

DURHAM HOSIERY MILL, BOILER ROOM AND  
ENGINE ROOM  
800 Block of Angier Avenue and Walker Street  
Durham  
Durham County  
North Carolina

HABS No. NC-328-A

HABS  
NC-328-A

~~PHOTOGRAPHS~~

WRITTEN HISTORICAL DESCRIPTIVE DATA

Historic American Building Survey  
National Park Service  
Southeast Region  
Department of the Interior  
Atlanta, Georgia 30303

## HISTORIC AMERICAN BUILDINGS SURVEY

DURHAM HOSIERY MILL : BOILER ROOM AND ENGINE ROOM HABS No.NC-328 -A

Location: 800 Block of Angier Avenue, between Angier Avenue and Walker Street,  
Durham  
Durham County  
North Carolina

U.S.G.S. Southwest Durham Quadrangle (7.5)  
Universal Transverse Mercator Coordinates:  
17.689975.3984550

Present Owner: Myerson-Allen Company  
306 Dartmouth Street  
Boston, Massachusetts 02116

Present Occupant: Vacant

Present Use: The Boiler Room and Engine Room have not been used since hosiery manufacture ceased in 1922, although other portions of the mill complex have had various tenants from time to time.

The Boiler Room and Engine Room will be demolished in 1987.

Statement of Significance: The Boiler Room and Engine Room are historically significant as the originating point of the motive force which once operated the largest hosiery mill in the world. They illustrate construction materials and techniques characteristic of American textile manufacturing plants at the turn of the century. Separation of the potential hazards of fire and explosion from the workers and machinery housed in the main building was facilitated by a power transmission system of shafts, pulleys, and belts. The survival of these large and small structures in their original configuration exhibits typical building layout in the period before widespread factory electrification. After abandonment of this location by the Hosiery Mill Corporation in 1922, later storage uses of other parts of the complex did not require modernization of the powerplant.

PART I. HISTORICAL INFORMATION

A. Physical History

1. Date of erection: The structure was completed in April 1902.1)
2. Architect: Unknown.
3. Original and subsequent owners: The factory was owned by the Durham Hosiery Mill Corporation from the time of its construction through the cessation of manufacturing operations in 1922.2) The Corporation sold the property to Grover L. Dillon and Dorothy Dillon McLeod in 1943.3) Dorothy Dillon Lewis(former Dorothy Dillon McLeod), sold her interest to Mary Frances Dillon Hennessee in 1958.4) In 1986, the property was purchased from Grover Dillon, Jr.3) by the Myerson-Allen Company for redevelopment, with the assistance of the City of Durham.
4. Builder, contractor, suppliers: Unknown.
5. Original plans and construction: Although actual copies of the original plans have not been discovered, examination of the Sanborn Insurance Maps which have been compiled periodically since construction of the Boiler Room and Engine Room reveals that their dimensions and location remain unchanged.
6. Alterations and additions: According to evidence found in early 20th century Sanborn Insurance Maps(also cited in the National Register Nomination), brick condensers, or cooling towers, were added after 1907. From the construction dates of Annex Number One(1904) and Annex Number Two(1906)(Source of dates: National Register Nomination), it may be inferred that enlargement of manufacturing capacity necessitated mechanical changes in the powerplant which resulted in a greater steam cooling and condensing requirement. These specialized brick structures no longer stand in the space between the powerhouse and the main building.

B. Historical Context:

The sustained success of the tobacco manufacturing industry during the last quarter of the 19th century provided several prominent Durham citizens with both the investment capital and the certain market necessary for diversification into textiles. In 1884, Julian S. Carr, along with fellow investors from Greensboro and Concord, began the production of cloth for tobacco sacks, to be filled at the Bull Durham Factory 5), which had previously depended on outside suppliers. Some fifteen years later, this first enterprise, the Durham Cotton Manufacturing Company, was sold to William A. and J. Harper Erwin 6), under whose management, in the intervening years, had developed the largest and most enduring example of tobacco income re-investment into textiles, the Erwin Cotton Mill. Although operation of that facility had not begun until 1893 7), the financial sponsorship of the Dukes helped it rapidly become one of the largest producers of denims, sheeting, and muslins in the country. The readiness of Carr to sell out his interest in an earlier venture, however, may in part be inferred from the success, by 1899, of another pioneering effort.

