

Architectural Analysis of Sherwood Ranch Pueblo:

Introduction:

The site of Sherwood Ranch Pueblo Q:11:48 (ASM) (Figure 1) represents the remains of a large pre-contact period village in the Mogollon highlands of East-Central Arizona. Situated on a terrace overlooking the Little Colorado River, some 16 miles north of Springerville, Arizona, the site presents evidence of a lengthy occupation of Ancestral Puebloan populations in the river valley. The village is primarily constructed of two styles of stone masonry that reflect two major construction episodes during what is commonly referred to as the Pueblo III and Pueblo IV periods (Kidder 1927). These two different architectural styles also represent corresponding differences in the spatial, and presumably the social organization of the village.

In many ways, the site of Sherwood Ranch Pueblo also represents a cautionary tale in the use of cultural and heritage sites in the American Southwest. From the mid 1980's to mid 1990's, the site of Sherwood Ranch was known as Raven Ruin, and was excavated by the White Mountain Archaeological Research Center (WMARC). WMARC advertised archaeological research vacations that allowed the general public the chance to participate in archaeological excavations. The records of excavation on the site of Sherwood Ranch have not been published or made public in any manner. The location of artifacts recovered during the WMARC excavations is not known.

Two popular media publications, *Talking Pots* (Cunkle 1993) and *Treasures of Time* (Cunkle 1994) indirectly discuss the WMARC excavations of Sherwood Ranch Pueblo. These volumes indicate that the site was likely occupied from sometime near AD 1100 to 1385, and that the site contains extensive intact archaeological deposits. These volumes focus almost entirely upon interpretation of ceramic typology and iconography. Very little information concerning archaeological context, stratigraphy, or chronology is presented.

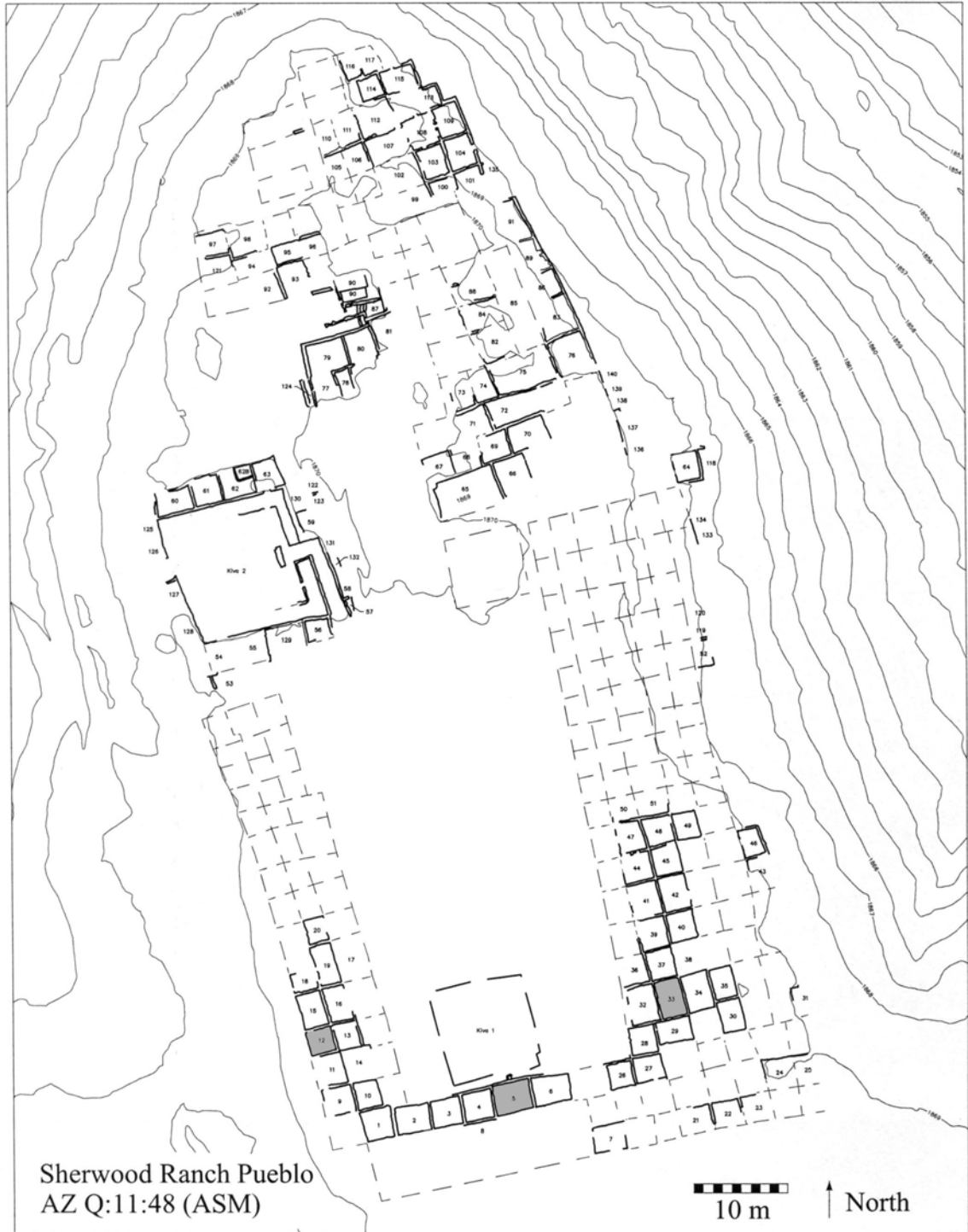


Figure 1: Plan of Sherwood Ranch Pueblo, by Western Mapping Inc. Numbered rooms excavated by WMARC. Dashed lines indicate WMARC's suspected wall alignments. Shaded rooms contained wood with tree-ring dates available (see Table 1).

Lack of access to detailed excavation notes and the missing information on stabilization and reconstruction practices is particularly problematic for those interested in studying the architecture of the village. Observational evidence indicates that portions of the site's walls were reconstructed as it was being excavated, and the techniques employed changed through time. Reconstruction was apparently intended to improve the esthetic experience for people touring the site by providing visitors with examples of pueblo rooms and typical floor features such as hearths and mealing bins. However, the process of reconstruction has obscured much of the information traditional archaeological studies of prehistoric architecture normally rely upon for the generation of meaningful interpretation or analysis concerning the role of the built environment in prehistoric lifeways.

There remains a possibility that detailed excavation records for the site of Sherwood Ranch still exist. Should these records be located and made available for subsequent analysis, a far more detailed and meaningful interpretation of the site of Sherwood Ranch may yet be possible. To these ends, this analysis, conducted by the Center For Desert Archaeology, is being developed as both a traditional architectural report and an interactive website that will draw public attention to the types of missing data currently needed both reconstruct a summary of excavations, and to enhance a general understanding of the prehistory of Sherwood Ranch Pueblo.

In 2002, Wendell and Ruth Sherwood, the owners of the property on which the site of Sherwood Ranch Pueblo / Raven Ruin is situated, terminated the lease agreements with WMARC and the site was donated to the Archaeological Conservancy. The Conservancy immediately sponsored a program of architectural documentation and mapping, conducted by Western Mapping Inc. and in 2003, the site was fully documented and backfilled to ensure the stabilization and long term preservation of exposed archaeological features. A grant from the Arizona Historic Preservation Heritage Fund helped to defray the costs of stabilization, documentation and analysis.

