CANADA DRY BOTTLING PLANT
1201 East-West Highway
Silver Spring
Montgomery County
Maryland

HAER No. MD-131

PHOTOGRAPHS

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WRITTEN HISTORICAL AND DESCRIPTIVE DATA

REDUCED COPIES OF MEASURED DRAWINGS

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
U.S. Department of the Interior
1849 C St. NW
Washington, DC 20240

HISTORIC AMERICAN ENGINEERING RECORD

CANADA DRY BOTTLING PLANT

HAER No. MD-131

Location:	1201 East West Highway, Silver Spring, MD 20910
Date of Construction:	1945 - 1946
Architect:	Walter Monroe Cory
Building Owner:	Silver Spring Ginger Ale Co., Inc., William C. Barnes
Material:	Steel frame with reinforced concrete decks above exposed wood planking; flat roof with tar and gravel; structural clay tile and concrete block curtain walls with brick at curving corners; steel windows and wood windows (canted) with aluminum trim; glass block; cast concrete panels; terrazzo floor; variety of glazing including wire, stippled, and rippled glass.
Present Owner:	Silver Spring Square LLC, the JGB Companies
Present Use:	Approved for adaptive reuse from industrial to residential, including partial demolition and new construction.
Significance:	The bottling plant exemplifies Montgomery County's progressive development as a suburban community, with Silver Spring replacing many of the Washington D. C. commercial/industrial "downtown" functions. The site, within the industrial corridor adjacent to the B & O Railroad tracks, illustrates the functional zoning of the suburbs, while the Streamline Moderne architecture highlights an emphasis on the importance of image of the factory to the client.
Historian:	Robin D. Ziek, 2004

Project Information:

The Canada Dry Bottling Plant in Silver Spring operated from 1946 to 1995. Afterwards, its was used as a warehouse for several years before being sold to AT&T for use as a new switching station in 1999, taking advantage of a power cable adjacent to the railroad tracks. When the economy took a downturn, the property was offered for sale again. JGB purchased the property on June 27, 2003 for residential development.

The Silver Spring Historical Society initiated the county's evaluation of the site for historical significance in 2000. After due consideration by the Montgomery County Historic Preservation Commission, the building was recommended for designation as a twentieth century industrial resource (identified as #36/44 on Montgomery County's *Locational Atlas of Historic Sites)*.[1] When the proposed designation came before the Montgomery County Planning Board, the board voted to protect only the central portion of the building, with its prominent entrance and second story office space. As mitigation, the Planning Board stipulated full documentation as a condition of approval for the residential project.[2]

This project was undertaken to comply with the Planning Board's Condition of Approval. Working in conjunction with Christopher H. Marston of the National Park Service (HAER), the documentation was conducted under the direction of Corri Jimenez, Preservation Planner with Maryland-National Park and Planning Commission (M-NCPPC), and Robin D. Ziek, Historic Preservation Planner with the City of Rockville (formerly with M-NCPPC). The completed documentation consists of measured drawings from field work gathered during winter 2002-3 by the following volunteers:[3] Paula Bilinsky (SSHS), Kendra Briechle, Anne Brockett, Suzanne Albert Coppings (UMD), Michele DeFayette (SSHS), John Hartrampf (PR), Marc Jean-Michel, Jr., Patricia Kuhn, Joey Lampl (MNCPPC), Christa Maher, Patricia Patula (MPI), Judy Reardon (SSHS), Tina Roach (APT-DC), Ryan Smith (HT), George Sushinsky, Matt Sushinsky, Nancy Sushinsky, and Elisa Vitale (UMD). Montgomery College students Bert Tondo, Hend Abdullah, Andrea Ascencio, Joseph Gubi, and Hector Chino produced the AutoCAD drawings under the supervision of Christopher H. Marston. Randy Steiner, Architectural Technologies Program Coordinator, Montgomery College, served as practicum advisor.

An earlier base map survey, used in 1994 by Tadjer-Cohen-Edelson Associates for the Canada Dry Corporation, provided information about the early production layout. Volunteer Ryan Smith made a videotaped interview with former plant chemist, Brian French on site. Photographs of the Canada Dry Bottling Plant in Portland, Oregon were obtained by Jerry McCoy and Christopher H. Marston, and a copy of the 1946 permit set for this building, on microfiche, was obtained from Portland's permitting archives; this microfiche set is currently in the Silver Spring Historical Society collection. This site history incorporates material gathered by Mary Reardon and Jerry McCoy of the Silver Spring Historical Society, as well as research shared by Goodwin and Associates of Frederick, Maryland. Christopher H. Marston researched and compiled the photographs of other Canada Dry Bottling Plants shown in Appendix C.

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[1] Letter from the Silver Spring Historical Society to Montgomery County's Historic Preservation Commission (HPC) Chair, November 22, 2000. The HPC public meeting was held September 17, 2001.
[2] See the Montgomery County Planning Board staff report dated September 12, 2002.
[3] SSHS, Silver Spring Historical Society; UMD, University of Maryland (College Park); MPI, Montgomery Preservation Inc.; PR, Peerless Rockville; APT-DC, Association for Preservation Technology, Washington Chapter; MNCPPC, Maryland-National Capitol Park and Planning Commission; HT, Historic Takoma.

History of the Canada Dry Bottling Plant in Silver Spring, Maryland

Introduction to bottled soda

Beers, ales, and mineral waters have been common beverages throughout history. The rise of the modern soda industry began with attempts in the late eighteenth century in Europe and the United States to create artificial mineral water. The first United States patent for a mineral water apparatus was issued to Simons and Rundell, or Riondel, of Charleston, South Carolina in 1810. Problems with the industry at this time included the lack of mass production of bottles, as well as the lack of a system of closure that could be applied mechanically. Cork closures for bottling were manufactured on a small scale compared to the predominance of soda fountain dispensing.[4] The development of machinery for the production of bottles, as well as the invention of the automated crown cap closure, patented in 1889, made industrial expansion of the production of individual soda bottles possible.[5] Throughout the nineteenth century, local soda fountains offered an abundance of flavors, and soda fountain recipes were published as well.[6] The proprietary products, many of which are still available today, appeared during a period of business expansion that took place in the last two decades of the nineteenth century.[7] This included Hires Root Beer (1876), Coca-Cola (1886), Moxie (1885), Dr. Pepper (1885), and Pepsi-Cola (1898).[8]

Development of Canada Dry as a product

John J. McLaughlin, a Toronto pharmacist, developed a non-alcohol carbonated ginger drink in the late 1890s based on a Belfast-style ginger ale.[9] Dr. Cantrell initially developed ginger ale in Ireland c1850 as a substitute for brewed ginger beer.[10] Ginger and lemon were popular flavors for bottling because other fruit flavors were susceptible to spoiling.[11] In 1904, McLaughlin began to bottle Canada Dry Pale Dry Ginger Ale. Fifteen years later, the product was shipped to New York City. The first Canada Dry bottling plant in the United States opened in 1921 on 38th Street in Manhattan. Today, Canada Dry is part of the Cadbury Schweppes, plc of London group of products.[12]

Site History

The Canada Dry Bottling Plant in Silver Spring is located on 2.9 acres adjacent to the B&O Railroad tracks in downtown Silver Spring. The eponymous Silver Spring is commemorated across the street in Acorn Park. The B&O Railroad Station Complex, with the

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[4] John J Riley, *A History of the American Soft Drink Industry, Bottled Carbonated Beverages, 1807 – 1957* (Washington, D. C.: American Bottlers of Carbonated Beverages, 1958), 103.
[5] Riley, 102. The patent was issued to William Painter, Secretary and General Manager of the Crown Cork and Seal Company.
[6] Riley, 113-114.
[7] Riley, 117.
[8] "Antique Soda & Beer Bottles," <www.worldlynx.net/sodasandbeers/sodahist.htm> accessed May 23, 2003.
[9] Bruce Ricketts, "Canada Dry Ginger Ale," <www.mysteriesofcanada.com> accessed December 27, 2002.
[10] Riley, 115.
[11] Riley, 112.
[12] Acquired in 1986; "Canada Dry History," <http://www.dpsu.com/canada_dry.html> accessed December 27, 2002.

small eastbound waiting room, the main ticketing office and the connecting pedestrian tunnel under the tracks, is adjacent to the site.[13] The bottling plant was designed to utilize both rail and vehicular transportation, while advertising its product with prominent signage to the street and railroad, as well as with the high-style architecture of the day.

The Canada Dry Bottling Plant was built in 1946. The building was placed at the back (north) end of the gently sloping site, with extensive road frontage along East-West Highway.[14] The front yard was landscaped with a lawn, in-keeping with the surrounding suburban community. The front door faces the corner of Blair Mill Road and East-West Highway and was 6.5' above street level, contributing to the monumentality of the architecture. At the time of its construction, the B&O Railroad tracks at the rear of the property were on grade with the new bottling plant. A railroad siding was installed to provide direct service to rear loading docks.[15] On the west side of the building, an extensive parking area was provided for trucks, and a delivery dock for the raw materials was located on the south (front) elevation as well. The building was designed to allow trucks to drive into the building to load the finished product at night under the roof.

The property was located in an industrial zone, along a relatively new boulevard connecting Silver Spring with Bethesda. By 1953, this industrial area between Georgia Avenue and 16th Street included the Canada Dry Bottling Plant, Auto Sales and Service, C & P Telephone Company, Emertron Research Laboratory, Coca Cola Bottling Plant, and the Dry Cleaning Institute.[16] These businesses took advantage of low transportation costs afforded by both the railroad and by East-West Highway.[17] Bottling plants, in general, were located close to population centers to minimize shipping costs.[18] Bottling involved a relatively simple and compact manufacturing process, but incorporated heavy materials such as water and sugar. Dispersing factory locations to all the important population centers was a vital part of Canada Dry's marketing strategy and a factor in price competition. As the 1945 *Annual Report* noted, the 1936-1949 expansion program would "enable us to increase our production capacity, reduce freight costs, and intensify our local distribution."[19] The service area for the new Silver Spring plant included Washington, D. C. and its Maryland suburbs. At the time, the Philadelphia plant, located 150 miles away, served these areas. In fact, when there was added demand in the District and Maryland, soda was shipped from the plant in Hudson, New York, at an even greater distance.

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[13] The tunnel was constructed c1974, when the tracks were raised to remove the on-grade crossing at Georgia Avenue. As a result of this alteration, the rear portion of the Canada Dry building was removed.
[14] The building is oriented to the street rather than the cardinal directions. For the purposes of this study, grid north was established as the railroad tracks, and the elevations are identified accordingly.
[15] See 1955 aerial photograph in Appendix B.
[16] Sanborn map, amended 1953.
[17] This predated the Beltway, built in 1956-1958.
[18] Canada Dry Ginger Ale Inc. undertook a large business expansion in 1936, to compete in "direct to dealer delivery markets." In the 1936 *Annual Report*, the president of the corporation wrote: "From each plant and warehouse our own salesmen and delivery trucks operate to serve retailers in surrounding territories." The expansion would focus on acquiring and building additional bottling plants, company-owned trucks and salesmen, as well as licensing foreign and domestic local bottlers to sell the company products.
[19] Canada Dry Ginger Ale Inc., *Annual Report*, 1945.

The Silver Spring plant was one of five American plants under construction in 1946, illustrating the importance of Silver Spring as an established market with growth potential.[20]

The Architect

Walter Monroe Cory, a New York architect and engineer whose career began before WWI and continued after WWII, designed the Canada Dry Bottling Plant. For much of his career, Walter worked closely with his elder brother, Russell G. Cory.

