

IMAGEN PONCE:

Public and Private Interests in the Design
of a Free Zone within the Port of Ponce,
Puerto Rico

by HERMANN FERRE III

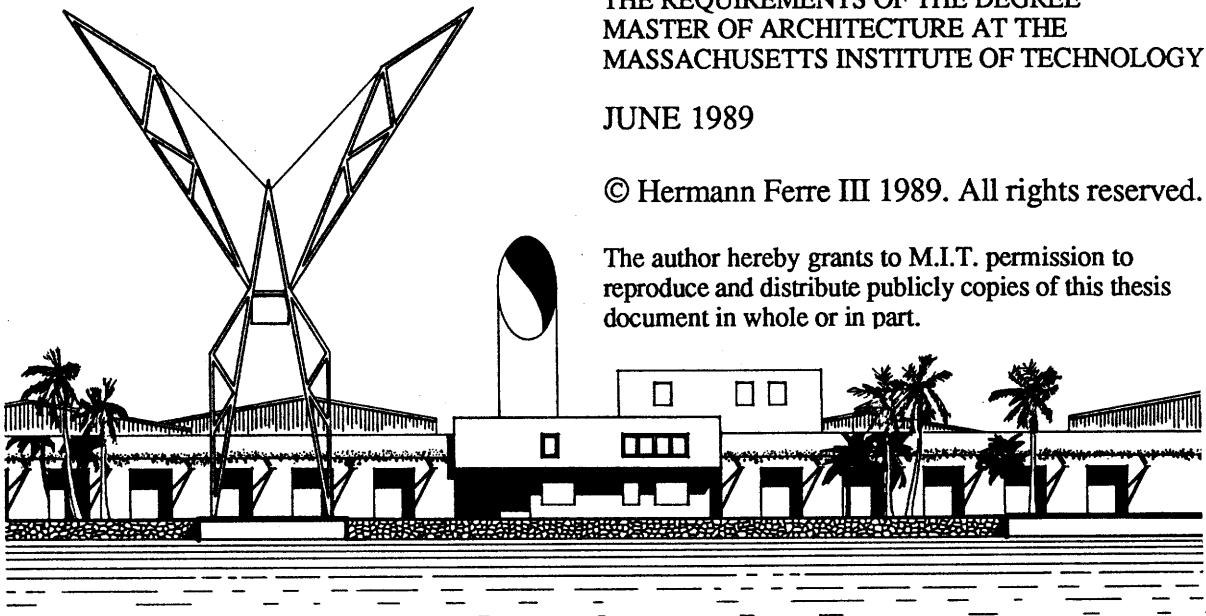
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ABSTRACT

This thesis explores the physical and spatial requirements that would allow a free trade zone to operate efficiently within the Port of Ponce. The form of this economic enterprise is seen as an integration of the industrial machine and the city's urban fabric. Layers of physical forms generated from past economic programs have given Ponce its rich character. The design proposes to introduce a new civic image that will enhance the urban experience and give clarity to the workings of the trade zone and its port.

Thesis Advisor:
Title:

Bill Hubbard, Jr.
Associate Professor
of Architecture

This thesis is my contribution to Ponce and its future. I dedicate this work to the memory of my great-grandfather, Antonio Ferré, who had an authentic vision for the future of Ponce. While those dreams for Ponce's future were never fully realized, we have been left with many valuable lessons.

I would like to acknowledge some of the people who have helped me throughout the process of developing this document:

Joanne Larrabee for providing invaluable computer systems support and for appreciating my tastes in music just when Mark was about to go "Bad" again

Mark McConnel for the great discussions on architecture and the quirks in life

Paul Baker for maintaining my sanity when I really thought I should have been born untiring and with four arms

Scott MacIntosh for the emotional support only a best friend can provide

And especially Bill Hubbard for his patient and persistent demands on my design abilities

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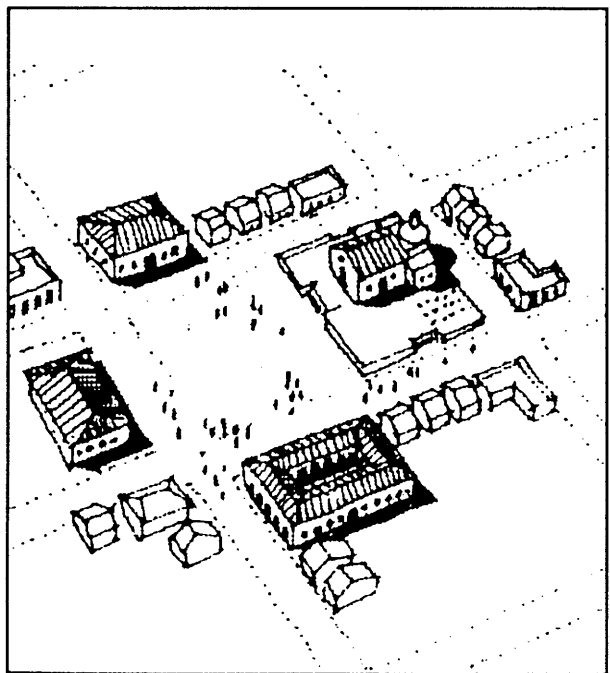
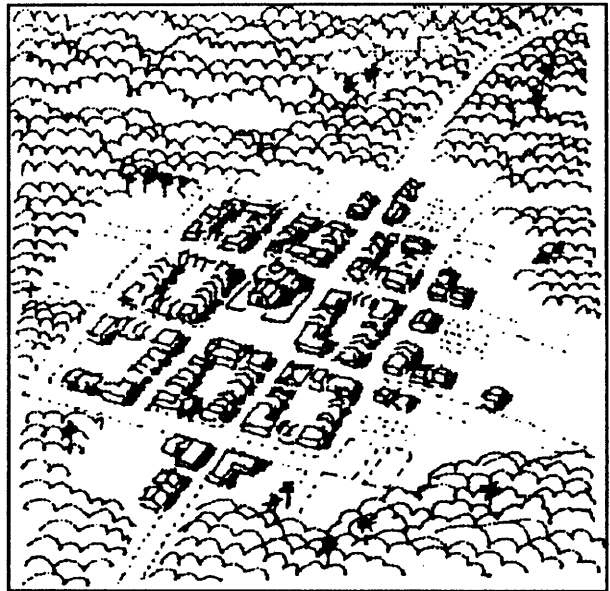
PONCE FORMED BY ECONOMIC PROGRAMS

The city of Ponce, Puerto Rico, is a physical history book of the various programs that have been enacted by local and foreign governments to boost the Puerto Rican economy. Each new economic system made a complete break from what was already in existence. And each time, a new physical form was introduced in isolation and then later integrated into the urban context.