The site of Sherwood Ranch Pueblo was found to be a significant example of ancestral Puebloan architecture with enough remaining integrity to warrant a listing on the National Register of Historic Places. Dr. Andrew Duff and the staff of the

Archaeological Conservancy completed a National Register nomination as part of the Historic Preservation Heritage Fund project, and the site was listed on the National Register in 2005.

Based upon mapping results, WMARC and others excavated portions of 117 rooms at Sherwood Ranch Pueblo. At least 130 additional rooms are indicated by surface evidence. Estimates of total number of rooms at the pueblo range from 250 to 400 rooms.

As part of the Heritage Fund project, most of the exposed rooms at Sherwood Ranch Pueblo were backfilled by the Archaeological Conservancy following the architectural documentation. The site has been dedicated as a permanent archaeological research preserve. The site is now monitored by Arizona Site Stewards. Interested groups can arrange for guided tours of the site by contacting the Conservancy.

This report is being developed as both a written summary of available information concerning the architecture of Sherwood Ranch Pueblo, and a website that will share available information about the site and encourage the public contribution of missing archaeological data. The website is hosted at the Internet address:

<http://www.cdarc.org/sherwood/sr.html> and is intended to serve as a repository for sharing a detailed architectural database, a photographic database and detailed maps (all generated by Western Mapping Inc). In addition, a public interpretive section of the website allows users to explore a digital three-dimensional model of a conjectural reconstruction of Sherwood Ranch Pueblo. It is hoped that long term utilization of the website will encourage members of the public to submit personal notes or photographs concerning their own experiences during excavations with WMARC, and that this information will make possible further detailed archaeological analysis of the site.

The Architecture of Sherwood Ranch Pueblo in Comparison of General Trends and Regional Patterning in Ancestral Puebloan Settlements of the Mogollon Highlands

During the occupation of Sherwood Ranch Pueblo, a dramatic regional shift occurred in the morphology and structural logic of Ancestral Puebloan village forms (Adams 1983, 1996, 2002; Adler 1989; Duff 2001; Haury 1950; Kidder 1927; Longacre

1964; Lyons 2001; Potter 1998; Smith 1952). The primary expression of this transformation is visible in the architecture of most Puebloan villages that were occupied during the transition of what most Southwestern Archaeologists refer to as the Pueblo III (AD 1100-1250) to Pueblo IV (AD 1250-1400) periods (Kidder 1927).

During Pueblo III occupations, overall village forms could best be described as “agglomerative,” (Mills 1998) that is, that once a village was established by the construction of a few central rooms, a process of growth ensued through the periodic addition of rooms or sets of rooms. As village population increased, new rooms were added as necessary to a central block or blocks of existing pueblo rooms. Few specific constraints on the placement of new constructions were employed, other than a general trend for the placement of rooms in such a way that the overall form of the pueblo was oriented towards a front area that was utilized for the construction of ceremonial facilities or ritual areas such as small, unbounded plazas or great kivas.

Changes in village morphology from Pueblo III to Pueblo IV times affected the organization of village space, not just the Mogollon Highlands, but extended across the entire Ancestral Puebloan culture area (Adams 2002; Adler 1989; Haury 1950; Longacre 1964; Lyons 2001; Martin 1950; Potter 1998). One such effect visible in the archaeological record of Pueblo IV period settlements is a dramatic shift, not just in the increased size of villages but also in the way that the private and public spaces were organized. The most obvious change was in the overall village form. The earlier simple patterning of variable, less formal aggregations of buildings changed to a village form that reflected greater planning, organized construction parties and an intentional creation of large open spaces bounded by structures. This pattern has been referred to as the development of plaza-oriented pueblos (See Adams 2002; Haury 1950; Mills 1998; Potter 1998).

At Sherwood Ranch Pueblo, this architectural transformation is evident in the relationship between the two major styles of construction seen in what are commonly referred to as the North and South Pueblos.

The northern half of the pueblo is constructed with a variety of masonry styles that utilized large sandstone boulders, tabular sandstone, and river cobbles as the raw materials for wall construction (see Figure 2). Many of these masonry styles incorporate

decorative elements such as geometric patterning in the placement of differing colored stones (See Figure 3). A large great kiva with an eastern facing entry ramp and associated suites of surrounding rooms defines the southern edge of the northern village space. The southern half of the pueblo is constructed almost entirely of tabular sandstone, (See Figure 4) with rooms arranged in a geometric grid pattern arranged around a central plaza space, containing a single large rectangular kiva on the south side of the plaza space.



Figure 2. Typical masonry wall in Northern Pueblo, utilizing mixed types of stone.

Western Mapping wall type # 6 (see Appendix 1)



*Figure 3: Stone wall from Northern Pueblo utilizing decorative geometric patterning.
Western Mapping wall type # 11(see Appendix 1)*



*Figure 4: Stone wall from Southern Pueblo utilizing tabular sandstone.
Western Mapping wall type # 2 (see Appendix 1)*

Western Mapping Inc. categorized all of the prehistoric masonry exposed by previous excavation at the site, and classified wall segments into 18 types of masonry

walls. The resulting distribution of the wall types as well as a detailed description of the typology used for wall classification is presented in Appendix 1.

Interpretations of the type of architectural transformation evident at Sherwood Ranch pueblo were first generated by Haury (1950) and further elaborated by Adams (1989, 2002). Haury's developmental sequence for Ancestral Puebloan village forms (which are directly reflected in the chronological progression of architecture at Sherwood Ranch Pueblo) has been interpreted as being related to the role of ritual, social integration and population density within the village space itself. During the Pueblo III period, village populations were thought to have been united by the use of socially integrative ritual systems that relied upon the use of great kivas. As long as village populations remained small enough that great kivas could be used to socially integrate village residents, the great kiva represented the primary focus of village ritual or religious life. During the aggregation of Ancestral Puebloan populations during the Pueblo IV period, this ritual system was no longer suitable for village-wide socially integrative ritual as village populations were becoming too large to fit within the confines of the enclosed great kivas (Adams 2002; Haury 1950). Haury hypothesized that the solution to this problem was to replicate the form and function of the great kiva within the morphology of village space itself. Building rooms in a stacked set of tiers surrounding a rectangular plaza then replicated the functional attributes of the spatial order contained within the great kivas. In doing so, space was created for the expression of socially integrative ritual at a scale that could encompass the entire village population (Figure 5).

