

COLGATE & COMPANY JERSEY CITY PLANT: BOILER HOUSE/ C-8      HAER No. NJ-71-T  
(Colgate-Palmolive Company Jersey City Plant: Boiler House/ C-8)  
38 Sussex Street  
Jersey City  
Hudson County  
New Jersey

HAER  
NJ  
9-JERC1,  
18T-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD  
Northeast Field Area  
Chesapeake/Allegheny System Support Office  
National Park Service  
U.S. Custom House  
200 Chestnut Street  
Philadelphia, PA 19106

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- Location:** 38 Sussex Street, Jersey City, Hudson County, New Jersey
- Significance:** C-8 operated as the Jersey City plant's boiler house c1914-88, providing steam for heat, electrical generation, and industrial processes, while housing the plant's main fire pumps. Steam chillers added in 1956 also provided cold water for some soap manufacturing and air conditioning needs. Although not an individually significant structure, C-2 was significant as a component of the Colgate plant.
- Description:** The Boiler House is a 75-by-148-foot, gable-roofed, steel-framed, reinforced-concrete structure, with a 9.7-foot-high concrete-floored basement, a ground floor, and four upper tiers or platform levels within 45-foot-high exterior east and west walls. Concrete footings support steel H-beam columns, which create three-by-ten irregular bays and in turn support the 10-inch-thick first floor concrete slab and steel-framed upper tiers. Two 225-foot-high, slightly conical yellow-brick stacks, each about 23 feet in outside diameter at ground level, penetrate the roof to rise high above the structure (HAER No. NJ-71, C BLOCK TO SOUTHEAST and C BLOCK TO SOUTHWEST; see HAER No. NJ-71-S, Figure 2).

The red-brick-clad exterior is laid in American bond on the plain east, north, and west sides. Twelve nine-pane steel sash windows fenestrate the upper two tiers on each of the east and west walls; two similar windows appear in each outer bay of the north side. The decorated, stretcher-bond, tri-partite south facade is composed vertically and regulated by brick pilasters. The pilasters are laid in Flemish bond above the second-story level, with gray headers and butter joints. This same brick pattern is extended into the corbelled dentillation below the roofline coping. In each of the recessed end panels created by the pilasters is a large, extended vertical octagon 23.25 feet high and 13 feet wide, with a smaller, more evenly angled 4-by-4 foot octagon within, all created out of gray brick headers. Other detailing includes corbelled wall buttressing at the tops of the pilasters and the corner piers, from which extends a belt course of six brick corbels superimposed on the gray and red dentillated brickwork below. Cast stone coping is used to finish off the south-facing gable; tile coping was used on the other sides (SOUTH ELEVATION).

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\* Capitalized references are to photographs included with this documentation, or with the documentation for HAER NO. NJ-71 and associated structures.

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The south facade center bay has a small six-pane window and horizontal band of obscure glass block below the gable apex. Changes in brick in this center panel indicate alterations in this wall: original blueprints show that a 17-foot-wide by 23.4-foot-high multi-pane window once occupied this space. A pipe bridge to D-Block penetrates the facade in the third pilaster from the west. The ground floor consists of two obscure glass-block windows in the westernmost bay, a center truck bay with paired batten wood doors, and a nine-pane steel-sash window and replacement truck bay in the easternmost bay (NORTH ELEVATION). All three ground floor bays have been altered. Truck bays once occupied all three ground floor openings: 8-by-13-foot openings in the end bays with sixteen-pane single windows, and a large 15-by-15 foot truck bay in the center. A one-story brick wall with a single opening abuts the south facade of C-8 to the west, defining a passageway leading to adjacent building C-9 (HAER No. NJ-71-U).

Inside, the brick walls encase the outer steel columns to form pilasters. Openings in the north basement and ground floor walls connect C-8 to the adjacent Turbine House (HAER No. NJ-71-S). There are fifteen boilers on the ground floor, installed between c1934 and 1959 as coal-burners but fueled by oil or gas since 1971, each with both forced and induced draft. The south end of this level also includes steam chillers once used for Office Building air conditioners, and for soap presses and plodder nozzles in B-14 (HAER Nos. NJ-71-A and NJ-71-N). Concrete-block and firebrick partitions enclose the southeast and southwest corners, accessed from the street. There is a stairway located east of the center bay batten doors (GROUND FLOOR INTERIOR TO SOUTH; STEAM CHILLERS TO SOUTHEAST; see HAER No. NJ-71-S, Figure 2).

