, and reconfigured airspace would substantially enhance the quality, realism, and sophistication of the training activities that could be performed. To achieve these results, the Air Force and the FAA would need to modify the airspace to permit increased maneuvering area, allow realistic and varied approaches to targets, and accommodate larger simultaneous and sequential forces to conduct CT and CWT. These airspace modifications would alter how the 366th Wing currently uses each airspace unit, enhancing the training value of the airspace through the minimum changes and additions. It would also allow flight activity to be dispersed, thereby providing operational flexibility and reducing constriction of flight activity north of the Duck Valley Reservation.

Related sets of airspace modifications would result under Alternative B, C, or D. Figures 2.3-13, 2.3-14, and 2.3-15 show these proposed modifications for each alternative. The proposed modifications to the existing airspace fall into two categories: MOA expansion and deletions (non-rulemaking), and establishment and elimination of restricted airspace (rulemaking). Table 2.3-10 shows the differences in land areas underlying airspace by alternative.

For Alternatives B and C, the nature and total amount of airspace would be the same. Alternative D would require a slight increase in airspace to allow sufficient space for aircraft to maneuver near the eastern boundary of the airspace. Although the three alternatives would result in slightly different configurations of the internal boundaries of the airspace units, the distribution of sortie-operations would remain similar.

2.3.3.1 PROPOSED MOA MODIFICATIONS

Owyhee and Sheep Creek 3 MOA (Figures 2.3-13 through 2.3-15). Under any of the three range development alternatives, the Air Force proposes to extend the northern edge of the existing

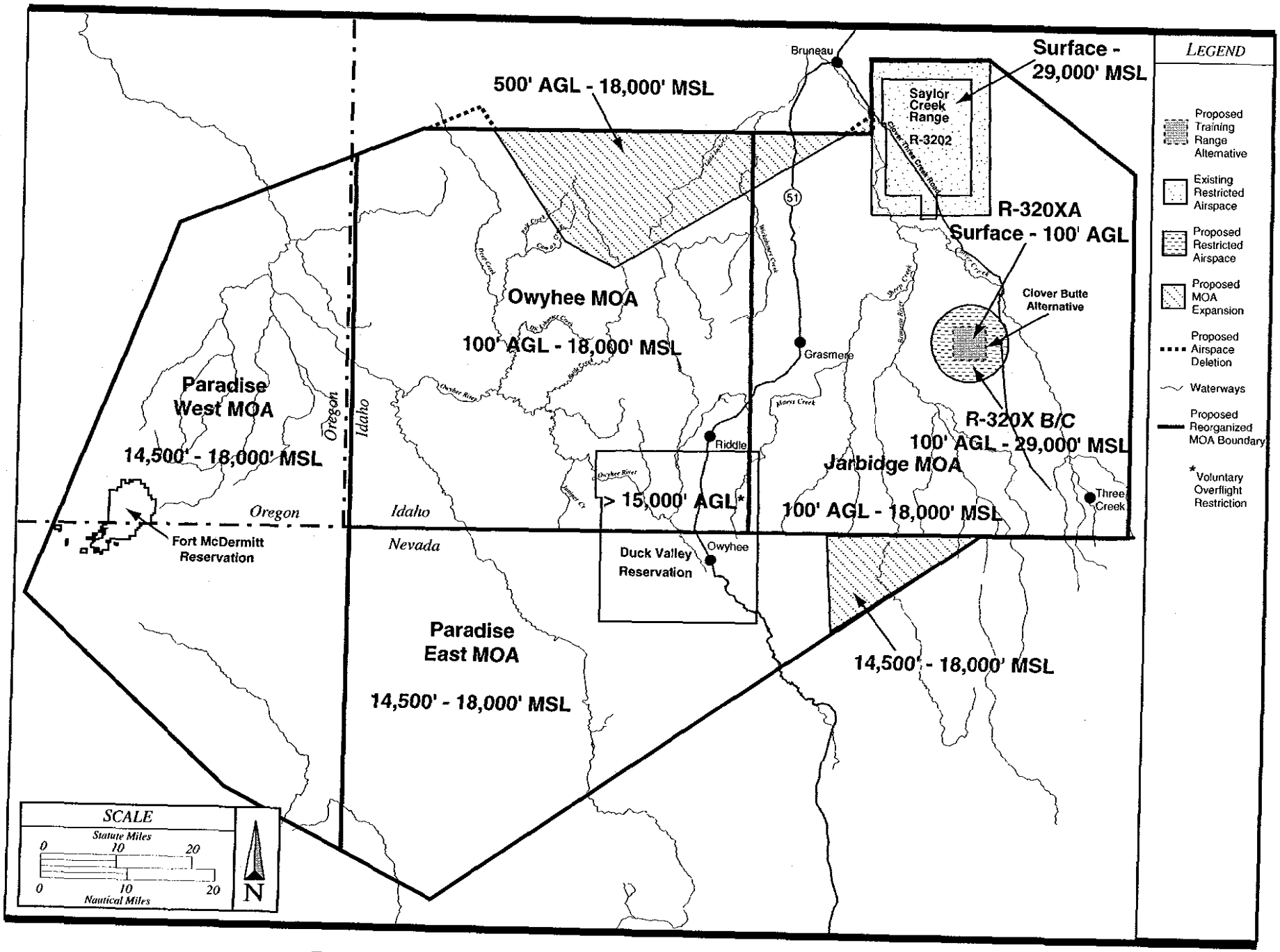


Figure 2.3-13 Alternative B - Clover Butte Proposed Airspace Modifications

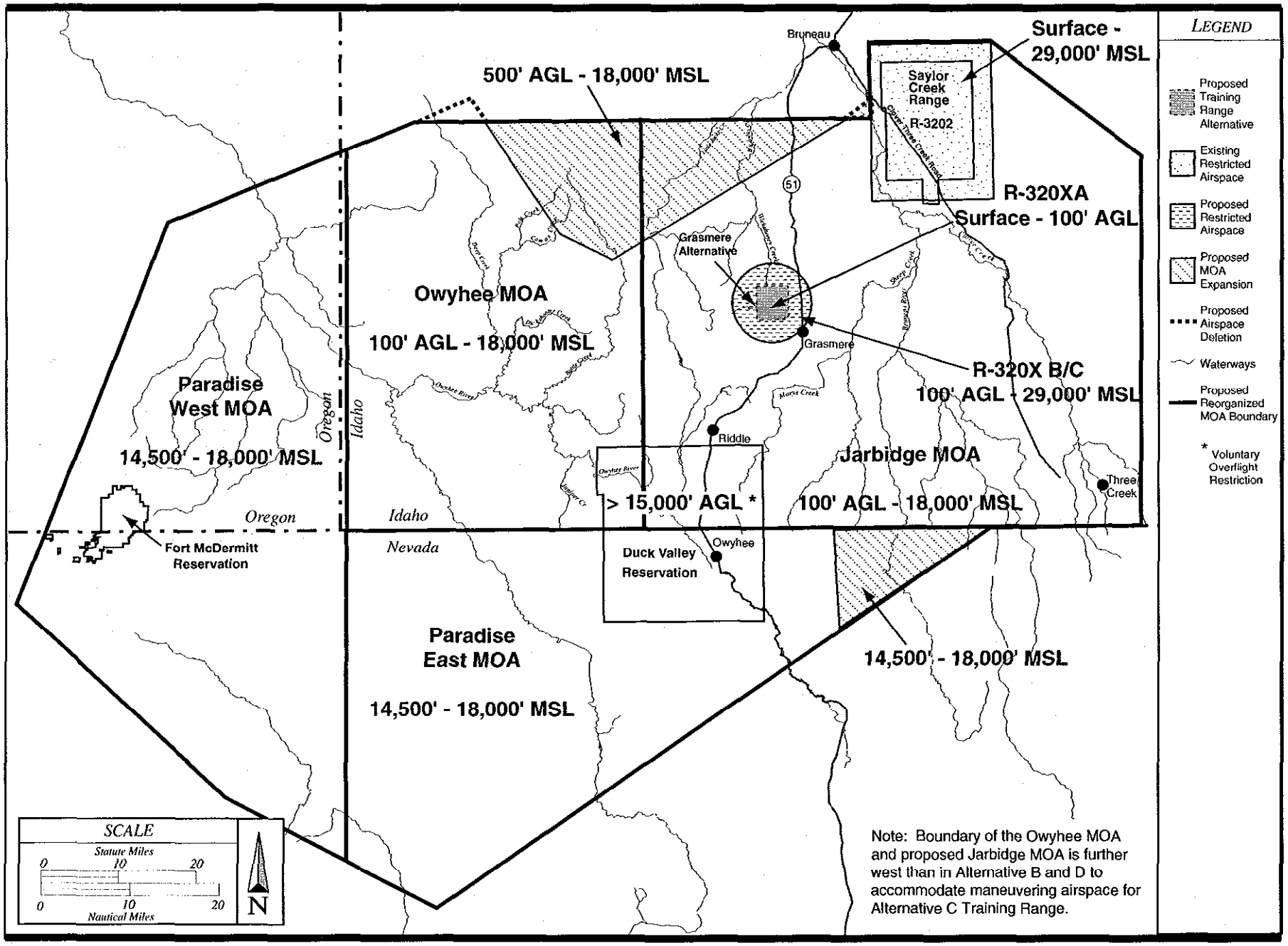


Figure 2.3-14 Alternative C - Grasmere Proposed Airspace Modifications

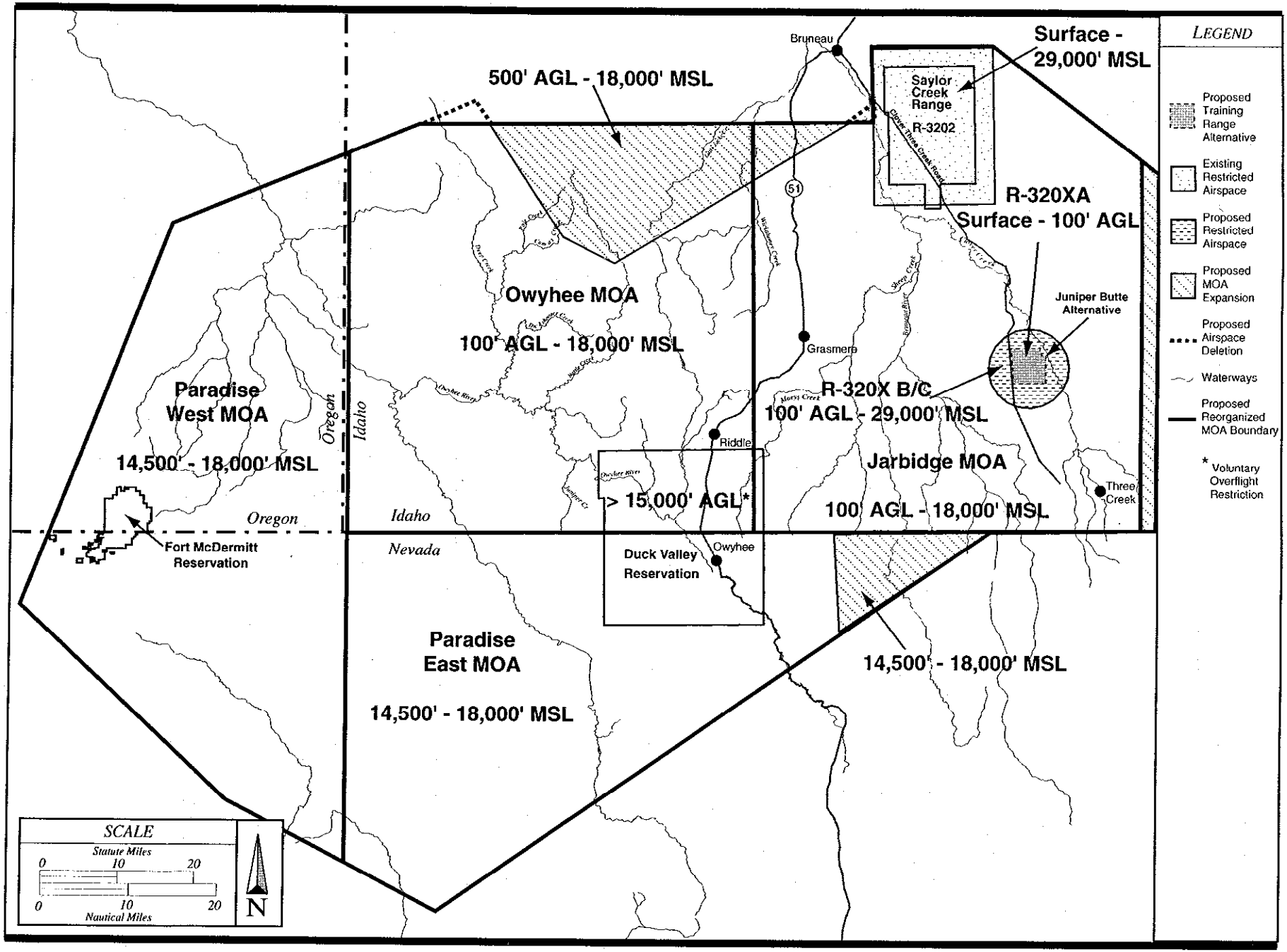


Figure 2.3-15 Alternative D - Juniper Butte Proposed Airspace Modifications

Table 2.3-10. Comparison of Areas Underlying Airspace by Alternative

Airspace Unit	BASELINE / NO-ACTION *Underlying Area (square miles)*	ALTERNATIVE B CLOVER BUTTE *Underlying Area (square miles)*	ALTERNATIVE C GRASMERE *Underlying Area (square miles)*	ALTERNATIVE D JUNIPER BUTTE *Underlying Area (square miles)*
Restricted Airspace				
Airspace Associated with Saylor Creek Range				
R-3202A	299	299	299	299
R-3202B	20	NA	NA	NA
R-3202C	178	NA	NA	NA
Proposed Range ETI 320XA / B / C	0	79	79	79
Total	497	378	378	378
MOAs				
Bruneau 1	964	0	0	0
Bruneau 2	136	0	0	0
Sheep Creek 1	295	0	0	0
Sheep Creek 2	109	0	0	0
Sheep Creek 3	449	0[1]	0[1]	0[1]
Saylor	48	0	0	0
Jarbidge	0	2,268	2,793	2,268
Jarbidge North Expansion	0	39[1]	175[1]	39[1]
Jarbidge East Expansion	0	0	0	112
Owyhee	2,335	2,246	1,721	2,246
Owyhee North Expansion	0	374[1]	238[1]	374[1]
Paradise	4,447	0	0	0
Paradise East	0	2,012	2,012	2,012
Paradise East Expansion	0	126	126	126
Paradise West	0	2,438	2,438	2,438
Saddle A	592	592	592	592
Saddle B	1,469	1,469	1,469	1,469
Total	10,844	11,564	11,564	11,676

Note: 1. Includes elimination of portions of MOA airspace due to proposed MOA reconfiguration.
Source: Mountain Home AFB 1996a

Owyhee and Sheep Creek 3[3] MOAs approximately 20 NM to the north. This northern airspace expansion would fill in the "V"-shaped gap in the northern portion of the MOA structure, overlying about 429 square miles. As proposed, this MOA expansion would extend vertically from 500 feet AGL to 18,000 feet MSL; the ceiling altitude would match all adjacent MOA altitudes (Figure 2.3-16). To simplify the borders of the airspace, the Air Force also proposes to eliminate the northernmost tips of the Owyhee MOA (about 13 square miles), and Sheep Creek 3 MOAs (about 3 square miles), aligning this northern edge with the northern limits of the proposed expansion. This set of modifications would enhance training by

- providing less constricted airspace north of the Duck Valley Reservation and its overflight restrictions;
- permitting greater variation in approaches to SCR, the 12,000-acre training range, and the no-drop targets;
- offering additional MOA airspace to accommodate realistic training particularly CWT; and
- creating more airspace in which to conduct air-to-air training.
- permitting flexible scheduling in response to agency and public environmental concerns.