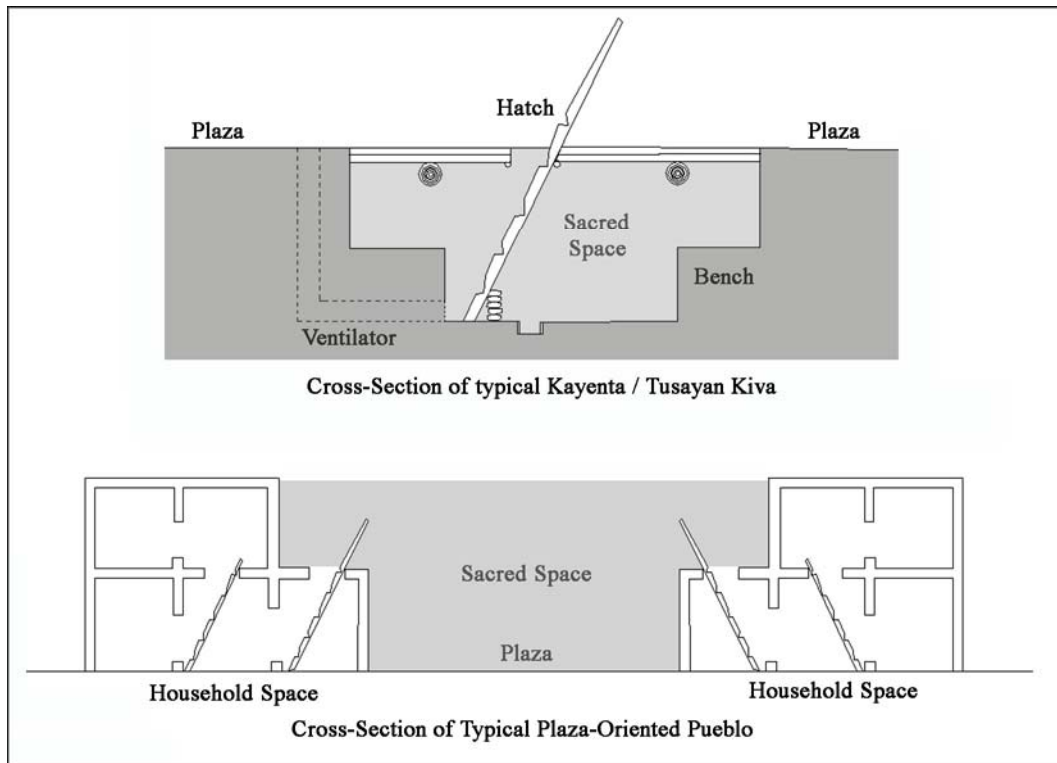


Figure 5. Comparative cross-sections of sacred spaces within kiva and plaza-oriented pueblo spaces. After Beckwith 2002, in Adams 2002.

Adams (1991, 1996, 2002) further refined Haury's interpretation of this spatial transformation, illustrating how these architectural refinements in village form may be a direct result of the development and adoption of the Katsina religion within the watershed of the Little Colorado River.

This transformation in village form creates a number of questions about the nature of the Pueblo III to Pueblo IV transition at Sherwood Ranch Pueblo. What events may have sparked the need for such a complete architectural transition? Did the scalar stress created by in-situ population growth create a need for the adoption of new ritual systems such as the Katsina religion (Adams 1991, 2002) or some type of other Southwestern Cult (Crown 19nn)? Are the differences in construction styles and morphology of ritual spaces indicative of the arrival of immigrant populations from the Kayenta-Tusayan region of northern Arizona (Lyons 2001)? How did this architectural transformation affect the use of the existing architectural spaces within the northern portion of the pueblo? Was the use of the great kiva discontinued after the construction of the central

plaza or did the great kiva continue to be used by specific clans, lineages or phratries for specific ritual functions?

Unfortunately, lacking any detailed data on the excavations of these features, the information that we have left for analysis is quite limited. The only known data available to address these questions is the form and shape of the pueblo rooms, and the construction patterns evident in the pueblo walls. To some degree, even this data is suspect. The process of reconstruction during excavations by WMARC, has obscured much of the basic information needed to explore the questions listed above.

Analysis of the Architecture of Sherwood Ranch Pueblo

Chronology

One of the first tasks in attempting to analyze the architecture of Ancestral Puebloan villages is to establish a chronological sequence of construction. Based upon regional trends in Pueblo III and Pueblo IV architecture, a basic assumption has been made that the northern portion of the village was built in an agglomerative fashion and that this area predates the southern, plaza-oriented pueblo construction. This interpretation is further supported by the presence of cross-dated ceramics such as Reserve Black-on-White and Puerco Red Ware presumably found in trash deposits and floor contact deposits in rooms in the northern half of the village (Cunkle 1994). That the plaza-oriented southern portion of the village was built later can be confirmed by the presence of White Mountain Red Wares such as Four Mile polychrome, Salado Polychromes, and Zuni Glaze Ware, all dated to the Pueblo IV period. Additionally a series of tree-ring dates recovered from the southern half of the pueblo, confirm that construction or remodeling episodes in the south pueblo were taking place as late as AD 1370 (See Table 1).

The range of dates provided by the Laboratory of Tree Ring Research (Dean 1996), are difficult to interpret without detailed information as to the context from which the samples were recovered, but for room number 5, cutting dates seem to indicate that the room was initially constructed sometime between AD 1240-1250. Later cutting

dates could be from two possible sources, first that the later dates indicate a period of remodeling, or that the later dates may reflect the addition of a second story room over the initial room construction, dating to some time around 1370. Earlier, non cutting tree ring samples from this room may represent the re-use of wood, probably from rooms no longer occupied in the northern pueblo. For rooms 12 and 33, we can infer that these rooms were also constructed or remodeled late in the sequence of occupation for the site, but lacking detailed sets of samples this conclusion is tenuous. Once again, as detailed excavation records are missing, we can only interpret this information in terms of possible scenarios for how these wood samples were used at the site.

Table 1 Tree Ring Dates from Sherwood Ranch Pueblo (Dean 1996)

Room Number	Date	Class
33	1359	v
5	1207	vv
5	1208	vv
5	1222	vv
5	1224	vv
5	1237	vv
5	1237	vv
5	1240	++r
5	1241	+v
5	1248	r
5	1267	vv
5	1298	r
5	1327	++v
5	1331	++rb
5	1370	r
5	1370	rg
12	1314	vv

Class Designations: v = subjective judgment that the last exposed ring is near cutting date, vv = no means to determine how far last ring is from true cutting date, r = less than complete sample, but last ring determined to be cutting date, + = on or more rings missing near end of ring series, ++ ring count necessary, b = bark present, g = beetle galleries observed. Cutting dates are listed in boldface font.

As will be demonstrated below, the construction of room 5 is likely linked to the construction of Kiva 1, and that the construction of Kiva 1 was also likely to have been one of the first building activities to have taken place during the design and construction of the rooms that make up the southern pueblo. The tree ring dates for the initial

construction of structure #5 would then place the construction of the southern pueblo to a date around AD 1240-1250, which corresponds to the Pueblo III to Pueblo IV transition.

Wall Superpositioning

An indication of the lengthy occupation of the northern pueblo was visible in the complex architecture and stratigraphy of structure 90. A deep trench was excavated into this structure, apparently revealing a stratigraphy sequence that begins with the construction of a small kiva, shows the intentional filling of that structure, and then the re use of that space by the construction of a pueblo room over the top of this structure. One of the more interesting features of the original kiva were a pair of ceramic vessels, mounted inside of wall niches, so that the vessel openings were flush with the eastern and western walls of the structures. One such vessel was a decorated jar, while the other vessel appeared to be either some type of bird effigy or “shoe pot” vessel (David Gregory. Personal Communication, 2005). Unfortunately both vessels are no longer in situ, and each may have been stolen in-between the time that WMARC ceased excavations at the site, and the time that the property was donated to the Archaeological Conservancy. However, evidence that the kiva had been intentionally filled, and that the space was reused for additional room construction was apparent to Gregory during a tour of the site in 2003. This stratigraphic sequence provides additional evidence that the northern pueblo contains evidence for a lengthy occupation with a highly variable sequence of architectural construction episodes.