In 1894, he had organized the Golden Belt Hosiery Company, with John W. Smith as

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partner.8) The same year, George W. Graham started operations at the Durham Hosiery Company.9) The two small companies were merged in 1898 as the Durham Hosiery Mill 10), the interests of Graham and Smith being acquired by Carr. The rapid expansion of the hosiery market at that time was mostly attributable to circumstances arising outside of Durham. The domestic manufacture of hosiery was protected from foreign competition by the Dingley Tariff of 1897, and Army orders resulting from America's war with Spain increased the need for production.11) It was the entry of Julian S. Carr, Jr. into the business, however, which provided the organizational genius needed to make Durham a world-wide supplier of hosiery.12) Carr envisioned, and then accomplished, a level of production which not only required acquisition of additional mills in Durham and other cities, but also led to the previously untried industrial employment of black workers on a large scale. The establishment in 1903 of Hosiery Mill Number Two, several blocks to the southwest, as the nation's first all-black factory 13), helped to alleviate the shortage of qualified laborers during the period of expansion. By 1906, Durham was recognized as having the "largest hosiery mill in the country,"14) and in 1914, daily production had reached twenty-seven thousand pair.15)

During the era of prosperity, the younger Carr continued to express a concern for the welfare of the workers which "amounted almost to an obsession."16) Beginning in April, 1912, he sponsored a night school which met over the machine shop, providing free tuition, books, and supplies for interested workers.17) Promotion within the mill of diligent students made attendance popular; after several successful years the program was taken over by the School Board.18) A personnel department, established in 1916, provided health care, heard workers' grievances, and supervised company housing.19)

Most remarkable of all Carr's efforts on behalf of his workers was his advocacy of industrial democracy in the period following the First World War.20) The Employee Representation Plan of the Durham Hosiery Mills attempted the creation of an "organization in which the employee and employer would become a unit where interests were mutual."21) The Constitution, following the plan set forth by the social theorist John Leitch in Man to Man, established a Cabinet, consisting of company executives; a Senate, combining department heads and foremen; and a House of Representatives, elected by each department in the company, on the basis of the number of employees it contained.22) During the period of just one and one-half years in which it operated, the Industrial Democracy Plan accomplished dollar savings which were used to make improvements to company housing, install employee amenities in the mills, and to increase wages, at the request of the House of Representatives. 22) A monthly publication, Durable Durham Doings, took its name from the company's well-known trademark. As quoted by Boyd, it exhorted the workers to bring about "greater output at a reduced cost, greater savings and earnings so that the company can really afford to pay all of us tip top wages later."24)

Unfortunately for the great experiment in Industrial Democracy, and for the immense mill complex on Angier Avenue as well, the market for cotton hosiery had collapsed by the beginning of the 1920's. The growing demand for silk hosiery kept Durham Hosiery Mills financially healthy; in fact, the Marvin Carr Mill, erected on Corcoran Street in the central business district, was the first full-fashioned silk hosiery mill in the South.25) By 1925, production had reached 300,000 pair per day for the company as a whole 26), but the boilers were cold on Angier Avenue, and the engines which had driven hundreds of knitting machines were forever still.

PART II. ARCHITECTURAL INFORMATION

A. General Statement:

1. Architectural character: The powerhouse is an imposing structure which seems small only when compared to the immense volume of the main building. Its proportions and finish are highly evocative of the late 19th century, and details which survive possess a distinction not present in later construction elsewhere in the complex.
2. Condition of fabric: Remarkably, the building is only marginally deteriorated, with respect to its basic structure. Damage has indeed occurred as a result of vandalism and decades of complete neglect. However, although missing windows and doors have allowed rainwater to accumulate inside, the design of the main structural elements is such that irremediable delapidation has not taken place. Brick walls and the entire roof system remain nearly complete; the engine room floor has lost only its decking.