This expanded MOA airspace would overlap with existing airspace associated with Mountain Home AFB. Designated as "Area X-Ray," this airspace has been delegated by the FAA to Mountain Home AFB for providing air traffic control services to aircraft arrivals, departures, and overflights. This airspace, which extends from the surface to 16,000 feet MSL, is returned to the FAA's Salt Lake Air Route Traffic Control Center (ARTCC) on a daily basis when no longer required for Mountain Home AFB operations. Area X-Ray also provides arrival and departure routes to the existing MOAs which transit the proposed MOA extensions. Refer to Figure 1.3-1 for more details on Area X-Ray.

Paradise MOA (refer to Figures 2.3-13 through 2.3-15). Alternatives B, C, and D would involve establishment of additional MOA airspace at the eastern limits of the Paradise MOA in Nevada (i.e., Paradise East MOA Expansion). As described in section 1.3.2.2, existing restrictions on overflight of the Duck Valley Reservation limit the utility of the narrow strip of Paradise MOA airspace east of the reservation. The proposed expansion would consist of a triangular-shaped piece of MOA covering about 126 square miles above Nevada. Vertical dimensions of this expansion would match those for the existing Paradise MOA: 14,500 to 18,000 feet MSL. Two MTR corridors (IR-303 and an exit route for other MTRs) cover roughly 35 percent of this area

[3] Within the airspace modifications, the existing Sheep Creek 3 MOA would be divided and redesignated as portions of the Owyhee and Jarbidge MOAs. For this analysis, they are referred to as the Jarbidge North MOA Expansion and Owyhee North MOA Expansion.

Figure 2.3-16. Proposed Altitude Structure for R-3202A/B, R-320X A/B/C, Paradise MOAs, Owyhee MOA, and Jarbidge MOA

at altitudes ranging from 100 feet AGL to 14,000 feet MSL. The underlying lands have been exposed to low-level military jet overflights for a number of years.

Expansion of this portion of the Paradise MOA would enhance the utility of this airspace while simultaneously enabling aircrews to maintain required avoidance of the reservation. Use of this section of the MOA would consist of more than straightforward transit to and from the Idaho airspace. It would provide sufficient maneuvering space for aircrews to employ the variability needed for realistic, quality training.

Eastward Expansion of Jarbidge MOA (refer to Figure 2.3-15). Only under Alternative D, the MOA airspace east of SCR (currently the Bruneau 1 and 2 MOAs) would be expanded 2 miles to the east. This modification, as part of the proposed Jarbidge MOA, would permit full 360-degree access to the Juniper Butte training range.

2.3.3.2 MODIFICATIONS TO RESTRICTED AIRSPACE

Restricted Areas R-3202A, B, and C. Under a new training range alternative, as noted previously, R-3202B and C south of SCR would no longer be necessary. Under Alternatives B, C, and D, the Air Force proposes to eliminate R-3202 B and C and convert the airspace into MOA airspace. This element of the airspace modifications would eliminate restricted airspace and facilitate civil air traffic in airspace overlying 198 square miles, including portions of the Bruneau and Jarbidge rivers. A higher block of airspace (new R-3202B) would be established as a restricted area directly above R-3202A, extending the current SCR restricted airspace from 18,000 to 29,000 feet MSL. When in use, this upper block would accommodate tactics such as pop-up and high-altitude weapons deliveries.

Elimination of R-3202B and C, in combination with proposed restricted airspace over the 12,000-acre training range, would reduce the total area overlain by restricted airspace by almost 120 square miles.

Proposed 12,000-acre Tactical Training Range. FAA and Air Force regulations require restricted airspace above and around any range impact area, with the airspace extending to the surface over the actual lands containing the range. The restricted airspace must be of sufficient size to permit all planned aircraft and training ordnance delivery activities associated with the range, while precluding interaction with non-participating aircraft. Under Alternatives B, C, or D, three overlapping restricted areas would be established. Centered on the central point of the range, this circular restricted airspace would cover approximately 50,000 acres. One restricted area (R-320XA) would completely overlie the square 12,000-acre range, extending from the surface to 100 feet AGL (refer to Figure 2.3-16). Directly overlying R-320XA, but with a radius of 5 NM, the second restricted area (R-320XB) would extend from 100 feet AGL to 18,000 feet MSL. The third restricted area (R-320XC) lies directly on top of R-320XB and would extend from 18,000 feet MSL to 29,000 feet MSL. This upper block of restricted airspace would support high-altitude training ordnance deliveries and other tactics. Also, R-320X A and B could be

scheduled separately from the upper block (R-320X C), thereby providing usable airspace for different training activities.

With the exception of proposed site BK, all emitter sites and no-drop targets would occur under MOA airspace. No restricted airspace would be required over no-drop targets or emitter sites since no training ordnance delivery would occur at these locations. While aircraft would simulate training ordnance deliveries against no-drop targets, these activities would operate under standard "see and avoid" MOA procedures. Most aircraft would not overfly the targets during simulated delivery. However, a small number of aircraft would practice tactics that would result in crossing target areas in 6 seconds or less. Electronic emitters, which simulate threats to aircraft, are not commonly overflown as part of training against those simulated threats. Rather, aircrews focus on identifying these simulated threats and neutralizing them from a distance beyond the range of the simulated threats. For example, against an electronic emitter simulating a SAM with a 10-NM range, an aircrew would train to identify the threat signature and simulate deployment of a weapon to neutralize the threat from beyond 10 NM.

2.3.3.3 RECONFIGURATION OF MOAS

Jarbidge MOA (refer to Figures 2.3-13 through 2.3-15). In addition to existing, charted airspace consisting of R-3202-A, B, C, Bruneau 1 and 2 MOAs, Sheep Creek 1, 2, and 3 MOAs, and Saylor MOA, the 366th Wing at times operates in airspace made available through the Salt Lake City ARTCC. The FAA assigns an altitude reservation, or block of defined airspace, to extend above the top of the charted airspace (ranging from 7,000 to 18,000 feet MSL) up to 50,000 feet MSL; this temporary airspace is activated on an "as needed" or real-time basis. When the altitude reservation is not active, the FAA directs other air traffic through the area. The majority of the airspace reconfiguration, as outlined below, would eliminate the ongoing need for a stationary altitude reservation in this area and standardize the airspace used for military training.

To provide a consistent, single airspace unit associated with the proposed tactical training range, SCR, the no-drop targets and emitter sites, the Air Force proposes to create the Jarbidge MOA by

- eliminating the designations and internal boundaries for the Sheep Creek 1, 2, and 3 MOAs, Saylor MOA, and Bruneau 1 and 2 MOAs (refer to Figure 2.3-16);
- converting restricted areas R-3202B and C to MOA airspace;
- including the eastern portion of the proposed northern MOA expansion in this new MOA;
- establishing a single north-south boundary line for the MOA that extends from the Idaho-Nevada border to the northern limits of the proposed MOA expansion; and

- extending the ceiling of the MOA from various current altitudes to a uniform altitude of 18,000 feet MSL.

This reconfiguration would serve two primary functions. First, it would create a single usable airspace unit that would provide sufficient maneuvering and approach space to conduct training activities associated with the ranges, no-drop targets, and emitters. By reconfiguring this airspace as proposed, the 366th Wing could better schedule different activities in the Jarbidge and Owyhee MOAs, thereby enhancing effective use of the airspace. For example, air-to-air training could be more readily accomplished in the Owyhee and Paradise MOAs at the same time as air-to-ground activity occurs in the Jarbidge MOA. The current airspace configuration does not readily permit such compartmentalization of the training activities.

Second, increasing the altitude and establishing a uniform altitude for this MOA would formalize the airspace currently used for simultaneous low- and high-altitude training activity. By extending from its current floor altitude of 100 feet AGL[4] to 18,000 feet MSL, the MOA would provide sufficient airspace to accommodate high- and low-altitude activities with sufficient vertical separation for safety.

Owyhee MOA (refer to Figures 2.3-13 through 2.3-15). Reconfiguration of the Owyhee MOA would entail the following:

- including the western portion of the proposed northern MOA expansion in this existing MOA;

- establishing a single north-south boundary (with the Jarbidge MOA) line for the MOA that extends from the Idaho-Nevada border to the northern limits of the proposed MOA expansion; and

- redesignating the overlying portion of the Paradise MOA that extends from 14,500 to 18,000 feet MSL as the Owyhee MOA (refer to Figure 2.3-16).

Such modifications to the Owyhee MOA would provide enhancements similar to those described for the proposed Jarbidge MOA. Particularly, these changes would permit more effective use of the airspace for more than one training activity and allow more realistic CWT.

Paradise MOAs (refer to Figures 2.3-13 through 2.3-15). With a goal of enhancing effective use of the airspace, the Air Force also proposes to modify the internal structure of the Paradise MOA. This administrative modification would involve dividing the current Paradise MOA into Paradise West and East MOAs. This configuration, which existed in the past, would permit aircrews to use each MOA separately or jointly, depending upon the nature of the training activities.

[4] The existing Bruneau 2 MOA has a floor altitude of 2,000 feet AGL; although the airspace would be integrated into the proposed Jarbidge MOA, the floor altitude for this section of the MOA would remain at 2,000 feet AGL.

2.3.4 Sorties and Sortie-Operations

Table 2.3-11 compares the sorties conducted by the 366th Wing in the local airspace and at remote ranges under baseline conditions and alternatives B, C, and D. Table 2.3-12 presents the number of day and night sortie-operations at SCR, a proposed tactical training range, and the associated range support MOAs for the three range alternatives (B, C, and D) in comparison to the baseline / No-Action Alternative. Figures 2.3-17, 2.3-18, and 2.3-19 provide a comparison of sortie-operations in all airspace units for the baseline / No-Action Alternative and sortie-operations for Alternatives B, C, and D, respectively. Under any of the three range development alternatives, the following changes to airspace use would occur:

- Enhanced training opportunities in Idaho would increase total 366th Wing sorties from Mountain Home AFB to the local airspace by approximately 7 percent (653 sorties). A corresponding reduction in the use of remote ranges would occur under Alternatives B, C, or D.

- The Jarbidge MOA (formerly composed predominantly of Sheep Creek 1-3 MOAs, Bruneau 1-2 MOAs, Saylor MOA, and Restricted Airspace R-3202B and C) would receive use primarily in support of air-to-ground training activities and CWT at SCR, the 12,000-acre tactical range, and no-drop targets. Of the 8,273 sortie-operations proposed for the Jarbidge MOA, 7,561 would use SCR and 3,984 would use the 12,000-acre tactical range. Over 3,000 sortie-operations of the total (8,273) in the Jarbidge MOA would conduct activities at both SCR and the 12,000-acre tactical range during the same use of the airspace. About 32 sortie-operations would be conducted daily, an increase of about two sortie-operations above baseline conditions (based upon 260 flying days).

- The reconfigured Owyhee MOA would receive proportionately greater use (than baseline) for air-to-air training. About 30 sortie-operations would be conducted daily, an increase of about two sortie-operations above baseline conditions (based upon 260 flying days). Despite the annual increases (496 sortie-operations), all sortie-operations would involve roughly twice as much time at altitudes above 5,000 feet AGL than under this altitude as compared to baseline conditions.

- SCR and the proposed tactical range, no-drop targets, emitter sites, and the modified MOA airspace would be used for CWT. Approximately 41 CWT exercises, including those for ORE / ORIs (rather than 21 under baseline), would be performed in local airspace. These changes account for the increase in sortie-operations in many of the local airspace units. Eighteen CWTs by the 366th Wing would continue to be flown from Nellis AFB to NAFR.

Table 2.3-11. Comparison of Annual 366th Wing Sorties: Local Airspace, Remote Ranges, and Deployed Locations

	Baseline/Alternative A	*Alternative B, C, or D*	*Change*
Local Airspace[1]	9,883	10,536	+653
NAFR[2]	1,492[3]	808	-684
FTRC	267	136	-131
UTTR	669	280	-389
Deployed at Remote Locations	93[3]	871	+778

Note: 1. IDANG and transient sorties to local airspace are not expected to change.
2. Most NAFR sorties are flown from Nellis AFB.
3. Represents FY95, when there were two deployments to Nellis AFB and no overseas deployments.
Source: Mountain Home AFB 1996a

Table 2.3-12. Annual Sortie-Operations for Baseline and Alternatives: SCR and Range Support MOAs vs. SCR, Proposed Jarbidge MOA, and Proposed Training Range

	BASELINE / ALTERNATIVE A			ALTERNATIVE B, C, AND D			AMOUNT OF CHANGE		
Airspace Unit	*Day*	*Night*	*Total*	*Day*	*Night*	*Total*	*Day*	*Night*	*Total*
Range Support MOAs (Sheep Creek 1-3, Bruneau 1-2, Saylor)	7,254	483	7,737						
SCR[1]	(7,254)	(483)	(7,737)						
Proposed Jarbidge MOA				7,733	540	8,273	+479	+57	+536
SCR[2]				(7,071)	(490)	(7,561)			
Proposed Training Range[2]				(3,741)	(243)	(3,984)			

Notes: 1. The range support MOAs encompass SCR, so SCR sortie-operations are already included in range support MOA sortie-operations. Such inclusions are designated with "( )" and are not additive to sortie-operations for the MOAs.
2. The proposed Jarbidge MOA would encompass SCR and a proposed training range, so SCR and proposed training range sortie-operations are already included in the proposed Jarbidge MOA sortie-operations. Such inclusions are designated with "( )" and are not additive to sortie-operations for the proposed MOA.
Source: Mountain Home AFB 1996a

