NOMINATION OF HISTORIC BUILDING, STRUCTURE, SITE, OR OBJECT PHILADELPHIA REGISTER OF HISTORIC PLACES PHILADELPHIA HISTORICAL COMMISSION Submit all attached materials on paper and in electronic form (cd, email, flash drive) Electronic files must be Word or Word compatible		
1. Address of Historic Resource (must comply with an Office of Property Assessment address) Street address: <u>3475 Collins Street</u> Postal code: <u>19134</u>		
2. NAME OF HISTORIC RESOURCE Historic Name: Tioga Mills Current/Common Name:		
3. TYPE OF HISTORIC RESOURCE		
4. PROPERTY INFORMATION Condition:		
5. BOUNDARY DESCRIPTION Please attach a narrative description and site/plot plan of the resource's boundaries.		
6. DESCRIPTION Please attach a narrative description and photographs of the resource's physical appearance, site, setting, and surroundings.		
7. SIGNIFICANCE Please attach a narrative Statement of Significance citing the Criteria for Designation the resource satisfies. Period of Significance (from year to year): from 1886 to 1926 Date(s) of construction and/or alteration: 1886, 1892, 1900, 1919 Architect, engineer, and/or designer: Unknown Builder, contractor, and/or artisan: Unknown Original owner: Thomas Henry Other significant persons:		

CRITERIA FOR DESIGNATION:				
 The historic resource satisfies the following criteria for designation (check all that apply): (a) Has significant character, interest or value as part of the development, heritage or cultural characteristics of the City, Commonwealth or Nation or is associated with the life of a person significant in the past; or, (b) Is associated with an event of importance to the history of the City, Commonwealth or Nation; or, (c) Reflects the environment in an era characterized by a distinctive architectural style; or, (d) Embodies distinguishing characteristics of an architectural style or engineering specimen; or, (e) Is the work of a designer, architect, landscape architect or designer, or engineer whose work has significantly influenced the historical, architectural, economic, social, or cultural development of the City, Commonwealth or Nation; or, (f) Contains elements of design, detail, materials or craftsmanship which represent a significant innovation; or, (g) Is part of or related to a square, park or other distinctive area which should be preserved according to an historic, cultural or architectural motif; or, (h) Owing to its unique location or singular physical characteristic, represents an established and 				
			familiar visual feature of the neighborhood, comm	
			 (i) Has yielded, or may be likely to yield, information (j) Exemplifies the cultural, political, economic, so 	on important in pre-history or history; or
			8. MAJOR BIBLIOGRAPHICAL REFERENCES Please attach a bibliography.	
			9. Nominator	
			Organization Powers & Company, Inc.	Date February 1, 2022
Name with Title <u>Kevin McMahon, Senior Associat</u>	_Email_kevin@powersco.net			
Street Address 1315 Walnut Street, Suite 1717	Telephone_215-636-0192			
City, State, and Postal Code Philadelphia, PA 19107				
Nominator \Box is \checkmark is not the property owner.				
PHC USE ONLY	, ,			
Date of Receipt: February 2, 2022				
Correct-Complete Incorrect-Incomplete	Date: <u>3/18/2022</u>			
Date of Notice Issuance: <u>3/18/2022</u>				
Property Owner at Time of Notice:				
Name: * See following page for list of owners a	and addresses			
Address:				
City:	State: Postal Code:			
Date(s) Reviewed by the Committee on Historic Designat	tion: April 20, 2022			
Date(s) Reviewed by the Historical Commission: May 13	3, 2022			
Date of Final Action: May 13, 2022. Designated under C	riteria A and J.			
🔀 Designated 🛛 🗌 Rejected	12/7/18			

Owners notified for 3475 Collins St:

<u>Unit 101</u> VU READ CENTER LLC 3475 COLLINS ST, UNIT 101 PHILADELPHA PA 19134

<u>Unit 102:</u> LAND LAPPER INC 2126 E TIOGA ST PHILADELPHA PA 19134

<u>Unit 103:</u> KEVIN KONIECZNY 2205 E WAKELING ST PHILADELPHA PA 19134

<u>Unit 104:</u> LAND LAPPER INC 2126 E TIOGA ST PHILADELPHA PA 19134

<u>Unit 105:</u> LAND LAPPER INC 2126 E TIOGA ST PHILADELPHA PA 19134

<u>Unit 106:</u> LAND LAPPER INC 2126 E TIOGA ST PHILADELPHA PA 19134

<u>Unit 107:</u> KEVIN KONIECZNY 2205 E WAKELING ST PHILADELPHA PA 19134

<u>Unit 108:</u> TIOGA-COLLINS STREET ASSOCIATES 551 W LANCASTER AVE, SUITE 4 PHILADELPHA PA 19041

5. Boundary Description

ALL THAT CERTAIN lot or piece of ground with the buildings and improvements thereon erected.

SITUATE on the corner formed by the intersection of the Southwesterly side of Collins Street (formerly Waterloo Street) with the Southwesterly side of Tioga Street in the 45th Ward of the City of Philadelphia.

CONTAINING in front or breadth on the said Collins Street Three hundred and Ninety-four feet and extending in length or depth Southeastwardly between lines at right angles to the said Collins Street, on the Northeasterly line thereof along the Southwesterly side of Tioga Street, One hundred and Fifty-one feet Five and one-half inches and on the Southwesterly line thereof One hundred and Sixty-five feet more or less to the Northwest side of the Philadelphia and Trenton Railroad.



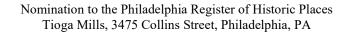
Boundary Map showing 3475 Collins Street (Pictometry, 2020).

6. Description

Tioga Mills is located at the southeast corner of East Tioga Street and Collins Street in the Harrowgate neighborhood of North Philadelphia. The complex contains five resources, all of which are contributing. The most prominent resources are two large, five- and four-story brick mill buildings constructed in 1886 and between 1892-1900, respectively. These two buildings (Mill #1 and Mill #2) are located along the east side of the site, parallel to an elevated rail line: the former Philadelphia and Trenton Branch of the Pennsylvania Railroad, which is now owned by CSX and used as a freight railroad. The remainder of the complex consists primarily of one-story brick buildings dating to c.1900, including the former Office building fronting on Tioga Street, and a one-story Garage building fronting on Collins Street. A two-story brick warehouse, built in 1919, anchors the northwest corner of the site. As seen in the historic maps (see Figures 3 and 4), these buildings historically were independent, and formed a U shape around the perimeter of the site. They were eventually connected when the open space between the buildings was infilled with one-story additions during the 1950s and later. This infill is not character defining and the various infill segments are not counted as independent resources, but rather are treated as additions to the Garage building. Portions of the complex are today under multiple separate ownerships. The south end of the site contains a gravel surface and is currently used for parking. A chain-link fence surrounds the parking area on the west, south, and east sides. There are also concrete sidewalks on the north and west sides of the property.



Figure 1: Recent aerial view, looking southeast (Pictometry, 2020).



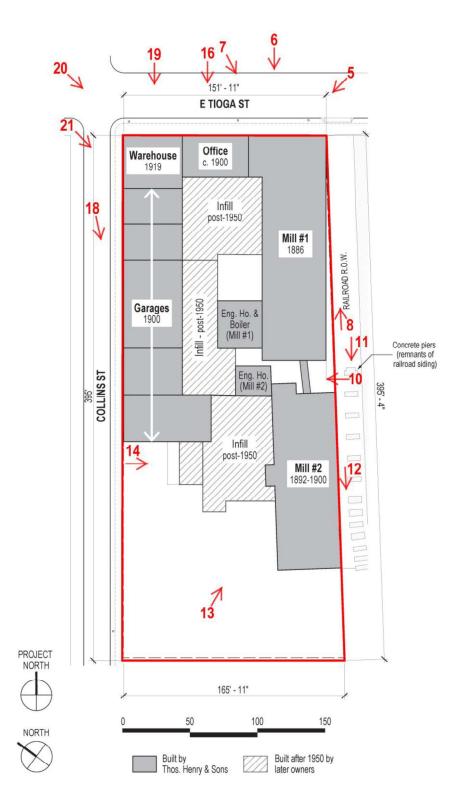


Figure 2: Site plan with property boundary and photo key.

