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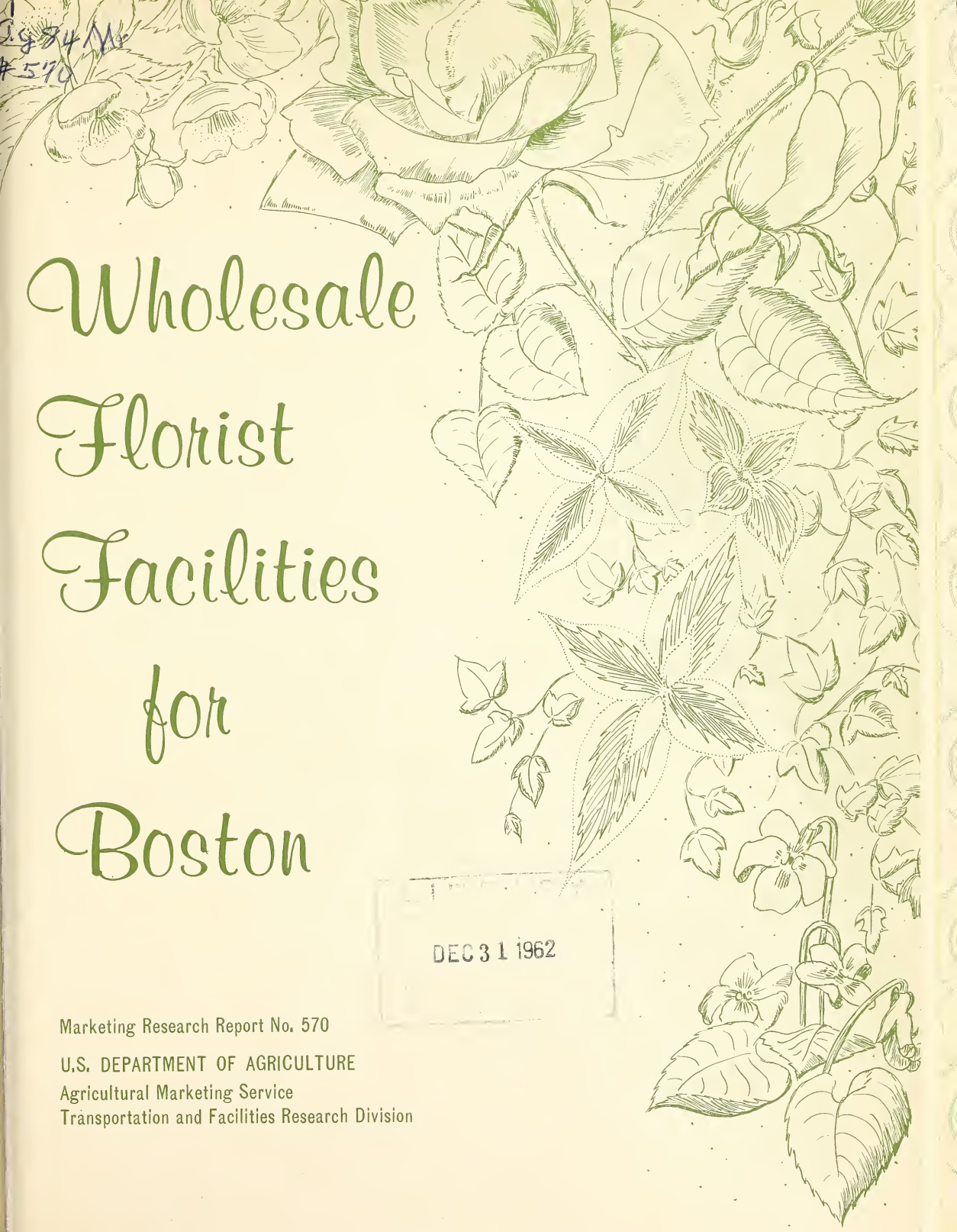
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Wholesale Florist Facilities for Boston

DEC 31 1962

Marketing Research Report No. 570
U.S. DEPARTMENT OF AGRICULTURE
Agricultural Marketing Service
Transportation and Facilities Research Division



PREFACE

This study was initiated in the fall of 1960 at the request of the Board of Directors of the Boston Flower Exchange, Incorporated. The United States Department of Agriculture was asked to provide assistance and guidance with some of the problems encountered by the Exchange in its present facilities and location. The Boston Redevelopment Authority was studying the area in relation to a proposed redevelopment program. For this reason, it was decided to expand the study to include the entire Boston wholesale florist industry.

Data in this report were obtained from the management of the Boston Flower Exchange Inc., and from the wholesale florist and florist supply firms composing the Boston wholesale florist market.

This report was prepared under the general supervision of William C. Crow, Director, Transportation and Facilities Research Division, and is part of a broad program to aid in holding down costs of marketing farm products.

Washington, D. C.

December 1962

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WHOLESALE FLORIST FACILITIES FOR BOSTON

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SUMMARY

Boston has become one of the leading florist markets in the East, largely because of its location in one of the major flower production areas of the Nation. The climate is well suited to production of cut flowers, and there is a traditional interest in flower growing. The city is not only abundantly supplied by local production, but cut flowers are shipped in from all parts of the United States and from some foreign countries. The present Boston florist market consists of the Boston Flower Exchange, Inc., and 15 independent wholesale firms, occupying a total of 178,300 square feet in 15 buildings.

The market serves the Boston metropolitan area through 300 retail florists. In addition, it serves the entire New England area; the Eastern United States from the Great Lakes to the Mississippi; south to upper Florida, and occasionally points farther west; and eastern Canada. The 1959 national annual wholesale value of floricultural products is about \$240 million; the Boston wholesale florist market alone handles about \$8 million worth of floricultural products and supplies a year.

If the present urban renewal plans of the Boston Redevelopment Authority force the florist market to relocate, the market would have an opportunity to build better facilities. One possible method--the method described in this report--would be relocation in a new wholesale florist center. In this case, facilities for the Exchange and the independent wholesale firms would require about 15 acres. Plans proposed in this report provide 50,414 square feet of building and platform for the Exchange; six multiple-occupancy units of 5,000 square feet each; three multiple-occupancy units of 10,000 square feet each; and three multiple-occupancy units of 20,000 square feet each. Three small florist firms could be located in the Exchange. All units should have rear platforms 36 inches high, adequate parking areas, open stalls, and wide streets to reduce loading, unloading, and congestion problems.

The facilities suggested would cost about \$1,857,000; the cost of the land for the project would be about \$600,000. The total investment cost in a Boston Wholesale Florist Center would be about \$2.5 million. Such a center might be built on redevelopment land, or at Columbia Circle, or in Woburn Township, near route 128. Other sites are also possible.

There are several ways to finance a wholesale florist center. It was assumed in this report that, because of the possibility of condemnation of the present market area, equity capital would be available. A first mortgage of 65 percent of the investment in land and facilities was assumed over and above equity capital. With this assumption, the annual rental of the facilities necessary to cover operating costs, insurance, and debt service would be: The Boston Flower Exchange, \$1.40 per square foot; florist firms (which primarily handle floricultural products) and florist supply firms (which primarily handle florist pottery, boxes, wire, and the like), \$1.57 per square foot, and combination firms (which handle both floricultural products and florist supplies), \$1.58 per square foot.

Benefits accruing from such a new wholesale florist center to the local florist industry and the city of Boston would be greater ease in handling stock, reduced parking and congestion problems, and facilities which could bring prestige to the city and the entire florist industry.

HISTORY OF THE BOSTON FLORIST MARKET 1/

New England, since early colonial days, has been one of the leading flower production areas in the country. One of the first greenhouses in the United States was built in Boston early in the 18th century. These early greenhouses were of simple construction; the glass covering was in the form of removable sashes. They were heated by a wood-burning stove. By mid-19th-century, with the addition of steam boilers in the greenhouses to extend the naturally favorable growing conditions, the national florist industry began a rapid and steady growth. The New England area, and particularly, the area around Boston, favored by long summer days and a cool, moist climate, shared in this growth.

During the early 1870's, growers arrived in the city at an early hour with their boxes of flowers. They lined up at the various retail outlets, awaiting the arrival of the owner, to display and sell their flowers. The days generally reserved by the grower for the marketing of cut flowers were Monday, Wednesday, and Friday--a tradition which has continued to the present time.

The first flower market facility in Boston was the Museum Exchange Restaurant and Bar, at 21 Tremont Street. This famous establishment, since demolished, was a gathering place for members of the florist trade. Its marble-topped tables were excellent for floral display and sales.

As the industry continued to grow, a group of growers, in July 1892, formed the Boston Cooperative Flower Growers' Association, whose membership was limited to those owning and operating greenhouses. The Association's first facilities were in the basement of the Horticultural Building, across from the Common on Tremont Street. The store was divided into 65 spaces; each stall averaged 9 square feet. The location for each grower was determined by auction; the first choice of location went to the highest bidder. The bid was divided by 12, and added to the basic monthly rental.

1/ Adopted from Peirce, E. Allan. Constitution and By-Laws of the Boston Flower Exchange, Inc., with a Historical Sketch. 22 pp., illus. Boston. n. d.

The wholesale commission firm began to grow during the turn of the century. In the Boston area, only a limited quantity of cut flowers and potted plants was available for such dealers to sell on consignment. They generally sold to areas which could not be readily served by the growers' market. The commission firms sold florist supplies, such as ribbon, florist wire, and pottery; these items were not generally available at the association market.

In 1904, salesmen first began to appear in the Exchange. These men represented more than one grower and sold on commission; they freed the growers from having to come to the market. Also during this period, the first stall was leased to a firm for the sale of florist supplies. In 1910, the Boston Flower Growers' Association was liquidated, and the Boston Flower Exchange was incorporated.

In 1921, the trustees of the building which housed the Boston Flower Exchange refused to renew the lease without a substantial increase. It was decided to seek new quarters and combine in one location what had evolved into a scattered market. This was accomplished by the purchase of the Cyclorama Building, at 539 Tremont Street. This building was originally built for exhibition of a painting depicting a scene from the Battle of Gettysburg. In January 1923, the combined growers' markets opened in their present location. The cost of the building was \$170,000. The addition of a refrigeration plant and furniture, brought the total to \$340,000. In 1949, a rear addition to the old building (for about \$130,000) furnished additional booth space and a receiving and shipping platform.

Since the location of the Exchange building on Tremont Street, the area has become the hub of the Boston florist industry. Today, with one exception, all wholesale florist and florist supply firms in the Boston area surround the Exchange building.

FLORICULTURE IN NEW ENGLAND

The Horticultural Specialities Census of 1959 defines the commercial grower as "those establishments with sales in excess of \$2,000" in 1959. ^{2/} There were, at that time, 1,185 such commercial growers producing cut flowers, flowering and foliage plants, and cultivated greens in New England. The wholesale value of the floriculture products from this area was \$21,766,122. Sixty-eight percent, or \$14,803,131, was from cut-flower sales; the remainder, \$6,962,991, was from either flowering or foliage plants, or cultivated greens. The wholesale value in New England accounts for about 9 percent of the total wholesale value for the United States, which was \$239,887,506. The wholesale value of cut flowers, potted plants, and florist greens in New England, by States, is in figure 1. Massachusetts leads New England in the production of horticultural specialties. The sales value in Massachusetts for these items

^{2/} The 1949 Horticultural Specialties Census defined commercial growers as establishments with sales of more than \$1,000. 1959 Special Census of Horticultural Specialties. Preliminary: 48 State Summary; Massachusetts; Connecticut; Rhode Island; New Hampshire; Maine; Vermont. U.S. Bur. Census 1960.