Initial western settlement in Puerto Rico was that of the “conquistadores” who brought with them a foreign economic system that overpowered the existing indigenous way of life. Their concern was that of extracting gold from the island to fuel Spain’s interest in exploration and colonization. The physical manifestation of this economic endeavor was the fort. Fortifications became necessary to protect Spain’s hold on the island. Due to a concern for the stability of gold mining an emphasis on the physical setting that would encourage trade soon followed. The form of the city in this early colonial period was meant to reassure settlers of Spain’s commitment to the island and to the New World. This period, then, tried to tie an ideal town plan with the existing fortifications. Colonial settlement in Ponce followed closely the Laws of the Indies. Straight streets formed rectilinear blocks. Each block was proportioned at 1:1.5 in the east-west direction. One block was chosen as the main plaza. This plaza was to be flanked by the most important public buildings: the church, city hall, and the market. While the general recommendations of the Laws were



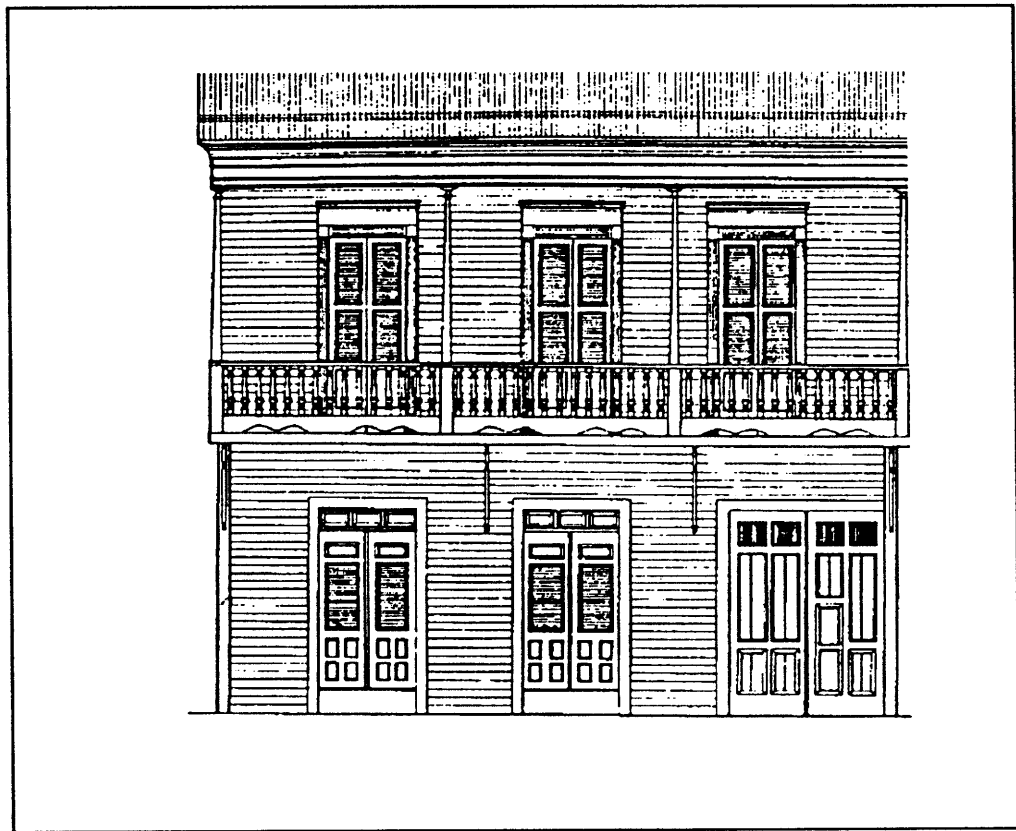
followed, specific details were mostly ignored in Ponce: the church was built in the plaza, the main plaza was not located next to the harbor, porticos were not constructed around the plaza nor along the four main streets which surrounded the plaza. Nevertheless, this city plan idealized order and a central focus within the Spanish fortifications.