Narrative Description

Setting and Additional Site Features

Although Tioga Mills is typical of the surrounding area in its industrial use – many industrial properties, including some that were historically textile related, are located to the east and north – it stands out due to its height. Most of the nearby, surviving industrial sites are relatively low-slung and typically do not exceed two or three stories, compared to the five-story height of Mill #1 at Tioga Mills. The Tioga Mills complex is also significantly taller than the blocks of two-story rowhouses that appear predominantly to the west, although a group also appears north of Tioga Street and east of the railroad. Most of these rowhouses were built around the same time as Mill #1. Some vacant lots, which historically were occupied by other industrial buildings, do appear throughout the neighborhood, including one just south of Tioga Mills (the former site of the Reed Electric Company, a complex that was eventually acquired by Thomas Henry & Sons in 1920 and demolished in 1980), however the demolition of these historic sites has not significantly impacted the historic character of the area.

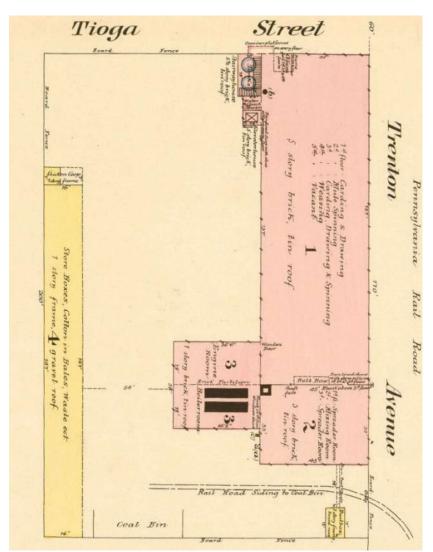


Figure 3 – Hexamer General Surveys, No. 2084, Tioga Mills (1886). Plan view. The original at-grade railroad siding, removed after the railroad was elevated around 1909, is depicted just south of Mill #1.

A fire insurance survey from 1886 (Figure 3) indicates that a railroad siding from the adjacent Philadelphia and Trenton Branch once entered the site just south of Mill #1. This siding existed at least until 1901 as indicated by a historic map published that year. Around 1909, the at-grade railroad was elevated and the siding was removed as evidenced by the 1920 Sanborn map (Figure 4). No remnants of the at-grade siding remain today. The concrete piers adjacent to the east elevation of Mill #2 (as seen in Figure 11) appear to be remnants of a later siding that served the Tioga Mills once the railroad was elevated, however there is no evidence of how goods would have been loaded onto or unloaded from the rail cars. The concrete piers are located on the railroad right-of-way and therefore are not part of the 3475 Collins Street property.

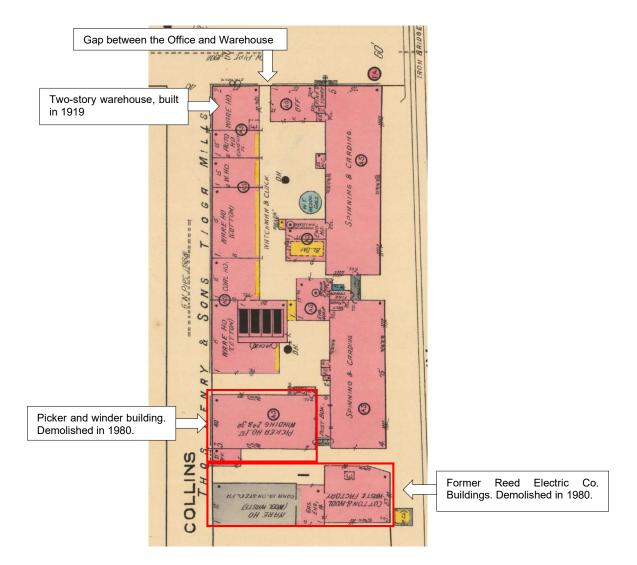


Figure 4: Sanborn Fire Insurance Map, 1920. As shown here, there was historically a gap between the Office building and Warehouse, which was probably infilled shortly after this map was published in 1920. Additionally, the map shows no evidence of a rail siding, suggesting that the siding that once existed was removed when the adjacent railroad was elevated (rail sidings are typically depicted on Sanborn maps when they exist).

Mill #1, 1886 - Contributing

Located at the northeast corner of the site, Mill #1 is a five-story, red brick mill with six bays on the north elevation (facing Tioga Street), seventeen bays on the east and west elevations, and five bays on the south elevation. As shown in Figure 3, the two southernmost bays were originally three stories tall, and were expanded around 1900 to five stories. The building, currently vacant, is typical of industrial architecture in Philadelphia during the late nineteenth century in its spare, vernacular style, heavy timber structure with brick exterior walls, corbeled brick cornice, and low gabled roof (Figures 5-7).



Figure 5: East and north elevations of Mill #1, view southwest.



Figure 6: North elevation of Mill #1, view south.

At the northwest corner of the building, there is a rectangular fire stair tower that rises well above the gabled roof (Figures 6 and 7). On all four elevations, nearly all bays (exceptions are explained below) have a consistent fenestration pattern of segmental arched window openings. Most of the openings are covered with metal panels on the exterior side or have been infilled with concrete block, however many of the original twelve-over-twelve, double-hung wood windows still remain and are visible on the interior (Figure 9).



Figure 7 (left): North and west elevations of Mill #1 and the abutting Office building, view southeast. **Figure 8** (right): East elevation of Mill #1, view north. The open space to the right is part of the railroad rightof-way and is accessible from 3475 Collins Street through an easement agreement (as indicated on the site plan, above, the east elevations of Mills #1 and #2 are at or nearly at the property line).

On the north elevation, which is six bays wide, there are original wood loft doors on each floor in the bay directly below the peak of the gabled roof, with similar doors located in the southernmost bay on the west elevation (Figures 5-7). The two westernmost bays on the north elevation contain paneled wood doors that open from the fire stair tower onto iron fire balconies that were installed in 1890 on the second through fifth floors (Figures 5-7).



Figure 9: Typical 12-over-12 window in Mill #1.

Tioga Mills, 3475 Collins Street, Philadelphia, PA

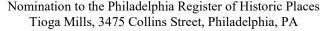


Figure 10: Bridges between Mill #1 (right) and Mill #2 (left), view west.

The west elevation is sixteen bays long. The first floor is largely not visible due to the construction of the one-story infill additions in the former courtyard during the 1950s and later (as explained in greater detail below, the infill is considered part of the Garage building). At the south end of the west elevation there is a one-story brick engine house and boiler room, which was originally built as part of and is internally connected to Mill #1. The engine house and boiler room extends into the former courtyard space and is not counted as a separate resource, but rather, for the reasons stated above, is considered part of Mill #1 Although there is still a small open courtyard space north of the engine house and boiler room (not accessible at the time of survey), this section of the building is otherwise enveloped by the post-1950, one-story infill additions and therefore is not visible from the exterior except within the currently inaccessible courtyard space.

