

# Building INFRASTRUCTURAL PIERS in East Boston

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SUBMITTED TO THE DEPARTMENT OF ARCHITECTURE  
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE  
DEGREE  
MASTER IN ARCHITECTURE  
AT THE  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
June 1992

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# Building INFRASTRUCTURAL PIERS in East Boston

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Sean McDonnell

Submitted to the Department of Architecture on May 8, 1992 in partial fulfillment of the requirements for the Degree of Master of Architecture

## ABSTRACT

The thesis is an inquiry into the urban waterfront and access to it. In particular, it is about the waterfront of Boston which ought to be more accessible, more public, and more present in the life of the city. The project is then an exploration or discovery of the issues related to the making of a waterfront. I have diverged (for longer than I anticipated) into waterfront infrastructures and spent time looking at existing and preexisting waterfront structures, all of which informs a design proposal for East Boston's waterfront. The design proposal is intended in its process to illustrate observations, discoveries, and conclusions.

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Thesis Supervisor: Renee Chow  
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Thesis Readers: Fernando Domeyko and Maurice K. Smith

thank you Jean Riesman for introducing me to East Boston,  
and Alice Gray of Massport for information regarding Massport and their  
piers,  
and Jim Alexander and Nana Stern of Notter, Finegold and Alexander.

thank you Mark and Chris at the last minute.

4 thank you Martha for a lovely pie.

thank you Cynie.

thank you Webbs, Boardmans, McDonnells.

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The phrase 'Long Wharf' currently conjures up pictures of the ugly red(Boston)brick Long Wharf Marriott Hotel, built in the early 1970's on the harbor side of the central artery and alongside the old Long Wharf. It is in fact on a part of the site of the famous 'T'-wharf, once the busiest fishing pier in the United States, itself a bifurcation of Long Wharf.

The Marriott is also squarely on top of what was the path of Atlantic Avenue, the ring road which provided all the piers and wharves of Boston, as industrial sites, with access. Being a ring road, Atlantic Avenue also separated the interior city from the harbor, the industrial sites from the residential. Its inception is entirely contrary to the inception of Long Wharf and in fact it is perpendicular to Long Wharf.

The Long Wharf Marriott is of particular interest because it represents an effort to re-establish an infrastructure, using architecture. The planners and architects of the Long Wharf Marriott conceived of the building as a way to reconnect the city of Boston to its harbor. The building and the reconfigured Atlantic Avenue generated the space for the adjacent Christopher Columbus park, and its position, by being half on the ground and half out on the pier, made the remaining portion of the old wharf public. Clearly architects and planners were trying to reestablish the Long Wharf of old, and bring the city back down to the waterfront.

At the planning level, The Long Wharf Marriott is a success. It is a bold gesture ridding the waterfront of cars, severing Atlantic Avenue and building a larger pedestrian waterfront zone and as such are laudable achievements. Yet Long Wharf fails to achieve another planning objective which was to reestablish a much larger waterfront zone, a zone which extends along the entire waterfront of Boston and transforms the old industrial port into a part of the city. Planners had intended for the large Marriott building to be split at the ground floor by what was to have been a pedestrian extension of Atlantic Avenue. The resulting building form does not account for this intention and so fails to develop a new urban sense of the waters edge where shorelines and piers come together. Long Wharf Marriott sits squarely in the way of movement at the waters edge. Consequently the effort to realize a more public waterfront was not reinforced by the architecture.

## Building INFRASTRUCTURAL PIERS in East Boston

Building both sides of the harbor, making the harbor part of the city:

If Boston is a harbor city, the harbor needs 'another' side. The building of Long Wharf was contemporaneous with the rehabilitation of the Quincy Market/Faneuil Hall area in the early 1970's and was followed by the New England Aquarium. The adjacent Harbor Towers were also built around this time and several old wharf buildings were renovated (Lewis, Commercial, Sergeants, Union, for example). Through the later '80's, development along the shore of Boston and Charlestown has proceeded, Rowes Wharf, a hotel, condominium and commercial project at the waterfront, being the most significant building built in the city in the last 15 years. The conversion of the Edison facility in the North end and the renovation of Lincoln Wharf into Burroughs Wharf are also of note. Talk of building on the Fan Pier/Pier 4 sites again prompted urban harbor talk, but one critical piece seemed to be missing. East Boston frames the harbor. It is the most important site in the whole harbor, not in terms of real estate value or cultural significance to the city but because it stands to define the harbor as part of the city, *within the city*. By building Boston across the water the water is again what joins the city.

What I ended up doing:

the following project enabled me to look at issues relevant to the waterfront and to architecture generally. Of special interest were infrastructures and their control over access to the waterfront. Consequently the project became larger in scale than I had anticipated. As a result of this I explored the possibility of building with larger pieces and at larger scales. I also felt compelled to look at why a waterfront is important and how nature plays a role in the urban environment. In looking at the waterfront I explored enclaves and industrial remnants, and the relationship of work to living, and of work place to living place. Boston harbor provoked questions, as have been mentioned about being across something, about building both sides of something and about foreground. These issues will appear repeatedly throughout the following work.

This project is an exploration of issues related to building on the waterfront. It is both specific and general, large and small in scale and scope. I have, through looking at related waterfront projects, learned something about infrastructures at the waterfront. I have learned that they in fact are the first decisions controlling continuities. I have learned something about structure and cultural identity, about scale and about landscape. The following work is an effort to show and explain what I have discovered, to share some insight into a possible building proposal for East Boston.



## East Boston

East Boston is part of the Boston Harbor and its history is in part due to events in the history of Boston and the harbor. For those reasons it is worthwhile to briefly sketch a history.

### The harbor:

The history of the harbor is characterized by two periods, the first, from the 17th to the 19th century, was a period of unrivaled prosperity in which harbor activities flourished, and the second, beginning in the 1930's and continuing to this day, when the harbor declined and eventually stagnated.



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### Growth and prosperity:

Although originally a farming community founded in the early 17th century, the flow of newcomers and the poor quality of the island soil made Bostonians quickly look to the ocean for its prosperity. Long Wharf, built by 1710 as a 2000 foot long extension to the deep water required by larger vessels, defined the future of the city: the city would prosper by becoming a center of trade and commerce. The eras of trade that followed are familiar, the triangle of trade, with the West Indies and England, and the China trade. The Revolutionary War was begun as a trade war, that is 'no taxation without representation', and tea, the symbol of British trade with the colonies, was dumped in the Boston Harbor. By the 18th century Boston had set up trade routes with the far east, doing commercial battle with England for the lucrative market. The first trade ship into Japan was a Boston boat. Most of the urban prosperity in Boston of the 19th century was financed by far reaching global trade.

view of Boston from masthead of Gleason's "Pictorial". from Ann Holtz Kay, *Lost Boston*, Houghton Mifflin, co., Boston 1980, attribute to the Bostonian Society.

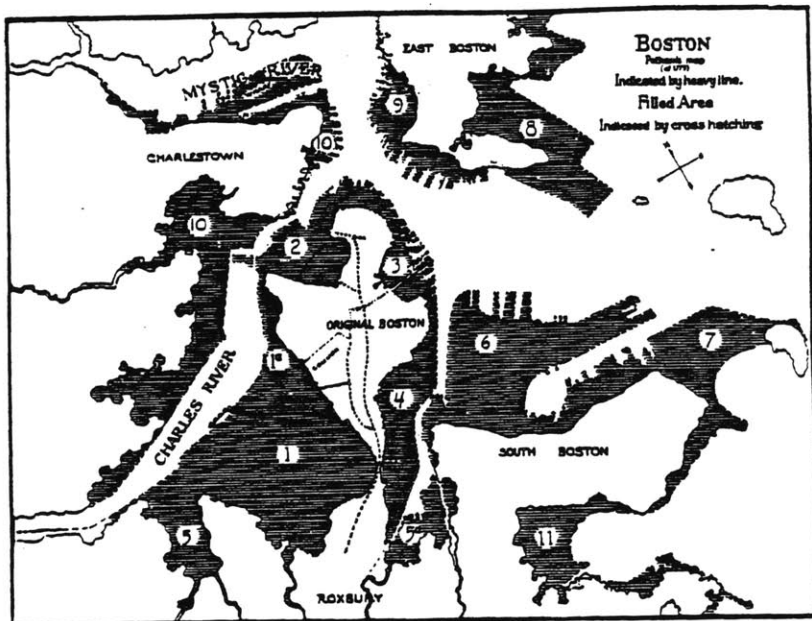
Along with successes trading Boston became an industrial city itself and contributed to the advancement of many New England towns during the industrial revolution of the 19th century. By the 19th century Boston Harbor had also become headquarters to a significant fishing fleet, trade and warehousing businesses and its own manufacturing industry.

"In the first decade of the 1700's, practically one in every three adult males in Boston enjoyed some degree of ownership in at least one oceangoing vessel... At the end of the clippership era (1855), Boston was a metropolis of refinement and wealth, the richest city for its size in the world."<sup>1</sup>

<sup>1</sup> Louis E. Cellineri, *Seaport Dynamics*, Lexington Books, Lexington, MA 1976.

## Building INFRASTRUCTURAL PIERS in East Boston

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THE FILLED-IN AREAS OF BOSTON

Boston has greatly increased its area by filling bays, coves, and inlets. The original area is usually given as 783 acres. The filled-in lands add between three and four times that amount. Dates and amounts given below are approximate only as records do not agree, having been made at different times and by different men, and in certain localities filling-in is still in process. The figures are the best available and the numbered paragraphs refer to sections indicated on the accompanying map.

1. Back Bay, amount about 570 acres, mostly done after 1856 and continued to 1894.

1a. West Cove, amount about 80 acres, begun in 1803 and completed in 1863.

2. Mill Cove, amount about 70 acres, begun in 1804 and completed in 1835. Much of the filling north of the Causeway (indicated on the map by a line) was done in 1835.

3. Great or East Cove, amount about 112 acres, begun in 1823 and completed in 1874.

4. South Cove, amount about 86 acres, begun in 1806 and completed in 1843.

5. Roxbury, amount about 322 acres, the filling-in of which might be said to have started with that of the Back Bay as it was a continuation of it, becoming quite active in 1878 and completed in the 1890's, excepting that part bordering on the South Bay, which is in the section marked "5a".

5a. South Bay, amount about 138 acres, begun in 1850, not yet completed.

6. South Boston, amount about 714 acres, begun in 1836, still in process.

7. Marine Park, acquired in 1883, about 57 acres; bridge to Castle Island, July 1, 1891, included in South Boston filling.

8. Boston Air Port, authorized, May 12, 1922, about 150 acres in 1928, opened Sept. 8, 1923; part of the East Boston filling.

9. East Boston, amount about 370 acres, begun in 1880, not yet completed.

10. Charlestown, amount about 416 acres, begun 1860, completed to present state about 1896.

11. Columbus Park with Strandway, amount about 261 acres, acquired, 1890-1901; part of South Boston filling, as given above.

Much of the filling material for the Back Bay district came from Needham; the contractors, Goss and Munson, built six miles of railroad to facilitate transportation. The mill pond was filled from the cutting down of Sentry (Beacon) and Cotton (Pemberton) Hills. The West Cove was filled in part from the cutting down of West Hill (Mt. Vernon). Fort Hill contributed to the filling along Atlantic Avenue and to raising the grade of territory whose drainage had been impaired by the filling-in of the Back Bay. The dumping of city ashes and the dredging of the harbor also furnished material for various fillings.

from Harborpark, published by the BRA. The harbor has undergone a fundamental transformation.

Decline at the waterfront began in the 1930's. It was due to events which had begun one hundred years prior but only by the '30's did they show themselves at the waterfront. Shipping and manufacturing changes were occurring to make the Boston's inner harbor obsolete. The harbor was both too narrow for new larger ships, and the waterfront links and adjacent warehousing was insufficient. World War II provided a brief respite, and both ship building and harborside activities flourished. After the war though the waterfront of Boston died. Labor stoppages in the mid-1950's prevented the modernization of inner harbor freight off-loading sites and by the 1960's most harbor frontage was derelict with little sign of recovery.

By the early 1970's a gradual transformation of the harborside began with the redevelopment of Long Wharf and Fanueil Hall Markets and the building of the Harbor Towers on the site of the old India Wharf. These projects provided investment at the waterfront which had not seen any since the 1930's. The reinvestment in the waterfront brought with it heretofore unfamiliar activities: recreation and living. The economic revival built apartments in old warehouses and factories, multi-story apartment buildings on the sites of boat yards and hotels on the site of historic thoroughfares. With these new structures came people expecting a new waterfront, not the commercial waterfront that built Boston but a reminiscent image of that same harbor. People came (and still come) for the air, the view and the nostalgia. The transformations at harborside are not transformations which have effected on-water activity, long what the waterfront was responsible for. By the 1970's the waterfront was no longer a link between activity in the water and on land.

The economic transformations which have occurred on shore and at harborside have not addressed activity on water or across the water, which continues to decline. Industrial infrastructure which built the harbor and kept it competitive through WWII has long been obsolete. Admittedly there are a few sailboats in the harbor, and related marinas and servicing facilities have consequently sprung up, but the hulking derelict masses of an industrial time gone are what define the Boston Harbor of today.



mid-18th century farm house in Jeffries Point neighborhood of East Boston amid three family homes

**East Boston:**

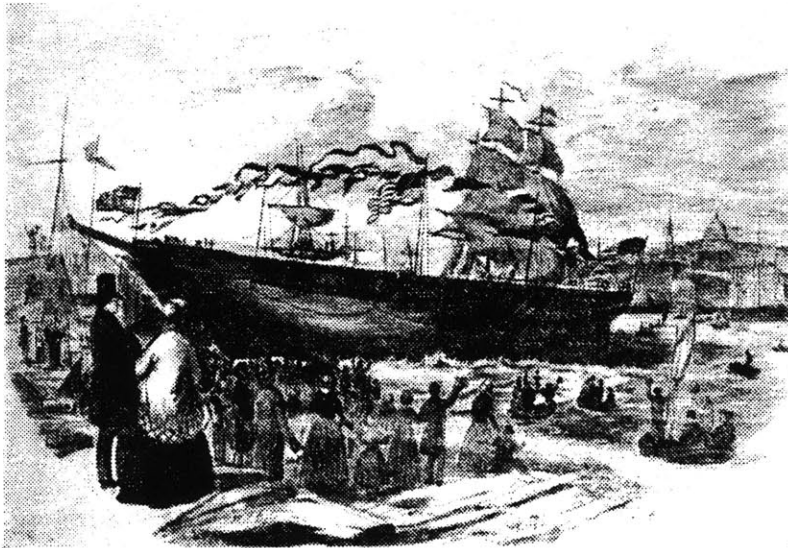
farm outpost, schooner building center, immigration and industrial port, transportation hub

What is known today as East Boston had inauspicious beginnings as an isolated island community where cows were raised to be sold on the Boston fresh meat market. In 1637 the City annexed "Noodle Island" though the area was of little material consequence for next 200 years. By the 1840's the shore of East Boston began to develop. Crowding in Boston, the introduction of ferries and the advent of steam railroads all contributed to East Boston's' urbanization as well as maritime development, initially adjacent to deep on the western shore, water but shortly supplemented by dredging and extending the shoreline..

The mid 19th century in East Boston was notable due to the presence of Shipbuilder Donald McKay who distinguished the local industry with his famous 'Yankee Clippers', "greyhounds of the age of sail." These ships were built during the glory days of the California-China trade at the mid-century.



Donald McKay, from Jane Holtz Kay, Lost Boston, attributed to the Bostonian Society.



LAUNCHING OF THE "FLYING CLOUD," 1851

Launching of McKay's clippers were events witnessed by the entire city. Of the launching of the 'Great Republic':

"October 4, 1853, was a great day for Boston; a public holiday was declared, schools were closed, and business was suspended, as almost every Bostonian wanted to witness the launching."<sup>2</sup>

East Boston was very much in the hearts and souls of all of Boston during this period.

<sup>2</sup> Old Shipping days in Boston, State Street Trust Company, Boston, 1918, p. 46

Building INFRASTRUCTURAL PIERS in East Boston

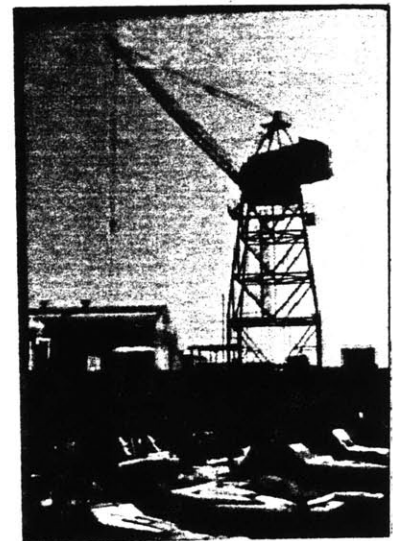
The fortunes of East Boston and its shorefront appear to have been linked to that of the entire harbor, and from the mid-19th century through WWII the waterfront prospered. At the time there were large numbers of manufacturing and freight handling jobs. The freight handling business in particular was dependent upon large crews of handlers, called stevedores or longshoremen. The unloading of a 500 ft. ship, always a task demanding some speed, could required crews of dozens of men to work around the clock for several days, followed by reloading. This type of work defined the working population of East Boston for most of this century as industrious and blue collar. After the war demand for vessels and related ship work subsided the waterfront declined steadily. In the early 1950's modernized freight handling techniques, including the use of larger vessels unsuited to the Boston Harbors narrows drove home the final coffin nail on the once prosperous waterfront.

Throughout the '60's and '70's disassembly for salvage and periodic fires have been the only activity of note on a large part of the waterfront. By the 1980's the only remaining activity on the waterfront of East Boston were two tug boat operations and a ship building facility converted to a staging area for the Boston harbor clean-up.

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the Hodge Boiler Works on the shore of East Boston.



crane at the Cashman Marine Facility, next to the Massport Piers, East Boston, with pleasure boats in the foreground.



Row of workers cottages adjacent to Massport Piers, East Boston.



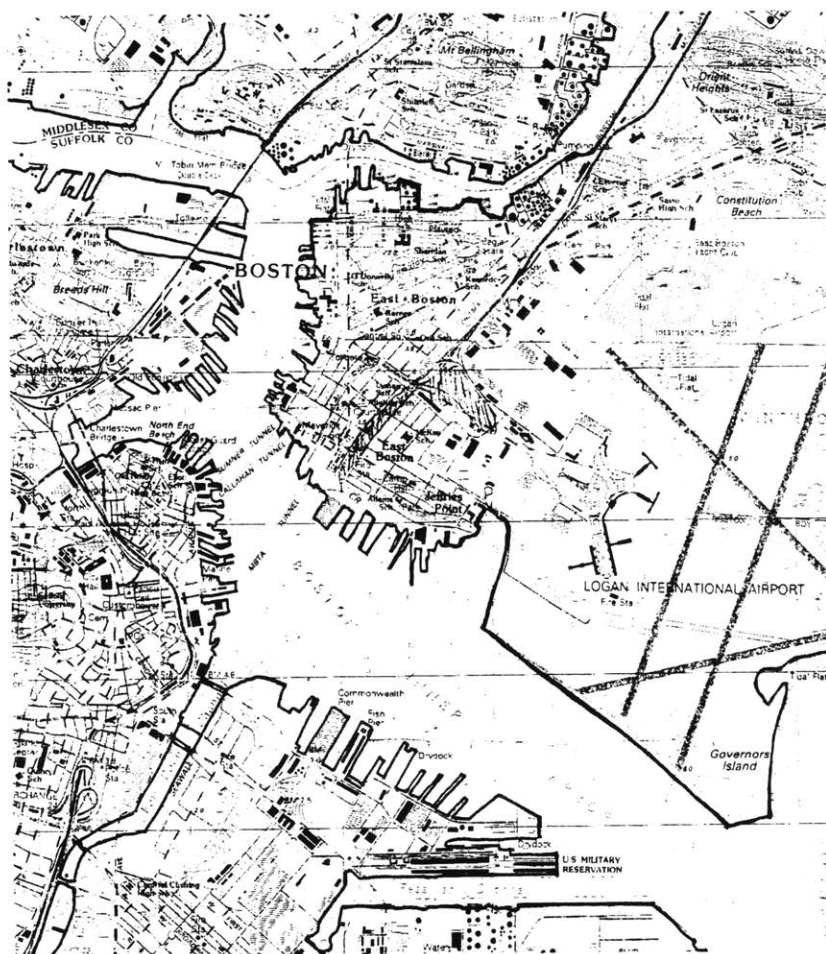
Boston Fuel Transport tugboats in East Boston. These tugs are the only remainder from a once very busy industrial waterfront.

**Building INFRASTRUCTURAL PIERS in East Boston**



A locus map of East Boston prior to the building of Logan. Wood Island Park is circled. Note that the dotted lines between Boston and East Boston are ferries.

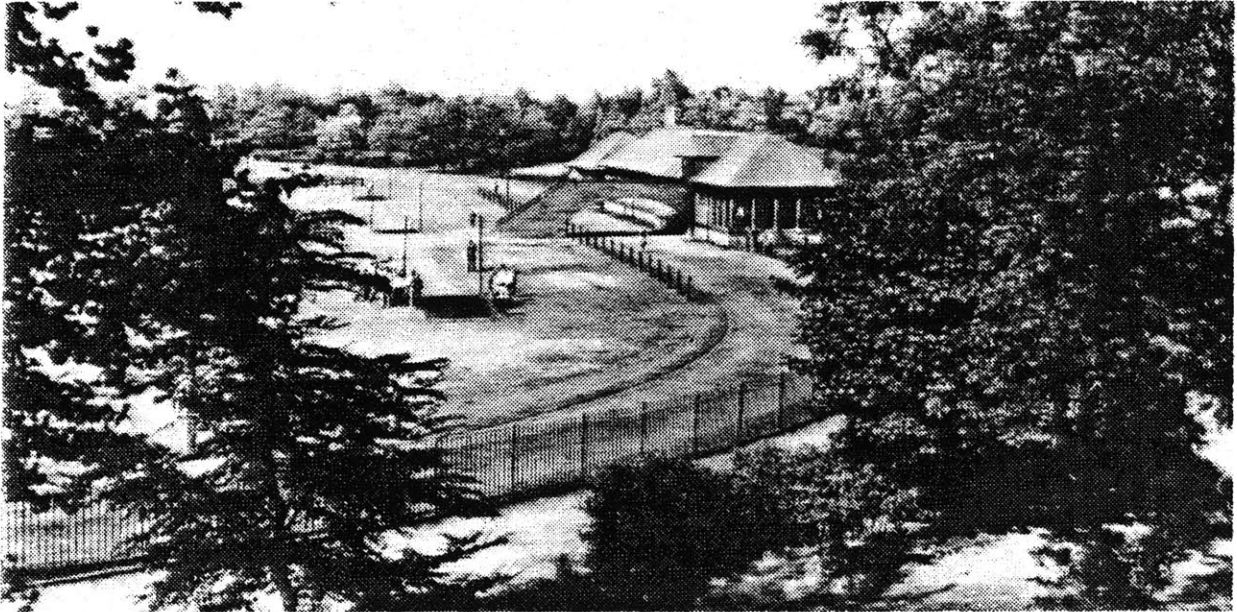
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East Boston with the addition of Logan Airport. Logan was continuously expanded until the mid '70's when community groups succeeded in forcing a moratorium on further expansion.

## Logan

The most distinguishing feature of current East Boston is the presence of Logan Airport. Logan, built in large part on top of mud flats adjacent to the city, has been for East Boston at best a tolerated neighbor and at worst unwelcome guest. The airport authority distinguished itself in the late 1950's by taking from East Boston its only sizable public park, Wood Island Park, a part of Fredrick Law Olmstead's original Emerald Necklace scheme for a comprehensive park system for Boston, to lengthen a runway.



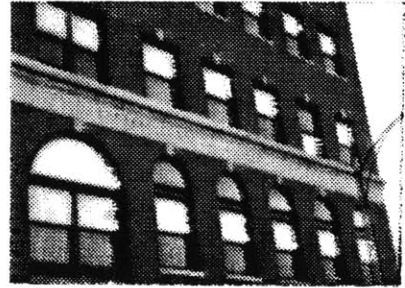


Recent housing built adjacent along the waterfront of East Boston. The Boston skyline is visible behind. This housing is typical of most effort in the 70's to respond to community groups demands for more housing, but given its proximity to the waterfront it is sorely out of context.

## Demographics and Immigration

Demographically, East Boston has been home to successive waves of immigrants, including Jews, Irish, and Italians. This was due to its being a significant immigration station, a first stop into the New World. Unlike New York, which housed its immigration facilities on Ellis Island, Boston's immigration stations were adjacent to the ports-of-entry and subsequently these port towns became home for the most recent arrivals. Like the North End, East Boston still houses the last European immigration wave, Italians. Recently this immigration cycle has been revived with large numbers of Central Americans and South East Asians moving into the area. Although these immigrants are no longer arriving by ship, Logan is now the port-of-entry.

East Boston's largely a blue collar population had the second lowest household income in the city, as of 1984. East Bostonians also had the highest rate of unemployment in the city. The loss of manufacturing related jobs related to the declining port continues to effect the prosperity of the area. Although Logan appears as a possible substitute employer for past longshoremen and their children, this has not proven true. Logan and its affiliated car rental and cargo handling agencies employ some residents, but not a significant number.<sup>4</sup>

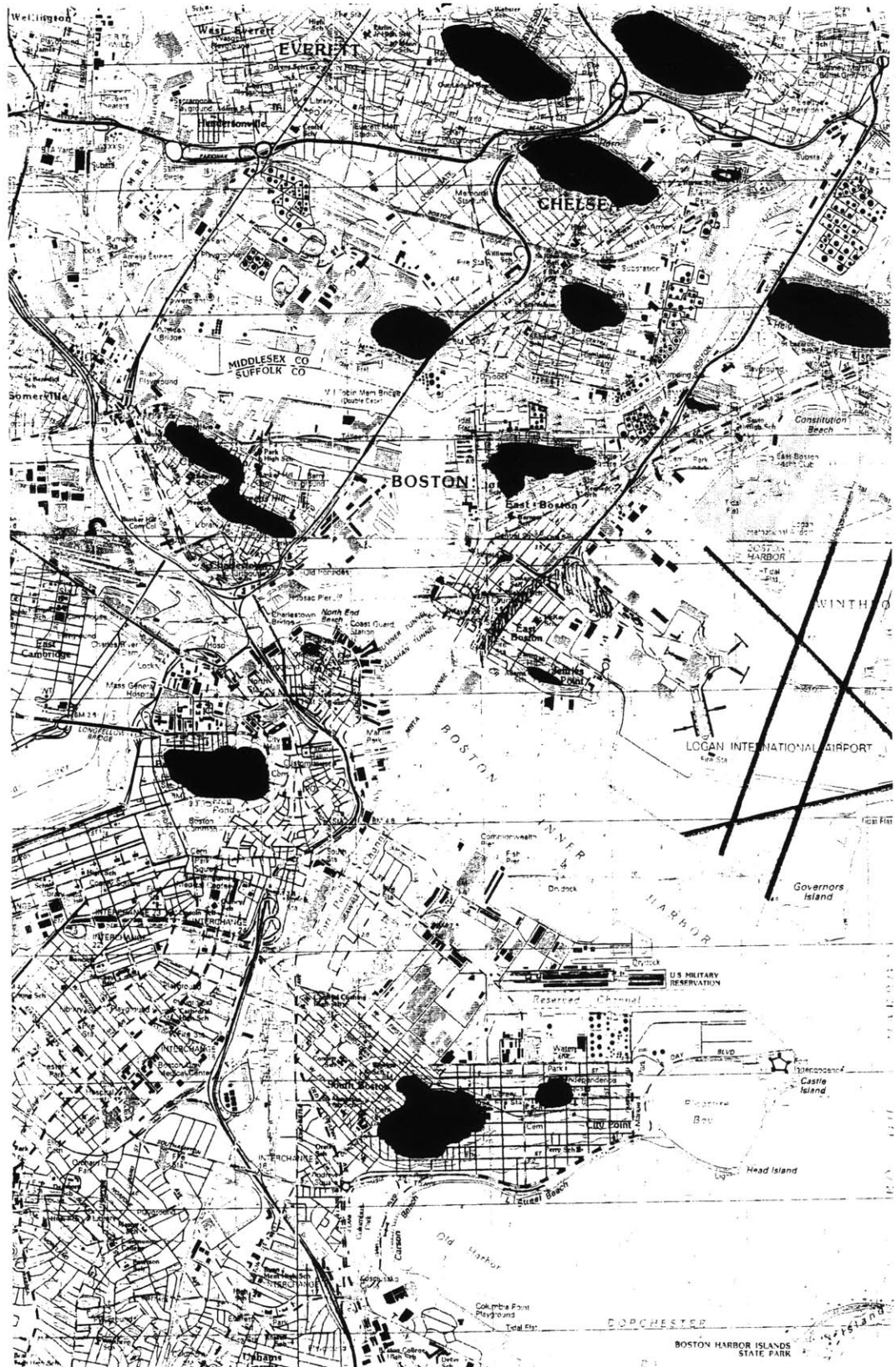


The Immigrants Home along Marginal Street in East Boston

<sup>4</sup> The MIT East Boston Urban Design Studio Briefing Book, prepared Spring, 1989.

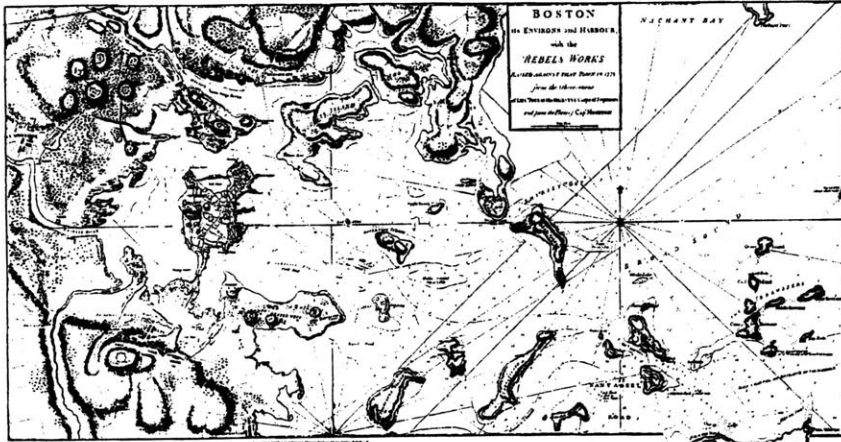
Building INFRASTRUCTURAL PIERS in East Boston

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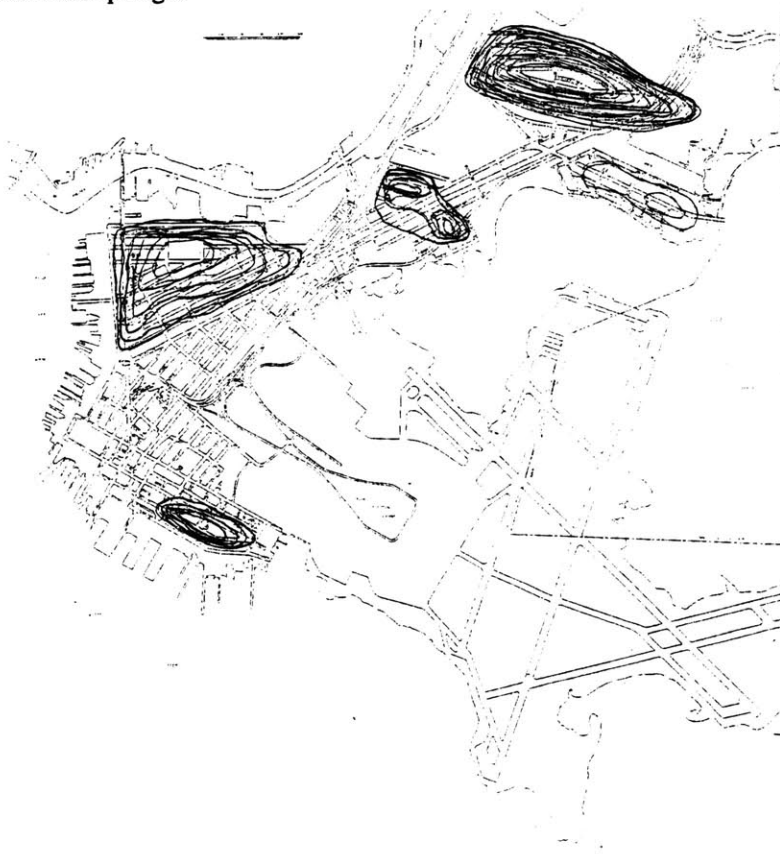
U.S. Geographic Survey, hills 45 feet above sea level are indicated.

