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Philadelphia Quartermaster Depot
Philadelphia County, PA

The Philadelphia Quartermaster Depot, located at 2724 S. 20th Street in Philadelphia, is a unique, local collection of intact World War II-era federal buildings. The Philadelphia Quartermaster Depot presently occupies a twenty-six acre site that was purchased in 1939 as part of an expansion campaign by the United States Government. The complex qualifies for listing on the National Register of Historic Places under Criterion A in the area of Military as an example of the activities of the Quartermaster Department during World War II and for containing the Quartermaster Department's only textile factory in the United States. The Philadelphia Quartermaster Depot also qualifies for listing under Criterion C in the area of Architecture as an excellent example of an intact, Art Deco style military complex designed by the notable Philadelphia firm of The Ballinger Company. The period of significance begins in 1939, when the land for the second building campaign was purchased, and continues through 1945, the end of World War II.

Summary History of the Complex

The Philadelphia Quartermaster Depot was commissioned by the United States Government in two building campaigns: the first phase in 1918, and the second phase between 1939-1942.

First Phase of Construction – 1918

In 1918, World War I necessitated the expansion of the warehouse and manufacturing facilities in the Philadelphia area. At the time, the site of the future Philadelphia Quartermaster Depot, near the southwest corner of 20th Street and Oregon Avenue, was occupied by a celery farm belonging to the Girard Estate and the City of Philadelphia. Because of the relative availability of the site and its close proximity to rail lines and other similar military facilities at the South Philadelphia site, the Quartermaster Department arranged to lease the 60.6-acre site for ninety-nine years.¹

The Quartermaster Department completed its first building campaign within only five months. The resulting complex consisted of five large, timber-framed warehouse buildings (M-1 to M-5, demolished), which were used as storage, packing and inspection areas, and fourteen temporary support buildings.² These five warehouses provided 924,000 square feet of floor space and were serviced by a Baltimore and Ohio Railroad spur, which ran down the center of Oregon Avenue and entered the site at the northwest corner. The new complex was called the Army Quartermaster's Inland Warehouse or the Interior Depot, so as to distinguish it from other military facilities along the Schuylkill or Delaware Rivers in Philadelphia.

¹ The *Philadelphia Bulletin* referred to the new site as "a self-contained and compact little metropolis [that] sprung up next door to a jungle of South Philadelphia oil refineries." *Philadelphia Bulletin*, n.p., n.d. (Temple University Library, Urban Archives).

² The longest of the warehouses was 1540' long and all were 160' wide. All of these warehouses were demolished between 1992 and 1999, after the complex had closed.

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Although the complex was open for less than six months when the Armistice was signed on November 11, 1918, it had become fully operational during that period. The five primary warehouses were used for storage for items being shipped overseas, storage for tent pins, clothing, underwear, shoes and stockings, storage for equipment and reclaimed clothing and as the Field Medical Supply Depot.³

There was little building activity at the complex in the 1920s and 1930s. In 1921, the military's demands had outgrown the capacity of the nearby Schuylkill Arsenal and all of its manufacturing and storage functions moved to 2724 S. 20th Street, which was then renamed the Intermediate Depot, Quartermaster Department.⁴ With the consolidation of the Quartermaster Department, the complex contained the country's only factory operated by the Quartermaster's Department and became the center of textile supply, procurement and production for the entire United States military. The complex began to produce "everything from uniform items for soldiers, nurses, chaplains and firefighters to flags, tableware, [tents], buttons, service medals, blankets and bed sheets."⁵

In 1926, the complex at 2724 S. 20th Street became officially known as the Philadelphia Quartermaster Depot. During the 1920s, the Philadelphia Quartermaster Depot complex was manufacturing full uniforms, other than shoes, hats and caps; this continued until 1941 during which time it produced virtually all of the sponged or pre-shrunk fabric used in military uniforms throughout the country.⁶ Between July 1, 1927 and June 30, 1928, the 1,000 employees of the complex had manufactured 121,000 woolen breeches, 1,100,000 handkerchiefs, 182,900 sleeve insignia (stars, shields, and chevrons), 324,000 flannel shirts, 216,000 denim trousers, 152,000 pillowcases, and 5,142 flags.⁷ By 1932, "the Philadelphia Depot was the point of direct

³ Dwight Packer, *Architectural Assessment of the Defense Personnel Support Center, Philadelphia, Pennsylvania* (Fort Worth: U.S. Army Corps of Engineers, October 1997), 3-4.

⁴ Frank Muhly and Joseph Mussulman, "Schuylkill Arsenal to Wheeling: Quartermaster Department." www.lewis-clark.org/content/content-article.asp?ArticleID=2980 (accessed on January 15, 2008). The Schuylkill Arsenal was located at 2620 Grays Ferry Road.

⁵ Defense Personnel Support Center – Site Displays. 2724 S. 20th Street, Philadelphia, PA. Viewed on October 1, 2007.

⁶ Brooke S. Blades, *Cultural Resources Survey – Defense Personnel Support Center, City of Philadelphia, Philadelphia County, Pennsylvania* (Trenton: Historical Resource Consultants, Inc., November 1994), 6-1.

⁷ Captain William R. Buckley, "The Manufacturing Branch of the Philadelphia Quartermaster Depot," *The Quartermaster Review*, 1929, www.qmfound.com/manufacturing_pgmd.htm (accessed January 15, 2008).