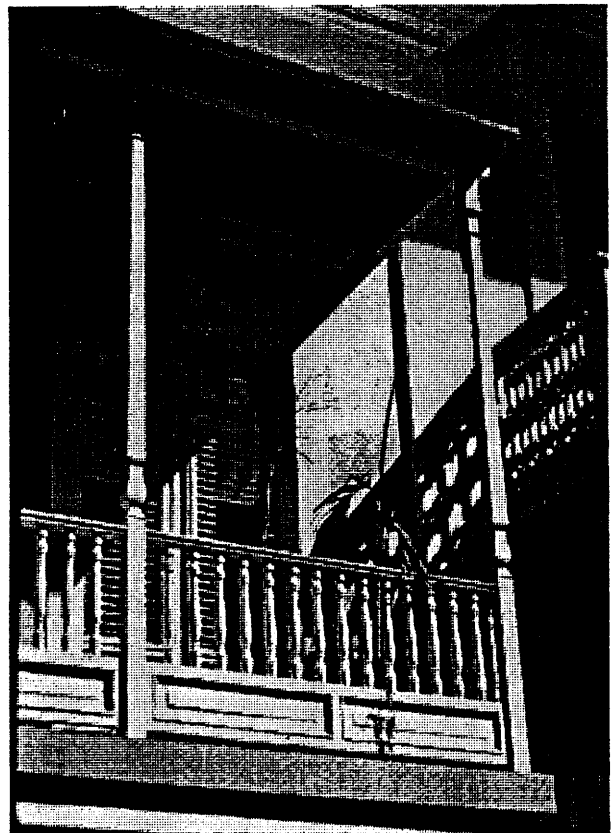
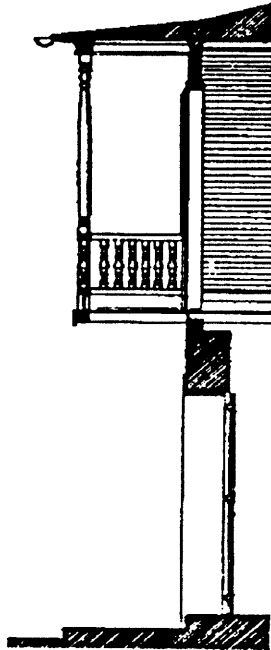


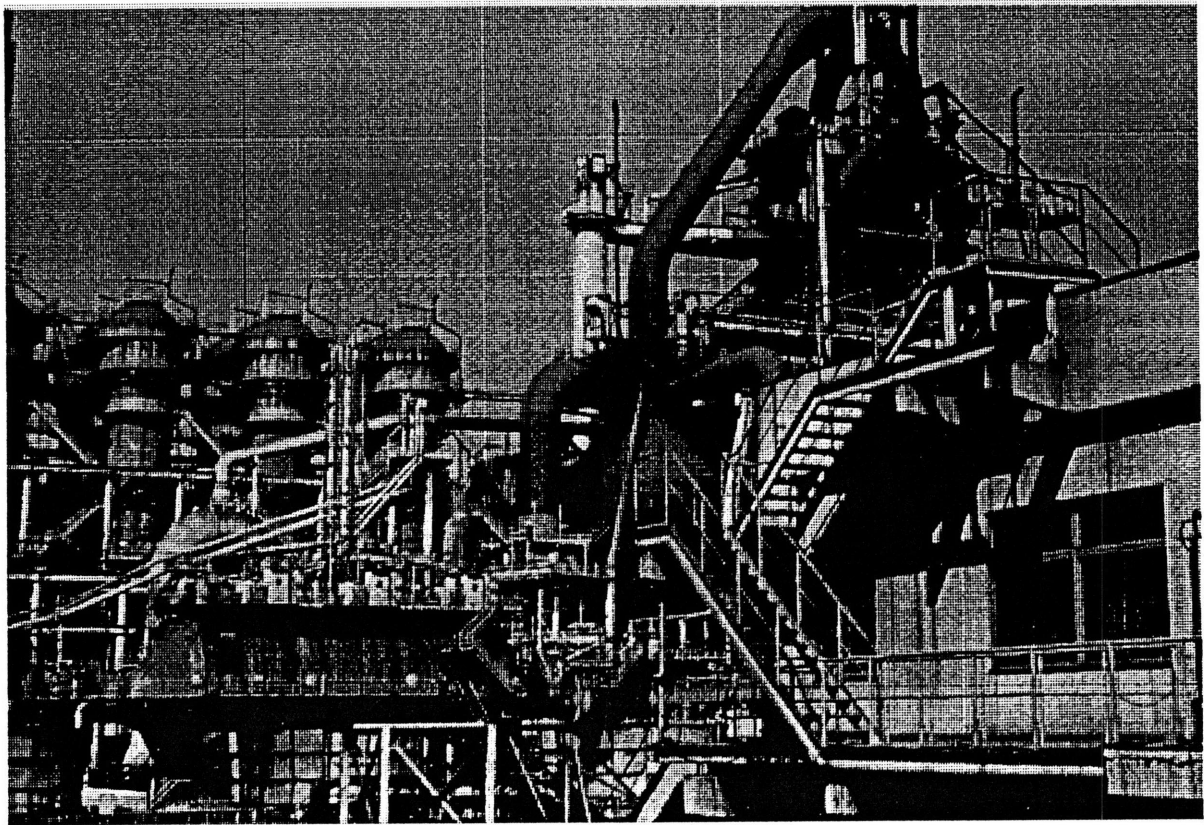
AGRARIAN ECONOMY TAKES SHAPE

Colonists started to realize the potential for land cultivation as gold reserves were depleted from the island. The Crown looked for measures that would enable an agrarian economy to take shape. Land was parcelled into vast plantations. The plantation manor or house became the central focus around which workers housing and other facilities were built. It was a two-storey structure with porches that surrounded at least two sides of the second level. This building type was different from the colonial, one-storey town structures that made up Ponce and by necessity was physically detached from the town or what already existed as an urban form. The second level of the manor was the actual living quarters of the landowning family. This level would catch the breezes and remain in shade most of the day. The success of these plantations allowed Ponce to slowly become a major exporting center for Puerto Rico. During the end of the nineteenth century the island's agricultural economy reached its maturity. Sixty-five percent of all harvested goods (mainly sugar, but also tobacco and coffee) were exported. Ponce handled thirty-three percent of the island's total exports. San Juan handled only twenty percent of these goods. The Ponce area became the wealthiest and most populated location in Puerto Rico. Islanders prided themselves on the fact that Ponce was their very own success story, a story of their labor. It was a city that emerged from the integration of rural activity and urban trade without the austere presence of the Spanish. The adaptation of the plantation house into the urban

