A DESIGN FOR THE URBAN WATERFRONT OF SALEM, MASSACHUSETTS

by

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Signature of Author

Department of Architecture
January 21, 1976

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Michael Underhill, Chairman,
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ABSTRACT

William Chalmers Agnew, Author

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Submitted to the Department of Architecture on January 21, 1976, in partial fulfillment of the requirements for the degree of

MASTER OF ARCHITECTURE

The City of Salem, Massachusetts is interested in commercially developing a piece of unused pre-industrial waterfront that adjoins a National Historical Park. The City and the owner of the property, the Pickering Oil Company, commissioned the architecture firm of Skidmore, Owings and Merrill to recommend development options for the site. The optimal development for the site would have been best defined by a community-based political process, but the architects' narrow analysis and recommendations are nevertheless reasonable, except for the omission of a broad range of public amenities.

This thesis modified the architects' recommendations to include public amenities and then uses the recommendations to develop a built environment based on a set of specific architectural principles.

Thesis Supervisor: Imre Halasz
Title: Professor of Architecture
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Mention Salem, Massachusetts to the person on the street and s/he is likely to mumble something about witches. Whether this association is a product of an all-time low in civic boosterism, (Salem is "Witch City" according to the local Chamber of Commerce) or a national fascination with the macabre, Salem has a much more important place in American history than being the site of several hysterical witch trials and murders. Because trade, commerce, profit and exploitation are surely the cornerstones of America's wealth and prominence, Salem can justly claim historical significance, for it was America's center of maritime trade and exploitation prior to the War of 1812.

It's been all downhill for Salem since 1812, but the city is presently engaged in uncovering and restoring its lost mercantile past, and promoting it as a major asset in hopes of revitalizing the local economy and ambiance. Federal urban renewal funds have financed the restoration of the early 19th century central business district, which includes Heritage Plaza, and local groups are inventorying and restoring the city's stock historic private homes.

The Federal Government preserves a piece of Salem's Yankee Trader past as the Salem National Maritime Historical Park, a small National Park located on a remaining piece of 18th century wharf. Four hundred thousand tourists visited Salem in 1974 and it is the fourth most popular tourist destination in Massachusetts. The National Park predicts 730,000 visitors in 1980.

Immediately adjacent to the National Park (Appendix A) is a 4.7 acre piece of filled land that continues the line of the pre-industrial waterfront and has from it a panoramic view of the National Park and the broad expanse
of Salem Harbor. It is presently occupied by a defunct coal yard and a small oil storage facility, and it is the only piece of land on the waterfront that isn't in use as housing or a viable commercial enterprise. Given its unused status, its view to Salem Harbor, and its proximity to the National Park, the owner of the property, the Pickering Oil Company considers it ripe for development. The City of Salem would also like to see the property developed, as a tax and trade generator, and as another example of a civic renaissance. The owner, with the official blessing of the city of Salem, contracted the architecture firm of Skimore, Owings and Merrill (SOM) to study the site (the Pickering Site) and recommend development options. The product of this study, published in August 1975, is a Prospectus for Development (Appendix B). The prospectus is in turn based on various market studies, done as an SOM subcontract.

The prospectus recommends various combinations of development that provide places for parking, eating, lodging, boating, shopping, working and playing. The recommendations are based on commercial needs of the Salem area and are limited by a commitment to maintain a density low enough to harmonize with the existing physical scale of the area. It can also be assumed, but it isn't stated, that the recommendations are based on the desire of the owners to sell the property for a maximum return and on the desire of the city to maximize trade and taxes.

There are two flaws in the prospectus, flaws that could lead to the conclusion that it is no more than a glorified offer to sell the property to anyone who has any development ideas at all. First the prospectus is very cavalier with its analysis of parking requirements. The number of parking spaces per square foot per use is not consistent with the various development
suggestions. The numbers are based on zoning laws that apply most realistically to the central business district and that are subject to change given political pressure. Overall restraints of scale make parking a pivotal issue in determining the scope of development, so SOM's weak analysis of parking leads to the conclusion that the parking requirements and hence to scope of development are really left open for negotiation between the city and a developer. Second, SOM's prospectus details only possible commercial development of the Pickering Site. Never is the overall best use of the site considered. It is entirely possible that a careful analysis of the commercial and social needs of the Salem area, an analysis that aggressively solicited and considered local citizen input, would have concluded that the Pickering site should not be developed commercially at all.

THE PROGRAM

This design thesis is an attempt to use a formal language to put together a built environment that meets a set of programmatic requirements for the Pickering Site. I have not tried to define absolutely what the best use of the Pickering Site is. The best program for the Pickering Site is ultimately defined in a complex political interaction of people, governments, banks, developers, contractors and architects. Neither do I have the passion to become a political force in Salem to help define and then document in a thesis the best use of the Pickering Site, nor do I have the
desire to fabricate a political process as a justification for a use of the site.

Instead of politics or fabrication, I have assumed a set of decisions concerning the use of the Pickering Site:

1. The Pickering Site, as the only piece of Salem's pre-industrial waterfront that is not in viable private use, will be developed as a public place.

2. The economic system that assigns a high value to the Pickering Site as a profit maker for a developer and a tax and trade generator for the city of Salem will demand that the site be developed as a commercial public place.

3. A government (local, state or federal) will realize that purely commercial development of the Pickering Site is not in the best interest of all the residents of the Salem area, and it will therefore subsidize public amenities that encourage use of the site by all the residents and tourists in the Salem area.

Given these assumptions, the SOM prospectus provides a set of programs that fit the use of the site, except for the lack of public amenities. Because it provides for an interesting range of activities to design for, I have chosen to use development scheme A (Appendix B, page x) as a program for the Pickering Site. *

*The existing Pickering Buildings appearing in Scheme A have been gutted by fire. I provide for their projected use in new buildings.
I have made several changes in the program to provide for broader public access and use.

