

FORT DRUM, SCALE HOUSING & WEIGHMASTER'S OFFICE
(Fort Drum, Building T-4012)
Utility Road and Railroad Street
Watertown Vicinity
Jefferson County
New York

HABS No. NY-6337-C

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN BUILDINGS SURVEY
National Park Service
Northeast Region
U.S. Custom House
200 Chestnut Street
Philadelphia, PA 19106

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HISTORIC AMERICAN BUILDINGS SURVEY

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Location: The intersection of Utility Road and Railroad Street, facing Railroad Street, adjacent to the warehouse area of the Main Post of Fort Drum, Watertown vicinity, Jefferson County, New York.

USGS Quadrangle Black River, New York; 7.5 minute series 1982 (photorevised from 1958); UTM Coordinates: Zone 18. 437980 E 4875160 N

Present Owner: United States Army

Original Use: Facility for weighing military vehicles and their contents.

Present Use: Continues to function as a scale for weighing vehicles and their contents, however, it is not used very frequently.

Significance: The Scale Housing and Weighmaster's Office is the only relatively unaltered example of this type of structure situated at Fort Drum. The design for this building is probably based on the 700 Series or 800 Series of standardized construction drawings developed by the War Department for the mobilization effort during World War II.

The construction techniques utilized on this building are typical of those applied to most World War II-era temporary structures. This building retains much of its original character based on analysis of other mobilization structures located at Fort Drum and other United States Army installations.

PART I. HISTORICAL INFORMATION

A. Physical History:

1. **Date of erection:** There is a discrepancy concerning the date of construction. The Real Property Record lists the year of completion as 1941; no month or day is listed. However, the drawings on file at Fort Drum are dated September 16 and 18, 1943. These drawings do not appear to be revisions of a 1941-era design, thus virtually eliminating that as a possible reason for the difference in dates.¹ According to a site plan of the cantonment dated August 13, 1943, this building was originally assigned the number T-104.² The construction drawings of the building are dated about one month after this site plan was drawn. The difference in these dates might be the result of either the current building being a replacement of an earlier structure, or the need for the scale house was well-known and its eventual construction certain enough to merit its inclusion on the August 1943 site plan.

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2. **Architect:** The signature of the Post Engineer is illegible on Plan Number 357, dated September 18, 1943.³ The design for this structure was most likely based on either the 700 or 800 Series of standard construction drawings developed for the mobilization effort during World War II. The development by the War Department of the 700 Series of construction drawings to be used in the event of another mobilization effort was a process that began in the late 1920s, with the drawings being based on those that were used during the First World War. However, it was not until Hitler's rise to power during the 1930s that the true necessity of plans on a grand scale to accommodate a large fighting force began to be realized in the United States, and called for by a small, but vocal, group of military planners. Among this group was Colonel Charles D. Hartman, who had been with the Quartermaster Corps during World War I, and he proceeded with producing the 700 Series with very little financial support. By 1940, when Hartman became the Chief of the Construction Division of the Quartermaster Corps, the development of the 700 Series was well on its way, with the assistance of Major Elsmere J. Walters. Major Walters was the Executive Officer of the Engineering Branch, and he oversaw the revisions to these drawings; the work was directly supervised by Major Robert B. Field, assistant to Major Walters.⁴

The Construction Division of the Quartermaster Corps was reorganized late in 1940, and as a result, Major Hugh J. Casey was appointed to head up the Engineering Division in early 1941. George E. Bergstrom, then the president of the American Institute of Architects, became the Chief of the Architectural Unit of the Engineering Division, and he and his staff completed the 800 Series in 1941. Casey oversaw the work performed by Bergstrom, and the new series that emerged from this effort was sturdier and roomier than its predecessor.⁵

3. **Original and subsequent owners:** By 1909, the federal government owned land north of the Black River in the area now known as the original cantonment of Fort Drum. This land was used for military purposes and was expanded over the years.⁶ The United States Army is the current owner.
4. **Builder, contractor, suppliers:** This structure was probably built after the first wave of pre-World War II construction at the post that occurred in 1940-41. The contractors for the Scale Housing and Weighmaster's Office are unknown. The contractors for the 1940-41 work were The John W. Cowper Company, Incorporated, of Buffalo, New York, in partnership with Senior and Palmer, Incorporated, of Great Bend, New York⁷; it is possible that these two firms also erected this building. Much of the lumber used during 1940-41 was provided by the War Department,⁸ and it is likely that the lumber used in this building came from the same source. It is assumed that other materials were obtained through local suppliers.
5. **Original plans and construction:** There are two drawings by the Office of the Post Engineer depicting the Scale Housing and Weighmaster's Office on file at the Directorate of Engineering and Housing, Division of Engineering, Plans, and Services, Fort Drum. Both were executed in September 1943, with the one dated the 18th being the more comprehensive of the two. This