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shipment for military clothing to every army base within the continental United States, with the exception of those in the San Francisco and San Antonio vicinities.”⁸

During the 1930s and early 1940s, the Philadelphia Quartermaster Depot also manufactured all the clothing and equipment for the 600,000-member Civilian Conservation Corps (CCC). The CCC was a worker relief program for young men between the ages of eighteen and twenty-five, whose fathers were officially registered as being unemployed. The program was established in 1933 by President Franklin D. Roosevelt under the New Deal legislation. It operated in every state and several territories until 1942, when it was closed because of the onset of World War II and the development of organized labor.⁹

Second Phase of Construction, 1939-1942

Spurred by the onset of World War II and the passage of the Selective Services Act in 1940, the National Defense Commission and the Philadelphia Chamber of Commerce moved to make Philadelphia one of the country's leading wartime manufacturers.¹⁰ Consequently, the Quartermaster Department purchased twenty-six acres to the east of the existing Philadelphia Quartermaster Depot and undertook the complex's most significant and largest building campaign, thereby ushering in the most pivotal period of the Philadelphia Quartermaster Depot.

The second building campaign lasted from 1939 to 1942 and was completed at a cost of \$15,000,000. To this end, numerous timber-frame support buildings and railroad tracks were removed, Penrose Avenue was closed and infilled, and the rail line spurs were relocated to the western and southern ends of the base.¹¹ The only remaining buildings from the 1918 campaign were the five timber-framed warehouses (no longer extant). Eleven new buildings (Buildings 6, 8, 9, 11, 12, 13, 14, 15, 16, 31 and 39), three entry gates, a metal fence and a 100' flagpole were designed by the Ballinger Company, leading to total of 2,221,171 useable square feet.¹²

The layout of this building campaign was based on the organizing grid provided by the 1918 warehouses. Construction lasted until 1942, by which time the complex had “its own police and fire protection, water and heating systems, street markings and traffic control. It [also made] its own furniture, maintain[ed] its own fleet of trucks with 70,000 square feet of garage, and it ha[d]

⁸ Blades, 4-32.

⁹ “Civilian Conservation Corps” http://en.wikipedia.org/wiki/Civilian_Conservation_Corps (accessed on January 15, 2008).

¹⁰ Margaret B. Tinkcom, “Depression and War, 1929-1946,” *Philadelphia, A 300-Year History*, Russell F. Weigley, ed. (New York: W.W. Norton & Company, 1982), 636.

¹¹ New rail access was provided by the Pennsylvania Railroad.

¹² The builders were Wark and Company, a defense contractor located at 1700 Sansom Street in Philadelphia.

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its own railroad system, complete with a roundhouse for the four locomotives which operated over 3.5 miles of track.”¹³ In contrast to the earlier campaign, the construction of these buildings not only created a comprehensive and insular world in terms of function and daily activity, but also presented a stylistically unified architectural design and plan.

Of the newly constructed buildings, five are particularly notable for their construction and design. Building 6, completed in 1942 as the Supply Depot Inspection Area, was constructed at a cost of \$1,500,000. It had a floor load of 1,200 tons, 304,000 square feet of useable space and skywalks to Buildings 9, 12 and 15. Building 8, finished in 1942 and used as the boiler room and smokestack, included a ten-story, monumental Art Deco style clock tower visible from several miles away. Building 9, used as the Supply Depot Warehouse and Sponging Plant, was constructed in 1942 at a cost of \$3,500,000. Built on a 4-story steel frame, the building measured 975' by 200' and, with 830,000 square feet of usable space, Building 9 was the largest concrete building in the country at that time. Building 12, the Administration Building, was constructed in 1942 at a cost of \$1,400,000 with 204,000 square feet of useable space. Building 13, the Supply Depot Textile Plant, was built in 1942 at a cost of \$1,800,000 and measured 464' by 200' with 273,900 square feet of interior space. Building 14, constructed as the Cafeteria in 1942, had 106,000 useable square feet and could seat 1,600 people at a time. Five additional buildings constructed during this period were Building 11 (Guard House / Base Commander's House), Building 16 (Maintenance Shed), Building 15 (Laboratory) and Buildings 31 and 39 (Guard Houses).

Philadelphia Quartermaster Depot's Activities after World War II

Immediately after World War II, “Depot activity was divided equally between clothing reclamation and special-sized clothing production.”¹⁴ However, as this work became less pressing, the Depot turned much of its focus toward the operations of the Laboratory. Throughout World War II, the experiments conducted had been purely pragmatic, but peacetime facilitated the option for more investigative research. Rather than investigating shrink-resistant fabric, scientists used electrical charges to test the tensile strength of buttons and fabric, experimented with bug repellant clothing, “bait[ed] a deadly tropical fungus that can devour wool in three days, [and kept] rubber and fabrics under such grueling sub-zero temperature as -94 degrees Fahrenheit.”¹⁵ But perhaps the most unusual course of research was the development of “the world's only and foremost collection of fungus from all over the world – containing about

¹³ “Making U.S. Army World's Best Dressed Is a Tremendous Task.” *Wall Street Journal*, June 29, 1942, 1, 3.

¹⁴ Packer, 2.

¹⁵ “Research There to Bring Better Life for All.” *Philadelphia Bulletin*, March 25, 1949, n.p. (Temple University Library, Urban Archives).