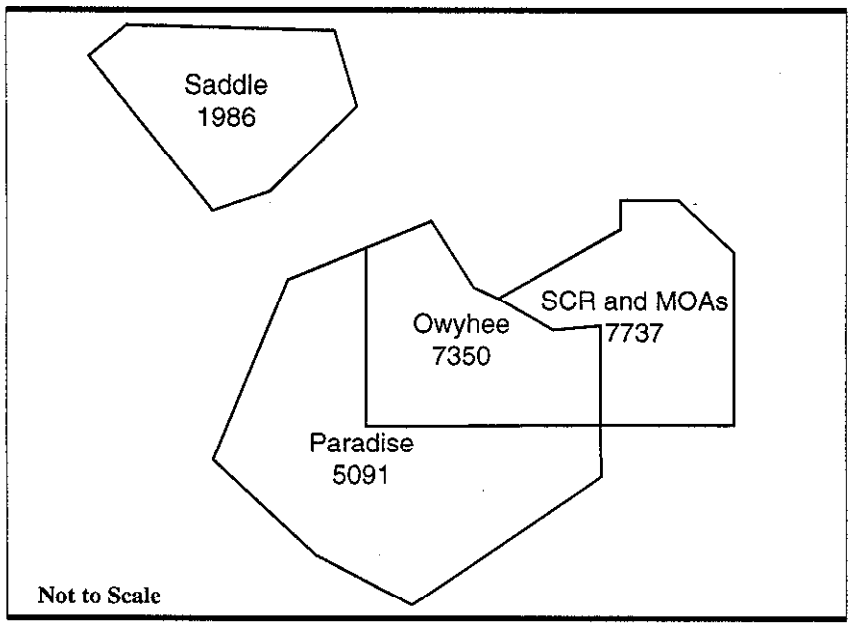


Figure 2.3-17

Distribution of Annual Sortie-Operations Baseline/ No-Action Alternative

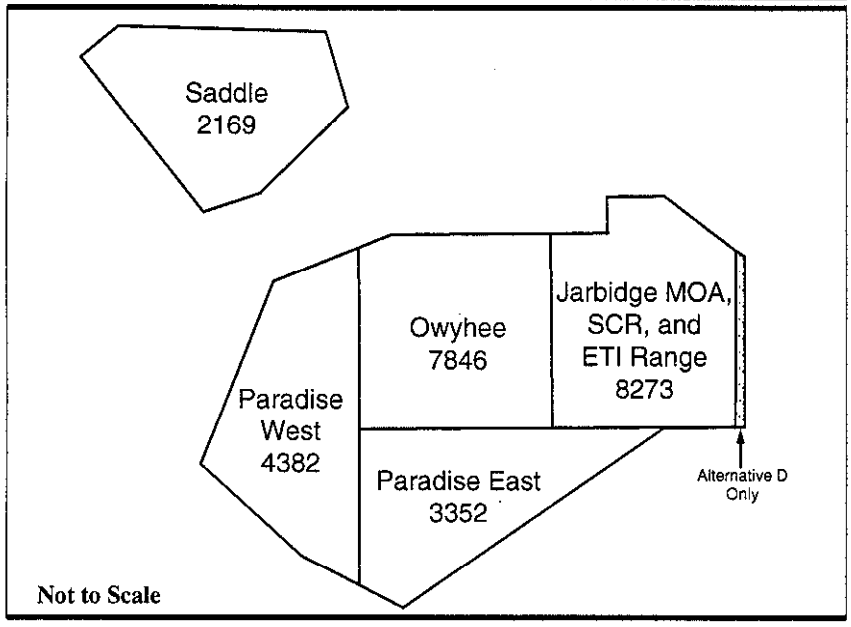


Figure 2.3-18

Distribution of Proposed Annual Sortie-Operations Alternatives B and D

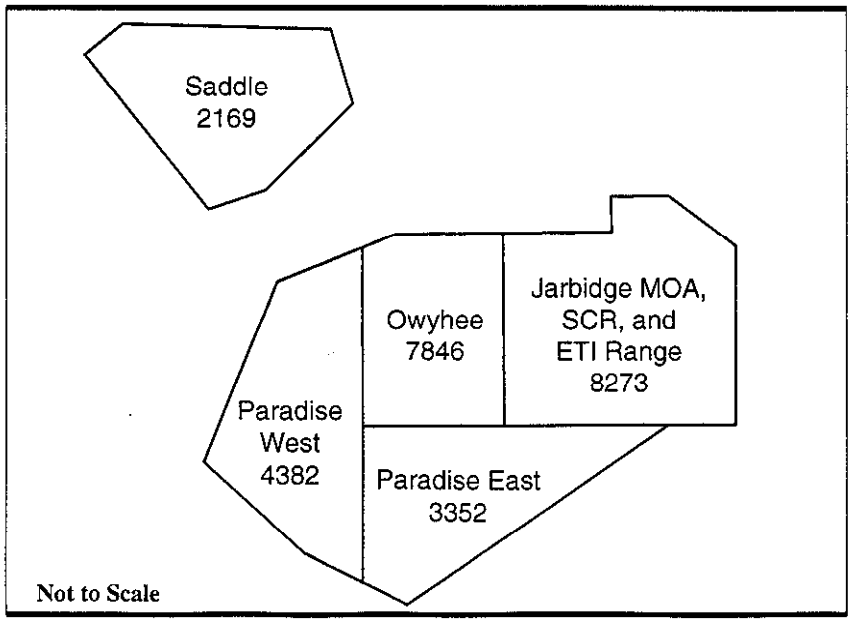


Figure 2.3-19

Distribution of Proposed Annual Sortie-Operations Alternative C

- Night (after 10 P.M.) sortie-operations would increase by 57 and 51 annually in the Jarbidge and Owyhee MOAs, respectively. For the Jarbidge and Owyhee MOAs, night sortie-operations would represent about 6 and 5 percent of total sortie-operations, respectively. This represents no perceptible change relative to baseline percentages.

- Division of the Paradise MOA into the Paradise East and West MOAs would result in compartmentalizing the airspace use. All of the increased use in these MOAs would occur above 14,500 feet MSL.

- Expansion of the Owyhee MOA and Sheep Creek 3 MOA (part of the proposed Jarbidge MOA) would result in aircraft training activities over lands not previously exposed to these types of aircraft operations. However, these lands have underlain Area X-Ray through which aircraft regularly transit to and from Mountain Home AFB and the Owyhee and Sheep Creek 3 MOAs (refer to Figure 1.3-1).

- 366th Wing sorties to NAFR, FTRC, and UTTR would decrease overall by 46 percent. Use of NAFR and UTTR would decrease by 684 sorties and 389 sorties, respectively. Sorties at FTRC would decrease by 131 sorties. The decrease in remote range sorties would result from increased training opportunities in Idaho.

- Although ETI would offer high-quality training opportunities, it is unlikely that other units would use it more than at present. The distance to the ETI from other bases, the costs in fuel and transit time, and proposed schedule restrictions of ETI would limit the value to other units.

- Under all alternatives, sortie-operations on MTRs would remain unchanged from baseline conditions.

Air-to-air training activities that could result in supersonic events would continue to be conducted above 10,000 feet AGL in the existing airspace over Idaho. This excludes airspace over the Duck Valley Reservation, as well as the Paradise East and West MOAs and Saddle MOAs. For the MOA and restricted airspace overlying Idaho, there would be a 10 percent increase in the number of sortie-operations that could result in supersonic events. This increase is due to more sortie-operations conducted in the local airspace. However, the frequency of occurrences per sortie-operation involving air combat maneuvering would remain the same (10 percent). Table 2.3-13 compares the annual air-to-air sortie-operations potentially resulting in supersonic events under baseline / No-Action to Alternatives B, C, and D.

Table 2.3-13. Annual Air-to-Air Sortie-Operations Potentially Resulting in Supersonic Events

	BASELINE/NO-ACTION	*ALTERNATIVES B, C, AND D*	*AMOUNT OF CHANGE*
Airspace Unit	*Events*	*Events*	*Events*
SCR and Existing SCR MOAs / SCR and Proposed Jarbidge MOA	235	267	+32
Existing Paradise MOA Above Owyhee MOA / Proposed Owyhee MOA	302	326	+24
Total	537	593	+56

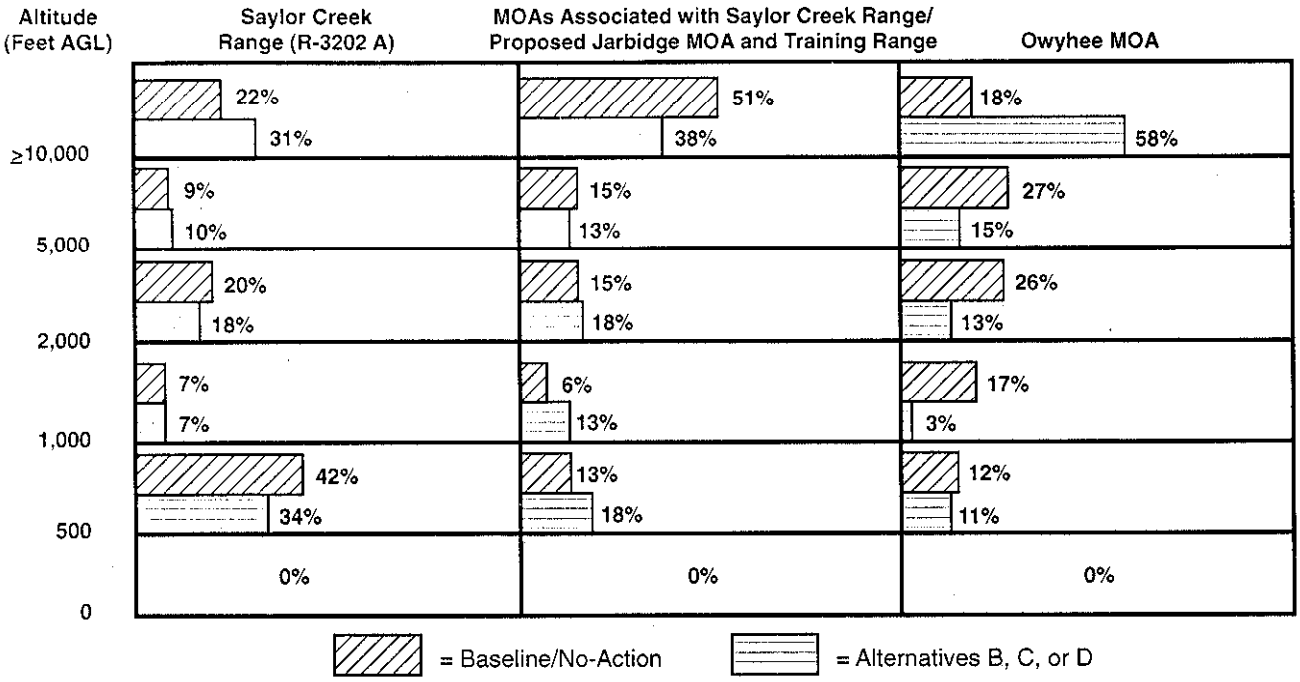
Note: No supersonic events currently take place or would take place in the Saddle MOAs, the portion of the Paradise MOA over Nevada and Oregon, or in the proposed Paradise East and West MOAs. Also, due to a ceiling that does not generally exceed 10,000 feet AGL, no supersonic events occur in the existing Owyhee MOA.

Source: Mountain Home AFB 1996a

Modifications to military training airspace under Alternatives B, C, and D would alter the estimated cumulative (i.e., for F-16, F-15C / D, F-15E, B-1B, and A-10 aircraft which account for 95 percent of the sorties) percentage of time spent at different altitudes. Figure 2.3-20 depicts the proposed changes in estimated percentage of time per altitude block for SCR (R-3202A); the six existing MOAs used and scheduled with SCR, the proposed Jarbidge MOA, including the proposed training range (R-320X) and no-drop targets; and the existing and proposed Owyhee MOA. Paradise MOA over Nevada and Oregon, and Saddle MOAs over Oregon, were not included in Figure 2.3-20 because their floors generally start at higher altitudes, and variation in the use of altitude blocks is limited in comparison to other local airspace units.

As this information shows, estimated cumulative use of altitudes above 10,000 feet in R-3202A (over SCR) would increase by 9 percent under Alternatives B, C, and D. From 1,000 to 10,000 feet AGL, estimated percentages of cumulative time spent would remain relatively the same. In contrast, an 8 percent decrease would occur for the altitude block between 500 and 1,000 feet AGL. For R-3202A, the capacity to use higher altitudes results from the proposal to extend the restricted airspace from 18,000 feet MSL to 29,000 feet MSL.

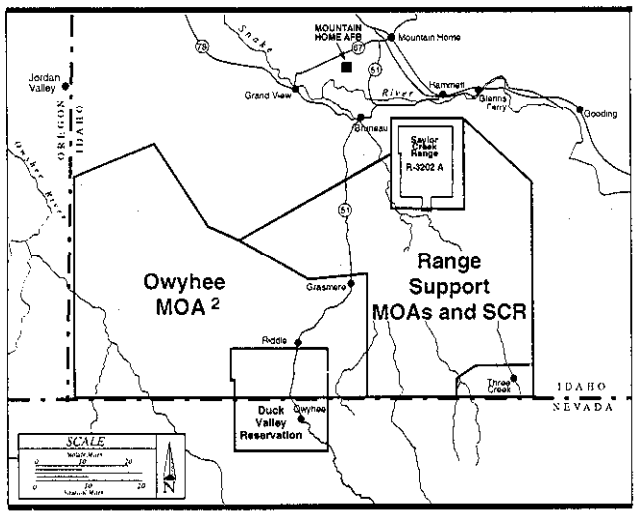
Similarly, the proposed extension of the ceiling of the Owyhee MOA from 14,500 feet MSL to 18,000 feet MSL would provide a single, contiguous block of airspace extending to higher altitudes. This factor, combined with the use of the proposed Jarbidge MOA to support range training sortie-operations, would increase the use of altitudes above 10,000 feet AGL in the Owyhee MOA by about 40 percent. The estimated percentage of time would decrease by more than half between 1,000 and 10,000 feet AGL, whereas it would remain relatively the same (11 to 12 percent) for the 500 to 1,000 feet AGL altitude block.



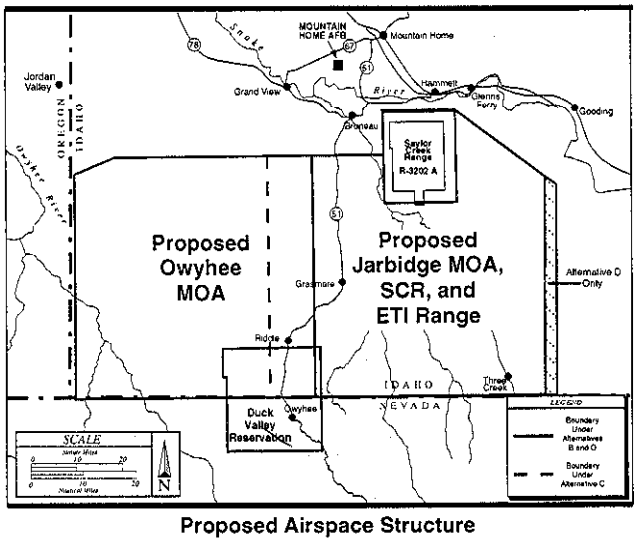
1. For Proposed Jarbidge MOA and Training Range, the estimated percentages include sortie-operations projected for SCR, the proposed Training Range and No-Drop Targets.

2. Under baseline/No-Action, the Owyhee MOA extends up to approximately 10,000 feet AGL (14,500 Feet MSL). The percentage shown here reflects a liberal estimate (50 percent) for those sortie-operations using the portion of the Paradise MOA that overlies the Owyhee MOA.

3. Saddle MOAs and Paradise MOAs, not presented. Saddle MOAs start at approximately 4,000 to 6,000 feet AGL and use of the altitude blocks is not expected to change. Paradise MOA starts at generally 8,000 to 10,000 feet AGL and is 3,500 feet thick, so no shift in use of altitude blocks is expected.



Baseline Airspace Structure



Proposed Airspace Structure

Figure 2.3-20
Estimated Percentage of Cumulative Time of Sortie-Operations Per Altitude Block By Airspace Unit

For the proposed Jarbidge MOA, which would predominantly support air-to-ground training activities, the estimated percentage of time would decrease above 10,000 feet AGL and increase 2 to 7 percent in the four lower altitude blocks.

2.3.5 Training Ordnance Use

Training ordnance use would involve delivery of a total of approximately 15,000 and 6,400 small (BDU-33s or equivalent) training ordnance on SCR and the proposed training range, respectively. Overall, training ordnance use would decrease by about 6 percent relative to baseline. This training ordnance would contain either cold spotting charges or no spotting charges. Cold spots discharge smoke, but no flame. Cold spot ingredients, primarily titanium tetrachloride, quickly become inert and dissipate. The training ordnance delivery events proposed for this area as discussed under Weapons Safety below are designed to ensure a 99.99 percent probability that training ordnance remains within the fenced 12,000 acre tactical training range.

TYPES OF TRAINING ORDNANCE

The proposed action would involve the use of only BDU-33s or equivalent training ordnance on the proposed tactical range (see Table 2.3-14). Approximately 6,400 small, non-explosive training ordnance are projected for use on the proposed tactical target areas in the 12,000-acre range. No training ordnance would be used at the no-drop targets and the emitter sites.

Under the range development alternatives, weapons delivery would continue to employ the same training ordnance types at SCR as are used presently. This would consist primarily of BDU-33s or equivalent training ordnance. Training ordnance used on SCR conventional targets would decrease to roughly 15,000 units per year. Strafing with 20-mm and 30-mm steel cannon rounds would continue only on SCR, which includes four strafe pits and approved strafe targets.

Table 2.3-14. Training Ordnance Use under Each Alternative

Alternative	**BDU-33 or Equivalent*	**Mk 82 Inert*	**Mk 84 Inert*	**BDU-50*	**20 mm*	**30 mm*
Baseline / Alternative A						
Saylor Creek Range	22,584	384	456	209	78,000	178,200
Alternative B, C, and D						
Saylor Creek Range	14,804	288	168	209	60,000	178,200
Proposed 12,000-Acre Training Range	6,364	0	0	0	0	0
Total	21,168	288	168	209	60,000	178,200
Percent change	-6%	-25%	-63%	0%	-23%	0%

*Note: These are scheduled versus actual amounts of training ordnance; actual use of training ordnance depends upon availability and often falls below scheduled levels.