The south elevation is five bays wide. In the second bay from the east, wood framed bridges, which are clad in corrugated metal (possibly the original cladding material) and contain what appear to be original double-hung wood windows, connect the south elevation of Mill #1 to Mill #2 at the second, fourth, and fifth floors (Figure 10). The one-level bridge at the second floor was built with Mill #2 in 1892 and the two-level bridge at the fourth and fifth floors was built when those floors were added to Mill #2 in 1900. The bridges therefore are considered character-defining (though uncounted) features but are in very poor structural condition.

The east elevation is seventeen bays long. Unlike the other three elevations, there are few distinguishing features on this side apart from a wood stair (approximately 20-30 years old) that leads down from the fourth bay from the south to ground level, graffiti over the first floor windows, and a painted sign over the three northernmost bays on the fifth floor. The sign was painted by a later tenant the 1970s or 1980s.

<u>Mill #2, 1892-1900 – Contributing</u>

Located just south of Mill #1, Mill #2 is a four-story, red brick mill building with five bays on the north elevation and thirteen bays on the east and west elevation. The building, currently vacant except on the first floor where an audiovisual business stores their equipment, is similar in form and material treatment to Mill #1, but is slightly shorter and wider than its predecessor. Built with only two stories in 1892, a third and fourth floor were added in 1900.

On the east, north, and west elevations, nearly all bays contain segmental arched window openings (Figures 11-14). Most of the openings are covered with metal panels on the exterior side or have been infilled with concrete block, however many of the original nine-over-nine, double-hung wood windows still remain and are visible on the interior (Figure 15). There are no windows on the south elevation, which consists of a blank brick wall (Figure 13). At the north end of the west elevation, a one-story brick engine house extends into the former courtyard space but is now enveloped by the one-story infill additions that were built during the 1950s and later (each mill building had its own engine house). The engine house was built with Mill #2, to which it is internally connected, and is not counted as a separate resource. Above the first floor, the west elevation contains original wood loft doors on each floor in the third bay from the north and in the southernmost bay (Figures 13 and 14). The doors are similar to those in Mill #1. In the center of the west elevation, there is a rectangular tower that historically contained bathrooms and supported a water tank on top (Figures 13 and 14).



Figure 11 (left): North and east elevations of Mill #2, view south. **Figure 12** (right): East elevation of Mill #2, view south. The concrete piers at left are part of the former railroad siding but are located on the railroad right of way and are not part of the 3475 Collins Street property.



Figure 13: West and south elevations of Mill #2, view northeast.



Figure 14: West elevation of Mill #2, view east. The one-story, concrete block structure with loading dock in the foreground is part of the post-1950s additions.



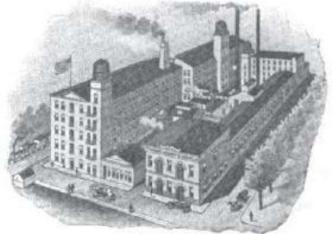
Figure 15: Typical 9-over-9 window in Mill #2.



Figure 16: North elevation of the Office building, view south. The two westernmost bays (far right) were not part of the original building and were likely added shortly after 1920.

Office, c.1900 - Contributing

Located between Mill #1 and the Warehouse, the Office is a one-story, painted brick building with a painted metal cornice (Figure 16). Although the building now has a flat roof, according to a period advertisement (Figure 17), it historically had a gabled roof. Only the north elevation, which faces Tioga Street, is visible; all other elevations abut adjacent buildings or infill additions. The building is nine bays wide, with six of the bays containing six-over-six, double-hung vinyl replacement windows with painted concrete infill panels below. Two of the bays contain modern, hollow metal doors while the ninth bay is covered with metal panels and electric meters. According to the period advertisement referenced above (Figure 17) and a 1920 Sanborn Map (Figure 4) the two westernmost bays were not part of the original building. These two bays were added later, and the matching brickwork and cornice suggests this happened not long after 1920. The interior was not accessible at the time of survey, however the building is currently being used as workshops and studios for artists and small businesses. As shown in the 1920 Sanborn map (Figure 4), the Office and Mill #1 were connected on the interior.



TIOGA MILLS OFFICE AND MILLS, TRENTON AVE., TIOGA AND COLLINS STS. Figure 17: Detail from a period advertisement.

Garage, 1900 - Contributing

Located south of the Warehouse, the Garage building is a one-story brick building with numerous roll-down metal garage doors that face Collins Street (Figure 18). The interiors were not accessible at the time of survey, however the building is currently being used workshops and studios for artists and small businesses. According to the 1920 Sanborn map (Figure 4), the Garage building historically contained a number of individual spaces that were separated by party walls and were not internally connected. These spaces were used for the storage of raw cotton, coal, and automobiles. The period advertisement referenced above (Figure 17) appears to show a row of windows on the Collins Street elevation rather than large garage openings. Although little evidence of these openings remains, it is possible that at the time the ad was published in 1918, the garage openings were located on the east side of the building, facing what was then the open center of the site. It was only with the construction of the later infill additions in the 1950s that the garage openings were relocated to the Collins Street side.



Figure 18: West elevation of the Garage building, view southeast. As shown in Figure 17, this elevation once contained smaller openings with windows rather than the garage doors that exist today (the doors were likely installed after 1950).

Warehouse, 1919 - Contributing

Located at the northwest corner of the site, the Warehouse is a two-story brick building reflecting the Georgian Revival style (Figures 19-21). The brick is painted on the first floor. On the north elevation, there is a hollow metal door with a single light arched transom and a number of double-hung, vinyl replacement windows on the first floor. On the second floor, there two large arched openings containing pairs of double-hung metal replacement windows with single light transoms and a concrete keystone. These openings are located between much smaller one-over-one, double-hung metal replacement windows with splayed concrete lintels. On the west elevation, there are a number of infilled window openings on the first floor as well as two double-hung metal replacement windows, two with splayed concrete lintels. Above the second-floor windows on the north and west elevations, there is band of stucco where the metal cornice was historically located (the cornice remains intact only on the east elevation). Above the stucco band and cornice, there

is a brick parapet with a smaller, secondary metal cornice on the north, east and west elevations. The building has a very low gabled roof that is not visible from the street. There are no internal connections between the Warehouse and the Garage building to the south, however one opening between the Warehouse and the Office building to the east was created when the latter was extended westward after 1920.



Figure 19: North elevation of the Warehouse, view south. As seen in this view and in Figures 20 and 21, below, the stucco band above the second floor windows was historically the location of a cornice as seen in Figure 4.



Figure 20: North and west elevations of the Warehouse, view southeast.



Figure 21: West elevation of the Warehouse, view southeast.

Infill Construction, 1950s and later – Non-contributing

In the 1950s through the 1980s, later owners gradually filled in the former courtyard space in the center of the complex with one-story, steel framed additions These spaces, which are inconsistent in plan, were extensions to the individual spaces in the Garage building (around this time, the garage doors, which were had most likely faced the courtyard, were relocated to the Collins Street side). While it is not possible to determine precisely how these spaces functioned under later tenants, they appear to have continued in their historic use as loading areas and warehouses. While it is possible that openings between the individual garage spaces existed after 1950, today such openings exist only between the southernmost space and Mill #2 (the southernmost addition and the first floor of Mill #2 are used by the audiovisual business mentioned above). The infill additions are not character-defining, and post-date the period of significance.

Integrity

Tioga Mills retains a high degree of integrity. In particular, the design and materials remain largely intact and the workmanship, expressed in a consistent architectural style, is of good quality. More specifically, both the overall form and the defining industrial characteristics of the complex remain, including its exterior brick walls, regular window openings, characteristic hoists and loft doors, diagonally laid wood floors, heavy timber and cast iron columns, and heavy timber beams and roof trusses. While the original windows in Mills #1 and #2 are mostly concealed on the exterior side, many of them remain and are visible on the interior of the building. Therefore, the historic fenestration patterns remain largely intact. The quality, placement and condition of the construction materials, as well as the building's vernacular architectural style are both highly characteristic of the period and also all remain wholly intact. Although the machinery was removed long ago, the overall spatial arrangements, volumes and heavy timber structural system remain. While Mills #1 and #2 are currently largely vacant, their original manufacturing function is clearly conveyed.