Physical attributes, geography

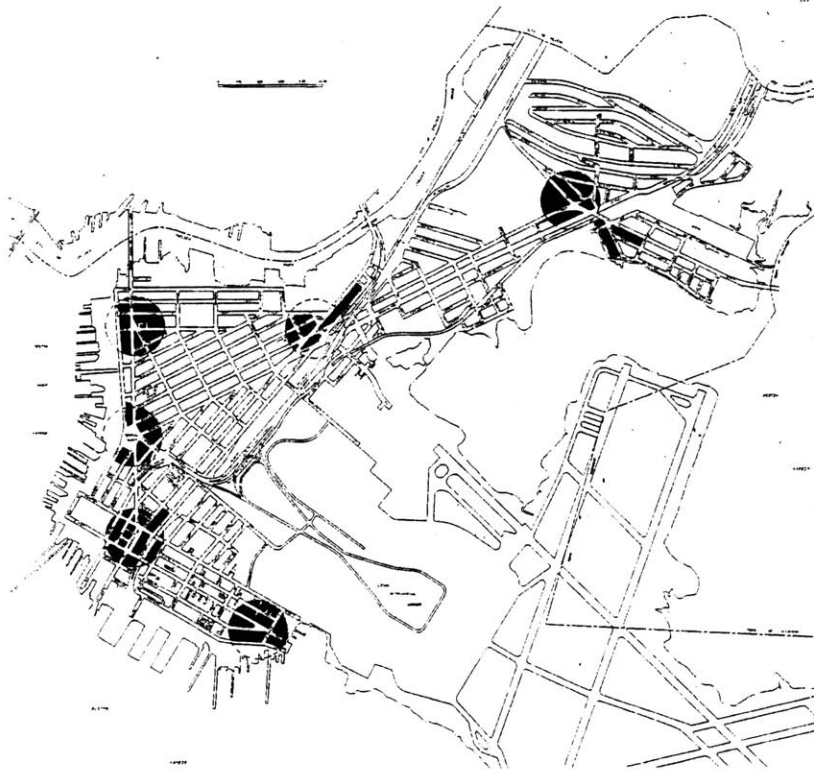


from William Faden's North American Atlas, the map was meant to illustrate the military situation prior to the beginning of the revolution:

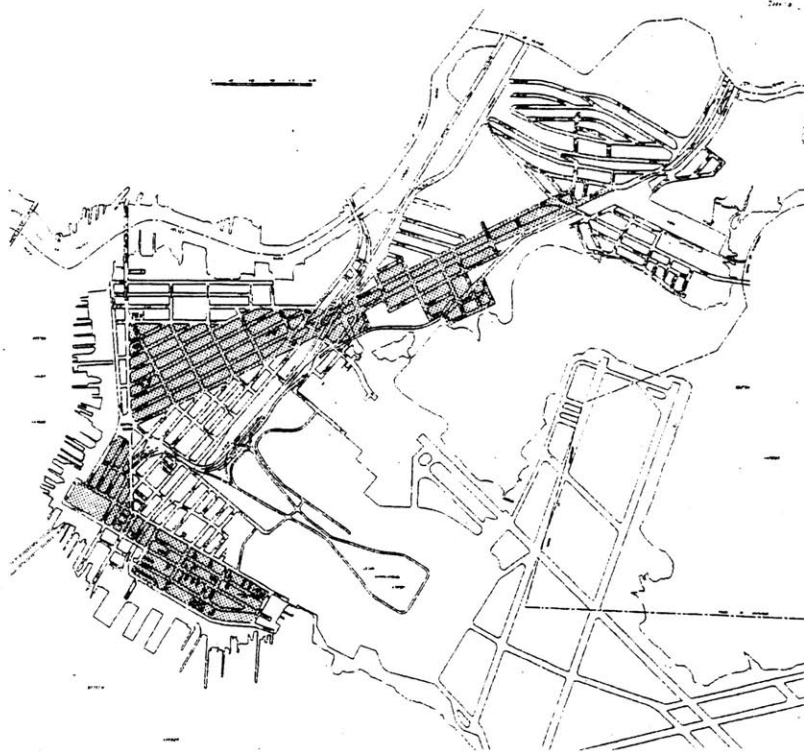
East Boston is built from a group of nearby island, including Apple, Hog, Wood, Noodle, and Governors Islands. These islands are glacial deposits, called drumlins. They are generally abrupt and directional indicating the path of the glacier, which was generally from the North-West. In Boston these drumlins are clustered and include Beacon Hill, Bunker Hill, Breads Hill, Camp Hill, Orient Heights, the hills of Chelsea, Revere and Everett, and all the Boston Harbor islands. At one time these hilly islands formed a small archipelago.



map of East Boston indicating existing topography. A correspondence of overlaid streets to underlying topography is evident.



East Boston street map, indicating nodes at intersection points in the grid.

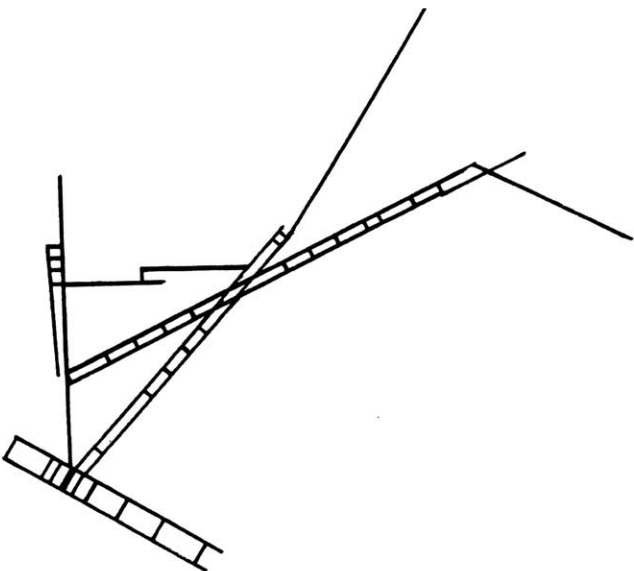
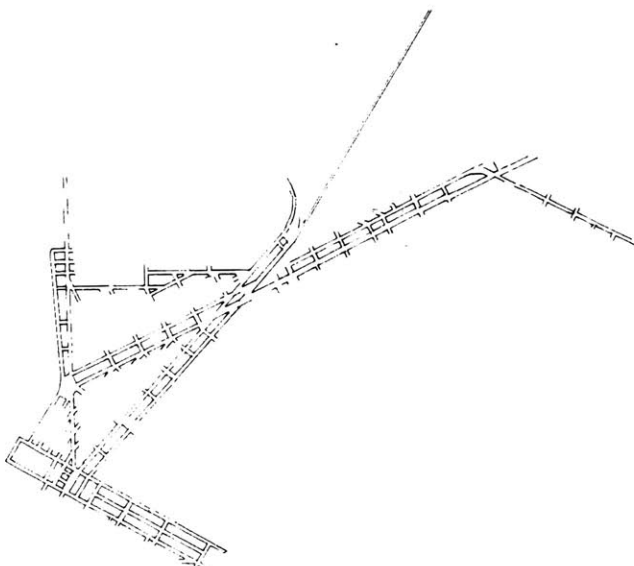


East Boston street map, indicating contiguous fabric pieces within the street grid.

## The Grid of East Boston

East Boston is fortunate to have a fine-grained urban grid. The grid is a topographic response to establishing an urban order. Within the grid it is possible to discern a very controlled structure and pattern, an adherence to very simple principles to build recognizable neighborhoods and a distinct whole city.

I have attempted to demonstrate that the city neighborhoods are comprised of both a connection piece, or access, and an accretion of block sized pieces which comprise the actual neighborhood. The access pieces and related neighborhood share a regular geometry allowing for the identification of distinct physical relationships. The larger access pieces contribute to a larger understanding of the city, its neighborhoods and their interdependence. The smaller neighborhood pieces, themselves accretions of blocks are dependent upon the access pieces for connection and orientation. Every neighborhood has its own direction, main street, and commercial center.

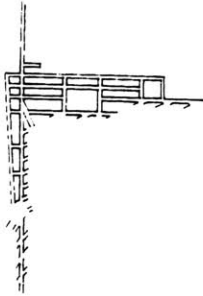


### Larger Access Pieces:

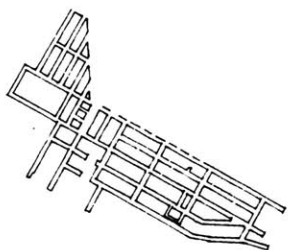
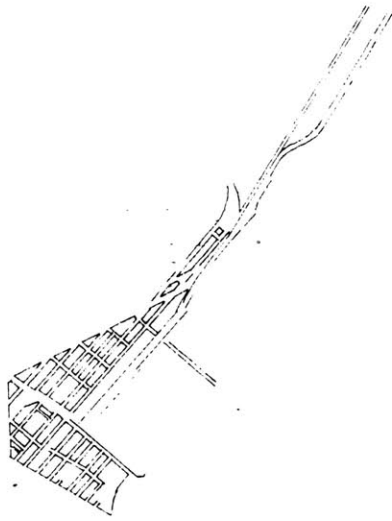
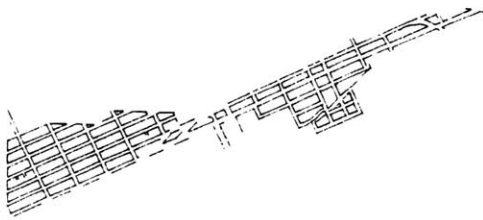
Delineated as both blocks and streets describe the major organization of East Boston, corresponding to the existing topography. The intersections of the larger pieces of access are 'squares' or convergences which are commercial and civic nodes.

**Building INFRASTRUCTURAL PIERS in East Boston**

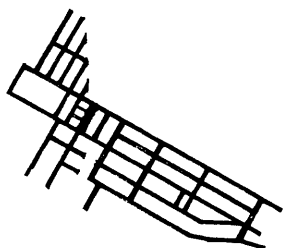
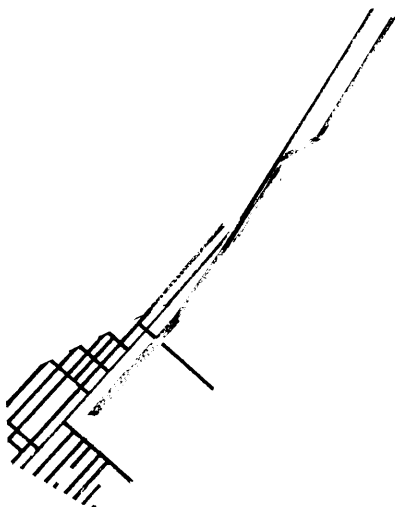
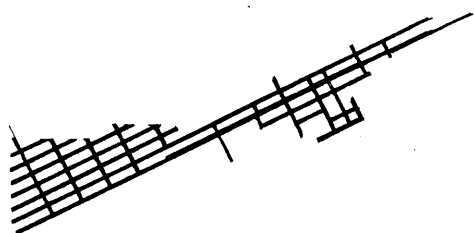
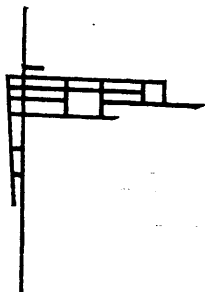
**Neighborhood pieces as blocks. Each piece demonstrates its own orthogonality.**

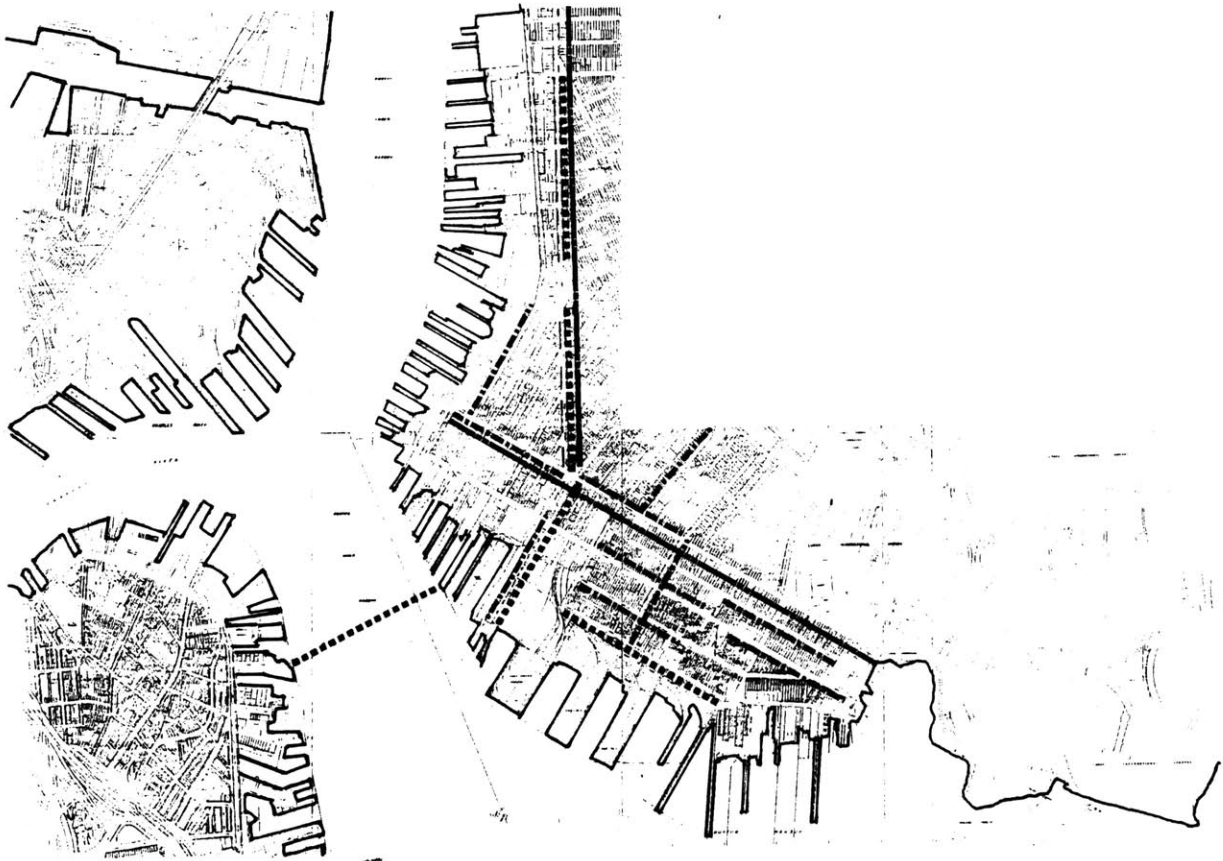


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Neighborhood pieces as streets.






sizes:

larger neighborhood size 

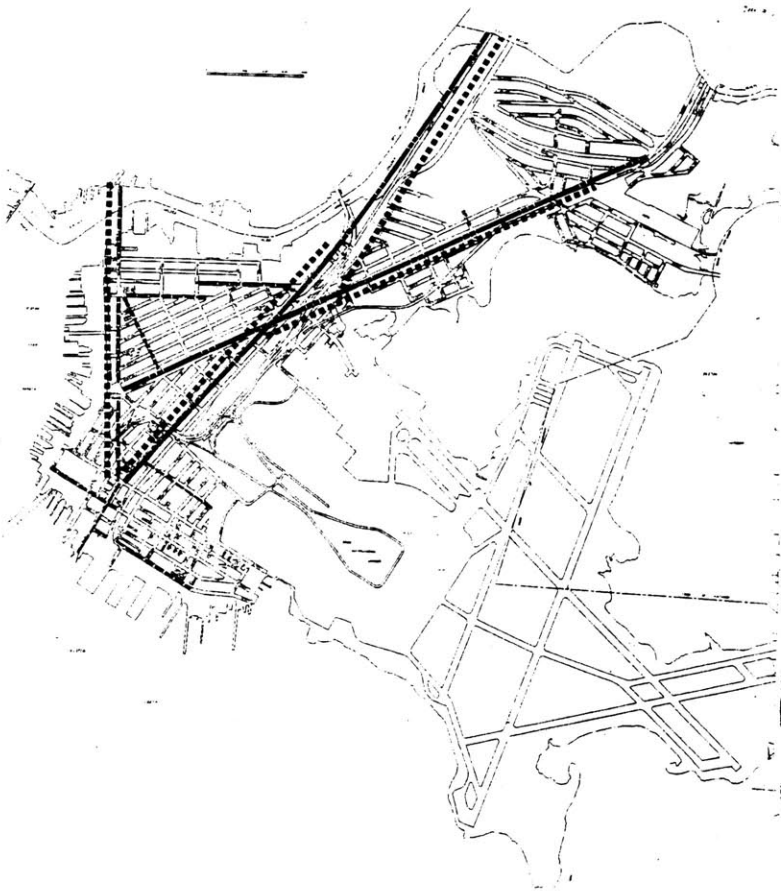
cross neighborhood size 

inner neighborhood size 

### dimensions

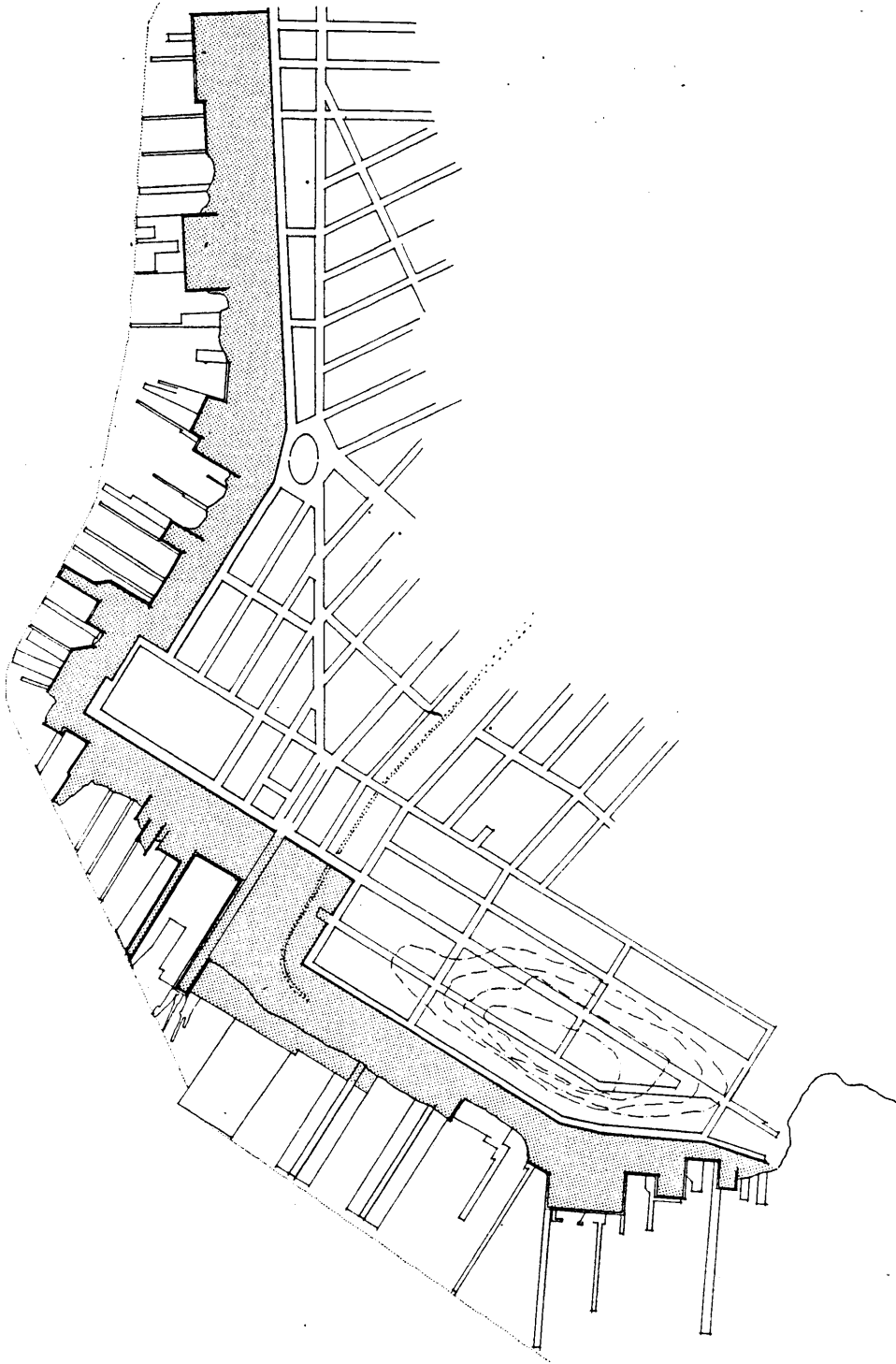
It was interesting to discover a remarkable dimensional consistency in the East Boston fabric. Instead of being a non-contextual subdivision, the grid produces a richly featured response to a unique topographic condition. Combined with that are significant dimensional consistencies. Neighborhoods are both of similar size and different in form, the form illustrating the particular condition of the region, the dimension allowing for association with the rest of the city of East Boston and successful urbanity elsewhere.

In East Boston we find distance between convergences to be regular and repetitive, blocks to be regular and repetitive and neighborhood depths or cross dimensions to be regular and repetitive. These dimensional consistencies reinforce the notion that East Boston is built of neighborhoods, and these neighborhoods can be discerned in physical terms; they have dimension or scale, and form



sizes:

- whole city size      **—————**
- half city size      **.....**
- neighborhood size    **- - - -**



waterfront in East Boston, indicating the separation of the industrial shore from the residential interior. The separation is reinforced by the service road which rings the region.

## Shoreline

The industrial shore of East Boston is different than the grid-bound city. The industrial shore includes both waterfront sites, their support along service roads, and piers. In very few cases can a correspondence between the grid and the waterfront be found and so it is safe to say that the ring roads separate the City of East Boston from the waterfront, piers or otherwise. An exception is the rail bed extending from the waterfront adjacent to Maverick square extension through East Boston and to Chelsea to the North.



view from East Boston across harbor to the city. The piers built of retained earth, and a wooden structure next to it and at the same level. The retained earth would be for trains, while the ships would tie-up to the wooden structure.

### Land form and projections:

The shoreline includes both land projections and built non-land projections called piers.

### Projections

the geometry of the piers is a result of changes in the land form, they are very much radiating fingers not bound by restrictions to the space between, that is it is not real state and not subdividable but must only be navigable to a boat of a certain size. At outside corners this is most evident. Piers shift away from one another as the corner is turned, generating territories of a more free nature. The size of these piers is very much a function of the boats that use them. Interestingly, with the loss of the boats for which these piers were built conversion becomes an issue.



view of Massport Piers from between buildings in Jeffries Point . The pier was raised at its connection point with the land to allow for turning trains.

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view from East Boston to Downtown Boston.



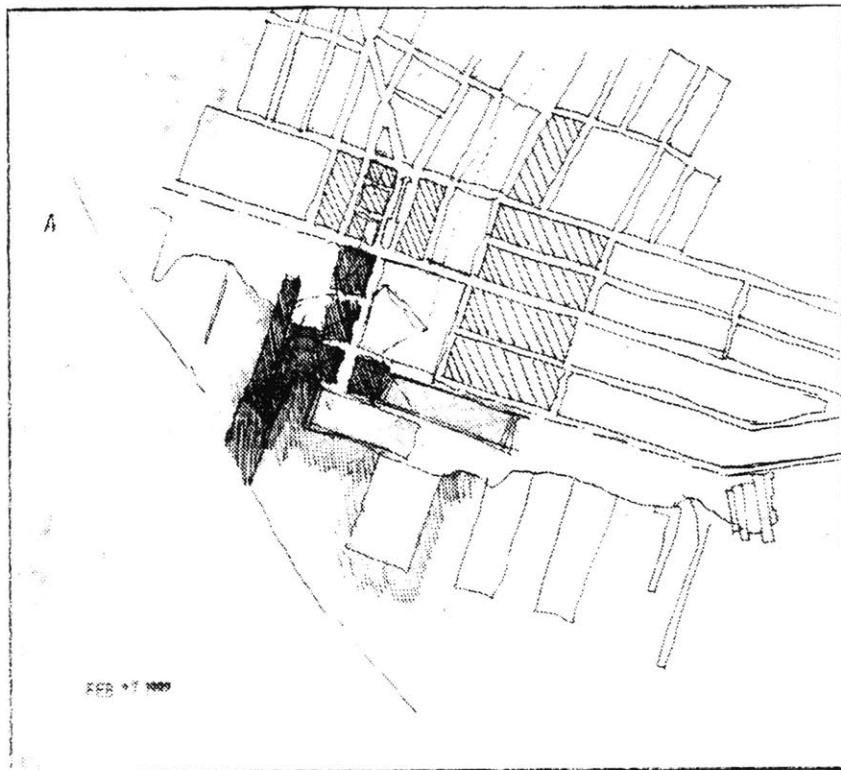
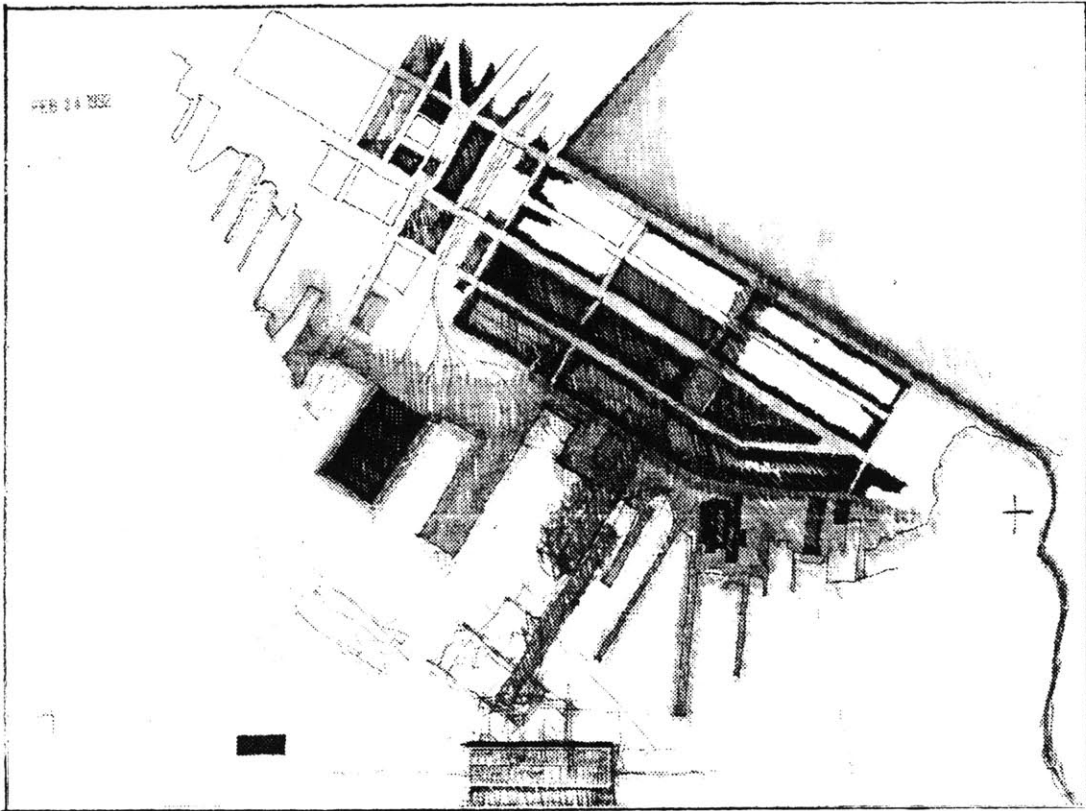
**Land form:**

Almost all of the actual land is the result of filling. In general the filling has been directed at gaining real estate and enlarging the city rather than at projections into the water. The projections are generally atop pilings sunk into the earth. Occasionally the piers are built with a core of retained earth, generally for a roadway. In this way Boston piers and wharves are a hybrid of both pier and wharf.



two views of the shoreline. a stone retaining wall is visible behind the propped up platform. Staining on the rocks is left by water at high tide. The tide in Boston Harbor is over 9 feet.



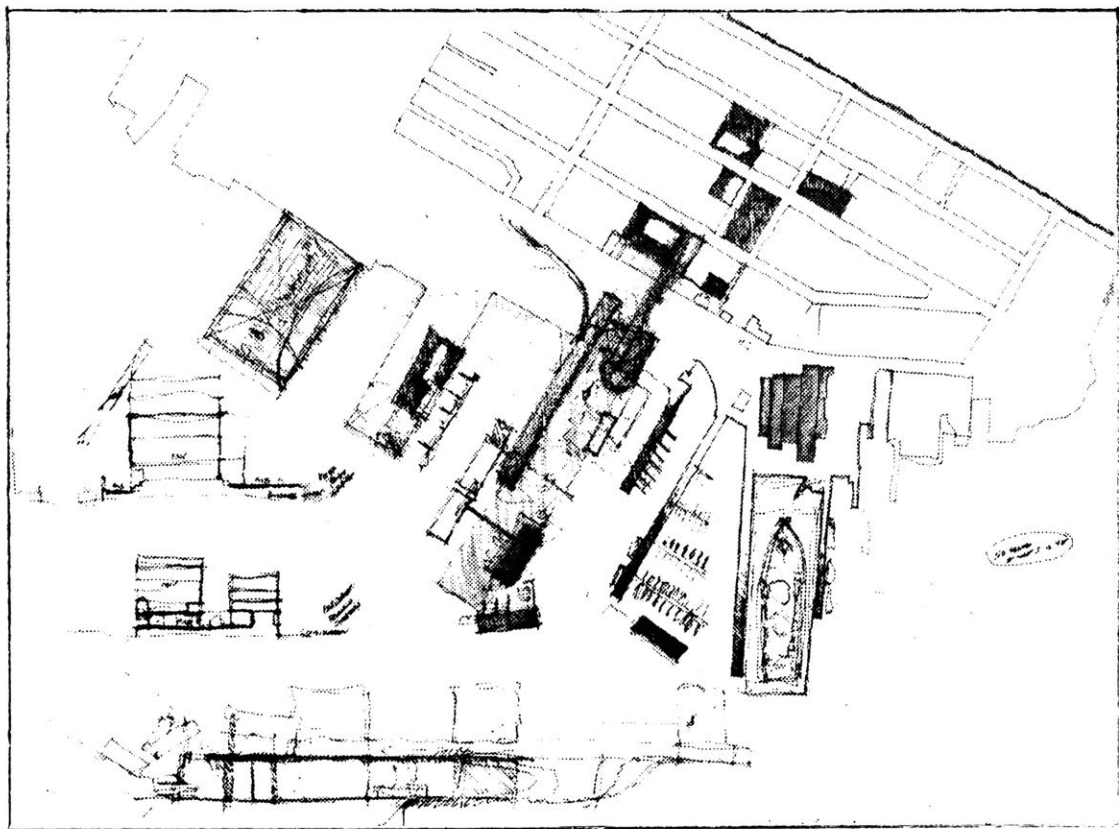


Although I made a second pass at a projection from the neighborhood, I quickly moved over to the west and to a deserted railway which passes beneath the residential neighborhood. This site, also adjacent to Maverick 'T' stop became the actual site.

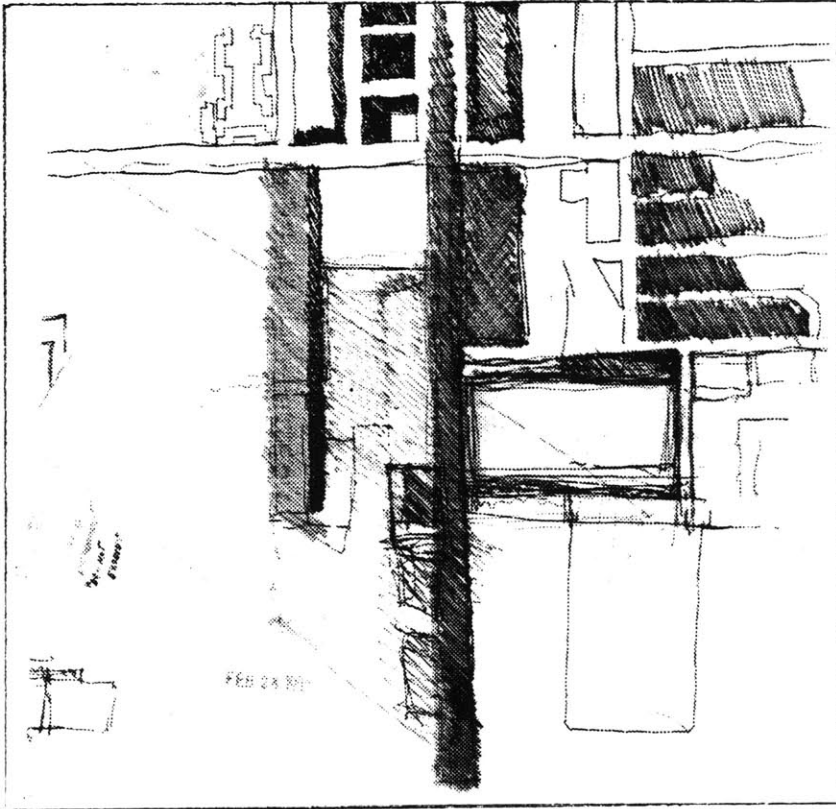
### Site evolution and discovery:

Using design as a tool to reveal the site, a proposal was made. Initially the site was to the southern end of the East Boston shore generally across from Boston. It was limited by the Bethlehem Steel Boat Yard to the East and the Maverick T station to the North. Within this area I began by considering a site known as Massport Piers 1 to 5. The site includes a hillside, called the rockies, approximately 45 above mean low water and about 30 feet above marginal Street at the waters edge. The site quickly moved to the West to try an extend the commercial center around the T station, called Maverick Square , to the water. I discovered at this site an abandoned railbed which passed through the neighborhood at a lowered level. The project began then to take shape as an extension of the neighborhood using the railbed which allowed me to move beyond the ring road into the neighborhood. At the same time I attempted to build a kind of convergence, similar to those found elsewhere in the city, a place to bring the city to, beside the water. The convergence also became a kind of foreground for the view of Boston from the site, something sorely missing.

