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Chapter 11: Settlement Clusters

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"Early Pueblo social organization may be understood best as a series of groups within larger groups, which were themselves contained within even larger groups, and so on" (Lightfoot 1994:128). For the early Pueblo I period, this nested hierarchy may be thought of as consisting of the household, the hamlet or village group, and the community (Lightfoot 1994:128–130; Wilshusen 1988a). Lightfoot's model of the early Pueblo settlement hierarchy (Figure 11.1) was adjusted for the ALP project systematics, with the addition of the settlement cluster as intermediate between the hamlet group and the community. In the case of the Sacred Ridge site (5LP245), the settlement cluster could be identified as a village with clear boundaries; in other cases, the clusters of hamlets were not sufficiently compact and integrated to be considered villages. Yet, as will be shown in this chapter, these clusters of households and their houses did form spatial units that were distinct from one another.

Late Basketmaker settlements were clearly centered on individual houses with most sites having only one pit structure. Even in those cases where two or possibly three pit structures composed a site, it seems that the site was shared by a single group of people who shared a general residential area, blood ties, and the use of a common set of economic resources.

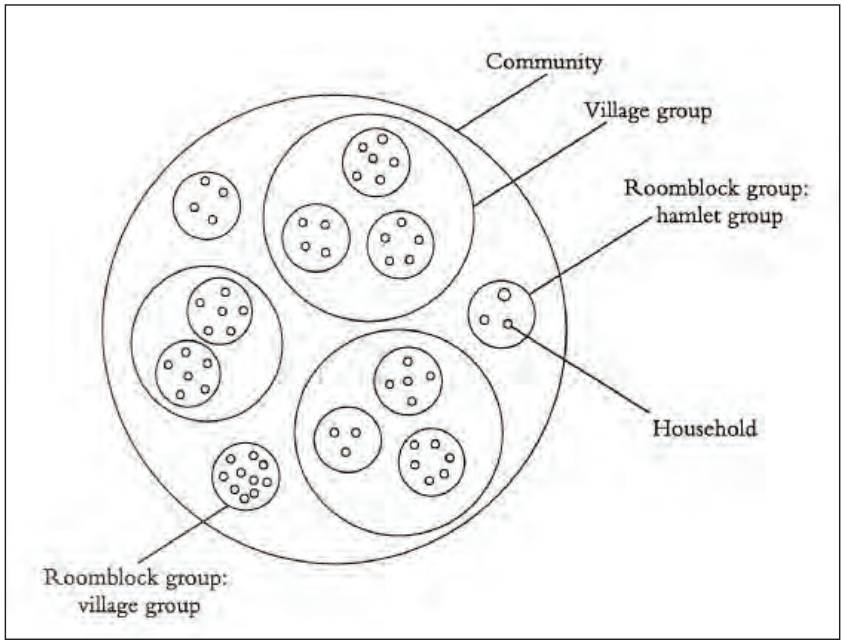

Figure 11.1. Schematic illustration of Lightfoot's nested hierarchy model of social organization (reproduced from Lightfoot 1994:Figure 6.1).

These late Basketmaker sites often were surrounded by enclosures (Chenault and Motsinger 2000), which reinforces the impression that the two or three households within this bounded space actually represented a distinct social group, possibly similar to lineage-based "house societies" (Carsten and Hugh-Jones 1995) documented worldwide. Many of the early Pueblo I habitation sites documented in the ALP project research are reminiscent of late Basketmaker settlements, yet the discrete clusters of these habitations documented in Ridges Basin clearly represent a new way of organizing people on the landscape. Whether the linkages that connected people in each settlement cluster were ones of descent or alliance, or a combination of the two, is the subject of research presented in later chapters. This chapter is primarily devoted to identifying and describing the different settlement clusters.

IDENTIFYING SETTLEMENT CLUSTERS

Using nearest-neighbor analysis, Fuller (1988a:365–380) defined eight Pueblo I settlement clusters in Ridges Basin (Figure 11.2). According to Fuller, these clusters ranged from five to 20 houses, but his estimates were based primarily on survey information. For the ALP project, SWCA continued with the idea of settlement clusters and, in the process of investigating and analyzing the Pueblo I habitation sites in Ridges Basin, consolidated some of Fuller's clusters and expanded others. As a result, five Pueblo I settlement clusters—four in Ridges Basin and one on Blue Mesa—were designated by SWCA researchers (Figure 11.3; Table 11.1). These cluster designations were based on three criteria. The first was the spatial proximity of pit structures. Figure 11.3 plots each pit structure based on UTM coordinates and shows both the SWCA settlement cluster designations and the results of a k-means cluster analysis[1] on the UTM coordinates, which is based purely on distance. The results of the six-cluster k-means solution show considerable correlation with SWCA's cluster designation, but there are important differences, as well. One difference is the containment of two of the k-means clusters into a single North-central Cluster. This highlights the second criterion for cluster designation—the size of the cluster. For management and reporting purposes, SWCA attempted to establish settlement clusters of roughly equal numbers of pit structures. So, although spatially it might have made sense to have a north cluster and a central cluster, it made more sense from a management and comparative analytical perspective to combine these into a single cluster. The same is true for the Western Cluster, which contains two k-means clusters (Figure 11.3).

Finally, SWCA cluster designations included groupings that were likely prehistorically meaningful. The Sacred Ridge site (5LP245), for example, was designated its own cluster not only because it was the largest settlement and it thus made management sense to treat it as a separate cluster, but also because it was such a large and tight grouping of houses compared to other clusters, and it contained such unusual architecture, that it seemed likely the prehistoric occupants of Ridges Basin considered it distinctive and separate from other settlements. This approach varies from Fuller's, who included Sacred Ridge as one of several sites in his Cluster VI (see Figure 11.2), a pattern that was reproduced as k-means Cluster 4 (see Figure 11.3). It should be noted, too, that the SWCA settlement clusters are based only on excavated pit structures and are thus partially a product of sampling. This caveat also contributes to the distinction between Fuller's clustering solutions, which are based on survey data, and SWCA's.

Ultimately, the social significance of these archaeologically defined clusters is an empirical problem. How similar in their material culture are habitation sites in the same cluster? How different are they from sites in other clusters? Are some clusters more homogeneous than others? How organizationally variable are the clusters? And how real are any of the cluster designations? The remainder of this chapter and the next are devoted to addressing these fundamental questions.

[1] The method of k-means cluster analysis divides *n* observations into *k* clusters; each observation belongs to the cluster with the nearest mean. The technique attempts to find the centers of natural clusters in the data through the use of an iterative refinement approach.

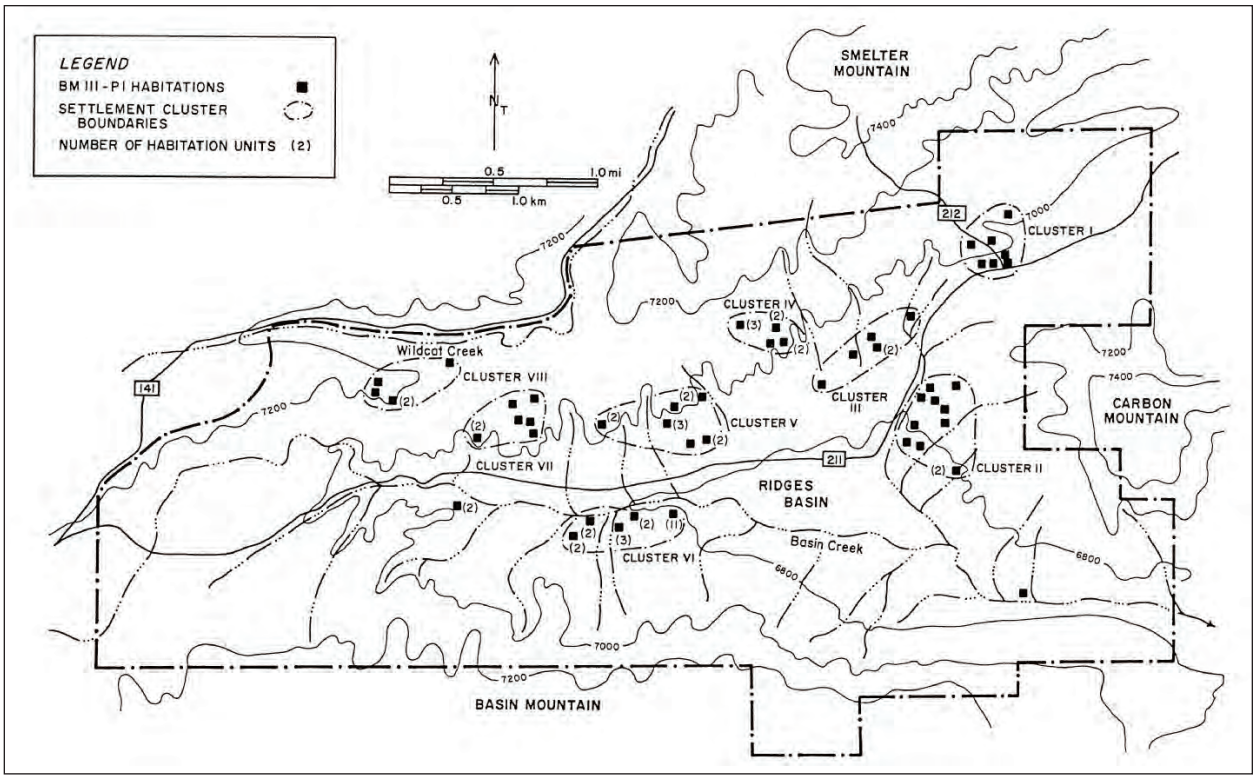

Figure 11.2. Pueblo I settlement clusters identified by Fuller (reproduced from Fuller 1988a:Figure 185).

DESCRIPTIONS OF THE CLUSTERS

ALP project systematics divided the early Pueblo I habitations into five settlement clusters (Figure 11.4). As described above, one settlement cluster consisted of only the Sacred Ridge site. Three other settlement clusters were in Ridges Basin: the Eastern Cluster with 10 sites, the North-central Cluster with seven habitations, and the Western Cluster with nine. Four excavated sites on Blue Mesa form the fifth cluster; they are part of a much larger group of habitations, mostly unexcavated, on Blue Mesa. The following sections provide a description of the features in each of these settlement clusters.

The Eastern Cluster

Ten sites formed a concentration that Potter and Yoder (2007) refer to as the Eastern Cluster: 5LP176, 5LP177, 5LP179, 5LP239, 5LP240, 5LP241, 5LP242, 5LP243, 5LP630, and 5LP634. All were located on a large, discrete alluvial fan on the western flank of Carbon Mountain (Figure 11.5). For the purposes of this study, three additional sites—5LP174, 5LP178, and 5LP515—are included in the Eastern Cluster; these were located south of Potter and Yoder's original Eastern Cluster, and also had been referred to by Wilshusen (2007) as the Southeastern Cluster (see Figure 11.4). All sites were excavated by SWCA, with the exception of 5LP515, which was excavated in 1999 by Woods Canyon Archaeological Consultants (Silverman 2003). These 13 habitation sites contained 16 pit structures (Figure 11.6).

In general, the Eastern Cluster was composed of single-dwelling habitations. Three sites—5LP174, 5LP177, and 5LP634—contained two pit structures. The structures at these sites may have been occupied sequentially, but chronometric data from the two structures at 5LP177 suggest that they were occupied at the same time, or at least within a few years of each other (Desruisseaux et al. 2007:120–121). On the other hand, although 5LP177 contained two pit structures, they were spaced far enough apart (80 m) that they could be considered separate sites. Good chronometric data were not recovered from the other two double-structure sites.

Table 11.1. Cluster Assignments for Pueblo I Pit Structures

Site–Feature	SWCA Cluster	k-means Cluster (six-cluster solution)
5LP185–3	North-central	1
5LP185–10	North-central	1
5LP185–45	North-central	1
5LP187–1	North-central	1
5LP187–5	North-central	1
5LP187–6	North-central	1
5LP187–9	North-central	1
5LP187–14	North-central	1
5LP503–1	North-central	1
5LP503–2	North-central	1
5LP503–4	North-central	1
5LP236–3	North-central	2
5LP236–6	North-central	2
5LP237–1	North-central	2
5LP237–2	North-central	2
5LP237–3	North-central	2
5LP237–4	North-central	2
5LP238–1	North-central	2
5LP482–1	North-central	2
5LP174–1	Eastern	3
5LP174–2	Eastern	3
5LP176–1	Eastern	3
5LP177–1	Eastern	3
5LP177–2	Eastern	3
5LP178–2	Eastern	3
5LP179–2	Eastern	3
5LP239–1	Eastern	3
5LP240–1	Eastern	3
5LP241–6	Eastern	3
5LP242–1	Eastern	3
5LP243–3	Eastern	3
5LP630–3	Eastern	3
5LP634–2	Eastern	3
5LP634–6	Eastern	3
5LP184–1	Western	4
5LP184–12	Western	4
5LP184–15	Western	4
5LP244–1	Western	4
5LP244–15	Western	4
5LP248–1	Western	4
5LP248–3	Western	4
5LP248–4	Western	4
5LP614–1	Western	4
5LP246–2	Western	5
5LP246–6	Western	5
5LP246–26	Western	5
5LP510–6	Western	5
5LP511–1	Western	5
5LP511–2	Western	5
5LP511–3	Western	5
5LP549–2	Western	5
5LP536–1	Western	5
5LP245–1	Sacred Ridge	4
5LP245–18	Sacred Ridge	4
5LP245–19	Sacred Ridge	4
5LP245–23	Sacred Ridge	4
5LP245–41	Sacred Ridge	4
5LP245–48	Sacred Ridge	4
5LP245–49	Sacred Ridge	4
5LP245–58	Sacred Ridge	4
5LP245–62	Sacred Ridge	4
5LP245–79	Sacred Ridge	4
5LP245–83	Sacred Ridge	4
5LP245–90	Sacred Ridge	4
5LP2026–2	Blue Mesa	6
5LP2026–3	Blue Mesa	6
5LP2026–4	Blue Mesa	6
5LP2088–1	Blue Mesa	6
5LP2089–1	Blue Mesa	6
5LP2091–2	Blue Mesa	6

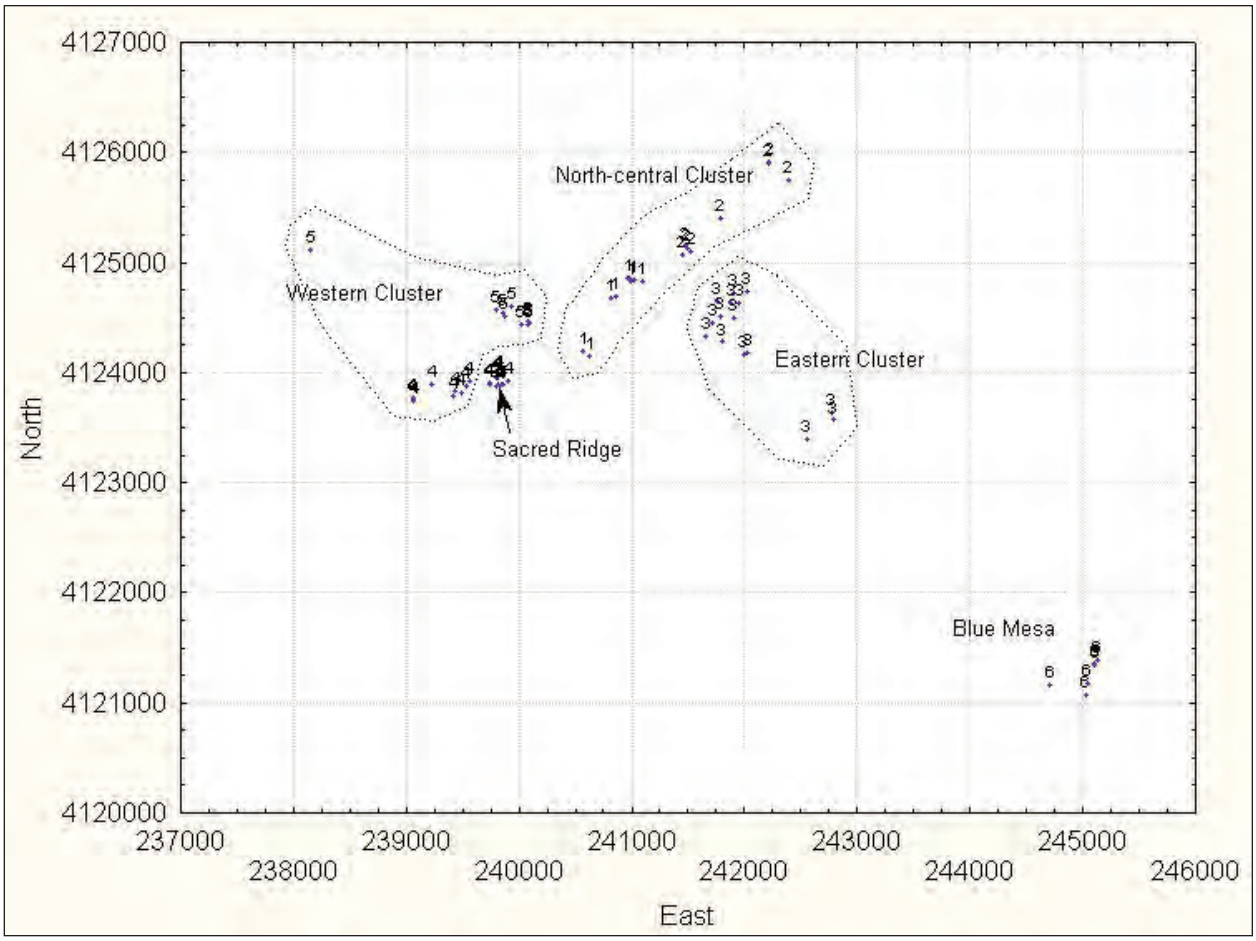

Figure 11.3. Plot of sites by UTMs with cluster designations. Each dot is a pit structure. Numbers are k-means cluster assignments based on UTMs (six-cluster solution). Dashed lines and labels indicate SWCA's cluster assignments. (Note that Sacred Ridge is itself a cluster, as is Blue Mesa.)

