

LIGHT HORSE SQUADRON ARMORY COMPLEX
(Armory & Riding Hall)
4108 N. Richards Street
City of Milwaukee
Milwaukee County
Wisconsin

HABS No. WI-378-A

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN BUILDINGS SURVEY

National Park Service
Midwest Regional Office
601 Riverfront Drive
Omaha, Nebraska

HISTORIC AMERICAN BUILDINGS SURVEY

LIGHT HORSE SQUADRON ARMORY COMPLEX
(ARMORY AND RIDING HALL)

Location: 4108 N. Richards Street
City of Milwaukee, Milwaukee County, Wisconsin

Significance: The Armory and Riding Hall is the central piece of the Light Horse Squadron Armory complex. It is Wisconsin's largest and oldest National Guard armory. It was home from 1931 to 1940 to the headquarters and several troops of the 105th Cavalry Regiment, which was among the last horse cavalry units in the entire National Guard of the United States. After World War II, the building was the headquarters of the Wisconsin Army National Guard's 32nd Infantry Division, which commanded most of the state's National Guard units, until its deactivation in 1968. The armory is an immense structure executed in the Art Deco architectural style. The building, which was built entirely with private funds, was considered at the time of its construction to be one of the most modern and innovative urban armories in the nation.

History: Lieutenant Colonel Henry C. Hengels was the architect that designed the Richards Street Armory, which was dedicated on 28 February 1931. Hengels was born in McHenry, Illinois, in 1876. He studied architecture at Chicago's Armour Institute, as well as abroad, and eventually settled in Milwaukee where he became known as a specialist in reinforced concrete construction. Hengels enlisted in the Wisconsin Army National Guard in 1917. He was appointed to the position of State Military Architect and Engineer by Governor Emmanuel Philipp. Hengels held that position until his death in 1943. Utilizing a variety of styles during his tenure, he designed virtually all armories and other National Guard buildings constructed in Wisconsin between World War I and World War II. Three of his armory designs have been listed in the National Register of Historic Places: the Mission-style Oconomowoc Armory (1922), the Twentieth-Century Revivalist Janesville Armory (1925) and the Late Gothic Revival-style Whitefish Bay Armory (1928), which is no longer extant.¹

¹"Hengels Rites to the Military," *Milwaukee Journal*, 25 November 1943; "Colonel Hengels Dead at 67," *Milwaukee Sentinel*, 25 November 1943; "127th Regiment Infantry Company G, Oconomowoc National Guard Armory," National Register of Historic Places Nomination, Prepared by Jean Lindsay Johnson and Elizabeth L. Miller (1984), Copy on file at the Division of Historic Preservation, Wisconsin Historical Society, Madison, WI; National Register of Historic Places Inventory, Material online at www.wisconsinhistory.org. None of the Hengels-designed armories listed in the National Register remain in use by the Wisconsin National Guard. The Whitefish Bay Armory was placed on the National Register in 2002 (after it was sold by the WIARNG) and razed in 2004.

LIGHT HORSE SQUADRON ARMORY COMPLEX
ARMORY & RIDING HALL
HABS No. WI-378-A
Page 2

The armory and riding hall were constructed by contractor Raymond Sheridan in 1930 and 1931 as a replacement to the 105th Cavalry's outdated armory in nearby Shorewood. It was constructed to house four units of the 105th, as well as to provide an indoor riding arena.

Description:

A. General Statement:

1. Architectural character: The Light Horse Squadron Armory and adjoining Riding Hall were completed in 1931. Taken together, they comprise a large, two-story, brick building with restrained elements of the Art Deco style. The interior framework is structural steel. The foundation is poured concrete. Red brick wall piers are regularly spaced throughout the tan brick walls. The armory consists of a headhouse connected to a large riding arena wing (currently a drill floor) by a narrow hyphen. The headhouse is oriented on a north-south axis. The main facade faces west. The drill floor wing is situated on an east-west axis with the main facade facing east. The headhouse is highlighted on its west side by a large, central entrance defined by a heavy stone arch. Fenestration is comprised of large openings that are regularly spaced and fitted with replacement windows. Stone accents are found throughout the building. The riding hall is topped with a prominent arched roof covered with green-painted metal and pierced by original skylights. Openings in the riding hall wing's walls are small, regularly placed and fitted with original, metal, multiple-paned windows.²
2. Condition of Fabric: The condition of the exterior fabric is good. The armory underwent a significant renovation in the 1980s when almost all multi-pane exterior windows and wooden doors were replaced with modern ones comprised of steel and plate-glass. Several windows and doorways throughout the facility have been infilled with brick. A small stairway block replaced a fire escape on the headhouse's north facade in the 1990s. The interior of the headhouse retains good integrity in the hallways, lobby stairwells and several office and clubroom spaces. A basement-level gymnasium on the north end was converted into two levels of office space in the 1950s. Over time, a number of other office, lavatory, storage and supply

²All measurements used in the Description section are a combination of on-site measurements, visual examination and a review of project plans. On-site measurements largely were limited to what was reachable without use of ladders and other devices.

