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Cultural Resources Management Plan: Black Mesa Ranger Station

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Cultural Resources Management Plan:

Black Mesa Ranger Station

by

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Abstract

The Black Mesa Ranger Station on the Apache-Sitgreaves National Forests in northern Arizona, serves as the administrative site for the Black Mesa Ranger District. The station was established in 1949 after Forest Service personnel determined that the current ranger station located in Black Canyon was no longer suitable as an administrative site. The Black Mesa Ranger Station was developed over a period of several years spanning from the 1950s to the 1960s to form the administrative site that it is today. Due to the station's construction and development over 50 years ago, many of the buildings and features now represent a historic component within the ranger station that is in need of evaluation for the National Register of Historic Places. Also, the establishment of the ranger station prior to the enactment of the National Historic Preservation Act of 1966 led to the development of the site within the footprint of a prehistoric Mogollon/Ancestral Puebloan archaeological site with no mitigation measures observed. In order to maintain and ensure the Black Mesa Ranger Station can continue to function as the administrative site for the district, a cultural resource management plan is required in accordance with the National Historic Preservation Act and consultation with the Arizona State Historic Perseveration Office and Tribes with cultural affiliation to the Black Mesa Ranger District.
A total of 20 historic buildings associated with the Ranger Station were recorded as well as artifacts and features that are part of the prehistoric component. The site represents that location of a historic Forest Service Ranger Station, that is still currently in use, and prehistoric temporary habitation and resource processing site. The overall site was evaluated for the National Register of Historic Places based on both its historic and prehistoric components. The historic components were determined not eligible for the National Register while the prehistoric components are eligible for the National Register.

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Chapter I: Introduction

Located on the westernmost reaches of the Apache-Sitgreaves National Forests (A-S), the Black Mesa Ranger District comprises an area of land amongst ponderosa pine forests, steep canyons, and pinyon-juniper grasslands. The Black Mesa Ranger Station (BMRS) is the administrative site that manages the district from its location in Overgaard, Arizona *(see Figure 1)*. The ranger station is not only comprised of a modern, functioning ranger station but consists of historical components from the station's establishment during the 1950s onward and a prehistoric aspect that is present in both surface and subsurface assemblages. The purpose of this project is to complete a National Register of Historic Places (NRHP) evaluation of the historic structures and the development of a Cultural Resource Management Plan (CRMP) for the Black Mesa Ranger Station, the area including the ranger station compound, horse pastures, and additional acres originally set aside in order to provide for the administrative purposes of the district.

The focus of this project will surround site AR-03-01-02-2432, which at present only represents the prehistoric aspect of the ranger station site, although this is a multicomponent site consisting of historic Forest Service structures averaging in age from 40-60 years old, modern structures, surface historic deposits, and surface and buried prehistoric deposits. A complete inventory of all the Forest Service structures (both historic and modern structures) located on the BMRS, GIS mapping of the entire site, and archaeological investigations of the prehistoric and historic components through the use of surface sampling, pedestrian survey, and background research into previous cultural investigations of the project area and similar sites in the area was completed during the course of this project. The final goal is completing the CRMP for the

Black Mesa Ranger Station in order to provide a comprehension management plan for the archaeological resources found across the station so that the regulations enacted by the NHRP as well as other federal laws are carried out and that methods to allow controlled archaeological investigations to occur prior to any ground disturbing project work that is needed within the site are developed. Development of the CRMP will allow for management of cultural materials as dictated by federal law without having to conduct prior consultation on each individual potential project by both the Arizona State Historic Perseveration Office (SHPO) and affiliated Tribes, which is currently the process used for projects that arise on the ranger station. Instead, SHPO and affiliated Tribes will consult on the overall CRMP developed during the course of this project in order to provide methods and guidelines recommended to be used to manage site AR-03-01-02-2432 from this point forward.

AR-03-01-02-2432 Background

Due to the construction of the station taking place before the creation of such laws as the National Historic Preservation Act of 1966 and National Environmental Policy Act of 1969 (NEPA) that had yet to be enacted to provide for the management and protection of cultural resources during federal undertakings, the administrative site was not surveyed for cultural resources. In 1985 the BMRS (originally known as the Heber Ranger Station) was completely surveyed (Donaldson and Chalkley 1985) using transects spaced 60 feet apart and provided the initial discovery of the prehistoric component of site AR-03-01-02-2432. The site was documented in the final report as containing only plain and textured Mogollon Brownware sherds with a few lithics present (Donaldson and Chalkley 1985). The site boundary present on the project map encompasses an area just south of the current employee parking lot that then

stretches northwards to the highway. The site was determined by the Forest Archaeologist as not significant and thus not eligible for the National Register of Historic Places and no formal site form was completed. However, since a buried microwave cable was being placed in the vicinity of the site a para-archaeologist was tasked with monitoring the site during the installation of the cable. No documentation exists from that monitoring event (Donaldson and Chalkley 1985).

In 1995, the office at the Black Mesa Ranger Station underwent construction to build the current office structure with some demolition required. A complete survey of the new office location was conducted; however, visibility was limited due to the presence of a turfed lawn and parking lot (Tamietti 1995). A low-density scatter of Brownware sherds was noted around the office building present at the time and within the area of where the new construction would occur. No recording of the site was completed, and no avoidance or mitigation measures were undertaken before or during the construction of the new office building. Employees who were present during and after the construction of the current office building have since remarked to District Heritage staff that artifacts were noted in the footing backfill dug for the office foundation after construction was complete (noted by Dave Maurer, retried Timber Management Officer).

In 1997, prior to "general improvements" being done with heavy equipment to the ranger station, another survey was completed (Tamietti 1997). No mention is made of what kind of improvements were being made or equipment used (Tamietti 1997). The survey located a low-density artifact scatter, but no mention is made of cultural affiliation of the scatter or artifact types located on the site (Tamietti 1997). No formal documentation was located regarding if the scatter was a site or if it was avoided by the project activities.

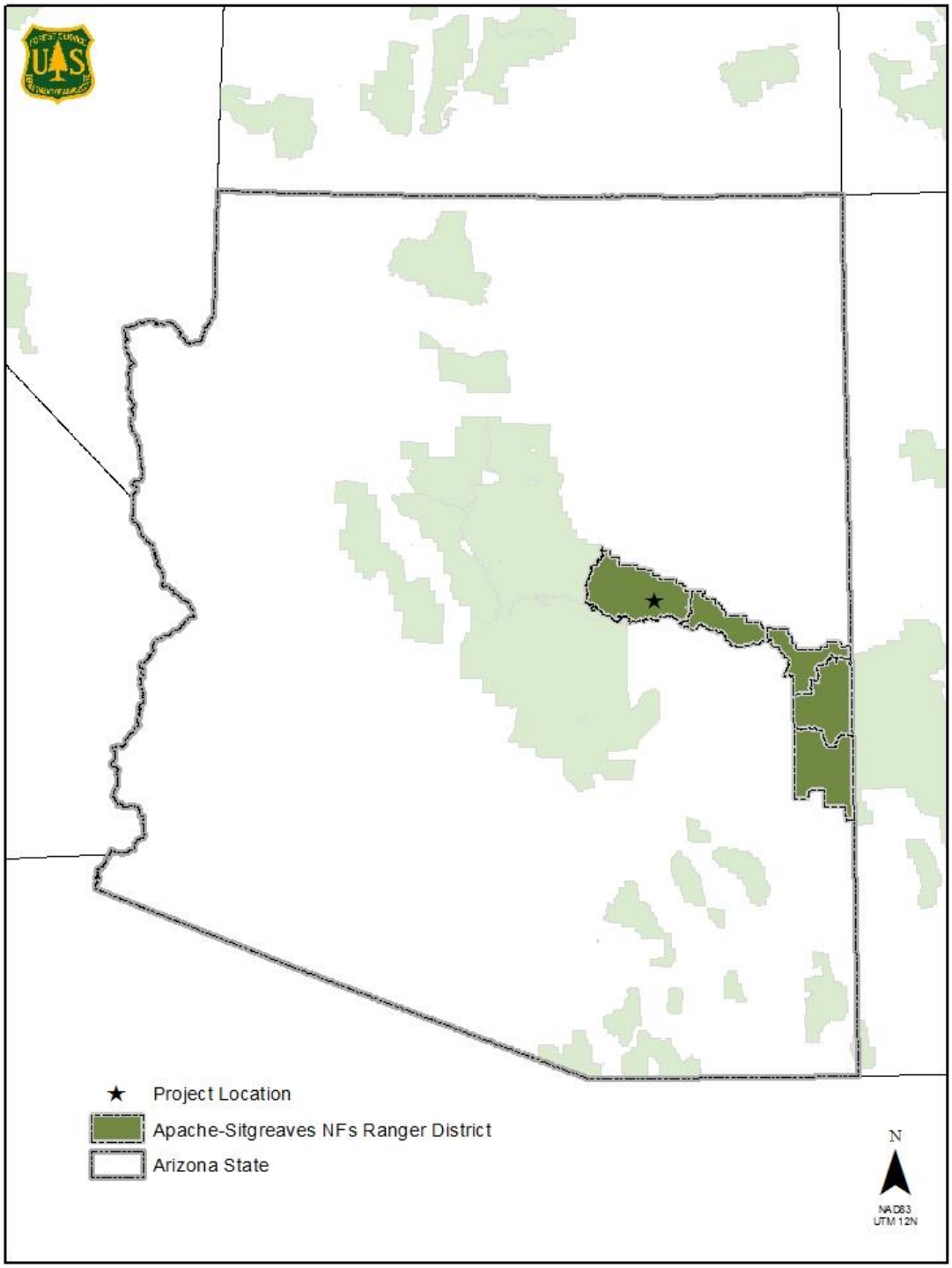


Figure 1. Black Mesa Ranger Station location map.

The only site record located during background research for AR-03-01-02-2432 was from a recording done by Kinlani Archaeology Ltd. in 2001. The site was recorded; however, this report was never completed, and the information was later incorporated in the Heber-Overgaard Environmental Management Analysis (EMA) area report (Martin 2002). The site form documents an artifact scatter with three sandstone bedrock mortars, approximately 250 Brownware sherds along with 75 lithics (Martin 2002) and dated to 700-1000 A.D. based on "Prehistoric Ceramics of the Puerco Valley" edited by Kelley Hays-Gilpin and Eric van Hartesveldt (1998). The overall site boundary shrunk from the previous recording in 1985 to encompass only a small area south of the employee parking lot and east of the station loop road (this is most likely due to the disturbance from building the current office building).

In 2007, the truck yard at the Black Mesa Ranger Station was expanded to provide further secure parking for Forest vehicles. A report was generated for the project with the previous survey being held as adequate for project clearance (Schofer 2007). Site AR-03-01-02-2432 was plotted as a buffered point on the project map even though the site boundary was delineated in the previous reports, as stated above, and no mention of the site or mitigation measures were mentioned in the document (Schofer 2007). The project was cleared for fence construction, brush and tree removal, and use of heavy equipment within the area.

In 2011, a project was proposed to replace the water lines across the Ranger Station compound and would require extensive ground disturbance. The project was granted clearance based on the previous survey coverages mentioned above and no new survey was conducted (McInteer and Kmetz 2011). Site AR-03-01-02-2432 was mentioned in the document as an unevaluated site with a buffered point on the map (not in the correct location) and would need to

be avoided by all project activities (McInteer and Kmetz 2011). The report mentions that the site had been previously evaluated as not eligible for the NRHP by Martin (2002) but that SHPO was never consulted about these NRHP determinations and thus the site would be treated as unevaluated (McInteer and Kmetz 2011) as SHPO concurrence is required in the state of Arizona for NRHP eligibilities prior to the release of a site from management by a federal service.

During the waterline maintenance project, excavations of a waterline in the truck yard unearthed several previously unknown cultural features and materials. The cultural resources were discovered within the backdirt of the trench dug for the waterline and a sample of the backdirt was screened by Heritage staff upon the discovery (Purcell and Greenwald 2012). Examination of the trench wall clearly showed the presence of the features. In order to further determine the eligibility of the site and to determine the extent of the adverse effect the waterline trenching had on the site, DMG Four Corners Research, Inc. was hired to conduct further site recording and subsurface testing (Purcell and Greenwald 2012). The subsurface testing uncovered intact and disturbed deposits including an ash stain, fire cracked rock layer, and organic cultural fill. Within a drainage ditch located along the fence line of the truck yard, three additional subsurface pit features were noted within the eroding wall of the ditch (Purcell and Greenwald 2012). During this project a total of 18 acres were completely surveyed in order to determine the extent of the possible surface deposits of the site and to provide an update to the site recording. DMG Four Corners Research, Inc. made a recommendation of the site being eligible for the NRHP in their final report, with which SHPO concurred (Purcell and Greenwald 2012). No effort was made to record any historic artifacts or features encountered during this recording of the ranger station by DMG Four Corners Research, Inc.

The site was recommended eligible for the NRHP under Criterion D due to the following: the site has yielded and could yield additional further information important to the prehistory of the area as seen in the deposits found in the excavation units and two eroding features located in a drainage ditch; it retains integrity of location, materials, and association under the context of Mogollon culture prior to 1000 A.D., as determined from artifacts recovered during excavation (Purcell and Greenwald 2012). The recommendation for the eligibility, concurred upon by SHPO, has led to a need for a CRMP to be developed in order to insure the management of the prehistoric component of the site.

The following chapters will provide an overview into the project and the steps taken to complete its goals. Culture history, project overview, and methodology chapters are presented to provide information about the cultural materials and affiliations found in the region while the project overview will provide the details surrounding the project itself. The methodology describes in detail the methods used to conduct the project work and collect data critical to the final product. The historic context chapter provides guidance on how the site was evaluated for the National Register of Historic Places while the component result chapters detail the data collected during the fieldwork. The final chapters provide the National Register of Historic Places evaluation, the developed cultural resources management plan, and the tribal consultation requirements for this project.

Chapter II: Culture History

Spanning a vast area along the Mogollon Rim, a towering escarpment with elevations ranging from 5,500 to 7,800 feet above sea level and creating the southern border of the district, the Black Mesa Ranger District contains a diverse set of environments upon which a cultural history has played out *(see Figure 2)*. Archaeological resources and historical records provide an insight into the settlement and use of the district's lands from the prehistoric inhabitants to historic developments and onward. Major influences that have been at the forefront on the land range from the widespread settlement patterns of the prehistoric peoples to the migration of the Navajo and Apache Tribes into the area and to the development of the United States Department of Agriculture's National Forest Service. These influences on the district have left a lasting impression on the land and people.

Mogollon/Ancestral Puebloan (200-1385 A.D.)

The Mogollon/Ancestral Puebloan period is a time dating from the presumed end of the Archaic period at around 200 A.D., although some overlap between the two is suggested as no clear delineation is yet distinguished in the Mogollon Rim region (Mead et al. 2020). This period extends to the late 14th century when a severe decline in population is noted as having taken place throughout the settlements of the area (Mead et al. 2020). Applying a cultural association for the populations found in this region has long been debated as a tremendous amount of variability exists (Young and Herr 2012). Scholars assumed that the area merely conformed to the standard cultural traditions found within the more northern Ancestral Puebloan communities (also referred to as Anasazi in previous literature, this term was deemed offensive

to the descendant Puebloan communities and is no longer widely in use (Mills et al. 1999:1:3)) and was an extension to that cultural group.

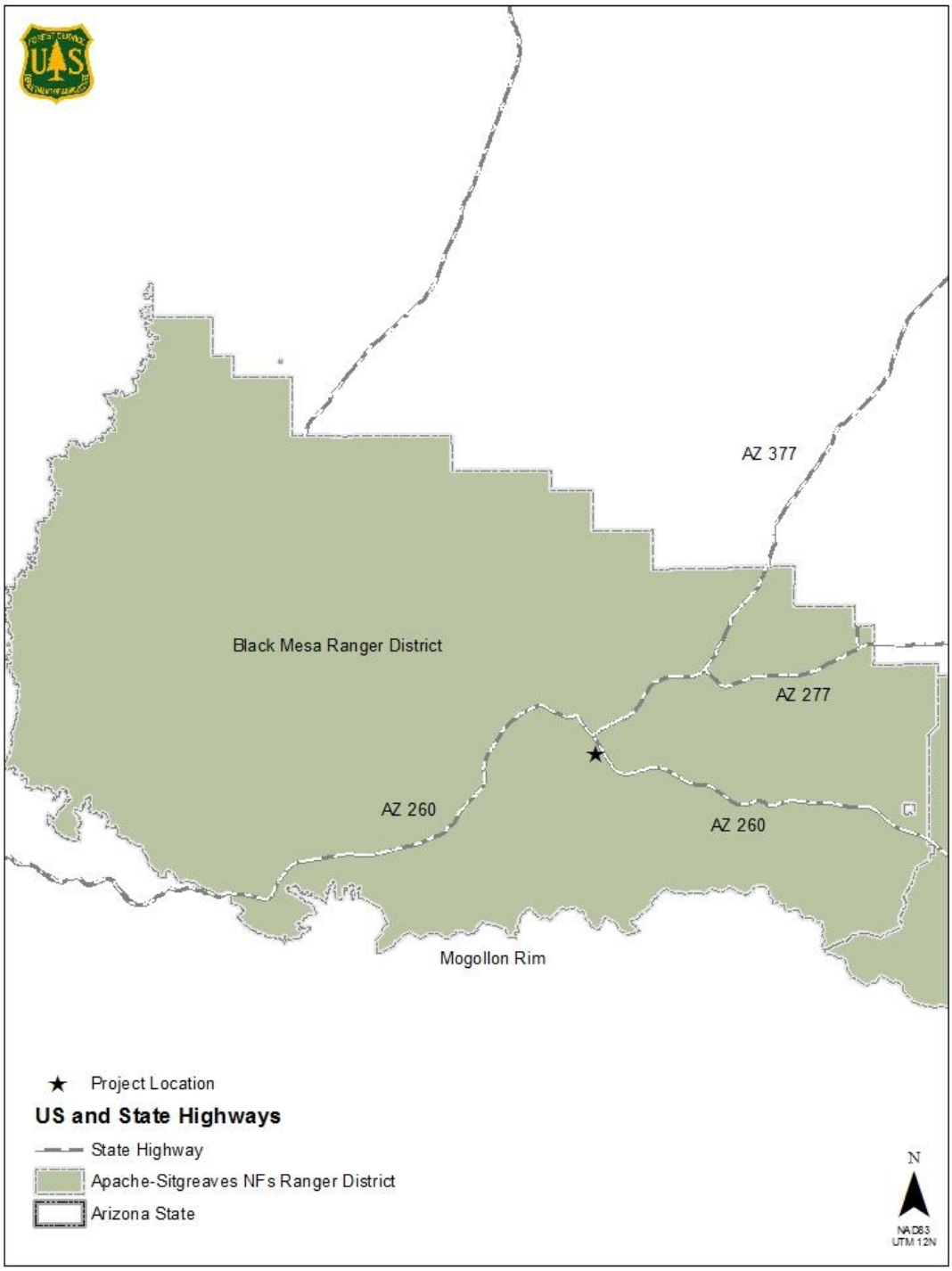


Figure 2. Black Mesa Ranger District and project location map.

Beginning in the early 1930s, Emil Haury conducted investigations in the areas south of the Mogollon Rim in search of the limits of the Hohokam culture but instead found the distinct characteristics of another. In 1936, Haury formulated the Mogollon culture as a long tradition of hunting, gathering, and farming beginning around 200 A.D. that was then affected by the influx of Ancestral Puebloan and Hohokam traditions and thus ceased to be visible in the archaeological record of central Arizona after 1000 A.D. (Riggs 2005:325). This distinction of the Mogollon tradition has led to much debate on the classification of the archaeological sites through the Mogollon Rim area because the Mogollon tradition was determined to cover a wide territory ranging from the Mimbres Valley in southern New Mexico to the central highlands of Arizona and New Mexico and thus included the Mogollon Rim area (Cordell and McBrinn 2021). The first chronology established for the Mogollon Rim region, beyond the accepted Pecos Classification developed for the Ancestral Puebloans, was put into place by Haury in 1947 (North et al. 2003:8) as a classification for the Mogollon. This classification system provides general phases for the broad range of the Mogollon tradition found throughout the Southwest *(see Table 1)*.

As the Mogollon tradition spans such a wide area in the Southwest, which includes the Mogollon Rim region, research has determined a great deal of intraregional variation the in sequence of phases for the tradition (Cordell and McBrinn 2012). The Arizona State Historic Preservation Office's (SHPO) Prehistoric Water Utilization and Technology in Arizona historic context breaks the Mogollon tradition down into four broad phases within the state *(see Table 1)* that can be utilized in the Mogollon Rim region as well. Cordell and McBrinn (2012) synthesized a more recent chronology for the Mimbres and Point of Pines regions of the

Mogollon tradition that were first introduce by Emil Haury. Both the Mimbres region in New Mexico and the Point of Pines region, located just south of the Mogollon Rim, demonstrate the variation in the sequence of phases within the Mogollon tradition throughout the Southwest.

Archaeological excavations done in this Mogollon Rim region for the Silver Creek Archaeological Project reassessed the local timeline based on findings during the project and developed a revised chronology specifically for the Mogollon Rim. As this revised chronology focused primarily on later period sites a further revision of the timeline was undertaken by SWCA after an extensive survey project on the Black Mesa Ranger District (North et al. 2003). Both these revised temporal guides for the Mogollon phases and the Pecos Classification are the most commonly used and most relevant chronology of phases to provide association for the cultural materials dotting the landscape *(see Table 1)*.

Recent survey work on the Black Mesa Ranger District by various archaeologists has revealed instances of cultural traits relating to the Ancestral Puebloan, Mogollon, Hohokam, and perhaps even Sinagua in the far northwestern portion of the district. These discoveries support Sarah Herr's view of the area as a "frontier" environment during the 11th and 12th centuries, however, this comparison does not account for the earlier portions of the period and are based on the notion of an Ancestral Puebloan cultural identity (Herr 2001). Past excavations done for the Silver Creek Archaeology Project and subsequent field schools by University of Arizona archaeologists have documented sites that are primarily indicative of Mogollon and Ancestral Puebloan traditions (Mills et al. 1999).

Table 1. Revised classification of Mogollon phases alongside the Ancestral Puebloan phase based on SWCA's 2003 work (North et al. 2003).

<table>
<tr><th>Years A.D.</th><th>Pecos Classification</th><th>Haury's Chronology</th><th>Prehistoric Water Utilization Context</th><th>Mills and Herr's Revised Chronology</th><th>North's Rodeo-Chediski Revised Chronology</th></tr>
<tr><td>200</td><td rowspan="2">Basketmaker II</td><td rowspan="2">Hilltop</td><td rowspan="3">Early Pithouse Period</td><td rowspan="2">Hilltop</td><td rowspan="2">Hilltop</td></tr>
<tr><td>300</td></tr>
<tr><td>400</td><td rowspan="2">Basketmaker III</td><td rowspan="2">Cottonwood</td><td rowspan="2">Cottonwood</td><td rowspan="2">Cottonwood</td></tr>
<tr><td>500</td></tr>
<tr><td>600</td><td rowspan="2">Forestdale</td><td rowspan="5">Late Pithouse Period</td><td rowspan="2">Forestdale</td><td rowspan="2">Forestdale</td></tr>
<tr><td>700</td><td rowspan="2">Pueblo I</td></tr>
<tr><td>800</td><td>Corduroy</td><td>Corduroy</td><td>Corduroy</td></tr>
<tr><td>900</td><td rowspan="3">Pueblo II</td><td>Dry Valley</td><td rowspan="2">Dry Valley</td><td>Dry Valley</td></tr>
<tr><td>1000</td><td rowspan="3">Carrizo</td><td rowspan="2">Early Carrizo</td></tr>
<tr><td>1030</td><td rowspan="2">Early Carrizo</td></tr>
<tr><td>1080</td></tr>
<tr><td>1100</td><td rowspan="4">Pueblo III</td><td rowspan="2">Linden</td><td rowspan="3">Mogollon Pueblo Period: Reorganization</td><td>Late Carrizo</td><td>Late Carrizo</td></tr>
<tr><td>1150</td><td rowspan="2">Linden</td><td rowspan="2">Linden</td></tr>
<tr><td>1200</td><td rowspan="2">Pinedale</td></tr>
<tr><td>1275</td><td rowspan="2">Pinedale</td><td rowspan="2">Pinedale</td></tr>
<tr><td>1300</td><td rowspan="4">Pueblo IV</td><td rowspan="3">Canyon Creek</td><td rowspan="2">Mogollon Pueblo Period: Aggregation</td></tr>
<tr><td>1325</td><td>Canyon Creek</td><td>Canyon Creek</td></tr>
<tr><td>1385</td><td rowspan="3"></td><td rowspan="3"></td></tr>
<tr><td>1400</td><td rowspan="2"></td></tr>
<tr><td>1450</td><td></td></tr>
</table>

Hilltop Phase/Basketmaker II (200-400 A.D.)

This phase is the earliest representation of the Mogollon/Ancestral Puebloan period found within the Mogollon Rim region. However, it is also suggested that there is some overlap during this time between the Archaic and this period depending on the location within the region due to a lack of pottery at some sites. These few hundred years represent a transition phase to a more sedentary lifestyle with evidence of agriculture beginning to occur. Evidence of agricultural

features are not present, however, in this period and thus it appears dry farming methods were being utilized only (Foster et al. 2002; ASNFs Heritage site database). Small, round pithouses with storage pits and shallow grinding slabs developed during this phase support the move from a more nomadic lifestyle to the creation of at least semi-permanent communities (Mead 2020; Foster et al. 2002). Communities are dispersed with hilltops, ridges, and rock shelters adjacent to arable washes and drainages were favored sites for occupation (Foster et al. 2002; Pool 1995). The presence of shallow grinding slicks and one handed manos provide indications for the reliance on agriculture during the phase with corn as the primary crop grown (Mead et al 2020). Possible early forms of utilitarian pottery, Mogollon Brownwares (Adamana brown, Alma Plain, Woodruff smudged) and an unclassified red buffed pottery, begins occurring within sites dating throughout the phase and extending into the next (Hays-Gilpin and Hartesveldt 1998; Mills et al. 1999). Lithic tool production, however, began to see a shift in the technology to corner notched points like the San Pedro and Tularosa (Justice 2002). Dogs were also being domesticated within this phase throughout the southwest (Foster et al. 2002).

Cottonwood Phase/Basketmaker II-III (400-600 A.D.)

This phase appears to represent perhaps some of the first emergence of Ancestral Puebloan traits within site profiles that before this period had appeared entirely Mogollon in construct (Haury 1985). Beliefs and symbols common to the ancestry of Pueblo groups begin occurring across the landscape in the Colorado Plateau and into the Mogollon landscape and can be seen in such things as rock art, pottery decorations, and feature construction (Cordell and McBrinn 2012). It is during this phase that a more pronounced shift from hunting and gathering to agriculture began to occur as ceramics appear more readily. The presence of raw stone

materials (e.g. manos, metates, etc.) that were less worked and then used for repetitive tasks related to processing of agricultural goods become more readily apparent within deposits (Cordell and McBrinn 2012). Habitation sites still favor the higher or protected areas of hilltops, ridges, and rockshelters (Pool 1995) with some sites found on valley margins (Young and Herr 2012). After approximately 500 A.D., pithouses within Mogollon occupations begin to occur on alluvial terraces or benches above river/washes which may indicate a greater shift to agriculture as well as a lesser need to defend food stores (Cordell and McBrinn 2012). Few sites from the phase are known within the local region and thus suggesting a lower rate of settlement during this time, however, not enough research is available to conclusively deduce this conclusion. These sites may also be underrepresented due to being obscured by later occupations, particularly within marginal valley locations (Young and Herr 2012). The first evidence of communal structures such as great kivas begin to occur with the Mogollon tradition (Foster et al. 2002). Pottery types found within this phase are still primarily utilitarian Mogollon Brownwares as seen previously but with the introduction of a redware, possible Lino Gray Ware, and the first Cibola White Ware (La Plata Black-on-white) (Mills et al. 1999). Pithouses are still in use within this period with some possible surface features beginning to occur. Additionally, evidence of rockshelters as habitation sites is present in the lower elevations of the Mogollon Rim area as is seen within Black Canyon (Senior 2005; Maurer 2020a). Though this phase is not well represented in the Mogollon Rim region this may be due to lack of subsurface investigations into sites or possibly that little change occurred between this phase and the previous one in the area. The lower population numbers in this area may have affected how households and communities looked and functioned, thus while women's labor trends appear to shift with the

increase of agriculture in the Southwest at this time (Young and Herr 2012; Cordell and McBrinn 2012) this may not have occurred as much in the Mogollon Rim area.

Forestdale Phase/Basketmaker III-Pueblo I (600-800 A.D.)

It is during the Forestdale phase that an increase in population is noted along the Mogollon Rim with more pithouses present within sites and the occurrence of some of the first possible kivas. Above ground structures along with an increased use of storage pits start to appear throughout the region as increased indication of more dominant agricultural trends beginning to occur (North et al. 2003). Sites are moved from the hilltops and ridges to valley floors of washes and drainages with an abundance of arable land (Foster et al. 2002). The higher dependence on agriculture can be seen with the development of trough style metates with large two handed manos (Mead et al. 2020). Agricultural features (e.g. check dams, rock piles, etc.) are still not being utilized during this period in the Mogollon Rim region (Foster et al. 2002). Pottery types continued to be primarily Mogollon Brownware with an increase in variety (Alma plain, Forestdale plain, and Forestdale smudged) but with the appearance of some redware (Forestdale red) and Cibola White Ware (La Plata and White Mound Black-on-white) (Mills et al. 1999). Influence from the Hohokam is readily apparent in the phase below the Mogollon Rim area, though it may have started as early as the Hilltop phase, in either the exchange of ceramics or in techniques for the manufacture of ceramics with paddle and anvil style pottery present (Haury 1985). The use of bow and arrow technology also begins around 500 A.D., marking a shift in the lithic technology with the cornered notched points from the previous phase still prevalent with an increase in their use (Justice 2002). It is also during this phase that use of rock art begins to occur. The Mogollon Red style of pictographs are small panels of red painted

figures located generally in rockshelters and isolated, protected cliff areas (Schaafsm 1980). Sites found on the Black Mesa District conform to this description of location and vary in complexity from a single painted element to upwards of 30 or more elements in a panel. Painted elements in pictograph panels consist primarily of red figures but some elements painted in white, yellow/orange, and black pigments are present as well (as observed by the author during fieldwork and research into site forms). A few figures have been documented at rock art sites that contained anthropomorphic figures with "hair whorls" (field observations by author) which are similar to the butterfly style adopted later by unmarried Hopi women (Cordell and McBrinn 2012). These types of figures are a noticeable influence from the northern Ancestral Puebloan tradition where these are noted to originate (Cordell and McBrinn 2012). A physical characteristic noted by physical anthropologist within burials dating to this phase and to around 900 A.D. is the lack of crania deformation that is present from the use of cradleboards when young (Young and Herr 2012). This lack of deformation suggests that up until 900 A.D. the population group remained relatively isolated and similar to those of the Archaic period in some respects (Young and Herr 2012).

Corduroy Phase/Pueblo I (800-900 A.D.)

This phase is represented much the same as the previous phase in the local region without much change in settlement development. Within sites an increased number of above ground, rectangular structures are noted, however, these structures are still used in conjunction with pithouses (Mead et al. 2020). The main distinguishing development of the phase is in the pottery due to the introduction of greywares and a greater variety of white wares (White Mound, Red Mesa, Kana'a, and Kiatuthlanna Black-on-white) (Mills et al. 1999). No changes in lithic

technology are present in this phase and the same techniques of corner notched points continue to dominate. A new development of the phase is the evidence, although limited in the region, of trade with Mesoamerica with possible interaction with the Hohokam as middlemen (Mead et al. 2020). Agricultural techniques within the area are also developing with the first evidence of features being utilized. Terraces were constructed within sites in the Mogollon tradition in order to deflect or direct water flow to facilitate growing conditions (Foster et al. 2002).

Dry Valley Phase/Pueblo II (900-1030 A.D.)

A continuous migration into the region during the Forestdale and Corduroy phases provides a noticeable increase in population density during this phase. Sites are numerous and widespread throughout the Mogollon Rim with larger villages and numerous small farmsteads present (North et al. 2003:11). Single four-walled rooms and three-walled fieldhouses start to become prevalent throughout but limited activity areas or sites without features are also widely dispersed. A shift is seen in pithouse construction within the Mogollon tradition from round to rectangular structures (Cordell and McBrinn 2012). Some of the sites may still be representative of a widespread use of pithouses, however, further subsurface testing is needed to determine when a major shift from pithouse use to above ground structures truly occurs in the Mogollon Rim region. Habitation sites are still widely dispersed with communal structures occurring within some (Cordell and McBrinn 2012). The use of check dams, rock piles, and terraces also become widespread in use for agricultural purposes (Foster et al. 2002). Throughout this region, check dams are highly used within narrow drainages and are often times associated with singular fieldhouses (Foster et al. 2002) or a large habitation site of multiple, larger fieldhouses (field observations by author; Heritage NRM database). A major trend in the pottery found within the

phase is the use of all over corrugation of Mogollon Brownwares with various techniques used (Haury 1985). An additional increase of white wares (Red Mesa, Puerco, Reserve, and Snowflake Black-on-white) and greywares is once again noted along with some rare occurrences of the first decorated redwares (Puerco Black-on-red) (Mills et al. 1999). Another change is noted is the beginning use of small triangular projectile points (Cottonwood Triangular) that begin to appear alongside the common corner notched points (Justice 2002). While widespread use of pictographs continues within the region the appearance of petroglyph panels begins to occur, with some superimposed over pictographs. It is unclear the exact beginnings of petroglyph use in the region but in nearby Mogollon areas the petroglyphs are noted to appear around 1000 A.D. and may have eventually moved to replace the use of pictographs (Schaafsma 1980). An increase is seen more readily within sites of interregional interaction between the different traditions (Cordell and McBrinn 2012) such as the Hohokam, Mogollon, and Ancestral Puebloan. This can be seen in the Mogollon Rim area with sites containing pendants and personal adornments made from soapstone and shell not present along the rim as well as some possible cremation burials which are typical of the Hohokam (ASNFs Heritage database).

Carrizo Phase/Pueblo II-III (1030-1200 A.D.)

This phase marks a time of transition as the Puebloan culture of the north at Chaco begins to collapse (North et al. 2020) and is divided into two stages: early (1030-1150 A.D.) and late (1150-1200 A.D.). Population along the Mogollon Rim region is at its peak during this phase with the presence of widespread small settlements that consist of pithouses, surface rooms and fieldhouses, and the first small pueblo sites averaging three to ten rooms start to appear (Mead et al. 2020). While in some portions of the region, the surface architecture has taken on distinctive

traits of the Ancestral Puebloan (Haury 1985) many sites along the Mogollon Rim still show evidence of the continued widespread use of pithouses that coincide with Mogollon concepts. Pueblos or roomblocks during this period throughout the Mogollon tradition are unplanned and dispersed with a communal structure or great kiva sometimes associated with them (Dean 2001). Based on sites located in the Mogollon Rim area with circular Great Kivas it appears that the use of this kiva type may peak before falling from use during the early stage of the phase (Herr 2001). The brief occurrence of McDonald corrugated (a painted brownware) is a notable occurrence in the ceramic assemblage along with an increase in greywares and presence of Showlow Black-on-red (Mills et al. 1999). A heavy reliance on agriculture during this phase is present due to the increase in population and is noted in sites within the region by the presence of dry farming features such as check dams within sites dating from the period on the Black Mesa Ranger district. Also, numerous fieldhouse sites and sites with multiple food processing tools are found from the period located on small ridgelines overlooking numerous washes that are well suited for farming (ASNFs Heritage NRM database) which is a slight difference in the trend from rest of the Southwest. During the late stage of the period, however, a drought began to set in across the region affecting the ability of the population to farm (North et al. 2003). Along with drought in the north creeping southward, a geological event with the eruption of the Sunset Crater volcano occurred in 1100 A.D. to the northwest (Cordell and McBrinn 2012).

Linden Phase/Pueblo III (1200-1275 A.D.)

The main change of this phase is the movement of the population away from smaller widespread settlements towards larger aggregated communities (Mead et al. 2020; Cordell and McBrinn 2012) and a decrease in use of Great Kivas. A factor that may have contributed to the

aggregation of the settlements into fewer large communities is the continued occurrence of drought conditions that appear to have pushed people out of the more open grassland areas and into the drainages of the ponderosa pine belt (North et al. 2003). Drought and other environmental conditions are also potential causes for warfare that broke out in the northern Ancestral Puebloan areas in this phase and also prompted migration into other regions (Dean 2001). Unplanned roomblocks and small pueblos continue to appear on the landscape. The Pottery Hill site, a 45-room pueblo occupied from 1200-1275 A.D., and Bryant Ranch site, a six room pueblo occupied from 1250-1300 A.D., are typical habitation sites of the phase that show both a trend towards aggregation (Pottery Hill) and continued use of non-aggregated sites (Dean 2011). The kiva becomes the main focus of all communal activities (Dean 2001). Within the Mogollon Rim area, communities begin to aggregate within the Silver Creek drainage area that marks the east side of the Black Mesa Ranger District. During this phase Tularosa Black-on-White first appears near the beginning, seeming to replace Snowflake Black-on-White which disappears at the end of the phase (Mead et al. 2020). While Mogollon brownwares and white wares continue in production throughout the phase, the introduction of polychromes marks a shift in the ceramic production (Mills et al. 1999). Some polychromes within the southwest region begin to be decorated with symbolic motifs that reflect the changes in religion, traditions, and ceremonies (Cordell and McBrinn 2012). Lithic technology continues to be the same with notched projectile points and small triangular points present throughout.

Pinedale Phase/Pueblo III-IV (1275-1325 A.D.)

This phase represents the last major trend of population growth of the Mogollon/Ancestral Puebloan period along the Mogollon Rim as the population continues

settling into large pueblo dwellings. Migrants continued to move into areas throughout the Southwest that were previously thinly inhabited (Cordell and McBrinn 2012). During this time sites such as Bailey Ruin and Pinedale Ruin, both pueblos containing upwards of 200 rooms, plazas, and internal square kivas, were the primary areas of habitation along the Rim (Mead et al. 2020). Habitation sites just below the Rim consisted of similar pueblos but some were present that had anywhere from 100 to 1,000 rooms (North et al. 2003) and continued to be occupied somewhere into the A.D 1400s. Unlike in other areas of the Southwest, large habitation sites of either roomblocks or pueblos were located further apart in the Mogollon Rim as opposed to adjacent areas where pueblos were in fairly close proximity (Cordell and McBrinn 2012). Despite drought conditions agriculture continued to persist throughout the region but may have soon become a blight on the settlements as people aggregated towards them and putting a strain on resources and thus eventually leading to the abandonment of the large pueblos by 1325 A.D. (North et al. 2003). Local depopulations became common at various sites or movement between dispersed sites as resources became scarce (Cordell and McBrinn 2012). This phase also saw the end of rock art such as the Mogollon Red style and petroglyphs typically associated with sites of the period (Schaafsma 1980). Towards the beginning of the 14th century a waning in the use of white wares can be seen throughout the region but also the creation of the White Mountain Red Ware within the Silver Creek area at sites like Bailey Ruin, Pottery Hill, and Pinedale Ruin (Keuren and Cameron 2015). Another unique trend in the Mogollon Rim was the sudden uptick in the hunting of large mammals in a period still dominated more by agriculture (Dean 2001).

Canyon Creek Phase/Pueblo IV (1325-1385 A.D.)

This phase notes the final decline in population density within the area as settlements are abandoned and a large portion of the inhabitants migrate to sites located below the Mogollon Rim. The large pueblo sites of Pinedale Ruin and Bailey Ruin have shown through archaeological excavations that the sites were inhabited till around the beginning of the phase with the final abandonment of the pueblos occurring around 1325 A.D. (Mead et al. 2020). It is during this period that apparent lack of settlement occurred throughout the region on the Mogollon Rim that would continue until migration of Athabaskan speaking tribes into the surrounding areas. It is believed that most known sites along the Mogollon Rim were unoccupied after 1385 A.D. with only some minor groups remaining in the area until around 1450 A.D. (Senior 2005). However, while these sites are still occupied an increase of hunting large mammals continues throughout the phase in contradiction to the hunting occurring in other areas which is decreasing in favor of domestication. The forests along the Mogollon Rim offer a unique and greater population for large ungulates compared to most of the rest of the Southwest where the hunting of lagomorphs tend to dominate (Dean 2001). This increase in the presence of large mammal remains in the archaeological record of sites like Bailey Ruin, Bryant Ranch, and Pottery Hill may represent a period of hunting to increase an individual's status within their community (Dean 2001).

Protohistoric Period (1385-1539 A.D.)

This period is a vastly misunderstood and underrepresented portion of the Mogollon Rim culture history as little evidence is present to document the occurrences of any remaining inhabitants. It is generally accepted that by the beginning of the period the majority of the

populations associated with Ancestral Puebloan and Mogollon cultures living along the Rim area had migrated out of the area to settlements further to the south (Gilpin and Phillips 1998). Some hypothesize that the entire area was abandoned during this period with only the ancestors of the Pueblo groups to the north occasionally making forays into the region for resource gathering (Senior 2005). This period marks a time of transition and change for the Mogollon Rim region as little investigation into the period is present for consideration and no clear consensus for the definition of the span of time exists. The start of the period is marked by the end of the last known occupations during the Mogollon/Ancestral Period and end with the first known incursions by the Spanish and other Euro-Americans into the area.

One of the major events of this period, though still widely contested, is the arrival of Athapaskan speaking groups that arrived in Arizona and represent the ancestors of the Apache and Navajo Tribes. It is unclear exactly when these groups arrived in the Southwest with dates of arrival widely debated amongst archaeologists. Some of the earliest proposed dates for arrival suggest that inroads into the area were being made as earlier as 1000 A.D. in the northern Four Corners area while a more recent revised reconstruction of the Athapaskan arrival suggests that they become prominent in the region between 1542 and 1583 A.D. (Gilpin and Phillips 1998). Since very little work has been accomplished on early arrival sites of either the Apache or Navajo and whether or not they migrated into the area as single group, archaeologists generally refer to these possible sites as Athapaskans (Senior 2020).

Some of the earliest confirmed accounts of the Navajo living in Arizona are derived from historic records during Spanish exploration and tree-ring data obtained from traditional Navajo structures. Navajos were occupying Canyon de Chelly as early as 1650 A.D. and continue into

the Historic period (Gilpin and Phillips 1998). Some archaeologists suggest the arrival of the Navajo in New Mexico occurred within the 1500s and from there migrated westward (Colwell and Ferguson 2017:25). Confirmed sites of an early time frame within the Protohistoric period are not known and may lend credence to the ideas that the Navajo arrived later within the Southwest or that they arrived with the Apache ancestors as one Athapaskan group that later diverged into the two tribes known today.

The Apache Tribes relate oral traditions that place them in central eastern Arizona during the late 1300s and perhaps later, however, to date no archaeological site has provided confirmation to these traditional accounts (Senior 2005). Roasting pits are the most common site type associated with the Apache between 1519-1692 A.D. and provide the most known data, but many remain undated (Gilpin and Phillips 1998). The Apache in the Southwest were a mobile and light presence on the landscape, leaving little trace of their habitation even into historic times. This along with no clear evidence of an arrival date in the Southwest make the Apache difficult to trace during the Protohistoric period.

Historic Period (1539-1971 A.D.)

Spanish Exploration

Beginning in 1539 the first Spanish expeditions into southeastern and central Arizona began under the leadership of Fray Marcos de Niza and Francisco Vasquez de Coronado (Senior 2005). While colonization and exploration of the eastern coast of North America and in Mexico began earlier and may have produced factors that contributed to influences felt by the later period prehistoric groups of the region, these explorations mark the first interactions between Europeans and the Native American Tribes living in the Southwest. The exploration of the

Southwest began in 1539 and lasted until around 1629 when Spanish missionaries began moving into the areas of the Hopi and Zuni (Gilpin and Phillips 1998). No historical records exist that suggest the Spanish made inroads into the Mogollon Rim region but instead focused their exploits to the east in New Mexico where the large pueblo communities resided and to the north with interactions with the Navajo and Hopi (Gilpin and Phillips 1998).

In 1680, the Hopi and Zuni participated in the Pueblo Revolt which drove the Spanish out of northern Arizona and New Mexico, however, this then led to the 1692 reconquest and pacification by the Spanish (Gilpin and Phillips 1998). Colonization by the Spanish in southern Arizona then began around this time and into the 1700s but no movement was made into the Mogollon Rim region. During this time Apache groups began conducting raids against Spanish settlements and missions which led to a policy of "pacification through dependency" in 1786 by suppling the Apache's with rations in order to prevent raiding and establish peace treaties (Senior 2005).

Mexican Independence and War

When Mexico gained independence from Spain in 1821, the territory of Arizona fell under its new leadership and saw perhaps some of the first true incursions by Europeans into the Rim region. During the 1820s, European trappers made the first forays into the Apache territories south of the Mogollon Rim and perhaps ventured further onto the Rim itself, though no historical records are present to document this (Senior 2005). While Mexican settlers moved northward into new territories the majority of the settlements developed in the south and no move was made to settle in the Mogollon Rim area. This was most likely due in part to a return to raiding activities by the Apache who were settled into the area below the Mogollon Rim upon

the departure of the Spanish (Phillips and Gilpin 1998). The Mexican government did not possess the means to continue pacifying the Apache groups with rations, thus they continued raiding and eventually warfare broke out between the two (Senior 2005). In 1846 war broke out between Mexico and the United States over the annexation of Texas and then ended with the Treaty of Guadalupe Hidalgo being signed in 1848, which granted all of Arizona north of the Gila River to the United States (Ryden and Kupel 1998).

Indian Wars

With the final purchase of remaining portions of Arizona under the Gadsden Purchase in 1854 and the end of the American Civil War there was an influx of settlers, ranchers, and miners into portions of land controlled by the tribes and an increase in conflict broke out between the groups (Ryden and Kupel 1998). In 1863 the United States military was ordered to bring about the total subjugation or extermination of the Navajo and was implemented using a policy of complete destruction of crops, homes, herds, and other assets necessary for the Tribe to survive through the winter months (North et al. 2005). This method effectively led to the surrender of all Navajo groups thus leading to their subsequent removal from Arizona for a time. The Navajo were captured and marched to Fort Sumner in New Mexico and interred there until 1868, although, there are some oral tradition accounts for some Navajo taking refuge near the Show Low-Pinedale area during this time (North et al. 2005).

The Apache groups posed the greatest challenge to the United States Army as they attempted to complete their mission of subduing the Native populations in order to make way for settlement of the land. In 1872, General George Crook was tasked with subjugating the Apache roaming in the Mogollon Rim area and other portions of Arizona (Ryden and Kupel 1998). As

the Apache did not practice methods of warfare similar to the United States army, carrying out the goal of rounding up the resistance groups of Apache proved difficult. The Apaches and other tribes utilized a more nomadic lifestyle, thus never establishing any main settlements, and conducted stealthy raids into settlements from secluded sites they claimed for camps such as rockshelters, canyons, and mountain "strongholds" (Ryden and Kupel 1998). Conflict continued throughout Arizona between the military and Apache until a somewhat tenuous peace was brought about with the final interment of the remaining Apache groups on reservations in 1878 (North et al. 2005).

Homesteading Beginnings

Early historical records indicate that limited settlement activity was occurring in the area during the mid-1800s. During the Mexican Cession of 1848, the land became a part of the United States, but it was believed to be mostly desert and an unlivable portion of the country (Frymer 2014:122). Once Arizona was ceded to the U.S. it came to the forefront of just how unsettled the area was by non-native and Mexican groups and that the government needed to address the "problem" as they saw it of civilizing and settling the land. The government began to "promote a domestic policy designed to populate, settle, and incorporate the vast geographic space" in order to make the area more American (Frymer 2014:119). The passing of the Homestead Act of 1862 and subsequent land acts helped to pave the way for American settlement in northern Arizona.

The Homestead Act called for settlers to claim vast tracts of land all the across the western U.S. for free. In 1862, a 160-acre plot of land could be claimed by a person at 21 years of age or a head of household and was free with a small entry fee being the only payment

required (Stein 1990). This act allowed for the migration of groups of predominantly white American settlers to travel to the territory in search of new lands to claim and new opportunities for them in the growing nation. These lands however did not come without some stipulations as to the use and ownership. The government did not immediately award ownership to the homesteader; instead, the government required them to complete five years of residency without interruption in order to gain possession of the property (Library of Congress 2020). Homesteaders were also afforded the option to purchase the land outright after six months of residency for the price of $1.25 per acre (Library of Congress 2020). This act provided lands for homesteaders in a variety of environments across the district, ranging from open pinyon-juniper grassland, ranch-like acreage to wide plots of fertile, water rich canyon bottoms. From these homestead plots arose a primary industry of cattle and sheep herding with some minor vegetable farming (Hunt 2001).

Within this portion of the Mogollon Rim area, the Homestead Act saw settlers claiming tracks of land located primarily within wide canyon bottoms that contained large, fertile areas for farming and annual to perennial water sources (USDI 2021). A few even rarer homesteads could be found in vast expanse of the pinyon-juniper grasslands in the northern areas where localized sheep and cattle herds could be grazed on the open ranges of unclaimed land surrounding the homestead as long as good relations with other locals and careful watch on the availability of grass was undertaken (Olberding 2009:167). Many of these historic homestead plots still are prospering today while other homesteaders abandoned during their early years.

Mormon Settlement

One group of settlers to take advantage of the Homestead Act were members of the Latter-Day-Saints, commonly known as Mormons, who played an important role in the development of the present-day town of Heber-Overgaard. In the late 1850s Mormon settlers began moving into the area from Utah with the intent of establishing communities and extending the version of the church southward. After experiencing devastating hardships and failures in farming along the Little Colorado River several families set forth to the south in search of more fertile lands along the Mogollon Rim (McClintock 1985). The community of Heber, along with the nearby community of Wilford further north in Black Canyon, was founded in 1883 by Mormons migrating south from the city of St. Johns, Arizona seeking new land to cultivate (Stein 1990). Here amongst the pine forests of the Mogollon Rim, the settlers found green, unclaimed canyon bottoms that proved exceptional locations to lay down roots for new homesteads, although it would not be until the next century that the town of Overgaard would be established.

The community of Heber began as a simple farming community with residents taking up the trades for which they had migrated to Arizona to pursue, but soon the economic focus shifted to logging. Due to the abundance of virgin stands of ponderosa pine surrounding the community and the need for lumber, a lumber mill was constructed within the town (Hunt 2002). The town of Wilford meanwhile used its location with the rich, fertile valley of Black Canyon to raise livestock and cultivate the crops required to maintain themselves. Not long after the founding of these two communities however, increasing outside pressures from non-Mormon influences made life difficult for these communities to survive. The primary, and sometimes violent,

opponent of these small Mormon settlements was the creation of the Aztec Land and Cattle Company and their band of Hashknife Cowboys who moved into the area as a direct result of the railroad arriving in Arizona (Abruzzi 1995:79).

Initially the arrival of the railroad in the northern portion of the state benefited the Mormon settlers as now critical supplies were more readily available along with new avenues of employment (Abruzzi 1995:79-80). Along with the railroad, however, came prospective associates of the cattle industry who sought to buy land granted to the railroad in order to graze their herds in new and unclaimed territories. The Aztec Land and Cattle Company became the primary holder of over 2,000,000 acres that had been heretofore available to any and all users thus tensions in the district began to rise (Abruzzi 1995:83; Olberding 2009:170). These tensions lead to conflict between the Mormon settlers and the cattle herders in the community of Wilford as the cattle company began herding their cattle up Black Canyon and devastating the previously fertile land by trampling and overgrazing (McClintock 1985). The company's cowboys, known as the Hashknifes, became a menace to the Mormons by stealing horses and livestock, as well as taking over occupation of homesteads during periods of absence by the owners (Hunt 2002). This conflict led to the abandonment of the community of Wilford in 1889, with settlers moving to the nearby town of Heber, which had managed to stave off and endure through the harassment by the cowboys, as well as some migrating to Mormon communities in México in order to maintain their plural marriages (McClintock 1985).

Cattle and Sheep Herds on the Mogollon Rim

Herds of cattle and sheep were not an uncommon site in the district during the homesteading period of history. Mormon and non-Mormon settlers alike staked their livelihood

on the rearing of livestock and trade in these areas. For a time, land was plentiful for grazing of both sheep and cattle but due to deteriorating conditions in other states, competition soon began to increase (Abruzzi 1995:83). While sheepherding had been in the district since the settlement by Euro-Americans, the numbers of the herds had been relatively small and sufficient to meet the needs of a localized market. Sheepherding began to expand at a local level with the arrival of the railroad as a new avenue able to transport their wool to a wider market. However, during that time a drought in New Mexico forced Hispanic (Basque) sheepherders to move their flocks into the area in search of greener lands (Abruzzi 1995:85). From this migration large driveways developed on which the sheepherders would move their sheep twice a year, going from the cool, greener lands on the Mogollon rim during the summer and then down to the valley floor north of Phoenix for the fall (Stein 1994). This route became known as the Heber-Reno Sheep Driveway/Trail and continues to be used to this day. Evidence of this driveway can be seen in small campsites and as well as in the numerous carvings found on trees along the route that were left by the sheepherders.

