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**Section 106 Documentation**

**for the**

**Powder River Training Complex  
Ellsworth Air Force Base  
South Dakota  
Environmental Impact Statement**

**Cheyenne River Reservation**



*Prepared for:*  
**Air Combat Command**

**May 2010**

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## ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
AFB	Air Force Base
AGL	above ground level
Air Force	United States Air Force
AIRFA	American Indian Religious Freedom Act
APE	Area of Potential Effect
ATCAA	Air Traffic Control Assigned Airspace
CFR	Code of Federal Regulations
DoD	Department of Defense
EIS	Environmental Impact Statement
FL	Flight Level
LFE	Large Force Exercise
MOA	Military Operations Area
MSL	mean sea level
National Register	National Register of Historic Places
NEPA	National Environmental Protection Act
NHPA	National Historic Preservation Act
NM	nautical mile
PRC	Powder River Complex
PRTC	Powder River Training Complex
TCP	traditional cultural properties

**TABLE OF CONTENTS**

**1.0 INTRODUCTION ..... 1**

1.1 Executive Summary of Submission and Findings ..... 1

1.2 Description of the Undertaking..... 1

    1.2.1 Establishment of the PRTC..... 2

    1.2.2 Training Operations in the Proposed PRTC..... 2

    1.2.3 Authorization of Supersonic Flight in the PRTC ..... 3

    1.2.4 Use of Chaff and Flares..... 3

    1.2.5 Ground-Based Training Assets ..... 3

1.3 Area of Potential Effects..... 3

**2.0 IDENTIFICATION ..... 5**

2.1 Previous Work ..... 5

2.2 Research Design and Methods..... 5

2.3 Acres Surveyed..... 6

**3.0 FINDINGS..... 7**

3.1 Description of Cultural Resources within the APE ..... 7

3.2 APE Maps and Site Locations ..... 16

3.3 National Register Evaluations and Historic Context ..... 16

3.4 American Indian Consultation ..... 16

3.5 Public Involvement..... 19

**4.0 PROJECT EFFECTS..... 21**

4.1 Source of Effects..... 21

**5.0 REFERENCES ..... 23**

**APPENDIX A AMERICAN INDIAN GROUP MEETING INFORMATION**

**LIST OF TABLES**

Table 1-1 Local Proposed Action MOA and ATCAA Annual Sortie Operations Comparison..... 3

Table 3-1 National Register Properties Under Proposed PRTC Airspace ..... 7

Table 3-2 National Monuments Under Proposed PRTC Airspace..... 12

Table 3-3 Ghost Towns Under Proposed PRTC Airspace ..... 12

Table 3-4 Historic Ranches Under Proposed PRTC Airspace ..... 13

Table 3-5 Historic Trails Under Proposed PRTC Airspace ..... 13

Table 3-6 TCPs Under Proposed PRTC Airspace..... 14

Table 3-7 Cultural Landscapes Under Proposed PRTC Airspace in Montana..... 14

Table 3-8 National Landmarks Under Proposed PRTC Airspace in South Dakota..... 15

Table 3-9 South Dakota State Register of Historic Places Under Proposed PRTC Airspace ..... 16

Table 3-10 American Indian Groups Contacted..... 18

Table 3-11 Meetings Held with American Indian Groups to Date ..... 19

**LIST OF FIGURES**

Figure 1      APE Under the Airspace ..... 4  
Figure 2      National Register Eligible Sites Beneath Proposed PRTC ..... 17

## 1.0 INTRODUCTION

### 1.1 Executive Summary of Submission and Findings

The United States Air Force (Air Force) is embarking on the Powder River Training Complex (PRTC) Environmental Impact Statement (EIS) to improve airspace assets in the region of Ellsworth Air Force Base (AFB), South Dakota, and Minot AFB, North Dakota. The proposed action would provide local realistic training for aircrews and provide airspace of sufficient size and volume to support the concurrent training needs of multiple B-1 and B-52 squadrons. The proposed action would restructure and reconfigure the existing Powder River Complex's Military Operations Areas (MOAs) and associated Air Traffic Control Assigned Airspaces (ATCAAs) and add airspaces to become the PRTC. The PRTC would overlay approximately 35,164 square miles in Montana, South Dakota, Wyoming, and North Dakota.

A total of 244 National Register of Historic Places (National Register)-listed properties are located beneath the affected airspace. Of these, 94 National Register-listed properties are currently under the existing airspace. The proposed PRTC would overfly 13 National Register-listed properties in Wyoming, 39 in Montana, 15 in North Dakota, and 177 in South Dakota. A number of ghost towns, historic ranches, historic trails, traditional cultural properties, cultural landscapes, and National Historic Landmarks, are also in the area.

### 1.2 Description of the Undertaking

The undertaking would modify and add to the existing PRC airspace to establish the PRTC with improved training opportunities. The proposed action would expand the Powder River MOA complex into eight MOAs for day-to-day training and 6 additional MOAs which would be used to link the airspace for Large Force Exercises (LFEs) up to four times per year. Each MOA would have overlying Air Traffic Control Assigned Airspace (ATCAAs). The MOAs are proposed as follows: **PR-1A Low** (500' above ground level (AGL) up to, but not including 12,000' above Mean Sea Level (MSL)); **PR-1A High** (12,000' MSL up to, but not including 18,000' MSL); **PR-1B** (500' AGL up to, but not including, 18,000' MSL); **PR-2** (500' AGL up to, but not including, 18,000' MSL); **PR-3 Low** (500' AGL up to, but not including 12,000' MSL); **PR-3 High** (12,000' MSL up to, but not including 18,000' MSL); **PR-4 Low** (500' AGL up to, but not including 12,000' MSL); **PR-4 High** (12,000' MSL up to, but not including 18,000' MSL); **GAP A Low** (500' AGL up to, but not including 12,000' above MSL); **GAP-A High** (12,000' MSL up to, but not including 18,000' MSL); **GAP B Low** (500' AGL up to, but not including 12,000' MSL); **GAP-B High** (12,000' MSL up to, but not including 18,000' MSL); **GAP C Low** (500' AGL up to, but not including 12,000' MSL); and **GAP-C High** (12,000' MSL up to, but not including 18,000' MSL). The proposed PRTC would include Low (18,000' MSL up to, but not including 26,000' MSL), Medium (26,000' MSL up to, but not including 37,000' MSL) and High (37,000' MSL – 60,000'

MSL) Air Traffic Control Assigned Airspace (ATCAA) over each MOA. The GAP ATCAAs would be used in association with the GAP MOAs when connecting the airspace for LFEs. In addition, the Gateway ATCAA would be modified and expanded to create the Gateway West and Gateway East Low, Medium and High ATCAAs with altitudes from 18,000' MSL to 60,000' MSL as defined above.

Large Force Exercises (LFEs) would generally not be scheduled more frequently than once per quarter and would last from 1 to 3 days and occur in a 2 to 4 hour block. The proposed PRTC would also support use of defensive countermeasure (chaff and flares) above 2,000 feet AGL and supersonic flight above 20,000 feet MSL for B-1s and 10,000 feet AGL for fighter aircraft. Supersonic flight authorization would be limited to LFEs.

