NPS Form 10-900
(Rev. 8-86)

OMB No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

JUN 05 1989

NATIONAL REGISTER

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

1. Name of Property

historic name American Thermos Bottle Company Laurel Hill Plant
other names/site number N/A

2. Location

street & number 11 Thermos Avenue N/A ☐ not for publication
city, town Norwich N/A ☐ vicinity
state Connecticut code CT county New London code 011 zip code 06360

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property	
		Contributing	Noncontributing
☒ private	☐ building(s)	13	buildings
☐ public-local	☒ district		sites
☐ public-State	☐ site	2	1 structures
☐ public-Federal	☐ structure		objects
	☐ object	15	1 Total

Name of related multiple property listing: N/A

Number of contributing resources previously listed in the National Register 0

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this ☒ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ☒ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of certifying official — Date 6/2/89

State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of commenting or other official — Date

State or Federal agency and bureau

5. National Park Service Certification

I, hereby, certify that this property is:

☑ entered in the National Register. ☐ See continuation sheet. — Beth L. Savage — 7-17-89
☐ determined eligible for the National Register. ☐ See continuation sheet.
☐ determined not eligible for the National Register.
☐ removed from the National Register.
☐ other, (explain:) _____

Signature of the Keeper — Date of Action

6. Function or Use

Historic Functions (enter categories from instructions)	Current Functions (enter categories from instructions)
DOMESTIC/single dwelling	WORK IN PROGRESS
INDUSTRY/manufacturing facility	

7. Description

Architectural Classification (enter categories from instructions)	Materials (enter categories from instructions)
ITALIANATE; Other: Pilastered Brick Industrial Building	foundation Concrete walls Brick roof Other: tar and felt other

Describe present and historic physical appearance.

The American Thermos Bottle Company Laurel Hill Plant is an industrial complex on the east side of the Thames River in Norwich, Connecticut (Photograph 1). To the west, between it and the river, is the Providence & Worcester Railroad. Thermos Avenue is to the east. The plant consists of interconnected buildings on a north-south axis paralleling the river, together with related outbuildings and structures (Plan 1). Used for manufacturing vacuum-insulated bottles under the trade name Thermos, the complex has 13 buildings and three structures. Thirteen buildings and two structures contribute to its significance. Major components include the brick factory buildings, the earliest build from 1912-1913, and the 1939 Glass House. Additions were made as production expanded and as manufacturing processes were automated.

Original Plant

Company offices were in Building 85, a 2-story brick Italianate house build in 1861 (Photograph 2). The hip roof has projecting eaves with large scroll-cut brackets underneath. Attic windows are set between brackets. Original first and second-floor window openings are indicated by blind brick arches. A service wing in the rear has matching details. A 2-story 1929 addition to the wing connects it to Building 2, built the same year. A 2-story front addition was made in 1942. An addition to the west side of the house was made about 1950. The cupola, brick chimneys, front entry, and veranda were removed in the course of these alterations. A center staircase with newel post, turned balusters, and applied scroll-cut ornament survives inside (Photograph 3). Some interior door surrounds and baseboard moldings remain (Photograph 4).

Building 3, the largest component of the plant, was constructed from 1912 to 1913 (Photograph 5). Three stories high on the river side and two stories on the east, pilasters divide it into 31 bays with stair and elevator towers at each end. Towers face the river and have brickwork once covered with metal panels in the shape of a Thermos bottle (Photograph 6). A frame monitor roof is metal clad. Segmentally-arched window openings have granite sills. A few original wooden casement sash and transoms survive. Most windows have steel industrial sash. Wooden sash in the monitor are covered by the metal cladding. The interior is divided into lengthwise bays by 9"-square timber posts attached by cast-iron flanges to paired timber beams (Photograph 7). The first floor has three bays, the second and third floors, five (Photograph 8). A 3-bay attic story, partly open to below, is created by the monitor (Photograph 9). A 1-story extension at the south end contained the original Glass House. This survives as a sub-basement, a full-height extension having been built over this later. Only the octagonal brick base of a detached chimney is evident.

[X] See continuation sheet

Buildings 86 and 87 were constructed about 1912 for the MacKay Copper Process Company. Foreclosed in 1920, the property was acquired in 1923 by American Thermos. Building 86 was the Enamelling Department (Photograph 10). A 1-story hipped-roof stucco frame building, it has a corner entrance flanked by Chicago-style windows, with wooden casement sash elsewhere. This was concerted to an Employee Services Center in 1948. Building 87, Engineering, later Research and Development, is a 2-story frame building with a low-pitched gable roof (Photograph 11). Plywood and asbestos sidings are used. The first and second floor windows have 6/6 and 2/1 double-hung sash, respectively. A series of additions were made to the east and north sides. A 1-story frame building constructed in 1978 connects the two.

The remaining original structure is a 50,000-gallon covered water tank set on the hillside above the plant (Photograph 12). The octagonal roof has a cupola. An adjacent 150,000-gallon covered reservoir was probably added in the 1940s or 1950s. Both supply water to the sprinkler system.