1. I have eliminated half the motel space and the pool area and given it over to a public winter park, an indoor area that is an extension of the water's edge, to be used as gallery space, festival space, sitting space, eating space, strolling space and resting space, depending on the needs of the public and the weather. It would probably be administered by the city park department.

2. I have provided a hostel-dormitory area to give people of limited income a place to stay overnight just as those who can afford motel accommodations are able to do so.

3. I have cut on-site parking in half, first because the motel is smaller, and second, to provide space for the development of a real use edge along the water.

THE DESIGN

So I found a program and rationalized using it. Then I analyzed everything. Streets, sidewalks, cars, campers, sun, sea, wind, rain, picnickers, knappers, walkers, shoppers, tourists, cyclists, old folks, kids, shops, restaurants, motels, parks, floors, ceiling, walls, windows, wood, bricks and mortar. While doing all this "data cranking" I kept waiting for a building to appear. After all, I was dealing with a fairly straightforward program, certainly not some giant symbol that called for
the grand gesture and damn everything else, and certainly not a "moon base" place that required some brilliant technological fabrication. Just solve the real problems and a building tends to define itself. Not so. I had bits and pieces, but I still had to design eighty percent of a building. Finding this was more of a confirmation of a suspicion rather than a surprise. Fundamentally, discovering what I have left to do, and then discovering how I can do it have been the energy behind this thesis.

I have based my design for the Pickering Site, the 80% of the design the data cannot touch, on a set of principles that order design. I have discovered them through a reciprocal process of design clarifying principles and principles guiding design. While the poorest architectural historian or the dullest observer of the M.I.T. scene could assert truly that they appear elsewhere, I adapt them freely so they are mine for now. Discovery of ordering principles is a bit of a quest for me so I'll pick up new ones and throw ones out over time, but these I use here, now.

* A built environment must have a range of physical dimensions that provides for spatial variety and varying privacy conditions for individuals.

* A built environment must be an additive assemblage of pieces and the pieces must be clearly defined in a hierarchy of size.

* A built environment must be an extension and intensification of the existing field of physical definition where it is assembled. Lacking an existing field, one must be built.
* A built environment must have a distribution network that is made of clearly defined movement links and nodes and that has a life of its own.

* Conflicting directional built elements must generate reciprocal interactions in the total built environment. (Let me get down off my high horse...directions of a building should smash together or they should stop just short of colliding. The merging directions ought to generate something else.)

* A built environment must have an internal order that transcends and compliments the field generated order.

The above principles apply to all buildings. Allying them specifically to the Pickering Site program, I have defined a set of design objectives.

1. Major access to the Pickering Site is by automobile from Derby Street and on foot from the National Historic Park.
   
   * The built environment must welcome auto traffic from Derby Street and pedestrians from the National Park.

2. The scale of the Pickering Site neighborhood is predominantly residential, i.e., small buildings not more than thirty feet high. The National Park is predominantly open space with two small restored pre-industrial warehouses along the water's edge.
   
   * The built environment must not offend the existing scale of the area. It must be as low as possible and large dimensions dictated by the program must be expressed subtly.

3. The predominant orientation of the built field along the waterfront is perpendicular to the water's edge. This orientation becomes
more prominent with increased distance from Derby Street.

* The built environment on the Pickering Site must continue this geometry.

4. The water's edge is an important continuity extending from within the National Park through the Pickering Site to the adjoining marina, and hopefully beyond, assuming an intelligent future.

* The continuity of the edge must be maintained by the built environment.

5. The view of Salem Harbor and the use of the water's edge are the major assets of the Pickering Site.

* The built environment must be an extension of the water's edge and must be built to accommodate the broadest possible range of water-related activities including walking, strolling, eating, fishing, boating, playing, napping, contemplating, ruminating and just sitting. These activities are best accommodated by a variety of appropriable spaces. There must be maximum water orientation for all the parts of the building.

6. In terms of use, the winter park is an extension of the water's edge.

* The winter park must be accessible from the water's edge, provide access to the water's edge from the rest of the site, and continue the range of space found outside to the inside.

7. The varied projected uses of the built environment have different entry, distribution and privacy requirements.
* Commercial space must adjoin a very public distribution and have at least one very permeable edge.
* Eating places must have a very public point entrance but an edge that provides a degree of privacy for diners.
* Office space must have a semi-public entry with a private edge.
* Lodging, both motel and dormitory, must have a strictly controlled point entry that leads to a private distribution system.
* The motel entry must be directly accessible from a parking area.

These objectives are used in conjunction with the restraints of the Massachusetts State Building Code, conventional construction materials and existing foundation conditions.

With all this input I designed a built environment. Please see the drawings.
### REVISED AREA REQUIREMENTS FOR DEVELOPMENT SCHEME A, SOM PROSPECTUS FOR DEVELOPMENT

<table>
<thead>
<tr>
<th>USE</th>
<th>SOM RECOMMENDATION</th>
<th>REVISED AREA</th>
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</thead>
<tbody>
<tr>
<td>motel</td>
<td>106 rooms</td>
<td>50 rooms</td>
</tr>
<tr>
<td>restaurant A</td>
<td>165 seats</td>
<td>same</td>
</tr>
<tr>
<td>pool</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>restaurant B</td>
<td>190 seats</td>
<td>same</td>
</tr>
<tr>
<td>office</td>
<td>7,600 sq. ft.</td>
<td>same</td>
</tr>
<tr>
<td>marina</td>
<td>4,700 sq. ft.</td>
<td>same</td>
</tr>
<tr>
<td>parking</td>
<td>255 cars</td>
<td>170 cars</td>
</tr>
<tr>
<td>budget lodging</td>
<td>no</td>
<td>50 people</td>
</tr>
<tr>
<td>retail space</td>
<td>8,000 sq. ft.</td>
<td>same</td>
</tr>
</tbody>
</table>
A National Park Service brochure describing the Salem National Historical Site, directly adjacent to the Pickering Site.
Salem was founded in 1626 by Roger Conant and in 1628 became the first town in the Massachusetts Bay Colony. Her seacoast location gave impetus to maritime pursuits and soon fishing and shipping became the leading industries of the community. As early as 1643, fish, lumber, and provisions were being sent to the West Indies in exchange for sugar and molasses - staples that were brought home and made into rum. Gradually the orbit of trade was extended to Europe, most particularly to Portugal and Spain which offered a ready market for dried fish, and supplied salt, wine, fruit, iron, and Spanish dollars in return.