### **1.2.1 Establishment of the PRTC**

Under the proposed action PRTC would modify the existing PRC, add three additional training areas with each being made up of one or more MOAs and ATCAAs, establish Gap MOAs/ATCAAs to link the airspace up to four times per year for LFEs, and modify the existing Gateway ATCAA to become Gateway West ATCAA and Gateway East ATCAA. The floor of the current PRA MOA would be raised from the surface to 500 feet AGL.

### **1.2.2 Training Operations in the Proposed PRTC**

#### **Sortie-Operations**

Under the proposed action, the primary users of the enhanced PRTC would be B-1s from Ellsworth AFB and B-52s from Minot AFB. Other users would be bombers and tankers from other bases and transient fighters, mostly from the surrounding area. The increased size and availability of local training airspace would allow an increase in the number of sorties available to meet aircrew training needs for both B-1 and B-52 aircraft. Currently, B-1s and B-52s respectively perform 46 percent and 31 percent of their training sorties at PRC. The proposed undertaking would increase that number to 85 percent for each airframe. Training in remote areas such as Utah Test and Training Range, Nevada Test and Training Range, and Mountain Home Range Complex would account for 15 percent of training and would permit aircrews to continue to conduct actual ordnance delivery training in locations where inert or live bombs can be deployed.

Table 1-1 presents projected and baseline sortie-operations in MOA and ATCAA airspace. All B-1 and B-52 sortie-operations training in the MOAs would also train in the overlying ATCAAs during the same mission. Some training missions would occur only in the ATCAAs.

	<i>Aircraft</i>				
	<i>B-1</i>	<i>B-52</i>	<i>Transient</i>	<i>Tankers</i>	<i>Total</i>
<b>Baseline</b>					
MOA	250	0	10	0	260
ATCAA	625	300	14	0	939
<b>Projected</b>					
MOA	539	121	45	0	705
ATCAA	1,822	529	78	153	2,582
<b>Increase</b>					
MOA	289	121	35	0	445
ATCAA	1,197	229	64	153	1,643

### 1.2.3 Authorization of Supersonic Flight in the PRTC

The Air Force proposes to conduct training that would involve supersonic flights within the PRTC airspace during LFEs on an estimated 10 days per year. The Air Force proposes supersonic flight training in all PRTC airspace units for air combat, air-to-air engagements, and other tactics. 10,000 feet AGL is proposed as the supersonic floor for all fighters during LFEs only, and 20,000 feet MSL is proposed as the floor for B-1 supersonic flight only during LFEs.

### 1.2.4 Use of Chaff and Flares

Under the proposed action, an annual estimate of 33,000 chaff bundles and 3,301 flares would be employed throughout all of the PRTC airspace for defensive countermeasure training. Chaff creates a brief electronic cloud of fibers thinner than human hair to confuse enemy radar. Flares create a heat source to decoy heat-seeking missiles away from the aircraft. Different aircraft types employ specific types of chaff and flares in quantities reflective of their missions.

### 1.2.5 Ground-Based Training Assets

Proposed new emitter or simulated target sites would consist of a 15-acre barbed wire fenced area with a 1- to 2-acre fenced smaller area to secure electronic equipment. There are multiple retired Minuteman Missile sites throughout the region which are representative of the area needed for an electronic site. The degree of construction would depend on the type of site, utility requirements, safety and security parameters, and existing conditions. At this time the Air Force cannot identify the number, nature, or location of any candidate sites. However, areas that are previously disturbed would be preferred. At the time of selection, National Environmental Protection Act (NEPA) analysis tiered to the present EIS would be undertaken and Section 106 procedures would be followed.

## 1.3 Area of Potential Effects

The Area of Potential Effect (APE) is defined as the lands under the proposed PRTC (Figure 1). The APE covers approximately 17.75 million acres. All proposed training operations, supersonic operations above 10,000 feet MSL, and the use of chaff and flares would occur within this area. Expected project effects include changes in audible and visual setting, overpressures from sonic booms, and changes in setting due to the presence of chaff or flares.