LIGHT HORSE SQUADRON ARMORY COMPLEX
ARMORY & RIDING HALL
HABS No. WI-378-A
Page 3

spaces have been altered through the application of a variety of building materials. However, the original footprint largely remains.

The interior of the riding hall was remodeled in 1949 when it was paved with concrete and its horse stables were converted into office and supply spaces. A small part of the riding arena that included the second-floor observation deck was remodeled into two-stories of office and classroom space.

B. Exterior Description:

1. General Description: Rising from a concrete foundation and constructed of brick, this Art Deco-style armory has a two-story, flat-roof headhouse block connected by a narrow, two-story hyphen to a two-story, arched-roof riding hall. The west facade of the headhouse is defined by a prominent, ornate, central entry block that contains a third level which consists of a single room. Fenestration is symmetrical. The headhouse generally has metal, double-hung replacement windows situated in brick wall bays created by prominent brick wall piers. The east side of the riding hall wing is defined by polygonal entry blocks at the northeast and southeast corners. Fenestration is symmetrical and generally consists of small, multi-pane, metal-framed, original awning windows situated within brick wall bays defined by heavy brick wall piers. Both the headhouse and riding hall carry prominent wall chimneys situated near the connecting hyphen. Ornamentation on the headhouse block consists of multi-colored, patterned brick, as well as brick corbeling, carved concrete pier caps and large window and door arches. Riding hall ornamentation is more restrained and includes the use of multi-colored brick, limited amounts of corbeling and ornamental concrete pier caps. The headhouse carries four stone insets that detail various aspects of organizational history.
2. Overall Dimensions: The headhouse measures 191' x 58' and the riding hall measures 288' x 159'. The connecting hyphen is 32' long.
3. Foundations: The foundation is poured concrete. The headhouse foundation is 2'-8" thick and reinforced with regularly spaced piers that range between 3'-8" and 4'-4" wide. The riding hall foundation consists of regularly placed concrete piers that are 2'-8" x 2'-8" and extend 4' below grade.
4. Walls:

Armory: The walls are constructed of tan-colored, common brick with red

LIGHT HORSE SQUADRON ARMORY COMPLEX
ARMORY & RIDING HALL
HABS No. WI-378-A
Page 4

brick accents laid in a ratio of five brick stretcher courses to one header course. The west, north and east walls carry prominent red brick 24" x 24" wall piers spaced generally on 16' centers. The piers are three-quarter height and crowned with simple concrete caps with projecting bullnose ends. The south endwall carries a single 21¼" x 24" red brick pier along with a prominent entrance and a large wall chimney.

Riding Hall: The walls are 8" thick and constructed of tan-colored, common brick with red brick accents laid in a ratio of five brick stretcher courses to one header course. The north and south sidewalls carry red brick (24½" x 8½") full-height wall piers set on 20' centers. These piers carry the roof trusses. The east endwall displays 44" x 25" red brick wall piers crowned with ornate concrete caps with finials at its corner entry block. The wall of the shed roof section between the entry blocks is defined by a pair of elaborate buttress-like wall piers that include a main, 21" x 48" full-height pier and an attached, 24" x 24" section that rises 74". Both parts are topped with a heavy concrete cap with the shorter pier additionally adorned with a 24" tall finial. The west endwall is decorated with 12" x 12" faux wall piers at the hyphen junction and at two wall chimneys. A pair of heavy, 26" x 12", full-height wall piers executed in red brick also exist on the facade.

5. Main Entrance: The west facade of the armory is defined by a large, central, tower-like entrance that is 28' wide and projects 6'. It rises one-half story above the main part of the building and is served by a broad concrete staircase that measures 17' 6" wide and consists of thirteen steps. Each step rises 5½" and has a 14" tread. A 32" high, metal, replacement tubular railing guards each side and runs at the center of the staircase.