Much of the original anthracite-coal-handling system survived in 1988. Railroad cars stopped on the Sussex Street rail spur directly in front of the Boiler House, and were emptied into a hopper in the street; a car shaker employed in the 1960s traveled into position on a steel beam attached to the building front (grate over hopper appears in SOUTH ELEVATION, bottom center, with beam visible above doors). At the bottom of the hopper, a reciprocating plate fed the coal horizontally to a crusher in the basement. A bucket elevator carried the coal up just east of the front doors to a 24-inch-wide conveyor and traveling tripper unloader under the roof peak. The steel-supported distribution system fed a series of wing bunkers below, built of steel and enclosed by steel-framed concrete walls and corrugated metal panels (DETAIL OF COAL CRUSHER AND BUCKET ELEVATOR BOTTOM TO SOUTHEAST; COAL CONVEYOR, DISTRIBUTOR, AND BUNKER TO SOUTH). The main bunker system, equipped with a screw conveyor to feed boiler stokers, held 750 long tons; an auxiliary bunker near the south wall held another 170 long

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tons. Basement equipment also includes two fire pumps, a 90-ton ash bunker, and ash conveyors from the former coal-fired boiler operation (FIRE PUMP TO SOUTHWEST; Jacobs 1931).

**History:** Colgate & Company built the Boiler House in 1914, probably to in-house designs supervised by company engineer Warren Davey. Contractor Arthur G. McKee designed and probably installed the coal handling system. There were originally eleven Babcock & Wilcox boilers, increased to fourteen by 1934, generating pressures of 90 and 150 psi at about 264-600 HP. Subsequent upgrading and replacement with other coal-fired equipment occurred between 1934 and 1959, with the fifteenth boiler installed in the latter year. The original boilers fed three steam engines in adjacent building C-11 (HAER No. NJ-71-W) to power electric generators and provide some additional heat or process steam. The coal-fueled boiler operation, which included traveling chain grate-type stokers, was replaced between 1968 and 1971 by the dual gas-oil system used until 1988. The Boiler House was demolished in 1990.

**Sources:**

**Interviews**

Theodore Mrowzinski and Walter Merlin, Colgate-Palmolive Company engineers, October-November 1989.

**Plans**

All drawings listed below are currently (1991) held by the Colgate-Palmolive Company in the L-1 building at the Jersey City plant (HAER NO. NJ-71-SS). In addition to these citations, which document the structure and coal-handling system, there are many plans, drawings, and specifications for original and later equipment or related piping, electrical, structural and mechanical systems. For future access, researchers should contact the company's Office of Corporate Communications, 300 Park Avenue, New York, NY 10022.

**Colgate & Company/Colgate-Palmolive Company**

1913	[20 drawings, with drawing numbers]:	
	Foundation Plan for Building C-8	2-1060
	1st Fl Plan of Steelwork for Bldg C-8 Tier A	2-1061
	Steelwork for Bldg C-8/Plan Tier B	2-1062
	Steelwork for Bldg C-8/Plan Tier C	2-1063
	Steelwork for Bldg C-8/Plan Tier D	2-1064
	Steelwork for Bldg C-8/ Roof Plan	2-1065
	Front Elevation of Bldg C-8	2-1066
	Brickwork for Bldg C-8	2-1067
	Steelwork for Bldg C-8/Transverse Sec.	2-1068
	Steelwork for Bldg C-8/Balance of Tier B...	2-1079
	Steelwork for Bldg C-8/Balance of Tier C...	2-1080
	Steelwork for Bldg C-8/Balance of Tier E...	2-1081

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Steelwork for Bldg C-8/Balance of Roof... 2-1082  
Steelwork for Bldg C-8/Rear Elev. 2-1083  
Building C-8/Elev. & Section of Rear Wall 2-1084

Elev. of West Wall & Balance of E. Wall 2-1085

New Boiler House Foundations/Partial Plan of South End 2-1649  
New Boiler House Foundations/Sewer Connections 2-1673  
New Boiler House Foundations/Outline and Column Plan 2-1685

1916a [Plan of 1st Fl. Boiler House], Dwg. No. 2-1220.  
1916b Screw Conveyor to Transfer Coal within the Power House.  
Dwg. No. 2-1246.  
1975 Plan Arrangement of Boiler Room. Dwg. No. 2-7227.

Arthur C. McKee

1914 [9 drawings of coal-handling system]:  
Detail of Floor Cr[...], Belt Conveyor, Struc[...][part illegible]  
Details of Coal Bunker  
Details of Track Hopper, Grating & Doors  
Track Hopper & Elev. Foundations  
Arrange. of Feeder & Feeder Drive for Crusher & Elev.  
Elevator & Crusher Feeder Dets.  
Belt Conveyor Supporting Structure  
Gen. Drawing of Coal Handling Plant  
Layout of Holes to be [drilled/] in field in existing structure

Bibliography

Associated Mutual Insurance Company

1922 Colgate & Co. (Soap and Toilet Supplies). Surveyed November 8,  
1922.

Factory Mutual Engineering Association - Factory Mutual System.