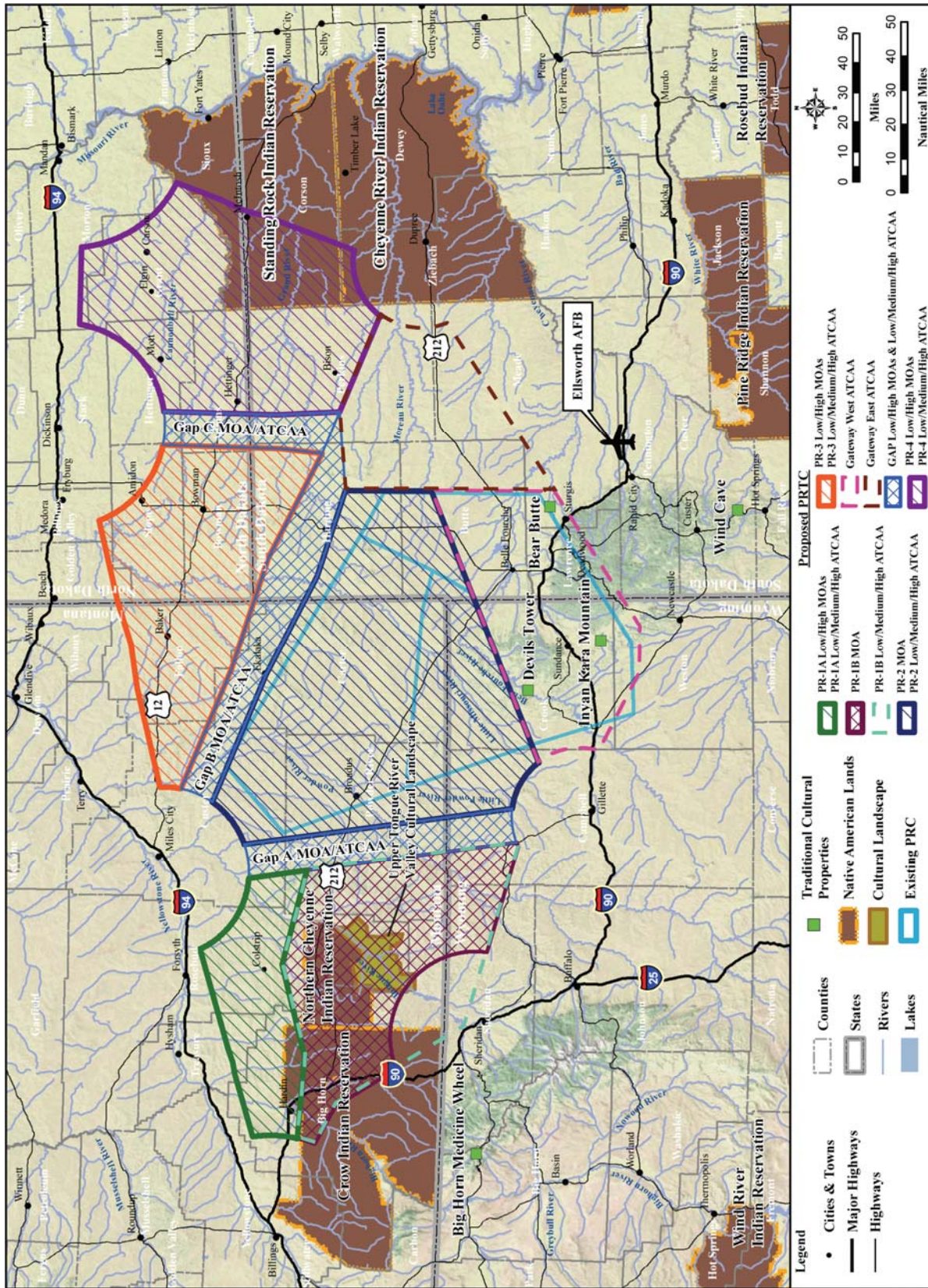


Figure 1. APE Under the Airspace



## **2.0 IDENTIFICATION**

### **2.1 Previous Work**

Information on cultural resources within the APE was derived from conducting background research to identify previously recorded National Register of Historic Places (National Register) and South Dakota State Register of Historic Places (State Register) properties beneath the affected airspace, as well as any ghost towns, historic ranches, National Historic Landmarks, cultural landscapes, National Monuments, historic trails, and American Indian Reservations recorded or known within the same area. No properties on the State Registers for Montana, North Dakota, or Wyoming were located below the proposed airspace.

In some cases resources, such as Devils Tower National Monument, are under the existing PRC training space and effects had been previously assessed.

Record searches were conducted using the National Register Information System and the South Dakota State Register. Additional research was conducted using aerial photographs and various other resources to obtain information on historic ranches, ghost towns, and other areas that contain standing buildings or structures that may be historic in nature.

For areas under the proposed PRTC, cultural resources with standing buildings or structures that are listed on or eligible for listing on the National or State Registers or were listed as known ghost towns were considered. In most cases, the ghost towns are not listed on the National Register and have not been evaluated for National Register eligibility. The Air Force recognizes that hundreds of other cultural resources, some documented and some not yet discovered, may exist under the airspace. However, aircraft operations are most likely to affect historic buildings, structures, and districts where setting is an important aspect of a property's significance and where overpressures from sonic booms form potential effects to those types of resources. These resources are ones typically found on the National Register or State Register. Conversely, if National Register-listed properties are not affected by the project elements, then non-listed resources are unlikely to be affected.

### **2.2 Research Design and Methods**

Effects to cultural resources were evaluated for lands beneath the PRTC (see Figure 1). Because the proposed project is an airspace action, only those cultural resources that would reasonably be affected by visual (overflights, chaff and flares) and noise intrusions are considered. These include architectural resources; archaeological resources with standing buildings or structures, such as historic ranches, ghost towns, and American Indian settlements; and traditional cultural properties (TCPs). Prehistoric and historic archaeological sites lacking standing buildings or structures are not included as they are generally ground surface or even subsurface deposits that would not be affected by the proposed undertaking. Some prehistoric archaeological sites could contain natural structures such as rockshelters or caves. These structures often house petroglyphs or pictographs, which are etched or painted onto the rock surfaces. However, studies have found that these types of natural formations are not affected any more by noise vibrations, such as sonic booms, than by natural erosion, wind, or seismic activity (Battis 1983).

### **2.3 Acres Surveyed**

As described in Section 1.2.5 there will be some ground disturbance associated with this undertaking. However, the exact location of that ground disturbance has yet to be defined. Once defined, the areas that would be subject to ground disturbance would undergo Section 106 survey and review.

### 3.0 FINDINGS

#### 3.1 Description of Cultural Resources within the APE

##### Wyoming

Thirteen properties are currently listed on the National Register in Crook and Sheridan Counties, Wyoming beneath the proposed PRTC airspace (Table 3-1). They consist of archaeological sites, historic structures at Devils Tower National Monument, bridges, and historic buildings. No National Register-listed or -eligible properties are located under the proposed PRTC airspace in Campbell or Weston Counties, Wyoming. Devils Tower National Monument (Table 3-2) is also beneath the proposed PRTC airspace and is beneath the existing Powder River airspace.

<b>Table 3-1. National Register Properties Under Proposed PRTC Airspace</b>	
<i>Property Name</i>	<i>General Location</i>
<b>Wyoming</b>	
Arch Creek Petroglyphs	Moorcroft
DXN Bridge over Missouri River	Hulett
EBF Bridge over Powder River	Leiter
Entrance Road—Devils Tower National Monument	Devils Tower
Entrance Station—Devils Tower National Monument	Devils Tower
Inyan Kara Mountain	Sundance
McKean Archaeological Site	Moorcroft
Old Headquarters Area Historic District	Devils Tower
Ranch A	Beulah
Sundance School	Sundance
Sundance State Bank	Sundance
Tower Ladder-Devils Tower National Monument	Devils Tower
Vore Buffalo Jump	Sundance
<b>Montana</b>	
Baker Hotel	Fallon/Baker
Baldwin House	Big Horn/Lodge Grass
Bones Brother Ranch	Rosebud/Birney
Boyum, John, House	Big Horn/Hardin
Burke, Thomas H., House	Big Horn/ Hardin
Cammocks's Hotel	Big Horn/Lodge Grass
Chivers Memorial Church	Big Horn/Lodge Grass
Commercial District	Big Horn/Hardin
Cross Ranch Headquarters	Powder River/Broadus
Drew, J. W., Grain Elevator	Big Horn/Lodge Grass
Ebeling, William, House	Big Horn/Hardin
Eder, Charles S., House	Big Horn/Hardin
Fallon County Jail	Fallon/Baker
First Baptist Church	Big Horn/Hardin
Haverfield Hospital	Big Horn/Hardin
Kopriva, Francis, House	Big Horn/Hardin
Lee Homestead	Big Horn/Decker
Little Bighorn Battlefield National Monument	Big Horn/Hardin
Lodge Grass City Jail	Big Horn/Lodge Grass
Lodge Grass Merchandise Company Store	Big Horn/Lodge Grass
Moncure Tipi	Big Horn/Busby
OW Ranch	Big Horn/Birney