Wall Abutment and Bonding Patterns

By analyzing the chronological relationships of wall segments, specific types of information can be inferred regarding general patterns of village construction. As mentioned above, it is suspected that the north pueblo portion of the site represents an agglomerative pattern of construction. The village is assumed to have started as a small cluster of rooms, that grew by a fairly unrestricted pattern of new rooms being added to the main room cluster as necessitated by population growth. In contrast, the southern portion of the pueblo is believed to have been constructed in a planned manner, with the locations of new room constructions restricted by the desire to orient the pueblo around a

large central plaza space. Because the record of abutment and bonding data is fairly limited by the nature of the sample of rooms excavated, these assumptions cannot be proven to be true. However, the chronological relationships recorded by Western Mapping (Figure 6.1 and 6.2) do tend to conform to expected patterning.

Looking at the northern portions of the site (Figure 6.1) the abutment and bonding relationships tend to indicate a pattern of room construction that radiates out or away from the central roomblocks. From the center portion of the northern pueblo, rooms 79 and 80 are constructed abutting rooms 77 and 78 to the immediate south. This pattern of rooms being built in a sequence that radiates away from a central core of rooms, continues along the northeastern edge of the site. While there is a considerable gap in the sampled rooms of these two areas, there appears to be a general pattern of new room constructions being continually added to the north and east sides of the site.

Around the areas of the great kiva, there appears to be a higher degree of planning involved with the construction process. The abutment and bonding patterns indicate that the great kiva was completed first, and then an entire suite of rooms was built immediately along the outside of this structure. Unfortunately, there is no information linking the chronological relationships of these rooms to the rest of the northern pueblo, or for that matter, there is no information that definitely architecturally links the northern and southern pueblo.

Looking at the southern pueblo area, there appears to be abundant information that this area was built as a planned construction. The bonding and abutment sequences show discrete blocks of rooms being constructed on the northern and southern parts of the south pueblo, with rooms then “filling the gaps” between these areas to completely enclose the plaza area. In the southern pueblo, rooms in the western roomblock illustrate evidence of this pattern. Rooms 17, 18, and 19 abut room 20 to the north, and these rooms, in turn, are abutted by rooms 11 through 15. Rooms 11 through 15, also abut the set of rooms that makes up the entire southern roomblock (Rooms 1 through 10). This indicates that the position of the southern edge of the plaza had already been defined by room constructions before rooms were constructed that completely enclosed the plaza.

Within the southern roomblock area (the southernmost set of rooms in the south pueblo, Figure 6.2) abutment and bonding evidence suggests that room construction began with the construction of a long spinal wall that defines the southern edge of rooms 2, 3, 4, 5, and 6 and that space was further subdivided by the construction of room 4, to which rooms 2, 3 and 5 were then added. As room 5 is tied to the construction of Kiva 1 through a shared ventilator feature, it may be possible that this entire construction episode represents the activities of the first arriving Tusayan/Kayenta immigrants at the village site. Wilshusen (1999) and others have noted that the construction of kiva features is commonly the first event in pueblo construction, as excavation of the kiva space provides for raw materials necessary for further roomblock construction. This interpretation is supported by the abutment and bonding information recorded by Western Mapping Inc.

As noted by Adams (2002) and Mills (1998) one of the more common features in the construction of rooms within plaza-oriented pueblos is the use of ladder constructions, that is the building of long parallel spinal walls with interior walls subdividing spaces to define individual rooms. Such evidence is somewhat limited at Sherwood Ranch, however, the long spinal wall in the southernmost roomblock, and the suite of rooms in the western roomblock that serve to complete the enclosure of the plaza utilize variants of ladder construction. It is also possible, in the eastern roomblock of the south plaza, that the unbroken wall forming the eastern wall of structures 51, 48, 45, 42, 40, and possibly even the western wall of structures 35 and 30, may represent ladder construction as well. If this wall segment is continuous, it would represent the coordinated labor of multiple household groups, which will be discussed below.

Sherwood Ranch Pueblo
AZ Q:11:48 (ASM)



Figure 6.1 Plan of Northern pueblo highlighting abutment and bonding relationships for known architecture.

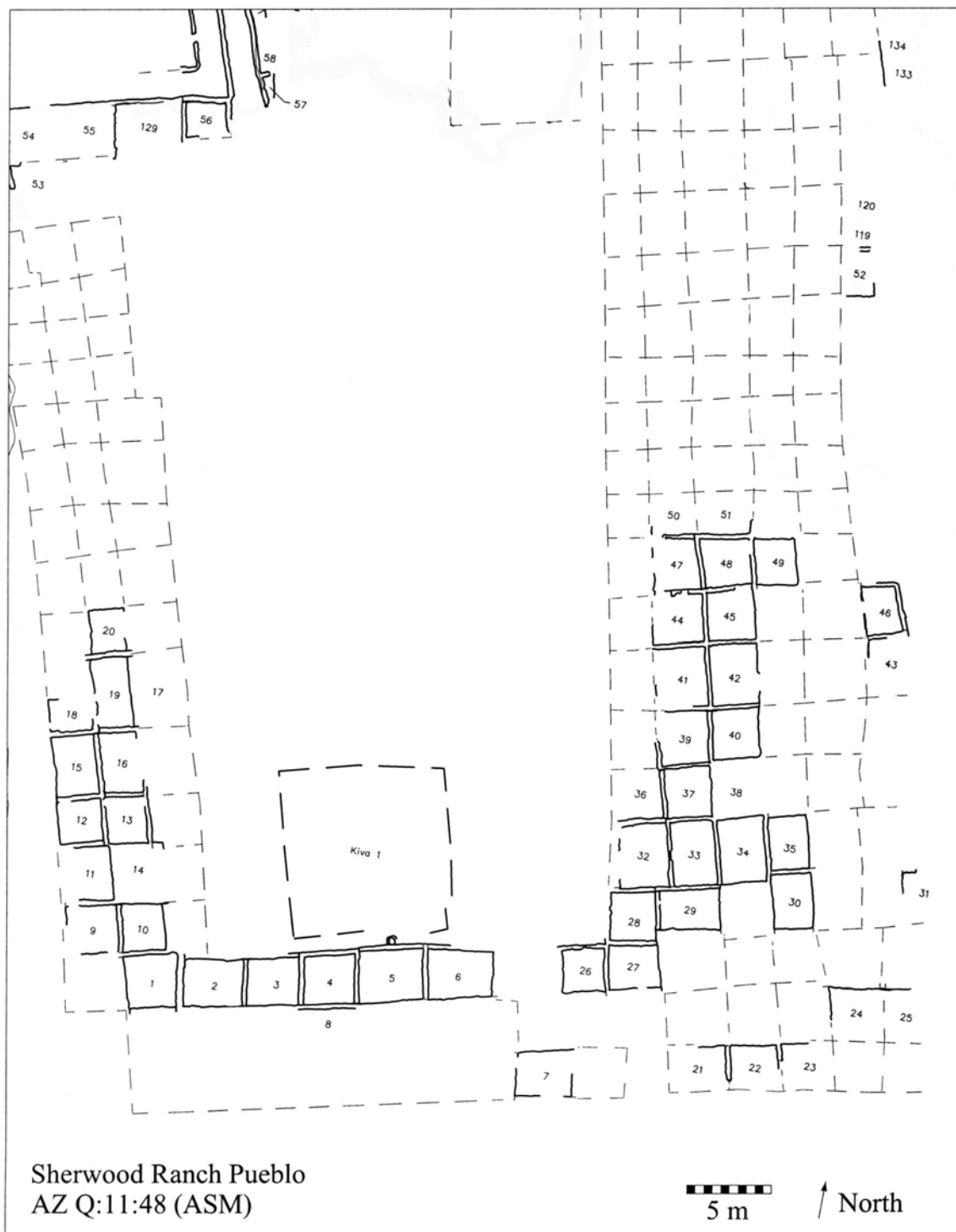


Figure 6.21 Plan of Southern pueblo highlighting abutment and bonding relationships for known architecture.