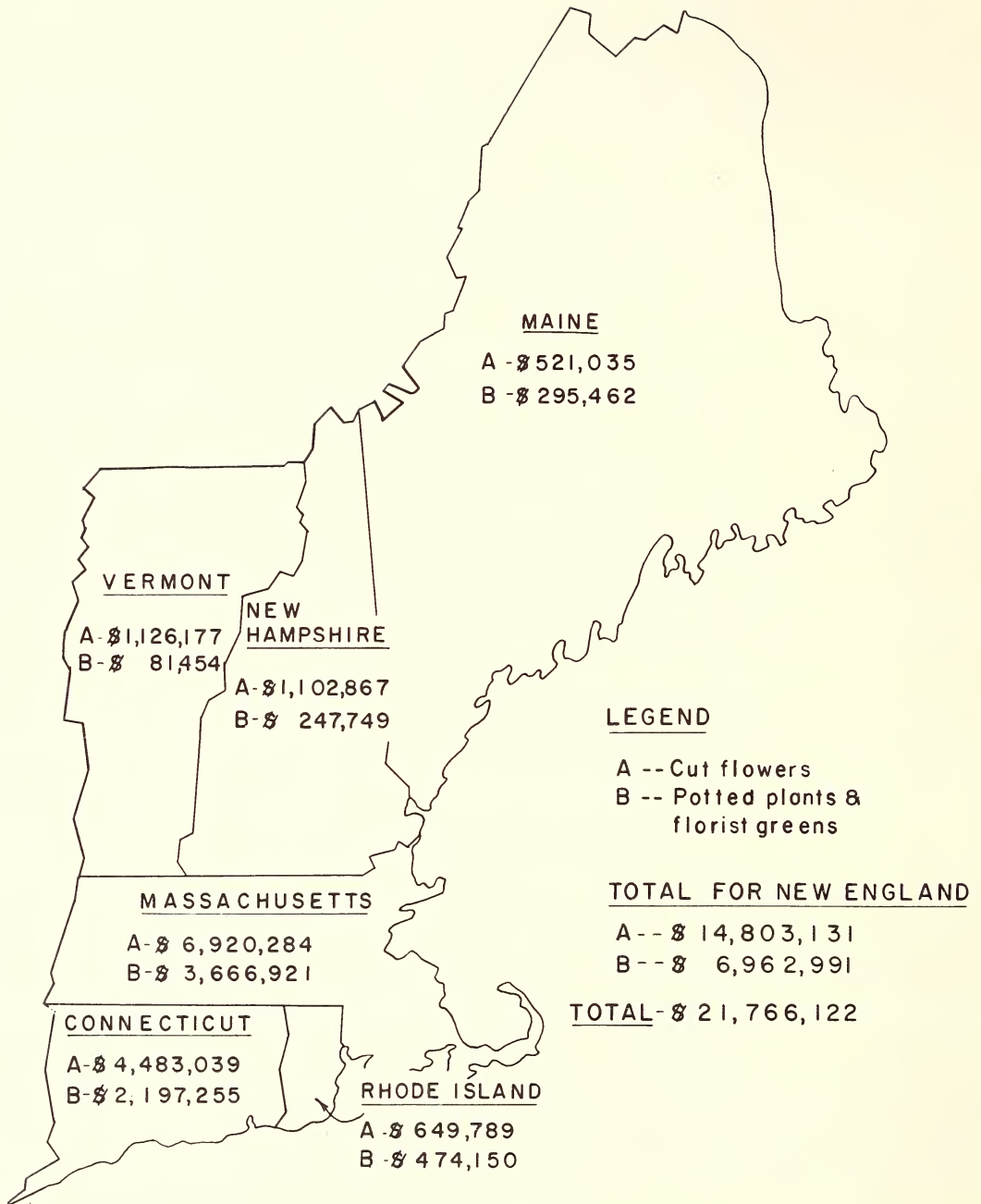


Figure 1.--Wholesale value of production of cut flowers, and potted plants, and florist greens in New England, 1959.

was about \$15 million. Much of this merchandise was grown in the 10 million square feet of greenhouse area; the rest is from the large acreage devoted to field-grown horticultural crops. A total of 1,042 farms produced horticultural specialties.

The Boston florist market alone handles approximately \$8 million worth of floricultural products and florist supplies.

THE BOSTON FLORIST MARKET

The Boston market not only serves New England, but also areas in the Eastern United States from the Great Lakes to the Mississippi, south to upper Florida, and points in Eastern Canada. Distant locations are generally served by air; closer locations are served by bus or jobber-peddlers.

Locally, the market serves the Boston metropolitan area, which has over 2.5 million people. The locations, within the area, of approximately 300 retail florists are shown in figure 2. Local florists come directly to the market to make their purchases. While there is an occasional delivery to retail florists, for a nominal fee, the general practice is for them to shop the market. It is necessary for large areas to be devoted to display, because this caters to impulse buying.

The Boston florist market area is bounded on the north by Appleton Street, on the east by Berkeley Street, on the south by Shawmut Street, and on the west by Dartmouth Street. The market consists of the Boston Flower Exchange, Inc., and 15 independent wholesale florists and florist supply firms. The locations of these firms within the area are shown in figure 3.

The Boston Flower Exchange

The Boston Flower Exchange, Inc., is the only major florist marketing facility in the Eastern United States wholly owned and operated by florist growers. The cooperative association, which operates the Exchange through its nine-member board of directors, is comprised of 250 grower-stockholders. The Boston Flower Exchange, as owner of the building, derives income from renting space to flower growers, salesmen, and two firms located in the basement of the building.

As mentioned earlier, the present facilities were occupied by the growers in 1923, at an initial cost of \$343,000. The Exchange Building, at 539 Tremont Street, has a 135-foot frontage on that street, and extends 220 feet through to Warren Street. On one side is a florist firm, and on the other side a motion-picture theater. The two-story building contains about 30,000 square feet on each floor. The first floor is maintained for the operations of the Exchange. The main selling floor is covered by a 120-foot "unsupported skylight dome" (fig. 4A), reported to be the third largest of this type in the world. The dome supplies natural light for display of cut flowers and potted plants. Behind the main selling floor, an addition provides more booth selling area, and a rear loading platform. The platform (fig. 4B), is 36 inches high and has a power conveyor for moving merchandise to the selling floor.

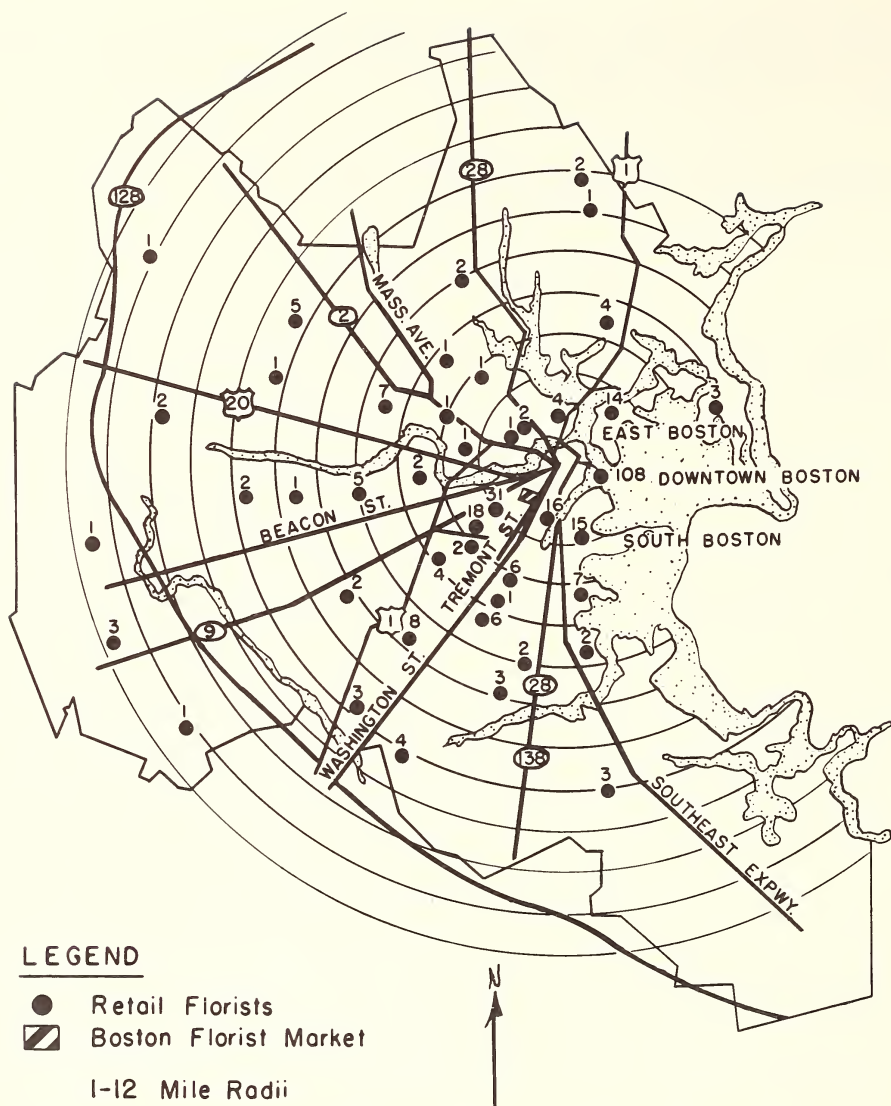


Figure 2.--Location of retail florist firms in the Boston metropolitan area.

The basement of the Exchange building is rented to two independent wholesale "florist and florist supply" firms. The larger of the two firms occupies 20,000 square feet; the other, 10,000 square feet. Both firms handle cut flowers and supplies and are not subject to the selling floor regulations of the Exchange.

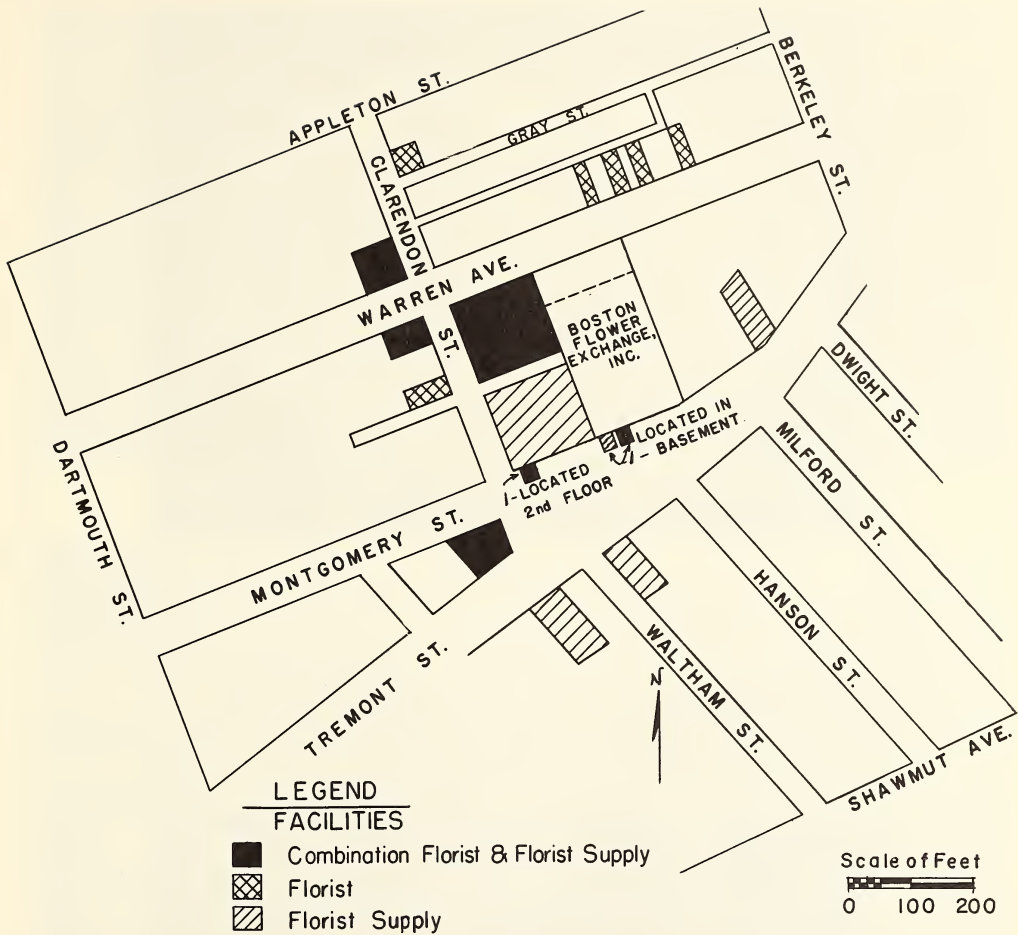
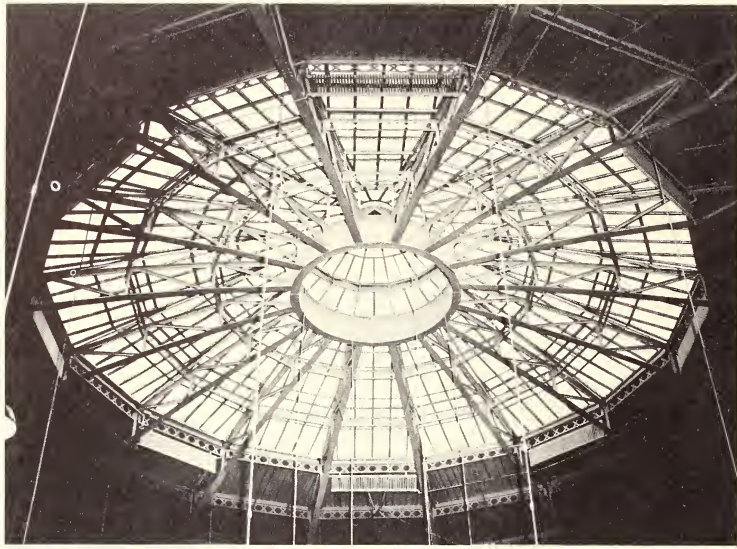


Figure 3.--Location of wholesale florist and florist supply firms in the Boston florist market.

An office for the management of the Exchange, with a board meeting room above, is at the front entrance to the selling floor. A restaurant in the building provides food and market traders use it as a clearinghouse for market information.

The Exchange employs a manager, an assistant manager, four maintenance-watchmen, a secretary, and a switchboard operator. The market remains open 24 hours a day for growers to bring in floral products. The market management also provides 24 four-wheel handtrucks to carry bulky or hard-to-handle merchandise. Sales hours are from 6:45 a.m. to noon, except before major flower holidays, 3/ when specific hours are posted.