Later Buildings

Building 2 is a 3-story brick building with a low-pitch gable roof built from 1928 to 1929 at the north end of Building 3 (Photograph 13). Similar in construction to Building 3, it has 17 external bays with steel industrial sash in rectangular window openings with concrete sills. An external conveyor system is attached to the west side. Timber posts divide the interior into four lengthwise bays. Steel flanges join posts to doubled timber beams on the first and second floors. The roof beams are single. The north end has a stair and lavatory tower with toilets. At the south end, the stair and elevator tower of Building 3 serves both buildings.

Building 1, erected in 1943, is a 1-story, steel frame building with a low-pitch gable roof and brick exterior (Photograph 14). This connects to Building 2 and, by a covered passageway, to Building 87. Windows have steel industrial sash and concrete sills.

At the entrance to the plant is Building 61, a 1-story frame, hip-roofed gatehouse probably built in the 1920s. Building 62, the Carpenter Shop, is a 2-story frame, gable-roofed building, built in 1926 (Photograph 15). Buildings 27, 28, and 29 consist of a 1-story flat-roofed concrete block Boiler House with an attached 2-story concrete block building and a 1-story frame storage shed (Photograph 16).

Glass Houses and Ancillary Buildings

The two Glass Houses and ancillary structures are located at the south end of the compound. Building 5, Glass House 1, was built in 1939 and incorporates former Building 19, a 1930 warehouse (Photograph 17). A 1-story structure with a partial mezzanine, it has brick exterior walls and a steel frame. Part of the building has a gable roof. The portion over the glass furnace has a patented monitor roof. Inside is a regenerative continuous tank glass furnace last rebuilt about 1978 (Photograph 18).

The tank is built of refractory ceramic blocks supported by a steel framework. Attached to the Glass House is a concrete silo and a fan house.

South of the Glass House are Buildings 7 and 9, the Glass House cullet and mixhouse and the Glass House compression and auxiliary generator house (Photograph 19). Of cinder block construction, these were build in 1959 and 1948, respectively. A metal-paneled electrostatic precipitator was built in 1977 (Photograph 20).

Building 32, Glass House 2, is a 1-story concrete-block building with partial mezzanine built in 1951 (Photograph 21). Except for construction materials, it is similar in most respects to Glass House 1. A conveyor connects to Building 3. Inside, a small glass tank built in 1951 has been stripped of external elements (Photograph 22).

Manufacturing Process (Figure 1)

Raw materials were carefully weighed and mixed in the batch mixing process (Photograph 23). Batches were charged in the melting end of the glass tank, where temperatures reached 2700 degrees F. (Photograph 24). Molten glass passed through a restricting throat to the semicircular refining end where the temperature was 2200 degrees F. (Photograph 25). This temperature was lowered to 1800 degrees F. as the glass passed through feeders (Photograph 26) to individual section machines. Gobs of the correct weight were cut off by shears. Each gob was fed into a cast-iron model where it was formed into a blank or parison. The blank was transferred by a mechanical arm to a second mold, where it was blown into final form. This method is called "blank and blow."

The molds produced inner and outer "pistons" from which the fillers or liners of Thermos bottles were made (Figure 2). The neck of the inner piston was "cracked off" and returned as cullet. Pistons were annealed in lehrs -- ovens which relieved stresses by slow cooling.

From the glasshouse, pistons were transferred by conveyor to the first floor of Building 3. After inspection, inner pistons had asbestos pads glued on in the Padding Department. The neck flanges of the outer pistons were cracked off and the pistons tubulated, by welding a glass tube onto the bottom. Inner and outer pistons were mated, the asbestos pads leaving a space between the two. In the Neck Seal Department on the third floor, mated pistons were flame-welded together at the necks. Annealing was done in lehrs on the fourth floor. Returning to the third floor, the fillers were silvered by the introduction of a solution through the glass tube at the bottom. After drying, remaining moisture and air were removed int he Exhaust Department. The glass tube was then cut off and sealed. The fillers were then tested for heat retention. After testing, the remaining tip was protected by attaching a cap in the Tip Cap Department. Elements of the extensive conveyor system survive (Photograph 27).

Building 2 housed equipment for manufacturing the outer metal shells of the Thermos bottle prior to removal of metalworking operations to Taftville in 1946. Semi-finished cans, rolls of sheet aluminum, and other raw stock were received on the second floor of Building 2. Stamping of cups and breasts took place on the first floor. The Buffing Department was also on the first floor. Specialty items such as brass shells for coffee pitchers were bought ready-made, stamped with the Thermos logo, and electroplated on the third floor. Finished metal products were assembled with fillers and cork-filled stoppers ont he third floor. The outside conveyor system was used to transfer material from floor to floor. The assembled product was sent to the second floor of Building 3 for warehousing and shipping by truck and rail. Earlier, a gravity-fed conveyor moved outgoing shipments to docks on the other side of the railroad tracks.