Analysis of Room Floor Features

Another line of evidence that is often employed in the analysis of prehistoric architecture is the use of floor features to infer room functions. Mealing bins and hearths were the most common types of floor features observed at Sherwood Ranch Pueblo, however all but three of the 33 floor features recorded by Western Mapping were determined to not be located in original contexts. Once again, a lack of documentation on the reconstruction activities conducted by WMARC precludes any attempt at meaningful analysis. Of the three floor features found to be located *in-situ* all were hearth features.

Analysis of Wall Features

Fortunately, one line of architectural evidence that remained intact for analysis were major wall features. It seems highly unlikely that reconstruction activities would have created wall openings such as doorways or beam sockets. Because these features are recorded intact, some meaningful analysis of wall features is possible. However, as there are no records regarding whether or not doorway features were found to be sealed during excavation by WMARC chronological assessments of room use and permeability will not be possible.

As noted by Duff (2000) the major difference in the positioning of doorway features between the northern and southern parts of the pueblo relate to how doorways open to exterior pueblo spaces. In the northern portion of the pueblo, three doorways leading to exterior village space were exposed by WMARC excavations. In the southern portion of the pueblo no such doorways were found. However, this observation could be due to sample size issues. Of the 17 exposed exterior walls in the northern pueblo, 3 doorway features connect village exterior space to the interior of pueblo rooms. This contrasts to 7 exposed exterior walls and no door openings for the southern half of the pueblo. Lacking a larger sample size, there is no way to conclusively demonstrate that the differences in the frequencies of exterior openings represent any statistically significant difference in architectural forms. However, the data do tend to conform to established views that exterior doorways are commonly used by pueblo III populations in

the Mogollon highlands, but not by pueblo IV Populations, particularly Pueblo IV populations from the Kayenta-Tusayan regions (Adams 1996,2002; Duff 2001).

This simple difference in doorway placement can be used to infer some types of differences in the social use of space. The study of Space Syntax (Hiller and Hanson 1984; Hillier 2000), for instance, examines the differing ways that buildings are arranged so they can “integrate” or “isolate” spaces, and in doing so, act to structure the day to day pattering of social interactions within the built environment. A key variable in space syntax studies are the concepts of room permeability and “depth.” Syntactic depth is a relatively simple measure of how many spaces need to be traversed in order to gain access to a given space. A simple scenario involving a room with a single doorway to the exterior space, (such as the 3 rooms with exterior doorways in the northern pueblo of Sherwood Ranch) renders that space “syntactically shallow.” Such rooms do not show evidence for people using buildings to isolate or separate spaces, reflecting an open layout that may serve to facilitate and enhance day-to-day social interactions. If the rooms of the southern half of the pueblo actually follow the traditional practice of pueblo IV period ancestral Puebloan settlements, then the lack of doorways to exterior spaces (with room entry and egress conducted by first climbing a ladder up to rooftop space, then back down into a room by climbing down another ladder) renders these rooms syntactically deeper and reflect a “social logic of space” that is more defensive, and tends to segregate space into deep social divisions between “insiders” and “outsiders” (Gann 2003; Hillier and Hanson 1984; Hillier 1996).

Another application in the study of patterns of room permeability and doorways in Puebloan architecture is the identification of household room suites. Rooms linked by open doorways are believed to indicate rooms in use by a single household. While this interpretation is somewhat biased by ethnographic examples from modern pueblos, the reasoning behind this argument is fairly logical. Figure 8 presents rooms linked by open doorways.

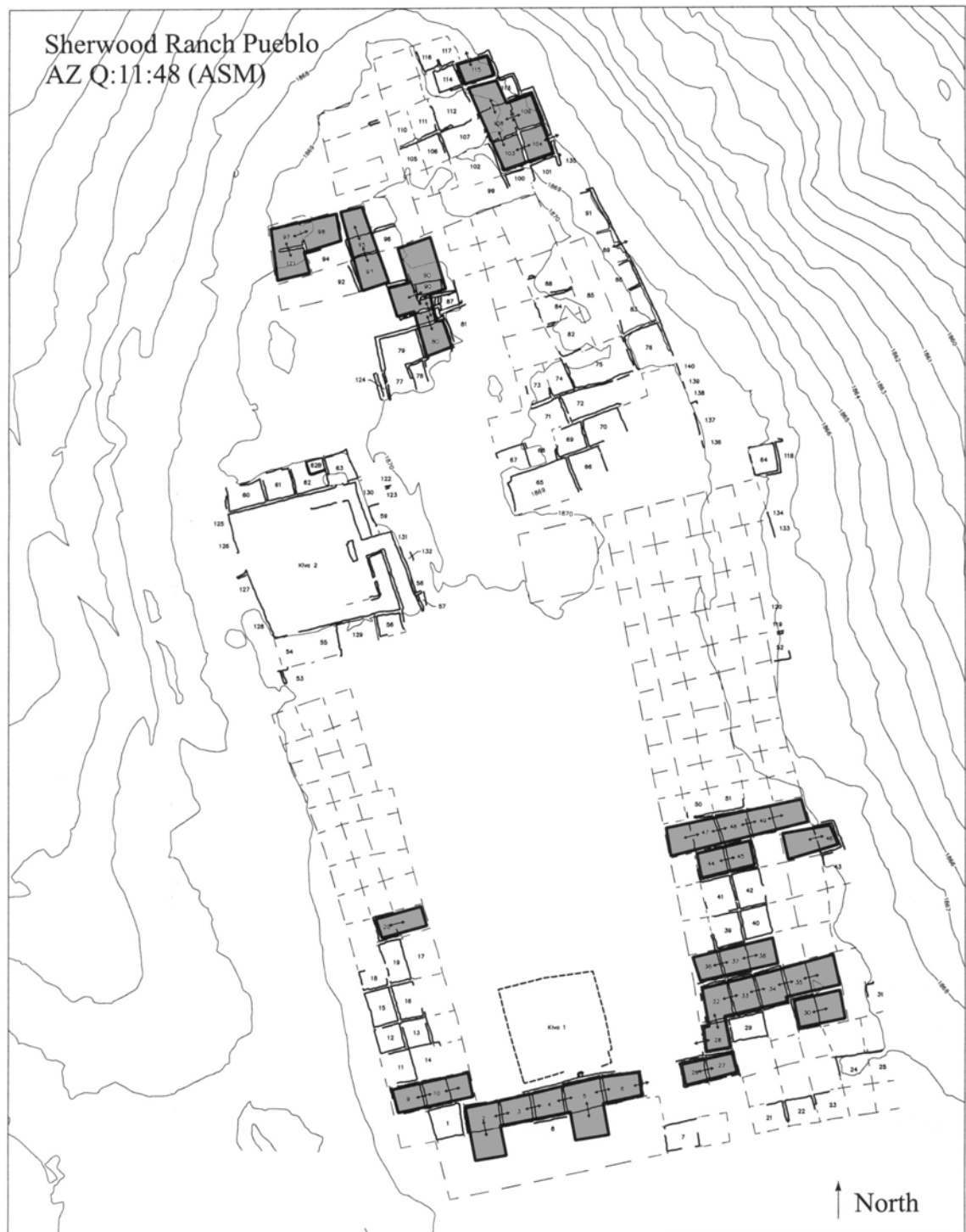


Figure 8. Plot of room suites linked by open doorway features. Shading indicates minimal extent of possible households.