Russell Gherdes Cory (1881-1946) was born in Jersey City, New Jersey.[21] He attended Cooper Union night school, and graduated in 1910 with an electrical engineering degree. He started his own architecture and engineering firm in 1908, and in 1909, his brother Walter came to work for the firm. Walter became a full partner in 1924. The firm of Cory and Cory specialized in industrial buildings, with Russell serving as president throughout the firm's existence.

The firm's first major commission in Manhattan was the American News Company Building (1923-24) at 131 Varick Street. Russell's innovations with materials delivery and shipping are first seen in the New York Dock Trades Facilities building (1928-29) at East River and Joralemon Street in Manhattan. This building is credited as the first "vertical street" type industrial structure, having a central utilities core with elevators that carried trucks to each floor. Russell received patents on aspects of this idea in 1929 and 1933. Aspects of the "vertical street" buildings included railroad tracks and freight terminals serving the site, as well as undivided floor space within the building. Stylistically, the NY Dock Trades building was "typical" of American industrial buildings, with a cellular grid of fenestration and vertical piers. The Corys most famous project, the Starrett-Lehigh building (1931) was designed with the "vertical street" in mind, but marked a significant change as the Corys shifted to the Modern architectural style.[22]

In 1932, the Corys designed the Cashman Laundry Company at Gerard Avenue and East 140th Street in the Bronx, employing a variation on the exterior architectural treatment and cantilever construction of the Starrett-Lehigh building. Russell was also the architect of a notable complex of three Modern style buildings for Johnson & Johnson Company at its plant in New Brunswick, New Jersey (1940-41).[23] The buildings were built of light-colored brick, tile, and marble, with horizontal strip windows, and were designed according to [Russell] Cory's belief that "factories can be beautiful … discarding all preconceived ideas of a factory, a building has been produced which is far removed from the most advanced conception of what constitutes

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[20] "Construction Jobs in Silver Spring Nearing Final Stages," *Silver Spring Standard*, July 30, 1946. The brief note says that the new plant is under construction. It also reports that "the building is owned by William C. Barnes, and that the Canada Dry concern will be known under the name 'Silver Spring Ginger Ale Company, Inc.'"

[21] The New York City Landmarks office has much of the bibliographic information from research collected to document the Starrett-Lehigh Building.

[22] The firm of Cory and Cory (with associate, Yasuo Matsui) designed this 1931 building. It adheres to the aesthetics of the International Style, as defined by Hitchcock and Johnson in their 1932 exhibit at the Museum of Modern Art.

[23] "Building for Defense…An Industrial Community," *The Architectural Forum* 74 (June 1941): 430-431.

even an ultra modern factory."[24] Russell retired from architectural and engineering practice in 1942 and dissolved the firm.

Walter Monroe Cory (1888 –?) was born in Watsessing, New Jersey. Like his older brother, he attended Cooper Union night school. He graduated in 1920 with a degree in electrical engineering. Beginning in 1909, Walter worked in Russell's firm as draftsman, designer, and project manager. During the war years of 1917-1919, he served in the U.S. Army, working for a time in construction and maintenance for the Ordnance Department. He returned to practice as an associate of his brother in 1920, serving as project manager for construction projects for the American News Company and for E.R. Squibb and Sons. From 1924 until 1934, Walter was a partner in the architecture and engineering firm of Cory and Cory. As such, he moved to Florida in the 1930s to work as project manager in the development of the Apshawa Groves Citrus Company of Minneola, of which Russell Cory was president. Walter resumed his own practice as an industrial architect-engineer in 1936 and returned to New York City in 1942 to open his own firm at 1775 Broadway in Manhattan.[25] Walter specialized in industrial plant design for large companies, particularly for the beverage industry. He produced designs for Canada Dry Ginger Ale, Inc. and the Coca-Cola Bottling Company.

With their strong engineering backgrounds, the Corys developed an expertise in industrial design. After 1931, when they adopted the Modern style, their industrial production sheds used steel frames sheathed with masonry and glass curtain walls. Functional and dramatic light monitors were used to bring daylight down to the production floor, as well as to express the volume of the structure.[26] In their article on the 1932 Cashman Laundry Corporation in the Bronx, New York, the Corys discussed important elements of their design. This included the thin (8") outside walls, cantilevered floor construction that permitted uninterrupted expanses of metal window sash, and practically no ornamentation.[27] The building also had a monumental central entrance, curving corners, and extensive glazing.

Canada Dry, the Client

Industrialization helped to reduce labor costs, and the soda bottling industry expanded rapidly in the first part of the twentieth century. Where the product was initially associated with mixed drinks and mostly sold in saloons (possibly receiving a boost during Prohibition), the largest market became the homebuyer with sales at grocery stores. Advertising and new packaging aimed to foster home consumption. The invention of new machinery simplified the bottling process and competition increased. One way to compete was to avoid expensive shipping costs through decentralization, or direct-to-market sales.[28]

The 1936 expansion plans for Canada Dry reflected the company's decision to move in this direction. The firm made plans to build more plants world wide as well as to sell local

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[24] R.G. and W.M. Cory, "Planning for Laundry Efficiency," *The Architectural Record* 72 (October 1932): 253.
[25] As noted on the Portland plant permit set dated 1945. The drawings are preserved on microfiche in Portland. See Historic Resource Inventory City of Portland Oregon, #6-370-04370. The Silver Spring Historical Society has a copy of these microfiche.
[26] Bradley, 252-53.
[27] R.G. and W.M. Cory, 253.
[28] Riley, 147.

franchises.[29] The timing of this expansion, however, came into conflict with world affairs. While soda sales generally increased through 1941, problems surfaced with war restrictions on cork, paperboard (used for six-pack cartons), sugar, and building materials. The bottling industry fought to maintain its markets through WWII, arguing that soda was in demand at war plants and military training centers. By concentrating on the production of small soda bottles, the numbers of cartons sold remained relatively high.[30]

Canada Dry continued to work on its expansion through the war years by identifying and purchasing sites for new plants in Canada and the United States. It is likely that Walter Monroe Cory developed his scheme for the new bottling plant between the years of 1936 and 1943, and that the wartime restrictions affected the firm's ability to proceed rapidly. The general design for the Silver Spring Bottling Plant first appears as an illustration in the 1944 *Annual Report*, where it is also noted that nineteen plants world wide awaited construction. The drawing has a caption that notes: "This architect's drawing of the new Montreal building, which is nearly completed, is typical of the new type of beverage plants to be constructed after the war in key markets of the United States and Canada."[31] The Montreal illustration differs from the Silver Spring plant in such items as the placement of the front entrance under a sweeping canopy on the left side of the two-story block, and the use of vertical clear glass panels to light functional spaces at the central curve.

In the 1945 *Annual Report*, the photograph of the completed Montreal factory has a caption that states, "The handsome architectural design of Canada Dry's new Montreal factory will be followed in all new plants. The ultra-sanitary bottling procedure is open to the public through continuous glass windows."[32] The company proceeded with its construction plans, and a new similar plant, under construction in Detroit, is illustrated in the 1946 *Annual Report*. At the same time, Canada Dry continued its expansion through independent licensed bottlers. The independent bottlers built plants of their own design that differed from the Cory-style plants built by the Canada Dry Ginger Ale Inc.[33]

A drawing of the Silver Spring plant, published in the 1947 *Annual Report*, shows Cory's plan for a door at the central curve. The caption reads: "One of Canada Dry's newest, this fine plant near Washington, D.C., is designed for the most efficient, sanitary production and handling of carbonated beverages." The building is essentially on grade, with only one front step. The bottling area to the right of the front door has expansive windows to provide light for the operations and make the factory workings highly visible to the public. The same building design is shown in the 1948 *Annual Report*, with the caption: "One of Canada Dry's newest, this large plant at Minneapolis, Minnesota, carries on the company's tradition of providing the utmost in facilities

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[29] Canada Dry Ginger Ale Inc., *Annual Report,* 1936. The 1944 *Annual Report* notes there were only nine Canada Dry Bottling Plants in operation in 1935, with fifty-nine in operation in 1944, nineteen awaiting construction, and 130 franchise plants selling Canada Dry Spur.
[30] Riley, 149.
[31] Canada Dry Ginger Ale Inc., *Annual Report*, 1944.
[32] Canada Dry Ginger Ale Inc., *Annual Report*, 1945. Sites purchased or selected for additional company-owned plants as of October 31, 1945 are Seattle, Portland, San Diego, Denver, Washington, Cleveland, Harrisburg, Orange, Detroit, Hamilton (Canada).
[33] Canada Dry Ginger Ale Inc., *The Annual Report for the Year 1946* has an illustration of an independent bottling plant in Hawaii. *The Annual Report for the Year 1947* has illustrations of such plants in Monterrey, Mexico, and in Springfield, Missouri.

for the preparation and bottling of carbonated beverages."[34] In 1949, the *Annual Report* noted the operation of twenty-nine plants in the United States, two in Cuba, and six in Canada--all directly operated by Canada Dry.

The Cory plant design was used as a prototype, with modifications on both the exterior and interior to suit the specific locale.[35] For example, the 1949 *Annual Report* illustrates a one-story version of the Cory plant design, with the caption: "This modern structure at San Diego is one of the latest." At this site, reducing the height of the central rotunda to maintain the proportions of the original design resulted in modification to the original Cory design. Other important elements were retained, such as the masonry materials and the placement of the name like a crown over the front door. An internal variant on the prototype is also illustrated in the 1945 Portland plant, where the catwalk at the second floor level was deleted and a barrier was installed across the doorway.[36]

The Canada Dry Company adapted Cory's building design to each particular site and market. It worked with other architects through this expansion program, perhaps to satisfy local permitting requirements. For example, the 1945 permit drawings for a Canada Dry Bottling Plant in Portland, Oregon are labeled with Walter Monroe Cory's firm and with a prominent local architect named Glenn Stanton.[37] In 1948, Canada Dry had a one-story version of the Cory plant built in Philadelphia, and W. J. Barney of 101 Park Avenue in New York City was credited with the design and construction of the plant.[38] Exterior windows and materials also varied with locale, such as using a stuccoed exterior finish and smaller window units on the bottling plant in Cuba.[39]

By using the Cory design repeatedly, the company expressed its belief that the modern design projected the desired plant image and was effective as a marketing tool.[40] In the same way that product identification could be conveyed through bottle shape and standardized labels, the bottling plant itself became part of the company's iconography. The large building size, use of modern materials (steel, glass, aluminum trim), an emphasis on "ultra-sanitary" conditions, public view of production through use of expansive windows at ground level, and the crowning name for advertising all proclaimed the company ideology to use "All major media . . . to put across the idea that Canada Dry is a must on the dinner table and a refreshing beverage all the time."[41]

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[34] Canada Dry Ginger Ale Inc., *Annual Report*, 1948.
[35] As abstracted from the company's *Annual Reports*, Cory-designed plants were built at the following locations between 1945 and 1949: Montreal, Truro, and Vancouver, Canada; Havana, Cuba; and Silver Spring, Orange (New Jersey), Detroit, Portland, Seattle, Minneapolis, Philadelphia, San Diego, and Cleveland in the United States. See photos in Appendix B.
[36] 1945 permit set for the construction of the Canada Dry plant in Portland. The specifications included with the drawings indicate that several items were bulk-ordered by the company to be delivered to the various sites for installation by the local contractor. These Portland specifications were also modified for the particular site, with some elements designed by Cory for the prototype deleted (such as the catwalk) deleted if deemed unnecessary.
[37] Glenn Stanton (1895–1969) served as the thirty-third president of the American Institute of Architects. He also served as the architect when the plant was altered in the 1950s, as noted in the Portland microfiche.
[38] *National Bottlers' Gazette*, May 1948. See Appendix B, photograph #6.
[39] See Appendix B, photograph #4 of Havana, Cuba plant.
[40] Canada Dry Ginger Ale Inc., *Annual Report*, 1945: "These buildings will be the latest word in modern, airy design…"
[41] *National Bottlers' Gazette*, October 1946, 76.