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drawing delineates the floor plan, the foundation plan, and two elevations.⁹ Even though no standard War Department drawings for this building were found, it is constructed utilizing the same techniques and details. The estimated cost of construction for this building was \$1900.00.¹⁰

6. Alterations and additions: When compared with the drawings, the most obvious alteration to the Scale Housing and Weighmaster's Office is the removal, at an unknown date, of a raised addition from the east facade. Physical evidence of the concrete piers that supported this lean-to were noted during the field inspection. According to the Real Property Record, the building has been painted numerous times, and asphalt shingle roof was installed in 1977, concrete ramps were poured in 1979, and electrical system updated in 1988. The wood plank platform has been rebuilt at least twice, in 1979 and 1986. The truck scale apparatus was replaced in 1981; it appears that the beam scale located inside the Weighmaster's office is original.¹¹ At an unknown date knee braces were added to provide additional support at the platform scale roof.

B. Historical Context:

The general area of where the present-day Fort Drum is located has been of vital military importance due to the presence of the St. Lawrence River to the north and Lake Ontario to the west. The town of Sackets Harbor, approximately 15 miles west of Fort Drum, was a strategic post during the years leading up to, and including, the War of 1812; it, along with nearby Madison Barracks, served as a center of naval and military activity into the 1840s.¹²

In 1908, Brigadier General Frederick Dent Grant, son of General Ulysses S. Grant, came to the Pine Plains, as the Fort Drum area was known at that time, with 10,000 soldiers, most of whom were militia, and found the area north of Watertown along the Black River to be ideal for training troops. The following year, some of the land at Pine Plains was acquired by the federal government; more land was added to this initial acquisition in the ensuing years. By 1935, the government's holdings at Pine Plains were of substantial consequence to accommodate the largest peacetime maneuvers conducted in the United States.¹³

As a result of the war in Europe during the late 1930s and the early 1940s, the United States began to turn its attention to its own military defenses, and began the massive undertaking of creating a modern fighting force capable of defending the country against attack. At Pine Camp, as it was known during the second World War, this tremendous effort took shape in the construction of 800 buildings.¹⁴ The creation of a small city beginning in November, 1940.¹⁵

Troops of the Fourth Armored Division began arriving at Pine Camp both by train and armored vehicle convoy in mid-April of 1941;¹⁶ the post was officially activated on April 15, with Brigadier General Henry W. Baird overseeing the ceremony and reviewing 4,000 soldiers.¹⁷

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The first wave of construction took less than a year to complete, and by the fall of 1941 the military post had grown to encompass over 80,000 acres. At that point, Pine Camp could accommodate about 15,000 soldiers.¹⁸

General George S. Patton's 4th Armored Division, as well as the 45th Infantry Division and the 5th Armored Division all trained at Pine Camp during World War II.¹⁹

In 1951, Pine Camp became Camp Drum, named in honor of Lieutenant General Hugh A. Drum, the commander of the First Army during the first part of World War II. The installation was redesignated Fort Drum in 1974, and in 1984 it was selected as the site for the location of a new light infantry division, the 10th Mountain Division (Light Infantry). The current size of the post is 107,265 acres.²⁰

Most likely built after the first wave of construction at the cantonment that occurred in 1940-41, this building exhibits the construction techniques used to erect facilities needed by the United States Army as the result of World War II. Although built according to plans produced by the post engineer, the structure resembles others observed at other posts that were constructed using standardized War Department drawings. The Scale Housing and Weighmaster's Office was used to weigh military vehicles and their contents, and was probably operated by the Quartermaster Corps Division, which provided transport, supplies, and shelter for the army.²¹

PART II. ARCHITECTURAL INFORMATION

A. General Statement

1. **Architectural Character:** This building's distinctive exterior feature is the covered drive-through area, also known as the scale housing. It consists of a large platform composed of wood planks, under which is the weighing apparatus. Perpendicular to the platform scale is the Weighmaster's office which contains what appears to be the original beam scale. The building is relatively intact, although an addition was removed from the east facade at some point in the past.