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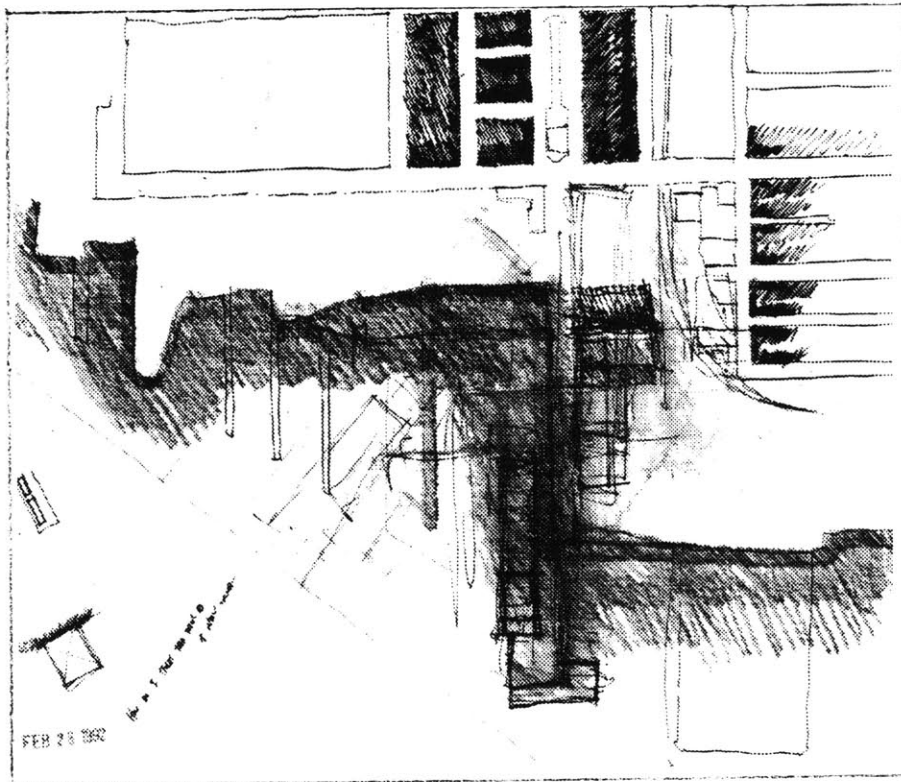


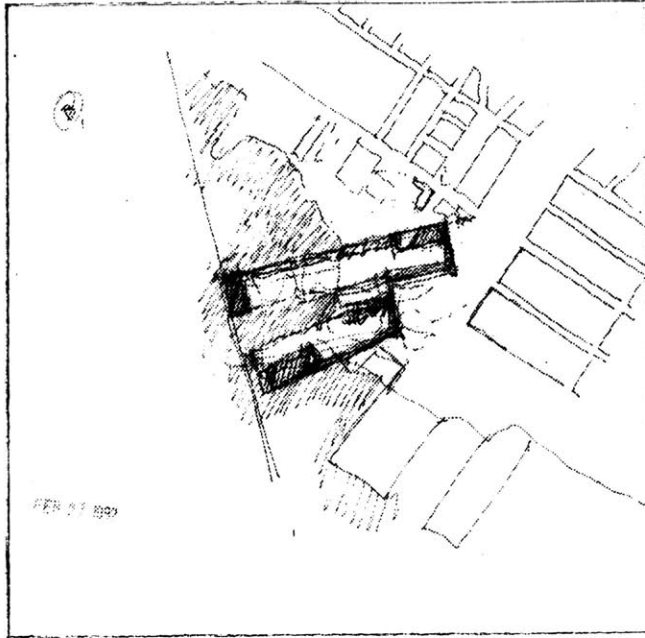
the first drawing of the site, indicating a projection moving from the residential area out to the water, trying to connect the neighborhood to the water. Parkland is darkened in the residential blocks.



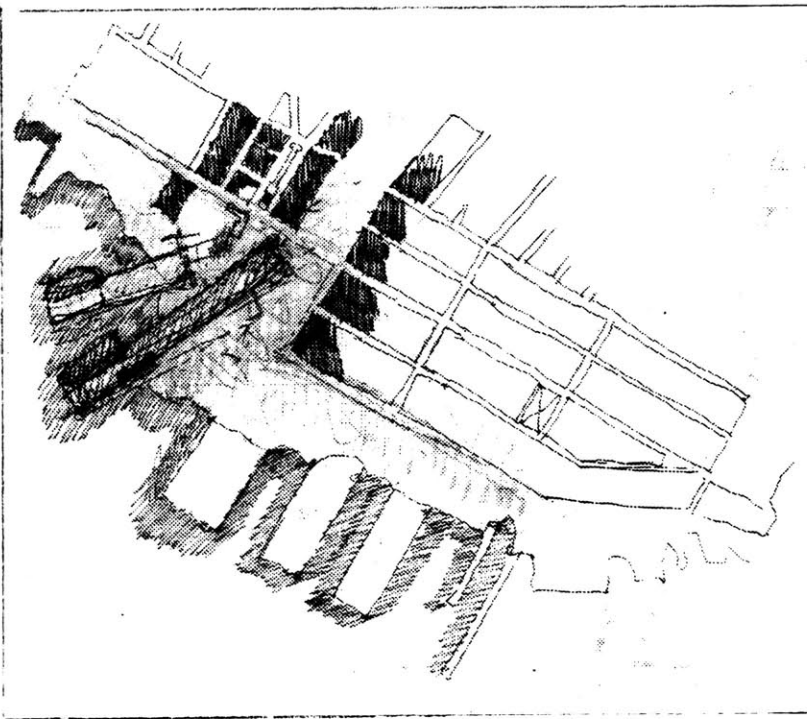
These passes represent an effort at extending the existing grid down to the water. In both cases excavations of the existing waterfront are indicated, the purpose being to bring water closer to the existing Maverick area instead of simply making you go to the water.

38



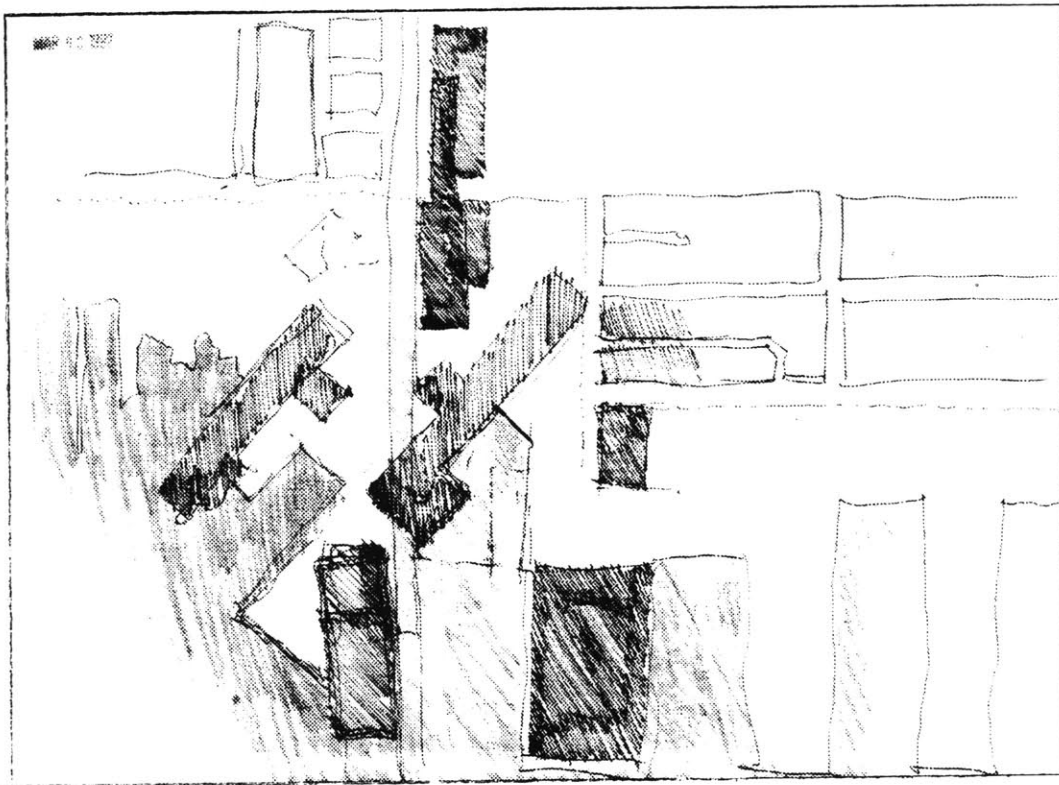
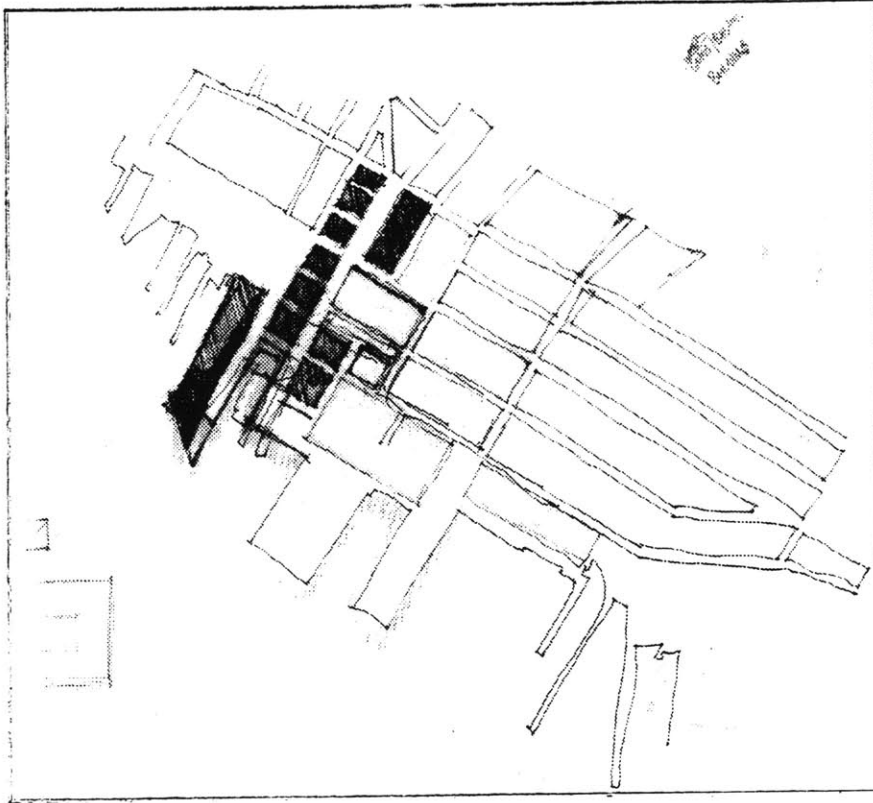


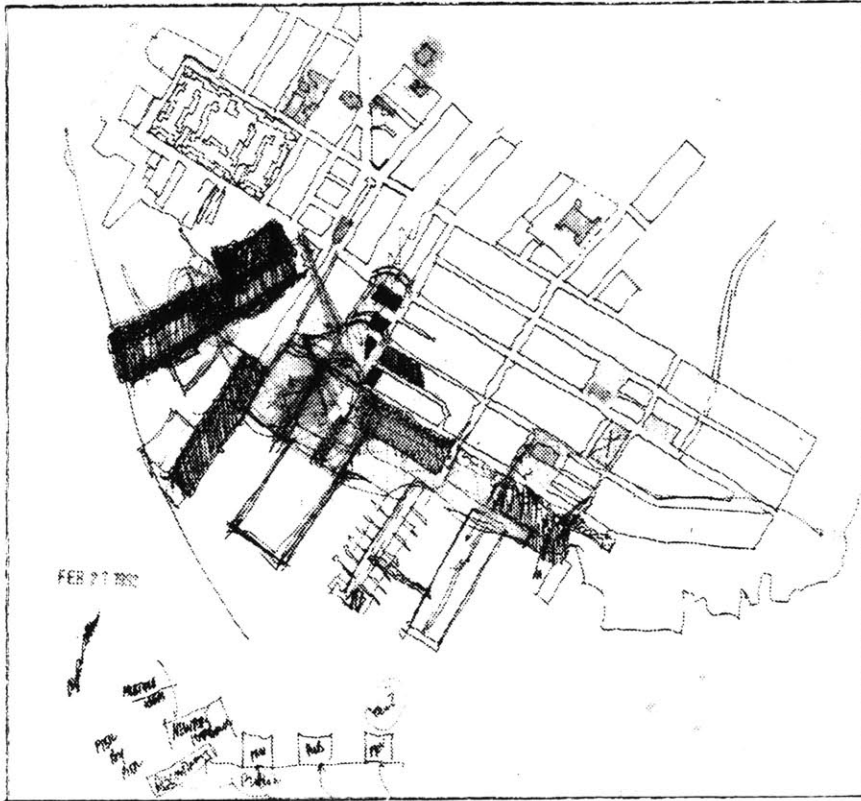
Having found the Maverick site I began to explore ways of extending the public square out to the water. The two piers were used to make space between themselves, the angled geometry of the piers to account for the radiusing shore and the 'new' nature of piers at this scale.



Building INFRASTRUCTURAL PIERS in East Boston

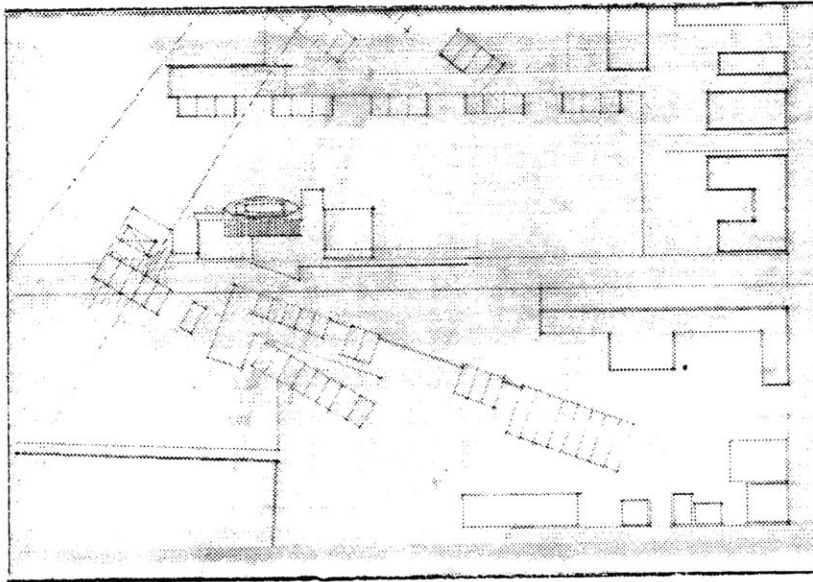
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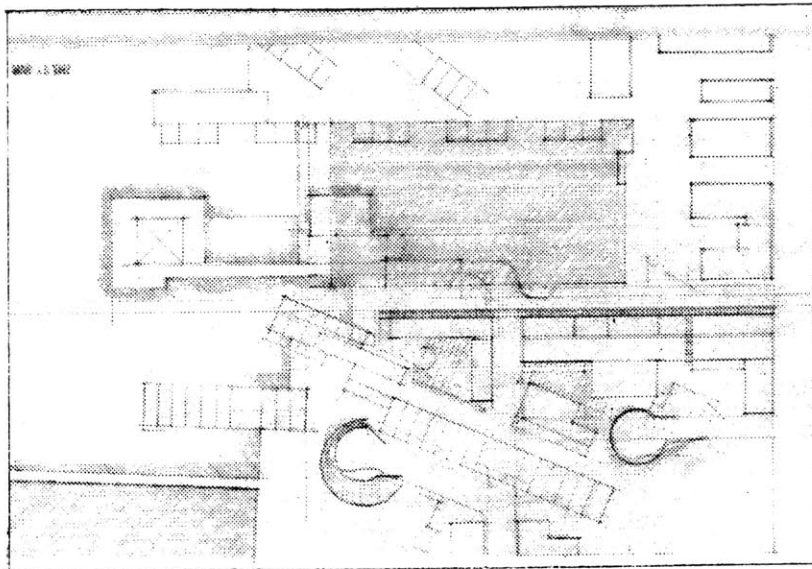


Finally an effort was made to incorporate the Maverick site back into the entire waterfront. The Maverick site began to be clearly the site at which East Boston could be reconnected. I didn't need to build extensions from the neighborhood, as disruptions in the fabric. Rather a strong public move at Maverick would determine the public nature of the adjacent waterfront. You could move along the shore beneath the hillside and out into the water at Maverick. My project began to emerge as a form similar to Long Wharf, a singular extension, related to on-land fabric, building a very public access to the water, making the water part of the city of East Boston.

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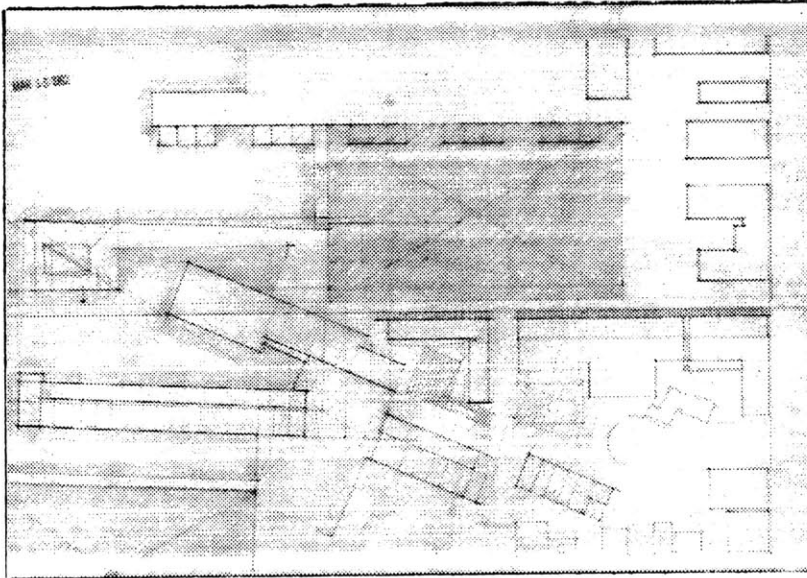


first hardline pass, indicating two pier halves and a ferry terminal. Maverick T station is to the right, the city to the left.



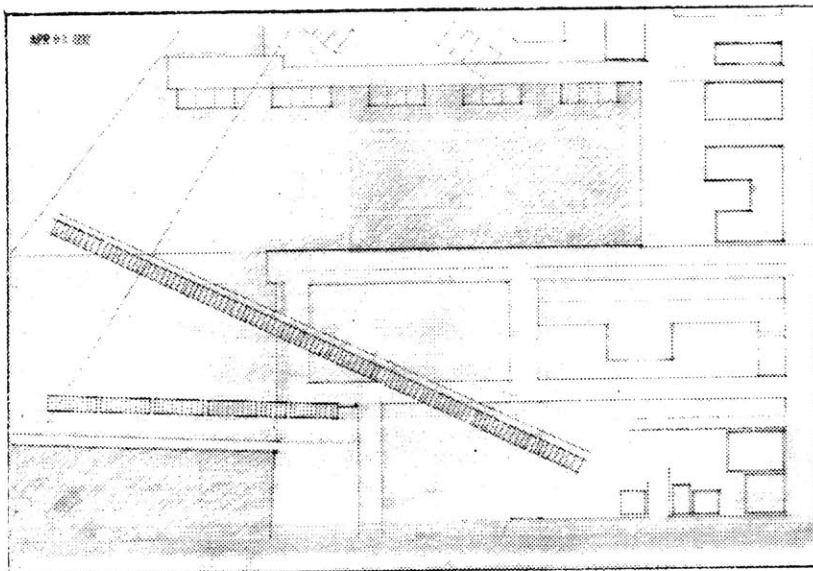
second pass, less singular, more ambiguous and less convincing.

The following hardline passes at the Maverick site began to give the site some form, dimension (which is big), and scale. The dimensions began to correspond to the mentioned existing dimensions. The length of the site was about 1200 feet, a small neighborhood dimension found throughout East Boston. My pieces also started to generate geometries not unlike what I have described as convergences in the rest of the city. The scale of this piece demanded that there be a public space, a collection or reference point, some way to identify it as a region. Also it became a way of extending a public portion of the city out to the water, where it starts to help activate the edge.



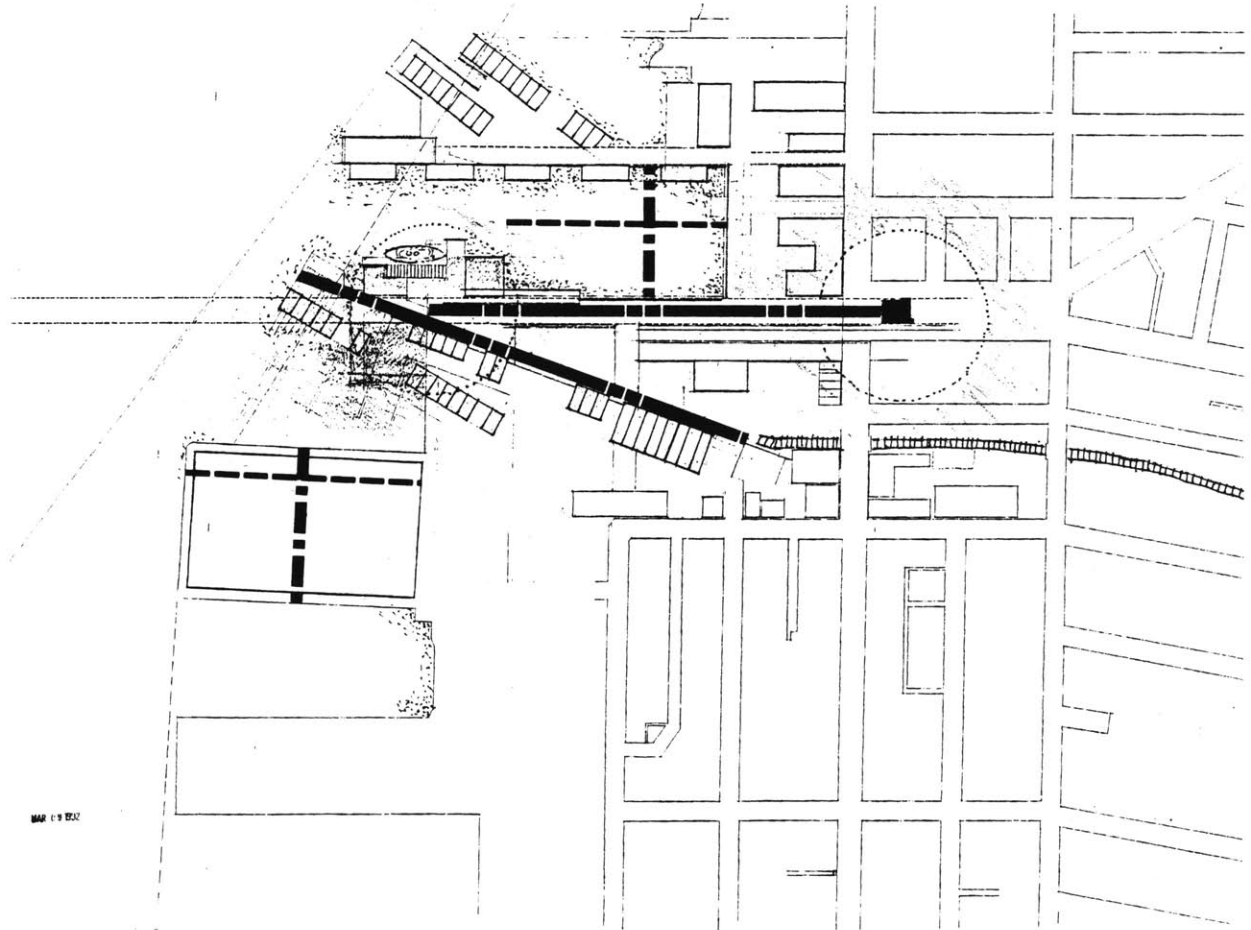
43

third pass, more convincing yet still ambiguous.



final early pass, a very severe but unambiguous pier, elevated above the ground.

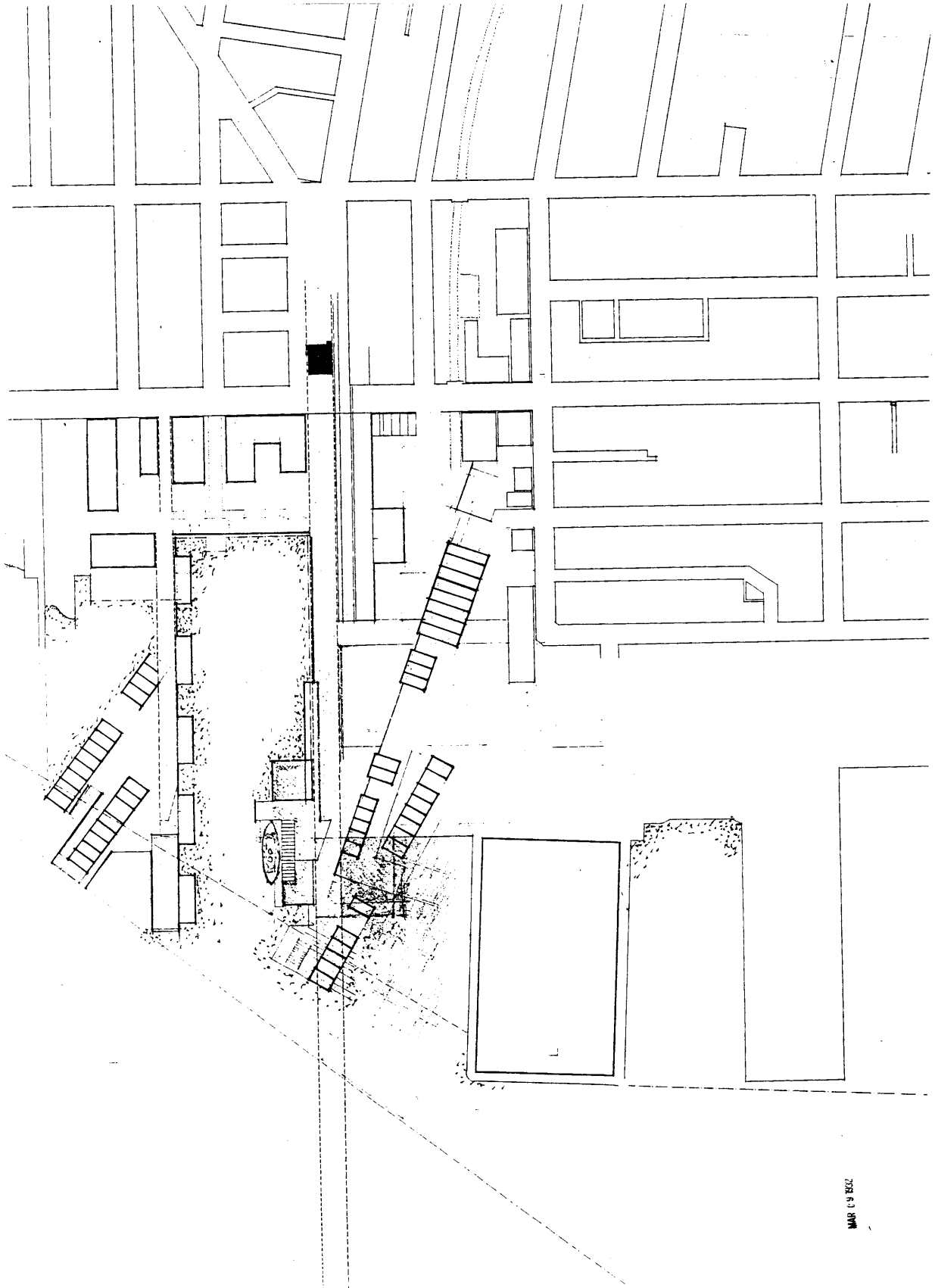
44



Final Early pass on the entire site. Included are dimensional information and a reference to the already described convergences, noted with a shaded circle. At this point the proposal is for a ferry terminal and commercial center at the convergence, with housing trailing back to the railbed and making a larger site move by connecting to the depressed railway tracks which run under the streets.

dimensions:

The length and width of the large warehouse at the waterfront was used to generate the cut into the shore, bringing an equivalent sized piece of water back into the city, closer to Maverick square. By doing this the water becomes the foreground both to see the city and my addition. The water helps to build a new urban waterfront continuity, across the water. The extent of my proposal is roughly 1200 ft. long, a small neighborhood dimension and the distance from Maverick square to the waterfront and the new 'Square'.





#### 4. Waterfront living working:

the quality of living and working near the waters edge.

The scope of this section is more abstract than the previous. By comparing some infrastructural solutions to waterfront access, insight into form-dependant use and access at the waterfront will be illustrated. As well comparisons of wharf and pier particulars will begin to flesh out the issues of structure, scale and orientation relevant along the waterfront.



from A. German, Down On T Wharf, the Mystic Seaport, Mystic CT., the image shows a collection of Italian Fishermen on T Wharf with their dories in the foreground.

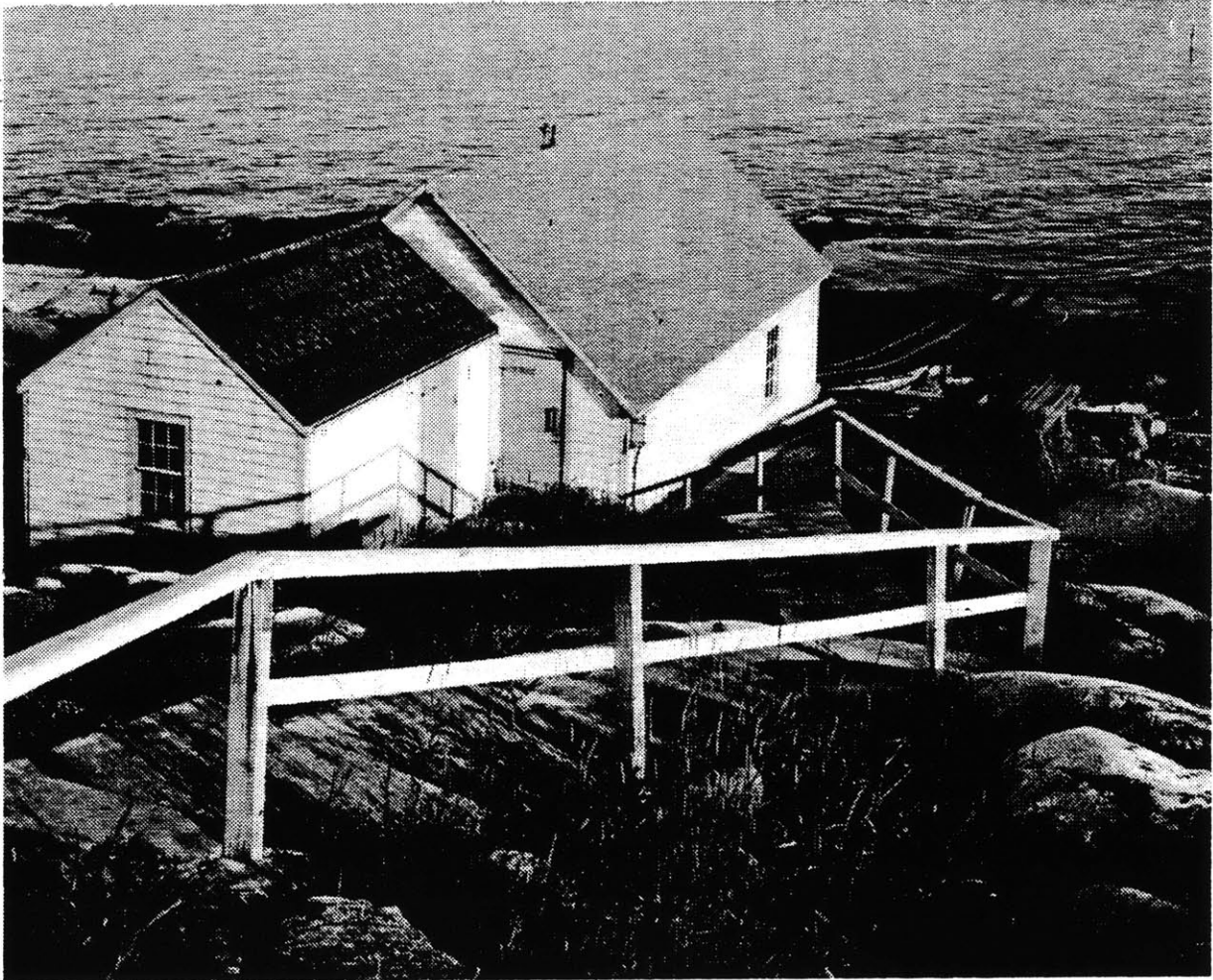
Flood tide below me! I see you face to face!  
Clouds of the west—sun there half an hour high—I see you  
also face to face.  
Crowds of men and women attired in the usual costumes,  
how curious you are to me!  
On the ferry-boats the hundreds and hundreds that cross,  
returning home, are more curious to me than you  
suppose,  
And you that shall cross from shore to shore years hence are  
more to me, and more in my meditations, than you  
might suppose.<sup>1</sup>

<sup>1</sup> Walt Whitman, "Crossing Brooklyn Ferry", from Poetry and Prose. The Library of America, New York 1982 pp.307-308

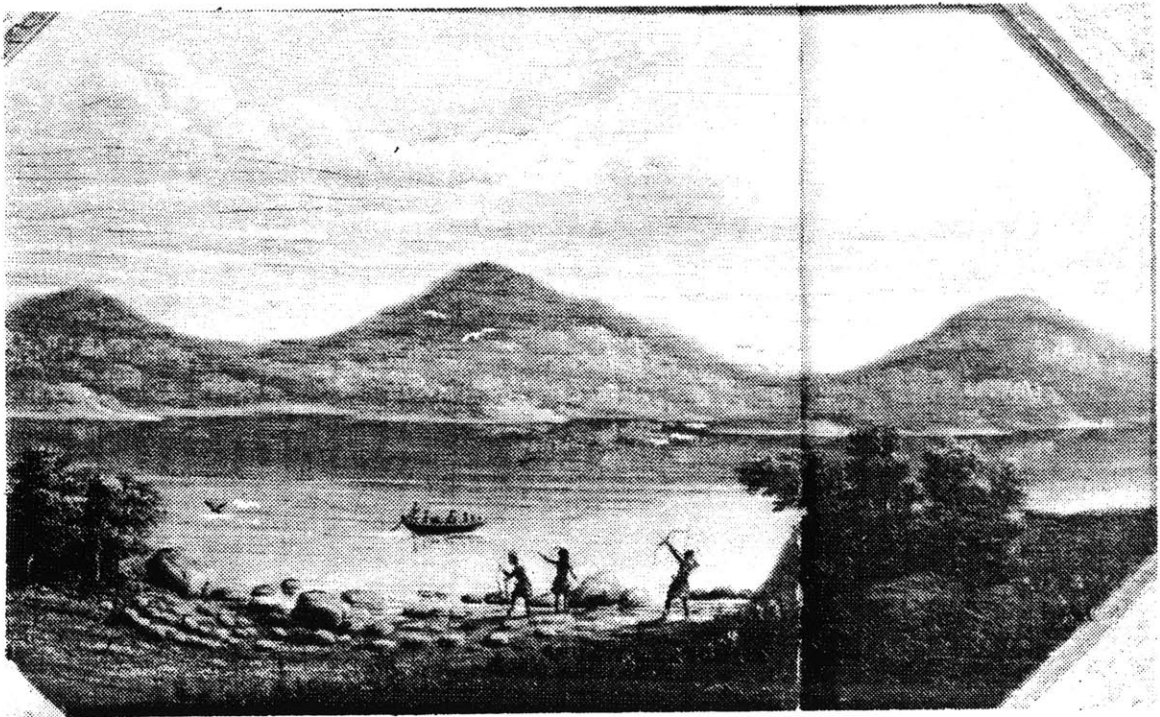
This first stanza of Walt Whitman's poem, "Crossing Brooklyn Ferry", captures for me the glory of an urban waterfront, the opportunity to be at once in the city and connected to and oriented to something far more enduring and fundamental than the city, nature. For Whitman a daily commute offers opportunity for exhalation. He has found in the city, amongst throngs of people, a wild and untamed yet everyday experience. For Whitman humanity is connected to its place, to its environs.