This trade thrived until 1763, when England began to enact and enforce new measures which stringently limited the commercial intercourse of the American Colonies. Under these conditions the economic life of Salem, like that of most continental ports along the Atlantic seaboard, was brought to a standstill, engendering a discontent which grew into resistance and eventually resulted in rebellion.

During the American Revolution, important aid was given by Salem to the colonial cause through privateering. Swift and formidable ships were built, mounted with guns, heavily manned, and directed against British commerce. Salem was the one American port of significance that did not fall into the hands of the British at one time or another during the course of the war. Consequently, it was possible for Salem to keep an average of 50 vessels continually at sea and in search of the enemy.

At the end of the war, the energy that had been shown in privateering found an outlet in a worldwide search for new markets. Pioneering voyages were made by Salem ships into the Baltic and beyond the Cape of Good Hope to the fabulous East Indies and China - voyages which helped to usher in the first golden age of American foreign trade and achieved for Salem a reputation as one of the world's famous ports.

The embargo imposed on American shipping by President Thomas Jefferson in 1807 and the War of 1812 were severe blows to Salem and were the first of several factors which led to the decline of her commerce. During the War of 1812, however, privateering took the place of trade as it had in the Revolution, and at the end of hostilities the pioneering instinct that had been shown at the close of the War of Independence was again in evidence. New channels of trade to Africa, Australia, and South America were explored. After the discovery of gold in California, Salem shipowners were among the first to reap profits from the trade around Cape Horn to San Francisco. Salem's landlocked harbor was too shallow to accommodate large new ships, however, and as a result, her commerce was rapidly absorbed by the deepwater ports of Boston and New York.

**ABOUT YOUR VISIT**

Salem Maritime National Historic Site is on Derby Street, Salem, about 20 miles northeast of Boston. From Boston and points south, Salem is reached by Mass. 1A and 107 through Lynn and also by Mass. 129 along the shore from Lynn through Marblehead. From a westerly direction, Mass. 114 brings traffic from Mass. 128 in Peabody and U.S. 1 in Danvers. Groups may receive special service if advance arrangements are made at the site.

**ADMINISTRATION**

Salem Maritime National Historic Site is administered by the National Park Service, U.S. Department of the Interior. A superintendent whose address is Box 847, Salem, MA 01970, is in immediate charge.
A TOUR OF SALEM’S OLD WATERFRONT

This tour starts at the inshore end of Derby Wharf, directly across the street from the Custom House. Numbers correspond to tour markers.

1. You are standing on Derby Wharf, the longest and busiest of 45 wharves that lined the waterfront during Salem’s heyday between the Revolution and the War of 1812. The red building on Central Wharf, to the west (your right), is an exterior copy of a typical warehouse. Even wharves as small as Wharves, between Derby and Central Wharves, provided berths for a couple of vessels and a warehouse for their cargoes.

2. At this warehouse in April 1791 the cargo of the brig Henry from India and the Cape of Good Hope was auctioned. Chintz, cottons, gingham, indigo, ostrich feathers, raisins, wine, China silks, and chests of tea drew local merchants and townspeople. During the Revolution, Salem had auctions of the British ships and cargoes that were captured by her privateers. Part of the profit went to the owners and crew, and part, often including vital war supplies, went to the Continental Congress.

3. Until 1806, the wharf ended here. The narrow extension was added to provide more docking space in deeper water as shipping increased. Salem was about at its peak in tonnage, volume of trade, and number of ships when the embargo of 1807 idled 117 vessels at their berths.

4. Around the time this extension was built, more wharves were constructed near the mouth of the harbor to the eastward. Gradually the inner harbor was filled in. You can see what’s left of it by looking to the west past the end of Central Wharf.

5. Wharves were built by floating timber rafts into position, then sinking them with stones. Repairs and reconstruction were constantly underway because of damage from high tides and storms. Some of the oldest stonework in Derby Wharf can be seen at the bottom of the east wall between 1800s as they did to a seaman returning from a three-year voyage to China.

6. Salem Harbor is an inlet of the Atlantic Ocean. Beyond the islands to the east, you can see the horizon and the open sea about five miles away. The lighthouse on Baker’s Island marks the channel entrance. In early years, there were no beacons to warn seafarers of the numerous rocks. These obstacles helped make Salem the only major American port that was never held by the British in the Revolution.

7. Look over the edge on both sides of the wharf. Salem Harbor has a nine-foot tidal range, so depth of water varies quite a bit throughout the day. Ships docked and sailed at high tide—and settled in the mud when the tide was low. Most Salem vessels were small and did not need very deep water. A 100-foot East Indiaman would only draw about 10 feet. Long wharves like this one made the harbor even shallower by slowing the outgoing current and causing silt to pile up. You can see this happening today as a sand bank builds up against the west side of the wharf.

8. Although Salem never regained its prominence after the War of 1812, shipping did not die out entirely. This lighthouse, built in 1871, is still used. Vessels in the outer channel, where it swings inshore beyond the red lighthouse, can stay in deep water by keeping the two lights in line. Oil tankers docking near the mouth of the harbor are the only oceangoing vessels now using the port of Salem.

9. Walking back toward the original shoreline, the buildings you see along Derby Street appear about as they did to a seaman returning from a three-year voyage to China. The buildings to the left of the Custom House are privately owned and not open to visitors.