<b>Table 3-1. National Register Properties Under Proposed PRTC Airspace</b>	
<i>Property Name</i>	<i>General Location</i>
Pease's George, Second Store	Big Horn/Lodge Grass
Ping, J. J., House	Big Horn/Hardin
Reno Apartments	Big Horn/Hardin
Residential District	Big Horn/Hardin
Rosebud Battlefield	Big Horn/Kirby
Ryan's, John, House	Big Horn/ Lodge Grass
Sharp's Jay, Store	Big Horn/Lodge Grass
Simmonsens's House	Big Horn/Lodge Grass
St. Joesph's Catholic Church	Big Horn/Hardin
Stevens, Dominic House	Big Horn/Lodge Grass
Sullivan Rooming House	Big Horn/Hardin
Sullivan, James J., House	Big Horn/Hardin
Teton Crossing on the Whoop-Up Trail	Carter/Albion
Trytten, J. M., House	Big Horn/Lodge Grass
Tupper, J. S., House	Big Horn/Hardin
Wolf Mountain Battlefields	Rosebud/Birney
Wyoming Mercantile	Aladdin
<b>North Dakota</b>	
Adams County Courthouse	Adams/Hettinger
Carson Roller Mill	Grant/Carson
Cedar Creek Bridge	Adams/Haynes
Fort Dilts	Bowman/Rhame
Hettinger County Courthouse	Hettinger/Mott
Hope Lutheran Church	Grant/Elgin
H-T Ranch	Slope/Amidon
Medicine Rock State Historic Site	Grant/Heil
Mystic Theatre	Slope/Marmarth
Neuburg Congregational Church	Hettinger/Mott
Original Slope County Courthouse	Slope/Amidon
Riverside	Hettinger/New England
Schade, Emma Petznick and Otto, House	Bowman/Bowman
Stern, John and Fredricka (Roth), Homestead	Hettinger/Mott
U.S. Post Office – Hettinger	Adams/Hettinger
<b>South Dakota</b>	
Ainsworth, Oliver N., House	Lawrence/Spearfish
Antelope Creek Stage Station	Corson/Morristown
Archaeological Site No. 39HN1	Harding/Ludlow
Archaeological Site No. 39HN5	Harding/Ludlow
Archaeological Site No. 39HN17	Harding/Ludlow
Archaeological Site No. 39HN18	Harding/Ludlow
Archaeological Site No. 39HN21	Harding/Ludlow
Archaeological Site No. 39HN22	Harding/Ludlow
Archaeological Site No. 39HN26	Harding/Ludlow
Archaeological Site No. 39HN30	Harding/Ludlow
Archaeological Site No. 39HN50	Harding/Ludlow
Archaeological Site No. 39HN53	Harding/Ludlow
Archaeological Site No. 39HN54	Harding/Ludlow
Archaeological Site No. 39MD81	Meade/Sturgis
Archaeological Site No. 39MD82	Meade/Sturgis
Archaeological Site No. 39HN121	Harding/Ludlow
Archaeological Site No. 39HN150	Harding/Ludlow

<b>Table 3-1. National Register Properties Under Proposed PRTC Airspace</b>	
<i>Property Name</i>	<i>General Location</i>
Archaeological Site No. 39HN155	Harding/Ludlow
Archaeological Site No. 39HN159	Harding/Ludlow
Archaeological Site No. 39HN160	Harding/Ludlow
Archaeological Site No. 39HN162	Harding/Ludlow
Archaeological Site No. 39HN165	Harding/Ludlow
Archaeological Site No. 39HN167	Harding/Ludlow
Archaeological Site No. 39HN168	Harding/Ludlow
Archaeological Site No. 39HN171	Harding/Ludlow
Archaeological Site No. 39HN174	Harding/Ludlow
Archaeological Site No. 39HN177	Harding/Ludlow
Archaeological Site No. 39HN198	Harding/Ludlow
Archaeological Site No. 39HN199	Harding/Ludlow
Archaeological Site No. 39HN205	Harding/Ludlow
Archaeological Site No. 39HN207	Harding/Ludlow
Archaeological Site No. 39HN208	Harding/Ludlow
Archaeological Site No. 39HN209	Harding/Ludlow
Archaeological Site No. 39HN210	Harding/Ludlow
Archaeological Site No. 39HN213	Harding/Ludlow
Archaeological Site No. 39HN217	Harding/Ludlow
Archaeological Site No. 39HN218	Harding/Ludlow
Archaeological Site No. 39HN219	Harding/Ludlow
Archaeological Site No. 39HN227	Harding/Ludlow
Archaeological Site No. 39HN228	Harding/Ludlow
Archaeological Site No. 39HN232	Harding/Ludlow
Archaeological Site No. 39HN234	Harding/Ludlow
Archaeological Site No. 39HN484	Harding/Ludlow
Archaeological Site No. 39HN485	Harding/Ludlow
Archaeological Site No. 39HN486	Harding/Ludlow
Archaeological Site No. 39HN487	Harding/Ludlow
Ashcroft, Thomas, Ranch	Harding/Buffalo
Baker Bungalow	Lawrence/Spearfish
Bartlett, L. L., House	Meade/Stoneville
Bear Butte	Meade/Sturgis
Beckon, Donald, Ranch	Perkins/Zeona
Belle Fourche Commercial District	Butte/Belle Fourche
Belle Fourche Dam	Butte/Belle Fourche
Belle Fourche Experiment Farm	Butte/Newell
Bethany United Methodist Church	Perkins/Lodgepole
Blake Ranch House	Harding/Gustave
Bolles, Charles, House	Butte/Belle Fourche
Butte County Courthouse and Historic Jail Building	Butte/Belle Fourche
Butte-Lawrence County Fairgrounds	Butte/Nisland
Carr No. 60 School	Perkins/Lodgepole
Carr, Anna, Homestead	Perkins/Bison
Cook, Fayette, House	Lawrence/Spearfish
Corbin, James A. House	Lawrence/Spearfish
Court, Henry, House	Lawrence/Spearfish
Dakota Tin and Gold Mine	Lawrence/Spearfish
Deadwood Historic District	Lawrence/Deadwood
Dickey, Eleazer C. and Gwinnie, House	Lawrence/Spearfish
Dickey, Walter, House	Lawrence/Spearfish

<b>Table 3-1. National Register Properties Under Proposed PRTC Airspace</b>	
<i>Property Name</i>	<i>General Location</i>
Ditchrider House	Butte/Nisland
Driskill, William D., House	Lawrence/Spearfish
Duck Creek Lutheran Church and Cemetery	Perkins/Lodgepole
Emmanuel Lutheran Church and Cemetery	Harding/Ralph
Episcopal Church of All Angels	Lawrence/Spearfish
Erskine School	Meade/Sturgis
Evans, Robert H., House	Lawrence/Spearfish
Fort Manuel	Corson/ McIntosh
Fort Meade District	Meade/Sturgis
Foster Ranch House	Perkins/Chance
Fowler Hotel	Harding/Bufalo
Frawley Historic Ranch	Lawrence/Spearfish
Frozenman Stage Station	Meade/Bison
Fruitdale School	Butte/Fruitdale
Fruitdale Store	Butte/Fruitdale
Galena School	Lawrence/Lead
Gartner, Carl Frederick, Homestead	Butte/Newell
Gay, Thomas Haskins, House	Butte/Belle Fourche
Giannonatti Ranch	Harding/Ludlow
Golden Rule Department Store	Perkins/Lemmon
Golden Valley Norwegian Church	Harding/Ralph
Graf, Stephen and Maria, House	Meade/Sturgis
Halloran-Matthews-Brady House	Lawrence/Spearfish
Harriman, L. F., House	Perkins/Lemmon
Harris, Fred S., House	Butte/Belle Fourche
Harvey, Jerome and Jonetta Homestead Cabin	Lawrence/Lead
Hay Creek Bridge	Butte/Belle Fourche
Hewes, Arthur, House	Lawrence/Spearfish
Homestake Workers House	Lawrence/Spearfish
Hoover, Alexander House	Butte/Hoover
Hoover Store	Butte/Hoover
Immanuel Lutheran Church	Perkins/Zeona
Johnson, Axel, Ranch	Harding/Reva
Johnson, William, House	Butte/Fruitdale
Keets, Henry, House	Lawrence/Spearfish
Kenaston, William G., House	Butte/Newell
Knight, Webb, S., House	Lawrence/Spearfish
Kroll Meat Market and Slaughterhouse	Lawrence/Spearfish
Langdon School	Butte/Nisland
Lead Historic District	Lawrence/Lead
Lemmon Petrified Park	Perkins/Lemmon
Lemmon, G. E., House	Perkins/Lemmon
Lighting Spring	Harding/Ludlow
Lincoln School	Butte/Belle Fourche
Little Missouri Bank Building	Harding/Camp Crook
Livingston, John and Daisy May, Ranch	Harding/Sorum
Lown, William Ernest, House	Lawrence/Spearfish
McLaughlin Ranch Barn	Lawrence/Spearfish
Minnesela Bridge	Butte/Belle Fourche
Mount Theodore Roosevelt Monument	Lawrence/Deadwood
Newell Depot Bridge	Butte/Newell