In an altogether different voice, J.B. Jackson calls for a symbiosis between the city and nature that is required if a city is to be a place for humanity to prosper. "The job of the urbanist and architect is essentially to design a man-made environment which is as natural as possible." and that "During the last century and a half we have persisted in separating man from nature and in keeping them separate."<sup>2</sup> At no place is the opportunity to address this issue more compelling than at a waterfront.

<sup>2</sup> J.B. Jackson, "The Imitation of Nature", from Landscapes, University of Massachusetts Press 1970 p.78



from Elliot Porter, Summer Island,  
Penobscot Country, Sierra Club Books,  
San Francisco 1960



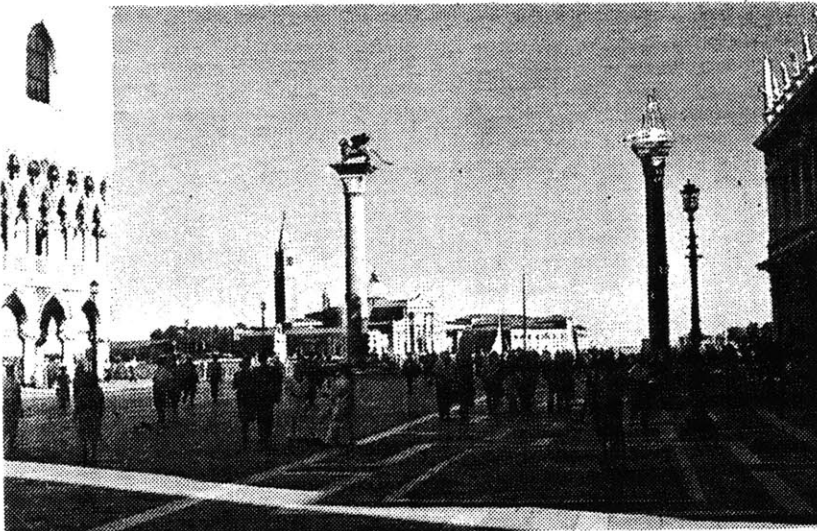
"Allegorical View of Boston from Cambridge", painting by Gerry & Burt, 1834, Bostonian Society, from Jane Holtz Kay, Lost Boston

Boston is in an archipelago. It is a special archipelago because the drumlins that makeup the archipelago extend on shore, making hills and a topographic connection between land and sea. The discoverers of this unique place found that amongst the islands were safe harbors and the hills offered protection from on-land aggression. Boston in particular was both island-like and hilly and so offered protection and connected to the land by a narrow isthmus, thereby becoming a gateway to on-land settlement.

As is true with most cities, Boston is unique yet shares certain characteristics with other cities. The Boston waterfront has been defined by both commerce and industry, and the physical conditions of the region in which the city finds itself. It is not a riverfront city, like St Louis or London, and does not have a parallel shore across the water and a steady downstream current. Boston has tides. Nor is it like Venice because the waterfront of Venice is not industrial as it is in Boston. Also unlike Venice, Boston has comparatively large tides, in the range of 9 feet. It is the particulars which define Boston's waterfront. Nevertheless, there is an aspect of our current city which I feel is absent and I wish to illustrate through two examples.



Il Redentore or the Redeemer, by Palladio, seen from across the Grand Canal. from Anthony Wilson, Aquatecture, the Architecture Press, London



view from Piazza San Marco to San Giorgio Maggiore. The columns mark the waters edge and frame the view while the edge of the Ducal Palace moves your eye out and builds a view point for 'seeing' San Giorgio across the water. from Aquatecture, as above.

### Across-the-water

It would be remiss of me to attempt to make a waterfront proposal and not make some comment about Venice. Although except for the water, there is very little to make one think of Venice while in Boston, there are a few observations that should be made. There is no mistaking Venice for anything but a water city. Venice is a city built on top of the water, not on top and around drumlins. Of particular interest though is the way in which water is brought into the city in an architectural sense. Palladio's San Giorgio Maggiore, across the ... from the Piazza San Marco, is positioned in such a way that it is intended to be seen from the Piazza. By placing the water between San Giorgio and the Piazza the water becomes part of the city.

Il Redentore, another church in Venice by Palladio shares with San Giorgio being a building designed to be seen from across the water and at a particular spot. "From this distant frontal position and from none other we grasp a proportional system; for example, the overall width of the facade is about the same as the height of the church to the base of the dome..."<sup>3</sup> . Palladio was very aware of the position from which his facades would be viewed and he designed for that view. His inventions along the lines of perception include a so called 'giant order' enabling viewers to perceive the composition from a distance. The 'giant order' was supplemented with other scales of composition, enabling the viewer to continue to perceive the composition as he moved closer. Venice offered him enormous opportunity for controlling point-of-view: "As intellectual calculations of this kind work only in two dimensions in a non-perspective sense, Palladio usually tried to manipulate the observer into an axial frontal position. In this case, frontality was assured by the distance across the canal and an axial approach was assured by means which were apparent only once a year, on the feast of the redeemer (third Sunday of July) when, in fulfillment of a vow of 1576, a causeway of barges is built across the water at a right angle to the facade. By contrast to a parish church to which the local populace comes from every direction, the Redentore has a pre-eminent function as the goal of a bridge-borne procession."<sup>4</sup>



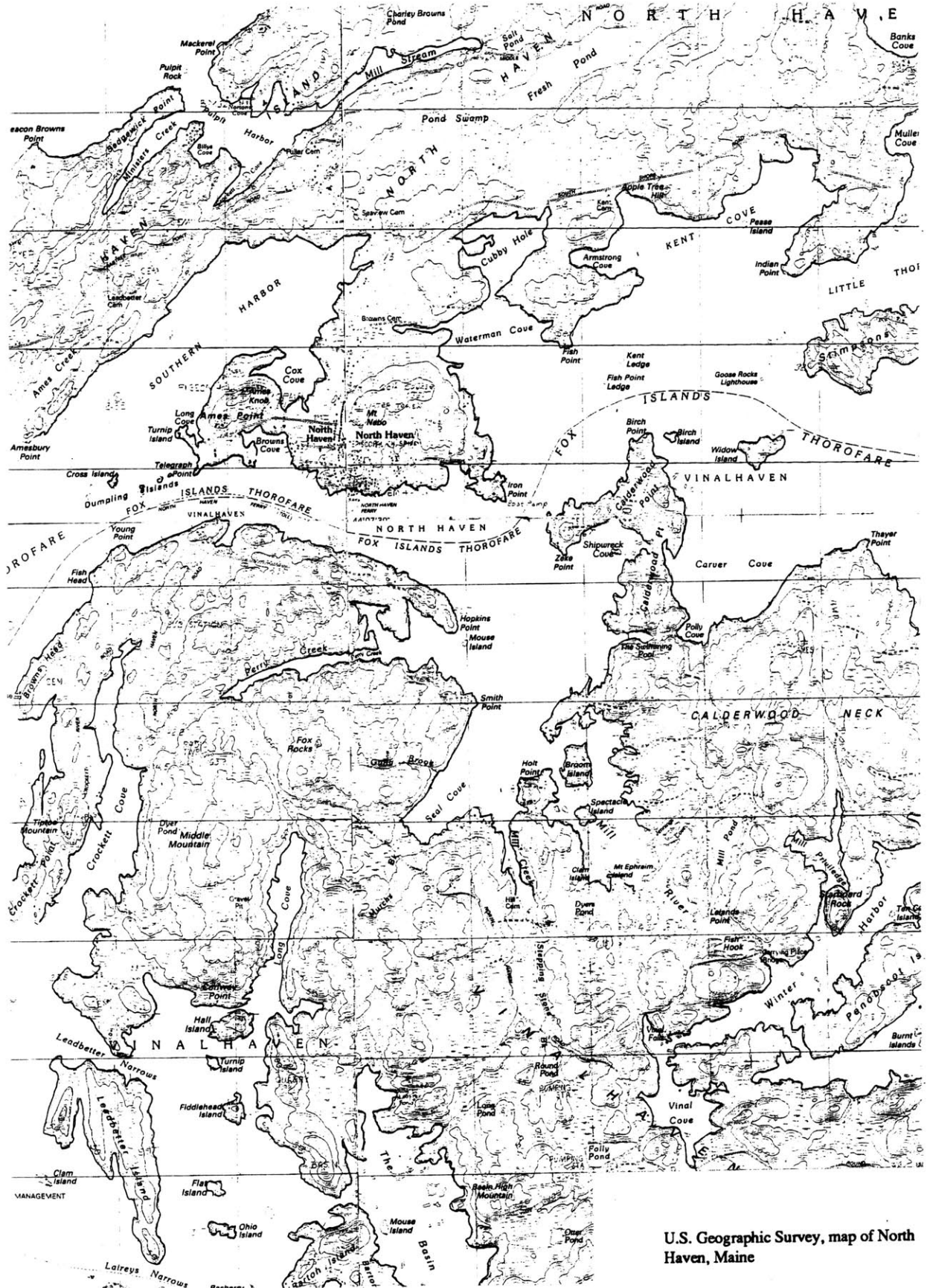
<sup>3</sup> James Ackerman, *Palladio, the architect and Society*, Penguin Books, New York, 1966, p.146

<sup>4</sup> *ibid*, p.146

map of Venice showing positions of Il Redentore(4), San Giorgio(5) and the Piazza San Marco(2). also from *Aquitecture*, as above.

Building INFRASTRUCTURAL PIERS in East Boston

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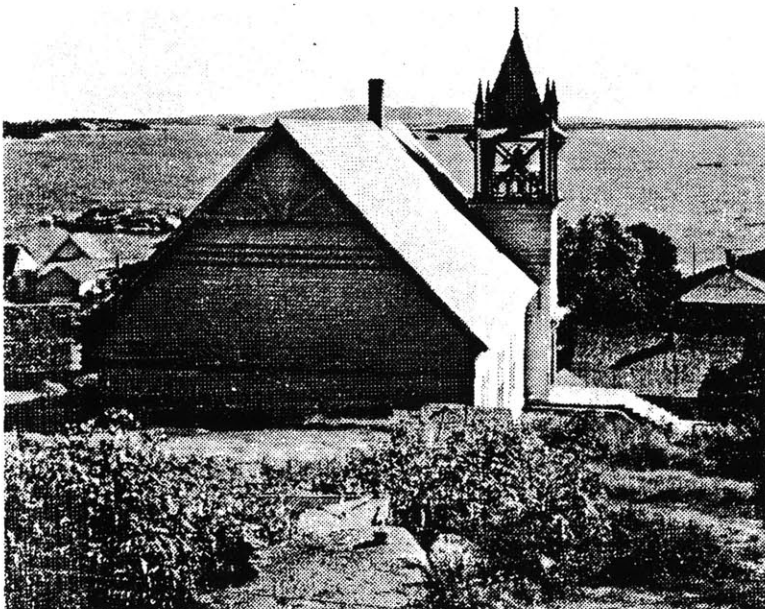


### New England waterfront cities

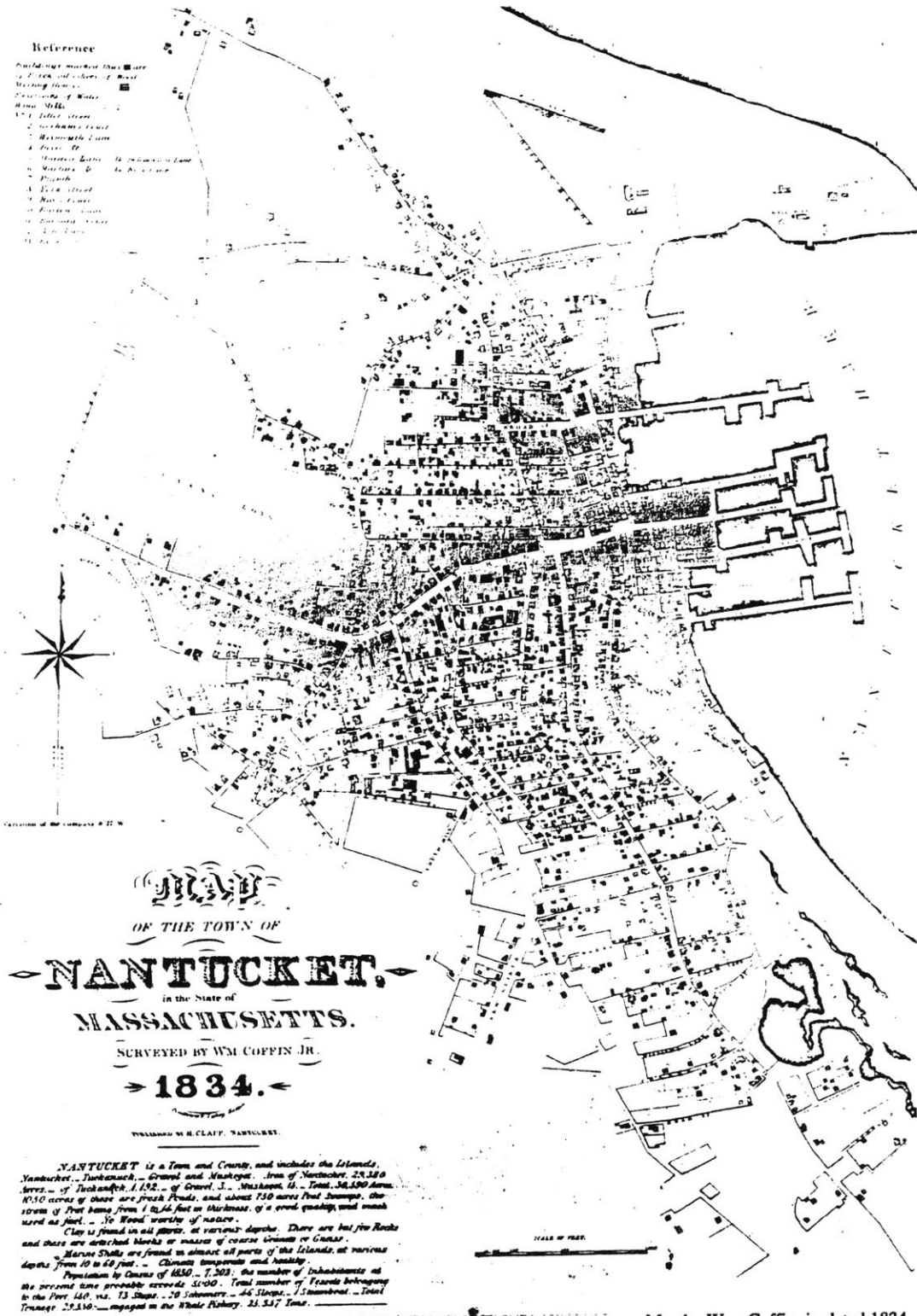
The town of North Haven, in Penobscot Bay, in Maine, is another example of a town joined by water. The town is mostly on the northern side of what is called the Fox Islands Thoroughfare which separates the island of Vinalhaven from the island of North Haven. The thoroughfare provides a way between the islands and in turn connects East and West Penobscot Bay. Because there is a portion of the town on the other side of the Thouroughfare, townspeople on both sides can see thier neighbors across the water. In this way boats passing through the Thouroughfare are also passing through the town of Northhaven. The section of the Thoroughfare within North Haven is in fact the playground for the town, the town common, and everyones backyard.



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views from Elliot Porter, Summer Island,  
Penobscot Country, Sierra Club Books,  
San Fransisco 1960



Map by Wm. Coffin, jr, dated 1834, shows Nantucket town and harbor. Like Long Wharf in Boston, the central wharf in nantucket connects with a significant street, in this case Main Street and thereby with the interior town.

Boston is similar to most New England waterfront cities. The area is typified by large tides and severe winters. Tides generally range over five feet and in Boston are upwards of nine and one half feet. Winters are sufficiently severe to freeze even salty ocean water. Due to the destructive nature of ice, waterfront construction must either be very heavy, or easily renewable. Consequently, New England waterfronts are generally built of both permanent structures and less permanent structures, both earth works and pilings. Commercial wharf in Boston until recently consisted of both the familiar granite store house on the center of the wharf and wooden sheds at the waters edge. The sheds were immediately adjacent to boat moorings and were built to offer shelter from cold winter winds. They also built a sheltered area between the wharf building and the water.

The heavily piered or extended shore of Boston Harbor is very similar to that of 19th century Nantucket, for instance. It is possible in Nantucket to find similar infrastructural moves to Boston at the waterfront. Main Street in Nantucket extends directly out into the water and was probably the town wharf. Throughout the town along that street it would have been possible to watch the daily commerce. The relationship represents a very clear integration of living and work. Work was not relegated to the outskirts of town, but witnessed by the entire town every day.

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View from the Custom's House Tower, 1915, from German, Down on T Wharf. The central wharf structures, in this case on Long Wharf and Central Wharf, and the surrounding smaller sheds at the waters edge, are visible. T wharf, barely visible in the left of the photo, has no sheds.



## Waterfront living in Boston

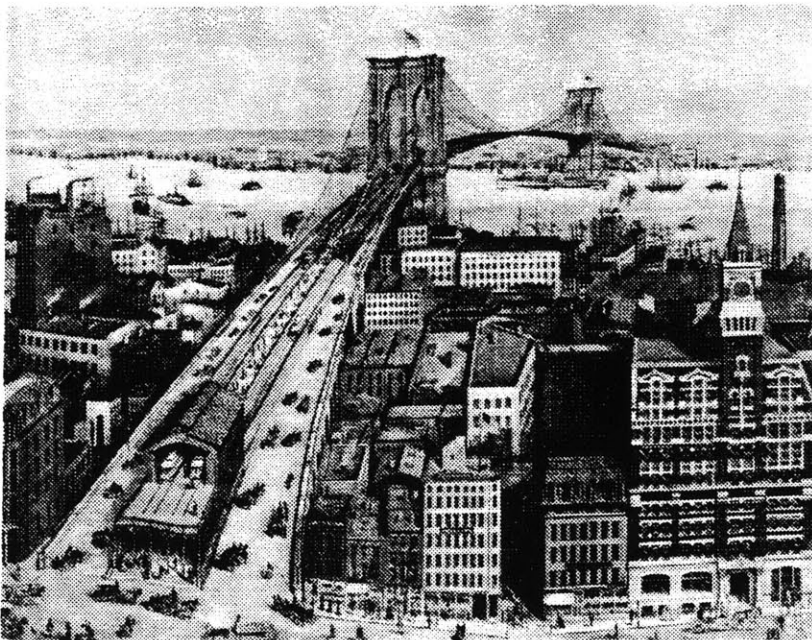
In order to try and come to terms with the East Boston site, it became important to look elsewhere in the city for examples of how the waterfront had been built. Initially, examinations were directed at buildings or small groups of buildings, piers and wharves alone. I looked at the grouping of buildings around Long Wharf. I discovered that the Long Wharf complex was very much a part of the entire infrastructure of the Boston shore.

Atlantic Avenue, Hanover Street and State Street create the access system both along the water and into the city. These pieces of Boston controlled a certain order. This order is certainly not architectural, but it ultimately controls access to the water and access to the water was what this project set out to understand and make a proposal about and so to infrastructure I went.

“It so happens that the work which is likely to be our most enduring monument, and to convey some knowledge of us to the most remote posterity is a work of bare utility; not a shrine, not a fortress, not a palace, but a bridge.”<sup>5</sup>

<sup>5</sup> Montgomery Schuyler, “The Brooklyn Bridge as a Monument” from Roots of Contemporary American Architecture, collected and edited by Lewis Mumford, Dover Publications, inc.. New York 1972. p.160

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view to Brooklyn from Manhattan with the Brooklyn Bridge, from Mary Shapiro, A picture History of the Brooklyn Bridge, Dover Publications, NY 1983. R Schwartz, Artist.

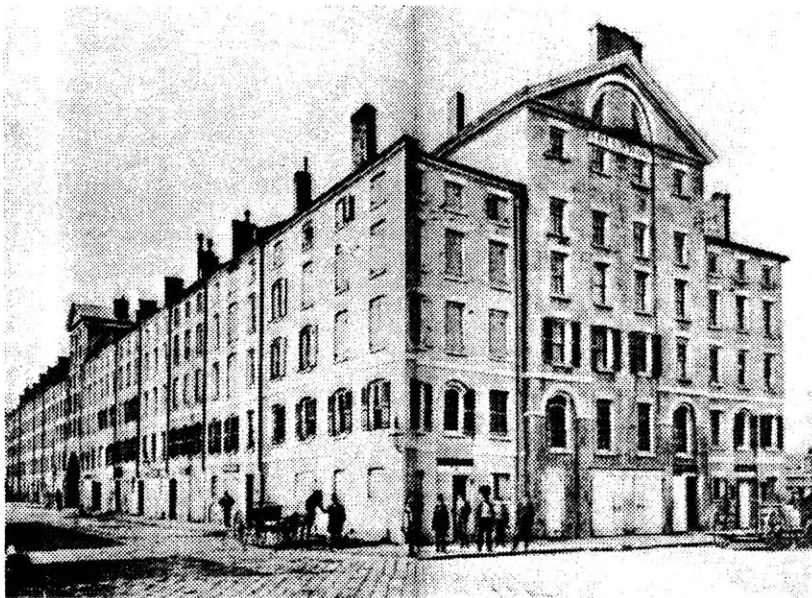
The bridge begins within the city, not at the edge of the East River. A continuity is built as a result of the bridge between the two urban centers that had not existed.



## Infrastructure

Long Wharf and Atlantic Avenue represents two eras in the cities attitude toward access to the waterfront, the first being institutionalized access to the water for the entire city, the second being an end to public access and the making of the waterfront into an enclave: "Long Wharf, once a veritable wonder of the world stretching 2000 feet into the harbor in 1710 was severed by Atlantic Avenue in 1868."<sup>6</sup> At the time, Atlantic Avenue helped facilitate industrial access to waterfront facilities. The advent of the train meant that for industrial sites to remain operational they must have a railway and so rails were layed to connect the downtown Boston waterfront with North and South Stations and beyond. The industrial transformation that had occured meant that the goods being produced at the waterfront no longer had to pass through the city as had been the case. The effect was that the piers and wharves were no longer extensions of interior streets but were rather independant extensions of their own dimension. The seperation of work, at the wharves and living, within the city, coincided with a general industrialization trend in the mid 18th century throughout urban America to seperate living and working. This efra was typified by the building of the so-called street car suburbs which represented an effort to seperate the once integrated urban life of working and living.

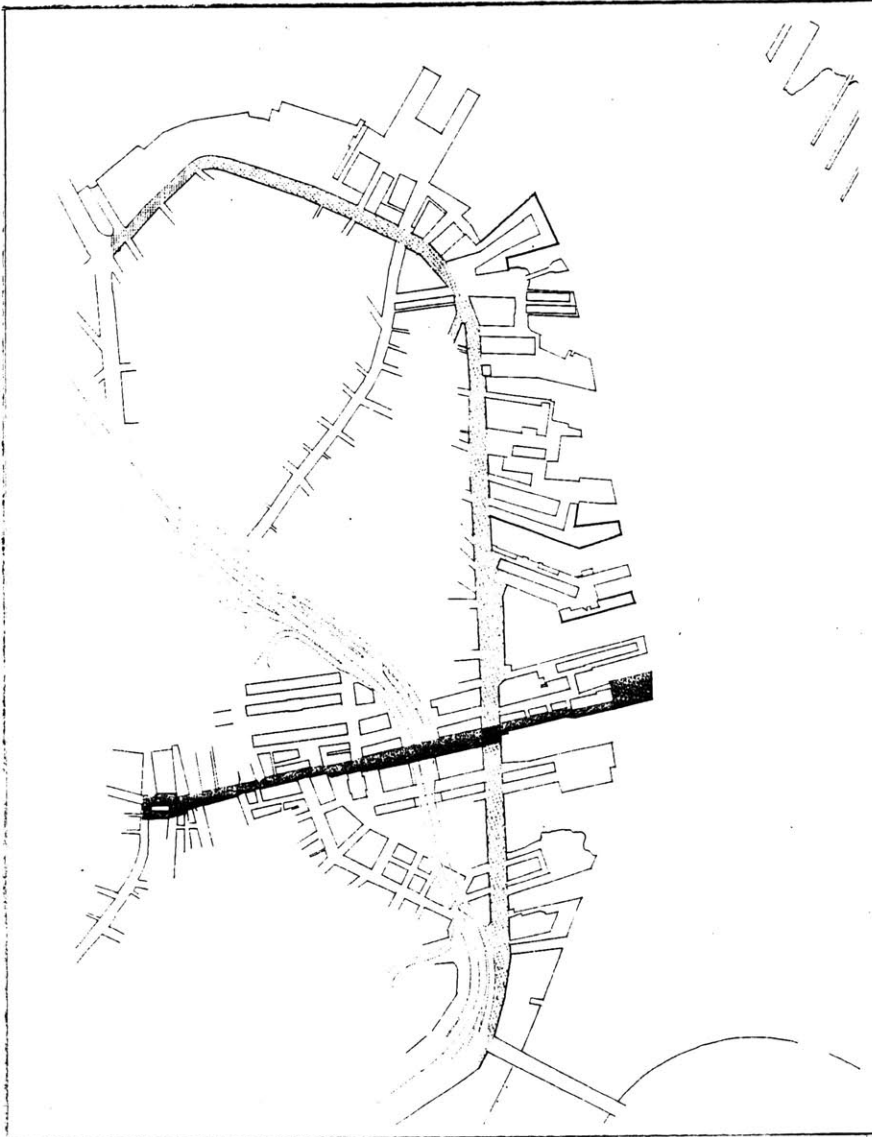
<sup>6</sup> Jane Holtz Kay, Lost Boston, p73



Charles Bulfinch's India Wharf. Built 1805-1807. The wharf, built by bostons foremost architect of the early 18th century, indicates the importance that wharves played in Boston's prosperity. Bulfinch also represents an era in which work places were still built with the same dignity and grandeur otherwise reserved for institutional facilities. from Jane Holtz Kay, Lost Boston.

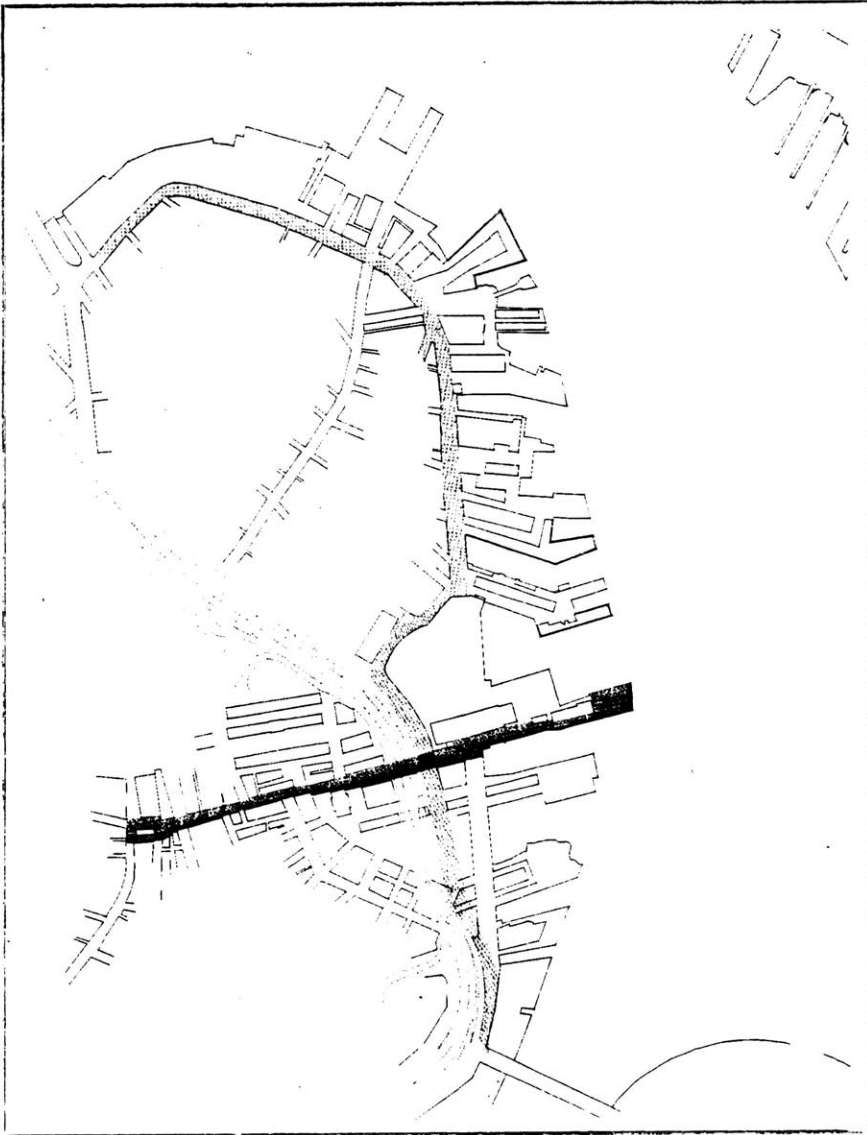
Atlantic Avenue and Long Wharf

62



The infrastructure of the Boston downtown waterfront looked much like this from 1968 to 1968. The Central Artery of course was added in the 1950's. Quincy markets are shown on the town side of the central artery and Hanover Street and Washington Street are also included.

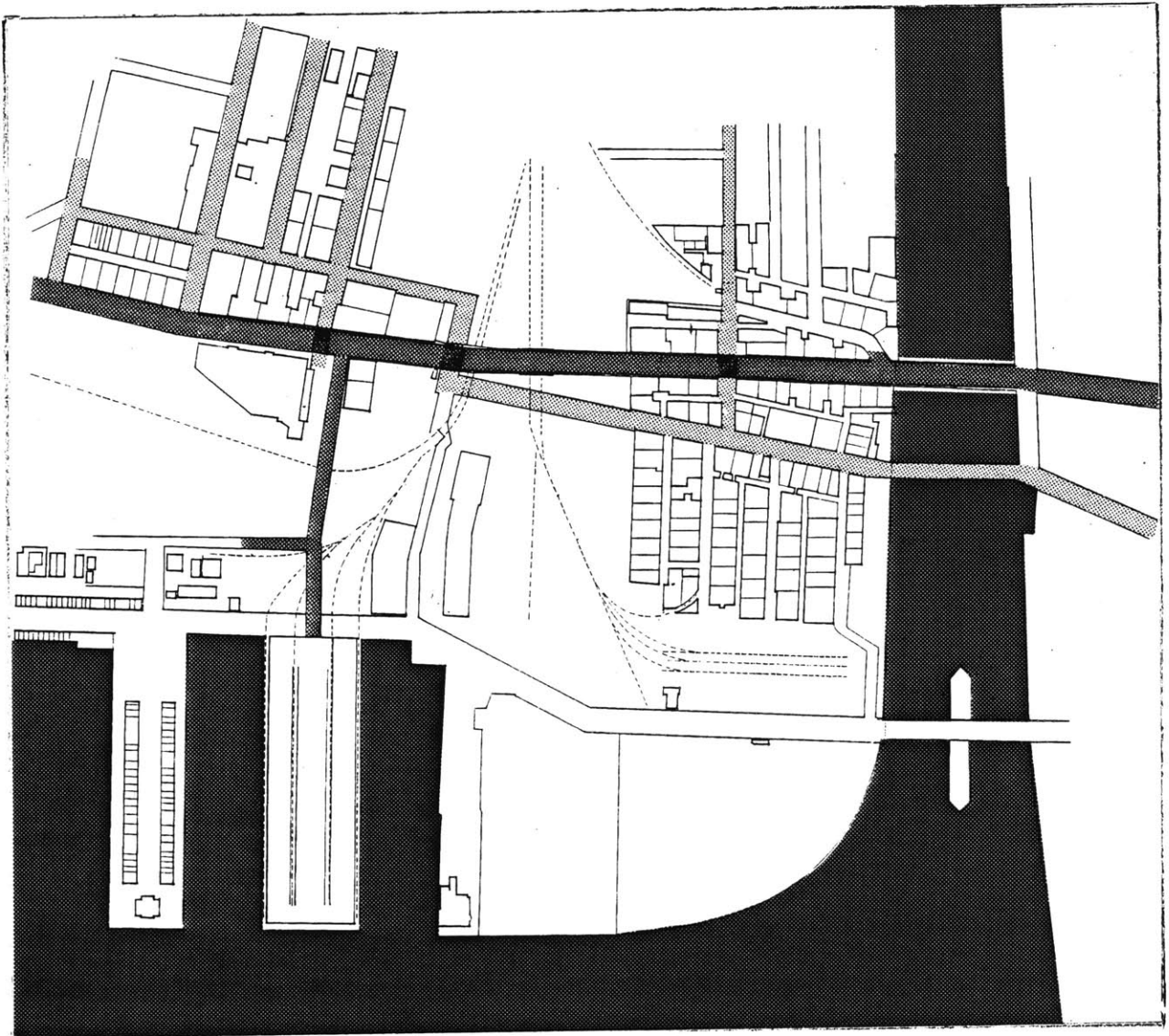
## Infrastructure



The waterfront after the construction of the Long Wharf Marriott. Although a larger waterfront zone is generated, including Cristopher Columbus Park, the Central Artery and Atlantic Avenue now combine to make a very wide barrier between waterfront and inner city.