B. Description of Exterior:

1. Overall dimensions: The Boiler Room and Engine Room are sections of a single powerhouse located directly south of the main building. The rectangular structure overall is 146' long and 44' wide. The nine-bay boiler room consists of a single story space, reaching from the concrete floor 37' to the roof. A 67' long portion of the principal elevation comprises the boiler room. The remaining 79' of the building's length makes up the ten-bay engine room, which incorporates a daylight basement beneath the heavy timber framing of its main floor. A slanting shed roof reaches upward from the eave of the powerhouse to a point on the south wall of the mill proper just above the tops of the third floor windows (counting the raised basement of the main building as its first floor). This connecting section made possible power transmission to the mill machinery by means of shafts, pulleys, and belts which ran from the steam engines in the powerhouse.
2. Foundations: Although it is currently impractical to examine the foundations, it may be inferred from the extensive use of concrete elsewhere in the structure that footings and foundations are of that material.
3. Walls: The brick walls are laid in American bond, regularly tied with all-header courses. Unlike the highly ornamental tower to the north of the main building, this southern appendage appears relatively plain, except for continuous corbelling at eaves and rake. The eaves of the connecting passageway are similarly corbelled. In addition, its walls display an ornamental belt course and raised water table, which match the brickwork of adjacent buttresses on the main building.
4. Structural system: The load-bearing walls and large brick piers support the heavy timber framing of the engine room floor. Iron-reinforced timber trusses, resting in fire cuts in the exterior walls, support the clear span roof. The brick piers spaced along the centerline of the engine room apparently supported the steam engines; the floor deck, now largely missing, served only to allow workmen to walk around the large prime movers.

5. Porches: There are no ghost-marks which would tend to indicate the original presence of sheds or entrance canopies.

6. Chimneys: Large multi-panel, hatch-type flashings exhibiting circular holes at the center indicate that the boilers vented through iron smokestacks, now vanished.

7. Openings:

a. Doorways and doors: On the south elevation of the engine room, one doorway is found between a pair of windows at the far left and the row of five windows in the middle. Another doorway is located between the row of five windows and the single one placed immediately beside the firewall which marks the boundary with the boiler room. The eastern portion of the building features four large, equally spaced doorways, set at the ground floor level to enable fueling and firing of the boilers. One more of similar design occupies a position by the corner in the east elevation. The original doors are missing, having been replaced with later steel tambours. The original doors were undoubtedly constructed of solid wood, in a double-leaf design. An unusual divided semicircular transom window still exhibits two quarter-round sections of eight panes each over each doorway. The double-leaf doors to the engine room were likely made of solid wood, as well, judging from the size of the transom windows which allowed light to enter above them. The missing doors, because of their accessibility, may have been the victims of firewood scavengers as much as neglect. Segmental brick arches are found at the tops of all door openings.

b. Windows: All window openings display shallow segmental arches as lintels and double rows of header brick as sills. The engine room features numerous surviving examples of twelve-over-twelve double-hung sash, surmounted by arch-headed eight-pane transom sections. Larger transom windows over the entrance doors feature twelve lights. Smaller windows, now missing and boarded up, formed a clerestory on the south and east elevations of the boiler room.

8. Roof:

a. Shape, covering: The gable roof comprises a wooden deck running flush to the corbelled brick eaves and rake. The covering consists of a built-up composition.

b. Cornice, eaves: The simple cornice is fitted with half-round metal gutters and round down-spouts.

c. Other features: The roof is pierced by cylindrical sheet-metal ventilators, as well as the smokestack flashings described above.