The entry block features a dominant stone arched entry comprised of voussoirs that measure between 24" and 28" across, and are tied together with copper keys. The wall around the voussoirs has a checkerboard pattern of header-course tan and red brick. Recessed within the arch is a modern, double doorway topped with an original arched transom window comprised of sixteen panes set within thin, metal muntins. A concrete sill for a large window that marks a stairway landing is immediately above the stone entry arch. The arch is flanked by 36" x 36" piers highlighted with checkerboard patterned red and tan brick and topped with large, ornate stone caps inscribed with the Distinctive Unit Insignia (DUI) of the 105th Cavalry Regiment. A round copper pendant with "105" in raised numerals is affixed to the brick wall immediately above each pier. Centered at the top of the entry block is

LIGHT HORSE SQUADRON ARMORY COMPLEX
ARMORY & RIDING HALL
HABS No. WI-378-A
Page 5

a large, circular stone inset carved with the seal of the Light Horse Squadron Armory Association – a horse's head and crossed cavalry sabers within a sunburst surround.

6. Openings:

A. Doors:

Doorways originally were constructed of 6" vertical boards pierced by windows protected by a starburst-pattern metal grate. The doors were affixed to the walls with heavy strap iron hinges. All doors, with the exception of those located in the hyphen, have been replaced with metal examples.

Armory: Double doorways exist on the west and south facades. A third doorway exists in the ca.-1990s stairway block attached to the headhouse's north facade. This block replaced a metal fire escape. The hyphen has the only original, exterior door in the entire building. It measures 42" x 85" and consists of 6" vertical boards pierced by a 25" x 24" window protected by a decorative metal grate. It is topped with a small, round-arch transom.

Riding Arena Wing: The east facade has two 12' wide x 10' tall doorways at the southeast and northeast corners. The one to the southeast is fitted with a replacement metal, overhead garage door, while the northeast opening is infilled with brick. An 8' wide x 9' tall doorway is at the center of the south facade. The doorway is set off from the rest of the facade by a gabled peak and a round-arch transom. The opening is infilled with concrete block and a standard-sized metal door. The multiple-light transom remains intact. The west facade contains an 84" x 50½" doorway with a 27½" round-arch transom near the northwest corner and 78½" tall x 97" wide doorway topped with a 40" tall round-arch transom near the southwest corner. Both openings have replacement metal doors but retain the original multi-light transoms.

B. Windows:

Armory: Windows, generally, are paired one-over-one, metal replacements. Openings on the west and east facades generally reside within spaces created by the red brick wall piers. Each window opening on the first and second level measures 96" wide x 61" tall and is filled with a pair of double-hung sashes. Those openings on the basement level are also filled with a pair of double-hung sashes that measure 96½" x 42".

LIGHT HORSE SQUADRON ARMORY COMPLEX
ARMORY & RIDING HALL
HABS No. WI-378-A
Page 6

Riding Arena Wing: Windows are largely original, six-light, metal-framed examples set within openings that measure 32" wide x 35" tall. Each is underlined by a 4½" thick concrete sill. These windows are arranged singly or in pairs within wall bays created by brick piers. The east facade at the arched roof carries a continuous expanse of six, sixteen-light windows. The facade is also pierced near the northeast and southeast corners by a fifteen-light, industrial-style window situated in a 6'-1" x 5'-3" opening. The paired replacement, double-hung sashes located in the openings of the west facade measure 76½" x 66". They are regularly placed between brick wall piers.

7. Chimneys:

Armory: The south endwall carries a large wall chimney that measures 36" x 61". It is capped with concrete and vents two tile flues. The east facade carries a large wall chimney at each juncture with the hyphen. Each measures 43½" x 100". The chimney's upper section is topped with a checkerboard pattern of red and tan brick headers, and then capped with metal.

Riding Hall: The west endwall of the riding wing claims a wall chimney (20" x 42") on both the north and south sides of the hyphen.

8. Stone Insets: The armory headhouse contains four stone insets. The southwest corner carries a cornerstone that measures 14" tall. Its west face is 34" long and inscribed with "A.D. 1880 L.H.S. A.D. 1909" and its south face is 25" long and inscribed with "TROOP A FIRST CAVALRY, WIS. NAT'L G'D". This was the cornerstone of the Light Horse Squadron's Shorewood (WI) armory (not extant).

The wall chimney on the south facade features a small stone inset that measures 22" wide x 25½" tall. Chiseled into the stone is "THE LIGHT HORSE SQUADRON ARMORY ASSOCIATION ARMORY", a list of association officers³ and "HENRY C. HENGELS, AIA, STATE MILITARY ARCHITECT, 1930".

The stone inset on the south (right) side of the main entrance measures 30" wide x 42" tall. It is inscribed with unit lineage, "TROOP A 1ST CAV WIS

³Light Horse Squadron Armory Association Officers listed include: L.W. Halsey, President; Ferd E. Fitz, Vice President; Carl Denner, Treasurer; G.R. Hoffman, Secretary; A.K. Anneberg, Director; Fred E. Coe, Director; and James J. Quill, Director.