The design for this building is probably based on the 700 Series or the 800 Series of standardized construction drawings. The 700 Series is typified by the use of 2" x 4" or 2" x 6" platform framing, double-hung wood windows with divided lights (six-over-six or eight-over-eight), and central heating. "Aqua medias" were significant elements found on some types of buildings from this series (primarily barracks and mess halls); these were continuous eaves running the entire perimeter of both one- and two-story structures. These buildings were to be temporary in nature, and yet certain features such as concrete foundation piers and termite shields were incorporated to increase their durability.²²

The 800 Series differed from the 700 Series in that the structural systems were sturdier and many types of facilities were roomier than their 700 Series counterparts. These structures had improved heating systems, more efficient

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insulation and better safety features such as exit lighting. The "aqua medias" were dispensed with as a cost-cutting move, but the 800 Series' temporary nature was questioned by many.²³

2. **Condition of Fabric:** Structurally, the building appears to be relatively sound, but the exterior paint finish is in a very deteriorated state and this is causing accelerated decay and warping of the wood siding. The knee braces at the drive-through appear to be a recent addition and one of these has split completely in two, but the cause for this damage could not be ascertained. All the window and door glazing has been vandalized, and currently these openings are covered with plywood. Rust is forming at the base of the metal vent at the office roof. The gypsum board ceiling and walls in the office show signs of water damage and a section of the ceiling has been removed; the wood flooring has been patched in areas.

B. Description of Exterior

1. **Overall Dimensions:** The Scale Housing and Weighmaster's Office is a single story structure and is composed of two parts: the platform scale and the office. The platform scale housing measures 16'- 5" at the north and south sides, and 46'- 0" at the east and west. The office is 14'- 0" at the north and south facades, and 16'- 5" at the east and west. The roof ridge of the scale housing is about 20' above grade, while the height of the office roof is approximately 14'.
2. **Foundations:** According to Plan Number 357, the foundation system consists of 12" square piers supported by 24" square footings; 7'- 8" on center at the scale housing, and 7'- 0" and 8'- 0" on center at the office. Wood beams that measure 6" square are bolted to the piers; at the office these support wood joists that carry the subflooring and floor boards. The wood platform is supported by a steel channel that is connected to the apparatus below; at the surface it is surrounded by concrete slab.
3. **Walls:** The perimeter walls are composed of 2" x 6" wood studs at 24" on center; at the platform the 5" wide drop siding is nailed directly to the studs and 2" x 6" diagonal braces are let in between the studs at the corners to provide stability. At the office, there is a layer of black felt between the studs and the exterior siding; in addition there is wall board at the interior.
4. **Structural systems, framing:** At the corners of the platform scale housing are 6" x 6" wood posts that support triple 2 x 10 headers at the openings; a diagonal brace is positioned at the upper corners at either side of each opening. At the platform the studs are approximately 12'- 6" tall and are capped by a double 2" x 6" top plate; 2" x 6" joists at 24" on center are nailed to the plate. A continuous flat 2" x 6" running north/south is nailed to the joists down the centerline of the space. The roof is supported by 2" x 6" rafters at 24" on center that meet at a single 2" x 6" ridge board. The framing for the office is similar, the ceiling height being 8'- 0".

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5. **Chimney:** There is a galvanized metal flue that vents the coal-burning stove located in the office; it extends above the roof about 2' to 3'.

6. **Openings:**

a. **Doorways and Doors:** The single door is located at the east elevation of the office; it is a 2'- 8" x 6'- 8" unit with three horizontal panels below and four lights above. The plain wood door trim is 3½" wide.

b. **Windows:** All windows are covered with plywood and are in an extremely deteriorated and damaged condition. Each, except one sliding unit at the office, is a six-over-six double-hung unit measuring 2'- 8" x 4'- 6" with 3½" wide trim. There are four windows at the platform, two each at the east and west facades. At the office the windows are paired, one pair each at the west and south sides. The sliding unit is composed of two sections, and is 5'- 4" wide and 2'- 8" tall. The plain wood trim is approximately 3½" wide and is in generally poor condition.