<b>Table 3-1. National Register Properties Under Proposed PRTC Airspace</b>	
<i>Property Name</i>	<i>General Location</i>
Newell High School	Butte/Newell
Nisland Bridge	Butte/Nisland
Old Finnish Lutheran Church	Lawrence/Lead
Old Redwater Bridge	Lawrence/Spearfish
Old Spearfish Post Office	Lawrence/Spearfish
Olson Bridge	Butte/Belle Fourche
Peace Valley Evangelical Church and Cemetery	Harding/Ralph
Qullian, Thomas, House	Lawrence/St. Onge
Raskob, Jacob and Elizabeth Ranch	Meade/Sturgis
Richards Cabins	Perkins/Faith
Riley, Almira, House	Lawrence/Spearfish
Rockford No. 40 School	Perkins/Bison
Scotney, John Aaron, House	Butte/Belle Fourche
Shevling, L. W., Ranch	Harding/Harding
Sittner Farm	Perkins/Meadow
Small, Charles and Eleanor House	Butte/Belle Fourche
Snoma Finnish Cemetery	Butte/Fruitdale
Soper-Behymer Ranch	Butte/Belle Fourche
Sorum Cooperative Store	Perkins/Sorum
Sorum Hotel	Perkins/Sorum
South Dakota Department of Transportation Bridge No. 05-028-200	Perkins/Bison
South Dakota Department of Transportation Bridge No 10-109-360	Butte/Belle Fourche
South Dakota Department of Transportation Bridge No. 10-270-338	Butte/Newell
South Dakota Department of Transportation Bridge No. 47-151-389	Meade/Sturgis
South Dakota Department of Transportation Bridge No. 53-101-196	Perkins/Bison
Spearfish City Hall	Lawrence/Spearfish
Spearfish Filling Station	Lawrence/Spearfish
Spearfish Fisheries Station	Lawrence/Spearfish
Spearfish Historic Commercial District	Lawrence/Spearfish
Spring Creek School	Perkins/Zeona
Stokes, Oliver O., House	Harding/Harding
Stonelake Bridge	Butte/Newell
Stromprude Trail Ruts	Meade/Bison
Sturgis Commercial Block	Meade/Sturgis
Sturgis High School	Meade/Sturgis
St. Onge Schoolhouse	Lawrence/St. Onge
St. Onge State Bank	Lawrence/St. Onge
St. Lawrence O'Toole Catholic Church	Lawrence/Central City
Tallent, Annie, House	Meade/Sturgis
The Mail Building	Lawrence/Spearfish
Toomey House	Lawrence/Spearfish
Tri-State Bakery	Butte/Belle Fourche
Uhlig, Otto L., House	Lawrence/Spearfish
Vale Bridge	Butte/Vale
Vale Cut Off Belle Fourche River Bridge	Butte/Belle Fourche
Vale School	Butte/Vale
Veal, Thomas J., Ranch	Perkins/Chance
Vessey School	Harding/Haley
Viken, Nicholas Augustus Homestead	Butte/Newell
Walsh Barn	Lawrence/Spearfish
Walton Ranch	Lawrence/Spearfish

<i>Property Name</i>	<i>General Location</i>
Wenke, John G., House	Meade/Sturgis
Whitewood Historic District	Lawrence/Whitewood
Whitney, Mary, House	Lawrence/Spearfish
Wide Awake Grocery Building	Butte/Belle Fourche
Wolzmuth, John, House	Lawrence/Spearfish
Woodmen Hall	Lawrence/St. Onge

<i>Name</i>	<i>General Location</i>
<b>Wyoming</b>	
Devils Tower	Devils Tower
<b>Montana</b>	
Little Bighorn Battlefield	Garryowen

A search of ghost towns within the lands beneath the affected airspace in Wyoming revealed the presence of four ghost towns. Several of the ghost towns contain standing wood/log structures associated with historic mining, ranching, stage or Pony Express routes, or railroad stations (Table 3-3). Most of the ghost towns have not been subjected to professional archaeological and/or architectural assessments and may be eligible to the National or State Registers pending further investigation by cultural resources professionals.

<i>Name</i>	<i>County</i>	<i>Remains</i>
<b>Wyoming</b>		
Mineral Hill	Crook	Many original buildings
Moskee	Crook	Single standing building
Old Upton	Weston	Many shacks, including the first jail
Tinton	Crook	10-12 buildings remain
<b>North Dakota</b>		
Amidon	Slope	Many original buildings (some still occupied)
Bucyrus	Adams	Many original buildings (some still occupied)
Gascoyne	Bowman	Many original buildings, houses, schools, general store
Griffin	Bowman	Old school house, general store
Marmarth	Slope	Many original buildings (some still occupied)
<b>South Dakota</b>		
Astoria	Lawrence	Many original buildings
Balmoral (Preston)	Lawrence	Many original buildings
Bear Gulch I	Lawrence	Many original buildings
Carbonate	Lawrence	Many original buildings
Central City	Lawrence	Two blocks of old buildings
Crook City	Lawrence	Stone school house
Maitland	Lawrence	Many original buildings/ruins
Pluma	Lawrence	Mill ruins
Reed	Butte	School house
Savoy	Lawrence	Many original buildings
Terraville	Lawrence	Ruins
Tinton	Lawrence	10-12 buildings
Trojan	Lawrence	Portland Mine buildings, several small houses, stores
Whitewood	Lawrence	Many original buildings



There is one historic ranch beneath the proposed airspace (Table 3-4). Ranch A is already listed on the National Register; however, it deserves special consideration due to the large number of standing structures present at the site.