The new sales strategy of "direct to dealer delivery markets" was announced in the 1935 *Annual Report*. This strategy involved opening plants in population centers to avoid the expense of long freight hauls. The expansion was a combination of constructing new company plants and licensing independent bottlers to produce the product. Initially, their expansion costs were offset by price reductions.

With the construction of two new plants (not the same design as the Silver Spring Bottling Plant) in 1935 in Atlanta and Miami, and with four more plants authorized for construction in 1937, the expansion was under way. Canada Dry operated nine plants in 1935 (three in Canada and six in the United States). By 1940, they operated twenty-one plants, and worked with an additional forty-five bottlers in the United States and an additional nineteen bottlers in other countries.

Stateside efforts during World Ward II resulted in constraints for Canada Dry and their expansion program. Sugar was rationed, and construction materials (including steel) were reserved for the military-related items. Somehow, the company continued to expand during these years, for there were fifty-nine company plants and 130 franchise plants in 1944. These were probably operating in pre-existing buildings, for the 1944 Annual Report notes that nineteen additional plants were awaiting construction.

In 1945, the *Annual Report* noted that the company could pursue its "long-deferred program of postwar expansion . . . with the purchase of existing plants and the construction of new plants…." This was possible when the federal government lifted restrictions on building materials and construction. Eleven sites had been selected during the war, five of which were under construction in 1945: Silver Springs [sic], Maryland; Orange, New Jersey; Detroit, Michigan; Seattle, Washington; and San Diego, California. Plans for additional plants included Minneapolis, Portland, Denver, Cleveland, Memphis, and Harrisburg. New plants were also planned in Canada, at sites already acquired in Vancouver and Hamilton. In addition the 1945 Annual Report notes the prior acquisition of a bottling plant in Havana in 1943, with a new "larger, more modern plant" under construction.

The building program took longer than planned, for the 1946 *Annual Report* noted that seven plants were still under construction (Detroit, Orange, Silver Spring, Minneapolis, Seattle, Portland, and San Diego). It noted that the new plant in Havana was operating, and "a 'well-equipped' plant was purchased at Santiago, remodeled and was under operation."[42] Cuba was such a good market that a third bottling plant was anticipated.

By 1947, Canada Dry had completed three more plants but had dropped the idea of building new plants in Denver, Houston, Memphis and Harrisburg. The company arranged for licensees in these cities with independent bottlers. In this year, the new plant in Vancouver was under construction and the Montreal plant was being expanded.

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[42] Canada Dry Ginger Ale Inc., *Annual Report*, 1946.

The fifth Canadian plant opened in 1948 in Vancouver, and another plant was planned in Halifax. The licensing program, however, was extremely successful and allowed Canada Dry to reach markets in South and Central America.

The 1949 *Annual Report* announced that Canada Dry had completed its long-term expansion program. The company operated thirty-seven plants (twenty-nine in the United States, two in Cuba, six in Canada). Its newest plant, in the Maritime Provinces at Truro, Nova Scotia (instead of Halifax) was completed. No new plants and few new licensees were proposed in the immediate future as the company worked to strengthen its existing operations and promote its product through extensive advertising. The *Annual Report* noted the company's sponsorship of a network television show, "Super Circus," as part of a marketing campaign to attract children.

The company proudly promoted the "handsome architectural design" of the Cory plants to show how up-to-date they were. The plants, however, reflect the high style buildings of an earlier day.[43] The Streamline Moderne design reflects architecture of the late 1930s, when buildings with a mission were designed to represent the new industrialized society. [44]

Ideas about style and meaning were actively debated and incorporated in modern buildings of all types in New York when the Corys were partners from 1924-1934. The reflection of styles from the 1930s may be the result of a combination of factors, including normal delays due to planning, funding, and construction scheduling, as well as the delays caused by the war. The echoes of an earlier day were probably also due to Canada Dry's choice of an architect whose career developed in the exciting era between the war, and who continued to work in a familiar idiom.

Building Description

The Canada Dry Bottling Plant is a dynamic combination of long horizontal lines and contrasting curving corners that change the direction of motion, typical of the Streamline Moderne style. It was designed to be modern and sanitary. Production, warehouse, and delivery space were provided on the ground floor, and support space, including administrative offices, and staff support areas (locker rooms, toilet facilities, a lunchroom) were on the second floor. A catwalk crossing through the light monitor connected the different areas of the second floor, while providing a view of the plant operations on the floor below. On the exterior, a sense of symmetry was established with the monumental corner entrance and flanking side elevations that were essentially the same, although not identical. Prominent corners were used for important offices as well as for locker room space, and a window necessary for the entry design illuminated

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[43] The Montreal plant was under construction in 1944, indicating that the design was prepared well before then. It also shows that the company had been able to do some limited construction during the war years.

[44] Elements of the International Style include the exposed steel structure, curtain wall construction, reduced building ornament, and strip windows. Elements of the Art Deco and Streamline Moderne style include the cast stone panels at the entrance, glazed curving corners, extensive use of glass block, a dynamic form, and the manipulation of building materials for decoration. New York Art Deco was at its height in New York from 1928 to 1931, according to Cervin Robinson and Rosemarie Haag Bletter, *Skyscraper Style, Art Deco New York* (New York, Oxford University Press: 1975), 43. Streamline Moderne design peaked in 1939, according to David Gebhard, *The National Trust Guide to Art Deco in America* (John Wiley & Sons, Inc., Washington, D.C.: 1996), 13.

a closet. A functional hierarchy, while implied in the design, was secondary to the actual workings of the building.

A modern vocabulary was used throughout, with steel and concrete frame, metal strip windows of varying size, thin exterior walls, little ornamentation, flat roof, orientation of secondary spaces (bathrooms, lockers) to optimize window space, and the manipulation of building materials to achieve design intentions. The building gives a sense of being functionally divided into two distinct parts, with a one-story factory shed and a two-story administrative wing, while in fact, these operations overlapped on the interior. The bottling lines and the sugar room were both located on the ground floor of the two-story wing, with large windows providing light and a public view.

The building was laid out with steel [H] columns in a grid generally measuring 24' x 28', although this varied when programmatically necessary and economically possible.[45] Columns stand clear of the exterior walls in the warehouse portions of the building. In the production areas, the columns at the exterior walls are sheathed in the same clay tile of the adjacent walls, giving the appearance of a pilaster. The freestanding columns are exposed steel. The exterior walls are a combination of structural clay tile with concrete block. Brick is used at the second floor's curving corners and as reinforcement at the warehouse garage doors. The typical interior walls are 6" structural clay tile. Wood framing was used to modify the floor plan in later renovations. Many of the clay tile walls have been painted white with a black "wainscoting" but the original tile color, visible in places where the paint has failed, is "ginger." In the administrative billing area on the second floor, the walls were plastered and painted.

The exterior walls of the building are beige structural clay tile with long, narrow dimensions similar to brick. In the shipping and receiving areas, and in the second floor office areas, the clay tile is paired with concrete block for the interior wall surface, providing a dimension of 8" for the total exterior wall. In the manufacturing areas and in the bathrooms, locker rooms, and eating areas on the second floor, the interior walls are built of 6" glazed structural clay tile. On the second floor, the dividing wall between the billing office and the sales office is a single stack of 6" structural clay tile.

In the monumental entrance lobby, the walls are faced with almost square ginger-colored structural tile, sized to match the glass block.[46] The entrance lobby floor and steps are terrazzo, with an Art Deco circular floor pattern said to suggest soda bubbles. Despite an eccentric curve to the lobby space, centrality was established with an entry sequence that included the front door, the circular floor pattern, and the door to the production floor under the mid-stair landing. A decorative, open, flat iron railing provides a strong visual line for the cantilevered curving stairway along the interior lobby wall. Midway, the stairway offers a view of the front door. A

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[45] Field documentation records the existing conditions in 2003, and some alterations were apparent. For example, the building was reduced by approximately 63' on the track side in 1974 to accommodate the installation of additional railroad tracks and a solid rear façade was built with concrete block. Other alterations include the removal of the first floor windows on the east façade and filling in this space with concrete block; and the removal of several steel columns and other alterations in the vicinity of the delivery platform on the south side. Alterations are noted in the drawings where possible, including removal or installation of walls.

[46] This is something that Hitchcock and Johnson recommend in their description of the International Style, p. 54.

balcony three steps shy of the second floor also provides an opportunity to view the lobby floor below as well as a view of the front wall glass block wall.

Construction Details

Aluminum flashing on the curb at the roof's edge and on the segments of parapet wall in the two-story section accentuates horizontality. Manipulation of exterior building materials, noted below in the description of the corner entrance, emphasizes this horizontal motion.

The wall segments that curve at the corners were made with stacked blond brick headers (3.2" x 2.1") that almost match the depth of the straight wall sections of block and structural clay tile. The tile unit is stacked in the curve, which creates a small-scale decorative pattern at this junction. A vertical joint separates the headers from lengths of stretchers laid in running bond that make up the straight wall sections, but the mortar is a light color to downplay the joints.[47]

The monumental entrance is designed with three wall panels, layered as if the central glass block panel is breaking through at the corner. A sense of symmetry pervades the design, beginning at the corner doorway flanked with the breaking wall panels, two flanking windows, and the factory extensions to either side.[48] The curving glass block at the entrance is crowned with rectangular tile, but framed with almost square clay tile (5.25" x 6.25"), sized to match the glass block (8" x 8"). The next curving panel of wall is made of stacked clay tile stretchers of a rectangular shape (2.25" x 5.7"), but sized midway between the glass block and the end panels as a transition. The end panels of the two-story block are laid in a running bond with the same long rectangular units (2.25" x 11.5") used in the one-story portions of the building.

The large area of glass block is divided into three vertical panels by concrete columns. Within each panel, the glass block is further divided horizontally and vertically with steel mullions. An apparent variation in opacity is noted between the central portion of glass block and the upper and lower portions of glass block. Flipping the orientation of the striations in the individual glass blocks produced this variation. In the central area (above the roof line of the entry portico), the glass was set with a vertical orientation. Above and below this, the glass was set with a horizontal orientation.[49] This glazing variation may have been designed to take advantage of the polarizing effect of light and control the amount of light/heat on the interior.

The predominant place with applied ornament is at the entrance.[50] The cast stone entry portico has a molded profile. This 3' extension from the face of the building provides a small entry hall, illuminated with half-light windows of glass block and interior wall-mounted lights.

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[47] This is also something recommended by Hitchcock and Johnson, p. 53.

[48] The building is actually not symmetrical, with longer extensions on the south side than the east. The flanking lobby windows are part of the apparent exterior symmetry, but only the east window illuminates the lobby. The west side window illuminates a closet for an office. The closet is the vestigial space in the transition from the curving lobby wall to the rectangular shaped office.

[49] This treatment appears in the Montreal plant, where the curving corner area was used for the chemistry lab and related workspace. While the entry was shifted to this central corner in Silver Spring (and to subsequent plants), the use of the same glass block treatment may reflect the fact that this plant was amongst the first five new plants constructed after the Montreal building was completed. In two extant plants identified to date (in Portland and in Havana), the glass block was laid up in only one direction.

[50] The exterior chrome trim at the splayed windows also has a molded profile.

Fluted cast stone panels serve as a foundation for the monumental glass block window as well as for the entry portico. Columnar cast stone elements frame the front doors.[51]

The Canada Dry name sits like a crown above the monumental corner entrance. The existing sign is a replacement for the original neon sign.[52] The aluminum letters of the sign over the front entrance have a red plastic cover facing the street, and were electrified for nighttime illumination. Neon illuminated the trackside sign, which is now in poor condition and non-operational.