INVENTORY

Buildings Number	Name/Function	Date	Approximate Dimensions	Contributing/ Non-Contributing
1	Machine Shop	1943	76'x122'	C
2	Metal Products	1928-9	84'x168'	C
3	Manufacturing Building	1912-13	102'x350'	C
5	Glass House 1	1939	62'x240'	C
7	Cullet and Mix House	1959	29'x42 1/2', 34'x25'	C
9	Compressor and Auxiliary Generator House	1948	20'x38', 22'x46', 21'x28'	C
27-8	Boiler House	1953	35'x40', 23'x45', 13'x60'	C
32	Glass House 2	1951	40'x282'	C
61	Gate House	1920s	20'x18'	C
62	Carpenter Shop	1926	68'25', 100'x27'	C
85	Office	1861	45'x50'	C
86	Enamelling Building	1913	47 1/2'x57 1/2'	C
87	Engineering Building	1913	59'x73'	C
Structures				
---	50,000-Gallon Reservoir	1913	30' diameter	C
---	150,000-Gallon Reservoir	c. 1950	45'x45'	C
9A	Electrostatic Precipitator	1977	---	NC

8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties:
☐ nationally ☐ statewide ☒ locally

Applicable National Register Criteria ☒ A ☐ B ☒ C ☐ D

Criteria Considerations (Exceptions) ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☒ G

Areas of Significance (enter categories from instructions)	Period of Significance	Significant Dates
Architecture	1861	1861
Engineering	1912 - 1959	1912, 1929, 1940
Industry		1951, 1959

Cultural Affiliation
N/A

Significant Person
N/A

Architect/Builder
Unknown

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

(Criterion A) The American Thermos Bottle Company Laurel Hill Plant was constructed from 1912-1913 as the primary factory for the production of Thermos bottles. The plant operated from 1913 to 1984, manufacturing finished products from raw materials. During this period, the manufacturing process advanced from hand-blowing of glass fillers to automated production. The existing plant represents within its confines the development of a new industry from its infancy to a mature industrial corporation. Its product, Thermos bottles, was the result of the application of basic scientific principles to create household objects of great utility. The plant also represents a community effort to diversify the local industrial base. Norwich citizens organized in 1912 to raise the needed capital to purchase the site and erect the factory. The plant possesses exceptional significance in the decades of the 1940s and 1950s. In this period, researchers working at the plant developed and implemented improved means of production. As a result, the company achieved its peak production and dominated the world market. (Criterion C) Architecturally, the complex is a good example of late 19th- and early 20th-century textile mill design applied to a new industry. The design, construction methods, and materials are typical of those found in Eastern Connecticut.

The vacuum bottle was invented by English scientist Sir James Dewar in 1892. Dewar was experimenting with liquified gases at extremely low temperatures. To maintain such temperatures, transfer of heat from the surroundings had to be minimized. Dewar's invention reduced heat transfer from conduction, convection, and radiation, the three mechanisms by which it takes place. He used two glass cylinders with air removed from the space between to form a vacuum. The surfaces of the evacuated space were silvered. Conduction, the transfer of heat through material substances, and convection, heat transfer by currents in liquids or gases, were virtually eliminated by the vacuum. The third means of heat transfer, radiation, which can operate in a vacuum, was reduced by the silvered reflective surfaces. Glass was the most suitable material. Easily formed, it would maintain a vacuum by virtue of its nonporosity to gaseous diffusion. Glass is also a very poor conductor of heat. Its major disadvantage was its relative fragility.

☒ See continuation sheet

9. Major Bibliographical References

Acton, Marilyn C., Fifty Golden Years. Norwich, CT: The American Thermos Product Co., 1957.

Andruskiewicz, Stanley, Superintendent of Plant Maintenance, Interview, January 28, 1988.

Arters, Gene, Glass House Technician, Interview, January 25, 1988.

Chandler and Palmer, Engineers, "Plan of Property of Norwich Industrial Improvement Corporation 1912," Map Book 2, page 36, in Office of Town and City Clerk, Norwich City Hall, Union Square, Norwich, CT.

Levasseur, Emile, Process Engineering Manager, Interview, February 11, 1988.

☒ See continuation sheet

Previous documentation on file (NPS):

- ☐ preliminary determination of individual listing (36 CFR 67) has been requested
- ☐ previously listed in the National Register
- ☐ previously determined eligible by the National Register
- ☐ designated a National Historic Landmark
- ☐ recorded by Historic American Buildings Survey # _____
- ☐ recorded by Historic American Engineering Record # _____

Primary location of additional data:

- ☐ State historic preservation office
- ☐ Other State agency
- ☐ Federal agency
- ☐ Local government
- ☐ University
- ☐ Other

Specify repository: _____

10. Geographical Data

Acreage of property 8.7

UTM References

	Zone	Easting	Northing
A	18	743810	4599310
B			
C			
D			

☐ See continuation sheet

Verbal Boundary Description

Beginning at the north corner of Building 61, the gatehouse, proceeding north along a wire fence approximately 37 1/2 feet. Thence N 39 degrees E along the wire fence approximately 120 feet to a point near the south side of Crown Street. Thence 135 feet

☒ See continuation sheet

Boundary Justification

The boundary of The American Thermos Bottle Company Laurel Hill Plant is well-defined by the tracks of the Providence & Worcester Railroad and the fence around the plant compound. The boundary also includes a triangular piece of land between the compound and Thermos Avenue. This contains the two reservoirs. The 8.7 acres incorporate the original boundaries of the plant with later expansion in the 1920s.