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8,000 specimens.”¹⁶ However, despite the seemingly odd nature of this Laboratory, it is important to note that the experiments were conducted with the specific goals of having soldiers “clothed and shod in the best possible fashion, [and] to be constantly on the prowl for newer and better materials.”¹⁷

When the Korean War began in 1950, the complex embraced its role as the primary resource for military supplies and clothing. At the beginning of the Korean War, the site employed 3,439 personnel to manufacture items such as winter field jackets, women’s uniforms, sleeping bag comforters and reserve parachutes.¹⁸ With the onset of the Vietnam War, the employees totaled over 4,500 and the complex manufactured such items as pilot’s overalls, jungle fatigues, dress uniforms, rip stop poplin fabric, a jungle boot with a steel plated direct molded sole and quick drying nylon carrying straps.¹⁹ Known as “Little Pentagon” and “a city within a city”, the complex continued its notoriety as having the only factory within the Defense Department, as a fully equipped \$1,500,000 textile-testing laboratory (Building 15) and as the manufacturer of the official Presidential flag (Building 13).²⁰

In July 1965, the complex was renamed the Defense Personnel Support Center and consolidated with the Defense Subsistence Center of Chicago and the Defense Medical Center of Brooklyn. The mission of Philadelphia’s Defense Personnel Support Center was expanded to provide food, medicines and medical supplies in addition to clothing and textile distribution.²¹ Throughout the 1980s, the complex continued to employ over 4,000 people. By the onset of the Gulf War in 1991, the complex “produced camouflage coats, trousers, hats, helmet covers, flyer coveralls and canteens” and “served as the Army’s sole provider of clothing during the first two months of that conflict, producing over 2,000 uniforms a day.”²²

The complex remained in full operation until 1994, when the textile factory was permanently closed and the remaining functions were moved to the Naval Support Activity Center in Northeast Philadelphia. The remaining operations were transferred to the Naval Support Activity in Northeast Philadelphia.

¹⁶ “Research There to Bring Better Life for All.”

¹⁷ “Research There to Bring Better Life for All.”

¹⁸ Defense Personnel Support Center – Site Displays.

¹⁹ “Defense Supply Center, Philadelphia.”

http://benefits.military.com/misc/installations/Base_Content.jsp?id=4125 (accessed on January 15, 2008).

²⁰ Leonard Sloane, “‘Little Pentagon’ Speeds Uniforms.” *New York Times*, June 12, 1966, 163. The first forty-nine-star flag was produced at the Philadelphia Quartermaster Depot for President Eisenhower.

“The Flag of the United States of America.” www.usflag.org/history/the49starflag.html (accessed on July 29, 2008).

²¹ Defense Personnel Support Center – Site Displays.

²² Defense Personnel Support Center – Site Displays.

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In 1998, the site was officially closed by the Army and a portion of the site was sold to the Philadelphia Authority for Industrial Development in 2001. The five warehouses (M-1, M-2, M-3, M-4, M-5) on the eastern end of the original site were demolished in 2003 to make way for a new commercial development. The former Philadelphia Quartermaster Depot site is currently owned by two different entities.

Criterion A, Significance in Military

The Philadelphia Quartermaster Depot possesses significance for Criterion A, in the area of Military, as an important national center of Quartermaster Department activities serving to maintain the armed forces from the late 1930s through the end of World War II. During this period, the Philadelphia Quartermaster Depot contained the Army Quartermaster Department's only textile factory in the United States, and was the sole supplier for the sponged fabric, uniforms and other equipage used by the Army. In addition, the Quartermaster Depot housed the nation's premier military textile laboratory.

Brief History of the Army Quartermaster Department in Philadelphia

A quartermaster is responsible for the soldiers' quarters and the acquisition, storage and procurement of supplies, rations and ammunitions. The Army Quartermaster Department was first instituted during the Revolutionary War. The Quartermaster Department at this time was a small organization responsible for supply activities, including furnishing all camp equipment and tents, providing lumber for huts when the Army went into winter quarters, and providing transportation to the Army.²³ Following General George Washington's acceptance of the command of the Army in 1775, the Second Continental Congress passed a resolution providing General Washington with a Quartermaster General and a Deputy Quartermaster General for the Army Quartermaster Department. Thomas Mifflin, a 32-year-old Philadelphia merchant, was appointed as the first Quartermaster General and did not perform up to expectations. The Department was handicapped by having virtually no money or authority and was dependent upon Congress and the states for supplies.²⁴ The third Quartermaster General, Major General Nathanael Greene, reorganized the supply network and established the first depot system during the Revolutionary War to support the Army.²⁵ During the War of 1812, the Army

²³ "Quartermaster History Time Line, 1775 to the Present." Army Quartermaster Museum - Fort Lee, VA. http://www.qmfound.com/quartermaster_time_line.htm (accessed on December 22, 2008).

²⁴ "Quartermaster History Time Line, 1775 to the Present."

²⁵ Edward Payson, "Nathanael Greene and the Supply of the Continental Army." *The Quartermaster Review* (May-June 1950). Army Quartermaster Museum - Fort Lee, VA. <http://www.qmfound.com/greene.htm> (accessed on December 22, 2008).

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Quartermaster Department's functions were expanded to include procuring and providing of all arms, military stores, and other general supplies, but not food.²⁶

In Philadelphia, these functions were initially served by the Schuylkill Arsenal (2620 Grays Ferry Road, demolished 1963), which opened in 1799, and was used as a warehouse for military supplies, ammunitions, clothing and equipment. In 1818, the Frankford Arsenal, located on the Delaware River, opened and the responsibilities of the Schuylkill Arsenal shifted to "garment cutting, tent inspection, as well as the acquisition, storage and distribution of military clothing, footwear, and personnel equipment produced by government contractors."²⁷ For the remainder of the 19th century and the early 20th century, the Schuylkill Arsenal was the Army's principal quartermaster depot for clothing and equipment in the country. In 1921, these duties were transferred to the Philadelphia Quartermaster Depot.²⁸

Significance in Military Activities at the Philadelphia Quartermaster Depot from 1939-1945