Source: Mountain Home AFB 1996c

Weapons Safety

Safety is of paramount importance in operating any air-to-ground weapons range. Safety standards, and required processes and procedures, are stipulated in AFI 13-212. Although not all-inclusive, the following safety procedures that have specific applicability to safeguarding the general public are highlighted.

- Flight routes to and from the range are designed to avoid populated areas when the aircraft are carrying external ordnance of any type.
- The range operating agency designates weapons delivery patterns that must be adhered to by all range users.
- All firing or release of weapons must be accomplished to ensure impact within the impact area.
- Positive identification of the target is mandatory before an aircrew expends any training ordnance.
- The range operating agency must ensure that the public is aware of hazards associated with the range, and that hazard notices are periodically brought to the attention of the public.
- Signs posting the area must convey the hazards of entering the range.
- All information given to the local news media about range operations must be reviewed to ensure it conveys to the public the danger of entering the range.

Footprints. The Air Force has defined the weapons delivery events and axes of attack for training ordnance delivery events to provide a 99.99 percent probability that training ordnance would be contained within the applicable weapons safety footprints which, through design, would be contained within the proposed 12,000-acre tactical range. To achieve this result, weapons safety "footprints" are used that, based on historical information, describe a geographic area within which training munitions will come to rest on the ground.

The weapons safety footprints applicable to proposed training ordnance delivery events were used to assess operations under the range development alternatives, in accordance with procedures detailed in AFI-13-212, "Weapons Ranges." For the range development alternatives, all proposed weapons footprints fall within the confines of the range boundaries, and approximately 95 percent of the training ordnance would impact and remain within 300 feet of the target. The primary training ordnance impact area defined in this EIS, includes all drop targets and the surrounding area that would be fenced. In total, this area would encompass about 300 acres in the center of the range.

Many of the footprints reflect a significant amount of information gathered from aircraft with older systems. However, newer and far more accurate systems are used in the aircraft of the

366th Wing. As sufficient information is collected and analyzed that apply specifically to newer, more modern aircraft with improved weapons delivery capability, footprints may become smaller and more contained. However, for some events, lacking newer data, even these aircraft systems had to be assessed using the older and much more conservative information. As updated information is received, each event will be analyzed as described above before it would be permitted to be performed on the range.

Hung Training Ordnance. Existing procedures for hung training ordnance would remain the same under all alternatives. If it is suspected that a 25-pound training ordnance has failed to release from an aircraft, another aircraft flies alongside during the daytime and provides visual inspection. When this inspection reveals unreleased training ordnance, aircrews then attempt to jettison the training ordnance on the jettison target within the impact area. If this fails, the aircraft commander notifies the Mountain Home AFB control tower, requesting a flight path for the straightest possible approach to avoid populated areas. If unreleased training ordnance were suspected at night, then the aircraft would proceed to Mountain Home AFB, while avoiding populated areas.

2.3.6 Chaff and Flares

Training with defensive countermeasures (chaff and flares) would continue to be an integral part of training for the 366th Wing. For all the local airspace, total chaff use would increase by about 12 percent (5,794 more bundles of chaff). However, chaff use at SCR and in the surrounding proposed Jarbidge MOA would decrease by 12 percent relative to baseline conditions (Table 2.3-15). Due to changes in the configuration of the airspace and increased sortie-operations, chaff use in the Owyhee MOA and Paradise East and West MOAs would increase by 30 and 55 percent, respectively.

For defensive countermeasure flares, total use in all the local airspace would decrease by about 17 percent (4,331 fewer flares) as a result of decreased allocations. Most of this decrease (by 34 and 6 percent respectively) would occur in the SCR airspace and proposed Jarbidge MOA, including the proposed 12,000-acre training range (Table 2.3-15). Because the Paradise MOA would be divided into the Paradise East and West MOAs and sortie-operations would increase, annual flare use would increase by almost 1,000.

The use of chaff and flares is currently approved at SCR and throughout the MOAs. Under the alternatives, chaff and flares would continue to be used in accordance with current procedures and agreements with the BLM. Over the proposed tactical training range or the associated no-drop targets, flares would not be dispensed under 2,000 feet AGL. This is the same altitude restriction that applies to the remainder of the MOA airspace in southwest Idaho. Correspondingly, chaff would not be dispensed over inhabited areas. Chaff and flare use would remain restricted over the Duck Valley Reservation (refer to section 1.3.2.2).

Table 2.3-15. Chaff and Flare Use under All Alternatives

Training Ordnance	*Alternative*	*Saylor Creek Range and Associated MOAs*[2]	*Owyhee MOA*	*Paradise MOA/ Paradise East and West MOAs*	*Total*
Chaff (bundles)[1]	Baseline / Alternative A	26,820	12,142	9,934	48,896
	Alternatives B, C, and D	23,498	15,820	15,372[3]	54,690
	Percent change from baseline	-12%	+30%	+55%[3]	+12%
Flares (each)	Baseline / Alternative A	14,624	6,053	4,566	25,243
	Alternatives B, C, and D	9,640	5,708	5,564[3]	20,912
	Percent change from baseline	-34%	-6%	+22%[3]	-17%

Notes: 1. In Saddle 1 and 2 MOAs, neither chaff nor flares will be used.
2. Chaff and flare use for baseline and No-Action (Alternative A) includes Saylor Creek Range, Bruneau 1 and 2; Sheep Creek 1, 2, and 3; and Saylor MOAs. For Alternatives B-D, this includes SCR , the proposed 12,000-acre training range, and the proposed Jarbidge MOA.
3. Totals for Paradise East and West MOAs were combined and compared to baseline of Paradise MOA.

Source: Mountain Home AFB 1996a

2.3.7 Other Activities

Radio Frequency Emissions

Radio frequency (RF) emissions consist of the transmission of non-ionizing energy through space to receptive objects. The types of RF-emitting equipment presently used by the 366th Wing and those proposed for use at emitter sites include radio communications systems, electronic emitters, and scoring systems. DoD and Air Force safety instructions provide guidance for the safe operation of RF-emitting equipment and training requirements for personnel who operate the equipment. Unit personnel could be exposed to RF energy, but all RF emitters are considered nonhazardous as long as applicable safety precautions and calculated hazard distances are adhered to. For each piece of equipment producing RF, separation distances between the equipment and a receptor have been calculated so that a person beyond that distance will not receive RF energy that exceeds a permissible exposure limit (PEL). For the equipment proposed for use, these distances range from 2 to 221 feet. All RF-producing equipment will be oriented so that the RF energy is directed away from personnel and visitors, and safe separation distances will be maintained. Additionally, signs indicating the presence of RF energy will be posted at each emitter location or on the fence at the proposed one-acre emitter sites.

Laser Activity

Laser targeting systems are an integral part of some modern aircraft. These laser systems are currently authorized for use on designated target areas within the SCR and are proposed for use on the training range for ETI. Combat mode of laser operations is proposed for use on the 12,000-acre target area, and the eye safe mode is proposed for use on the no-drop targets. Use of combat mode of laser operations is limited to those specific targets and target areas that have been specifically approved for those operations, like SCR. Laser guided training ordnance would not be used on the training range for ETI.

When the laser targeting system is used in the combat mode, it can be hazardous to the eyes under some conditions. Therefore, its use is restricted to DoD-controlled land, and under specific safety precautions. Procedures have been established to preclude any adverse impacts on the health and safety of either aircrew or observers during the use of lasers in designated target areas. These procedures require that a certification of the laser operations be completed by the Base Bioenvironmental Engineers with assistance from Armstrong Laboratories, Brooks AFB, Texas. This would determine what hazard control measures, if any, would be required for a target area based on the flight profile and resulting laser safety footprint for each target area. Such evaluations have been performed at SCR and would be for any target area selected under any of the range development alternatives. All safety procedures would be implemented prior to the use of lasers at the training range targets, including assurance that the laser safety footprints remain within the 12,000-acre range. Laser use at no-drop targets (an average of two times per month per target) would be limited to an eye safe mode of operation, and would also be certified to ensure safe operations (see section 4.3).

2.3.8 Land Use Management

2.3.8.1 GRAZING

The Air Force proposes to permit livestock grazing within the 12,000-acre range under any of the range development alternatives. Such grazing would occur outside of the fenced targets but within the range itself. Existing livestock grazing permits issued by the BLM and grazing leases issued by the State of Idaho would be terminated. The Air Force would manage grazing at levels compatible with training activities. Procedures for managing grazing, however, would be specified according to goals and objectives in the Resource Management Plan (RMP) for the range. Appendix M presents an approach for the proposed plan and implementation program. Grazing would be permitted on the 640-acre no-drop site under similar criteria. No grazing would occur on the five-acre no-drop sites, the one-acre emitter sites, or the graveled one-quarter-acre emitter sites.

2.3.8.2 ACCESS/SAFETY

The proposed operations at the 12,000-acre training range are designed to ensure that all training ordnance remain within the fenced range boundaries. For safety reasons, access to

sites by the public would not be permitted, although access by ranchers to grazing areas through a coordinated grazing plan is envisioned. The no-drop targets and the one-acre emitter sites would be fenced to prevent vandalism and would not be open to public access. When in use, personnel would be present at all emitter sites.

2.3.8.3 NATURAL AND CULTURAL RESOURCES

The Air Force recognizes the need and value of management and stewardship of natural and cultural resources. The Air Force would act in accordance with AFI 32-7064 and AFI 32-7065, which provide guidelines for activities in relation to natural and cultural resources found on Air Force lands. It is also expected that the environmental impact analysis process (EIAP) may reveal the need for other management procedures. Management practices at the proposed training range would be described in detail in the RMP, consistent with the findings of the EIS should a range development alternative be selected. As outlined in Appendix M, this plan will include procedures for access, the protection of cultural and natural resources, management of grazing, fire, hazardous wastes, and training ordnance cleanup, in keeping with Air Force environmental guidelines.

2.3.9 Range Development and Use Schedule

A schedule for development and use of a new training range, no-drop targets, roads, and emitter sites would be subject to appropriations and military construction funding. For purposes of this analysis, a proposed sequence of construction activities is presented below. The development sequence would take place over a 3 to 4-year period and includes the following:

- Reconstruct existing bridge over Clover Creek
- Upgrade portions of Clover-Three Creek Road
- Build roads in the interior of the 12,000-acre training range
- Build road to scoring system relay site
- Construct scoring system relay site
- Construct targets within the 12,000-acre training range
- Construct maintenance facility within the 12,000-acre training range
- Develop all no-drop sites
- Develop majority of emitter sites
- Improve or build roads associated with no-drop and emitter sites

- Develop remaining emitter sites
- Improve or build roads associated with emitter sites

As described above, the first set of construction activities would likely include construction of a new bridge over Clover Creek adjacent to the current bridge on Clover-Three Creek Road. Clover-Three Creek Road would be graded and graveled. The training range maintenance facility, as well as all roads and targets within the 12,000-acre training range, would also be constructed. The road to the scoring system relay site and the site itself would be built.

Subsequent construction would include development of the four no-drop target sites. All roads associated with these sites would be improved or constructed. Emitter sites would be developed using equipment and personnel efficiently. This would necessitate building emitter sites and associated roads that are geographically near each other at the same time.

For all of the range development alternatives, the basic construction sequence would occur over a 3- to 4-year period. This sequence would ensure access to the target locations and a base of operations for development activities, monitoring of construction, and fire suppression equipment and personnel while range development is ongoing. The Air Force anticipates construction efforts to occur from April through October.

By adhering to the sequence as presented, initial training activity at the 12,000-acre training range could occur prior to completing all construction activities. Such activities would be limited by the development of the targets. Training activities would also be constrained by the construction activities, so use of the range would not be extensive. Once constructed, use of the 12,000-acre training range would occur year round.

2.4 COMPARISON OF ALTERNATIVES BY RESOURCE AND POTENTIAL IMPACTS

Table 2.4-1 summarizes the findings and environmental consequences of the No-Action Alternative and range development alternatives for each resource. This side-by-side comparison of the alternatives reveals the differences and similarities among the resources with regard to the impacts identified in this EIS.

Table 2.4-1. Comparison of Alternatives by Resource and Potential Impact

(Page 1 of 12)

ALTERNATIVE A NO-ACTION	ALTERNATIVE B CLOVER BUTTE	ALTERNATIVE C GRASMERE	ALTERNATIVE D JUNIPER BUTTE
AIRSPACE (Sections 3.1, 4.1)			
Restricted Airspace			
No change from baseline	Nearly 50% overall reduction in restricted airspace Elimination of R-3202B/C Vertical extension of R-3202A New restricted airspace over training range Decrease of average daily sortie-operations at SCR by 1-2 No impacts to emergency medical flights traveling from Owyhee, NV, to Boise, ID	In addition to impacts discussed for Alternative B, potential impacts on Grasmere airport operations Impact on general aviation using Highway 51 corridor and Grasmere airfield. These aircraft would be required to divert around the restricted airspace or obtain permission to transit through	Same as Alternative B

Table 2.4-1. Comparison of Alternatives by Resource and Potential Impact

(Page 2 of 12)

ALTERNATIVE A NO-ACTION	ALTERNATIVE B CLOVER BUTTE	ALTERNATIVE C GRASMERE	ALTERNATIVE D JUNIPER BUTTE
MOAs			
No change from baseline	Internal boundary realignment Northern expansion of Owyhee MOA by 430 sq. mi. Southern expansion of Paradise MOA by 125 sq. mi. Overall 6% increase in MOA airspace Decrease of average daily sorties in Paradise East / West MOAs by 3-7 sortie-operations Increase of average daily sortie-operations in Owyhee MOA by 1-2 sorties No impacts on general aviation	All impacts would be the same as Alternative B, except internal boundary of Owyhee-Jarbidge would be farther west	All impacts would be the same as Alternative B with an additional 2 mile MOA expansion to east (totaling 112 sq. mi.)
NOISE (Sections 3.2, 4.2)			
Existing noise levels would continue throughout the airspace with aircraft operation concentrated along an east-west corridor north of Duck Valley Reservation. Continued annoyance, as expressed by commentors, with existing aircraft operations	General reduction of average noise levels throughout the airspace except in the airspace directly over the proposed training range (increase from 61 to 66 decibel [dB]) and in the northern airspace expansion (increase from 46 to 53 dB) Reduction of average noise levels would result from reconfiguration of airspace. Levels would decrease from 69 to 59 dB in R-3202C due to aircraft operations being more uniformly distributed throughout the military airspace	All impacts would be the same as Alternative B except average noise levels would increase from 56 to 66 dB directly over the proposed training range and increase from 46 to 51 dB in the northern airspace expansion. Levels would decrease from 69 to 56 dB in R-3202C	All impacts would be the same as Alternative B except average noise levels would increase from 57 to 66 dB directly over the proposed training range and increase from 46 to 52 dB in the northern airspace expansion. Levels would decrease from 69 to 56 dB in R-3202C.