<b>Table 3-4. Historic Ranches Under Proposed PRTC Airspace</b>		
<i>Name</i>	<i>General Location</i>	<i>Status</i>
<b>Wyoming</b>		
Ranch A	Beulah	National Register Property
<b>Montana</b>		
Bones Brothers Ranch	Rosebud/Birney	National Register Property
Cross Ranch Headquarters	Powder River/Broadus	National Register Property
Drew, J. W., Grain Elevator	Big Horn/Lodge Grass	National Register Property
Lee Homestead	Big Horn/Decker	National Register Property
OW Ranch	Big Horn/Birney	National Register Property
<b>North Dakota</b>		
H-T Ranch	Slope/Amidon	National Register Property
<b>South Dakota</b>		
Ashcroft, Thomas, Ranch	Harding/Buffalo	National Register Property
Beckon, Donald, Ranch	Perkins/Zeona	National Register Property
Blake Ranch House	Harding/Gustave	National Register Property
Carr, Anna, Homestead	Perkins/Bison	National Register Property
Foster Ranch House	Perkins/Chance	National Register Property
Frawley Ranch	Lawrence	National Historic Landmark
Gartner, Carl Frederick, Homestead	Butte/Newell	National Register Property
Giannonatti Ranch	Harding/Ludlow	National Register Property
Johnson, Axel, Ranch	Harding/Reva	National Register Property
Livingston, John and Daisy May, Ranch	Harding/Sorum	National Register Property
McLaughlin Ranch Barn	Lawrence/Spearfish	National Register Property
Raskob, Jacob and Elizabeth Ranch	Meade/Sturgis	National Register Property
Shevling, L.W., Ranch	Harding/Harding	National Register Property
Soper-Behymer Ranch	Butte/Belle Fourche	National Register Property
Veal, Thomas J., Ranch	Perkins/Chance	National Register Property
Viken, Nicholas Augustus Homestead	Butte/Newell	National Register Property
Walsh Barn	Lawrence/Spearfish	National Register Property
Walton Ranch	Lawrence/Spearfish	National Register Property
William Holst Farmstead	Meade/Vale	South Dakota State Register Property

A historic vernacular landscape within the area beneath the affected airspace is present in the form of a historic trail (Table 3-5). The Texas Trail runs through Weston, Crook, and Campbell Counties.

<b>Table 3-5. Historic Trails Under Proposed PRTC Airspace</b>	
<i>Site Name</i>	<i>Counties</i>
<b>Wyoming</b>	
Texas Trail	Weston, Crook, Campbell

Several TCPs have been identified within the lands beneath the affected airspace (Table 3-6). The areas of Devils Tower and Inyan Kara Mountain are considered sacred by American Indian peoples of the region. There are also two TCPs that are currently in consultation with unspecified tribes. The first is located to the north of the town of Gillette on Forest Service land inside the project area. The second is located northwest of the town of Hulett.

<b>Table 3-6. TCPs Under Proposed PRTC Airspace</b>	
<i>Area Name</i>	<i>General Location</i>
<b>Wyoming</b>	
Devils Tower	Devils Tower
Inyan Kara Mountain	South of Sundance
Unnamed 1	North of Gillette
Unnamed 2	Northwest of Hulett
<b>Montana</b>	
Battle of Wolf Mountain Site	Tongue River
Battle of Rosebud Creek Site	Kirby
Chalk Buttes	Ekalaka
<b>South Dakota</b>	
Bear Butte	Sturgis

**Montana**

Thirty-nine properties are currently listed on the National Register in Fallon, Powder River, Rosebud, and Big Horn Counties (Table 3-1). They consist of battlefields and historic buildings.

Little Bighorn Battlefield National Monument is located under the proposed airspace (Table 3-2).

Though this property is also listed on the National Register, it deserves special consideration due to its status as a National Monument. In addition, the battlefield itself is held as sacred by many American Indians.

There are five historic ranches beneath the proposed airspace in Montana that are listed or eligible for listing on the National Register (Table 3-4). No ghost towns are under the proposed airspace in Montana.

Several historic battlefields lie beneath the proposed project airspace. The Little Bighorn Battlefield is already a National Monument and the Wolf Mountains Battlefield and the Rosebud Battlefield are on the National Register and also are National Historic Landmarks. The Montana SHPO is currently processing a form to elevate all of the battlefields of the Great Sioux War to the National Register (Kate Hampton, personal communication 2008). These battlefields are also either current TCPs, or in consultation for recognition of that status.

The Tongue River Valley (Table 3-7) in Rosebud County has been the focus of a project to document and nominate the cultural landscape to the National Register. The area has been studied and nominated for this designation due to the number and preservation of sites from prehistoric contexts (over 1,700 sites), Great Sioux War battlefield context (Wolf Mountains Battlefield), and early ranching settlement contexts (Three Circle Ranch, SH Ranch, and others).

<b>Table 3-7. Cultural Landscapes Under Proposed PRTC Airspace in Montana</b>	
<i>Area Name</i>	<i>General Location</i>
Tongue River Valley	Ashland

Two TCPs have been specifically identified within the lands beneath the affected airspace in Montana (Table 3-6). The Battle of Rosebud Creek site is also a TCP. The Chalk Buttes are an area considered sacred by American Indian peoples of the region. The location of the Battle of Wolf Mountains is

currently in consultation with tribes for status as a TCP (it is already listed on the National Register). In addition, as many as 48 cultural resources that have ceremonial functions on the Northern Cheyenne Reservation have been recorded (Deaver and Tallbull 2001). The recorded ceremonial sites include vision questing/fasting sites, sweat lodges, and memorials.

**North Dakota**

Fifteen properties are currently listed on the National Register in Bowman, Slope, Adams, Hettinger, and Grant Counties, North Dakota beneath the proposed PRTC airspace (Table 3-1). They consist of historic buildings and bridges. No National Register-listed or -eligible properties are located under the proposed PRTC airspace in Golden Valley, Sioux, Morton, Stark, and Billings Counties, North Dakota.

A search of ghost towns within the lands beneath the affected airspace in North Dakota revealed the presence of five ghost towns. Several of the ghost towns contain standing wood/log buildings associated with historic mining, ranching, stage or Pony Express routes, or railroad stations (Table 3-3). Most of the ghost towns have not been subjected to professional archaeological and/or architectural assessments and many may be eligible to the National or State Registers pending further investigation by cultural resources professionals.

There is one historic ranch beneath the proposed airspace (Table 3-4). The H-T Ranch is already listed on the National Register; however, it deserves special consideration due to the large number of standing buildings and structures present at the site.

**South Dakota**

One hundred and seventy-seven properties are currently listed on the National or State Register in Harding, Butte, Meade, Lawrence, Perkins, and Corson Counties, South Dakota beneath the proposed PRTC airspace (Table 3-1). They consist of archaeological sites, historic buildings, bridges, districts, monuments, stage stations, and cemeteries. No National or State Register properties are located under the proposed PRTC airspace in Pennington and Ziebach Counties, South Dakota.