Historic cattle herds were also a local staple that grew out of the Euro-American settlement but unlike the fairly peaceful arrival of large groups of sheepherders, the cattle industry brought with it a more outlaw and "wild west" type of atmosphere. Due to deteriorating conditions of grazing land in Texas, cattle investors began seeking new lands in which to expand their vast herds and the building of the railroad across the landscape of northern Arizona allowed them unfettered access (Olberding 2009: 167). Reports of "grass belly-high-to-a-horse and no fences" were enough of an enticement for cattle operators to begin turning their attention to the territory by the late 1880s and 1890s (Olberding 2009:167). The Aztec Cattle and Land

Company came to Arizona in 1884 and was the third largest cattle company in the United States controlling over 2,000,000 acres in north Arizona (Abruzzi 1995:85). Tensions rose between locals, sheepherders, and the cattlemen as the range land for grazing became scarcer and overcrowded with livestock. The Aztec employed a group of cowboys, called the Hashknifes, who become the aggressor in almost all of the violent encounters between the groups (Arazi-Coambs 2011; Olberding 2009:170). The cowboys constantly harassed settlers, particularly the Mormons, due to the fact that some homestead plots were mistakenly claimed on lands that were granted to the railroad company by the government that were then sold to the Aztec company (Abruzzi 1995:85). Sheepherders also succumbed to the cowboy's negative attention due to the competition over an ever-shrinking area of worthy grazing land. Violent encounters between the groups lead to instances where, in some cases, members of the Hashknife Cowboys killed several sheepherders and settlers (Olberding 2009:168).

While the cattle and sheep herds that roamed openly across the district caused friction between the owners of the herds, they also began to take their toll on the land. Overgrazing soon became an issue just as it had in Texas leading to range deterioration with a loss of grass available for grazing (McClintock 1985). This factor along with successive droughts and declining cattle prices in the 1890s soon lead to the Aztec Company declaring bankruptcy in 1900 but also lead others in the local communities to begin seeking action from the government to impose controls over the land in order to save the range and the small-scale cattle farms (Abruzzi 1995:85; Olberding 2009:170).

Public Land and the Forest Reserve

With the Mexican Cession of 1848, (Frymer 2014:122), the United States gained an immense amount of territory in the Southwest that was added to the domain of the public lands. These lands opened to the western settlement through such initiatives as the Homestead Act of 1862 and the expansion of the railroad. The Homestead Act and other land acts allowed for individuals to obtain tracks of public land on which to construct their homes as well as begin the settlement of communities, however, with this land usage came subsequent problems that burgeoning conservationists brought to the attention of the federal government (Olberding 2009:167; Stein 1990). Conservation of public land initially grew out of a concern over the deterioration and use of timberlands along with the contamination of water sources (Steen 1976) but also encompassed the decline of sustainable rangeland on public lands.

In 1873, the federal government temporarily established the Federal Forestry Commission, under the authority of Dr. Franklin B. Hough, to conduct studies on the state of federal forested lands and with the task of reporting to Congress, providing them with information on how to proceed concerning the management of public lands (Williams 2000; U.S. Department of Agriculture [USDA] 1905). This push eventually led to the federal government passing an act that would establish the Forest Reserves, a precursor to the Forest Service. The Black Mesa Forest Reserve was established on August 17, 1898, it stretched from northeastern Arizona to the New Mexico border across the district and beyond (Arazi-Coambs 2011; Davis 1983). "The object of these reserves is to maintain forests on lands where they are needed…to furnish timber….and to regulate the flow of the water" (U.S. Department of Interior [USDI] 1902). This reserve employed individuals of various character in whose hands the conservation

and management of land where entrusted. Emerging regulations began to come forth on the topics of the selling of timber for logging and the preservation of water sources for use by the local populations.

Sitgreaves National Forest

While the creation of the forest reserves was a monumental stepping-stone in the progress of conservation of federal lands many issues plagued the development of the agency and hindered its administration in trying to develop the program to its full potential. In 1905, the Department of Interior transferred 63,000,000 acres of forest reserves to the Department of Agriculture with Gifford Pinchot at the helm (Steen 1976). Pinchot transformed the forest reserves into the Forest Service with the policy of "preserving a perpetual supply of timber for home industries, preventing destruction of the forest….and protecting local residents from unfair competition in the use of forest and range" (Steen 1976). Within the next few years, the forest reserves across the country were restructured and new administrative boundaries drawn.

In 1905 the Black Mesa Reserve was dissolved, and the Sitgreaves National Forest was created from 749,084 acres of prime land along the Mogollon Rim with the town of Heber near its center (Davis 1983; Purcell and Greenwald 2012). In order to more effectively administer the forest, which had been an issue with the forest reserves, it was divided into ranger districts with a supervisory office at the head (Steen 1976). The current district originally divided into the Chevelon and Heber districts with employees stationed on various points across the districts (Tamietti 1995). A headquarters for each of the districts was developed as a ranger station where employees reported forest conditions. In order to support the ranger station, the forest placed guard stations and lookouts in the districts where members of the public could report issues such

as wildfires (Tucker and Fitzpatrick 1972; USDA 1989). This allowed the forest to deal with them in a timely manner, but also gave forest employees better access to the entirety of the land since developed roads were in their infancy. One forest supervisor in the 1920s commented on the spirit of those who first tackled the task of managing the vast expanse of the forest that "most of 'em went into it because of the spirit of adventure and because it was something worthwhile…whatever their faults and failures, they still did a tremendous job of getting the Forests established and going" (Tucker and Fitzpatrick 1976).

One issue that arose within the Forest Service and that had been an issue during the Forest Reserves was the occurrence of wildfires within the area. The question that many foresters faced was whether to let the fires run their course or institute a manner of suppression in order to preserve the forest and eliminate the threat to settlers. The start of suppression efforts for any fire began with the ability to detect them as early as possible. The district lookouts were constructed initially by creating a "lag" tree by placing metal bolts up the trunk of a tree as a ladder to provide a lookout with a view over the landscape with an occasional platform built in the top of the tree (USDA 1989). Soon though, lookouts went from using simple tree lookout stations to construction of towers of various shapes and sizes.

On the Sitgreaves Forest, five tower lookouts were constructed that were connected to ranger stations by telephone lines in order to provide comprehensive fire prevention coverage of the area (USDA 1989). Initially, the forest built a wooden tower at each of these five locations around the turn of the century but at various points over the years the towers were removed from service. Two lookouts, Deer Springs and Promontory, are the only lookouts remaining on the district that were constructed as a single cab style lookout in the 1920s with a cabin at the base in

which the lookout lived (USDA 1989). Two other towers, Gentry and O'Haco, whose original towers were built in the 1920s, were replaced in the 1960s to make room for new and updated steel towers (USDA 1989). The forest still currently uses the Deer Springs, Promontory, and Gentry lookouts for fire detection. The O'Haco lookout while still standing is no longer in service as a lookout due to a poor line of sight while the fifth lookout, Dutch Joe, was deconstructed many years ago due to its location on private property.

The development of the Forest Service in the area helped to open up new industry that bolstered the local economy. One element of that economic boost was the advent of commercial logging on the district in the 1920s (Arazi-Coambs 2011). Previously little logging had occurred with most timber being cut to supplant supply needs in the local communities such as Heber in order to build homesteads. The Forest Service now had regulations through which timber was sold and that was designed to preserve the forest for the future. Rangers were instructed to mark timber sales that were sold to ensure that enough trees were left standing to fully seed the ground and to leave young, fast-growing trees for a more profitable cut at later date (Tucker and Fitzpatrick 1976). Logging on the forest was primarily carried out using horses to "skid" the logs out of the forests until the advent of tractor equipment replaced them (Hunt 2002). During the 1920s and 1930s, small railroad systems were used to harvest timber from the forest. This type of logging only occurred on the very periphery of the eastern side of the district under the direction of the Standard Timber/Railroad Company (Arazi-Coambs 2011).

While lumber mills existed in the area surrounding the district to process the timber being removed from the forest and within the town of Heber, one individual took advantage of the boom to build a new mill. Neils Kristian Overgaard encountered hard times during the Great

Depression prompting him to strike out on a new venture. He settled on building a lumber mill only a few miles east of the town of Heber in 1936, in an area that became known as Overgaard Camp (Hunt 2002). The mill, unfortunately, proved unprofitable for Overgaard, which led to his selling the mill and moving within five years of its construction (Hunt 2002). The construction of the Overgaard mill led to the establishment of a new community, considerably less influenced by Mormons, which would eventually be named Overgaard.

Another economic development that arose on the district with the establishment of the Forest Service and its policies of granting mineral rights to individuals, was the advent of mining in an area now called Forest Lakes. The government granted various mineral rights, primarily to members of the Denison family, to conduct prospective pit mining for small amounts of manganese (USDI 2018). Due to a high demand of the manganese, the United States government helped ensure the success of the mining into the 1960s when the family turned to logging and they divided the mining claims to create the community of Forest Lakes that endures as a vacation community to this day.

When the Great Depression hit the district, its biggest impact was falling prices in timber, which caused many of the lumber mills to go out of business and hundreds of people to lose their jobs. This economic depression brought hard times to the Forest Service with employees forced to take large pay cuts while still having to continue preserving the forests (Williams 2000). In 1933, President Franklin D. Roosevelt established the Civilian Conservation Corps (CCC), which helped not only the Forest Service to survive the depression era, but renewed inspiration in conservation of the land and provided the means for many forests to develop the land for future public uses (Moore 2006; Williams 2000). The CCC were an “army” of young men who

were given the opportunity to earn wages by working in the outdoors on National Forests and other public lands across the country.

On the district, only one CCC camp was constructed on the west rim of Chevelon Canyon just above the crossing. Known as camp F-78-A, the camp could house up to 200 men and provided the forest with a workforce of able-bodied men capable of doing various tasks (Moore 2006). The CCC was responsible for the construction of several roads and bridges, including Forest Road 504 which leads to the camp, along with numerous campgrounds and recreation facilities. Just below the Chevelon Camp, the men undertook the construction of two major projects: erecting a steel bridge over Chevelon Creek to provide access to the town of Heber and the construction of a campground that has endured to this day (Moore 2006). Other projects the CCC men undertook included the construction of fire lookout towers, fences, wildland fire fighting, and tree planting (ASNFs SO records). Other "spike camps" were located in areas across the district to support the men during prolonged work projects that took them away from the main camp (ASNFs Heritage records). Another main camp was located at Los Burros on the Lakeside District as well as another on the Apache side of the forest (ASNFs Heritage records). The advent of WWII signaled the end of the CCC as now the young men were needed for the war. However, the short nine years span left a lasting impression on the forest since without it, many of the campgrounds, recreation sites, and roads that provide vital public access and interest to the forest may not have come about until much later if ever.

Black Mesa Ranger District

When the Sitgreaves Forest was established in 1908, submissions were sent to the Forest Supervisor for particular tracts of land to be withdrawn from the public arena so that they could

be developed for administrative purposes (Apache-Sitgreaves National Forests Supervisor's Office (ASNFs SO), Ranger Station North of Heber, letter, May 8, 1908 (1908), documents regarding Black Mesa Ranger Station). For the Heber Ranger District, a parcel of land just to the southwest of Heber was chosen within Black Canyon to construct a ranger station as it would provide adequate water and land for a ranger to house himself, his family, and horses (ASNFs SO 1908; Steen 1976). This location served as the ranger station for many years (1915-1949), containing nothing more than a small house, barn, and fenced pasture but due to the growth and changes within the forest it soon lacked the ability to function as a ranger station. Soon the district needed a new station to accommodate the changes in technology, growth of personnel and crews who required quarters, and storage of new equipment such as trucks and heavy equipment.

During the Depression Era, the Forest Service within Region 3 began to construct buildings that represented the new role of extensive resource management versus a custodial one (Sullivan et al. 1989). These plans help set the tone for the buildings to be constructed at the new location of the ranger station in Heber as planning for the station began at the tail end of this period. It is during the Depression Era that "standard plans" were developed by the Forest Service in order to meet the demand for the number of buildings that were needed to accommodate the growing administrative sites and personnel needs (Sullivan et al. 1989). For Region 3, architects also recognized the need for different types of structure styles in order to best represent the different environmental zones that are present within the region (Sullivan et al. 1989). The creation of "standard plans" and other structure types set the tone for development and construction of administrative sites in the years to come.

In 1949, plans were set in motion to move the ranger station from its location in Black Canyon to a tract of land located within the town of Overgaard (Purcell and Greenwald 2012). A request was submitted to the Regional Forester for the withdrawal of land to be used as the new Heber Ranger station in order to accommodate the growing number of forest personnel required to conduct operations within the forest (ASNFs SO, Office Memorandum, memo, 1949, documents regarding Black Mesa Ranger Station). This move was necessary to provide a larger space for offices, crew housing, equipment storage, and to provide better access for the public to interact with personnel. As changes in the realm of conservation began to bring about new laws that necessitated the need for more personnel in order to manage the forest resources, the ranger stations across the district had to develop as well to accommodate this growing work force.

In 1974, the National Forest Service combined the Sitgreaves National Forest with the adjacent Apache National Forest to form the current Apache-Sitgreaves National Forests (Davis 1983). The now combined forest created two zones of administration from the old forests known as the Apache Zone and Sitgreaves Zone. In 2002, districts on the Sitgreaves Zone were consolidated combining the Heber and Chevelon districts to establish the Black Mesa Ranger district (Purcell and Greenwald 2012). The district is managed from the current office location on the parcel of land within the town of Overgaard and retains several historic buildings that have not been recorded or evaluated for the NRHP. While the entire parcel of land extends beyond the ranger station compound, it is the approximately 40 acres upon which the ranger station and associated structures reside that is the focus of this thesis.

Chapter III: Project Overview

The overall purpose for this project is to develop a cultural resources management plan (CRMP) for the Black Mesa Ranger Station (BMRS) which will include a NRHP eligibility evaluation and mitigation/protection guidelines for the disposition of the archaeological resources present within the project area *(see Figure 3)*. For this project, there are four main research goals that are proposed in order to develop a CRMP for the BMRS that can provide procedures for any future projects that may occur on the BMRS in regard to facility management and maintenance that will need to occur in order to keep the ranger station operational. The research questions/goals to be addressed by this project are as follows:

- Define the surface (horizontal) boundaries of the prehistoric and historic components of the site including artifacts and features.
- Develop, write, and apply a historical context for historic components of the Black Mesa Ranger Station.
- Apply NRHP criteria to the prehistoric and historic components in order to assess the integrity and make a recommendation of eligibility for the two components.
    - Is the historic component of the site significant within its context that allows for eligibility or not?
    - Based on current findings, is the prehistoric component still eligible or has its significance evolved?
- Use the results of the above goals to develop a cultural resources management plan for the BMRS.

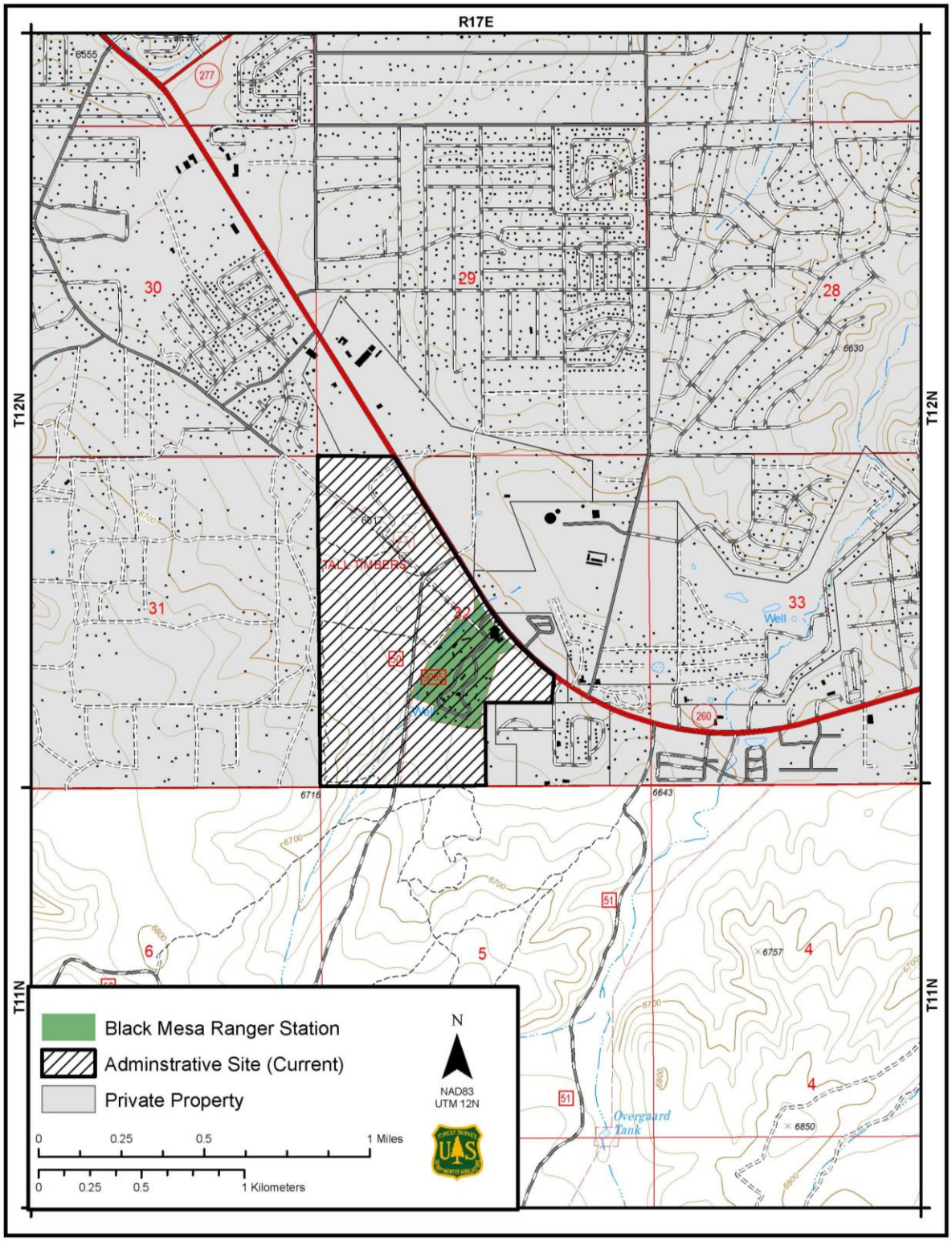


Figure 3. Black Mesa Ranger Station and Administrative Site location map.

Project Goals

The first goal is to define the boundary of the prehistoric and historic components of the BMRS using archaeological field methods, which include identifying features and artifacts associated with the site. This goal is necessary to provide a complete overview of the extent of each component of the site as this is not a task that was completed in the past during multiple archaeological investigations into the site. Without completing this research goal, placing the prehistoric and historic components within the appropriate contexts cannot be completed as accurately as possible nor can a CRMP be developed for the overall site.

The second goal of developing and writing a historic context for the historic components of the site is necessary to the project due to the fact that such a historic context does not currently exist that can be applied to the range of known historic buildings of the site. This historic context would provide historical detail on the development of the Forest Service within Region 3 and specific important events for the Apache-Sitgreaves National Forests. Without a historic context in which to place the different historic components of the site, making an NRHP recommendation for this component of the site will not be possible. Currently the only historic context available of Forest Service buildings is for "Depression-Era USDA Forest Service Administrative Complexes in Arizona" available at the Arizona SHPO.

The third goal of evaluating the integrity and eligibility of the two components of the site for the NRHP is vital to the overall project as it will play a major role in determining various aspects of the cultural resource management plan for the ranger station. Without determining the integrity of the site and its potential eligibility for the NRHP it will be difficult to determine the type of management methods that are needed in order to maintain and protect the site. This goal

is vital to the overall project as it will provide the basis upon which the CRMP is developed and will provide for the management of the site into the future.

The final research goal of developing a cultural resource management plan for the Black Mesa Ranger Station is dependent on the completion of the above three goals and cannot be completed without them. By completing the first three goals, data will be generated that will provide as accurate an overview of the site that can be achieved at this time in order to interpret the site type, use, integrity, and NRHP eligibility. This information will allow for the development of the management plan that is needed in order to maintain the Black Mesa Ranger Station as a functioning Forest Service administrative site and to provide for the protection of the cultural resources that are present across the station.

Project Area Background

The Black Mesa Ranger Station and surrounding administrative site area is located in the town of Overgaard, Arizona. The administrative site boundaries cover an area of 305 acres while the BMRS compound is situated on 40 acres within the administrative boundaries. The administrative acres were originally set aside in order to provide additional acres for the use of the ranger station so that it could meet the needs of the district. This acreage has provided pastures for grazing of Forest Service livestock, primarily horses, are to construct a weather station, and to construct a helibase in order to provide aerial support during wildfires *(see Figure 4)*. The BMRS compound is the active administrative unit of the district as it consists of the BMRS office, truck yard, fire modules, employee housing, and much of the storage for the districts supplies.

Environmental Setting

This project area is situated on a low, north facing slope of a broad ridge that extends northward into Oklahoma Flat. The area is located at the edge of the Colorado Plateau which terminates at the Mogollon Rim. The BMRS is approximately seven miles due south of the Mogollon Rim and ranges in elevation from 6,600 to 6,700 feet above sea level. A ponderosa pine forest with some underlying juniper and Gambles oak dominate the landscape. Other vegetation found throughout consists of grama grass, forbs, wildflowers, cacti, algerita, and yucca (which is not native to the area but introduced by the Mogollon/Ancestral Puebloan inhabitants). An ephemeral drainage bisects the west side of the BMRS, flowing downslope to the north where it terminates within Oklahoma Flat. Soils across the project are a mixture of silt-sand to silt-loam soils with some clay deposits present. Eroding bedrock formations of sandstone and alluvial cobbles are present throughout the area as well.

Black Mesa Ranger Station Background

As development of the site began in 1949, buildings from the ranger station in the Black Canyon were moved to the new location for continued use (ASNFs SO, letter, November 18, 1949, regarding the Heber Ranger Station establishment *(see Appendix A, Figure 55))*; however, there is no clear documentation that notes which buildings were transferred from the Black Canyon location. The earliest depiction of the ranger station layout is on a 1941 Heber Administrative Site map that provides the location of 15 structures that appear to be present and possibly proposed as well as some utility lines and structures (ASNFs SO, Heber Administrative Site map, 1941, regarding the Heber Ranger Station establishment *(see Figure 5))*.

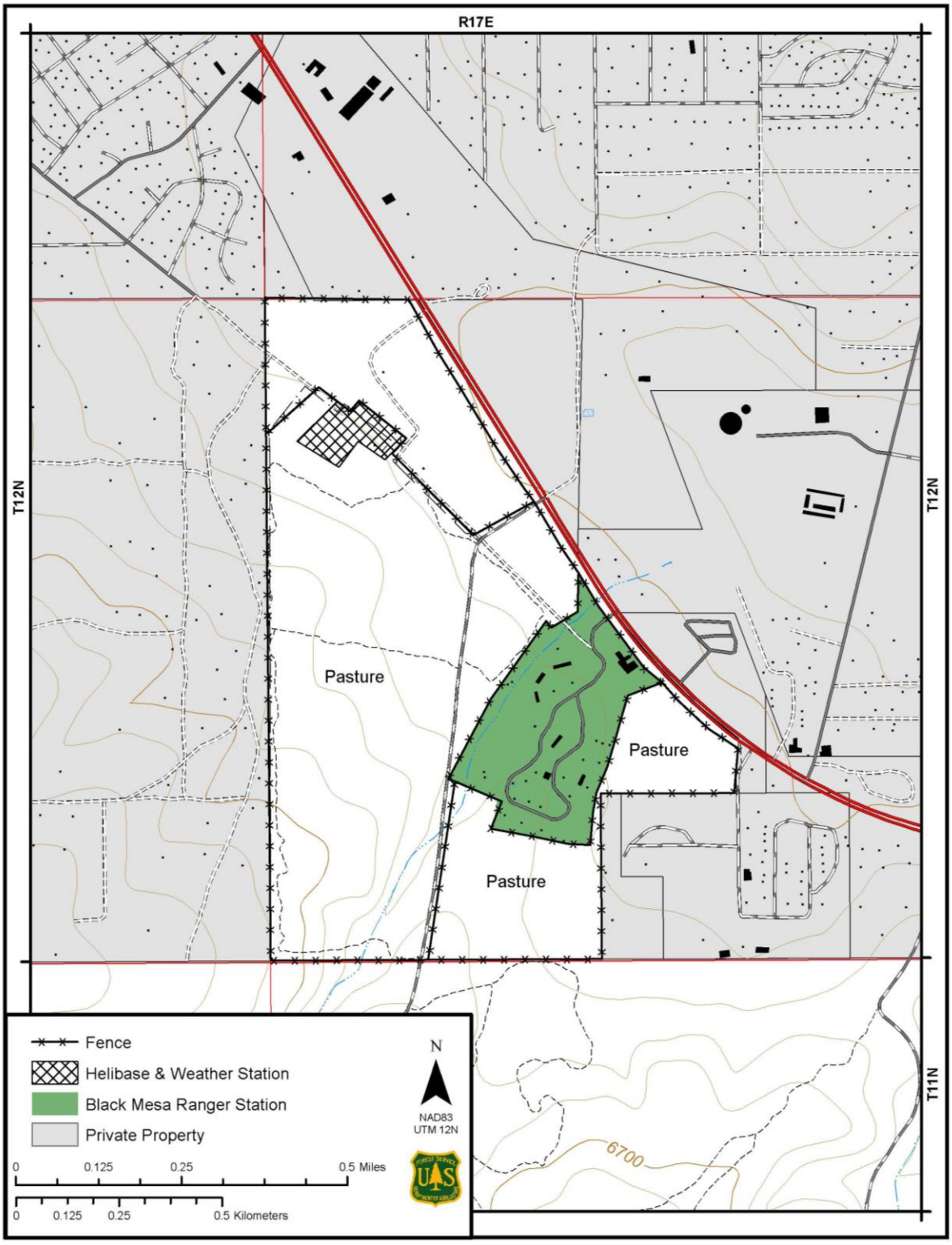


Figure 4. Delineation of Black Mesa Administrative Site.

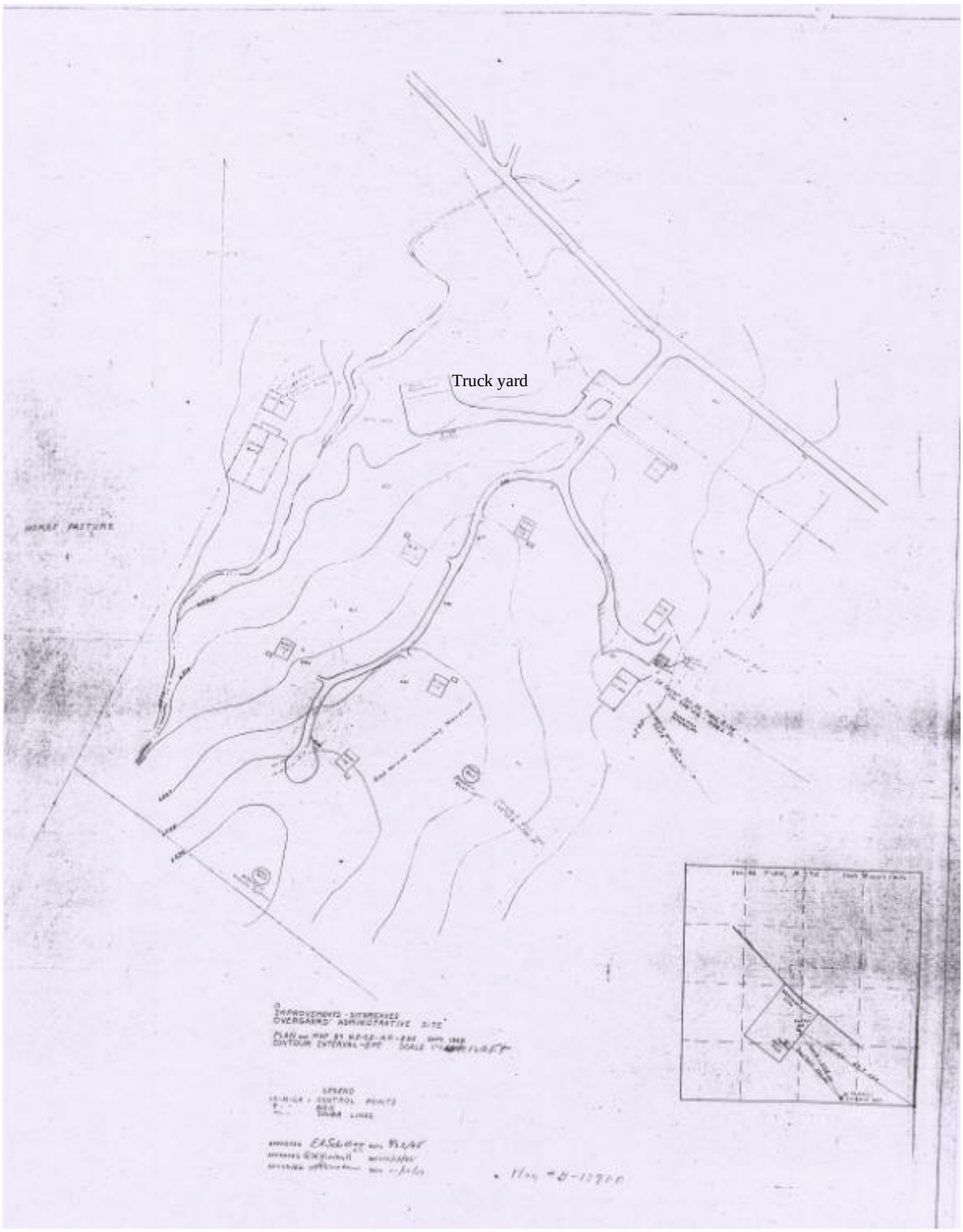


Figure 5. ASNFs SO, Heber Ranger Station map, 1948, regarding the Heber Ranger Station establishment (with labels on known features).

Over the next few decades, modifications would continue to take place across the ranger station in an effort to accommodate the changing workforce and demands of the district. While the 1948 map of the station provides an overview of what facilities were possibly present during the initial years of the station's use, no comprehensive list of actual buildings was located to correlate to the map. Additional maps of the ranger station, dating from 1958 and 1963, provide a look at the potential development that occurred across the station after its initial construction at the end of the 1940s *(see Figure 6 and 7)*. Aerial photos from the mid-1990s and early 2000s, show the ranger station in much the same condition as it is today (Black Mesa District records). The only differences noted are those of buildings who were known to have been demolished or constructed within those time frames. Apache-Sitgreaves National Forests Facilities Master Plan from 1996 provides the first comprehensive overview of the buildings present at the BMRS as well as providing dates of construction, function, and general comments on the condition of the structures. The facilities plan lists a total of 40 buildings in current use at the ranger station in 1994 and range in age from 1939 to 1985 *(see Appendix B, Table 6)*. Variations of these buildings appear to be present on the ranger station maps mentioned above. In 2002, the district (known as the Heber Ranger District since 1948) was combined with the adjacent Chevelon Ranger District to form the current Black Mesa Ranger District (Purcell and Greenwald 2012). The Heber Ranger Station was renamed the Black Mesa Ranger Station to reflect the newly combined administrative duties undertaken by the ranger station.

Currently, the Black Mesa Ranger Station is the central hub for the management of the approximately 616,000-acre district with numerous recreational opportunities as well as important cultural resources (USDA 2021). The ranger station serves as headquarters for

employees to work and train as well as a community in which many employees reside. This site has served as location for human occupation during both prehistoric and historic times thus leading to the need for a thorough archaeological investigation into the site. Archaeological methods and historic context will be utilized in order to complete this investigation.

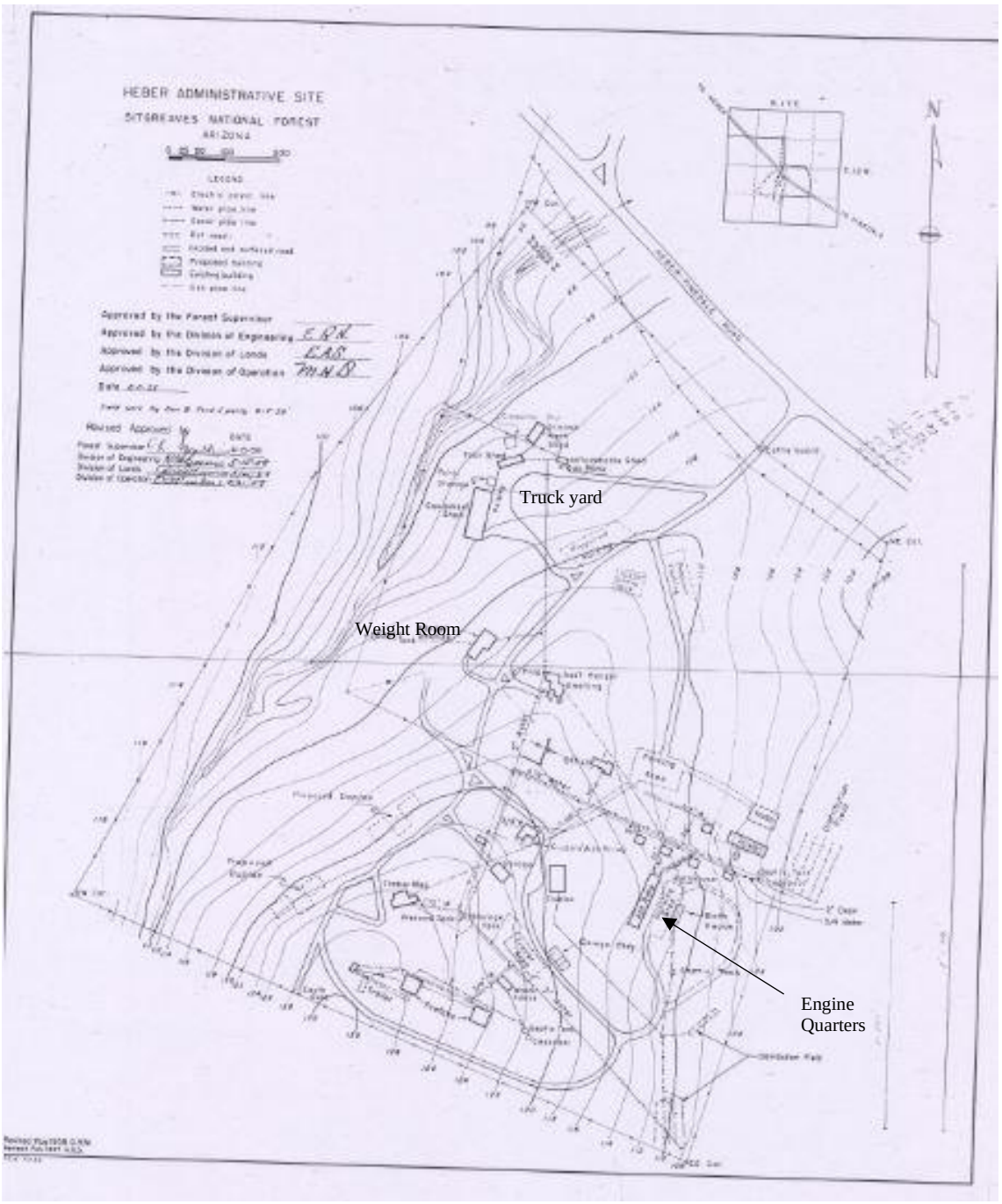


Figure 6**.** ASNFs SO, Heber Ranger Station map, 1952, regarding the Heber Ranger Station development (with labels on known features).

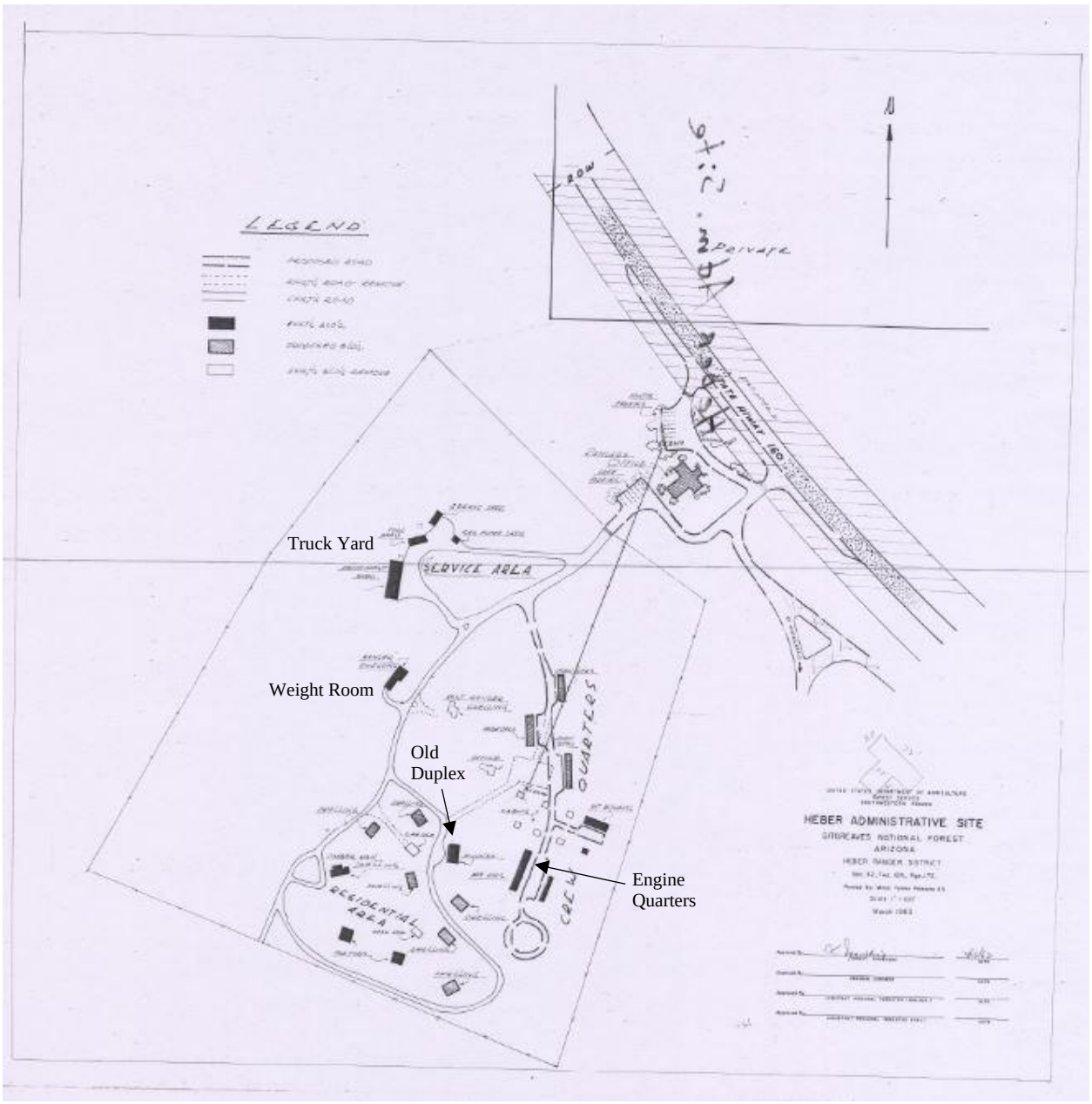


Figure 7. ASNFs SO, Heber Ranger Station map, 1963, regarding the Heber Ranger Station development (with labels on known features).

Chapter IV: Methodology

In order to accomplish this project, archaeological methods were utilized to conduct the archival research and fieldwork needed for the project and to provide proper recordation of the cultural materials found throughout the site. The following methods were utilized for the duration of the project to gather, process, and interpret the data.

Literature Review

The literature review for this project focused on a variety of documents in order to provide information into the prehistoric and historic components. The three primary areas that were researched in terms of the historic component: 1) historical documents regarding the development of the Black Mesa Ranger Station as well as the role of the Forest Service Ranger Stations; 2) the utilization of a Historic American Building Survey/ Historic American Engineering Record (HABS/HAER) recording of historic buildings along with the requirements devised by the AZ SHPO office; and 3) researching similar projects where historic Forest Service properties were evaluated for the NRHP. Records held in the Engineering and Heritage departments of the Apache-Sitgreaves Supervisor's Office and the Black Mesa Ranger District Office were intensively searched for any documentation regarding the establishment of the ranger station, the development and decommissioning of buildings on the station, and structural plans related to the ranger station buildings. These documents were used to help in the overall documentation of the historic component of the ranger station as well as to provide a detailed overview of the historical background of the ranger station.

The HABS/HAER requirements for recording a historic structure were referenced in conjunction with the AZ SHPO's requirements for recording historic structures as outlined in the Guide to Documenting Historical In-Use Structures (Arizona State Historic Preservation Office (SHPO) 2020). This led to the development of the ANSFs Historic Building Form being created by the author in order to utilize both the standards recommended in the HABS/HAER and to provide the necessary information required by the SHPO in order to adapt it to the needs of the Forest Service. The form follows requirements laid out by the SHPO and HABS/HAER for providing the following details during recording: use/function/style, ownership, construction dates, name, location, historic context, NRHP discussion/eligibility significance and integrity, and a detailed description of the physical history of the building.

Research was conducted into Forest Service guidelines, recommendations, and historic contexts concerning historic Forest Service properties. Currently, Region 3 (Southwest Region in which the Apache-Sitgreaves National Forests is located) is working on guidelines and historic contexts for recording and managing historic properties within the region that date to post-1960. However, this document is in the early stages of development and is not available for general use or preview yet. A historic context guide from Region 4, "Within A Day's Ride: Forest Service Administrative Sites in Region 4, 1891-1960," (Wilson 2004) was located and found to be a basis for providing a contextual and architectural history of general Forest Service buildings and the historical context in which they were utilized over the years. Since this base historic context can be applied to Forest Service structures nationally, it was determined to be useful in conjunction with regional and local historical events as the main source from which to develop the historic context in which the Black Mesa Ranger Station buildings will be evaluated

for the NRHP. In order to provide some background for the local and Region 3 history of Forest Service architecture, the "Depression-Era Forest Service Complexes in Arizona" (Sullivan 1993) historic context was also used.

For the prehistoric component, research was conducted into Heritage project reports of fieldwork conducted in and around the project area, the most current literature and texts such as *Archaeology of the Southwest* by Cordell and McBrinn (2012), and past and current research projects that conducted research into the general area. Project reports utilized during research include but are not limited to multiple survey reports for the Rodeo-Chediski Prescribed burn area, which offers current survey results within areas adjacent to the project site, and several reports for survey and site recording completed on the Black Mesa Ranger Station. A key report of work done on the ranger station used during research is the "National Register of Historic Places Eligibility Testing of Site AR-03-01-02-2432, Apache-Sitgreaves National Forests, Black Mesa Ranger Station, Overgaard, Navajo County, Arizona" by Purcell and Greenwald in 2012.

Other literature and texts that provided vital information discovered during the literature review include the above mentioned text by Cordell and McBrinn, which provides a regional overview of the entire Southwest, along with texts such as "Subsistence and Settlement Along the Mogollon Rim" by Steven Dosh (1988), "Mogollon Culture in the Forestdale Valley: East-Central Arizona" by Emil Haury (1985), and "Beyond Chaco: Great Kiva Communities on the Mogollon Rim Frontier" by Sarah Herr (2001) which provide a more regional look into the prehistoric component of the Mogollon Rim area and sites immediately adjacent to it. Past and current research also provided information into a more focused overview of the Mogollon Rim area and includes, but was not limited to, the excavation projects conducted within the Silver

Creek Archaeological Project area by the University of Arizona over several years (Mills et al. 1999). Prehistoric contexts for the Arizona SHPO's office were also useful in providing information and guidance for various topics throughout the Southwest such as agriculture and water utilization (Foster et al. 2002 and Doyel 1993).

Fieldwork

For the fieldwork portion of this project both the prehistoric and historic components were recorded using archaeological methods utilized by the Black Mesa Ranger District Heritage program to record archaeological sites on a routine basis. The methods provided below for the recordation of the historic buildings were developed specifically for this project as no previous guidance was available from the Forest for recording historic structures. These techniques were developed by referencing existing methods for recording historic structures found in the National Park Service's HABS/HAER manual and Arizona SHPO's In-Use Historical Structure Guide. The fieldwork sought to document any artifacts, features, and other cultural modifications located on the ground surface of the site. The fieldwork also sought to identify the possibility of subsurface features based on documents found during the literature review. In order to conduct this fieldwork, the following methods were employed:

Survey Methods

- Pedestrian survey was conducted throughout the entire project area in areas not obscured by features of the ranger station (i.e. paved parking lots, buildings, concrete pads, etc.).
- Survey was conducted with one to five individuals walking transects spaced five meters apart.

- Surveyors examined the ground surface, rock outcrops, drainages, and tree faces for any cultural materials or modifications.
- Artifacts, features, or other cultural modifications (both prehistoric and historic) were flagged using wire pin flags or flagging tape to mark their positions.
- Areas located on historic documents found during the literature to have, or possibly have, subsurface historic features were examined on the surface to see if any evidence of these features are noticeable (i.e. buried utility line noted on a historic map, etc.).
- If areas of dense duff cover were encountered (ground visibility of 45 percent or less), then some random sampling would be done by lightly raking the duff using common garden rakes in order to examine the ground surface.

Artifact Recordation Methods

- Artifacts were flagged during survey with wire pin flags to mark locations of the following:
    - Dispersed artifacts were marked with a pin flag.
    - Artifacts within a concentration were marked by a denser cluster of pin flags to delineate concentration boundaries.
- Dispersed prehistoric artifacts were recorded based on the following:
    - Prehistoric ceramics were documented by vessel type, decoration, temper, paste, and ware type.
    - Prehistoric lithics were documented by material type, stage of reduction, and material color.

        - Stages of reduction: primary, secondary, tertiary flakes, bifacial thinning flakes, core, shatter, biface (early, mid, or late stage), scraper (e.g. end scraper, etc.), drill, projectile point (e.g. Cottonwood Triangular, etc.), or will describe other non-standard forms in detail.
    - Photographs were taken of a sample of the ceramics and lithics found dispersed throughout the site.
    - Prehistoric groundstone was documented by material type, length, width, thickness, groundstone tool type, and description of use wear patterns with a photograph and GPS point taken of each artifact.
- Diagnostic or unique prehistoric artifacts (e.g. projectile points, worked sherds, beads, etc.) were recorded by material type with details from the above protocols utilized (i.e. a worked ceramic sherd will be recorded using the ceramic recording guidelines), length, width, thickness, and description with a photograph and GPS point taken of each artifact.
- Prehistoric artifacts within a concentration were sampled using the following:
    - Counting units (CU) were placed within the concentration to record all artifacts noted within the unit.
        - Units were not placed using a grid.
        - Units were spaced at least two meters apart.
    - Units were laid out arbitrarily using a center point with a circular, one-meter radius laid out using pin flags and tape measure.
        - Units had an overall diameter of two meters.

        - At least two counting units were placed within dense concentrations of artifacts.
    - A GPS point was taken on the center of all sample units.
    - All artifacts within a sample were recorded using the methods stated above.
    - A GPS boundary was recorded for the concentration location and overview photographs were obtained.
    - An overall estimate was recorded for the number of artifacts in the concentration based on the samples and visual inspection of the entire area.
- Dispersed historic artifacts were recorded as follows:
    - Historic cans were recorded by length, width, height, shape, markings/decoration, seam, opening method, and can type.
    - Historic glass was recorded by color, shape (e.g. flat, curved), vessel/function type, condition (e.g. burned, solarized, etc.), manufacture, decoration, and vessel count if applicable (minimum number of vessel count determined by a count of bottle necks, jar bases, etc. (MNI)).
    - Historic ceramics were recorded by material type, ware type, vessel type, decoration/marker's marks, and vessel count if applicable (minimum number of vessel count determined by a count of different vessel vases, rims, etc. (MNI)).
    - Historic metals were recorded by metal type, description of artifact type, and measurements of length, width, height, or thickness if applicable (i.e. measurements taken of tools, nails, etc.).

    - Miscellaneous historic artifacts were recorded with as detailed description as possible and measurements if applicable.
        - Miscellaneous historic artifacts may include but not be limited to: structural materials, rubber, fabric, tools, ammunition, etc.
    - Photographs were taken of a sample of dispersed artifacts found across the site.
- Historic concentrations of artifacts will be recorded following the above methods for historic artifacts and using the same sampling method outlined above for the prehistoric concentrations.
- Artifacts were recorded using standard field forms used by the Black Mesa Ranger District archaeologists.
- Artifact counts were tallied during the recording process.
- Artifacts were typed in the field using artifact identification field guides if possible.
    - If field guides were not available to type artifacts, then details of the artifact will be recorded along with photographs so that further research can be completed in office.

Feature Recordation Methods

- Prehistoric features (e.g. possible pithouse depressions, rock alignments, rooms, etc.) were recorded using GPS, detailed photos, and a scaled sketch map of the feature.
- The following information for each feature was obtained:
    - Length, width, height, and depth as applicable (if visible from the surface).
    - Areas of disturbance were noted with a description, photograph, and included in the sketch map.

- Historic features (historic buildings not included) were recorded using GPS, photographs, and detailed sketch maps when applicable (e.g. GPS points on fenceposts but create sketch map as well for a foundation).

Historic Building Recordation Methods

- Detailed documentation of all historic buildings, those dating prior to 1973, (modern buildings were noted, photographed, and GPS mapped) will be recorded with the following:
    - ASNFs Historic Building Form will be completed for each historic structure.
    - Details will be noted concerning construction materials, modifications to the structure, and damages or disturbances.
    - Measurements will be taken of the interior and exterior of structure (and yard if applicable) layout using a measuring tape in order to provide as accurate measurements as possible to create a plan map of the building.
    - Photographs of the interior and exterior will be taken to note all aspects of the structure.
    - GPS points will be taken of the building and associated features (e.g. yard, shed, etc.).

Mapping/GPS Methods

- GPS points will be recorded across the ranger station in order to create a comprehensive site map of the prehistoric, historic, and modern components.
- A Trimble GeoXH 6000 Series will be used to collect all the GPS data (unit has sub-meter accuracy and differential correction will be conducted in post-processing).

- GPS points will be taken on at least two points on each feature when a sketch map is drawn so that the sketch map can be digitized later in the office in ArcMap.
- GPS points will be taken on major ground disturbances noted throughout the site (i.e. severe erosion, construction, roads, rodent burrows, etc.).

Office/Data Analysis

Data collected in the field will undergo processing and analysis at the Black Mesa District Office. Various methods will be undertaken to compile the raw data into a finalized version utilizing tables, maps, a site form, and applicable supplemental forms used by the ASNFs to document archaeological sites (e.g. historic building form, etc.). All of the information will be filed and stored with the official site record for AR-03-01-02-2432 at the BMRS and ASNFs SO.

Artifact Data

- Artifact data will be complied into finalized tables to show the types and number of artifacts located in the field.
- Artifact photographs and descriptions will be compared to additional reference materials if an identification of the artifact could not be made in the field.
- Additional research into marker's marks, brand types, etc. will be done in order to provide as complete a background overview of an artifact as possible.
- The compiled tables will be attached to an ANSFs Site Form of the ranger station.

GPS Data/Maps

- GPS data will be compiled using ArcMap 10.7.1 in order to create site maps for the ranger station with the location of all components, disturbances, and artifact sampling points plotted.
- Sketch maps of features will be scanned and uploaded into ArcMap 10.7.1 to be digitized to make a final map of the feature.
- Measurements obtained during the recording of the historic buildings will be used to create a plan map of each structure using ArcMap 10.7.1.
- GIS data from the Apache-Sitgreaves Engineering department will be used to plot areas of subsurface disturbance that was caused during the placement of buried utility lines (e.g. water pipes, sewer, etc.).

Historic Structure Forms

- Information collected using the historic structure forms will be compiled and compared with background research conducted for each structure.
- This information paired with the layout maps created will provide the necessary materials needed to analyze the buildings in reference to the historic context and determine the integrity and eligibility of the building for the NRHP.
- A formalized and typed form will be generated for each structure with attached photographs and plan map.

All field notes and data collected will be added to the overall site form and site record which will be stored in the Heritage files at the Black Mesa Ranger Station and Supervisor's Office. Once all the data gathered from the fieldwork is compiled and processed, it will be used to help

evaluate the site for its overall integrity, eligibility for the NRHP, and where the site falls with the historic context derived for the ranger station site.

Chapter V: Historic Component Results

Fieldwork was undertaken across the project area to provide a complete recordation of the historic components directly associated with the administrative site that were found in Forest records and on historic documents *(see Figure 4)*. The entirety of the administrative site boundary that was set aside during the initial establishment of the ranger station was not fully inventoried as part of this project, since there were no indications in historic records or from previous archaeological survey of the area that it was used for any other purpose than that of pastureland. As these pasture areas are originally part of the administrative site boundaries and include other previously recorded sites, they will undergo archaeological inventory in later additional projects so that the entirety of the administrative site is covered. The goal of this project is to address the immediate concerns being faced by the ranger station archaeological site and thus the current survey area was limited to the active ranger station facilities.

The BMRS site consists of two components, prehistoric and historic, that play a factor in defining the boundary of the site. The historic component is delineated by the pasture fences that surround the area where the ranger station compound is located as well as the helibase facilities *(see Figure 8)*. The area where the helibase is located includes the helibase structure, parking area, and a 15-meter buffered area (standard procedure for the ASNFs when recording sites). Utilizing the pasture fence on the east, south, and west sides provides the adequate buffered area for the historic component of the main ranger station and encompasses the entire area marked off for official use by the ranger station. Above and below ground historic utility lines and historic roads were not included in the site boundary as they are recorded separately from the site (e.g., historic AZ 160 runs through the station but has been recorded separately).

Two different methods of survey were conducted in order to record the historic components across the project area. The first method focused on conducting a complete inventory of all buildings located on the ranger station and determining if they were historic in nature. The second method consisted of pedestrian survey with the intent to locate any historic artifacts or assemblages associated with the establishment and development of the ranger station facilities. Both methods followed the recording techniques stipulated in the Methodology chapter (IV) above. The survey documented all manner of buildings associated with the ranger station including historic permanent and non-permanent structures, modern permanent and non-permanent structures, and historic features *(see Figure 9 and Figure 10)*.