The years proceeding and during World War II were the most active in the history of the Philadelphia Quartermaster Depot. Beginning in the late 1930s as a result of the expansion, the complex was referred to in period sources as "100 acres of Hellzapoppin!"²⁹, "the largest purchaser of textiles and textile products in the world"³⁰, the "Housewife Department", and "the world's largest clothing store."³¹ The Philadelphia Quartermaster Depot was the Army's principal manufacturing depot for clothing, textiles, equipage items, flags and pennants and the principle procuring depot for clothing and certain textile and equipment items: "the key depot for the storage and issue, both for this country and overseas, of clothing and equipment, packing and crating supplies [and] as the control depot for storage and maintenance of lend-lease supplies."³²

During World War II, the manufacturing buildings (Buildings 6, 9 and 13) were in operation twenty-four hours a day, six days a week, producing the Army's clothing and equipment needs for the nation. In order to accommodate these growing demands, precise manufacturing and administrative processes were put in place. Raw materials would enter at one end of the warehouse, and by the time they reached the opposite end, the garment or equipment would be complete. This remarkable procedure necessitated an equally precise administrative system for

²⁶ Payson.

²⁷ Defense Personnel Support Center – Site Displays.

²⁸ The Schuylkill Arsenal was then used as the headquarters of The Quartermaster School, which was moved to Camp Lee, Virginia in 1941.

²⁹ "Making U.S. Army World's Best Dressed Is a Tremendous Task," 1, 3.

³⁰ *Philadelphia Bulletin*, October 5, 1941, n.p. (Temple University Library, Urban Archives).

³¹ Blades, 4-38

³² Harry G. Proctor, "Speaking of War Bonds, Here's Why Uncle Sam Is Around Once More," *Philadelphia Bulletin*, November 27, 1944, no page (Temple University Library, Urban Archives).

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the complex, which was organized as follows: a commanding officer presided over the entire site. Below him were several officers, each of whom was in charge of an individual warehouse or factory. Each factory also had several general superintendents, managers and superintendents. The general superintendents supervised the particular items produced and served as a technical adviser to the officer. The managers also supported the officer by keeping track of issues such as accounting and personnel. The superintendents supported the general superintendent by supervising items such as detailed operations and workmanship.³³ The employees were equally rigorously managed and were trained in several different areas, so they could be shifted as the need demanded.³⁴ The manufacturing plant at the Philadelphia Quartermaster Depot was also responsible for the sponging and mothciding of fabric and the creation of special-sized clothing, which was necessitated by the lower physical standards introduced by the Selective Service Act of 1940.³⁵

The clothing manufacturing and procurement component of the complex during the late 1930s through World War II is the most significant activity that occurred at the site (Fig. 13, 14). During World War II, the average soldier was issued approximately sixty-six items of clothing, requiring the Philadelphia Quartermaster Depot manufacture as many as 29,000 items per day. More than 3,000 items were manufactured in Buildings 6, 9 and 13, which included flags, tents, raincoats, pants, bugles, neckties, hymnals, shoes, coats, socks, gloves, hats, blankets, belts, and mosquito nets.³⁶ Sleeping bags, introduced during World War II, were first produced at the Philadelphia Quartermaster Depot.³⁷

The Philadelphia Quartermaster Depot also supervised the enormous task of contracting out textile work to private companies. The Quartermaster Depot oversaw and reviewed the quality of the procured textile work by furnishing criteria on quality and cost, assisting contractors in the economical manufacture of garments and equipment according to federal specifications, and manufacturing special items during emergencies.³⁸ To this end, the Quartermaster Department based out of the Administration Building (Building 12) awarded contracts totaling over \$5 billion

³³ Buckley.

³⁴ Employees were paid by the article, not by the hour.

³⁵ Blades, 4-40. Sponging is the process of slowing or stopping the shrinking of fabric and mothciding is the process of making fabric resistant to moths.

³⁶ Blades, 4-40.

³⁷ Blades, 4-40.

³⁸ Blades, 4-38. An example of this latter element is the manufacture of classified beach markers at the plant for the invasion of Normandy.

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for required clothing and equipment during World War II. In 1942, the Philadelphia Quartermaster Depot procured enough cloth to wrap ten times around the equator.³⁹

Textile research in the Laboratory, (Building 15) of the Philadelphia Quartermaster Depot was another important and unique function that took place during World War II. Described as the "largest, most modern and finest textile laboratory in the United States" and as the "House of Magic", the purpose of the Laboratory was to establish "an outstanding scientific institution which will not only carry out research initiated by the War, but will also investigate many new fields of major importance to the Army."⁴⁰ The Laboratory tested many aspects of textiles in order to improve performance: tensile strength, water repellency, wind resistance, resistance to wear, shrinkage, chemical composition, wool content, resistance to the passage of moisture, reaction when laundered and dry cleaned and the construction of fabrics.⁴¹ Under the watchful eye of 2,000 inspectors, 72,000 items were put through an average of eight tests each, depending on the requirements of the item.⁴² One of the most practical discoveries made at the Laboratory during this time was that by making fabrics fire-retardant, they will also be able to withstand water, mildew, sunlight, shrinkage and abrasion.⁴³ By making the fabrics more durable, the military was able to minimize the number of uniforms and equipment needing to be replaced.