The overall exterior form of the main mill building remains largely intact from the last phase of major construction in 1919. In fact, the complex appears much the same as it does in an image used in various Thomas Henry & Sons advertisements between the late 1910s and early 1920s (Figure 17). This image depicts water tanks on top of the stair towers on the west elevations of Mills #1 and #2 (later removed), signage on the Warehouse (later removed), a gap of two bays

between the Office and Warehouse that was later infilled, and punched window openings rather than the existing garage doors on the west elevation of the Garage building These minor changes have little impact on the integrity of the complex, which remains easily identifiable as a latenineteenth and early-twentieth century industrial site.

The image used in the advertisements also includes a three-story, approximately 50' by 90' picker and winding building that extended from the west elevation of Mill #2 to Collins Street as shown in plan in the 1920 Sanborn map (Figure 4). Built by Thomas Henry & Sons around 1900, this building was demolished in 1980, as was a small group of one- to three-story buildings at the south end of the site, also shown in the 1920 Sanborn map (these buildings are not seen in the advertisements because they are blocked from view by the picker and winder building). Built by the Reed Electric Company around 1900, the buildings were leased by Thomas Henry & Sons around 1920 for the processing of cotton and wool waste materials, a tertiary function in the overall yarn manufacturing process. The company acquired the buildings from the Reed Electric Company in 1923, only three years before Tioga Mills closed down and Thomas Henry & Sons moved to Nashville, therefore they were never essential to the company's operations.

Despite the loss of the buildings at the south end of the site, the remaining buildings more than adequately convey the significance of Thomas Henry & Sons and their Tioga Mills. The existing mill buildings, due to their vast size and height, would have dominated the property even before the 1980 demolitions took place. In fact, due to their still imposing presence in the surrounding neighborhood, the site's current form and appearance would be unmistakable to former employees. Lastly, the two oldest and largest surviving buildings – Mills #1 and #2 – represent the component of the yarn manufacturing process, spinning, for which Tioga Mills was principally known. Therefore, the absence of the buildings at the south end of the property has no significant impact on its integrity.

The location and setting of the building have remained largely intact since the last major phase of construction in 1919 and the concurrent residential and industrial development that occurred around the property. The feeling and associations of the building, reinforced by the remaining rail line along the east side of the building, also have a high level of integrity. Although the equipment, furnishings and people have long since departed, the intact finishes and voluminous spaces effectively relay the sense of place and the notable industrial history of once prominent manufacturers.

7. Significance

Tioga Mills, built by Thomas Henry & Sons, was a major producer of cotton yarns for Philadelphia's vast hosiery industry during the late-nineteenth and early-twentieth centuries. Important from its start in 1886, the mill was also significant later, after about 1910, as an example of an operation that successfully transitioned to new product lines, in this case specialized yarns for underwear, bathing suits, towels, and upholstery after the cotton hosiery industry began to decline. The Period of Significance begins in 1886, when the first and largest section of the mill, Mill #1, was completed, and ends in 1926, after Thomas Henry & Sons moved their operations to Nashville, Tennessee. Between about 1926 and 1946 the building was occupied by the Klein Stove Company.¹

As one of Philadelphia's most prominent manufacturers of cotton yarn during the city's position as the world's greatest textile center, Tioga Mills is significant under the following criteria:

(a) Has significant character, interest or value as part of the development, heritage or cultural characteristics of the City, Commonwealth or Nation or is associated with the life of a person significant in the past; and

(j) Exemplifies the cultural, political, economic, social or historical heritage of the community.

Philadelphia's Hosiery and Hosiery Yarn Industries

In the late nineteenth century, textiles comprised the largest industry in Philadelphia, with most firms located in Kensington and the surrounding area, including adjacent Port Richmond and Harrowgate. Textile production in Philadelphia originally began in the eighteenth century as a cottage industry, but technological developments in the nineteenth century – particularly the introduction of steam powered looms and knitting machines beginning in the 1830s – prompted a shift from production in the home to production in large, purpose-built factories. The arrival of the railroad in the Kensington area around the same time also suddenly made the deliveries of raw materials and shipments of finished goods far easier. And the concurrent growth of Philadelphia's immigrant population, particularly from textile centers in England and Ireland, brought a workforce experienced in textile production to Philadelphia. Finally, the Consolidation Act of 1854, which united the City of Philadelphia with outlying districts and boroughs into the new County of Philadelphia, brought political and economic order to Kensington and spured the rapid industrial development of the area. By 1860, large textile mills of all kinds had transformed Kensington into one of Philadelphia's most important manufacturing districts.

Philadelphia's vast textile industry could be broken down into numerous sectors, including woven goods, carpets, and knit goods. Although carpets represented the largest sector of the Philadelphia textile trade by the 1870s – the city was by far the largest carpet manufacturing center in the United States until the turn of the century – hosiery, a knit good, gained steadily after the Civil War. Hosiery had long played a role in Philadelphia industry, having been first manufactured in the Germantown section of the city during the early eighteenth century. In 1839, one Germantown manufacturer, John Button of the "long famous" Germantown Hosiery Mills, opened the first

¹Klein Stove Company relocated to Berks County, PA, and became the nationally known Caloric Stove Company. For the purposes of this nomination the period of significance for this property is limited by association with Thomas Henry & Sons. Klein Stove's association with this property has not been investigated, nor compared to its other properties.

hosiery mill in Kensington. Many followed, and by 1860 Philadelphia was producing upwards of \$2,000,000 worth of hosiery annually. As the product grew in popularity and the number of hosiery mills increased, hosiery (in both cotton and wool) became the second largest sector of Philadelphia's textile industry, producing over \$14,000,000 worth of product in 1883.²

Specialization was the key characteristic that distinguished Philadelphia's textile mills from those found in other regions of the country, such as New England. Whereas New England's mills were typically massive, integrated plants that housed all aspects of production, Philadelphia's textile mills typically focused on the mastery of specific components in the overall production process.³ For example, in Philadelphia, a spinning mill might send out its yarn to a small dye shop for coloring before it was forwarded to a larger weaving or knitting mill to be made into carpeting or hosiery.⁴ Although some fully integrated mills operated in the city, most firms performed one highly specialized function in the overall process of manufacturing a particular textile product.⁵ The advantage of the Philadelphia system was that shops were established with minimal capital investment, and equipment was gradually acquired, factors conducive to ownership by immigrants or others with limited capital. Unlike in New England, textile mills in late 19th century Philadelphia generally sold their goods factory-direct, circumventing the national and regional agents.⁶

This was also the relationship between the cotton yarn spinning industry and the larger hosiery knitting industry. Although some later, larger companies ultimately did their own spinning in house, hosiery yarn manufacturing – in either cotton or wool – began as a wholly independent component and remained so for decades. ⁷

History of Tioga Mills

It was into this burgeoning hosiery industry that Thomas Henry & Sons launched their business in 1884. Born in 1824 in England, Thomas Henry came to the United States in 1849 and lived for a time in nearby Gloucester City, New Jersey, prior to settling in Philadelphia. Little is known of Henry's activities between 1849 and 1870, when he first appears in a Philadelphia directory as a cotton merchant at 215 South Front Street. ⁸ It was not until 1884 that he founded Thomas Henry & Sons with his sons James (1855-1930), Thomas, Jr. (1861-1921), and William G. (1874-1920). The company's spinning operation was initially located in Arrott's Mill, a tenant factory at Coral and East Boston Streets in Kensington, about 1.5 miles to the southwest of where Tioga Mills

² "Hosiery," *The Philadelphia Inquirer*, July 14, 1884; "Stockings for Everybody," *The Times* (Philadelphia), March 13, 1884; Lorin Bodget, *Census of Manufactures of Philadelphia* (Philadelphia: Dickson & Gilling, 1883), 157-158; Philip Scranton, *Work Sights: Industrial Philadelphia, 1890-1950* (Philadelphia: Temple University Press, 1986), 113; *Workshop of the World: A Selective Guide to the Industrial Archeology of Philadelphia by the Oliver Evans Chapter of the Society for Industrial Archeology* (Wallingford, PA: The Oliver Evans Press, 1990), 5-4, 5-5.