Investigations into the possibility of subsurface historic elements was limited to the literature and areas of disturbance or erosion that exposed the subsurface. Since subsurface testing was not conducted during the course of this project the presence of buried historic elements could not be thoroughly tested, however, the literature review allowed a picture to be painted of where possible subsurface deposits may be. The results of the potential historic buried deposits are discussed in further detail below in the field survey results.

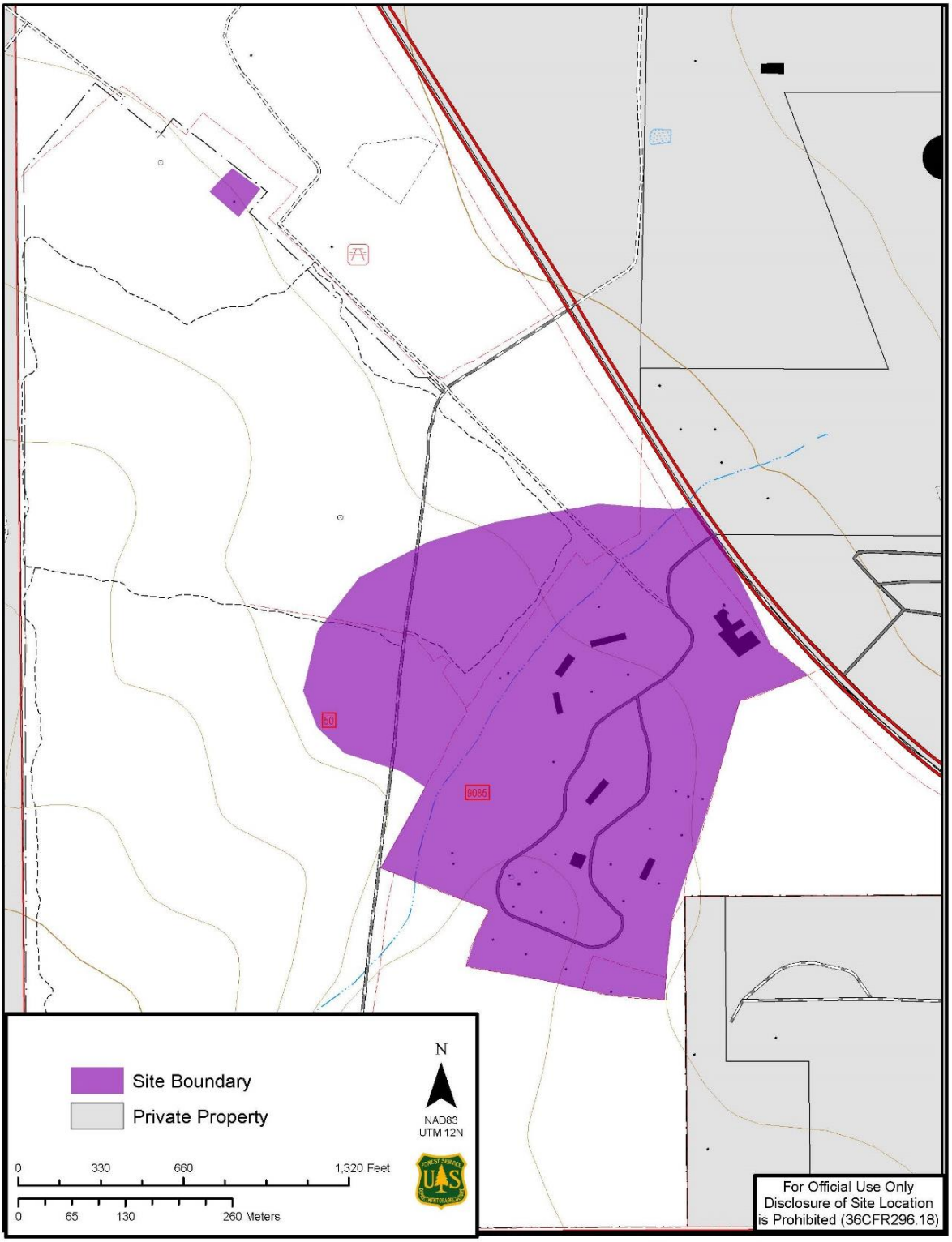


Figure 8. Black Mesa Ranger Station site boundary extent.

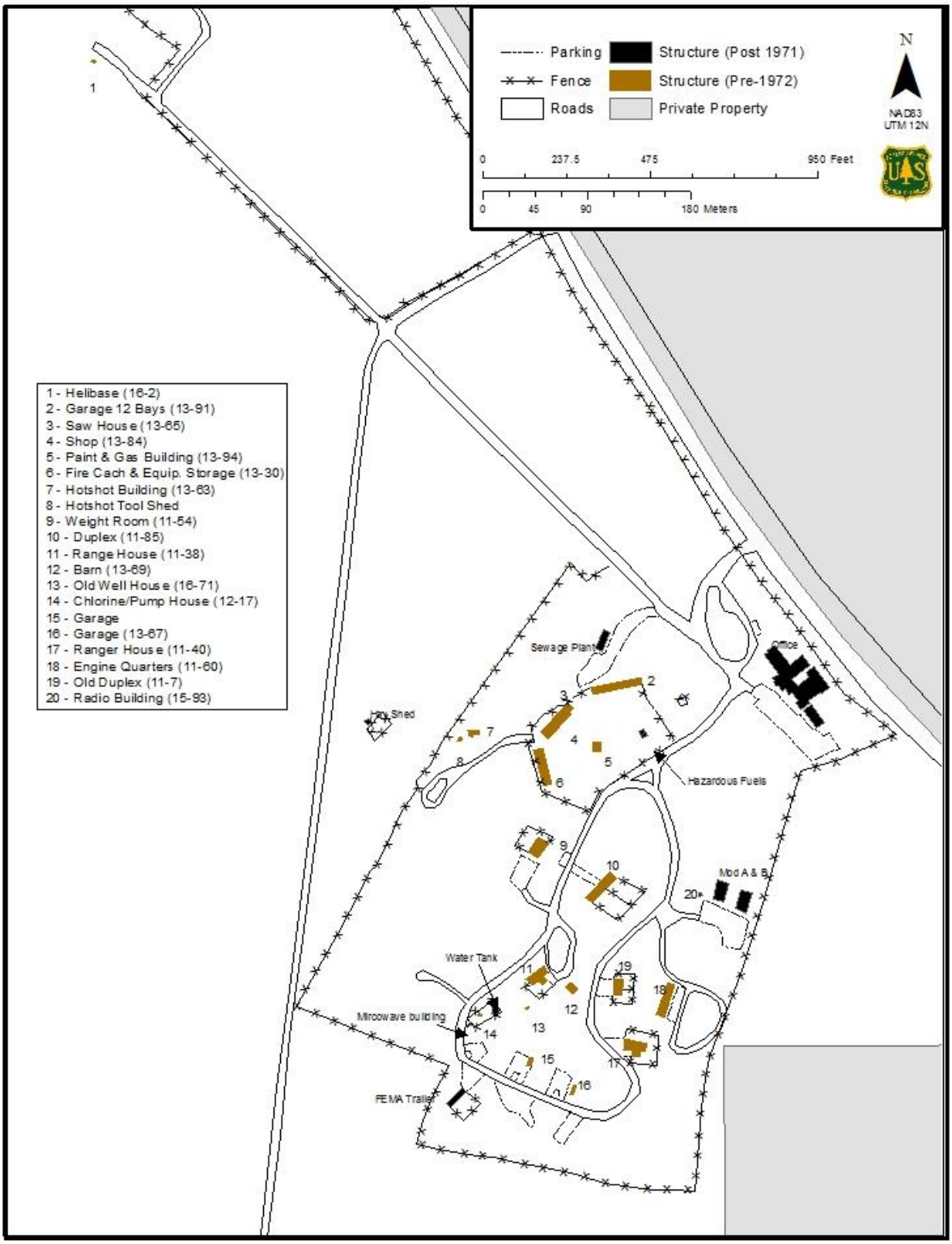


Figure 9. Black Mesa Ranger Station map of historic and modern buildings.

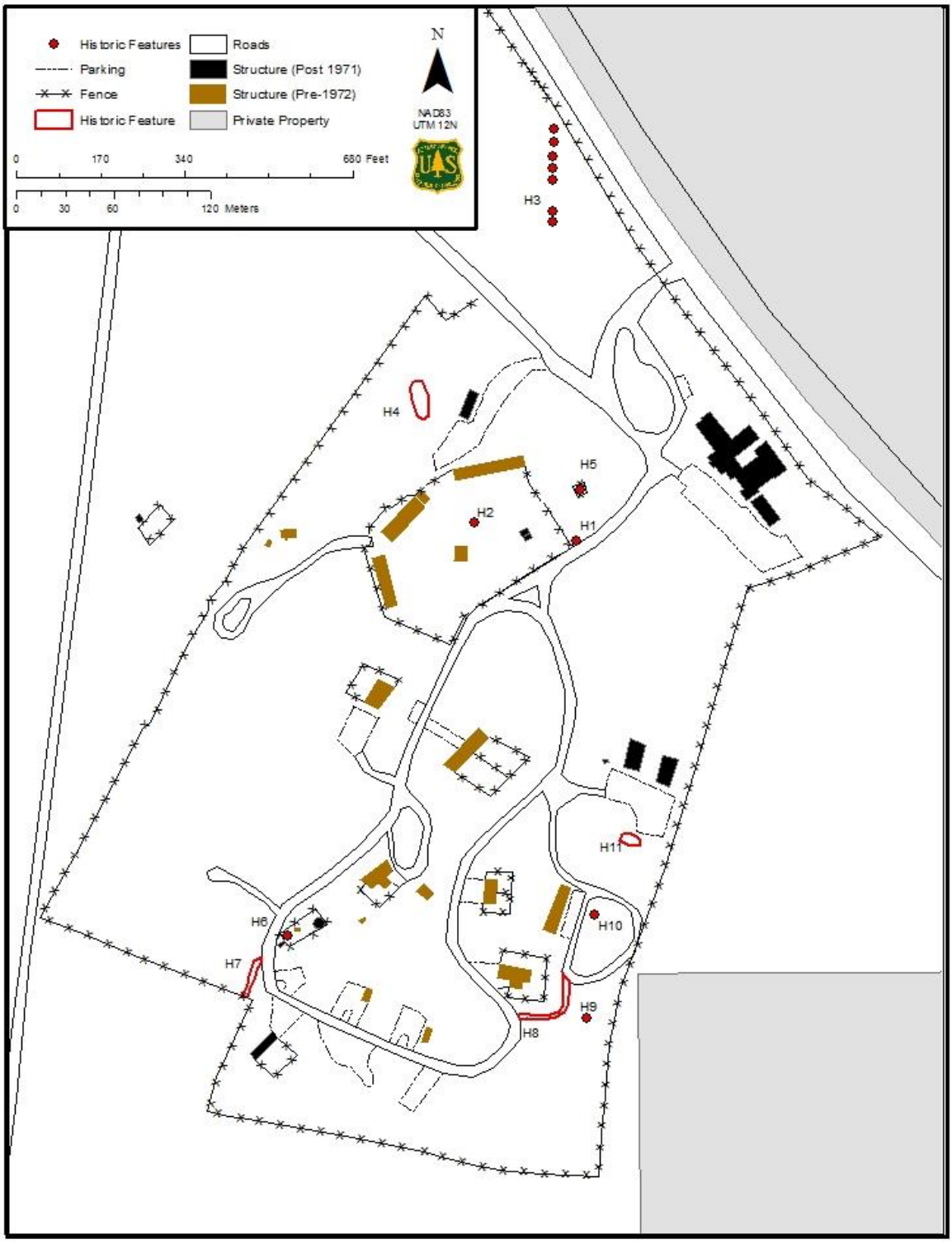


Figure 10. Black Mesa Ranger Station map with historic features, modern features, and buildings.

Building Survey Results

Utilizing data obtained from the Engineering department *(see Appendix B, Table 7)*, the A-S Master Facilities Plan from 1994 *(see Appendix B, Table 6)*, and historical maps *(see Appendix A, Figures 56-59)* the entirety of the BMRS and helibase location was surveyed to locate and document all buildings associated with the project area. A total of 31 buildings were recorded across the project area and contained a blend of historic and modern structures *(see Appendix B, Table 8)*. These buildings include ones that are not listed by the Forest as permanent infrastructure and are non-permanent structures, such as storage sheds, that have been constructed or installed on the station either by employees residing in quarters or by different district functions. The non-historic buildings were noted and mapped for recordation purposes but not recorded in detail as the historic buildings were. The historic buildings that were recorded using the Historic Building Form, photographs, and a detailed floor plan *(see Appendix C)* totaled 20 buildings with dates of construction ranging from the 1950s to the 1970s *(see Table 3)*.

The building numbers for each of the structures does not correspond to any particular theme (e.g. building type, construction date, etc.). The numbers are merely a conglomeration of numbers that were assigned to the buildings after the Heber and Chevelon Ranger Districts were combined. New building numbers are simply assigned in a sequence by the Forest Service database in which all the buildings are managed through (information provided by email from ASNFs Engineer, Chris Miller). The building names are merely the common name used by the district employees when referring to each individual building.

Table 2. Black Mesa Ranger Station Historic Building Information.

Building No.	Name	Historic Function	Current Function	Historic Context	Date Constructed
--	Garage	Garage and storage	Fire supply and equipment storage	1946-1960 The Post War Era/1961-1971 Modern Era	1950s
--	Hotshot tool shed	Unknown	Hotshot hand tool shop	1946-1960 The Post War Era	1950
11-7	Old Duplex	Crew housing	Seasonal employee housing	1946-1960 The Post War Era	1954
11-38	Range House	Employee dwelling	Permanent employee housing	1961-1971 Modern Era	1964
11-40	Ranger House	Employee housing	Permanent employee housing	1961-1971 Modern Era	1964
11-54	Weight Room	District Ranger dwelling	Workout equipment building	1946-1960 The Post War Era	1951
11-60	Engine Quarters	Crew housing	Seasonal employee housing	1946-1960 The Post War Era	1955
11-85	Duplex	Employee dwelling	Permanent employee housing	1961-1971 Modern Era	1963
12-17	Chlorine/Pump house	Well pump and water treatment	Well pump and water treatment	1961-1971 Modern Era	1965
13-30	Fire cache & equipment storage	Fire equipment storage	Fire vehicle and supply storage; Equipment storage for Range, Wildlife, and Silviculture	1961-1971 Modern Era	1964
13-63	Hotshot saw shed	Unknown	Hotshot chainsaw shop	1946-1960 The Post War Era	1950
13-65	Saw shop	Mechanic shop	Fire chainsaw shop	1961-1971 Modern Era	1964

Table 2. **(**continued)

Building No.	Name	Historic Function	Current Function	Historic Context	Date Constructed
13-67	Garage	Garage and storage	Fire supply and equipment storage	1946-1960 The Post War Era/1961-1971 Modern Era	1950
13-69	Range barn	Hay storage and range equipment	Range equipment	1946-1960 The Post War Era	1956
13-74	Hay Shed	Engineering lab; hay shed	--	1961-1971 Modern Era	1965
13-91	Truck bays	Vehicle storage	Vehicle and equipment storage	1961-1971 Modern Era	1964
13-94	Gas & Paint building	Gas and paint storage, gas station	Miscellaneous storage for Fire and Timber supplies	1961-1971 Modern Era	1964
15-93	Radio building	Radio equipment storage	Storage	1961-1971 Modern Era	1965
16-2	Helibase	Helibase office	Helibase office	1961-1971 Modern Era	1971/1972
16-71	Old Well House	Well pump house	--	1961-1971 Modern Era	1965

The 21 historic buildings were recorded in as much detail as possible with modifications to the original structure noted, historical documents and Engineering records referenced for clues to historic context, and as accurate measurements taken of the building layout as possible with tape measures. The following information provides the details about each building that were recorded during the fieldwork portion of the project.

16-2 Helibase

The helibase building is located just inside the entrance of the BMRS Heliport and was constructed as an office for fire personnel assigned to a wildfire incident that requires the operation of a helicopter for support purposes. Based on records obtained from the Engineering department and the A-S Master Facilities Plan of 1994, the helibase building was constructed in either 1971 or 1972. This makes the building either 50-years old or just a year shy of that mark. Regardless, the building was recorded as a historic structure due to the possibility of it already having obtained the 50-year status or that it will need recording as such within the next year. No historic record could be found to provide an official date of when the helibase was constructed. Further research could uncover no blueprints or maps showing an original layout or design for the helibase building nor the helibase itself. Visual inspections of the helibase grounds during the survey show few modifications to the landscape have occurred. The entrance road to the helibase follows the linear path of a historic highway (AZ 160) that was decommissioned in the 1960s (this feature is recorded under another site number and thus not addressed during this project) and now is a simple gravel track. A modern shed (temporary structure not anchored to the ground) to provide further storage for fire supplies associated with the use of the helibase was placed on the south side of the helibase.

An access road that is situated on the north side of the building before wrapping around to the west side was constructed utilizing the historic road system that was already present. Parking areas are located on both the north and west side of the building but show no signs of actual improvements and are just local, native soil areas where fire personnel having parked vehicles over the years. A post and rail fence runs along the north and east sides of a small yard

area of the helibase building. The fence is constructed using four-inch diameter posts and two by four boards, all of which were painted in the rustic red color of Forest Service buildings. At the northwest end of the fence is a juniper pole that is used by all helicopter personnel who serve an assignment at the helibase to post a sign with their crew call sign, fire name, and other information pertaining to their assignment.

The helibase building is a wood frame structure situated on a concrete slab foundation *(see Figure 11)*. The exterior is covered using plywood style sheets with some one-inch wide wooden strips providing detail. The exterior is painted in the red color of the Forest Service with white painted doors and trim around the windows. The roof is a light brown ridge, sheet metal. A poured concrete sidewalk extends from the front door east along the side of the building to a secondary, double door entry and extends from the front door to the fence on the north side of the building. A row of bricks run parallel along either side the sidewalk extending to the fence with some additional six by six-inch pavers located along the north side of the building. A radio antenna, used to operate the radio base station in the building, is mounted to the northwest corner of the building and is embedded in the ground.

Figure 11. Helibase building (16-2), view south.

The interior of the building consists of three rooms: an office space, a storage/kitchen area, and bathroom *(see Appendix C, Figure C.1)*. All three rooms were remodel within the last 10 years with new flooring, paint, lights, cabinets, and updated bathroom amenities. The interior is constructed using drywall (original to the period of construction), single paned sliding windows (original to the period of construction), laminate wood grained printed flooring, fluorescent lighting, white ceramic toilet and sink, wooden veneer panel doors, and a wooden screen door *(see Figure 12)*. The front door is a single door, located on the north side, that opens to the interior with an exterior screen door that opens to the exterior. In the storage/kitchen area there is a secondary entrance with a double door that opens to the exterior and is blocked from use by a board placed across them in the interior. The building has a total of three windows located in the office area on the south, west, and north walls.

Figure 12. Helibase building (16-2) office area, view from front door.

13-67 Garage/Storage

This building was built as a small garage and storage building that was originally associated with an administrative dwelling that is no longer present. The building is currently used by Fire personnel to store gear and supplies. Conflicting dates of construction were found for this structure with the 1994 ASNFs Master Facilities Plan listing a date of 1950 and the current Engineering record listing a construction date of 1965. The building has similarities in style to another storage type building with a construction date of 1950 *(see Hotshot Building below)*, therefore it may have a construction date from that time and the later date found in the Engineering record may indicate an error in their data or the construction date of a second garage nearby.

The building is a wood frame structure built on a poured concrete foundation *(see Figure 13)*. The exterior is covered in a rustic channel style (Snodgrass 2014) siding painted in the Forest Service red with white painted trim. The paint is faded with no recent upkeep and the lower portions of the siding are showing signs of wood rot and moisture damage. On the west and east side of the building are two areas that are boarded up that correspond to shelving units located in the garage space. Both areas appear to possibly be original window locations or modifications to the original exterior wall in an effort to add storage in the garage. Also, on the east wall is a boarded-up door that provided a second entrance into the garage originally *(see Appendix C, Figure C.4)*.

The interior of the building has two rooms, a single garage and small backroom for storage. The walls and ceiling are covered in shiplap style boards painted in a dark green color *(see Figure 14)*. The garage space has one exterior door located on the west wall and the second entry on the east wall which is boarded up on the exterior. Two small hopper style, wooden framed windows are located near the garage door with one on the west wall and one on the east wall. The hopper windows fold downward on hinges into the interior of the building. The garage door is a more modern style roll up garage door. The backroom of the building has an entry door on the north wall and has three windows, one on each exterior wall. The doors are all original wooden, two vertical panel style doors with brass hardware.

Modifications to the building include a green sheet metal roofing, modern metal garage door, two boarded up windows with the interior side made into shelving units, and a boarded-up doorway.

Figure 13. Garage building (13-67), view east.

Figure 14. Interior of Garage (13-67), view from side door.

Garage

This building is a small garage and storage building that was also originally associated with an administrative dwelling that is no longer present on the station. This building is almost a mirror image of building 13-67 above but does differ slightly *(see Figure 15)*. There is no record of this building in the Engineering record and no building number was present on the exterior of the building. It is unclear what the construction date is of the garage and while it is similar to 13-67, its condition is better. The construction method of the building also appears to be of a later style compared to 13-67 and it may be that the 1965 construction date listed for building 13-67 in the Engineering record actually refers to this building. This cannot be confirmed on aerial photographs dating from 1958 and 1963 due to tree cover in the location, nor does the garage appear on any of the historic maps found of the station *(see Appendix C, Figures C.7)*.

The exterior of the building has a wide shiplap style wooden siding that is painted in Forest Service red with the trim and doors painted red as well. The garage door is situated on the southern wall and is a roll up style that appears to be original to the building. A boarded-up window and three horizontal panel, wood door is located on the western wall. A double casement style window is located on the north and east walls. The building is constructed of wood frame and is sitting atop a poured concrete slab.

The interior of the building differs from 13-67 in that it is only an open frame interior with some walls covered in plywood *(see Figure 16)*. The windows have metal grates covering them on the inside for security purposes. There are two rooms, the garage space and back storage space. There is a door in the wall separating the garage space from the storage room

allowing for entry between them. Modifications to the building include a boarded-up window, modern metal garage door, metal grating on the windows, and green sheet metal roofing.

Figure 15. Garage building, view north.

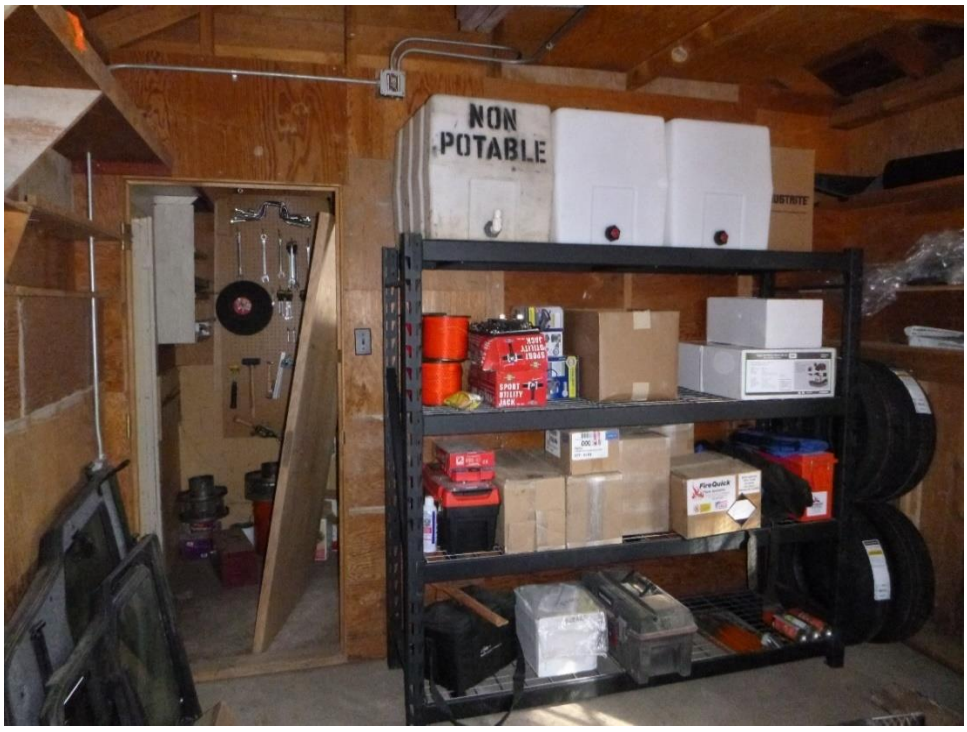


Figure 16. Garage building, view of interior of garage area from garage door.

11-40 Ranger House

This building is one the administrative dwellings used by the district to house permanent employees and provide for those with families. The house is located in the southeastern corner of the ranger station and is a ranch style layout with a semi-detached garage. The house also has a fenced yard and storage shed that was installed by a previous inhabitant. The building was constructed in 1964 and is present on the 1963 historic map of the station as a proposed building for construction *(see Appendix A, Figure A.6)*. The building was used over the years to house some of the District Rangers and their families, which is why it is called the Ranger House by the local district employees. The Engineering record has the house labeled as "Admin. Dwelling 5." The house has undergone some modifications over the years to the interior and exterior by both the district and individuals who have lived in the house.

The exterior of the house is sided in a wide, wooden clapboard style painted in the Forest Service red on the west and east walls of the main house. The rest of the exterior of the house and the garage are covered with a plywood wood style siding, vertical in orientation *(see Figure 17)*. The garage is a single car space attached to the main building on the south side by a covered walkway. Both the garage and main house are wood frame construction on poured concrete foundations. In between the house and garage is a breezeway with stone pavers and concrete patio that extends to in front of the back door *(see Figure 18)*. On the west side of the house is the chimney constructed of bricks on the northwest corner. At the front entrance of the house, on the north side, is a concrete patio covered by a wooden awning. The patio and awning appear to be a modification to the original structure of the house based on its difference from another building on the ranger station, 11-38, which is the exact same dwelling layout. A sidewalk extends to both the west and north to where gates are located in the fence.

The east side of the yard has a raised terrace upon which the building sits that is constructed out of faux rock bricks and wooden timbers. The terrace also wraps partially around to the south and north sides of the yard. The entire yard is fenced by a chain link fence with gates on the south side of the garage, at the end of the walkway between the house and garage, on the north side of the yard, and on the west side of the yard. A clothesline is present along the south side of the garage within the fenced yard. The storage shed that was put in by a past resident of the house sits in the southeast corner of the yard and is a prefabricated structure made from plywood. The shed is a single room used to store yard equipment and miscellaneous personal items by the residents and has a wooden awing extending off the east side for covered firewood storage.

Figure 17. Ranger House exterior (11-40), view east.

The interior of the house layout contains three bedrooms, two bathrooms, a laundry room, living room, and a semi-open concept kitchen and dining area *(see Appendix C, Figure C.10)*. The entire interior is painted white (lead based) with a compost wood paneling used to cover the walls and then painted with a finish to mimic plaster. The flooring throughout most of the house is a modern laminate faux wood flooring with a laminate grey tile print used in the bathrooms, laundry room, and two smaller bedroom closets. All the lighting fixtures appear to be original to the house's construction with styles ranging from milk glass globe fixtures to a series of multiple bulb fixtures over the bath sinks. The windows throughout the house were upgraded within the last five years with modern sliding or solid panel windows, except for the windows located along the western wall which were not upgraded. A fireplace is located on the west wall of the living room constructed from faux stone and has a wood burning insert. The kitchen and bathrooms

appear to have all the original cabinets, sinks, and other fixtures with no noticeable modifications having occurred. The only modern upgrades occur in the kitchen with a modern refrigerator, stove/oven, flooring, and vent hood installed.

The semi-detached garage is located along the southeastern portion of the house and contains only a single parking space. The interior is only partially finished with some installation and plywood covering. The floor is the concrete foundation with no finishing or staining. Plywood cabinets were built into the back of the garage on a raised concrete step for storage purposes. The entry door is present on the north wall along with a single window while the garage door is situated in the west wall and is the tilt up, non-automatic style garage door.

Modifications to the structure include modern double paned windows, modern hollow metal and screen security doors, sheet metal roof, faux wood laminate flooring, modern appliances, wood stove insert, modern bathroom hardware (including sink and toilet), chain link fence, storage shed, and extension/modification to the front porch.

Figure 18. Ranger House exterior (11-40), view north.

11-7 Old Duplex

This building is one of the crew quarters present on the station with the purpose of housing the seasonal employees during the summer season. It was constructed in 1954 and is present on the historic maps from 1958 and 1963 as well as the aerial photographs from 1960, 1966, and 1977 *(see Appendix A, Figures A.8-A.10)*. The building is located just northwest of building 11-40 along the road loop through the ranger station. The building is a duplex style house with two living quarters that are a mirror image of each other in floor plan *(see Appendix C, Figure C.15).*

The exterior of the building is sided in a somewhat broad rustic channel style siding (Snodgrass 2014) that is painted in the Forest Service red with white trim *(see Figure 19).* Each front entrance of the duplex quarters has a set of concrete steps and sidewalk extending from it to

the parking area. The roof is covered in a corrugated green sheet metal with a metal gutter located along only the front of the building. The exterior entrances each have a metal security door on the outside with lightweight, hollow aluminum entry doors. Three quarters of the building is surrounded by a yard that is fenced with a chain link fence. Each duplex has a side entrance with a set of poured concrete steps and small wooden awning covering the side entrance. The building is built on a cinder block stem wall foundation with a crawl space underneath.

Figure 19. Old Duplex building (11-7), view east.

The interior of the duplex quarters each consist of two bedrooms, a living room, kitchen, and single bathroom. The entire interior is painted in white, lead based paint in both quarters. The floors in the duplex are a brown laminate flooring except for in the kitchen and bathrooms, which have new laminate wooden tile style flooring. The brown laminate flooring has begun to

peel up in few places leaving cracks in the flooring. The windows throughout the duplex quarters were updated within the last few years with new sliding, double paned metal windows to replace the existing single paned, hand crank style metal windows. The kitchen in the south side of the duplex was remodeled with new cabinets, counter tops, and stove vent hood that were installed along with the new wooden laminate tile flooring mentioned above *(see Figure 20)*. The water heater located in the northeast corner of the kitchen was also framed and walled in using plywood during the remodel of the kitchen. The cabinets and counter tops were updated in the north side of the duplex as well and the water heater was also enclosed. The bathroom in both sides of the duplex were remodeled at an unknown date with new sinks and vanities, laminate flooring mentioned above, and toilets. Built-in cabinets are present in the small hallway created by the entrance to the two bedrooms and bathrooms. All the interior doors are hollow, wooden veneer doors with brass hardware. Both bedrooms have closets with a single shelf across the top and sliding hollow, wooden veneer doors.

Modifications include hollow metal exterior doors, metal screen security doors, faux wood laminate flooring, modern kitchen cabinets and appliances, modern bath vanity, sink and toilet, modern double paned windows, removal of wooden stove, chain link fence, and sheet metal roofing.

Figure 20. Kitchen interior of Old Duplex (11-7), view from living room.

11-60 Engine Quarters

This building is used as seasonal housing for temporary employees who work at the ranger station during the year. There are six separate units within the building that can provide housing for one to two individuals for a total of six to twelve people in the building at any given time. The building was built in 1955, according to Engineering records, and is present on historic maps of the ranger station dating from 1958 and 1963 *(see Appendix A, Figure A.5 and A.6)*. The building is called the Engine Quarters by staff at the ranger station as it has historically been used to house crew members of the station's wildfire engines. The Engine Quarters building is located in the southeastern portion of the ranger station directly east of the Old Duplex (11-7).

The exterior of the building is constructed in the same manner as the Old Duplex with a rustic channel style siding painted in the Forest Service red with white trim *(see Figure 21)*. The roof is covered by green, corrugated sheet metal roofing material. The building is constructed on a stem wall foundation with poured concrete porches/stairs at each entrance to one of the units. The exterior entrances each have a metal security door on the outside with lightweight, hollow aluminum entry doors. On the backside of the building there is one hollow veneer wooden door that opens into a single room containing hot water heaters for the building. There are parking areas situated off a circle drive for the employees living in quarters to utilize. In the center, grassy area of the circle drive are the remains of plumbing pipes from a washhouse which used to be situated across from the Engine Quarters. This wash house was associated with the Hotshot crew quarters (a building that is no longer present) and possibly with the Engine Quarters as the Hotshot crew quarters did not contain bathroom amenities and the wash house would have provided further bath amenities for those housed in the Engine Quarters.

Figure 21. Engine Quarters building (11-60), view east.

The interior of the six units are all similar in design with the two central units being mirror images of each other while the four units located on the ends of the building also being mirror images of each other in layout *(see Appendix C, Figure C.20)*. The interior of the units are paneled with a horizontal wood paneling on all the walls except for in the bathroom. Three wooden built-in cabinets are present in each unit for storage purposes while wooden cabinets are also present in the kitchen area. The kitchen contains the original cast iron sink, which is situated atop a metal cabinet. The floors of each unit are covered in a brown laminate flooring material *(see Figure 22)*. The bathrooms are painted in white with the lower half of the walls covered in a plastic, water resistant siding. A metal shower insert is present in each bathroom and the floor is a brown laminate found throughout the rest of the unit. The windows throughout

the units were recently replaced with new metal, sliding windows in place of the original metal, single paned hand crank windows.

Figure 22. Interior view towards bathroom in northernmost unit, view from living area.

Modifications to this building include modern appliances, hollow metal exterior doors, metal screen security doors, modern fluorescent lighting, modern double paned windows, updated wall heaters, brown laminate flooring, and sheet metal roof.

15-93 Radio Building

According to Engineering records, this building was built in 1965 and originally used to house radio equipment and repeaters used by the ranger station for communication purposes. The building is currently used by seasonal employees housed in Mod A (name given to the structure) for storage during their stay during the summer months. The building is plotted on an

undated map of the ranger station *(see Appendix A, Figure A.7)* but the map dates prior to 1970 due to the fact that State Highway 260 is not present on the map (the highway was constructed in 1970). No original plans or documents concerning the construction of the building could be located. A visual inspection of the building did not locate any apparent alterations to the building aside from the roof *(see Appendix C, Figure C.25)*. The building is constructed using preformed, six-inch cinder blocks (grey/reddish in color) with prefabricated rounded corner pieces *(see Figure 23)*. The roof is constructed from wooden two by six boards that have been painted in a red color standard to the Forest Service. The front porch step is a poured concrete slab. A wooden doorframe is present with a veneer wooden door. Door hardware consists of three brass hinges and doorknob. There are no windows present in the building. The interior of the building consists of the same cinder block walls painted white with a drop-plywood ceiling, also painted white. A wooden table has been constructed along the back wall of the interior and has been painted white (unclear if this is original to the construction). The building is built on a poured concrete slab. No components remain of the radio equipment that was once housed in the building. The only modification noted is the sheet metal roof.

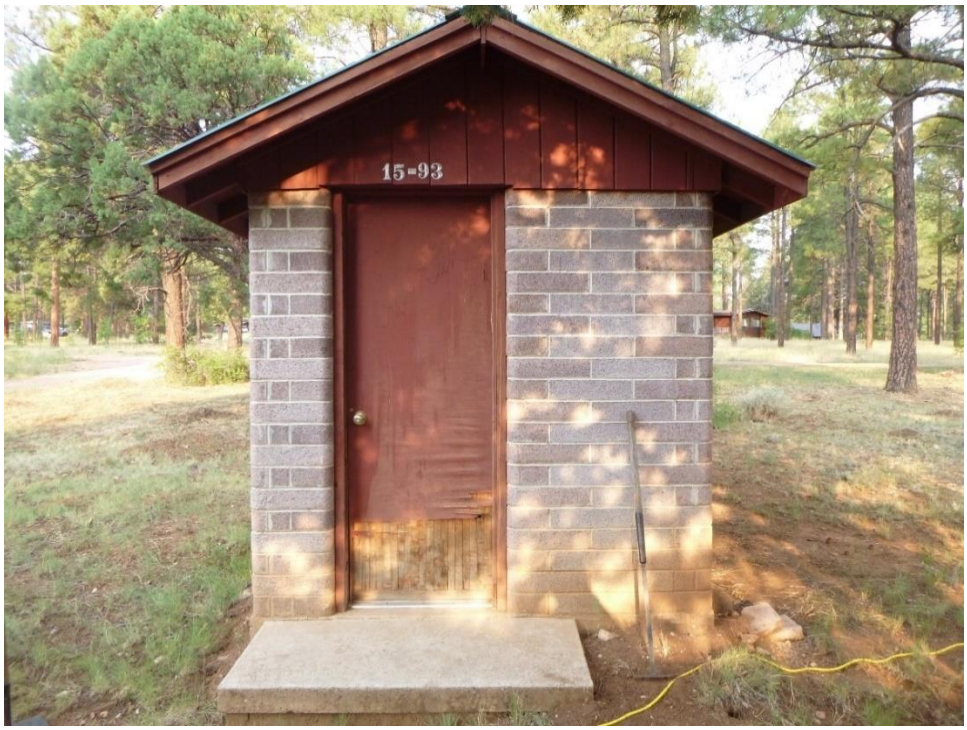


Figure 23. Radio building exterior (15-93), view west.

11-38 Range House

This house is called the Range House by ranger station staff due to its location next to the building known as the Range Barn. This building is a mirror image of the Ranger House (11-40) with the only difference noted between the two being in general condition and decoration done by the residents *(see Figures 24 and 25)*. The house was built in 1964, same as the Ranger House, and is present on the historic map of the station from 1963 as a proposed building *(see Appendix A, Figure A.6)*. The house is located towards the center of the ranger station in the center area of the road that loops through the ranger station.

Figure 24. Range House exterior (11-38), view east.

Figure 25. Interior of Range House (11-38), dining room and kitchen area, view from living room.

The construction of the building, both interior and exterior, is the same as the Ranger House *(see 11-40 Ranger House details above)* with only a few differences noted *(see Appendix C, Figure C.28)*. The front porch of the building is a smaller poured concrete slab with a covered wooden awning that appears original to the construction of the building, whereas the Ranger House front porch was modified and enlarged. This building is not built on a raised terrace but had the ground leveled to accommodate the building. The fenced yard extends around the south and east sides of the building with a chain link fence.

Modifications to the structure are sheet metal roofing, modern double paned windows, new exterior doors, metal screen security doors, modern kitchen appliances, faux wooden laminate flooring, wood stove insert, new utility room cabinets, updated bathroom fixtures, various paint colors throughout the house, and chain link fence.

13-69 Barn

This building was constructed in 1956 according to Engineering records and is located immediately adjacent to the Ranger House (11-38). The building is used as storage for the Range department supplies and equipment but was originally used to store hay and horse equipment. The barn is constructed on a poured concrete, stem wall foundation with a plywood floor. The building is a wooden frame covered with brown corrugated metal sheeting *(see Figure 26)*. There is a total of six windows in the walls of the building, however, all of them are boarded over along with a doorway located on the north wall. The entrance to the barn is a large wooden frame door that is covered in corrugated sheet metal. The interior of the barn is just the open wooden framing with no finished or insulated walls *(see Figure 27)*. Two window

openings exist in the upper level on the east and west walls. It appears that a loft may have been present in the building at some point as rafters still exist in the back portion of the barn.

Figure 26. Exterior of Barn (13-69), view south.

Figure 27. Interior of Barn (13-69), view from door.

Modification to the barn includes possible removal of a loft area, replacement of a center support post with a metal pole and boarding up of a door and all the windows.

11-85 Duplex

This building is a duplex style dwelling constructed to house permanent employees working at the ranger station. The building has two units that are a mirror image of each other in layout *(see Appendix C, Figure C.36)* and was constructed in 1963. The building is possibly present on the 1963 historic ranger station map as a proposed building, but it is present on the undated historic map *(see Appendix A, Figures A.5-A.6)*. The duplex is located towards the center of the ranger station near the southeast corner of the truck yard.

Figure 28. Duplex building (11-85), view east.

The exterior of the building is covered in horizontal, six-inch-wide wooden sheet siding painted in a dark brown color *(see Figure 28)*. The northern unit of the duplex has had decorative wooden shutters (date unknown, possible the 1990s) added to the windows on the west and north sides while the southern unit has none. The roof of the building is covered in corrugated sheet metal roofing. Each unit has an open air, covered parking area in the center of the duplex with a wall dividing the two individual areas. At the back of the covered parking areas are built-in storage closets for each unit. The building is built on a poured concrete stem wall with a poured concrete pad for the parking area. The driveway for the building is simply a graveled area. Each unit has fenced yard area on the east side of the building with a fence present across the east side of the parking area with a gate opening into the yard. Within the yard of the northern unit of the building are two storage sheds located along the eastern fence line.

These sheds are prefabricated structures situated atop cinder blocks and were placed in the yard by the current resident. The yard of both units of the Duplex have undergone severe disturbance by dogs owned by current and past residents that have dug holes throughout.

The interior of each duplex unit contains two bedrooms, bathroom, living room, hallway, hallway closet, and kitchen. The flooring throughout the units is a mix of carpet in the bedrooms, living room, and hallway while the kitchen and bathroom areas have a laminate tile floor *(see Figure 29)*. The windows in each unit are single paned, metal framed windows. Most of the windows are fixed with no means of opening while some of them are sliding windows. In the living rooms, a freestanding wood burning stove is present on a faux stone platform with a faux stone façade extending up the wall behind the stove.

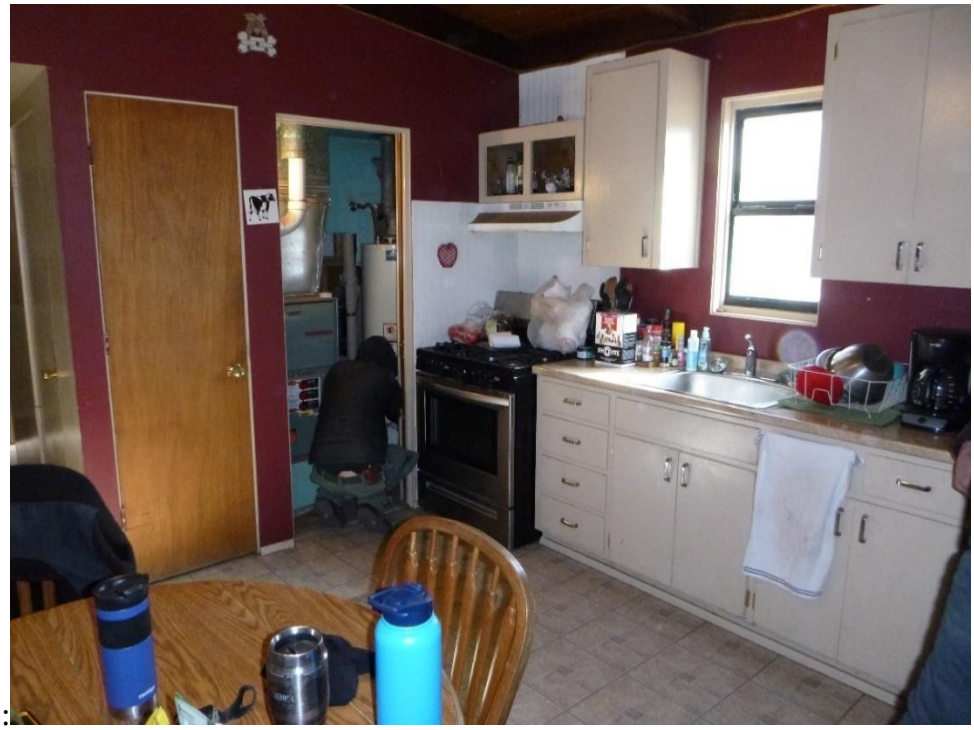


Figure 29. Kitchen of north unit of the Duplex (11-85), view from double doors.

Modifications throughout both units of the duplex include modern kitchen appliances, new kitchen sinks, removal of cabinet doors in the north unit, various paint colors throughout the units, modern bathroom fixtures and hardware, laminate tile flooring, decorative window shutters, chain link fence, and sheet metal roof.

11-54 Weight Room

This building was constructed in 1951 and is one of the oldest buildings on the ranger station *(see Figure 30)*. The building is present on the earliest historic maps of the station and is labeled as the Ranger Quarters on a few of the maps, indicating it was the original quarters used by the District Rangers who were employed on the station. The building is located just west of the Duplex (11-85) on the south side of the ranger station truck yard. The house was originally used to house permanent district employees, such as the District Rangers, but was removed from such use in the early 2000s. The house is now used as the weight room/workout facility for the ranger stations employees and fire personnel. Due to the lack of use as quarters for district employees the building has fallen into some state of disrepair with a few notable issues apparent *(see Appendix C, Figures C.42-C.45)*.

The exterior of the building is sided in a wooden siding that is similar in style to clapboard, but the boards (eight inches wide) do not quite overlap *(see Figure 30)*. The building is painted red with an off-white, slightly yellow trim color. On the front of the building is a poured concrete porch with a sidewalk extending out towards the road as well as one extending to the south and wrapping around towards the garage. The sidewalk extending out the east is made from a more modern concrete and has had part of the sidewalk demolished. The sidewalk extending to the south and wrapping around the building looks to be original to the construction

of the building as this sidewalk is in a severe state of decay as the surface has extensive damage. On the south side of the building is the chimney for the fireplace constructed from red brick. The west side of building has the backdoor from the kitchen with a set of poured concrete steps that lead down to a poured concrete pad. The roof is covered in brown corrugated sheet metal. A fenced yard is situated along the west and north sides of the building. The fence surrounding the yard is a chain link fence. Just outside of the fence to the west of the building is a wooden shed and the remains of the original septic tank that are associated with the house. The shed is a wooden structure with an unknown date of construction and has a dirt floor that has begun to fill in within the shed. The septic tank is a made of concrete with an open top that is partially covered by a piece of metal. The septic tank is no longer in use by the building as it is now connected to the modern sewer system running through the entire ranger station.

Figure 30. Weight Room building (11-54), view west.

The house interior consists of three bedrooms, bathroom, hallway, living room, dining room, kitchen, laundry room, and single car garage. The interior of the building is painted white with a lead-based paint throughout *(see Figure 31)*. Narrow style wooden floors are present in all rooms of the house except for the bathroom and kitchen which have a laminate flooring and the laundry room and garage which are poured concrete floors. The wooden floors are in poor condition with several areas of staining and extreme scuff marks and dents. The windows throughout the house are single paned, wooden sliding windows with brass hardware. All of the interior doors are hollow, wooden doors with brass hardware with the door between the kitchen and the dining room being a pocket door that has been painted over and no longer functions. The bathroom has blue ceramic tile covering the lower half of the walls and while the bathtub appears to be original the toilet and sink were updated at some point over the years. The kitchen retains the original wooden cabinets along with a small built-in closet next to the entry door into the kitchen from the dining room. Just off the kitchen is a small laundry room containing a washer and dryer, water heater, and access to the crawl space beneath the house. From the laundry room, access into the garage is present. The garage is a narrow, single car garage with windows along the west wall. Along the south wall is where the garage door originally was located, however, it was walled in at some point and had a set of double, aluminum doors installed. The dining room is an open room just off the hall and kitchen that is connected to the living room through an archway. The living room is an open living space with open, faux stone fireplace on the south wall. The fireplace is in a state of disrepair as sections of the floor of the fireplace have started to collapse and fragment.

Modifications to this structure include the removal of several interior doors, removal of hardwood floors in bedrooms, partial boarding up of bathroom window, renovation to the bathroom in the 1970s (approximate date based on employee accounts), installation of propane wall heater, removal of wood stove, laminate flooring, modern kitchen appliances, stainless steel kitchen sink, new sidewalk off the front porch, sheet metal roofing, walling of garage door area and installation of double doors, chain link fence, and workout bars in backyard.

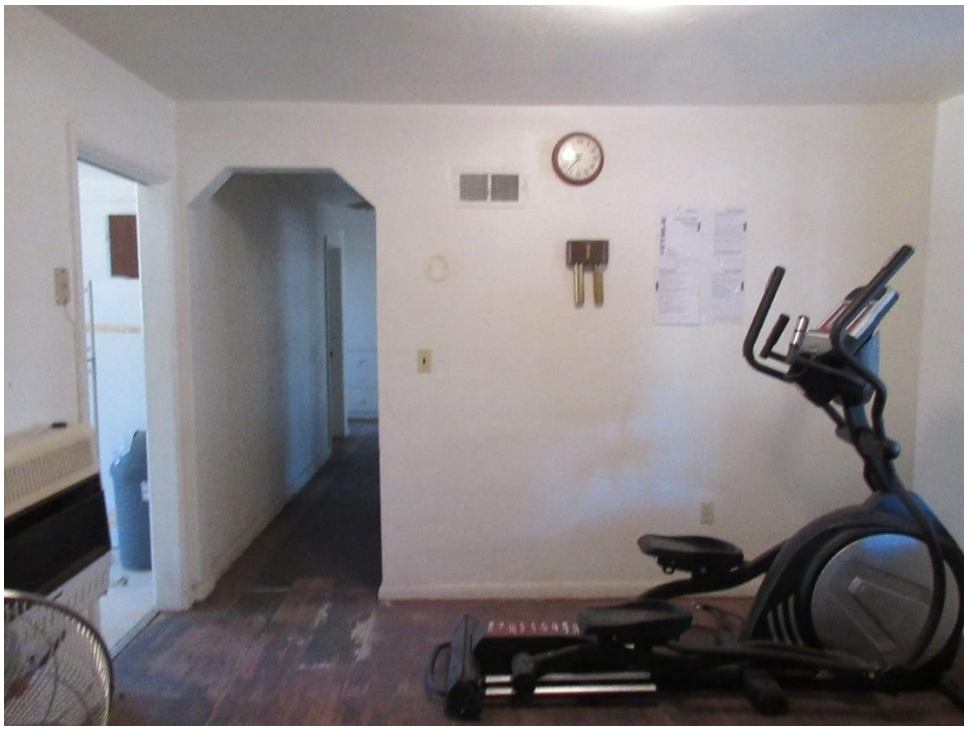


Figure 31. Dining room are of Weight Room (11-54), view from living room.

16-71 Old Well House

This building is a well house for an inactive well pump that was built in 1965 *(see Figure 32)*. The building is located in the center of the road loop that runs through the ranger station just southeast of the Range House (11-38). As the building is no longer in use it has fallen into disrepair and has had no recent upkeep *(see Appendix C, Figures C.47-C.48)*. The exterior of the

building is sided in the rustic channel style siding (wooden board type siding with small grooves in between) such as used on several other of the buildings on the station built in the mid-1960s. The building is painted in the Forest Service red color but has no trim painted in white. The paint is faded and worn on the wooden siding and several boards have water damage and rot. The building is a wooden frame structure built over a set of poured concrete steps which descend down into a poured concrete box that is partly submerged. The roof of the building has lost almost of its roofing materials, which are asphalt shingles, and the wooden roof substructure is visible.

Figure 32. Exterior of Old Well House (16-71), view west.

The interior of the wood portion of the building is an open wood frame with no insulation or finished walls. The concrete steps descend into the concrete box portion of the building which has a poured concrete floor. Within the floor of the subsurface portion of the building is the

remains of plumbing and the pump for the well *(see Figure 33)*. At the entrance to the building a simple wooden frame door is present with the exterior painted red. Within the building two artifacts were noted: a fire extinguisher mounted to the west wall of the building by the door that was manufactured in the 1960s and last inspected in 1969 and an aluminum bucket with the word "FIRE" stenciled on it. There appear to be no modifications to this building.

Figure 33. Interior of Old Well House (16-71) at base of the stairs, view from stairs.

12-17 Chlorine/Pump House

This building is located near the southwest corner of the ranger station within the fenced area containing the station's water storage tank *(see Figure 34)*. Built in 1965, this building houses the current well pump and water treatment hardware for the drinking water. In the Engineering records this building is listed as both the pump house for the well and as the chlorine house. It appears that this building may have first been used strictly as the chlorine

house to treat the water as it was pumped from the Old Well House (16-71) to the water tower that used to exist next to the building. This building now houses all the well pump and water treatment for the water supply to the entire station.

Figure 34. Chlorine/Pump House (12-17), view east.

The exterior of this building is sided in rustic channel style siding painted in a dark brown. The roof is covered in asphalt shingles and is in decent repair. The building has one single paned, metal sliding window on the west side and a small narrow wooden panel door on the east side. The interior of the building is walled with drywall and painted white. An electrical conduit runs along the west wall underneath the window while the pumps and plumbing for the well are scattered across the floor *(see Appendix C, Figures C.49-C.50)*. The building is constructed on a concrete slab and all the plumbing was laid out within the floor area prior to the pouring of the concrete foundation *(see Figure 35)*. There appears to be no modifications to the

structure itself while some of the pumps and water pipes as well as the electrical hardware have been updated.

Figure 35. Interior of Chlorine/Pump House (12-17), view from doorway.

13-84 Shop

This building is used to store fire engines, fire equipment, as a meeting space for the fire crews, and as the district metal and wood shops. According to Engineering records the building was constructed in 1964 and can be clearly seen in a historic aerial photograph of the station from 1968 *(see Appendix A, Figure A.9)*. The building has undergone modifications over the years to modify the interior. The Shop is located within the fenced truck yard of the ranger station in the southwest corner. It is called the "Shop" by current staff of the ranger district as it contains two shops, the wood and metal shops, used by the various personnel to maintain equipment and various structures. No historic name for the building could be located.

The building is constructed on a concrete pad and is a steel frame design. It is built from metal "I" beams as the frame and roof supports. The entire building is roofed and sided in a light tan corrugated sheet metal with skylights made from an opaque plastic *(see Figure 36)*. Along the front the building is a concrete sidewalk/slash loading dock and is covered by the extended roof. There are five modern roll up garage doors for access into the building. These doors were installed at some point in the 2000s to replace the original wooden roll up garage doors with windows in them. Two regular entry doors with windows are located on either end of the building front and provide entry into the wood and metal shops. One of the original wooden garage style doors remains on the front of the building towards the south end, however, it was modified to be a wall with regular wooden entry door. On the south side of the building another poured concrete pad was added, possible in the 1980s, to provide an area for employees to wash their assigned Forest Service vehicles (Bill Morris, personal communication). Embedded in this pad alongside the building are two water pipes with spigots while holders for fires hoses are attached to the side of the building.