Table 2.4-1. Comparison of Alternatives by Resource and Potential Impact

(Page 3 of 12)

ALTERNATIVE A NO-ACTION	ALTERNATIVE B CLOVER BUTTE	ALTERNATIVE C GRASMERE	ALTERNATIVE D JUNIPER BUTTE
SAFETY (Sections 3.3, 4.3)			
Fire and Ground Safety			
Current safety management would continue	Low increased fire risk during range construction and daily operations and maintenance activities Low fire risk from cold spotting devices on 25-pound training ordnance Minimal risk at emitter sites due to increased ground activities Safe separation distances established for radio frequency energy associated with emitters Target area surveys / clearance required for laser operations	Same as Alternative B, except somewhat higher fire risk for development of this site	Same as Alternative B
Flight Safety			
No change from baseline	Statistically predicted risk of F-16 accident every 11.1 years. Risk significantly less for all other aircraft. Past 11 years experience of no bird-aircraft strikes suggest low likelihood of bird-aircraft strikes	Same as Alternative B	Same as Alternative B

Table 2.4-1. Comparison of Alternatives by Resource and Potential Impact

(Page 4 of 12)

ALTERNATIVE A NO-ACTION	ALTERNATIVE B CLOVER BUTTE	ALTERNATIVE C GRASMERE	ALTERNATIVE D JUNIPER BUTTE
Munitions Safety			
No change from baseline Positive impact from use of cold spotting in place of hot spots for training ordnance	Positive impact from use of cold spotting in place of hot spotting for training ordnance Reduction of total ordnance use Reduction of chaff use on SCR (-12%); increase in Owyhee (+30%), Paradise East, and Paradise West MOAs (+55%), and selected range alternative Reduction of flare use on SCR (-34%) and in Owyhee MOA (-6%); increase in Paradise East and West MOAs (+22%) and over selected range alternative Continuation of Air Force's agreement to restrict use of chaff and flares over Duck Valley Reservation	Same as Alternative B	Same as Alternative B
HAZARDOUS MATERIALS AND SOLID WASTE MANAGEMENT (Sections 3.4, 4.4)			
Hazardous Materials			
No change from baseline	Increase in use of hazardous substances from maintenance activities for ground support equipment, infrastructure maintenance, and vehicle maintenance Increased potential for minor spills and releases from construction / maintenance activities Increased storage of herbicides and fire suppression chemicals	Same as Alternative B In addition, use of propane powered generators for electricity would involve additional fuel storage and maintenance	Same as Alternative B

Table 2.4-1. Comparison of Alternatives by Resource and Potential Impact

(Page 5 of 12)

ALTERNATIVE A NO-ACTION	ALTERNATIVE B CLOVER BUTTE	ALTERNATIVE C GRASMERE	ALTERNATIVE D JUNIPER BUTTE
Solid Waste			
No change from baseline	Increase in debris from training ordnance on specific range site; decrease at SCR Increase in domestic solid waste generation at maintenance facility and emitter sites, consisting of small amounts of residue from minor maintenance activity and possible small quantities of domestic waste	Same as Alternative B	Same as Alternative B
EARTH RESOURCES (Sections 3.5, 4.5)			
No change from baseline	No impact on unique geologic / geomorphic features, mineral resources, or paleontological resources Short-term increased potential for erosion of surface soils by wind and / or water and for soil expansion from construction and maintenance activities	Same as Alternative B except for increased potential of erosion for maintenance facility site	Same as Alternative B
WATER RESOURCES (Sections 3.6, 4.6)			
No change from baseline	No impact on ground water, floodplains, or claims to water rights at range Short-term construction impacts to Clover Creek during bridge reconstruction Direct impacts to 49 intermittent and 1 perennial stream from new and upgraded road construction Potential indirect impacts to 1.2 acres of wetlands	Same as Alternative B Direct impacts to 56 intermittent and 1 perennial stream from new and upgraded road construction Potential indirect impacts to 33 acres of wetlands	Same as Alternative B Direct impacts to 58 intermittent and 1 perennial stream from new and upgraded road construction No direct or indirect impacts to wetlands

Table 2.4-1. Comparison of Alternatives by Resource and Potential Impact

(Page 6 of 12)

ALTERNATIVE A NO-ACTION	ALTERNATIVE B CLOVER BUTTE	ALTERNATIVE C GRASMERE	ALTERNATIVE D JUNIPER BUTTE
AIR QUALITY (Sections 3.7, 4.7)			
No change from baseline	Fugitive dust emissions from construction and maintenance activities would total about 224 tons, less than 0.1% of federal and state standards Average decrease in aircraft emissions of 47% from baseline due to greater use of higher altitudes	Fugitive dust emissions from construction and maintenance activities would total about 176 tons, less than 0.1% of federal and state standards Average decrease in aircraft emissions of 47% from baseline due to greater use of higher altitudes	Same as Alternative B
BIOLOGICAL RESOURCES (Sections 3.8, 4.8)			
Vegetation, Rare Plants, and Wetlands			
No change in impacts to any vegetation	Direct impacts from ground disturbance associated with training ordnance impact areas, emitters, roads, and no-drop target areas would include a loss of 2,874 acres of plant communities, including 515 acres of native vegetation. No direct impacts would be associated with wetlands or rare plants Direct impacts to 49 intermittent and 1 perennial stream from new and upgraded road construction Potential indirect impacts to 4,197 acres of native vegetation and 1.2 acres of wetlands	Direct impacts from ground disturbance associated with training ordnance impact areas, emitters, roads, and no-drop target areas would include a loss of 2,861 acres of plant communities, including 511 acres of native vegetation, and 2.4 miles of waters of the U.S. No direct impacts would be associated with wetlands or rare plants Direct impacts to 56 intermittent and 1 perennial stream from new and upgraded road construction Potential indirect impacts to 7,609 acres of native vegetation and 33 acres of wetlands	Direct impacts from ground disturbance associated with training ordnance impact areas, emitters, roads, and no-drop target areas would include a loss of 2,929 acres of plant communities, including 522 acres of native vegetation, loss of as much as 7.3 acres of rare plant habitat, and 2.4 miles of waters of the U.S. No direct impacts would be associated with wetlands Direct impacts to 58 intermittent and 1 perennial stream from new and upgraded road construction Potential indirect impacts to 1,875 acres of native vegetation. No indirect impacts to wetlands

Table 2.4-1. Comparison of Alternatives by Resource and Potential Impact

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ALTERNATIVE A NO-ACTION	ALTERNATIVE B CLOVER BUTTE	ALTERNATIVE C GRASMERE	ALTERNATIVE D JUNIPER BUTTE
Wildlife			
No changes from baseline impacts	Direct impacts from ground disturbance, wildfire, noise, and human presence would be negligible to low for most wildlife species Human presence impacts would be negligible because few easily-disturbed species occur in ROI One for Alternative B Potential indirect impacts could affect the diversity and abundance of wildlife species associated with the 4,200 acres of sagebrush habitat within the 12,000-acre training range	Direct impacts from ground disturbance, wildfire, noise, and human presence would be low for most wildlife species Human presence may have a moderate impact to general wildlife species that are known to be easily disturbed (e.g., golden eagles, bats, etc.) Potential indirect impacts could affect the diversity and abundance of wildlife species associated with the highly diverse habitats (e.g., canyons, riparian, and wetland areas, and contiguous stands of native vegetation) within the 12,000-acre training range	Direct impacts would be similar to those for Alternative B Impacts from human presence would be similar to those for Alternative B Potential indirect impacts could affect the diversity and abundance of wildlife species associated with Juniper Draw, which comprises seven percent of the 12,000-acre training range, and the adjacent canyon of the East Fork Bruneau Canyon
Protected and Sensitive Wildlife Species			
No changes from baseline impacts	Direct and indirect impacts for protected and sensitive wildlife would be similar to those for general wildlife (i.e., negligible to low) Human presence may have a moderate impact to protected and sensitive wildlife species that are known to be easily disturbed (e.g., sage grouse, loggerhead shrikes, etc.)	Direct and indirect impacts for protected and sensitive wildlife would be similar to those for general wildlife (i.e., low) Human presence may have a moderate impact to protected and sensitive wildlife species that are known to be easily disturbed (e.g., California bighorn sheep, sage grouse, ferruginous hawks, prairie falcons, bats, etc.)	Direct and indirect impacts for protected and sensitive wildlife would be similar to those for general wildlife (i.e., negligible to low) Human presence may have a moderate impact to protected and sensitive wildlife species that are known to easily disturbed (e.g., bats, ferruginous hawks, etc.)

Table 2.4-1. Comparison of Alternatives by Resource and Potential Impact

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ALTERNATIVE A NO-ACTION	ALTERNATIVE B CLOVER BUTTE	ALTERNATIVE C GRASMERE	ALTERNATIVE D JUNIPER BUTTE
CULTURAL RESOURCES (Sections 3.9, 4.9)			
Archaeological Resources			
No change from baseline	Ground disturbance could affect a small number of National Register-eligible archaeological sites in primary ordnance impact area. Very low potential to affect a moderate number of other National Register-eligible archaeological sites elsewhere in 12,000-acre training range Minimal adverse impacts to setting of National Register-eligible archaeological resources from increased noise levels No impacts to National Register-eligible archaeological sites in no-drop target areas or emitter sites Potential impacts to archaeological resource along an access road	Ground disturbance could affect a few National Register-eligible archaeological sites in primary training ordnance impact area. Very low potential to affect a large number of other National Register-eligible archaeological sites elsewhere in 12,000-acre training range Minimal adverse impacts to setting of National Register-eligible archaeological resources from increased noise levels National Register-eligible archaeological resource would be impacted by proposed no-drop target areas Potential impacts to archaeological resource along an access road	Ground disturbance would affect no National Register-eligible archaeological sites in primary training ordnance impact area. Would probably affect no National Register-eligible archaeological sites elsewhere in 12,000-acre training range Minimal adverse impacts to setting of National Register-eligible archaeological resources from increased noise levels National Register-eligible archaeological resource would be impacted by proposed no-drop target areas Potential impacts to archaeological resource along an access road
Architectural Resources			
No change from baseline	One architectural resource would be impacted by a proposed bridge relocation No adverse impacts to setting of known architectural resources from increased noise levels	Same as Alternative B	Same as Alternative B

Table 2.4-1. Comparison of Alternatives by Resource and Potential Impact

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ALTERNATIVE A NO-ACTION	ALTERNATIVE B CLOVER BUTTE	ALTERNATIVE C GRASMERE	ALTERNATIVE D JUNIPER BUTTE
Traditional Cultural Resources			
The current level and frequency of noise intrusions at some traditional cultural resources would not be reduced	Ground disturbance could affect a few traditional cultural resources in primary training ordnance impact area. Very low potential to affect a moderately large number of other traditional cultural resources elsewhere in 12,000-acre training range Potential ground disturbance at a few traditional cultural resources caused by a proposed access road realignment Low or no impacts to traditional cultural resources from increased noise levels Visual intrusions associated with some emitter sites and other facilities west of Highway 51	Ground disturbance could affect several traditional cultural resources in primary training ordnance impact area. Very low potential to affect a large number of other traditional cultural resources elsewhere in 12,000-acre training range Potential ground disturbance at a few traditional cultural resources caused by a proposed access road realignment Low or no impacts to traditional cultural resources from increased noise levels Visual intrusions associated with some emitter sites and other facilities west of Highway 51	Ground disturbance would probably affect no traditional cultural resources in primary training ordnance impact area. Very low potential to affect a few traditional cultural resources elsewhere in 12,000-acre training range Potential ground disturbance at a few traditional cultural resources caused by a proposed access road realignment Low or no impacts to traditional cultural resources from increased noise levels Visual intrusions associated with some emitter sites and other facilities west of Highway 51
LAND USE AND TRANSPORTATION (Sections 3.10, 4.10)			
Land Status			
No change from baseline	Approximately 11,864 acres would shift from BLM to DoD management Recreation would be prohibited in certain areas Grazing would be restricted in certain areas Military activities would be a new land use	All impacts would be the same as Alternative B except approximately 9,264 acres would shift from BLM to DoD management	All impacts would be the same as Alternative B except approximately 11,269 acres would shift from BLM to DoD management

Table 2.4-1. Comparison of Alternatives by Resource and Potential Impact

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ALTERNATIVE A NO-ACTION	ALTERNATIVE B CLOVER BUTTE	ALTERNATIVE C GRASMERE	ALTERNATIVE D JUNIPER BUTTE
Land Management			
No change from baseline	On withdrawn lands, management by DoD would be in accordance with guidelines established in RMP (refer to Appendix M)	Same as Alternative B	Same as Alternative B
Special Use Areas			
No change from baseline impacts	No change in management of or activity in special use areas Increased overflight activity and/or changes in noise levels should not preclude the designation of special use areas. Jacks Creek WSAs would be exposed to increased noise levels. Owyhee and Bruneau-Jarbidge canyonlands would have reduced noise levels	Same as Alternative B	Same as Alternative B
Transportation Activity			
No change from baseline Roads would remain at current unimproved status	Some beneficial effect from construction of new roads or improvements to existing roads Increased vehicular traffic on roads associated with maintenance and operation of emitter sites and target areas No decrease in access to areas still designated for public use Potential impact on traditional resources from improved access	Same as Alternative B	Same as Alternative B and rerouting of one primitive road on northeast corner of 12,000-acre range

Table 2.4-1. Comparison of Alternatives by Resource and Potential Impact

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ALTERNATIVE A NO-ACTION	ALTERNATIVE B CLOVER BUTTE	ALTERNATIVE C GRASMERE	ALTERNATIVE D JUNIPER BUTTE
RECREATION AND VISUAL RESOURCES (Sections 3.11, 4.11)			
Recreation			
No change from baseline	One road closure Upgrade of roads Change in federal agency management Over 4 miles to Bruneau-Jarbidge River recommended WSA with recreational values	Same as Alternative B Over 3 miles to Big Jacks Creek recommended WSA with recreational values	Same as Alternative B Road modified within ½-mile of the E. Fork Bruneau Canyon with potential recreational values
Visual Resources			
No change from baseline	Some range components contrast with surrounding area All range components in VRM[1] Class III and IV areas Change in federal agency management	Same as Alternative B	Same as Alternative B
SOCIOECONOMICS (Sections 3.12, 4.12)			
Population and Housing			
No change from baseline	No change in population and housing	Same as Alternative B	Same as Alternative B
Economic Activity			
No change from baseline	Short-term increases in economic activity and employment related to range construction Minor long-term effects on economic activity and employment Potential disruption to permittee ranching operations	Same as Alternative B	Same as Alternative B

Table 2.4-1. Comparison of Alternatives by Resource and Potential Impact

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ALTERNATIVE A NO-ACTION	ALTERNATIVE B CLOVER BUTTE	ALTERNATIVE C GRASMERE	ALTERNATIVE D JUNIPER BUTTE
Public Services or Public Finance			
No change from baseline	Loss of $1,385 in annual PILT[2] revenues for Owyhee County represent loss of less than one percent of annual PILT[2] revenues and less than one-tenth of one percent of total annual county revenues Negligible effect on public services or public finance	Same as Alternative B, but loss of $1,081 in annual PILT[2] revenues for Owyhee County	Same as Alternative B, but loss of $1,315 in annual PILT[2] revenues for Owyhee County
Livestock Grazing			
No change from baseline	Minimum agriculture industry impact from loss of 1,000 acres Disruption to existing ranching including access, rangeland, water, and operations. Two ranching operations impacted Quantifiable permittee impacts could include a loss of 1,032 state and federal AUMs[3], $1,538 in grazing fees, $5,563 in annual net operating income, and $4,415 in annual direct labor earnings	Same as Alternative B, except quantifiable permittee impacts could include loss of 983 state and federal AUMs[3], $5,297 in annual net operating income, and $4,203 in annual direct labor earnings	Same as Alternative B except, quantifiable permittee impact could include loss of 1,171 state and federal AUMs[3], $2,103 in grazing fees, $6,312 in annual net income, and $5,010 in annual direct labor earnings. One ranching operation impacted
Mining and Recreation Industries			
No change from baseline	No change in mining industry Negligible effects on recreation industry	Same as Alternative B	Same as Alternative B
Environmental Justice			
No change from baseline	Environmental concerns of Shoshone-Paiute addressed in relevant resource sections. No disproportional impact to Native Americans or any minority or low income population	Same as Alternative B	Same as Alternative B

Notes: 1. VRM = visual resource management
2. PILT = Payment in lieu of taxes
3. AUM = animal unit months

2.5 CUMULATIVE IMPACTS

2.5.1 Definition

The Council on Environmental Quality defines a cumulative impact as follows:

> The impact on the environment which results from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time. (40 Code of Federal Regulations [CFR] §1508.7)

Cumulative environmental impacts are most likely to arise when a relationship exists between a proposed action and other actions expected to occur in the region of influence for the resources analyzed and also in a similar time period. Projects in close proximity to the proposed action would be expected to have a greater potential for a relationship that could result in potential cumulative impacts than those more geographically separated. These projects can be proposed by various agencies (federal, state, or local) or persons.