The presence of clean fill in all but one (Structure 1 at 5LP515) of the 16 pit structures indicated that the occupation of the Eastern Cluster was relatively brief. Two main abandonment modes were represented in the 16 pit structures in this sample (Wilshusen 2007:Table 14.3). The four pit structures at 5LP174, 5LP178, and 5LP515—in the southeastern portion of the main cluster (Wilshusen's Southeastern Cluster)—were intensely burned at abandonment, contained no cultural refuse in their fill, and had most of the domestic assemblage removed. The main cluster of houses composing the Eastern Cluster, on the other hand, may have been closed slightly earlier than the southeastern structures. None were intensely burned; most (n = 8) appeared to have been salvaged; and seven of the 12 structures had water-laid sediments covering their floors, indicating flooding as a possible reason to vacate the structures (Wilshusen 2007:383–384). Wilshusen suggests that, following a catastrophic flooding episode, some of the salvaged beams may have been used to construct structures in the Southeastern Cluster at 5LP174, 5LP178, and 5LP515.

Although cultural refuse was virtually absent in the fill of Eastern Cluster structures, the ritual deposition of animal carcasses is well represented in this sample. Three structures had dog burials on or above their floors. On the alluvium covering the floor of the Feature 1 pit structure at 5LP239 were two dog burials (Features 3 and 4). The dogs had been laid out on slabs placed on alluvial sediments that had been deposited shortly after

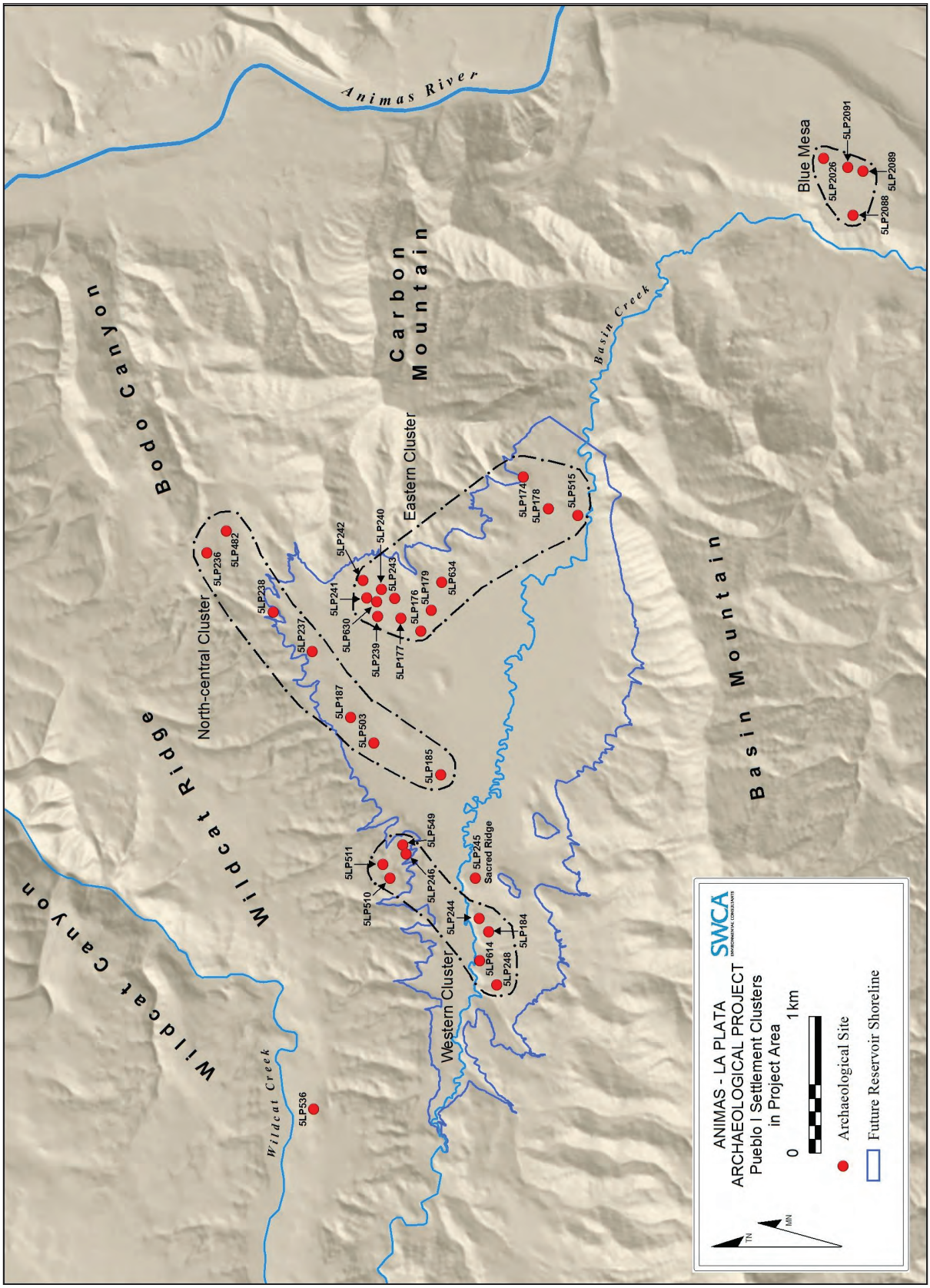

Figure 11.4. Map of Pueblo I settlement clusters defined by SWCA. Site 5LP536 is part of the Western Cluster. Sacred Ridge is its own cluster. Includes only those sites excavated by SWCA.

the desertion of the structure. These burials were unusual in that the dogs had been severed in half at the mid torso and placed with the upper and lower body portions in opposite orientations. The dogs were recorded adjacent to each other at the same stratigraphic level, so it is likely they had been sacrificed in a planned event related to the closure of Feature 1 and interred simultaneously shortly after the flooding and before the subsequent dismantling of the structure. The floor fill of this structure also yielded much of a gray fox hindlimb, including part of the pelvis, and a left ulna. In addition, the left mandible of a bobcat and multiple portions of a common snipe were recovered from this feature. Although these remains are not complete enough to be considered animal burials, they do appear to have been part of the closure ritual for the structure. In Feature 2 at 5LP177, a dog, a crane or swan, and the articulated bones of a turkey wing were found in association with the floor.

Most of the pit structures in the Eastern Cluster (13 of 16) were subrectangular in plan. Three structures were oval or circular. The largest structures, those at 5LP176 and 5LP177, had floor areas of 35 m², and the smallest, those at 5LP174 and 5LP178, had areas of 9 m²—almost a quarter the size of the largest structures. Analysis of the floor areas reveals an almost perfectly normal distribution with the two largest structures and two smallest structures being clear outliers to the rest of the bell curve. The remaining 75 percent of the sample had an average floor area of 22 m², which is the midpoint between the largest (35 m²) and smallest (9 m²) areas (Wilshusen 2007:390).

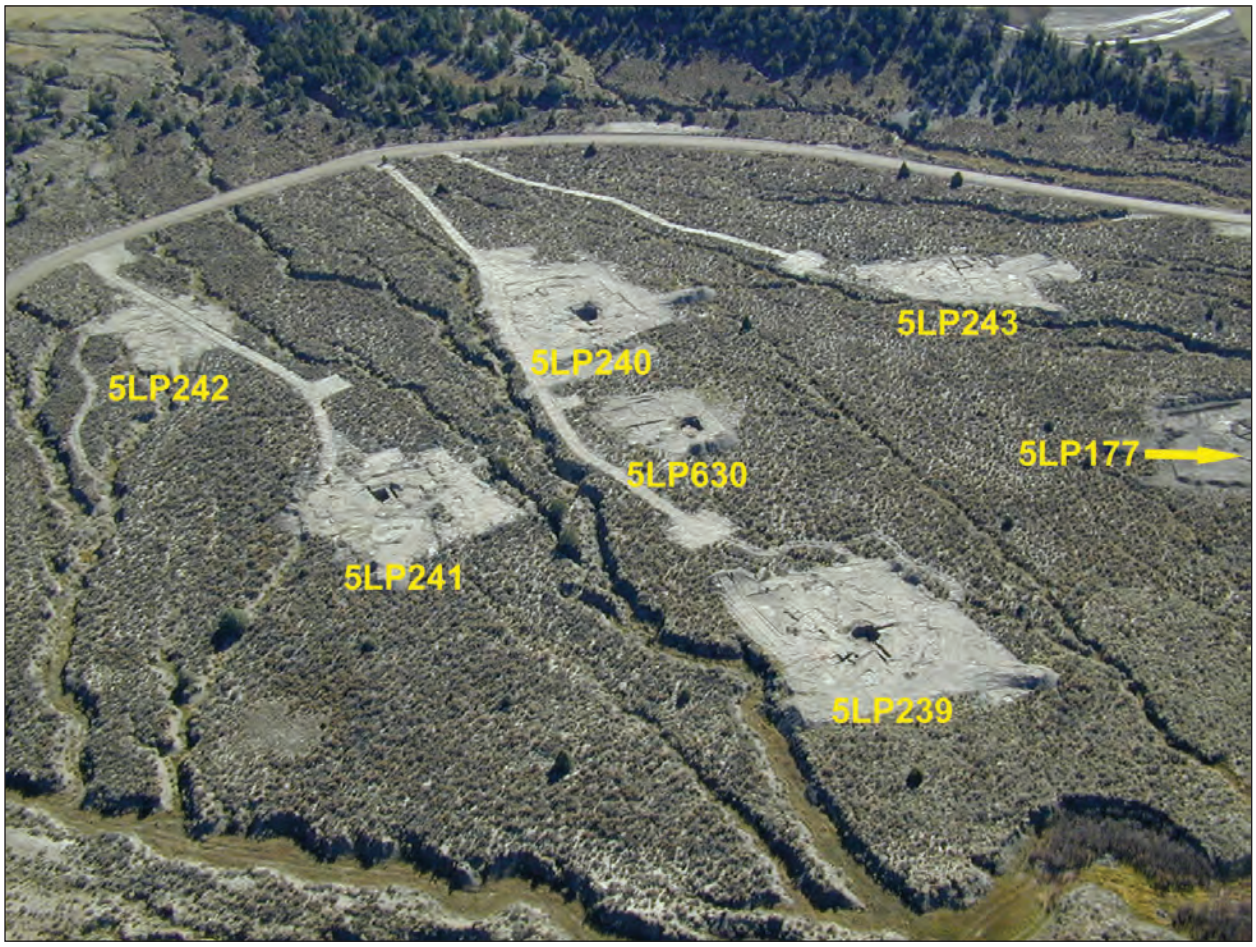

Figure 11.5. Aerial photograph of a portion of the Eastern Cluster of Pueblo I habitation sites in Ridges Basin.

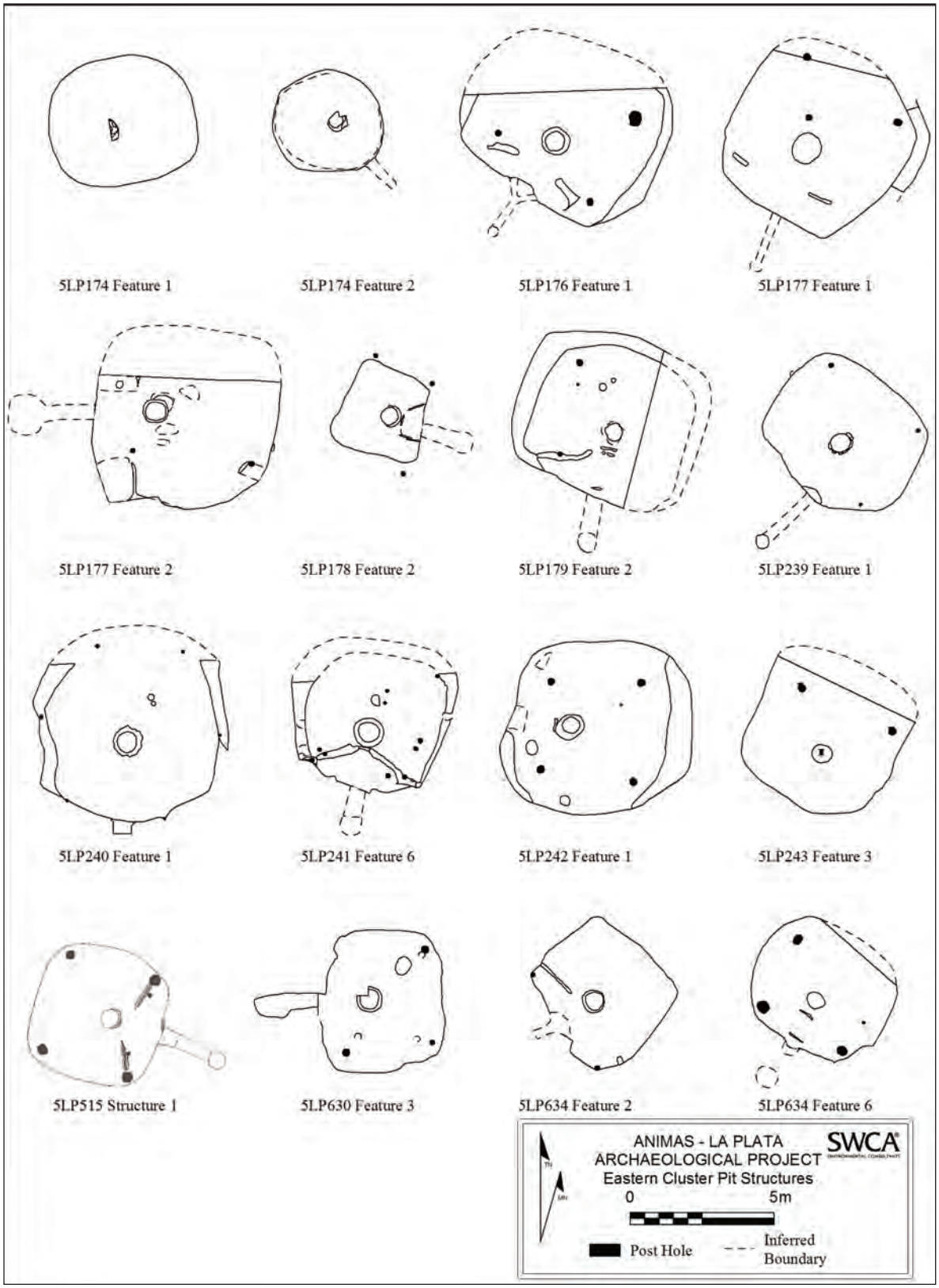

Figure 11.6. Plan maps of excavated pit structures in the Eastern Cluster.