The interior of the building consists of four separate rooms: an open engine bay area in the center of the building *(see Figure 37)*, metal shop on the south end, a bathroom in the metal shop, and wood shop on the south end. The metal shop is a workshop and storage area for various tools, welding equipment, fire tools, and has the bathroom located in the southwest corner. The wood shop contains tools and equipment for carpentry and building such as table saws, planer, and miscellaneous wood scrapes. In the open engine bay area there is a space along the north end where wooden storage boxes have been constructed to allow the fire personnel to store their fire gear when not in use and also acts as a meeting area for their

briefings. Three open bays in the center are used to store three of the Type 6 engines while the last bay on the north end has become a storage area for the various equipment and supplies.

The interior of the building used to contain additional rooms including an office and multiple storage areas within what is now the engine bay area (Bill Morris, Nathan Maurer, Daniel Ruebush, and Josh Salazar, personal communications). The interior walls making up these rooms were demolished in the early 2000s so that the area could be opened to accommodate the storage of three fire engines. A wood stove was also removed from this area as well. Two doors, one leading into the wood shop and one into the metal shop, were closed off on the west side of the walls separating these rooms from the engine bay (Bill Morris, Nathan Maurer, Daniel Ruebush, and Josh Salazar, personal communications). New doorways were cut in the walls on the east side to provide access into these shops. The walls and ceiling of the building are insulated and covered in drywall except for the ceiling in the metal shop. The bathroom located in the metal shop is a small room containing a sink and toilet walled in with a wood frame and plywood. Two metal frame windows are located in both the south and north exterior walls of the building.

Figure 36. Shop exterior (13-84), view west.

Figure 37. Engine bays in the Shop (13-84), view from entry door.

13-65 Saw Shop

The Saw Shop is a building located immediately on the north side of the Shop (13-84) and is known as the Saw Shop because it is currently used by fire personnel to store and maintain all of their chainsaws and associated equipment. The building was built in 1964 and was originally the mechanic's shop. The shop was originally used for maintenance of the Forest Service fleet vehicles used by the ranger district but was converted into the Saw Shop in the 1980s (Bill Morris, personal communication). The conversion from a mechanic's shop to the Saw Shop required various modifications to the interior of the building.

The exterior of the building is constructed in the same manner as the other wooden buildings on the station built in the mid-1960s. It has the same style of rustic channel siding painted in the red color, although no trim is painted in white *(see Figure 38)*. The building is a

wooden frame construction situated on a poured concrete foundation. On the south side of building there is a door to a small attic space, however, the exterior staircase that used to provide access to the door is no longer present. The staircase was removed in the early 2000s due to safety concerns as the staircase and attic space fell into disrepair (Nathan Maurer and Curtis Smith, personal communications). The front of the building has two modern roll up, metal garage doors that provide access to the interior. In between the doors a hole was drilled to provide access for an air compressor hose which is fed through the wall and hung on a hose rack on the exterior wall. A concrete pad extends out from the front of the building that provides a ramp into the building. Siding and trim along the base of the building has some damage and wear from water. The roof is covered in a green corrugated sheet metal.

Figure 38. Front of Saw House (13-65), view west.

The interior of the building consists of two rooms separated by a central wall. The southern room was modified for storage of chainsaws, chainsaw parts, and an air compressor *(see Figure 39)*. The walls are covered with drywall except for the interior wall which is covered with wide boards that are painted white. Two wooden frame windows are present in the southern wall and one is present in the western wall. The windows slide upwards to open, however, one window in the south wall and the west wall are covered over and no longer functional. The ceiling of this room is lower as the attic space is right above this room. Along the back wall is an enclosed closet made from plywood on a small raised concrete base that houses the air compressor. On the north side of the closet, shelves are present between the wall and the closet. Just in front of the shelves two ponderosa logs were installed and attached to the ceiling as storage units for chainsaws in the 2000s (Daniel Ruebush, personal communication). On the center wall next to the garage doors is a doorway that provides interior access between the two rooms. The second room of the building is a workspace for the fire crews to maintain their chainsaws. The room used to contain a mechanic's lift for the purpose of servicing the district's vehicles, however, in 1987 the lift mechanism was removed, and the void filled in with concrete. This date is known as the employees who removed the lift and filled in the area with concrete wrote their names and the date in the concrete. All tools associated with the mechanics shop were removed and new workbenches and a wood burning stove were installed at an unknown date. The walls of this room are covered in a wooden paneling that was added by the fire crew in the 2000s replacing the original walls (Curtis Smith, Nathan Maurer, and Daniel Ruebush, personal communications).

Overall modifications to the building include the sheet metal roof, removal of the exterior stairs, wooden paneling, wood stove, log post saw holder, air compressor closet, modern metal garage doors, installation of the workbenches, and the removal of all the mechanic shop equipment.

Figure 39. Interior of Saw House (13-65), southern room, view from garage door.

13-94 Gas & Paint Building

According to the Engineering records this building was constructed in 1964 and was used to store gas and paint as well as serving as the gas station for the district's vehicles. Modifications have been made over the years by employees who are using the building now as storage. The current use of the building is to store miscellaneous fire equipment used for fire suppression and to conduct maintenance to the district facilities. The gas pump used to service

the district vehicles is no longer present as it was removed due to a change in Forest Service policy regarding providing fuel for Forest Service vehicles.

This building is of the same construction as the Shop (13-84) in that it is built on a concrete foundation using a metal frame and is sided in yellow corrugated sheet metal *(see Figure 40)*. At the front of the building is a concrete loading dock that extends from the foundation and has a ramp leading down to a concrete pad where the gas pump used to be located. The gas pump used to be situated next to the concrete pad with underground storage tanks of the gas and diesel that were removed when the gas pump was removed. In the front of the building opposite the ramp is a wooden roll up garage door with three windows. Next to the garage is regular entry with a hollow metal door. On the north wall there are two metal framed windows that are solid and do not open. The roof overhangs the extent of the loading dock providing a covered area.

The interior of the building originally had an open floor plan for storage but is now sectioned off by walls. The building is sectioned off into four rooms that are separated by different types of walls. The first room is reached by entering through the main entry and used to store miscellaneous equipment *(see Figure 41)*. The second room is on the south side of the first room and is separated from the first room by a wooden frame wall covered in wire mesh. A wall constructed from plywood separates the first two rooms located at the front of the building from the back of the building and the last two rooms. A door leading from the first into the third room is located at the center of the building. The third room has had wooden shelving units constructed along the north and east walls of the building and through the center of the room for

storage. Another wall made from a wooden frame and wire mesh separates the third and fourth rooms.

The modern modification to this building includes the removal of the gas pumps and underground gas tanks, construction of the interior walls dividing the building into four rooms, and the construction of the storage shelves.

Figure 40. Paint and Gas building (13-94), view east.

Figure 41. Interior of first room in Paint and Gas building (13-94), view from entry door.

13-30 Fire Cache & Equipment Storage

This building is primarily used by the fire crew to store a fire engine, UTVs and trailers, and other equipment. Silviculture, Range, and Wildlife are also using a couple of the rooms to store tools and equipment. The building is functioning as it was originally intended but has undergone modifications in order to provide more secure storage areas. Engineering records indicate that the building was constructed in 1964, however, an aerial photograph from 1960 *(see Appendix A, Figure A.8)* shows that a building is present in the current location of the present building. The building in the aerial photograph appears to be of the same size and dimensions of this building and the construction style of the building suggests that its actual construction date may be earlier. The construction style is similar to other buildings on the station built in the

1950s as well as that of wooden ones built in the 1960s. No documentation could be found to confirm whether the building in the 1960 aerial is the same as the current building.

The exterior of the building is sided in the wooden rustic channel style siding that is painted in the same red as used across the station on other buildings *(see Figure 43)*. The front of the building consists of two storage areas on the east side, then three open bay areas, and then four additional enclosed storage areas on the west side. The siding on the front of the building was redone within the last 15 years as the original wooden siding had deteriorated. The secured storage areas have had modern hollow metal, double doors installed at their entries. One of the storage areas on the east side that is not secured has large wood framed double doors with wood siding on them. This storage area was originally another open bay area that was closed in by the fire crew so that miscellaneous yard equipment could be stored (Daniel Ruebush and Curtis Smith, personal communications). On the backside of the building there is one single door that provides a secondary entry into one of the storage areas. The entire building is wood frame construction on top of a concrete foundation which has some damage and deterioration.

Figure 42. Fire Cache & Equipment Storage (13-30), view south.

The interior of the building is broken up into five storage areas and three open bays. The original layout of the interior of the building is unknown as no blueprints were found and modifications to the storage areas have occurred over the past 20 years according to fire staff (Daniel Ruebush, Nathan Maurer, and Curtis Smith, personal communications). Starting on the east side of the building the first storage area was modified by fire personnel so that a second-floor area was added. The layout and construction of this room is not original to the structure as it was modified by the fire crew to suit their needs. Immediately next to the first storage area is a storage room used to house the district's yard equipment in what once was an open bay but as mentioned above, it was enclosed by fire personnel. The three open bay areas are located adjacent to the second storage area and have supporting wooden posts in between the bay areas. The last four storage areas are located on the west end of the building and do not appear to be

part of the original layout of the building. Storage rooms were constructed using plywood walls by the fire crews with only the exterior west wall and the wall separating the open bay area from one of the storage rooms appearing to be part of the original structure. Two of the storage rooms have had lofts built into the back of the rooms to provide for more storage.

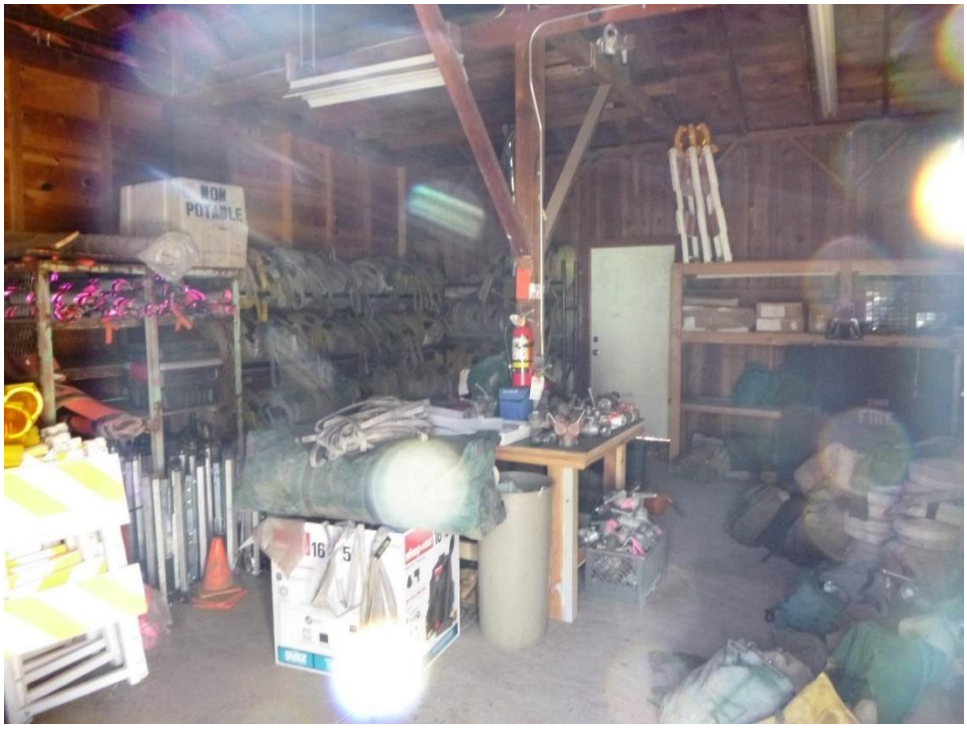


Figure 43. Interior of one storage room in the Fire Cache & Equipment Storage building (13-30), view from entry door.

13-91 Garage 12 Bays

This building is located within the northwest corner of the BMRS truck yard with the yard fencing intersecting with the northeast and southwest corners of the building. According to records in the 1994 A-S Faculties Master Plan *(see Appendix B, Table B.1)* the building was constructed in 1964 and is used as storage for up to 12 Forest Service vehicles. The building is still currently used to store various Forest Service vehicles along with supplies and other

equipment. The building is present on the undated map of the ranger station *(see Appendix A, Figure A.7)*, which helps narrow the possibility of the date to at least 1964.

The building is constructed on a poured concrete foundation from prefabricated metal "I" beams and tan corrugated sheet metal *(see Figure 44)*. The ground surface was built up slightly to provide a level surface for the construction of the building. The entire building, both interior and exterior, is made using corrugated sheet metal bolted to metal framing materials. None of the walls are insulated or completely framed in *(see Figure 45)*. There are 12 roll up garage doors located on the east side of the building for vehicle access and storage while a single hollow, metal door is present on the south side of the building for additional entry. The building has no windows, but a few pieces of opaque plastic roofing are present in the roof to provide semi-transparent skylights. No modern modifications are apparent on this structure.

Figure 44. Garage 12 Bays (13-91), view west.

Figure 45. Interior of Garage 12 Bays building (13-91), view from center of building.

13-63 Hotshot Building

This building is located just outside of the truck yard fence to the southwest and is used by the Black Mesa Hotshot crew as a workspace to provide maintenance to their chainsaws. The building was constructed in 1950, according Engineering records, but is not original to the BMRS establishment period. The building was moved from the Heber Job Corps facility, located just outside of Heber-Overgaard, to the ranger station at some point in the 1980s (Dave Maurer, personal communication). This is also verified by the lack of the building's presence in aerial photos of the BMRS dating from 1968 and 1977 *(see Appendix A, Figures A.9-A.10).* According to Engineering records, the building was initially used as a storage shed *(see Appendix B, Table B.1)* before being utilized by the Hotshot crew. The Hotshot crew was moved to the ranger station in 1977 from the Heber Job Corps facility prior to the arrival of the building

(USDA 2020). There is no record of what the original use of the building was at the Heber Job Corps facility or if was original to that facility either.

The building is constructed using a wooden frame method with a modern poured concrete, slab foundation *(see Figure 46)*. The exterior is covered in a channel rustic style siding that is painted in Forest Service red with white trim. Several modifications to the exterior have occurred over the years to enhance its use for the Hotshots. Modifications include the following: installation of a stove pipe through the front exterior wall and up through the roof to accommodate a wood burning stove, a poured concrete sidewalk that spans the front of the building and then wraps around to the east side, new corrugated green metal roof, boarding up of a side entrance on the east wall, metal gutter system, addition of a small storage room on the southeast corner of the building to house an air compressor, and the addition of a cement paver patio area and wooden awning covered work area along the south side of the building.

Figure 46. Hotshots building (13-63), view south.

The interior of the building was constructed with a shiplap style wood paneling on the walls and ceiling *(see Figure 47)*. The windows are wooden casement style, single pane that open to the interior of the building. There are two located in the south wall and one each in the other three walls. The front door is a double wooden horizontal panel style with one of the doors having a single pane window in the upper half that is not original. The side door in the east wall, which is boarded up on the exterior, is modern plywood board with hinges used for a door. All of the windows have had a metal grate added over the exterior, except for the door window, for security purposes. The lights within the building are modern fluorescent style lights with no original lighting existing. Work benches and chainsaw storage spaces have been added along the east, south, and west walls with the modern wood burning stove located in the northeast corner.

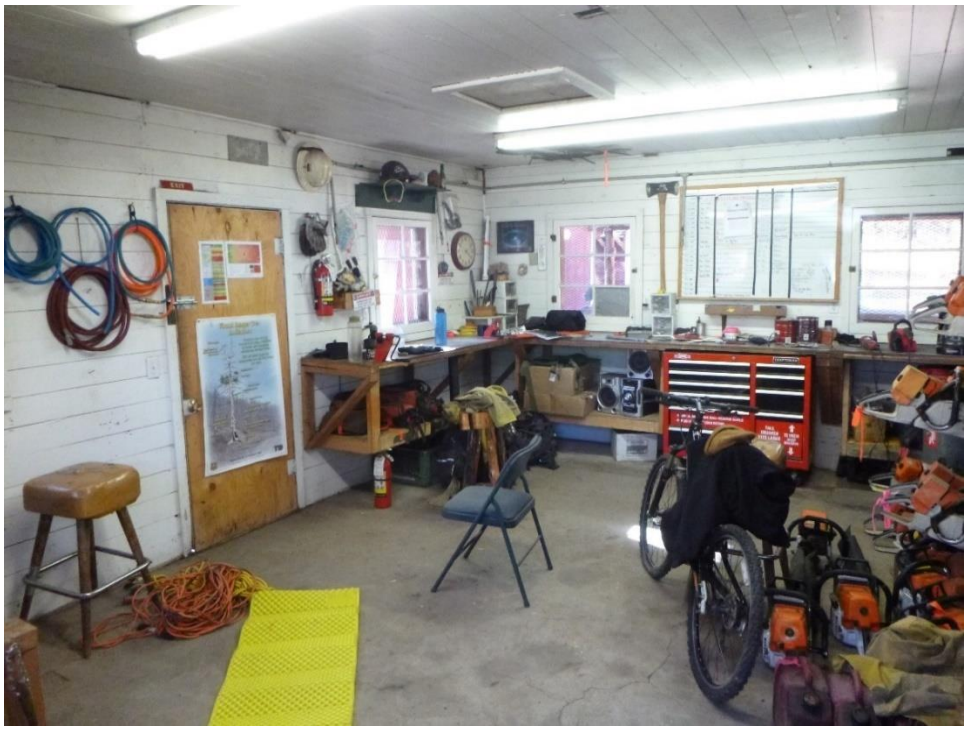


Figure 47. Interior of Hotshots building (13-63), view from entry.

Hotshot Tool Shed

This building has the same history as the Hotshot building in that it was potentially constructed in 1950, based on the style, and was moved from the Heber Job Corps facility to its current location on the ranger station *(see Figure 48)*. The building is located just to the southwest of the Hotshot Building amongst some modern prefabricated storage sheds. The original use and construction date of the building are unknown as the building does not have a Forest Service number and is not present in the Engineering records. The building is currently used by the Hotshot crew as a storage and workspace for their fire tools *(see Figure 49)*.

Figure 48. Hotshot Tool shed, view south.

The exterior of the building is constructed in the same style as the Hotshot building and painted with the same colors. The windows in the building are different in that they are constructed of two hinge segments which open outwards. There is one window located in the south and west walls. Along the east wall a wood rack was added to the exterior wall for storage of some miscellaneous materials. The interior of the building has wide wooden boards covering the walls with some built-in wooden shelves that appear original along with added storage devices that the Hotshots installed for their tools. The ceiling is not finished with the open wooden rafters visible and being used for storage.

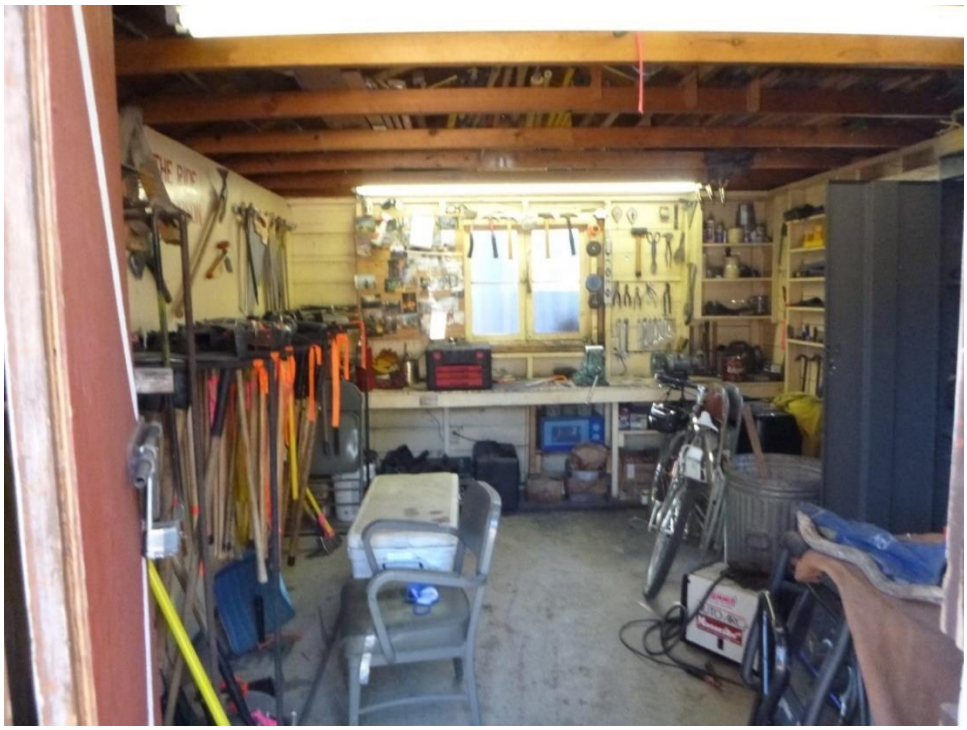


Figure 49. Interior of Hotshot Tool Shed, view from entry.

Modern Building Overview

There are total of 11 buildings on the ranger station which are not historic and thus were not recorded in detail. The modern buildings found on the ranger station include three modular homes (Mod A, Mod B, and the FEMA trailer), the ranger district office, Engineering trailer, hay shed, microwave building, sewage treatment plant, water storage tank, and two hazardous materials storage. Each of these buildings were mapped during survey to make a complete overall map of the station *(see Figure 9 above)*.

The modular homes are located in two locations on the station: the FEMA trailer is located in the southwest corner and Mod A-B are located on the east side of the ranger station by the Radio Building (15-93). Both Mod A and B are used to house seasonal crew members throughout the year and are a replacement for the crew quarters building that was demolished in

the early 2000s. The FEMA trailer is located in the southwest corner of the ranger station and is used for permanent employee housing. This modular home is situated on the site of a previous modular home which was removed when its owners moved off the station. The current ranger district office was constructed in 1994 to replace an earlier version. Part of the office also consists of a modular trailer, on the eastern side, known as the Engineering Office, that was put into place in the 1980s (Engineering records). The water storage tank located in the southwest corner of the ranger station was installed in the 2000s to replace the previous water tower that was demolished (Engineering records). The water storage tank is situated on the ground level as a freestanding tower like the previous one. The microware building is simply an empty building that used to contain some communication equipment but now is not in use in the southwest corner of the station. The sewage treatment plant is located to the west of the truck yard in the lower parking lot and was constructed in 2006 to treat all the sewage and wastewater generated by the ranger station. The hazardous materials buildings are located in the truck yard and used by the district to store chemicals such as gas, diesel, etc. These two buildings are situated side by side and were constructed in 1994 (Engineering records). The hay shed is a simple wood frame and plywood building constructed in the 1990s (Engineering records) near the horse corrals next to FR 50 in order to store hay and horse equipment.

Field Survey Results

After completing the survey and recording the ranger station buildings, a field survey of the project area was undertaken in order to identify additional historic features and artifacts that are located across the ranger station. This survey was accomplished using parallel transects spaced five meters apart to provide an intensive survey coverage and following methods laid out

in the Methodology (Chapter IV) above. During this survey only a few historic artifacts and features were located, most in association with areas where historic buildings were previously located or are still located.

Historic Features

Historic features discovered during the survey of the ranger station varied from structural remains from buildings to communication features. A total of 11 historic features were recorded in various locations across the station *(see Figure 9)*. The features ranged in period of utilization by the ranger station and all were found to be in various states of deterioration as they are no longer in use *(see Table 4)*. Each feature was recorded using GPS, photographs and a detailed description.

Table 3. Historic Feature information.

Feature #	**Description**	**Date of Construction/Use**
H1	Ponderosa pine tree with a white ceramic insulator attached to trunk with wire; insulator is two-piece, oval shaped Forestry insulator	1920
H2	Ponderosa pine tree with a brown ceramic insulator attached to trunk with wire; insulator is two-piece, oval shaped Forestry insulator	1949
H3	Seven juniper fence posts painted in the Forest Service red color	unknown
H4	Sewage settling pond	1980s
H5	Weather station	1980s
H6	Four concrete footings for the demolished water tower	1960
H7	Road grade depression	1949
H8	Road grade depression	1949
H9	Water control feature; small concrete box	1958
H10	Plumbing and water pipe for wash house	1950s
H11	Depression at location of a demolished building	1951

The first feature is a white ceramic, split knob forestry insulator (Tod 1977) attached to a ponderosa pine tree that is associated with and part of a telephone line that ran alongside historic State Route 160 (also recorded as site AR-03-01-02-0939, separate from the ranger station). The historic road originally ran through what is now the ranger station and provided access from the town of Heber-Overgaard to the towns of Payson and Show Low. The section of the road that ran through the station is now part of the Forest Service road and the parking lot of the ranger station office. This insulator feature was part of the telephone line that provided communications from various areas in the Forest to the ranger district office, mainly in support of wildfire suppression. The insulator is attached to the tree using a long piece of wire so that the insulator is not flush to the tree trunk and approximately 16 feet from ground level. The manner in which the insulator is attached is consistent with the national standard for telephone lines installed and used on National Forests across the country. This type of telephone line was known as a tree line construction intended for use in dense forests as the insulators were attached to trees with weak wire ties between 16 to 18 feet from the ground and would have a slack wire running between them (Adams 1915). Telephone lines constructed with this method took into account the natural swaying of the trees and decreased the chance of damage to the line from tree fall because insulators would easily pull off if a tree fell on the line (Adams 1915).

The second feature is a brown ceramic, split knob forestry insulator (Tod 1977) in a ponderosa pine tree located within the truck yard. It is attached to the tree in the same manner that the first feature is but is associated with a communications line installed for the ranger station. It is unclear what building the line originally may have run to as no wire or other telephone features remain near this insulator.

The third feature is a row of juniper fence posts in the northwest corner of the ranger station. The posts align with the historic layout of the ranger station site and were used for a fence that partitioned off the ranger station from one of the horse pastures. The posts are locally sourced juniper that were delimbed and debarked then painted in the red color used on the Forest Service buildings. No wire or fencing materials remain attached to the posts and most likely was removed in the late 1990s to early 2000s when the ranger station no longer utilized the pastures for horses. It is unclear when exactly the posts were put into place as they exhibit no particular design or construction method.

The fourth feature is an earthen, sewage settling pond that was used by the station facilities from the 1980s to the early 2000s. The sewage pond was retired from use when a new wastewater treatment plant was constructed in the early 2000s to handle all the ranger station's sewage. The pond is located to west of the truck yard near the boundary of the ranger station. A barbed wire fence, that has fallen into disrepair, encompasses the entire sewage pond.

The fifth feature is the remains of an evaporation station located to the north of the truck yard. The evaporation station has a wire mesh fence surrounding it using both metal support poles and wooded posts. This feature was used by the ranger station prior to the construction of a modern evaporation station located near the Helibase. An evaporation station is designed to gather information about the relative amount of evaporation in an area along with velocity of wind and other meteorological elements (Kadel 1919). There is no clear indication of when the evaporation station was installed at the ranger station, however, aerial photographs from 1960, 1968, and 1977 do not have the evaporation station present in them *(see Appendix A, Figures A.8-A.10)*. None of the historic maps of the ranger station found during research show the

evaporation station plotted on them either. The feature consists of a fence and the wooden and metal stands for the evaporation station equipment, however, the actual equipment that used to take the environmental readings was removed from the stands after it was decommissioned.

The sixth feature consists of four concrete footings that once held the station's water tower that was installed in the 1960s. This water tower was a large freestanding tower supported on a steel frame situated atop these concrete foundations. The water tower was demolished in the early 2000s and replaced with a newer water tank. The foundations are in the northwest corner of the ranger station within the fenced area containing the current water storage tank and Well House (12-71).

The seventh and eighth historic features are two road grade depression from decommissioned roads that were utilized in the past by the ranger station. The first road is located in the northwest corner of the station and is present on the historic maps of the station as providing a southern route from the ranger station compound. The road is located in the southeast corner of the station just behind the Ranger House (11-40). This road, according to historic maps, was the main access from the loop road through the station to the Engine Quarters (11-60). Neither of these roads are currently in use and have begun to fade due to erosion.

The ninth feature is a small concrete box inset into the ground just south of the Engine Quarters (11-60). The box is hollow in the center, measures 12 inches by 12 inches, and has almost filled completely in with sediment. It appears that this concrete box is part of a historic water/sewage drainage system for the station. A map from 1958 depicts water and sewage systems across the station with access points and features associated with them *(see Appendix A,*

Figure A.5). This feature appears to align with an access point located on the sewage/water drainage system plotted on the map south of the Engine Quarters.

The tenth feature is a decommissioned water main access and water hydrant that are associated with the washhouse which was originally located immediately adjacent to the Engine Quarters. The washhouse was demolished in the early 2000s when it was no longer required by employees. This feature is all that is left to mark the location of the washhouse as all other structural components were removed or buried during the deconstruction. There is no water currently flowing to these water pipes.

The final feature is a large depression measuring 15 feet by 12 feet that was the location of a crew quarters building. This building was also demolished in the early 2000s as it was no longer required to house district employees. Both this building and the washhouse were originally constructed in 1951 and were some of the original buildings of the station. This depression is the only evidence left of this crew quarters building as all structural remains were removed during demolition.

Historic Artifacts

During the course of the survey relatively few historic artifacts were found across the ranger station *(see Table 5)*. The dearth of artifacts associated with the historic occupation of the ranger station is probably due to the requirements stipulated to residents over the years of keeping their quarters areas well kept. Current residents of station housing are required by their rental agreements to provide upkeep of exterior areas of their quarters and to ensure trash is properly disposed. Employees not residing on the station are also required to help maintain the neatness of the station by removing trash and debris if it is encountered near their storage

facilities or across the station in general. This maintenance by employees has led to the occurrence of the grounds of the station undergoing meticulous removal of all "trash" located by all employees which has mostly likely led to the removal of historic artifacts over the years.

Table 4. Artifact Scatter Inventory

Miscellaneous Artifact Scatter						
Est. Total Artifacts: ≥ 30						
Historic Ceramics						
Material	*Decoration/Glaze*	*Vessel Form*	*Description*		*Total*	
Terra cotta	-	Pipe	Sewer pipe		3	
Metal						
Material	*Description*	*Length*	*Width*	*Height*	*Total*	
Iron	Unknown strap	-	-	-	1	
Iron	Unknown fragment	-	-	-	2	
Aluminum	Jar screw on lid	-	-	-	1	
Steel/aluminum	Bimetal pull tab beer can, crushed	-	-	-	4	
Tin	Sanitary food can, opened all around, crushed	-	-	-	3	
Tin	Venthole food can, opened all around, crushed	-	-	-	2	
Glass						
Color	*Vessel Form*	*Manufacture*	*Description*	*Count #*	*MNI*	
White	Bottle	Machine mold	Milk glass bottle base	1	1	
Clear	Window	-	Broken window glass	20	1	
Misc. Historic Artifacts						
Material	*Description*	*Length*	*Width*	*Height*	*Total*	
Rubber	Red, unknown function	-	-	-	1	
Concrete	Cylinder, unknown function	-	-	-	1	
Brick	Red, fragments	-	-	-	5	

Approximately 30 historic artifacts were found associated with the ranger station, although further artifacts were possibly hidden in some areas with a thick duff layer. Overall, the duff layer was very light across the station and did not impede ground visibility a significant amount. As a result, the raking technique and use of counting units were not undertaken during the project. The artifacts located included various tin cans, glass bottle shards, window glass

shards near the Old Duplex (11-7), brick, and some other miscellaneous items. All of the artifacts, except the window glass, were found in random locations across the station and not in direct association with any structure. No large refuse piles or main dump was located on the ranger station indicating that trash was not discarded on the station compound but disposed of elsewhere. In areas where buildings were either demolished or removed over the years, no structural debris was noted in association with those buildings' removal. This indicates that a significant effort was most likely undertaken to clean up these old building sites by either removing or burying structural debris.

Historic Subsurface Deposits

While testing of the subsurface was not undertaken during this project, several indications of subsurface deposits were found during the field survey of the ranger station. During the recording of the historic buildings, there were objects visible on the surface that indicated the present of subsurface materials or features associated with the structures. Adjacent to the Weight Room was an uncovered concrete catchment situated within the ground that is reported to be a septic tank. This tank is buried within the ground at an approximate depth of five feet, although the top is now open, and would have had a pipe running from it to the Weight Room. As the Weight Room is one of the oldest structures on the station, it is probable to suggest that buildings of a similar construction date (the early 1950s) and purpose may also have buried septic tanks present near them as well. These buildings would include the Old Duplex and Engine Quarters.

To the east of the Engine Quarters, a wash house used to stand that functioned as the shower house and bathroom for those living in the Engine Quarters. This building has since

been demolished; however, evidence remains of water pipes that used to connect to the structure. The pipes are also indicative that further subsurface features should be present throughout the ranger station in the form of various size water pipes that would have been installed from the Old Well House, the demolished water tower, or current Chlorine/Pump House in order to supply water to all the structures on the station that required it. As well as water, sewage pipes would have been placed, and most likely are still present, in the subsurface to transport sewage to the original settling pond (Feature H4) that was used prior to the construction of the modern sewage treatment plant. The presence of these pipes is indicated by sherds of terra cotta pipe found on the ground surface of the station.

Another indication that subsurface features or elements of the historic ranger station exist was also noted during the recording of the Gas & Paint Building during the fieldwork. It was noted that the Gas & Painting building used to be a service type station for the vehicles of the ranger station and had a gas pump situated next to a concrete pad attached to the building. This pump and the underground gas storage tank have since been removed, according to discussions had between the author and employees who were present at the time, which would have left a void in the ground that would need to be filled. This filled void would be considered an historic feature element representing a part of the past use of the ranger station and that particular building. Additionally, pipes or features of the pumping station may have been left buried if they were not deemed necessary to remove. Overall, while there are areas of the ranger station that show that buried elements of the historic component exist, the entirety of these components are not known. Future fieldwork and testing that may occur on the station should bear in mind

that if cultural materials relating to the historic component are discovered they should be recorded and noted within the overall site record.

Summary

The historic component of the Black Mesa Ranger Station was found to consist of 20 historic buildings, 11 historic features, a limited number of surface historic artifacts, and both confirmed and unconfirmed buried historic elements. While only a limited number of artifacts were discovered and subsurface testing was not conducted to determine the extent or presence of buried features, the current data collected from the fieldwork and literature review have provided a fairly detailed look into the development of the ranger station. Should further historic artifacts, elements, or documents be found in the ongoing work at the ranger station, they should be documented and added to the site record so that data is available for future reference.

Chapter VI: Prehistoric Component Results

To fully evaluate the prehistoric component of the ranger station site two different approaches were taken in order to provide a comprehension overview. The first task of the project was to undertake a pedestrian survey of the project area in order to identify all the surface prehistoric aspects of the site that are visible. This pedestrian survey was conducted using the methods laid out in the Methodology chapter above. The second part of documenting the prehistoric component consists of documenting all the visible indications of disturbance that have occurred across the site, both surface and possible subsurface disturbances. Data from the Engineering GIS database were also utilized to map out underground disturbances based on the location of known utility lines (e.g. water, power, and sewer lines).

The prehistoric component of the site was delineated by the extent of the surface deposits and known subsurface features with an additional 15-meter buffer added. The northwest portion of the main site boundary as well as the north side reflect the presence of prehistoric components beyond the historic component areas. Two previously recorded sites, AR-03-01-02-2431 and AR-03-01-02-3661, were located within the northwestern area that is now included in the ranger station site. These sites, both prehistoric, were relocated during the survey and found to have an area of separation between themselves and the historic ranger station site of approximately 20 meters or less. Thus, with the added 15-meter buffer that is given to all sites it was determined to merge the sites into one in order to provide for ease of management. While the extent of the subsurface prehistoric component could not be determined by the survey, the site can be expanded to include any further deposits that may be discovered outside of the site boundary at a later date. Currently, the vertical extent of the site remains at approximately 3-60 centimeters

below the original ground surface based on the previous site testing done by SWCA (Purcell and Greenwald 2012).

Pedestrian Survey Results

During the course of the survey four artifact concentrations (AC) of prehistoric artifacts were discovered in association with the ranger station and were recorded *(see Figure 49)*. Each concentration contained a light density (less than 100 artifacts) scatter of ceramics and lithics with two of them also containing a groundstone tool. Due to this light density of artifacts, counting units were noted utilized and simple tally of artifacts flagged within the concentrations was completed. The concentrations and a few singular artifacts were discovered towards the north end of the project area while no prehistoric materials were located towards the center and southern end of the site. Each concentration was recorded by all the artifacts found throughout the scatter instead of utilizing the method of setting up counting units in order to sample smaller areas within the concentration as laid out in the Methodology chapter. This was due to the lighter than expected density of artifacts within the concentrations. Instead, all artifacts that were flagged, and any others discovered, were recorded throughout the concentration in order to provide an overview of the artifact types present.

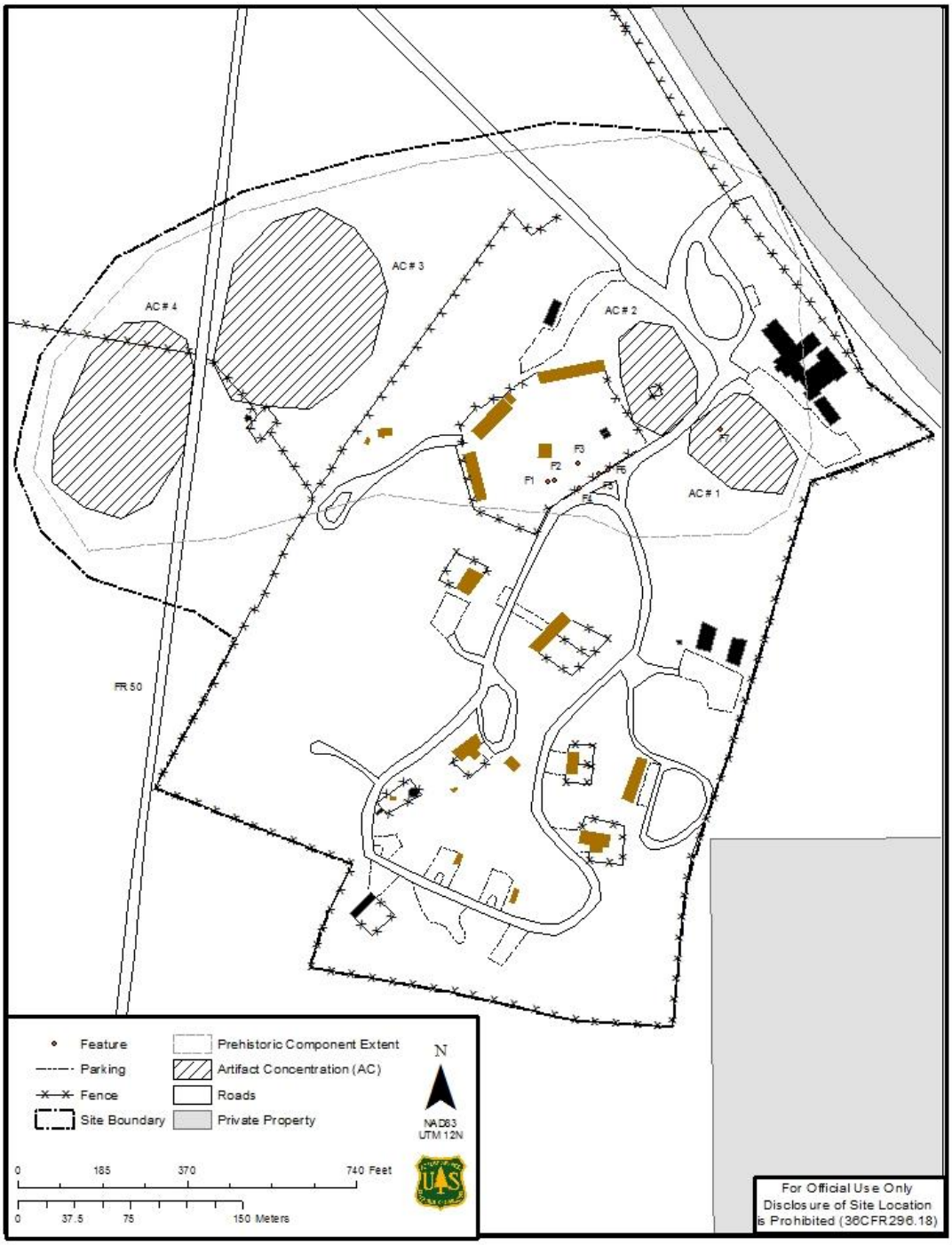


Figure 50. Prehistoric component locations on the Black Map Ranger Station.

The survey uncovered no new prehistoric features anywhere on the ranger station. The area was inspected closely for potential rock features, pithouse depressions, or other alterations to the landscape that might indicate prehistoric use. Three previously recorded pit features noted by Four Corners, Inc. (Purcell and Greenwald 2012) during the excavation of the waterline in the truck yard were relocated and found to still be undergoing erosional disturbance due to their presence within a drainage ditch.

Artifact Concentration # 1

The first artifact concentration (AC # 1) is located just south of the employee parking lot in an area where artifacts are consistently noted within a trail used by employees to access the truck yard. The concentration measures 55 meters by 72 meters and is in an area where ground visibility ranged from 25 to 85 percent with the pine duff layer completely covering the ground surface in portions of the concentration. Some minor to moderate disturbances were inspected for eroding cultural materials and a few areas did have artifacts with them. A ditch is present along the south side of the parking lot (north side of the scatter) that is approximately 10 to 35 cm deep, and a couple of artifacts were discovered either within the ditch or eroding from it. Bioturbation in the form of gopher tunneling is extensive in the concentration with singular artifacts found sporadically within the dirt mounds formed from the rodent activity indicating the presence of some buried deposits. The main area of disturbance in which artifacts are consistently noted is a walking trail that connects the parking lot to the road leading to the truck yard. Singular ceramic sherds or lithic debitage are discovered often within the trail by district employees. Two partial chert projectile points also were collected and turned in to the Heritage

staff after being located in the trail. Four other trails bisect the concentration, used by employees walking to the office from quarters, some artifacts were located directly within the trail tread.

The artifact assemblage recorded within this concentration during the survey consisted of ceramic sherds, various stages of lithic debitage, and one groundstone tool *(see Table 5)*. The ceramic assemblage contained Puerco Valley Brown Ware (Woodruff Brown) and some possible Mogollon Brown Ware (Alma Plain) which provides a date range of 500-1000 A.D. which correlates to the Cottonwood to Dry Valley phases of the Mogollon/Ancestral Puebloan Periods (Hays-Gilpin and van Hartesveldt 1998). The groundstone tool is a "flat" mano (Adams 1996) used for grinding and is a single-handed tool with light use wear. The lithic assemblage found scattered across the concentration consists of a few primary and secondary flakes in various colors of chert *(see Table 5)*.

Table 5. Artifact Concentration # 1 Inventory

Artifact Concentration # 1									
AC 1	*Est. Total Artifacts: ≥ 52*			*UTMs: 540639mE, 3805837mN*					
Ceramics		***Body Sherds***			***Rim Sherds***				
Type	*Description*	*Bowl*	*Jar*	*Unk*	*Bowl*	*Jar*	*Unk*	*Other*	*Total*
Brownware	Dark grey interior, sand temper	-	-	1	-	-	-	-	1
Brownware	Polished, plain, sand temper	-	-	33	1	-	-	-	34
Lithics									
Material		*Primary*	*Secondary*	*Tertiary*	*Shatter*	*Core*	*Cobble Test*	*Total*	
Basalt		1	1	-	1	-	-	3	
Grey chert		-	1	-	-	-	-	1	
Mottled grey/red chert		1	-	-	-	-	-	1	
Tan chert		-	2	-	-	-	-	2	
Tools									
T #	*Description*	*Length (cm)*		*Width (cm)*		*Thickness (cm)*			
1	Quartzite cobble, flat mano type, light use wear on one edge of cobble	55		50		30			

Artifact Concentration # 2

The second concentration of prehistoric artifacts measures 71 meters by 50 meters and is located to the north of the truck yard surrounding the evaporation station. The ground visibility throughout the concentration was good at 60 to 95 percent but the artifact density was very light and dispersed. Within the concentration a few minor to moderate disturbances were noted that have affected the surface and potential subsurface deposits. Running through the southern portion of the concentration is a drainage ditch that was constructed by the ranger station to divert water runoff during heavy rains away from the road and truck yard. The ditch was inspected during the survey to determine if any artifacts or potential features were exposed within the ditch or by subsequent erosion. Neither artifacts nor features were discovered within the ditch. A minor disturbance found within the concentration are two trails that bisect the area. These trails are used by employees to access a side gate in the truck yard fence and to access a lower parking lot below the truck yard. A few artifacts were noted within the trails during the survey. The evaporation station is located in the center of the concentration and disturbance from the placement of fence posts and equipment stands appears to be minor.

Artifacts found throughout the concentration include ceramic sherds, groundstone, and lithic debitage *(see Table 6)*. Ceramics within the concentration consisted of Puerco Valley Brown Ware (Woodruff Brown and Woodruff Smudged) and some unknown obliterated corrugated brown ware. These ceramics provide a date of the same range as the first concentration except that the obliterated corrugated sherds also give a date of 1100-1300 A.D. which corresponds from the Carrizo through to Pinedale phases of the Mogollon tradition as devised by North et al. (2003). This concentration is separated from the first by a paved road

that leads back into the ranger station. These two concentrations may originally connect across the area obscured by the road and comprise one overall scatter as the artifacts located throughout both contain the same type of ceramics. The lithic assemblage consists of primary and secondary flakes with only a single tertiary flake discovered. The lithic materials include various colored chert and chalcedony. The groundstone tool discovered is a flat type mano (Adams 1996) with two sides utilized with moderate use *(see Figure 51)*.

Table 6. Artifact Concentration # 2 Inventory

Artifact Concentration # 2									
AC 2	*Est. Total Artifacts: ≥ 50*				*UTMs: 540596mE, 3805867mN*				
Ceramics		***Body Sherds***			***Rim Sherds***				
Type	*Description*	*Bowl*	*Jar*	*Unk*	*Bowl*	*Jar*	*Unk*	*Other*	*Total*
Brownware	Obliterated corrugated, grey interior	-	3	-	-	-	-	-	3
Brownware	Plain, sand temper, very thin	2	-	-	-	-	-	-	2
Brownware	Plain, sand temper, smudged interior	-	1	-	-	-	-	-	1
Brownware	Plain, sand temper, very thick	-	25	-	-	1	-	-	26
Greyware	Sand temper, obliterated corrugated	-	1	-	-	-	-	-	1
Lithics									
Material		*Primary*	*Secondary*	*Tertiary*	*Shatter*	*Core*	*Cobble Test*	*Total*	
White chert		-	1	1	-	-	-	2	
Grey chert		1	1	-	-	-	-	2	
Chalcedony		1	1	-	-	-	-	2	
Tan chert		-	1	-	-	-	-	1	
Tools									
T #	*Description*		*Length (cm)*		*Width (cm)*		*Thickness (cm)*		
2	Alluvial cobble, flat mano type, two sides utilized, moderate use		90		51		35		

Figure 51. Groundstone tool in AC # 1, Tool 1 (T1).

Artifact Concentration # 3

The third concentration noted in association with the ranger station is located above an ephemeral drainage to the west of the truck alongside Forest Road (FR) 50. This area measures 137 meters by 107 meters and was recorded under a different site number (AR-03-01-02-2431) as an artifact scatter, however, due to its proximity to the ranger station facilities and prehistoric components it was added to the ranger station site, AR-03-01-02-2432. A few disturbances were noted within the concentration and only cause minor disturbance. A hiking trail is present along the southern portion of the concentration and has artifacts visible in the tread. Along the hiking trail, on the north side, are a few areas where a fire recently occurred within the last 10 years.

This burning has impacted several artifacts found within the area as scorching and refiring of ceramics was noted. The final disturbance noted was a large amount of bioturbation from gopher activity in the soil.

The scatter was originally recorded as having approximately 400 lithic flakes and an unknown number and type of ceramic sherds (Martin 2002), however, that is vastly inconsistence with what was observed during the current survey of the scatter *(see Table 7)*. Ground visibility was between 60 to 90 percent and did not appear to play a role in the inability to relocate 400 lithic artifacts so it is unclear why this discrepancy occurred. Some natural shatter and flaking were noted and may contribute to the difference in artifact counts. A total of 70 artifacts were in this concentration and consisted of lithic debitage and ceramics *(see Table 7)*. All the artifacts were lightly dispersed throughout the concentration and found primarily in areas where disturbance of the soil was occurring. Artifacts were noted in the hiking trail, areas of gopher activity, and within the burned areas. While the original number of lithic artifacts was not found, the artifacts recorded were primary, secondary, and tertiary flakes *(see Table 7)*. Raw materials of the flakes included chert, chalcedony, quartzite, and basalt. The ceramic assemblage consisted of the same ceramic types found in AC # 1, thus most likely dating it to the same period of 500-1000 A.D.

Table 7. Artifact Concentration # 3 Inventory

Artifact Concentration # 3									
AC 3	*Est. Total Artifacts: ≥ 70*			*UTMs: 540354mE, 3805842mN*					
Ceramics		***Body Sherds***			***Rim Sherds***				
Type	*Description*	*Bowl*	*Jar*	*Unk*	*Bowl*	*Jar*	*Unk*	*Other*	*Total*
Brownware	Sand temp, plain, smudged interior	-	5	-	-	-	-	-	5
Brownware	Sand temper, plain, tan color	5	-	23	1	-	-	-	29
Brownware	Sand temper, plain, reddish color	-	-	11	-	-	-	-	11
Lithics									
Material		*Primary*	*Secondary*	*Tertiary*	*Shatter*	*Core*	*Cobble Test*	*Total*	
White chert		-	2	3	-	-	-	5	
Grey chert		2	1	1	-	-	-	4	
Pink chert		1	-	-	-	-	-	1	
Quartzite		2	-	-	-	-	-	2	
Basalt		1	2	2	-	-	-	5	
Chalcedony		-	-	1	-	-	-	1	
Historic Glass									
Color	*Vessel Form*	*Manufacture*	*Description*				*Count #*	*MNI*	
Clear	Bottle	Machine mold	Oval shape, “68 5028 5” and “137 SFDRB3” embossed on base				5	1	
Amber	Bottle	Machine mold	Round beer bottle				6	1	

Artifact Concentration # 4

The final concentration located during survey is located on the west side of FR 50 immediately adjacent to the modern horse corrals. The concentration measures 133 meters by 84 meters and was originally recorded as a separate site as well under the site number AR-03-01-02-3661 but was determined to be a possible continuation of AC # 3 that was separated by the road. The concentration has some severe disturbance caused by maintenance to the road as well as from past wildfire suppression measures. Maintenance grading of FR 50 has led to some disturbance into the concentration along the edges of the road where soil was removed. Running through the site is a dozer line measuring approximately 195 meters long, 4.5 meters wide, and

0.5 to 0.8 meters deep that was placed in the area during a wildfire as precautionary measures. At the conclusion of the wildfire the dozer line was closed by placing a berm of dirt at the beginning of the dozer line and at different intervals along the line. The berms measure approximately 4.5 meters long by 2.5 meters wide.

Within this concentration both ceramic and lithic artifacts were discovered *(see Table 8)*. The lithic assemblage consisted of only a single chert primary flake. The ceramics consisted of Puerco Valley Brown Ware (Woodruff Brown) which provides the same date as found in the other three concentrations of 500-1000 A.D. *(see Figure 52)*. This concentration, however, was originally recorded as also containing a fieldhouse feature located alongside one of the dozer lines (Schofer 2006). The original site recording notes do not give any further description of the feature other than to state that it is a possible fieldhouse that was disturbed by the dozer line. The entire concentration area was searched during the current survey and no such feature was located, so it is unclear what the original surveyors observed as a fieldhouse feature.

Table 8. Artifact Concentration # 4 Inventory

Artifact Concentration # 4									
AC 4	*Est. Total Artifacts: ≥ 20*			*UTMs: 540253mE, 3805807mN*					
Ceramics		***Body Sherds***			***Rim Sherds***				
Type	*Description*	*Bowl*	*Jar*	*Unk*	*Bowl*	*Jar*	*Unk*	*Other*	*Total*
Brownware	Sand temp, plain, tan color	-	5	-	-	-	-	-	5
Brownware	Sand temper, plain	-	-	2	-	-	-	-	2
Brownware	Sand temper, plain, reddish color	-	-	11	-	-	-	-	11
Lithics									
Material		*Primary*	*Secondary*	*Tertiary*	*Shatter*	*Core*	*Cobble Test*		*Total*
Quartzite		1	-	-	-	-	-		1

Figure 52. Puerco Valley Brownware, Woodruff Brown from AC # 2.

Previous Site Data Results & Condition

In 2012, Four Corners Research (Purcell and Greenwald 2012) was contracted by the Forest Service to undertake a mitigation project on the ranger station after prehistoric artifacts were found in the truck yard during the trenching of a waterline. The contractors were tasked with excavating the disturbed area as well as completing additional testing and survey on the ranger station so that a National Register of Historic Places (NRHP) eligibility recommendation and further mitigation measures could be recommended. During the course that project, Four Corners Research identified seven features and several areas containing surface assemblages of artifacts (Purcell and Greenwald 2012). The features recorded by the contractors were all subsurface in nature and thus were not relocated by the current survey with the exception of three of the features *(see Table 9).* These three features, while still partially subsurface, are eroding

from the bank of a ditch that is located along the fence line of the truck yard (Purcell and Greenwald 2012).