Except for the windows at the entrance, two window units by the roof door, and two interior windows facing the interior clerestory space, the remaining windows in the building are industrial steel strip windows. They vary, however, in the type of glass, size, design and method of operation.

The tall string of windows on the ground floor, south elevation of the central two-story block, is splayed to admit more light.[53] Each of the ten individual units is composed of two large window panels (approximately 7'x 4'), horizontally oriented and crowned with two small operable transom windows.[54] The large lower panes of glass were installed as a fixed unit, and they sit at an angle with a cant of 4" over the height of the double window. The two operational transom windows were set at the outside face of the wall, and are paired to make up the width of the lower angled windows. A large wood beam carries the weight of the angled window frame and is a strong horizontal feature on the interior of the sugar room. In the office space on the first floor, however, plywood paneling covered the beam to "finish" the room. The exterior window frame for this set of splayed windows is white metal, with painted wood used on the interior.

On the second story, all of the strip window units are the same height and are divided horizontally into three lights. In the typical second floor window, the upper two lights form one awning sash, while the lower sash operates as an interior hopper. There are, however, a few exceptions. The windows in the clerestory are single vertical lights that operate as awning windows, in groupings of five. The five ganged units (with five windows each) were opened electrically from the interior.

The strip windows at the curving corners are four fixed panels, each divided into three horizontal panels of curving glass. The strip windows on the south façade of the second floor adjacent to the clerestory windows maintain the typical vocabulary but have windows of slightly narrower dimension at each end of the run to make up the required overall dimension. The exception to the use of strip windows includes the two window units on this south façade that light up a bathroom/locker room area and a similar set of interior windows on the east wall of the

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[51] These double doors appear to be replacement doors, judging from their design and comparing them to the photograph from the 1940s. The interior weather lock that was inserted into the curving lobby area is also a later alteration.

[52] An early photograph c1945 (see Appendix B, photograph #1) shows each letter mounted individually, rather than with the back-braced mounting of the current sign.

[53] See Bradley, 168. She notes that splayed windows were used as early as 1840.

[54] The windows on the east elevation were blocked up with concrete block, but historic photographs indicate a matching set to those on the south elevation, although with one extra unit on the east elevation.

clerestory. The clerestory windows also open onto bathroom/locker room areas. In each instance, the windows match the height and three horizontal light-division as the strip windows.

In addition to the window design, the glass itself varies with room function. The splayed windows on the first floor feature translucent rippled glass.[55] The glass used in the strip windows in the warehouse areas, on the other hand, consists of stippled textured glass with embedded metal "chicken" wire.[56] At the second floor, the stippled wire glass was used in the clerestory, and translucent stippled glass without the wire was used in the office and storage areas windows. Where panes have been broken, they have been replaced with a variety of clear and patterned glass.

A door off the second floor back hall connecting the administrative area to the lunchroom area provides access to the expansive flat roof. A metal ladder adjacent to this door gives access to the upper roof with the two Canada Dry signs. On both the upper and lower roofs, roof drains are scattered throughout to drain the flat roofs. At the south edge of the lower roof, clearly visible from MD Route 410 (East-West Highway), a small, corrugated sheet metal shed was built above an opening to the warehouse area below, adjacent to the sugar room. This shed protects a generator that powered equipment on the warehouse floor below. It was probably used to pump in either liquid sugar or liquid carbon dioxide. On the trackside by the locker room at the northeast corner above the boiler room is a collection of HVAC equipment. Fan vents periodically placed along the roof in this same vicinity correspond to the production area below. There is also a single skylight providing daylighting to the "ammonia room" below.

Description of the process

Approximately 50 percent of the Silver Spring Canada Dry Bottling Plant was used as a warehouse for the storage of raw materials (bottles, packaging, labels, caps, liquid carbon-dioxide, liquid sugar, flavors, and water) and for the finished product waiting to be shipped out. The manufacturing process itself was compact and occupied approximately 25 percent of the building. The chemistry lab, administrative offices, and an area for sales representatives used the remaining 25 percent of space.

Delivery of raw materials and shipment of finished product were basic to the plant operations. Deliveries were made either by rail to the rear loading dock by the private rail siding, or by truck to the two-bay loading dock in the front. Shipping was done by truck in the warehouse area at the west side of the building. Large overhead garage doors provided drive-through access for trucks to come into the building at night to be loaded. They could then drive straight out to make their deliveries.

A small office was built in the southeast corner of the shipping warehouse area, where it blocked a truck entrance bay. The small doorway in the large wood overhead door was probably

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[55] This does not seem to correspond with descriptions in the company reports that the public would have a good view of the workings of the factory, since the rippled glass distorts the view.
[56] See Bradley, 164. This type of glass was developed as a "fireproof" window, because the wire would hold shattered glass in place and reduce the amount of air infiltration during a fire.

an important entrance for workers, because a sign on this door warned: "Pilferage of any form will result in dismissal." The time clock was located by this office.

A significant element of the production was the use of staff chemists to oversee the process. Every plant had a fully equipped laboratory, with chemists compounding formulae, checking and overseeing sterilizing operations, and checking bottle pressure. The Canada Dry Company emphasized ultra-sanitary conditions for the bottling procedure in their plants, noting that the product was "food" so it had to be held to a high standard.[57]

The company developed its own practices to stay competitive and to minimize labor costs, and each plant operated under this standardized system. The description of the operation of the 1946 plant in Montreal provides insight into the Canada Dry patented process. This would have applied to all their plants, including the one in Silver Spring. Soda production began with the public water that was stored in large steel storage tanks within the building, with capacity ranging from 10,000 to 13,000 gallons each.[58]

> The water passes through five distinct filtrations – sand; paper; activated carbon, gravel and sand; paper again and finally cloth – before it is subjected to the already famous Canada Dry ultra-violet ray treatment. "Pin-point carbonation" of the water, a feature of Canada Dry advertising, is made possible by two Liquid Carbonic carbonators each with a capacity of 1,000 gallons an hour.
>
> Sirups[59] for the products are processed in sterile equipment and then pasteurized. Later, they are stored in cold storage tanks. This use of cold storage facilities for beverage sirups is unique in the industry.
>
> The bottling procedure is completely automatic from the moment that returned, empty bottles are placed in a soaker to be sterilized until they arrive filled, capped and labeled at the end of the production line.
>
> The bottling procedure functions thusly: A Meyer-Dunmore soaker carries the empty bottles through five cleaning compartments during the course of half an hour. The 3,000 bottles contained in the soaker are subjected to cleaning solutions, brushed and scoured inside and out, thoroughly rinsed and sterilized.
>
> As bottles enter the filler room they are subjected to rigid inspection for flaws and chips. Once past inspection, they move to the Liquid Carbonic 50-20 spout filler (50 spouts of charged water and 20 for sirup). Here the quarts are filled at a rate of 110 a minute, pints at 140 a minute and splits at 150 a minute. They are capped securely by the newest type 8-head rotary crowner.

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[57] Canada Dry Ginger Ale Inc., *Annual Report,* 1945.
[58] The Montreal plant had 13,000 gallon tanks. The Silver Spring tanks were 10,000 gallon capacity. On any day, the plant would use up to 60,000 gallons of water, according to Brian French (see Appendix A).
[59] This is the French spelling.

After a detailed test for leakage and thence to a complicated labeling machine, the bottles pass down the production line to be cased and sent to the warehouse for shipping.[60]

All manufacturing and warehouse facilities are contained on the ground floor. A railway spur adjacent to the warehouse makes possible the shipment of carload lots of Canada Dry to the . . . divisional warehouses . . . The upper floor contains the office of [the] Divisional Manager . . . general offices and such employee facilities as shower rooms, lunch rooms and locker rooms. [61]

Plant Alterations in 1974 and 1990

The bottling plant was altered in 1974 to respond to the construction of additional railroad tracks for the Washington Metro subway line.[62] In 1990, further alterations were made, perhaps in response to changes in bottling technology and production.[63] Some of the alterations noted during the field documentation have been connected to these major alteration dates through drawings and interviews. However, in other instances, dating of particular alterations would be guesswork. In addition, the bottling process described by the 1990 plant chemist was modified from the original 1945 process. Therefore, in the description given below, dates are given when there is a fair sense of accuracy, and are simply described otherwise.

In 1974, approximately 62' of property was needed to accommodate the additional track for the new Metro line. The entire north façade and 24' to 32' in depth of the building were removed. Where the railroad had run on grade along the back side of the building with a private railroad siding for deliveries to north loading bays, there was now a high embankment so the trains could pass above the traffic on Georgia Avenue, just to the east of the plant. With the loss of the rear portion of the building came the loss of all north lighting and the rear loading docks. It became necessary to accommodate shipping and receiving elsewhere. It is likely that the additional loading bay was added at the south loading dock, and the adjacent doorway was closed off with concrete block at this time. Alterations were made to the steel structural system in the vicinity of this dock, and at least one supporting column was removed.

The two metal additions on the west side of the plant were apparently pre-existing in 1974, for changes to these structures were also required. The pre-fabricated open-air addition on the north side, with its modern v-shaped columns, was reduced with the loss of property along the tracks. A low retaining wall was built along this north edge to provide some separation from the railroad embankment. Doorways along the west façade of the plant were altered as well to

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[60] Bottles were first cooled to meet pressure requirements and then heated to avoid condensation that might damage the cardboard packaging.
[61] "The Largest Plant in Canada," *National Bottlers Gazette*, October 1946.
[62] See early aerial photograph (Appendix B, photograph #2), and the Demolition Plan labeled "S-1" prepared by Tadjer-Cohen-Edelson Associates. The date on the drawing is "4-22-94," but erasure marks suggest an earlier drawing was used as their 1994 basemap. Other elements on the drawing that support this include a notation on the rear of building, identifying it as "no longer existing;" and, walls drawn right through equipment. Because of this, it is assumed that this drawing shows the original production layout.
[63] See Appendix A, interview with Brian French 2003.

accommodate a new 17' overhead door. The garage door on the south side of the second metal addition, opening to an enclosed space used for truck maintenance, was repaired.

The square boiler room with two boilers in the north end of the building was removed c1974. It was replaced with a narrow boiler room with only one boiler. This new boiler room had an east-west orientation and was built as close to the original location as possible, probably to reduce alterations to overhead piping. With the loss of part of the building along the north end, the production line was also reconfigured within a much smaller space. The in-going and out-coming conveyor lines were compressed within the narrow hallway just north of the new boiler room. Conveyor belts were stacked, as the vertical space was used to make up for the loss of floor area. The 16-ounce depalletizer was moved into the production room, just ahead of the rinser, while the 12-ounce depalletizer remained in the warehouse area just west of the boiler room. The clerestory lighting was even more important in this location as there were no windows in the reconstructed concrete block north wall.

Another change in the production area involved the dividing wall between the bottle rinser area and the filling platform. The original specifications, as reflected in the amended set for the Portland plant, describe a filling room that was fully enclosed with the use of glass block.[64] Anomalies at the filling platform include use of non-original materials such as the modern concrete block and different cuttings in the curb surrounding the filling platform. The dividing wall between the filling platform and bottle rinsing area consisted of a wall with a steel angle at 6'-2" above the filling floor that supported a narrow span of clay tile. Below this steel beam, the wall area was filled in with narrow (4") concrete block; there were several openings (4', 3', 2') to accommodate the production conveyor lines. The area to either side of the filling platform was open between production area spaces, with a 10' opening on the west side (to accommodate production lines and equipment), and an 8' wide ramp on the east side (leading from the washing area to the filling deck and a second ramp of similar width down to the packaging part of the production floor). The alterations to the filling room enclosure may have been a result of new machinery or the addition of air conditioning, or perhaps because of changes in the health regulations.