³ Philadelphia's specialized method for textile production is discussed at length in Philip Scranton, *Work Sights: Industrial Philadelphia, 1890-1950* (Philadelphia: Temple University Press, 1986).

⁴ Philip Scranton, Work Sights: Industrial Philadelphia, 1890-1950 (Philadelphia: Temple University Press, 1986): 7.

⁵ Philip Scranton, *Proprietary Capitalism: The Textile Manufacture at Philadelphia, 1800-1885* (Cambridge, MA: Cambridge University Press, 1989), 415-17. Scranton's last chapter, "Conclusion: Separate Establishments," contains a detailed discussion of the disparity between the Lowell and Philadelphia systems. Information on the textile industries of the counties surrounding Philadelphia is contained in his book, *Figured Tapestry: Production, Markets, and Power in Philadelphia Textiles, 1885-1941* (Cambridge, MA: Cambridge University Press, 1989).

⁶ As evident in the various period trade journals referenced herein.

⁷ The Rug and Carpet Industry of Philadelphia, 16.

⁸ Gopsill's Philadelphia Business Directory for 1870 (Philadelphia: James Gopsill, 1870).

would later be built.⁹ Thomas Henry & Sons also maintained a showroom at 116-118 Arch Street in Old City, which was one of the most important commercial sections of the downtown area.¹⁰

Presumably due to the growth of their business, and also to a series of fires that ravaged Arrott's Mill in 1885 and 1886, Thomas Henry & Sons embarked on the construction of their own mill in early 1886. The Henrys acquired the unoccupied plot of ground at the southeast corner of East Tioga and Waterloo Streets (renamed Collins Street in 1897) in February of that year, and construction of a new, five-story brick mill building began shortly after. This location was a strategic choice; situated adjacent to the booming textile district of Kensington, it would benefit from proximity to hundreds of other mills and the rail lines that benefitted them.

Although Harrowgate in the 1880s was, by comparison with Kensington, not extensively built up, both residential and industrial development continued to push northward with every passing year. For example, the Henry Whitaker Sons' Mill, another cotton yarn spinning operation (for carpeting, rather than hosiery), was built at the corner of Westmoreland and Emerald Streets, less than half a mile from Thomas Henry & Sons, in 1890. The Whitaker Mill was recently individually listed on the National Register. The Caledonian Dye Works, built across the street from and shortly after the Whitaker Mill, remains standing and in fact is still operational to this day. The Allegheny Worsted Mill, a sprawling complex at the corner of Westmoreland Street and Frankford Avenue was begun around the turn of the twentieth century and expanded several times, although it was demolished several decades ago and replaced by a modern self-storage facility. An examination of the 1895 and 1910 Bromley atlases reveals at least a dozen other textile-related companies, including carpet and yarn mills in addition to several dye works. A number of these mills, in addition to other industrial sites not related to textiles, remain standing today. ¹¹

⁹ "Fire in Kensington," *The Philadelphia Inquirer*, September 3, 1885. Arrott's Mill remains largely intact today.

¹⁰ The building at 116-118 Arch Street, located in the Old City Historic District (National Register and Philadelphia Register) remains virtually entirely intact today.

¹¹ There may be potential for a historic district in the Harrowgate neighborhood, but not as it relates to industrial resources. The area was included in a much larger proposed Kensington/Allegheny Historic District that the Pennsylvania SHPO determined to be eligible for National Register listing in 1999. This predominantly residential district, which has over 4,700 properties with a period of significance of 1870-1920, includes supporting religious, commercial, industrial and institutional resources. It is beyond the scope of this nomination to determine if sufficient integrity remains throughout this vast, roughly 1.3 square mile area, however it is possible that Harrowgate – the area bounded by Trenton Avenue to the east, Glenwood Avenue to the north, Kensington Avenue to the west, and Allegheny Avenue to the south – could be nominated as a standalone district. The largely residential character of this area, comprised of many blocks of dense, two-story rowhouses, remains largely intact, and several industrial sites (not all textile related) from within the period of significance do survive. However, Harrowgate alone encompasses well over 1,000 properties and any nomination of a district here would require a major undertaking. Additionally, while there are a number of surviving industrial sites in Harrowgate, they are scattered among the residential blocks and do not exist as a critical mass in any location, negating the possibility of a more limited, industrial-only historic district.



Figure 21: Looking south to Mill #1 in 1900 (Philadelphia Dept. of Records). This image shows the adjacent railroad at grade, prior to its elevation around 1909. Mill #2 also has yet to be expanded to four stories. The building in the foreground is a former Pennsylvania Railroad Depot, which was demolished when the railroad was elevated.

Because of the immense size of the new mill, Thomas Henry & Sons was still far too small to fill the entire five-story building, which was operational by the summer of 1886 (Figure 21). A Hexamer fire insurance survey (Figures 22 and 23) that year indicated that the company, with 30 employees, occupied only the first and second floors of Mill #1, with Joshua Madely, another manufacturer of cotton hosiery yarns, leasing the third floor, and Andrew G. Robinson, a carpet weaver, taking the fourth floor. The fifth floor was indicated as being vacant. As explained in greater detail in the MPDF "Industrial and Commercial Buildings Related to the Textile Industry in the Kensington Neighborhood of Philadelphia," this type of arrangement – a mill built and partially occupied by one company, which leased the vacant spaces to other manufacturers – was common among Philadelphia's textile industry. This was especially the case for companies with ambitions toward future expansion.

The 1886 Hexamer survey provides some insight into the production process at Tioga Mills. Cotton bales would be delivered to the site by rail, utilizing a siding from the adjacent Philadelphia and Trenton Branch of the Pennsylvania Railroad (initially located at grade as seen in Figure 23, the line was elevated after 1900). The raw material would then be stored in a one-story shed along

the west side of the property (this structure was replaced by the Garage building around 1900) and eventually moved into the building for carding, which took place on the first floor and was the process by which the raw fibers would be untangled, straightened and blended together in preparation for spinning. Carding machines were the heaviest equipment used in the spinning process, and therefore were generally located on the first floor of a spinning mill. Once the carding process was complete, the cotton would be moved upstairs to the second floor where it would be spun into yarn. Spinning machines, also known as mules in this case (another type, ring spinning machines, were not used in Tioga Mills), were lighter and were typically found on the upper floors. Once the spinning process was complete, the yarn would then be wound from the spindles onto reels. Reeled yarn constituted the finished product as it concerned Thomas Henry & Sons. In keeping with the aspect of specialization that characterized the Philadelphia textile industry, the reeled yarns would then be dyed offsite by a separate company. It was only when the yarns were dyed and processed by the dye company that they would be ready for weaving by one of Kensington's numerous cotton hosiery manufacturers.