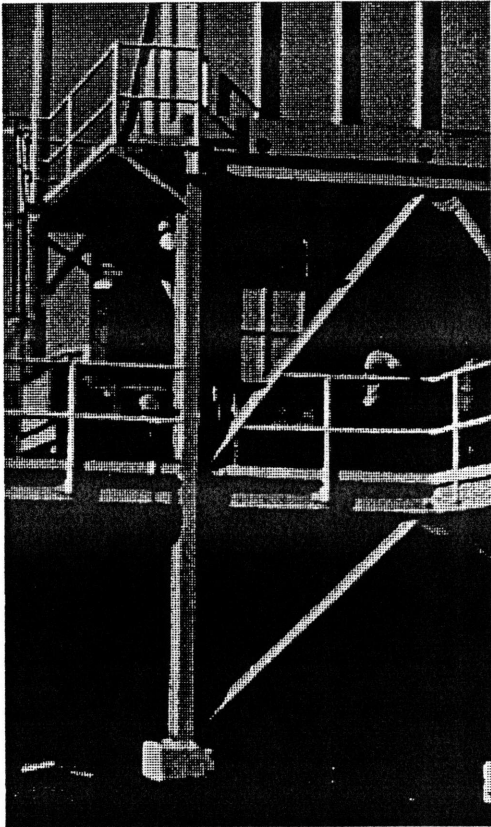


fabric of Ponce manifests itself in a curious physical type, a type that becomes unique in Puerto Rico. The main level of the urban dwelling is elevated off the sidewalk a few feet. The steps that connect the building to the street takes over the porch zone seen in the plantation house. Otherwise, the character of the building emulates that of the plantation house. As Ponce becomes denser a second storey becomes necessary. This two-storey structure follows more closely the dimensions and proportions of the plantation manor.



