

FORT HUACHUCA, CAVALRY STABLE
(Building No. 30023)
(Building No. 85)
(Building No. 121)
(Building No. 3034)
Clarkson Road
Sierra Vista vicinity
Cochise County
Arizona

HABS AZ-210-A
AZ-210-A

HABS
AZ-210-A

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN BUILDINGS SURVEY
National Park Service
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1975

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Location: Building 30023 is located along the west side of Clarkson Road, north of the intersection with Hungerford Avenue. It is the southernmost of seven cavalry stables aligned in a row on the site. The complex is located at Fort Huachuca (Sierra Vista vicinity), Cochise County, Arizona. The building and its complex lie within the Quartermaster area (Figure A.1).

USGS Quadrangle, Fort Huachuca, Ariz., 7.5 minute series, 1958, photo-revised in 1983

This building is bounded by the following UTM coordinates:

Zone 12	Northing	Easting
NW	3491297.49	560037.28
SW	3491286.27	560033.46
NE	3491277.03	560100.53
SE	3491265.55	560096.89

Date of Construction: 1916.

Designer: Quartermaster Corps.

Builder: United States Army.

Present Owner: U.S. Department of the Army, Fort Huachuca.

Present Use: Vacant.

Significance: Building 30023 is an integral component of Fort Huachuca's cavalry stable complex and the most intact example of this very rare group of buildings. The seven cavalry stables at Fort Huachuca were completed in 1916 utilizing a standardized Quartermaster Corps plan. The structures are eligible for listing on the National Register of Historic Places due to their association with the 10th Cavalry and the Punitive Expedition into Mexico in 1916-1917 (Criterion A) and because they represent the only known examples of stables constructed using the Quartermaster Corps plan no. 291 (Criterion C).

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PART I. HISTORICAL INFORMATION

A. Physical History

1. Date of erection: According to U.S. Army Quartermaster Corps Form No. 173a (1916), the initial property record card, this building and the other six cavalry stables were completed 5 January 1916 (Figure A.2; HABS No. AZ-210-A-17).

2. Architect: The Office of the Constructing Quartermaster Corps (O.C.Q.M.C.), provider of standardized plan no. 291, as indicated on Q.M.C. Form No. 173a. In 1916, this corps was one of five divisions of the Office of the Quartermaster General in Washington, D.C. (Chattey 1998:2).

3. Original owner, occupants, uses: The owner has been the U.S. Army. The known original occupant/user was the 10th Cavalry and its mounts. Very little information has been found about subsequent tenants although the building's uses can be determined. The building still had horses in 1941 (Parkhurst and Thiel 2005). It continued to be classified as a stable in 1951 (U.S.A.C.E. 1951). A change of use occurred between 1951 and 1955 when the building became a storage facility (Post Engineer Office 1955).

It remained classified as a storage building until 1979 when it changed to multi-use in preparation for its partial service as a veterinary care facility (U.S. Army Form 2877). A veterinary clinic has been near the premises since at least 1945 (U.S.A.C.E. 1945). The present clinic, which replaced an earlier one, was built in 1970 and has an equine veterinarian. Building 30023 is currently vacant. It will be rehabilitated and used to stable mounts of the B Troop Memorial, a cavalry re-enactor group (Parkhurst and Thiel 2005).

4. Builder, contractor and suppliers: Built by the U.S. Army. Information about the contractor or suppliers has not been located. The photograph on Q.M.C. Form No. 173a shows African-American laborers and African-American soldiers in uniform working on this building (Figure A.2). It was Quartermaster Corps policy for Army buildings to be erected and repaired by the troops (Chattey 1998:2).

5. Original plans and construction: Office of the Constructing Quartermaster Corps, standardized plan no. 291. This plan could not be found at the National Archives; thus, it is not known whether its application on this post followed the standard or was a local modification to accommodate topographic and climatic conditions at Fort Huachuca (Chattey 1998:3).

6. Alterations and additions: All cavalry stables in the complex, including Building 30023, have been modified to a greater or lesser extent. Building 30023 has the greatest integrity of all the buildings because much of its exterior and interior historic fabric remains. See Part II.A.1 for a discussion of the historic, prototypical building.

Exterior alterations include door and door opening modifications. None of the exterior doors are original, and the vintage of the present ones is unknown. The original north door opening was enlarged for a pair of sliding doors. A new doorway was cut on the south wall for sliding doors. A concrete slab was added on the dirt floor inside to connect the side doors.

Most original windows are intact except at the west end of the building, where sash was removed and replaced with wire mesh grills during a 1981/1982 remodeling.

As built in 1916, the stable had a forage and grain room in the northeast corner and a saddle room in the southeast corner (U.S.A.Q.M.C. 1916). In 1941, as diagramed on Q.M.C. Form No. 117, each room was called a "saddle shop" by that date. The north one was 28 ft by 9 ft (interior dimensions) and the south, 38 ft by 9 ft (Figure A-S.1). At some later date, an enclosed storage addition was built on the west wall of the south room. Constructed from a stall bay, it retained the original window and included stall rails in its west wall. Another enclosed storage addition, built from the adjacent stall, was added to the west wall of the north room. It, too, incorporated the original window and stall rails. (The former forage and grain room was later partitioned into two office rooms.) At some point, all other stall rails and mangers were removed from the building.

In 1975, a utility room with gypsum wallboard cladding and a concrete floor was built in the northwest corner of the stable (U.S. Army Form 2877).

In 1981/1982, related to the adjacent veterinary complex, a horse care facility was built in the west 57-ft, 4-inch end of the building. Divided from the rest of the building by a floor-to-ceiling, plywood-clad partition, the plans called for installing seven modernized, pipe-rail enclosed stalls. The existing posts were retained but wrapped in galvanized sheet metal up to 8 ft. Former sliding windows were either fixed or modified to openings without sash over which framed mesh grills were installed. A sloped, 4-inch concrete slab was added for this facility. The existing utility room in the northwest corner was converted to veterinary use. A water supply line was installed to provide faucets for each stall. The existing electrical service was upgraded, and a fire alarm system and fluorescent lights were installed (Facilities Engineering Directorate 1981).

Currently, as the building is now vacant, elements of this former horse care facility have been dismantled, including the pipe railing. Likewise, plywood has been removed from the former partition.

B. Historical Context

The United States Army completed the construction of seven cavalry stables at Fort Huachuca, Arizona, in January 1916. The stables housed horses and mules used by members of the 10th Cavalry popularly known as the Buffalo Soldiers. The mid-1910s saw a military buildup along the United States-Mexican border, as internal Mexican political problems escalated. As intense fighting took place in northern Sonora, Fort Huachuca personnel patrolled the border, protected local residents and sought to prevent smuggling activities. Members of the 10th Cavalry participated in the 1916-1917 Punitive Expedition, the last major use of cavalry forces by the United States Army.

The seven stables were likely one of the last cavalry stables complexes built in the United States. The Punitive Expedition saw the first use of motorized vehicles by the military, and afterward the Army turned away from horse-mounted soldiers. The 10th Cavalry left Fort Huachuca in 1931; however, the stables remained in use until at least 1941. They were later used for other purposes including storage and office space (Parkhurst and Thiel 2005).

To reinforce the formality that was traditional at historic, American military forts, stables tended to be repetitious units arranged in an orderly pattern not far from the barracks of the troops. Such repetition could be assured by the use of a standardized plan. Fort Huachuca's seven cavalry stables were located in the expanded Quartermaster area. Aligned in a row along the railroad right-of-way, the buildings constituted a property of identical buildings, each having a simple gable-roofed form (minus monitor) generated from Quartermaster Corps plan no. 291. The stables were of the straight, double-loaded, central corridor type with identical, un-gated stalls lining the sides (Parkhurst and Thiel 2005).

PART II. ARCHITECTURAL INFORMATION

A. General Statement

1. Architectural character: Like the other six stables in this complex, Building 30023 is distinctive for its simple morphology, a form most suited to its original function, the stabling of seventy-eight cavalry mounts. Generated from an elongated rectangular footprint, its walls arise punctuated by a regular array of double-hung and square windows, and its cap is a low-pitch, gabled roof. In addition, its exposed structural system is an elegant, although rustic, integration of repetitious components (HABS No. AZ-210-A-1; HABS No. AZ-210-A-2; HABS No. AZ-210-A-3; HABS No. AZ-210-A sheet 4, elevations).