According to Wilshusen (2007), the most notable aspect of the subfeatures on pit structure floors in all sites of the Eastern Cluster was their relative absence compared to other early pit structures in the area. Architectural features such as post supports, benches, wing walls, and deflectors were the most frequently identified subfeatures in these structures. Only coped central hearths were as common; they were observed in 12 of the 16 structures. Features such as corner storage bins (n = 2) and possible sipapus (n = 5) were the next-most-numerous feature types. Capped or remodeled features were relatively rare, and in only one case was a pit structure clearly rebuilt and remodeled. Feature 1 at 5LP241 had a burned interior wall with a subsequently replastered wall over it, a later wing wall, and, possibly, a totally rebuilt roof. Otherwise, the capped and remodeled features represented relatively minor remodeling within the use life of a structure.

Eastern Cluster pit structures exhibited two types of ventilator openings—a single opening into the pit structure and a double, or bifurcated, opening. Most were single-hole ventilators. Only one clear example of a bifurcated ventilator and two possible bifurcated ventilators were observed. Seven structures had benches, and five lacked them. All four of the pit structures in Wilshusen's Southeastern Cluster sites lacked benches. With a single exception (5LP240), all of the structures with sufficient evidence had a four-post roof support system (see Figure 11.6). Feature 1 at 5LP240 had a six-post system, and the superstructure of this roof appeared to have been morphologically distinct in the Ridges Basin area. The only other comparable roof designs were the six-post roof support system documented in Feature 3 at 5LP236, the seven-post system in Feature 1 at 5LP237, and the roofs of three sites in Hidden Valley northwest of Durango that were excavated by Morris and Burgh in 1939 (Carlson 1963). All these structures appeared to date between A.D. 760 and 800. The roofs on these structures probably would have been of a cribbed construction similar to that of some of the roofs at the nearby Basketmaker II site of Talus Village (Morris and Burgh 1954:51) as well as later Pueblo II and Pueblo III kiva roofs.

Extramural features were also common in the Eastern Cluster. All but one of the sites had surface structures, and all but two of the sites (5LP174 and 5LP178) had middens. Wilshusen (2007) notes that the occupations of the Southeastern Cluster sites occurred somewhat later than the occupations of Potter and Yoder's (2007) original Eastern Cluster sites. He suggests that the lack of middens at 5LP174 and 5LP178 and the lack of surface structures at 5LP174 support the interpretation that these sites had been inhabited for a very limited time before being abandoned and destroyed by fire.

Wilshusen (2007) also notes that extramural features often were located north of the pit structure close to the surface structures, sometimes in areas that might have been shaded by ramadas (e.g., Feature 33 at 5LP177 or Features 15, 16, and 18 at 5LP634). Other extramural features were situated away from the structural areas, as with roasting pits (Feature 22 at 5LP177 and Feature 3 at 5LP178), pottery kilns (Feature 10 at 5LP239 and Features 3 and 13 at 5LP240), and construction borrow pits (Feature 12 at 5LP241).

Site enclosures were common at Eastern Cluster sites—nine enclosures were documented at eight sites. These enclosures ranged in size and preservation from short segments of poorly preserved curvilinear walls or fences at 5LP176, 5LP179, and 5LP240 to well-defined but still fragmentary sections at 5LP177 (where two enclosures were found in association with two loci) and at 5LP241. Almost-full enclosures were recorded at 5LP239, 5LP242, and 5LP634. In every case, at least a portion of the remains of the enclosure was observed upslope, and often north, of the pit structure. Yoder et al. (2007) suggest that, at least for 5LP242, enclosures were built to divert runoff from the main site area. Wilshusen notes that when the presence or absence of an enclosure is compared to the mode of pit structure abandonment, there is some support for this suggestion.

> It is striking that every one of the seven pit structures that has water-laid sediment covering its floor also has an enclosure. In at least three cases, nearly complete tool assemblages were left lying on the floor and were covered by a layer of alluvium. Certainly other reasons for delimiting and protecting habitation areas must have existed, such as blowing snow and wandering dogs. However, protecting domestic areas from downslope erosion must have ranked high among the most critical threats to the safety of these particular habitations. (Wilshusen 2007:389)

The mortuary assemblage associated with the Eastern Cluster was unique. Eight of the Eastern Cluster sites had burial features. All these features except one—an adult male cranium found in the northern pit structure (Feature 2) at 5LP177—were in extramural or midden contexts. Of the 36 mortuary features in the Eastern Cluster, seven were double interments (i.e., they consisted of two individuals buried in the same pit feature). This is the highest proportion of double interments in the project area. In addition, Eastern Cluster burials contained high proportions of ceramic vessels—bird effigy vessels, pipes, redware vessels, and seed jars—as well as shell and faunal bone artifacts. Nine fox mandible pendants were recovered from two burials at 5LP239. Finally, this mortuary assemblage contained seven rich burial assemblages (i.e., containing more than five items), five of which were adult females (Potter 2010b:Table 2.18).

The North-central Cluster

The North-central Cluster was a highly dispersed group of Pueblo I habitations comprising seven sites and 19 pit structures, 15 of which were excavated (see Figure 11.4). One of these sites, 5LP185, was in the central portion of Ridges Basin adjacent to Basin Creek. The remaining six sites—5LP187, 5LP236, 5LP237, 5LP238, 5LP482, and 5LP503—were located north of 5LP185 along the northeastern margin of Ridges Basin either at the terminus of smaller ridges emanating from Wildcat Ridge to the north or on alluvial settings just inside the basin. Though not as tightly aggregated as other habitation clusters (e.g., the Eastern Cluster), the North-central Cluster contained pockets of aggregation in the form of multiple–pit structure habitations comparable to Lightfoot's (1994) hamlet group (see Figure 11.1). In particular, 5LP185 contained three pit structures (only two of which were excavated), 5LP237 contained four, and 5LP187 contained five (only three of which were excavated).

Most of the structures in the North-central Cluster appeared to be contemporaneous with many of the Eastern Cluster structures and dated from about A.D. 760 to 810 (see Chapter 8, Pueblo I Chronology and Population). The exception is 5LP185, which appears to have had an earlier habitation component dating to the early A.D. 700s and a later cemetery component dating to the late 700s (Potter 2008). Data from three sites (5LP503, 5LP187, and 5LP237) suggest sequential occupation for at least some of the structures. Two pit structures at 5LP503 (Features 1 and 4) overlapped stratigraphically (Feature 1 was built inside of Feature 4), indicating sequential occupation of these features. At 5LP187, Features 5 and 6 each contained post-abandonment cultural refuse, signifying that these structures had been vacated while other areas of the site were still occupied (Figure 11.7; note that Feature 6 is not pictured in Figure 11.7 because it was only sample-excavated with a backhoe trench). Additionally, the enclosures of Features 5 and 9 overlapped, suggesting that Feature 9 was occupied after Feature 5. At 5LP237, two unburned structures (Features 3 and 4) had been vacated and salvaged by (presumably) occupants of two later structures on the site (Feature 1 and 2), which were later deliberately burned. This pattern of sequential occupation contrasts with the pattern of occupation in the Eastern Cluster, where most of the sites appeared to have been shorter-lived and quickly abandoned due to flooding (Wilshusen 2007).

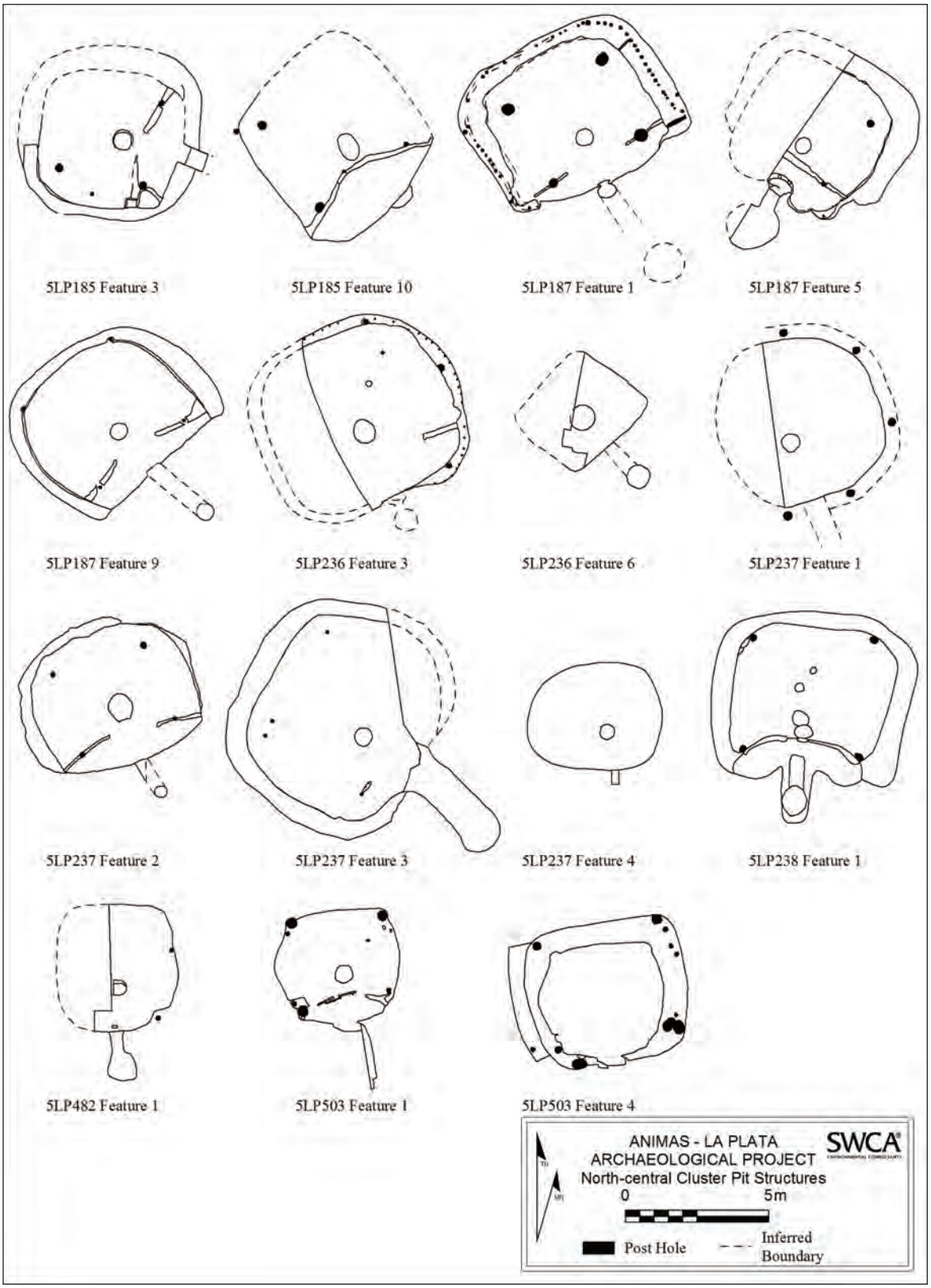

Figure 11.7. Plan maps of excavated pit structures in the North-central Cluster.

Six of the 15 excavated pit structures in the North-central Cluster contained well-preserved floor assemblages, the highest proportion in the project area. These floor assemblages were not only numerous but also the largest and best preserved in the project area—one yielded by far the largest number of perishable artifacts. Feature 1, a burned pit structure at 5LP187, contained the most complete, abundant, and diverse pit structure floor assemblage in the project area, including the largest collection of preserved textiles and other perishable artifacts. The floor of Feature 1 contained 18 whole or reconstructible ceramic vessels, coiled basket fragments, at least one sandal fragment, yucca fiber cordage, seed beads, trough metates, stone tools, and a collection of ceremonial items, which consisted of a gypsum pipe, a jet bead, fossil concretions, a polished hematite pebble, and a chert projectile point. Additional floor assemblages were recovered from pit structures at 5LP237. One of the four pit structures at 5LP237, Feature 4, had a floor assemblage that contained an especially high relative frequency of animal bones, particularly turkey and rabbit. Given the large amount of faunal debris associated with the floor of this structure, it is likely that at some point Feature 4 had been discontinued as a residence and used for processing fauna.

The structures in the North-central Cluster were more variable in shape and generally larger than the structures in the Eastern Cluster. Just over half of the structures (8 of 15) were subrectangular in plan. But the North-central Cluster also contained four oval or circular structures, two rectangular structures, and one D-shaped structure (see Figure 11.7). The largest structures were Feature 3 at 5LP237, with an estimated floor area of 39 m², and Feature 3 at 5LP236, with an estimated floor area of 40 m². The smallest pit structure was Feature 4 at 5LP237, with a floor area of about 15 m². The mean floor area, if this outlier is included, is just under 28 m²; if it is excluded (as was done for the Eastern Cluster above), the average floor area is 27 m², considerably larger than the average Eastern Cluster structure.[2]

[2] Feature 2 at 5LP503 is actually the smallest structure, with a floor area of 7m², but this was a featureless pit room and not considered a full habitation.

Subfeatures associated with pit structures were more numerous than in the Eastern Cluster, with the exception of coped hearths and two-hole ventilators—only four structures had a coped hearth and only one had a two-hole ventilator. However, 10 structures had benches, nine had wing walls, five had possible sipapus, and seven had floor storage features. As in the Eastern Cluster, capped or remodeled features were relatively rare, and in only one case was a pit structure clearly rebuilt and remodeled. Feature 4 at 5LP503 had a multitude of support posts added to the roof system in an apparent attempt to extend the life of the structure. When that failed, an entirely new, smaller structure was built inside the old structure. Most structures had a four-post roof support system. The two exceptions were Feature 3 at 5LP236, which had six posts, and Feature 1 at 5LP237, which had six or seven. These posts were set in the bench like pilasters (see Figure 11.7), presumably to support a cribbed roof. In addition, two structures in the North-central Cluster (Feature 1 at 5LP187 and Feature 3 at 5LP236) had a multitude of secondary roof supports (i.e., stringer posts) set in the bench. This trait was absent in the Eastern Cluster entirely.

The distribution of extramural features was extremely uneven in the North-central Cluster. For example, 5LP503 had three pit structures, yet only one extramural feature (a midden), whereas 5LP185 had hundreds of extramural hearths, slab-lined pits, storage pits, and inhumations but no enclosures or surface rooms, and 5LP187 had four surface rooms and two enclosures in addition to 14 thermal pits. The surface rooms at 5LP187 were constructed of upright wooden posts and adobe with no stone incorporated. These rooms differed from Eastern Cluster surface rooms in that at least two contained a hearth, indicating that they were not used exclusively for storage, as appears to have been the case in the Eastern Cluster (although poor preservation of rooms in the Eastern Cluster may account for this pattern). In general though, surface rooms, middens, and enclosures were less common in the North-central Cluster than they were in the Eastern Cluster.

Three of seven sites contained evidence of surface rooms, four contained middens, and only two had enclosures. The most common extramural feature types were hearths and thermal pits; these were present at all but one site (5LP503).

Human burials were also distributed unevenly among sites in the North-central Cluster. Site 5LP185 contained the largest number with at least 23 individuals, followed by 5LP237 with eight individuals, 5LP187 with three, and 5LP503 with one (Potter 2010b)[3]. Context of burial varied considerably among sites, as well. At 5LP185, most of the burials were in two large extramural areas. The large number of burials and isolated and disturbed remains far exceeded the likely number of occupants of the site, given that there were only three pit structures. Based on radiocarbon dates, stratigraphy, and the association of Bluff Black-on-red with many of the interments, many of these burials appeared to have postdated the houses, suggesting that at some point the site's use was changed from primarily habitation to a cemetery. With the possible exception of 5LP177 in the Eastern Cluster, this is the only example of this type of site in Ridges Basin.

In addition to extramural contexts, burials in the North-central Cluster occurred in association with pit structures. At 5LP185, the fill of Feature 3 contained the remains of two individuals: a subadult and an adult female buried with seven pots and 52 olivella shells. Another adult female in an extramural context was associated with 26 items, including faunal items, olivella shell beads, and numerous pots and flaked stone items. In terms of burial item frequency, diversity, and exoticness, these are two of the richest burials in the project area (along with a burial at Sacred Ridge that was comparably rich).