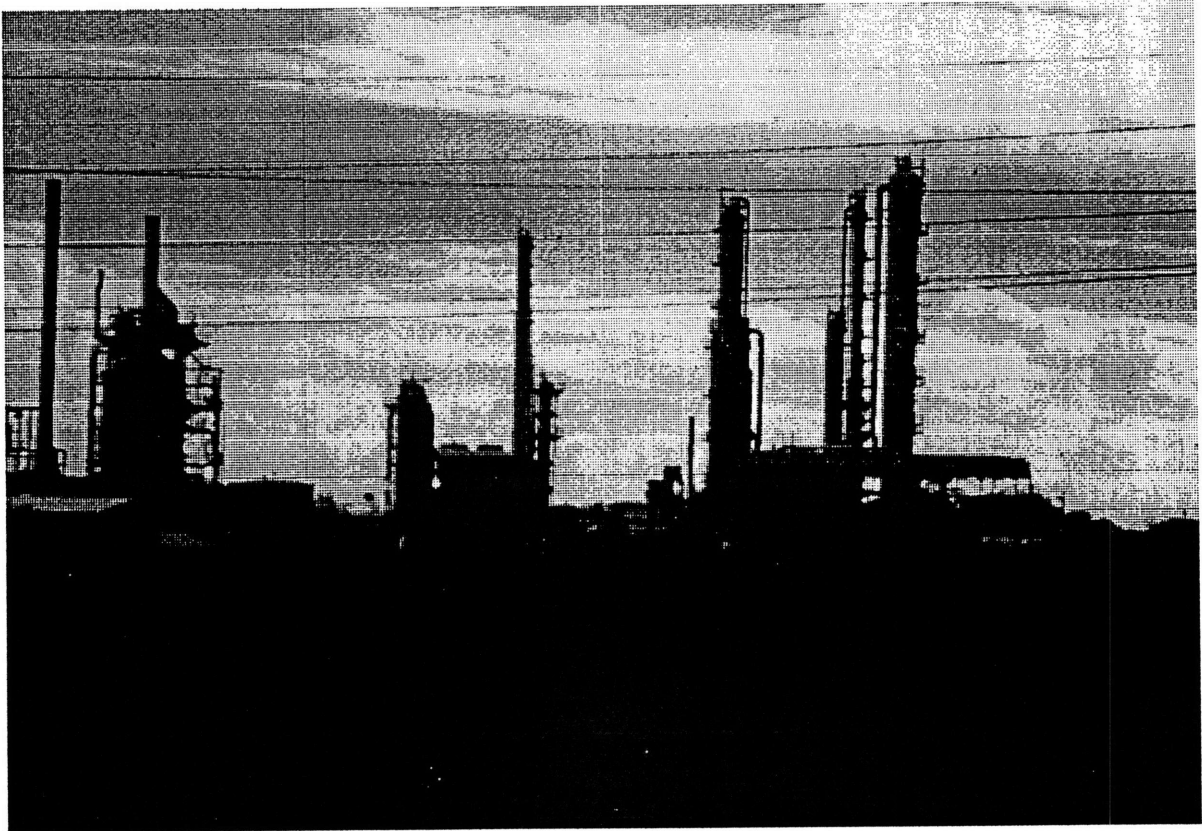


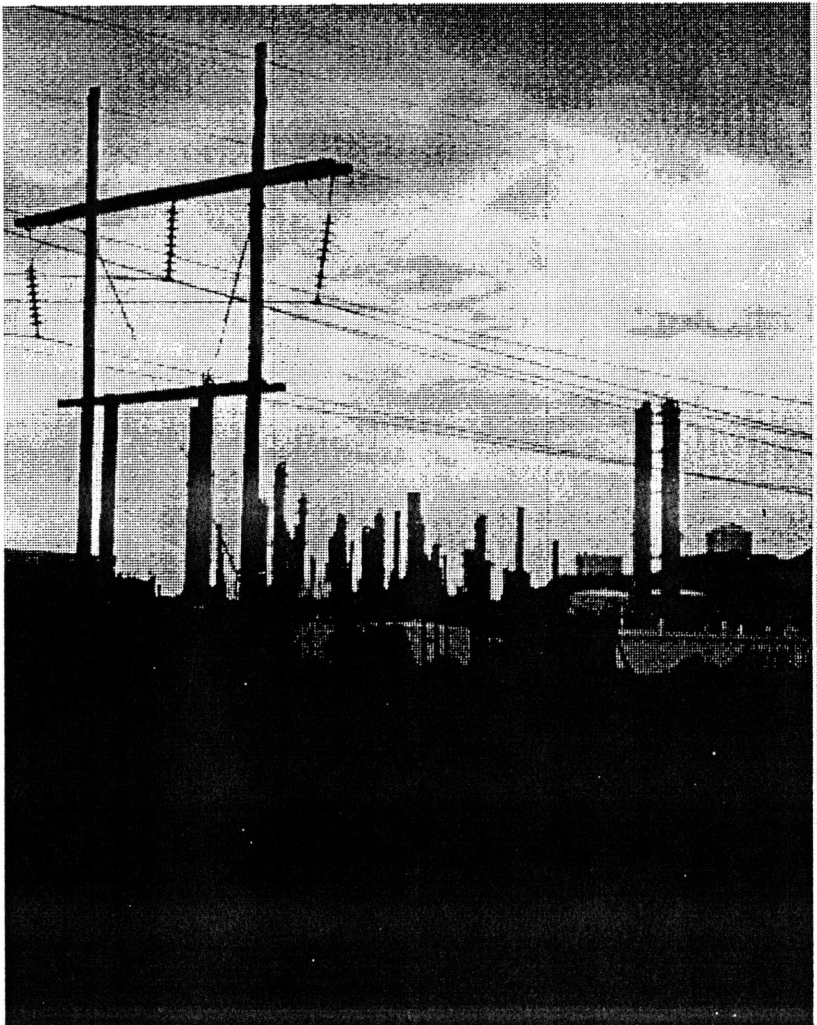