The Philadelphia Quartermaster Depot was the only Army Depot in the nation that manufactured Army flags: the factory made over 200 storm flags, fifty post flags, and ten garrison flags per day in Building 13 during 1941.⁴⁴ During World War II, the Flag and Embroidery Sections at the Philadelphia Quartermaster Depot were forced to expand to 145 workers in order to handle the needs of the Army. Six-foot square debarkation markers were manufactured here and used for the landing of supplies and equipment for the 1944 Normandy beach invasion of France.⁴⁵

³⁹ Defense Personnel Support Center – Site Displays; "The Arsenal of America: Pennsylvania During the Second World War." <http://www.explorepahistory.com/story.php?storyId=31&chapter=2> (accessed on January 15, 2008).

⁴⁰ "Army Moving Families of 700 to City." *Philadelphia Bulletin*, October 26, 1945, n.p. (Temple University Library, Urban Archives).

⁴¹ "Making U.S. Army World's Best Dressed Is a Tremendous Task," 1, 3.

⁴² "Making U.S. Army World's Best Dressed Is a Tremendous Task," 1, 3.

⁴³ "Way Found to Stop Mildew in Cottons." *New York Times*, January 27, 1947, 46.

⁴⁴ *Philadelphia Bulletin*, October 5, 1941, n.p. (Temple University Library, Urban Archives).

⁴⁵ John V. Haggard, Philadelphia Quartermaster Depot Historian. "Flag Making Tradition at the Philadelphia Quartermaster Depot," n.d. Quartermaster Museum Library, Army Quartermaster Museum - Fort Lee, VA. http://www.qmfound.com/Flag_Making_Philadelphia_Depot.htm (accessed December 22, 2008).

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The Philadelphia Quartermaster Depot produced nearly all of the sponged fabric used in Army uniforms for the nation during World War II, a significant achievement.⁴⁶ Although a sponging plant was established in 1921 in Building M-5, one of the warehouses of the Philadelphia Quartermaster Depot (demolished), the activities of World War II demanded an increase in production of this essential specialty cloth. In the fall of 1941, a new sponging facility opened in Building 9 replacing the earlier building; after entry into World War II, additional machinery was installed in Building 9. Building 9 operated twenty-four hours a day, six days a week during World War II to produce 1.5 million yards of sponged cloth per week. With the pressures of war escalating, there were not enough workers to meet the production demand. To this end, a night shift of Prisoners of War was organized from January through May of 1945, boosting the production of the sponged fabric to two million yards per week.⁴⁷

In order to, procure, develop, produce, organize and ship the thousands of items that passed through the complex, an enormous work force was needed at the Philadelphia Quartermaster Depot, resulting in the employment of 5,000 workers in 1940, 9,000 workers in 1944 and 15,000 workers by the end of World War II.⁴⁸

Comparisons

The Philadelphia Quartermaster Depot represents a unique group of locally significant buildings commissioned and operated by the Army Quartermaster Department. Philadelphia's other military-owned depots operated on a much smaller scale than the Philadelphia Quartermaster Depot during the period of significance, from 1939 through 1942.

The United States Marine Corps Supply Activity at S. Broad Street and Washington Avenue in Philadelphia (1904, NR 1975) performed a similar function as the Philadelphia Quartermaster Depot for the Marine Corps. From its inception in 1789, the purpose of the Marine Corps Supply Activity in Philadelphia was established in barracks for making and mending clothes for Marines.⁴⁹ The Marine Corps Supply Activity, a five-story building, was built in 1904 for the Marines and designed by the Philadelphia architecture firm of Rankin & Kellogg. During World War I, the Marine Corps Supply Activity had over 1,200 employees and "outfitted and equipped thirty-six expeditionary units, including four regiments of 4,000 men each."⁵⁰ In addition to the manufacture and supply of clothing, the Marine Corps Supply Activity also had a fully

⁴⁶ Blades, 6-1.

⁴⁷ Blades, 4-40.

⁴⁸ "Your New Uniform – In Case You Get One – Probably Will be Philadelphia Made." *Philadelphia Bulletin*, October 12, 1940, n.p. (Temple University Library, Urban Archives); Proctor, n.p.; Federal Business Association, "Quarterly Luncheon Meeting Brochure," March 3, 1948, (Temple University Library, Urban Archives), 6-8.

⁴⁹ "United States Marine Corps Supply Activity." *National Register nomination*, 1975, 8-1.

⁵⁰ "United States Marine Corps Supply Activity," 8-1.

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operational manufacturing and distribution plant that produced hat ornaments, mosquito nets, mess pans, helmets... foot lockers, buckets and stoves.⁵¹ By World War II, the number of employees at the Marine Corps Supply Activity had increased to more than 6,000. At this same time, the Philadelphia Quartermaster Depot supported more than three times as many workers with 15,000 employees. The Activity is a much smaller facility than the Philadelphia Quartermaster Depot with a single building holding all of the functions of the plant; in comparison, the Philadelphia Quartermaster Depot presently contains eleven buildings on a twenty-three acre site.

The Marine Corps Depot of Supplies, Schuylkill Warehouse at 700-734 Schuylkill Avenue in Philadelphia (1941, NR 2004) is another example of a military depot with a similar function but on a much smaller scale than the Philadelphia Quartermaster Depot. The Marine Corps Depot of Supplies, a single warehouse, was constructed for \$1.3 million and contained 423,382 square feet; an addition of 114,118 square feet was constructed for the Motor Transport Division in 1943. In comparison, the Philadelphia Quartermaster Depot contained 2,221,171 useable square feet at the time.

During the period of significance (1939-1942), the Philadelphia Quartermaster Depot was the largest manufacturer of textiles for the Army Quartermaster Depot in the United States. During World War II there were many other active Army Quartermaster Depots throughout the country, but each of which supplied the Army in a unique capacity. Philadelphia was assigned to textile manufacturing, relying on Philadelphia's skilled labor group. The nine most prominent Army Quartermaster Depots were located in the following places: Jersey City, NJ; Chicago, IL; Kansas City, MO; Boston, MA; Fort Worth, TX; Columbus, OH; San Francisco, CA; New York, NY; and Charlotte, NC.