5LP237, by contrast, contained the only examples of both interment on a pit structure floor and haphazard burial in an extramural pit. On the floor of Feature 2 (a pit structure), the remains of a single male were observed lying atop a yucca and feather blanket. The skeletal elements exhibited varying degrees of burning, the patterning of which suggested this individual had been lying on his left side when the structure burned. Possible associated funerary objects were a coiled basket near the head, two projectile points, and one piece of obsidian, although these also could have been in situ floor artifacts. The projectile points could have caused the individual's death, and it is possible these remains represented a violent act, rather than a burial, after which the house burned down around the dispatched individual. This type of treatment of human remains has been documented on Blue Mesa at 5LP379 (Fritz and Honeycutt 2003) and, interestingly, at two other sites (5LP236 and 5LP481) in the northeastern part of Ridges Basin (Chuipka et al. 2008; Fuller 1988a). Root (1969:107) notes the burned remains of an individual on the floor of what SWCA later termed Feature 3 at 5LP236, and Fuller (1988a:138) describes the remains of a child on the floor of a pit structure at 5LP481. Although accidental death is possible in these cases, the concentration of these remains in a particular portion of Ridges Basin suggests the possibility that the pit structures were intentionally burned down over individuals who had suffered a violent death.

The Western Cluster

The Western Cluster was a group of nine Pueblo I habitations on each side of Basin Creek in the west end of Ridges Basin (see Figure 11.4). The main concentrations of houses were in two areas: one on a wide ridge terminus north of Basin Creek and one on a series of low hills west of the Sacred Ridge site just south of Basin Creek. Several of the sites in the Western Cluster contained multiple-habitation units, including 5LP184, 5LP244, 5LP246, 5LP248, and 5LP511. The other sites in the cluster (5LP510, 5LP536, 5LP549, and 5LP614) consisted of single-structure habitations. Tree-ring dates from 5LP244 are the latest recovered from Ridges Basin and date to A.D. 809 (see Chapter 8).

[3] These are conservative figures that do not include isolated human remains or remains out of primary context, which were very numerous at 5LP185.

Thirteen pit structures were investigated in the Western Cluster sufficiently to examine architectural variation among them (i.e., at least half of each structure was excavated). Plan shapes were highly variable in this group of sites (Figure 11.8). Four were subrectangular; three were roughly D-shaped; three were circular or oval; and three were square. Floor areas ranged between 10 m² (Feature 3 at 5LP511) and 41 m² (Feature 1 at 5LP184), with an average floor size of 22 m².

Several abandonment modes were evident in these structures. Most structures (n = 11) were dismantled and salvaged to some degree. Nine of these were unburned, and most were left to fill naturally; only two contained post-occupational refuse. Two structures were dismantled, partially salvaged, and then burned. Neither of these structures had post-occupational cultural fill, but one contained a dog burial on the floor, which appeared to be part of the closing ritual for the structure. Finally, three structures were thoroughly burned and not salvaged at all. Two of these structures were at 5LP246 (Features 2 and 26) and one was at 5LP244 (Feature 15). All three contained intact floor assemblages, suggesting the possibility of catastrophic or accidental burning. However, these structures represented the likeliest ritual structures in the cluster. Two of them were some of the largest structures in the cluster, one of which contained a sipapu, and the third was one of the smallest. This small structure, Feature 26 at 5LP246, was interpreted as a specialized ritual structure based on its unusual size and unusual artifact assemblage, including numerous pipes, textile fragments, and an effigy vessel (Yoder and Lowe 2008:130). It seems possible that the burning of these structures was related to their ritual function.

Pit structure subfeatures were fairly uniform in this group of structures. Of the 13 pit structures excavated and documented, 11 had benches, wing walls, and a four-post roof support system. No structure had more than four roof support posts; the six-or-more-post roof support system appears to have been present only in the North-central and Eastern clusters (see Figure 11.4). (It is absent from the Sacred Ridge site, as well [see below].) In addition, Western Cluster structures commonly contained coped hearths (n = 9). Rare in these structures, however, were capped features (n = 3), sipapus (n = 2), stringer posts (n = 2), and bifurcated ventilators (n = 2). As Yoder (2008:297) notes,

> four main support posts set into the floor and the absence of stringer posts were very common. Only one pit structure in the group, Feature 1 at 5LP511, contained a full row of stringer posts set against the back of the bench. This secondary roof support system is more familiar in the North-Central Cluster and at the Sacred Ridge Site. Vent systems were almost all one-hole vents, with two-hole vents observed at 5LP246 and 5LP511 in pit structures with larger than median floor areas. Bins incorporated into the corners of square-shaped pit structures were also common, as were coped hearths.

Extramural features were present at all Western Cluster sites, and all sites contained surface or pit rooms in addition to at least one pit structure. The next-most-common extramural features were thermal, borrow, and storage pits—all but one site had these features. Middens were present at five of nine sites. And enclosures were observed at only two sites. Surface structures were of two types: pit rooms (n = 14) and surface rooms (n = 54) (see Chapter 10, The House and Household, for descriptions of these features). Many of these were exposed by backhoe stripping and were not excavated. All but one site had surface rooms; 5LP246 had only pit rooms (n = 5). In general, all these features were ephemeral, poorly preserved, and not contiguous in their arrangement. The exception was 5LP536, which had 10 well-preserved, contiguous rooms, of which four were at least half excavated; all contained post holes and were constructed of wood and adobe. One contained a hearth. The rooms appeared to have been built in stages. An abundance of oxidized adobe on the surface and subsequently uncovered during excavation indicated that all the rooms had been burned.

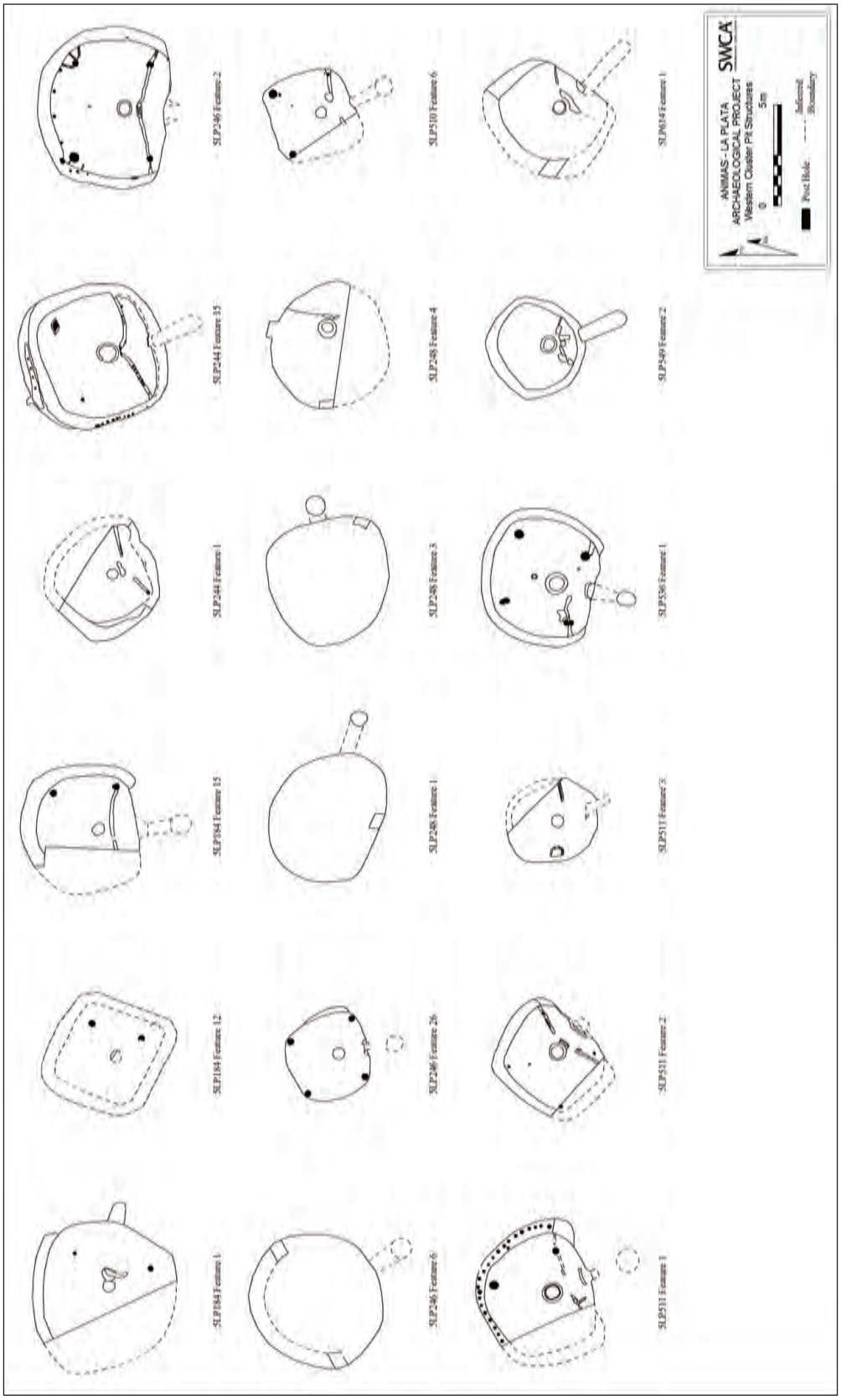

Figure 11.8. Plan maps of excavated pit structures in the Western Cluster.

Unlike the Eastern and North-central clusters, where most burials were in extramural areas, Western Cluster burials occurred most frequently in association with architecture. Of 18 interments, five were in pit structure fill and five were found in pit rooms. The pit room burials were at 5LP184; the pit structure fill burials were at 5LP511 and 5LP246. One of the pit room burials, that of a male, was considered a rich burial (Potter 2010b) because it contained 13 items, including a variety of minerals and a trough metate. The extramural burials were at 5LP246 (n = 2) and 5LP248 (n = 6).

The Sacred Ridge Site

SWCA defined 10 loci at the Sacred Ridge site (Figure 11.9) (Chuipka 2009). With the exception of Locus 10, each locus contained at least one pit structure, remnants of surface architecture, human remains, and midden deposits. Twenty-two pit structures were identified and excavated. Eight of the nine habitation loci at Sacred Ridge contained more than one pit structure, and in each case, evidence suggested that these pit structures were sequentially occupied and that pit structures in close proximity were not contemporaneous. However, enclosures in Loci 3, 7, and 8 surrounded both the earlier (trash-filled) pit structures and the latest pit structures, suggesting that the pit structures had been contemporaneous for a time (Figure 11.10). Locus 6 contained only one pit structure, Feature 49, which was the largest structure in the project area and may have functioned as a community-level ritual structure in the mid to late A.D. 700s.

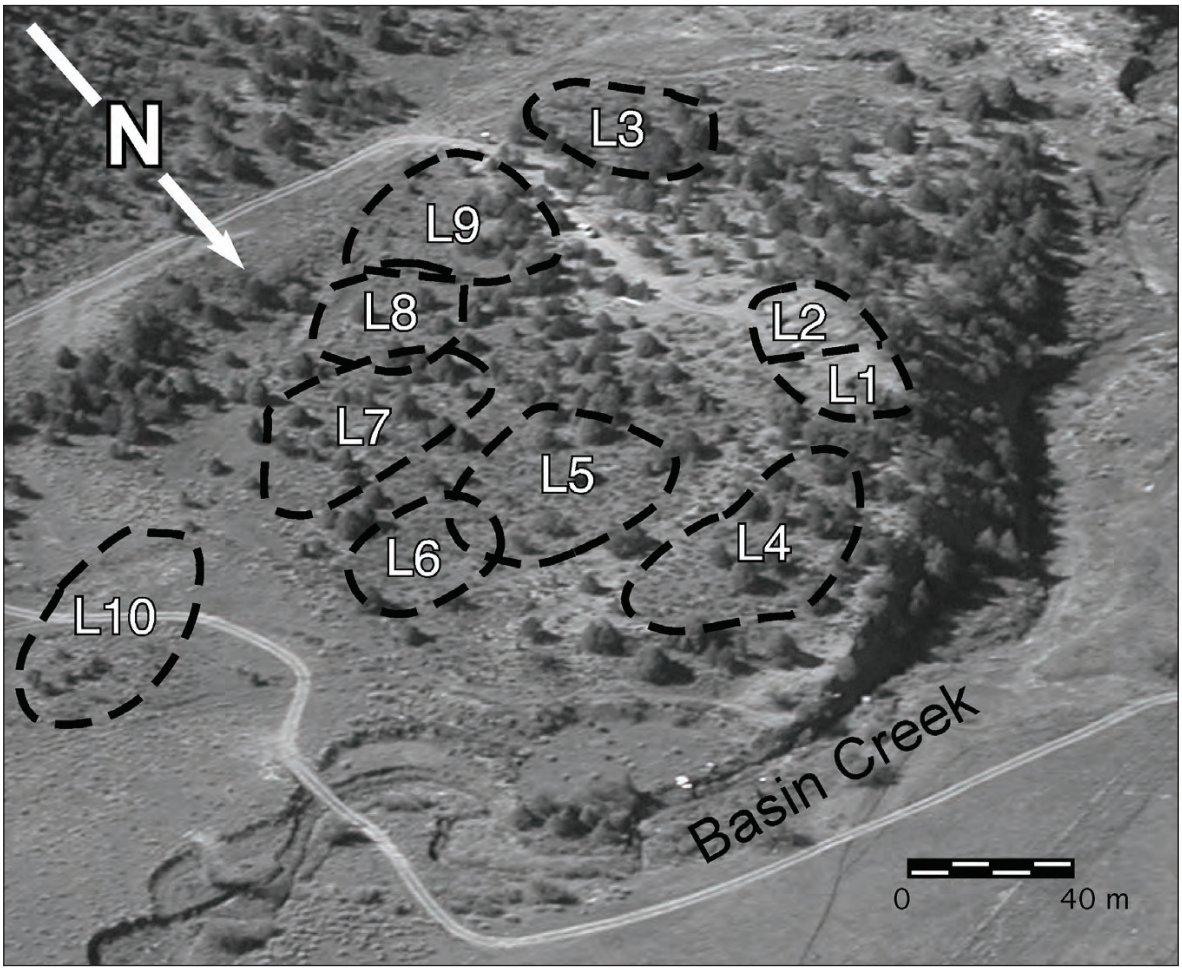

Figure 11.9. Aerial photograph of the Sacred Ridge site with Loci 1–10 delineated.

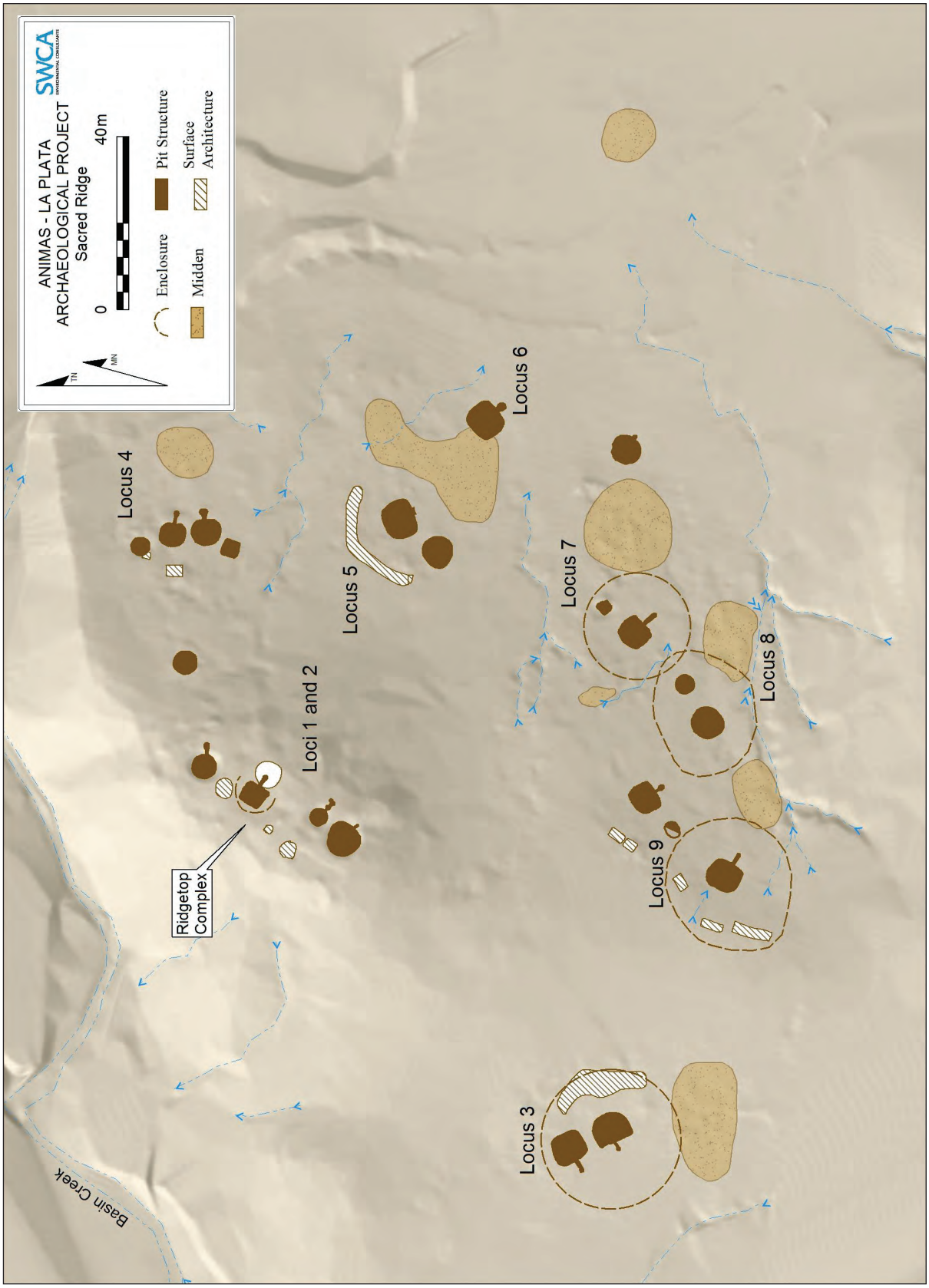

Figure 11.10. Map of the Sacred Ridge site.