3/ Major flower holidays are: Valentine's Day, Easter, Mother's Day, Memorial Day, Labor Day, Thanksgiving, and Christmas.



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Figure 4 (A).--The skylight dome of the Boston Flower Exchange, Inc.
(B).--The rear platform of the Boston Flower Exchange, Inc.

Two public coolers, containing a total of 2,400 square feet, are provided by the Exchange for stall holders. Generally, no charge is made for use of the coolers, except during the summer, when \$.25 per can is charged for overnight storage.



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Figure 5 (A).--The selling floor of the Exchange during busy selling hours.
 (B).--The selling floor of the Exchange before closing for the day.

Telephone service is provided by the market switchboard, in addition to telephone booths in strategic areas on the Exchange floor. Many growers and salesmen have installed private lines.

The main selling floor of the Exchange (figs. 5A and 5B) has rows of florist tables, and individual booths along the walls. These florist tables are 48 inches wide and 30 inches high; they vary in length. A stall consists of a 4- by 4-foot section of a table. Occupancy of these stalls is based on one-half stall for each 10,000 square feet of glass 4/ or outdoor production

4/ "Glass" is the common trade term for greenhouse.

area, or one full stall for growers with 20,000 square feet of ground or glass. The current base rental is \$9.20 for half a stall, or \$15.20 for a full stall.

The booths along the walls of the Exchange normally contain an office, cooler, and a selling area. Refrigeration is provided and maintained by the lessee, and is not the responsibility of the market. These booths are leased to growers or salesmen, and may not be transferred without prior approval of the Exchange Board.

There are about 40 sales agents operating in the Exchange. These people generally represent two or more growers, and occupy the growers' spaces on the selling floor. When a member grower employs a salesman, he pays commission charges of about 15 percent, which is generally less than that charged by other nonmember commission firms in the market. Sales through the Exchange in 1960 were about \$5 million. Cut flowers, potted plants, and florist supplies were also sold by various members directly from their greenhouses and warehouses. Such sales are not included in the Exchange volume.

During peak preholiday periods, there will often be as many as 600 buyers and 200 growers using the Exchange. During an average market day, 200 to 250 buyers, and 100 growers or salesmen use the Exchange facilities. The heaviest marketing days are Monday, Wednesday, and Friday. Peak periods occur between 8 and 10 a.m., and gradually subside until the noon closing time.

A brisk shipping business is done by Exchange members. Between 50 and 60 percent of the carnations handled through the Exchange are shipped to distant points; 10 percent of the roses and chrysanthemums are shipped on consignment. Cartage is provided to the airport or bus terminal by a private company, which charges 50 cents for the first box and 25 cents for each additional box.

Wholesale Florist Firms and Florist Supply Firms

The 15 wholesale florist and florist supply firms in the Boston florist market have grown steadily, and provide a necessary adjunct to the Exchange. They handle cut flowers from New England and other production areas as well as a complete line of florist supplies.

The wholesale florist and florist supply firms are classified by the square feet used and by the type of merchandise handled. For purposes of further discussion, the firms are categorized as: (1) Florist firms, (2) florist supply firms, and (3) large combination firms which handle cut flowers, potted plants, and florist supplies.

Florist Firms

Six florist firms handle cut flowers, potted plants, florist greens, and a limited line of florist supplies. These firms are on Warren Avenue at the rear of the Exchange or on Clarendon Street. The firms along Warren Avenue face the rear loading platform of the Flower Exchange building. At times, congestion results when semitrailers are being loaded or unloaded. These stores lack facilities for unloading or loading, except sidewalks; entrance is

through the front door only. The selling area is on the first floor of modified row residential buildings. The upper stories are rented as furnished rooms. The firms along Clarendon Street are in remodeled buildings, and use the upper floors for general storage.

Half the firms have coolers for holding merchandise. The interiors of these stores contain standard florist benches of varying lengths that are used for arranging, assembly, and display of cut flowers. For additional space, and to attract buyers, a sidewalk display in front of the store is often used.

Cut flowers, potted plants, and florist greens are generally sold on consignment by these firms, with commission charges ranging from 17.5 to 25 percent (generally the higher figure is for field-grown crops). As shown in table 1, these six florist firms occupy a total of 41,400 square feet of space, or an average of 6,900 square feet per firm. Some of the buildings used by these firms are shown in figure 6.

Table 1.--Space occupied by the Boston Flower Exchange, florist, and florist supply firms, 1961

Firms	Number	Average space	Total space used
		<u>Square feet</u>	<u>Square feet</u>
Boston Flower Exchange...	1	--	30,000
Florist.....	6	6,900	41,400
Florist supply.....	5	5,080	25,400
Large combination.....	4	20,375	81,500
Total or average...	16	11,144	178,300

Florist Supply Firms

Five wholesale florist supply firms primarily handle supply items, such as pottery, ribbons and baskets; although before major holidays or during peak periods, they may handle limited amounts of cut flowers or potted plants. Four firms are on Tremont Street within a block of the Exchange; the other is in the rear of the basement of the Exchange. Many buildings used by these firms were not designed for florist suppliers, and cannot be used efficiently. The upper stories are served by stairways or slow freight elevators. This situation has resulted in a constant competition for first-floor space, resulting in poor display of merchandise. Again, most of these firms use the sidewalk and the front door for shipping and receiving.

The merchandise handled by these firms is purchased in quantity, directly from the manufacturer; because of this, much of the merchandise is stored, for varying periods. The five florist supply firms occupy a total of 25,400 square feet, or an average of 5,080 square feet per firm (table 1).



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Figure 6.--View of wholesale florist firms at rear of the Boston Flower Exchange.

Combination Firms

The combination firms handle complete lines of cut flowers, potted plants, florist greens, and florist supplies. These firms normally purchase supplies from manufacturers, and sell cut flowers on consignment.

Three firms are on Clarendon Avenue, and one is in the basement of the Flower Exchange building. Except for the latter firm, all use multistory buildings that have stairs or slow freight elevators. Two firms have more than one building in the market area. The first floor of the buildings is for sales and display, and the upper floors for storage. Generally, sales areas are so crowded that proper display of merchandise is impossible.

Some firms have inefficient offstreet unloading facilities; other firms use the street and sidewalks for deliveries. Two unloading facilities are shown in figures 7A and 7B. As shown in table 1, these firms occupy 81,500 square feet, or an average of 20,375 square feet per firm.



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Figure 7 (A) and (B).--Views of different types of unloading facilities used by combination florist and florist supply firms.

Operations

The Boston Flower Exchange and the 15 independent wholesale florist and florist supply firms occupy a total of 178,300 square feet: 4,000 square feet for offices; 2,000 for platforms; 84,300 (9,300 of it refrigerated), for storage display, and sales of cut flowers; 6,000 for potted plants and florist greens; and 82,000 for florist supplies.

Cut flowers and potted plants handled through the Exchange are either sold by the growers or by a salesman who may represent and charge commission to several growers. The cut flowers and potted plants now sold on the Exchange floor are limited to those produced in New England and shipped directly to the Exchange.

The cut flowers and potted plants sold through wholesale florist firms are generally sold on consignment. However, there are exceptions where title is taken to the merchandise; this is the case with imports and some shipments from the West Coast, or during periods of shortage. Cut flowers are received from California, Florida, the Carolinas, Virginia, Pennsylvania, New York, and other States. Some local production comes to the independent firms, because the grower may not have sufficient quantity to sell otherwise, or may not be a member of the Exchange. These firms, as part of their marketing function, sort, grade, trim, and harden 5/ cut flowers after their arrival in the store.

The florist supply firms generally take title to their merchandise which consists, in part, of florist pottery, vases, garden supplies, wedding supplies, artificial flowers, ribbons, and the like. Occasionally there is some consignment selling by these firms. Many florist supply firms need to maintain a rather large inventory of seasonal items which increase storage problems. One of the large combination firms maintains a mail-order business that serves the entire East Coast.

INADEQUACIES OF FACILITIES AND OPERATIONS

The majority of the wholesale firms in the Boston florist market are operating in inadequate facilities. These outmoded, inefficient, multistory structures encourage makeshift operations which are accepted only for proximity to the Exchange. Some firms rent the upper floors of these facilities as residential rooms while others use them for supply storage. Stairways or slow freight elevators make the handling of merchandise difficult and expensive. The handling and display of cut flowers and potted plants are hampered in many wholesale stores, because of the lack of display area. Many firms, weather permitting, use the sidewalks for display of their merchandise.

Because this is a "shoppers" market, many firms have up to 200 customers daily; as a result, the display area for merchandise is crowded. There is constant competition for space on the first floor between items to be stored and items on display. Displays of merchandise are shown in figures 8A and 8B.

5/ Placing of cut flowers in tepid water (110°F.) to remove the oxygen from the flowers.



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Figure 8 (A) and (B).--Examples of how cut flowers and florist supplies are displayed in present facilities.

Shopping by buyers creates another problem; Lack of adequate parking in the area. The market is in a low-income residential area, where residents compete with growers, salespeople, and buyers for the limited parking space available. The delay encountered in locating parking space encourages the buyer to delay his trip to the market. Dealers often find unloading or loading facilities inaccessible because of parking or congestion.

Congestion in the market is serious during the early morning hours, especially before major flower holidays, or when even one large semitrailer may be unloading. This problem is particularly noticeable on Warren Avenue behind the Exchange. Loading and unloading at any one door can block all traffic.

Most firms lack sufficient refrigerated storage to hold cut flowers for any length of time. As a result, rapid spoilage and deterioration force the sale of certain items at distressed prices, with a poor return to the grower. If the present plans of the Boston Redevelopment Authority for the area are accomplished and the present florist facilities are displaced, an effective plan for their replacement will be needed.

FACILITIES NEEDED FOR A WHOLESALE FLORIST CENTER

Five basic principles for the satisfactory development of a wholesale florist center are:

- Suitable building design.
- Proper arrangement and grouping of facilities.
- Adequate planning for present and future needs.
- Satisfactory location.
- Reasonable cost.

The kind and amount of facilities planned are based on the estimated volume of business, general requirements of various firms, and on the operations of the market. The various sizes and operations of the firms in the market dictate the type of facilities required. This report assumes that the Boston Flower Exchange and 15 wholesale florist and florist supply firms would be relocated in a wholesale florist center. The Boston Flower Exchange would require 46,452 square feet. Three small florist firms could be relocated in the new Exchange. Each of six firms would require facilities containing 5,000 square feet; three would require 10,000 square feet; and three would need 20,000 square feet each. This space provides each facility with refrigeration ^{6/} shipping and receiving, display and sales areas. In order to maintain quality, proper control of temperature and humidity in the various areas of the stores is critical. Sufficient parking should be provided for 330 commercial and purchasers' vehicles.

^{6/} Wright, R. C., Rose, Dean H., and Whiteman, T. M. The Commercial Storage of Fruits, Vegetables, and Florist and Nursery Stocks. U. S. Dept. Agr. Handb. 66, 77 pp. Sept., 1954; and Post, Kenneth, and Fischer, C. W., Jr. Commercial Storage of Cut Flowers. N. Y. (Cornell) Ext. Bul. 853, 14 pp., illus. 1952. While not applicable to the proposed Boston florist market, any other florist market planners should note the cautions in these publications about the harmful effects to floral products of ethylene gas emanating from fruit or other source.

Boston Flower Exchange

The building proposed for the Boston Flower Exchange would contain 46,452 square feet and have a 2,058-square foot rear covered platform (fig. 9, center spread, pp. 24 and 25). This building, 147 by 316 feet, should have a 20-foot ceiling to provide adequate ventilation. It could be built of rigid frame or a light mill construction. Construction features which would be important are nonskid concrete floors with adequate drainage, and sufficient windows and skylights to admit daylight and provide adequate ventilation. The doors should be at least 8 feet wide to permit free movement. The platform should be about 36 inches high to correspond to truckbed height. The platform should be protected by a heavy wooden bumper strip along the edge to prevent damage by trucks. The parking areas surrounding the Exchange would accommodate 150 commercial vehicles. The area, in addition to its use for parking, could provide open stalls for sale of field-grown crops or nursery products during peak sales periods. The layout for the proposed Exchange is similar to the present facilities. This interior design reflects a functional approach to the type of marketing operations performed by the Boston Flower Exchange.

The front of the selling area of the proposed facilities is planned for the display and sale of cut flowers. This area (15,252 square feet) would be used by the stall holders. It would contain standard florist tables 24 by 8 feet, providing 336 stalls, 4 by 4 feet. There should be a minimum of 6 feet between tables, and aisles at least 8 feet wide to allow free movement. To meet the needs of some stall holders for refrigerated space, two public coolers, containing approximately 1,143 square feet should be provided.

Along the walls surrounding three sides of the main selling floor, booths could be provided for growers or wholesalers handling large volumes. Three of the small florist firms handle insufficient volumes to warrant individual buildings; for this reason, they could best be relocated in the booths of the Exchange. Twenty booths, each containing approximately 500 square feet, and two corner booths containing 777 square feet, are planned. The booths shown in the proposed layout for the Exchange contain a cooler, office, and display-sales area. The interior of the booths would be arranged to meet the requirements of the individual tenant.