A. At the far left beyond Central Wharf, is the yellow, gambrel-roofed house where Capt. Richard Derby lived when he started his shipping fleet, his seagoing family, and his long wharf.

B. The big gray house belonged to Capt. Simon Forrester, a pioneer in the Baltic trade who built Central Wharf and the brick warehouse whose foundation is still visible on it.

C. Benjamin Crowninshield, captain of the brig Henry, merchant, and Secretary of the Navy during the War of 1812 lived in the 3-story brick house.

Next are several buildings of Salem Maritime National Historic Site.

D. The Custom House was built in 1791 for the officers of the customs revenue. The collector, surveyor, weighers, gaugers, measurers, inspectors, boatmen, and numerous clerks here handled the business of the port for the Federal Government. Several offices are restored, including one used by Nathaniel Hawthorne. By the 1800s, at the back of the building, a regular lighthouse, built in 1831 and completed in its present form.

E. The Bonded Warehouse, looking like two wings at the back of the Custom House, was used for the storage of cargoes awaiting re-export or payment of customs duties. The original rotating winch and other pieces of equipment are still in operation, and tea chests, rum barrels, and other typical cargoes can be seen.

F. Hawkes House, between the Custom House and Derby House, was originally designed by Samuel McIntire, Salem’s great architect. Capt. Benjamin Hawkes, who operated a shipyard directly across the street, bought the house in 1801 and completed it in its present form.

G. Derby House, now the oldest brick dwelling in Salem, was erected in 1761-62 for Elias Hasket Derby Jr. by his father, Capt. Richard Derby. Elias and his family lived here until the early years of the Revolution. Later, his ships were among the first American vessels to trade with China, Russia, India, and the Philippines.

H. West India Goods Store was built in the early 1800s by Capt. Henry Prince, who lived in the Derby House next door. It was one of the many shops along the waterfront where imported goods were sold.

I. Scale House, not visible from the wharf, is directly behind the Custom House. Weighing and measuring devices used to determine value of cargoes were stored here. Some of the equipment is still in operation.

The City of Salem retains many other features from its heyday as a seaport. Streets, business blocks, public buildings, and houses built for merchants and shipmasters can be seen throughout the city, reminders of the era when its citizens all depended on shipping for their livelihood.
APPENDIX B

The prospectus for development of the Pickering Site by the architecture firm Skidmore, Owings, and Merrill.
The City of Salem is pleased to invite the expression of interest for the purchase and development of a 4.7 acre waterfront parcel. This site, which is presently owned by Pickering Oil Heat, Inc., will be conveyed to a private developer at a price and terms to be negotiated as part of a total development package. Known as the Pickering site, it is located near downtown Salem adjacent to the Salem Maritime National Historic Site.

The purpose of this prospectus is to describe existing site conditions, to suggest a range of development opportunities, and thus to stimulate and guide developer interest in the redevelopment of this important parcel.

Four alternative development schemes prepared by Skidmore, Owings & Merrill for the City of Salem are presented in this prospectus as guidelines for discussion with potential developers. Each scheme is based upon a development program prepared by Economics Research Associates after a study of market conditions in the Salem area.

These schemes illustrate a range of development alternatives which have been subjected to extensive analysis and review by the consultants, the City and the community. It is recognized that a private developer may wish to suggest other "packages" for development of the site based on his own assumptions regarding construction cost, marketability and financing.

The City's prime objective is that the site contribute to the commercial viability of downtown Salem and enhance the historic waterfront area. To accomplish this goal, the City seeks to work closely with the selected developer to balance the interests and concerns of all parties and to insure a development plan harmonious with the scale and character of the surrounding area.
Background

The present 4.7-acre site is made up of several smaller parcels acquired over the years by Pickering Oil Heat, Inc. beginning in the late 1920’s. The principal use of the site during this period has been coal and oil storage and distribution. The site’s well-protected waterfrontage was ideally suited for small barge and lighter operations. The oil storage tanks and several smaller buildings have been abandoned and the site is presently used for Pickering Oil Heat, Inc. administrative offices and minor storage functions.

In recent years the renewal of the City’s nearby central business district has accelerated the transition of industrial use parcels in the Pickering site area to marine and commercial uses which complement the concurrent renewal and restoration of nearby historic buildings and residential areas. The Pickering site, strategically located between a revitalized downtown and a restored historic district will play a key role in Salem’s evolving future.

The site reuse study and this prospectus for development were made possible by private funds in accordance with an agreement between the City and Pickering Oil Heat, Inc. The first phase of the study was an initial reconnaissance of the site in which the consultant team analyzed the physical setting, existing plans, zoning, utility easements, market studies, subsurface and utility conditions and circulation patterns. This work is summarized in the text and figures on pages 6 to 13.

Development opportunities were explored in the second phase of the study. A wide range of conceptual alternatives were sketched, based on programs developed from the consultant’s market analysis and the information developed in the first phase. An initial review was followed by further design development and the application of construction costs and economic feasibility analysis. Following additional reviews with the City and community groups, four illustrative schemes were selected for the prospectus. These are shown along with programmatic data on pages 14 to 23.
On Derby Street, which forms the site's northern boundary, are reminders of Salem's golden era of merchant ships and the prosperous China Trade — the Old Custom House (1819), Derby House (1762) and Derby Wharf, once the center of Salem's merchant traffic. Some three blocks east along Derby Street is the House of Seven Gables built in 1668 and the subject of Hawthorne's famous novel. Not far are many of Salem's major historic attractions and cultural institutions — the Peabody Museum, the Essex Institute, Salem Common, the sea merchant mansions of Chestnut Street; the Court House, scene of the Salem witch trials; the Witch House; and the Pickering House (1651), the oldest house in Salem.