Sacred Ridge had perhaps the longest occupation span in the basin, beginning sometime around A.D. 700 and ending sometime shortly after A.D. 803. (5LP185 may have had a similarly lengthy period of use, but it apparently went out of use a habitation site in the early to mid A.D. 700s, at which point it was transformed into a cemetery.) Three building sequences were evident at the Sacred Ridge site (Figure 11.11); each involved the construction of new structures and, with the exception of the earliest phase, the abandonment or reconfiguring of earlier structures. Based on radiocarbon dates, the earliest phase of occupation (Building Sequence 1) involved Features 1, 18, and 23 on the ridgetop (Table 11.2). These dates were recovered from annuals and have intercepts in the late A.D. 600s. In addition, Feature 179, immediately below the crest of the ridge, was filled with refuse and is thought to be comparable in age with these early features. Although other structures at the site may have been in use during this initial phase, there is little evidence to suggest it. This early occupation appears to have begun in the late A.D. 600s or early 700s and lasted until about 750, when the site became more intensively occupied.

The middle phase of occupation (Building Sequence 2, A.D. 750–780) involved the construction of multiple pit structures across the eastern and southern slopes of the site. The largest pit structure, Feature 49, was also built during this period and may have functioned as a community-level ritual structure. Many of these structures contained post-occupational cultural refuse, indicating the existence of later habitation structures at the site.

At some point between A.D. 780 and 800, the last phase of occupation, Building Sequence 3 began. Building Sequence 2 pit structures were vacated and salvaged, and were then either used as trash receptacles or were left to fill naturally. Relatively large pit structures (Features 41, 58, 89, 117, and 134) were built during this phase, most often immediately adjacent to the structures that had been dismantled. At roughly the same time, new structures were added to the top of the knoll, and others were remodeled. The Feature 23 pit structure was de-roofed and altered to serve as an entryway for newly constructed Feature 2 (a domed, circular structure). Feature 16 (a tower), Feature 17 (an enclosure), and Feature 19 (a fourth pit structure) were constructed on the ridgetop. By approximately A.D. 810, all structures in use, including those on the ridgetop, were burned, and Sacred Ridge was entirely depopulated.

Like the structures in the Western and North-central clusters, plan shapes of Sacred Ridge structures are highly variable (Figure 11.12). Of the structures excavated enough to permit documentation of shape, five were circular or oval, five were subrectangular, three were D-shaped, and two were square. The size of structures varied widely—Sacred Ridge had both the smallest and the largest structures in the project area. Floor areas ranged from 10 m² (for Features 60 and 89) to 42 m² (for Feature 49) with an average of 27 m², the same as the North-central Cluster average and larger than the average (22 m²) for both the Western and Eastern clusters.

Table 11.2. Radiocarbon Dates from Features 1, 18, and 23 at the Sacred Ridge Site

Analyst's Sample Number	Locus, Feature Number	Conventional Radiocarbon Age (years B.P.)	2-sigma Calibration	1-sigma Calibration
Beta-197185	Locus 1, Feature 1 (pit structure floor)	1440 ±40	A.D. 550–660	A.D. 600–650
Beta-197187	Locus 2, Feature 18.05 (hearth)	1310 ±40	A.D. 650–780	A.D. 670–720
Beta-197188	Locus 2, Feature 18.06 (bell-shaped pit)	1320 ±40	A.D. 650–780	A.D. 660–710
Beta-197189	Locus 2, Feature 23.06 (pit)	1330 ±40	A.D. 650–770	A.D. 660–700

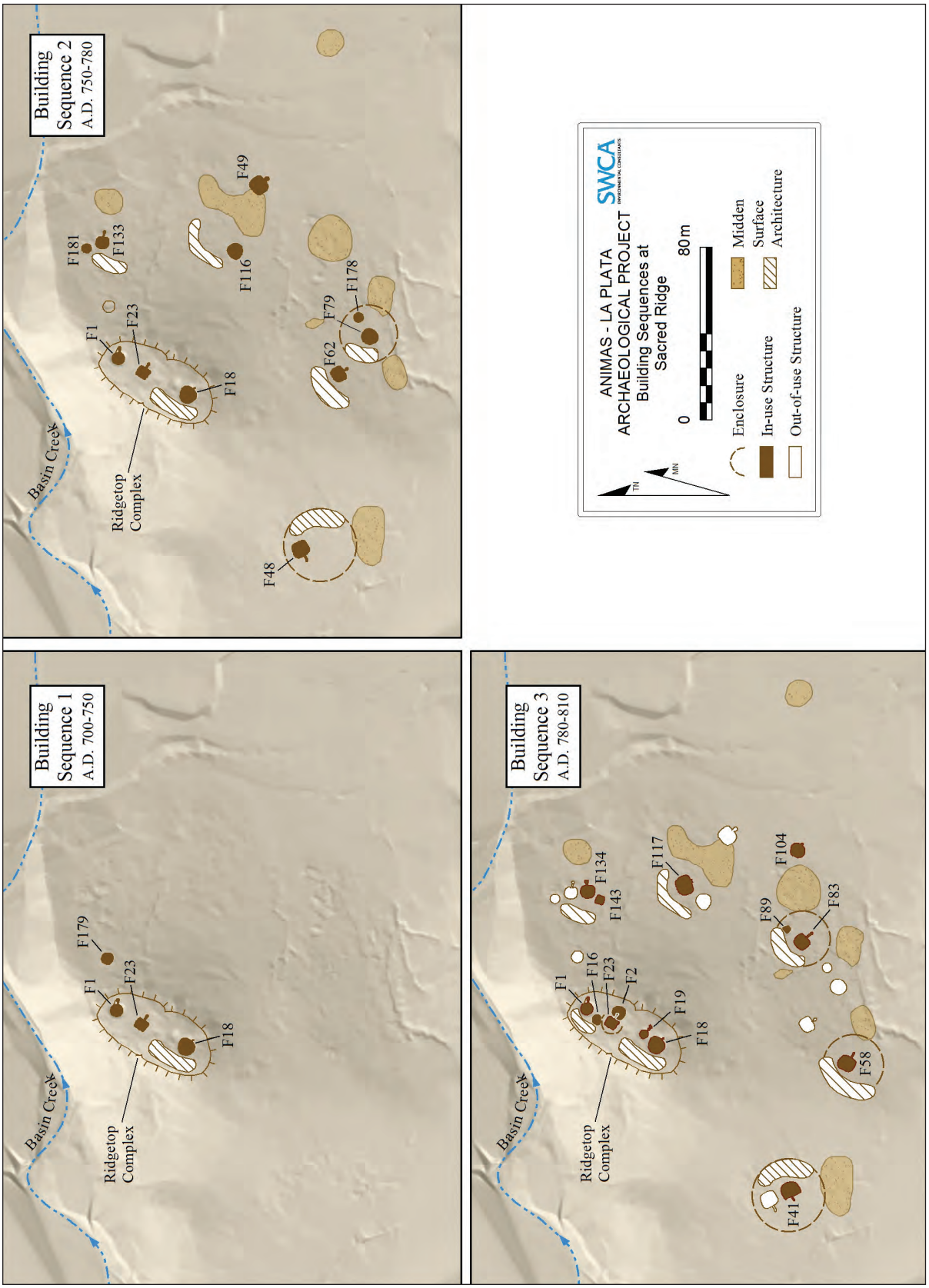

Figure 11.11. Maps showing the pit structures associated with Building Sequences 1–3 at the Sacred Ridge site.

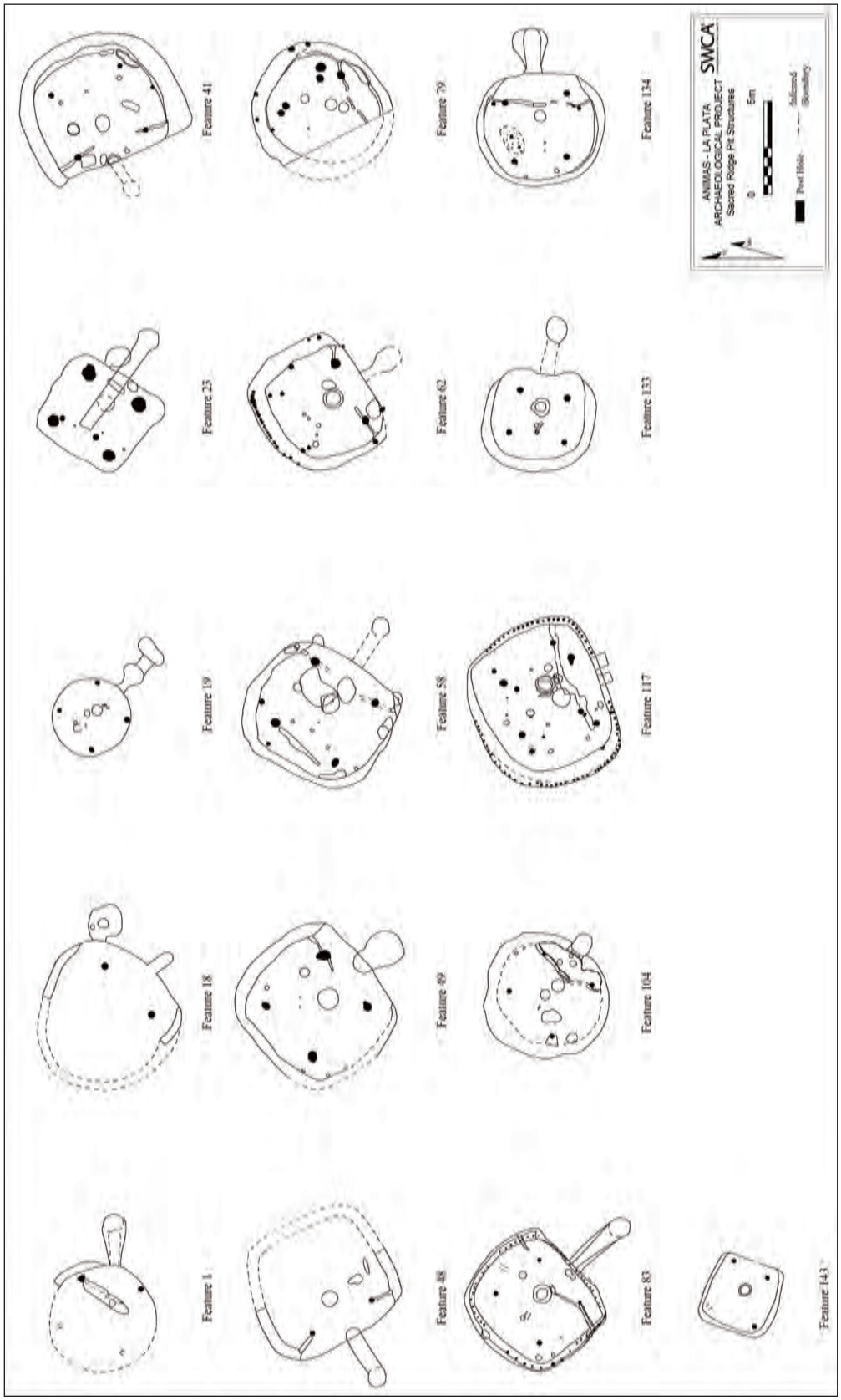

Figure 11.12. Plan maps of excavated pit structures at the Sacred Ridge site.

Four types of pit structures were defined at Sacred Ridge based primarily on size (Chuipka 2009:355–358; Potter and Chuipka 2007a) (Figure 11.13). These types also correlate with abandonment mode (see below). Type I structures were the smallest; similar structures have been referred to as "pocket pit structures" (Potter and Chuipka 2007a; Wilshusen 1988b). Sacred Ridge had two Type I pit structures (Features 60 and 89); each was less than 4 m in diameter and approximately 1 m deep. Feature 60 contained a small floor vault, and Feature 89 contained a hearth. Neither structure had wing walls, interior support posts, a ventilator tunnel, or other features characteristic of larger structures at the site. Each of these Type I pit structures had roofed areas of less than 13 m², and both had been filled with trash, indicating that they were vacated early in the site occupation. It is thought these structures were short-term habitations used as temporary residences during the construction of larger, more permanent structures.

Six medium-sized pit structures (Features 19, 23, 133, 143, 169, and 181) were designated Type II pit structures. These pit structures measured between 4 and 6 m in diameter and up to 2 m deep. All of these pit structures had roofed areas no greater than 30 m². These pit structures compared favorably in size with the pit structures of the late A.D. 700s in the Dolores area (Wilshusen 1988b:600) and with Pueblo I pit structures in the Navajo Reservoir area (Eddy 1966; Sesler and Hovesak 2002; Silverman et al. 2003), which measured on average less than 25 m² in floor area. Typical attributes of Type II structures at Sacred Ridge were wing walls, single-hole ventilators, benches, substantial hearths (often collared), and a four-post roofing system. These structures are interpreted as year-round domestic residences.

Type III pit structures measured between 6.0 and 7.5 m in diameter, had roofed areas greater than 30 m², and had floor areas greater than 25 m². In addition, several of these structures had a single, conical, plastered floor pit offset from the hearth. These conical pits have been recorded only at Sacred Ridge, and their function is unclear (see Chapter 10). Ten Type III structures (Features 1, 18, 58, 62, 79, 83, 104, 116, 134, and 179) were identified at Sacred Ridge.

Type IV pit structures were the largest, and similar types of structures have been described as "oversized" (Kane and Robinson 1988; Wilshusen 1988b). Four pit structures of this type (Features 41, 48, 49, and 117) were present at Sacred Ridge, and each measured at least 7.5 m across and 2.0 m deep, with a floor area of at least 34 m². The total roofed area, including the bench, exceeded 50 m² in all four Type IV structures. As did the Type II and Type III pit structures, Type IV pit structures typically had wing walls, benches, one-hole ventilators, four roof support posts, and hearths. And, as did the Type III pit structures, each Type IV pit structure had a plastered conical pit of unknown function offset from the hearth. One of the largest of these pit structures (Feature 49, see Figure 11.13) was unique in that it had a ventilator entryway and no associated midden, and it was isolated from other contemporaneous pit structures. The isolated nature of the Feature 49 pit structure, the lack of domestic trash associated with its use, its large size, and its unique ventilator entryway suggest a communal, ritual use for the structure. Unlike the oversized pit structures at McPhee Village near Dolores (Kane and Robinson 1988; Wilshusen 1988b), the oversized structures at Sacred Ridge had few floor features, maximizing the usable floor space in each.

The ways in which pit structures were abandoned closely correlates with pit structure size (Chuipka 2009:359). Discontinuation of the Type I and Type II pit structures as habitations involved the removal of the domestic assemblage and the subsequent disassembly of the roof. Most of these unburned structures were then used as refuse areas, suggesting that they had been vacated for some time before the site as a whole was depopulated. For Type III structures and all Type IV structures except Feature 49 (the isolated pit structure), the occupants deliberately burned the structures and did not salvage the roof timbers.