Three National Historic Landmarks are located beneath the PRTC airspace (Table 3-8). All three of these properties are also listed on the National Register. Bear Butte is a sacred area, the Frawley Ranch is a historic ranch, and the Deadwood Historic District is an area of historic buildings and features.

<b>Table 3-8. National Landmarks Under Proposed PRTC Airspace in South Dakota</b>	
<i>Property Name</i>	<i>General Location</i>
Bear Butte	Sturgis
Frawley Ranch	Whitewood
Deadwood Historic District	Deadwood

Three properties beneath the PRTC airspace are listed on the South Dakota State Register of Historic Places (Table 3-9). Two are composed of historic buildings while the Thoen Stone and Site is the location of an inscribed stone detailing a doomed mining expedition in 1833.

<i>Site Name</i>	<i>General Location</i>
Sturgis City Auditorium	Meade/Sturgis
William Holst Farmstead	Meade/Vale
Thoen Stone and Site	Lawrence/Spearfish

A search of ghost towns within the lands beneath the affected airspace in South Dakota revealed the presence of fourteen ghost towns. Several of the ghost towns contain standing wood/log buildings associated with historic mining, ranching, stage or Pony Express routes, or railroad stations (Table 3-3). Most of the ghost towns have not been evaluated many may be eligible to the National or State Registers pending further investigation by cultural resources professionals.

Eighteen historic ranches are located under the proposed airspace in South Dakota. A number of these ranches have been found eligible to the National Register (Table 3-4). In addition, one of these properties, the William Holst Farmstead, is listed on the South Dakota State Register.

One TCP has been identified within the lands beneath the affected airspace (Table 3-6). The area of Bear Butte is considered sacred by American Indian peoples of the region.

### **3.2 APE Maps and Site Locations**

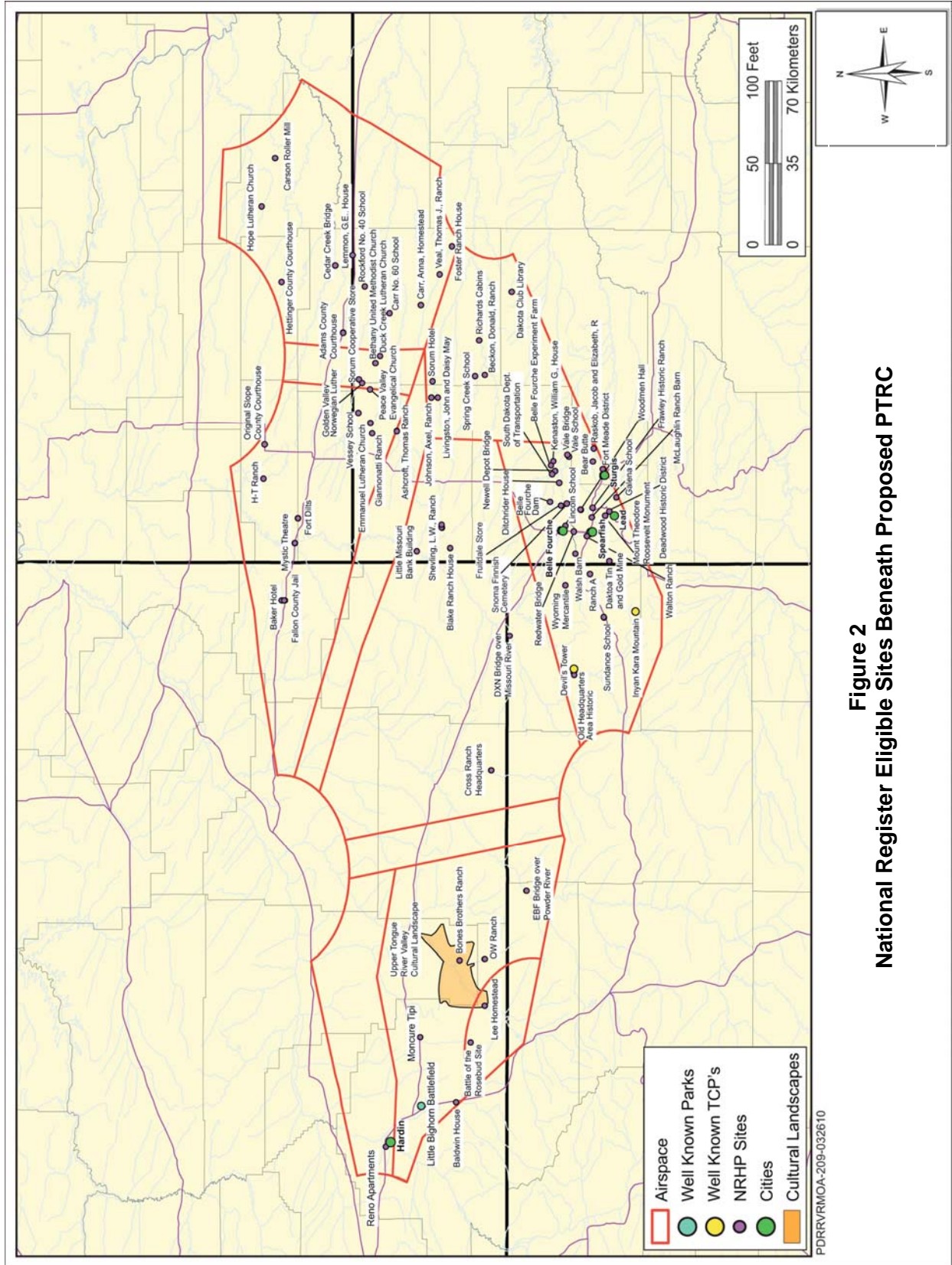
Figure 2 includes the locations of National Register-listed properties and American Indian Reservations under the APE.

### **3.3 National Register Evaluations and Historic Context**

Because no new surveys were conducted for this project and no new sites were recorded, no new National Register evaluations were required.

### **3.4 American Indian Consultation**

Several laws and regulations address the requirement of federal agencies to notify or consult with American Indian tribes or otherwise consider their interests when planning and implementing federal undertakings. In particular, on April 29, 1994, the President issued the *Memorandum on Government-to-Government Relations with Native American Tribal Governments*, which specifies a commitment to developing more effective day-to-day working relationships with sovereign tribal governments. In addition to the Memorandum, Executive Order 13175 (November 6, 2000) reaffirms the U.S. Government's responsibility for continued collaboration and consultation with Tribal Governments in the development of Federal policies that have tribal implications. This executive order also seeks to strengthen the U.S. government-to-government relationships with Indian tribes and reduce the imposition



of un-funded mandates upon Indian tribes. This executive order supersedes Executive Order 13084 signed May 14, 1998.