An area at the rear of the Exchange is planned to contain 4,140 square feet for display and sale of potted plants. This location would be convenient to the receiving platform and would reduce the handling required for these bulky items. Step racks could be provided in this area to achieve greater utilization of space and a better display.

A room across from the potted-plant display section could provide space for storage of shipping containers and flower boxes. It would contain approximately 3,115 square feet and could also serve as an assembly area for the local buyer or for those packing out-of-State shipments.

The rear of the Exchange building could contain the shipping and receiving area and a loading and unloading platform. Part of the platform could be used for shipping, and the rest for receiving. This area contains a

cooler, with 503 square feet, which could be used for receiving, as well as for holding, before pick-up of outgoing shipments.

The mezzanine, which is above the coolers at the rear of the selling floor, would contain 1,836 square feet. The manager's office, the board room, public restrooms, and the switchboard could be located here, as well as 25 small cubicle offices of 16 square feet each. The small offices would be rented to stall holders desiring them, to store their sales slips or business records. They would also provide privacy for telephone conversations.

Florists and Florist Supply Units Containing 5,000 Square Feet

Six firms need units of 5,000 square feet. 7/ Three are florist firms and the rest are florist supply firms. To minimize construction costs of the facilities of these firms, such facilities could be constructed as multiple occupancy units of a single building. Each store would be 50 by 100 feet, or 5,000 square feet, plus a 14-foot-deep covered rear platform. The platform should be 36 inches high and have a wooden bumper along the top to prevent damage by and to commercial vehicles. The units should have nonskid concrete floors with adequate drainage, and doors of sufficient width for free movement. Adequate light and good ventilation should be provided. In addition, each unit should provide parking for a minimum of 15 vehicles.

The three florist firms that sell mostly cut flowers, potted plants, florist greens and a limited line of florist supplies, would need space similar to that of the florist supply firms. They would have 2,400 square feet of space 7/ for display and sales of cut flowers, 250 square feet for supply display, and 375 square feet for storage of florist supplies. A workroom has been provided in the plans for cutting, trimming, and arranging flowers for display. The office contains 198 square feet and would be located near the selling floor. Two coolers should be provided; the larger containing 270 square feet for storage and receiving of cut flowers, and the smaller 90 square feet containing a low-temperature, high-humidity box for storage of florist greens. At the rear, an area of 575 square feet is provided for assembly, shipping, and receiving. A suggested layout of these firms is shown in figure 10.

The interior of each of the three florist supply firms contains approximately 1,152 square feet of display and sales area. The storage area contains 2,160 square feet, and the assembly, shipping, and receiving area contains 768 square feet. At the front of these buildings would be offices, containing 920 square feet.

Florist Supply Units Containing 10,000 Square Feet

Three florist supply firms would require facilities of 10,000 square feet each. 8/ The 100- by 100-foot buildings should have a 14-foot-deep rear covered platform, about 36 inches high. The platforms should have a wooden bumper. Wide doors would be necessary to facilitate handling and movement. Adequate light is important for the proper display of merchandise.

7/ See footnote 6, page 18.

8/ See footnote 6, page 18.

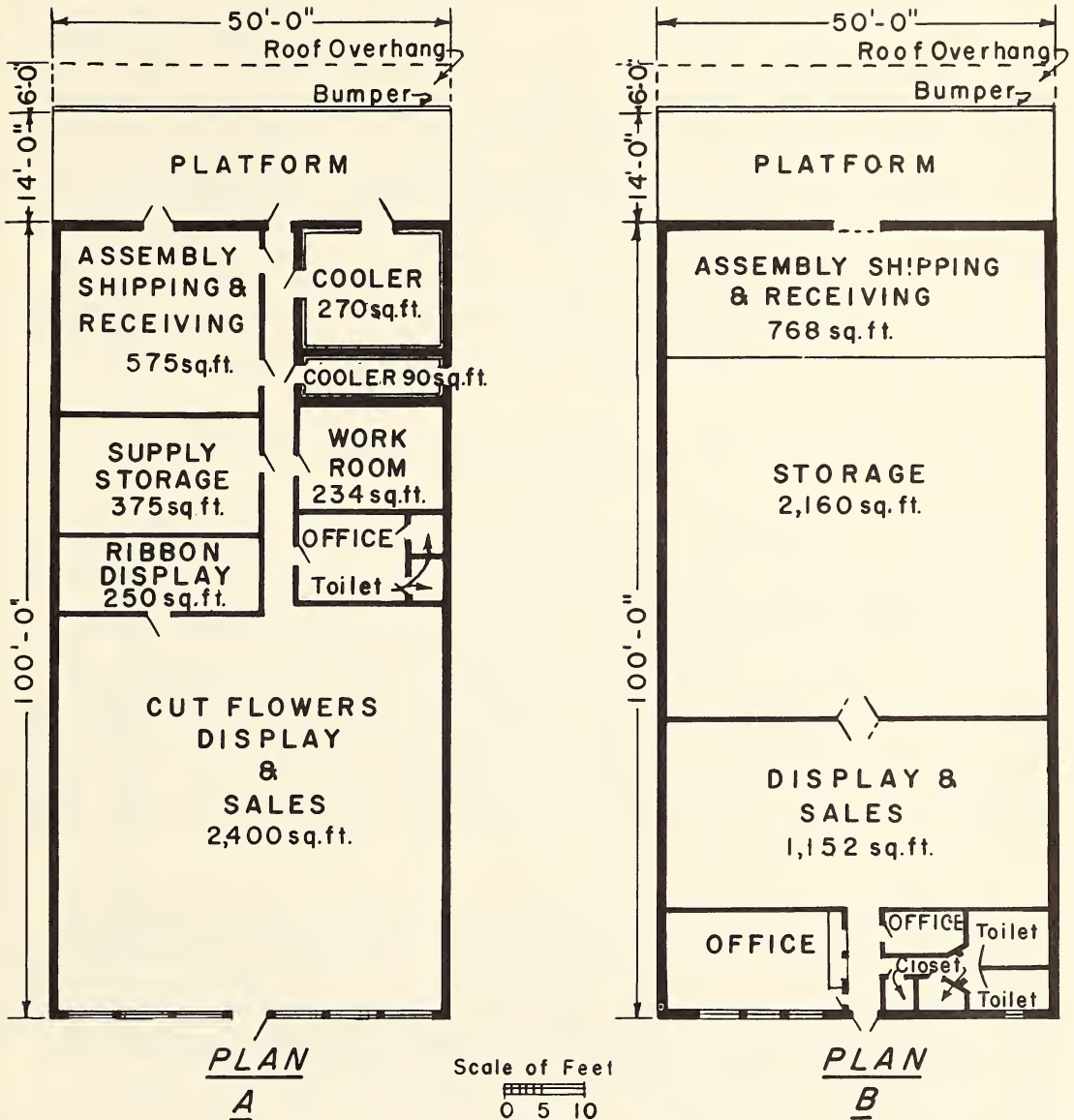


Figure 10.--The suggested layouts for a florist firm (Plan A) and a florist supply firm (Plan B) requiring 5,000 square feet each.

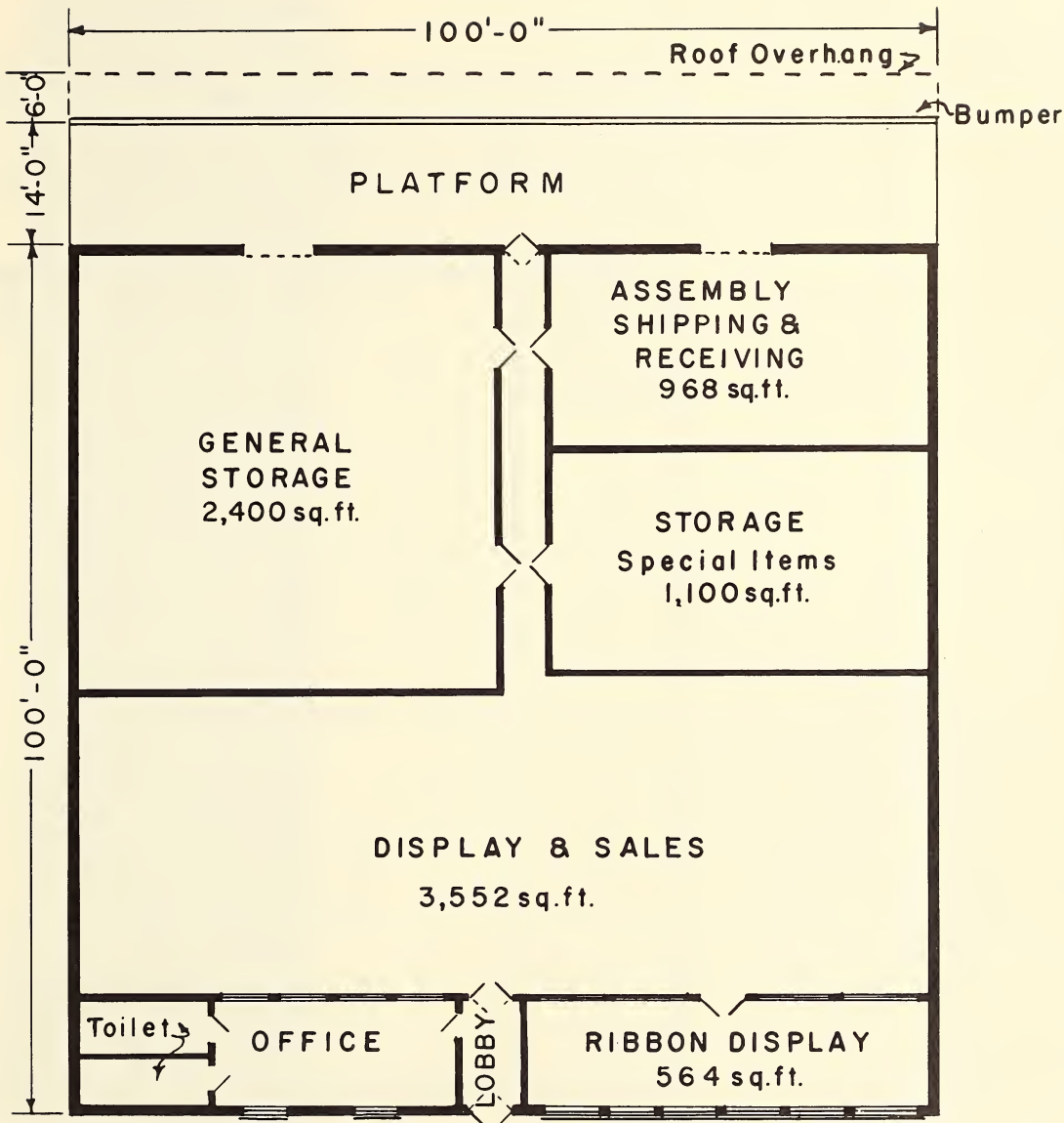
The display and sales areas in these facilities would occupy 3,552 square feet. The front of the building is planned to contain an office, restrooms, and a lobby. Along the front, also, would be a dustproof room (564 square feet) for the display of ribbons. The walls of the sales and display area could be faced with colored peg-board to provide additional display area. These facilities have been provided with two large storage areas, one for general storage, and one for special items. The general storage area (2,400 square feet) would be used for bulky, slow-moving, or nonbreakable items. The special-items room (1,100 square feet) could be reserved for faster moving items or breakable items, such as pottery, that require careful handling. During peak periods before major flower holidays, additional storage could be found on the display floor under racks. The assembly, shipping, and receiving room at the rear of the facility would contain 968 square feet. Doors 8 feet wide have been provided in the plans for the shipping room and general storage area, to help in handling bulky items. Parking is planned at the rear of these buildings for employees and customers. The proposed layout for these firms is in figure 11.

Combination Florist and Florist Supply Firms Containing
20,000 Square Feet

The three combination wholesale florist and florist supply firms need 20,000 square feet ^{9/} each. Buildings 100 by 200 feet would have covered rear platforms 14 feet wide. Each firm could have a ramp through the rear platform into the florist supply storage area facilitating temporary merchandise storage. Trucks either displaying florist supplies or those loaded could use the ramp for access to the building. The platform serving this florist supply storage area should be 45 inches high--truckbed height--to accommodate semi-trailers. The platform serving the florist area should be 36 inches high. As with the other buildings, platforms should be protected by a wooden bumper strip along the edge. Adequate skylights and windows would provide ventilation and permit natural light for the display area. Nonskid concrete floors with proper drainage are particularly important in the flower display and processing rooms. Each firm should provide parking for a minimum of 40 vehicles.

The interior layout (fig. 12) planned is according to the function performed in the particular section. A lobby and offices divide the two sales sections and provide access to the sales floor. There are two display and sales areas planned, one for supplies (3,500 square feet) and one for cut flowers and potted plants (3,300 square feet). The supply storage would contain 8,066 square feet. Next to the cut-flower area would be a processing room of 456 square feet where flowers may be trimmed, hardened, graded, or sorted for display or shipment. Two coolers are suggested: One (300 square feet) with low-temperature and high humidity, for florist greens, and the other (1,480 square feet) for holding and receiving cut flowers. In addition, an assembly, shipping, and receiving room (950 square feet) is provided to handle either receipts or shipments.

^{9/} See footnote 6, page 18.