2.5.2 Past and Present Actions

Past and present actions associated with Air Force activities and other public and private entities are addressed in either Chapter 3, baseline conditions, or Chapter 4, environmental analysis. For example, past projects relating to military activity in the region include the *Idaho ANG 124th Wing Aircraft Conversion at Gowen Field* (1996), the *34th Bomb Squadron Relocation to Mountain Home AFB* (1996), and the *Idaho ANG MTR Modification* (1996).

Military activity and overflights associated with these projects have been included in this EIS as part of baseline conditions and the No-Action Alternative. A brief summary is provided below to explain the status of these past projects. Additional information describing historic airspace use and configuration to current conditions is provided in Appendix N.

124th Wing Aircraft Conversion at Gowen Field, Boise Idaho. The 124th Wing of the IDANG in Boise, Idaho completed an EA for an aircraft conversion. The 24 F-4G aircraft stationed at Gowen Field were replaced with 15 A-10 close air support aircraft and five C-130E transport aircraft. The proposed aircraft conversion resulted in an overall decrease from current activities at Gowen Field, but increased usage of general aviation airspace and SCR. Sorties in the local MOAs and some MTRs decreased; 124th Wing sorties in other MTRs increased only slightly. On the basis of the EA, a FONSI was issued in August, 1996. Cumulative impacts were also addressed in this document in relationship to the proposed ETI as well as other actions occurring in the area. These cumulative impacts are included as a baseline condition for the ETI proposal, since implementation of the aircraft conversion has already occurred.

34th Bomb Squadron Relocation to Mountain Home AFB. Air Combat Command (ACC) completed an EA for the relocation of the 34th Bomb Squadron and its 11 B-1B aircraft from Ellsworth AFB, South Dakota, to Mountain Home AFB, Idaho. The transfer of B-1B aircraft resulted in an overall decrease in the total number of annual sorties flown, but an increase in the use of local airspace (SCR and associated MOAs, Owyhee MOA, Paradise MOA, Saddle MOA, and IR-302 and IR-304). On the basis of the EA, a FONSI was issued in May, 1996 regarding the proposed relocation. Cumulative impacts were also addressed in this document in relationship to the proposed ETI, as well as other actions occurring in the area. These cumulative impacts are included as a baseline condition for the ETI proposal, since implementation of the squadron relocation has already occurred.

Idaho Air National Guard MTR Modification. The IDANG prepared an EA and FONSI (December 1996) for the realignment of two segments of an MTR shared by IR-302, VR-1300, and VR-1304 in northern Nevada. The IDANG developed this proposal to realign the route segments to the south to reduce operational constraints stemming from noise avoidance areas, airports, and Duck Valley Reservation, and to enhance route utilization efficiency. No changes to the use of this route were proposed as part of the action. The number, type, and frequency of sorties performed on this route remained the same. Cumulative impacts were also addressed in this document in relationship to the proposed ETI, as well as other actions occurring in the area. These cumulative impacts are included as a baseline condition for the ETI proposal, since implementation of the MTR modification has already occurred.

The environmental effects of all of these past actions, as well as the effects of other pertinent past and ongoing activities (see Appendix N) by the 366th Wing, 124th Wing, and transient users, are accounted for cumulatively through the analysis of the No-Action Alternative and the associated baseline conditions.

Other Activities

Other activities besides those listed above were also included in the baseline (Chapter 3) and No-Action Alternative for this EIS. The following is a list of projects or activities that are included in the baseline analysis.

- 726th relocation
- Current BLM range management activities
- Current operations of the 366th Wing
- Routine road maintenance
- Fire suppression activities
- Maintenance powerlines / pipelines

- Remote ranges
- Orchard Training Area

The cumulative impacts in relationship to the proposed ETI action are derived primarily from proposed military, public, and private land management practices. Past and present actions in relationship to the ETI proposal are accounted for and analyzed in the affected environment (Chapter 3) and environmental consequences (Chapter 4) sections.

Future foreseeable actions are also accounted for in Chapter 4 under the cumulative impacts heading for each resource. These future foreseeable projects considered for the potential of creating cumulative impacts associated with the proposed ETI project are described in the following section. In each case, the assessment focuses on addressing two fundamental questions: (1) Does a relationship exist such that the impacts from the ETI project might affect or be affected by the impacts of the other actions? and (2) If such a relationship exists, does this assessment reveal any new information of consequence not identified when ETI is considered alone?

2.5.3 Elements of Proposed Action

The cumulative impact analysis also includes consideration of the effects of the accumulation of all project elements associated with the proposed action and alternative. These elements, presented in section 2.3, interact to form the proposed range alternatives. Therefore, each resource considers not only the individual project elements, but the potential effects of the implementation of all elements. Each section of section 4.0 includes specific discussion of the potential consequences of cumulative actions.

Special attention was given to including cumulative environmental considerations from ground disturbance, human presence, and operations into the planning process as early as possible to improve decisions. The Air Force sought to develop partnerships with both federal and non-federal stakeholders early in the planning process to improve communication and avoid impacts wherever possible. As previously described, this included meeting with state and BLM representatives, ranchers, Shoshone-Paiute tribal members, public organizations, and interested parties to identify their concerns and plan project elements to minimize impacts.

The potential for cumulative impacts that could come from different elements of the ETI are specifically addressed in Chapter 4. Cumulative impact summaries are presented for each potentially affected environmental resource in Chapter 4 of the EIS.

2.5.4 Reasonably Foreseeable Future Actions

Five actions described below vary with regard to specific details available. Three actions are completed and one is in the planning stage. This assessment presents the degree of specificity supported by available information on both actions and their impacts.

Air Force Communication Tower at Blue Butte. An EA and FONSI for the use of the former Pershing Missile site at Blue Butte were completed in June 1995. A Categorical Exclusion for constructing a Ground Control Intercept (GCI) communications relay tower at Blue Butte was completed September 1996. The purpose of the GCI communications tower is to transmit information from the existing Grasmere electronic combat site to Mountain Home AFB. In addition, it will provide traffic control of military aircraft in local airspace, particularly in the Duck Valley Reservation area. This action is independent of the ETI proposal and would take effect as a means to better control existing airspace. Construction began in December 1996. The project consists of installing a 60-foot microwave tower base with 8-foot parabolic dishes, a commercial power pole, an 8-by-10 foot equipment shelter, a corner reflector, and a power distribution system. The site consists of approximately one-quarter acre and has been previously developed. The site is gated with a four-strand barbed-wire fence. The Air Force has an established right-of-way with the BLM, which took effect December 2, 1996.

Administrative Transfer of Electronic Combat Emitter Operations. In the fall of 1997, management of the electronic combat mission changed from the active duty Air Force (366th RANS) to the IDANG control. These sites include four existing electronic combat sites (i.e., Grasmere and three sites on SCR) and, if implemented, proposed ETI emitter sites. No new facilities will be associated with the change in management. Real property responsibility would remain with the Air Force. The proposed management change would involve reassignment of about 130 personnel. The personnel change would either involve an active Air Force member to change to state guard employment, or existing IDANG members assuming the duties, but no net change in the number of personnel. Transfer of personnel would occur over a 4-year time span.

Installation of Wind Turbine Generators, Grasmere Electronic Combat (EC) Site. The purpose of this project is to install two wind turbine generators to augment the electrical power generated by the existing photovoltaic power plant at the Grasmere EC Site, and to further reduce air emissions associated with operation of the site. The proposed action would provide additional use of renewable energy by harnessing the abundant wind resource available at the site. The wind turbine generators would be located on the EC site access road. The wind generators would be installed on two 80-foot towers. Two wood power poles would be used to connect the wind turbine generators to the existing photovoltaic power system. An existing 35-foot pole and a new 25-foot power pole would be installed on the Grasmere EC site.

Air Expeditionary Force (AEF) BATTLELAB. Mountain Home AFB is the site for the Air Force's AEF BATTLELAB. It is not a flying organization and does not require any increase in Wing flying operations. The BATTLELAB is a user of Wing statistical information for research and development of tactics, mobilization, and deployment requirements for Air Force AEF operations. Its impact represents fewer than 30 additional personnel at Mountain Home AFB.

Location at Mountain Home AFB is important for immediate capture of information from mobilization and CWT operations and, once information is analyzed, to make timely inputs for Air Force and Wing planning of future mobilization and CWTs.

The Upper Columbia Basin Ecosystem Management Project. The Upper Columbia Basin study and the associated Scientific Assessment of the Interior Columbia Basin provide a basis for evaluating regional influences on vegetative patterns, disruption of hydrologic regimes, expansion of exotics, fire severity and frequency, and increases in bare soils.

Review of the Scientific Assessment indicates that the ETI proposal is not inconsistent with the objectives being developed for the Interior Columbia Basin. The ETI Preferred Alternative has been recommended based on environmental factors. Management issues and concerns identified in the ETI EIAP are the same as those identified in the Scientific Assessment, particularly those related to ecological integrity. Each of the ETI alternatives were developed in such a fashion to minimize the area of disturbance and potential for impact.

Mitigations presented in the ETI EIS Preface specifically address steps incorporated into ETI that address habitat preservation, protection of surface waters, measures to reduce fire risks, and construction measures to minimize wind or water erosion. The Air Force will continue to consult with the BLM to ensure ETI maintains consistency with the Interior Columbia Basin efforts to the extent practicable while meeting primary mission needs.

2.6 SUMMARY OF PROPOSED MITIGATIONS

The mitigations proposed for ETI can be identified in one of three categories:

- *Mitigation by Avoidance.* These mitigations used existing information or data collected as part of the EIAP to avoid siting alternatives and project components in areas or settings known to contain environmental or cultural resources that could be significantly affected. Such avoidance is not absolute; rather it is balanced with training and operational considerations needed to enhance training in Idaho.

- *Mitigation by Design.* These mitigations used project design, configuration, and/or component location to reduce or eliminate potential impacts to a resource or suite of resources. Because of operational and fiscal requirement, not all possible design mitigations can be incorporated into the alternative components.

- *Operational Mitigation.* These mitigations reflect a specific action taken to resolve issues and reduce the potential for impacts. They are temporally and spatially oriented, and reflect some modifications to and restrictions on certain aspects of the Air Force's use of the proposed range and military training airspace. Since the majority of these mitigations are focused on very specific potential impacts, the geographic areas to which they apply vary, and the relatively brief periods of time they will be operative, they will not result in any significant degradation of enhanced training in Idaho.

Table 2.6-1 is a summary of mitigations associated with the three alternatives proposed for ETI. The table is organized by major environmental resource category, following the same sequence as Chapters 3 and 4 of this EIS. Details associated with each resource include how the potential impact was identified, the type of mitigation (avoidance, design, or operational), the mitigation and resulting environmental consequences, responsible agencies, and implementation time frame.

Table 2.6-1. Proposed Mitigations
(Page 1 of 30)

Resource Category	**Airspace: Restricted Airspace**
Concern/Potential Effect Addressed	• Concern about extent of restricted airspace dedicated to military activities. • Concern that military training aircraft would be concentrated in restricted airspace.
Source of Concern	Air Force, cooperating agencies, and public comments
Mitigation Type	Mitigation by design
Mitigation	Design ETI to minimize size of restricted airspace.
Alternatives	B, C, D
EIS Section	4.1
Resulting Consequences	• Less restricted airspace in region. • Improved freedom of movement for non-military aviation in region. • Reduced noise over the majority of the Bruneau-Jarbidge River System under existing restricted airspace; noise levels at the confluence of the rivers reduced from 69 dB to 56-59 dB.
Agency Responsible	Completing: Air Force; Funding: Not Applicable
Time Frame	After FAA incorporates requested airspace changes.

Table 2.6-1. Proposed Mitigations
(Page 2 of 30)

Resource Category	**Airspace: MOAs**
Concern/Potential Effect Addressed	Joint use of MOA airspace is permitted under "see and avoid" flight techniques. MOA airspace proposed to be enlarged and reconfigured. Concern that military aircraft operating near ETI elements located along Highway 51 could potentially conflict with the 8,000-10,000 feet MSL altitude block currently avoided for civil flights.
Source of Concern	Air Force, cooperating agencies, and Shoshone-Paiute Tribes
Mitigation Type	Mitigation by design; Operational mitigation
Mitigation	• Publicize airspace schedule on Mountain Home AFB website and via telephone. Indicate when airspace will be active or inactive. Specify periods of exercises or composite wing training. • Use Military Radar Unit (MRU) and real-time communication to help deconflict military and general aviation aircraft flying in local airspace. • The 366th Wing will ensure transient training aircrews are informed of mitigation measures contained in this EIS and agreed to during semiannual meetings with the BLM and the State of Idaho.
Alternatives	B, C, D
EIS Section	4.1.2.2
Resulting Consequences	• Civil aviators aware of the presence of military aircraft in the airspace. • Improved monitoring and communications enhances joint use efficiency. • Improved utilization of joint-use airspace.
Agency Responsible	Completing: Air Force; Funding: Air Force
Time Frame	Concurrent with ETI operation scheduling.

Table 2.6-1. Proposed Mitigations
(Page 3 of 30)

Resource Category	**Noise: Training Airspace**
Concern/Potential Effect Addressed	Concern that existing airspace structure and operational requirements concentrate aircraft north of Duck Valley Reservation and over Owyhee canyonlands, resulting in increased noise.
Source of Concern	Public comments and agency input
Mitigation Type	Mitigation by design
Mitigation	• Adjust MOA airspace to north and southeast to disperse flight activities. • The Air Force, BLM, and State of Idaho will meet at least semiannually in accordance with a Memorandum of Agreement developed to address the needs and expectations of managers and users of resources in southwest Idaho.
Alternatives	B, C, D
EIS Sections	3.1, 4.1
Resulting Consequences	• Enhanced ability to address seasonal concerns regarding aircraft noise consistent with operational requirements. • Generally reduced noise exposure throughout most of the military training airspace. • Reduced noise over Owyhee canyonlands from 59-63 dB to 50-59 dB. • Increased noise under northern expansion of Owyhee and Jarbidge MOAs from 46 dB to 51-53 dB. • Increased noise from 56-63 dB to 66 dB under restricted airspace associated with withdrawn land for selected alternative. • Reduced noise over the majority of the Bruneau-Jarbidge River System including the confluence of the two rivers, from 69 dB to 56-59 dB under MOA airspace that formerly was restricted airspace.
Agency Responsible	Completing: Air Force and FAA; Funding: Not Applicable
Time Frame	Proposed as airspace changes. Implemented by FAA.

Table 2.6-1. Proposed Mitigations
(Page 4 of 30)

Resource Category	**Safety: Fire Prevention**
Concern/Potential Effect Addressed	Concern that use of hot spot charges in training ordnance, flares, and increased human presence increases fire risk.
Source of Concern	Air Force, cooperating agencies, and public comments
Mitigation Type	Mitigation by design; Operational mitigation
Mitigation	• Use cold spot or no-spot training ordnance; no hot spot charges. • Incorporate no-drop targets into training range proposal. • Provide on-site fire suppression capabilities at training range site. • Maintain 2,000 feet AGL flare release minimum altitude in MOA and restricted airspace outside of the exclusive use area of SCR. Flares burnout after descending about 325 feet after release.
Alternatives	A, B, C, D
EIS Section	4.2
Resulting Consequences	• Fire risk associated with current and proposed range operations is further minimized. • Potential for secondary effects (e.g., loss of habitat) from fire minimized.
Agency Responsible	Completing: Air Force; Funding: Air Force
Time Frame	Implemented with range operations. Use of cold spot or no spotting charge and flare restriction on first day of range use, if ETI implemented. If ETI not implemented, phase in cold spots or no spotting charges at SCR with flare-use restrictions remaining unchanged.