The Chicago Quartermaster Depot was perhaps the most like Philadelphia's Quartermaster Depot in terms of the volume of its activities and dedication to one specific war effort. The Chicago Quartermaster was in charge of one major task: supplying food to the Army. During World War II, the Chicago Quartermaster Depot became the largest food purchasing and distributing organization in the world.⁵² A complex of over twenty large buildings that were constructed between World War I and World War II, the Chicago Quartermaster Depot provided such items as canned and dehydrated vegetables and fruits, and pre-packaged and rationed meals, which included "biscuits, canned meat and egg product, fruit bar, soluble coffee, caramels, cheese, melon powder, orange powder, canned meat product, sweet chocolate bar, bullion powder, chewing gum, cigarettes, matches [and] sugar in both tablet and granulated

⁵¹ "United States Marine Corps Supply Activity," 8-1.

⁵² "Charles Henry Lundquist." http://www.lcb.uoregon.edu/lce/Charles_Lundquist_Obit.pdf (accessed January 15, 2008).

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form.”⁵³ Another way in which the Chicago Quartermaster Depot was comparable to the Philadelphia Quartermaster Depot was that it, like Philadelphia’s Depot, also contained a specialized laboratory. The Subsistence Research and Development Laboratory opened in July 1936 under the direction of the Research and Development Branch of The Quartermaster General.⁵⁴ The Subsistence Research Laboratory consisted of “a full-scale food research and development program for the entire Department of Defense.”⁵⁵ Specifically, the facility experimented with the provision of canned and dehydrated food “designed and tested, for use in all sorts of military situations and climates.”⁵⁶ The Chicago Quartermaster Depot also developed the idea of portable, refrigerated, “moisture-vapor-proof, waterproof, insect proof ... vermin-proof [and] gasproof” storage boxes to transport the dehydrated items.⁵⁷

Another complex similar in size to the Philadelphia Quartermaster Depot is the Charlotte Quartermaster Depot in Charlotte, NC, which was activated in 1941. At the peak of World War II, the Charlotte complex employed 2,500 civilians under a staff of 80 Army officers.⁵⁸ The Charlotte Quartermaster Depot was charged with processing salvage materials and supplying them to various army posts regionally during World War II. Like the Philadelphia Quartermaster Depot, the Charlotte Quartermaster Depot occupied a sizable piece of land as it was situated on 72 acres; the Philadelphia Quartermaster Depot at its largest occupied 86 acres (presently it sits on 26 acres).

In summary, the Philadelphia Quartermaster Depot was the Department’s only textile factory in the United States and contained the sole testing laboratory for fabrics.

Criterion C, Significance in Architecture

The Philadelphia Quartermaster Depot at 2724 S. 20th Street possesses significance under Criterion C, in the area of Architecture, as an important local example of an Art Deco style military complex. The complex contains eleven Art Deco style buildings that were designed by the Ballinger Company between 1939 and 1942. The Philadelphia Quartermaster Depot is also significant as an example of a unique project in the body of work by of the prominent local architecture firm, the Ballinger Company.

⁵³ “Colorful Wrapping Give Army Rations Eye Appeal.” *Wall Street Journal*, June 6, 1944, 5.

⁵⁴ The facility was later named the “Quartermaster Food and Container Institute for the Armed Forces.”

⁵⁵ “Army Operational Rations – Historical Background.”

www.qmfound.com/army_rations_historical_background.htm

(accessed on January 15, 2008).

⁵⁶ “Military Food Supply.” www.olive-drab.com/od_rations_general.php (accessed on January 15, 2008).

“Research Is Used to Aid Dehydration.” *New York Times*, December 3, 1942, 41.

⁵⁷ “Research Is Used to Aid Dehydration.” *New York Times*, December 3, 1942, 41.

⁵⁸ “The Charlotte Quartermaster Depot.” <http://www.cmstory.org/homefront/places/qDepot.htm> (accessed on December 23, 2008).

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The Ballinger Company (1920 – present)

The Ballinger Company was founded in 1920 when architect Walter F. Ballinger (1867-1924) bought out Emile G. Perrot (1872-1954), his former partner of the predecessor firm Ballinger & Perrot (1901-1920). Ballinger & Perrot was a highly successful architecture and engineering firm in Philadelphia. Among Ballinger & Perrot's many technical accomplishments was the development of the super-span truss and the sawtooth skylight. Continuing in the approach of Ballinger & Perrot, the Ballinger Company focused on industrial and factory design, as well as completing an assortment of residential and institutional projects, including churches, schools and hospitals. When work began on the Philadelphia Quartermaster Depot in 1939-1940, architect Robert I. Ballinger (1882-1974), the son of the founder, was in charge of the project. The Ballinger Company remains in business today as a premier architecture and engineering firm. Based in Philadelphia, the firm is now known simply as Ballinger.

From 1920 through the 1950s the Ballinger Company completed in excess of 366 commissions. More than sixty of these projects were factories located largely on the East Coast. Some of the firm's notable industrial commissions in the 1920s and 1930s include four factories for the American Viscose Company in Pennsylvania and Virginia; six buildings for the Atwater Kent Manufacturing Company in Pennsylvania; and four factories for the Leland Electric Company in Pennsylvania and Indiana. In the 1930s and 1940s, the Ballinger Company kept busy designing buildings for local manufacturing companies such as Edward G. Budd, makers of car rails and bodies at N. 25th Street and Hunting Park Avenue in Philadelphia.