PLAN

Scale of Feet

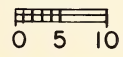
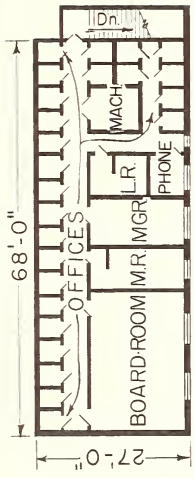


Figure 11.-- Proposed layout for florist supply firms containing 10,000 square feet.



MEZZANINE PLAN

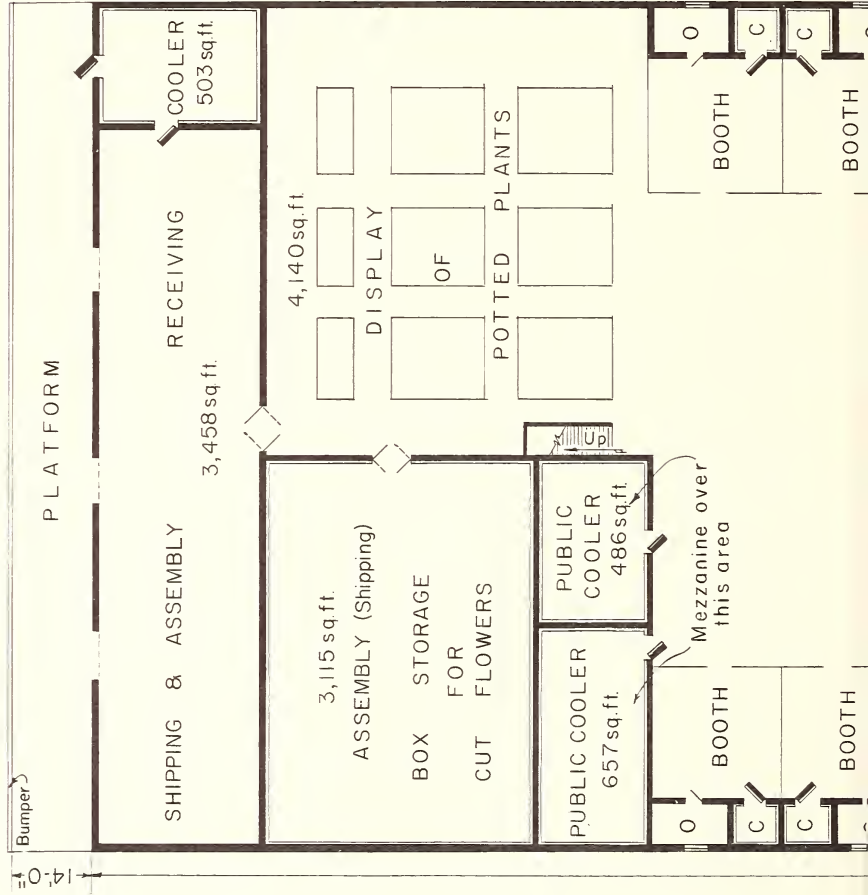
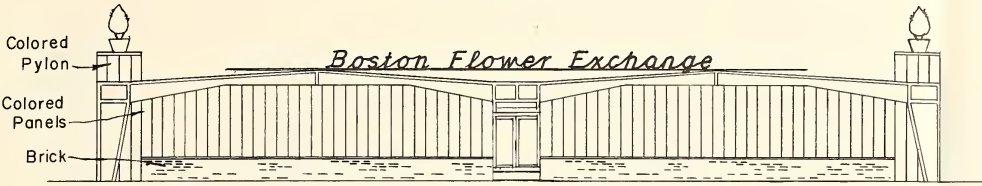
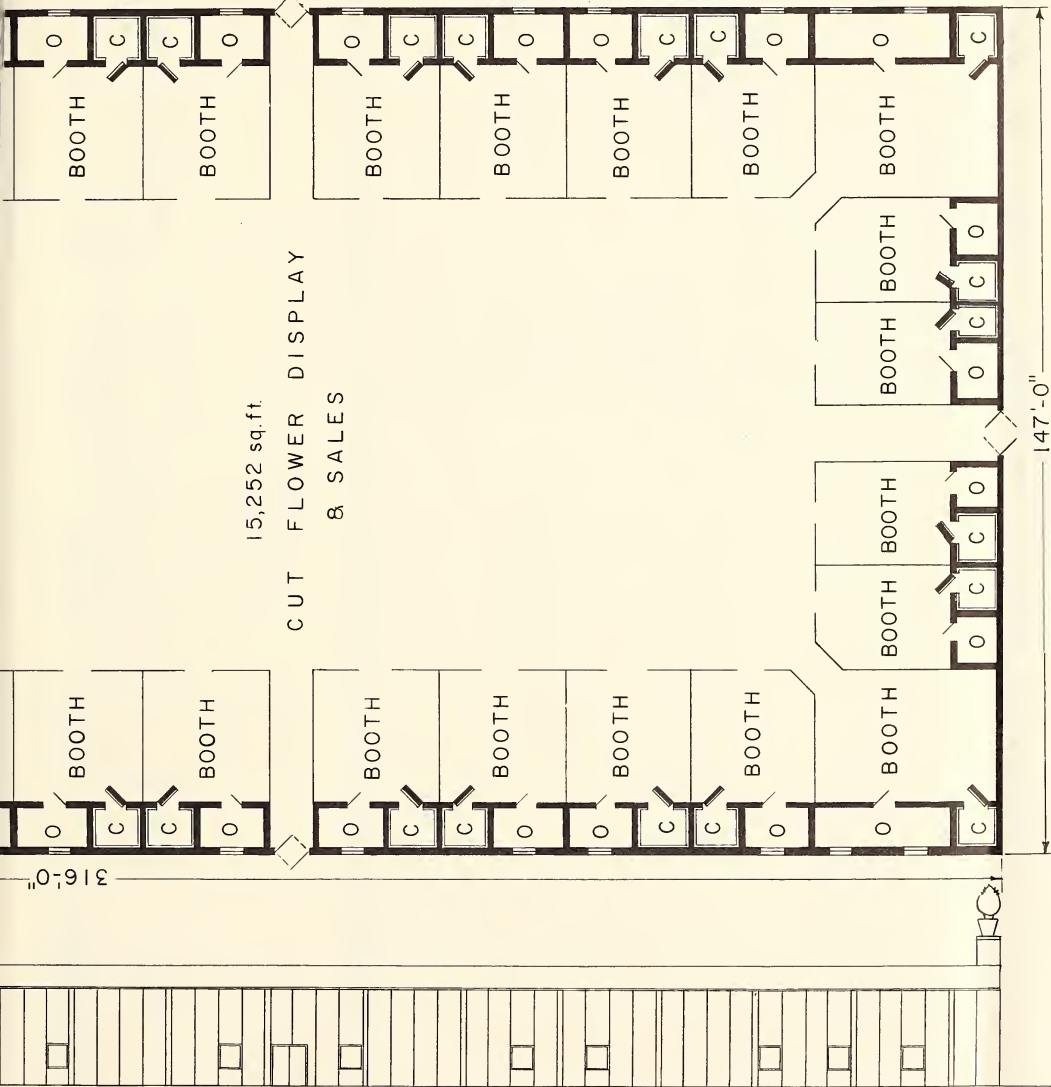


Figure 9.--Suggested layout of facility



FRONT ELEVATION



Scale of Feet
 0 5 10

147'-0"
 PLAN

LEGEND
 O--Office
 C--Cooler

ELEVATION

Plans for the Boston Flower Exchange, Inc.

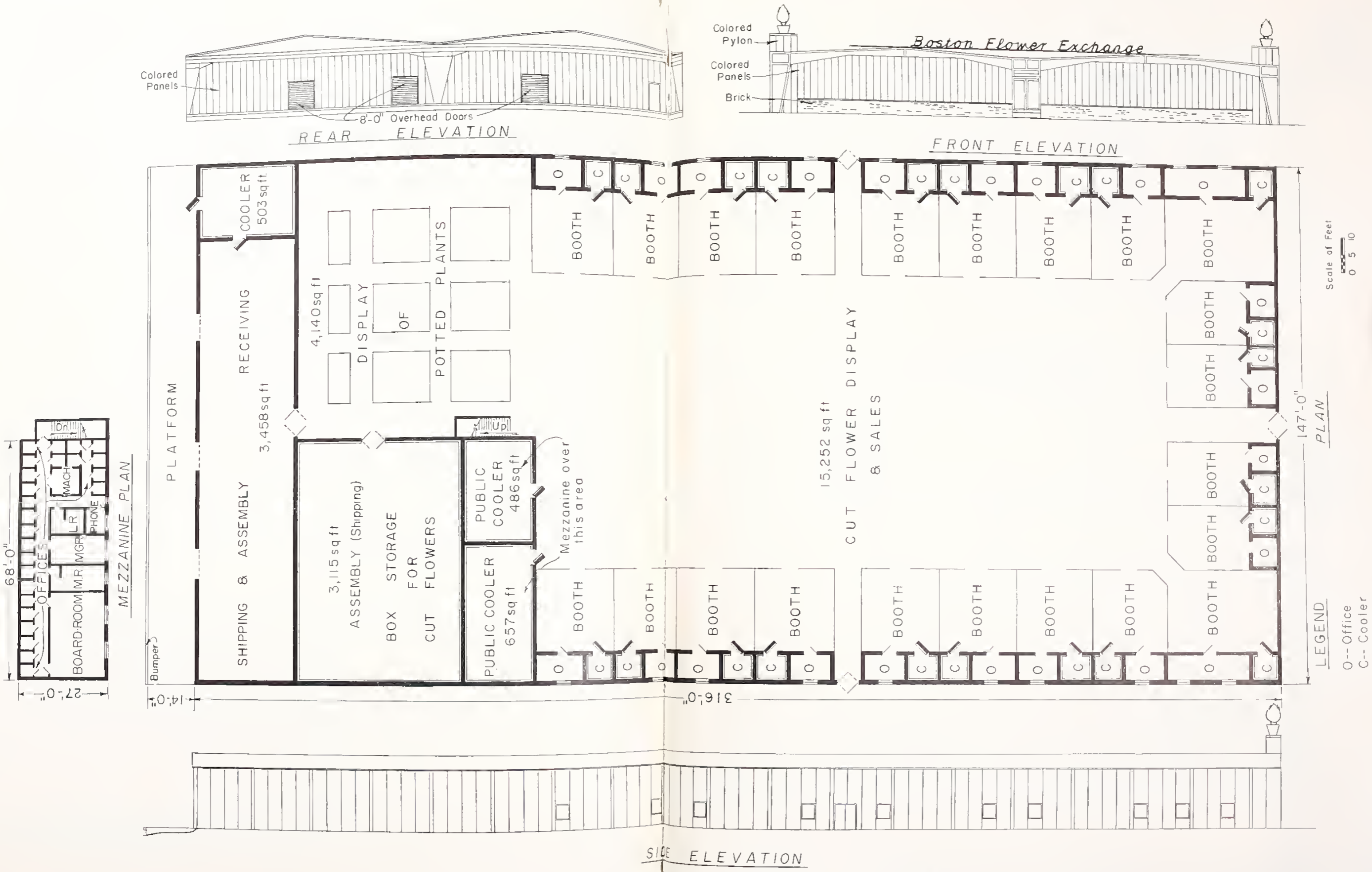
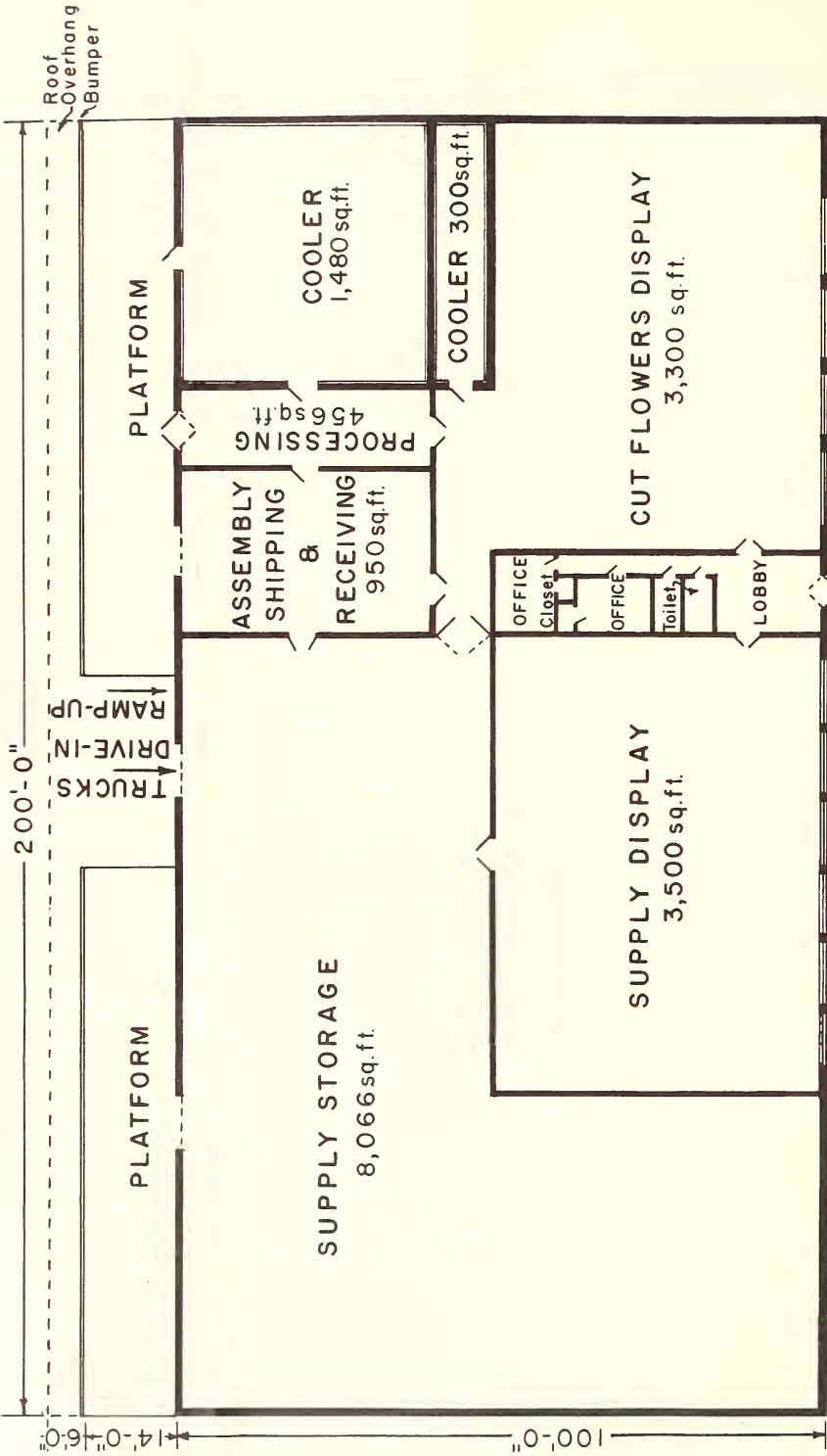