LIGHT HORSE SQUADRON ARMORY COMPLEX
ARMORY & RIDING HALL
HABS No. WI-378-A
Page 7

NG 1909-1917; 120TH FD ARTILLERY US ARMY 1917-1919; 105TH CAVALRY WIS NG 1919; THIS STONE WAS LAID JUNE 14, 1930, THE LIGHT HORSE SQUADRON ARMORY ASSOCIATION”.

The stone inset to the north (left) side of the main entrance measures 36" wide x 42" tall. It was part of Milwaukee's Broadway Street Armory (not extant) and is inscribed, "THIS ORIGINAL STONE WAS LAID IN THE BROADWAY ARMORY AUG 15, 1885, AND RESET IN THIS POSITION JUNE 14, 1930; THE LIGHT HORSE SQUADRON ARMORY ASSOCIATION”.

C. Interior Description:

1. General Description:

Armory: The armory consists of two main floors, a full basement and an attic-(third) story room that coincides with the main entry block.

The first floor is comprised of an ornate main lobby that incorporates three prominent stairways. A short hallway extends to the east of the lobby to join the hyphen and the riding hall. The area to the north of the lobby has an officer's classroom on the west side of the central hallway and an officer's locker room and wash room on the east side. The hallway originally terminated at a viewing window overlooking a basement-level gymnasium, which has since been reconstructed into two separate levels with offices on the first floor and a mess hall occupying the basement. To the south of the lobby on the west side of the central hallway is an office suite that was constructed for senior officers and their orderlies, as well as an officer's club room complete with marble fireplace and solid oak paneling. The area to the east of the central hallway was occupied by three offices and a large multi-purpose room. This floorplan remains unchanged with the exception of the division of the gymnasium into two floors.

The second floor was designed to hold the command, administrative and supply areas for four, troop-sized cavalry unit headquarters, as well as a lavatory, shower and a large club room. Each troop area consisted of a commander's office, orderly room, supply room, winter coat storage closet, arms room and wall locker room. Two units were located to the south of the upstairs lobby and two units to the north. Lavatory, shower and janitorial space were also located to the north of the lobby. A large clubroom space

LIGHT HORSE SQUADRON ARMORY COMPLEX
ARMORY & RIDING HALL
HABS No. WI-378-A
Page 8

was situated to the east of the lobby.⁴ The footprint for the troop spaces remains largely intact, however, the lavatory and shower areas have been altered to incorporate men's and women's lavatories. The clubroom is now partitioned into two office spaces and a hallway that provides access to the second-floor hyphen addition.

The basement contains various large classroom, kitchen, mess hall, locker room and mechanical venues. This space has had its footprint changed with several modern partition walls.

Riding Hall: The riding hall wing is connected to the east side of the armory by a hyphen, which now includes a second-floor addition. The hyphen originally led to an observation lobby flanked by a men's lavatory to the south and a women's lavatory to the north. A stairway at both the north and south end of the observation section led to a second-floor observation deck that contained bleachers and seven 10' wide x 75" tall viewing windows. These observation rooms overlooked a 100' x 250' earthen floor riding hall. The north wall of the wing was lined with five saddle rooms (27' x 15'-6") and five field equipment rooms (12' x 15'-6"). Two additional 20' x 15'-6" spaces served as a veterinarian's room and officer saddle room. The east wall was lined with ten horse stalls. The south side of the riding wing contained a central, 12'-wide corridor flanked by 28 horse stalls on the south and 24 on the north. Each horse stall generally measured 10' x 9'. The northeast and southeast corners contained octagonal entryways.

At present, the lavatories and office spaces on both levels have been converted into offices. A portion of the riding arena has been walled off to form classrooms on both the first and second floors. The saddle and field equipment rooms on the north side maintain the same footprint, but are now supply rooms. The horse stalls along the east and south walls have been removed and the area divided into office, supply room and lavatory spaces with concrete block walls. The northeast corner entry is now a maintenance room, while the southeast entry remains intact. With the exception of its west wall and concrete floor, the riding arena remains unchanged.

2. Lobby: The main entrance to the armory opens into a foyer that provides access to a central stairway that rises to the main lobby. The lobby measures 26' x 26'. The floor is light gray terrazzo with a 15"-wide dark gray terrazzo

⁴Richards Street Armory Plans-1930.