A new electrical room was built in the southeast corner of the production room, adjacent to the lobby wall. The splayed windows on the east elevation were removed and the large window area was closed up with concrete block, leaving only the operable transom windows in place.

A weather door that encroached on the lobby design was added at the front entrance to help regulate interior temperatures.[65] Air conditioning may also have been added at this time, since the building originally depended on operable windows and air circulation for summer cooling, with steam heat in the winter. The necessity for a cold room was abandoned too.[66] The fine original wood Dutch doors did not have to be used as refrigerator doors, probably due to refinement in industrial production methods and the addition of cold air throughout the building.

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[64] Walter Monroe Cory and Glen Stanton, *Specification for Building to be Constructed at S.W. corner of N.E. Halsey Street and N.E. 44th Avenue, Portland, Oregon for Canada Dry Ginger Ale, Inc.,* item 150, p. 47.
[65] The gasoline shortage in the summer of 1974 may have been a factor.
[66] Brian French noted that this room was not refrigerated when he began work there in 1988. See Appendix A.

Several walls were apparently removed or altered in the vicinity of the sugar room. The full-height wall (with a doorway) between the production area and the sugar room was removed, and the hall was opened up to its full extent of 9.5' wide.[67] An additional room, built of concrete block, was added for the chemistry lab and kitchen that took space from the sugar room.[68] The platform along the south wall of the sugar room was chipped off along the window to provide more floor space. The concrete block walls were a partial height only, and a false ceiling was installed to enclose the chemistry lab space. The area above this ceiling was used for storage. Other alterations, evident through ghostlines on the floor and walls, included widening the openings for the sugar room walls. The dividing wall at the mid-point of the sugar room (at the door leading between the sugar room and the syrup room) was changed from a 7' opening to a 12' opening; the entrance between the warehouse and sugar room was widened from 8' to 12'.

The warehouse and sugar room were fully separated by filling in a partial height wall (12.5' high) with a partition wall of steel studs and plywood, set on top of the clay tile wall and extending to the lower flange of the steel ceiling beam above.

Many of the functional spaces of the original plant were used as storage or other types of work space during the last years of bottling operations, including all of the second story rooms on the west side of the catwalk. The two suites of locker rooms with a shower and adjacent bathroom facilities on the west side of the catwalk were no longer needed for the production crews. Both bathrooms were used for extra storage space. The locker room on the south side was used for lab space for quality control and pressure testing. The other locker room on the north side was used for sales office storage. In addition, the open areas facing these service rooms were enclosed with wood frame and plywood walls to form two distinct corner rooms.

A new receiving office constructed of plywood blocked off a portion of one delivery bay. It had an internal connection with the shipping office on the opposite side of the wall. This may have been a replacement of an earlier and larger office, shown on the Tadjer-Cohen drawing. That drawing also shows an additional column in this vicinity that was not extant at the time of this documentation.

The sales representatives on the second floor were all given small individual offices, built around a core training and meeting space. These walls were constructed of wood studs and plywood. A computer room was also added, with a raised floor for the necessary wiring. The administrative area was retained as an open room with individual desks, supervised by staff in two enclosed offices for the office manager (at a curving corner) and the comptroller. The president's office was located off of the second floor lobby, adjacent to his secretary's office.

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[67] Ghostlines of this wall are still apparent on the existing side walls. Prior to this, one manager's office opened in the production area, and the other manager's office opened in the sugar room area; a pass-through window linked them internally.

[68] Brian French said that he helped build this in 1988. The drawing from Tadjer Cohen with the 1994 date indicates the full extent of the offices here, all labeled "Lab." However, the two offices adjacent to the lobby are clearly original, with clay tile walls and pre-industrial style doors and trim. The kitchen/lab is an add-on with concrete block and part of the original sugar room platform was demolished to provide additional floor space in this kitchen. The two offices also have two dropped ceiling systems, indicating different periods of renovation.

The curving corner at the south façade was a residual space, closed off with the framing of two adjacent rectangular offices; it was used as storage space and a passageway.

Significant architectural features of the building and important elements of the design

The Canada Dry Bottling Plant was a fireproof industrial building that projected a fashionably modern exterior public image. The building utilized the best of both architectural and engineering design, areas in which Walter M. Cory was well qualified. Materials that were typical in the construction of a modern, safe, economical, and fireproof factory include structural clay tile (with the unit size adjusted for the particulars of the site location), steel framing (with the steel sized for the particular site location), concrete slab floors and flat roof, splayed windows and the use of glazing with embedded wire and steel frames.

Important exterior design elements include the use of light colored clay tile, with matching mortar to avoid breaking up the sweeping lines, steel industrial strip windows, curving glass corners, extensive glass block, use of white metal as trim for windows and parapet walls, and an overall dynamic sense of movement. These important exterior design elements did not necessarily reflect important interior spaces, as seen in the use of the curving corner areas for locker room and storage space. In addition, while the lobby entrance appears monumental to the public view, it was compressed on the interior to minimize the amount of internal floor space.

Where it was known that light was an important element in production speed and safety, the architect incorporated window features such as the splayed windows and clerestory windows to bring more light into the production areas. At the same time, the company promoted the use of large windows as a marketing tool to the public.

The catwalk was a dominant architectural feature in the warehouse area, providing an aerial view of the working floor below in the vicinity where the production lines began and the finished product returned for stacking and delivery. The angled overlook at the east corner of the catwalk, with its safety railing, provided a wider view of the ground floor below. The catwalk may have been used in only the larger bottling plants, where it also provided a second floor link for additional service spaces.[69]

There are other important interior features that were production based. A sliding screen door mounted on the warehouse wall at a doorway to the platform within the sugar room provided access between these two spaces. Functionally, this probably related to the delivery trucks with liquid sugar and liquid carbon dioxide that hooked up to exterior hose bibs located along the exterior south elevation at this location.[70] In the southeast corner of the delivery warehouse space along this wall, large pipes and other equipment sent these liquid materials to the proper location within the plant.

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[69] The Portland bottling plant (see HAER No. OR-137) was constructed without a catwalk or the second story rooms that are found west of the catwalk at the Silver Spring plant. The plant in East Orange, New Jersey has a catwalk. The Canada Dry Bottling Plant in Havana appears to be smaller, without the extensive one-story production areas found in both Portland and Silver Spring.

[70] See Tadjer-Cohen drawing #S-1. This includes the original site plan, with limited paving leading up to both the delivery dock and this hose bib adjacent to the sugar room. The rest of the front property was planted in grass. See Appendix B, aerial photograph, #2.

The syrup room was a fully enclosed space to facilitate refrigeration. The west wall of the syrup room, however, was built to a height of 12.5' with a sloping ceiling for a distance of 8-10', where it joined a line of ceiling steel beams. This portion of the ceiling was probably sloped for structural reasons, to maximize the floor area within the syrup room while still providing full enclosure by meeting up with the structural system in the ceiling.

The four water tanks were stainless steel and were surrounded by a system of walkways to facilitate cleaning and inspections. The tanks were filled with ordinary public water supplied by the Washington Suburban Sanitary Commission (WSSC). A low curb built in the floor separated the water tanks from the bulk of the warehouse space to the west of the tanks. This probably was installed in case of leaks, so the water would not damage any of the raw materials or finished product stacked near by.

The complicated and extensive piping system used throughout the bottling process was hung in the ceiling area of the ground floor. All of the soda materials were delivered overhead through the pipe system, which was sanitized daily using liquid carbon dioxide. Electricity powered the system, and large fuse boxes were stacked in the electric room adjacent to the front lobby. Electrically powered engines were located in the engine room adjacent to the boiler room. These engines were set in a line, mounted on individual concrete pads for added stability. A sign in this room reads: "Ammonia, Anhydrous, Danger! Hazardous liquid and gas liquid causes burns. . ." Ammonia was initially used in the production process as a coolant but this was abandoned for carbon-dioxide, which could be used for both chilling and sanitation.

There is a variety of glazing used throughout the bottling plant, including the fireproof wire glass and rippled glass, chosen according to room function. The splayed windows in the sugar room [and originally in the production room] had rippled glass, which served to help diffuse the light for the interior workspace. While providing a view of the interior, it also softened the effects of light and blurred the view of exterior activities to prevent distraction for the workers inside.

The building in 2003

When the fieldwork for the documentation project was undertaken, the building had been empty for over two years. It was unsecured and was being used for housing by many homeless people. Windows were broken, furniture was ruined, and garbage and filth were piled up all over the building interior. By the fall of 2003 all but portions of the two-story section of the bottling plant had been demolished. The windows had all been removed, and the remaining portions of exterior walls were supported for future incorporation into a new housing project.

APPENDIX A

Operations of the plant, as described by Brian French
former Quality Control Manager at the Canada Dry Bottling Plant 1988-1995
(Video-taped interview on site - winter 2002; second interview- September 2003)

Brian French is a chemist, and he was the Quality Control Manager. He inspected the product on and off the line, monitored water, and sanitation of plant and equipment.

[Room numbers refer to field documentation notes]

Room 119: Originally the Maintenance work shop & then used as Power room, with electrical relays. This was an old technology, and the Company tried to keep things going as long as possible to save money.

Room 110: Senior Executive VP of Operations

Room 109A (front): Inventory specialist

Room 109B (back): Plant manager

Room 107C: Kitchen/Chem lab – Quality control manager, and Production Manager had desks here. They built it in 1991, enclosing space from Room 107 B. They removed part of the platform at that time. There is a heat exchanger in the window. The windows were already a mix when he came to work in 1988. (Brian worked here seven years: 1988 - 1995). After 1995, the company moved the bottling down to Springfield, Virginia. They still had the sales here, but no bottling. The plant closed in 1999.

> In this room, they tested to make sure the sodium was correct, performed integrity tests on caps, tested the pressure in bottles (glass bottles, and later plastic bottles – they never used cans here).

Room 112A & B: Production Area (Sugar Room)

They ran two lines: sixteen ounce (or two liter) and ten ounce (or one liter). They ran around the clock, with two shifts and time to sanitize. The sixteen ounce line took five people/shift. They couldn't do two shifts of each line, so they would run two shifts of one line, and one shift on the other (based on order). In the summers, they ran two-ten hour shifts; in the winter, two-eight hour. Sanitizing (once each day) took ninety minutes, with (one) soapy rinse water, (two) caustic solution, and (three) acid solution run through the pipes and anything that touched "the product." They bottled over seventy different products here. Needed ten minutes to flush the lines to change over the product, so they tried to minimize changes to save production time. They mostly didn't bottle the same product twice in the same week. Snapple brought in over 100 flavors. For Snapple, because they had no preservatives, the product path had to be steamed for sanitation, using boilers to get to 185 degrees water and that turned to steam in the pipes under pressure.

Room 101: used for storage of raw materials
Room 102 garage for trucks
Room 103 Delivery trucks came in for their orders to be loaded at night.
Room 105 Warehouse manager
Room 104: ?
Room 106: Raw materials delivery (although if there was a rush, the finished products could also be packed from the loading dock.

General Process:

Raw materials (bottles and extract) were delivered to Room 106. 25,000 gallon tank trucks with CO2 were parked by the building outside of Room 107-110. They piped in the gas directly through a standpipe in the parking lot.

Sugar was delivered in liquid form in trucks (3-4,000 gallons), and piped in through three separate standpipes to three 4,000 gallon sugar tanks in Room 107 A. 107B used for storage. From there, the sugar was pumped into the syrup tanks in Room 113.

Room 113: Syrup room, with mixers. The syrup consisted of sugar + water + extract. This is where the specific flavor was formulated. Product hit mixer (syrup + water), then went into another tank and CO2 was added. Everything was moved overhead through pipes. No refrigeration. Had a cork ceiling that he painted white (at the angle). Stored retainer samples. Door provided needed access to Sugar Room 107. Large wood doors to 106 were kept shut to keep syrup room clean – like an operating room.