Figure 9.--Suggested layout of facilities for the Boston Flower Exchange, Inc.



PLAN

Scale of Feet
 0 5 10

Figure 12.--Suggested layout for a combination florist and florist supply firm containing 20,000 square feet.

ARRANGEMENT OF FACILITIES IN A WHOLESALE FLORIST CENTER

In arranging the facilities of the various types of wholesale florist firms on a given site it is necessary to consider certain basic objectives, which are:

Delivery of undamaged cut flowers, potted plants, or florist supplies to the wholesale outlet;

The most economical grouping of the merchandise, easily accessible to customers;

Movement through the facilities with as little handling and damage to the product as possible; and

Effect on future development.

In designing a wholesale florist market, the items of primary importance are the economic and functional values, but esthetic values should not be overlooked.

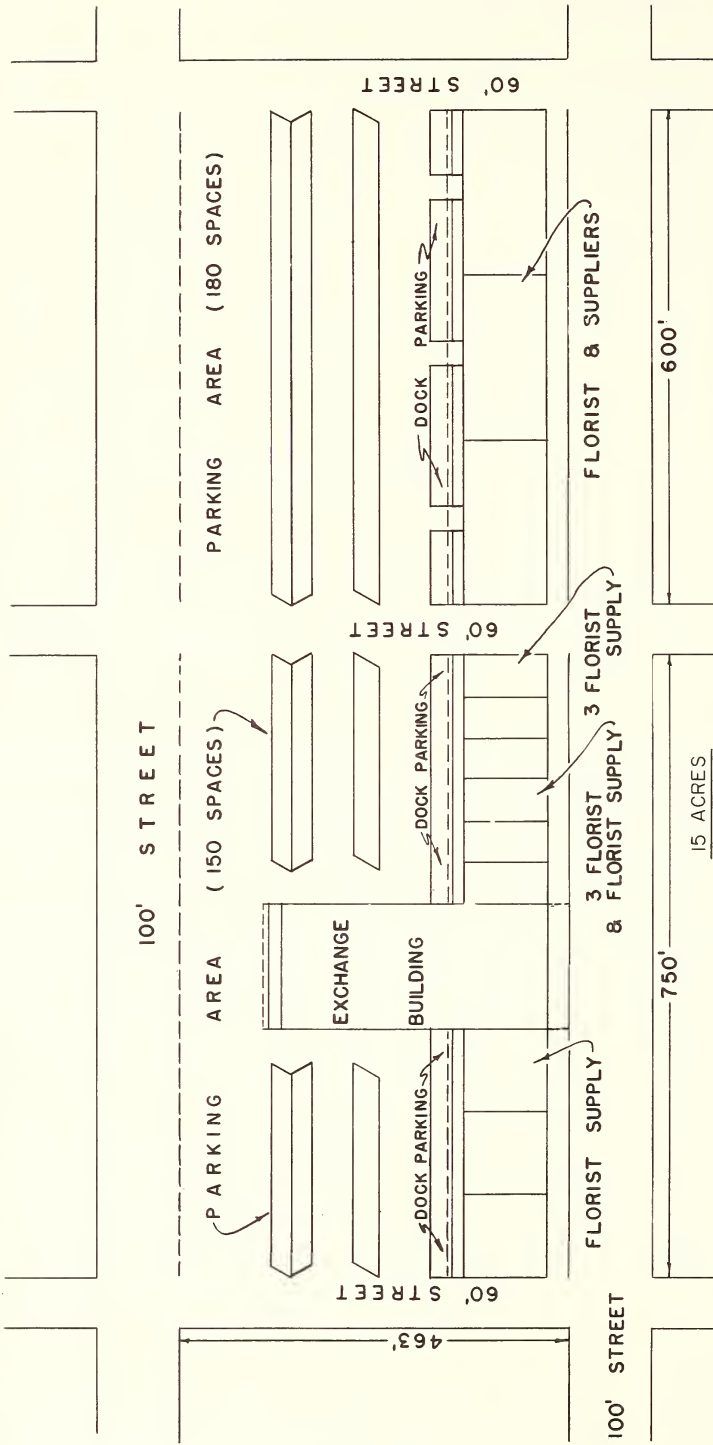
Factors in achieving the economic and functional objectives include the location and design of the florist center. While modifications may be required for specific sites, the basic principle of a market design can best be illustrated by assuming a level rectangular site. The plot plan shown in figure 13 illustrates a possible arrangement of the wholesale florist center on 15 acres.

Similar-sized firms would be in the same type of buildings. Such groupings maximize the use of space and minimize construction costs and land requirements. Streets are designed with sufficient width to maintain traffic flow and avoid congestion. Parking at the rear of the proposed facilities has been provided for 330 delivery and purchase vehicles.

Because it might not be possible to construct the entire Boston florist center at one time, this plan permits development in the manner of an industrial park. When this type of development is adopted, it is essential to acquire sufficient acreage for the entire project in the initial purchase.

SELECTING A SITE

During this study a number of areas were examined to determine their potentials as sites for the proposed florist center. Sites were considered throughout the Boston metropolitan area (fig. 14). Careful analysis showed that some areas offered greater potentials than others. Some sites can be considered only in a general way because they are in areas subject to future urban renewal plans. The sites discussed in the report are illustrative of the various types available.



SCALE of FEET
 0 100 200

Figure 13.--Plot plan illustrating possible arrangement of a wholesale florist center.

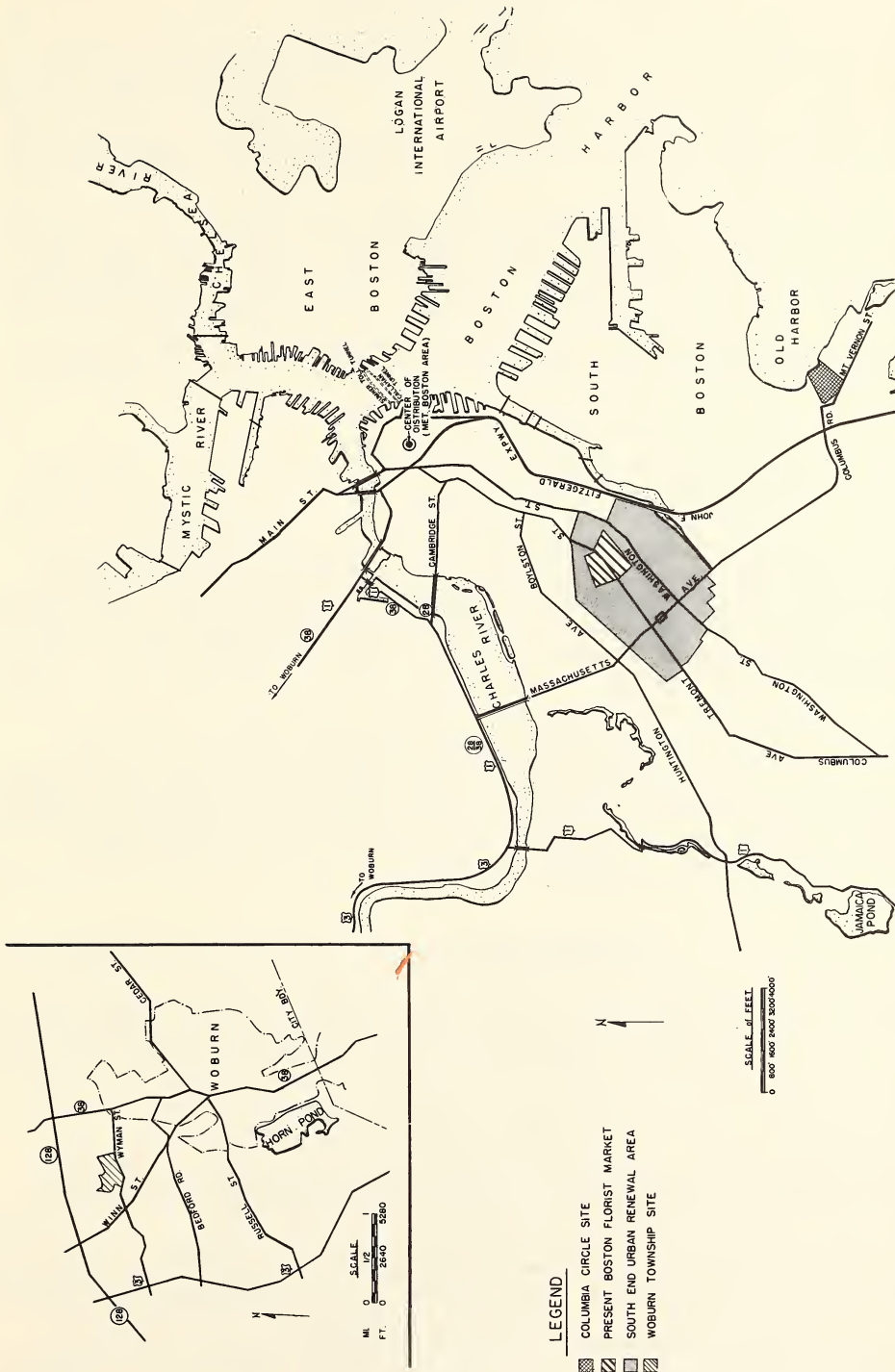


Figure 14.--Potential sites for Boston Wholesale Florist Center.

South End Urban Renewal Area

Because the Boston florist market will probably be displaced by urban renewal, some of this renewal land might be available for relocation. It is the policy of the Boston Redevelopment Authority to relocate as many businesses as possible within their present "project areas." Priority is given for the acquisition of cleared sites to those firms whose types of business will not conflict with planned land use.

The South End Urban Renewal area is bounded by the Boston and Albany Railroad tracks, the Central Artery, and the Inner Belt. The "Outer South End" is sometimes identified as part of Lower Roxbury. This entire once-fashionable area has become blighted and now contains some of the poorest housing in the city of Boston. This area may be subject to a major renewal effort calling for substantial clearance. It is planned that much of the area will be for nonresidential uses.

The entire South End Urban Renewal area contains 500 acres (fig. 14). There might be many potential sites available in the area; until the Boston Redevelopment Authority advances its planning, specific sites cannot be proposed. This area is convenient to public utilities, transportation facilities, and present or proposed expressways. This area is also relatively near the center of distribution to retail florists, and could maintain the present shoppers' market. Selection of a site, particularly in this area, needs careful attention to such problems as traffic flow and orderly arrangements of the facilities, to achieve the potential economies and conveniences to be derived from a wholesale florist center.

In the West Streets Redevelopment area in Boston, land was sold for 67 cents per square foot. Land for other redevelopment area projects may or could be sold for about \$1.25 per square foot. The prices depended upon the type of reuse of the property. Officials indicate that for a florist center, a reasonable cost estimate for land in condition to build would be about 92 cents per square foot, or \$40,000 per acre.

Columbia Circle Site

Another site which should be considered, particularly if the Boston Redevelopment Authority land was not available, would be near Columbia Circle (fig. 14). This site contains approximately 31.5 acres of which 11.5 are in one section and 20 acres in another. The entire acreage is under one ownership. The boundaries of this site are: North, Carson Beach; south, Public Housing Development; west, Mt. Vernon Street, and east, Old Harbor. The larger section of land is vacant; the smaller section contains a presently unoccupied warehouse. The warehouse contains 81,124 square feet of first floor space and 6,700 square feet of mezzanine (office) space.