Adams' (1983) investigations of modern and historic architecture at Hopi, for instance, illustrate a plan of prototypical Puebloan households organized in linear rows. In this example, a household consists of a single row of rooms that runs perpendicular to the village plaza. The household space would then be divided between living, storage and possibly ritual storage rooms. In this model, storage rooms tend to be the syntactically deepest structures on the site, as living rooms tend to contain rooftop openings to provide light and ventilation, while storage rooms are "deeper," back away from these openings to the outside world. Arranging these rooms in parallel rows that run perpendicular to the plaza creates a way that each household tends to have at least one room facing the ceremonial heart of village social and religious or ceremonial life.

For the southern portion of Sherwood Ranch Pueblo, examining the plan of rooms linked by open doorways provides a remarkable fit to Adams' conjectural model of household spatial organization for plaza-oriented pueblos. For the eastern and western roomblocks, most rooms linked by doorways conform to this model of linear rows of households arranged perpendicularly to the plaza space.

The one roomblock that does not conform to this pattern is the original southern roomblock that is attached to kiva 1. This may be due to a number of factors, however, it may be likely that the social group living in rooms physically connected to the kiva may have had differing needs or responsibilities regarding the use and maintenance of the kiva itself. This might include sponsorship of various religious ceremonies that might have taken place within the kiva itself.

Conjectural Reconstruction

In order to further explore the architecture of Sherwood Ranch Pueblo, a conjectural model of the site was constructed, utilizing architectural three-dimensional modeling software (3d Studio Max). The model utilizes a combination of terrain data digitized from a USGS 7.5 minute quadrangle and highly detailed topographic data collected by Western Mapping Inc. The architecture mapped by Western Mapping was added on a separate digital layer, and conjectural wall heights were assigned to excavated wall segments. For the portions of the site that were not excavated, conjectural room positions were incorporated, based upon the wall alignments as marked by WMARC.

This decision was based upon the assumption that after 10 years of digging, the staff of the WMARC had become highly familiar with the architecture of the village. It is highly likely that the stone alignments marked by WMARC included portions of original, in situ masonry stone. The resulting conjectural model is displayed in Figure 9.



Figure 9. Conjectural reconstruction of total architectural extent of Sherwood Ranch Pueblo

Figure 9 displays an image of the total architectural extent of Sherwood Ranch Pueblo, which is useful as an interpretive display, but creates an unrealistic view of how the site would have actually appeared at any given moment during the occupation of the village. It should be noted, however, that the 3D model provides an excellent tool for the evaluation of working hypothesis about the occupation of the village.

In this example, portions of the southern pueblo are displayed as being constructed with 2 stories, rather than the single story structure as described by Duff (2000). The reconstruction of a second story for the southern roomblock is based upon the volume of wall stone present upon the site. A very large pile of tabular sandstone is currently present upon the site, located just southwest of the pueblo itself. Based upon the volume of stone present, and given the number of rooms excavated on the site, it seems highly likely that the differences in room height observed by Duff may be due to differences in the processes that led to the filling of pueblo room cells. The second and third story architecture present in the northern portion of the pueblo was likely preserved

by the deposition of prehistoric trash into these cells, as individual rooms were abandoned. This process was likely to continue throughout the occupation of both the north and south pueblo. The southern roomblocks may not have undergone the same type of depositional history. Given the amount of tabular masonry sandstone removed from the excavated portions of the southern pueblo, it may be possible that the majority of fill in these rooms consists of “wall-fall” deposits, rather than prehistoric trash. Once again, without detailed excavation notes, this argument remains purely conjectural, save for the fact that an abundance of tabular masonry stone was excavated from the southern room cells.

As mentioned above, Figure 9 displays a maximum architectural extent for Sherwood Ranch Pueblo, Figures 10 and 11 illustrate more realistic scenarios for the architecture of the site. Figure 10 shows a conjectural reconstruction of the Pueblo-III or Tularosa phase occupation of the site. Figure 11 illustrates a more likely scenario for the Pueblo IV period occupation.

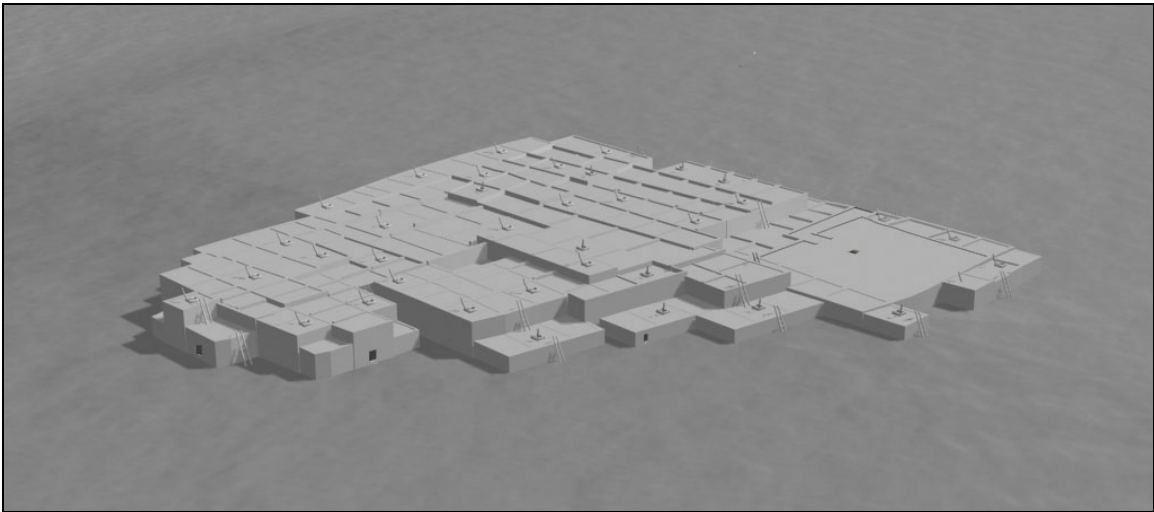


Figure 10. Maximum extent of the Tularosa Phase occupation of Sherwood Ranch Pueblo.