☐ See continuation sheet

11. Form Prepared By

name/title Dale S. Plummer
organization Homegrown Enterprise date _____
street & number 85 Church Street telephone (203) 889-0325
city or town Norwich state Connecticut zip code 06360

The vacuum bottle could prevent heat transfer in either direction, maintaining hot or cold temperatures inside. In 1903, a German firm patented a domestic vacuum bottle or flask with a protective metal casing. Commercial production of these containers of hot or cold beverages under the trade name Thermos began in 1904. William Walker, an American entrepreneur, visited Germany in 1906 and was impressed with the sales potential of the new product. He negotiated the purchase of rights to manufacture and market Thermos bottles in America. Manufacturing began in rented quarters in Brooklyn in 1907. By 1910, the company moved to larger quarters in Manhattan. Increasing demand and the high costs of manufacturing in New York City led Walker to search for a new site. In 1912, it was decided to move to Norwich. Access to water transportation, rail transport, availability of labor, inexpensive public utilities, and proximity to the urban markets of the northeast were factors in the decision.

Norwich by the late 19th century was a center of cotton and woolen textile manufacture. Other local industries included iron founding, industrial belt manufacture, firearms, woodworking machinery, stove production, and paper making. Efforts to expand and diversify the local industrial base had begun as early as the 1880s with the creation of the Norwich Board of Trade. The announcement by the American Thermos Bottle Company that it would relocate in Norwich if the site and factory were provided elicited a quick response. The Norwich Industrial Improvement Corporation was incorporated

> to encourage, stimulate and establish manufacturing and industrial enterprises in the Town and City of Norwich; to provide factory sites, factories and equipment, docks, sidings, and transportation facilities and workmen's dwellings, to acquire, hold, manage, sell, rent, improve, and develop real estate as may be requisite for carrying out the foregoing purposes...(1)

One hundred thousand dollars in capital stock was authorized. The initial capital was $1,000. Shares of stock were sold for $25 each. One hundred prominent community leaders, the "Norwich Boomers," promoted subscriptions. The 27-acre tract selected, the former "Riverside" estate, was divided into a 7-acre parcel on which the plant would be built and a 20-acre parcel which was subdivided into building lots. Individuals who subscribed $750 were deeded a building lot. The goal of $75,000 was raised by February 7, 1912.(2)

The agreement between The Norwich Industrial Improvement Corporation and The American Thermos Bottle Company, signed February 14, 1912, stipulated that the factory would remain the property of The Norwich Industrial Improvement Corporation until the company had spent $375,000 in advertising which also promoted the City of Norwich and another $375,000 in local wages, excluding salaries of officers and directors. The tract and factory building would then be deeded over to the American Thermos Bottle Company. If, within a ten-year period following completion of the building, the factory was unoccupied for six or more consecutive months, or bankruptcy occurred, the property would revert to The Norwich Industrial Improvement Corporation. The company agreed to

pay taxes and utilities, insure the property, and properly maintain the factory. A fire sprinkler system and steam heat were to be installed and kept operational.(2)

The American Thermos Bottle Company fulfilled its promise and was deeded the factory on September 11, 1917.(3) The company succeeded in capturing a new, untapped market. Careful testing of Thermos bottles before shipment assured a high-quality, reliable product. Sales were promoted by effective marketing techniques. Movie stars and explorers to both polar and tropical regions were provided with Thermos bottles. Their endorsements were highlighted in company advertising. The plant itself served as an advertisement. Giant relief models of Thermos bottles were attached to the towers at either end of the plant. One illustration shows a huge model set atop the cupola of the office building.

The company expanded internationally by acquiring the Thermos Bottle Co., Ltd., of Canada, building a plant in Japan in 1919, and acquiring Thermos Limited of London, England, in 1920. A merger with the Icy-Hot Bottle Company of Cincinnati, Ohio, in 1925 retained the Thermos identity and consolidated control of domestic markets. The identification of the trade name Thermos with the vacuum bottle became so pervasive that the word thermos is now a generic term for an insulated container holding hot or cold beverages.

The manufacturing process for Thermos bottles involved a transfer of technology from Germany to America. German workmen and imported glass-working machinery were relocated from Manhattan to Norwich. Local workers were trained in the specialized production techniques. Manufacture of Thermos bottles remained largely a hand operation until 1933, when automation began. Glass production had been centered at Huntington, West Virginia, since the early 1920s. In the late 1920s, the company began to concentrate on improving production techniques. A research department was established at Laurel Hill. Pyrex glass, a borosilicate glass, was introduced. Automation was probably a factor in the reintegration of glass production with manufacturing at the Laurel Hill plant in 1939. Hand-blowing of glass continued for larger specialty items such as ice tubs into the 1940s and 1950s.