The center of Salem itself is undergoing a vigorous program of enlightened urban renewal, "Heritage Plaza East." While preserving the charm of three centuries of brick architecture through imaginative restoration and rehabilitation, the central district flourishes with modern offices, banks and retail businesses which are linked by brick, tree-lined pedestrian walkways.

The Pickering site is located on Salem's historic waterfront. Only a short distance from the heart of Salem and adjacent to the Salem Maritime National Historic Site, the Pickering site commands a sweeping vista of Salem Sound, which reaches east to Peaich's Point and the town of Marblehead and north to the towns of Beverly, Prides Crossing and Beverly Farms.
Existing Site Conditions

The Pickering site was used for many years as a central storage and transfer point for coal and fuel oil. The Existing Site Conditions map shows the current uses on the site and major uses and structures on abutting properties. The southern portion of the site near the South River has eleven abandoned oil storage tanks and miscellaneous one story brick and block storage buildings that are in poor condition and should be removed. The three story brick building which occupies the corner of Derby and Union Streets is in very good condition and could be incorporated into the reuse of the site as suggested by several of the schemes shown in this prospectus. The 1,000 feet of waterfrontage on the South River represents one of the principal development assets of the site. Much of the bulkhead is granite and is in good to excellent condition. Two sections totaling about 210 feet have slight to moderate bulges which should be repaired. Another 260 feet has deteriorated to the point where the bulkhead should be replaced or rebuilt.

Utilities

Five utility lines enter the site from Union Street. These are a 2" gas line, a 6" water line, an 8" sewer drain that empties into the South River, an 8" sanitary sewer that terminates at the location of the existing oil tanks, and a subsurface electric line. Within Derby Street there is a 48" sanitary sewer, a 10" water main, electric power and a 4" gas main. The deed for the property notes that the City has the right to enter the site for repair or other work on the sanitary sewer.

Subsurface Conditions

The site is essentially flat from Derby Street to the South River bulkhead. Existing grade is 10 to 12 feet above mean high water. Most of the one story brick and block warehouse structures on the site show signs of settlement and are probably constructed on standard footings. In contrast, the three story Pickering office building at the corner of Derby and Union Streets is on piles and evidences no signs of settlement whatever. Initial reconnaissance by the consultants indicated the advisability of having borings made to determine general subsurface soil conditions and to evaluate foundation options for the development schemes. The City contracted for borings with a geologist who bored a total of 11 holes on the site. His report is available at the City Planning Office. Among the principal findings are first, the water table was above the tide level in all cases, that is, less than 10-12 feet below existing grade; second, a soil profile through seven of the borings indicates that a bearing

Salem Marine Basin as viewed from the Pickering site.
stratum of clay or sand and gravel which would support caisson foundations lies between 8 and 22 feet below existing grade; and third, site foundations, if used, would probably be driven to ledge which varies from 12 to 42 feet below existing grade with the deepest piles being required along Derby Street.

The schemes illustrated in this prospectus assume the use of 30-foot piles and a foundation cost of $2.50 per square foot for all buildings. This compares with a normal foundation cost averaging $.50 per square foot and results in a $2.00 per square foot penalty cost.

**Zoning**

The Pickering site is currently zoned B4 Wholesale and Automotive. This zoning allows 80 percent lot coverage with no setbacks and a height limitation of 45 feet. Several of the uses recommended by the consultants are not permitted by B4 zoning. In addition, the 45-foot height limit would likely be exceeded by some of the four-story structures proposed in a number of the schemes. As a consequence, the consultants have recommended the allowance of variances to the existing zoning or rezoning to B3 or B5 based upon the final development plan selected for the site. The B3 Central Business and B5 Central Development District zoning both allow 100 percent lot coverage, no setbacks and a building height limit of 70 feet. The following chart summarizes the differences between B3, B4, and B5 zoning with respect to the major uses proposed in the four development schemes.

It should be noted that while a marina use is not specifically permitted in any of these zones according to the City's zoning ordinance, it is also neither specifically prohibited nor does it require a special permit. On-site parking is required in B4 zoned areas. Specific parking requirements for potential site uses are described in a later section of this prospectus.

**Uses Permitted**

<table>
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<tr>
<th></th>
<th>B3 (Proposed)</th>
<th>B5 (Proposed)</th>
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<td>Motel</td>
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<tr>
<td>Parking</td>
<td>Parking</td>
<td>Parking</td>
</tr>
</tbody>
</table>

1 No alcoholic beverages
2 Except boat sales & service
3 On-site parking required
Site Access

Existing vehicular access to the site is provided at two points, one at Union Street which terminates in the site and one along Derby Street between Union Street and the Salem Maritime National Historic Site. Additional access to Derby Street is possible to the west of Union Street. Abutting property owners on Congress Street have expressed an interest in coordinating new development and long-range plans for their parcels which could provide vehicular or pedestrian access or both from Congress Street.

Access by boat is possible along the entire 1,000 feet of waterfrontage. A fifty foot channel in the South River is maintained to a depth of eight feet by the U.S. Corps of Engineers. The National Park Service recently announced plans for the reconstruction of Central Wharf just to the east of the Pickering site to provide good boat access to the Salem Maritime National Historic Site.

Central Wharf and Pickering site as viewed from Derby Wharf.
Site Development Potentials

The site is strategically located only five minutes by foot from the Salem central business district and is the nearest point of waterfront access from downtown. In addition, Derby Street is the principal vehicular and pedestrian route for tourists visiting the Salem Maritime National Historic Site and the House of Seven Gables three blocks further east. The site provides the opportunity to take advantage of these linkages as indicated in the accompanying figure. The renewal of 36 acres in the heart of downtown is presently nearing completion and has already stimulated extensive revitalization throughout the neighborhood surrounding the site. Several of the abutting property owners have expressed an interest in coordinating their plans for development with the developer of the Pickering site. As indicated in the figure, such coordination may include joint use of vehicular and pedestrian access to Congress Street, joint use of parking and open space areas, or possibly joint development of entire parcels or portions thereof.