The Atwater Kent Manufacturing Company – North Plant (extant), located at 5000 Wissahickon Avenue in Philadelphia, PA, is another example of the Ballinger Company's development of large-scale complexes that dates from the 1920s. Not only was the Atwater Kent Radio Plant of a similar scale and function to that of the Philadelphia Quartermaster Depot, it featured the Ballinger signature massive sawtooth truss configuration, which can best be seen in Building 6 at the Philadelphia Quartermaster Depot.⁵⁹

The Budd Company Plant (demolished), located at 1 Red Lion Road in Philadelphia, PA, was a massive 572 acre complex designed in 1942 by the Ballinger Company. This plant, the second one completed for the Budd Company, produced artillery shells and developed prototype cargo planes for the military when it opened. The primary component of the complex were two, one-story structures measuring 1,800 feet by 600 feet and with 1,097,269 square feet of interior space. As with the Philadelphia Quartermaster Depot, time and money were in short supply and

⁵⁹ "Atwater Kent Radio Plant." <http://www.workshopoftheworld.com/nicetown/atwater.html>. Accessed on July 29, 2008; "Atwater Kent Manufacturing Company – North Plant." *Historic American Engineering Record*, 1996.

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the buildings were constructed of reinforced concrete. Although the Budd Company Plant is a much larger scale than the Philadelphia Quartermaster Depot, it served a similar defense function and was a vital component of the local economy, employing as many as 2,500 workers at its peak. The entire complex was demolished in the late-1990s, as the complex had become obsolete.⁶⁰

One of the best known local buildings by the firm is the Moderne style United States Court House and Post Office Building at 900 Market Street in Philadelphia (1937, NR 1990). Façade architect Harry Sternfeld provided the stylish exterior design for the Ballinger Company. The Court House's design emphasizes simple massing rather than exterior decoration, flat roofs, banded windows, bas-relief carvings, stylized elements that are derived from Classical forms and a purity of both form and material.

Significance in Architecture as a unique and important example of Ballinger Company's work
The Philadelphia Quartermaster Depot is an important project in the Ballinger Company's body of work. Of the 366 known projects that the company completed in the twentieth century, the Ballinger Company had only three commissions for the U.S. Military; of these three, the Philadelphia Quartermaster Depot is the only military complex executed by the firm. The Ballinger Company's experience with building factories, hospitals, office buildings, warehouses, laboratories and churches all came into consideration when designing for the multi-faceted needs of the Philadelphia Quartermaster Depot.

The other two military projects executed by the firm were singular buildings on larger sites, not entire complexes: the Climatic Chambers Building (Building 2) at the U.S. Army Research, Development, and Engineering Center in Natick, MA (1952-1955, HAER NO MA-52-A) and the Signal Corps Engineering Laboratory in Fort Monmouth, NJ (1952).⁶¹

The drawings for the Climatic Chambers Building were finished in 1948, but the building was not completed until four years later. The Climatic Chambers Building was intended as an environmental test facility and contained arctic and tropic test chambers. The Climatic Chambers Building was one of a collection of fifty-six buildings situated on the seventy-eight-acre site devoted to researching food science, and aero-mechanical, clothing, material, and equipment engineering.⁶² The Ballinger Company designed the Climatic Chambers Building in

⁶⁰ "The Budd Company, Red Lion Plant." <http://www.workshopoftheworld.com/northeast/budd.html>. Accessed on July 29, 2008.

⁶¹ "The Ballinger Company," *Philadelphia Architects and Buildings*. http://www.philadelphiabuildings.org/pab/app/ar_display.cfm/22293 (accessed on February 7, 2008).

⁶² "Natick Research and Development Laboratories, Executive Summary," HAER No. MA-52, 2.

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the International Style using reinforced concrete, with “flat roofs, smooth, unornamented concrete panel walls, and fenestrations of industrial-type windows.”⁶³

Originally known as the “Hexagon,” the Signal Corps Engineering Laboratory (now known as the Albert J. Myer Center, Building 2700), located in Fort Monmouth in New Jersey, is a 4-story early Modern style building with a nearly hexagonal-shaped footprint.⁶⁴ This massive building was completed in 1954.

Art Deco Style

The Philadelphia Quartermaster Depot is a unique Art Deco style military complex in Philadelphia and the region.

By the late 1920s, the Art Deco style became the first widely accepted national architectural style of the 20th century to break from the traditional revivalist architecture of earlier decades. The moniker “Art Deco” originated from the *Exposition Internationale des Arts Decoratifs Industriels et Modernes*, held in Paris, France in 1925. As applied to architecture, the Art Deco style emphasized modernity and speed in the sleek, stripped down forms and fecundity of stylized geometric and floral decoration and ornament. The Art Deco style was extremely eclectic, incorporating motifs that referenced important artistic movements (Fauvism, Cubism, Futurism, and Expressionism) and archaeological interests, such as ancient Egyptian and pre-Columbian art and architecture.⁶⁵ The discovery of Tutankhamen’s tomb in 1922, as well as archeological digs in Mexico in the 1920s stirred renewed interest in exotic expression. Other attributes of the style included: emphasis on verticality, flat roofed forms often with setbacks, stylized floral and geometric motifs.