Table 9. Prehistoric feature information excavated by Four Corners Research (Purcell and Greenwald 2012)

Feature #	***Description***
F1	Soil stain immediately adjacent to F2, appears to be cultural material displaced from F2 during maintenance of the truck yard prior to the placement of gravel surface
F2	Large roasting pit containing ashy soil, FCR, and abundant artifacts
F3	Unknown pit feature containing dark brown soil with greasy appearance
F4	Soil stain associated with concentration of artifacts eroding from truck yard ditch
F5	Possible pit structure eroding from ditch in truck yard, associated with artifact concentration also eroding
F6	Shallow pit with unknown function with artifacts present, eroding from ditch in truck yard
F7	Concentration of FCR with associated artifacts

Feature 4, 5, and 6-Current Condition

During the current survey, the three features eroding from the ditch in the truck yard were relocated and assessed. All three features are still visible within the bank of the ditch just below the chain link fence. Erosion is still a major concern for each of these features and their overall integrity. Since 2012, further erosion to each of the features has unearthed further artifacts and eaten away at the bank of the ditch in which the features are located. It was recommended by Four Corners Research in their final report that these three features undergo archaeological excavation at a future date in order to mitigate the impact of erosion to each feature in order to prevent what information is left within the subsurface deposits of the features (Purcell and Greenwald 2012). This excavation, for unknown reasons, was never undertaken and further disturbance from erosion has continued to occur. Artifacts noted currently eroding from these

features are consistent with those observed by Purcell and Greenwald (2012) in their report, including various lithic debitage and Puerco Valley Brown Ware sherds (Woodruff Brown and Woodruff Smudged). Based on the current condition of the features and continued erosion, it is recommended that these features should undergo either excavation to recover the data being lost or some form stabilization measures to prevent further disturbance.

Artifact Scatter-Current Condition

In addition to the excavations conducted by Four Corners Research (Purcell and Greenwald 2012), an artifact scatter was also recorded that coincides with the current findings. AC # 1 and AC # 2 recorded during this project align with areas that the contractors also discovered artifacts in, however, they did not give them designations as concentrations. Artifacts noted by Four Corners Research (Purcell and Greenwald 2012) are representative of what was discovered during the current survey with only a few deviations. One projectile point and two groundstone tools were discovered by the contractors during their surface examination of the ranger station. No descriptions were given in the report of these artifacts aside from that the projectile point was a typical Mogollon style arrowhead. Unfortunately, this makes it impossible to determine if the two groundstone tools found in the same general areas during the current survey are the ones originally found by Four Corners Research while the projectile point was not relocated.

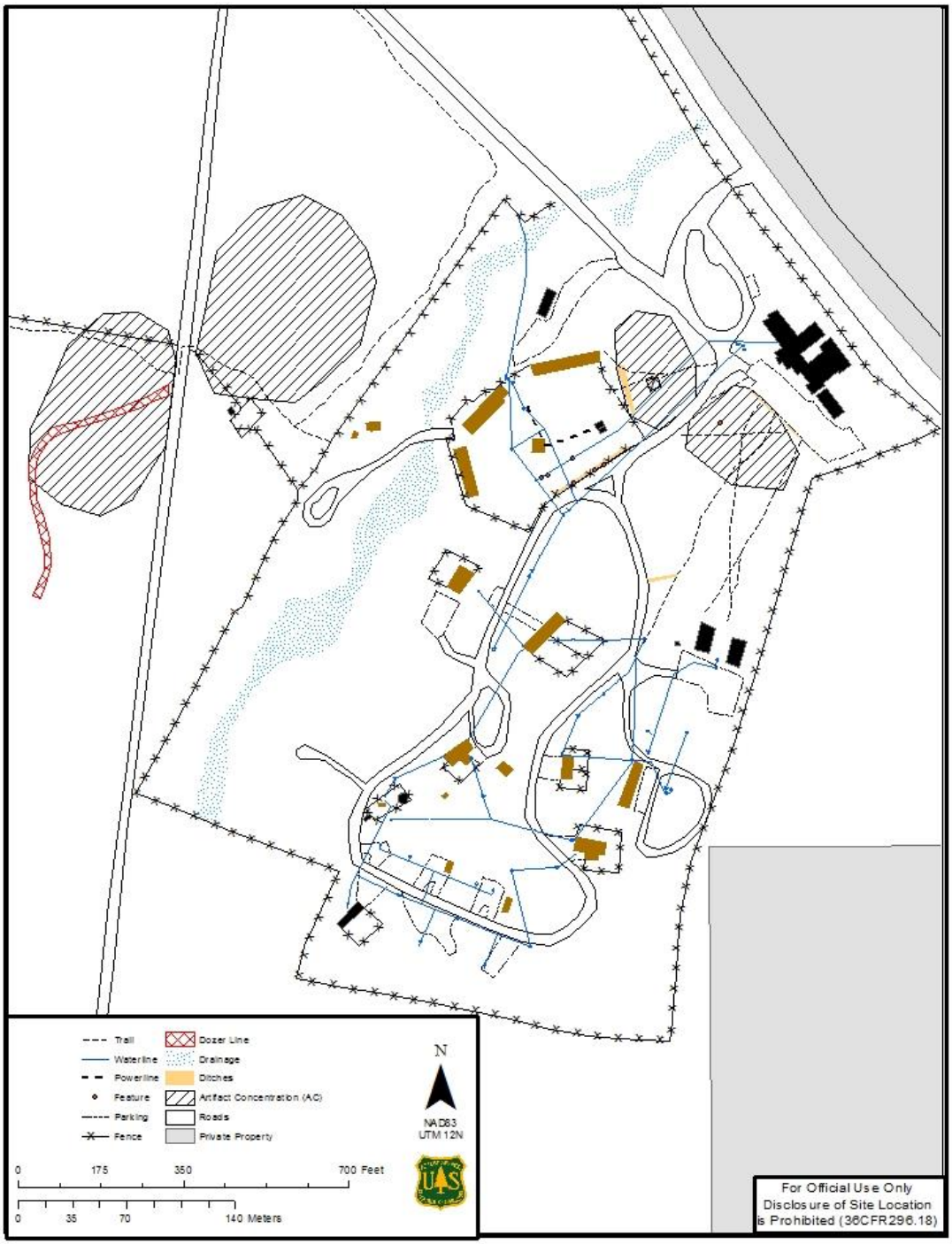


Figure 53. Location of subsurface disturbances on the Black Mesa Ranger Station.

Disturbances

After completing the survey work to identify the prehistoric components of the site and any noticeable surface and subsurface disturbances to the site, data from the Engineering department was utilized to determine where further subsurface disturbance has occurred. Through both of these methods numerous subsurface disturbances were discovered across the ranger station and almost all are associated with the establishment and development of the BMRS *(see Figure 53).* The disturbances range from paved roads on the surface to utility lines in the subsurface and impact the prehistoric component to varying extents.

Surface Disturbances

The obvious surface disturbances that are numerous across the station are facilities of the ranger station. Within the area where the prehistoric components are located one of the biggest disturbances is simply that a large amount of surface area is covered by roads or parking lots. These obstacles make it impossible to determine the full extent of the prehistoric component present within the site without testing the subsurface or through adverse subsurface disturbance such as during the waterline project that uncovered three features. Along with the road and parking areas obscuring the surface, there are several buildings in the area that also have obscured a significant amount of the ground surface. The office building and those located throughout the truck yard are in the area of the prehistoric component and possibly cover further features and artifacts. The other noticeable surface disturbance that is present in all four of the concentrations of artifact are hiking trails with a distinct trail tread.

Subsurface Disturbances

The subsurface disturbances found during the course of the project based off of surface observations ranged from drainage ditches to a natural drainage. The natural drainage is an ephemeral wash located on the west side the ranger station that occasionally floods during extreme rainstorms. Within AC # 1 and AC # 2 ditches dug by the ranger station staff to control water runoff were noted as having impacted the subsurface. The ditch in AC # 1 is located in the north end of the concentration running parallel to the parking lot. The ditch does not appear to have impacted the possible subsurface deposits greatly as only a few pieces of ceramic where seen to have eroded. The ditch in AC # 2 is located along the southern end of the concentration near the truck yard fence. While it impacts the subsurface of the area, no cultural materials were noted in the ditch. This could indicate that no subsurface deposits exist in that particular area but further testing is needed. Within AC # 1 is a trail used by the ranger station staff to cross from the parking lot over to the road in order to access the truck yard. This trail channels runoff water from the road during rainy weather thus causing continued erosion and disturbance to the concentration. Artifacts are noted daily within this trail not only from the erosion caused by water but from the heavy use it sees. AC # 4 has seen minimal subsurface impact with the only disturbance from the construction of a dozer line during a past wildfire.

Other forms of subsurface disturbance that were confirmed during this project by utilizing Engineering data was the presence of waterlines and an electric line. The buried electric line is located in the truck yard and connects from a power pole to the Gas and Paint building (13-94) and then to the Hazardous Fuels buildings. A portion of this line was recently excavated in order to run a new electric line and while monitored by archaeologists (Maurer 2020b), no

cultural materials were discovered. The waterlines that are buried on the station are known to have impacted cultural materials that were buried under the truck yard fill. It is possible that some of those same lines have further disturbed other buried deposits as two waterlines supposedly run through AC # 2. While Engineering provided data for the presence of the waterlines and electric line presently buried on the ranger station no data file was provided showing the presence of the sewage system which connects all the buildings to the sewage treatment plant. Additionally, other disturbances such as lawn sprinklers, signs, fences, and building footings have all contributed various amounts of disturbance to areas within the prehistoric component.

Subsurface Integrity

Given the relatively large size of the overall prehistoric component, the total amount of adverse disturbance to the prehistoric component seems minimal but cannot be completely assessed without further subsurface testing of the station site. Based on the disturbances that were mapped by the current project (based on surface observations and Engineering data) it appears that the integrity of the four artifact concentrations is still almost completely intact. While each concentration has had subsurface and surface disturbance, the vast majority of each concentration appears undisturbed and has the potential to contain significant intact buried deposits. As for the portions of the site that are obscured by the facilities of the ranger station, it is unclear how much disturbance was done to the integrity of the site as no records from the construction of the facilities state if any cultural materials were found.

Summary

The prehistoric component of the site resembles the ubiquitous "artifact scatter" site type that abounds within the Mogollon Rim area and that presents a challenge in describing what the site was used for. The previously known and tested buried components provide more information than would normally be available at similar sites for determining the type and significance of the site. The presence of pit features, a roasting pit, and associated cultural fill, discovered in 2011 by Purcell and Greenwald (2012), suggest that the site is a processing area for resources gathered from the landscape or even possible agriculture. The site may be associated with agriculture due primarily to its location adjacent to an ephemeral wash and broader, flat area with soils suited for agricultural fields. No features, however, are present that truly indicate agriculture occurring.

Artifacts within the site tend to lend credence to the notion of the site as a processing area based on the presence of utilitarian brownware ceramics and groundstone artifacts. The groundstone artifacts were mano type implements that would be used for grinding resources, however, the use wear on the artifacts ranges from light to moderate with no indication of heavy use or shaping that is typically associated with abundant agricultural processing tools (Adams 1996). No grinding slicks, metates, or other processing surfaces were discovered that may indicate further how the groundstone was utilized.

The ceramics indicate an occupation period ranging from 500-1000 A.D. and possibly 1100-1300 A.D.. The 500-1000 A.D. (Cottonwood to Early Carrizo phases of the Mogollon Tradition (North et al. 2003)) is a period that is underrepresented in the Mogollon Rim area and has the potential to offer great insight into the early use of the landscape by prehistoric groups.

However, the ceramics that provide this date range have a long span of use and further testing and analysis (e.g., radiocarbon) is needed to narrow down the exact period of use. The previous recording of the site by Four Corner Research determined a date range of 900-1000 A.D. based on the identification of a projectile point found during the investigations, however, the ceramics they analyzed all provided the same date range of 500-1000 A.D. (Purcell and Greenwald 2012) as determined by the current project. The later date of 1100-1300 A.D., as determined by the current survey, will also require further investigation to decide if those later ceramics represent a later period of use or a singular instance of later inhabitants moving across the landscape (i.e., isolated find rather than a true occupation site).

Chapter VII: Context for the National Register of Historic Places

In order to evaluate this site based on the prehistoric and historic components for the NRHP, context is needed in which to place the site's components. Research conducted during the literature review process, detailed in the Methodology chapter above, also included research to provide information for the development of the contexts. The prehistoric and historic contexts were established so that both components are thoroughly evaluated under the criteria set forth in the NRHP in regard to their contributions to past events with which they are associated and in terms of integrity of the overall cultural materials present within the site boundaries.

Prehistoric Context

The results from the current and previous fieldwork on the site have shown a site with buried intact features, such as pit structures and ash stains, and a surface artifact scatter consisting of lithic debitage and Mogollon Brownware ceramics. Due to the lack of diagnostic features or artifacts that seem to point towards a connection with the Ancestral Puebloan, the site will be investigated more in the context of the Mogollon. The context is built utilizing AZ SHPO's contexts for "Prehistoric Non-Irrigated Agriculture in Arizona" (Doyel 1993) and "Prehistoric Water Utilization and Technology in Arizona" (Foster et al 2002) along with survey reports from the area (Arazi-Coambs 2011; Donaldson and Chalkley 1985; Little et al. 2000; Martin 2002; Maurer 2019, 2020a, and 2020b; Mead et al. 2020; McInteer and Kmetz 2011; Purcell 2012), research papers (Pool 1995) and *Archaeology of the Southwest* by Cordell and McBrinn (2012) as the basis. In order to provide a thorough NRHP evaluation of the prehistoric component of the site, a context is needed to provide information concerning the property types, evaluation criteria, and significance about this period in time.

Habitation and Agricultural Sites of the Cottonwood-Pinedale Phases: 500-1300 A.D.

Physical Setting. The geographical boundaries consist of the ponderosa pine and juniper belt that existed from the eastern edge of the Lakeside District to Black Canyon on the Black Mesa District before the occurrence of the 2002 Rodeo-Chediski Fire. The area is bound to the south by the Mogollon Rim escarpment and to the north by the transition of the ponderosa pine belt to a pinyon-juniper woodland. This geographical area contains similar elevations ranging from 6,000 to 7,000 feet above sea level with silt-sand, silt-loam, and clay-loam soils with bedrock outcroppings of sandstone and limestone as well as alluvial cobbles and gravels. The area is defined by broad ridge tops and wide drainage bottoms with perennial creeks and ephemeral drainages with several springs that run year-round.

Cultural Setting. The Mogollon cultural tradition is a group that occupied the "mountainous" areas in east-central and southeastern Arizona during the Cottonwood through to the Pinedale phases, spanning a period from 500 to 1300 A.D. (Foster et al. 2002) with increasing influence from surrounding traditions towards the middle to late phases of the timeframe. This cultural tradition is made up of people who become well adapted to the challenges of the environment and remoteness of the area as well as were readily willing to borrow technology, materials, and ideas from their neighbors (Foster et al. 2002). Migration into the area began towards the later part of this period with a population boom occurring around 900 A.D. (North et al. 2012). This period of migration not only brought about an increase in the population within the Mogollon Rim area but in a diversification of ideas, beliefs, artifact production, settlement patterns and construction (Cordell and McBrinn 2012).

Pithouses dominate the landscape on hilltops and ridgelines with adjacent arable washes and drainages (Pool 1995) during the first century. Locally within the Mogollon Rim area, sites start becoming more numerous and widespread throughout the area with larger villages and numerous small farmsteads present starting around 900 A.D. (North et al. 2003:11). Single four-walled rooms, four-walled structures with two to three rooms, single wall alignments, and three-walled fieldhouses start to become prevalent throughout but limited activity areas (artifact scatters) or sites without features are also widely dispersed and dominate (ASNFs Heritage NRM database). Habitation sites start moving down from hilltops and ridgelines in the wider southwest region in favor of the valley floors of washes and drainages where arable land is abundant (Pool 1995). Towards the end of the period, settlement begins moving away from smaller, dispersed sites to larger communities in multiple room pueblos (Cordell and McBrinn 2012).

Communal structures are features within communities that begin to appear at the beginning of this period. Larger than average pithouses, square shaped Mogollon style kivas, and great kivas are communal/ritual features that become associated with habitation sites (Cordell and McBrinn 2012; Mills et al. 1999; Foster et al. 2002). These communal structures are initially dispersed across the landscape and serve as a central gathering and religious point for numerous, smaller sites along the Mogollon Rim (Cordell and McBrinn 2012). As sites become more aggregated in the later parts of the period, a variety of communal and ceremonial features start to appear. With the development of larger pueblo sites, comes the creation of plazas, multiple square shaped kivas, and communal spaces contained within the pueblos (Cordell and McBrinn 2012; Herr 2001).

While agriculture is a large part of the subsistence during this phase, inhabitants in the Mogollon Rim area were faced with many challenges when trying to produce crops in the area. The area afforded a short window of frost-free days along with reduced windows of opportunity for rainfall that was vastly dependent on the seasonal monsoons that occur in the area during mid to late summer (Mills et al. 1999). Based on tree ring data obtained within the area, it appears that precipitation during this phase remained consistently within the ranges to provide for good crop growth during the growing season with no major drought conditions (Mills et al. 1999) during a large portion of the period. However, after approximately 1000 A.D. the effects of drought start to be felt across the region thus making the use of agricultural features, primarily check dams, start to become a regular occurrence (Foster et al. 2002). Foraging and gathering still play a prominent role in the life of the inhabitants of this phase in order to supplement their food supply with agriculture just becoming a staple (Foster et al. 2002). Towards the end of the period, a sudden increase in the hunting of large mammals occurs that is contrary to hunting being undertaken elsewhere in the Southwest. While Ancestral Puebloans to the north and the Hohokam to the south predominately hunt smaller animals, such as jackrabbits, due to a lack of abundance of larger game, the inhabitants on the Mogollon Rim lived in a forest that provided a greater abundance of large mammals (Dean 2001). It is suggested that this increase in large game hunting arose out of a need for individuals, most likely males, to seek ways to increase their social status within the community (Dean 2001).

The period from 500-1300 A.D. runs through an evolving time of ceramic production throughout the Mogollon Rim area. Ceramics are predominately Mogollon Brownwares that evolve from strictly plain undecorated vessels to elaborate corrugated decorations (Hays-Gilpin

and Van Hartesveldt 1998). This period also starts the appearance of whitewares and redwares (Mills et al. 1999) that further develop and diversify throughout the various phases. Around 900 A.D. the use of corrugation all over a ceramic vessel is used (Haury 1985) while some of the first decorated redwares are starting to appear (Mills et al. 1999). Polychromes first debut in the later part of the period in what is the Linden phase as fewer whitewares are being developed (Mills et al. 1999). The use of whitewares begins to decline towards the end of the Pinedale phase while the creation of the White Mountain Red Ware occurs within the Silver Creek area at larger pueblo sites (Keuren and Cameron 2015).

Lithic technology throughout the Mogollon Rim during this span of time sees little change in projectile point types being utilized. Early on untill around 900-1030 A.D. projectile points consist of corner notched points, such as San Pedro and Tularosa, and then the introduction of smaller triangular points begins to occur (Justice 2002).

Property Types. Prehistoric agricultural sites differ across the southwest region, but several different types exist that are deemed as a non-irrigation style (i.e. do not use canals to channel water from a water source for irrigation) (Foster et al. 2002). The techniques used for this method of agriculture encompass various methods to provide the necessary water to irrigation crops and maintain soil moisture. The Arizona SHPO's office provides and describes the property types for agricultural sites associated with non-irrigation farming that are recorded throughout the state *(see Table 10)*. The property types consist of the following: *rock piles*, a feature the may result from land clearing or used to retain soil moisture through evaporation; *terraces*, used to direct rainfall runoff in manner to facilitate agriculture; *check dams*, linear alignments of stones placed across washes or slopes to catch runoff water and sediments;

borders, stone alignment placed usually around gardens to retain rainwater runoff; *gardens*, a small cultivated area for crops that require closer attentions and with defined boundaries; *fields*, a large cultivated area of crops that has no defined boundaries and located further away from habitation sites; and *processing area*, a area located near to a field, garden, or habitation site where resources are processed after being harvested (Foster et al. 2002; Doyel 1993). Sites that are possible or considered associated with agriculture within the Mogollon Rim area should be assessed for these property types in order to be able to properly complete a NRHP evaluation within this contextual period.

Table 10. Property Types of Non-Irrigated Agricultural Sites (Foster et al. 2002; Doyel 1993)

Property Type	***Description***	***Associated Features***
Rock pile	Primarily occur during land clearing activities or situated to reduce water runoff	Check dams, terraces, roasting pits, fieldhouses, or larger habitation sites in the general area
Terrace	Used to deflect, redirect, or retain rainfall runoff	Rock piles, check dams, fieldhouses, and in the general area of a habitation site
Check dam	A linear alignment of stone, in various heights, widths, and lengths, used to capture sediments in rain runoff	Terraces, fieldhouses, or larger habitation sites in the general area
Borders	Stone alignments that channel or contain runoff	Terraces and rock piles
Gardens	Smaller and contained areas for crops that usually have defined boundaries	Fieldhouse, windbreaks, or terraces
Fields	Larger area for crops that may have no noticeable defined boundaries	Habitation or shelter for those in charge of the fields, farmsteads, fieldhouses, rock piles, borders, and processing areas
Processing area	Activity area related to farming located nearby; area for processing resources	Grinding slicks, fields, roasting pits, rock rings

As many of the agricultural properties are often found associated with nearby habitation, these property types need to be looked for and assessed in conjunction to any agricultural features noted. While masonry structures are starting to become more prevalent in the Dry Valley phase (North et al. 2003:11), pithouses and pit features are still being widely used by the population (Cordell and McBrinn 2012). Pithouse and pit features tend to be less noticeable on the landscape within the Mogollon Rim area but need to not be discounted as a possibility simply because no surface evidence of them exist. Four common types of habitation property types that occurred within the area *(see Table 11)* need to be assessed when recording agricultural sites. These four property types are village/hamlet, farmsteads, fieldhouses, and storage facilities. *Village/hamlets* are large, permanent habitation sites that are occupied year-round and serve as the main community being served by an agricultural site (Doyel 1993). A *farmstead* is a small settlement with or without fieldhouses or processing areas that is associated with a larger habitation within easy traveling distance. Farmsteads will have some form of structure for temporary habitation as well as processing and storage areas (Foster et al. 2002) A *fieldhouse* is a single to two room structure associated with a processing area or agricultural area with crops that may or may not be close to a habitation site (Foster et al. 2002; Heritage NRM database). *Storage facilities* are structures normally used for seasonal occupation near agricultural features, such as fieldhouses or pithouses, but are also used temporarily to store farming tools or harvested crops (Doyel 1993).

Table 11. Habitation Property Types (Doyel 1993; Heritage NRM database)

Property Type	***Description***	***Associated Features***
Village/hamlet	Settlement occupied year-round, larger population with communal architectural features and numerous housing structures	Pithouses, kivas, storage pits, large middens
Farmstead	Small settlement, seasonally occupied, extension of a larger habitation within the general area	Fieldhouses, processing areas, pithouses, pit structures, roasting pits, grinding slicks, storage areas
Fieldhouse	Single room structure, probable brush roof and walls, may consist of two to four walls	Hearths, roasting pits, storage areas
Storage facilities	Fieldhouse or pithouse use for seasonal occupation and temporary storage of agricultural tools and harvested crops	Fields, hearths, pithouses, fieldhouses,

National Register Evaluation. Current survey within the geographical area indicates that sites dating to this phase range from simple artifact scatters that were not considered eligible or left unevaluated for the NRHP, to sites with features present that were eligible solely based off the presence of the structure. This is due in large part to an appendix present in the Region 3 Programmatic Agreement (R3 PA) with the AZ SHPO that provides a list of site criteria that can be considered automatically eligible, so long as they clearly retain integrity, under Criterion D. The R3 PA lists properties with structures, hundreds of surface artifacts, evidence of cultural deposits, and rock art as sites that can be considered eligible without further SHPO concurrence (USDA 2003). However, these determinations were based off the surface inspections only and may not truly reflect the subsurface deposits or overall integrity of the site and their ability to contribute significant informant to a particular context theme. Also, a site should not be

automatically considered eligible based on integrity alone because while a site my still retain integrity in all aspects it may not be significant within a historic context. Guidance provided by the National Park Service on evaluating sites for the NRHP states that a site needs to both retain integrity and be significant to be considered eligible (USDI 1997a). Clearer evaluation of sites is required to truly determine if a site is eligible for the NRHP based on its significance to the prehistoric context and its overall integrity.

Sites perceived in past project reports as limited activity areas with no ability to contribute to a NRHP eligibility are frequent throughout the area, however, the surface assemblages of these sites may not fully represent the site as a whole and continued study is needed to determine how to classify these sites. For example, the prehistoric component of the BMRS site was considered in several previous reports as not eligible for the NRHP due to its lack of dense surface assemblage and features but then discovered to have intact subsurface features (Purcell and Greenwald 2012). A similar site located in the area was recorded as having only 10 surface artifacts but upon examination of a cutbank of a wash that ran through the site, the floor of a pithouse was discovered over three meters in the subsurface (Maurer 2019). While currently an agreement does not exist within the region to providing for NRHP eligibility testing of the sites within the subsurface, this is a method that needs to be undertaken in order to properly evaluate, preserve, and manage the sites within the area.

National Register Criteria. To be eligible under the National Register guideline, the site needs to demonstrate its ability to contribute based off one of the four Criteria. The quality of the significance of a site in history, architecture, archaeology, or culture (USDI 2000) is important to the overall evaluation and if a site does not have a significance to contribute it

should not be automatically eligible simply based off its number of artifacts or presence of features. When sites are being evaluated for the NRHP eligibility several factors need to be consistently taken into account. Sites should represent a facet of history, retain integrity, have relevance and importance to a historic context, and have features that convey that context (USDI 2000). Sites pertaining to agriculture and temporary habitation in the Mogollon Rim area should be evaluated under the NRHP criteria utilizing the context under which it falls, its significance in that context, and how it represents under the following:

- Criterion A: Event(s) and Broad Patterns of Human History
    - Archaeological sites need to show significance to the history of archaeology or a specific complex with a specific association (Foster et al. 2002).
    - Agricultural or habitation sites in the area may represent a pivotal point in the overall development of subsistence to the Mogollon culture of the Mogollon Rim.
    - The site needs to mark a significant definition within the Cottonwood through the Pinedale phases of the Mogollon period in the Mogollon Rim area by something important in redefining the phase sequence or the identification of array of features or artifacts specific to the phase (Foster et al. 2002).
    - Sites should contribute to the understanding, evolution, and practice of agriculture and the associated habitation of the Cottonwood through the Pinedale phase in the Mogollon Rim area.
- Criterion B: Important Person(s)

  - Unlikely to have a site associated with an important person that is associated with prehistoric agriculture since no such individuals of significance have been identified (Foster et al. 2002).
  - A specific site may be evaluated under this criterion if a traditionally identified person, either real or mythological, is identified by the associated tribes to the area (Foster et al. 2002).
- Criterion C: Design, Construction, and Work of a Master
  - A site needs to have features that are distinctive to the Cottonwood through the Pinedale phase or to agriculture within the area.
  - Features must be unique or distinctive in characteristics of Mogollon agriculture technology or to the Mogollon Rim area that provide a significant example of agriculture (Foster et al. 2002).
  - Some agricultural features may possess distinct characteristics of a type, period, or method of construction that could be meaningful to the context and also be considered as a form of architecture (Doyel 1993).
- Criterion D: Information Potential
  - Most sites will be evaluated under this criterion either as having the potential to provide further significant knowledge to the context or not.
  - The theme of the context and needed information must be considered during the evaluation, for a site may have buried deposits that can provide information, but that information must be significant (USDI 2000).
  - The depositional integrity of the buried deposits must be intact.

- More specifically, the potential information needs to be able to answer questions and increase the knowledge pertaining to light density artifact scatters that are found across the landscape of the Mogollon Rim. More information is needed to be able to determine the potential of other, similar sites to possess intact buried features or assemblages.
- Additionally, insight into the use of garden, fields, processing areas, and how they are associated with nearby confirmed habitation sites is needed to track the use of the land during the prehistoric period.

National Register Integrity. During the evaluation process, the seven aspects of integrity must be assessed. The significance of the site plus the integrity of the site is what equals an eligible determination, not the simple presence of artifacts or features.

- Location
  - Critical for agricultural sites as it informs on the aspects of environment and provide information about farming strategies, climatic conditions, and environmental influences on agriculture and settlement (Doyel 1993).
  - Features removed from their original location will destroy the integrity of the feature and diminish the overall site integrity.
- Design
  - Demonstrates the historical and functional relationships of a site as well as technological and engineering knowledge (Doyel 1993).
  - The design of a feature or site must be significantly intact in order for the function and purpose to be understood.

- Setting
    - Non-irrigated prehistoric sites are not placed randomly on the landscape but are located in specific environs (Doyel 1993).
    - Integrity can be adversely impacted by natural, and human caused processes that destroy the original setting of the site.
- Materials
    - Determining if materials are local or non-local is an important factor in acquiring information about the construction requirements and socioeconomics of the site (Doyel 1993).
    - The removal of materials from the site or alteration of the materials by post occupation processes can degrade the integrity of the site by disrupting their context.
- Workmanship
    - Agricultural sites within the prehistoric context tend to show an emphasis of function over embellishment with a lot of unmodified materials (Doyel 1993).
    - The removal of materials from the site or alteration of the materials by post occupation processes can alter the workmanship quality of the site and features.
- Feeling
    - Agricultural or habitation features within a site that are visible help to evoke the feeling of prehistoric agriculture use but is subject to individual opinion (Doyel 1993).

  - In most cases, this criterion is not critical to agricultural sites (Doyel 1993) but disturbance to any features within the site can remove the integrity if the site is no longer distinguishable as an agricultural site.

- Association
  - Direct association of agricultural features and temporary habitation cannot always be linked to a specific event and must be established using empirical evidence such as culturally diagnostic artifacts, features, and dates (Doyel 1993).
  - Potential does exist for association to be important in regard to integrity but is difficult to ascertain, typically, without further testing.

National Register Significance. The significance of the site in the theme of prehistoric agriculture and temporary habitation must be demonstrated thoroughly in order to be eligible for the NRHP. While a site can be associated with the theme of context, if it is not significant in contributing to the context then it should be evaluated as such. The SHPO's contexts pertaining to agriculture provide five elements that should be consider a priority when assessing a sites eligibly: 1) features possess internal integrity; 2) features have potential for subsurface deposits; 3) features exist as parts of intact systems; 4) features are datable; and 5) features are associated with communities (Foster et al. 2002; Doyel 1993). Properties do not have to exhibit all five of these qualities, but these are traits that need to be prioritize as significant to provide further understanding of this context.

Historic Context

The Black Mesa Ranger District is an administrative district on the Apache-Sitgreaves National Forests in north-central Arizona. The context for this historic component is, for the

purpose of this project, geographically limited to the boundaries of the ASNFs. This context is needed to place the BMRS site within the historic timeline of the ASNFs and to assess its integrity in contributing to a NRHP evaluation based on the historic structures and components still present within the site. This period of context spans from the establishment of the BMRS in 1949 to 1960 which represents the period of major change of the Forest Service's objectives for managing the National Forests. The basis for this context is pulled from a historic context guide from Region 4, "Within A Day's Ride: Forest Service Administrative Sites in Region 4, 1891-1960" by Richa Wilson, the Regional Architectural Historian.

Post War Era: 1949-1960

In 1949, plans were set in motion to move the ranger station for the current Black Mesa Ranger District, from its location in Black Canyon to a tract of land located within the town of Overgaard (Purcell and Greenwald 2012). A request was submitted to the Regional Forester for the withdrawal of land to be used as the new ranger station, originally named the Heber Ranger Station, in order to accommodate the increased forest personnel required to conduct operations within the forest (ASNFs SO, Office Memorandum, memo, 1949, documents regarding Black Mesa Ranger Station) as the scope of the Forest Service's mission began to change after World War II (WWII). This change was also necessary due to concerns of inadequate water supply for the ranger living in the canyon and lack of forage for the Forest Service horses (ASNFs SO, Office Memorandum, memo, 1949, documents regarding Black Mesa Ranger Station). As changes in the realm of conservation began to bring about new laws that necessitated the need for more personnel required to manage the forest resources, the ranger stations across the ASNFs had to change as well to accommodate this work force.

Cultural Setting. During this period the National Forests across the country were in a phase known as the Commodity Production Era as the demand for resources such as timber, minerals, and rangeland continued to grow with little regulation in place to regulate the consummation of goods from the forests (West 1992). This was a period also marked by limited budget due to the want for smaller amounts of taxpayer dollars spent and a lack of manpower because of the significant death toll during the war (Baker et al. 1988). The lack of funding and manpower seems to have had an impact on the ASNFs as a building boom of administrative facilities is not seen on the forest until the mid-1960s although improvements to some other existing administrative sites, such as Alpine Administrative Site and Chevelon Ranger Station, do start to occur during the period (SO engineering records). At total of 17 buildings are constructed on other administrative sites across the forest and range in purpose from barns to storage structures to personnel housing (Heritage and SO engineering records). The majority of the buildings were built during the end of the period between the years 1958 and 1960 with only two built in 1950 contemporaneously with some of the buildings on the Black Mesa Ranger Station (SO engineering records). Furthermore, with the establishment of the GI bill and population boom after WWII, there became an increased demand for recreation opportunities for the public and housing situated close to those opportunities (Baker et al. 1988; Steen 1976). This increased demand for recreation potential on the National Forests as well as concerns being voiced by other forest users, such as hunters, ranchers, and researchers, began to create a movement to change how the forests were being managed.

During the 1950s, the primary concern for the forests, the Apache-Sitgreaves included, was the production of timber and minerals for contractors and the local industries (Steen 1976).

Not much thought was given to providing opportunities to the general public to access the forest or maintaining the resource in a manner which pleased the public's ideas of the National Forest. In 1957, the Forest Service launched "Operation Outdoors" as a five-year plan to improve and expand recreation opportunities for the public (Wilson 2004). At the time, campgrounds and recreation amenities that were currently available on most forests in the nation, including the ASNFs, had been built by the CCC during the previous era (Sullivan et al. 1993). Then in 1960, the Multiple Use-Sustained Yield Act was passed by Congress that required the Forest Service to give equal consideration to recreation, range, timber, water, and wildlife concerns across the forest (Steen 1976). This act began to pave the way for changes in how the nation's forests were managed, however, lobbyists still maintained the law did not provide for enough legislation to prevent the Forest Service from putting the wants of the timber industry as priority on all fronts (Hirt 1994).

Administrative Setting. In the era prior to the period of significance for the Black Mesa Ranger Station, standardization occurred for the type of building to be constructed in placing it first within a category based on use (e.g. ranger station, dwellings, offices, barns, etc.) (Sullivan et al. 1987). First direction for these "standard plans" came from the Washington Office but the actual designs were created at the Regional Office (Sullivan et al. 1989). The Depression Era, dating from 1929-1942, was the period where different styles of structures were prevalent in Region 3 and were constructed with the unique environment of the region in mind. Initially, the region's architects chose the Bungalow style as for their design basis, however, structures were designed to fit within the environmental setting which ranged from desert to alpine forests

(Sullivan et al. 1989). This was also the period of the CCC who took some leeway with creating their own rustic styles of structures that utilized the local materials that were on hand.

In 1949, Executive Order 9337 was issued for the Forest Service to review and undertake further site withdrawals, including for administrative sites, in order to meet the rising needs for products from the National Forests (Wilson 2004). There was also an emphasis on hiring veterans, particularly those with Civilian Conservation experience, and others as new employees of the Forest service in order to help with increase in the demands for goods and recreation (Wilson 2004). This increase in the number of Forest Service employees necessitated the need for new facilities to be built for them to live and work but this era also marked the beginning of a period of consolidation amongst Forest Service administrative sites with the combining of ranger districts and forests for cost efficiency purposes (Wilson 2004). For the Apache and Sitgreaves National Forests, the combination of the forests into the ASNFs did not occur until 1974 but guard stations across the ASNFs such as Water Canyon, Lincoln, and Wallace, were discontinued as living and administrative areas for forest rangers during the late 1940s and into the 1950s (ASNFs NRM Heritage database). The ASNFs began construction on some new locations for "rangers" and forest personnel to reside and can be seen with the construction of ranger houses in the early and late 1950s for the Chevelon, Lakeside, Heber, and Alpine districts (SO engineering files). As the needs of the public for recreation and other productions from the National Forests grew and changed, the makeup of the Forest Service workforce was forced to change to accommodate this demand. The occupancy of the ranger stations began to change from providing permanent housing and workspace for few individuals year-round to a makeup that included more seasonal workers (Wilson 2004).

Facilities across the forests were constructed to accommodate this change in workforce with ranger stations increasing in size with more barracks and crew style quarters, along with the creation of such things a Work Centers (Wilson 2004). It is towards the end of this period that such buildings as these are being constructed on other districts of the forest such as Chevelon and Alpine (SO engineering records). Building styles during the period began transitioning from early designs with some unique hand-crafted features, such as those associated with the Civilian Conservation Corps (CCC), to more prefabricated and portable buildings (Wilson 2004). With surplus left over after the war, many forests had their choice of different prefab buildings to utilize across the different administrative sites (Wilson 2004). Prefabricated building kits ranged from lookout towers to garages, with many modified to address the specific need of a facility. Regional Architects began providing standardized plans for how the National Forests should construct offices, crew quarters, and other essential structures alongside the use of the prefabricated structures. The Southwest region, otherwise known as Region 3, did not have a Regional Architect until the mid-1960s when the region hired George Kirkham (Grosvenor 1999). However, the hiring of Kirkham did not result in the adaptation or preference of any particular building style or trend within the region that could be found by the current research. Across the ASNFs, buildings constructed during this period seem to embrace the standardization concept of prefabricated building plans as can be seen in the homogenous nature of historic structures found (SO engineering records).

Property Types. When it comes to the type of properties found within the ASNFs during the Post War era, there are five different types that are utilized by the Forest Service to provide for the management of the National Forest *(see Table 12)*. The property types provide the ability

to management the different resources within the forest, provide recreational opportunities for the general public, and research opportunities into better management practices and the history of the Forest Service. The Administrative property type is the first one to consider in this context and represents the most diverse group of buildings for the Forest Service (Grosvenor 1999). Administrative buildings are the backbone of the Forest Service as they provide structures needed by personnel to conduct business, manage the forest, live in remote areas year-round or seasonally, and consist of variety of styles, construction materials, and sizes. On the ASNFs, Administrative buildings abound in the forms of five ranger stations, multiple admin sites (i.e. historic guard stations, CCC camps, etc. not used for other administrative purposes), and two work centers (SO engineering records). The Lookout is the second property and is technically a form of administrative structure but is considered separately due to its unique nature and role in fire detection methods (Grosvenor 1999). Lookouts are unique structures that were developed by the Forest Service in response for need of early fire detection within the remote areas of the National Forests. These structures range from early use of modified trees into ladder or "lag" trees to mountain top cabins to tall towers situated above the treetops (Grosvenor 1999). Across the ASNFs there are two lookout sites (Rose Peak and Reno on the Apache Forest) that had towers and other buildings constructed during the period (SO engineering records).

The next two property types, Recreation and Special, are similar in that they serve a function of providing recreation opportunities to the public. The Recreation type is differentiated from Special in that it consists of actual buildings (e.g. toilets, stores, showers, etc.) that are serviced or staffed by Forest Service personnel. The Special category consists of structures that facilitate recreation opportunities independently from any Forest Service staff (e.g. picnic tables,

ramadas, boat docks, etc.) (Grosvenor 1999). The last property type, Research, are buildings or structures used by Forest Service personnel or outside collaborators to facilitate scientific or academic research into the management of the National Forests (Grosvenor 1999). These buildings and structures range from laboratories, weather stations that monitor weather patterns and fire weather conditions in areas of the forest, to experiment stations that monitor forest conditions within various environments, and libraries that house Forest Service historical documents.

Table 12. Historic Forest Service Property Types (Grosvenor 1999)

Property Type	***Description***	***Associated Features***
Administrative	Buildings utilized for the administration and day to day activities of Forest Service personnel	Offices, dwellings, barracks, mess halls, bunkhouses, warehouses, shops, fueling stations, and nursery buildings
Lookouts	Buildings or structures used in and to facilitate the detection of wildfires	Lookout towers, lookout trees, and cabins
Recreation	Buildings used by the public for recreation purposes or Forest service staff to provide recreation opportunities	Toilets, showers, stores, mess hall, and visitor center
Special	Structures used by the public for recreation activities	Picnic shelters, pavilions, ramadas, amphitheaters, and boat docks
Research	Buildings and structures used the by the Forest Service to facilities research and experiments	Experiment stations, weather stations, laboratories, and libraries

National Register Evaluation. To be eligible under the National Register guidelines, the site needs to demonstrate its ability to contribute to the historic context based on the four criteria of the NRHP. The site must demonstrate not only an association with the context but be a significant property type within the context to be considered eligible (USDI 2000). When

evaluations are occurring for sites, several factors need to be consistently considered to determine eligibility. Sites should represent a facet of history, retain integrity, have relevance and importance to a historic context, and have features that convey that context (USDI 2000). Sites associated with the Post War era, 1949-1960, of the Forest Service should be evaluated under the NRHP criteria utilizing the context under which it falls, its significance in that context in relation to the theme of conservation, and how it represents under the following:

- Criterion A: Event(s) and Broad Patterns of Human History
    - While all Forest Service sites can be associated with the theme of conservation, these sites need to be important in illustrating the historic context and represent it through specific historic associations (USDI 2000).
    - Sites specifically need to have played an important role in the development and evolution of conservation during the Post War era on the ASNFs, within Region 3, or the nation.
        - To be significant for the ASNFs, a site should represent or be established as part of the forest's movement towards an increase in personnel, providing forest products, or increasing recreational opportunities.
    - Site needs to retain some aspects of integrity in order to demonstrate its association, with design and workmanship being of less importance (Wilson 2004).
- Criterion B: Important Person(s)

  - Important figures that are considered of local or regional importance should be associated with a site such as regional or forest architects, forest rangers, etc. (Wilson 2004).
  - The site needs to be directly linked to the important individual and their significance within the Forest Service during the Post War era made clear.
    - Sites should be linked to specific Regional Architect, important ASNFs employee, or local historical figure.
  - Site needs to retain some aspects of integrity in order to demonstrate its association with the important individual, with design and workmanship being of less importance (Wilson 2004).
- Criterion C: Design, Construction, and Work of a Master
  - Site buildings and structures should embody distinct characteristics of Forest Services buildings within the region or be linked to the design of a specific architect that was significant during the Post War era or that contributes to the theme of conservation.
  - Sites should retain most or all of their physical features that represent the construction technique or architectural style, with the most important aspects being design, workmanship, location, and materials (Wilson 2004).
- Criterion D: Information Potential
  - Site would need to retain integrity of archaeological deposits, either in surface or subsurface, that could provide further significant information into the development of the site and its importance in in the historic context.

- The information potential should be able to provide insight into such topics as the type of inhabitants of the station (e.g. age ranges, male to female ratio, families present, etc.), impact of the station on the community, local, regional, or national consumption of goods (i.e. where is the equipment, food, clothing, or other items being purchased from).
- Location, design, materials, and potentially workmanship are the most important aspects of integrity to be considered (Wilson 2004).

National Register Integrity. During the evaluation process, the seven aspects of integrity must be assessed. The significance of the site plus the integrity of the site is what equals an eligible determination. A site may be eligible for the NRHP even though some of the aspects of integrity have been comprised or destroyed but likewise the site may not be eligible even with some aspects still intact. Each aspect needs to be taken into account, assessed, and then determined if its integrity or lack thereof either contributes or diminishes an evaluation for eligibility.

- Location
  - The physical place where the historic site was constructed or where the event the site is associated with occurred (USDI 2000).
  - Buildings or structures that have been moved from their original location will rarely be eligible for the NRHP (Wilson 2004).
  - Buildings and features that make up a site need to be within their original location to convey their context and association with the period history.
- Design

  - This is a combination of elements that create the essence of the overall site in relation to its historic context (USDI 2000).
  - Site should retain integrity in the layout of the buildings and features in such a way that they still relate to the historic context and a historic contemporary would recognize the site (USDI 2000).
  - Alterations to the design of a site will impact the site's ability to display an association with the historic context in which it was constructed.
- Setting
  - This relates to the physical environment of site (USDI 2000) and needs to retain the physical presence that is associated with historic context and time in which the site was constructed.
  - Major changes to the landscape can hurt or destroy the integrity of this criterion.
- Materials
  - Physical elements used to originally construct the site based on economic constraints and supplies available within the region (USDI 2000).
  - The integrity of this criterion should be mostly intact to convey the significance of the site within the historic context and the period in which it was constructed.
- Workmanship
  - This is physical evidence of the period of construction and materials used (USDI 2000).
  - The integrity of this criterion should be mostly intact in order to convey the method and means of construction significant to the historic context.

- Feeling
    - The historic sense or expression of the site that conveys its period of significance in a glance (USDI 2000).
    - This criterion can be severely disturbed by alterations to the materials, workmanship, setting, and design.
    - However, the lack of historic feeling in a site does not necessarily deem it ineligible unless there are no other aspects of integrity that are intact.
- Association
    - The specific event or theme within history that the site can be linked to (i.e. it is the site of an important event, facilitated the occurrence of an event, etc.) with an important significance.
    - This criterion greatly depends on the physical features that make up the association and can be impacted with their deterioration.

National Register Significance. In order to be eligible for the National Register the historic site needs to demonstrate more than mere association and integrity but need to have a significance within the historic context. Properties used or constructed by the Forest Service for the purpose of administration and management of a National Forest represents the primary theme of conservation (Wilson 2004). While almost all sites within a National Forest related directly to its management and administration are associated with this theme, they still need to demonstrate a significant contribution to this theme within the Post War era. This significance must be important either at a local, regional, or national level when evaluated under one of the four criteria.

Chapter VIII: National Register of Historic Places Evaluation

In order to determine the type of protection measures required, and to develop the cultural resources management plan for the Black Mesa Range Station, each component of the site requires an evaluation for its potential eligibility for the National Register of Historic Places (NRHP). The historic aspects of the ranger station and prehistoric components will receive separate evaluations based on their integrity and ability to contribute to their own distinct contexts. The evaluation of the site will utilize guidelines set forth in National Register Bulletin No. 15 (USDI 1997a) about how to apply the criteria and Bulletin No. 36 for evaluating archaeological properties (USDI 2000).

Prehistoric Component Evaluation

Upon completion of the mitigation project conducted by Four Corners Research (Purcell and Greenwald 2012) an eligibility determination of Eligible for the National Register of Historic Places under Criterion D was recommended for site AR-03-01-02-2432 (the prehistoric component) located at the Black Mesa Ranger Station, by the contactors (no consideration was given to the historic component). Four Corners Research recommended that the prehistoric component of the ranger station site is eligible as it retains integrity of location, materials, and association under Criterion D as an archaeological site that could provide further significant information in the prehistoric past, based on the features and artifacts uncovered (Purcell and Greenwald 2012). Based on the findings from the excavations in the truck yard, the contractors suggested that the site most likely represents a Mogollon habitation site, possibly a village, occupied from 900-1000 A.D. with concurrence from the Arizona SHPO (Purcell and Greenwald

2012). However, current evidence suggests a broader range of use and the updated NRHP evaluation reflects these new data.

After reviewing the Four Corners Research report, and based on the findings of the current survey, it is recommended that the prehistoric component of the site remains eligible for the NRHP as a Mogollon site dating to the Cottonwood through the Dry Valley phases and the Carrizo through the Pinedale phases of the Mogollon tradition (500-1000 A.D. and 1100-1300 A.D.). The surface assemblage of artifacts, along with artifacts recovered and features excavated by Four Corners Research do not present an overwhelming case for the site serving as a permanent habitation site since no habitational features were discovered. The features uncovered during the testing are indicative of a processing area related to gathered or possible agricultural resources. At most, the current data would indicate that the site is a processing area associated with food gathering and possible agriculture which would have been associated with temporary habitation site nearby (Foster et al. 2002). In another portion of the site on the west side of FR 51 a possible fieldhouse was originally recorded during a previous field survey (Schofer 2006). However, during the current inspection of the area no such feature could be found and further testing is needed to confirm its presence.

During these phases of the Mogollon period (500-1000 A.D. and 1100-1300 A.D.), populations were expanding beginning around 900 A.D. and an increased interest in agriculture greatly increased around that time (Foster et al. 2002). The prehistoric component of this site may represent one of the earliest possible occurrences of a move towards a more sedentary and agriculturally based lifestyle for the prehistoric people of the area that is not typically seen prior to 900 A.D. The AZ SHPO prehistoric context discussing water utilization and technology

defines “fields” as a prehistoric feature of agriculture related to dry farming (Doyel 1993). This feature of farming typically occurs within floodplains or alluvial fans, however, as features they are nearly invisible on the landscape and difficult to determine (Foster et al. 2002). Although no definitive attributes of a field system were found on the site, the features that were discovered may be similar to those commonly associated with fields. The presence of a roasting pit and pit features found by Four Corners during their excavations of the truck yard (Purcell and Greenwald 2012) are common features of a prehistoric processing area that would have been associated with agricultural features such as fields (Doyel 1993; Foster et al. 2002).

This site has the potential to provide further significant information into the prehistoric context of the Mogollon Rim area of the Black Mesa Ranger District as well as into the early development of agriculture. While this site has undergone disturbance to its surface and subsurface deposits, integrity remains of both, and further testing of the site could uncover information that could help further determine the overall purpose the site served to its prehistoric occupants. As this site was originally recorded in 1985 by Forest Service archaeologists as a lightly dispersed artifact scatter that was not eligible for the NRHP (Donaldson and Chalkley 1985), it contains the ability to provide an insight into how similar sites located on the district should be evaluated in the future. Based on the surface assemblage this site does not appear to have the potential to provide significant information into the prehistoric context, therefore it is important that continued research and testing into the subsurface component of this site continues in order to preserve the knowledge it contains so that it could help in the future identification of sites with similar buried deposits that are not readily apparent.

Historic Component Evaluation

The historic component of the Black Mesa Ranger Station is recommended as not eligible for the National Register of Historic Places. The historic component is evaluated utilizing Criterion A, associated with the significant event of Conservation and the development of the Forest Service in the Post War Era, Criterion C, associated with unique architecture of Region 3 of the Forest Service, and Criterion D, a historic site having the potential to provide significant information into the site's role as a historic Forest Service ranger station. The BMRS site is considered a District for this evaluation, as it is comprised of various objects, buildings, or structures (USDI 1997b). The ranger station as whole is defined by its buildings and features located within its administrative boundaries that were defined in 1949 and is evaluated as a whole. Individual buildings were not evaluated for their ability to contribute or not contribute to an eligibility because they are part of the site at large and need to be evaluated together to fully represent the site as the Black Mesa Ranger Station.

The BMRS was established at its current location in 1949 to meet the need for a larger ranger station in a location that provided better access for the public. The establishment of the ranger station in Overgaard and the need behind the purpose for its construction fits with the Post War Era context to a point but does not completely align with the context. This period is characterized by an increase in logging, mining, grazing, and recreational tourism across the Forests nationally and thus there was a need for more Forest Service employees to accommodate the growth in these industries. The establishment of the BMRS in 1949 in its current location was done partially in response to an increase of these activities on the Forest at the local level but was primarily done due to inadequacies at the original ranger station site. Historic documents

requesting the establishment of the BMRS state the purpose for this need is due to a lack of water, sufficient pasture, and inaccessibility to the general public to report issues to personnel (i.e. report a wildfire or other hazard). Thus, while the ranger station was built during this period of growth in the Forest Service, it was not constructed specifically with an increase in logging, mining, grazing, and recreational tourism in mind.

A total of 20 buildings remain on the ranger station that are historic but only eight are associated with the Post War period while the remaining 12 date to post 1960. However, the integrity of these buildings and that of the ranger station overall has been impacted by modifications that have occurred over the years. The ranger station has undergone changes from the original layout with buildings demolished, buildings added, roads altered, and other architectural modifications that have impacted the integrity. Every single building dating from the Post War Era period and beyond the 50-year mark to be considered historic, has undergone updates to modernize the buildings or has had alterations done by the various residents *(see Appendix C)* that has changed the interior of the buildings. These modifications have been documented to best of the author's ability in the Historic Results section above. While evaluating the BMRS as a district under the criteria for the NRHP, all aspects of integrity will be assessed to show the impacts that have occurred over the years to the different aspects and how that supports an eligibility recommendation of not eligible.

The *location* of the BMRS is the original physical location chosen for its establishment in 1949 and thus has no negative impacts to its integrity in that manner. However, to evaluate the district under Criterion A with an emphasis on a period of significance of Conservation, the physical location does not provide much support towards eligibility. This is based off the fact

that the site was primarily chosen as it provided better resources to allow the Forest Service personnel to live, such as water (ASNFs SO, Office Memorandum, memo, 1949, documents regarding Black Mesa Ranger Station). Also, the location itself does not help to convey the significance of the theme of conservation in any way that would add to a potential eligibility such as demonstrating the methods of providing for forest health, rangeland management, or endangered wildlife monitoring. The location also provides no contribution to an eligibility under Criterion C as the BMRS design is not a direct reflection of its immediate natural environment (USDI 1997a).

The *design* of the BMRS as a district is contingent upon the structures/buildings, fences, roads, yards, truck yard, and office as a cohesive compound meant for the purpose of supporting the Multiple Use purpose of the Forest Service for demonstrating significance under Criterion A. The design itself of the buildings/structures, yards, office, and storage facilities such as the truck yard should demonstrate unique design plans from the Region 3 architect that embodied their vision for the region's administrative units. The BMRS as a cohesive compound still retains some integrity in demonstrating this aspect as it currently still is in use as such with eight historic buildings and other features in place across the district. However, the removal of historic buildings along with the addition of modern buildings has impacted the BMRS ability to convey its significance in reference to Post War Era period context as well as that of a historic ranger station overall. The overall design of the BMRS has also undergone changes in its layout of roads, historic buildings, truck yard, and other features that differ from the historical sources of its establishment. There is also no evidence to support that the BMRS embodies a unique design plan laid out by the Regional Architect as no historical documents could be found in reference to

who designed the layout of the compound. The historic buildings dating to both the Post War Era and after, all share a resemblance to other historic buildings across the forest dating from the same time periods. Floor plans, construction materials, and decoration techniques are very homogenous across the ASNFs for these buildings making those on the BMRS in no way unique or significant on the forest as a whole.