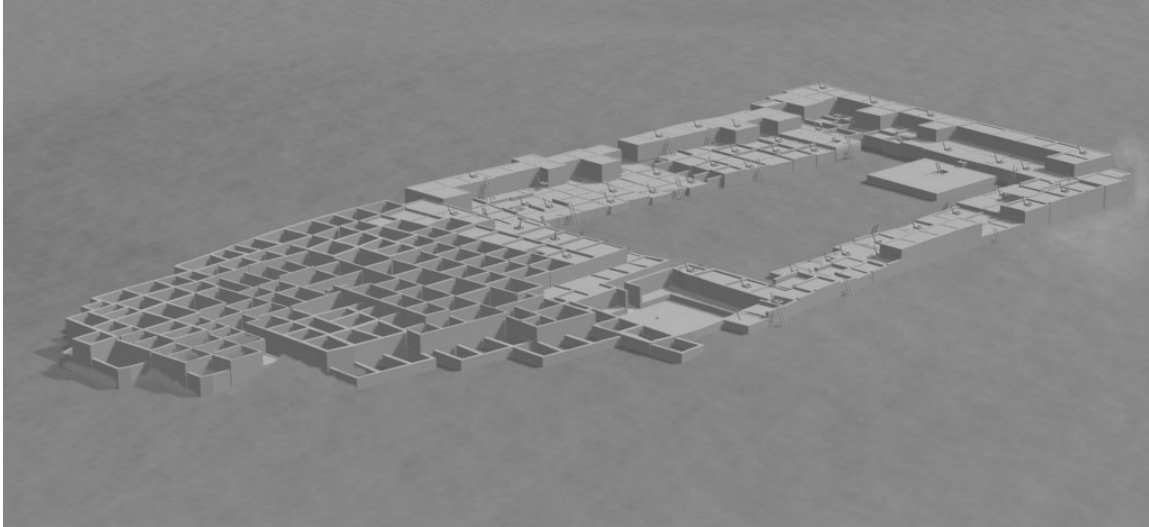


Figure 11. Likely extent of Pueblo IV period occupation of Sherwood Ranch Pueblo.

As figure 11 illustrates, most of the Tularosa phase rooms of the northern pueblo were probably abandoned by the Pueblo IV period. However, the presence of pottery types such as Four Mile Polychrome in the fill deposits from rooms in the northern pueblo would seem to indicate that these room cells are being utilized for the deposition of trash deposits. However, some questions that remain unanswered relate to what degree the relationship between the northern and southern portions of the pueblo. Just how much of the northern pueblo was abandoned during the southern pueblo's occupation? Was the great kiva dismantled during this time? Tree ring dates hint that roof beams could have been reused in the construction of rooms in the southern portion of the site. Could the northern pueblo have been entirely abandoned before construction on the southern pueblo began? Was the southern pueblo constructed entirely by immigrants from the Kayenta/Tusayan regions, or did these immigrants join an existing village population? Ceramic evidence such as perforated plates and Tusayan Style decorated vessels (Lyons 2001) and architectural evidence such as the rooftop entry kiva with a ventilator-deflector-firebox feature arrangement tends to illustrate the arrival of a Kayenta/Tusayan immigrant population. However, lacking any detailed excavation records, questions like these will remain unanswered. There is (or was) a wealth of information removed from Sherwood Ranch Pueblo, information that needs to be relocated and incorporated into formal archaeological research. It is the sincere hope of this author and, I suspect the general archaeological community, that the missing records

from of the excavation of Sherwood Ranch Pueblo can one day be incorporated into a program of research that can begin to address the myriad of questions posed by this analysis.

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Appendix 1 Wall Classifications for Architecture at Sherwood Ranch Pueblo.

In February of 2003, Western Mapping Inc. conducted an architectural documentation program to record information exposed by previous excavations at the site of Sherwood Ranch Pueblo. The typology used a numeric code to assign wall segments to a specific typology. Wall classifications are presented in Figures A1 and A2, and a detailed description of the typology system by Western Mapping is presented below.

Architectural Types:

Note: The use of chinking elements could not be reliably quantified in many of the rooms at Sherwood Ranch Pueblo. It seems likely that many chinking elements have been lost through natural erosive processes after rooms were excavated and left open. In general, it appears that there may have been more consistent use of chinking elements in the walls constructed in the North Unit of the Pueblo than in the South Unit, however, these data are not accurately quantifiable at present. Some chinking elements have been added through stabilization activities. Such instances have been identified in the description of construction types identified from the pueblo. Should further excavations of the Pueblo ever take place chinking data could be quantified by examining freshly exposed wall faces.

Typologies themselves are a frequently debated issue among archaeologists. These debates center on the legitimacy of typological systems in general and how well such systems reflect material objects. However we may view them, the fact remains that at the very least, typologies allow us to discuss objects using a common language even if we don't always agree on all objects within a given category. The architectural typologies included herein are the beginnings of describing the architectural types present at Sherwood Pueblo. We attempted to describe the full range of variation visible in the wall architecture of the site both in terms of the materials types used and the techniques by which the stones were laid up in the walls. Other researchers may wish to collapse some of these categories into overarching categories.

Type 1: Generally uniform, light-colored limestone blocks with some use of sandstone, basalt elements, and occasional use of petrified wood elements. This type makes up most of the visible South Unit architecture. Vertical joints (mortar joints) average 28 mm, horizontal joints (mortar joints) average 27 mm. Stone width averages 17 cm, stone height averages 7 cm.



Example of Wall Type 1 from Room 26.

Type 2: Generally uniform, light-colored limestone blocks with some use of sandstone, basalt elements, and occasional use of petrified wood elements in courses between massive limestone or sandstone (limestone most common) vertical slabs. Coursed and patterned. Vertical joints average 25 mm, horizontal joints average 28 mm. Vertical slab width averages 31 cm, vertical slab height averages 19 cm. Smaller stone width averages 16 cm, smaller stone height averages 5 cm.



Example of Wall Type 2 from Room 26.

Type 3: Seen only in the east end of the south interior wall of Kiva 1. Masonry elements consist of large, blocky, light-colored limestone elements that are very uniform in size. Vertical joints average 28 mm, horizontal joints average 27 mm. Stone width averages 22 cm, stone height averages 11 cm. Image unavailable.

Type 4: Predominate use of dark brown sandstone elements with use of massive elements in a pattern. Vertical joints average 24 mm, horizontal joints average 25 mm. Stone width averages 18 cm, stone height averages 5 cm.



Example of Wall Type 4, from Room 118.

Type 5: This architectural type consists of a mixture of light-colored limestone and dark brown sandstone elements, including the use of large, tabular dark brown sandstone blocks. Vertical joints average 20 mm, horizontal joints average 30 mm. Large stone width averages 40 cm, large stone height averages 7 cm. Small stone width averages 13 cm, small stone height averages 7 cm.



Example of Wall Type 5, from Room 81.

Type 6: This type was used to classify walls that were obscured by structural collapse or plaster, or were not of sufficient height or length to be characterized as a quantifiable type.



Example of Wall Type 6, from Room 93.

Type 7: Dark brown sandstone elements sometimes with basalt, coursed horizontally between courses of limestone. Stones generally blocky or rectangular. Coursed and patterned application, but patterning not really well defined because limestone sometimes occurs within the courses of brown sandstone. Vertical joints average 25 mm, horizontal joints average 25 mm. Stone width averages 20 cm, stone height averages 7 cm.



Example of Wall Type 7, from Room 118.

Type 8: Any wall that has been significantly changed by stabilization activities. Generally refers to walls where there has been significant reconstruction resulting in complete or extensive change to the original architecture.



Example of Wall Type 8, from Room 64.

Type 9: Predominately small to medium-size dark brown sandstone mixed with a few limestone and river cobble elements. There are no massive elements or long tabular or rectangular blocks included in the construction. Vertical joints average 17 mm, horizontal joints average 22 mm. Stone width averages 12 cm, stone height averages 3 cm.