7. **Roof:**

a. **Shape, Covering:** The shape of the roof at both the scale housing and the office is a gable, each with a pitch of about 5 in 12. The ridge of the scale housing runs north/south and at the office it runs east/west; all roof surfaces are covered with asphalt shingles.

b. **Cornice, Eaves:** The eaves extend about 12" from the face of the building and are composed of 2" x 6" rafters with a 6" wide fascia board. The raking boards are 6" wide plain wood members.

C. **Description of Interior:**

1. **Floor Plan:** The Weighmaster's Office is a simple rectangle in plan measuring 13'- 4" x 14'-11"; the ceiling height is 8'- 0".

2. **Flooring:** At the office, the flooring consists of 2½" wide tongue and groove floor boards that run north/south.

3. **Wall and Ceiling Finish:** The walls and ceiling in the office are finished with gypsum board that is unpainted except for the graffiti that appears on the walls. These surfaces are stained by water damage and the ceiling is buckling in places, especially at the stove flue.

4. **Openings:**

a. **Doorways and Doors:** The door at the office is surrounded by a simple, 3½" wide wood trim; it is not painted.

the 1943 site plan of the cantonment. The shape of the building on this plan differs from the current configuration of the structure²⁴; however, this is due to the construction of the building probably taking place at least a month after the site plan was executed.

PART III. SOURCES OF INFORMATION

- A. **Architectural Drawings:** The design for Building T-4021 is presumably based on the 700 Series of standardized construction drawings that were produced by the War Department prior to and during the United States' involvement in the Second World War. Two drawings are on file at the Engineering Plans and Services (EPS) Division, Directorate of Engineering and Housing, Building 479, Fort Drum. Both drawings were executed in September, 1943. The earlier one, executed on the 16th depicts the floor plan and a framing elevation, while the one drawn two days later is more comprehensive and includes a foundation plan.

Field observations and measurements revealed that the Scale Housing and Weighmaster's Office was constructed basically as shown on the drawings; any alterations have been noted in the appropriate sections of this report. The drawings cited in the Bibliography have been photographically reproduced and are included at the end of this report.

B. **Bibliography:**

1. **Primary and unpublished sources:**

a. **Drawings on file at Fort Drum:**

- i. "Office of the Post Engineer, Pine Camp, NY. "Scale Housing & Weighmaster's Office, Plan & Framing Elevation," Plan Number 357, September 16, 1943.
- ii. "Office of the Post Engineer, Pine Camp, NY. "Scale Housing & Weighmaster's Office, Floor Plan, Foundation Plan & Elevations," Plan Number 357, September 18, 1943.
- iii. United States Engineer Office, Syracuse District, Syracuse, N.Y. "Pine Camp, N.Y. General Site Plan," August 13, 1943.

b. **Other records at Fort Drum:**

- i. "Real Property Record. Buildings. Building T-4099," [no date]. Filed at Real Property Branch, Engineering Plans and Services Division, Directorate of Engineering and Housing, Building 479, Fort Drum.
- ii. "History of Fort Drum Fact Sheet," [no date]. Photocopy provided by Environmental Division, Directorate of Engineering and Housing.

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2. Secondary and published sources:

a. Books and manuscripts:

Fine, Lenore and Jesse A. Remington. *The Corps of Engineers: Construction in the United States*. [volume in the series, *United States Army in World War II: The Technical Services*.] Washington, D.C.: Office of the Chief of Military History, United States Army, 1972.

b. Newspaper articles (chronological listing):

"Air Squadron for Pine Camp." *Watertown Daily Times*, November 4, 1940.

"Large Force of Men Transforming 'Bad Lands' at Pine Plains Into Great Military City Comprising Two Miles of Barracks." *The Post-Standard* (Syracuse, NY), November 4, 1940.

"5,598 Employed on Camp Project," *Watertown Daily Times*, December 14, 1940.

"General Baird Takes Command," *Watertown Daily Times*, April 16, 1941.

"Fourth Armored Division Arrives at Pine Camp by Truck and Train From Fort Knox, Ky," *Carthage (NY) Republican-Tribune*, April 17, 1941.

"Building of Camp Nearly Finished," *Watertown Daily Times*, September 24, 1941.