By the late 1930s and early 1940s, a streamlined variation of the Art Deco style known as the Art Moderne style became popular: instead of a vertical emphasis, the Art Moderne favored horizontal emphasis and streamlined forms, block-like shapes and flat roofs. Art Deco and Moderne styles became the architects’ styles of choice for many federal, state and city governments in the 1930s through the involvement of the Public Works Administration (1933-1939), created as part of the 1933 National Industrial Recovery Act to offset the effects of the

⁶³ “Soldier Systems Center, Natick.” http://www.scpr.com/natick/sect_8.htm. Accessed on July 29, 2008.

⁶⁴ Mary Beth Reed and Mark Swanson, “Evaluation of selected cultural resources at Fort Monmouth, NJ: Context for Cold War Era, Revision of Historic Properties Documentation, and survey of Evans Area and Sections of Camp Charles Wood,” June 1996, accessed on the World Wide Web on January 1, 2009 at <http://www.infoage.org/chapter-4h-crr.html>.

⁶⁵ “New Deal Art and Architecture,” <http://artmuseum.msu.edu/wpa/WPA/pages/vocab.htm> (accessed on February 1, 2008).

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Depression. In this capacity, Art Deco style was consciously employed by architects to embody optimism, modernity, progressiveness and nationalism.

The Philadelphia Quartermaster Depot design benefited from the influence of a notable firm who envisioned the plan for each building both as part of a universal design and with a unique sense of decoration and style. The Ballinger Company designed the buildings in the Philadelphia Quartermaster Depot complex by combining government and factory standards with influence from the Art Deco style. This approach was in particular contrast to the earlier building campaign at the Philadelphia Quartermaster Depot during World War I (now demolished), when the buildings were constructed as expediently and as cost-effectively as possible, with no concern for architectural style, durability or long-term vision. The Art Deco elements, the stylistic choice, were in keeping with civic architecture at that time.⁶⁶ The interiors maximized the use of daylight in narrow floor plans, large windows, skylights and light courts and demonstrated a mature use of reinforced concrete.

Of the eleven buildings included in the Philadelphia Quartermaster Depot, Buildings 8, 12, 14 and 15 have the most pronounced Art Deco style influences (Fig. 1, 2, 3, 4). The vertical lines, horizontal banding, geometric brickwork, and accents of polished granite, limestone and metal found throughout the complex emphasize that these buildings were consciously imbued with a design aesthetic, which definitively distinguished them both from the earlier buildings at the complex and from the more functional wartime architecture found throughout the city. Building 8 has a monumental Art Deco style clock tower. Building 12, the Administration Building, has strong Art Deco style elements, including distinctive stylized bas-relief eagles (Fig. 2). Building 14 has noteworthy exterior Art Deco style ornamentation (Fig. 3, 4).

Comparisons

Philadelphia's military sites typically consist of a variety of styles within one complex, as in the Philadelphia Naval Shipyard, or single buildings, like the Philadelphia Naval Hospital (demolished). Only a handful of Art Deco style military buildings survive intact.

The Philadelphia Naval Hospital was a complex of buildings at Pattison Avenue and South Broad Street in Philadelphia just north of the Philadelphia Naval Yard constructed from 1933 through 1936 (HABS PA-6206) (Fig. 5, 6). Of all of the military complexes in Philadelphia, the Philadelphia Naval Hospital was the closest in style to the Philadelphia Quartermaster Depot. The Philadelphia Naval Hospital was closed in 1993 and demolished in 2001. Before demolition, eight buildings and their associated landscaped grounds were a noteworthy complex of Art Deco structures designed by the locally prominent architectural firm of Karcher & Smith. The main building, Building 1, was an impressive 15-story yellow brick building with brown terra

⁶⁶ Blades.

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cotta accents and projecting solariums (Fig. 6). Like the Philadelphia Quartermaster Depot, the design of the Philadelphia Naval Hospital smaller buildings emphasized verticality and used modest materials and a judicious use of accent materials to create texture and patterning in the Art Deco style (Fig. 7, 8). Both the Naval Hospital and the Quartermaster Depot had gate posts that were also designed in keeping with the Art Deco style (Fig. 9, 10).

Building 543, the Pipe and Coppersmith Shop, is the closest in style to the Philadelphia Quartermaster Depot at the Philadelphia Naval Shipyard Historic District (NRHD, 1999) (Fig. 11). Building 543, extending 405 feet, was constructed of red brick and concrete in 1939 and has the same clean lines and minimal ornamentation as buildings of the Philadelphia Quartermaster Depot. Both the Philadelphia Quartermaster Depot buildings and Building 543 have stepped profiles, flat roofs and banks of vertical windows that express the style.

The Marine Corps Depot of Supplies at 700-734 Schuylkill Ave. in Philadelphia (1941, NR 2004) designed by architect Eugene Stopper, is an effective comparable to the Philadelphia Quartermaster Depot in that it was built at the same time as the Philadelphia Quartermaster Depot, under the same circumstances and for a similar function (Fig. 12). Although it is only a single building, it, like much of the Philadelphia Quartermaster Depot, was used to warehouse clothing and supplies for the Marine Corps.⁶⁷ Moreover, it was also strategically positioned with access to water and rail lines, but the repeated use of roll-down garage-style doors and loading bays attest that, like the Philadelphia Quartermaster Depot, trucks were the dominant means of supply. Lastly, the Marine Corps Depot of Supplies was also designed in a progressive style, the Moderne style. Although perhaps more stylistically advanced than the Philadelphia Quartermaster Depot, both styles asserted the long-term vision of military construction at this time and the desire to construct not just a temporary structure, but a testament to the strength of the United States.

In summary, The Philadelphia Quartermaster Depot is an important intact example of a local Art Deco style Defense Department complex designed by a prominent Philadelphia firm.

⁶⁷ "United States Marine Corps Depot of Supplies." *National Register nomination*, 2004