The Department of Defense (DoD) Instruction 4710.02 implements the DoD American Indian and Alaska Native Policy, assigns responsibilities, and provides procedures for DoD interaction with federally-recognized tribes. Other laws and regulations that require consultation with American Indians include the National Historic Preservation Act (NHPA) of 1966, American Indian Religious Freedom Act (AIRFA), and Executive Order 13007. The NHPA requires agencies to consult with Native American Tribes if a proposed federal action may affect historic properties to which they attach religious and cultural significance. AIRFA sets the policy of the U.S. to “protect and preserve for Native Americans their inherit right of freedom to believe, express, and exercise the traditional religions of the American Indian...including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonies and traditional rites.” Executive Order 13007, “Indian Sacred Sites,” issued on May 24, 1996, requires that in managing federal lands, agencies must accommodate access and ceremonial use of sacred sites, which may or may not be protected by other laws or regulations, and must avoid adversely affecting the physical integrity of these sites.

Native American consultation for this undertaking is guided by *Consultation with Native American Tribes in the Section 106 Review Process: A Handbook* (Advisory Council on Historic Preservation [ACHP] 2008).

There are four American Indian Reservations partially or wholly located under the airspace – the Northern Cheyenne Indian Reservation, the Crow Indian Reservation, the Standing Rock Reservation, and the Cheyenne River Reservation. Ellsworth AFB initiated Government-to-Government consultation with each of these tribes in April and May, 2008. In addition, 11 reservations outside of the airspace in Montana, Wyoming, North Dakota, and South Dakota were sent letters requesting information on concerns and initiating Government-to-Government consultation in June, 2008 (Table 3-10).

**Table 3-10. American Indian Groups Contacted**

Cheyenne River Sioux Tribe*	Standing Rock Sioux Tribal Council*	Crow Tribal Council*
Northern Cheyenne Tribal Council*	Three Affiliated Tribes Business Council, Fort Berthold Reservation	Rosebud Sioux Tribe, Rosebud Reservation
Arapaho Business Council, Wind River Reservation	Turtle Mountain Tribal Council, Turtle Mountain Reservation	Eastern Shoshone Tribal Council, Wind River Reservation
Arapaho Business Council, Wind River Reservation	Chippewa-Cree Business Committee, Rocky Boy’s Reservation	Oglala Sioux Tribal Council, Pine Ridge Reservation
Spirit Lake Sioux Tribal Council, Spirit Lake Reservation	Fort Peck Tribal Executive Board, Fort Peck Indian Reservation	Confederated Salish and Kootenai Tribe, Flathead Indian Reservation

\*Below proposed PRTC Airspace

Meetings were held with each of the four tribes beneath the proposed PRTC airspace (Table 3-11). Information specific to each meeting is included in Appendix A.

<i>Tribe</i>	<i>Date</i>	<i>Purpose</i>
Northern Cheyenne	9 May 2008	Government-to-Government Consultation
Crow	9 May 2008	Government-to-Government Consultation
Standing Rock Sioux	17 April 2008	Public Relations Visit
Cheyenne River Sioux	28 March 2008	Public Relations Visit
Cheyenne River Sioux	27 May 2008	Government-to-Government Consultation
Northern Cheyenne	9 August 2009	Government-to-Government Consultation

### **3.5 Public Involvement**

The Air Force is using the procedures for public involvement under the NEPA to seek and consider the views of the public regarding the proposed PRTC. Public scoping meetings were held between June 16, 2008 and July 16, 2008. Three primary areas of concern related to cultural resources were expressed by the public during scoping meetings. These are the effects on American Indian sacred areas and ceremonies by overflights and noise (mentioned by both the general public and by members of each of the four reservations), visual effects to sites and sacred areas from overflights and chaff and flares, and effects on sacred areas and historic sites from subsonic and supersonic noise.

The Air Force proposes to integrate the public hearings and public meetings under NHPA for meetings to take place in Summer 2010. These meetings will be advertised as meeting requirements under NEPA and NHPA and comments from the meetings will be incorporated into the Section 106 consultation materials.

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#### **4.0 PROJECT EFFECTS**

Procedures for assessing adverse effects to cultural resources are discussed in the regulations for 36 Code of Federal Regulation (CFR) 800, NHPA, as amended. An undertaking results in an adverse effect to a cultural resource listed on or eligible for listing on the National Register when it alters the characteristics that qualify the resource for inclusion in the National Register (its integrity). Adverse effects are most often a result of physical destruction, damage, or alteration of a resource; alteration of the character of the surrounding environment that contributes to the resource's integrity; introduction of visual, audible, or atmospheric intrusions out of character with the resource or its setting; neglect of the resource resulting in its deterioration or destruction; or transfer, lease, or sale of the property out of Federal ownership (36 CFR 800.5(a)(2)).

#### **4.1 Sources of Effects**

In general, possible sources of adverse effects can include ground disturbance, vandalism, noise vibrations, visual intrusions, and change in land status that reduces legal protection of the resource. The proposed undertaking does include limited on-the-ground activities that can cause direct or indirect adverse effects to cultural resources eligible for listing on the National Register, but those areas have not yet been identified. Most direct effects would result from noise, sonic booms, or visual intrusions from the use of chaff and flare and/or sonic booms/overflights at 500 feet.

Effects due to visual intrusion may occur when the setting is altered, either through overflights or the release of self-protection chaff and flares in an area not primarily exposed to these elements to resources that are important for their setting or feeling. Such resources may include certain types of TCPs or historic battlefields. However, the effects potentially caused by visual intrusion can be difficult to evaluate. For potential visual intrusions, the assessment will use the frequency and visibility of overflights and documented information on chaff and flares to determine whether there would be an increase in visual intrusion from the undertaking sufficient to adversely affect cultural resources known to exist underneath the airspace. Noise effects to cultural resources beneath the affected airspace will be assessed by using noise analysis data (subsonic and supersonic noise), sortie-operations numbers, and altitude profiles of the aircraft.

More detail on project effects will be added after addition consultation with State Historic Preservation Offices, Tribal Historic Preservation Officers and other interested parties are conducted.

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**5.0 REFERENCES**

Advisory Council on Historic Preservation (ACHP). 2008. *Consultation with Native American Tribes in the Section 106 Review Process: A Handbook*. Washington, D.C.

Battis, J. C. 1983. The Effect of Low Flying Aircraft on Archaeological Sites, Kayenta, Arizona. Air Force Geotechnical Laboratory. Technical Memorandum No. 146.

Deaver and Tallbull. 2001. Bureau of Land Management.

Hampton, Kate. 2008. Montana Preservation Alliance. Personal Communication, July.



**APPENDIX A**  
**AMERICAN INDIAN GROUP MEETING INFORMATION**



On Wednesday, July 16, 2008, the meeting was held on the Cheyenne River Reservation in Dupree. The 11 attendees included ranchers, a Bureau of Indian Affairs (BIA) representative (Gress Bourland), a representative from the Tribal Land Office (Sheri Miner), two representatives from the Tribal Cultural Preservation Office (Donna Rae Petersen and Rory Brown Wolf), and state Senator Ryan Maher. Several people were interested in knowing about the EIS process. Attendees raised concerns about noise interference with culturally sensitive ceremonies in the summer months, as they had at previous tribal meetings. No media representatives attended.

Specific concerns associated with the proposed action included:

- Members of the Cheyenne River Indian Reservation expressed concerns over use of airspace over the reservation between June and August for ceremonial purposes and during calving season.