C. Description of Interior:

The entirely functional interior exhibits no special finishes, trim, fittings, or furnishings. Each large clear span room was strictly utilitarian in design. All of the mechanical elements which once made these rooms the heart of the mill complex, have been removed, except for some large iron components of a water-tube boiler, which remain

suspended above the ruins of its firebox. A few incandescent light fixtures, hung too high for vandals to reach, survive in the engine room. Still to be found are the basic elements of the wooden stairway and catwalk which permitted engineers to inspect and maintain the power transmission gear in the connecting passageway. Additional windows brought natural light to the mechanical room at the basement level beneath the wooden engine room floor.

D. Site:

As originally constructed, the powerhouse was an appendage to the main building, having only the dye house to the east as a companion on the property. During the rapid expansion of production which followed, the long, narrow structure was virtually surrounded by other buildings, which are listed here:

1. Annex Number One added approximately 16,000 square feet of floor space in 1904. The shallow pitch of its gable roof shelters a two-story brick building.
2. Annex Number Two displays arched window sash, as does Number One, just to its north. It also has a gable roof of quite shallow pitch. Because the building fits the space which remained in 1906 between Number One and a curving rail siding which ran to the area south of the boiler room, the two-story brick walls of Number Two are of irregular length.
3. In 1912 a three-story structure with a flat roof was extended west into the triangle of land remaining between Annex Number One and the curving spur track to the west. A dramatically rounded corner, reminiscent of the nearly contemporaneous Trust Building on Downtown Durham's Main Street, fills the acute angle formed by Angier Avenue and the railroad. An ornate double-arched entrance identified the new location of the company's offices.
4. A three-story finishing building was added after 1913 to the southeast of the powerhouse (According to the National Register Nomination, this flat-roofed structure covered the site previously occupied by a 200,000 gallon water reservoir. More dependable city water supplies which had then become available probably made fire safety possible without separate water impoundments).
5. Hosiery Mill Number Six, just across Walker Street, closed in the mill complex to the south of the powerhouse. Destroyed by fire in recent years, it was similar to Annex Number Two and the Finishing Building.
6. Miscellaneous structures, including cotton warehouses, a machine shop and other shops, and storage buildings, completed the mill complex. Consisting of a mixture of corrugated iron and brick components, they may have replaced earlier frame sheds.
7. Essential to the provision of fuel and supplies, as well as the shipping of finished goods, the railroad was found all through the complex, as may be seen by the number of surviving spur tracks.

PART III. SOURCES OF INFORMATION

A. Original architectural drawings of the mill complex are not known to exist. See "E" below.

B. Historic views are included <sup>as field records for HABS No. NC-328.</sup> ~~at the conclusion of this report as Appendix B.~~

C. Mr. Barry Jacobs, the survey consultant who prepared the Durham Hosiery Mill National Register Nomination, was interviewed at Moorfields historic site near Hillsborough, North Carolina, August 25, 1986.

D. Bibliography:

1. Primary Sources: Durham County Deed Books  
Durham County Judicial Building  
Durham, North Carolina

2. Published Sources:

Boyd, William. The Story of Durham. Duke University Press, Durham, North Carolina, 1925.

Durham Chamber of Commerce. Durham, North Carolina. 1906.

Durham Hosiery Mills Corporation. Employee Representation Plan of the Durham Hosiery Mills. The Seeman Printery, Durham, N.C., 1919.

Durham Morning Herald. The Durham Herald Co., Inc. Durham, North Carolina. April 26, 1953. March 1, 1970.

Flowers, John B., III, and Schumann, Marguerite. Bull Durham and Beyond. The Durham Bicentennial Commission, 1976.

Herring, Harriet L. Welfare Work in Mill Villages. The University of North Carolina Press, Chapel Hill, N.C., 1929.

Jacobs, Barry. Durham Hosiery Mill National Register Nomination. 1978.

Sanborn Insurance Company. Durham, N.C. New York: New York. Copies found in the North Carolina Collection, University of North Carolina at Chapel Hill.