Table 2.6-1. Proposed Mitigations
(Page 5 of 30)

Resource Category	**Safety: Fire Suppression**
Concern/Potential Effect Addressed	• Concern by agencies, ranchers, public that increased human presence could increase fire risk. • Agency requests for additional fire response capabilities.
Source of Concern	Air Force, cooperating agencies, and public comments
Mitigation Type	Mitigation by design; Operational mitigation
Mitigation	• Include personnel trained in fire suppression and equipment on range for fire control and suppression. • Provide 50,000-gallon water tank, a less than one-acre above-ground reservoir with another 50,000 gallons of water, and a 5,000-gallon water tanker truck. • Locate water reservoir in consultation with ranchers, IDFG, and BLM to create a multiple use water source. • Develop a range support agreement with BLM to include a fire management plan. • The Air Force, BLM, and State of Idaho will meet at least semiannually in accordance with a Memorandum of Agreement developed to address the needs and expectations of managers and users of resources in southwest Idaho.
Alternatives	B, C, D
EIS Sections	2.3.2, 4.3.2.1, 4.8.1, 4.8.6
Resulting Consequences	• More rapid response to fires on range; further reduced wildfire risk. • Fire-trained personnel and additional water availability reduces fire risk. • Short-term ground disturbance during construction of reservoir.
Agency Responsible	Completing: Air Force; Funding: Air Force
Time Frame	Construct during range development. Complete prior to range operation.

Table 2.6-1. Proposed Mitigations
(Page 6 of 30)

Resource Category	**Hazardous Materials and Solid Waste: Waste Management**
Concern/Potential Effect Addressed	Concern that hazardous materials and solid waste have potential to create environmental contamination.
Source of Concern	Air Force and cooperating agency consultation
Mitigation Type	Mitigation by design; Operational mitigation
Mitigation	• Minimize hazardous waste accumulation at proposed training sites. • Regularly transport any waste products to Mountain Home AFB for recycling or disposal. • Use double-walled above-ground fuel tanks with secondary containment to prevent fuel spills. • Recycle training ordnance annually or when most economical.
Alternatives	B, C, D
EIS Section	4.4
Resulting Consequences	• Reduce risk of environmental contamination and volume of solid waste. • Reduce expenditure of finite mineral resources
Agency Responsible	Completing: Air Force; Funding: Air Force
Time Frame	All components, processes, and procedures to be in place prior to start of range operations.

Table 2.6-1. Proposed Mitigations
(Page 7 of 30)

Resource Category	**Earth Resources: Surface Soil**
Concern/Potential Effect Addressed	Concern that road development and range construction could increase soil erosion.
Source of Concern	Air Force, cooperating agencies, and public comments
Mitigation Type	Mitigation by design; Operational mitigation
Mitigation	• Install road culverts to avoid water quality degradation by erosion. • Construct and improve roadways to reduce potential for erosion • Gravel roadways to prevent dust and erosion potential. • Use erosion control measures (e.g., water, conveyance, energy dissipation structures) and sediment retention measures (e.g., basins, tarps, barriers) to minimize erosion at construction sites. • Rehabilitate vegetation where practicable.
Alternatives	B, C, D
EIS Section	4.5.3
Resulting Consequences	Reduced potential for soil erosion, sediment transport, and dust generation.
Agency Responsible	Completing: Air Force; Funding: Air Force
Time Frame	Implementation during engineering and construction; periodic maintenance ensures continued effectiveness.

Table 2.6-1. Proposed Mitigations
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Resource Category	**Water Resources: Surface Water Quality**
Concern/Potential Effect Addressed	Range construction could increase erosion and increase sediment transport.
Source of Concern	Air Force and cooperating agency consultation
Mitigation Type	Mitigation by design; Operational mitigation
Mitigation	• Site facilities to avoid wetlands or streams to the maximum extent possible. • Minimize ground disturbance during construction. • Rehabilitate vegetation where practicable.
Alternatives	B, C, D
EIS Section	4.6
Resulting Consequences	• Short-term construction impacts reduced. • Wetlands, waters of the U.S., and other water resources protected. • More rapid vegetation recovery, providing stability to soils.
Agency Responsible	Completing: Air Force; Funding: Air Force
Time Frame	Implementation during site design and construction.

Table 2.6-1. Proposed Mitigations
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Resource Category	**Water Resources: Surface Water Quality of Clover Creek**
Concern/Potential Effect Addressed	Concern that bridge reconstruction at Clover Creek Crossing could affect water quality in Clover Creek.
Source of Concern	Air Force and cooperating agency consultation
Mitigation Type	Mitigation by design; Operational mitigation
Mitigation	• Minimize disturbance to streambed through design, location, scheduling construction at low water levels, and following best construction practices. • Reestablish drainage grades to assure water flow.
Alternatives	B, C, D
EIS Section	4.6
Resulting Consequences	• Reduced sediment transport into surface water. • Minimal and short-term effect on stream flow. • Minimal or no effect on irrigation. • Increased safety from improved bridge. • Protected water resources from construction scheduling.
Agency Responsible	Completing: Air Force; Funding: Air Force
Time Frame	Complete Section 404 permit compliance prior to construction; incorporate into engineering and construction.

Table 2.6-1. Proposed Mitigations
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Resource Category	**Water Resources: Water Use**
Concern/Potential Effect Addressed	Water resources scarce; Air Force water use at the new range a concern.
Source of Concern	Air Force, cooperating agencies, and public comments
Mitigation Type	Mitigation by design; Operational mitigation
Mitigation	• Transport or contract for transport of water to the ETI sites for support of training activities, maintenance, and filling of the 50,000-gallon fire suppression tank. • Work with ranchers, BLM, and Idaho Department of Fish and Game (IDFG) to protect access to water for multiple users.
Alternatives	B, C, D
EIS Section	4.6
Resulting Consequences	• No change in water rights; Air Force uses water from Mountain Home AFB or provided by contractors. • Existing water remains available for traditional uses.
Agency Responsible	Completing: Air Force; Funding: Air Force
Time Frame	Implementation during range construction and operation.

Table 2.6-1. Proposed Mitigations
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Resource Category	**Biological Resources: Threatened, Endangered, or Sensitive Species**
Concern/Potential Effect Addressed	Concern for potential environmental consequences of construction and use of ground facilities.
Source of Concern	Air Force, cooperating agencies, and Shoshone-Paiute Tribes
Mitigation Type	Mitigation by design; Operational mitigation
Mitigation	• Identify critical or crucial habitat. • Site range, emitter pads, and no-drop targets wherever possible on previously disturbed locations. • Avoid critical or crucial habitat during the siting process for no-drop and emitter sites. • Site facilities to reduce potential for environmental impacts. • Disperse and schedule use of emitter sites to address seasonal concerns.
Alternative	B, C, D
EIS Section	2.1, 3.8, 4.8

Resulting Consequences	• Eliminate or reduce direct impacts to sensitive locations in training range alternatives.
	  • Reduced environmental impacts by relocating over 20 no-drop and emitter sites.
	  • Avoided impacts to rare plants or rare plant habitat at emitter and no-drop sites.
	  • Avoided impacts to wildlife habitat at emitter and no-drop sites.
	• Dispersion of emitter sites would enhance ability to address seasonal concerns.

Agency Responsible	Completing: Air Force; Funding: N/A
Time Frame	Initiated during proposal definition and siting; completed after land withdrawal.

Table 2.6-1. Proposed Mitigations
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Resource Category	**Biological Resources: Animal Movement and Safety**
Concern/Potential Effect Addressed	Concern that range facilities such as fencing, power lines, or emitter sites could impact regionally important species.
Source of Concern	Air Force, cooperating agencies, and public comments
Mitigation Type	Mitigation by design
Mitigation	• Utilize "wildlife-safe" fencing with barbless lower wire; allows animals to move through area. • Construct eagle-safe power line using Idaho Power Co., IDFG, and BLM guidelines.
Alternatives	B, C, D
EIS Section	4.8
Resulting Consequences	• Reduced potential for habitat disruption and/or fragmentation. • Reduced potential for avian electrocution.
Agency Responsible	Completing: Air Force; Funding: Air Force
Time Frame	Concepts in range design. Implementation with range construction.

Table 2.6-1. Proposed Mitigations
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Resource Category	**Biological Resources: Amphibians**
Concern/Potential Effect Addressed	Concern about potential disturbance of amphibian habitat during bridge replacement at Clover Creek crossing.
Source of Concern	Air Force (EIS Analysis) and cooperating agencies
Mitigation Type	Mitigation by design; Operational mitigation
Mitigation	Survey for amphibians, adapt project design, and construct in autumn when amphibians are least likely to be affected and water levels are lowest.
Alternatives	B, C, D
EIS Sections	3.8.5, 4.8.5
Resulting Consequences	• No noticeable change in amphibian populations. • Reduced impact upon habitat of water-dependent species.
Agency Responsible	Completing: Air Force; Funding: Air Force
Time Frame	Survey, adapt design, and schedule construction after ETI Record of Decision (ROD).

Table 2.6-1. Proposed Mitigations
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Resource Category	**Biological Resources: Slick Spot Peppergrass**
Concern/Potential Effect Addressed	Concern that approximately 7.3 acres of land containing slick spot peppergrass, a BLM sensitive species, could be affected by Juniper Butte primary ordnance impact area. An additional 67 acres of surveyed land known to support slick spot peppergrass outside the primary ordnance impact area. Only 61 slick spot peppergrass populations known in Idaho. Loss of one population would be adverse regional impact.
Source of Concern	Air Force (EIS Analysis) and cooperating agencies
Mitigation Type	Mitigation by design; Operational mitigation
Mitigation	• Coordinate with the BLM District Botanist to conduct a survey for slick spot peppergrass plants and habitat within the 12,000-acre withdrawal area and use the information to plan construction activities. • Conduct construction activities so as to minimize the impacts on individual plants and identified habitat of slick spot peppergrass. • Shift / modify target locations and range facilities to avoid, to the maximum extent possible, slick spot peppergrass habitat within the 300-acre primary ordnance impact area. • Implement measures such as fencing significant populations to protect known plants and habitat within the 12,000-acre withdrawal area. Locate fencing in consultation with BLM botanists. • Participate in periodic consultation meetings with agency biologists to determine success of protective measures, review the science and monitoring data, and make further adjustments as needed. • Support interagency ecosystem program goals designed to propagate and protect the species (e.g., establish additional plant groups on suitable slick spot habitats). • Facilitate increased knowledge of the species by providing outside agency access to the protected habitat. • The Air Force, BLM, and State of Idaho will meet at least semiannually in accordance with a Memorandum of Agreement developed to address the needs and expectations of managers and users of resources in southwest Idaho.
Alternative	D
EIS Section	4.8.3.4
Resulting Environmental Consequences	• Protection of slick spot peppergrass from potential effects of grazing and encroachment by plants that could negatively impact slick spot peppergrass on withdrawn land outside 300-acre primary ordnance impact area. • Possible loss of some individual slick spot peppergrass plants within primary ordnance impact area, but enhanced protection of the population as a whole. • Natural regeneration in non-grazed areas likely to result in increased number of plants. • Improving knowledge of distribution and abundance of slick spot peppergrass. • Small amount of land excluded from grazing.
Agency Responsible	Completing: Air Force; Funding: Air Force
Time Frame	Conduct surveys during 1998 growing season. Target locations further refined during design prior to construction. Fencing of significant populations installed prior to construction. Ongoing consultations with agencies to review results, review the science and monitoring data, and make further adjustments as needed.

Table 2.6-1. Proposed Mitigations
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Resource Category	**Biological Resources: California Bighorn Sheep**
Concern/Potential Effect Addressed	• Concern there would be direct impacts to bighorn sheep from human presence if Grasmere alternative were selected. • Although most studies suggest bighorn sheep habituate to low-altitude jet overflights, public and agency expressed concern that noise from overflights may impact bighorn sheep ewes during lambing. • Concern that overflight noise would increase over the Little Jacks Creek bighorn sheep habitat.
Source of Concern	Air Force, cooperating agencies, Shoshone-Paiute Tribes, and public comments
Mitigation Type	Operational mitigation
Mitigation	• Annually consult with IDFG and BLM using existing and ongoing studies to determine critical lambing areas, lambing periods, and avoidance criteria. The 366th Wing is prepared to avoid lambing areas in specific locations throughout the training airspace, during critical lambing periods, absent compelling national security circumstances, military contingencies or hostilities. • Supplement IDFG funding for annual survey in 1998 to determine baseline populations for California bighorn sheep in areas where there are ground and airspace changes as a result of ETI. • The Air Force, BLM, and State of Idaho will meet at least semiannually in accordance with a Memorandum of Agreement developed to address the needs and expectations of managers and users of resources in southwest Idaho.
Alternatives	A, B, C, D
EIS Section	4.8.5
Resulting Consequences	• Reduced exposure of sheep to low-altitude overflights during critical periods. • Reduced public and agency concern regarding potential impacts to California bighorn sheep populations. • Overflight noise would decrease with ETI over Owyhee and Bruneau-Jarbidge river habitats. • Seasonal adjustments in military aircraft training overflights throughout MOA would reduce noise in areas where flight activity decreases and increase noise in areas where flight activity increases.
Agency Responsible	Completing: Air Force; Funding: FY98 DoD Legacy Program
Time Frame	Determine baseline population in 1998. After construction, Air Force and BLM / IDFG meet semiannually to review the science and monitoring data and make further adjustments to this mitigation.

Table 2.6-1. Proposed Mitigations
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Resource Category	**Biological Resources: Sage Grouse**
Concern/Potential Effect Addressed	• Concerns that construction of ETI facilities would degrade sage grouse habitat. • Concerns were expressed that existing habitat degradation on BLM and private land in southwest Idaho has substantially reduced sage grouse populations. • Concern that additional human presence and noise from training activities may cause breeding or wintering sage grouse to temporarily avoid areas resulting in a moderate impact.
Source of Concern	Air Force, cooperating agencies, Shoshone-Paiute Tribes, and public comments
Mitigation Type	Mitigation by avoidance; Operational mitigation
Mitigation	• Site proposed ETI facilities so as to avoid known sage grouse habitat to the maximum extent possible. • Supplement IDFG funding for annual survey in 1998 to determine baseline populations for sage grouse in areas where there are ground and airspace changes as a result of ETI. • Biologists to seasonally inspect ETI emitter sites and recommend when certain sites would not be available for use. • Train emitter site crew members to identify sage grouse, review locations before use, and be prepared to relocate when appropriate. • Collaborate with cooperating agencies and appropriate sage grouse working groups to review the science and monitoring data and make further adjustments to the mitigation as appropriate. • The Air Force, BLM, and State of Idaho will meet at least semiannually in accordance with a Memorandum of Agreement developed to address the needs and expectations of managers and users of resources in southwest Idaho.
Alternatives	B, C, D
EIS Section	4.8.5.2
Resulting Consequences	• Support viability of sage grouse populations. • Support the goals of the IDFG sage grouse management plan. • Coordination among agencies committed to understanding and preventing further population decline. • Reduce potential impacts to sage grouse population.
Agency Responsible	Completing: Air Force; Funding: FY98 DoD Legacy Program
Time Frame	Population determined after ROD. After construction, personnel trained annually before breeding season; Biologist inspections to occur annually during breeding season; Meet with IDFG and BLM semiannually to review the science and monitoring data, and to make further adjustments as needed.

Table 2.6-1. Proposed Mitigations
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Resource Category	**Biological Resources: Raptors**
Concern/Potential Effect Addressed	Concern that human presence and ground disturbance could impact sensitive raptor species during breeding. Intermittent, irregular use of emitter sites may impact raptors if nests occur within 800 feet of emitter sites and if emitter use occurs during breeding season.
Source of Concern	Air Force, cooperating agencies, and public comments
Mitigation Type	Mitigation by avoidance; Mitigation by design; Operational mitigation
Mitigation	• Avoid known raptor nesting sites during emitter site selection. • Have a biologist seasonally inspect ETI emitter sites and recommend when certain sites would not be available for use. • Construct eagle-safe power line using Idaho Power Co., IDFG, and BLM guidelines. • Train emitter site crew members to identify nesting raptors, review locations before use, and be prepared to relocate when appropriate. • Protect known raptor nests in Juniper Draw from human presence by instructing Air Force personnel to maintain an 800-foot buffer from the nest during the nesting season. Minimize the potential for disturbance to Juniper trees in Juniper Draw. • The Air Force, BLM, and State of Idaho will meet at least semiannually in accordance with a Memorandum of Agreement developed to address the needs and expectations of managers and users of resources in southwest Idaho.
Alternatives	B, C, D
EIS Sections	4.8.5, 4.8.10
Resulting Consequences	• Reduced public and agency concern about raptors. • Reduce potential impacts to raptors. • Seasonal adjustments in ETI emitter site use.
Agency Responsible	Completing: Air Force; Funding: Air Force
Time Frame	After construction, personnel trained annually before breeding season; Biologist inspections annually during breeding season; Meet with IDFG and BLM semiannually to review the science and monitoring data and make further adjustments to this mitigation.