Individual section machines, or I.S. machines, for automatic blowing of glass containers were invented by the Hartford-Empire Corporation of Hartford, Connecticut, about 1927. This advance enabled rapid and continuous production of glass pistons. Other machinery was developed by the American Thermos Bottle Company in the 1930s and 1940s. These included equipment for neck sealing (joining the inner and outer pistons at the necks), crack-off (removing excess material), and tubulating (welding a glass tube to the bottom of the outer piston). These proprietary machines were either built in the machine shop at the plant or contracted out to Standard Tool of New Jersey. On the plant's closing in 1984, this equipment was either scrapped or sent to foreign plants.

Also essential to the automation of production was the use of the regenerative continuous tank furnace. First developed in the late 19th century, these furnaces produced high-quality molten glass at the correct temperature and viscosity for use in I.S. machines and other automated equipment. Regenerative brick checkerwork towers with alternating flow heated incoming air and increased the efficiency of the furnace. A special formulation of borosilicate glass, known as "strong glass," was prepared. This had excellent resistance to thermal shock and was resistant to chemical attack. Borosilicate glass required higher melting and working temperatures than conventional soda-lime glass. The furnace was specifically designed for production of this glass. Construction was by Henry F. Teichman, Inc., of New Jersey.

The furnace was in continuous operation during its life. If shut down, it would have to be completely rebuilt. To protect the furnace from accidental shut-down due to power outage, the plant had its own emergency generator capacity. Due to the extremely corrosive nature of molten glass, the life expectancy of the furnace was 3 to 5 years. The 20" thick refractory ceramic bricks lining it would be reduced by as much as 16" in this period. The present furnace was built in 1978 and operated continuously until 1984. Its greater longevity was due to decreased production, the plant operating at about 50% capacity. The steel framework of the furnace is older. The basic design is very conservative: the furnace itself was never completely automated and newer features such as molybdenum electrodes were retrofitted. The 1951 regenerative continuous tank furnace in Glass House 2 survives only because it was abandoned in place about 1955 and was never rebuilt.

Shortly after the Second World War, Thermos purchased a second plant in the Taftville Section of Norwich. Metal manufacturing operations were relocated to this plant, allowing additional glass production at Laurel Hill. The Taftville plant was built in 1898-1899 for the J.B. Martin Company, Ltd. It specialized in the weaving of velvets until damage by the 1938 hurricane forced its closure. During the Second World War, it was occupied by the Hamilton Standard Propeller Division of the United Aircraft Corporation.(4)

Automation of production was virtually complete by the 1950s. New techniques and machinery required the rearrangement of space within the factory compound and the redesign of products for more efficient manufacture. Automation reduced the relative cost of Thermos bottles and made increased production possible. Wartime demand in World War II was met despite material and manpower shortages. In the post-war era, rapid population growth -- the "baby boom" -- resulted in greater demand. School lunch kits joined worker's lunch kits as a major product line.(5)

The company also diversified. In 1952, Thermos acquire the Plastene Corporation of Crawfordsville, Indiana. This was followed by the purchase of Hemp and Company of Macomb, Illinois in 1955. A merger with the King-Seeley Corporation in 1960 formed the King-Seeley Thermos Company. Headquarters were located at the Laurel Hill plant, where Thermos headquarters had been since 1931. Thermos bottles are still the mainstay of

the company, although a variety of outdoor equipment was now manufactured under the Thermos trademark. From Laurel Hill, Thermos directed an international operation with domestic facilities in Illinois and California, and plants in Canada, England, Ireland, and Australia. The Thermos trademark was registered in over 100 countries, and Thermos products sold at hundreds of thousands of retail outlets.(6)

Production peaked during the late 1950s and early 1960s at about 15 million containers a year. Although satellite manufacturing facilities were located elsewhere, the Laurel Hill Plant was the largest production facility in the world for vacuum bottles. Peak employment was about 1,200. This was comparable to the Ponemah mills, the largest textile company in Norwich. As textiles declined, Thermos became Norwich's largest employer. About 10% of the city's work force was employed by Thermos. Annual employee outings attracted from 2,000 to 3,000 people. A family day in 1953 brought 6,000 to the two Norwich plants. By 1981, the Quarter Century Club had over 320 members with an aggregate of 10,700 employment years with the company.(7)

The 1960s brought changes which were to affect the company's position. In 1962, a federal judge ruled that while the logo Thermos was protected by trademark legislation, thermos had become a generic term and had entered the public domain as a synonym for "vacuum insulated" and as an "adjectival noun meaning a vacuum insulated container."(8) Domestic and foreign competition strengthened. Introduction of automatic coffeemakers and vending machines in the work place reduced demand. Breakage-resistant stainless steel bottles also cut into demand. By the end of the 1960s, and during the 1970s, Thermos lost substantial ground. The last substantial improvement to the plant occurred in 1959, when the company was virtually unchallenged and dominated the marketplace for its product.