If the proposed florist center were to occupy the 20-acre site, very little grading would be required. Some piling may be needed, especially near the water. This might add to the expense of preparation "in condition to build." In this report, inclusion of piling costs has not been considered because piling requirements cannot be estimated without additional knowledge of the site.

This site is close to major traffic arteries, including the John F. Fitzgerald Expressway, and is readily accessible from most areas of Boston. Public utilities would be available. The area is served by several public bus routes. The site is approximately 3 miles southeast of the center of distribution of retail florists.

Part of the site is subject to occasional flooding during periods of excessively high winds and tides. Because the site has only one owner, land purchase could be negotiated without regard to the Boston Redevelopment Authority. The necessity of negotiating with one owner could also be a disadvantage. If this site were selected, it is possible that the market could be located next to a proposed retail food center. Also in the area is a large public housing development, which might create traffic problems.

Although the cost of this site has been discussed with the owner, a definite price could not be determined. However, the indicated price would be substantially higher than a corresponding area in the South End Urban Renewal area.

Woburn Area

At present, Woburn Township is a major center for the greenhouse-florist industry. One site was examined in this vicinity (fig. 14). The approximate boundaries of the site are: North, Route 128; south, Wyman Street; west, Winn Street; and east, Route 38. This site has one owner, and contains approximately 37 acres. The site would require little grading, although some demolition of buildings would be necessary. Public utilities would be available.

Major traffic arteries provide excellent connections into downtown Boston, 10 miles away. It might be necessary to change the buyers' practice of shopping the market to telephone ordering, if this location were selected. At present, public transportation to the site is not available. Present zoning regulations would not permit the area to be used for a wholesale florist center. A change of zoning or a variance would be difficult to obtain in Woburn Township.

Growers in the area have an obvious self-interest in wanting the Boston florist center to locate near their production facilities. For this reason, land prices quoted were well below the average cost of land in the area. However, the land cost considered in this report was the average value of the land in the area which was about \$1 per square foot, or \$43,560 per acre.

Other Areas

In and around Boston there are several other potential sites. Consideration could be given to relocating the florist market within the boundaries of a wholesale food distribution center. In addition, several areas outside the city of Boston have sufficient acreage available for a wholesale florist center, as has been stated earlier.

ESTIMATED INVESTMENT COST

The cost of a complete wholesale florist and florist supply center for Boston involves two major components: Land and facilities. Considered first is the variation in land cost that depends upon the location of the facility; then the facility costs.

Land

Of the sites described earlier, the land cost could be \$43,560 per acre (about \$1 per square foot) in Woburn, a probable \$40,000 per acre (92 cents per square foot) in the South End Urban Renewal area, and an undetermined amount, probably substantially above the cost of the South End Urban Renewal site, at Columbia Circle. As mentioned earlier, each site has advantages and disadvantages. These three have been included in this study to illustrate various types of sites available. In this report, land costs of about \$40,000 per acre will be assumed.

Facilities

The estimates presented here do not include the cost of paving public streets or extending utilities and sewers to the site. Roadways and sewers within the project are included in the costs. Utility connections to individual stores are not included, because these costs are traditionally borne by utility companies. Cost estimates are for structures of the types previously described. All construction adaptations within the interior of the unit could be made to meet requirements of individual dealers. The cost of buildings includes rest-rooms, lighting fixtures, electrical outlets, gas or electric space heaters, and platform lighting. Detailed building cost estimates are for the shell only, and do not include various features that individual dealers might include in the design. These cost estimates are based on rigid frame construction.

Paving estimates for each section include the prorated share of the florist center streets. The cost of blacktop paving assumes 7 inches of rolled gravel base, 4 inches of broken stone base, penetrated with 1 1/2 gallons per square yard of asphalt, and a 2-inch bituminous concrete surface.

Utility connections for all buildings, including electricity, were assumed to be underground. Other costs of construction such as architect's fee (6 percent), cost of the construction loan (5 percent), and the contingency fund (10 percent), are the standard rates. The cost of the construction loan (5 percent) represents the total cost of the loan, and not the interest rate.

A graphic presentation--not drawn to scale--of the estimated costs of buildings for the wholesale florist center is in figures 15, 16, and 17. These figures show the estimated costs for the Boston Flower Exchange and the other facilities. A more detailed description of these costs is in the appendix.

BOSTON FLOWER EXCHANGE

BUILDINGS



I-BUILDING
\$ 371,944

OTHER FACILITIES



PAVING
\$ 36,000



SEWERS
\$ 2,230



FLOODLIGHTS
\$ 900

TOTAL COST-BUILDING AND FACILITIES
\$ 411,074

ASSOCIATED COSTS



ARCHITECTS FEE
\$ 24,664



CONSTRUCTION LOAN
\$ 21,787



CONTINGENCY ALLOWANCE
\$ 45,752

TOTAL COST-BUILDING, OTHER FACILITIES, AND ASSOCIATED COSTS
\$ 503,277



LAND-3 ACRES
\$ 120,000

TOTAL INVESTMENT COST
\$ 623,277

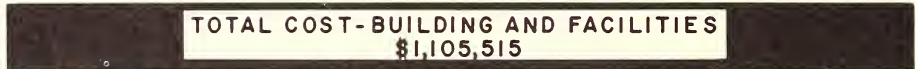
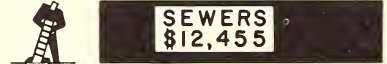
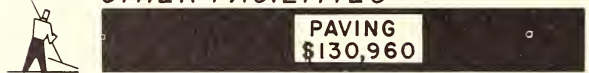
Figure 15

OTHER WHOLESALE FACILITIES

BUILDINGS



OTHER FACILITIES



ASSOCIATED COSTS

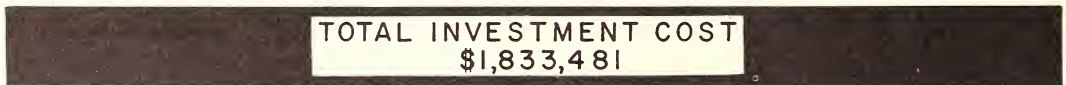
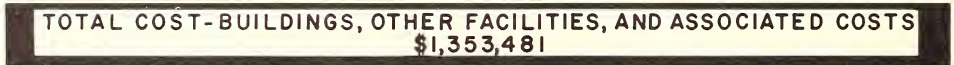


Figure 16

SUMMARY OF INVESTMENT COSTS



Figure 17

Facility cost estimates are based on the construction indices as of March 1961, costs of similar facilities recently constructed, and estimates made by local contractors. Floor space in the initial construction will not only depend on the present requirement, but on possible expansion. Actual space may differ from these estimates when final plans for construction are completed. Estimated construction costs are not intended to replace firm estimates made by local architects and contractors and should be considered illustrative.

OWNERSHIP AND MANAGEMENT OF A WHOLESALE FLORIST CENTER

There are many possible ways to finance and operate a wholesale florist center. The best method of operating, because of the present private-ownership situation in Boston, appears to be within the framework of a private corporation. It is also possible that some State or local agency could assist in the market development. Such assistance might be provided by furnishing tax relief, or by reduced cost of the required acreage. A more detailed description of these and other methods of ownership, and methods of financing may be found in Wholesale Food Market Facilities. ^{10/} The various methods of financing and operating the florist center considered in this report will be: A development corporation; development by an individual firm, and individual action.

Development Corporation

The formation of a nonprofit corporation to develop the new wholesale florist center might be considered. This corporation could restrict the sale of stock to participating wholesalers, and others directly concerned with the operation of the market. The amount of stock sold to one individual or firm could be based on the proportion of the total facilities constructed that he would occupy. Through these restrictions on stock sales, the number of votes

^{10/} Clowes, H. G., Elliott, W. H., and Crow, W. C. Wholesale Food Market Facilities--Types of Ownership and Methods of Financing. U. S. Dept. Agr. Mktg. Res. Rpt. 160, 96 pp., illus. 1957.

of a stockholder, and the voice in management exercised by any one stockholder, could be limited.

An important advantage of a development corporation would be that it could, more easily than an individual, enter into negotiations with the Boston Redevelopment Authority about their acquisition of the present site and a possible new one in a project area. It would represent a better bargaining position when it became necessary to enter into negotiations for financing the facility. Changes in tenancy of the facilities need not affect the corporation. One of the biggest advantages would be that, when the period of amortization expired, the entire investment would belong to participating stockholders. A disadvantage might be possible controls over the operations by the management.

Development by an Individual Firm

It is possible for one wholesale firm or the Boston Flower Exchange to make the initial purchase of sufficient acreage for the entire florist center. The firm could construct the facilities and rent them to various tenants or it could sell or lease to individual firms land on which they could construct their own buildings. Either of these arrangements could reduce the amount of equity capital required by the renting or leasing firms.

In such an arrangement, the negotiations for land acquisition and financing the entire facility would be with one group. If the entire center were built by one owner and rented, the tenant could not expect to build up equity capital. However, if the land were sold or leased, he could, as the tenant, expect to build up equity capital in his facilities.

Individual Action

Each firm could independently acquire individual sites and arrange financing on its own. However, in such a case the market would tend to lose its identity, as well as its "keep the industry in Boston" bargaining position. Certainly, one of the advantages to this type of development is absolute control by the owner of the property and its operation. The difficulties encountered by other firms would not affect the individual operator. All details of buildings would be up to the individual. There also would be certain disadvantages to construction of facilities by the individual. Individual facilities would cost more to construct and the firm would lose the advantages to be gained from location in a wholesale florist center. It might also be more difficult to negotiate financing.

REVENUE REQUIRED AND SOURCES OF REVENUE

The revenue required could vary according to the methods used to finance a wholesale florist center. Naturally, a corporation with substantial assets could obtain better financing arrangements than a corporation with limited assets. In this report, certain assumptions are made: If a wholesale florist center were developed, it would be constructed as discussed in the previous chapters; the entire florist center would be constructed by a nonprofit corporation; and supervision of operations would be provided by a board of

directors composed of representatives from firms operating on the market, through a secretary. This board could consist of a representative from each of the firms in the center. Its chairman could be elected by the members of the board. The office of the secretary could act as the rental collection agency and take care of general management problems. Such assumptions are not intended to suggest that these are the most desirable arrangements, nor are they intended to exclude other arrangements, but are presented so that an estimate of the probable operating expenses may be included in this report. For purposes of this report, revenue requirements are considered under three different categories: Cost of management and upkeep, real-estate taxes, and debt service.

Management and Upkeep

Management expenses are based upon estimates of their cost in Boston. (Management costs are for the entire market facility operation and would not include management of the individual firms.) These costs can be prorated among the firms on the basis of building, other facility, and associated costs.

Management Expenses

Office of the secretary.....	\$6,500
Watchman.....	4,000
Office rental allowance.....	1,200
Travel and per diem.....	1,500
Office supplies and equipment.....	500
Advertising and promotion.....	1,500
Telephone.....	400
Utilities.....	400
General market sanitation.....	2,500
Garbage and snow removal.....	<u>1,500</u>
	20,000

Estimates of the costs of insurance, maintenance, and repair are based on construction costs and on the fire and liability insurance rates for fire, extended coverage, and public liability. These rates, supplied by the New England Fire Insurance Rating Association, are those that would most probably apply to the types of structures considered. The rates were \$1 per \$1,000 valuation (assuming installation of an automatic sprinkler system), for 80 percent of the building costs. Liability insurance to cover liability in the proposed wholesale florist center to the limit of \$500,000 would cost \$700. The total cost of insurance for the florist center would be \$2,186 (table 2).

A maintenance fund should be established for the eventual replacement of roofs, paving, or to repair the result of any natural catastrophe that might occur. Experience with other types of light industry indicates that this fund should be based on 1/2 percent of the total cost of the facilities and construction costs; in this case, \$9,284 annually. A reserve or contingency fund of 10 percent of the amount required for management, insurance, maintenance, and repair was included to allow for variations. The total estimated annual income required for management and upkeep in the proposed facilities would be about \$34,617 (table 2).

Table 2.--Estimated annual income required for management and upkeep in the proposed florist center,
Boston

Type of firm	Management expense	Fire, extended coverage, and liability insurance ^{1/}	Maintenance and repairs ^{2/}	Reserve or contingency ^{3/}	Total
	Dollars	Dollars	Dollars	Dollars	Dollars
Boston Flower Exchange....	5,400	592	2,516	851	9,359
Florist and florist supply.....	3,800	414	1,757	597	6,568
Florist supply.....	3,800	414	1,757	597	6,568
Combination florist and florist supply.....	7,000	766	3,254	1,102	12,122
Total.....	20,000	2,186	9,284	3,147	34,617

^{1/} The insurance rates supplied by New England Fire Insurance Rating Association for the city of Boston. These rates are \$1 per \$1,000, with a standard-alternate-type sprinkler system. It was assumed buildings would be insured at 80 percent of their value. Fire and extended coverage applied to value of buildings and cost of construction. Public liability also assumes the \$500,000 level was quoted at about \$700.

^{2/} Assuming 1/2 percent of the cost of the buildings other facilities and associated costs.

^{3/} Ten percent of preceding items.