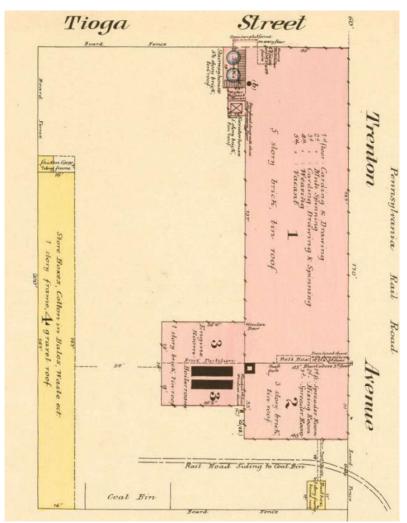


Figure 22 – Hexamer General Surveys, No. 2084, Tioga Mills (1886). Plan view. The original railroad siding, removed after the railroad was elevated around 1909, is depicted just south of Mill #1. The boiler house and engine room are also shown, indicating openings into the main mill building (for this reason, the boiler house and engine room are not counted as separate resources).

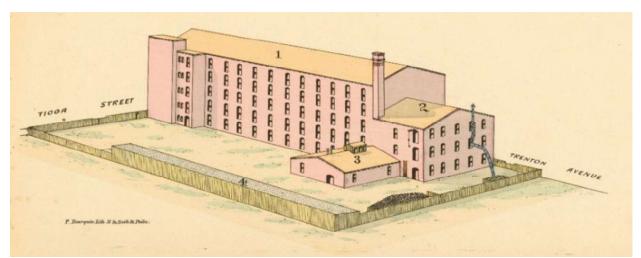


Figure 23 – Hexamer General Surveys, No. 2084, Tioga Mills (1886). 3D view, looking northeast Mill #1 from Waterloo Street (later renamed Collins Street). As seen here, the two southernmost bays were originally only three-stories tall, expanded around 1900 to five stories.

Although Thomas Henry & Sons started out small, the company experienced rapid growth virtually as soon as they commenced operations at Tioga Mills. An 1888 textile directory indicated that the company had 3,600 spindles working in their space in Tioga Mills, making the company, at least in terms of equipment, the third largest of seven manufacturers of cotton hosiery yarns. The company was still far smaller than Robert Beatty & Company, which had 15,000 spindles in their mill at Coral and Letterly Streets in Kensington, but the second largest, William Tetlow, whose mill was located at 1729 North Philip Street in Kensington, was only slightly larger with its 4,309 spindles. The remaining four mills had between 1,900 and 2,500 spindles each.

Thomas Henry & Sons' streak of success continued into the early 1890s, leading to the construction of a new mill building, Mill #2, to the south of Mill #1 in 1892. A large, initially twostory structure (later expanded to four stories in 1900), Mill #2 provided space for Thomas Henry & Sons to expand their spinning operations. The company installed new machinery that brought their total number of spindles to 5,296, making Thomas Henry & Sons the second largest manufacturer of cotton hosiery yarns in Philadelphia, still behind Robert Beatty's 15,000 spindles. The construction of Mill #2 allowed the company to expand while still maintaining lucrative tenant spaces on the upper floors of Mill #1. In 1893, their tenants included Joseph Black & Sons, a cotton and woolen seamless hosiery manufacturer, as well as Robertson & Hall, ingrain carpet weavers..¹³

In 1900, Thomas Henry died, leaving his son, William G. Henry, as the new head of the company.¹⁴ Thomas Henry, Jr. had previously left the partnership, founding his own company in 1897, while

¹² Dockham's American Report and Directory of the Textile Manufacture and Dry Goods Trade, Eleventh Edition (Boston: C.A. Dockham, 1888), 170-180.

¹³ Philadelphia Real Estate Record and Builders' Guide, July 27, 1892; Dockham's American Report and Directory of the Textile Manufacture and Dry Goods Trade, Eleventh Edition (Boston: C.A. Dockham, 1893), 219-222.

¹⁴ Obituary for Thomas Henry, Sr., *The Philadelphia Inquirer*, June 13, 1900.

James Henry, according to his 1930 obituary, remained a silent partner in the business. ¹⁵ During William G. Henry's tenure, Tioga Mills faced a period of significant transformation in the textile industry, particularly after 1910 as changing fashions and shifting cultural norms led to a long decline in the popularity of cotton hosiery, which was gradually overtaken by full-fashioned silk hosiery.¹⁶ One 1915 U.S. Department of Commerce report on the hosiery industry indicated that "From a luxury a few years ago, the wearing of silk hosiery has become a common practice. The soft silky feeling that people enjoy so much, the modern craze for dancing, necessitating the wearing of pumps, the tendency of men and women to wear tight-fitting clothing and use low shoes all year round, have given a startling acceleration to silk-hosiery manufacturing.".¹⁷ While cotton hosiery was still made in great amounts in Philadelphia due to its affordability, full-fashioned silk hosiery would remain the focus of the industry through the 1930s.

Despite this fundamental shift in the textile industry and the death of the family patriarch, Thomas Henry & Sons continued to prosper. The company, perhaps sensing the coming changes, had begun to diversify its product line as early as the late 1890s, when one directory indicated that they were also producing cotton yarns for carpet weaving. The cotton ingrain carpet industry would also find itself in the throes of a decline after 1910 as consumers sought plusher, all-wool forms of carpeting, but Tioga Mills flourished by producing increasingly higher grades of cotton yarns for the knitting of lace, underwear, bathing suits, towels, upholstery and other textile goods. Many of the yarns produced in Tioga Mills after 1900 were combed rather than carded, a technique which resulted in yarns that were smoother, finer, and stronger than those typically produced for hosiery. More desirable types of cotton, particularly Egyptian and Peeler cotton, the latter being a popular variety from the Mississippi Delta region, were now favored by Thomas Henry & Sons according to various textile directories of the period.

While the cotton yarn manufacturing process had not fundamentally changed since Tioga Mills opened in the 1880s, the changes made by Thomas Henry & Sons after the turn of the twentieth century dramatically increased the size of the mill and the number of employees housed within. In 1900, the company built several major additions to Tioga Mills, which they now exclusively occupied (Figure 24). This work included two additional floors on top of Mill #2, bringing it to four stories, the construction of the one-story Office building fronting on Tioga Street and the construction of the long, one-story Garage building containing mostly storage spaces for raw cotton and coal along what was previously Waterloo Street but was renamed Collins Street in 1897. A three-story picker and winder building, located west of Mill #2 and just south of the Garage building, was also built around 1900 (see Figures 24 and 25). This building, which was demolished in 1980, housed the processes by which raw cotton was prepared prior to carding and by which yarn, after spinning was complete, was wound onto reels.¹⁸

¹⁵ Notice of Dissolution of Partnership, Thomas Henry & Sons, *The Philadelphia Inquirer*, February 23, 1897; Obituary for James Henry, *The Philadelphia Inquirer*, February 2, 1930.

¹⁶ Full-fashioned hosiery was knitted in silk on a flat frame, allowing the stocking to be narrowed where necessary to create a permanently leg-shaped garment that would not lose its form over time. This was an improvement over cheaper seamless cotton hosiery, which was knitted on a rotary frame and cut to length. Although seamless hosiery was dried on a form to approximate the shape of a leg, the product would often revert to its true cylindrical form, resulting in a baggy appearance thereafter.

¹⁷ United States Department of Commerce, "The Hosiery Industry: Report on the Cost of Production of Hosiery in the United States" (Washington, D.C., 1915), 172; "Fifth Annual Report of the United States Tariff Commission, 1921 (Washington, D.C., 1921), 30-31.

¹⁸ "The Latest News in Real Estate," *The Philadelphia Inquirer*, August 30, 1900.