The design of the factory was strongly influenced by local tradition in mill construction. The Norwich Industrial Improvement Corporation was responsible for building the factory and specified that local contractors would be used. The contract signed in 1912 between the Industrial Improvement Company and the Thermos Company provided that the plant might revert to ownership by the Norwich Industrial Improvement Corporation if unused for more than six months. The design was probably intended to provide for flexibility of use if needed.

The linear layout of the factory with its multiple floors and long uninterrupted bays is indicative of the influence of overhead line-shafting on textile mill design in the 19th century. Stair lavatories and elevators are set apart. The low-pitch gable roofs, use of pilastered brick walls, and the internal system of timber support posts and beams are all characteristic of Eastern Connecticut textile mills of the late 19th and early 20th centuries. Interior window openings have rounded edges, another feature commonly found. The location of the plant on the east bank of the Thames River, although chosen for practical reasons, is dramatic. Paralleling the Thames River for a considerable distance, the factory complex is a major visual element in the landscape of the Thames River, dominating the view of the river as seen from downtown Norwich.

END NOTES

(1) Norwich Joint Stock Corporations, Volume 7, Norwich Records, page 274, February 8, 1912. Manuscript in Office of the Town and City Clerk, Norwich City Hall, Union Square, Norwich, Connecticut.

(2) Acton, Marilyn C., Fifty Golden Years, Norwich, Connecticut: The American Thermos Products Co., 1957, no pagination.

(3) Norwich Land Records, Volume 152, page 150, manuscript in Office of the City and Town Clerk, Norwich City Hall, Union Square, Norwich, Connecticut.

(4) The Taftville plant may be eligible for the National Register independently as a significant textile manufactory.

(5) Acton, Marilyn C, op. cit., no pagination.

(6) "Thermos Company History," files, Thermos Division of King-Seeley Thermos Company, Jewett City Road, Taftville, Norwich, CT; "Thermos World Famous," Norwich Bulletin, January 30, 1968.

(7) "Thermos Reacts to Competition," New York Times, October 22, 1984; Norwich Bulletin, articles March 21, 1951; October 4, 1953; January 30, 1969; June 2, 1980; in files of Norwich Bulletin, 66 Franklin Street, Norwich, Connecticut.

(8) "Thermos, Aladdin Both Warned by Judge," Norwich Bulletin, January 1, 1964.

Maloney, F.J. Terence, Glass in the Modern World: A Study in Materials Development. Garden City, NY, Doubleday & Co., Inc., 1968.

McLellan, George W., and Shand, Errol B., Glass Engineering Handbook, NY: McGraw-Hill Book Co., 1984.

Nolan, James D., History of Taftville, Connecticut. Norwich: The Bulletin Press, 1940.

Norwich Joint Stock Corporations, Volume 7, Norwich Records, Manuscript in Office of the Town and City Clerk, Norwich City Hall, Union Square, Norwich, CT.

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Read, Eleanor B., and Nettles, Diane. Norwich, A Century of Growth. Norwich, CT: The Franklin Press, Inc., 1978.

Studley, G.L., Connecticut the Industrial Incubator, Hartford, CT: The American Society Industrial Engineers, 1981.

NPS Form 10-900-a
(8-86)

OMB Approval No. 1024-0018

JUN 05 1989

NATIONAL REGISTER

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

American Thermos Bottle Company
Laurel Hill Plant
Norwich, CT

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along the wire fence on the S and W side of Crown Street in an arc with a radius of approximately 172 1/2 feet. Thence N 62 degrees W along the fence approximately 67 1/2 feet. The fence then describes a short radius and continues S 28 degrees W along a line roughly paralleling the railroad tracks. Thence the boundary continues along the fence at S 82 1/2 degrees W about 11 feet. At this point, it turns to run about 16 feet N 63 degrees W across a railroad spur line. Then the boundary line follows the wire fence S 36 degrees W approximately 440 feet, in a line paralleling the Thames River and the railroad tracks. The fence and the boundary then proceed S 28 degrees W approximately 300 feet to a point where both turn to a direction N 78 degrees W. Proceeding about 11 feet in this direction, the boundary then turns along the fence and runs S 23 degrees W approximately 150 feet. Turning to run S 18 1/2 degrees W, the boundary continues another 60 feet to a point where it turns to run N 82 degrees W about 16 feet. Then turning to S 27 degrees W, the boundary continues along the fence approximately 82 feet to a point where it changes direction to S 14 1/2 degrees W. Proceeding in this direction about 75 feet, it then turns to follow the fence at S 24 degrees W for approximately 30 feet. The fence then turns to run S 10 degrees W for about 124 feet. It then turns to N 85 degrees E for 50 feet. The boundary and fence then turn to a direction of S 4 degrees E for a distance of approximately 98 feet. The boundary continues along the fence about 48 feet at S 54 degrees E. Turning again, the boundary follows the fence in the direction of N 39 degrees E for a distance of approximately 435 feet. At this corner, the boundary leaves the fence line and continues S 86 degrees E 270 feet to the west side of Thermos Avenue. Continuing 660 feet in a northerly direction along the west side of Thermos Avenue, the boundary then turns back along the wire fence N 10 degrees E a distance of 26 feet to the entrance of the plant. It then continues across the entrance to the east side of the gatehouse, which it follows to the north corner, the place of beginning.