South Boston and Fort Point Channel

64



darker Summer St. is elevated with respect to the Fort Point neighborhood served by Congress St., in a lighter grey. Buildings between the two street systems have store fronts on two different levels. By building two street systems and elevating one, each can serve the traffic of its respective region while not interfering with the other. At the same time one system is not an eyesore to the other and both are held back from the waterfront. The elevated Summer St. also extends on a viaduct to the second level of the

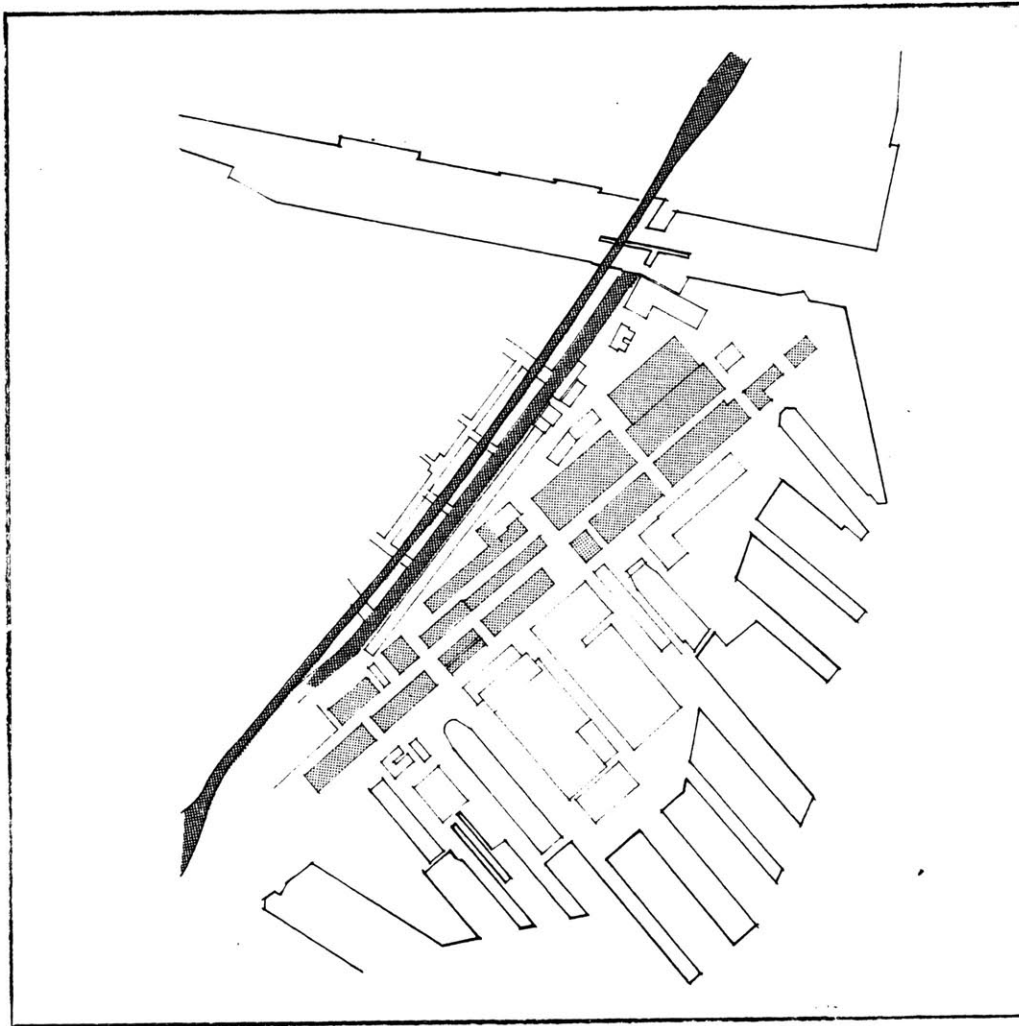
## Infrastructure

The Fort point section of South Boston is adjacent to Fort Point Channel and extends along the waterfront past Fan Pier to the Fish Pier. It represents the last large industrial infrastructure constructed in the city prior to either highway or airport construction, built at the turn of the century. It is also a unique piece of infrastructure. It is unique and even interesting because of its access system which is three dimensional, that is it has two levels of roadway, one raised roadway, and the other not. The raised roadway, Summer Street, is parallel to the waterfront, and after crossing the channel rises between buildings in a broad boulevard and proceeds without the distraction of cross streets across the region and out toward the rest of South Boston. Underneath and in another direction are the streets co-planer with Congress Street, about a story, in some cases two, beneath Summer. Buildings that front on both streets have store fronts on both levels, opening on opposite sides of the building. Although both Congress and Summer are roughly parallel, one serves the immediate Fort Point area while the other moves over-top. Unlike the Central Artery, Summer Street is packed between buildings and is kept a large distance from the waters edge. It is punctuated with bridges under which Congress Street traffic passes on unimpeded. In this way both the waterfront and traffic moving along it are served.



Charlestown Navy Yard and Tobin Bridge

66



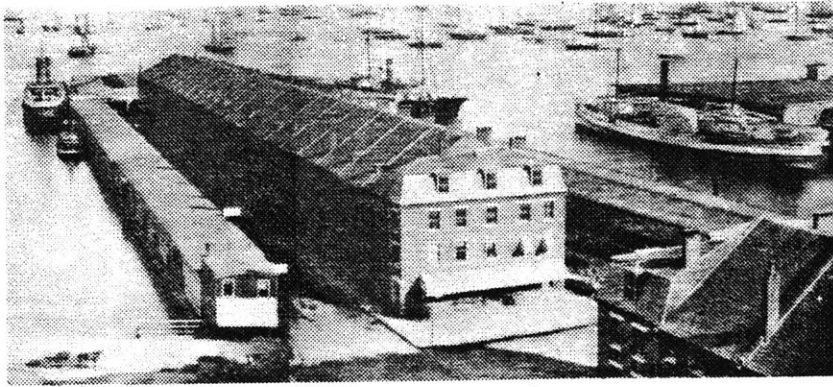
The Charlestown Navy Yard. The Mystic River Bridge is an elevated roadway, much like the central artery in downtown Boston that effectively separates the city of Charlestown from the waterfront. As an industrial site this might be understandable, but with the recent conversion of the facility to residential and commercial use it has become an effective enclave, isolated from the rest of its city.

### Infrastructure

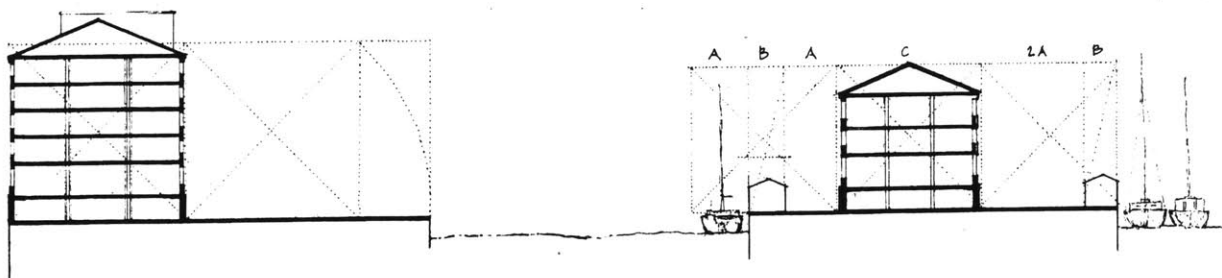
The Charlestown Navy Yard is the third piece of waterfront infrastructure in Boston, and, with East Boston, complete a description of the Boston Harbor waterfront. Unlike either Fort Point or downtown which were at one time both connected to the city, the Navy Yard was always an institutionalized enclave devoted to building ships from its very beginning over two hundred years ago. The Navy Yard is an enclosed, walled facility and until recently maintained limited access, preventing city residents from gaining access to the water. The coincidence of the highway, Rt. #1, with the edge of the facility reinforces the separation.

In recent years the Navy turned over the facility to the City of Boston and the National Park Service. The City of Boston has been responsible for redeveloping the area into a mini city and has cleared the grounds, converting buildings into offices and residences, and building new buildings. In the site of an industrial enclave they have built a new city. The Charlestown natives, ancestors of whom built ships in the Navy Yard, are still unable to gain easy access to their waterfront. It is precisely this infrastructural problem, access built by infrastructure, to which this study is directed. If Charlestown is to share in the new hopes for the waterfront and for the city, the Navy Yard must build a connection into the heart of Charlestown and reconnected the inner city to the waterfront and to Boston.





Central wharf from the late 19th century, from J.H. Kay, *Lost Boston*. Notice the sheds alongside the water. Central wharf was demolished.



section of Commercial and Lewis Wharves. Each building not only defined the space or territory inside itself, but along with the wharf surface defined the outside space and even the mooring or tie-up area. Evident is a generosity of scale which allowed for the inhabitation by sheds and ships without filling the space. The space built between the wharves was much less defined, at least by the buildings. Clearly, there was room for many ships.

wharves

singlebuilding per wharf

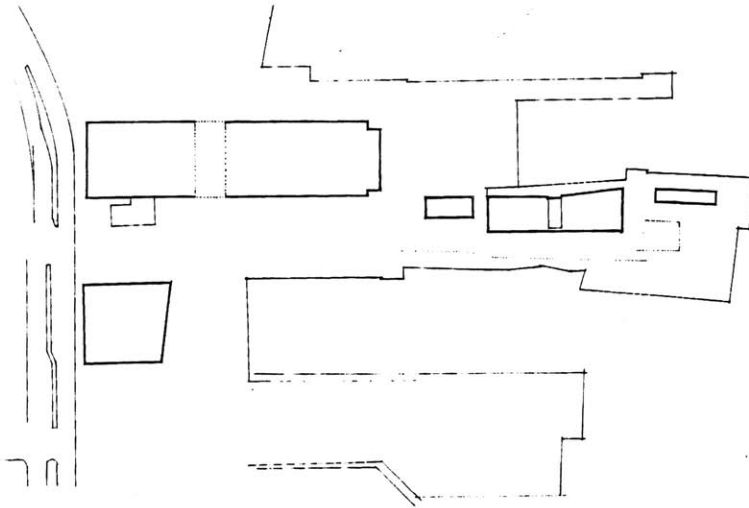
The Boston waterfront is built of two types of structure, piers and wharves. On top of these piers and wharves are buildings. The configurations of these buildings can be roughly categorized as either single or double building per pier or wharf.



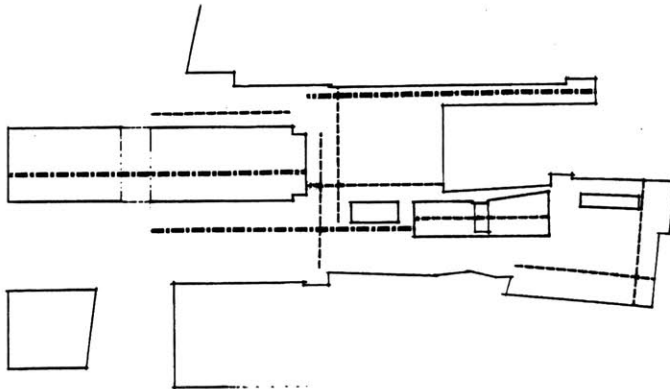
Commercial wharf is typical of single building wharves. The granite structure dates from the early 19th century and served as a warehouse and commercial facility until its conversion into condominiums in the late 1960's

Long Wharf

70

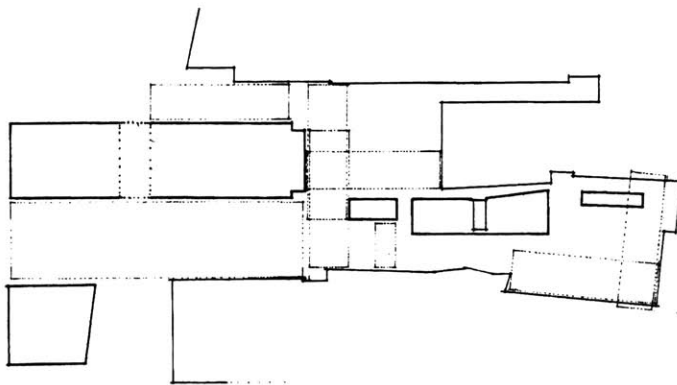


Long Wharf, including the Marriot. Atlantic Avenue borders the Marriot. Long Wharf is an interesting 'single' building wharf because it consists of several buildings strung out in a line making, in plan, a very generous public wharf. The public territory exceeds the private, and at no place can access to the wharf be restricted.



dimensional relationships at Long Wharf, indicating that public territory or ground is as figural as the buildings.

long wharf marriott  
costums house wharf  
long wharf width



territorial relationships, using the existing building pieces, again indicating that public territory is figural, not ground.

Wharves

single building per wharf

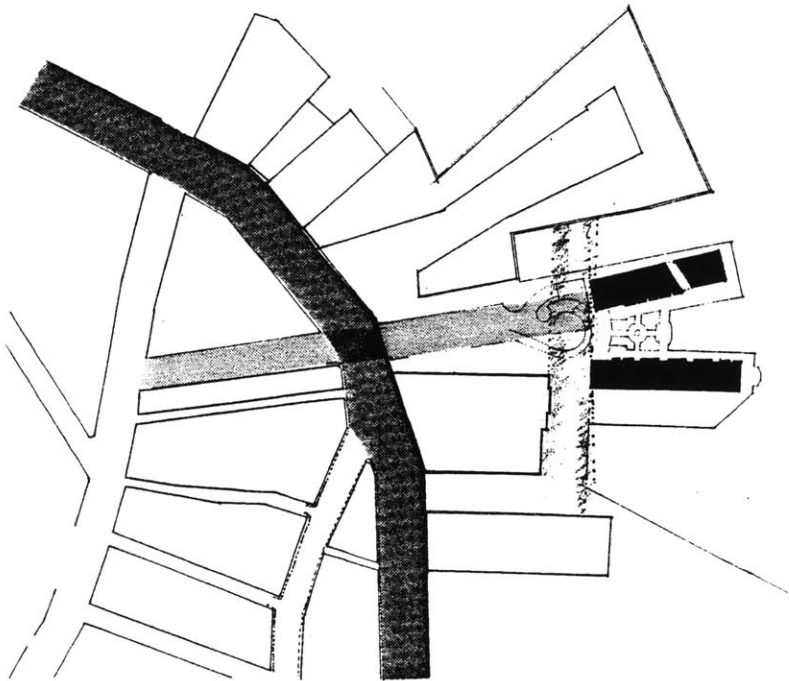


Commercial Wharf, on the waterfront of Downtown Boston. It has been converted from an industrial facility to dwellings on the upper floors and commercial space on the lower floors. Porches and dormers were added at the time of the conversion into residential use in the late 1960's.



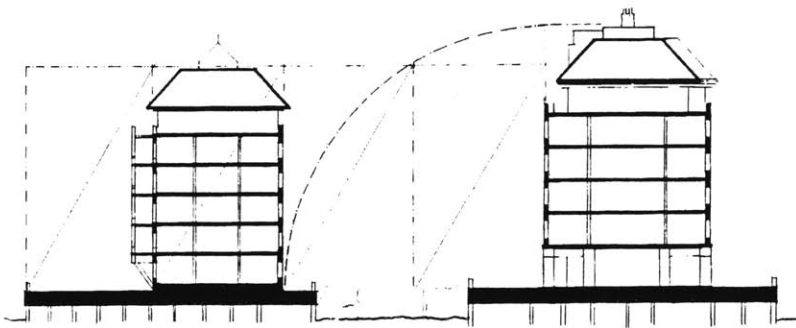
The Pilot House, also converted to residential and commercial use.

Burrough's Wharf



72

site plan of Burrough's Wharf, in part on the site of the old Lincoln Wharf, and in part on the site of the old fire boat pier. The Wharf is a new single building per wharf structure, configure as two adjacent wharves. Atlantic Avenue is indicated as an edge separating the North End and the industrial waterfront. The two buildings are built in such a way as to not extend the street out to the water, unlike Long Wharf.

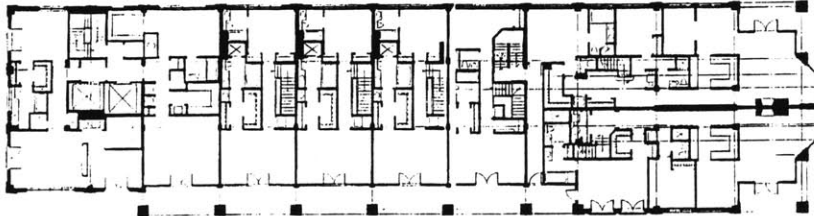
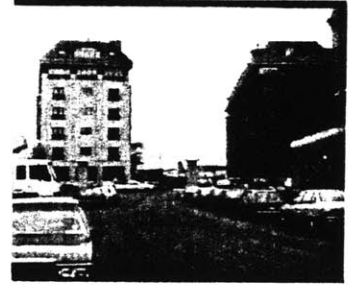


section through the two buildings of Long Wharf indicating th space between the buildings is built quite exactly, being the height of one and twice the width of the other. Unlike commercial wharf and Lewis Wharf that is not use territory, and especially not public as in the case of Long Wharf.

Wharves  
single building per wharf



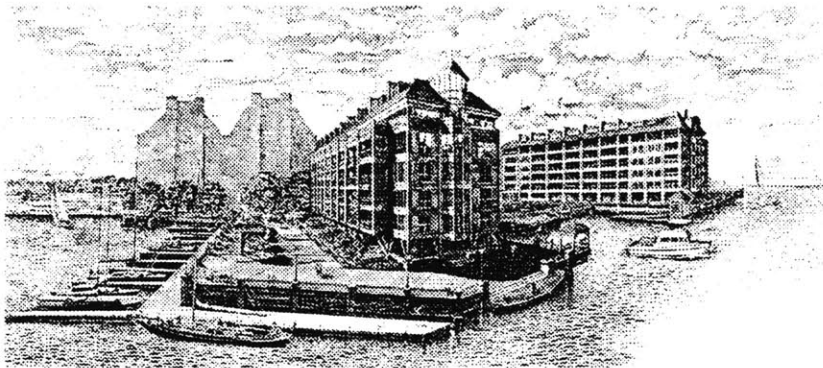
Elevation



Plan

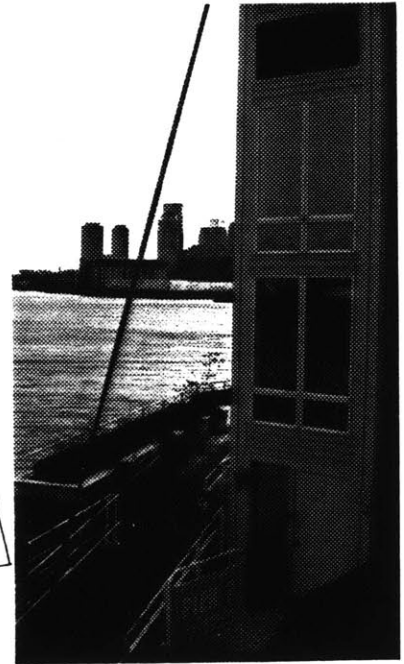
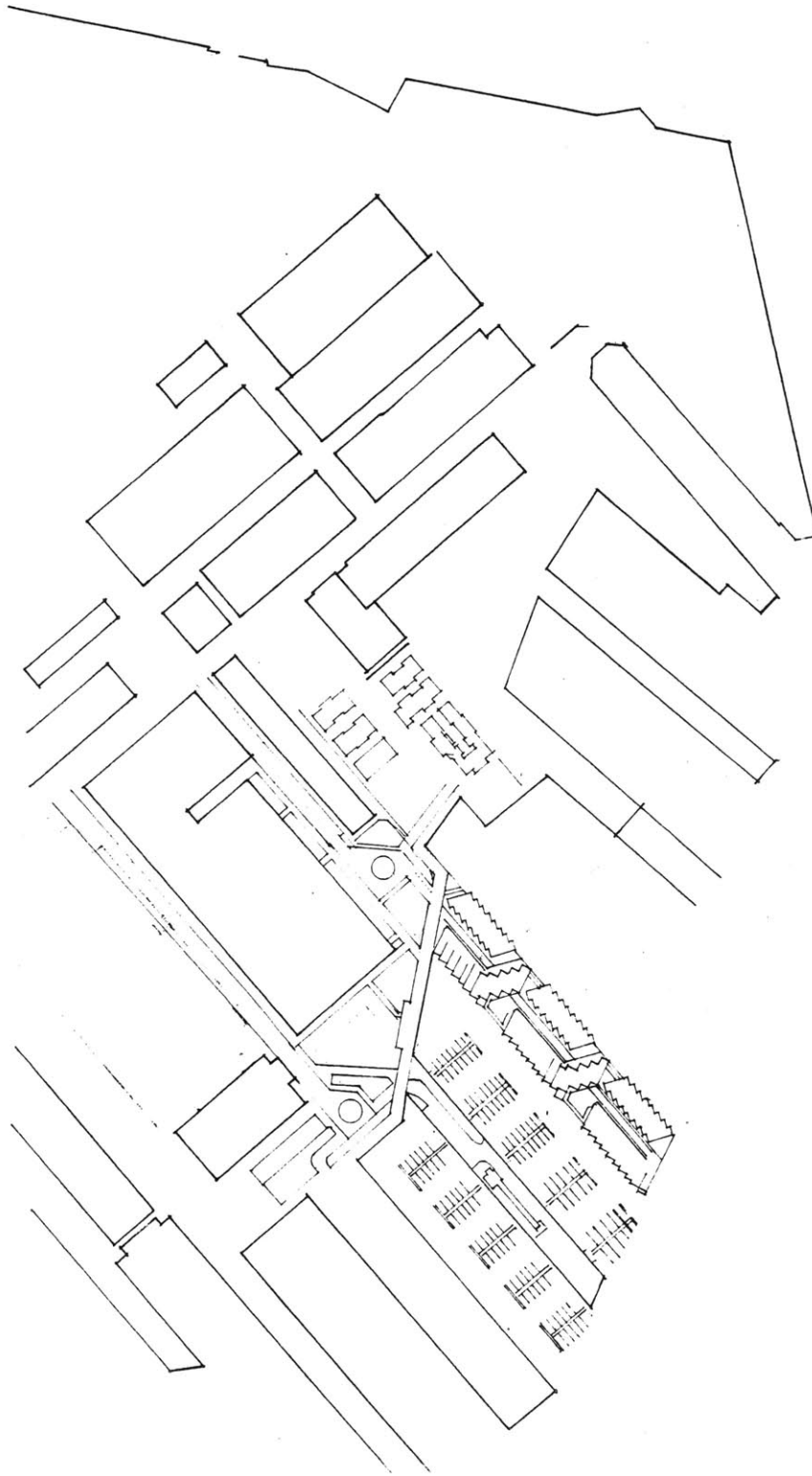


Burrough's Wharf, on the site of the old Lincoln Wharf in the North End.  
The architects were Notter, Fiengold and Alexander.



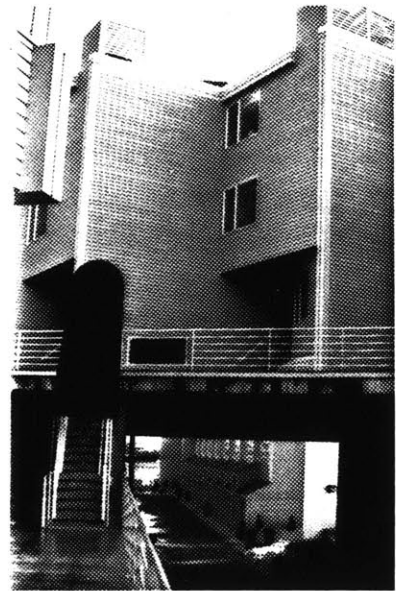
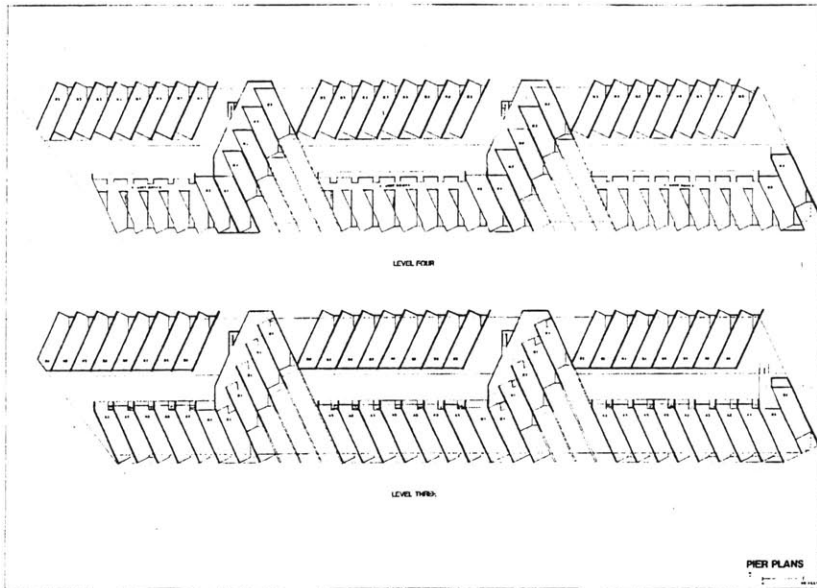
Constellation Wharf, Charlestown Navy Yard

74

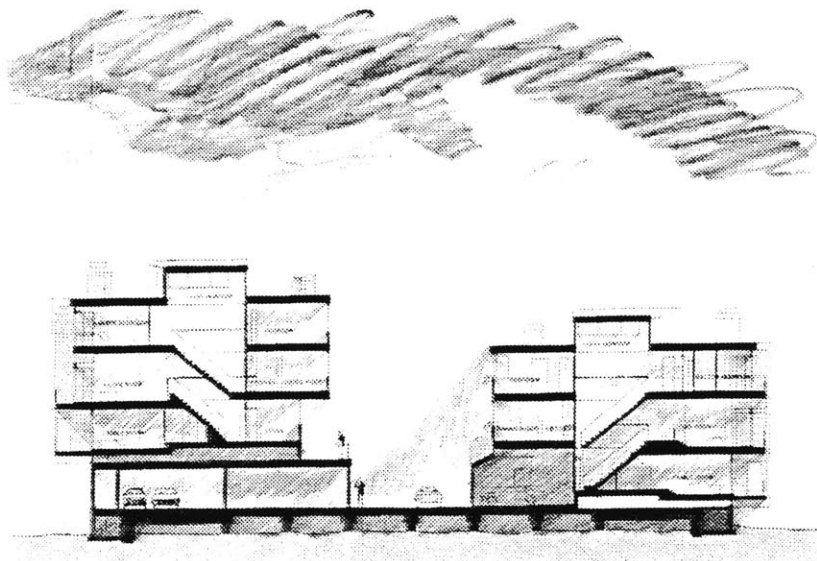


site plan showing Constellation Wharf. A marina is on the adjacent pier. Like burrough's Wharf, Constellation is by Notter, Fiengold and Alexander, Architects. It was built in the late 1980's.

Wharves  
paired buildings per wharf



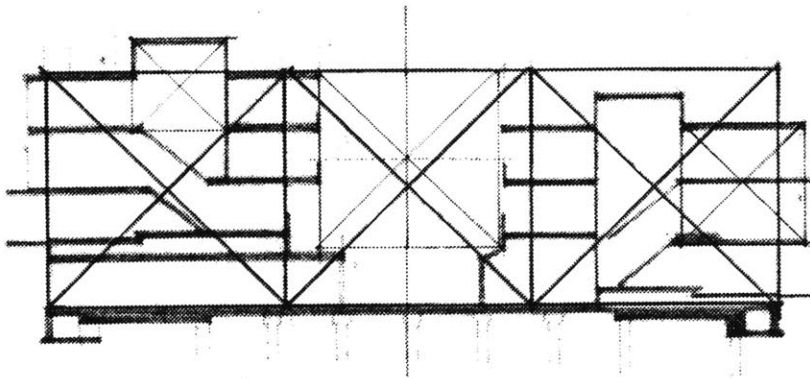
75



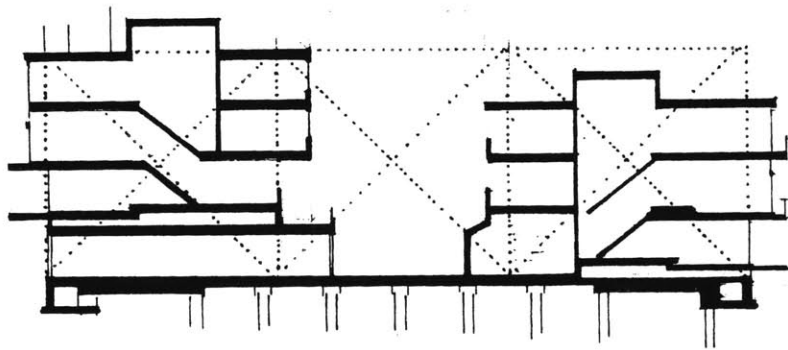
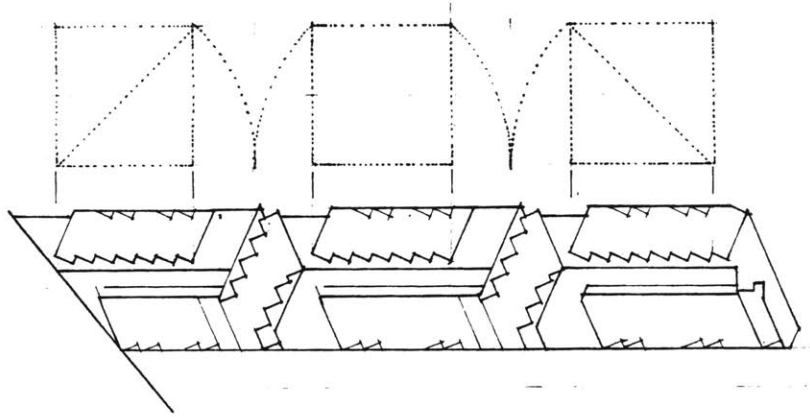
The building is of interest due to its section, which is stepped up to the North to admit light to the Northerly apartments and build a parking place beneath. Between the two perimeter structures is a narrow roadway. There is access to the water at third points and at the end of the structure.

Constellation Wharf, Charlestown Navy Yard

indication of the basic subdivisational nature of the scheme. In no place due we find any actual built space of a larger size. At the same time the packing of the wharf allows for the land of the Navy Yard to be very open and public. This building is similar to a ship, in that every inch is accounted for, but unlike a ship it does not have a deck.



76



Wharves  
paired buildings per wharf

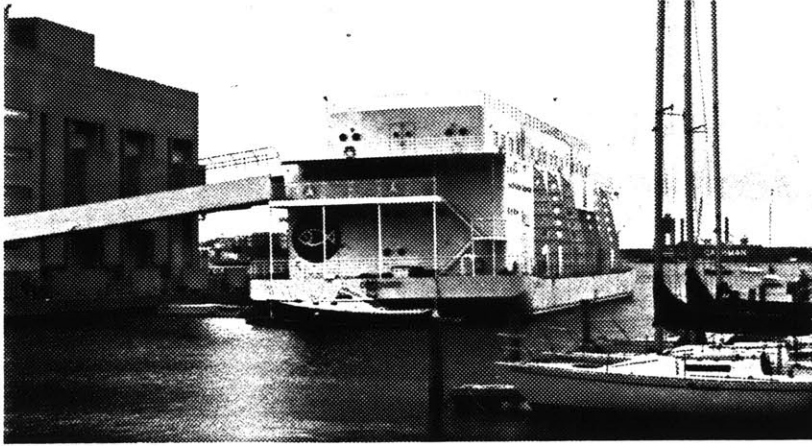


77



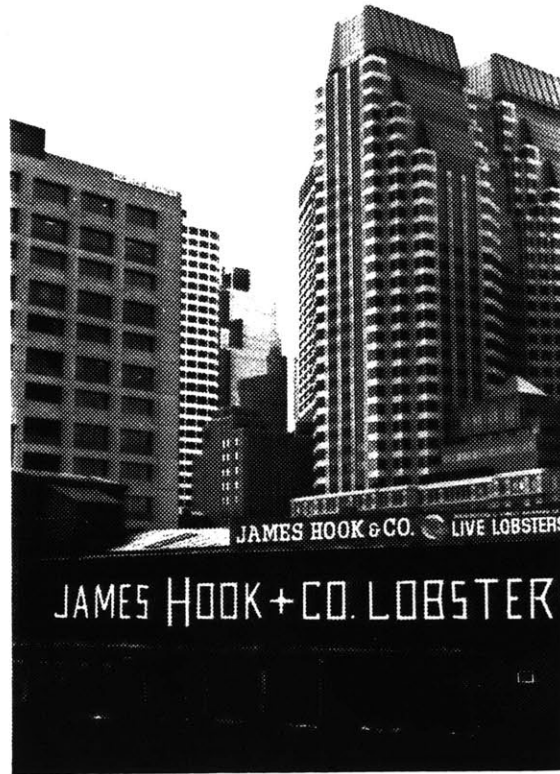
Constellation Wharf, Charlestown Navy  
Yard

Building INFRASTRUCTURAL PIERS in East Boston



the New England Aquarium barge, a floating extension of the aquarium.

78



James Hook & Co. on the Fort Point Channel, with the Boston skyline behind.



a Boston row house with bay window at the waterfront.

## Summary

Access to Boston harbor is controlled by infrastructure. It decides the relationship between the water and the city, and hence between the modes of work and living. When the kind of work being done at the waterfront no longer became acceptable in its adjacency and when the type of work became too heavy, too remote from residential lives, the two were split apart from one another. The building of Atlantic Avenue represents a severing of work from living, and consequently of the working harbor from the living city. Atlantic Avenue and Long Wharf have been transformed once again by the The Marriott Hotel at Long Wharf due to its position which addresses access to the water and recovers the link the old Long Wharf made from the sea to the interior city. Meanwhile, the industrial enclave in Charlestown has been transformed into a residential enclave because no infrastructural move has been built to account for new uses in the Navy Yard. The new residents of the Navy Yard are substitute heavy machines and Navy secrets, not to be shared with the local folk. Fort Point, on the other hand, is a non-enclave in which disparate continuities, Summer Street and Congress Street, are split in section and allow for both along the water and out to the water movement. Unlike the Central Artery in Downtown Boston, which when it was built cut a gash through the city, severing links to the water, Fort Point is built in both directions.