C. Likely Sources Not Yet Investigated:

1. Documentary: A more exhaustive search to determine the name of the contractor responsible for the Scale Housing and Weighmaster's Office could be made by researching the files in the public library of Watertown, New York, and also other libraries in the area.
2. Oral History: An attempt could be made to locate and interview Bob Brennan, a local historian from Sackets Harbor.

D. Supplemental Material:

1. Drawings: The drawings used to construct the Scale Housing and Weighmaster's Office have been photographically reproduced and photocopies are included in this report.

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2. Photographs: Large-format photographs of the Scale Housing and Weighmaster's Office are provided as supplemental material in this report.

PART IV. PROJECT INFORMATION

This report was prepared by the Center for Architectural Conservation, Georgia Institute of Technology, as part of a project to document four representative types of World War II-era temporary mobilization structures at Fort Drum during June, 1992. The project was sponsored by the Tri-Services Research Center, United States Army Corps of Engineers, Construction Engineering Research Laboratory (USACERL), Champaign, Illinois. Keith Landreth, Director of the Tri-Services Research Center, provided assistance throughout the project. Assistance at Fort Drum was provided by Cait Schaddock, Environmental Division, and Richard West, Engineering Plans and Services Division, Directorate of Engineering and Housing. Large-format photography was done by Martin Stupich.

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NOTES:

1. "Office of the Post Engineer, Pine Camp, NY. "Scale Housing & Weighmaster's Office, Plan & Framing Elevation," Plan Number 357, September 16, 1943; and "Office of the Post Engineer, Pine Camp, NY. "Scale Housing & Weighmaster's Office, Floor Plan, Foundation Plan & Elevations," Plan Number 357, September 18, 1943.
2. United States Engineer Office, Syracuse District, Syracuse, N.Y. "Pine Camp, N.Y. General Site Plan," August 13, 1943.
3. "Office of the Post Engineer, Pine Camp, NY. "Scale Housing & Weighmaster's Office, Floor Plan, Foundation Plan & Elevations," Plan Number 357, September 18, 1943.
4. Lenore Fine and Jesse A. Remington. *The Corps of Engineers: Construction in the United States*. [volume in the series, *United States Army in World War II: The Technical Services*]. Washington D.C.: Office of the Chief of Military History, U.S. Army, 1972, pp. 69, 73, 115, 116, 163-166.
5. Fine and Remington, pp. 265, 347, 349-51.
6. "History of Fort Drum Fact Sheet," [no date]. Photocopy provided by Environmental Division, Directorate of Engineering and Housing.
7. "Air Squadron for Pine Camp." *Watertown Daily Times*, November 4, 1940.
8. Ibid.
9. "Office of the Post Engineer, Pine Camp, NY. "Scale Housing & Weighmaster's Office, Plan & Framing Elevation," Plan Number 357, September 16, 1943; and "Office of the Post Engineer, Pine Camp, NY. "Scale Housing & Weighmaster's Office, Floor Plan, Foundation Plan & Elevations," Plan Number 357, September 18, 1943.
10. "Real Property Record. Buildings. Building T-4012," [no date]. Filed at Real Property Branch, Engineering Plans and Services Division, Directorate of Engineering and Housing, Building 479, Fort Drum.
11. Ibid.
12. "History of Fort Drum Fact Sheet."
13. Ibid.
14. "5,598 Employed on Camp Project," *Watertown Daily Times*, December 14, 1940.
15. "Large Force of Men Transforming 'Bad Lands' at Pine Plains Into Great Military City Comprising Two Miles of Barracks." *The Post-Standard* (Syracuse, NY), November 4, 1940.

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16. "Fourth Armored Division Arrives at Pine Camp by Truck and Train From Fort Knox, Ky," *Carthage (NY) Republican-Tribune*, April 17, 1941.
17. "General Baird Takes Command," *Watertown Daily Times*, April 16, 1941.
18. "Building of Camp Nearly Finished," *Watertown Daily Times*, September 24, 1941.
19. "History of Fort Drum Fact Sheet."
20. Ibid.
21. Fine and Remington, p. 4.
22. Ibid., pp. 116, 117.
23. Ibid., pp. 350, 351.
24. United States Engineer Office, Syracuse District, Syracuse, N.Y. "Pine Camp, N.Y. General Site Plan," August 13, 1943.