One Salem Green, a new five story office building.

[Diagram of site development potentials with labels for opportunities to reinforce linkages among downtown, waterfront and historic sites, potential joint use of parking and open space areas, potential acquisition of Amoco Station and social club parcels, potential reuse of Pickering building, potential joint access and use of parking and marina with National Historic Site, view of Salem waterfront and Salem Maritime National Historic Site, view to existing marina and potential public waterfront walkway, potential marina and boating facilities, Pequot Mills, South River, Marblehead, and 1000 feet of water frontage.]
Assessment of Development Factors

The Pickering site is subject to the normal development factors of market demand, land costs, site preparation costs, parking requirements, and neighborhood scale and zoning.

Of these factors, current market conditions, the large amount of land required for on-site parking, and the relatively small scale of the adjacent neighborhood tend to limit the size of the development on the site. Conversely, the relative value of waterfront land near the downtown and the extra high costs of preparing a waterfront land-fill site for development tend to require a large amount of revenue producing uses for the project to be financially sound. A summary of each of these factors follows.

Market

As part of the site reconnaissance, Economics Research Associates conducted market studies for selected uses considered as likely candidates for the Pickering site. The conclusions of the ERA study, are summarized below. The complete report is available at the City Planning Office.

Specialty Shopping. Mixed-use development of the site can be expected to support approximately 20,000 square feet of specialty shopping, including restaurant use.

Office. While current demand for office space is being met in the downtown renewal area, the attractive waterfront location of the site and the availability of the existing Pickering building provide potential demand for a small office component as part of a multi-use development scheme.

Transient Housing (Hotel/Motel). There is a potential market for a motel, up to 200 rooms, and supporting facilities as part of the growing tourist activity in the Salem area.

Residential. Preliminary findings indicate the market for middle income or luxury housing is currently being absorbed by other developments in the area.

Marina. There is a strong potential market for as many slips as can be accommodated, particularly in view of the well-protected anchorage afforded by Derby and Central Wharfs.

These conclusions were used to program the type and extent of each proposed use for the various schemes. Estimated construction costs were applied to each program element and used to devise pro forma financial feasibility of the alternative plans.

Land Cost

The price of the land will be negotiated as part of the total development package. For purposes of estimating the costs of alternative schemes, the consultants have used a land cost of $3.00 per square foot. This reflects the prevailing general level of land costs for comparable sites in the neighboring community. In terms of the rate of return on investment, a high cost of land tends to work against those schemes which do not have a substantial amount of revenue producing uses. It also tends to require higher densities and increased intensity of uses which may be unacceptable in terms of neighborhood scale, community objectives or current market forces. The schemes proposed in this prospectus will provide varying rates of return but all have sufficient density to carry these costs and are con-
sistent with the planning and design
goals of the City and the community
adjacent to the site.

Site Preparation

Site preparation cost, along with the
land cost, is an additional economic
constraint. The cost of bulkhead re-
placement and repair and penalties
imposed by the site must be shared
by as many revenue producing uses as
possible within the desired bounds of
density and scale. With respect to
foundations, cost assumptions for the
schemes in this prospectus assume a
"worst" case of requiring pilings bear-
ing on ledge resulting in a foundation
cost of $2.50 per square foot.

Parking

The various illustrated development
plans attempt to balance the level of
development with the associated park-
ing requirements. In none of the
schemes was the construction of a
parking garage economically justified.
Salem zoning requirements for on-site
parking in the existing B4 zone are
shown in the accompanying table. Al-
though the consultant has recom-
mended zoning changes to accommo-
date the desired uses, on-site park-
ing should still be provided in order to
minimize automobile intrusion in the
adjacent community.

Parking Requirements

<table>
<thead>
<tr>
<th>Category</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail</td>
<td>1 space per 150 sq ft of gross floor area, excluding storage area</td>
</tr>
<tr>
<td>Restaurant</td>
<td>1 space per 4 seats</td>
</tr>
<tr>
<td></td>
<td>1 space per 2 employees</td>
</tr>
<tr>
<td>Motel/Hotel</td>
<td>1 space per room</td>
</tr>
<tr>
<td></td>
<td>1 space per 2 employees</td>
</tr>
<tr>
<td>Office</td>
<td>1 space per employee</td>
</tr>
<tr>
<td>Residential</td>
<td>1.5 spaces per dwelling unit</td>
</tr>
</tbody>
</table>

Scale

Finally, each of the schemes was de-
veloped with consideration to the
surrounding neighborhood which is
generally comprised of small scale
buildings and historic houses that
extend to the waterfront. The scale
and character of the surrounding area
were used to determine the desired
development envelope and the articu-
lation of building masses and rela-
tionships illustrated in the schemes
presented on the following pages.
The illustrative schemes are the result of a reconnaissance and design process described briefly in the Background section of this prospectus. The process was guided by general planning and design objectives established during meetings and reviews with the City and community groups. Among the more important objectives are the five which follow:

1. The scale of development both in intensity and in the physical massing of buildings should complement and reinforce the scale and character of the surrounding neighborhood. The Derby Street frontage in particular should reflect the scale, massing, building relationships, and characteristics of the historic area while at the same time provide a transition to the downtown commercial area west of the site.

2. The entire waterfront should be treated as a public resource and be accessible to the community and the visiting public. Direct pedestrian access should be provided from Derby Street with connections to the Salem Maritime National Historic Site and to Congress Street.

3. All schemes should incorporate uses such as marinas and restaurants which take advantage of the unique opportunities of an urban waterfront and reinforce Salem’s maritime heritage.

4. The buildings and site planning should have a unity of design which complements the architecture of the Derby House, Custom House and other significant buildings in the area.

5. Design attention should be given to such details as landscaping, paving textures, street furnishings and signing to ensure compatibility with the surrounding neighborhood and to act as a stimulus to additional community improvements.