The prototypical 1916 cavalry stable was an elongated, gable-roofed building with concrete foundations and a frame bearing wall system with interior posts installed along a central aisle that supported repetitive, exposed roof framing. Exterior walls were board and batten, and roofing was corrugated metal. There were three door openings, one on each gable end and one on the north side wall to allow mounts access into the paddock. Ramps were provided where needed. Readable photographs of the main entry doors alone can be found showing a pair of swinging, wood panel doors with one light above. Fenestration included six-over-six double-hung windows for storage rooms near the east end and an array of square, six-light, sliding windows to illuminate individual stalls.

Inside, on either side of the central aisle at the east end were a forage and grain room and a saddle room. These rooms had concrete floors plus vertical board siding along the aisle and horizontal wood sheathing inside. The end wall of each room, which formed one side of an adjacent stall, was reinforced by thicker, horizontal, board sheathing. Each room had two panel doors on the aisle and ceilings were board and batten.

The rest of the building was devoted to the stabling of horses and mules in repetitive, double-stall bays defined by the wood posts. Here the walls were unfinished with exposed framing. There was no ceiling other than the roof framing clad in corrugated metal. The floor was dirt. Stall rails were framed into the back of each post, and there were no gates at the aisle. Mangers were attached to walls where animals were tethered.

2. Condition of fabric: The overall structural condition of Building 30023 is sound in spite of its vintage, its vacant, neglected state, and its current exposure to the elements through open doors and some unglazed window openings. Its foundations and framing are largely intact, due to its initial good workmanship, durable materials and, until recently, its maintenance. Its exterior cladding is weathering and currently is in fair-to-poor condition.

B. Description of Exterior

1. Overall dimensions: Building 30023 is 219 ft, 10 inches long by 30 ft, 6 inches wide. The walls are 10 ft, 8 inches high from the top of the stem wall to the top of the wall plate. The gable height is 18 ft, 1 inch.

2. Foundations: Foundations are hand-poured, board-formed concrete and comprise a continuous 8-inch- to 10-inch-thick stem wall. It is unlikely there is any steel reinforcing in this foundation. Due to the site slope, the stem wall is not visible near the east end of the building, but it is exposed along the entire north façade and elsewhere. The stem wall shows approximately 1 ft, 9 inches from grade to the lower edge of siding boards on the southwest corner and 4 ft, 2 inches on the northwest corner. Its hand-poured quality is seen in occasional voids and seams from uneven board placement. In places, the stem wall has been coated with a thin layer of cement material, and it is painted tan to match the current color of the walls. The stem wall is currently in fair condition with some cracks, abrasion, and corner deterioration. There is no sign of major structural cracking. Where the wall is deteriorated or in voids, it can be seen that a large stone aggregate was used in the original concrete mix (Figure A.3).

A small excavation in the earth reveals that interior wood posts bear on a small concrete pad, approximately 7 inches square in plan and installed level with the top of the wall sill. The full extent of this post foundation member has not been determined.

3. Walls: Exterior walls are structural wood frame sheathed in a vertical board-and-batten system that extends from the eaves and gable rakes to approximately 5 inches below the top of the exposed concrete stem wall. Boards and battens vary slightly in width. The boards average approximately $\frac{3}{4}$ inch by 9 $\frac{1}{2}$ inches, and the battens are approximately $\frac{3}{4}$ inch by 3 inches wide. The board-and-batten system produces a regular rhythm, with battens casting shadows at different times of the day and year.

Where paint is chipped on this building and the walls of the other cavalry stables, it is evident that there have been at least four coatings of paint on each building. The earliest layer appears to have been a strong Kelly green. The second layer was a cream yellow, and the third a powder blue. The final layer, visible today, is a medium-tan brown.

The condition of the exterior walls at this time ranges from fair to poor, with the poor condition largely on the south and west walls. Although painted, some boards and battens are split and broken or dislodged from the frame. Deterioration is especially evident along the lower edges. The last coating of paint is also weathered and deteriorating, especially on the south façade (Figure A.4).

4. Structural system, framing: The integrated, repetitious structural system is easy to study because it is exposed inside. It is a wood frame bearing wall system on continuous concrete foundations with two internal, longitudinally placed rows of regularly spaced posts along a central aisle. The posts are braced and tied to the walls, the sloping roof rafters and across the aisle by lateral, longitudinal, and diagonal members. The elegant manner in which the rustic framing elements fit together to form an integrated structure that has survived since 1916 is noteworthy. In addition, when rails were attached, the rhythm of the posts created bays for individual stalls. Posts, roof framing members, and nailing boards

appear to be of redwood, whereas wall studs and exterior board siding are probably of fir (Figure A.5; HABS No. AZ-210-A-12; HABS No. AZ-210-A sheet 3, building sections).

The bearing walls are 2" x 6" studs (approximately 1 5/8 inches by 5 1/2 inches actual size) with variable spacing, ranging from 17 1/4 inches to 19 1/2 inches on center. There is no sheathing on the inner wall faces. The studs are toe-nailed to a 6-inch by 8-inch wood sill anchored to the concrete stem wall by large bolts at 6 ft, 6 inches on center. There are double plates atop the studs and horizontal 2" x 4" blocking at 1 ft, 0 inches, 3 ft, 6 inches, and 6 ft, 8 inches above the sill. Openings are double-framed.

The posts are 6" x 6" redwood timbers that extend from below the floor to the bottom edge of a rafter. Except for the longitudinal 3" x 10" support header and the 3" x 6" tie beam at the top of the posts, framing members are 2" x 6"s. The most striking pattern occurs longitudinally along the aisle, where posts are tied at the top and at 9 ft, 9 inches above the floor and there are flanking, diagonal, braces. This bracing gives a truss-like appearance. Each post is also connected to the top of the nearest wall by a tie beam attached to a rafter and the wall plate. Such tying occurs on the east side of every sixth rafter.

Roof rafters are 2" x 6"s that extend beyond the walls to form overhanging eaves. They tie into a 3" x 8" ridge member. Above the rafters are 2" x 4" nailing boards to which corrugated metal roofing is attached. The 2" x 4"s extend beyond the gable walls to form rake overhangs. Rafters are generally, but not always, aligned with studs. The entire structural system is fastened together with framing nails (HABS No. AZ-210-A sheet 5, wall sections 4 and 4A).

Structural members are in remarkable condition considering the vintage. Some posts have rotated, and some blocking is missing from wall framing. In addition, signs of equine gnawing can be seen on posts and wall framing. Inside, daylight appears through numerous gaps where battens do not adequately cover the exterior boards. Exterior splits on board siding can be seen inside.

5. Entrance aprons, ramps, and exterior stairs: Photographs on Q.M.C. forms No.173a and No. 117 do not show any kind of grade-level apron at the principal, east entry up to 1941 (Figures A.2, A-S.1). It is not known when the current, slightly sloped, angled, 3-ft, 0-inch-wide concrete apron was installed, but it probably happened between 1951 and 1955 when the building was converted to a storage facility.

Due to the site slope, ramps or stairs have been needed to provide access from grade to the other entrance doors of Building 30023. Today there is a sloping, stone feature at the north door that may be the original ramp used for leading cavalry mounts into the north paddock. With respect to the current enlarged door opening, the offset location of the ramp indicates it originally served a smaller door. This feature is constructed of sloped, packed earth retained by curved, mortared-stone, side walls (HABS No. AZ-210-A-8.).

Because the south sliding door is nearly at grade, it requires no ramp feature. There is, instead, a 14-ft, 2-inch-wide by 17-ft, 0-inch-long concrete slab apron to serve this door. The west door is accessed by a natural earth ramp that extends to the west.

6. Chimneys: There is a through-the-roof metal flue for an office space heater in the north-east corner of the building.

7. Openings:

a. Doorways and doors: Currently, Building 30023 has four exterior doors, one on each façade. Only the east and west door openings are original (slightly modified), although the doors themselves are not. The current north opening is an enlargement of the original one that fit into a single bay. It is located between the tenth and twelfth posts from the east end. As the photograph on Q.M.C. Form No. 173a shows, there was originally no door on the south wall (Figure A.2). Today's south opening is between the ninth and eleventh posts. Related to these side opening modifications, the lower 11 ft of each post was cut and removed to accommodate access for a probable vehicle (HABS No. AZ-210-A sheet 5, wall sections 1, 3, 6, and 7).