Water tanks in Room 114: 10,000 gallons each. They went through 60,000 gallons/day. Added chemicals to settle impurities out of tap water, and then sent it through the sand filter to get those things out, and then through carbon filter to get chlorine out.

From Room 113, the syrup was pumped to Room 112 on demand for the product. The water in the 10,000 gallon tanks in Room 106 used regular tap water. (WSSC supplied the water, and monitored them for waste water which drained into the Anacostia.) They would go through 60,000 gallons of water/day. They added chemicals to clean/purify the water.

The water was sent from the 4 tanks to Room 115A, the Filtration Room. Here, they used the large sand filter tank to clean out the impurities that had been settled out with the chemicals. Sand filters were standard with breweries. Then the water went through a carbon filter to clean out the chlorine. Then the water went through the "polishers." They used ammonia chillers to bring the materials down to thirty-six degrees (in summer, thirty-four degrees in winter). CO2 was used to push things through the lines, which also helped to keep the product fresh. (NB: Nitrogen was used for Hawaiian Punch, and this was problematic since bacteria likes nitrogen).

Bottles were delivered in tall palettes so they had to use ladders to take off the top bottles. The production lines started in the NE corner of Room 106, and ran through Room 118 to the production lines in 112. They were also delivered back this same way – through Room 118 to Room 106 – to be stockpiled as finished product to be pulled for the specific orders. So, they ran

four lines (two in, two out) through 118 (using vertical space to fit everything). Bottles came through in single-file, loaded by hand for the sixteen ounce, but they could use the "depalletizer" for the one-liter bottles. The one-liter bottles were pre-labeled. The sixteen ounce bottles were labeled in Room 112A.

Room 117: Boiler Room. This was reconfigured from a square shape to an oblong shape when the RR tracks were expanded (see 1994 drawing).
Room 116: Originally used for ammonia tanks (note sign), but they moved these outside the building to the area along Blair Mill Road, and moved the pre-chillers into Room 115A, and used Room 116 for two electricity generators and two big compressors.

Room 112B has a large in-floor drain. Bottles were washed here before the product was filled (with regular tap water!). The staff wore boots and got very wet. It was pretty hot and steamy in the summer.

Syrup piped in overhead from syrup room to tile area in 112A that had the Filling Station, and filled there. Sugar eats up concrete, so they used tile (also for sanitation). The product was packed cold to get the pressure right, and then warmed up to fifty degrees by spraying the bottles with warm water just after the filling station in Room 112A. They packed cold to get the pressure right, but warmed up to prevent condensation in the packing cases. There were floor drains under both assembly lines in 112A.

Each bottle had to be date-coded on the bottle cap just after filler. The twelve ounce bottles came pre-labeled, but the Labels for the twelve ounce were put on in 112A, and then packed into cases. The case packer for the twelve ounce was located in the area to the west of the tile Filling Station. Then the cases were sent back through Room 118 to the NE corner of Room 106 to be palletized and stocked, ready for the orders. Packing for sixteen ounce was done in the corner of Room 106 (by 118).

Machinery included de-palletizer, palletizer, case packer, de-packer (? Or set on line by hand? Only the sixteen ounce? Both sixteen and twelve ounce?)

Room 106: Storage for materials. They made 25,000 cases/day (of one liter), and 6-12,000 cases/day of two-liter. (twelve ounce = one liter and sixteen ounce = two liter?)

Completed orders were pulled and stored in 103, and the trucks were packed in there at night. (N.B.: This was one of the innovations of Russell Cory's – to bring the delivery system right into the plant.)

<u>Second floor:</u>

Room 201: Sales storage area
Room 203: Spare parts for Maintenance

Room 205: Storage (WC with 2 urinals and 3 stalls)
Room 206: Sales Storage (Shower and Locker (?) room)
Room 207: Quality Control and Pressure testing (Shower and Locker (?) room)

Room 208: Storage (WC with 2 urinals and 3 stalls)

Catwalk, with solid steel rail at overlook angle: could look down on Room 106 with the incoming materials, and palletized cases.

Room 210: WC, shower
Room 211: Lounge and vending machines
Room 212: Lockers
Room 213: Locker room and WC, shower
Room 214: Lunch room
Room 215:
Room 216:
Room 217: Counted money here when truck drivers came in. The doors weren't locked originally, until someone held them up with a shotgun!
Room 218: Closet, filing room
Room 219: Secure area, with pass through to 217
Room 220: Office Manager
Room 221: Comptroller (Steve Ewing)
Room 222: Assistant Comptroller
Room 223:
Room 224: Main Frame computer (AS 400 Main Frame replaced an earlier one.)
Room 225:
Room 226: Salesman
Room 227: Salesman
Room 228: Computer room and data processing
Room 229: Salesman
Room 230: Salesman
Room 231: Data Processing Manager
Room 232:
Room 233: Salesman
Room 234: Salesman
Room 235: President's Secretary
Room 236: Salesman
Room 237:
Room 238:
Room 239:
Room 240 President

Open area in the Sales space was used for conferences and sales training.

Open area on the Admin. side was for accounts, billing.

Outside: Cooling towers on east side on Blair Mill Road. Parking here too.

Building footings are brick, under the clay tile walls.

Union employees for production and operations

Thirty percent were Hispanic (zero percent Hispanic in Admin)

Population was Production/operations (Union) and Sales (Non-Union).

This was the Baltimore/Washington plant. Richmond had a plant. Baltimore had a warehouse.

They bought franchise rights to sell in certain territories for other drinks besides Canada Dry, including RC Cola (which they couldn't sell in DC, but could sell in Baltimore), Hawaiian Punch (shipped to them in barrels, and they just had to add water and CO2), Snapple.

1990s: $10/hr with $15/hr overtime. Good pay for Manager

The sixteen ounce line took five people/shift.
shifts: two shifts, but only running three lines over two shifts. One line had to be down in the pm for sanitation.

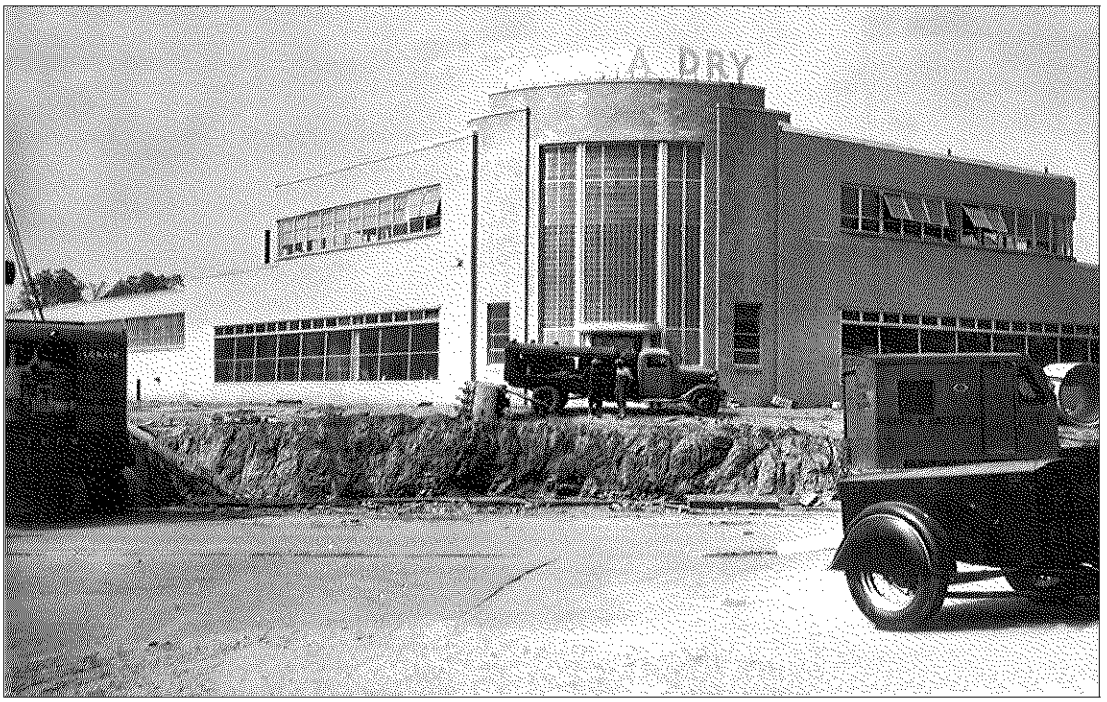
People working at this plant included Production (thirty cards/shift), + Warehouse with their own punch cards + Sales and management = sixty+ people.

WSSC kept watch on them. Their H2O drained to the Anacostia. They had to add caustic to waste water to adjust the ph.

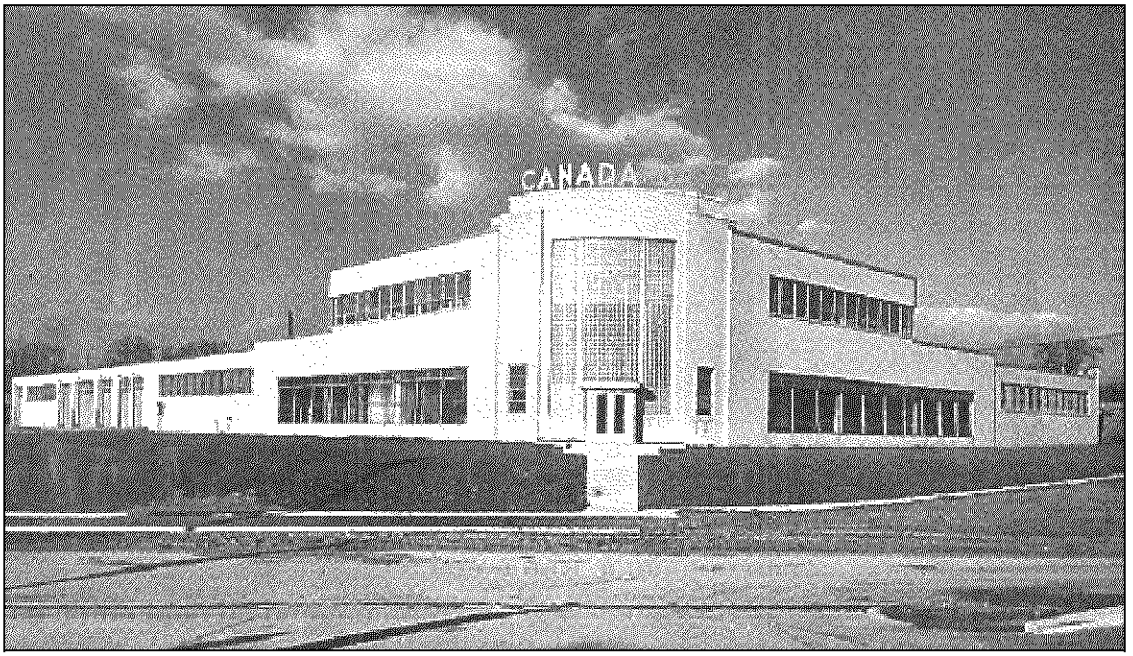
Check: Canada Dry Potomac Corporation, on Port Royal Road, off of Braddock Road in Springfield, VA. (703-321-6100). This was the closest bottling plant, but they stopped bottling operations on Sept 15th! They get their product from Beverage Capital in Baltimore (410-242-7404) now. Also, headquarters at Landover (301-773-5500), and Plant had been owned by the Honickmans – contact New Jersey (856-665-6200).