NPS Form 10-900-a
(8-86)

OMB Approval No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 12/87
Photograph 1
Plant from West Side of River
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, Ct
Karen Bussolini, 12/87
Photograph 2
Office Building (Riverside)
Negative on file at Interdesign
Old Lyme, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 12/87
Photograph 3
Interior Detail, Office Building Staircase
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 12/87
Photograph 4
Interior Detail, Moldings, Office Building
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 12/87
Photograph 5
West Side, Building 3
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
Karen Bussolini, 12/87
Photograph 6
Detail of Tower, Building 3
Negative on file at Interdesign
Old Lyme, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 2/88
Photograph 7
Interior Detail, Post-and-Beam Construction, Second Floor,
Building 3
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 2/88
Photograph 8
Interior, Second Floor, Building 3
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 2/88
Photograph 9
Interior, Attic Story, Building 3
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 2/88
Photograph 10
Enamelling Building (Personnel)
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 2/88
Photograph 11
Enamelling Building (Research & Development)
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 12/87
Photograph 12
50,000-Gallon Reservoir
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 2/88
Photograph 13
East Side, Building 2
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 2/88
Photograph 14
East Side, Building 1
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 2/88
Photograph 15
Rear, Carpenter Shop
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 2/88
Photograph 16
Boiler House
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 12/87
Photograph 17
Glass House 1
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 2/88
Photograph 18
Regenerative Continuous Tank Furnace, Glass House 1
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 12/87
Photograph 19
Cullet and Mix House, Compression and Auxiliary
Generator House
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
Karen Bussolini, 12/87
Photograph 20
Electrostatic Precipitator
Negative on file at Interdesign
Old Lyme, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 2/88
Photograph 21
Glass House 2
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 2/88
Photograph 22
Regenerative Continuous Tank Furnace, Glass House 2
Negative on file at Connecticut Historical Commission
Hartford, CT

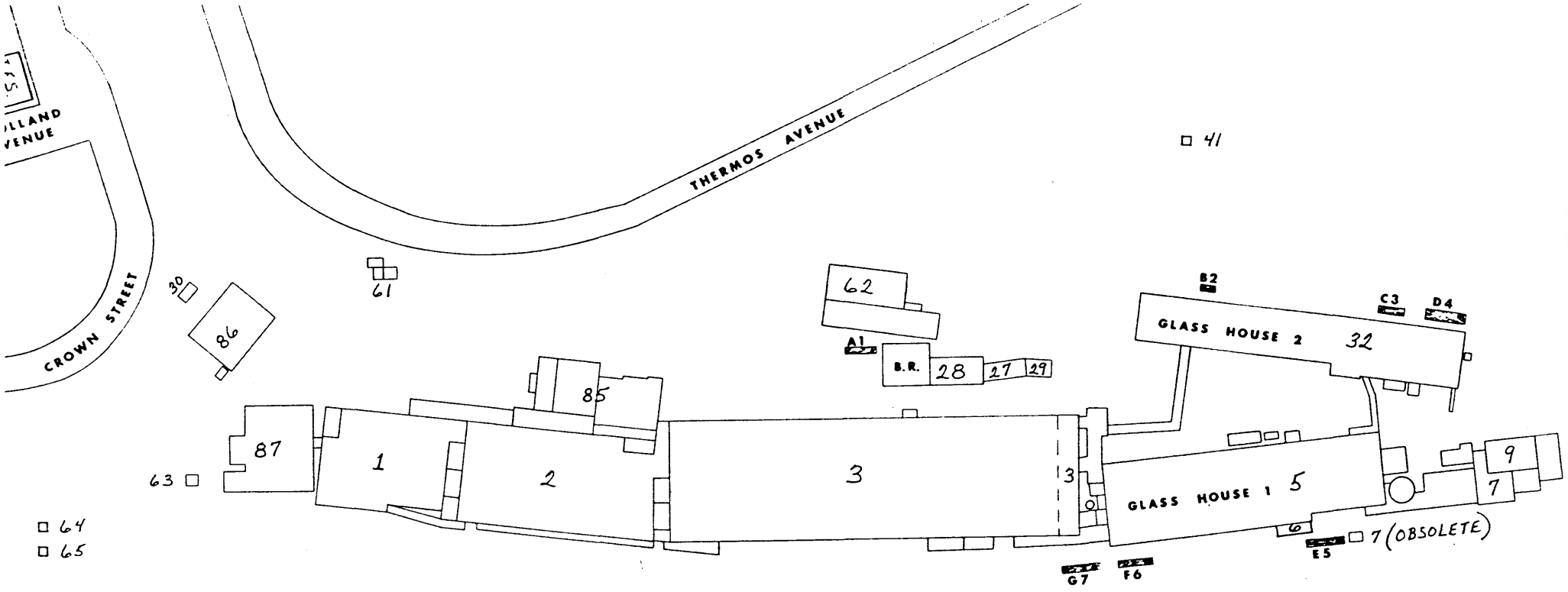
The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 12/87
Photograph 23
Interior, Cullet and Mix House
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 2/88
Photograph 24
Detail, Charging Opening, Regenerative Continuous
Tank Furnace
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 12/87
Photograph 25
Refining End, Regenerative Continuous Glass Tank
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 2/88
Photograph 26
Feeder, Regenerative Continuous Tank Furnace
Negative on file at Connecticut Historical Commission
Hartford, CT