The east or principal doorway opening is 9 ft, 11 inches wide by 9 ft, 6 inches high. It has a pair of custom-built hinged doors. Being unlike those in the 1941 property record card photograph, these doors are of a more recent vintage. They are not quite of equal size, with the north leaf approximately 1 ½ inches wider than the south leaf. Each leaf is an assembly of plywood panels in grooved board stiles and rails. The corners are secured by diagonal sheet metal plates to which hinges are attached along the swing edges. Likewise, the central rail is secured by metal edge straps. The metal elements, which appear on both sides of the door, are through-bolted.

The west opening is 7 ft, 10 ½ inches wide by 9 ft, 0 inches high. On the exterior is a non-original, single-leaf sliding door suspended by metal brackets from a metal track. This door is wider than its opening and slides to the north. It, too, is an assembly of plywood and wood stiles and rails, but it is framed so that its inner face is flush. It is secured by screws and lacks the sheet metal elements found on the east door (Figure A.6).

The south opening is 12 ft, 5 inches wide by 9 ft, 10 inches high. It has a pair of sliding doors similar in construction to that of the east doors. The north opening is 10 ft, 8 3/8 inches wide by 7 ft, 10 inches high. These doors, too, are of the same vintage and construction style as the east doors.

b. Windows: Windows are a very interesting feature on this building, and they reflect former interior use. They are located on the south and north walls only. Most original windows remain. The former saddle and grain storage rooms, used by humans only, have double-hung windows of a type customary for the era. Each former stall is served by a custom-sliding, square window with multi-light glazing. The window sash itself was manufactured. The bottom of the window sill is located approximately 5 ft, 2 ½ inches from the foundation sill. Undoubtedly, equines were tethered so that they were unable to reach the glass (HABS No. AZ-210-A sheet 6, window elevations and details).

Currently there are three window treatments in the original window openings. Alteration of the original stall windows has occurred in the area of the converted veterinary zone only. The three treatments include: (1) retention of original sliding and double-hung windows; (2) permanent fixing of some original sliding sash; and (3) removal of sliding sash to create

unglazed openings with exterior-frame mesh grilles. Windows have multiple-pane sash and ¾-inch by 2 ¾-inch exterior casing with a trim piece below a 1 ¼-inch by 8-inch sill.

Identical, six-over-six double-hung windows are found on the east end to serve the former saddle shop and the grain storage room. There are three on the south façade and two on the north. They are in 2-ft, 8-inch by 5-ft, 2-inch rough openings (HABS No. AZ-210-A-7). Window sashes of the stalls have six panes and slide open inside on unusual, custom-built 6-ft, 4-inch-long tracks. Windows and tracks have a tongue and groove to facilitate positioning. The windows are installed in 2-ft, 10-inch by 2-ft, 9 ½-inch openings. While the other cavalry stables have the same size and type of sash, the existence of the tracks for sliding has not been found elsewhere (Figure A.7).

On the north wall in the former veterinary zone, the two westernmost windows have been modified into fixed windows. Their tracks have been removed, and they have screens on the exterior. All other windows in this zone are now open without sash. They have welded metal screen on the inside and are secured outside by a chain-link type, metal mesh in a wood frame bolted through the window casing. The frame for this grill is a 1 ½" x 3 ½". This security grill type is used on several other cavalry stables (Figure A.8).

On the east wall of the original north storage room is a small 1-ft, 1-inch-wide by 1-ft, 7-inch-high opening covered with wire mesh. Obviously a later modification and covered inside with white painted plywood, its use is unknown.

Most windows, exterior casing, and grill frames are very weathered but repairable. Glazing is largely intact except where sash was removed. The south double-hung windows are severely deteriorated.

8. Roof:

a. Shape, covering: The roof is a low-pitch gable. Its slope is 27.4 degrees. Since the principal building entry is on the gabled wall of the east façade, this is a front-gabled roof form. Q.M.C. Form 173a indicates that the original roofing was "corrugated iron," and the current corrugated metal may be original or over 50 years old (Figure A.2). At the rakes, the metal is bent over to form a drip edge. Inside, most of the roofing is painted light tan, like approximately one-third of the roof framing members. Near the south door the paint has adhered to the roofing manufacturer's logo. The logo is a circle with the words "The Brier Hill St. Company," "service" and "Youngstown, O" written on it. The Brier Hill Steel Company was one of the early steel giants in Ohio, now known as North Star Steel of Ohio, part of Cargill Steel (Chattey 1998:12).

b. Eaves: Eaves comprise exposed 2" x 6" rafter ends that extend to form a 1-ft, 11-inch overhang. The gable rakes, supported by the nailing boards, overhang approximately 11 inches. There is a frieze board at the rakes and eaves. Eaves are generally in fair condition, because framing members have been painted. There is weathering of rafter ends, some deformed or torn roofing, and paint peeling.

C. Description of Interior

1. Floor plan: Today this single-story stable building is a long, vacant hall zoned so that the former forage and grain and saddle rooms, along with their storage additions, occupy the east end on either side of an approximately 10-ft-wide aisle (HABS No. AZ 210-A sheet 3, floor plan). Defined by posts, the aisle courses through an extensive area once devoted to the stabling of horses and mules (HABS No. AZ-210-A-9; HABS No. AZ-210-A-10). Wooden posts form a repetitive pattern of bays, each formerly a stall (HABS No. AZ-210-A-11). As mentioned, there are four exterior door openings, with the principal entry on the east end. With the exception of double-hung windows, stall windows are centered in bays to form a regular array on the exterior.

Lit by double-hung windows, the original storage rooms remain, although some modifications have occurred. Posts are visible in these rooms despite wall cladding. When partitioned into two offices, the former forage and grain room was divided by a frame partition with a door. A later storage addition was added to the west end of each original room, created by modifying a single stall. The storage additions still incorporate the original square windows and stall rails in their west walls.

The 1981/1982 veterinary facility modification, separated by a floor-to-ceiling frame partition once sheathed in plywood (now removed), occupies approximately the west 57 ft, 4 inches of the building. In this zone, another frame room, now largely dismantled, is located in the northwest corner. Shown to be pre-existing on the 1981 plans, this is probably the storage room built in 1975 for \$1,120 on the real property record (U.S. Army Form 2877).

2. Stairways: None.

3. Flooring: The original concrete slab floors of the storage rooms remain. Well-built, they have control joints at the middle of posts and are level with the sill. The slabs are painted gray and extend under the interior partitions. The south and north storage additions have concrete flooring of an inferior quality. The intermediary stall area has an earth floor, the original condition. A crust and a few chunks indicate that at some point the entire earth area may later have been concreted. A concrete slab remains that was installed to connect the north and south doorways. As shown in the 1981 plans, the 4-inch slab currently installed in the veterinary zone slopes toward the aisle and the west door. Originally it was meant to be covered with heavy duty, rubber dairy mats (Facilities Engineering Directorate 1981).

4. Wall and ceiling finish: The interior walls of the stable area, including the veterinary zone, are unfinished, open-frame walls enclosed by the backside of the exterior sheathing boards. In most of this area, they are painted black up to approximately 4 ft, 7 inches above the sill, and white above (Figure 9). In contrast, the walls of the original storage rooms and their additions are sheathed with wooden boards.

Along the aisle, the outer wall cladding of the 2" x 4" frame partitions of the former forage and grain and saddle rooms is intact and may look much as it did initially. It comprises vertical boards, straight jointed without battens. Boards are full-length, being approximately 10 ft, 6 ½ inches long. Like the open-frame walls, these walls are also painted black below and white above. The outer face of each original west wall is now visible inside the storage additions. It comprises a base of 2" x 11" horizontal boards up to approximately 3 ft, 6 inches in

height with 9-inch boards vertically installed above. The heavy horizontal boards were no doubt thicker to withstand the presence of a horse or mule stabled in the end stalls. Along the aisle, the storage additions continue the vertical siding pattern, but the boards are more irregular in size and less carefully installed (HABS No. AZ-210-A-13; HABS No. AZ-210-A sheet 6, sections DD and EE).

The outer faces of the west walls of the storage additions contain a most important revelation. These walls are partly constructed from the original stall rails. From this discovery, it is now possible to know how all stalls were railed initially. By examining the posts, it is evident that stalls were probably open on the aisle end, as in the original troop stables. The rails, varying in size from 2" x 5"s to 2" x 8"s, were framed into the wall side of each post. There were five rails with a lower nailing board. (Today, the lower board is partly exposed on the wall and otherwise nearly buried in the earth between some of the stalls.) On the top rail is a metal strip attached by tiny nails to prevent wood gnawing by the occupants of the stall (Figure A.10).