INDUSTRIALIZATION OF PONCE

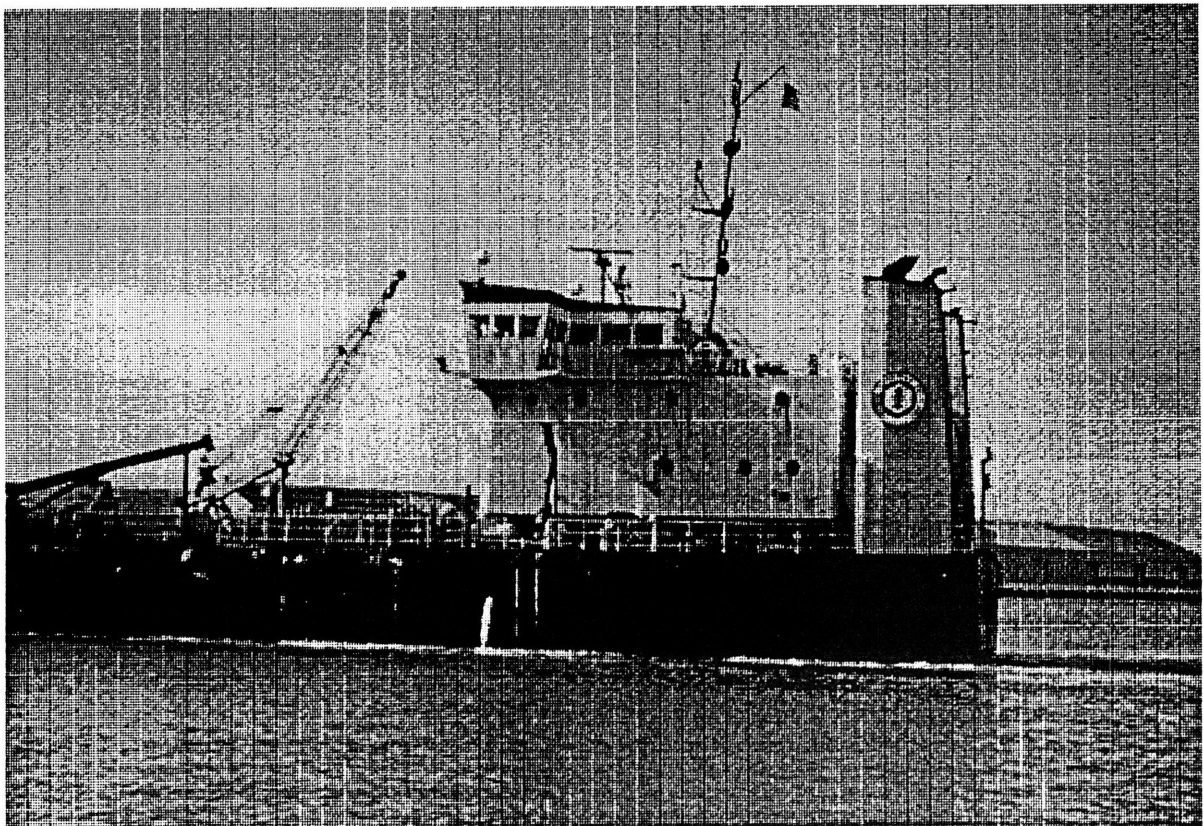
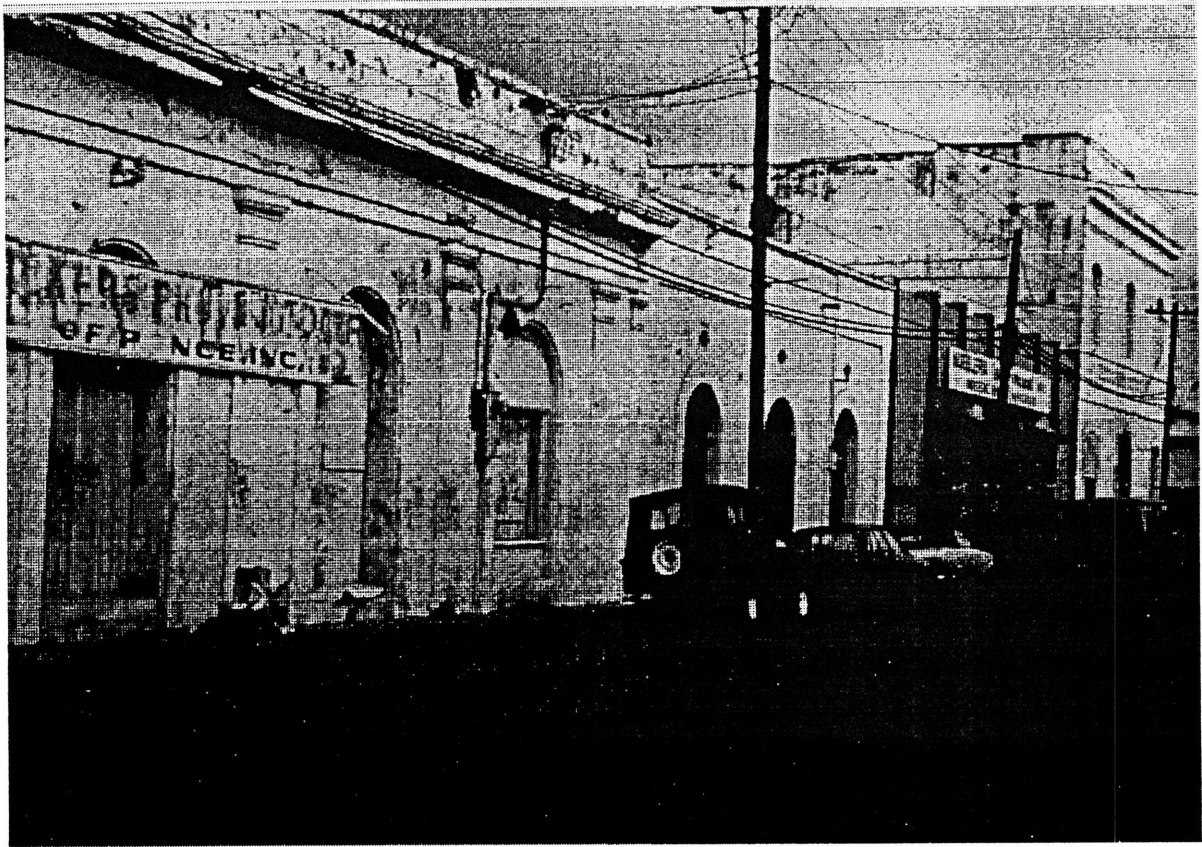