Table 2.6-1. Proposed Mitigations
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Resource Category	**Cultural Resources: Archaeological Resources**
Concern/Potential Effect Addressed	Concern for potential environmental impacts during site selection or construction.
Source of Concern	Air Force, cooperating agencies, and Shoshone-Paiute Tribes
Mitigation Type	Mitigation by avoidance
Mitigation	• Reviewed literature, consulted with State Historic Preservation Officer and BLM, coordinated with Shoshone-Paiute Tribes, performed surveys, and considered the information in siting of facilities. • When possible, previously disturbed locations were selected as proposed sites. • Emitter sites and no-drop target sites were relocated when archaeological resources were identified.
Alternative	B, C, D
EIS Section	2.1, 3.9, 4.9
Resulting Consequences	• No emitter sites contain sensitive archaeological resources. • Training ordnance impact areas sited to reduce impacts. • Reduced potential for impacts to cultural resources.
Agency Responsible	Completing: Air Force; Funding: N/A
Time Frame	Completed with site selection and environmental process.

Table 2.6-1. Proposed Mitigations
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Resource Category	**Cultural Resources: Historic Architectural Resources**
Concern/Potential Effect Addressed	Concern that loss of bridge and associated historic improvements at Clover Creek Crossing would occur as a result of bridge reconstruction.
Source of Concern	Air Force (EIS Analysis) and cooperating agencies
Mitigation Type	Mitigation by avoidance; Operational mitigation
Mitigation	Protection through Historic American Engineering Record documentation and avoidance of some features.
Alternative	B, C, D
EIS Section	3.9, 4.9
Resulting Consequences	• Documentation of resource prior to new bridge construction. Avoidance of some features during construction. • Protection of historic resource through documentation. • Improved safety and road carrying capacity at Clover Creek bridge.
Agency Responsible	Completing: Air Force; Funding: Air Force
Time Frame	• Section 106 consultation prior to construction of new bridge. • Completed with design and reconstruction of bridge.

Table 2.6-1. Proposed Mitigations
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Resource Category	**Cultural Resources: Traditional Resources**
Concern/Potential Effect Addressed	Concern that some activities associated with range development and operation could adversely impact Native American traditional resources, access, and values.
Source of Concern	Air Force, cooperating agencies, and Shoshone-Paiute Tribes
Mitigation Type	Mitigation by avoidance; Operational mitigation
Mitigation	• During Environmental Impact Analysis Process: Restricted range components to the eastern-half of Owyhee County, and avoided sites with known traditional resources. • During Environmental Impact Analysis Process: Moved emitter sites and no-drop targets to avoid sensitive cultural resources identified by the Shoshone-Paiute Tribes. • Continue government-to-government dialogue with Shoshone-Paiute Tribes according to Presidential Memorandum (29 April 1994) and ensure the tribes are granted access to sacred and ceremonial sites in accordance with Executive Order 13007. • Consider Shoshone-Paiute Tribes' concerns regarding traditional resources and use areas associated with specific locations and, where possible, avoid those locations (schedule use of emitters to avoid seasonal concerns). • Other mitigation also implemented for sage grouse, raptors, and bighorn sheep
Alternatives	A, B, C, D
EIS Section	4.9
Resulting Consequences	• Reduce potential impacts to resources and areas of concern identified by Shoshone-Paiute Tribes. • Reduce potential for impacts to archaeological sites. • Protection of Native American traditional resources and values.
Agency Responsible	Completing: Air Force; Funding: Air Force
Time Frame	Completed with site selection process; continuing consultation during construction and operations.

Table 2.6-1. Proposed Mitigations
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Resource Category	**Cultural Resources: Protection of Traditional Resources**
Concern/Potential Effect Addressed	Shoshone-Paiute concern that the road improvements and public knowledge of the area could lead to increased vandalism of resources and/or more unwelcome visitors to ceremonial areas.
Source of Concern	Air Force, cooperating agencies, and Shoshone-Paiute Tribes
Mitigation Type	Operational mitigation
Mitigation	• Work with the Shoshone-Paiute Tribes and BLM to develop a monitoring and security program to detect, report, and deter vandalism and theft for sensitive locations in the vicinity of ETI range components. • Develop a range standard operating procedure for personnel to report suspicious activity observed during range operation. • The Air Force, BLM, and State of Idaho will meet at least semiannually in accordance with a Memorandum of Agreement developed to address the needs and expectations of managers and users of resources in southwest Idaho.
Alternatives	B, C, D
EIS Sections	4.9.2, 4.9.4.3, 4.9.5.3, 4.9.6.3
Resulting Consequences	• Detection of vandals and thieves and reduced potential for vandalism and theft at sensitive resources. • Reduce potential for impact to traditional resources of importance to the Shoshone-Paiute Tribes.
Agency Responsible	Completing: Air Force; Funding: N/A
Time Frame	Prior to construction and during operations. Semiannual review.

Table 2.6-1. Proposed Mitigations
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Resource Category	**Land Use: Size of Land Withdrawal**
Concern/Potential Effect Addressed	• Concern about size of land area required to support safe range operations. • Concern for impact to traditional land users. • Concern that private land would be affected.
Source of Concern	Air Force, cooperating agencies, and public comments
Mitigation Type	Mitigation by avoidance; Mitigation by design
Mitigation	• Design drop and no-drop targets on smallest areas consistent with safety. • Utilize 25-pound non-explosive training ordnance to reduce land area needed. • Permit grazing within 12,000-acre area except in 300-acre training ordnance impact area. • Avoid private land for siting range components.
Alternatives	B, C, D
EIS Section	2.0
Resulting Consequences	• Amount of land diverted from traditional uses for all range facilities and roads projected to not exceed 1,000 acres. • Training ordnance impacts primarily 300-acre area. • Minimize size of proposed training range • Minimize ground disturbance from training ordnance impacts. • Minimize disruption to traditional land users. • No private land used for any Air Force facilities.
Agency Responsible	Completing: Air Force; Funding: N/A
Time Frame	Implemented during initial design; completed with land withdrawal actions.

Table 2.6-1. Proposed Mitigations
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Resource Category	**Land Use: Special Land Use Areas**
Concern/Potential Effect Addressed	Concern about potential effects of ground disturbance on special land use management areas.
Source of Concern	Air Force, cooperating agencies, and public comments
Mitigation Type	Mitigation by avoidance
Mitigation	• Identify special use land management areas such as WSAs, ACECs, and waterways considered eligible for Wild and Scenic status. • Site 12,000-acre training range to avoid special land use management areas.
Alternatives	B, C, D
EIS Section	2.0
Resulting Consequences	• Reduce or eliminate potential for direct impacts to several sensitive resources. • Avoid potential conflicts to non-impairment policy and other management policies. • Avoid land status and management changes. • Protect land status designations.
Agency Responsible	Completing: Air Force; Funding: N/A
Time Frame	Completed during proposal definition, site narrowing.

Table 2.6-1. Proposed Mitigations
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Resource Category	**Land Use: Special Land Use Areas; Recreation; Other Resources**
Concern/Potential Effect Addressed	• Public concern expressed that changes in military training activity over northern airspace expansion could impact solitude for users of the WSA. • Concern that river floating experience would be impacted by noise or visual intrusion from overflights.
Source of Concern	Air Force, cooperating agencies, and public comments
Mitigation Type	Mitigation by avoidance; Operational mitigation

Mitigation	• The Air Force, BLM, and State of Idaho will meet at least semiannually in accordance with a Memorandum of Agreement developed to address the needs and expectations of managers and users of resources in southwest Idaho. The agreement and the interagency collaboration it fosters will be designed to:
	  • Maintain values inherent in Owyhee County for ranching, recreational opportunities, and traditional resources
	  • Promote multiple use of public lands in a safe manner
	  • Minimize impacts to the environment while providing opportunities for realistic aircrew training
	  • Maximize opportunities for seasonal adjustments to training activities in order to accommodate multiple use of public lands
	  • Make effective and efficient use of public funds and agency resources
	  • Utilize an ecosystem approach to planning and managing public lands
	• The Air Force will not activate Mountain Home AFB military airspace (remain closed and not be used for training) on Memorial Day, 4th of July, and Labor Day weekends.
	• Restrict military aircraft training flights to above 10,000 MSL (about 5,000 AGL) from Friday through Monday during May and June over Little Jacks Creek WSA.
	• During the first floating season after the ETI ROD, the Air Force will institute a two-week flight restriction. This restriction will be during the optimum floating season over the main Bruneau Canyon north of the confluence of the Jarbidge River to the northern edge of the airspace. Low-altitude training sorties (below 5,000 AGL) would conduct only perpendicular crossings of the canyon with no parallel flights within 1 mile of the canyon. Parallel flights would be above 5,000 AGL if within 1 mile of the canyon. The optimum floating season and modifications to restrictions for subsequent years will be determined through consultations with the BLM.
	• Publicize airspace schedule using Mountain Home AFB website and via telephone. Indicate when airspace will be active or inactive. Specify periods of exercises or composite wing training.
	• Place signs at all facilities with information on activities and safety.
	• All flight restrictions will be conducted absent compelling national security circumstances, military contingencies or hostilities.

Alternatives	B, C, D
EIS Sections	4.10.2.3, Table 4.10-3

Table 2.6-1. Proposed Mitigations
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Resource Category	**Land Use: Special Land Use Areas; Recreation; Other Resources (Cont'd)**
Resulting Consequences	• ETI design disperses training flights throughout the training airspace, reducing noise over Owyhee and Bruneau-Jarbidge rivers. • Mitigation would reduce seasonal overflights over Little Jacks Creek WSA and canyonlands. • Permits greater conformity to user's expectations regarding wilderness experiences. • Increased user awareness of periods of military training use of the airspace. • Reduced noise levels for recreational areas during specified periods of anticipated high use. • Shift of military aircrew training to other areas of the MOAs would reduce noise in areas where flight activities decrease and increase noise in areas where flight activity increases.
Agency Responsible	Completing: Air Force; Funding: Not Applicable
Time Frame	• Flight scheduling publicity would begin with establishment of airspace changes. • Bruneau Canyon restrictions implemented during the first floating season after ETI ROD. • Semiannual agency consultations will review the science and monitoring data and make adjustments to this mitigation as needed.

Table 2.6-1. Proposed Mitigations
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Resource Category	**Recreational Resources: Access**
Concern/Potential Effect Addressed	• Concern about potential effects of ground disturbance on recreational resources. • Concern that road improvements could enhance access to recreational sites and result in overuse. • Concern that training range facilities could interfere with existing access to recreational sites.
Source of Concern	Air Force, cooperating agencies, and public comments
Mitigation Type	Mitigation by avoidance; Mitigation by design
Mitigation	• Site alternatives to avoid canyons and waterways popular for recreation. • Improve roads only to training range facilities. • Site alternatives to avoid existing roads and jeep trails wherever possible.
Alternatives	B, C, D
EIS Section	2.0
Resulting Consequences	• Reduce or eliminate potential for direct impacts. • Avoid or minimize potential effects on recreation activities.
Agency Responsible	Completing: Air Force; Funding: Not Applicable
Time Frame	Completed during proposal definition, site narrowing.

Table 2.6-1. Proposed Mitigations
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Resource Category	**Transportation and Visual: Facilities and Road Design**
Concern/Potential Effect Addressed	• Concern that access roads result in ground disturbance and landscape alteration. • Concern that targets are not compatible with rural landscape.
Source of Concern	Air Force, cooperating agencies, and Shoshone-Paiute Tribes
Mitigation Type	Mitigation by design
Mitigation	• Design industrial targets to be similar to ranch / agricultural buildings. • Paint targets with non-contrasting desert colors to blend with landscape. • Construct curved roadways that follow slopes to reduce potential impacts to visual resources and avoid erosion. • Gravel roadways to prevent dust and erosion potential.
Alternatives	B, C, D
EIS Sections	2.0, 4.11
Resulting Consequences	• Roads and targets avoid negative impacts to soil and visual resources. • Reduced potential for viewshed alteration. • Reduced soil erosion.
Agency Responsible	Completing: Air Force; Funding: Air Force
Time Frame	Concepts incorporated into initial design; completed with construction; inspections and periodic maintenance will ensure continued effectiveness.

Table 2.6-1. Proposed Mitigations
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Resource Category	**Transportation: Road Access**
Concern/Potential Effect Addressed	Construction of Juniper Butte Alternative could block through travel on an approximate 1.5-mile portion of a primitive, two-track road that may provide access for livestock operations and recreation.
Source of Concern	Air Force and cooperating agency consultation
Mitigation Type	Mitigation by design
Mitigation	• Adjust fence and construct a new segment of primitive road outside the range perimeter fence. • Perform biological and cultural resources clearance surveys before construction. • Avoid impacts to regulatory significant biological and cultural resources.
Alternative	D
EIS Section	4.11.4
Resulting Consequences	• Provide equivalent access. • Negligible ground disturbance, and avoidance of impacts to significant cultural and biological resources.
Agency Responsible	Completing: Air Force; Funding: Air Force
Time Frame	During construction.

Table 2.6-1. Proposed Mitigations
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Resource Category	**Socioeconomics: Ranching Operations**
Concern/Potential Effect Addressed	• Concern about disruption to specific ranching operations by altering fencing, roads, availability of water, and/or availability of forage. • Concern about reduction in carrying capacity of specific livestock operations affected by range selection.
Source of Concern	Air Force (EIS Analysis) and cooperating agencies
Mitigation Type	Mitigation by design; Operational mitigation
Mitigation	• Install fencing to allow ranchers to manage cattle with little or no disruption of current grazing practices. • Accommodate livestock grazing to the greatest extent practicable to federal lands withdrawn or state lands leased for project facilities. • Avoid impacts to significant biological and cultural resources for construction of fencing, pipelines, and/or above-ground water reservoir. • Payment or compensation in-kind for disruption to grazing ; the Air Force would work with ranchers and BLM to exchange grazing allotments. • Offer current permittee first right of refusal to continue grazing on withdrawn lands. • Protect, move, or extend water pipelines and/or build a less than one-acre above-ground water reservoir to create availability of a 50,000-gallon, joint-use fire-fighting water source.
Alternatives	B, C, D
EIS Section	4.12.2.2
Resulting Consequences	• Ranching operations compensated for disruptions. • Temporary ground disturbance from fence emplacement, pipeline re-routing, and water reservoir construction (Alternatives B, D only); No impacts to cultural, biological, and other resources are expected due to avoidance.
Agency Responsible	Completing: Air Force; Funding: Air Force
Time Frame	Construction after land withdrawal; current grazing activities continue until mitigation actions in place and operational. Biological and cultural resources clearance surveys completed before construction.

Table 2.6-1. Proposed Mitigations
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Resource Category	**Socioeconomics: Road Maintenance**
Concern/Potential Effect Addressed	Concern about possible economic impact to Owyhee County and Three Creek Good Roads Highway District from increased road use by Air Force vehicles.
Source of Concern	Air Force, cooperating agencies, and public comments
Mitigation Type	Operational mitigation
Mitigation	Execute an Interagency Support Agreement and provide funding for a proportional share of road maintenance.
Alternatives	B, C, D
EIS Sections	4.10, 4.12
Resulting Environmental Consequences	• Improved roadway sections • Jointly funded maintenance of roadways. • Minimized economic impact to Owyhee County and Three Creek Good Roads Highway District.
Agency Responsible	Completing: Air Force; Funding: Air Force
Time Frame	Agreement in effect prior to range operations.