Since the rails have gaps between them, the west walls required enclosure to create the storage room additions. For the north addition, wide vertical boards were installed on the east face of the rails. For the south addition, a make-shift wall of 2" x 4" slats was built up above the rails. This was enclosed by vertical sheathing inside the storage room addition (HABS No. AZ-210-A sheet 6, interior section FF).

The interior cladding on the forage and grain and saddle room walls varies. The former saddle room has intact and either original or early ¾" x 3 ½" horizontal, redwood sheathing. It is painted cream yellow up to 3 ft, 10 inches in height, and white above (HABS No. AZ-210-A-14). The modified, former forage and grain room still has some of the original 3 1/8" horizontal siding, but a later siding of different widths has been added. The 2" x 4" partition that divides the original space into two offices is clad in gypsum wallboard. The south storage addition has vertical straight-board sheathing and tongue-and-groove siding, painted black and white as elsewhere. The north storage addition has unpainted, redwood, ¾" x 3" tongue-and-groove sheathing installed horizontally and vertically.

The walls of the dismantled 1975 utility room, located in the northwest corner, are now clad in gypsum wallboard up to the top level of the window casing.

There are no ceilings in the open stable area, but they do exist in the original storage rooms and additions. Now dismantled, there was also a frame ceiling in the northwest utility room. Both the forage and grain and saddle rooms have the original, clad, frame ceiling, painted white. Cladding is constructed of 1" x 9" boards with 1" x 2" battens running longitudinally east and west. The ceiling height is approximately 10 ft. The north storage addition has redwood, tongue-and-groove sheathing installed to run east to west. The ceiling of the utility room, framed with 2' x 6" joists with plywood sheathing above and gypsum wallboard below, is mostly missing today (HABS No. AZ-210-A sheet 6, saddle room wall sections 5 and 5A).

5. Openings:

a. Doorways and doors: Interior openings and doors pertain to the forage and grain and saddle rooms and their additions. There are five openings and one enclosed former opening visible along the aisle. The saddle room has two door openings. The east opening, 2 ft, 11

inches by 6 ft, 8 inches, looks original, but its door is currently missing. It has $\frac{3}{4}$ " x $5\frac{1}{4}$ " casing on the aisle face and $\frac{3}{4}$ " x 3" casing inside. This door has an early, if not original, raised threshold made from a 4" x 4" with an iron cap nailed on top (Figure A.11). Apparently, the second opening once matched the east opening in size. Now enlarged, this 8-ft, $\frac{1}{4}$ -inch-wide opening had a pair of flush, swinging plywood doors. One is now missing. The south storage addition retains its early, 2-ft, $5\frac{1}{2}$ -inch by 6-ft, 8-inch, six-panel wooden door painted black and white to match the walls (Figure A.12; HABS No. AZ-210-A, sheet 6, door details 1).

The former forage and grain room has an enclosed doorway at the east end. Its casing remains intact, and the opening is otherwise filled-in with vertical boards. There is no sign of this doorway inside, which indicates the horizontal siding was installed later. The original second opening is missing its door. This opening has been modified recently by lowering its lintel height. In the gypsum wallboard partition of this modified storage room is a contemporary 3 ft, 0-inch flush panel door with a recent, broken, metal lock set. The north storage addition has a 2-ft, $7\frac{3}{4}$ -inch-wide, five-panel wooden door.

Stored in the dismantled utility room in the northwest corner of the building is a flush door clad in mint green plastic laminate. This door no doubt pertains to the era of the veterinary use.

b. Windows: Noted elsewhere.

6. Tack holding features: The saddle room today has a number of features on its north and south walls that may relate to earlier storage of tack. On the west end of the north wall are four black-painted, arched segments of wood mounted on a horizontally installed, 1" x 6" board. This board has quarter round molding along its lower edge and sculpted molding above. The arched segments are $2\frac{1}{2}$ inches high and 8 inches long. Mounted on a trimmed 1" x 6" on the east end of this wall are alternating pegs and arched segments (Figure A.13).

The south wall has areas where former rectangular-shaped features have been removed from the wall and from a 1" x 4", horizontally installed board. The natural, unpainted color of the redwood wall sheathing can be seen in the exposed areas.

7. Hardware: None original.

8. Mechanical equipment:

a. Heating, air-conditioning, ventilation: When first constructed, the building had no mechanical equipment. Ventilation, a necessity for a stable, was provided through operable windows. According to the real property record, the space heater in the east office of the modified north saddle room was installed in 1974 (U.S. Army Form 2877). It is a dented, "Brilliant Fire" gas heater with a 4-inch-diameter flue that passes through a makeshift hole in the roof. It has a 1-inch gas connection (Figure A.14).

b. Lighting: Although some of the porcelain knob fittings remain from the original electrical installation, wiring and light fixtures have been removed. The real property record notes a 30-amp connection with #8 wire. Fluorescent lights were installed in 1974, probably in the storage rooms (U.S. Army Form 2877). In 1982, during the veterinary facility modification,

new wiring was installed, two existing fluorescent fixtures were relocated to the northwest storage room, and five fluorescent fixtures were installed over the aisle in the stall area (Facilities Engineering Directorate 1981).

c. Plumbing: The 1941 building record card notes a ¾-inch water connection and a 4-inch sewer (U.S. Army War Dept. 1941). A new water line was provided for the 1982 work, and each stall was served with a water container and faucet (Facilities Engineering Directorate 1981).

d. Detection/Protection: A fire alarm system with photoelectric-heat detectors was installed in 1982 (Facilities Engineering Directorate 1981).

D. Site

1. General setting and orientation: Near the northwest corner of the intersection of Hungerford Avenue and Clarkson Road, Building 30023 is the southernmost unit of Fort Huachuca's historic cavalry stable complex in the former, expanded Quartermaster area east of Huachuca Creek. The building is an integral component of a property of seven parallel, regularly arranged, matching units aligned along Clarkson Road and spaced approximately 70 ft apart, with former paddocks in between. These elongated, gable-roofed buildings are southeast-northwest trending. Given the spatial quality inherent in the regulated positioning of these buildings, the complex itself can be considered a single historic property.

The site incorporates the stable complex and a surrounding area that includes the right-of-way of former El Paso and Southwestern railroad tracks to the east, Hungerford Avenue to the south, Huachuca Creek to the west, and part of the parking lot of Building 30031 to the north. The terrain slopes considerably to the northwest. Today's Clarkson Road, once an unnamed dirt access way, is asphalt paved. The historic railroad right-of-way, just east of Clarkson Road, comprises a level bed along the top of a steep embankment. There is a stone-lined drainage ditch along the east edge of the railroad bed and several Depression-era mortared, stone masonry features, including stairs and a retaining wall, within view of the buildings. Large, historic cottonwood trees grow along the railroad bed and downslope to the west along Huachuca Creek, a dry watercourse for much of the year (HABS No. AZ-210 sheet 2; Parkhurst and Thiel 2005).

The microsite of Building 30023 includes an earth strip between the east side of the building and Clarkson Road, the location of the concrete entrance apron. Also included is the former paddock area, an area of grass and packed earth between this building and Building 30024. Currently this paddock is enclosed by an 8-ft-high chain-link fence with a gate off Clarkson Road (Figure A.15). To the south and west of Building 30023 is an unfenced zone of trimmed grass and packed earth that extends to the paved access road and parking lots for the nearby veterinary facility.



FIGURE A.3. CONCRETE STEM WALL SHOWING A CRACK AND ABRASION. SOUTH SIDE NEAR THE WEST END (PHOTOGRAPH BY JANET PARKHURST, NOVEMBER 2004).



FIGURE A.4. BOARD-AND-BATTEN SHEATHING ON SOUTH WALL, SHOWING FLAKING PAINT AND BROKEN BATTEN (PHOTOGRAPH BY JANET PARKHURST, NOVEMBER 2004).



FIGURE A.5. TYPICAL INTERRELATED FRAMING COMPONENTS (PHOTOGRAPH BY JANET PARKHURST, NOVEMBER 2004).