79

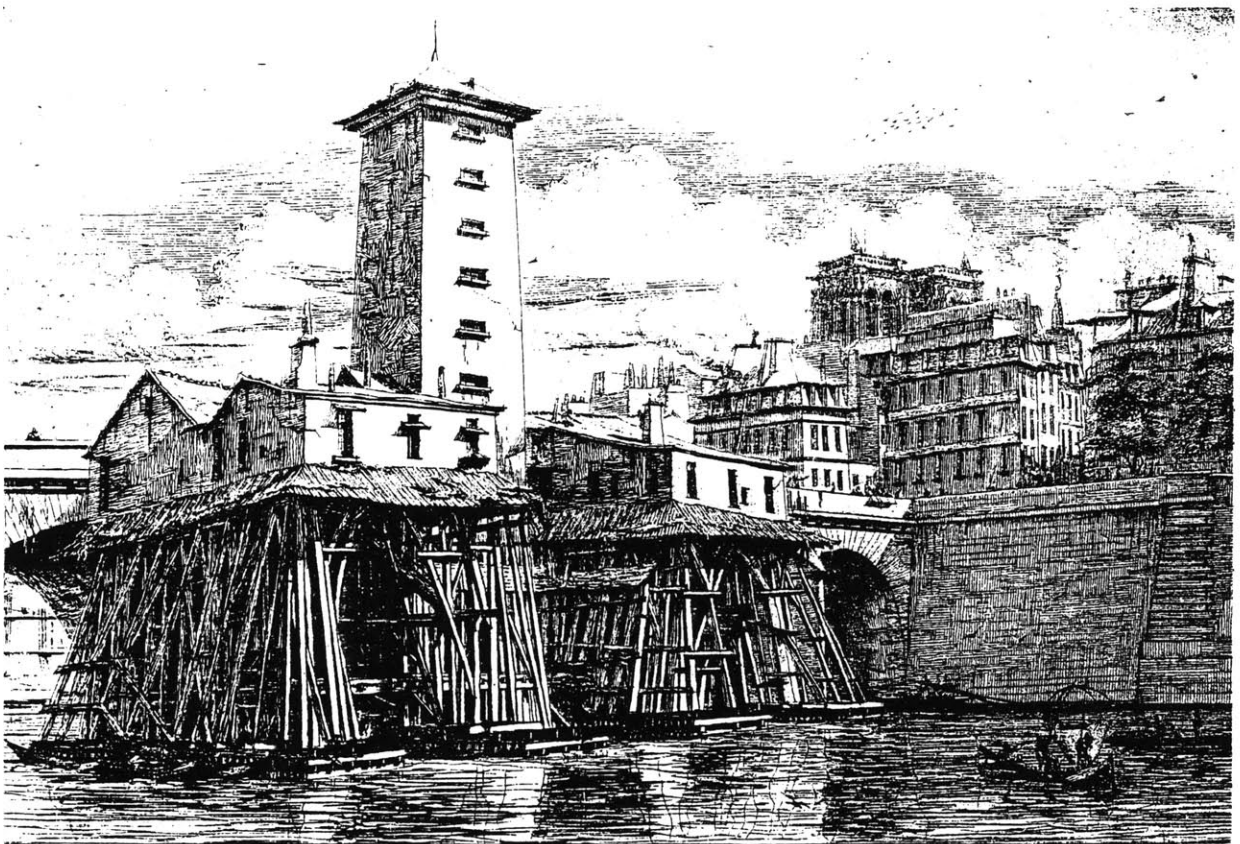
Within the infrastructures the piers and wharves give some indication of waterfront structures, scale and relationships. The transformation of the single building wharf, such as commercial wharf, to Burrough's wharf indicates a tendency away from public access to the waterfront, while Long wharf was clearly intended to bring the public to the water. Both the new buildings, Burrough's Wharf and Constellation Wharf, are densely packed multiple-dwelling buildings. They are dependent for their privacy on their immediate surroundings to also be private. In both cases the space between the structures is a very narrow, private street. In neither case is a public gesture made to allow for the private move. In the case of the Navy Yard it is understandable, given a large amount of open space on the shore. Burrough's wharf, on the other, is an effort to clearly privatize the city waterfront. The older piers were clearly different, being much more generous in the adjacent public or outside territory. In most cases the older piers also have commercial activity on the lower floors, which helps make the ground less private, therefore making the waterfront also less private.

Boston Harbor is full of surprises. I have attempted to detect some underlying pattern to the infrastructure by using specific cases to gain some insight into what access in an urban waterfront means.



Physical Form of the Proposal

The following is an effort to illustrate physical form and issues relevant to that making of that form. It has been done as kind of notebook with images and ideas relevant to the proposed project in East Boston.



La Pompe Notre Dame, by Charles Meryon, from Charles Meryon, Prints and Drawings, Catalogue by James D. Burke for the Yale University Art Gallery, New Haven, 1974



Porches in Zanzibar , Tanzania.



Bridge across Fort Point Channel.

### Buildings as infrastructures

Waterfront buildings can be separated into permanent structures and less permanent structure. In Boston older wharves consisted typically of a central building and adjacent ground, which was then frequently inhabited by sheds and even boats, the masts and rigging of the ships adding definition. The wharves represent permanent structure while the ships are temporary. The wharf is a very simple regular stone structure, while the added sheds and ships come in a variety of sizes and colors, usually whatever the builder has on hand. The Pontevecchio represents a similar structural hierarchy, with an ongoing covered, arcaded bridge, and added-on sheds in the bridge portals. In the Pontevecchio, the sheds are attached to the walls of the bridge and extend outward. The behavior evident in the Pontevecchio is also illustrated in porches. Porches add another layer of inhabitation to a structure, pointing out which is permanent and which is temporary, which is continuous and which is screen-like. As well they set up a relationship with light, intensifying the light as a screen, and moving out into the light.

83



Pontevecchio, Florence



adjacent to the boathouse, and on its own props instead of hung off the building, is a plank walk, a piece of built access.

## built access

What the Pontevecchio begins to illustrate is something I am going to call built access, something any bridge will exhibit to a certain degree, being that a bridge in fact is strictly devoted to providing access. The qualities that make it built have to do with the perception of enclosure, that the access is defined as access distinct from the ground, that it is given physical form. Pontevecchio is covered and connects to street arcades. Much of the city of Bologna is similar because of its covered arcades which line almost all of the streets. This form of access is different than access built by buildings, the typical street configuration.



roof plan of a Japanese village, indicating street built between buildings, from Hirataro ota, Tsumago-Juka. Although the access is well defined, it is as a consequence of the collective action of the buildings.

Building INFRASTRUCTURAL PIERS in East Boston

“Their dwellings are contrived after this manner: planks fitted on lofty piles are placed in the middle of the lake, with a narrow entrance from the mainland by a single bridge. These piles, that support the planks, all the citizens anciently placed there at the public charge; but afterward they established a law to the following effect: whenever a man marries, for each wife he sinks three piles, but every man has several wives. They live in the following manner: on the planks every man has his hut, in which he dwells, with a trapdoor closely fitted in the planks, and leading down to the lake.”<sup>1</sup>

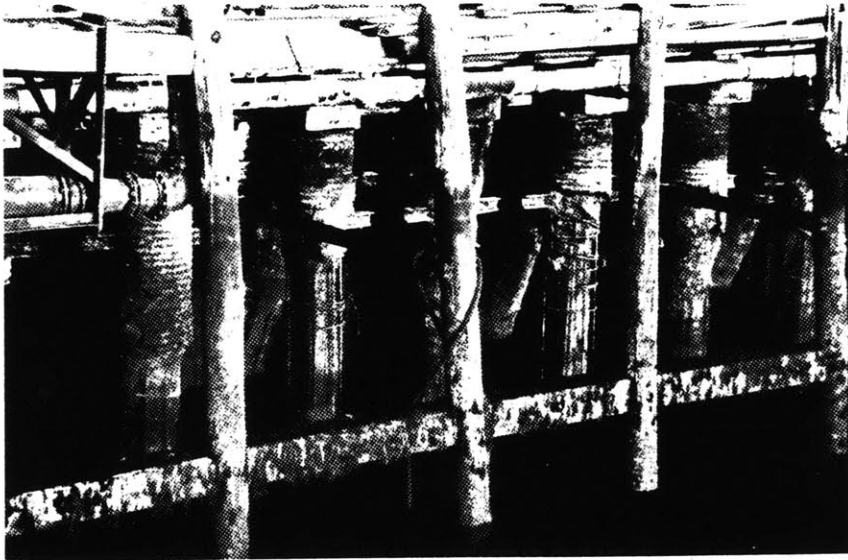
<sup>1</sup> John Fitchen, Building Construction before Mechanization. MIT Press, Cambridge, 1986 p221 from T. M. Coan, “Prehistoric Times”, Appleton’s Popular Science Monthly 1(May-October 1872):101-112

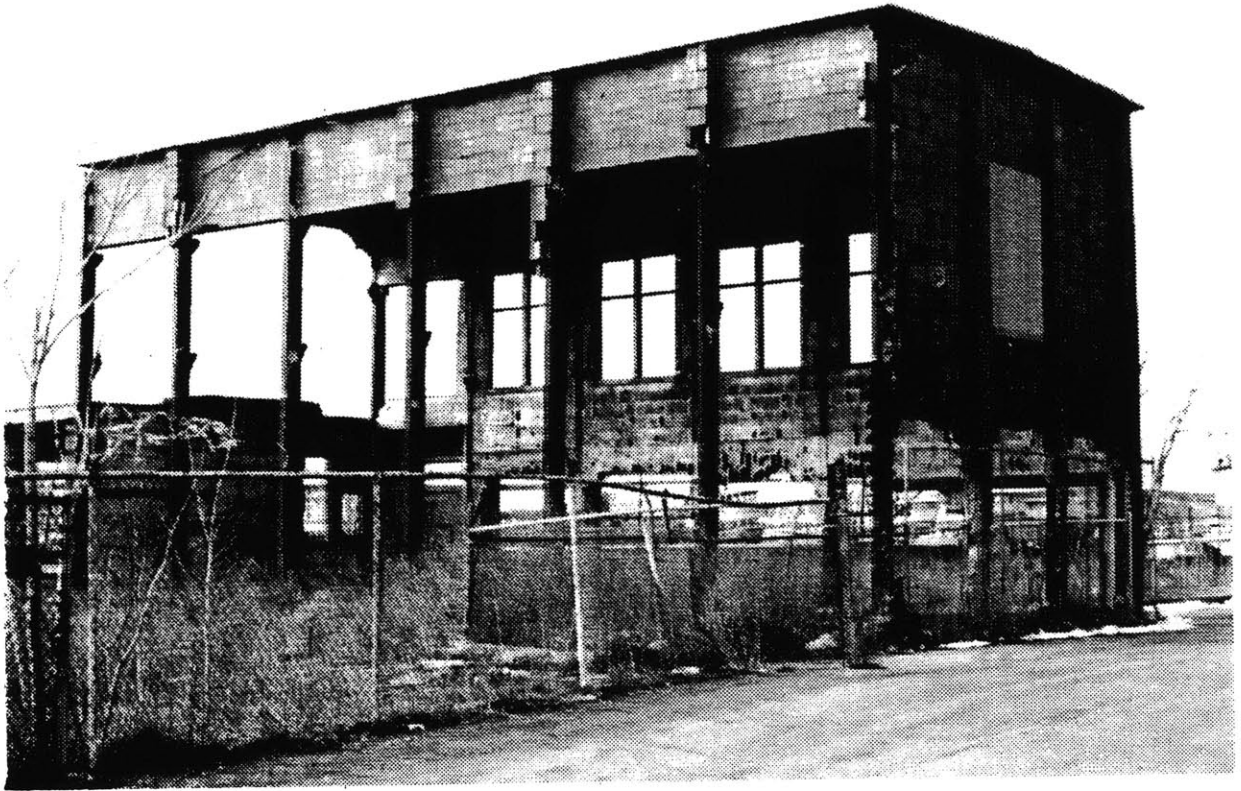
86



Structure: sticks

The waterfront is built with two construction systems, land fill and pilings. One system retains and extends the shore, while the other props up off the ground, out of the muck at the waters edge.





Transformation of pilings into buildings: this building is adjacent to the water in East Boston. The roof is the reference level, the big move.

### Columns, Piers and Pilings

It is possible to recognize in buildings a transformation from pilings to what would commonly be called columns. The building on the left page is very similar in its form to a pier, having a propped up platform, or roof in this case, support by unarticulated long shafts. In this case, the space between the shafts was filled in with some material to enclose the space beneath the roof, and hence it is a recognizable building, the shafts become columns.

In a housing project by Theo Bosch and Aldo Van Eyck columns outside of the building are almost the full height of the building. These columns are virtual piles, and the building is then an inhabitation of pilings, of sticks. The inhabitation then becomes about screens and about intensifying light. It is this quality of intensifying the light which is so compelling about building with sticks.

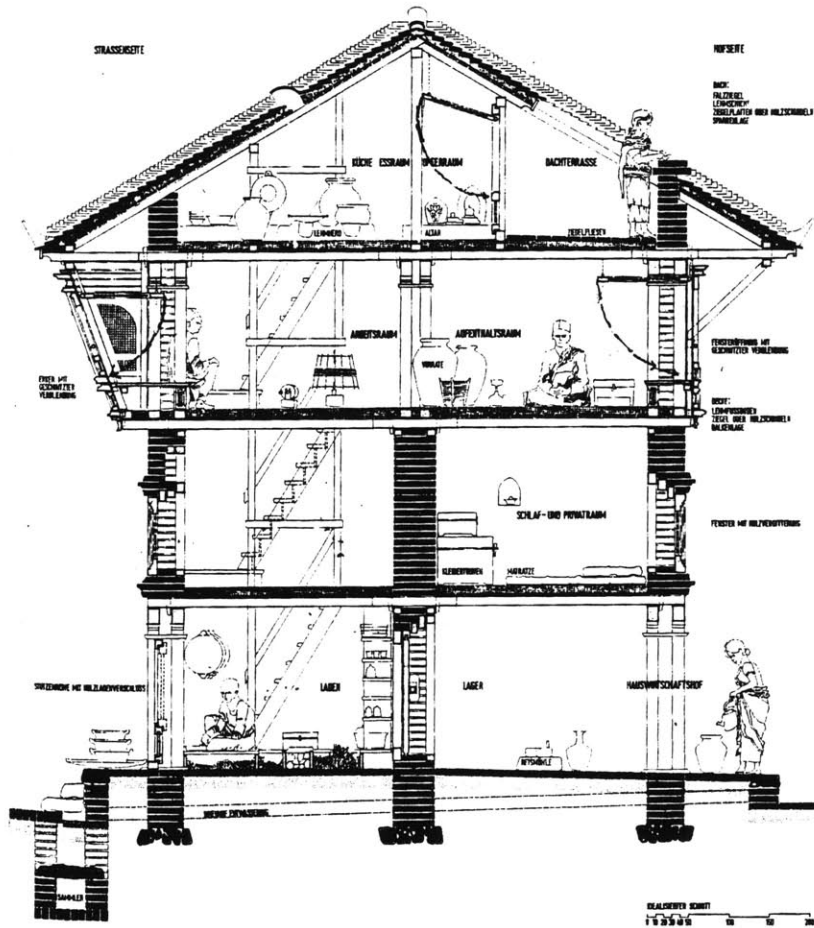


Herman Hertzbergers Appollo School in Amsterdam. The column is in the middle of the stairs.



Housing in Amsterdam by Theo Bosch and Aldo Van Eyck. Columns are almost as high as the building, both freestanding and attached. The columns become a reminder of the pilings on top of which the entire city is built.

90



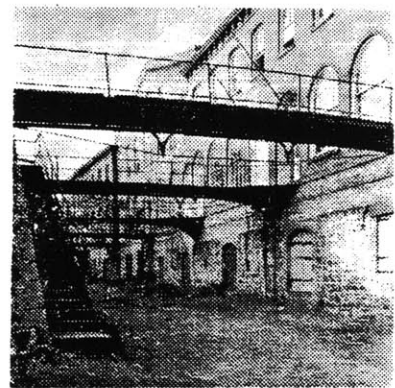
from Manfred Gerner, Architekturen im Himalaja, Deutsche Verlags-Anstalt, Stuttgart, 1987. Indigenous structure demonstrating horizontal stratification, intensification at light and enlargement at top. Notice inhabitation of eaves is different on one side than the other, and the roof terrace.

## section

In mentioning section, and section at the waterfront I wanted to first mention Savannah, the grid of which is often mentioned but seldom a distinct piece of sectional infrastructure along the Savannah River, home to the old Cotton Exchange. The city is built on a bluff beside the river, and the bluff provided a site for the warehousing and trading facilities required for the busy river front. The buildings are built along the bluff, retaining the bluff yet they are not up against the bluff like a wall. Instead they are held away and the bluff is retained with a wall. Between the wall and the buildings is a multi-level terraced access system with small bridges serving the upper levels of the warehouses. The upper floors of the buildings are at the same height as the city and these became the offices, also connected by bridges.

Savannah is very similar to Fort Point and illustrates that access levels are only relative. From the city of Savannah, the warehouses reinforce the bluff and the city's edge, they are city buildings at that level. Yet the upper levels of the warehouses are only connected by narrow, wrought iron bridges, and in fact it is difficult to call any floor the ground floor

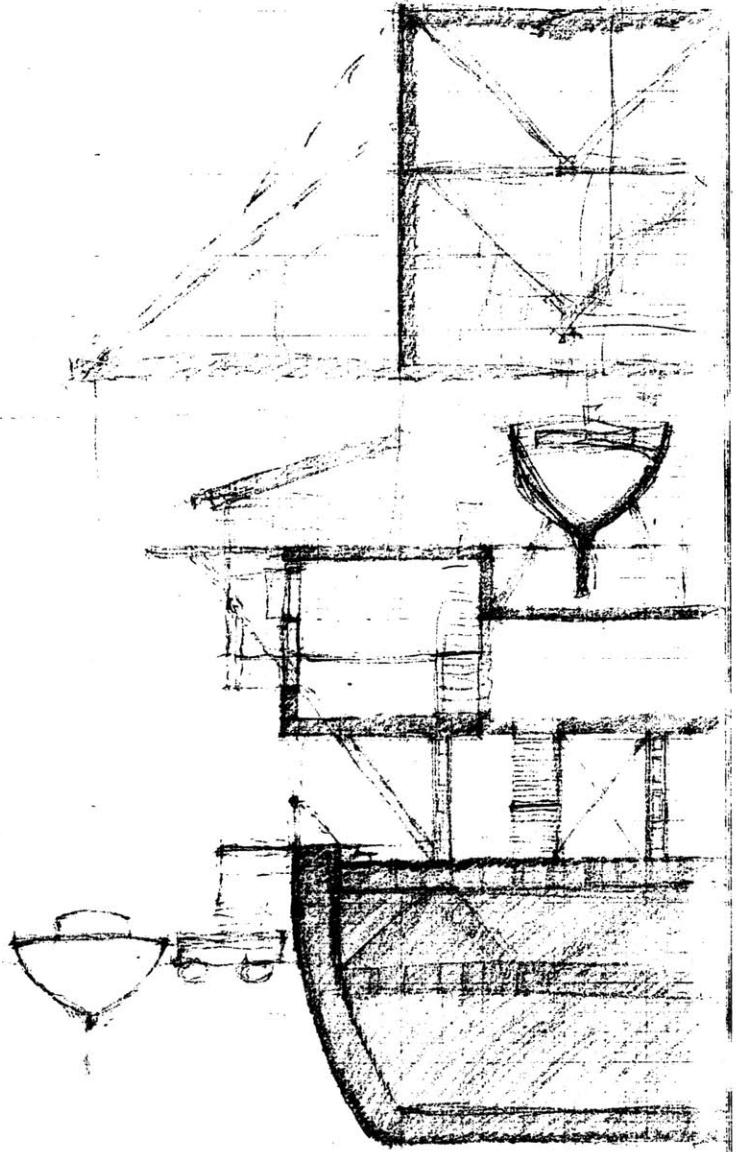
91



Savannah cotton exchange warehouses, from Mills Lane, *Savannah Revisited, a Pictorial History*, Beehive Press, Savannah 1977

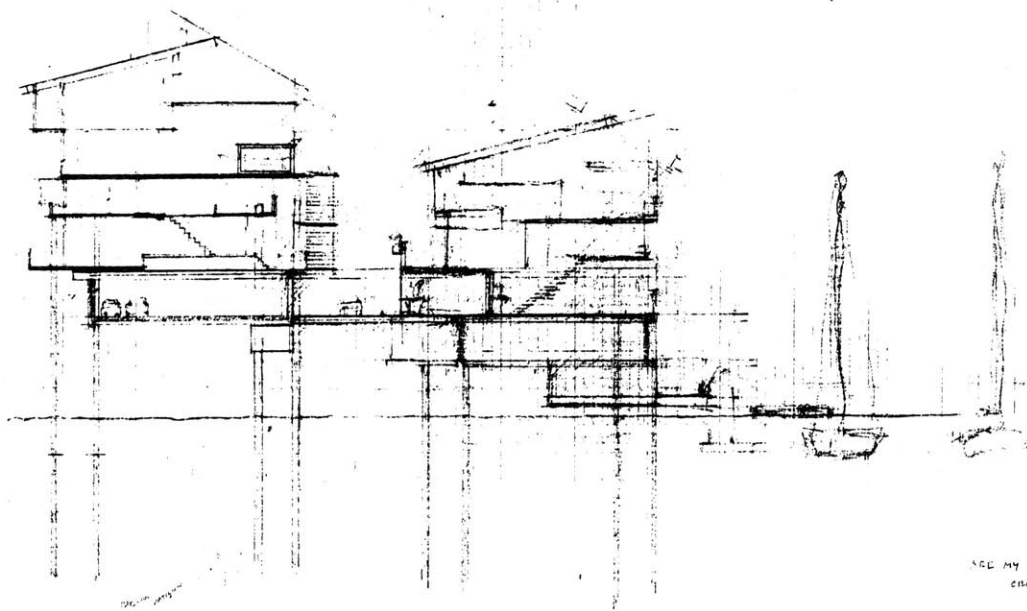
cityside of the Savannah, Georgia, cotton exchange warehouses, showing the terraced retaining walls and bridges corresponding with levels in the buildings. The city, built on a bluff, is at the uppermost level, while the Savannah River is at the lowest level of the buildings.

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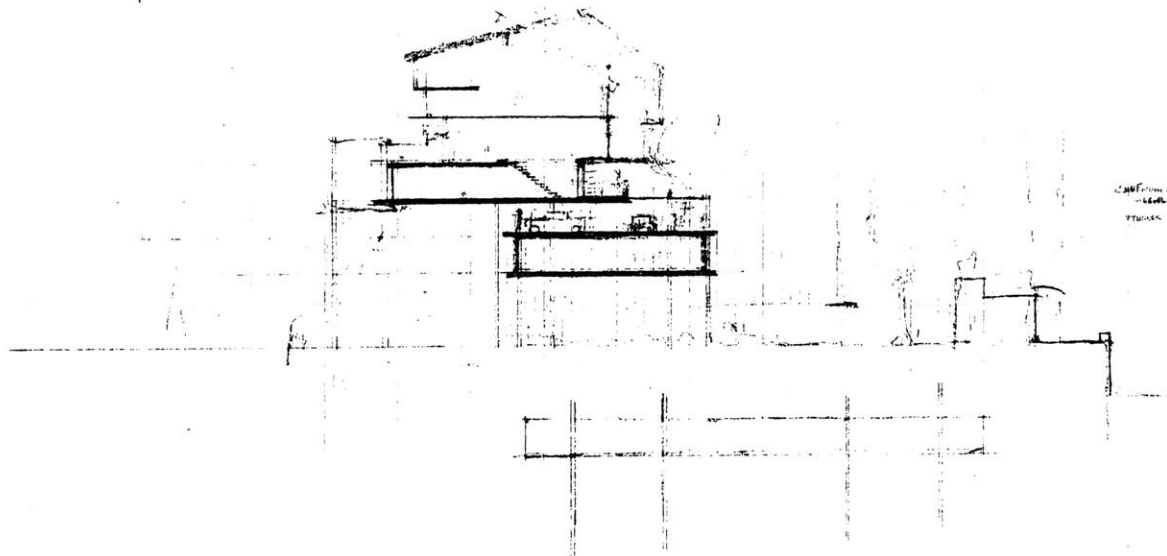
an Early Section of a barge dwelling, indicating that the building , atop a barge, was section dependant for its understanding. The boat inside the building was meant to get the water borne activity up in the air and into the building, thereby intensifying the area below the boat, between the boat and the water.

section



SEE MY GROUP MEMBERS  
CHANGE HISTORY MAY 2011

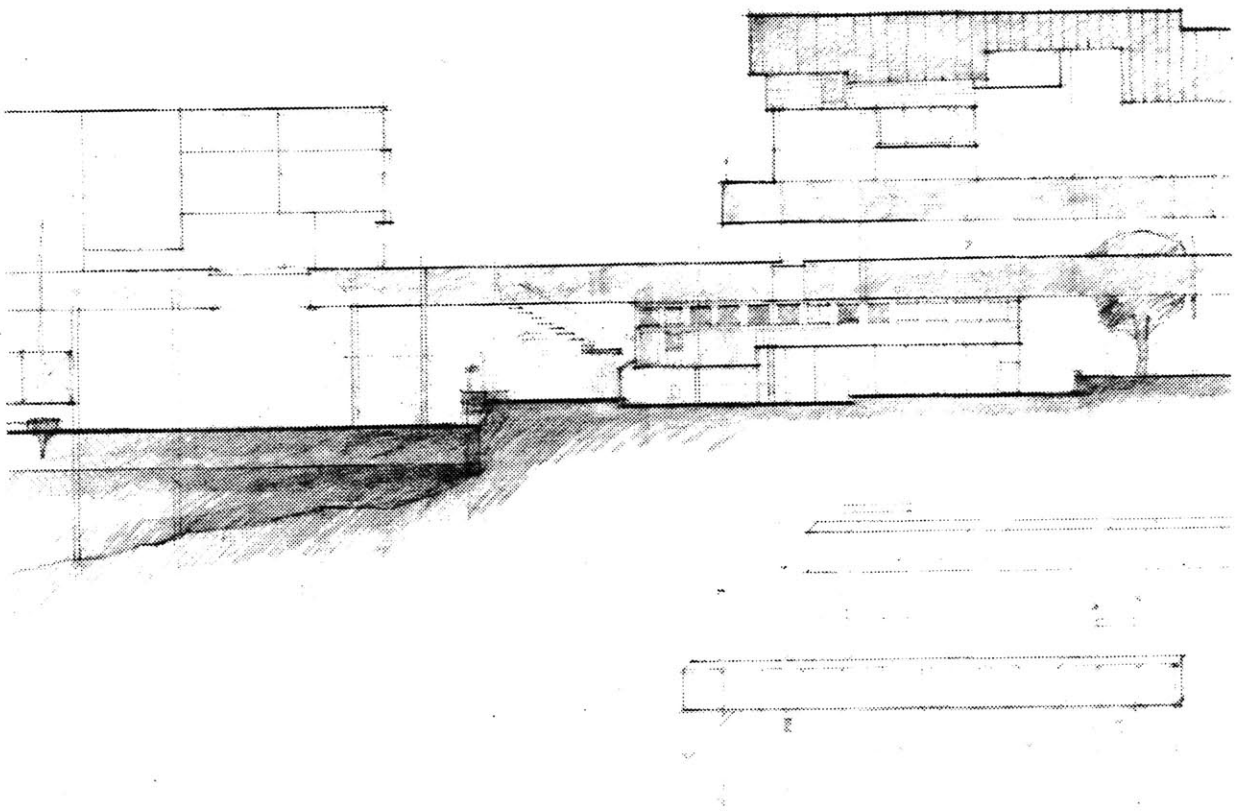
93



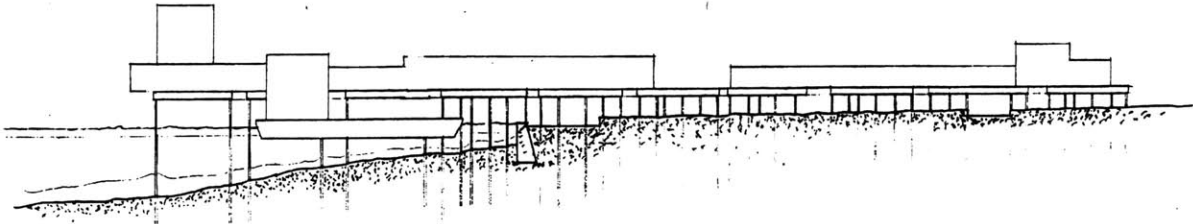
CAN'T FIND  
-LEAD  
PIERAGE



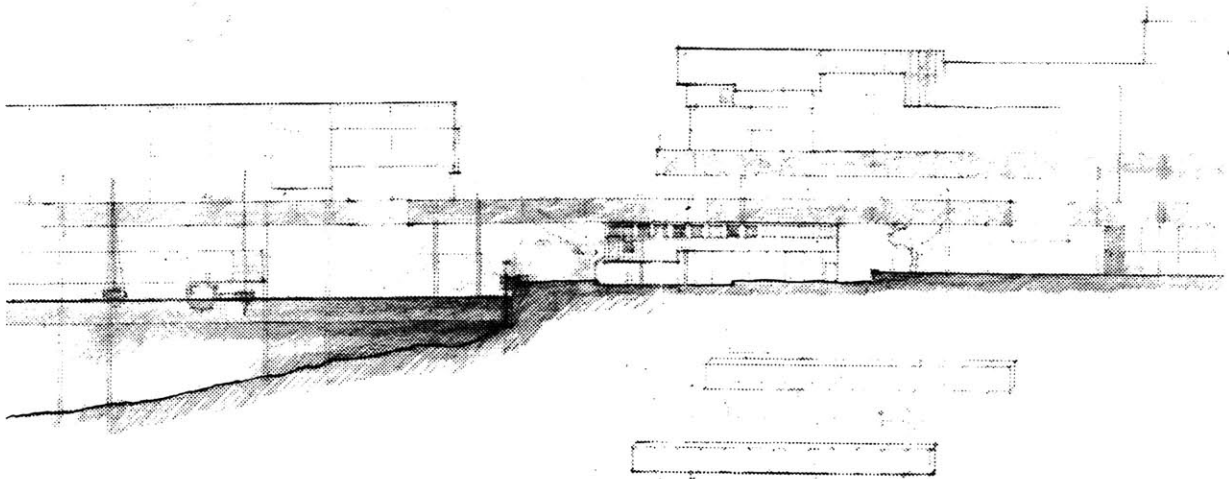
three sketch sections indicating that the buildings were atop an in-the-air structure, a kind of Pier above the water. Buildings are built atop the pier and beneath it and a



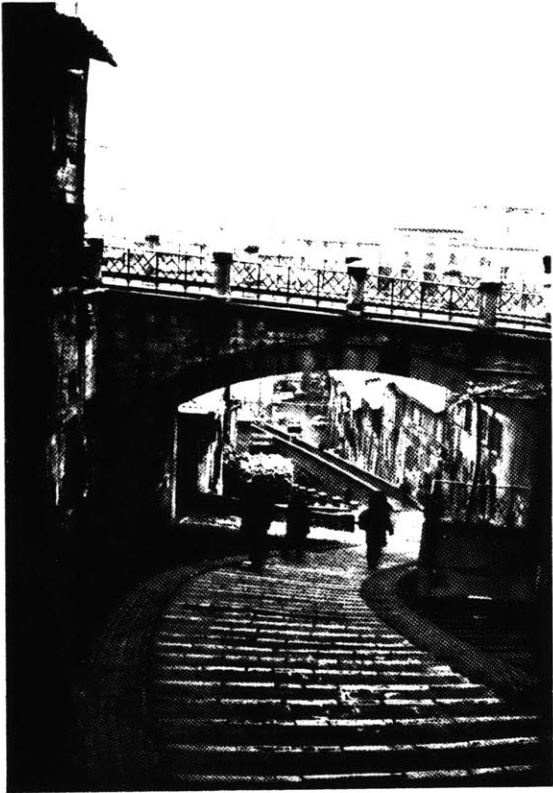
Section

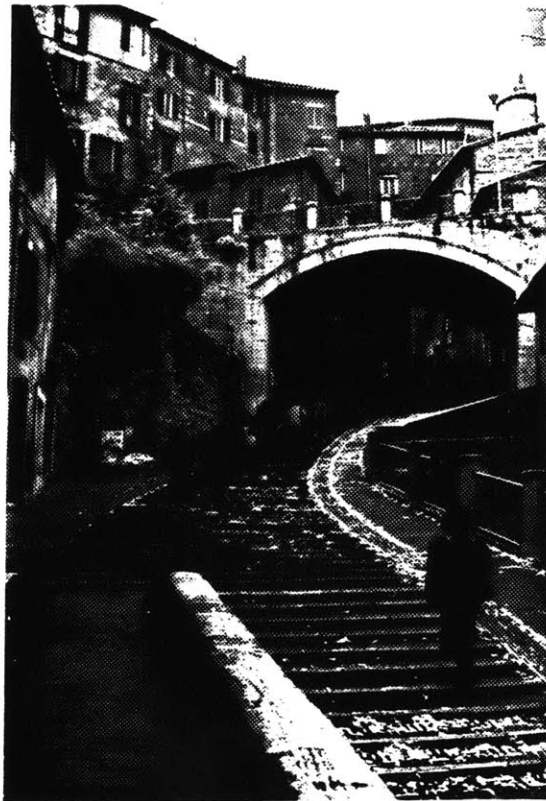


95



Elevation of a pier structure at the waters edge indicating the reference level above the waters edge, keeping the waters edge free, on top of and beneath the reference are buildings, dependant upon the pier for access, structural support and some kind of larger landscape position.