The *setting* of the BMRS district has undergone some alterations over the years due to the use of the physical environment by the ranger station employees. However, these modifications do not detract from its integrity as it was chosen to provide for a better water source and forage opportunity that were needed by the ranger station to function. This does not necessarily provide support for the theme of Conservation under Criterion A nor provide a unique characteristic for the architecture under Criterion C.

The *materials* and *workmanship* of the BMRS are two aspects that are perhaps most important for this evaluation of the historical buildings and the compound as whole. They are also the two aspects that have had their integrity impacted the most. Both the physical materials used to construct the historic ranger station buildings as well as the evidence of any craftsmanship have been impacted over the years due to the needed repairs and updates to the buildings. The interior of all the eight historic buildings have underdone changes in the materials and workmanship that were part of their original construction, as documented in the Historic Results chapter. Cabinets, flooring, windows, appliances, fixtures, and even paint colors have been altered in the buildings to various extents. Some buildings, such as the building in the truck yard, have had walls removed, altered, and installed that have changed the overall layout of the interior. While the exteriors of the buildings have seemingly undergone the least amount of

change, the true extent cannot be verified as no original construction blueprints for the buildings could be located, and they have received modifications as well. Roofs have been replaced with sheet metal, modern windows installed, additions/alterations to porches and walkways, and updates/replacements/alterations of doorways have occurred. Although, minimal alterations to the exterior of the buildings have occurred, the changes in the interior stand for the most significant impact to the integrity of the materials and workmanship. None of the building exteriors appear to exhibit any unique characteristics of construction that appear original to the region or to the forest in general. All seem to fall under the category of prefabricated or standard plan buildings that the entire National Forest system utilized after WWII with surplus supplies. Buildings from this historic period across the ASNFs all share similar traits (e.g. floorplans, paint schemes, construction materials, etc.) that seem to support the use of standardization of building construction. The modifications to the interiors mark a lack of integrity in the one area of the buildings where unique characteristics may have occurred. Without original plans of the building interiors, it is hard to know what the original features of the buildings may have been in terms of materials and workmanship, however, based on engineering records for repairs, upkeep, and renovations of the buildings (along with oral documentation from Black Mesa employees who did some of the renovations) it can be shown that materials have been replaced with modern ones. Due to this lack of integrity in the materials and workmanship of the buildings, there are no means to support an eligibility under Criteria A or C as these aspects no longer demonstrate or contribute to their period of significance.

The overall *feeling* of the BMRS does not completely demonstrate a connection with the historic period in which it was constructed, nor does it completely lack historical feeling. The

exterior of the buildings across the station still provides some feel of the history as they have not been drastically changed, however, the modifications and modern buildings take away from any feeling of historic nature. Also, the overall feeling of a station has not been enough in the past to demonstrate significance to allow inclusion in the NRHP as seen by the demolition of an entire ranger station site, the Chevelon Ranger Station, with buildings dating to the same period as those on the BMRS. The *association* of the BMRS still remains with its connection to the Post War Era and the historic period unbroken. These positive aspects of integrity alone however do not support a determination of the eligibility to the NRHP as they are based upon individual perceptions (USDI 1997a). This connection with the Post War Era and the historic period have not proven to be significant enough in allowing for an eligibility recommendation to the NRHP for other buildings on the forest that date to the same period and have since been demolished.

While the Black Mesa Ranger Station is associated with both the theme of Conservation and the development of the Forest Service in the Post War era, the integrity of the site and the significance of the ranger station itself do not contribute to a NRHP eligibility. The integrity of the ranger station has undergone continuous disturbance over the years with alterations completed to maintain the station as an active administration site. The creation and development of the ranger station site, also, does not represent a significant point in history in the theme Conservation or the Forest Service (USDI 1997a). The site does not mark the beginning of conservation efforts in the area nor the ASNFs and does not mark a pivotal point in the administration of the conservation effort of the ASNFs or Forest Service as an agency. Thus the site does not contribute to the NRHP under Criterion A.

Overall, the historic component of the BMRS does not provide enough integrity left over in its historic buildings nor in the presence of other historic features and artifacts, as there are few left. This district, at most, merely reflects the commonality of historic, standardized Forest Service planning in the terms of building construction and does not embody any unique or original construction methods that would be represented elsewhere on the ASNFs. Buildings across the ASNFs that date from this period are all remarkably similar in characteristics and style and do not stand out from one another. Buildings at several sites on the forest dating from the period after 1960 have already been evaluated for the NRHP, concurred on by SHPO, and undergone demolition due to the lack of unique characteristics and significance. Thus, the BMRS is not eligible under Criterion C.

Neither Criteria B or D was considered as an applicable criterion to evaluate the historic component as research did not uncover any significant person or persons that took part in the creation of the station or resided and worked at Black Mesa, therefore not supporting Criterion B. The results of the survey and inventory of the site did not produce any areas of artifact concentrations or likely areas of significant buried historic components that could provide further significant information into the history of the Black Mesa Ranger Station and its inhabitants, thus making it not eligible under Criterion D.

National Register of Historic Places Significance

The Black Mesa Ranger Station, prehistoric and historic components, comprise one site with only the prehistoric component contributing to the NRHP eligibility. The prehistoric components of the site and the information potential they retain provide the contributing element to the NRHP eligibility under Criterion D. While these components have suffered disturbance

from the establishment and ongoing utilization of the BMRS as an active administrative site, there appears to be enough integrity left to retain the potential to provide significant understanding into the Cottonwood through the Dry Valley phases and Carrizo through the Pinedale phases of the area. The component also holds the potential for a better understanding of limited activity sites or sites with little surface deposits and how to identify them. This component of the site should continue to undergo management and protection through the use of the cultural resources management plan (CRMP) while the historic components may be released from management by Heritage staff.

Chapter IX: SHPO & Tribal Consultation

In order to be in compliance with Section 306108 (previously known as Section 106) of the National Historic Preservation Act's requirements for federal undertakings, consultation will be undertaken with tribes who claim a cultural association with the lands of the Apache-Sitgreaves National Forests and the Arizona State Historic Preservation Officer (SHPO). The purpose of consultation with this project is to achieve concurrence on the NHRP eligibility determination and on the cultural resources management plan (CRMP) developed for the Black Mesa Ranger Station. The goal of developing the CRMP is to establish an agreed upon plan and procedures for mitigating adverse effects to the prehistoric component so that new consultations will not need to occur for each and every federal undertaking that may be proposed on the station.

Tribal Consultation

Following the tribal consultation process used by the ASNFs Heritage personnel, a copy of this thesis with maps will be sent to THPOs and tribal cultural specialists for comments and recommendations from the following tribes: Pueblo of Acoma, Fort McDowell-Yavapai Nation, Hopi Tribe, Hualapai Tribe, Mescalero Apache Tribe, Navajo Nation, Ramah Chapter House of the Navajo Nation, San Carlos Apache Tribe, Tonto Apache Tribe, Yavapai-Apache Nation, White Mountain Apache Tribe, and Pueblo of Zuni. Tribes will be consulted prior to the consultation with SHPO in order to give them ample time to respond with any concerns or suggestions for the CRMP. Should any tribe respond with concerns to the methods proposed in this thesis for the management of the Black Mesa Ranger Station site, then consultation will continue, and modifications will be made to the CRMP until those concerns have been resolved.

It is not expected the CRMP in this document will be the final CRMP that is agreed upon by all parties for the management of the Black Mesa Ranger Station. No implementation of a CRMP plan will occur until a consensus is reached and signed off on by all consulting parties.

SHPO Consultation

Once consultation with tribes is completed and a concurrence on the CRMP is reached, the draft plan will be sent to the Arizona State Historic Preservation Officer for continued consultation. Should the SHPO raise any concerns regarding the CRMP then continued consultation with both the SHPO and tribes will occur to see that a consensus is reached. This initial consultation process will act as the overall initial consultation process for future federal undertakings on the Black Mesa Ranger Station. Eventually agreement will be reached so that all federal undertakings that occur on the station will follow the methods laid out in the CRMP in order to properly test and mitigate adverse effects to the site. This process should result in Memorandum of Agreement (MOA) with the SHPO (as well as any Tribes who wish to participate) for mitigation of the site during a federal undertaking as stated in the "SHPO Position on the Roles of Archaeology Testing" (Bilsbarrow 2003).

Continuing Consultation

Should a proposed undertaking for the Black Mesa Ranger Station fall outside of the guidelines and methods set forth in the CRMP then additional consultation with SHPO and the tribes will occur. As stated elsewhere, any NAGPRA concerns will result in immediate consultation and a cessation of work within a 40-meter radius of the area of concern until consultation is completed. Continued consultation will occur in regard to projects completed on the station that are mitigated through the use of the CRMP by way of additional reports on the

mitigation process and findings. These reports will be sent to the SHPO and tribes upon completion of each project.

Chapter X: Cultural Resources Management Plan

To provide for the proper management and protection of the Black Mesa Ranger Station site, AR-03-01-02-2432, the development of a cultural resources management plan (CRMP) is required to prevent or mitigate adverse effects to the prehistoric component of the site. Due to the ongoing maintenance and development to the BMRS there is a potential for prehistoric cultural materials to be adversely affect during the course of various project work. To prevent this potential damage and loss from occurring, the following guidelines were created to mitigate adverse effects during any federal undertakings. There are three main purposes of this CRMP: the first is to provide the necessary guidelines for the testing of the site in order to delineate the total extent of the subsurface prehistoric component; the second is to provide the necessary guidelines and methods needed to avoid any adverse effects to the site during the course of maintenance or development of the BMRS; and third, to prevent the loss of information due to the development of the ranger station facilities. The guidelines for the CRMP were developed utilizing the "SHPO Position on the Roles of Archaeological Testing" which provides specific terminology for describing testing types and methods used for each type (Bilsbarrow 2003).

The historic component of the site was recommended not eligible for the NRHP during the course of this project and if concurred upon, removes the need for a CRMP to be applied to the historic buildings and features associated with the ranger station site. Therefore, should any federal undertakings occur, that will affect any of the historic components then clearance should be granted for these projects to proceed without further need for any Heritage assessment or protection. However, should any of these undertakings require ground disturbance then Heritage staff will need to be consulted so that the guidelines provided in the CRMP for the prehistoric

component of the site are undertaken in order to mitigate any adverse effects. "Ground disturbance" is defined as activities that affect both the surface (e.g. driving of equipment, skidding of trees, prescribed burning, etc.) and subsurface (e.g. trenching, drilling, digging, use of dozer, etc.) Heritage staff should be consulted before any federal undertakings are implemented to the historic component so that they can ensure the ASNF is following the standards in the CRMP properly.

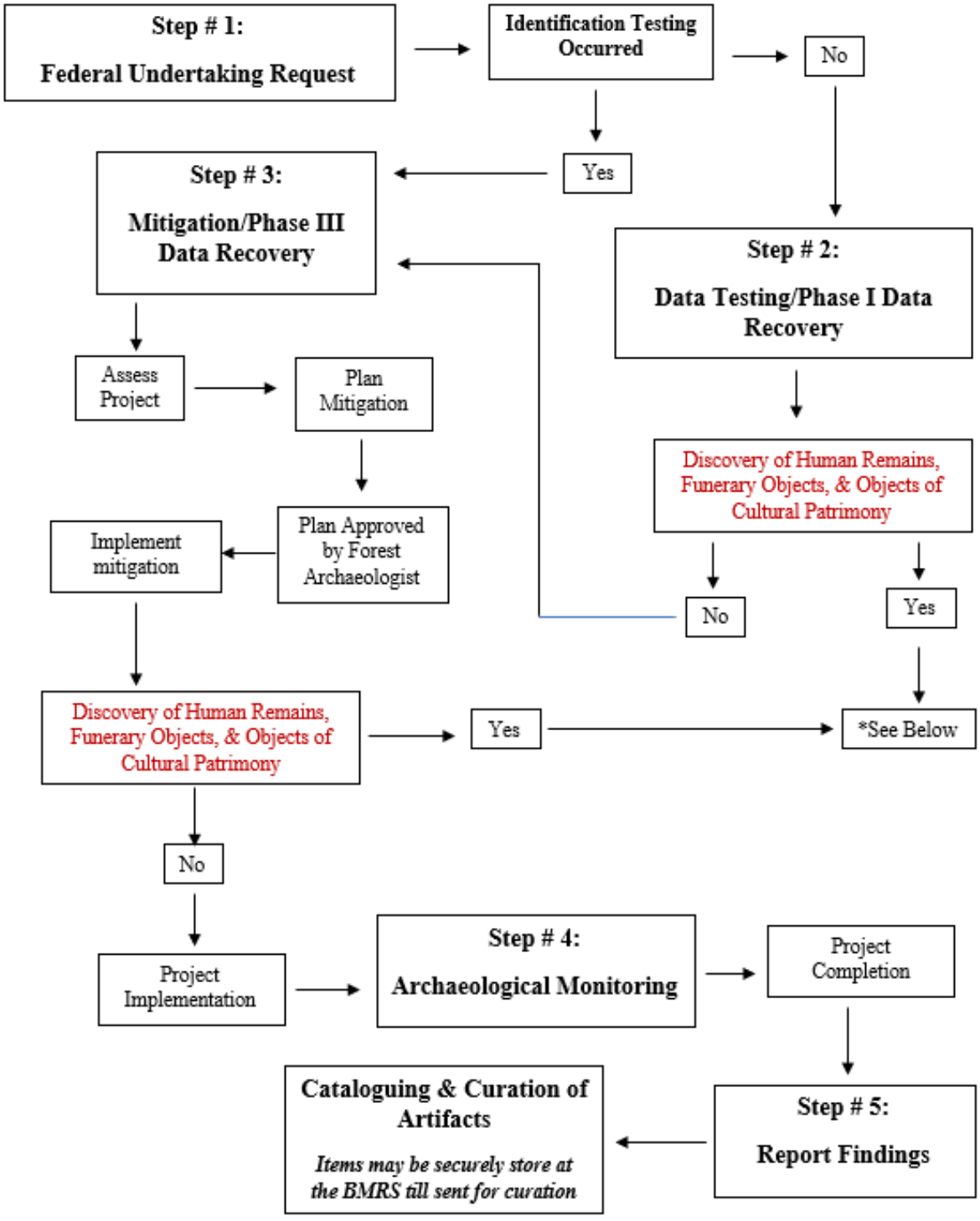
The prehistoric component of the ranger station site was recommended eligible for the NRHP and thus is subject to consideration and mitigation as required by Section 306108 of the National Historic Preservation Act, as amended. In order to provide the proper management and protection during any undertaking, the following methods were developed to provide guidance for Heritage and district personnel to follow before the implementation of a project. Guidelines were also developed to delineate the extent of the subsurface prehistoric component and areas of cultural materials that could be affected, or are unknowingly being affected, by the development of the ranger station in order to identify the true site boundary and guide future project planning.

Cultural Resource Management Plan Workflow

To manage the eligible prehistoric component of the Black Mesa Ranger Station properly, a total of five steps have been developed to guide the process along with a prerequisite to mitigation and two further management requirements. Each step serves a vital purpose in ensuring the CRMP works seamlessly to mitigate any adverse effects that could potentially occur during the course of a federal undertaking. The table and flowchart below *(see Table 13 and Figure 54)* along with the following information provide a detailed outline for how the management plan will function.

Table 13. Steps of the Cultural Resource Management Plan

		Purpose	Tasks
Identification Testing		Determine the extent of the vertical and horizontal limits of the site to provide for better project planning; intent is limited testing; *prerequisite, should be completed across the entire station*	Limited testing methods: shovel tests, auger tests, small test units
Step # 1	Federal Undertaking Request	Heritage request form completed to determine a proposed project's potential effect	Heritage personnel review project proposal for ground disturbing activities; compare project area against the site data; determine potential effects and required mitigation measures
Step # 2	Data Testing/Phase I Data Recovery	Determine if buried cultural materials are present in a project area in order to gauge the mitigation measures required; *should only be undertaken if Identification Testing has not been completed in project area*	Limited testing methods: shovel tests, auger tests, small test units
Step # 3	Mitigation/Phase III Data Recovery	Provide the mitigation measures needed to avoid adverse effects to the cultural resources and loss of information	Plan mitigation process; approve plan with Forest Archaeologist; mitigate adverse effects prior to start of project work
Step # 4	Archaeological Monitoring	Monitor project activities to ensure mitigation measures were adequate and no undiscovered cultural materials are adversely affected	Monitor project work; stop project work in the advent of new cultural materials discovered; alert Heritage staff of completion of the project or new discovered materials
Discovery of Human Remains, Funerary Objects, & Objects of Cultural Patrimony		Project work will be halted in 40-meter buffered area where these items area discovered; *this is a process that could occur at any point in Steps # 1, 2, 3, or 4*	Halt project work upon discovery; note items and stabilize in place; immediately alert Forest Archaeologist; enact emergency consultation with Tribes and SHPO; only proceed with project or mitigation activities after consultation is complete
Step # 5	Reporting Findings	Compile a report detailing project activities, mitigation measures undertaken, monitoring results, and findings during mitigation measures	Compile report; send report to SHPO and tribes
Cataloguing & Curation of Artifacts		Provide for the management, storage, and further analysis of artifacts, samples, and cultural items collected from the site; *requires Curation Agreement with a federally recognized institution*	Clean artifacts; process soil samples; catalogue/analyze artifacts and samples; bag, label, and store artifacts and sample appropriately



***If human remains, funerary objects, or objects of cultural patrimony are discovered, all work will cease, and immediate consultation will occur with SHPO and the Tribes. Work will only recommence once an agreement and plan is developed for the disposition of these items.**

Figure 54. Workflow Chart for Cultural Resources Management Plan

Identification Testing

While the surface deposits of the prehistoric component have received a thorough recording, little is known about the true extent of the subsurface. During the 2012 testing of the site by Four Corners Research (Purcell and Greenwald 2012), a total of seven buried features were documented within the site, however, only a small area on the north end of the site was tested. The surface assemblage is also only present on the north end of the site *(see Figure 49 above)*, and it is unknown if further prehistoric cultural materials are potentially present on the other portions of the site. Subsurface testing is needed to determine the furthest extent of the possible buried cultural materials so that proper planning and mitigation can occur before a project starts on the ranger station. Utilizing the method of identification testing, as directed by the SHPO, testing will be conducted across a small percentage of the site (Bilsbarrow 2003) and used strictly to identify the true extent of the prehistoric component as best as possible. This process will not be undertaken as a method for mitigation of federal undertakings but rather used only as means of identification. The goal of the identification testing process is to finally determine the full extent of the vertical and horizontal extents of the site boundary in order to provide better management of the prehistoric component.

Site boundary identification testing of the entire ranger station should be undertaken by the Heritage staff utilizing the methods devised in the CRMP in the Identification Testing Methods section below. In order to complete the testing of the station, the Heritage staff will need to conduct one or more projects until the entirety of the ranger station has received testing for buried prehistoric materials. The project work must be supervised by a Forest Service archaeologist and can utilize seasonal archaeologists, para-archaeologists, and volunteers to

complete the testing. The subsurface testing will utilize the minimal number of samples required in order to leave the cultural materials as undisturbed as possible while still determining where they are present. Outlined below are the methods to be used for testing, curation of cultural materials, analysis of cultural materials, and data to be recorded.

Identification Testing Methods

To conduct the archaeological testing of the site to determine the horizontal and vertical extents of the prehistoric component, the use of shovel tests, auger tests, and test units are to be utilized as the standard method. The purpose of the testing is to determine if prehistoric cultural materials exist in an area where it is not apparent by an examination of the surface. Testing will be in order to leave the buried deposits in situ as much as possible but extensive enough to confirm the presence of cultural materials (Bilsbarrow 2003). The following methods will be followed for testing:

- All testing will be laid out on the UTM grid based off a site datum and GPS points will be taken to map tested locations. (If funding allows, a total station will be used for devising the grid and GPS methods, otherwise Trimble units will be used)
- Testing will occur first within areas of known surface deposits but with no indication of subsurface features in order to determine if buried deposits are present.
- Testing will occur second within a 15-meter buffer (standard protective buffer added to all sites by the ASNFs) immediately adjacent to areas of known prehistoric components.

- If buried deposits are located within the entirety of the 15-meter buffer width, then testing will continue outwards at 15-meter intervals until buried cultural materials are no longer encountered. The last positive test will mark the boundary that will then have a 15-meter buffer added beyond it.
- The goal of the identification testing process will be to sample as small a percentage of the site as possible to keep in line with SHPO guidelines (Bilsbarrow 2003).
- Shovel testing:
    - Shovel tests will be laid out in a grid based off the site datum and GPS coordinates recorded.
    - Shovel test diameter will be no wider than the head of a standard shovel.
    - Once cultural materials are encountered in a shovel test, the testing will continue until a sterile layer (void of any cultural materials or features) of 20 cm is reached.
    - Shovel tests will be dug in arbitrary 20 cm levels and screened using eighth inch woven wire mesh.
    - Use of shovel tests will be based on the infield observations of the archaeologist based on soil suitability for such testing (i.e. lack of protruding bedrock, buried utility lines are suspected, etc.)
- Auger testing:
    - Auger tests will be laid out in a grid based off the site datum and GPS coordinates recorded.

  - Auger testing will be completed using a hand “bucket” auger designed for soil sampling.
  - Auger tests will be allowed to test for the overall depth of the site in order to determine if Paleoindian or Archaic components are present (this will be done in a limited area of the site, primarily near the ephemeral drainage where soils are potentially deeper).
  - Use of auger tests will be based on the infield observations of the archaeologist based on soil suitability for such testing (i.e. terrace area of wash where deep deposits of soils are present, etc.).

- Test Unit:
  - Units will be 0.5 x 0.5 meters in length and width.
  - Units should be utilized if a feature, midden, or fragile cultural layer are suspected, or soils are not suitable for a shovel or auger test.
  - Units will be excavated in arbitrary 10 cm levels using the southwest corner of the unit as datum for all measurements taken.
  - GPS points will be taken on the southwest corner using a total station if available, otherwise a Trimble will be used.
  - Each level will be photographed, mapped, and unit level forms completed.
  - All four wall profiles will be drawn and photographed at the completion of the unit.
  - Units will be excavated to at least one meter if possible and to a sterile level beyond cultural materials.

    - Units may be utilized to test for deeper cultural deposits in a limited capacity and in areas of the site deemed feasible to do so (areas of potential deeper soil deposits).
    - If a feature is excavated, then a representative soil sample should be collected for floatation analysis.
- All soil from the test unit will be screened through eighth inch mesh screen (standard screen size used previously with testing on the ASNFs) and all cultural materials are to be collected.
- All shovel tests, auger holes, and test units will be backfilled upon completion.
- A layer of water permeable landscaping fabric will be placed in the bottom of the unit to mark the maximum vertical extent of the excavation.

Identification of the site will be conducted utilizing multiple Section 110 projects by Heritage staff as time allows. If a federal undertaking is proposed in an area of the site that has not yet undergone boundary identification testing, this process will occur first to determine if the next phase of testing is required.

Federal Undertaking Request for Mitigation Guidelines

After determining the vertical and horizontal boundaries of the prehistoric component, data will be available to aid in future project planning on the Black Mesa Ranger Station. When the district plans to conduct project work on the ranger station, then a Heritage project request form must be completed and submitted to the Heritage staff for assessment. The Heritage staff will assess the project request, determine the potential area of effect (APE), and consult the CRMP to determine what archaeological methods need to be completed prior to the

implementation of any project work. If a project request is not submitted prior to the implementation of a project and work is conducted within the site without Heritage clearance, then the project will be out of compliance with the National Historic Preservation Act and the CRMP MOA. The following steps should be followed upon receipt of request for a federal undertaking:

- Upon receipt of a Heritage clearance request form, the project APE should be determined by an archaeologist.
- Once the APE is determined it should be assessed for the presence of cultural materials in reference to known buried cultural deposits based off of the Identification Testing process.
- If a portion of the APE has not undergone the Identification Testing process the Data Testing/Phase I Data Recovery method should be undertaken next.
- Once the Data Testing/Phase I Data Recovery process has been completed the project should move to the mitigation planning phase.
- If the entire APE has undergone Identification Testing or the entire site has been delineated through that process the project should move into the mitigation planning phase.

Data Testing/Phase I Data Recovery

After a project proposal request is submitted to Heritage staff, then a plan must be devised by the Heritage personnel to mitigate the potential adverse effect to the prehistoric components. If a project proposal is submitted to Heritage staff that will require ground disturbance in an area that has not undergone Identification Testing methods stated above, then

the following process will occur. Data testing/Phase I Data Recovery will be in accordance with the SHPO guidelines on archeological testing (Bilsbarrow 2003) and will utilize the testing methods below. The findings of this testing will be used to determine how to proceed with mitigation efforts within the project area. The following methods for Data Testing/Phase I Data Recovery should be undertaken for portions of a project APE that fall within areas of the site that have not undergone Identification Testing:

- This process should only occur within a proposed project area that has not undergone the Identification Testing process.
- Data testing should occur only within the project APE.
- Data testing methods should follow those laid out in the Identification Testing methods above in terms of shovel testing, auger testing, test units, soil screening, backfilling of excavations, and artifact collection.

Mitigation/Phase III Data Recovery Guidelines

When adverse effects to the prehistoric site cannot be avoided and ground disturbance must occur, Phase III data recovery will commence prior to any federal undertaking in an area of the site with known prehistoric cultural materials in order to preserve artifacts and feature data and to mitigate the loss and destruction of significant information.

Mitigation Planning

Once a project area is confirmed to contain cultural materials, in either the surface or subsurface, a mitigation plan needs to be devised to counter the adverse effect of the project. A plan should be drafted by the assigned project archaeologists or Forest Service Heritage contractor and sent to the Heritage Program Manager/Forest Archaeologist for approval to ensure

that the plan conforms to the guidelines set forth in this CRMP and are adequate mitigation of the project area. A mitigation plan should utilize the following methods of alternative mitigation strategies, surface collection, and archaeological excavation to construct a mitigation plan. For planning of mitigation, the following guidelines should be used to determine the percent of mitigation required based on the project area:

- The total area of disturbance needs to be calculated, both surface and subsurface.
- Surface collection of the entire disturbance area needs to be planned and executed in the field.
- Alternatives to excavation need to be assessed and considered (i.e. plating of a road surface to cover cultural materials rather than excavation).
- Excavation of the disturbance area needs to be calculated in order to mitigate and recover data from significant deposits that provide a representative sample.

Alternative Mitigation Strategies

The following is a list of alternative mitigation strategies that are used throughout the ASNFs in order to avoid excavation as the mitigation process. The strategies should be considered during the planning process to see if they are acceptable alternatives:

- Avoidance: work with project leads to suggest alterations to the project plans to route disturbance away from as much of the significant cultural deposits as possible (i.e. move a planned trench over by 10 feet to avoid a feature).
- Surface plating: applying a layer of non-native fill over the cultural materials to prevent disturbance from project activities (must be understood that disturbance

will continue to occurring to site through compaction, mostly commonly used on Forest Roads).

- Interpretation: where significant features or materials my be lost that are impossible to mitigate through excavation, further in-depth documentation should be completed and then an interpretative aspect added to the visitor area of the ranger station (e.g. a bedrock outcropping of grinding slicks that cannot be moved and will be destroyed).

Surface Collection

Surface collection of artifacts should occur within a project area in order to mitigate the effects to the surface assemblage using the following guidelines:

- A grid based off the site datum will be laid out across the project area.
- Each 1 x 1 meter grid square will be examined for surface artifacts and all artifacts will be collected.
- Each grid square will be documented for the amount and types of artifacts collected in the field notes/field form.
- Artifacts will undergo further analysis in the office.

Archaeological Excavation

Once the project area is determined to contain buried cultural materials, then excavations need to occur to mitigate the adverse effect of the project and prevent the loss of significant data. The following methods should be used for mitigation purposes:

- A grid based off the site datum will be laid out across the project area (if not already done for surface collection).
- Units should first be laid out across sections of the project area where buried cultural materials were confirmed by testing.
- Units will be excavated in arbitrary 10 cm levels using the southwest corner of the unit as datum for all measurements taken.
- GPS points or total station coordinates will be taken on the southwest corner.
- Each level will be photographed, mapped, and unit level forms completed.
- All four wall profiles will be drawn and photographed at the completion of the unit.
- Units will be excavated to at least one meter if possible and then terminated if cultural materials are not discovered.
- Once cultural materials are encountered in a unit, the unit will be excavated through to at least two sterile levels if possible.
- All soil from the units will be screened through eighth inch mesh screen (standard screen size used previously with testing on the ASNFs) and all cultural materials are to be collected.
- Features:
    - A representative sample of the feature should be excavated.
    - If a feature is excavated, then a representative soil sample will be collected from each level for floatation analysis.
- Middens:

    - A representative sample of the overall midden needs to be sampled.
    - Middens need to be excavated with diligence and close observation as burials are known to be present within middens in other sites in the region.
- Other samples from non-burial contexts, such as charred remains, or contents of complete ceramic vessels, may be collected to be used for potential radiocarbon dating or other laboratory analysis.

Archaeological Monitoring

In order to ensure that no unanticipated, significant cultural deposits are disturbed during the course of any federal undertakings that occur in the ranger station, a Forest Service archaeologist will monitor all project activities. Archaeological monitoring will occur even if prior mitigation measures have occurred. If any cultural materials are uncovered that were not previously known or partially mitigated, then project work will immediately cease until further archaeological evaluation or mitigation is completed.

Cataloguing & Curation of Artifacts

All artifacts excavated or collected will be cleaned, cataloged, and properly stored in archival bags. The following steps will be followed for cataloguing and curation of the cultural materials:

- Artifacts will be cleaned using soft, dry bristle brushes, soft bristle brushes and water, or soft fabric (if applicable).
- Artifacts that may hold the potential for containing plant residue or other such residues that may be analyzed will simply be dry brushed, catalogued, and curated.

- All cultural materials will be catalogued using the following basic analysis techniques:
    - Lithics will be documented by raw material type, functional type (e.g. primary flake, biface, projectile point type, etc.) with formal tools (e.g. projectile points) being further described by its features (e.g. point has concave base, corner notched, etc.) and its tool type if possible (e.g. Cottonwood Triangular point, scraper).
    - Measurements of tools (e.g. projectile points, groundstone mano, scrapers, etc.), bifaces, and modified flakes will be taken in metric units.
        - Measurements must include length, width, thickness, and weight.
    - Photographs will be taken of tools (e.g. projectile points, groundstone mano, scrapers, etc.), bifaces, and modified flakes.
        - All photographs must have a metric scale present adjacent to the artifact.
    - Ceramics will be documented by ware, type (e.g. Puerco black-on-white), and vessel type.
    - Measurements will be taken of any modified ceramic sherds or complete vessels in metric units.
        - At minimum, length, width, and thickness must be measured.

- Photographs will be taken to show a sample of the ceramic sherds, particularly diagnostic sherds, and of any complete vessels.
    - All photographs must have a metric scale present adjacent to the artifact.
- Faunal remains will be documented by kingdom, phylum, class, genus and species, as well as element, and whether fragmented or complete; the presence of cultural modification (worked bone, knife cuts from butchering, etc.), surface weathering, MNI and NISP counts.
- Unique artifacts will be measured, photographed, and described as detailed as possible (e.g. pendants, beads, figurines, etc.)
    - Measurements must include at least length, width, and weight.
    - All photographs must have a metric scale present adjacent to the artifact.

- Data collected during the cataloguing process will be added to the overall site form as an inventory (with a copy at both the Supervisor's Office and District Office), entered into the Heritage NRM database, and reported in a follow up report to SHPO and the Tribes.
- All cultural materials will be stored on the Apache-Sitgreaves National Forests until a curation agreement can be made with a federal repository in Arizona, or a recommendation is provided by the Tribes.

- Should time, personnel, and funding allow, further in-depth analysis of various artifacts may be undertaken by Heritage Staff to better understand the nature of the prehistoric site (i.e. a complete lithic or faunal analysis utilizing more in depth measurements or testing of artifacts (e.g. C-14 dating, etc.) may occur but this will not be a requirement.
- Artifacts will be available at the federal repository for further study and analysis by professional archaeologists so long as permission is sought through the ASNFs Forest Archaeologist.

Sample Analysis Processing

Soil samples collected for flotation analysis can be processed by either Forest Service archaeologists or sent to a laboratory for analysis. If processed at the Forest level the following method will be used:

- Hand flotation will be undertaken with soil poured into a basin of water and floating materials skimmed from the water surface.
- Both floated materials and heavy materials will be analyzed after dried.
- At minimum, a six-piece woven wire cloth test sieve will be used to process the soil samples (sieve should have similar screen sizes: # 5 (4 mm - 4,000 microns), # 10 (2 mm – 2,000 microns), # 35 (0.5 mm – 500 microns), # 60 (0.25 mm – 250 microns), # 120 (0.125 mm – 125 microns), and # 230 (0.65 mm – 65 microns)) as done by the University of Arizona during other excavations on the district (Roos and Mills 2004).

All cultural materials, marcobotanicals, charred remains, faunal, and other samples recovered during the flotation process will be collected for analysis. Analysis will only be done by the Forest Service archaeologists if time and expertise allow. Otherwise, samples will be sent for further analysis at a specialized laboratory as funds become available.

Discovery of Human Remains, Funerary Objects, and Objects of Cultural Patrimony

If any suspected or verified human remains, funerary objects, or objects of cultural patrimony are located at any point during project work, all work will immediately cease. The remains or artifacts will be stabilized in situ, or collected if found in back dirt, and then securely stored following standard NAGPRA protocols. Immediate notification of affiliated Tribes and the SHPO will occur in order to determine the next course of action. No further work will commence until further consultation has been completed and a NAGPRA plan is drafted and there is concurrence by the affiliated Tribes. The excavated area will be secured and closely monitored until a NAGPRA plan is agreed upon and implemented.

Reporting Findings

Upon completion of any undertaking conducted on the ranger station site utilizing this CRMP, a report will need to be completed documenting the sampling locations, methods, findings and results. A report must be generated by the end of the fiscal year documenting all project work, mitigation measures, and results that will be sent to the Arizona SHPO and affiliated Tribes to update them on the status of the site and work done. Reports will include methods used, field findings, lab results, and artifact analysis conducted.

Chapter XI: Conclusions

The goal of this project was to complete an overall survey of the Black Mesa Ranger Station in order to thoroughly record the cultural materials of the prehistoric and historic components and to make a recommendation of NRHP eligibility for each. While the prehistoric materials had undergone several different recordings by various Forest Service archaeologists and contractors, no previous effort was made to record or evaluate the historic buildings and features of the ranger station. Through an intensive pedestrian survey of the ranger station both of these components were documented and evaluated for the National Register of Historic Places. These evaluations for the NRHP allowed for the development of a cultural resource management plan that provides for the protection and management of the cultural materials across the station as required by the National Historic Perseveration Act of 1966, as amended.

The BMRS site is represented by two temporal components, a prehistoric Mogollon habitation and use site that dates to the Corduroy through the Dry Valley phases (500-1000 A.D.) and to the Carrizo through the Pinedale phases (1100-1300 A.D.) of the Mogollon tradition, as well as a historic Forest Service ranger station that dates from 1949 to the present day. The prehistoric component of the site is recommended eligible for the National Register of Historic Places due to its potential to provide significant information into the prehistoric context of the Mogollon occupation of the district and thus is required to be considered during Federal undertakings. The historic component of the ranger station is recommended to not be eligible for the NRHP and therefore will be released from management and not subject to protection measures under the NHPA. If the above CRMP devised for the Black Mesa Ranger Station site,

AR-03-01-02-2432, is agreed upon by all consultation parties and followed then potential future adverse effects on the cultural deposits will be mitigated.

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Appendix A: Apache-Sitgreaves National Forests Historical Primary Sources

Regional Forester November 8, 1949

Kenneth . Kenney, Forest Supervisor

U- [illegible] TIVE SITE, Sitgreaves - Heber

Attached hereto is Regional Forester withdrawal form for the Heber Administrative Site.

To date the record has been carried as the Overgaard Administrative Site. However, since the original Heber Administrative Site is being abandoned we are recommending the change.

The reason for the recommendation is that the name of the set-up is Heber Ranger Station. It is the field headquarters of the Heber Ranger District, all of which is included in the Heber Working Circle.

If you do not go along with our recommendation please change the name back to Overgaard on the Regional Forester's closing order.

Description of the site is as follows:

1. Location: Sitgreaves National Forest, Arizona, Navajo County.

2. Date of approval of selection: October, 1948. Development of site initiated in May 1949.

3. Legal descriptions: [illegible]4, [illegible]4,[illegible]4, Lots 4 and 6, Section 32 T 12 N, R 17 E, G&SR B&M, Arizona.

4. Area of site: [illegible]77.65 acres

5. Approximate value of improvements: Planned $40,000 - $50,000.

HEPalmer:eah

cc: H.G.Johnson
C.F.Johnson
Roy Calloway

Figure A.1. ASNFs SO, letter, November 8, 1949, regarding the Heber Administrative Site establishment.

UNITED STATES DEPARTMENT OF AGRICULTURE

Forest Service

Southwestern Region

HEBER Administrative Site

The area, as shown on the map and legally described below, is withdrawn as the HEBER Administrative Site, and is closed to all occupancy and use except as the Regional Forester may authorize other uses consistent with that purpose.

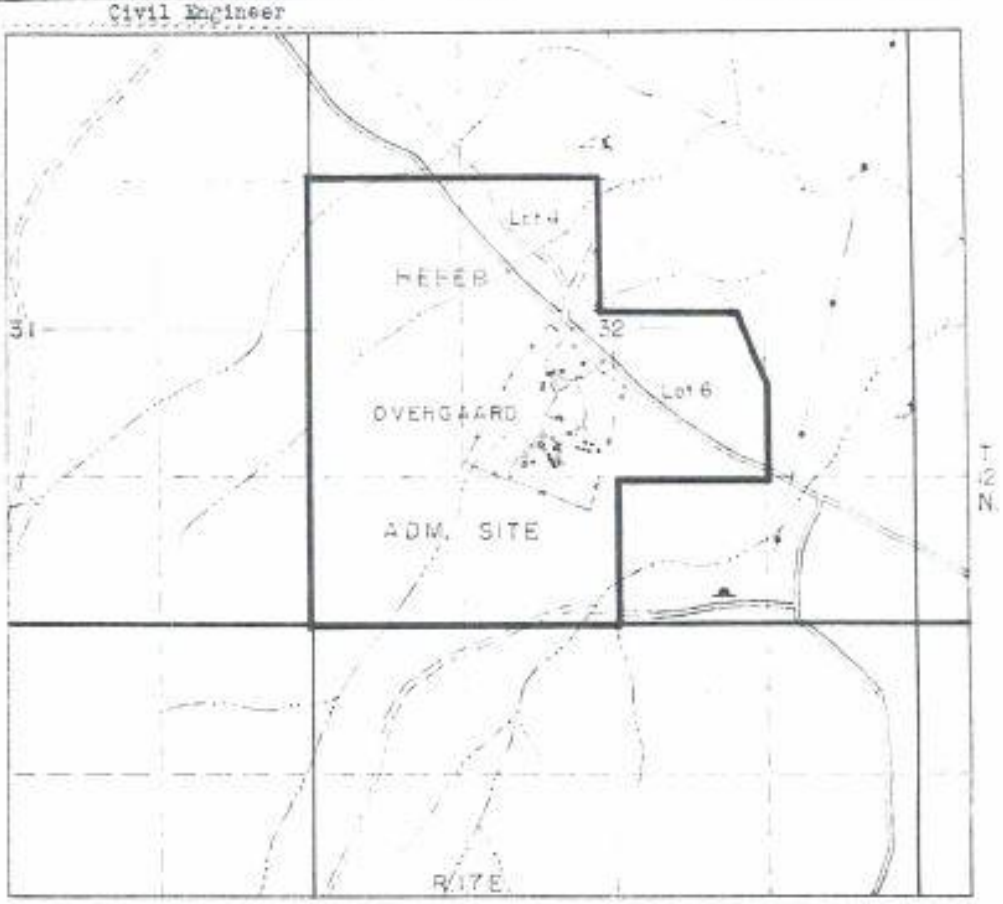
Acting Regional Forester January 9, 1952
Date

Legal Description: 277.66 acres in surveyed Township 12 North, Range 17 East, G. and S. R. B. and M., described as: SW¼, SW¼NW¼, Lots 4 and 6, Section 32. Sitgreaves National Forest, Navajo County, Arizona.

Description and Acreage Correct:

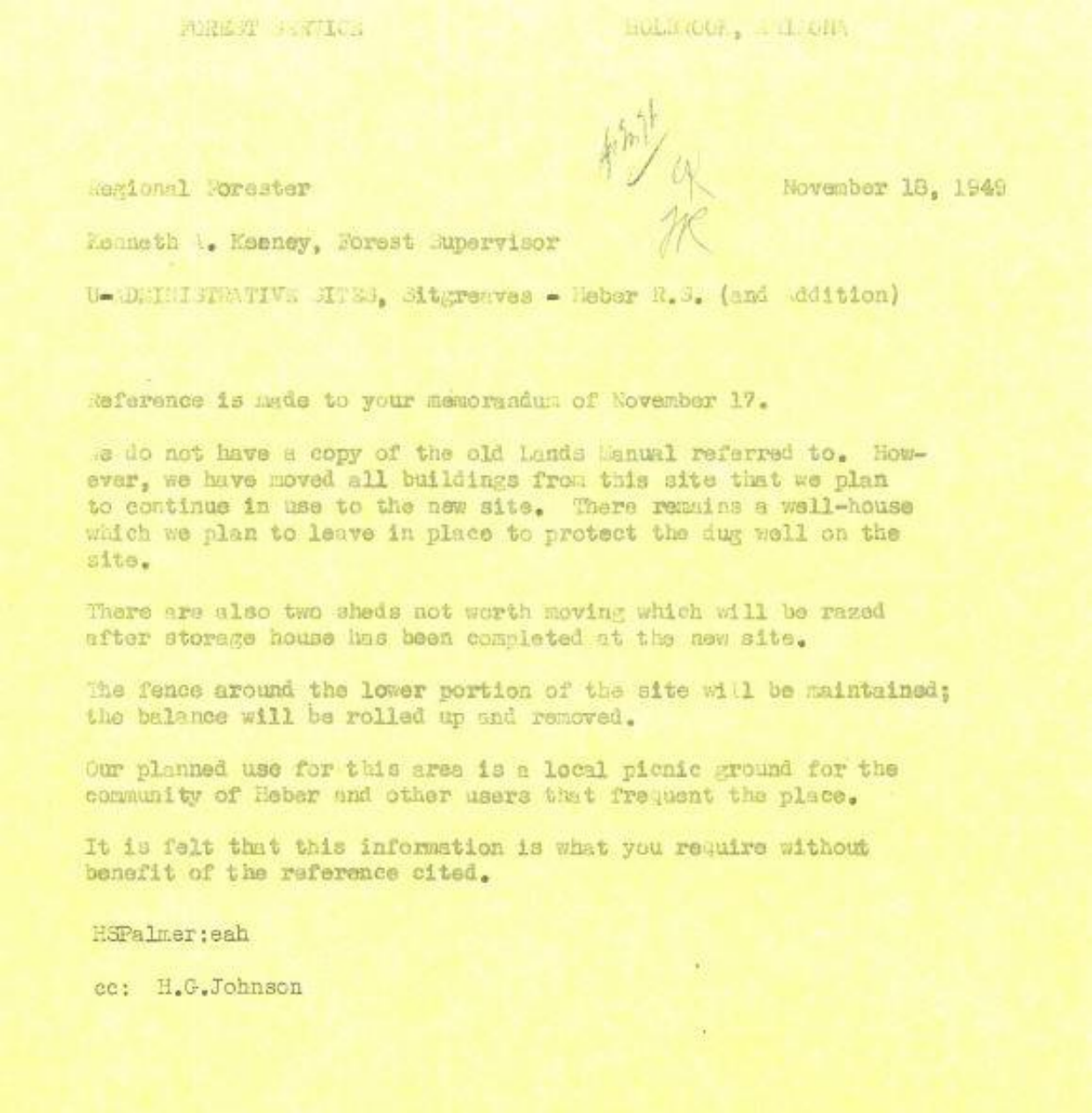
Burton D. Anderson
Civil Engineer

MAP Scale 4 inches = 1 mile



Note: Copies of this notice should be posted at conspicuous points such as at the entrance to the area.

Figure A.2. ASNFs SO, Heber Administrative Site map, 1952, regarding the Heber Administrative Site establishment.



FOREST SERVICE HOLBROOK, ARIZONA

Regional Forester November 18, 1949

Kenneth L. Keeney, Forest Supervisor

U-ADMINISTRATIVE SITES, Sitgreaves - Heber R.S. (and Addition)

Reference is made to your memorandum of November 17.

We do not have a copy of the old Lands Manual referred to. However, we have moved all buildings from this site that we plan to continue in use to the new site. There remains a well-house which we plan to leave in place to protect the dug well on the site.

There are also two sheds not worth moving which will be razed after storage house has been completed at the new site.

The fence around the lower portion of the site will be maintained; the balance will be rolled up and removed.

Our planned use for this area is a local picnic ground for the community of Heber and other users that frequent the place.

It is felt that this information is what you require without benefit of the reference cited.

HSPalmer:eah

cc: H.G.Johnson

Figure A.3. ASNFs SO, letter, November 18, 1949, regarding the Heber Ranger Station establishment.

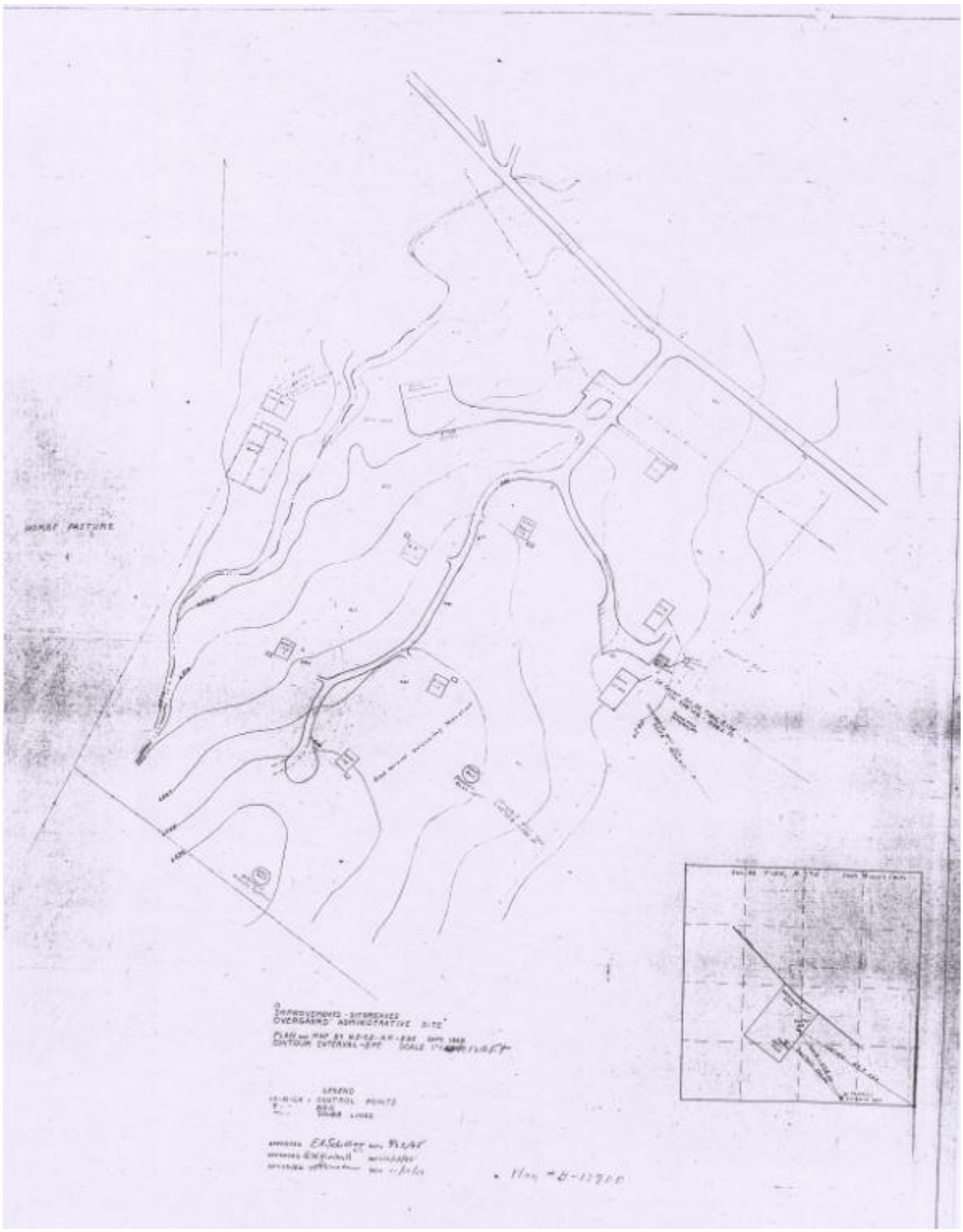


Figure A.4. ASNFs SO, map, 1941, regarding the Heber Ranger Station establishment.

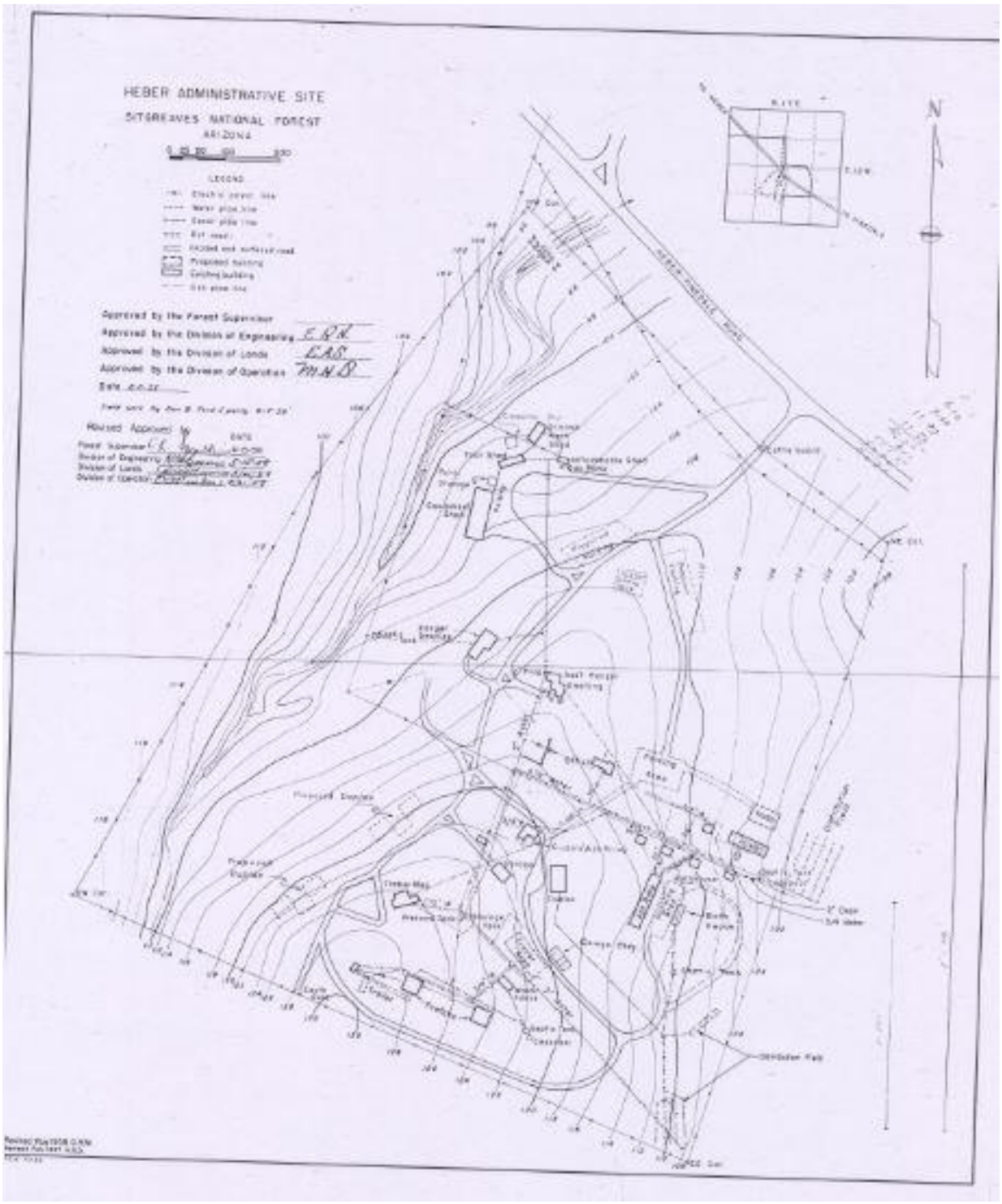


Figure A.5. ASNFs SO, map, 1958, regarding the Heber Ranger Station establishment.