LIGHT HORSE SQUADRON ARMORY COMPLEX
ARMORY & RIDING HALL
HABS No. WI-378-A
Page 9

outer band. A multi-color round terrazzo inset that displays the seal of the Light Horse Squadron is located at the center. The seal is 42" in diameter and consists of a horse head, cross cavalry sabers and the words "LIGHT HORSE SQUADRON" and "W.N.G.". A 36" wide x 48" tall terrazzo inset of the Distinctive Unit Insignia of the 105th Cavalry Regiment is located at each corner of the lobby. The northeast and southeast corners of the lobby are defined by two sets of 60" wide x 105" tall arched insets. Those insets on the east wall are outfitted with modern stain-glass art memorializing the service of the Wisconsin Army National Guard. The insets on the north and south walls carry their original glass display cabinets. The plaster ceiling carries an octagonal recess. An original, ornate metal light fixture hangs at the center.

3. Stairways:

Armory: All staircases generally consist of terrazzo and feature a 7½" rise and a 12½" tread.

The primary staircase connects the main entrance to the first and second-floor lobbies and the basement. Beginning at the main entry foyer, seven terrazzo steps rise to meet the lobby. The staircase is 10' wide. Flanking this staircase and connecting to the basement are two staircases that are 7' wide. At the lobby, two additional twelve-step, 6'-9" wide staircases flank the first staircase and join at a mid-level landing that measures 23'-6" x 8'-1". Thereafter, a central staircase connects the mid-level landing to the second floor. It is 10'-5" wide.

A second terrazzo staircase is at the south end entrance of the headhouse. The stairs begin in the basement hallway. Nine steps lead to a mid-level entry that coincides with the south entrance. The stairs turn 180 degrees and reaches the first floor in seven steps. It takes nine steps to reach the mid-level landing and seven to reach the second floor. Each step is 50" wide. The entry landing measures 9' x 9', the first floor landing is 6'-2" x 7', the mid-level landing is 9' x 8'-5" and the second floor landing is 9' x 9'. A set of double doors separate the first and second-floor landings from the hallway. The railing is connected at each turn to 4" square metal posts that are 40" tall. Each staircase railing section is 38½" tall and consists of ½" square metal balusters placed on 4" centers. The rounded, top rail is 2" high x 2¾" wide.

A third staircase provides access from the first-floor hallway to the former basement-level gymnasium (current mess hall). It is located on the east side

LIGHT HORSE SQUADRON ARMORY COMPLEX
ARMORY & RIDING HALL
HABS No. WI-378-A
Page 10

of the hallway north of the lobby. The stairs consist of a single flight of nineteen steps. Each step is 4' wide, 7" tall and includes a 9" tread.

A fourth staircase is located in the ca.-1990s stairway block attached to the north endwall. It replaced an exterior fire escape and provides access to all three levels.

Riding Arena: Two concrete staircases provide access to the area that once served as the second-floor observation deck. Each consists of eleven steps before turning 180 degrees and continuing for 3 steps more. Each step is 47" wide, 7¾" high and has a 13" tread. The mid-level landing is 5'-3" x 8'-5" and the top landing is 14'-4" x 47".

4. Hallways: Hallways in the armory extend in a north-south direction on all three levels. Each is 7' wide. The walls are plaster with a terrazzo runner. The ceilings for the first and second floors originally were 9'-2" tall but were lowered 15" by suspended ceilings in order to encapsulate utility upgrades.

5. Flooring:

Armory: Basement-level floors are concrete in the utility areas and hallway. There is linoleum tile in the classrooms, exercise room and mess hall. The floors on the first and second levels are largely terrazzo. However, the floors of some office and storage spaces are covered with linoleum tile.

Riding Arena: The former riding hall floor was originally earthen and is now paved with concrete. The floors of the remaining spaces are either concrete or linoleum tile.

6. Openings: Armory doorway openings are, by and large, are either 35" x 84" or 41½" x 84". They are situated in plain metal frames with ¾" metal trim. The doors are 2" thick and consist of original 6" vertical board doors.

- C. Setting:

The Armory and Riding Hall of the Light Horse Squadron Armory is located adjacent to N. Richards Street. It is a component of the Light Horse Squadron Armory complex which also includes the Regimental Commander's House (HABS WI-378-B), Blacksmith Shop & Forge Building (HABS WI-378-C), Equipment Storage Building #4 (HABS WI-378-D), Equipment Storage Building #5 (HABS WI-378-E),

Organizational Maintenance Shop #3 (HABS WI-378-F) and Equipment Storage Building #6 (HABS WI-378-G).

Sources: Citations for all sources are provided in the “Sources” section of the Complex’s overview document (HABS No. WI-378). One Additional source was used and is cited below:

www.wisconsinhistory.org

Historians: Brian J. Faltinson, M.A. Principal Investigator, and John N. Vogel, Ph.D., Project Director, Heritage Research, Ltd., 2011.