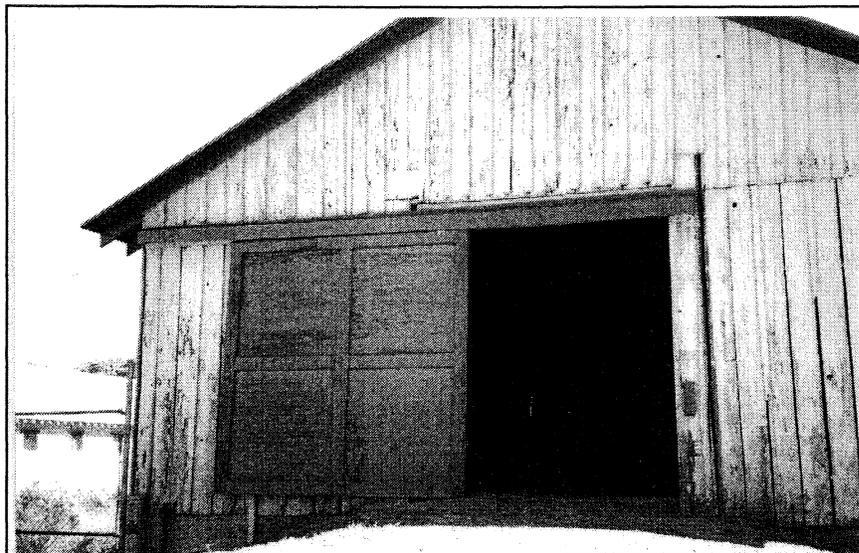


FIGURE A.6. WEST SLIDING DOOR, AN ASSEMBLY OF PLYWOOD AND BOARD STILES AND RAILS (PHOTOGRAPH BY JANET PARKHURST, NOVEMBER 2004).

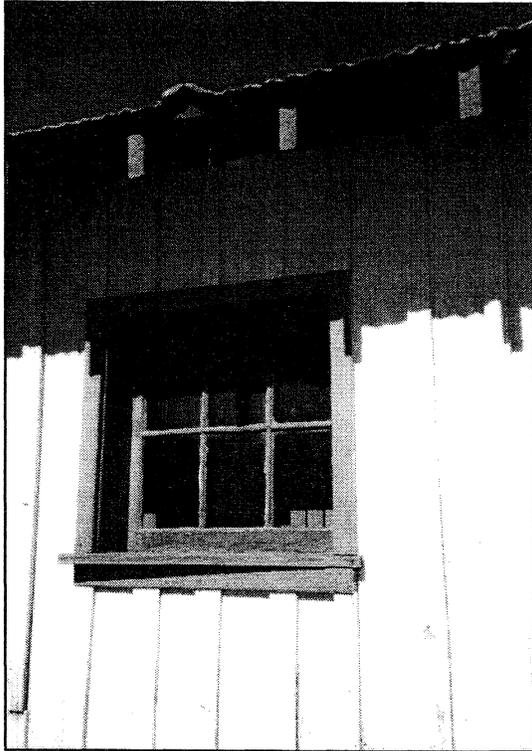


FIGURE A.7. TYPICAL SIX-LIGHT STALL WINDOW, SOUTH WALL (PHOTOGRAPH BY JANET PARKHURST, NOVEMBER 2004).

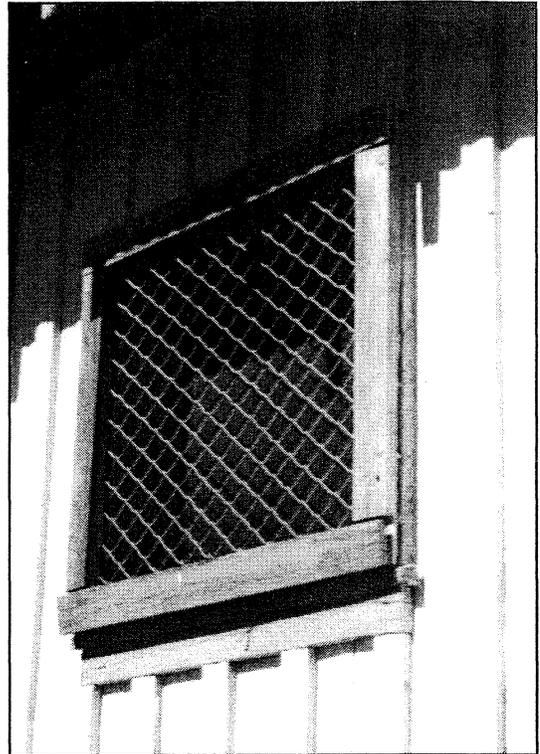


FIGURE A.8. FRAMED WIRE-MESH WINDOW GRILL FOR VETERINARY CARE AREA, SOUTH WALL (PHOTOGRAPH BY JANET PARKHURST, NOVEMBER 2004).

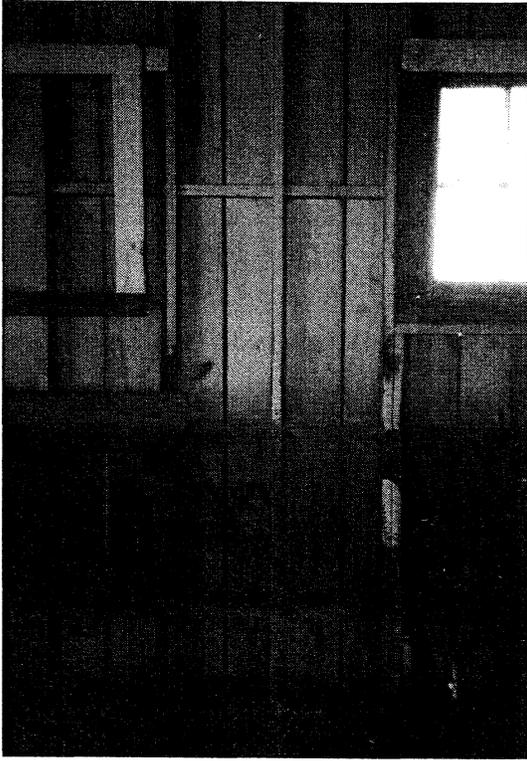


FIGURE A.9. TYPICAL UNFINISHED, OPEN-FRAME WALL IN THE STABLE AREA (PHOTOGRAPH BY JANET PARKHURST, NOVEMBER 2004).

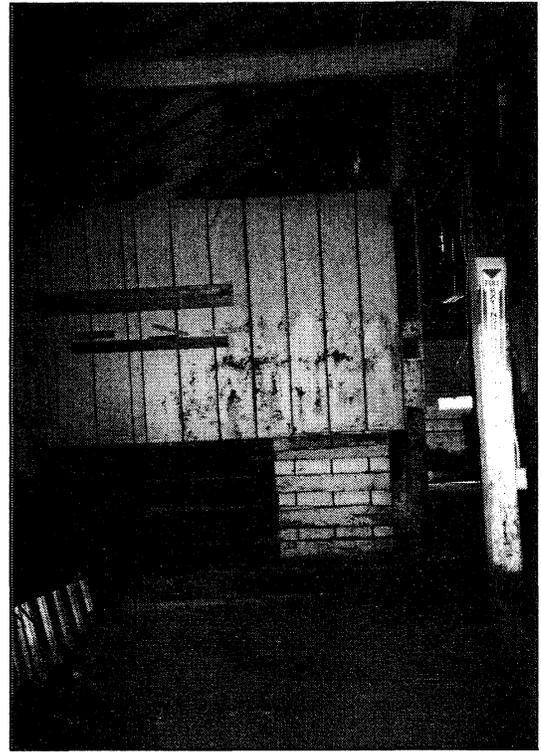


FIGURE A.10. WEST WALL OF NORTH STORAGE ROOM ADDITION SHOWING INCORPORATION OF ORIGINAL STALL RAILS AND PAINTING SCHEME OF BLACK BELOW, WHITE ABOVE (PHOTOGRAPH BY JANET PARKHURST, NOVEMBER 2004).