Four schemes are presented in this prospectus.

Schemes A and D provide for multiple uses on the site with a motel as the dominant use supported by a restaurant, office use and marina. The A and D schemes differ slightly in program. In Scheme A, the marina is a major site use, whereas Scheme D has a larger motel with support facilities including a small marina. More significantly, in Scheme A the site is organized in such a way that parking is broken up into several areas and the marina could be operated independently from the motel. In D, parking is concentrated in one location and the buildings are sited to take maximum advantage of the view of the harbor.

Scheme B is multi-use but does not include a motel. Major construction is concentrated on Derby Street and the eastern edge of the property with a large restaurant and marina facilities providing a focus on the waterfront and views of the harbor and Marblehead.

Scheme C is a single-use maximum motel development of 175 units with major support facilities including meeting rooms, health facilities and a small marina. The waterfront orientation is similar to Scheme D.
<table>
<thead>
<tr>
<th>Program</th>
<th>Area</th>
<th>Parking Space Requirement</th>
<th>Building Ground Coverage</th>
<th>Construction Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motel</td>
<td>55,800 gsf</td>
<td>148</td>
<td>18,000 sq ft</td>
<td>$2,194,000</td>
</tr>
<tr>
<td>165 seat restaurant</td>
<td>4,300</td>
<td>22</td>
<td>4,300</td>
<td>237,000</td>
</tr>
<tr>
<td>Pool and terrace</td>
<td>7,000 fit</td>
<td>NO POOL</td>
<td></td>
<td>40,000</td>
</tr>
<tr>
<td>Furnishing for 106 rooms at $2,000/rm</td>
<td></td>
<td></td>
<td></td>
<td>212,000</td>
</tr>
<tr>
<td>Restaurant</td>
<td>4,800</td>
<td>65</td>
<td>3,800</td>
<td>135,000</td>
</tr>
<tr>
<td>190 seats</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(in Pickering Bldg)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td>7,600</td>
<td>20</td>
<td></td>
<td>213,000</td>
</tr>
<tr>
<td>(in Pickering Bldg)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marina</td>
<td>1,400</td>
<td></td>
<td>1,400</td>
<td>50,000</td>
</tr>
<tr>
<td>Admin/Service</td>
<td></td>
<td></td>
<td></td>
<td>17,000</td>
</tr>
<tr>
<td>Dry boat storage</td>
<td>3,300</td>
<td></td>
<td>3,300</td>
<td>55,000</td>
</tr>
<tr>
<td>77 slips plus public walkway</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program Totals</td>
<td>84,200 gsf</td>
<td>255</td>
<td>Coverage 30,800 (15%)</td>
<td>$3,153,000</td>
</tr>
<tr>
<td>.41 FAR</td>
<td></td>
<td></td>
<td>Open area 173,200 (85%)</td>
<td></td>
</tr>
<tr>
<td>(73,500 gsf for bldgs only)</td>
<td></td>
<td></td>
<td>Site area 204,000 (100%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land acquisition</td>
<td>600,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site preparation</td>
<td>557,200</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fees</td>
<td>220,600</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Cost</td>
<td>$4,530,700</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Scheme A illustrates a multiple use development with motel office and marina uses in three new structures and a rehabilitation of the Pickering building. All parking is provided on-site with the marina parking located near the waterfront separately from motel and office parking.

Within the range of illustrative schemes developed for this prospectus, Scheme A represents less emphasis on the motel, and relatively greater emphasis on restaurant and marina uses with parking and public open space.

Total project development cost for this scheme including land cost, site preparation, construction and fees is estimated at $4,530,700.
### Program

<table>
<thead>
<tr>
<th>Program</th>
<th>Area</th>
<th>Parking Space Requirement</th>
<th>Building Ground Coverage</th>
<th>Construction Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restaurant</td>
<td>305 seats</td>
<td>8,000 gsf</td>
<td>107</td>
<td>5,000 sq ft</td>
</tr>
<tr>
<td>Restaurant</td>
<td>190 seats</td>
<td>4,800 gsf</td>
<td>67</td>
<td>3,800 sq ft</td>
</tr>
<tr>
<td>(in Pickering Bldg)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td>(in Pickering Bldg)</td>
<td>7,600 gsf</td>
<td>20</td>
<td>-</td>
</tr>
<tr>
<td>Retail</td>
<td></td>
<td>8,000 gsf</td>
<td>53</td>
<td>8,000 sq ft</td>
</tr>
<tr>
<td>Marina</td>
<td>Sales &amp; repair</td>
<td>4,800 gsf</td>
<td>-</td>
<td>4,800 sq ft</td>
</tr>
<tr>
<td>Admin/Service</td>
<td></td>
<td>2,400 gsf</td>
<td>-</td>
<td>2,400 sq ft</td>
</tr>
<tr>
<td>Dry storage</td>
<td></td>
<td>3,300 gsf</td>
<td>-</td>
<td>3,300 sq ft</td>
</tr>
<tr>
<td>77 slips plus</td>
<td>public walkway</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Program Totals**

- **38,900 gsf (35,600 gsf for bldgs only)**
- **247**: Coverage
- **27,300 (13%)**: Open area
- **176,700 (87%)**: Site area

**Construction Cost**: $1,514,000

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th>Land acquisition</th>
<th>Site preparation</th>
<th>Fees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>600,000</td>
<td>688,700</td>
<td>106,000</td>
</tr>
</tbody>
</table>

**Total Cost**: $2,908,700
Scheme B illustrates a multiple use development near Derby Street with two large restaurants, plus office and retail uses and a substantial marina with 77 slips, required on-site parking, and structures for boat sales and repairs. There is no motel.

Among the four schemes, Scheme B illustrates a major emphasis, within anticipated market demand, on retail, restaurant, and office uses consistent with area requirements and maximum marina development within the constraints of the surrounding bodies of water and required channel clearances.