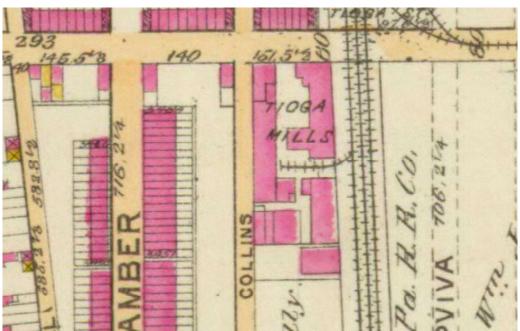


Figure 24 – Bromley Atlas of the City of Philadelphia, 1901. Note the rail siding between Mills #1 and #2.

With their post-1900 expansion, Thomas Henry & Sons had also finally caught up to their main competitor, Robert Beatty & Company. According to the 1901 edition of *The Blue Book* textile directory, both companies were operating with 17,000 mule spindles. Other competitors included the Delph Spinning Company, which had 13,248 spindles in their mill at East Clearfield Street between C Street and Rosehill Street in Kensington, and the Ontario Spinning Company, successors to William Tetlow, who had 6,000 spindles and remained in the mill at 1729 North Philip Street, also in Kensington.¹⁹

In addition to expanding their line of cotton yarns and focusing on higher quality varieties, Thomas Henry & Sons began to manufacture yarns in wool. Initially produced in a separate mill at Hancock and Oxford Streets in Kensington, the company became particularly well-known for their "Henry Quality" special merinos, as advertised during the early twentieth century.²⁰ In 1910, the Kensington mill was sold, at which point the company appears to have consolidated the wool yarn spinning operation into Tioga Mills.²¹ It is possible that this change accounted for, at least in part, the continued increase in the number of both employees and spindles in the mill. By 1916, one directory indicated that Thomas Henry & Sons then employed 300 women and men and had 30,000 spindles, a vast increase over the company's 30 employees and 3,600 spindles during the late 1880s.²² It is also possible that the wide variety of raw materials now used in Tioga Mills – various types of cotton and now wool – required more spacious storage areas, resulting in the

¹⁹ The Blue Book Textile Directory, Fourteenth Annual Edition, 1901-1902 (New York: Davison Publishing Company, 1901), 215-219.

²⁰ "Real Estate News," *The Philadelphia Inquirer*, January 25, 1900. The mill, formerly Thomas Dolan's Keystone Knitting Mills, was demolished in the 1970s.

²¹ "Uptown Factory Changes Owners," The Philadelphia Inquirer, January 21, 1910.

²² Textile World Journal, *The Official American Textile Directory*, 1916 (New York: Bragdon, Lord & Nagle, 1916), 280.

construction of a two-story warehouse at the northwest corner of the property in 1919 as shown in the 1920 Sanborn map (Figure 25).²³

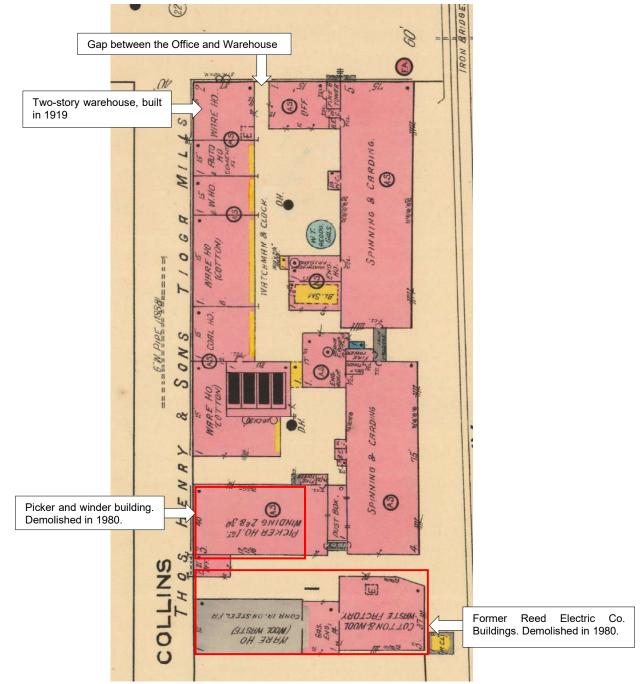


Figure 25 – Sanborn Fire Insurance Map, 1920. As shown here, there was historically a gap between the Office and Warehouse buildings, which was probably infilled shortly after this map was published in 1920. Additionally, the map shows no evidence of a rail siding, suggesting that the siding that once existed was removed when the adjacent railroad was elevated (rail sidings are typically depicted on Sanborn maps when they exist).

²³ Philadelphia Real Estate Record and Builders' Guide, July 30, 1919.

Thomas Henry & Sons remained under the control of the Henry family, with William G. Henry as president, through the early 1910s. In 1914, possibly as a result of the growing size and complexity of the business, the company was formally incorporated. Although William G. Henry remained with the company, serving as a vice president and head buyer, he no longer held the top leadership position. John M. Tallman became president and Henry C. Dodd became the general manager, overseeing day-to-day operations at Tioga Mills.²⁴ After William Henry died in 1920, no members of the Henry family could be found among the company's top management.²⁵



Figure 26 (left) – Advertisement in Textile World, December 1918.

Figure 27 (right) – Advertisement in the Official American Textile Directory, 1922. The image included in both ads depicts the site around 1918 and is a fairly accurate representation of the complex at that time. The changes that have occurred between 1918 and today are discussed above in the integrity assessment.

Even as Thomas Henry & Sons ventured into the production of woolen yarns, the cotton variety appears to have remained the focus of production at Tioga Mills based on the prominence afforded this product in a series of advertisements from the period between 1918 and 1922 (Figures 26 and 27). More importantly, the ads suggest that the company intended to capture business from a highly diverse range of textile companies across a much broader geographic area than previously. Not only do the ads specify the types of yarn produced by the company, but also the wide variety of formats in which they were available – including cops, cones, skeins, tubes and cheeses –

²⁴ "Charters of Corporations During the Two Years Beginning June 1, 1913, and Ending May 31, 1915" (Harrisburg, PA, 1915), 150.

²⁵ Obituary for William G. Henry, *Evening Public Ledger*, June 28, 1920.

depending on the specific finished textile product and machinery for which they were intended. ²⁶ Placed by the company in *Textile World*, a standard industry publication with a national circulation, the ads reveal that Thomas Henry & Sons had set their sights far beyond Philadelphia. In fact, by 1921 and perhaps earlier, the company had brought on J.H. Lane & Company, cotton merchants of New York City, as their national distribution agents. One of the most prominent of such firms during the early twentieth century, J.H. Lane marketed and sold Henry yarns in both New York and Chicago. Thomas Henry & Sons also regularly participated in the annual Knit Goods Exposition of the National Association of Hosiery and Underwear Manufacturers, which drew buyers from around the country. ²⁷

Despite the unequivocal success of Thomas Henry & Sons after 1900, Northeastern spinning companies faced increasing competition from their Southern counterparts as the early twentieth century progressed. According to one source, "Cotton manufacture is irresistibly drawn to its raw material, and is also moved by consideration of labor abundance and docility as well as by climate; and power, both steam and hydroelectric," the latter having been a focus of industrial development in the Piedmont region of the south, in particular. Increasing transportation costs, caused by the higher coal prices and wages for railroad workers, also played in major role in the "mad rush southward." For many textile mills, therefore, it became cheaper to buy cotton yarns from spinning mills in the south rather than from those in northern cities like Philadelphia. ²⁸

These fundamental shifts in the cotton industry led to the demise of several of Thomas Henry & Sons' competitors. In 1920, the Ontario Spinning Company sold its machinery to a firm in Japan as that country sought to develop its own textile industry. An official of the Ontario Spinning Company cited organized labor as the main reason why it was "impossible...to continue to operate" their mill, saying, "We have great difficulty in getting men and when we do get them they won't work. In Japan labor costs about 30 cents a day." ²⁹ And in 1921, both the Delph Spinning Company and Robert Beatty & Sons, the latter having long been one of the Henrys' largest rivals, sold their machinery at auction. An article in *Textile World* explained that "This fact is of great interest as it marks the gradual decreasing number of textile plants of this character in this section, which has become more largely devoted to the manufacture of finished products in the cotton industry, rather than the conversion of the raw material into yarns.".³⁰

Even as their competitors shut down, Thomas Henry & Sons continued to expand. In 1920, the company occupied a small group of one- to three-story buildings on a site just south of Tioga Mills (Figure 25). Built by the Reed Electric Company as manufacturing space for electrical equipment and batteries around 1900, the buildings were leased by Thomas Henry & Sons to house the processing of cotton and wool waste materials that were byproducts of the manufacturing process. The company acquired the buildings from the Reed Electric Company in 1923.