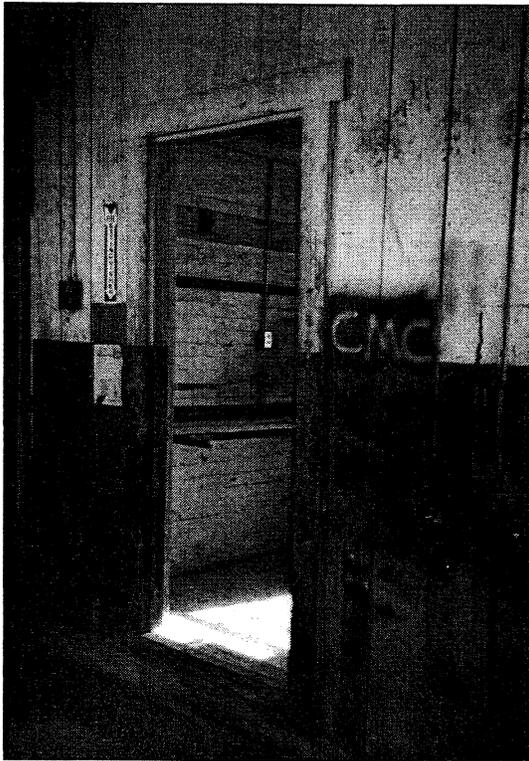


FIGURE A.11. SADDLE ROOM DOOR OPENING, MISSING ITS DOOR, FROM AISLE. NOTE RAISED THRESHOLD (PHOTOGRAPH BY JANET PARKHURST, NOVEMBER 2004).

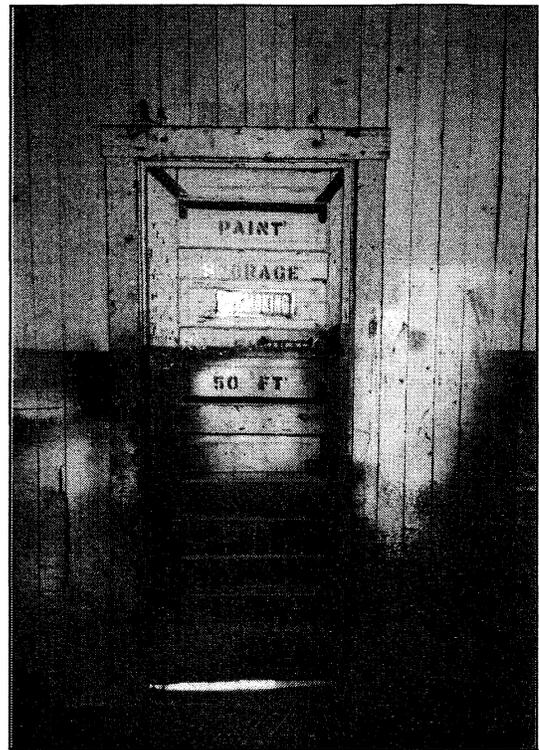


FIGURE A.12. EARLY, FIVE-PANEL DOOR, FROM AISLE, SOUTH STORAGE ROOM ADDITION (PHOTOGRAPH BY JANET PARKHURST, NOVEMBER 2004).

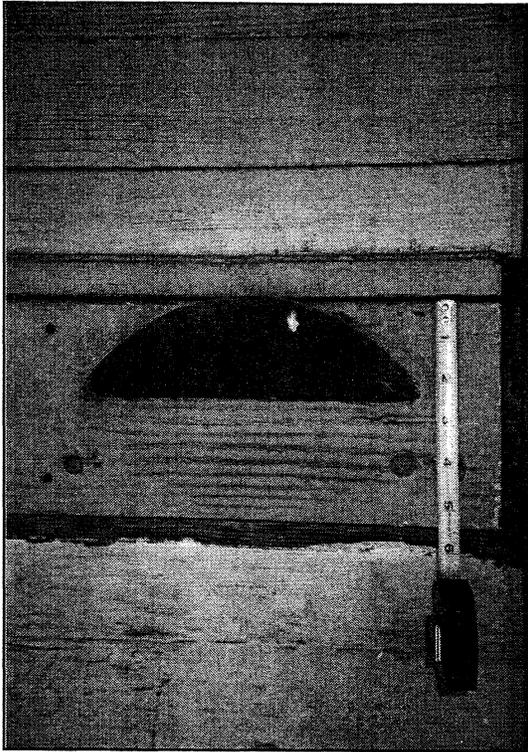


FIGURE A.13. ARCHED WOOD TACK HOLDING FEATURE, SADDLE ROOM NORTH WALL (PHOTOGRAPH BY JANET PARKHURST, NOVEMBER 2004).

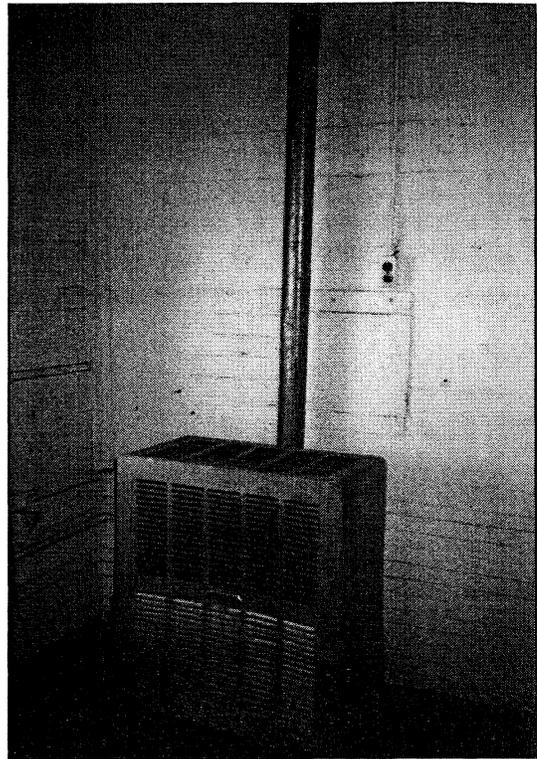


FIGURE A.14. SPACE HEATER IN NORTH-EAST CORNER OF THE EAST OFFICE OF THE NORTH SADDLE ROOM (PHOTOGRAPH BY JANET PARKHURST, NOVEMBER 2004).

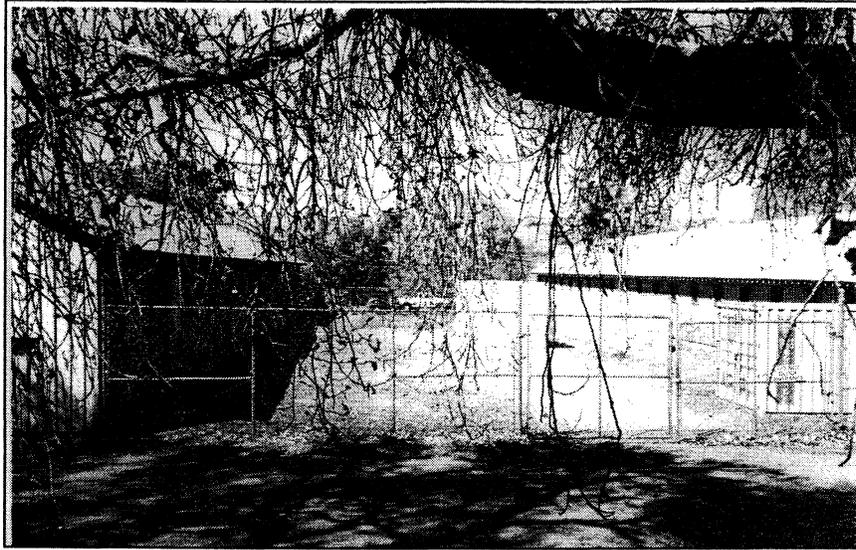


FIGURE A.15. FORMER NORTH PADDOCK BETWEEN BUILDINGS 30023 AND 30024 (PHOTOGRAPH BY JANET PARKHURST, NOVEMBER 2004).

PART III. SOURCES OF INFORMATION

A. Architectural Drawings: This building was constructed from the Office of the Constructing Quartermaster Corps (O.C.Q.C.) standardized plan no. 291, as noted on the initial property record card (U.S.A.Q.M.C. 1916). The plans were not found at Fort Huachuca or other depositories of records. During the period when Fort Huachuca was deactivated and reactivated several times, from 1947 to 1954, drawings and records were removed from the post and apparently lost (Parkhurst and Thiel 2005).

The U.S. Army generated one early twentieth-century, standardized plan that is very similar to the Fort Huachuca cavalry stable plan (Construction Division of the Army 1919:plate 58). It has the same elongated layout, front-gabled form, framing system, and fenestration found in plan no. 291. This closed stable features a double-loaded, central-aisle, straight-stall plan with saddle and forage rooms at one end of the building. Mangers are mounted on the frame walls (Figure A-S.3).

B. Early Views: Early views of Building 30023 are found on the initial property record card, Q.M.C. Form No. 173a and the 1941 card, Q.M.C. Form No. 117 (Figures A.2, A-S.1). A 1952 view, taken from a color slide, shows the cavalry stable complex when it was painted cream yellow (Figure A-S.4).