Perugia, in Italy illustrates a combination of built access and section, in which the access is clearly demarcated, first by paving and then by the rails of a viaduct which contours over a grade change, maintaining the same level.

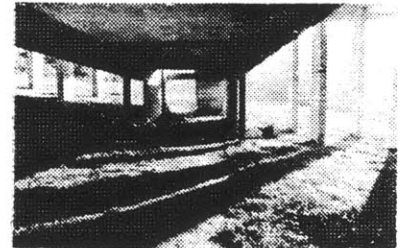
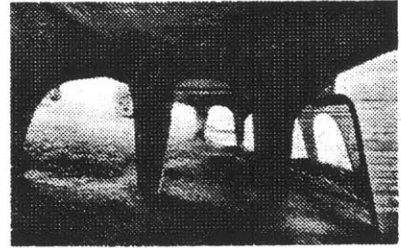


house beside road, Maine.

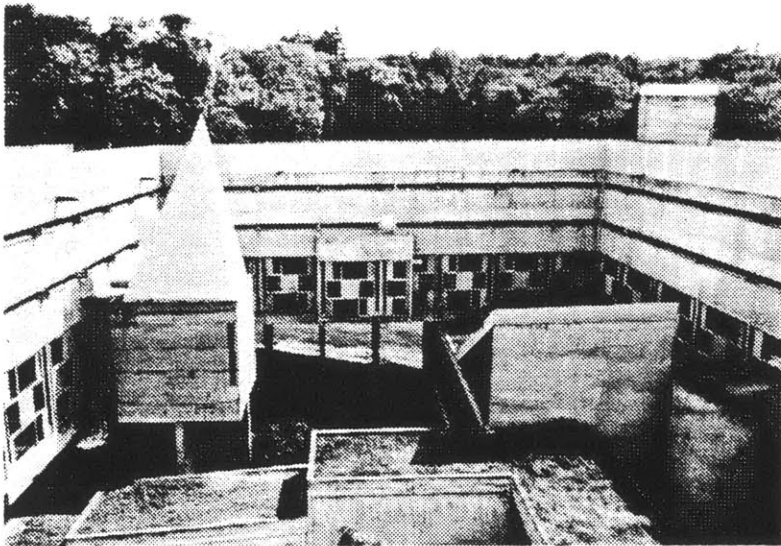


screened porch end of Blackman house,  
M. K. Smith, architect

Corbusier's courtyard-esque monastery, La Tourette, is elevated, allowing the building to be free from the ground. The building reveals the hill of the site which can pass beneath the building. Within the building there is a mid-level reference, a larger access way from which you move both up to the privacy of monks quarters and down to the more public religious sanctuaries. This reference level is an extension of the level at which you enter the building, on the up-hill side of the building.



99



La Tourette, from Francois Biot and Francois Perrot, Le Corbusier et l'Architecture Sacree, La Manufacture, Lyon, 1985

foreground and perspective.

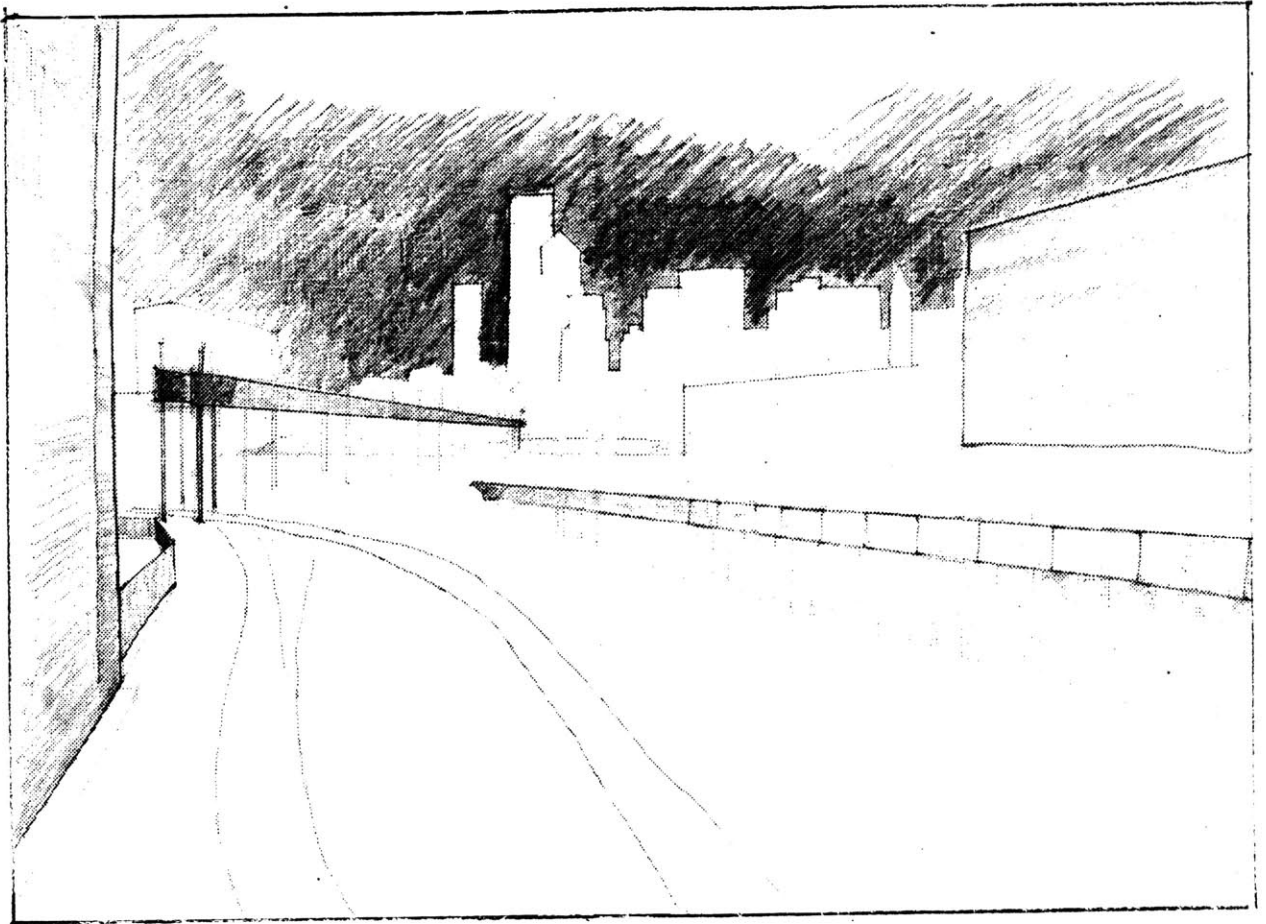
These images initiated the thesis, one of Pikes Peak in Colorado with a Baja Bug in the foreground, the other a view of Arnold Pond, named for Benedict Arnold, in Maine, in which the screen of tall pines gives gives a sense of where you are to the expansive view. The cars and the trees place the view and orient the viewer.

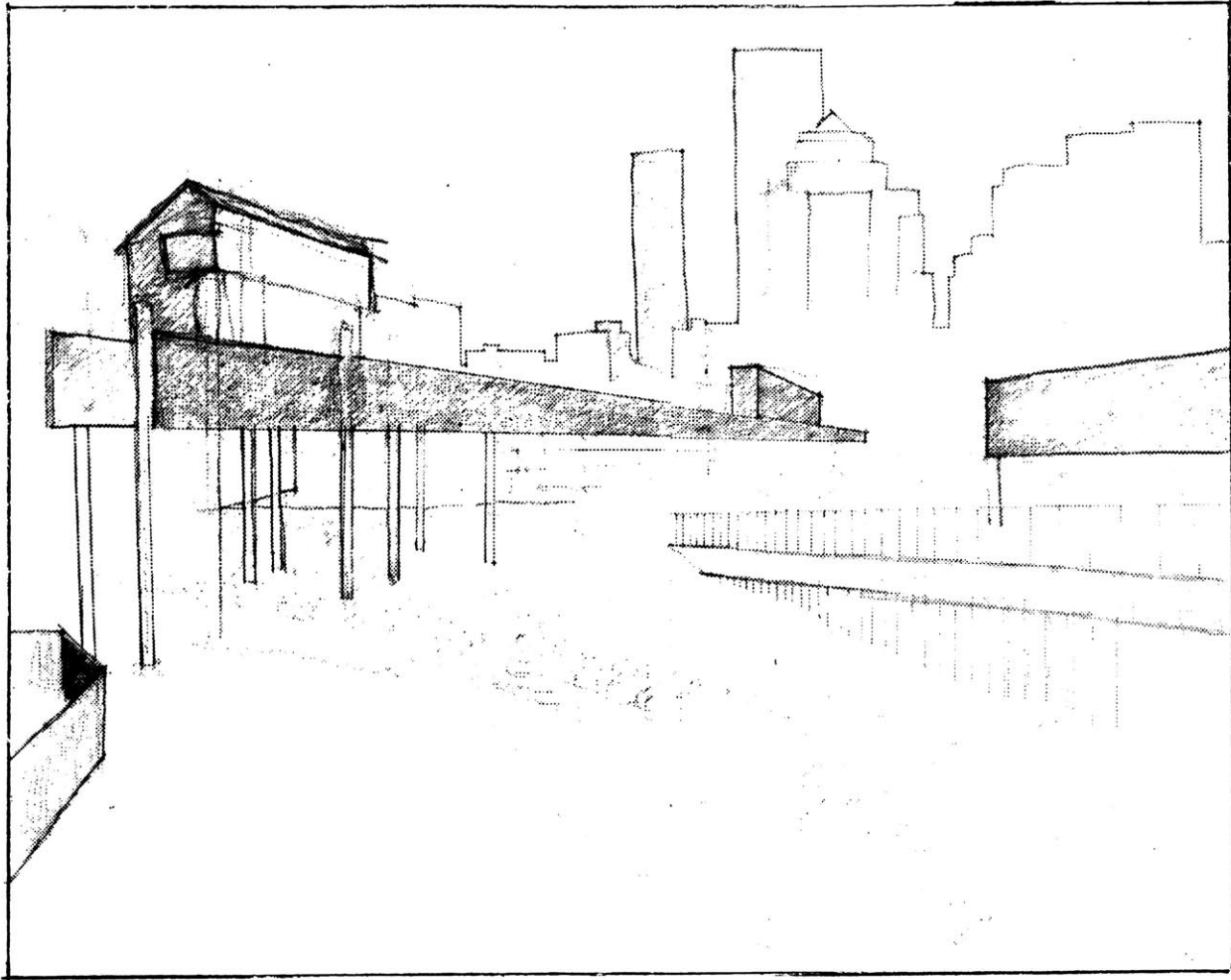
100





View from Maverick street above the railway out toward the city of Boston. The site is between the the skyline and the foreground.



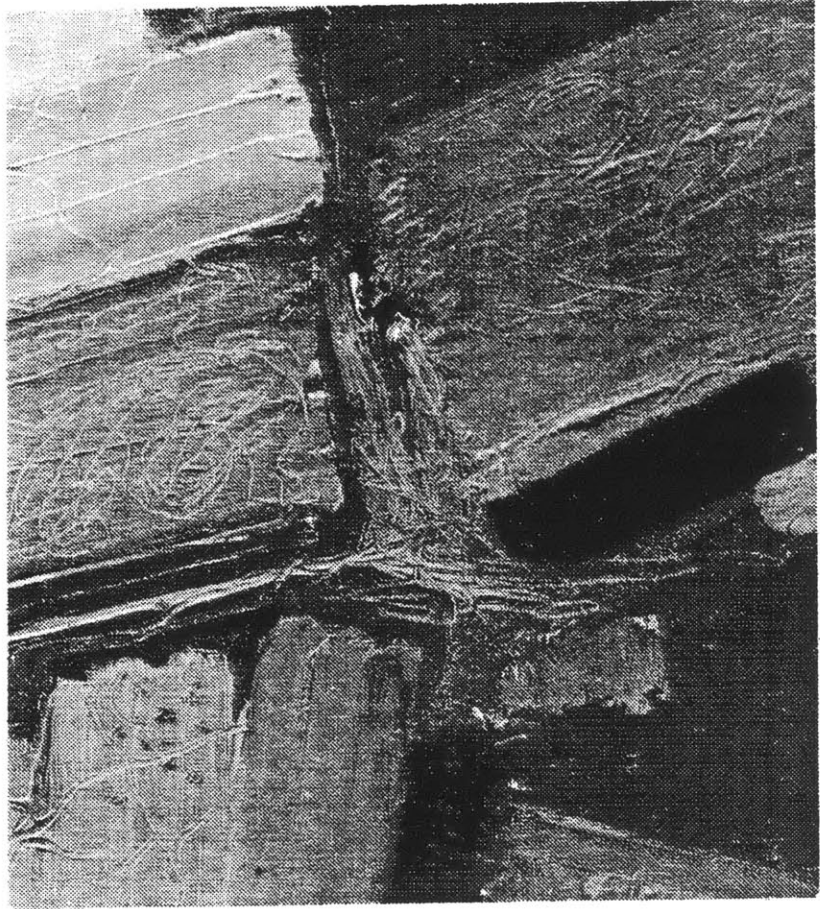


Two perspective sketches of the city from the bridge at Maverick Street above the railway. The proposal was to build an elevated base for the city and at the same time allow movement beneath the building, either along the shore or out to the water. In both cases the radiused position of the pier building allows the building to be seen in elevation along its long edge, leading the eye out to the water and the city.

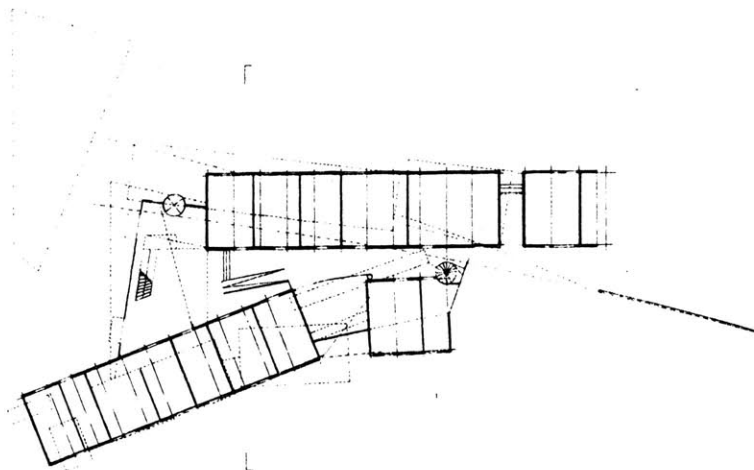
Slack:

Detail of an Aalto painting in which broad brush strokes are held away from one another. The space between the brush strokes, a figure light, joins the brush strokes. In Aalto's painting this slack is drawn with some intensity, indicating that it is the place where the action is.

from Alvar Aalto, Synopsis. Painting. Sculpture. Architecture, Birhauser Verlag, Basel und Stuttgart, 1970

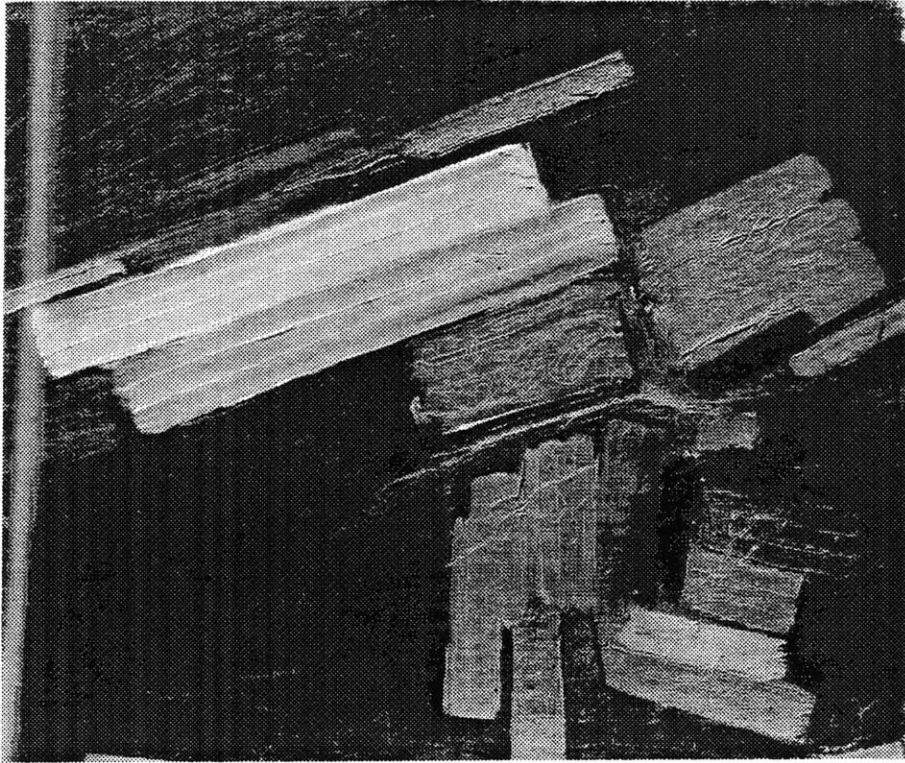


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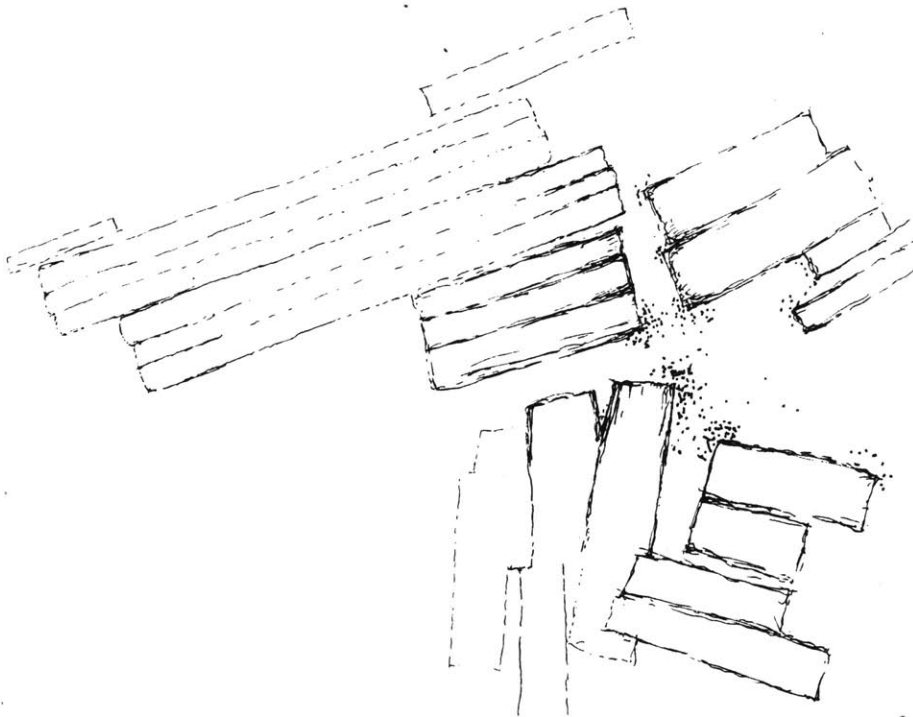


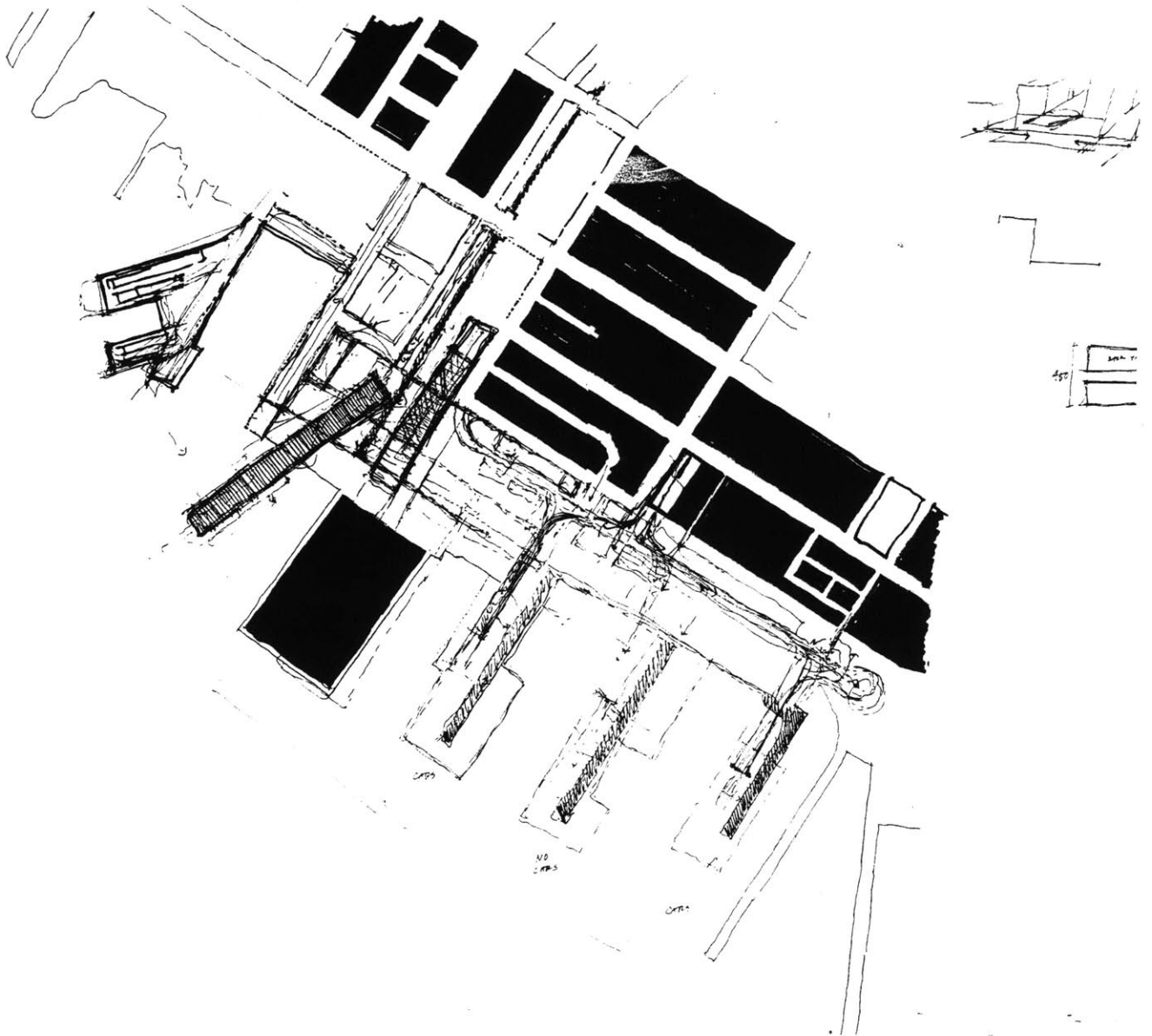
Benische's Hysolar building has a very similar condition in which the space built by the attached boxes joins the boxes in a larger building.

Benische & Partners, Designs 1952-1987, Stuttgart.



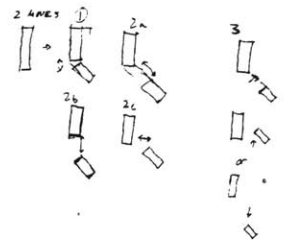
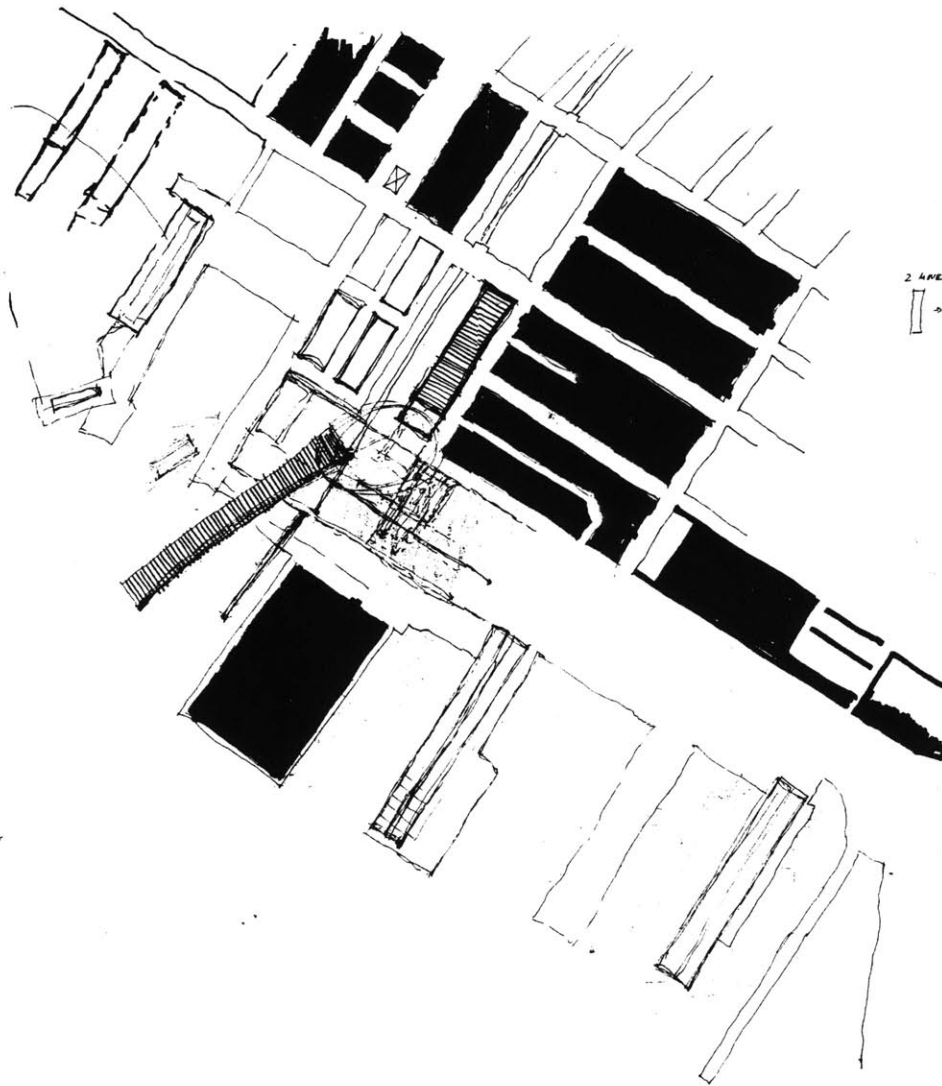
the diagram calls out the brush strokes of Aalto's painting as solids





The following sketches are part of a final effort on the site. They were primarily master plans. The site is very large and resolving the entire thing with some confidence is awkward. Nevertheless, the crux of the thesis has become a masterplan.

Both drawings focus on the hinge, where the buildings are separated from one another due to the railway extension. In scheme the buildings stay apart from one another, there is no exchange between the two buildings. The second drawing shows a more spatial solution in which the two buildings pass one another, framing a court.



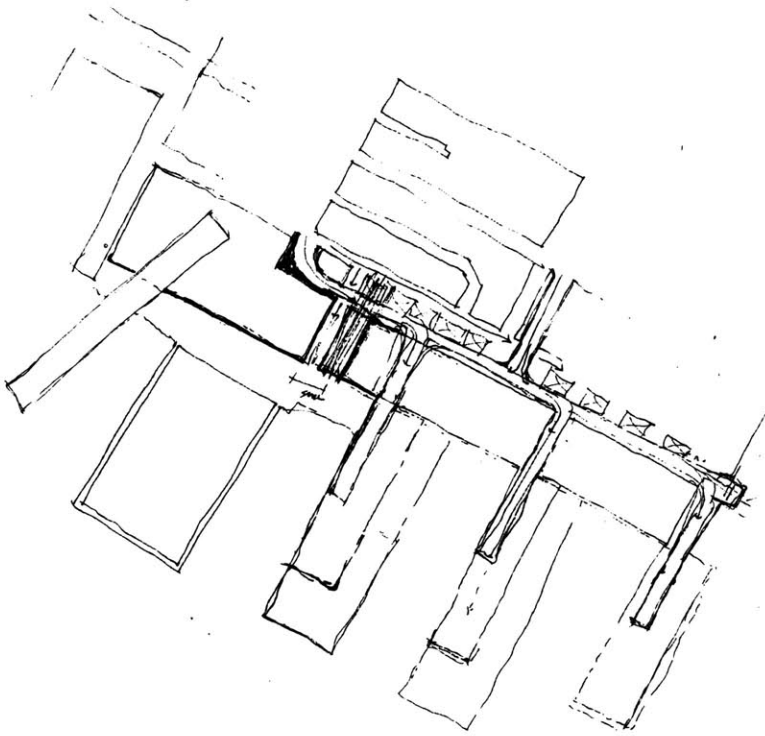
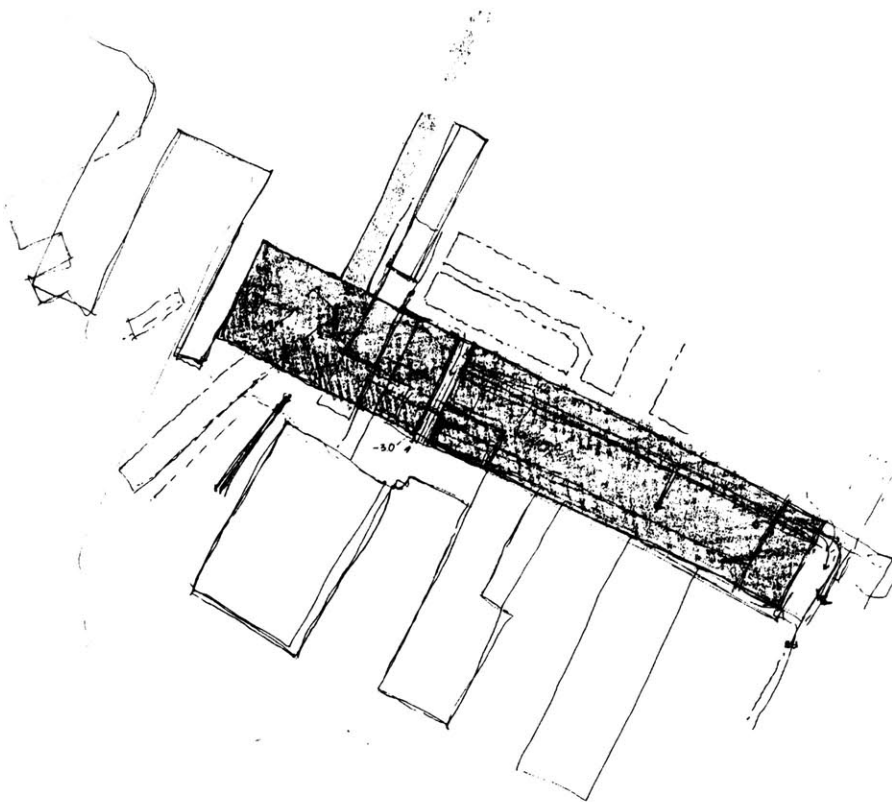
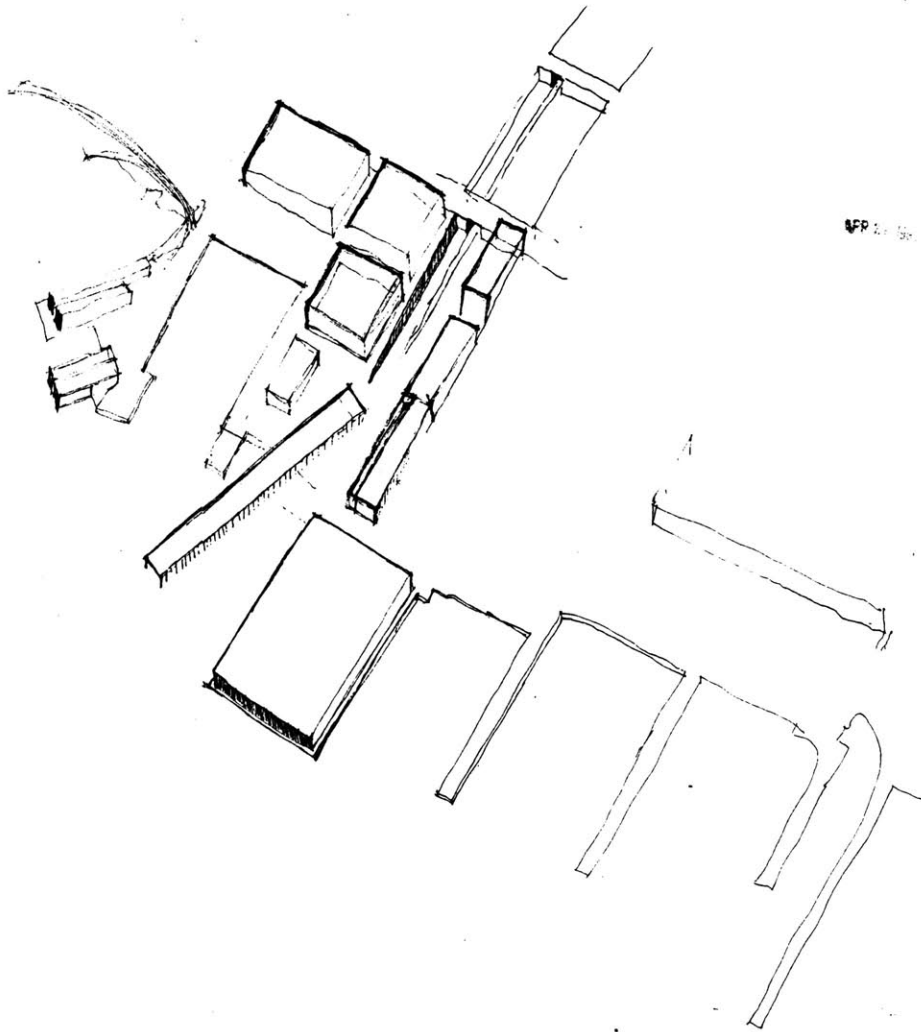


diagram showing the access, built as an elevated roadway and pier.



darkened area indicates an along-the-shore continuity, built as a partial park but delineated as a larger territory.