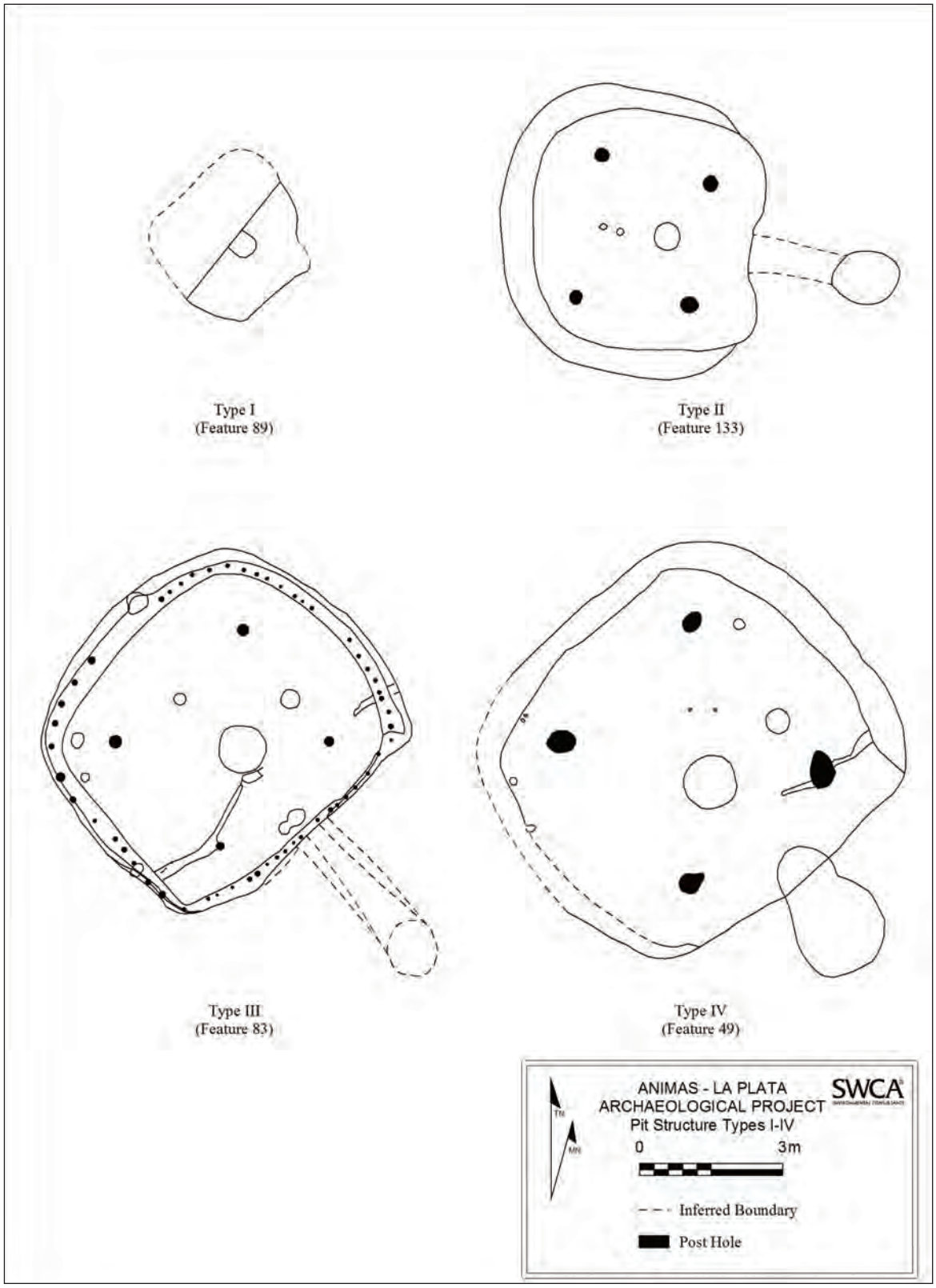

Figure 11.13. Pit structure plan maps representing pit structure Types I–IV.

Several of the Type III and IV structures had fragmentary human remains on the floor surfaces (Features 58, 83, and 104) or in the floor fill (Features 49, 79, and 134). These remains differed from those found in association with pit structure floors in the North-central Cluster in that they had undergone a certain level of perimortem processing (Chuipka 2009:216, 354). The most extensive deposit of fragmented bone was observed in the fill of Feature 104. These fragments were evidently processed elsewhere before being deposited into the de-roofed pit structure (see Chapter 15, Ritual, Social Power, and Identity).

One Type IV structure, Feature 41 in Locus 3, had the remains of a domestic dog on its floor. The skeletal elements were articulated, suggesting that the dog had been deposited soon after its death and most likely in conjunction with the intentional burning of the structure. The entire carcass was covered with sandstone slabs.

Sixteen pit structures were excavated sufficiently to record the presence or absence of subfeatures. All but two had a four-post roof support system; three of these had a secondary roof system of stringer posts set in the bench (see Figure 11.12). The two exceptions were the two Type I structures (Feature 60 and 89), which had posts (presumably four) on the surrounding ground surface. Thirteen structures had benches, 10 had wing walls, and eight had deflectors. In seven pit structures, wing walls were integrated with the deflector to form a continuous partition across the southeastern third of the structure floor. Ten of the pit structures lacked deflectors, and several of those had modified ventilator tunnel openings that likely served this function. Only one structure at Sacred Ridge, Feature 104, had a two-hole ventilator, but three other structures had unique ventilator entryways: Feature 49 in Locus 6 and Features 133 and 134 in Locus 4. A corner storage bin was found in Feature 104, but this type of feature was absent from all other pit structures.

Hearths were the most common non-architectural feature in Sacred Ridge pit structures—only Feature 60, a Type I pocket pit structure, lacked a central hearth. Only three of the hearths at Sacred Ridge were coped, a stark contrast with Eastern and Western cluster structures where most of the structures (approximately 75% in both cases) had coped hearths. Coped hearths were less common in the North-central Cluster. Twelve pit structures at Sacred Ridge had possible sipapus; this number equals the total number of sipapus found in all the other pit structures in Ridges Basin combined. In addition, filled or capped features were recorded in most structures (n = 14), suggesting that the occupants' move out of these structures was planned. Almost all structures exhibited remodeling in some form; most commonly the central hearth appeared to have been reworked. The level of remodeling at Sacred Ridge is unparalleled elsewhere in Ridges Basin. Indeed, four structures were completely dismantled and rebuilt; three were re-roofed; and one (Feature 23 in Locus 1) was de-roofed and converted into an entryway to a surface structure. This pattern is indicative of the longer occupation span of Sacred Ridge compared to that of other clusters in the basin, particularly the Eastern Cluster. Finally, Sacred Ridge structures were distinguished by the presence of conical pits in five structures. These features were exclusive to Type III and Type IV structures, and all were offset from the hearth (see Figure 11.13 for examples), were plastered, and contained clean fill. Their function is presumed to have been ritual in nature.

Although extramural features were present in every locus except Locus 10, they were found in relatively small numbers. No more than three extramural pits or hearths were found in any one locus, and these features were often in close proximity to the surface rooms and pit structures, suggesting that most activities took place inside the pit structures.

Surface rooms were present in all loci except Locus 10. Most of them did not have interior features. Surface structures that contained hearths, and which are therefore inferred to have functioned as living spaces, were identified only in Loci 2 and 9. These living rooms were accompanied by rooms without hearths that were likely storage rooms.

Five enclosures were uncovered on Sacred Ridge, one each in Loci 1, 3, 7, 8, and 9 (see Figure 11.10). All five enclosures originated at the surface rooms and surrounded the pit structure, separating it from the midden. The enclosures at Loci 3, 7, and 8 each surrounded two sequentially occupied pit structures. Evidence for each of these enclosures consisted of a linear stain measuring 15–18 cm wide, likely the remnant of a small trench or series of sockets for posts and brush. No individual posts were visible in these enclosures. These four partially defined enclosures are inferred to have enclosed areas measuring between 486 and 812 m². A fifth enclosure (Feature 17 in Locus 1) differed from the other enclosures in that it consisted of 25 individual post holes, three possible post holes, and surface staining in a C-shaped arc around the unroofed Feature 23 pit structure. This feature also enclosed a much smaller area (70 m²).

In addition to the common suite of features seen in other habitation clusters in Ridges Basin, Sacred Ridge had several unique features. Activity Area 3, also referred to as the ridgetop complex, occupied the central portion of the ridge and consisted of four distinct architectural elements: a circular surface structure (Feature 2), a remodeled pit structure (Feature 23) and plaza enclosure (Feature 17), and a feature that is inferred to have been a tower (Feature 16) (Figure 11.14).

Feature 16, the tower structure, is interpreted as having been more than a single story high based on three lines of evidence: 1) the volume of burned adobe associated with the feature, 2) the number and arrangement of post holes, and 3) the size of the timbers that the post holes would have held.

The first line of evidence—the volume of burned adobe—was determined in several ways. This portion of the ridgetop had been entirely shovel-scraped by Homer Root and the Fort Lewis College field school in 1966. Root removed up to 60 cm of fill from Locus 1, and SWCA's later examination of his backdirt off the ridgetop adjacent to Feature 16 found that it contained a large volume of burned adobe fragments. SWCA shovel-scraped and mechanically stripped this area in 2003, removing an additional 20 cm of adobe and overburden and exposing a circular concentration of adobe 15 cm thick. Excavation revealed that the concentration was contained in a shallow basin with an unprepared floor. The mound of burned adobe associated with Feature 16 is estimated to have been at least 80 cm thick prior to disturbance, suggesting a substantial superstructure.

Second, four primary post holes spaced less than 2 m apart in the floor basin and 15 secondary post holes surrounded the perimeter of the basin. The large interior posts were the roof supports, which appeared to have been buttressed by the smaller secondary posts that also constituted the structure's walls. Typical surface rooms in the region have similar floor areas but have only four roof supports at most. Thus, Feature 16 contained nearly five times as many post holes as the typical surface room.

Third, the post holes were large relative to the floor area. The interior post holes were more than double the diameter and depth of those recorded in any other surface structure in the project area, and were even larger than those recorded in pit structures, such as Feature 19 in Locus 2. The four primary post holes in Feature 19 averaged 24 cm in diameter and 21 cm in depth, less than 60 percent of the size of the interior

supports of Feature 16, the tower structure. The Feature 19 pit structure chamber was at least 1.6 m deep, and the primary roof supports would have been at least that tall and probably taller. Because the Feature 16 post holes were significantly larger than those in Feature 19, it is assumed that they held posts of greater size. In other words, the Feature 16 primary posts could have extended 1.6 m or more above the floor surface. The secondary post holes that surrounded the floor basin were similar in size to those found in some surface rooms, but were far more numerous and more closely spaced. It is thus possible that these posts supported not an expansive roof but a tall structure. Potter and Chuipka (2007a) suggest that Feature 16 was at least 4 m high (Figure 11.15).

Feature 2 was a circular surface structure that appeared to have had a domed pole-and-mud roof. The structure lacked domestic features and artifacts, including hearths and metates, but had a well-prepared plastered floor, suggesting that it was a storage facility. Post holes between inward-leaning double rows of sandstone slabs defined the base of the structure and indicated that it was walled and roofed (Figure 11.16). Ten post holes up to 12 cm in diameter were excavated in the structure's most intact quarter, suggesting that at least 40 such post holes were present. Further evidence for a roof comes from Root, who noted that "burned material" was present in this area of the ridgetop; he concluded that enough fill existed to suggest that what he termed "dance plazas" were enclosed by walls and a roof (Root 1967:24–25). Consistent with Root's observations, undisturbed fill removed by SWCA in 2003 from the feature's southern portion contained burned adobe and charred beam fragments. These materials, combined with the presence of the post holes between the double rows of slabs and the plastered floor surface, strongly suggest that this was an enclosed structure. Projecting the angle of the slabs toward the center of the structure suggests that the roof, presumably constructed of poles and mud, stood between 1.5 m and 2.0 m above the floor surface. At 7.0 m in diameter, Feature 2 would have enclosed an immense space by early Pueblo standards.

Feature 23 initially had been a square pit structure with a four-post roof support system, ventilator tunnel, hearth, and deflector (Figure 11.17). It likely functioned as a domicile until it was extensively altered as part of the Activity Area 3 construction. At that time the superstructure was disassembled, the four primary support post holes were floored over, and the ventilator tunnel was extended into the structure, obliterating all but a small piece of the hearth basin and the edges of the deflector slot. The remodeling of Feature 23 appears to have coincided with the construction of Feature 2, the circular domed structure, which was constructed over what had originally been the exterior end of the ventilator tunnel. Feature 17, a C-shaped post-and-brush enclosure, was built as part of this remodeling event, partially encircling the now-open Feature 23 floor area (Figure 11.18). The final configuration of Activity Area 3 thus consisted of an open plaza with a subfloor entry into the circular domed structure (which we interpret as an oversized storage structure) and the tower structure, Feature 16, immediately adjacent (Figure 11.19).

Forty-five formal burials were recovered from Sacred Ridge. This does not include the large number of processed human remains found in pit structures across the site, nor those remains found out of primary context. Not only did Sacred Ridge have more burials than any other cluster, the Sacred Ridge burials were located in a wider range of contexts, including middens and other extramural contexts (n = 36), pit structure fill (n = 6), ventilator shafts (n = 2), and a pit structure bench (n = 1). Only one burial was inordinately rich. Burial 303, found in the midden of Locus 9, was a male interment that contained 55 items: 34 clear quartz crystals, 20 turquoise inlay tiles, and one piece of hematite (Potter 2010b).

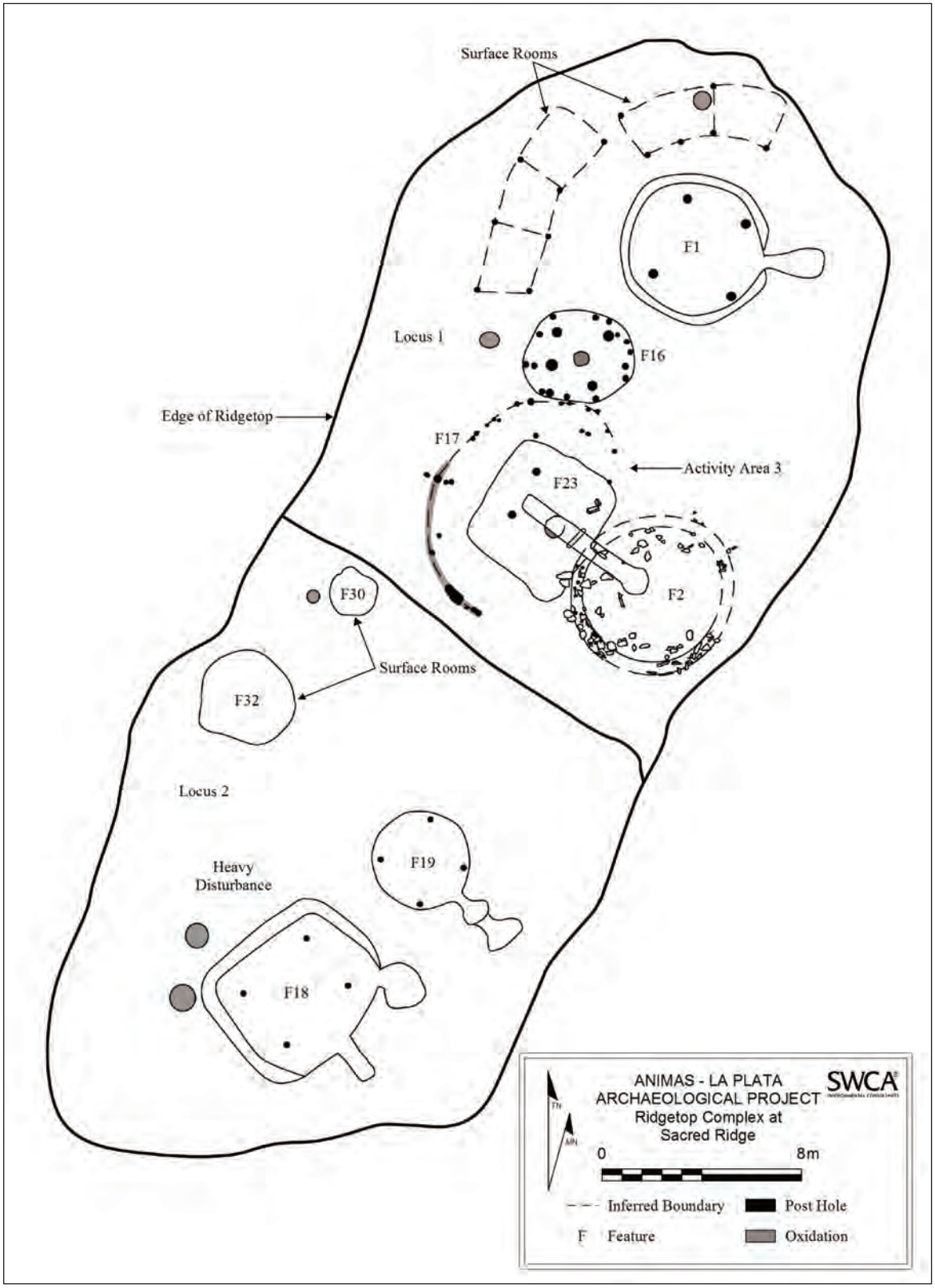

Figure 11.14. Plan map of the ridgetop complex at Sacred Ridge.