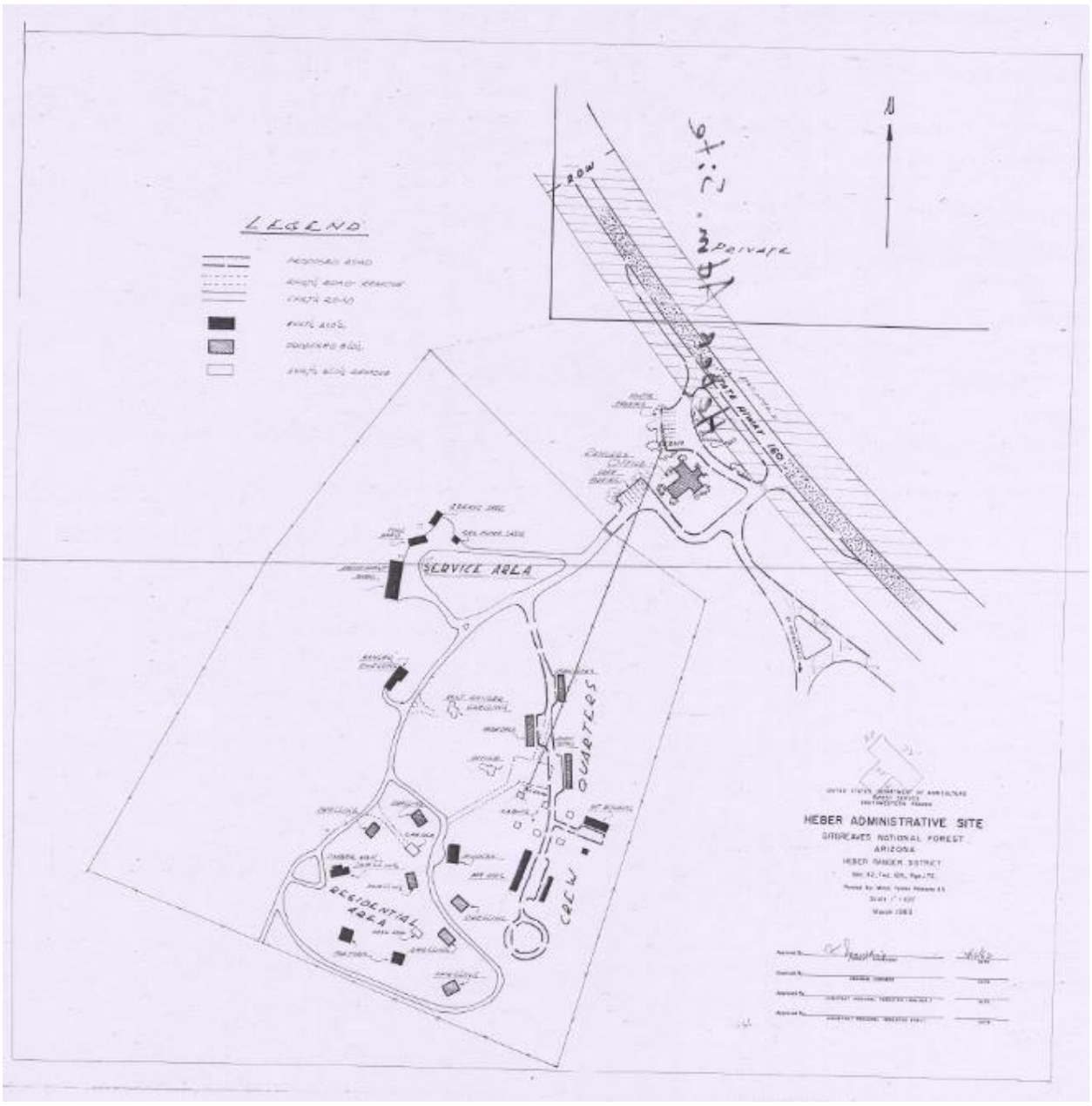


Figure A.6. ASNFs SO, map, 1963, regarding the Heber Ranger Station establishment.

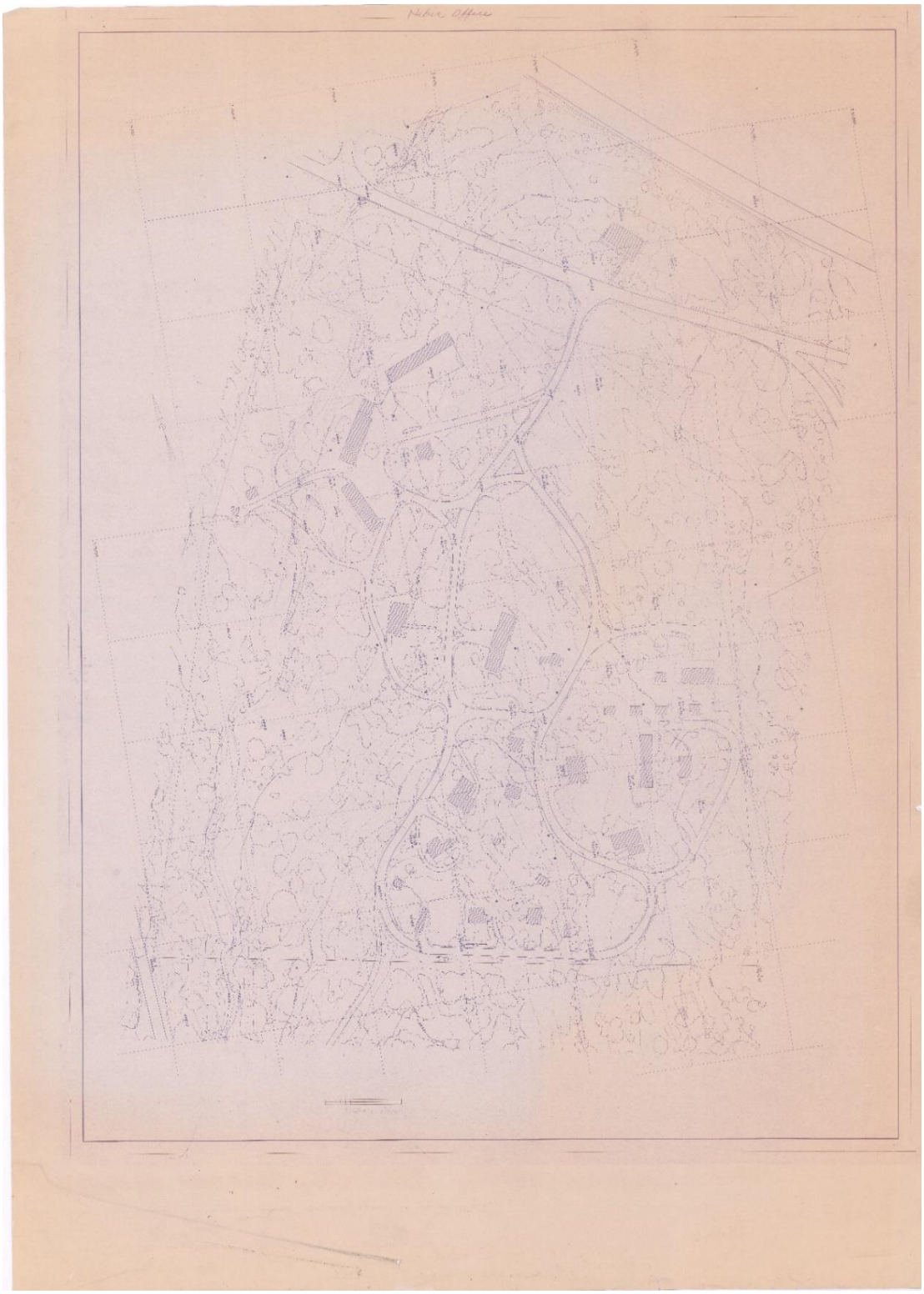


Figure A.7. ANSFs SO, map, undated map regarding the development of the Black Mesa Ranger Station.

Figure A.8. ASNFs Black Mesa Ranger Station, 1960, aerial photograph of the Black Mesa Ranger Station.

Figure A.9. ASNFs Black Mesa Ranger Station, 1968, aerial photograph of the Black Mesa Ranger Station.

Figure A.10. ASNFs Black Mesa Ranger Station, 1977, aerial photograph of the Black Mesa Ranger Station.

Appendix B: Black Mesa Ranger Station Building Information Tables

Table B.1. Black Mesa Ranger District Office, Apache-Sitgreaves National Forests Master Facilities Plan, 1994, from tabular listing of Apache-Sitgreaves National Forest buildings.

Building Name	Building No.	Construction Date	Function
Storage building	16-73	--	Storage
Radio building	15-93	1965	Service
Mobile home	33254	1970	Residence
Mobile home	214360	1983	Residence
Mobile home	214359	1983	Residence
Mobile home	13276-10	1969	Residence
Mobile home	41504	1972	Residence
Hay barn	11-57	--	Storage
Barn	13-69	--	Storage
Well house	16-71	1965	Service
Chlorine house	12-17	1965	Service
Hay shed	13-72	1950	Storage
Hay shed	13-74	1965	Storage
Heliport building	16-2	1972	Office
Microware building 2	16-1	1985	Service
Mobile home	41936	--	Residence
Microwave building	13-70	1985	Service
Crew quarters wash house	16-6	1959	Service
Sewage treatment plant	13-76	1968	Service
Heber Zone Engineering building	12-30	1983	Office
Saw house	13-65	1964	Shop
Admin dwelling	11-55	1951	Residence
Admin dwelling	11-26	1951	Residence
Storage shed	13-67	1950	Storage
Storage shed	13-63	1950	Storage
Gas and paint house	13-94	1964	Storage
Engineering testing lab	13-74	--	Service
Warehouse and fire cache	13-84	1964	Shop/storage
Equipment storage	13-91	1964	Storage
Equipment storage	13-30	1964	Shop
Admin dwelling 5	11-40	1964	Residence
Admin dwelling 4	11-33	1964	Residence
Old crew quarters	11-59	1951	Barrack
Crew quarters	11-60	1955	Barrack

Table B.1. (continued)

Building Name	Building No.	Construction Date	Function
Duplex 1 and 2	11-7	1954	Duplex residence
Admin dwelling 3	11-25	1939	Residence
Mobile home	A143182	1967	Residence
Admin office	12-29	1967	Office
New duplex 1 and 2	11-85	1963	Duplex residence
Admin dwelling	11-54	1951	Residence

Table B.2. Apache-Sitgreaves National Forests NRM database, Building Details and Components, 2021, regarding Black Mesa Ranger Station current buildings status.

Building Name	Building No.	Construction Date	Status
BMRS Admin Dwelling 3	11-25A	1939	Disposed (last inspected in 1999)
BMRS Single Family Dwelling 4	11-38	1964	Existing
BMRS Single Family Dwelling 5	11-40	1964	Existing
BMRS Fitness Center	11-54	1951	Existing
BMRS Admin Dwelling	11-55	1951	Disposed
BMRS FEMA Modular	11-56	2006	Existing
BMRS Hay Barn	11-57	1972	Disposed
BMRS Old Crew Quarters	11-59	1951	Disposed (last inspected in 2009)
BMRS 6 Unit Crew Quarters	11-60	1955	Existing
BMRS 2 Unit Crew Quarters	11-7	1954	Existing
BMRS 2 Unit Family Dwelling	11-85	1963	Existing
BMRS Well House	12-17	1965	Existing
BMRS Ranger Station Office	12-29	1996	Existing
BMRS Office Annex Building	12-30	1983	Existing
BMRS Modular Crew Quarters B	12-32	2002	Existing
BMRS Modular Crew Quarters A	12-32	2004	Existing

Table B.2. (continued)

Building Name	Building No.	Construction Date	Status
BMRS Fire Cache & Equip. Storage	13-30	1964	Existing
BMRS Hot Shots Building	13-63	1950	Existing
BMRS Saw Shop	13-65	1964	Existing
BMRS Single Garage/Storage	13-67	1964	Existing
BMRS Barn	13-69	1956	Existing
BMRS Storage (Former Microwave) building	13-70	1985	Existing
BRMS Hay Shed	13-72	1950	Disposed
BRMS Hay Shed	13-74	1965	Disposed
BMRS Old Sewage Treatment Plant	13-76	1968	Disposed
BMRS WWTP Building	13-761	2006	Existing
BMRS 6 Bay Shop and Equip. Storage	13-84	1964	Existing
BMRS 12 Bay Garage	13-91	--	Existing
BMRS Gas and Paint House	13-94	1964	Existing
BMRS Hazmat Building	13-99	1993	Existing
BMRS Storage (Former Radio) building	15-93	1965	Existing
BMRS Heliport Building	16-2	1972	Existing
BMRS Crew Quarters Wash House	16-6	--	Disposed
BMRS Pump House (old)	16-71	1965	Existing-Excess
BMRS Storage Building	16-73	--	Disposed
BMRS Mobile Home (Engineering)	214360	1983	Disposed
BMRS Hazmat Building	G-30H	1994	Existing

Table B.3. Black Mesa Ranger Station Current Building Information

Building No.	Name	Historic Function	Current Function	Date Constructed
16-2	Helibase	Helibase office	Helibase office	1971/1972
--	Helibase shed	--	Storage shed	--
	FEMA Trailer	--	Permanent employee housing	2006
13-67	Garage/Storage Shed	Garage and storage	Fire supply and equipment storage	1950
--	Garage	Garage and storage	Fire supply and equipment storage	1950
11-40	Ranger House		Permanent employee housing	1964
11-7	Old Duplex	Seasonal employee housing	Seasonal employee housing	1954
13-70	Microwave building	Communications storage	--	1985
12-17	Chlorine/Pump house	Chlorine/Pump house	Chlorine/Pump house	1965
16-71	Old Well House	Well pump house	--	1965
--	Water tank	--		--
11-38	Range House	Permanent employee housing	Permanent employee housing	
11-60	Engine Quarters	Seasonal employee housing	Seasonal employee housing	1955
13-69	Range barn	Horse equipment and hay storage	Range equipment storage	1956
11-85	Duplex	Permanent employee housing	Permanent employee housing	1963
11-54	Weight room	Permanent employee housing	Work out equipment rooms	1951
13-63	Hotshot building	Storage	Chainsaw shop and storage	1950

Table B.3. (continued)

Building No.	Name	Historic Function	Current Function	Date Constructed
--	Hotshot tool shed	--	Fire tool storage and shop	--
13-84	Shop	Fire equipment storage and office	Fire vehicle storage, wood and metal shops	1964
13-84	Saw shop	Mechanic shop	Chainsaw shop and storage	1964
13-91	Garage 12 bays	Vehicle storage	Vehicle storage	1964
13-99	Hazmat building	--	Hazardous fuel storage	1993
G-30H	Hazmat building	--	Hazardous fuel storage	1994
13-94	Paint and Gas building	Paint and gas storage; fueling station	Miscellaneous storage	1964
13-30	Fire cache & equipment storage	Fire equipment storage	Miscellaneous storage	1964
12-29	District Office	--	District office	1996
13-761	Sewage plant	--	Sewage plant	2006
12-32	Mod B	--	Seasonal employee housing	2002
12-33	Mod A	--	Seasonal employee housing	2004

Appendix C: Historic Building Photographs & Maps

16-2 Helibase

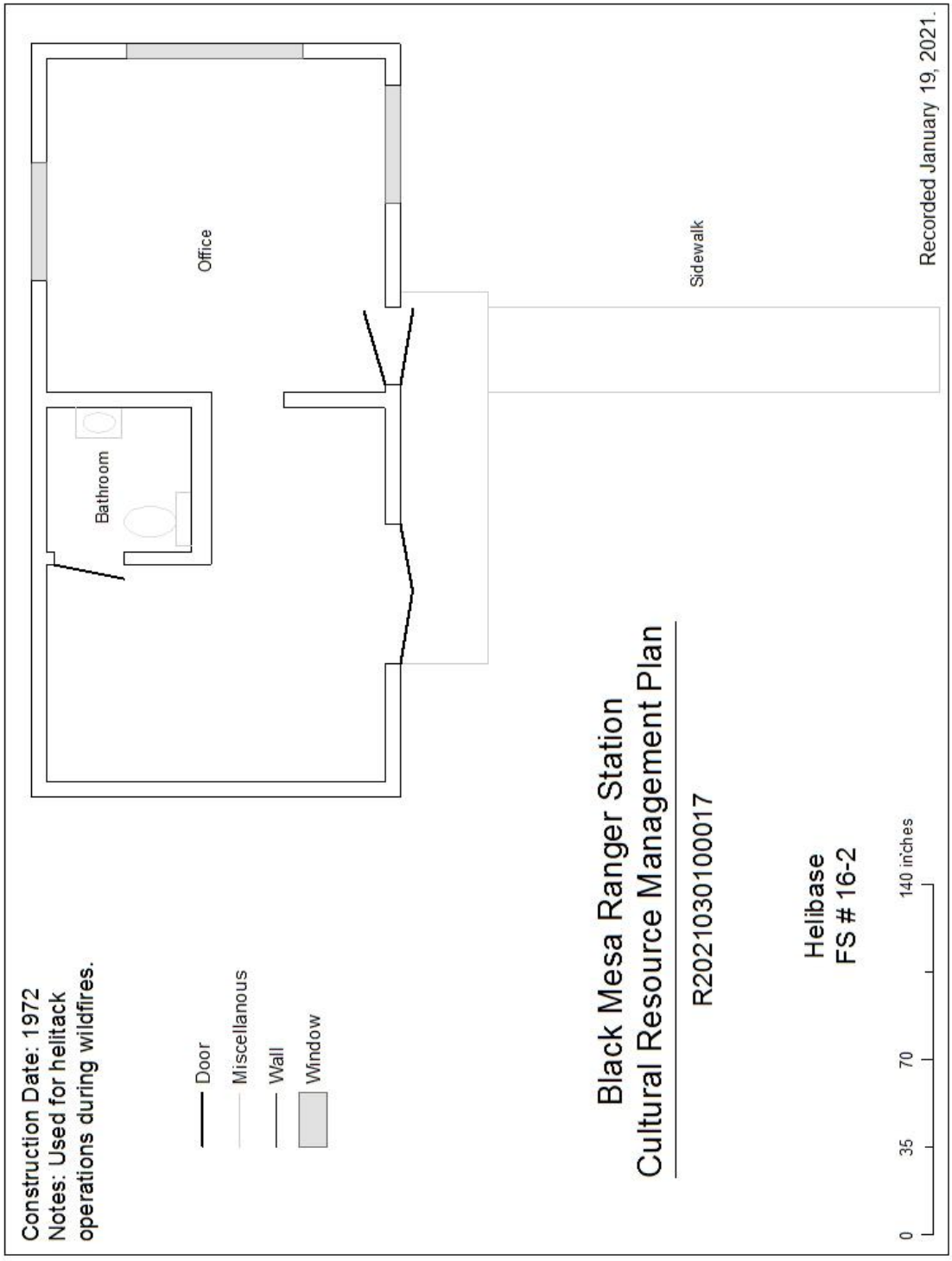


Figure C.1. Floor plan map of Helibase (16-2).

Figure C.2. Kitchen/storage area of Helibase (16-2), view from office.

Figure C.3. Backside of Helibase (16-2), view northwest.

13-67 Garage

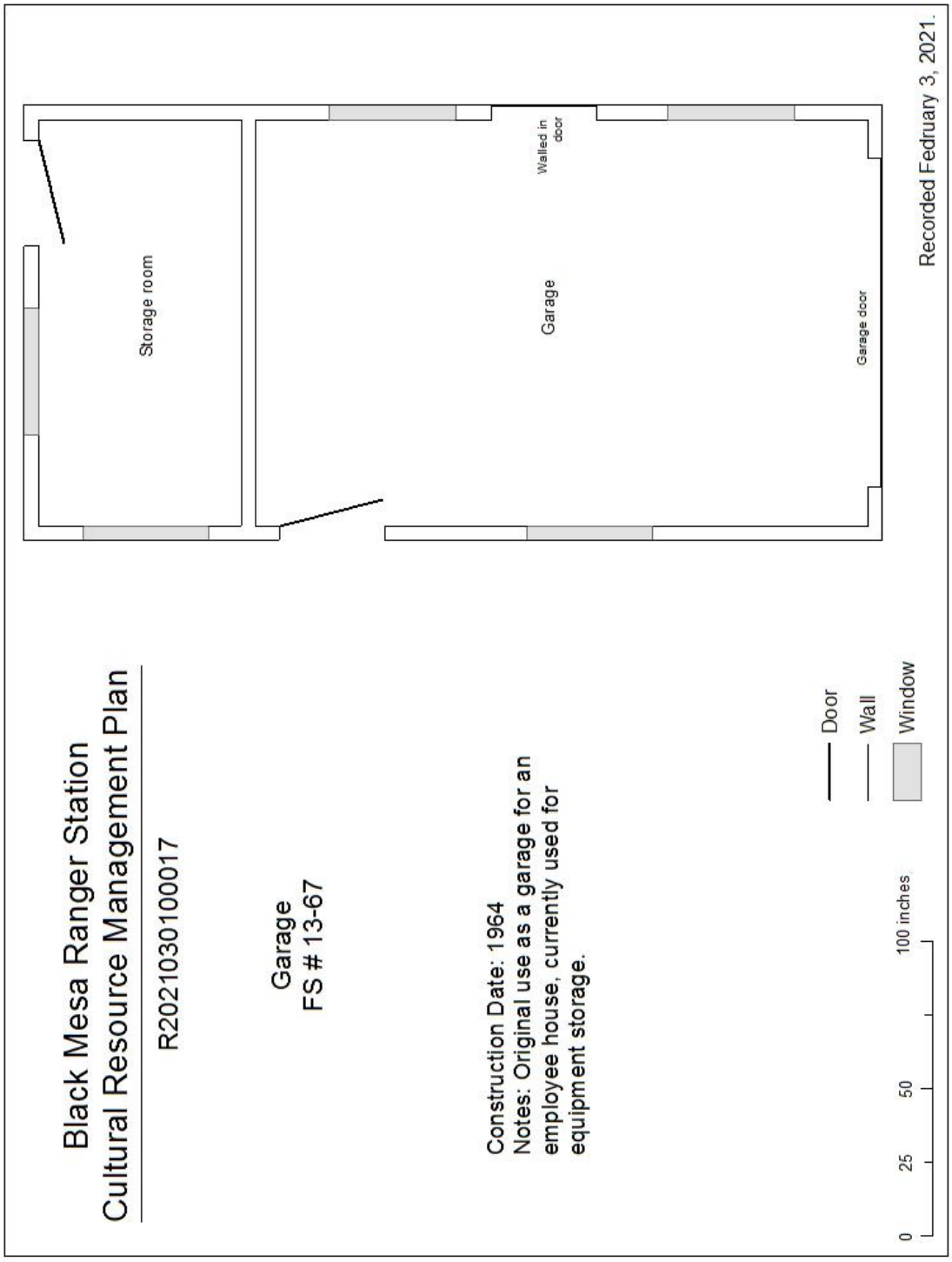


Figure C.4. Garage floor plan map (13-67).

Figure C.5. North side of Garage (13-67), view south.

Figure C.6. Back storage room of Garage (13-67), view from garage area.

Garage

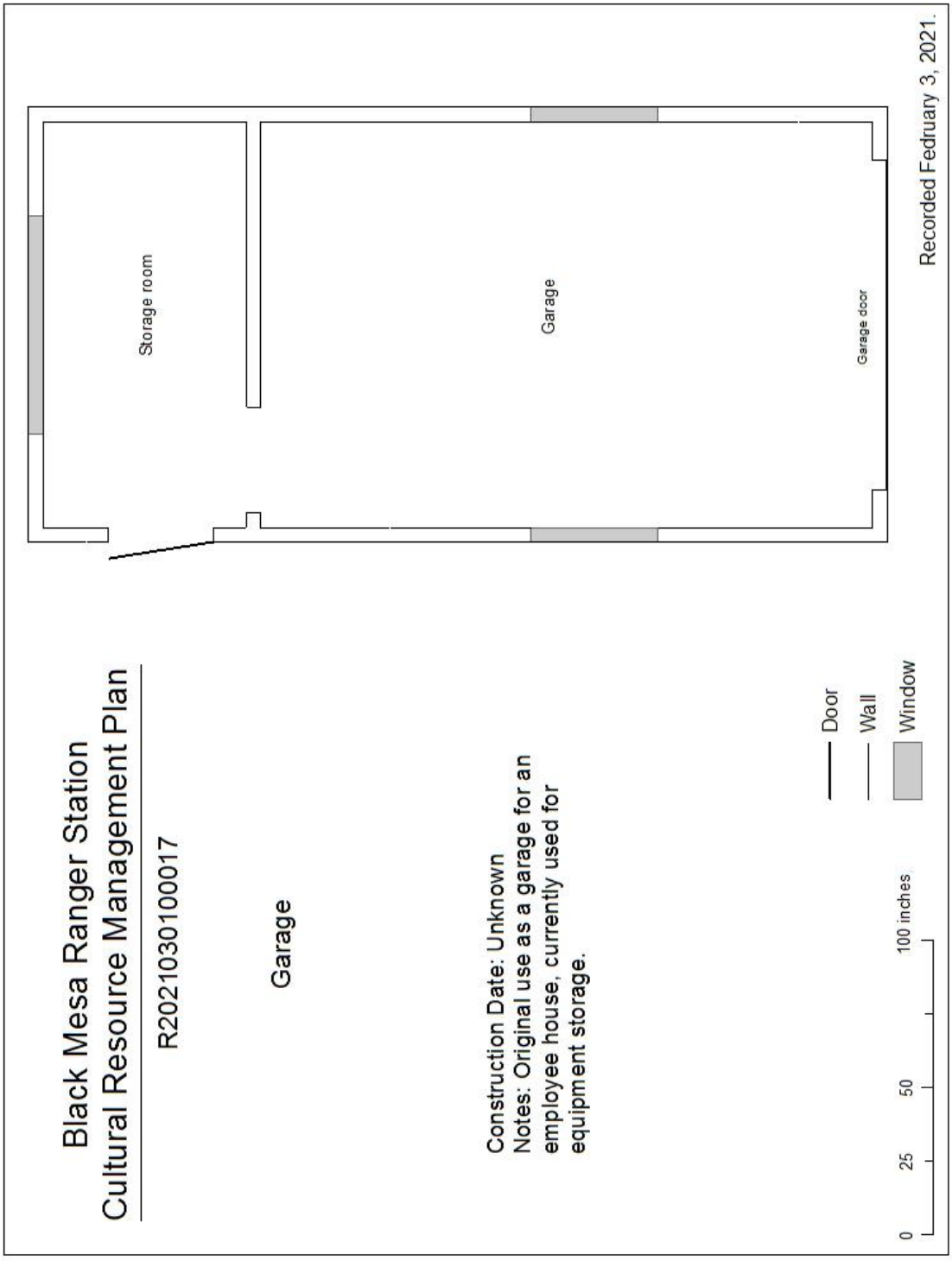


Figure C.7. Garage floor plan, no Forest Service number.

Figure C.8. West side of Garage, view east.

Figure C.9. Back storage room of Garage, view from exterior door.

11-40 Ranger House

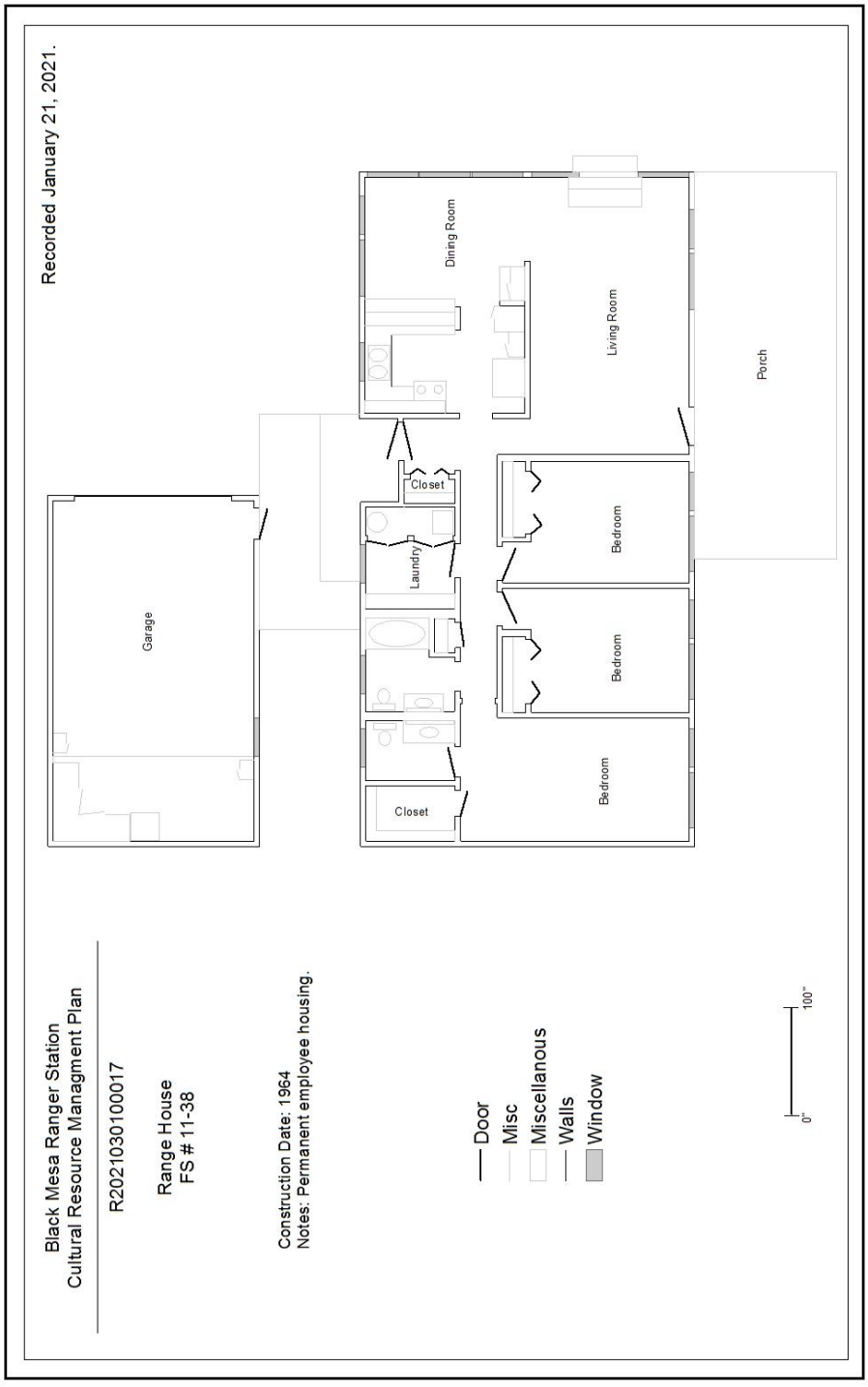


Figure C.10. Ranger House floor plan (11-40).

Figure C.11. Ranger house front porch (11-40), view east.

Figure C.12. Kitchen of Ranger House (11-40), view from hallway.

Figure C.13. Living room of Ranger House (11-40), view from hallway.

Figure C.14. Main bedroom with attached bath in Ranger House (11-40), view from north wall.

11-7 Old Duplex

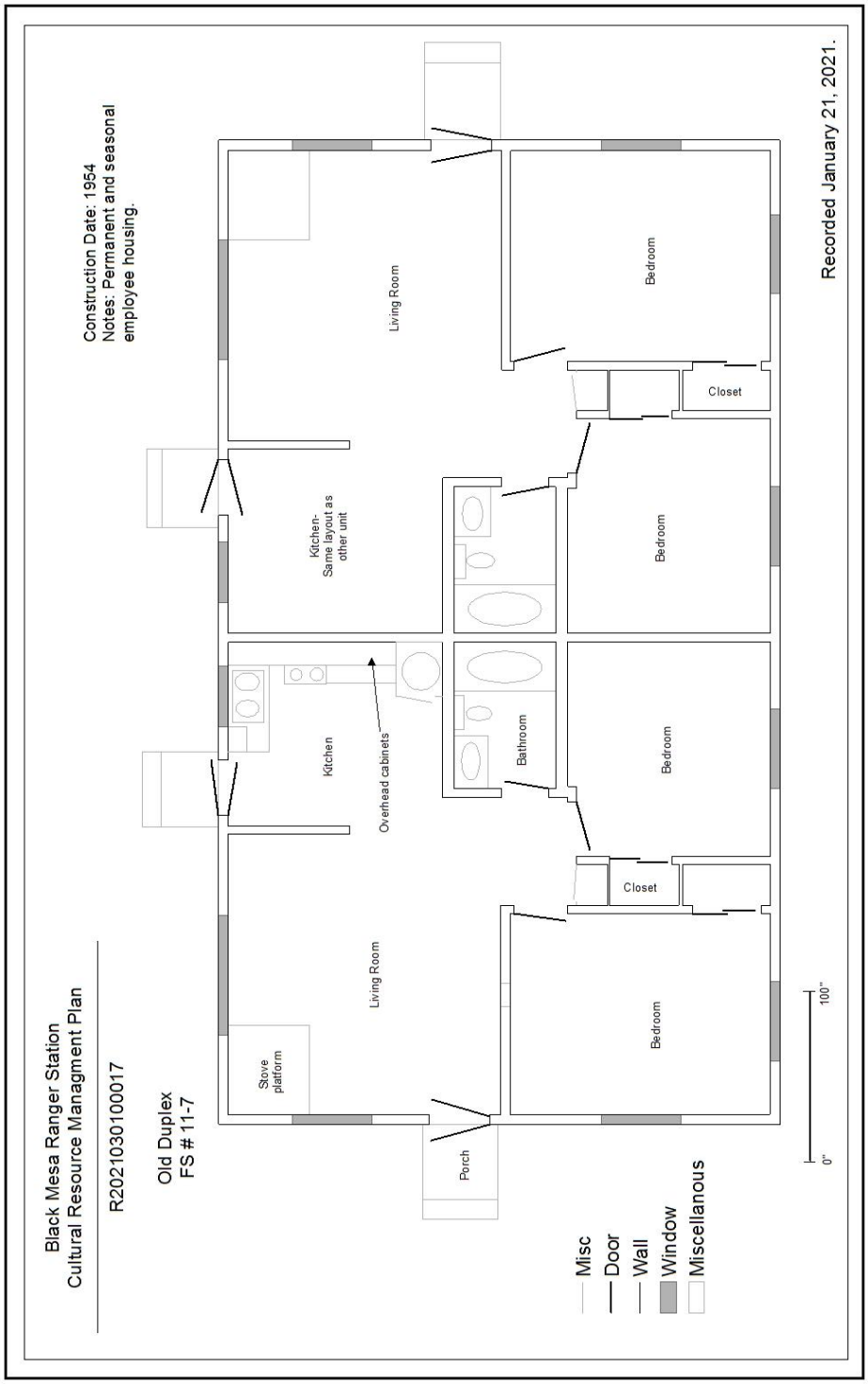


Figure C.15. Old Duplex floor plan (11-7).

Figure C.16. East side of Old Duplex (11-7), view northwest.

Figure C.17. Small bedroom in Old Duplex (11-7), view from hall.

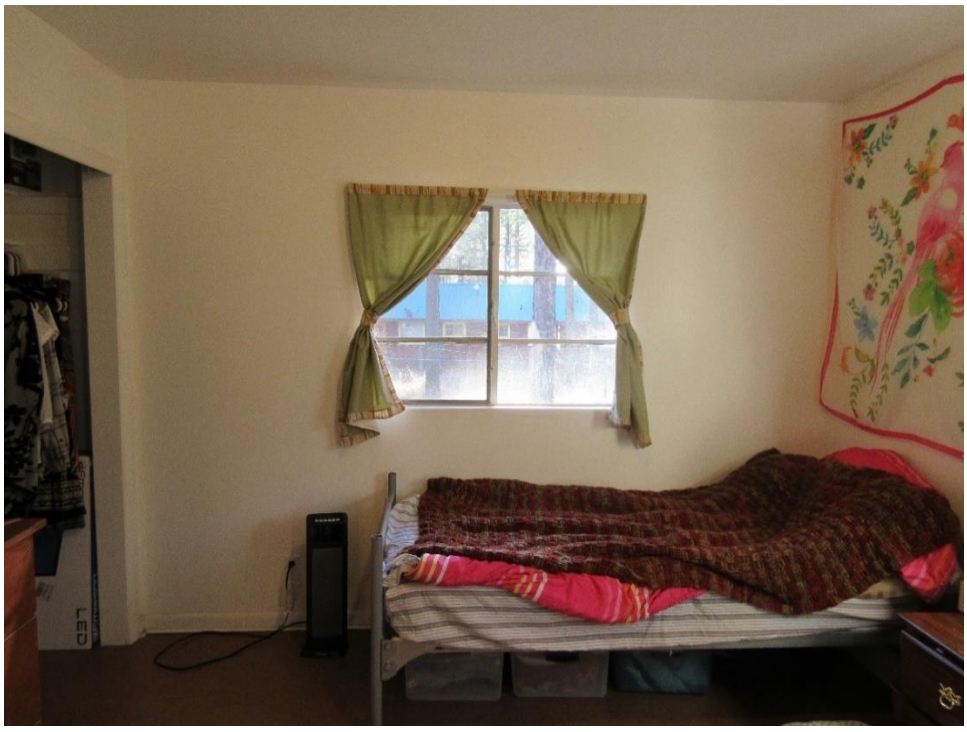


Figure C.18. Larger bedroom in Old Duplex (11-7), view from door.

Figure C.19. Living room in Old Duplex (11-7), view from hall.

11-60 Engine Quarters

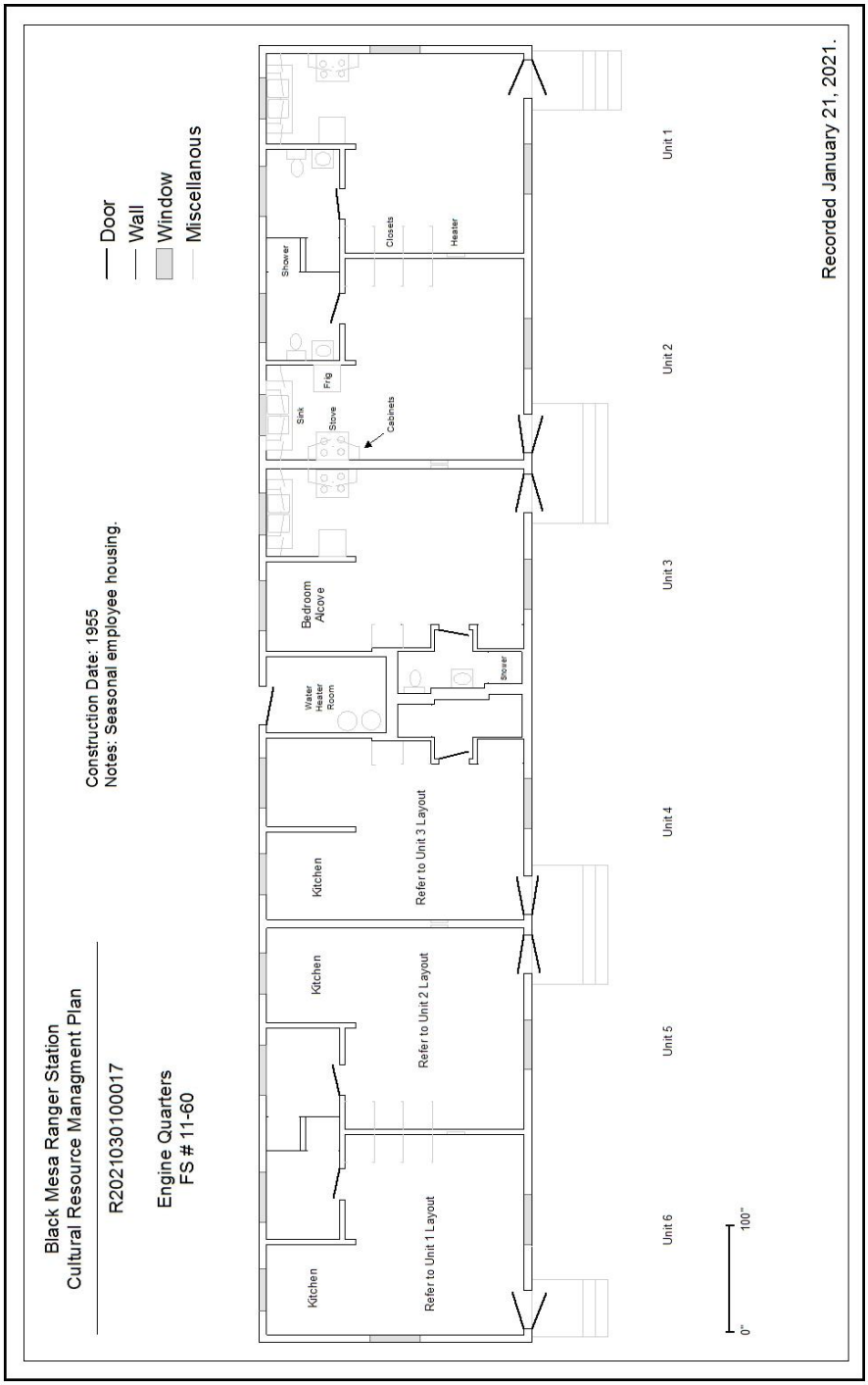


Figure C.20. Engine Quarters floor plan (11-60).

Figure C.21. East side of Engine Quarters (11-60), view west.

Figure C.22. Bathroom example in Engine Quarters (11-60), view from door.

Figure C.23. Bedroom alcove in Engine Quarters (11-60), view from kitchen.

Figure C.24. Living and bedroom space in Engine Quarters (11-60), view from bathroom door.

15-93 Radio Building

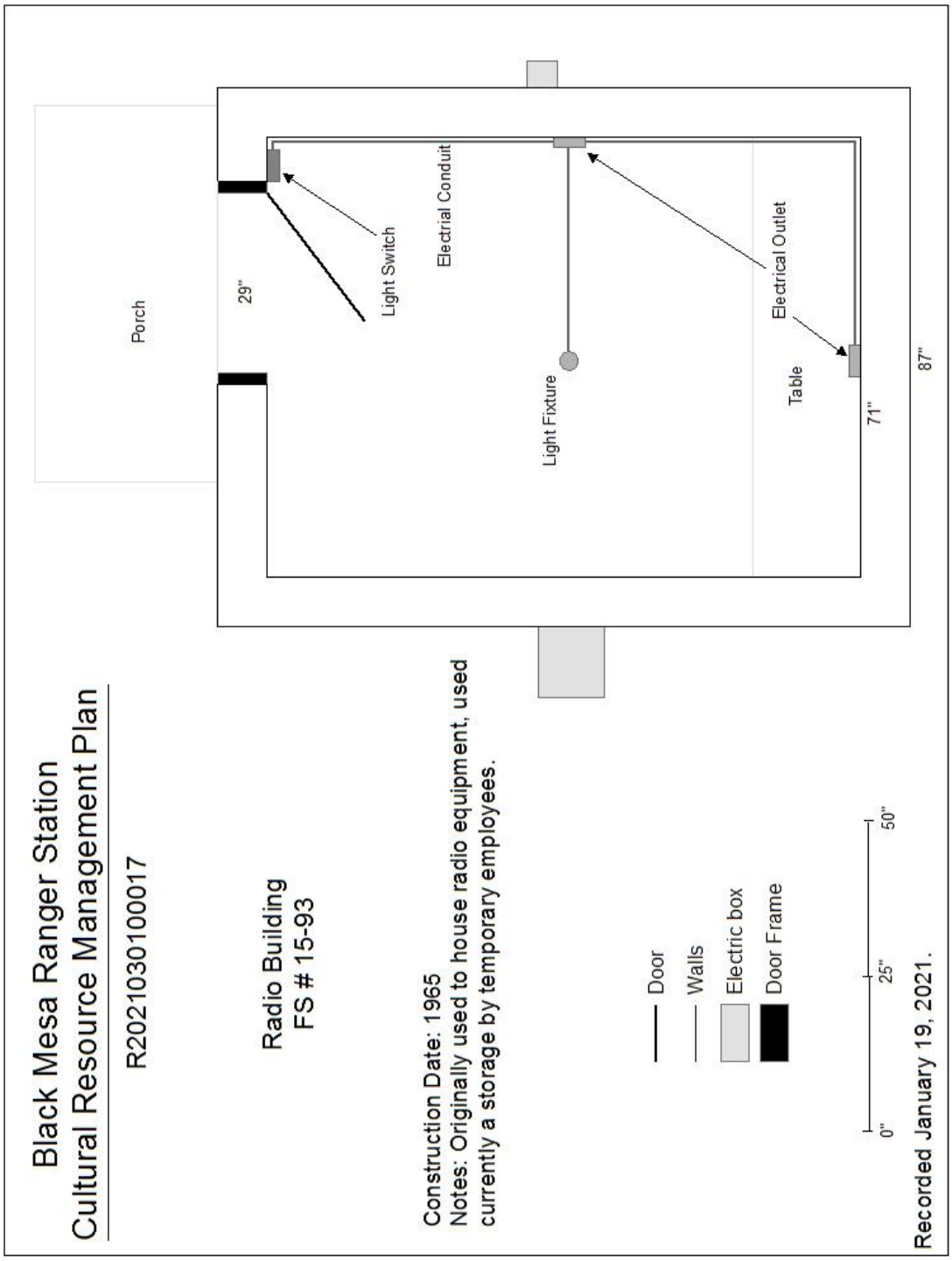


Figure C.25. Radio building floor plan (15-93).

Figure C.26. South side of Radio building (15-93), view north.

Figure C.27. Interior of Radio building (15-93), view from door.

11-38 Range House

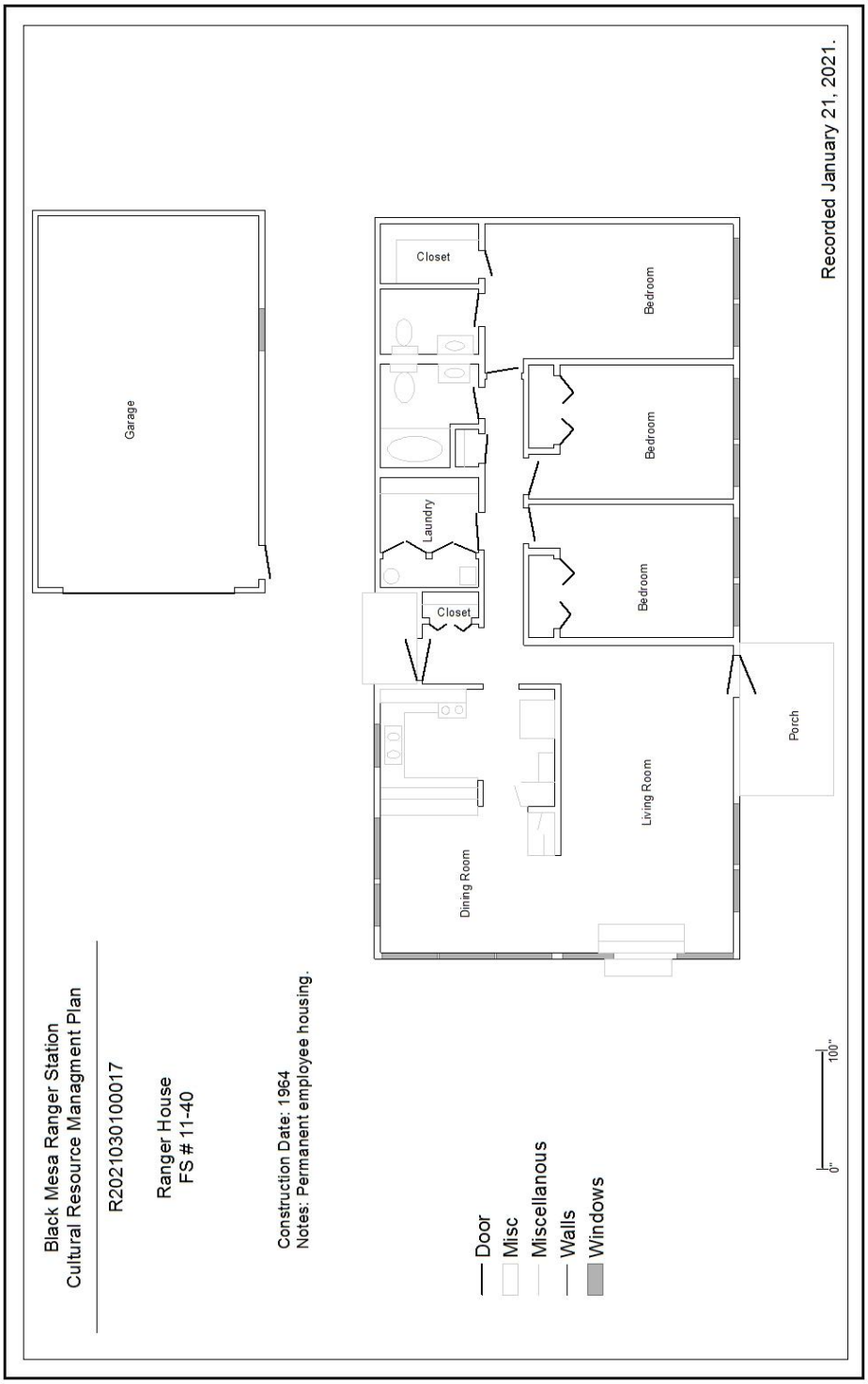


Figure C.28. Range House floor plan (11-38).

Figure C.29. Backdoor of Range House (11-38), view west.

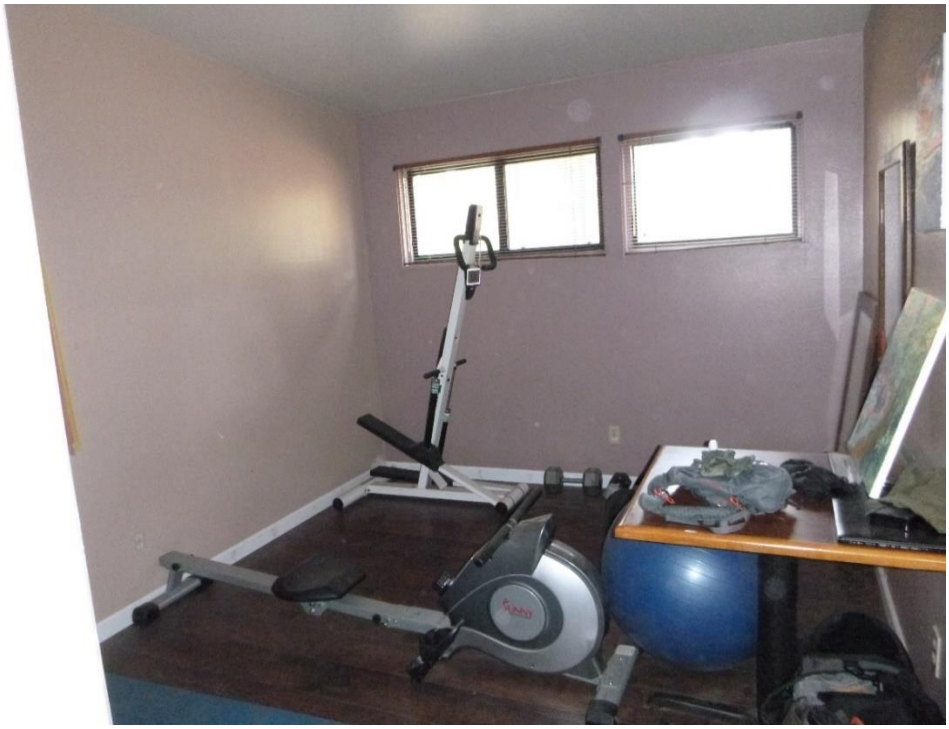


Figure C.30. Middle bedroom in Range House (11-38), view from door.

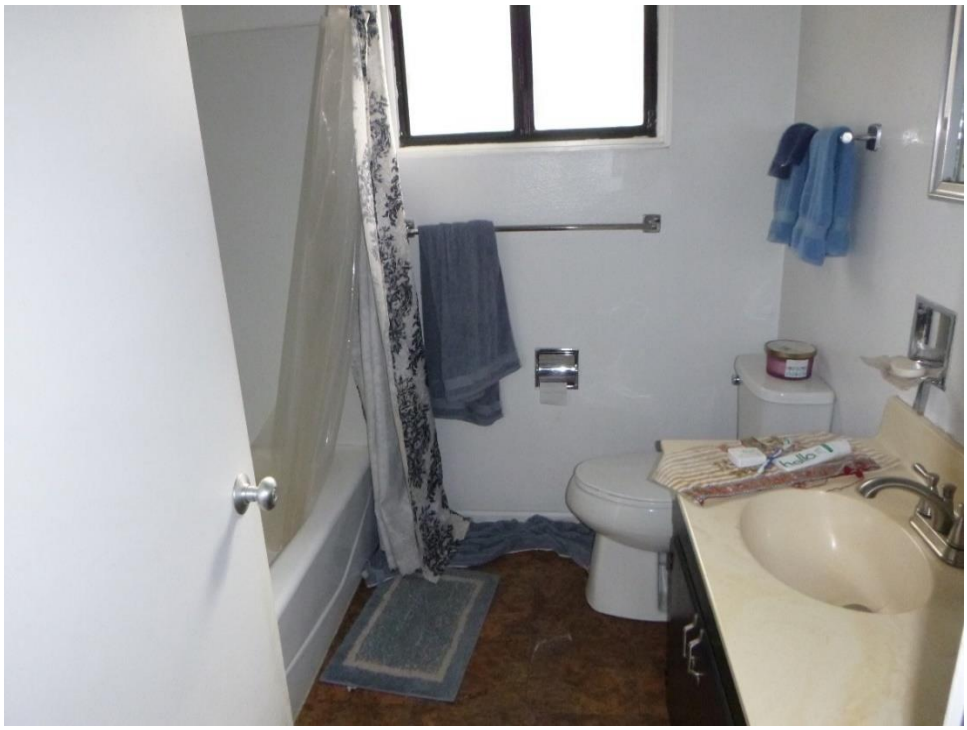


Figure C.31. Hall bath in Range House (11-38), view from door.

Figure C.32. Main bedroom in Range House (11-38), view from closet.