Skyland Magazine. "Durham - Renowned the World Around". April, 1914.

E. Likely sources not yet investigated:

An exhaustive search of the Carr family papers, although beyond the scope of work appropriate to this report, might uncover some more useful information concerning the

Durham Hosiery Mills. These papers may be studied in the Manuscript Collection, Duke University, Durham, North Carolina. Another worthwhile resource, again somewhat broader than the area of this study, may be found in the oral histories compiled by Dr. Brent Glass, now in the Archives and History Division, North Carolina Department of Cultural Resources, Raleigh, North Carolina. Dr. Glass examined and illustrated the industrialization of North Carolina in the late 19th and early 20th centuries by means of interviews with workers and their descendants. Only a portion of these oral histories have been published; therefore, the researcher whose interest requires more detail needs to contact Dr. Glass himself.

F. Supplemental material:

Because some materials, to which reference is made in this report, are difficult or impossible to locate outside of the North Carolina Collection at the University of North Carolina, Chapel Hill, North Carolina, they have been included, in pertinent part, as

~~Appendix C.~~ *field records for HABS No. NC 328.*

G. Footnotes:

1. Barry Jacobs, Durham Hosiery Mill National Register Nomination, Item 8, page 1.
2. Ibid., Item 8, page 3.
3. Durham County Deed Book 150, page 195.
4. Durham County Deed Book 252, page 297.
5. William Boyd, The Story of Durham (Durham, N.C., Duke University Press, 1925), p. 121.
6. Ibid., p. 123.
7. Ibid., p. 122
8. Ibid., p. 124.
9. Ibid., p. 124.
10. Ibid., p. 124.
11. Ibid., p. 124.
12. Ibid., p. 125.
13. Jacobs, op. cit., Item 8, page 2.
14. Durham, North Carolina: A Young, Prosperous and Progressive City of the New South, Durham Chamber of Commerce, 1906.

15. Skyland Magazine, "Durham - Renowned the World Around", April 1914.
16. Boyd, op. cit., p. 131.
17. Harriet Herring, Welfare Work in Mill Villages (Chapel Hill, N.C., University of North Carolina Press, 1929), p. 70.
18. Ibid., p. 71.
19. Boyd, op. cit., p. 131.
20. Herring, op. cit., p. 201.
21. Ibid., p. 202.
22. Ibid., p. 204.
23. Ibid., p. 205.
24. Boyd, op. cit., p. 134.
25. Jacobs, op. cit., Item 8, p. 3.
26. Boyd, op. cit., p. 127.

PART IV. PROJECT INFORMATION:

This is a mitigative report required by the Proposed Memorandum of Agreement between the Advisory Council on Historic Preservation and the City of Durham, North Carolina.