C. Interviews, Consultations:

Robert Arzola, Architect. Historic American Buildings Survey, National Park Service, Department of the Interior, Washington D.C. Mr. Arzola provided initial verbal guidance for architectural drawings. March 2004.

Tom Campbell, Mechanical Engineer. Engineering Services Branch, Engineering Plans and Services Division, Fort Huachuca, Arizona. Mr. Campbell researched and provided historic maps and building modification plans. January 2005.

Mike Berg, Branch Chief. Engineering Services Branch, Engineering Plans and Services Division, Fort Huachuca, Arizona. Mr. Berg provided a disk of scanned historic plans, including a modification for Building 30023. November 2004.

Jack Boucher, Photographer. Historic American Buildings Survey, National Park Service, Department of the Interior, Washington, D.C. Mr. Boucher provided initial verbal guidance for the large-scale photography. March 2004.

Paul W. Chattey, Historical Architect. Resources, Management and Science Department. Yosemite National Park. Mr. Chattey provided information about his work at Fort Huachuca, including his 1998 HABS documentation of four of the cavalry stables while working for the U.S. Army Corps of Engineers, Seattle District. March 2004, February 2005.

Thomas G. Cochran, Chief. Environmental and Natural Resources Division, Directorate of Public Works, Fort Huachuca, Arizona. Mr. Cochran provided administrative support for this HABS project. December 2003 to February 2005.

Paul Dolinsky, Chief. Historic American Buildings Survey, National Park Service, Department of the Interior, Washington, D.C. Mr. Dolinsky provided initial verbal guidance for documentation of a stable complex. March 2004.

Raymond L. Easton, Real Property Clerk. Real Property Division, Directorate of Public Works, Fort Huachuca, Arizona. Mr. Easton researched, interpreted, and provided property record cards for the seven stable buildings. In addition, he provided a very useful map and a 1951 building inventory. November 2004 through February 2005.

Bob Frankeberger, Architect. Arizona State Historic Preservation Office, Phoenix, Arizona. Mr. Frankeberger provided scope guidance, review, and coordination with Fort Huachuca and the National Park Service, Denver, Colorado. March and June 2004.

Steve Gregory, Museum Assistant. Fort Huachuca Historical Museum, Fort Huachuca, Arizona. Mr. Gregory provided research guidance and archival material including maps, photographs, and text about the evolution of the site and the stabling of mules and horses at Fort Huachuca. January, February 2005.

Tomas G. Keohan, Historical Architect. Heritage Partnership Program, National Park Service, Intermountain Regional Office, Denver, Colorado. Mr. Keohan provided guidance and review of CAD drawings of the site and Building 30023. October 2004 until April 2005.

Vince Moreau, Facility and Space Utilization Specialist, Real Property Division, Directorate of Public Works, Fort Huachuca, Arizona. Mr. Moreau secured access to the buildings for documentation purposes. December 2003 through January 2005.

Mary Padilla, HABS/HAER Coordinator. National Park Service, Santa Fe, New Mexico. Ms. Padilla assisted with initial procedure and provided original material from a 1996 submission for Building 30023. March 2004.

William T. Phillips, Museum Director, Fort Huachuca Historical Museum, Fort Huachuca, Arizona. Mr. Phillips provided archival property record cards, maps, early photographs, disks with scanned images, historic information, and research guidance plus arranged the venue for the photographer. November 2004 to January 2005.

Charles Slaymaker, Ph.D., Historic Properties Manager. Environmental and Natural Resources Division, Directorate of Public Works, Fort Huachuca, Arizona. Dr. Slaymaker was the historic property manager for this HABS project. He provided administrative support and documentary material on the buildings. He provided on-going research guidance and participated in valuable interviews. December 2003 to February 2005.

Joshua Swanson, ITAM GIS Analyst. Range Management, Fort Huachuca, Arizona. Mr. Swanson provided base contour and aerial plans, appropriately scaled and adjusted, to be used for the project site plan. In addition, he provided individual building UTM's. January 2005.

Lysa Wegman-French, Historian. Heritage Partnership Program, National Park Service, Intermountain Regional Office, Denver, Colorado. Ms. Wegman-French outlined the project scope. In addition, she provided on-going guidance of HABS procedures and review of submittals. March 2004 to April 2005.

D. Bibliography

Books and Reports:

Bischoff, Matt C., David G. DeVries and Andrea Urbes. *Historic American Buildings Survey: Written Historical and Descriptive Data and Photographs for HABS No. AZ-210-A, Cavalry Stable (Building 30023), USAG Fort Huachuca, Arizona*. Technical Report No. 98-3. Tucson: Statistical Research, Inc., 1996.

Chattey, Paul W. "Fort Huachuca, Building 30023 (Cavalry Stable), HABS No. AZ-XX-XX." Draft HABS outline form. Seattle: U.S. Army Corps of Engineers, Seattle District. Technical Center of Expertise for Preservation of Historic Buildings and Structures, 1998.

Construction Division of the Army. *Manual of the Construction Division of the Army*. Washington, D.C.: Consolidated Supply Co., 1919.

Parkhurst, Janet H., and J. Homer Thiel. "Historical Narrative," in *A Historic American Buildings Survey of the Fort Huachuca Cavalry Stables (HABS No. AZ-210-A through G), Cochise County, Arizona*, by Janet H. Parkhurst, J. Homer Thiel, Ralph Comey, and Susan D. Hall. Project Report No. 05-116. Tucson: Desert Archaeology, Inc., 2005.

U.S. Army Forms:

U.S. Army. Real Property Record, DA Form 2877. Authorized for use on 1 November 1964. On file at the Fort Huachuca Real Property Division Office. Entries for Building 30023 go from 1951 to 1982.

U.S. Army Corps of Engineers (U.S.A.C.E.), Los Angeles District. DD Form 290 – Transfer of New Construction/Real Property – RE-C-292-51. An inventory of properties for re-activation of the fort. On file at the Fort Huachuca Real Property Division Office and at the Fort Huachuca Historical Museum, 25 April 1951.

U.S. Army Quartermaster Corps (U.S.A.Q.M.C.), Q.M.C. Form No. 173a, 1916. Property record card, authorized for use on 15 November 1913. Card is for Building No. 121. On file at the Fort Huachuca Historical Museum Annex, 1916.

U.S. Army War Department, Q.M.C. Form No. 117 (Old No. 173A), 1941. Property record card, revised 28 June 1939. Card is for Building No. 121. On file at the National Archives II, College Park, Maryland, Record Group 77, Ch. of Engineers, Entry 393, Historical Record of Buildings, Box 95, Folder 4.

Drawings:

Facilities Engineering Directorate, Fort Huachuca, Arizona. "Install Horse Care Facility." Architectural plans. On file at the Fort Huachuca Engineering Services Branch Office, 13 February 1981.

Post Engineer Office, Fort Huachuca, Arizona. General Site Plan Building Use Map. On file at the Fort Huachuca Historical Museum, 9 June 1955.

U.S. Army Corps of Engineers, Los Angeles District. D.O. Series 1124-6. Demobilization Study Layout Plan. On file at the Fort Huachuca Real Property Division Office. 1 November 1945, revised 1946,

E. Likely Sources Not Yet Investigated: The occupancy history of Building 30023 has not been completely documented. It would be useful to know whose horses were stabled in the building after the 10th Cavalry departed, as well as who used the building when it was a storehouse rather than a stable. An Army personnel record search for individuals who might have worked in the stables could prove useful.