13-69 Barn

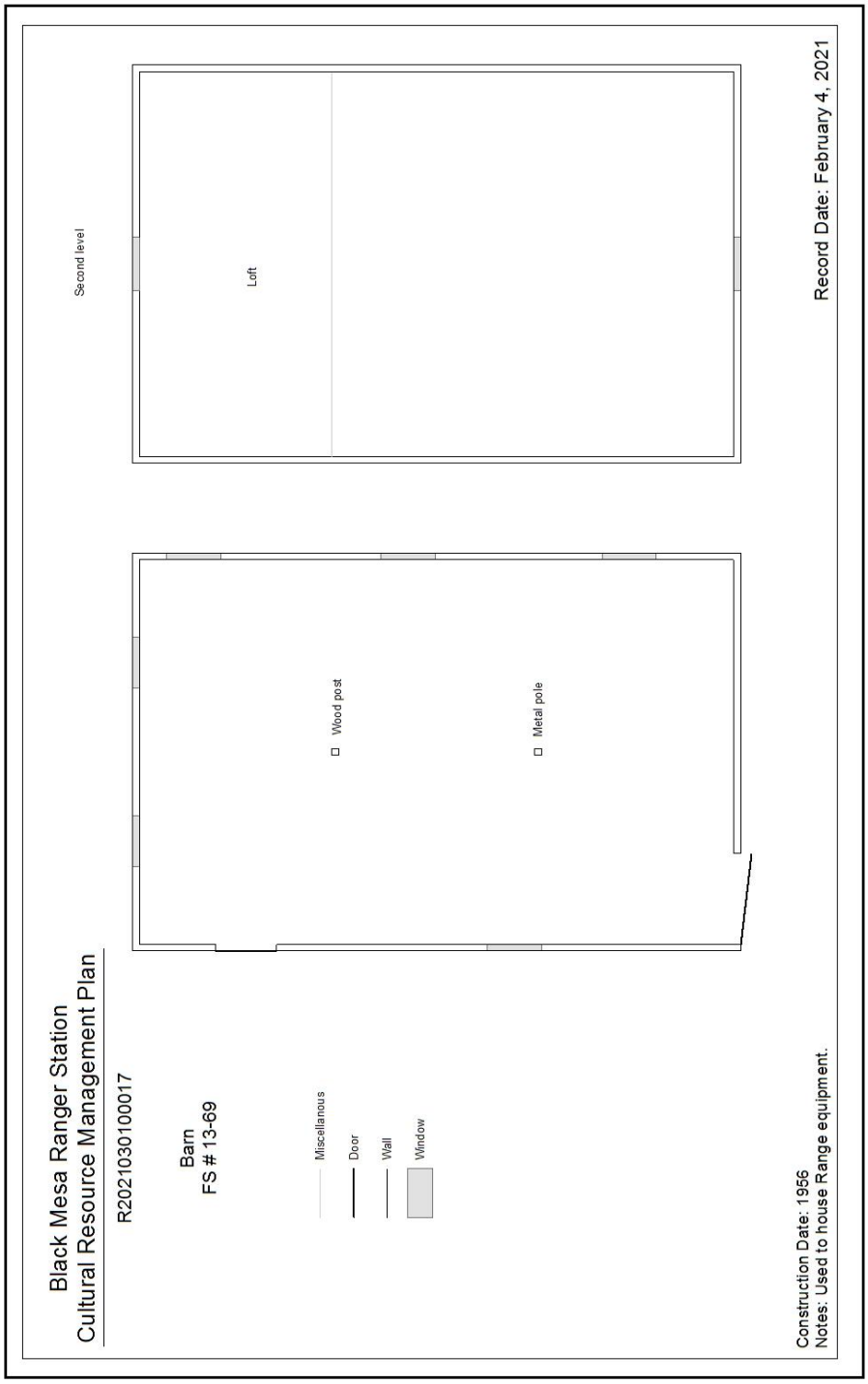


Figure C.33. Barn floor plan (13-69).

Figure C.34. Front of Barn (13-69), view east.

Figure C.35. South side of Barn (13-69), view north.

11-85 Duplex

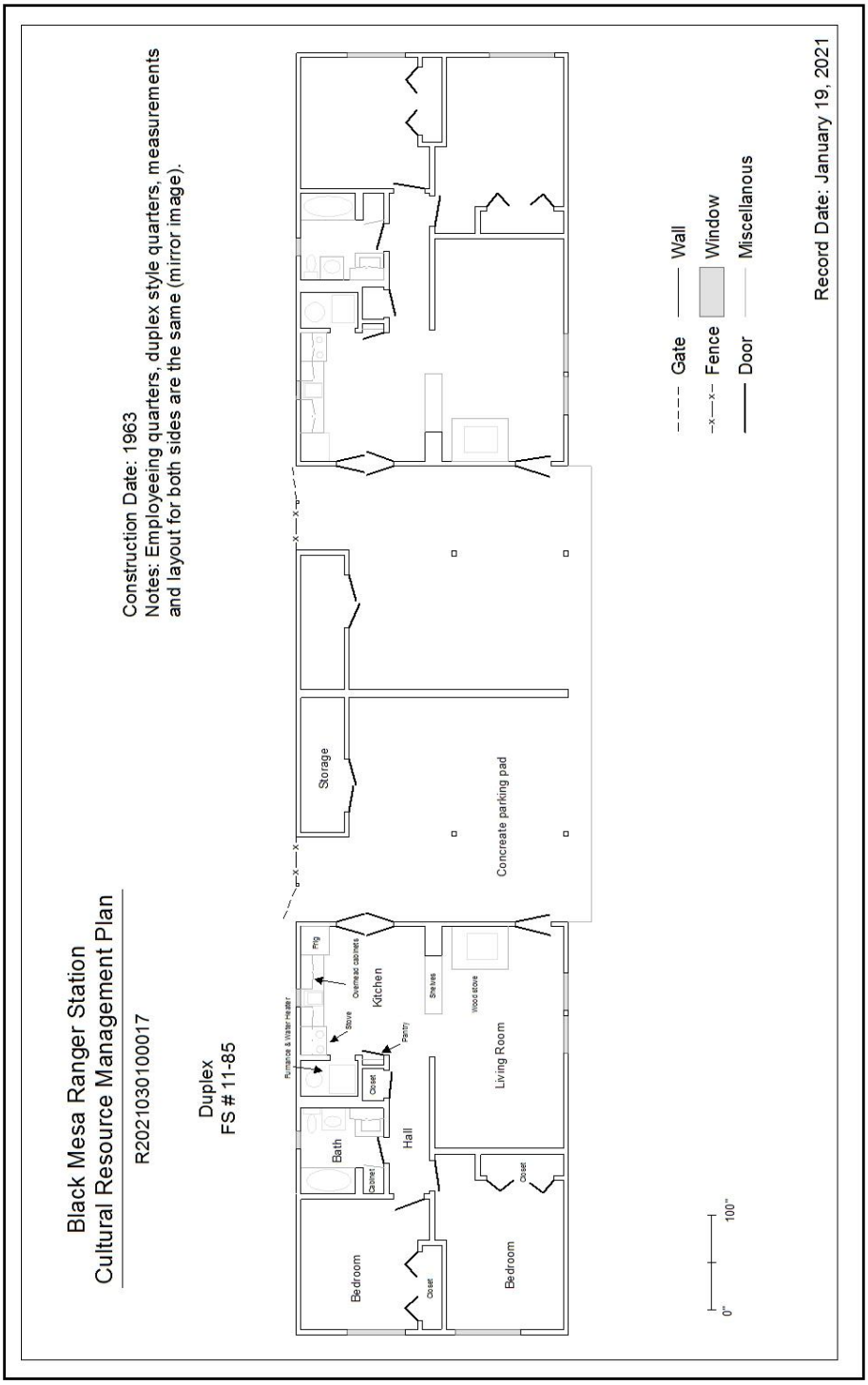


Figure C.36. Duplex floor plan (11-85).

Figure C.37. North end of Duplex (11-85), view east.

Figure C.38. Living room in Duplex (11-85), view from stove.

Figure C.39. Parking area of Duplex (11-85), view southeast.

Figure C.40. Bathroom of Duplex (11-85), view from door.

11-54 Weight Room

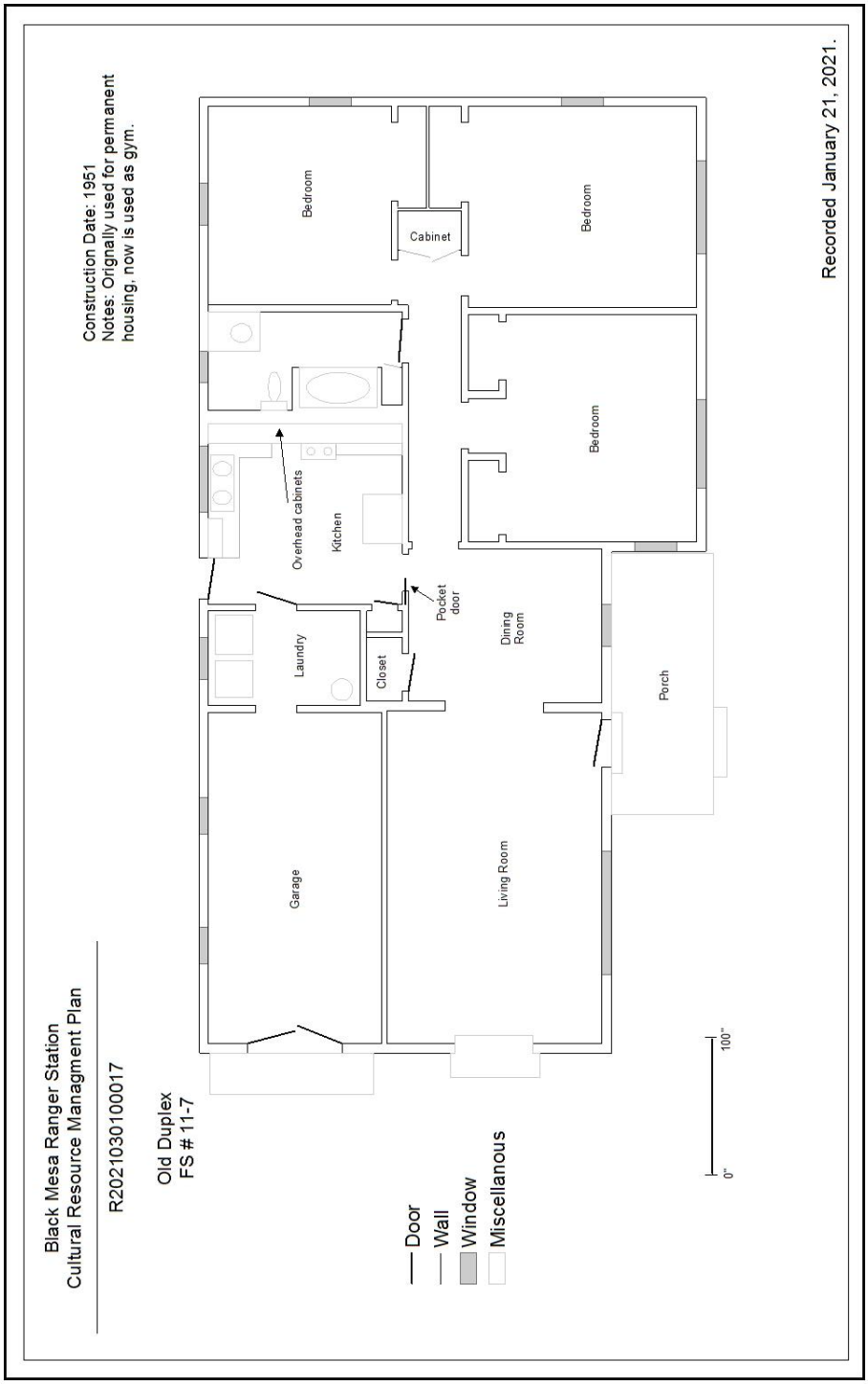


Figure C.41. Weight Room floor plan (11-54).

Figure C.42. Garage in Weight Room (11-54), view from laundry.

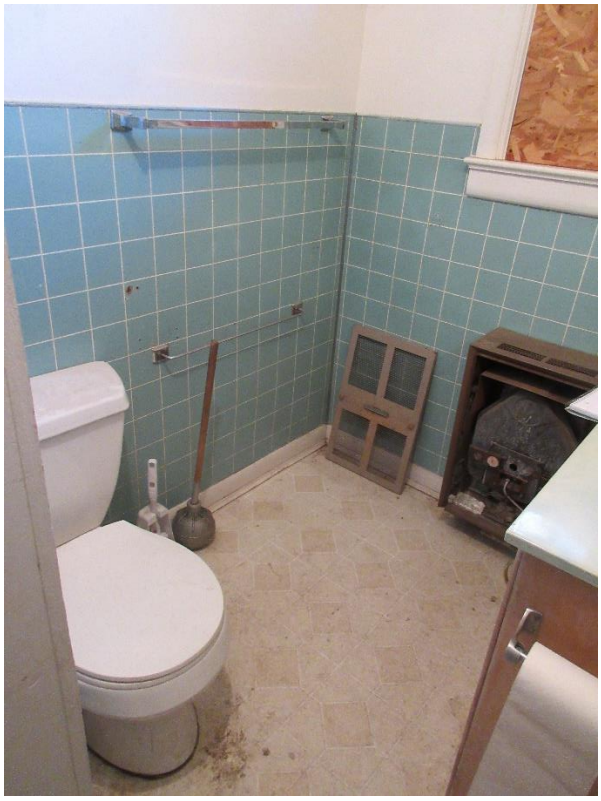


Figure C.43. Bathroom of Weight Room (11-54). view from door.

Figure C.44. Northeast bedroom in Weight Room (11-54).

Figure C.45. Kitchen of Weight Room, view from hall.

16-71 Old Well House

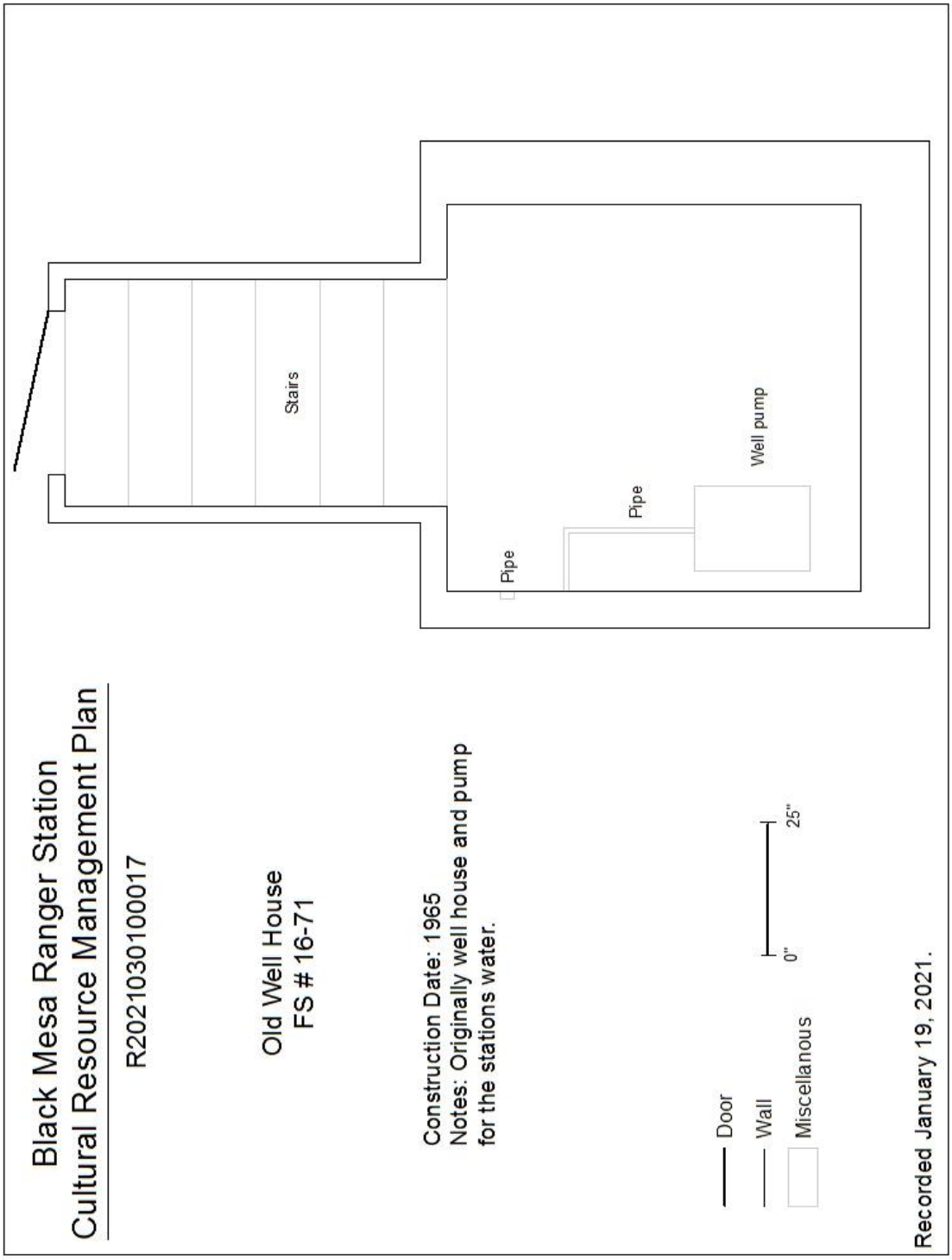


Figure C.46. Old Well House floor plan (16-71).

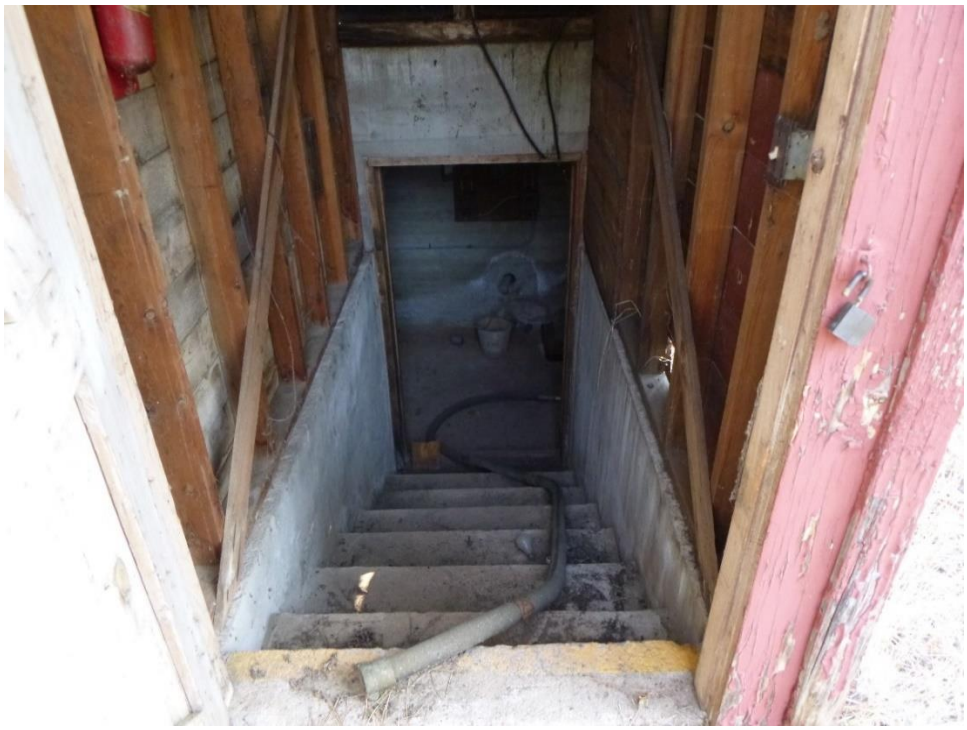


Figure C.47. Stairwell of Old Well House (16-71), view from entrance.

Figure C.48. Wooden structure of Old Well House (16-71).

12-17 Chlorine/Pump House

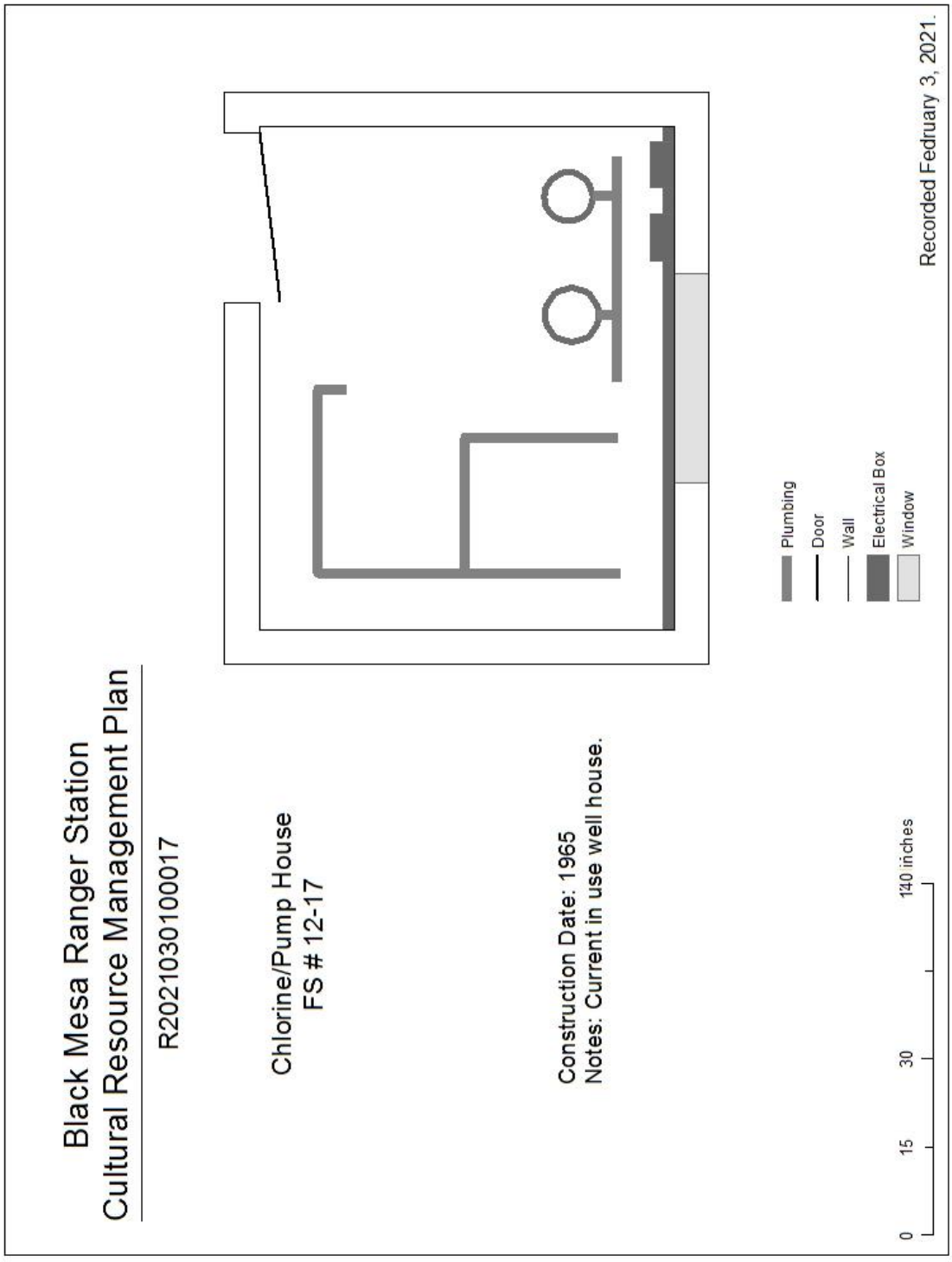


Figure C.49. Chlorine/Pump House floor plan (12-17).

Figure C.50. Exterior of Chlorine/Pump House (12-17), view west.

13-84 Shop

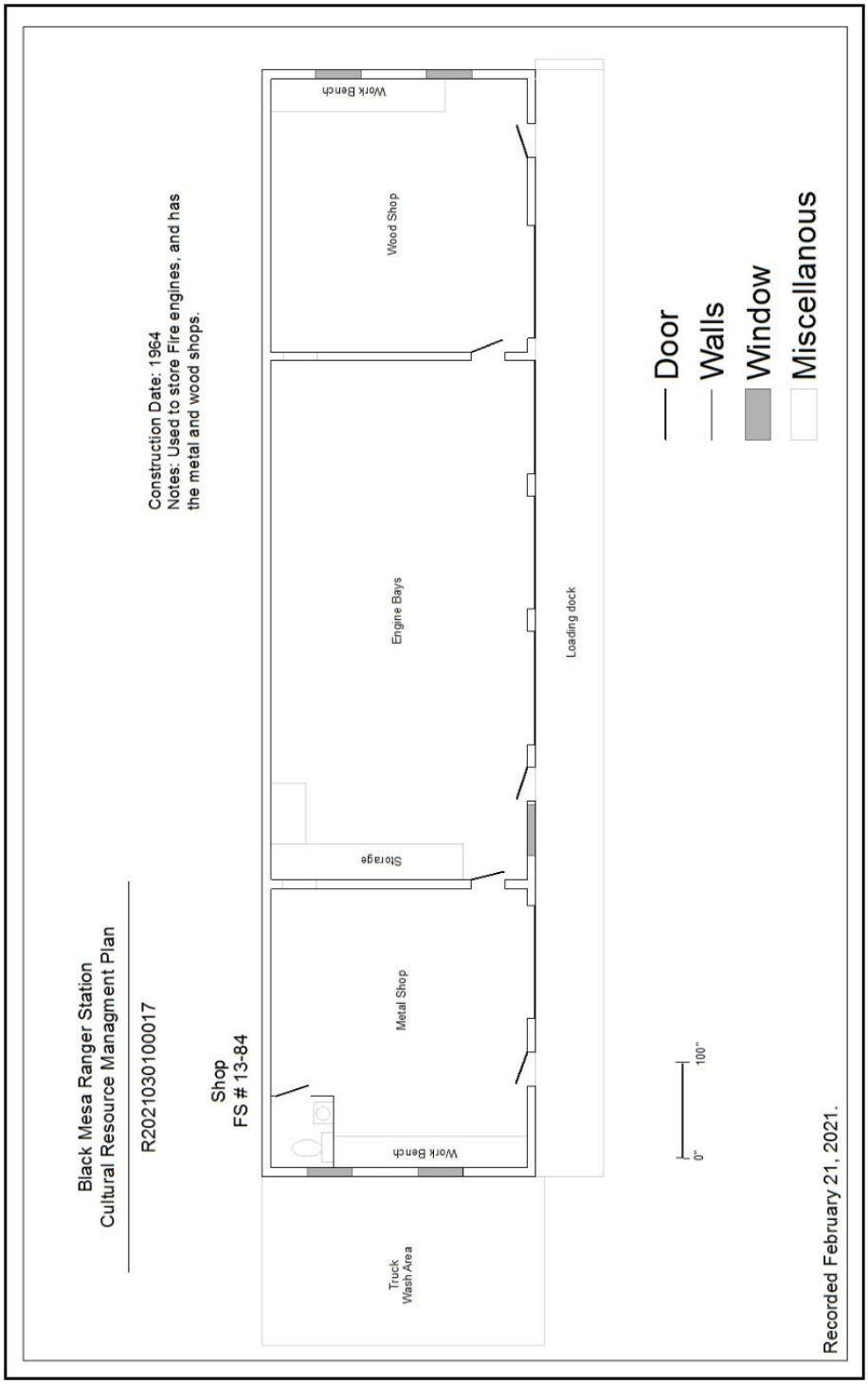


Figure C.51. Shop floor plan (13-84).

Figure C.52. South end of Shop (13-84) with truck wash area, view north.

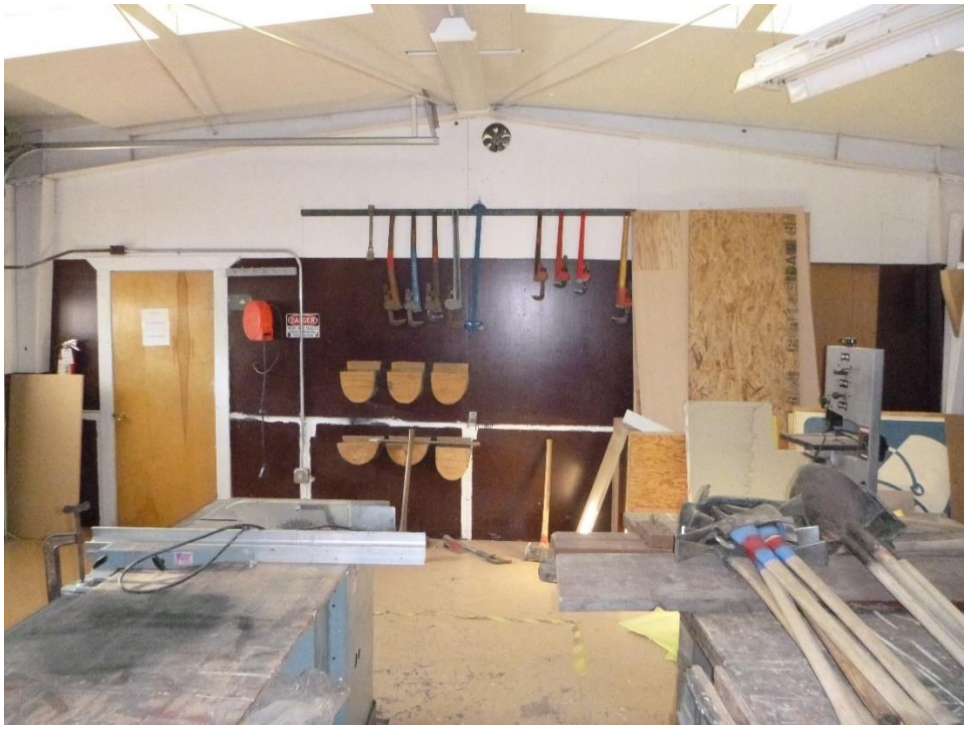


Figure C.53. Wood shop in Shop building (13-84).

13-65 Saw Shop

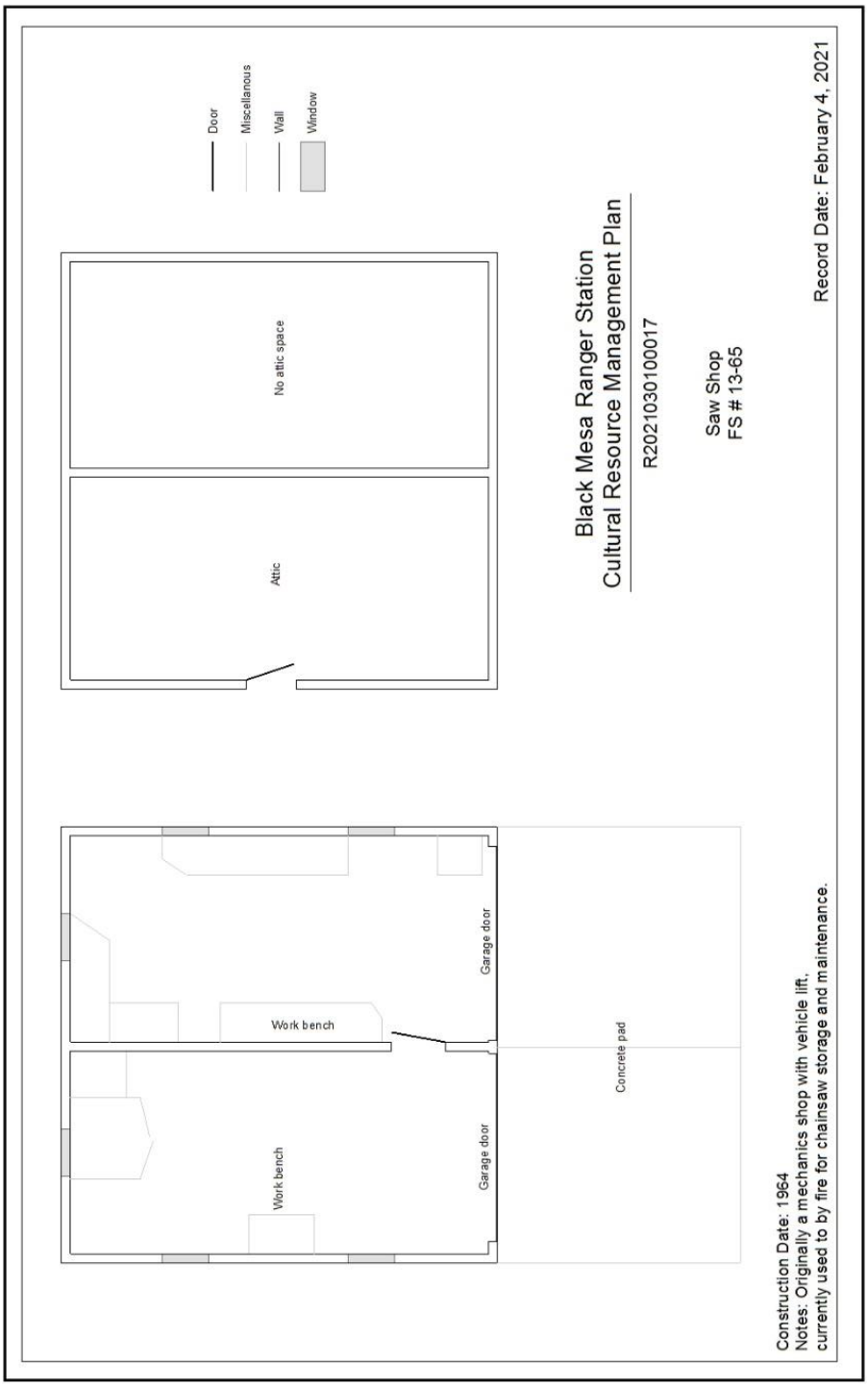


Figure C.54. Saw Shop floor plan (13-65).

Figure C.55. South side of Saw Shop (13-65), view northwest.

Figure C.56. North room in Saw Shop (13-65).

13-94 Gas & Paint Building

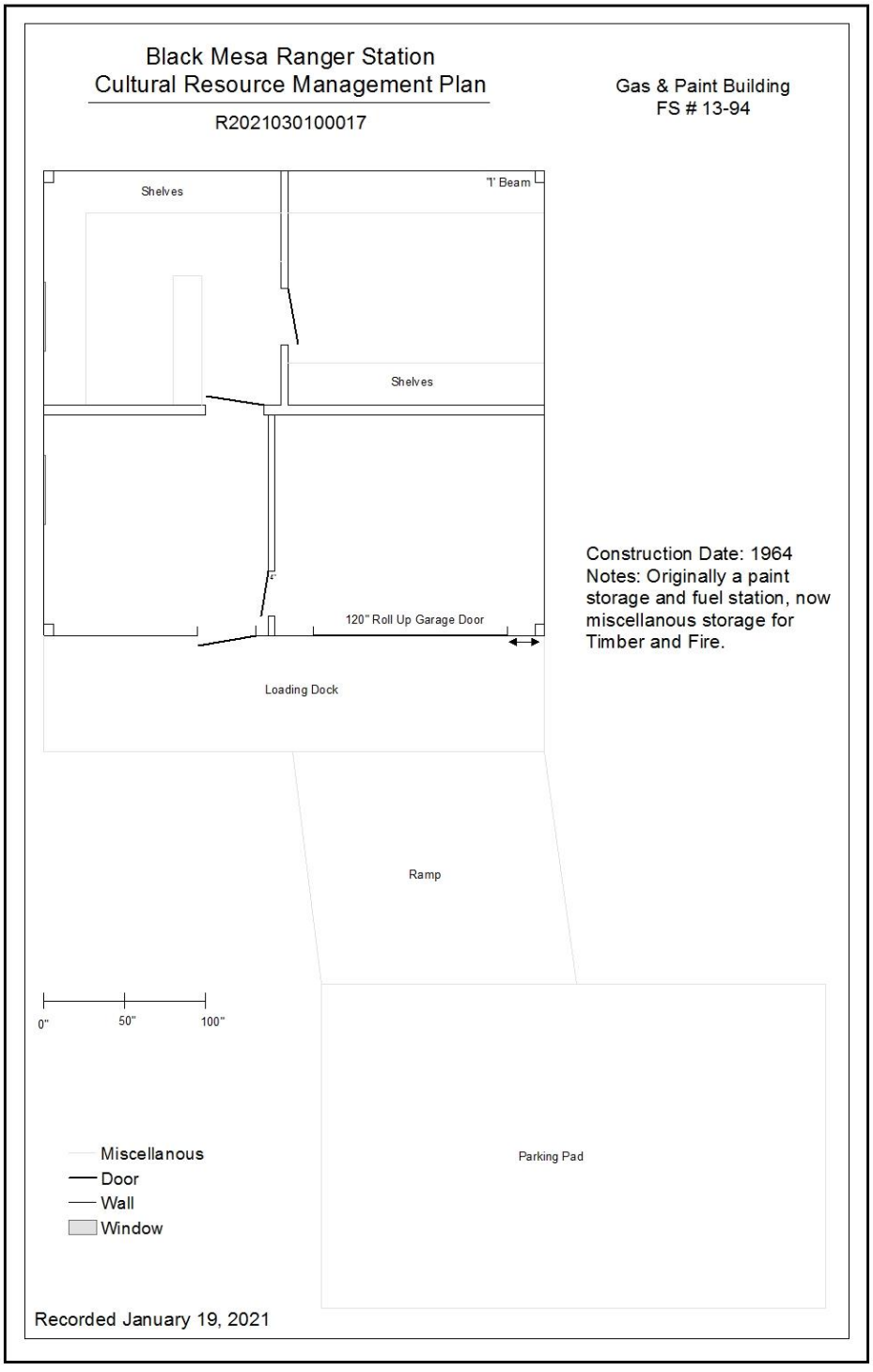


Figure C.57. Gas & Paint Building floor plan (13-94).

Figure C.58. Room with garage door in Gas & Paint Building (13-94).

Figure C.59. Back storage room in Gas & Paint Building (13-94).

13-30 Fire Cache & Equipment Storage

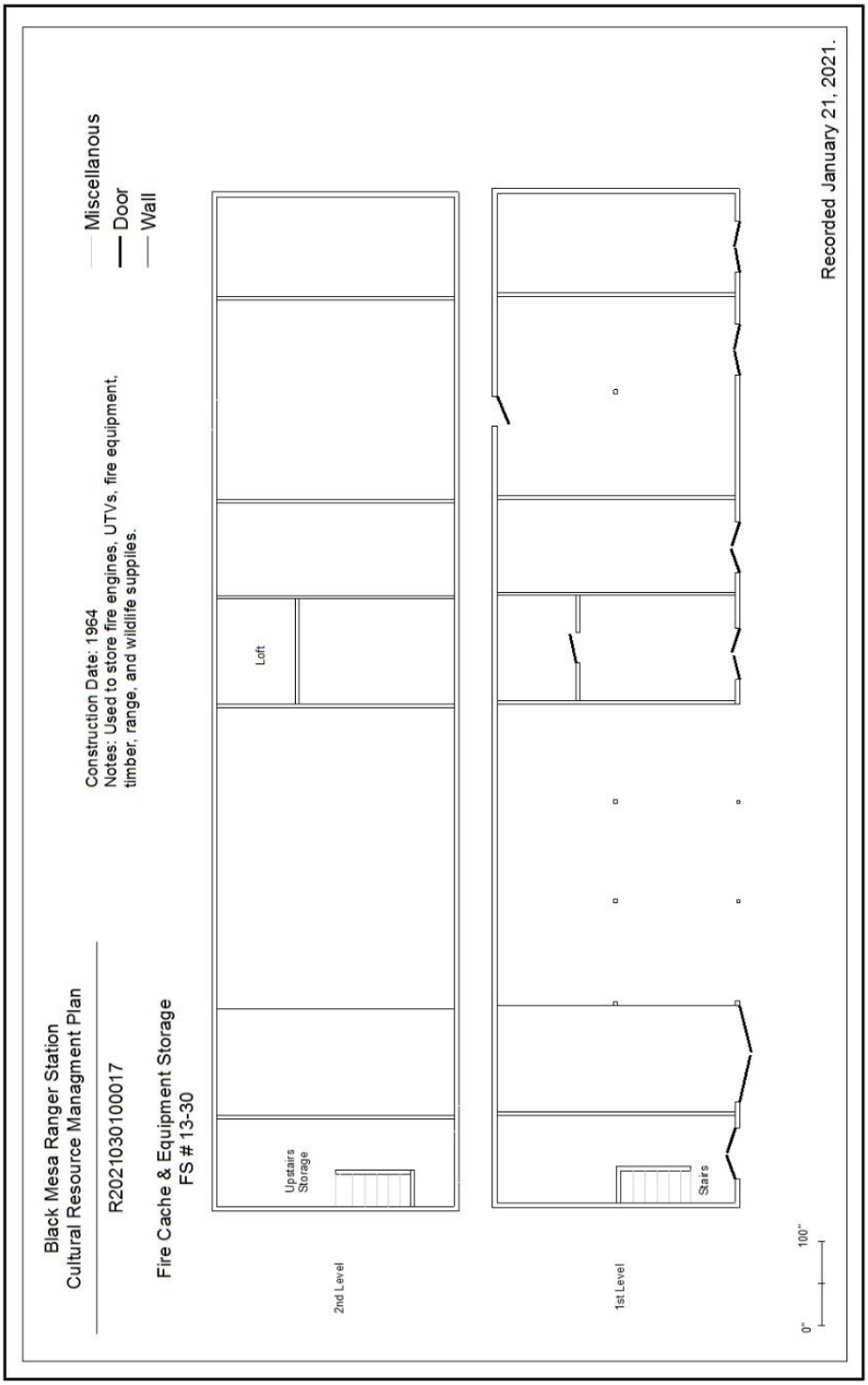


Figure C.60. Fire Cache & Equipment Storage floor plan (13-30).

Figure C.61. Backside of the Fire Cache & Equip. Storage (13-30), view northwest.

Figure C.62. Storage room in Fire Cache & Equip. Storage (13-30).

13-91 Garage 12 Bays

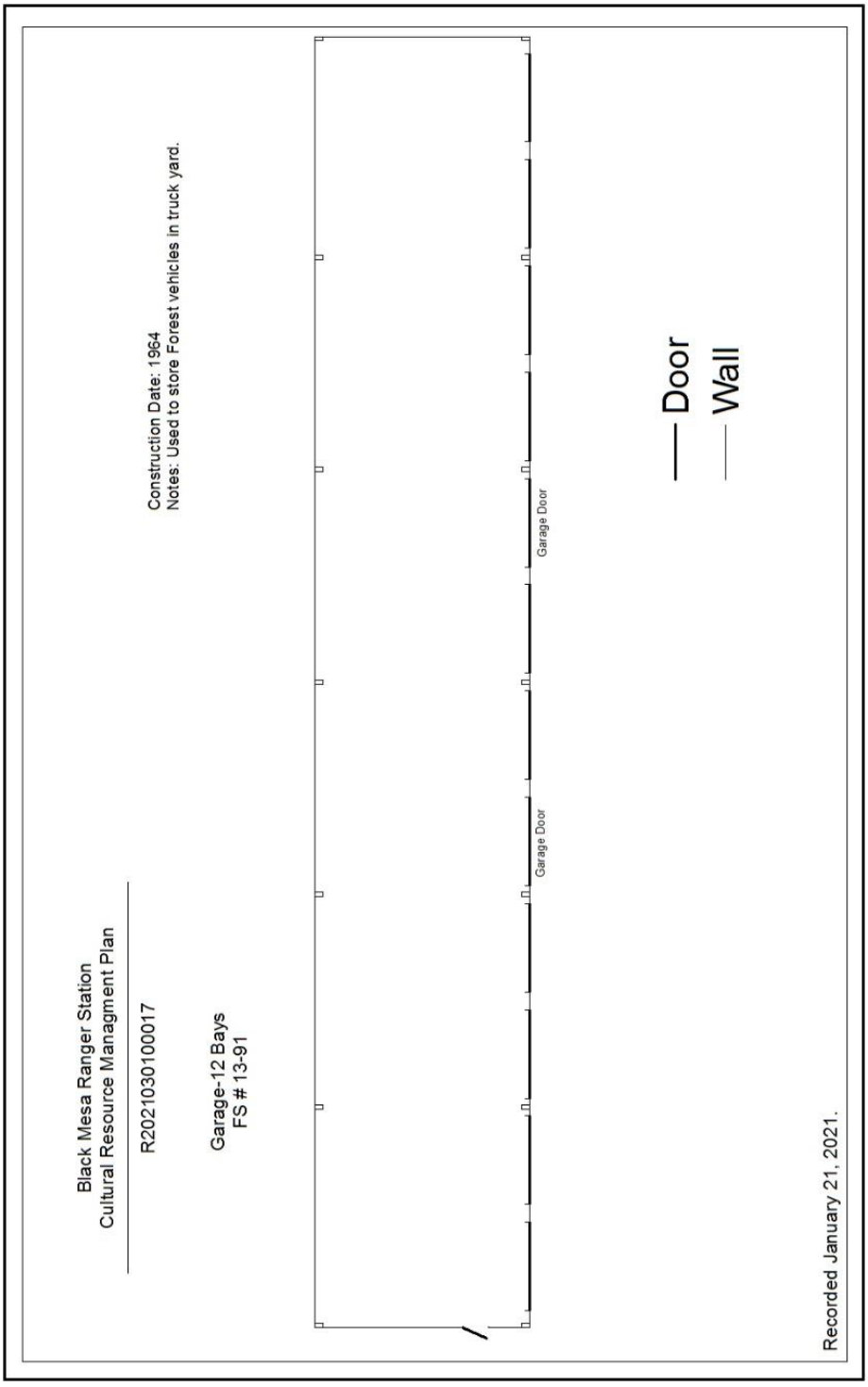


Figure C.63. Garage 12 Bays floor plan (13-91).

Figure C.64. South end of Garage 12 Bays (13-91), view north.

Figure C.65. Backside of Garage 12 Bays (13-91), view east.

13-63 Hotshot Building

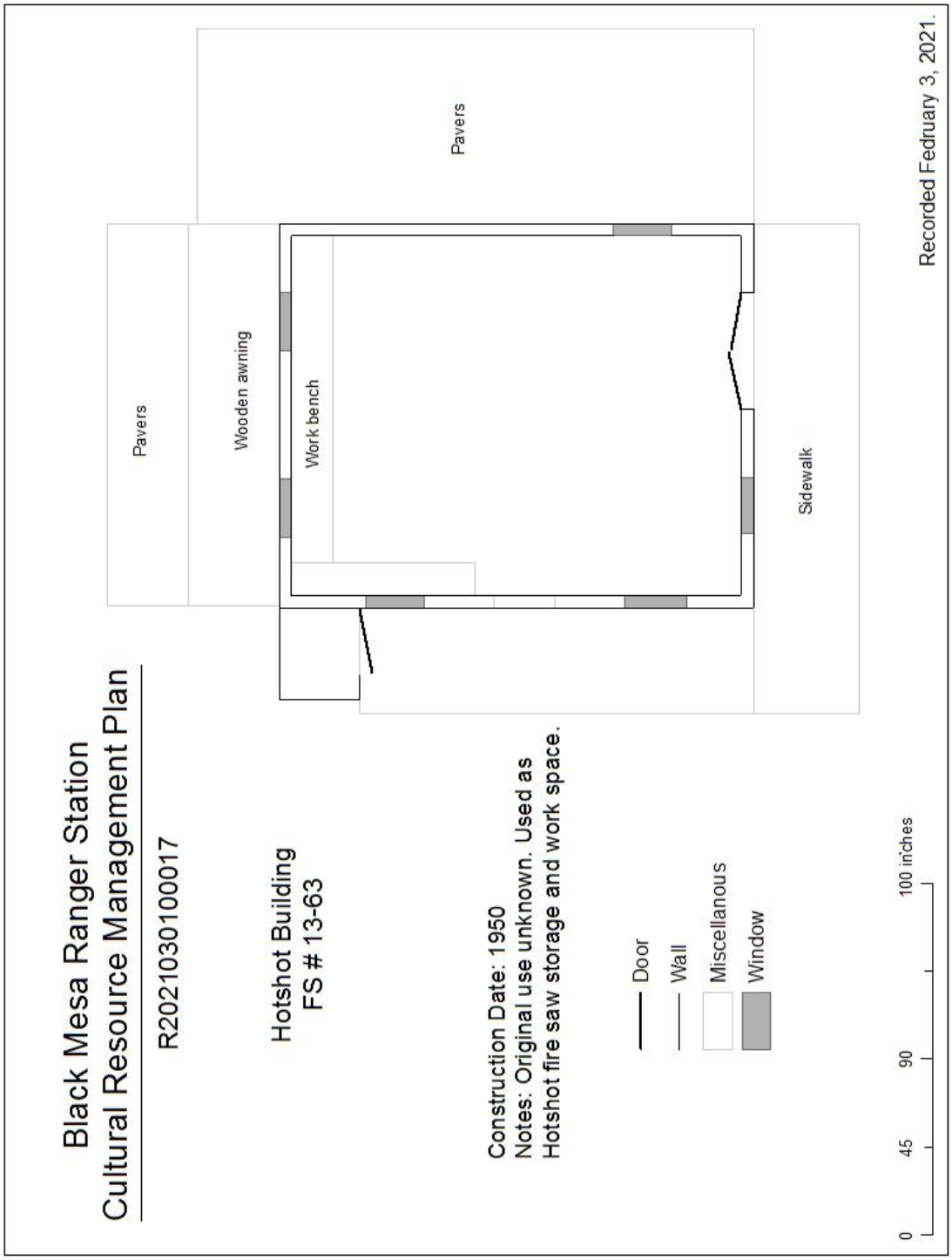


Figure C.66. Hotshot building floor plan (13-63).

Figure C.67. Backside of Hotshot building (13-91), view north.

Figure C.68. West side of Hotshot building (13-91), view west.

Hotshot Tool Shed

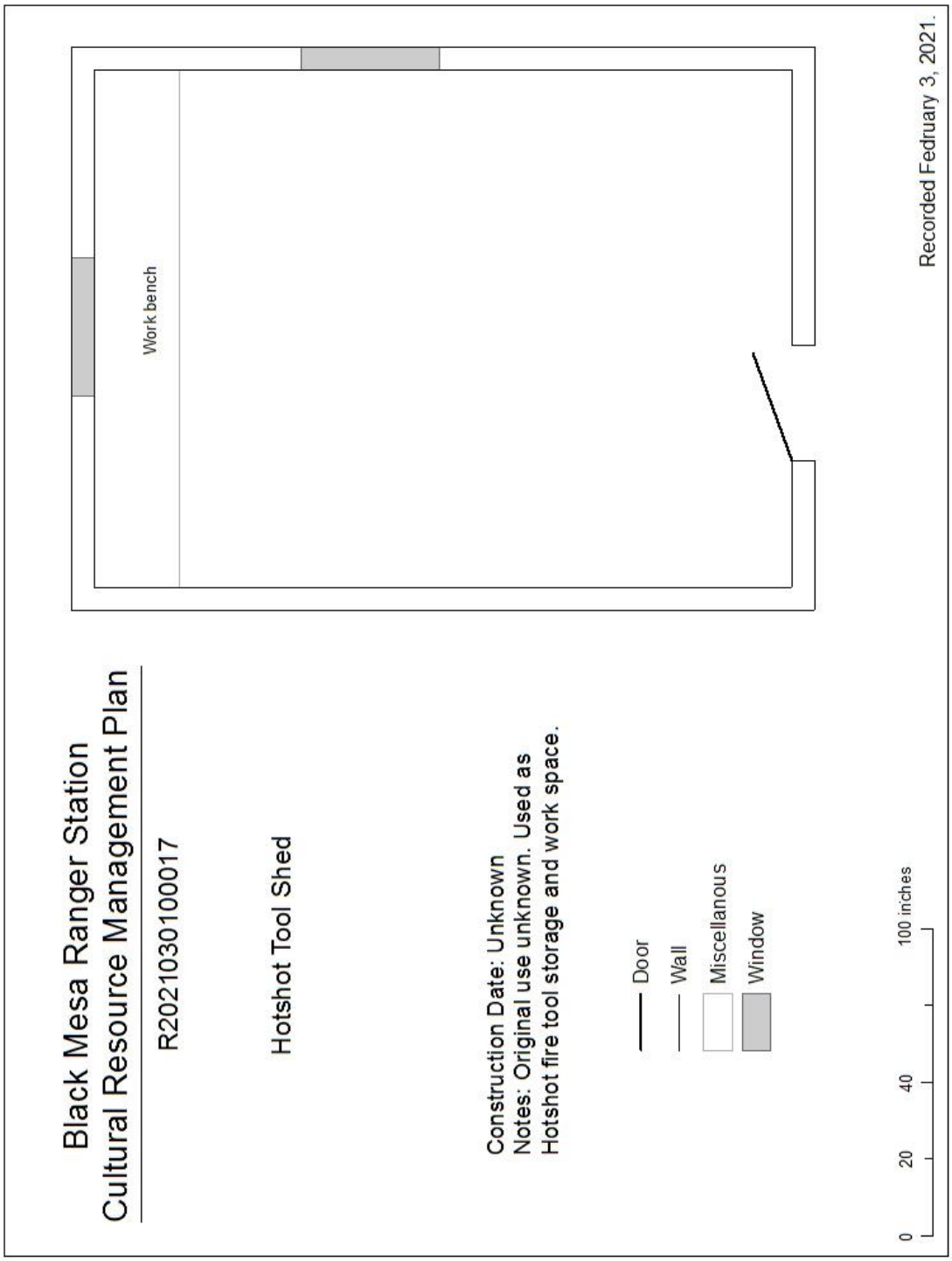


Figure C.69. Hotshot Tool Shed floor plan.

Figure C.70. South and west side of Hotshot Tool Shed, view northeast.

Figure C.71. East side of Hotshot Tool Shed, view south.