Real Estate Taxes

The wholesale florist center would pay taxes on land, buildings, and other taxable facilities at the current tax rate, based on the probable assessed valuation of property. Although one site is located in Woburn Township and would be taxed at a lower rate, available evidence indicates that while the tax rate is lower, valuation is higher. For purposes of this report, the 1961 Boston tax rate of \$100.60 per \$1,000 of assessed valuation is based on the assessed valuations suggested by the City of Boston Assessor's Office. On this basis, the total taxes paid by the entire wholesale florist center would amount to \$110,660. On a pro rata basis of the investment in land and facilities, the Boston Flower Exchange, Inc., would pay \$27,665, the six small florist and florist supply firms would pay \$21,025, the three supply firms would pay \$21,025, and the three combined firms would pay \$40,945. To allow for changes in the tax rate, a reserve of 10 percent is included. Table 3 shows the probable taxes, including reserve, which would be paid in the proposed wholesale florist center.

Table 3.--Estimated real estate taxes to be paid by proposed florist center, Boston

Type of firm	Assessed value ^{2/}	Tax ^{2/}	Reserve ^{3/}	Total
	Dollars	Dollars	Dollars	Dollars
Boston Flower Exchange....:	250,000	25,150	12,515	27,665
Florist and florist supply:	190,000	19,114	1,911	21,025
Florist supply.....:	190,000	19,114	1,911	21,025
Combination florist and florist supply.....:	370,000	37,222	3,723	40,945
Total.....:	1,000,000	100,600	20,060	110,660

^{1/} Probable assessment as indicated by the Office of the Tax Collector, Boston.

^{2/} Assuming 1961 tax rate of \$100.60 per \$1,000 for light industry.

^{3/} Assumed to be 10 percent of taxes.

Debt Service

The third major group of costs which must be paid by a wholesale florist center is debt service. The proportion of the total that might be borrowed on a mortgage loan, and the terms of the loan, depend to some extent on the money market. Facilities of the type recommended could be expected to have a minimum life of from 20 to 30 years, and probably longer.

The money required might be obtained from three sources: First mortgage, a second mortgage or sale of preferred stock, and equity capital. The amount of money borrowed from each of these sources would depend on the money market at the time.

In view of the developments in the Boston florist market, with eventual condemnation of the present facilities by the Boston Redevelopment Authority, sufficient equity capital should be available to eliminate the need for a second mortgage. It is, therefore, assumed that in the development of this market a first mortgage of about 65 percent would be obtained. The balance could be provided as equity capital from the sale of present facilities to the Redevelopment Authority.

For the purposes of this report, a rate of 5 1/2 percent, amortized over 25 years, is assumed for the first mortgage. Of course, this rate could be subject to variation, depending on the amount of equity capital. If the equity capital was supplied by tenants in proportion to the relative cost of the facility, it is probable, because of the tax situation, that there would be no payments of dividends to stockholders.

However, until an actual financial plan is proposed, the terms of the loan cannot be known. To determine the amount of rental of the various facilities, the rate of 5 1/2 percent for 25 years is assumed. A reserve fund of 10 percent of the amortization charge has been provided. Such a fund should accumulate a full year's payment before it is discontinued. Table 4 shows, by type of firm, the estimated annual income required for debt service to amortize the cost of the first mortgage for the wholesale florist center.

Table 4.--Estimated annual income required for debt service for a first mortgage, by type of firm in proposed florist center, Boston.

Type of firm	: 65 Percent of investment in:	Amortization charge <u>2/</u>	Reserve or contingency <u>3/</u>	Total
	: land and building <u>1/</u>	:	:	:
	: <u>Dollars</u>	: <u>Dollars</u>	: <u>Dollars</u>	: <u>Dollars</u>
Boston Flower Exchange	: 405,130	: 30,202	: 3,020	: 33,222
Florist and florist supply.....	: 306,397	: 22,842	: 2,284	: 25,126
Florist supply.....	: 306,397	: 22,842	: 2,284	: 25,126
Combination florist and florist supply..	: 578,969	: 43,162	: 4,316	: 47,478
Total.....	: 1,596,893	: 119,048	: 11,904	: 130,952

1/ First mortgage assumed to be 65 percent of investment in land and buildings.

2/ Assuming 5 1/2 percent annual interest rate, amortized over 25 years.

3/ Ten percent of amortization charge.

Total Annual Income Required

Estimates of the amount of revenue required to operate the wholesale florist center, including costs of management, insurance, maintenance, taxes, and debt service are shown in table 5. Costs for the operations of individual firms occupying these facilities are not included. The total amount needed to operate a florist center would be about \$276,229.

Cost of operating, owning, and managing various sections of the florist center would be approximately:

Boston Flower Exchange.....	\$	70,246
6 florist and florist supply firms.....		52,719
3 florist supply firms.....		52,719
3 large florist and florist supply firms.....		<u>100,545</u>
		<u>276,229</u>

Table 5.--Estimated total annual income required in the proposed florist center, Boston

Type of firm	Management and upkeep	Real estate taxes	Debt service	Total
	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>
Boston Flower Exchange:	9,359	27,665	33,222	70,246
Florist and florist supply.....	6,568	21,025	25,126	52,719
Florist supply.....	6,568	21,025	25,126	52,719
Combination florist and florist supply..:	12,122	40,945	47,478	100,545
Total	34,617	110,660	130,952	276,229

SOURCES OF REVENUE

Rental charges per unit and per square foot are based on total computed costs. These costs represent an average annual revenue required per square foot of \$1.52. The Boston Flower Exchange, Inc., would pay \$1.40 per square foot while the florist and florist supply firms would pay \$1.57 and the large florist and florist supply firms would pay \$1.58 (table 6). The minor variations in revenue per square foot between similar facilities are due to the difference in land required, the amount of paving necessary, and other such items. These rentals are sufficient to cover costs and reserves.

A florist center may have several different sources of revenue; the primary source of revenue would be rent from the various store units. Some wholesale food distribution centers obtain revenue by charging fees to incoming trucks and for various service facilities. Minor income, such as revenue from vending machines and public telephones is not assumed in this report.

Table 6.--Estimated annual revenue charges required by types of firms for the proposed florist center, Boston

Type of firm	Space planned	Cost of operation	Annual revenue required per square foot
	<u>Square feet:</u>	<u>Dollars</u>	<u>Dollars</u>
Boston Flower Exchange.....	50,120:	70,246	1.40
Florist and florist supply...	33,600:	52,719	1.57
Florist supply.....	33,600:	52,719	1.57
Combination florist and florist supply.....	63,600:	100,545	1.58
Total or average:	180,920:	276,229	1.52

BENEFITS TO THE WHOLESALE FLORIST INDUSTRY

Benefits would accrue to all levels of the florist trade and to Boston if a new wholesale florist center was developed. The grower or shipper of cut flowers and potted plants who sends his supplies to the new center would find less merchandise handling, resulting in less damage. The proposed refrigeration facilities would permit longer holding of his products with less spoilage. Increased returns might be anticipated because additional buyers might be expected to patronize the market. Parking and congestion, a problem to the local grower bringing his flowers or plants to the market, would be solved. The grower of field-grown crops such as nursery products might use sales areas provided in the parking spaces during the season. Assembly for shipping would be easier in the less crowded facilities.

The wholesale trade and the salesman would benefit through the reduced handling which would result in a better quality product. The improved one-story facilities, that permit efficient loading and unloading would reduce handling costs and pilferage losses. Adequate display areas would encourage impulse buying. New storage areas would enable supply firms to provide a wider selection of florist supplies. The parking area would help to attract additional customers to the market and reduce congestion.

Buyers would benefit through the reduction in time required for shopping the market. Large display areas would offer wider selection of merchandise. The loading facilities would reduce handling and the resultant spoilage. The proposed florist center has been arranged to facilitate shopping of the market. Adequate parking with reasonable accessibility to the stores also would encourage shopping.

Boston would benefit through the reduction of traffic and parking problems in the present area. The proposed redevelopment plans of the Boston Redevelopment Authority for the present area could be coordinated with the relocation of the market. The new facilities would provide the city with a better tax base than the present location.

One most important benefit to the florist industry would be that of prestige derived from the new facilities. The suggested facilities could make the Boston Florist Market a showplace for the entire florist industry of the Nation.

APPENDIX: COST OF CONSTRUCTING BUILDINGS

I. BOSTON FLOWER EXCHANGE

Buildings

Building containing 46,452 square feet, with mezzanine containing 1,836 square feet, and platform containing 2,058 square feet, or 50,346 square feet of building and platform @ \$7.10 per square foot..... \$357,458

Sprinkler system for building, 48,288 square feet (including walls) @ \$.30 per square foot..... 14,486

Other Facilities

Blacktop combination paving 1/ 9,000 square yards, @ \$4.00..... 36,000

446 feet sanitary and storm sewers @ \$5.00..... 2,230

6 floodlights @ \$150 each..... 900

Cost of building and facilities \$411,074

Architect's fee 6% of construction cost..... 24,664

Cost of construction, including architect's fee..... 435,738

Allowance for borrowing construction funds: 5% of construction cost and architect's fee..... 21,787

Cost of construction, including architect's fee and cost of construction loan..... 457,525

Contingency allowance: 10 percent of construction costs, architect's fee, and construction loan..... 45,752

Total cost of building, other facilities, and associated costs..... \$503,277

Cost of 3 acres @ \$40,000 per acre..... 120,000

Total investment cost..... \$623,277

1/ Includes pro rata share of the streets.

II. SMALL FLORIST FIRMS AND FLORIST SUPPLY FIRMS

Buildings

6 multiple-occupancy units containing 5,000 square feet per unit, with platforms containing 700 square feet each, or 34,200 square feet of building and platform @ \$6.75 per square foot..... \$230,850

Sprinkler system for building, 30,000 square feet (including walls) @ \$.30 per square foot..... 9,000

Other Facilities

Blacktop combination paving, 10,720 square yards @ \$4.00... 42,880

675 feet sanitary and storm sewers @ \$5.00..... 3,375

6 floodlights @ \$150.00..... 900

Cost of building and facilities..... 287,005

Architect's fee, 6% of construction cost..... 17,220

Cost of construction, including architect's fee..... 304,225

Allowance for borrowing construction funds: 5% construction cost and architect's fee..... 15,211

Cost of construction, including architect's fee and cost of construction loan..... 319,436

Contingency allowance: 10 percent of construction costs, architect's fee, and construction loan..... 31,944

Total cost of building, other facilities,
and associated costs..... 351,380

Cost of 3 acres of land, \$40,000 per acre 120,000

Total investment costs..... \$471,380

III. FLORIST SUPPLY FIRMS

Building

3 multiple-occupancy units, containing 10,000 square feet per unit, with platforms containing 1,400 square feet per unit, or 34,200 square feet of building and platform @ \$6.75 per square foot.....	\$230,850
Sprinkler system for buildings, 30,000 square feet (including walls) @ \$.30 per square foot.....	9,000

Other Facilities

Blacktop combination paving, 10,720 yds. @ \$4.00.....	42,880
675 feet sanitary and storm sewers @ \$5.00.....	3,375
6 floodlights @ \$150 each.....	<u>900</u>

Cost of building and facilities \$287,005

Architect's fee, 6% of construction cost.....	17,220
Cost of construction, including architect's fee.....	304,225
Allowance for borrowing construction funds: 5% construction cost and architect's fee.....	15,211
Cost of construction, including architect's fee and construction loan.....	319,436
Contingency allowance: 10 percent of construction cost, architect's fee, and construction loan.....	31,944
Total cost of building, other facilities, and associated costs.....	<u>\$351,380</u>
Cost of 3 acres of land @ \$40,000 per acre.....	<u>120,000</u>
Total investment cost.....	<u><u>\$471,380</u></u>

IV. LARGE COMBINATION FLORIST AND FLORIST SUPPLY FIRMS

Building

3 multiple-occupancy units, each containing 20,000 square feet per unit, with platforms containing 2,800 square feet per unit, or 68,400 square feet of building and platform @ \$6.75 per square foot.....	\$461,700
Sprinkler system for building, 60,000 square feet (including walls) @ \$.30 per square foot.....	18,000

Other Facilities

Blacktop combination paving, 11,300 yards @ \$4.00.....	45,200
1,141 feet sanitary and storm sewers @ \$5.00.....	5,705
6 floodlights @ \$150 each.....	<u>900</u>
Cost of building and facilities.....	<u>\$531,505</u>
Architect's fee, 6% of construction cost.....	31,890
Cost of construction, including architect's fee.....	563,395
Allowance for borrowing construction funds: 5% construction cost and architect's fee.....	28,170
Cost of construction, including architect's fee and construction loan.....	591,565
Contingency allowance: 10% of construction costs, architect's fee, and construction loan.....	59,156
Total cost of building, other facilities, and associated costs....	<u>\$650,721</u>
Cost of 6 acres of land @\$40,000 per acre.....	<u>240,000</u>
Total investment cost.....	<u>\$890,721</u>

V. SUMMARY OF INVESTMENT COSTS

Total cost of facilities in project.....	\$1,856,758
Total cost of land in project: 15 acres @ \$40,000 per acre.....	600,000
Total investment in Boston wholesale florist center..	2,456,758