APPENDIX B

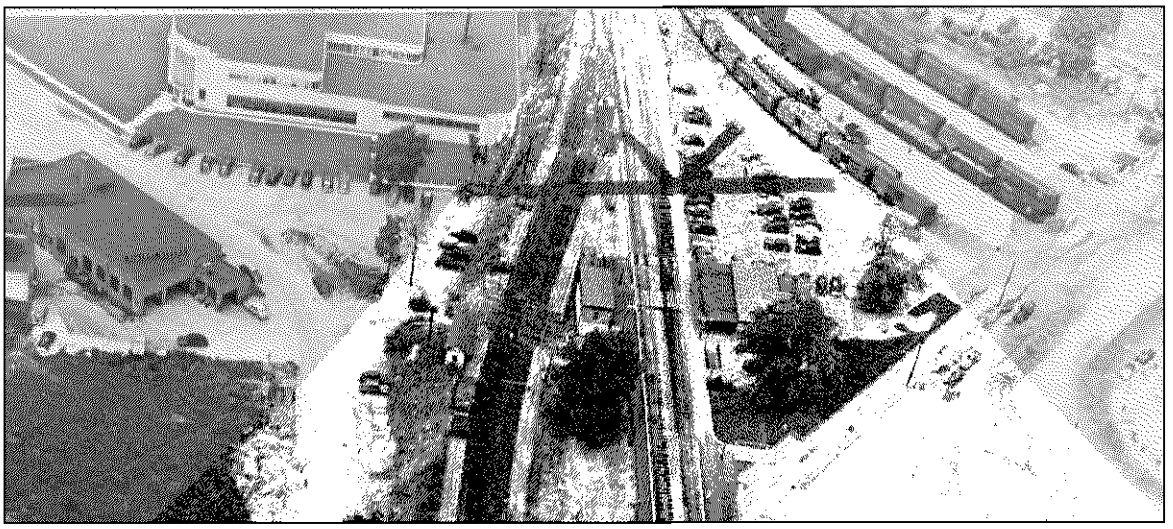
PHOTOGRAPHS



1. Construction photo of the Canada Dry Bottling Plant, Silver Spring, Maryland, ca. 1946. Construction was begun in 1945, and completed in 1946 for warehouse distribution. Bottling production started in 1947. Photo courtesy Silver Spring Historical Society.



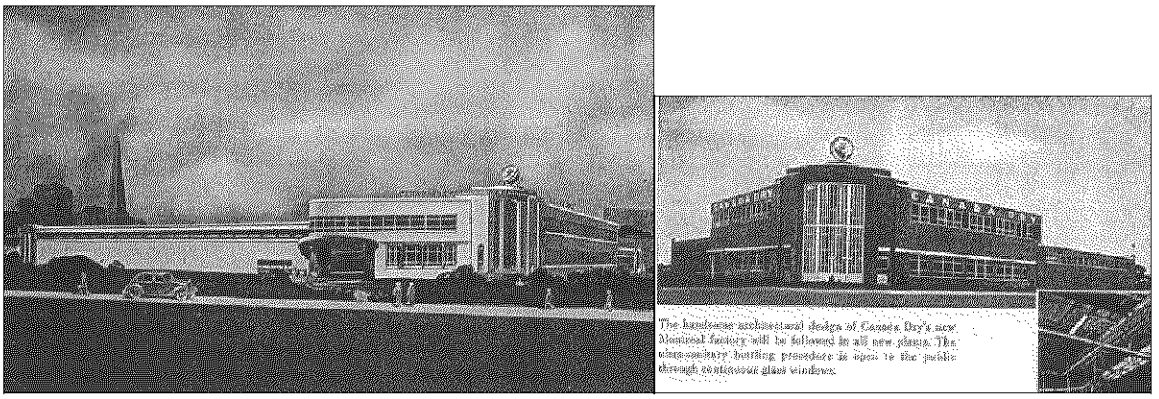
2. Newly constructed Canada Dry Bottling Plant, Silver Spring, Maryland, ca. 1946. Photo courtesy Silver Spring Historical Society.



3. Aerial view of Canada Dry Bottling Plant, looking northwest, ca. 1950. Note original footprint of building and B&O railroad siding before the building was truncated by Metro expansion in the 1970s. Photo courtesy Silver Spring Historical Society.

3. Partial demolition of Canada Dry Bottling Plant, Summer, 2003. The Art Moderne entrance is to be preserved and incorporated into a residential development scheme built by the JBG Companies called Sovereign Row. Field photograph courtesy Corri Jimenez.

APPENDIX C: OTHER KNOWN EXAMPLES OF ART MODERNE CANADA DRY BOTTLING PLANTS



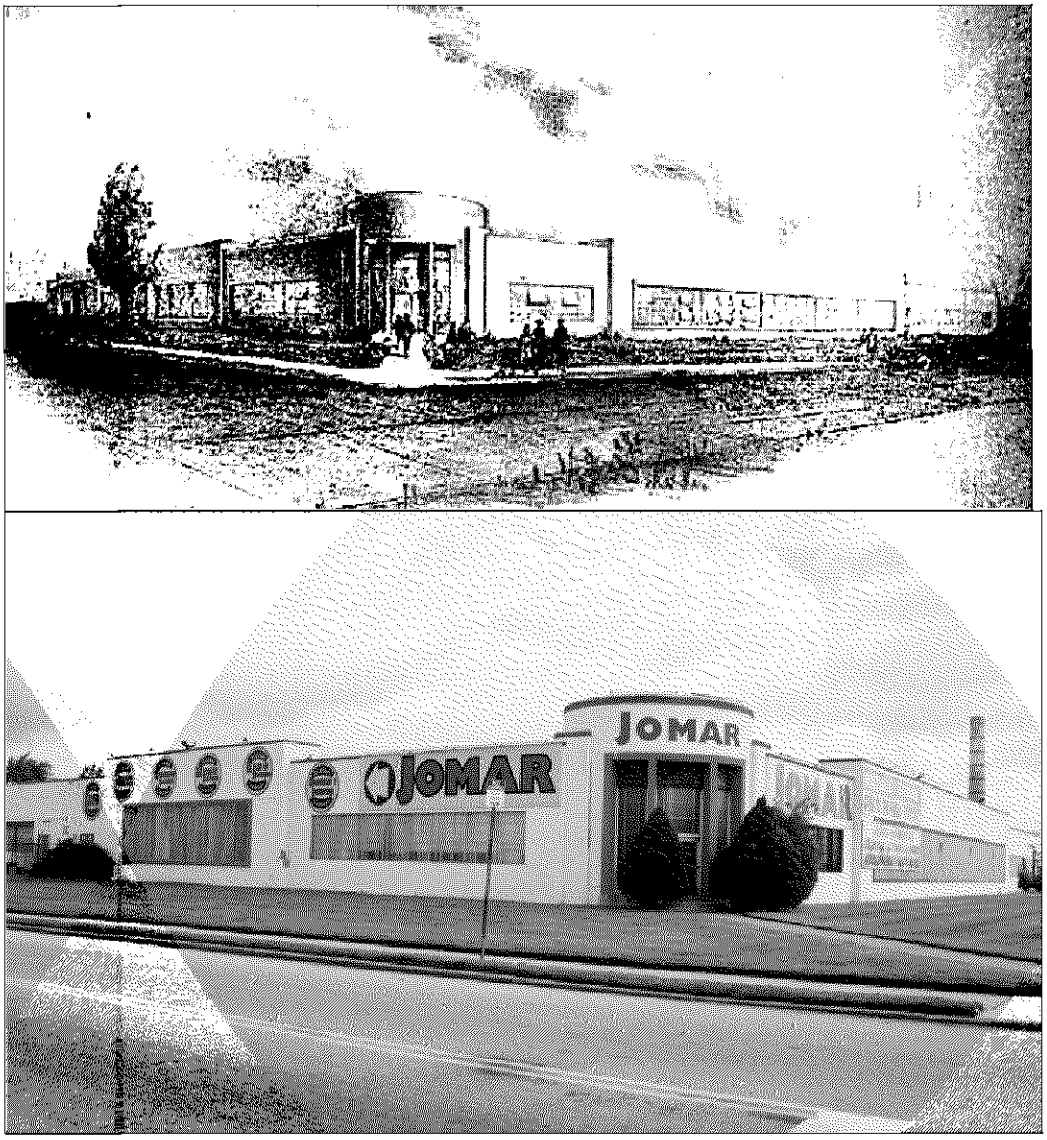
1a. Architect's rendering for the new Canada Dry Bottling Plant in Montréal, Quebec, 1944 (right), and completed building, 1945 (left). Located at 52e Avenue and François Cusson Street in Lachine, the building was completed in 1945. It is likely the first plant completed since Canada Dry's expansion program was announced in 1936. "The handsome architectural design" was to be followed in all new plants.[71]

1b. The Montréal plant has been significantly remodeled. Now the site is the headquarters for CDS Inc: Custom Downstream Systems, a manufacturer of downstream extrusion machinery.[72] Photo courtesy Pauline Desjardins, Archemi.

[71] Canada Dry Ginger Ale Inc. *Annual Report,* 1944, 1945.
[72] Email correspondence between Pauline Desjardins and Christopher H. Marston, June/July 2004. <http://www.cdsmachines.com/> accessed Sept. 1, 2004.

4. Canada Dry Bottling Plant, Havana, Cuba, built ca. 1946. Renamed "Latino Americana" after the property was nationalized, it continues to be used as a bottling plant today. Photo courtesy Eduardo Luis Rodriguez.

5. Former Canada Dry Bottling Plant, 329 Washington Street, East Orange, NJ, ca. 1995. Renovated in 1997, it is now used as a printing office for New Jersey Transit. Photo courtesy Rob Lilley, Manager, Print Graphics, New Jersey Transit.



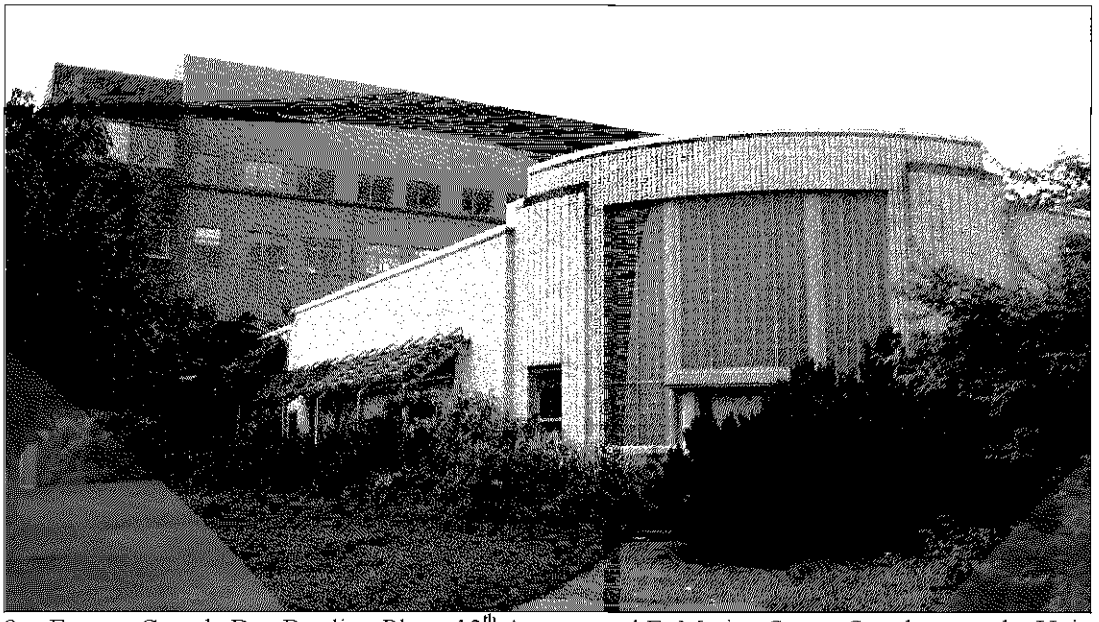
6. Former Canada Dry Bottling Plant, 5300 Whitaker Ave, Philadelphia. Note similarity of sketch above, with the completed plant below, which is still extant. Groundbreaking for the original plant occurred in 1948; production started in 1949, and the plant closed in the early 1990s.[73] The site, vacant since 1994, was cleaned up by the Pennsylvania Dept of Environmental Protection's Land Recycling program in 1996, and sold to Philadelphia Soft Pretzels, Inc. However two years later Jo-mar Inc. leased the building for its discount fabric warehouse.[74] Photo courtesy Christopher H. Marston.