SECTION C. PLATE 58

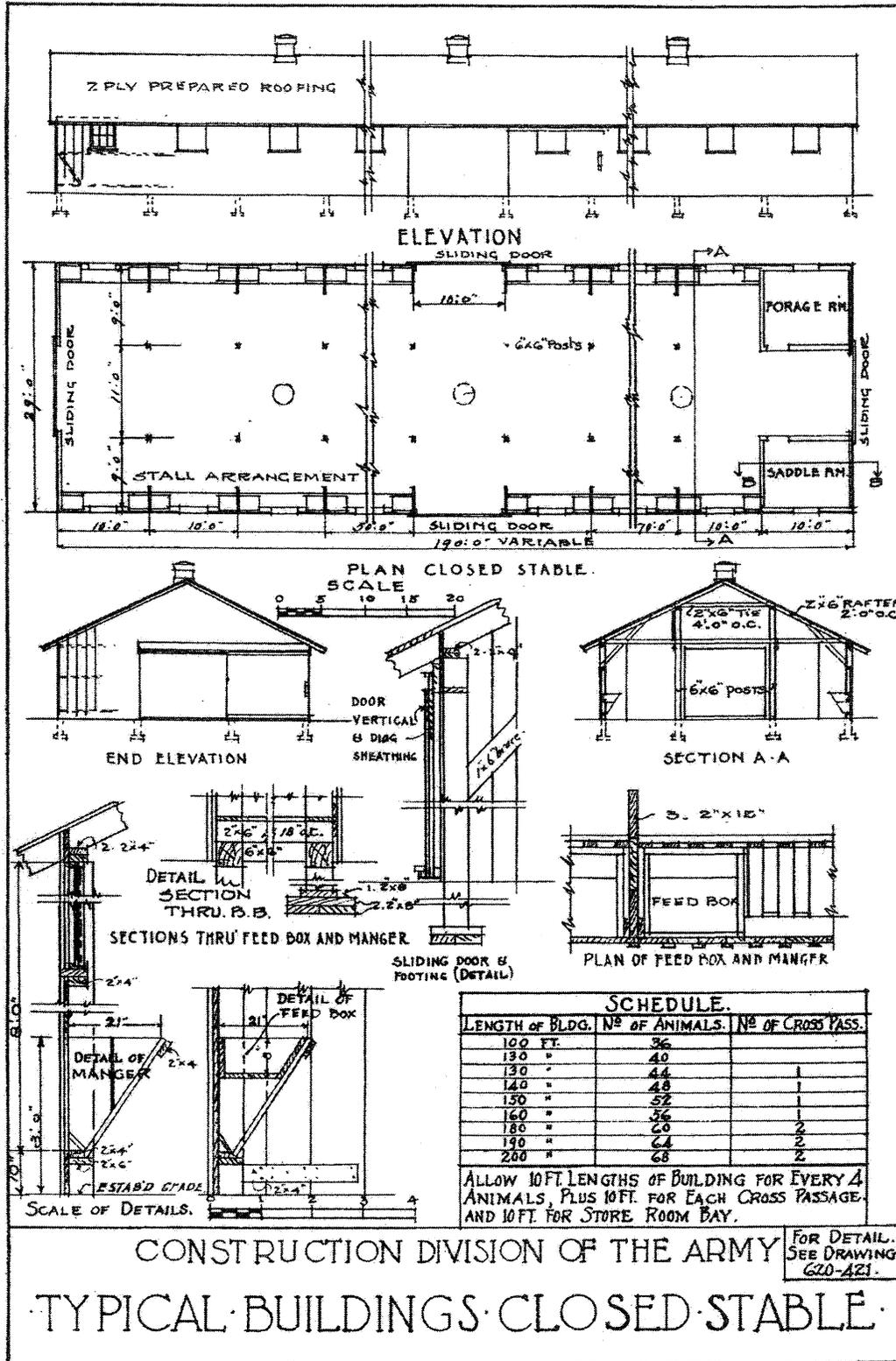


FIGURE A-S.3. "TYPICAL BUILDINGS, CLOSED STABLE." A 1919 STANDARDIZED Q.M.C. PLAN VERY SIMILAR TO THAT OF FORT HUACHUCA'S CAVALRY STABLES (CONSTRUCTION DIVISION OF THE ARMY 1919:SECTION C PLATE 58).

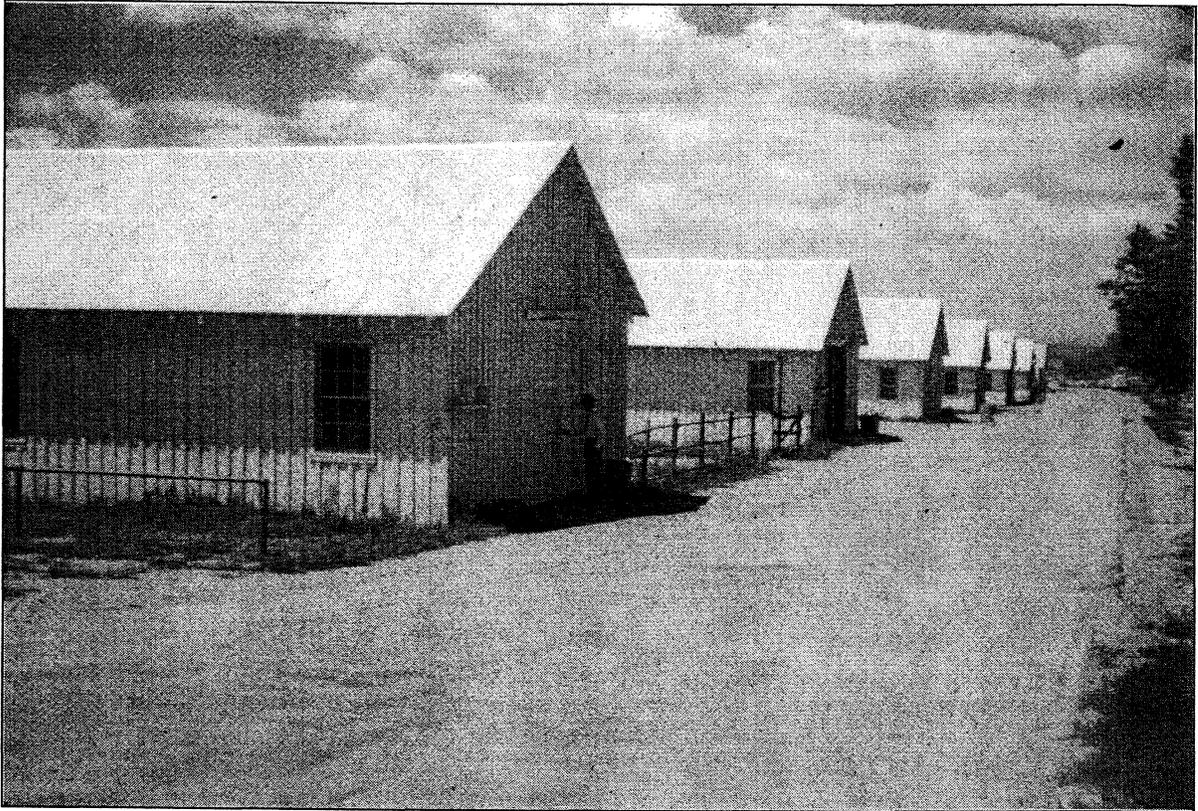


FIGURE A-S.4. 1952 IMAGE OF THE COMPLEX WHEN BUILDINGS WERE PAINTED CREAM YELLOW. BUILDING 30023 IS IN THE FOREGROUND. (COLOR SLIDE BY JOSEPH A. PUZAS; SCANNED IMAGE ON FILE AT THE FORT HUACHUCA ENVIRONMENTAL AND NATURAL RESOURCES DIVISION.)

PART IV. PROJECT INFORMATION

A number of individuals contributed to this project, working from December 2003 to March 2005. Architectural building documentation and historical research were completed by Tucson historic architects Janet H. Parkhurst, M.A., and Ralph Comey, M.A., AIA, of Ralph Comey Architects and Janet H. Strittmatter, Inc., Associated Architects. Historical research was also conducted by historical archaeologist J. Homer Thiel, M.A., of Desert Archaeology, Inc., at the National Archives and the Library of Congress in Washington, D.C.; the Arizona Historical Society and the University of Arizona Special Collections in Tucson, Arizona; and at the Fort Huachuca Historical Museum, Fort Huachuca, Arizona.

Peter L. Trexler, photographer, and Moira MacMahon, photography assistant, photographed the buildings and archival photographs at Fort Huachuca and prepared large-format photographs for inclusion in the report. Susan D. Hall, an archaeologist and former architect employed by Desert Archaeology, Inc., drafted the architectural drawings.

ADDENDUM TO:
FORT HUACHUCA, CAVALRY STABLE
(Building No. 30023)
(Building No. 85)
(Building No. 121)
(Building No. 3034)
Clarkson Road
Sierra Vista vicinity
Cochise County
Arizona

HABS AZ-210-A
AZ-210-A

HABS
AZ-210-A

REDUCED COPIES OF MEASURED DRAWINGS

HISTORIC AMERICAN BUILDINGS SURVEY
National Park Service
U.S. Department of the Interior
1849 C Street NW
Washington, DC 20240-0001