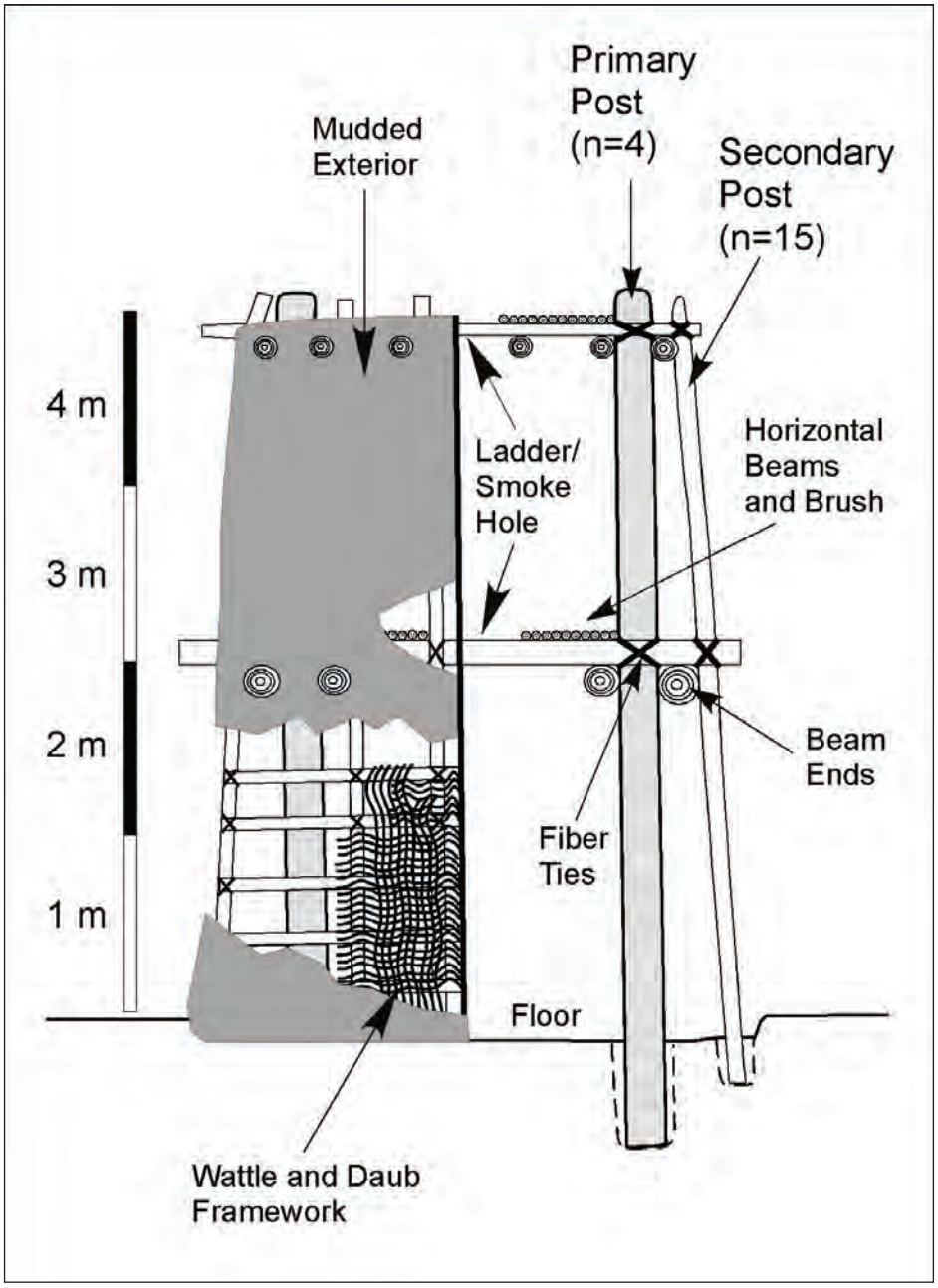

Figure 11.15. Cutaway view showing the proposed construction of Feature 16 at the Sacred Ridge site.

Blue Mesa

SWCA excavated four early Pueblo I habitations at the southern end of Blue Mesa (see Figure 11.4). These sites—5LP2026, 5LP2088, 5LP2089, and 5LP2091—were part of a larger community of habitations, most of which remain unexcavated (Figure 11.20). Prior to SWCA's work, six other sites had been investigated, but only sites 5LP378 and 5LP379 were systematically excavated, documented, and reported (Adams 1982; Fritz and Honeycutt 2003; Gerwitz 1982). Little information exists for the other four sites (5LP1380, BM-4/WA-5, BM-5/WA-6, and B:13:4) (Dean 1975; Duke and Matlock 1999:101; Hibbets 1975). All the investigated sites were on the southern portion of the mesa (Figure 11.20), with the exception of B:13:4 (not shown).

Most of the Blue Mesa sites were habitation sites consisting of a single pit structure, but three (5LP378, 5LP379, and 5LP2026) contained more than one pit structure. In all three of these instances, evidence indicated that the structures had been sequentially occupied (Chuipka and Potter 2007b).

The abandonment mode for the Blue Mesa pit structures varied, as well. In the most common scenario, the structures were cleaned out prior to desertion, with most of the domestic assemblage removed from nine of the 11 documented pit structures. Although all of these structures had artifacts on the floor and bench surfaces, they appeared to have been incidental or low-value items that were purposely not salvaged. Only two pit structures (Pit House 1 at 5LP378 and Feature 4 at 5LP2026) appeared to have been deserted without the roof timbers being salvaged. Both these pit structures had post remnants in the primary post holes and unburned wood fragments in the fill, suggesting that the roof had collapsed over time. Most of the domestic assemblage had been removed from these structures in what appeared to be planned events. Five pit structures had been disassembled with the primary roof support posts removed, most likely for use in the building of other structures elsewhere on the mesa. One of these structures (Feature 2 at 5LP2026) had been systematically dismantled and ritually closed. The four primary post holes had been filled with reddish-brown silty clay once the posts

Figure 11.16. Photograph of a portion of Feature 2 showing inward-leaning upright slabs and post holes indicating pole-and-mud roofing technique.

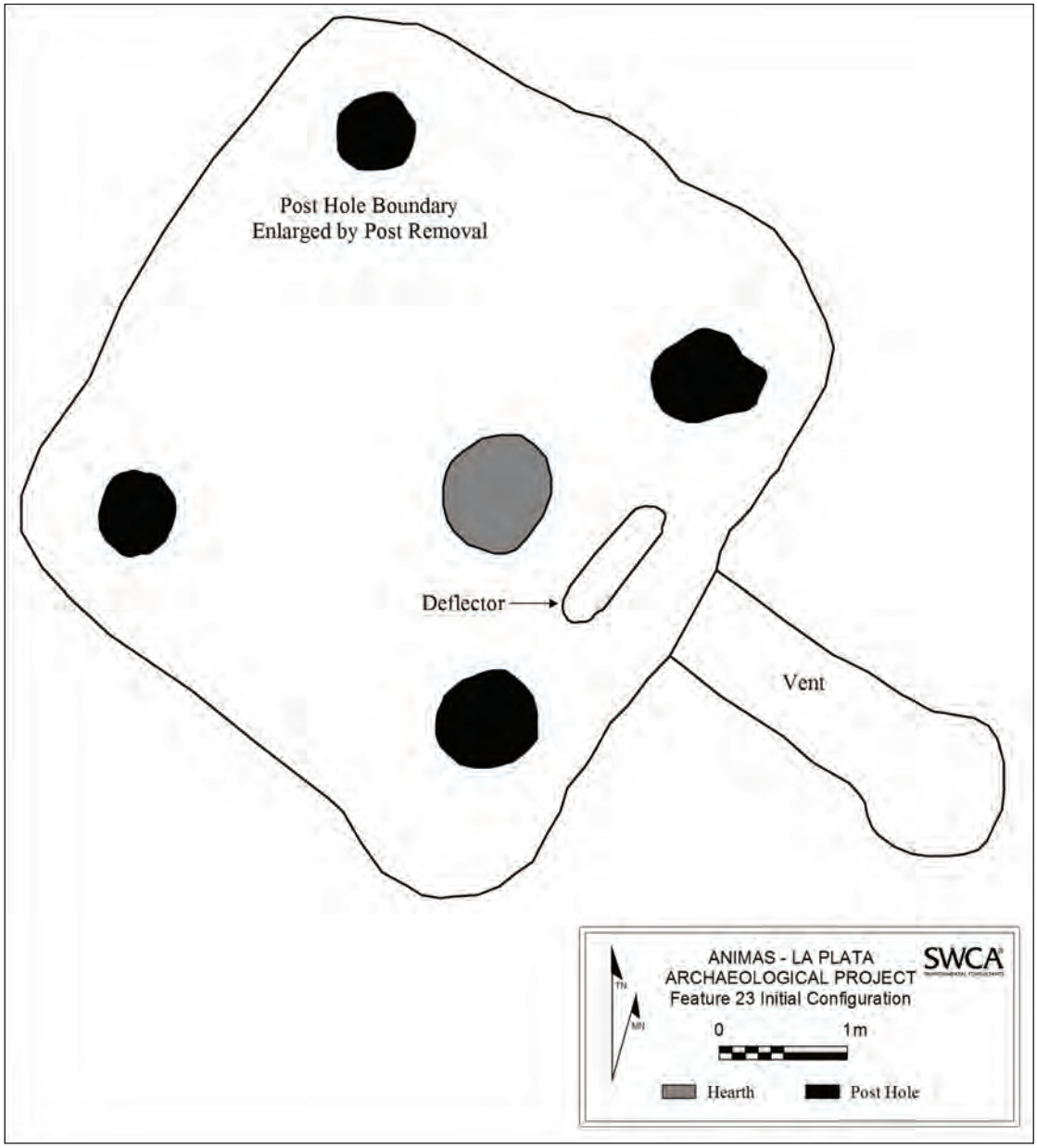

Figure 11.17. Initial configuration of Feature 23 as a shallow pit structure.

were removed. Over the northern primary post hole was a plaited basket containing a mass of charred plant materials. Charred macrobotanical remains and the impression of a basket were on top of the southern primary post hole. The baskets contained a variety of botanical remains, including sagebrush, juniper, piñon, ponderosa pine needle fragments, oak, maize, groundcherry, and purslane. The eastern primary post hole was topped with the base of a plain grayware jar containing a variety of botanical materials, including juniper charcoal, piñon bark, maize cupule fragments, dicotyledon-type stem fragments, and goosefoot/pigweed seeds. The western primary post hole had been filled with approximately 12 cm of gray-green sand. Immediately northeast of this post hole was an unworked nodule of a mineral that was similar in color and texture to the fill material.

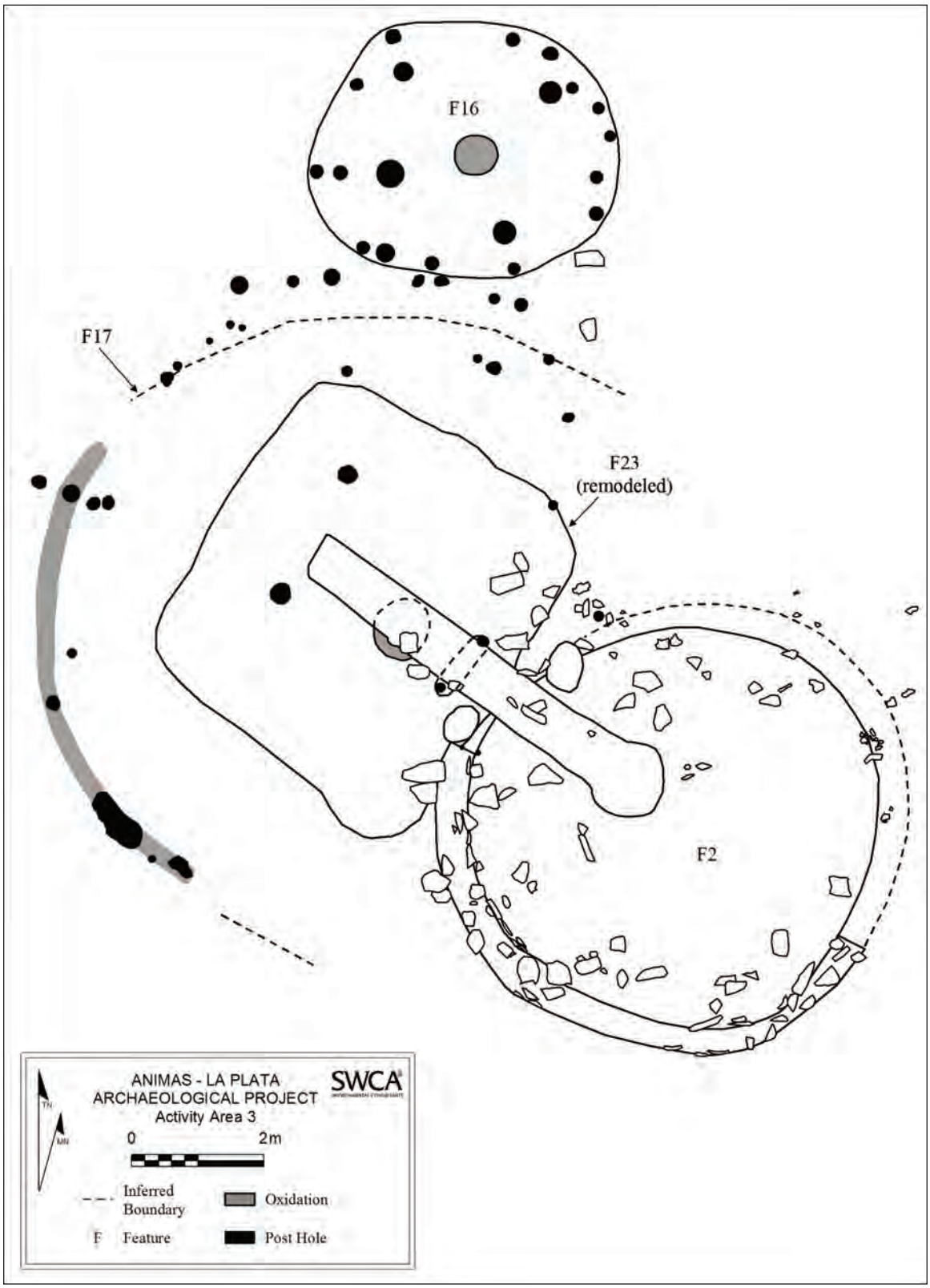

Figure 11.18. Plan map of the final configuration of Activity Area 3.