[73] "Canada Dry Building its Largest Plant," *National Bottlers' Gazette*, May 1948.
[74] "Soft pretzel maker to relocate, expand," Philadelphia *Business Journal* (Feb 23 1998); http://www.dep.state.pa.us/dep/deputate/polycomm/update/04-03-98/040398u9.htm; "Industry Wrapups," *Philadelphia Business Journal* (Feb 21, 2000).

5. Former Canada Dry Bottling Plant, 15004 Third Avenue, Highland Park, Michigan. Construction began in 1945, warehouse/distribution was ready in 1946, and production started 1947. Now the Detroit City Dairy. Photo courtesy Bode Morin, Detroit Historical Museums.

6. Former Canada Dry Bottling Plant, 3530 E 28th St Minneapolis, MN. Construction began in 1945, warehouse/distribution was ready in 1947, and production started 1948. Currently occupied by Barr Webb Industries, a kitchen and bathroom contractor. Photo courtesy Robert C. Mack, MacDonald & Mack Architects, Ltd.

7. Former Canada Dry Bottling Plant, Portland, Oregon, ca. 1990 (See HAER No. OR-137). Glenn Stanton was the local architect. Construction began in 1945, and was completed in 1947. The building has since been renovated into the Davis Business Center, a "unique facility that provides office space and warehouse/storage space with an extensive line of administrative services."[75] Photo courtesy Jerry McCoy, Silver Spring Historical Society.



8. Former Canada Dry Bottling Plant, 12th Avenue and E. Marion Street, Seattle, now the University Services Building at Seattle University. George W. Stoddard was the local architect. Construction began in 1945, warehouse/distribution was ready in 1946, and production started 1947. Purchased and renovated by the university in 1964, it was remodeled again in 1987. The building has been reoriented to the campus. The former lobby space has been converted to offices for financial aid and the original bottling/warehouse area is now the campus bookstore near the new entrance. Photo and site information courtesy Mimi Sheridan.[76]

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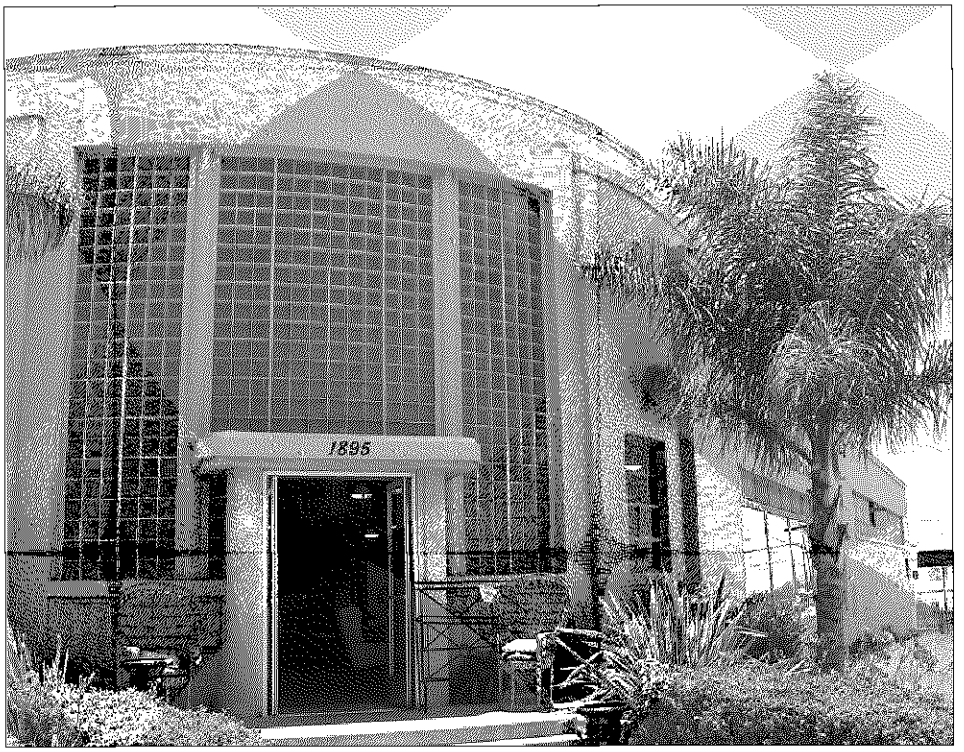
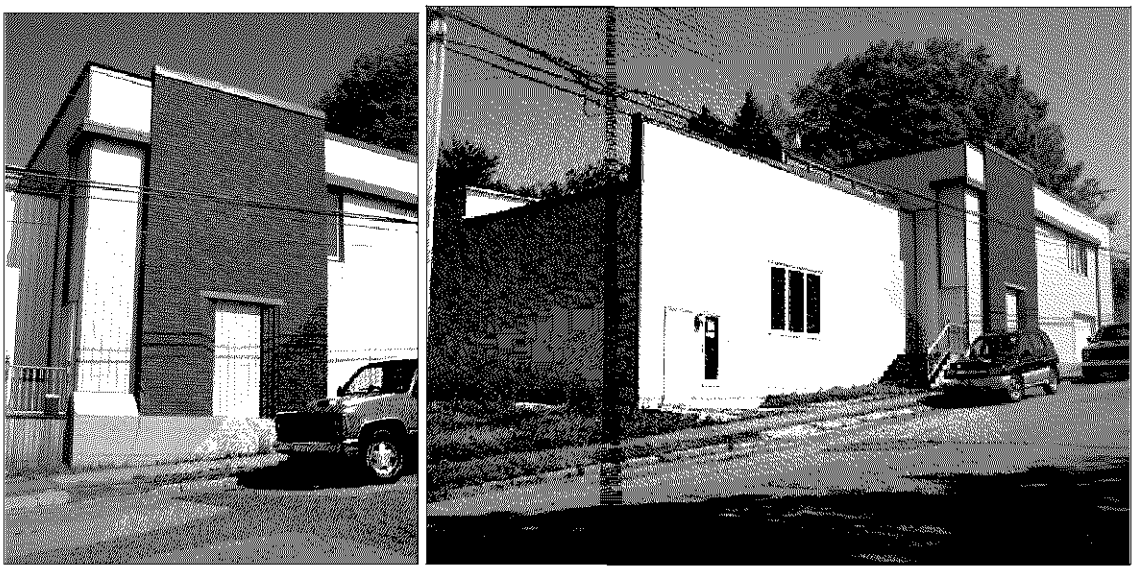
[75] "Davis Business Center," <http://dbc.uswestdex.com/dbc/Page1.html> accessed May 4, 2004.
[76] Email correspondence between Mimi Sheridan and Christopher H. Marston, June 2004.

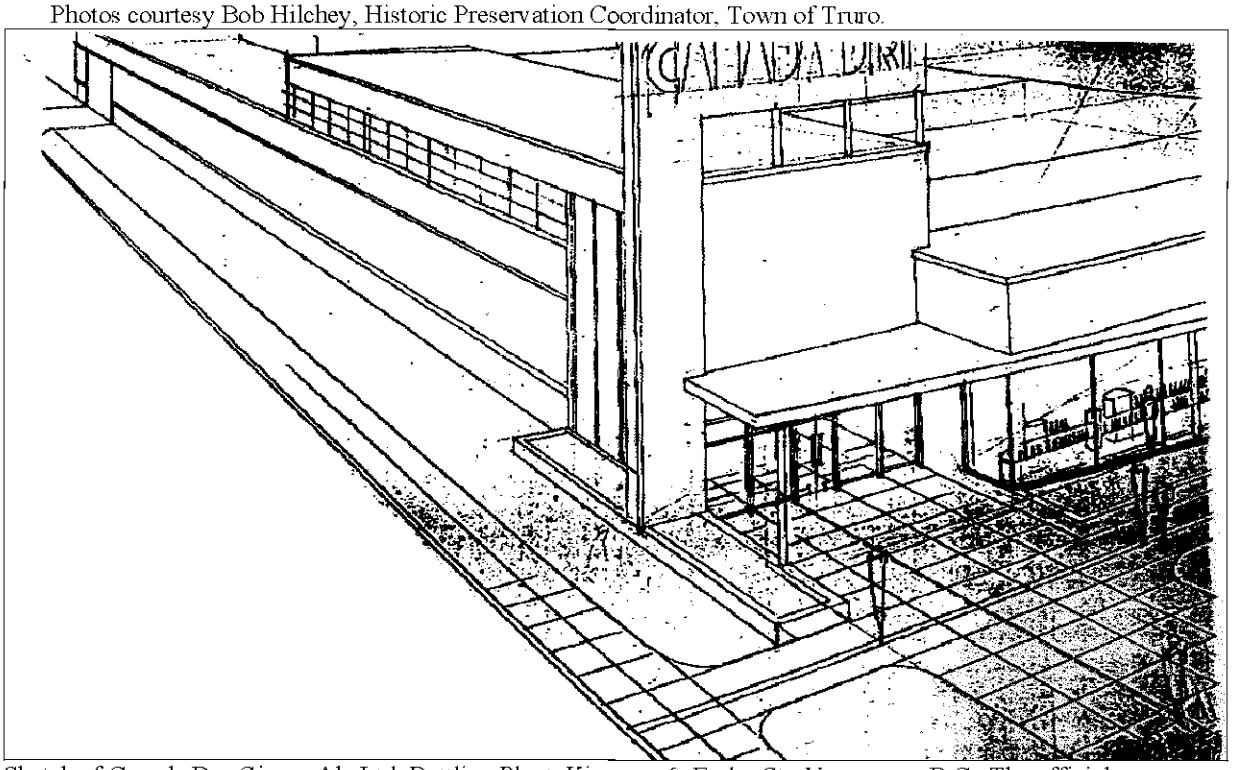


9. Former Canada Dry Bottling Plant, 1895 Hancock Street, San Diego, CA. Construction began in 1945, was used for warehouse/distribution in 1947, and production started 1949. Now a Consignment Classics furniture store. Photo courtesy Sandé Lollis.

10. This structure seems to be a remnant of a former Canada Dry Bottling Plant in Cleveland, OH, located at Payne Avenue & East 40th Street, now Bobby's Deli. Photo courtesy Carol Poh Miller.



11. Former Canada Dry Bottling Plant, 69 Wood Street, Truro, Nova Scotia. Construction began in 1948, and was completed in 1949. Now owned by Flexographic Ltd, it appears to be an adaptation of the Cory design. A glass brick wall still exists under the aluminum panels to the right of the recessed brick doorway. Photos courtesy Bob Hilchey, Historic Preservation Coordinator, Town of Truro.



12. Sketch of Canada Dry Ginger Ale Ltd. Bottling Plant, Kingway & Earles St., Vancouver, B.C. The official architect is listed as McCarter Nairne & Partners. Construction began in 1947; completion dates vary from 1948 to 1951, with additional work in 1953-55.[77] The ribbon windows on the second floor and the horizontal lines evoke Cory's original design. Image courtesy Linda Fraser, Canadian Architectural Archives, University of Calgary.

[77] Email correspondence between Linda Fraser, Diane Switzer, and Christopher H. Marston, August 2004.

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