The American Thermos Bottle Company Laurel Hill Plant
Norwich, CT
D.S. Plummer, 2/88
Photograph 27
Detail, Conveyor System, Third Floor, Building 3
Negative on file at Connecticut Historical Commission
Hartford, CT



PLAN 1

LATITUDE

LONGITUDE

American Thermos Bottle Company
Laurel Hill Plant
October 25, 1984

No. 1 Storage Building
No. 2 Storage Building
No. 3 Manufacturing Building
No. 3 Extension - Manufacturing Building
No. 4 Conveyor Housing
No. 5 Manufacturing Glass House No. 1
No. 6 Glass House Fan House
No. 7 Glass House Cullet & Mix House
No. 9 Glass House Compressor & Aux Gen House
No.27 Water Treatment House
No.28 Boiler House
No.29 Storage Shed
No. 30 Human Resources Storage Shed
No. 32 Storage- Glass House No. 2
No. 41 Fire Pump House
No. 61 Gate House
No. 62 Carpenter Shop
No. 63 Propane Shed
No. 64 Propane Shed
No. 65 Propane Shed
No. 85 Main Office Building
No. 86 Human Resources Building
No. 87 Research and Development

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FIGURE 1

FLOW CHART OF VACUUM BOTTLE PRODUCTION

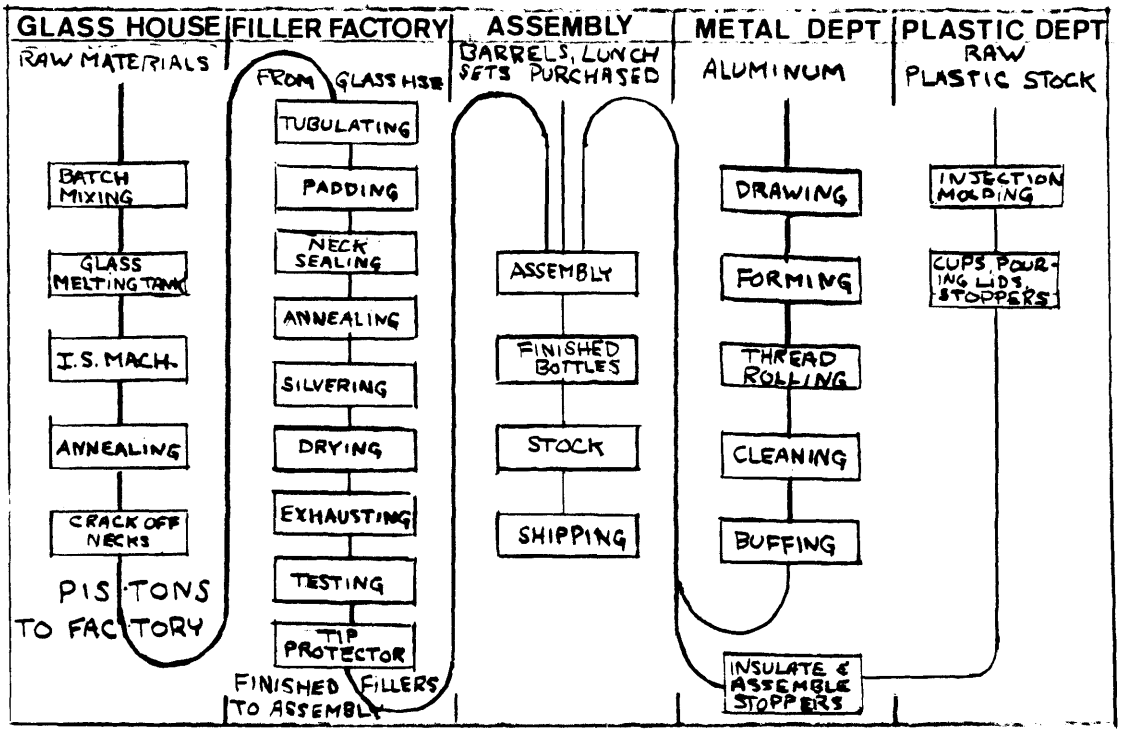

FIGURE 2

STEPS IN FILLER PRODUCTION