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110

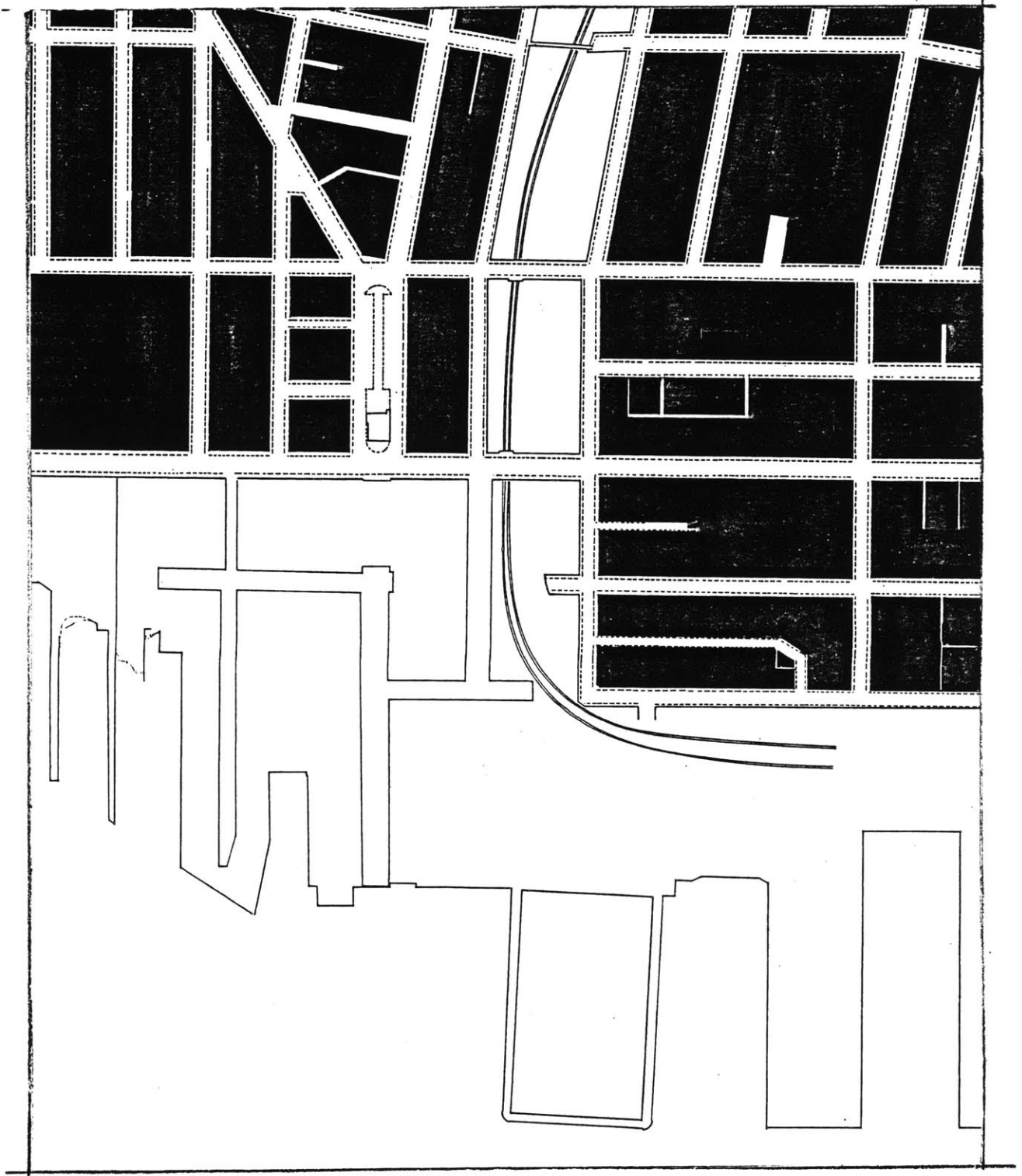
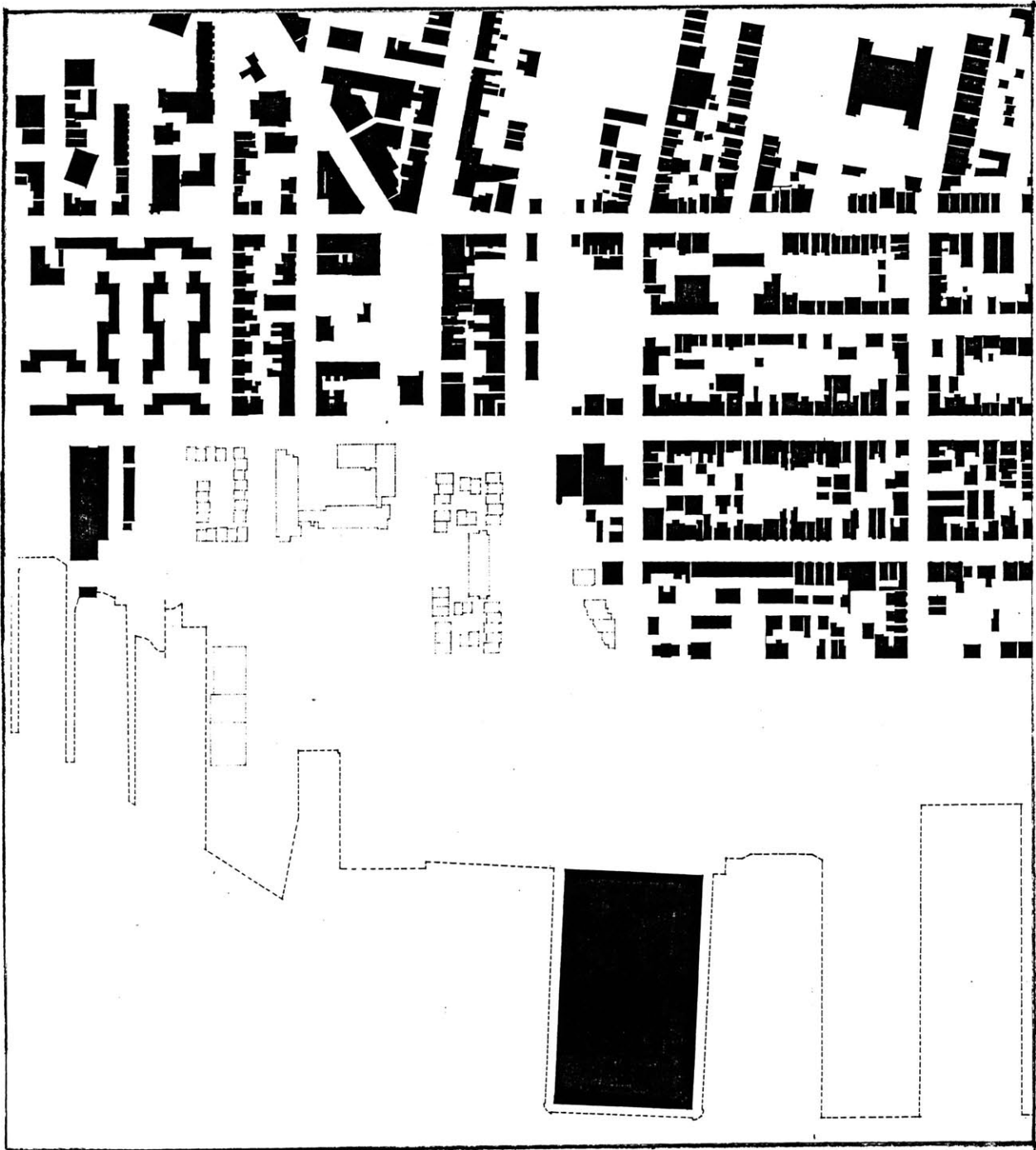


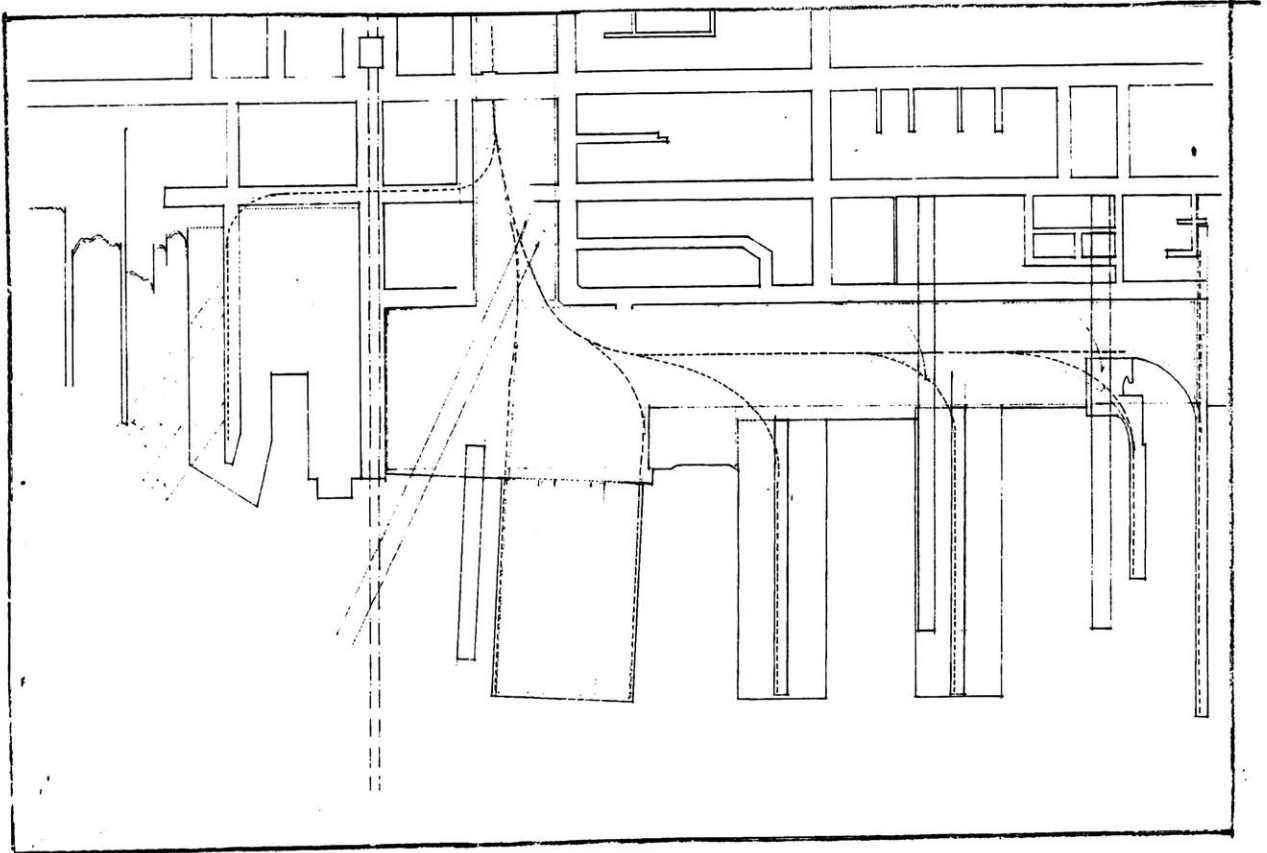
figure-ground, East Boston:  
Blocks



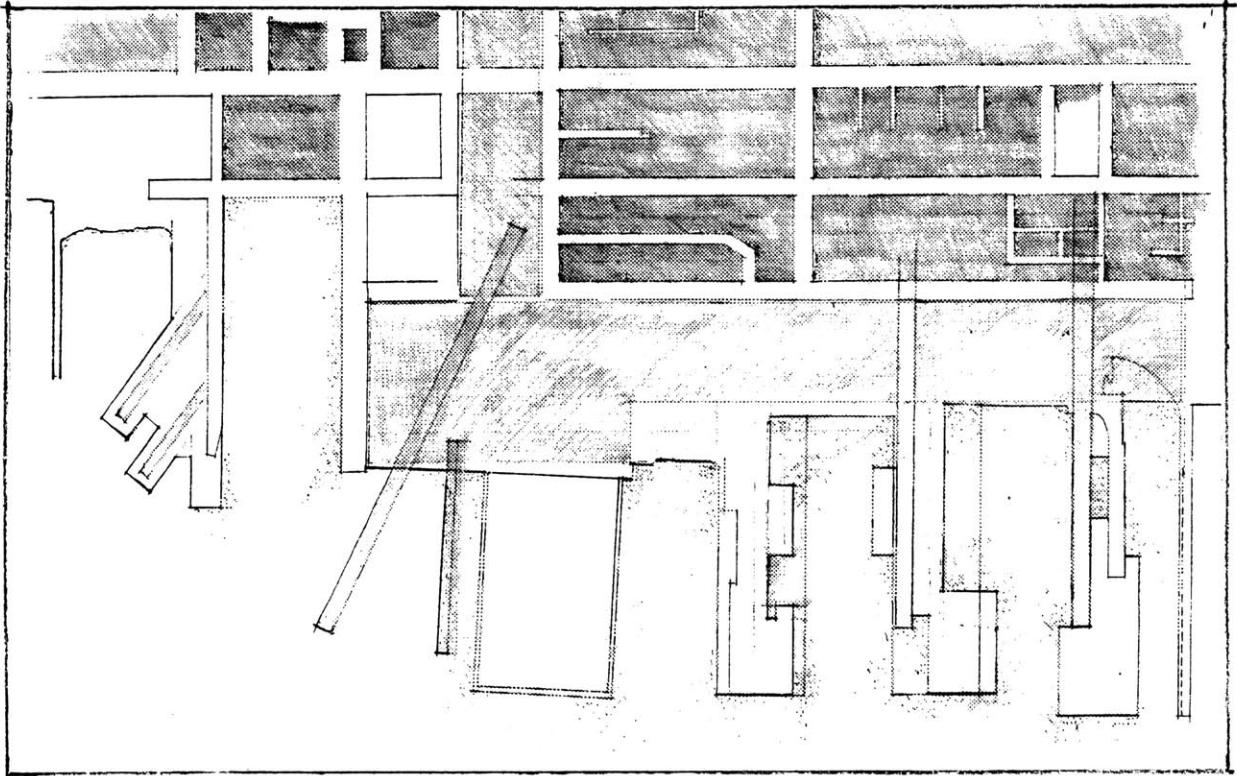
Buildings

**Building INFRASTRUCTURAL PIERS in East Boston**

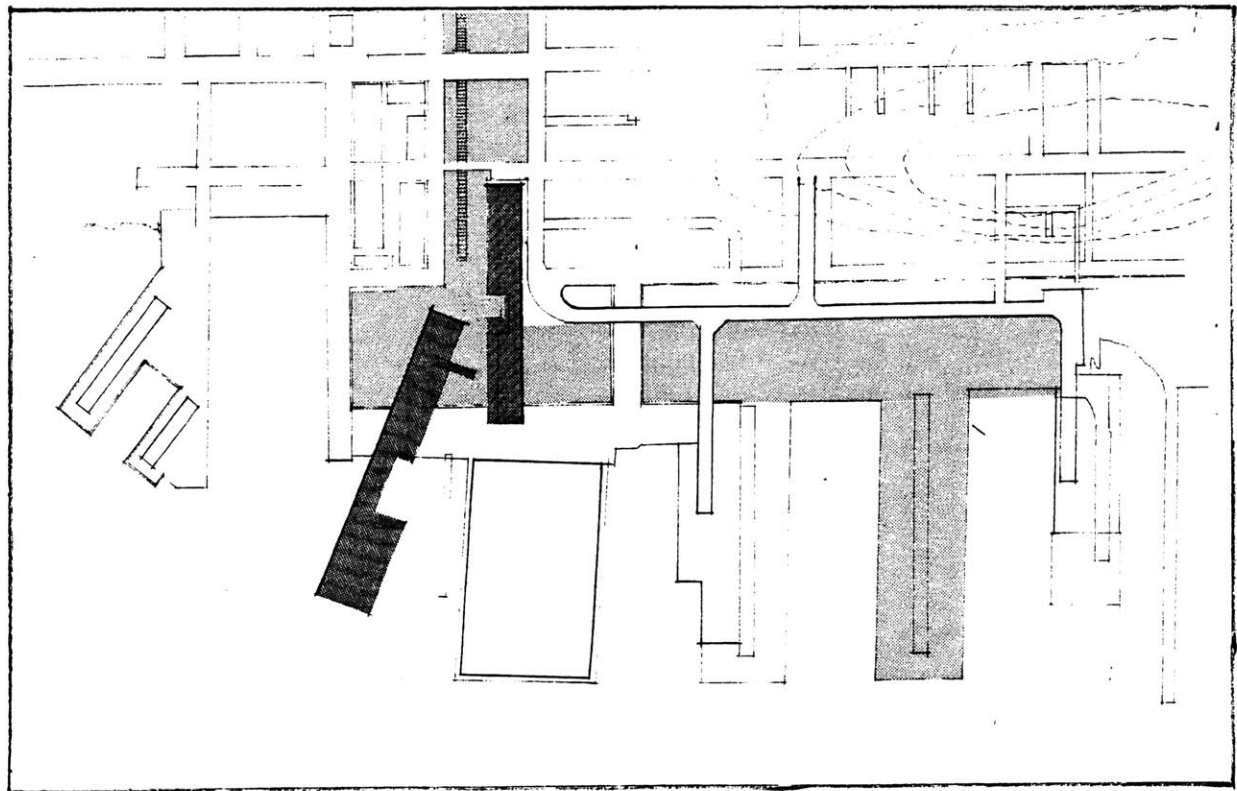
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**diagram of infrastructure. original train tracks are shown as dotted lines**

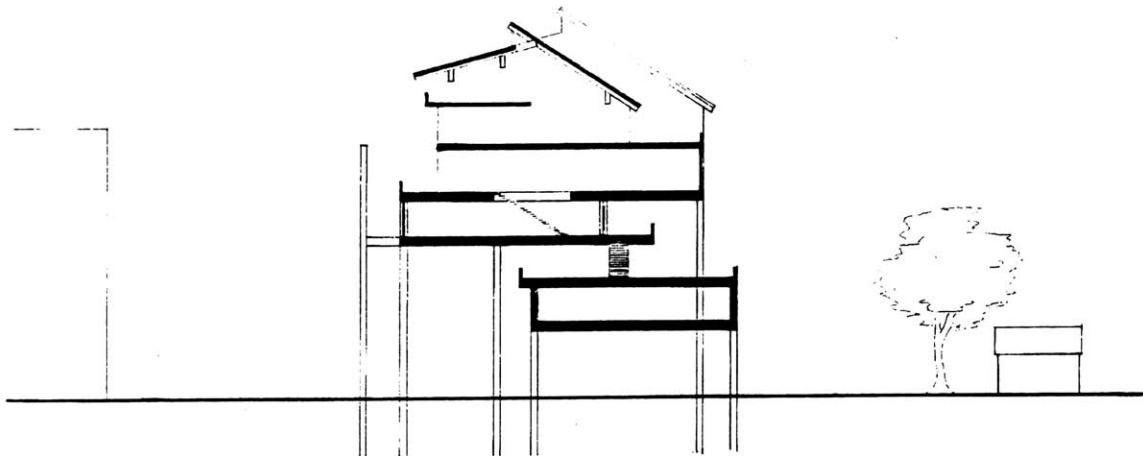
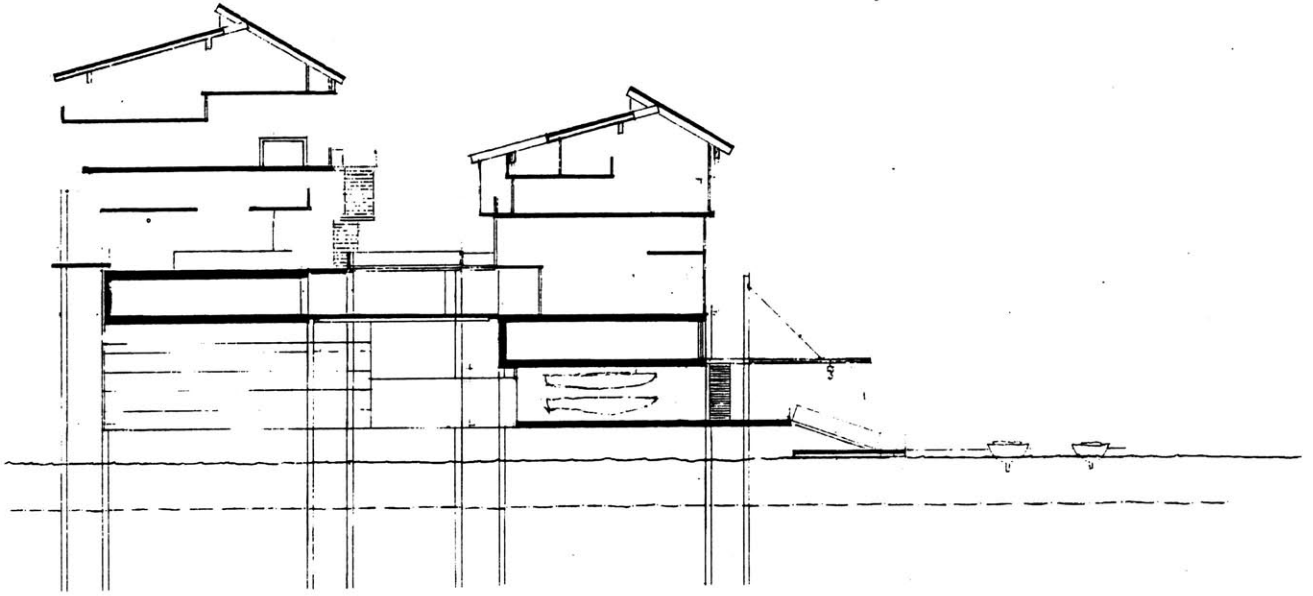


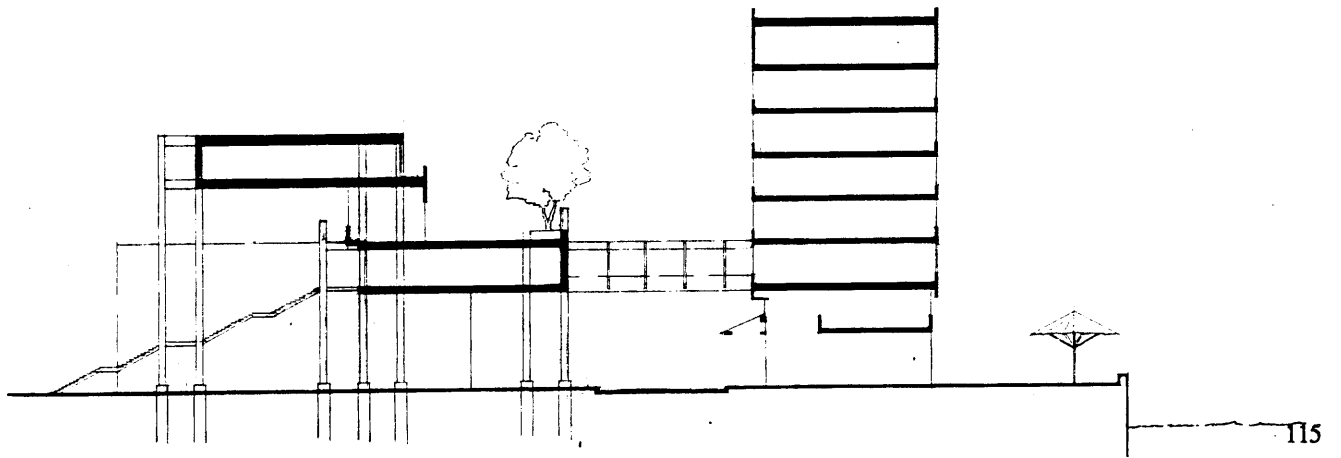
first and second pass, infrastructure.



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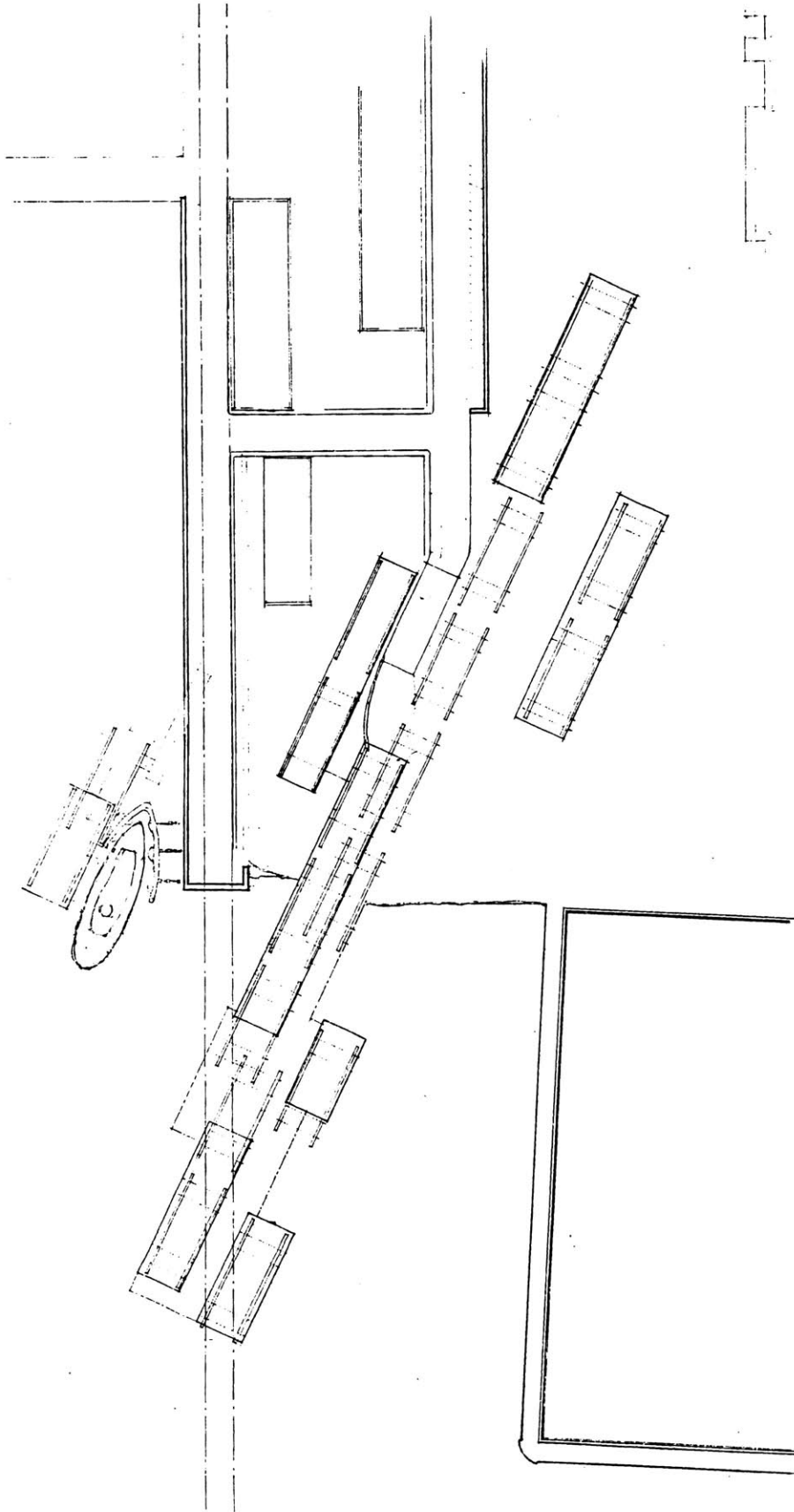
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### Sections

typical sections indicating an elevated pier or infrastructure which can be selectively inhabited. The sections illustrate various possibilities, given that an initial pier was built first.



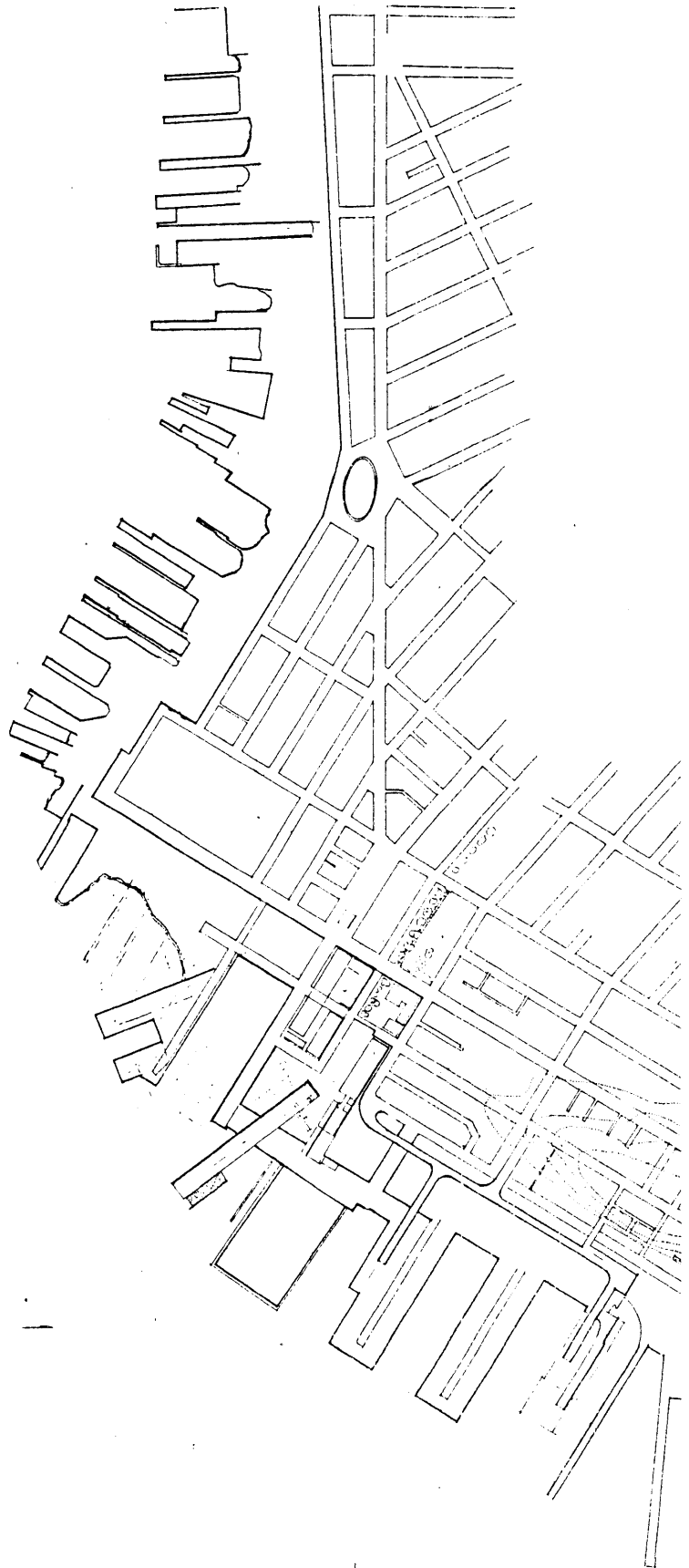
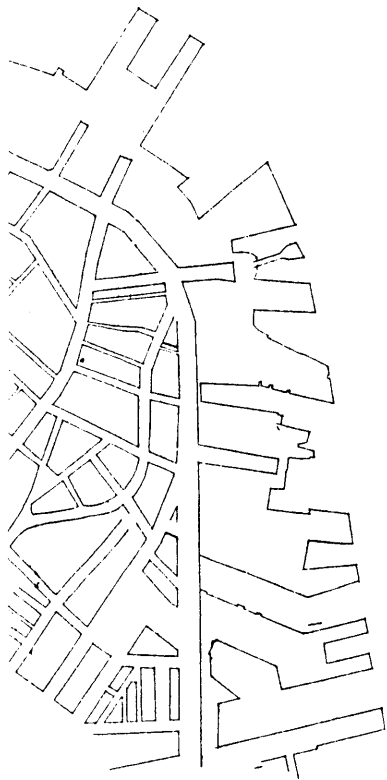
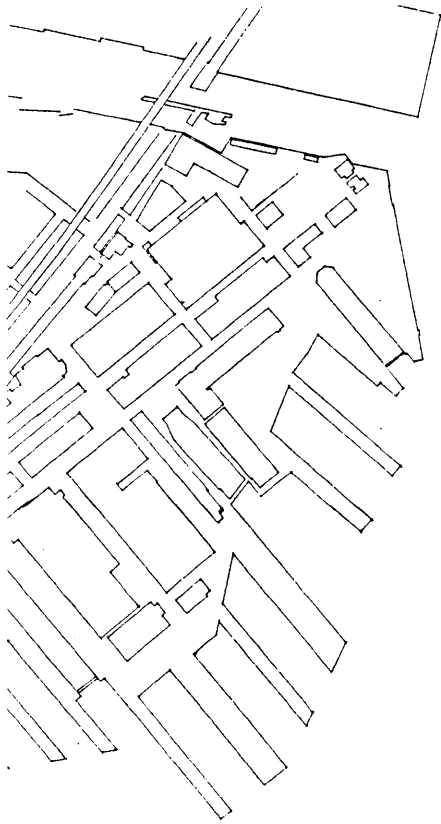
Plan diagram of site built with piers. A ramp leading up onto the raised level is included.

Summary and conclusion:

I conceived of this project to try and learn something about what this great place, the Boston Harbor and the shore of East Boston was all about. It provided a spectacular view of the city and the harbor but was practically nonexistent in the lives and minds of most city residents. There was an assumption made and that was that something would be built on this site. This assumption is fraught with difficulties, but they offer sufficient fodder for another thesis. In assuming that the site would be built I took the position that the waterfront belongs to the city, not the highest bidder. At the same time I realized that private buildings on the shore did not necessarily translate into a privatized waterfront. I have attempted to outline various infrastructures in the city and elsewhere which give some indication of the how infrastructure is of primary importance in controlling access to the water, particularly in Boston Harbor. In reaching this conclusion I have attempted to make a proposal for the shore of East Boston that is infrastructural, not simply architectural. The adjacent drawing is a final pass at the site in a East Boston.

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