The 1920's saw various "Americanization" campaigns that forced Puerto Ricans to abandon their agricultural heritage and emulate American industrial goals. The sudden move from land harvesting to a concentrated effort in various risky manufacturing industries did not leave the island prepared for the onslaught of the 1930's depression. In the 1940's Operation Bootstrap was begun. Its purpose was to gain U.S. investments and modernize local industry. The Tax Exempt Law of 1948 also provided profitable incentives to investors in addition to U.S. tariff protection and ready access to large mainland markets. Both Operation Bootstrap and the Tax Exempt Law of 1948 touched off instant success for Puerto Rico. The combination of tax exemption and cheap labor caused an economic boom.

Ponce's industrialization forced a complete physical break from the existing urban fabric due to the nature of its space and safety requirements. An industrial belt extended from outside the city to the port. In 1978, the federal minimum wage was put into effect and a graduated tax exemption rate was seen as the only solution to recover losses incurred during the 1974-5 recession. Many local industries closed. Ponce, which had become a leading industrial center of the Caribbean, quickly turned into an industrial graveyard.

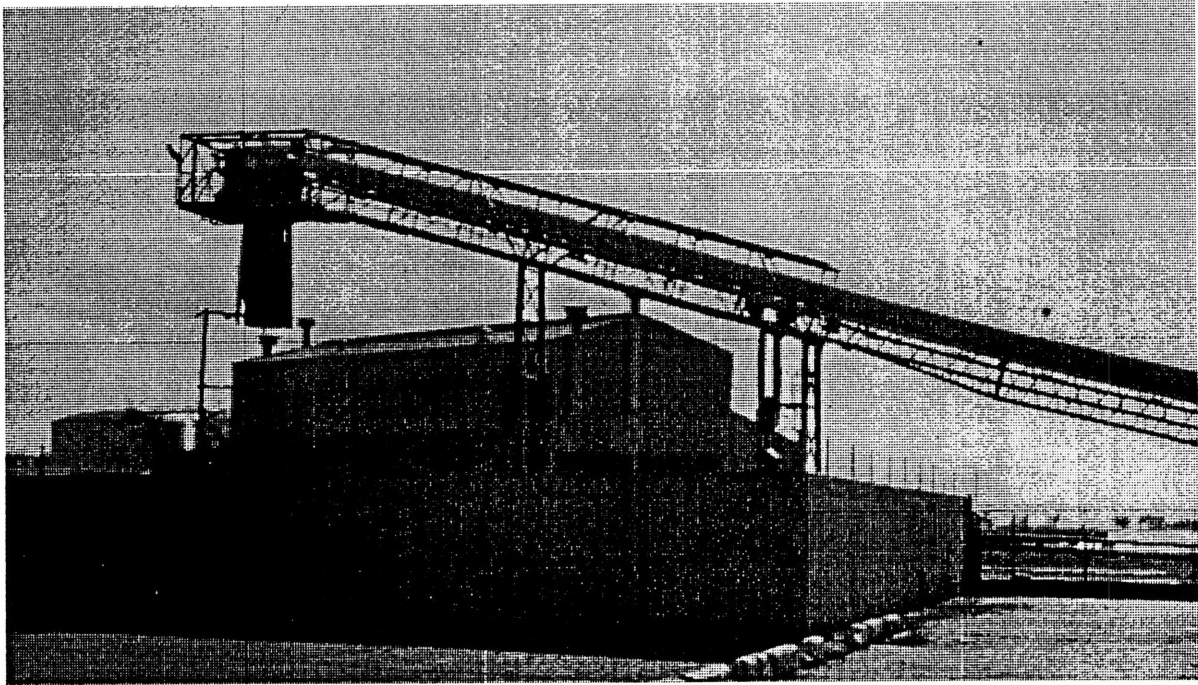


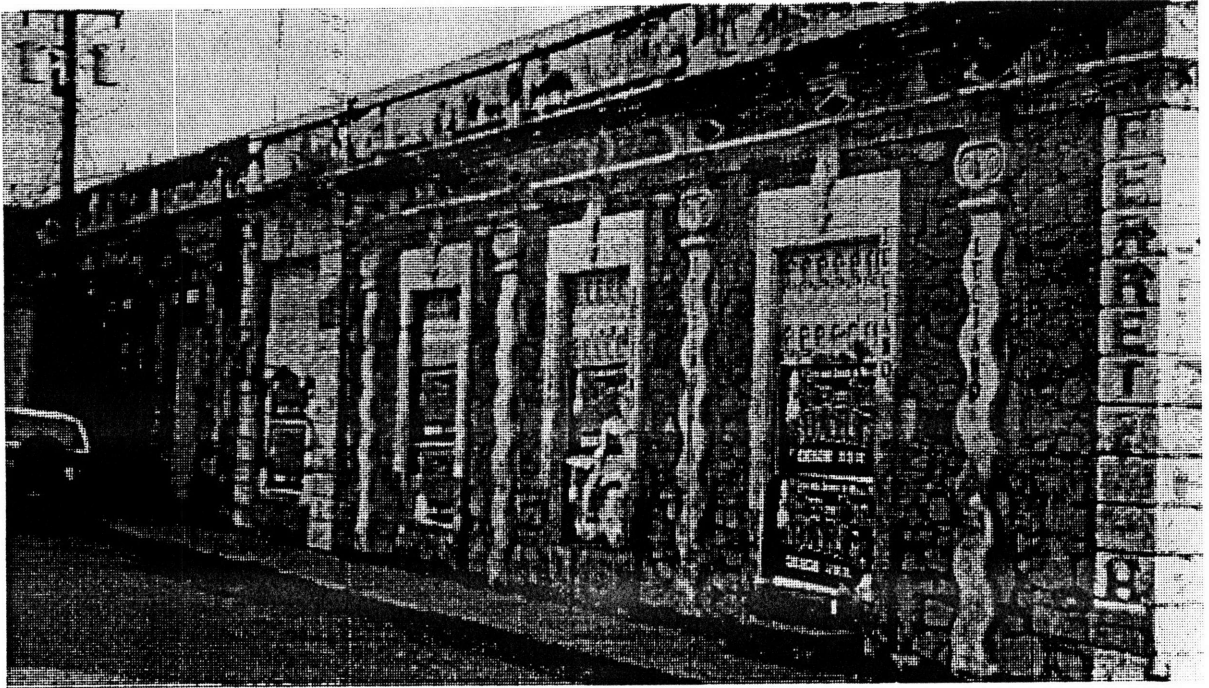


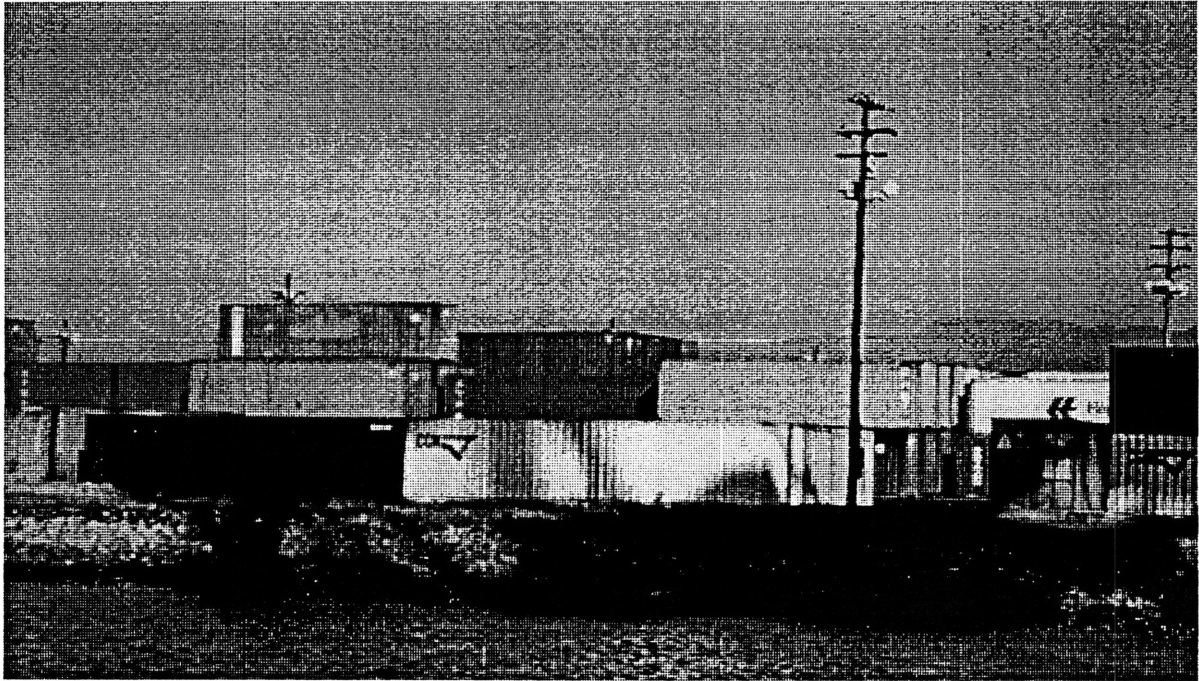


Since industries now get the biggest tax breaks in their first five years of operation, Puerto Rico has become an attractive place mainly for industries with short payback periods, such as pharmaceuticals and high technology. These industries rely mostly on air transportation; and because of the readily available financial and legal services, they have settled in the San Juan area.