Example of Wall Type 9, from Room 64.

Type 10: Mix of small masonry elements of all types, limestone, light and dark-colored sandstone, basalt, and river cobbles. Coursed in no apparent pattern. Vertical joints average 19 mm, horizontal joints average 16 mm. Stone width averages 13 cm, stone height averages 6 cm.



Example of Wall Type 10, from Room 56.

Type 11: Predominate use of limestone materials with massive elements with the use of river cobbles. Vertical joints average 15 mm, horizontal joints average 16 mm. Large stone width averages 33 cm, large stone height averages 19 cm. Small stone width averages 10 cm, small stone height averages 5 cm.



Example of Wall Type 11, from Room 76.

Type 12: Massive elements of limestone, sandstone, and basalt materials in a course between courses of river cobbles and/or courses of smaller limestone elements. Smaller limestone courses appear in the upper wall segments. These may reflect a rebuilding episode. As many as five, but usually three, vertical courses of smaller elements occur between the large masonry blocks. Vertical joints average 17 mm, horizontal joints average 12 mm. Large stone width averages 27 cm, large stone height averages 14 cm. Small stone width averages 6 cm, small stone height averages 3 cm.



Example of Wall Type 12, from Room 86.

Type 13: Long, thin blocks of limestone in between courses of small limestone elements. Vertical joints average 12 mm, horizontal joints average 16 mm. Large stone width averages 35 cm, large stone height averages 14 cm. Small stone width averages 10 cm, small stone height averages 5 cm.



Example of Wall Type 13, from Room 76.

Type 14: Massive limestone, sandstone, and basalt elements coursed between small, tabular spalls of limestone (predominates), sandstone, and basalt. Vertical joints average 28 mm, horizontal joints average 27 mm. Large stone width averages 41 cm, large stone height averages 9 cm. Small stone width averages 6 cm, small stone height averages 3 cm.



Example of Wall Type 14, from Room 79.

Type 15: Similar to Type 12 except that massive elements are larger in this type and generally only accommodate one row of river cobbles or limestone or sandstone spalls between the massive elements. Vertical joints average 25 mm, horizontal joints average 23 mm. Large stone width averages 37 cm, large stone height averages 11 cm. Small stone width averages 6 cm, small stone height averages 4 cm.



Example of Wall Type 15, from Room 104.

Type 16: River cobble masonry predominates with some use of small blocks of limestone, sandstone, and basalt. Vertical joints average 22 mm, horizontal joints average 22 mm. Stone width averages 8 cm, stone height averages 3 cm.



Example of Wall Type 16, from Room 109.

Type 17: Generally large basalt elements with some limited use of limestone, coursed between basalt spalls and occasionally dark-colored river cobbles and limestone chunks. Vertical joints average 20 mm, horizontal joints average 18 mm. Large stone width averages 28 cm, large stone height averages 13 cm. Small stone width averages 14 cm, small stone height averages 2 cm.



Example of Wall Type 17, from Room 54.

Type 18: Vertical slabs of dark brown sandstone, limestone or basalt. Smaller stones reset between vertical slabs are not always original, but may consist of river cobbles, limestone, sandstone or basalt elements. Vertical joints average 30 mm, horizontal joints average 24 mm. Vertical slab width averages 24 cm, vertical slab height averages 32 cm.



Example of Wall Type 18, from Room 61.



Figure A1. Western Mapping Wall Type Designs

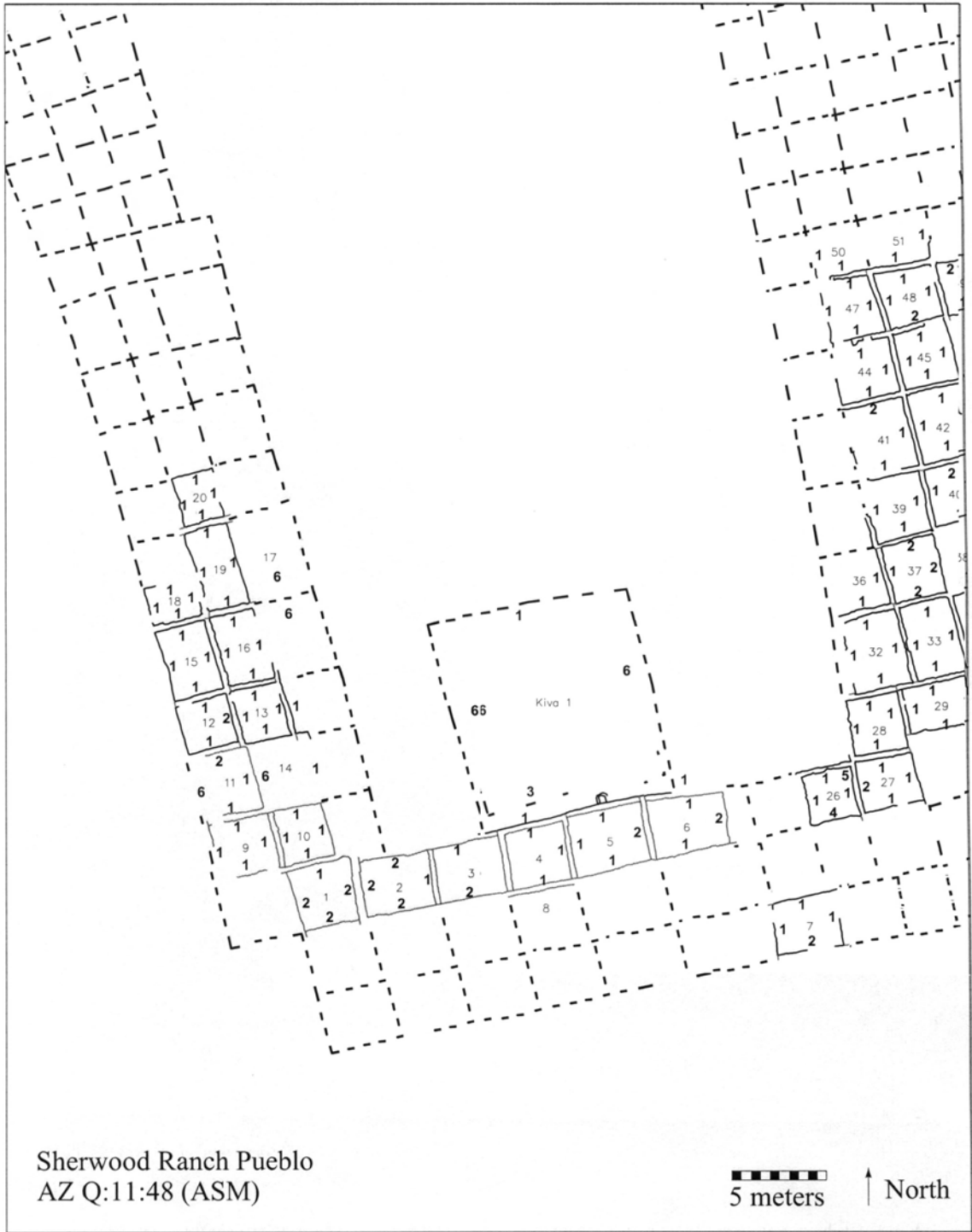


Figure A3. Western Mapping Wall Type Designations



Figure A4. Western Mapping Wall Type Designations