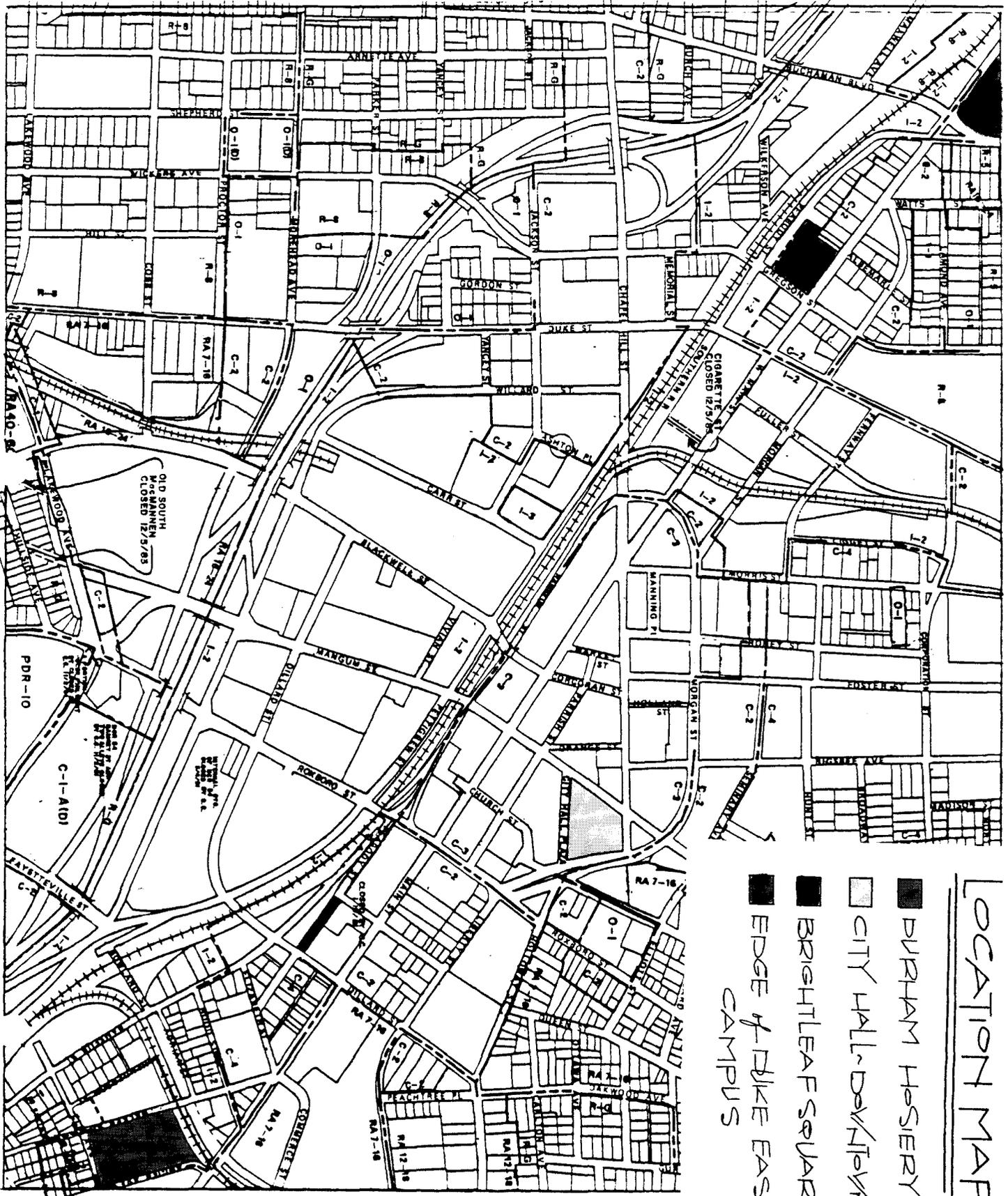
Historical and Architectural Information:

Prepared by: Jane E. Sheffield  
Title: Historic Preservation Consultant  
Affiliation: Consultant to G. Edwin Belk, AIA  
Date: September 15, 1986

Photography:

Prepared by: Randall Page  
Title: Staff Photographer  
Affiliation: North Carolina Division of Archives and History,  
Preservation Office  
Date: July 19, 1986