Total project development cost including land acquisition, site preparation, construction and fees is estimated at $2,908,700.
<table>
<thead>
<tr>
<th>Program</th>
<th>Area</th>
<th>Parking Space Requirement</th>
<th>Building Ground Coverage</th>
<th>Construction Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motel</td>
<td>175 rooms, lobby, etc.</td>
<td>74,500 gsf</td>
<td>280</td>
<td>11,200 sq ft</td>
</tr>
<tr>
<td></td>
<td>350 seat restaurant</td>
<td>9,500</td>
<td>56</td>
<td>9,500</td>
</tr>
<tr>
<td></td>
<td>Meeting rooms</td>
<td>2,250</td>
<td>-</td>
<td>2,250</td>
</tr>
<tr>
<td></td>
<td>Enclosed pool, sauna</td>
<td>7,000</td>
<td>-</td>
<td>7,000</td>
</tr>
<tr>
<td></td>
<td>Retail</td>
<td>2,000</td>
<td>14</td>
<td>2,000</td>
</tr>
<tr>
<td></td>
<td>Furnishing for 175 rooms at $2,000/rm</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Marina</td>
<td>30 slips plus public walkway</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Program Totals</td>
<td>.47 FAR</td>
<td>95,250 gsf</td>
<td>350</td>
<td>Coverage 31,950 (16%)</td>
</tr>
<tr>
<td></td>
<td>(95,250 gsf for bldgs only)</td>
<td>-</td>
<td>-</td>
<td>Open area 172,050 (84%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Site area 204,000 (100%)</td>
</tr>
</tbody>
</table>

- Land acquisition: 600,000
- Site preparation: 537,500
- Fees: 300,000

- Total Cost: $5,701,000
Scheme C illustrates a single use development with the entire site devoted to a 175 unit motel containing a small amount of retail related to the motel, a large restaurant with lounge and meeting room facilities plus other amenities including an indoor swimming pool, sauna and health facilities, and a 30 slip marina related to the motel. Parking is provided on-site for all motel requirements, but no extra parking is provided for the marina. The existing Pickering building would be demolished.

Among the four schemes, this shows the largest motel development that the site can accommodate together with amenities and required on-site parking.

Total project development cost including site acquisition, site preparation, construction and fees is estimated at $5,701,000.
<table>
<thead>
<tr>
<th>Program</th>
<th>Area</th>
<th>Parking Space Requirement</th>
<th>Building Ground Coverage</th>
<th>Construction Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motel</td>
<td>126 rooms, lobby, etc.</td>
<td>57,475 gsf</td>
<td>175</td>
<td>16,280 sq ft</td>
</tr>
<tr>
<td></td>
<td>250 seat restaurant</td>
<td>7,000</td>
<td>44</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Meeting room</td>
<td>750</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Enclosed pool, sauna</td>
<td>7,000</td>
<td>—</td>
<td>7,000</td>
</tr>
<tr>
<td></td>
<td>Furnishing for 126 rooms at $2,000</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Restaurant</td>
<td>190 seats (in Pickering Bldg)</td>
<td>4,800</td>
<td>60</td>
<td>3,800</td>
</tr>
<tr>
<td>Retail</td>
<td>(along Derby)</td>
<td>3,000</td>
<td>20</td>
<td>3,000</td>
</tr>
<tr>
<td>Office</td>
<td>(in Pickering Bldg) over Derby retail</td>
<td>7,600</td>
<td>20</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3,000</td>
<td>8</td>
<td>—</td>
</tr>
<tr>
<td>Marine</td>
<td></td>
<td></td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>30 slips with public walkway</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Program Totals</td>
<td>.44 FAR</td>
<td>90,625 gsf</td>
<td>327</td>
<td>Coverage 30,080 (15%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(90,625 gsf for bldgs only)</td>
<td></td>
<td>Open Area 173,920 (85%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Site Area 204,000 (100%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Land acquisition 600,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Site preparation 562,500</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fees 270,400</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total Cost $5,295,500</td>
</tr>
</tbody>
</table>
Scheme D illustrates a multiple use development with a restaurant and office uses in the rehabilitated Pickering building, retail and offices uses in a new structure along Derby Street, a 126 unit motel with a large roof-top restaurant and lounge, indoor swimming pool and a 30 slip marina, all with related on-site parking located conveniently to each use.

Among all four schemes, this illustrates an effort to provide a mix of uses together with a motel development of moderate size.

Total project development cost including land acquisition, site preparation, construction and fees is estimated at $5,295,500.
Next Steps

The City is interested in moving ahead as rapidly as possible on the development of this site. The anticipated schedule is to discuss zoning and parcelization, as well as various schemes and proposals which reflect the objectives of this prospectus, with all interested parties and to devise a negotiated conveyance to the selected developer as soon as possible.

Interested developers should contact Mr. Gregory Senko, City Planner, for additional information regarding this site including the market study, pro forma analyses, the report on subsurface geological conditions, and the Salem zoning ordinance.

Mr. Senko may be reached at the City Planning Department, One Salem Green, telephone 617-744-4580.


A CAVALCADE OF DETAILS

ALL THE BUILT PUBLIC STUFF NEAR
THE GROUND PLUT TOGETHER
WITH HEAVY MATERIALS, BRICKS,
CONCRETE AND PERHAPS SOME
GRANITE BLOCKS. FROM THE
SEA WALL. WALLS ARE DESTRUCT
REMEMBER THAT PILLAR WALLS
ARE NEAR STAIRS AND ROADS.

THE LIGHT STUFF
FOR STAIRS,
ENCLOSED BY
A GLASS BARRIER

THE LIGHT STUFF
FOR STAIRS,
ENCLOSED BY
A GLASS BARRIER

THE LIGHT STUFF
FOR STAIRS,
ENCLOSED BY
A GLASS BARRIER