1962-79 Colgate-Palmolive Company. "Jersey City Plant." Serial No.  
70516-B, Index 29368.

Jacobs, Jay

1931 Steam Boiler and Power Plant at Jersey City. The Pulse III, 8:  
14-15.

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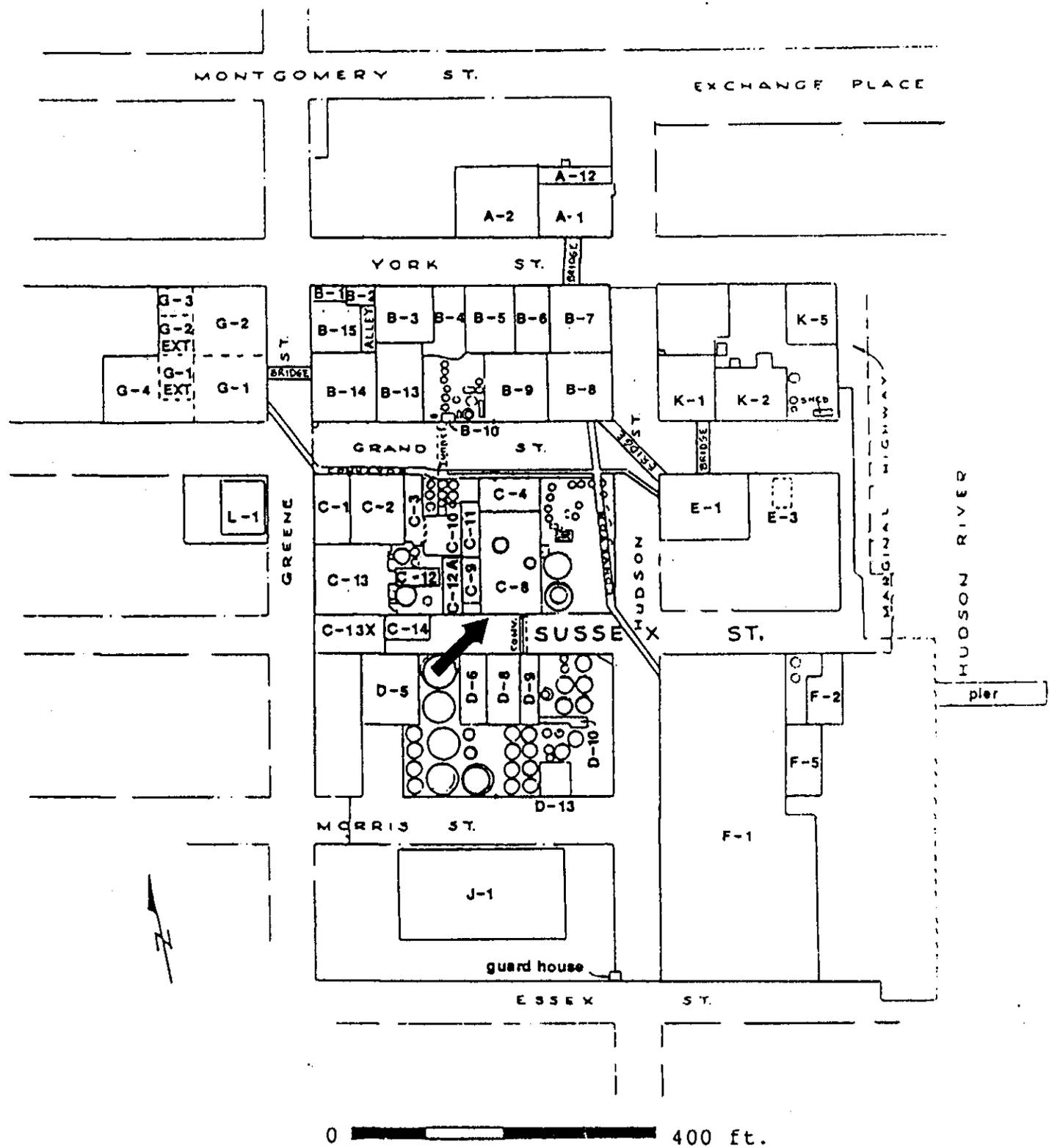


Figure 1. LOCATION OF BOILER HOUSE/C-8 AT COLGATE JERSEY CITY PLANT