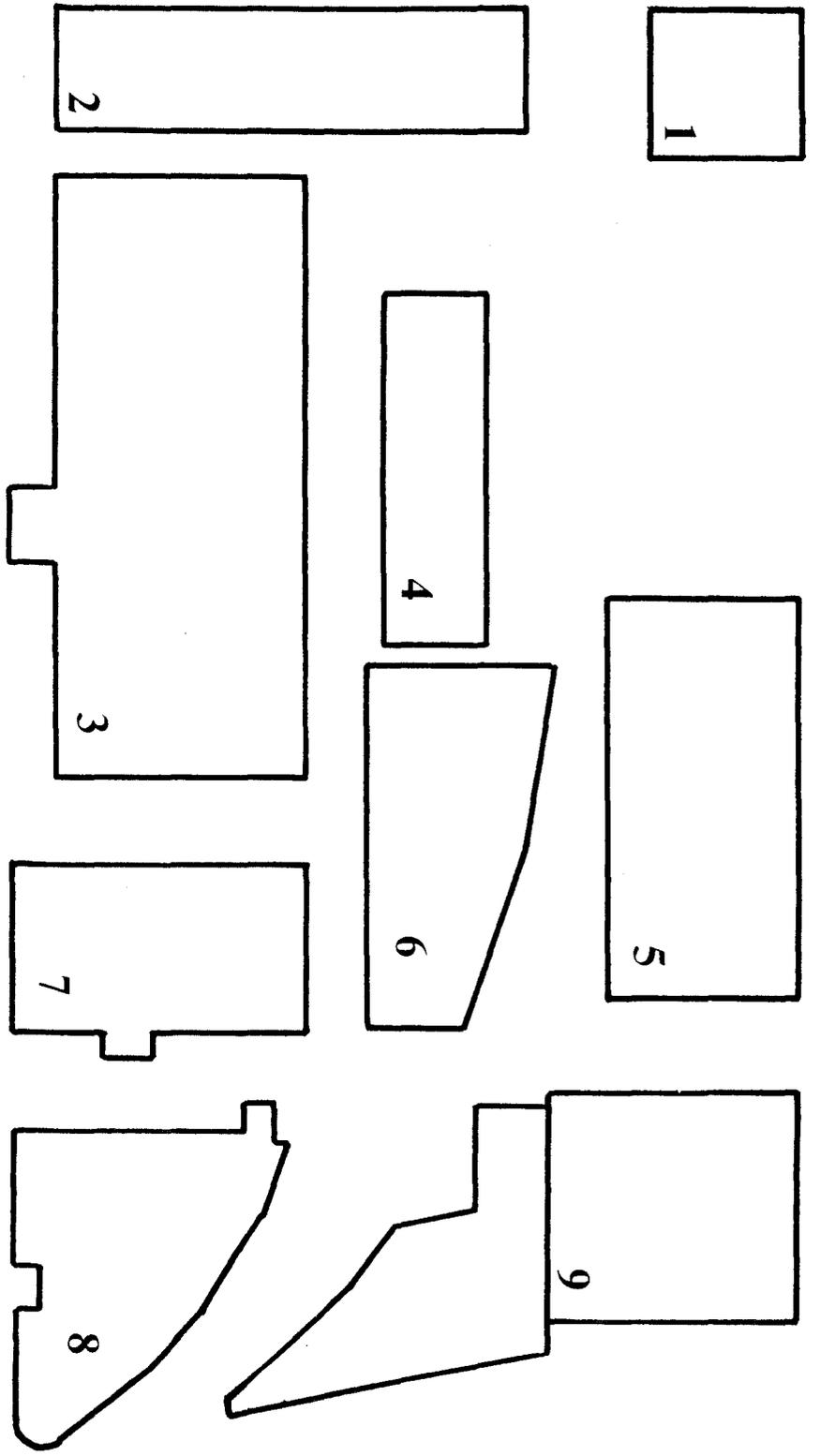
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- LOCATION MAP
- DURHAM HOSEYRY
  - CITY HALL-DOWNTOWN
  - BRIGHTLEAF SQUARE
  - EDGE of DUKE EAST CAMPUS