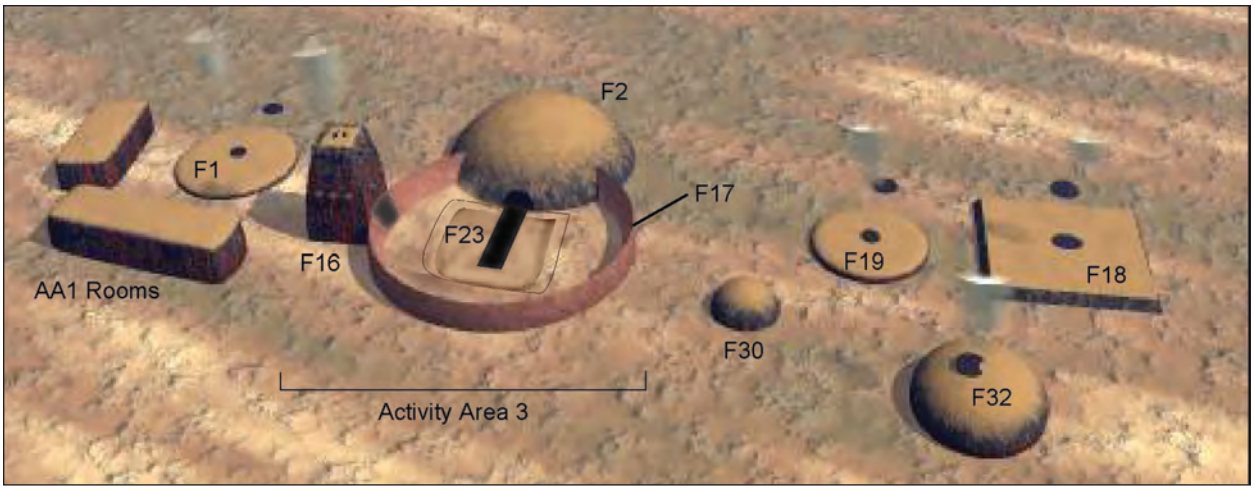

Figure 11.19. Computer-generated reconstruction of the ridgetop complex at Sacred Ridge at approximately A.D. 800, view facing east.

The architecture of 10 pit structures on Blue Mesa has been recorded sufficiently to allow for comparisons (Figure 11.21). Nine of the structures were similar in that they had a roof supported by four primary posts set into the floor surface. Although the pit structure at BM-5/WA-6 initially had a roof supported by four posts, it had been remodeled and the new roof was supported by six posts recessed into the face of the lower wall. The remaining morphological attributes of these structures show no apparent pattern. The structures were subrectangular, D-shaped, oval, or circular in plan, and floor areas ranged from 13.5 m to 32.4 m², with an average of 23.0 m². Three structures did not contain a bench, and ventilator opening styles were nearly evenly divided between bifurcated openings (n = 6) and single-hole openings (n = 5). Seven structures contained a possible sipapu, and seven contained coped hearths. Of all the clusters, the sample from Blue Mesa contained the highest frequency (55%) of double-hole ventilators. Remodeled or capped features were observed in six structures, perhaps indicating that they were occupied longer than structures without such changes. One of the most striking aspects of pit structure morphology was the large variation in the number of non-architectural features (features such as hearths, sipapus, and storage bins not directly associated with roof support or structure ventilation). Seven of the pit structures contained no more than 10 non-architectural features; two contained between 11 and 20; and two had more than 20. Most of the structures with 10 or fewer non-architectural features did not contain remodeled or capped features, suggesting that they were occupied for relatively short periods of time.

All 10 excavated habitation sites on Blue Mesa contained a definable midden, at least one pit structure, and remnants of storage-related surface architecture. In at least four instances, these storage rooms were accompanied by living rooms that contained hearths or artifact assemblages, or both, indicating both food-processing and tool-processing activities. The descriptions of the surface rooms at sites BM-4/WA-5 and BM-5/WA-6 suggest that some were likely used for activities other than storage. An enclosure was observed at Locus 2 at 5LP2026 but nowhere else on the mesa. This enclosure originated at the surface rooms and surrounded the Feature 4 pit structure, separating it from the midden. The cobble apron observed at 5LP2091 may have functioned as an enclosure, defining domestic space around the pit structure (Carlson 1963; Eddy 1966; Silverman et al. 2003). Extramural features were observed at 5LP1380, 5LP2026, and 5LP2091. The small number of extramural features identified at the 10 investigated Blue Mesa sites suggests that most activities were conducted in the pit structures or surface rooms rather than in the open.

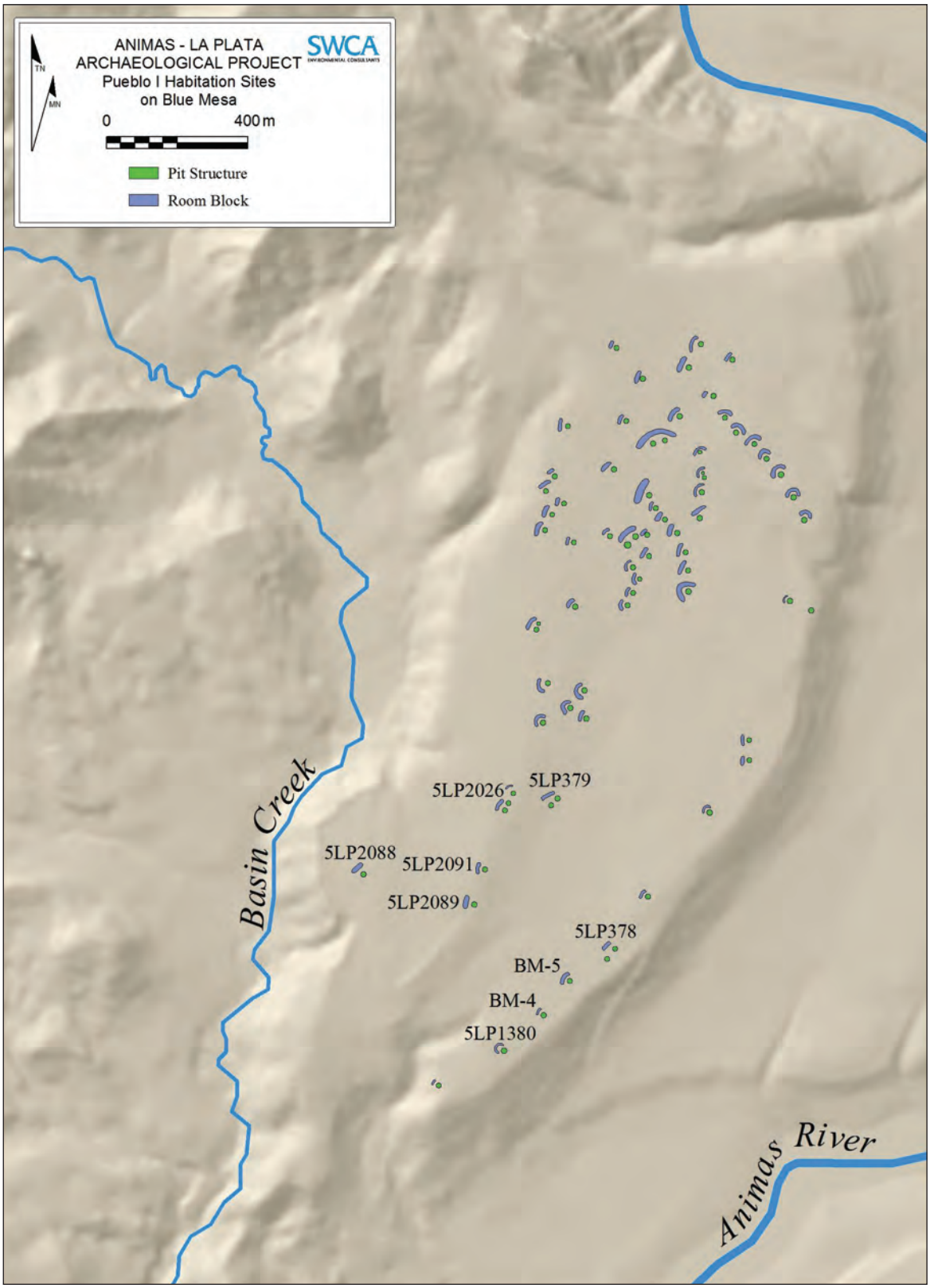

Figure 11.20. Map showing early Pueblo I habitations on Blue Mesa, based on survey and excavation data.

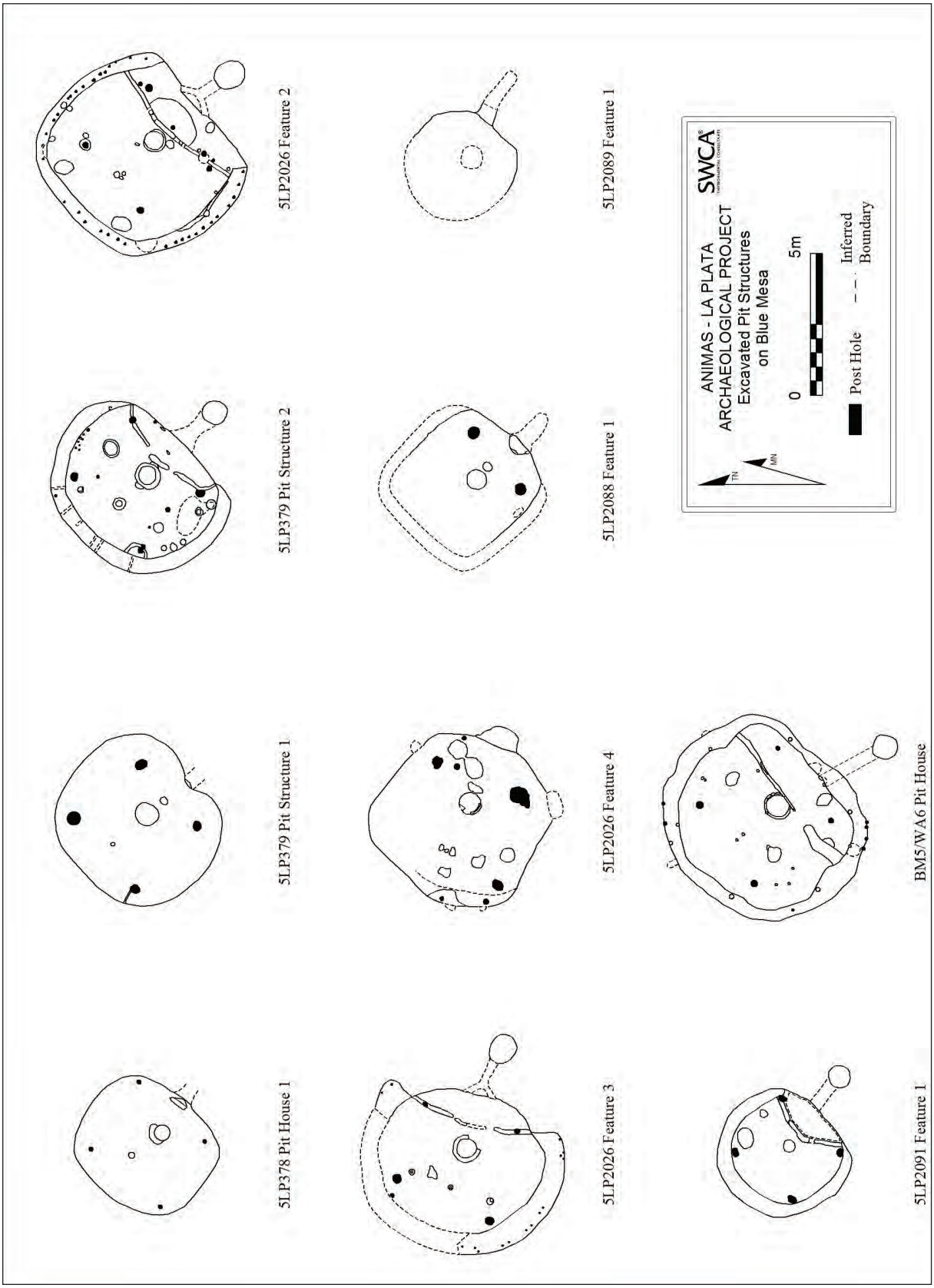

Figure 11.21. Plan maps of excavated pit structures on Blue Mesa.

Two pit structures containing human remains (Pit Structure 2 at 5LP379 and Feature 3 at 5LP2026) were burned when vacated. Both assemblages of human remains exhibited trauma. Pit Structure 2 at 5LP379 was burned down over the remains of a middle-aged woman whose position suggested that she had died where she fell (Fritz and Honeycutt 2003:3-20). A possible cause of death was indicated by a projectile point recovered from the left side of the ribcage and a partial projectile point found on the floor surface adjacent to the body. Feature 3 at 5LP2026 was burned down over the processed remains of a single adult individual of indeterminate gender. Although 5LP379 was evidently occupied after the desertion of Pit Structure 2, the use of 5LP2026 ended with the burning of Feature 3 over the human remains found there. Evidence in the partially filled depressions of Pit House 1 at 5LP378 and Feature 1 at 5LP2091 suggested that these structures had been reoccupied and that the occupation of Blue Mesa continued after they had initially fallen into disuse. The reuse of the depression at 5LP378 was much more extensive than that at 5LP2091 (McAndrews et al. 2000). Feature 2 at 5LP2026 was filled with a large volume of refuse after it was deserted. Pit Structure 2 at 5LP379 appeared to have been deserted for some time before a layer of darkly stained fill containing refuse accumulated in the depression. New pit structures were constructed at both sites after the earlier structures had burned and collapsed. The other nine pit structures had relatively clean upper fill, with most artifacts and debris attributable to post-occupational slump and erosion of surface architecture into the depressions. No evidence was found to suggest that later habitations were built to replace these pit structures, and their desertion appears to have coincided with the terminal desertion of these sites.

SUMMARY

It is clear from this mostly descriptive analysis that while considerable variation was exhibited within each of the designated clusters, particular attributes set the clusters apart from each other. Site occupation sequence and span, ways of constructing buildings and domestic features, and even burials and abandonments served to distinguish the clusters. Some were more than simply spatial clusters and appeared to be the residential areas of culturally distinct social groups.

Table 11.3 summarizes the attributes of the clusters. In general, the Eastern Cluster was distinguished by the consistency of pit structure plan shape and mode of abandonment for these structures; the lack of floor features and high frequency of extramural features, including enclosures and extramural burials; and the common presence of coped hearths. The North-central Cluster had larger structures, on average, and many had been burned at desertion. Also present in this cluster was a number of in situ floor assemblages and burials found in various contexts, including the floor of a burned structure. Most burials were found in one of two extramural burial areas at 5LP185, an early habitation that had been transformed into a cemetery in the late A.D. 700s. The Western Cluster was distinguished by the presence of surface and pit rooms, and by the association of burials with these structures. Sacred Ridge, the largest site, contained unusual architecture in the form of oversized pit structures with sipapus and conical floor pits, and unique architecture on the ridgetop. And finally, Blue Mesa sites had the highest frequency of two-hole ventilators. The following chapter explores these spatial patterns further by quantitatively analyzing the distribution of traits, including artifact categories, in the project area.

Table 11.3. Feature Attributes by Settlement Cluster

Settlement Cluster	Number of Excavated Structures	Occupation Sequence/Span	Mode of Abandonment	Plan Shape	Average Structure Size	Common Architectural Traits	Common Non-architectural Traits	Common Extramural Features	Burials
Eastern	16	Sequential/ short	• All structures salvaged • Animals incorporated into structure at the time of desertion • Few structures burned	Subrectangular	Medium 22m²	• Four-post • One-hole ventilator • Wing wall	• Coped hearth	• Enclosure • Midden • Surface structure	• Common • Double interments • Extramural • Rich females
North-central	15	Sequential/ long	• Complex floor assemblages • Earlier structures salvaged • Later structures burned	Subrectangular Variable	Large 27m²	• Bench • One-hole ventilator • Six-post • Wing wall	• Storage pit	• Thermal pits	• Evidence of violence • Highly variable frequencies and contexts • Most found in cemetery at 5LP185
Western	13	Sequential/ short?	• Most dismantled and salvaged	Variable	Medium 22m²	• Bench • Four-post • One-hole ventilator • Wing wall	• Coped hearth	• Surface and pit rooms	• Associated with architecture • Rich male
Sacred Ridge	22	Sequential/ long	• Capped features • Earlier structures salvaged • Later structures burned • Processed human remains	Variable	Large 27m²	• Bench • Four-post • One-hole ventilator • Stringers • Wing wall	• Conical pit • Sipapu	• Enclosure • Midden • Ridgetop complex	• Variable contexts • Processing of human remains • Evidence of violence • Rich male
Blue Mesa	10	Sequential/ medium	• Earlier structures salvaged • Later structures burned • Remodeled, capped features	Variable	Medium 23m²	• Bench • Four-post • Two-hole ventilator • Wing wall	• Coped hearth • Sipapu	• Midden • Surface rooms	

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