²⁶ A COP is a self-supporting package of yarn which does not have a core through its center; a CONE is a package of yarn wound on a conical tube; a SKEIN is a length of yarn bundled in a loose roll rather than put on a cone; a TUBE is a general term for a cylindrical core of wood or paper; and a CHEESE is a cylindrical package of yarn wound on a flangeless paper or wooden tube. These definitions are taken partially from www.textileglossary.com.

²⁷ "Philadelphia to be Mecca of Knit Goods Men," *Textiles* (April 1921), 11-13.

²⁸ Theodore M. Knappen, "Is the Industrial Centre Shifting to the West?", *The Magazine of Wall Street (29 Jan 1924), 491.*

²⁹ "Japan Buying Cotton Mills," *The Washington Herald*, March 29, 1920.

³⁰ "To Sell Philadelphia Mills," *Textile World* (9 Dec 1922), 51.

While Thomas Henry & Sons appears to have remained in good financial standing during the early 1920s, the company soon faced their own tough decisions about their future. Despite the acquisition of the Reed Electric Company buildings in 1923, it became clear to the management that the company would not be able to maintain its success if it stayed in Philadelphia. In the spring of 1926, company President Tallman and General Manager Dodd, along with several other of the company's directors, put in motion a plan by which the entire operation would be moved to Nashville, Tennessee. Work on the new Nashville plant, which was to provide employment to between 350 and 400 people, began in July of 1926 and was completed by November of that year. Although the precise circumstances of the move are unknown, local reporting suggested that the Nashville Chamber of Commerce was instrumental in luring the company to the city. ³¹

Following the departure of Thomas Henry & Sons, Tioga Mills was acquired and occupied by the Klein Stove Company, which reorganized as the Caloric Stove Company and moved to Topton, Pennsylvania, in 1946. The building was subsequently sold to a James Callahan, who leased various sections of the building to both the Auerbach Chemical Company and Erno Products, a manufacturer of glassware, from the 1950s through the 1980s. It was during this time that several one-story structures were built on the site, infilling the former open courtyard space between the mills and the Garage building. The only other major change to the site during this period was the demolition of the small group of one- to three-story buildings south of Buildings 2 and 4. As explained above, these buildings were built by the Reed Electric Company around 1900 and were leased by Thomas Henry & Sons around 1920 for the processing of cotton and wool waste materials, a tertiary function in the overall yarn manufacturing process. The company acquired the buildings from the Reed Electric Company in 1923, only three years before Tioga Mills closed down and Thomas Henry & Sons moved to Nashville. Due to the fact that the buildings were not part of the original Tioga Mills complex and were occupied by Thomas Henry & Sons for only a brief period during their 40-year presence at Tioga and Collins Street, their loss has only a minimal impact on the integrity of the property. Since the 1980s, only Buildings 3, 4, 5 have been used. They currently contain artists studios, small workshops, and other small businesses while Mills #1 and #2 are nearly entirely vacant.

Comparable Manufacturers of Cotton Hosiery Yarns

Of Thomas Henry & Sons' three largest direct competitors, described in terms of employment statistics and equipment in greater detail above, only the mill of William Tetlow at 1729 North Philip Street (later the Ontario Spinning Company) has been demolished. The mill of Robert Beatty & Sons at 2446-68 Coral Street in Kensington, was individually listed in the National Register in 2004 and shortly thereafter rehabilitated into housing using the federal historic tax credit. The five-story Beatty mill, built in 1886, is extremely similar in size and appearance to Mill #1 at Tioga Mills, but is significantly smaller than the overall Tioga Mills complex. The Delph Spinning Company, located on the north side of East Clearfield Street between C Street and Rosehill Street in Kensington, also remains standing but has been altered. The Delph mill is a large, two-story brick building and, though it is currently painted, contains exterior treatments similar to other nineteenth century textile mills in the area. Like the Beatty mill, Delph is significantly smaller than the Tioga Mills complex (it is currently used as a self-storage facility). Other late nineteenth-

³¹ "Officials of Textile Company and Part Visit Factory Site Here," *The Tennessean*, April 25, 1926; "Work Started on New Textile Mills," *The Nashville Banner*, March 26, 1926; "First Products of New Plant Displayed," *The Nashville Banner*, November 10, 1926.

century spinning mills do exist near Tioga Mills, however they specialized in yarns for products other than hosiery. The best example is the mill of Henry Whitaker's Son's, located at 2000 East Westmoreland Street, less than half a mile due west of Tioga Mills. Although smaller in terms of equipment, employment, and physical size (only three stories tall), the Whitaker Mill was a prominent manufacturer of cotton yarns for carpeting. Henry Whitaker's Sons' was recently nominated to the National Register.

8. Major Bibliographic References

The Blue Book Textile Directory, Fourteenth Annual Edition, 1901-1902. New York: Davison Publishing Company, 1901.

Blodget, Lorin. Census of Manufactures of Philadelphia. Philadelphia: Dickson & Gilling, 1883

Dockham's American Report and Directory of the Textile Manufacture and Dry Goods Trade, *Eleventh Edition*. Boston: C.A. Dockham, 1888.

Gopsill's Philadelphia Business Directory for 1870. Philadelphia: James Gopsill, 1870.

Scranton, Philip. Figured Tapestry: Production, Markets, and Power in Philadelphia Textiles, 1885-1941. Cambridge, MA: Cambridge University Press, 1989.

Scranton, Philip. *Proprietary Capitalism: The Textile Manufacture at Philadelphia, 1800-1885.* Cambridge, MA: Cambridge University Press, 1989.

Scranton, Philip. *Work Sights: Industrial Philadelphia, 1890-1950*. Philadelphia: Temple University Press, 1986.

Textile World Journal. *The Official American Textile Directory*, 1916. New York: Bragdon, Lord & Nagle, 1916.

United States Department of Commerce. "Fifth Annual Report of the United States Tariff Commission, 1921 (Washington, D.C., 1921), 30-31.

United States Department of Commerce. "The Hosiery Industry: Report on the Cost of Production of Hosiery in the United States" (Washington, D.C., 1915

Workshop of the World: A Selective Guide to the Industrial Archeology of Philadelphia by the Oliver Evans Chapter of the Society for Industrial Archeology. Wallingford, PA: The Oliver Evans Press, 1990.

Periodicals (Newspapers and Trade Journals)*: Evening Public Ledger Nashville Banner Philadelphia Inquirer Philadelphia Real Estate Record and Builders' Guide The Tennessean Textiles Textile World The Times (Philadelphia) Washington Herald

*see footnotes for specific citations