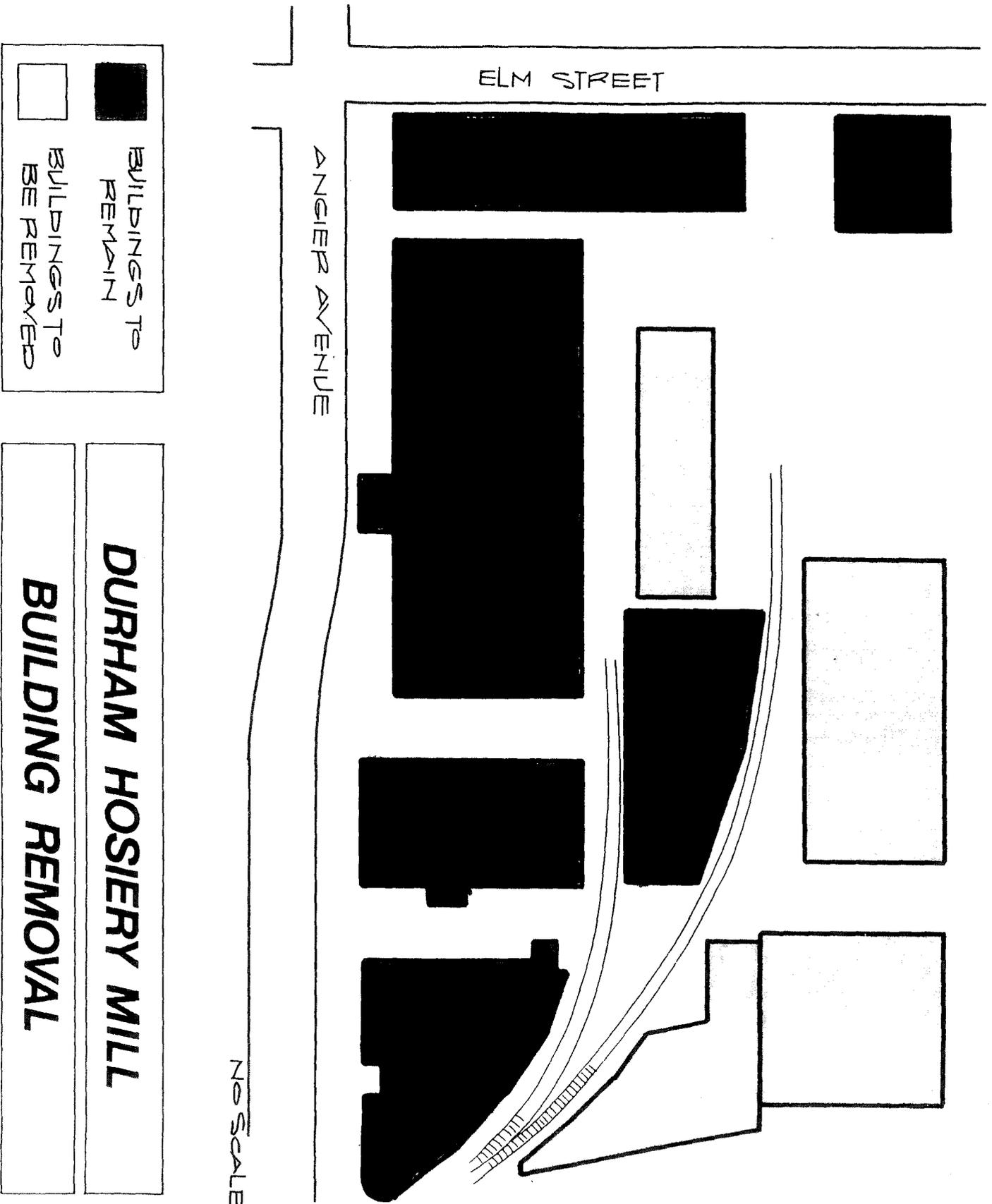


- 1 FINISHING BLDG.
- 2 DYE HOUSE
- 3 MAIN BUILDING
- 4 BOILER/ENGINE RM.
- 5 COTTON WAREHOUSES
- 6 ANNEX NUMBER TWO
- 7 ANNEX NUMBER ONE
- 8 1912 ANNEX
- 9 MACHINE/CARPENTRY SHOP



**DURHAM HOSIERY MILL**

**SITE PLAN**



**DURHAM HOSIERY MILL**  
**BUILDING REMOVAL**