Ponce is a city that turned to trading to stabilize its colonial settlement but never saw trade take root. It is a city that built its character from a successful agricultural heritage that disappeared by the middle of this century. It is a city that sought industrialization but never saw their plans reach fruition. The economy of Ponce and its self-image would be materially aided by the construction of a free trade zone at its port. The implication of this project should integrate industry and urban form into a new civic image. This thesis is an exploration of the physical and spatial requirements that would allow town and industry to meet at this free trade zone.



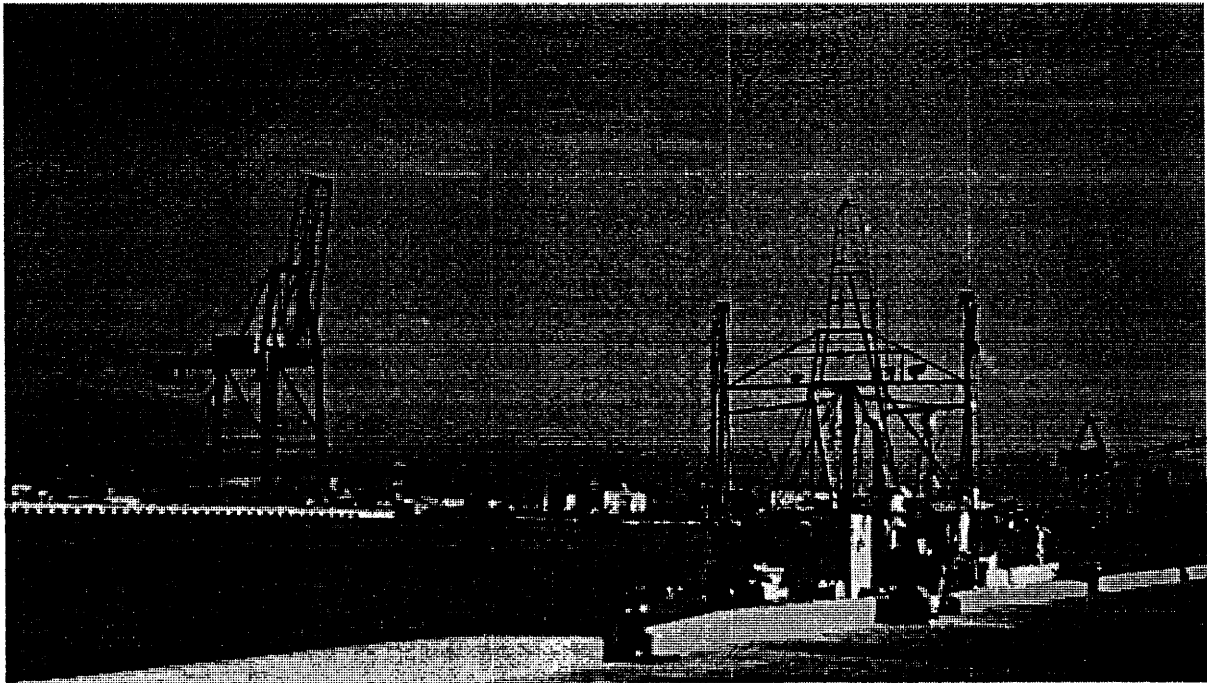
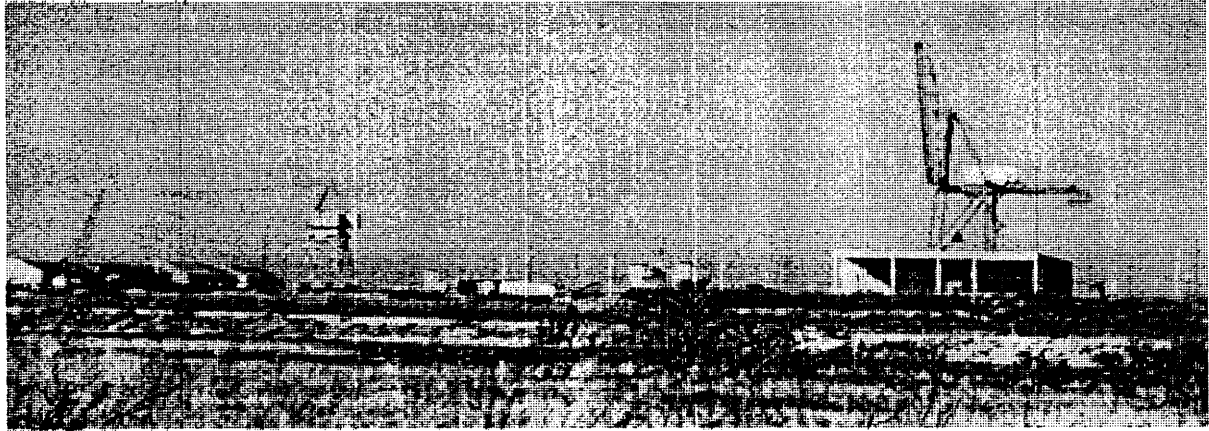




THE FREE TRADE ZONE

For many years free trade zones have been used as instruments to promote international trade. The concept first came into being around the end of the 1950's, and was primarily used by the world's cities of greater commercial activity such as Hong Kong and Singapore. By the introduction of customs tariff exemption, these cities were better able to control the reexport trade. Free trade zones were also used as provisional deposits for storage, refilling, labeling and all the operations necessary for the commercialization of goods and services. According to Luis Czeraniak, former President of the Chamber of Commerce of Ponce and Southern Puerto Rico, free trade zones originated as a result of the increase in the international flow of products with high aggregate value. The purpose was to expedite the exportation of goods and services and the exclusion of tariff provisions on goods incorporating imported items. By the end of the 1960's many of the underdeveloped countries of South East Asia had already incorporated the use of industrial free trade zones mainly as an effort to control their high unemployment rates. The free trade zone concept aided these countries in the training and exportation of manual labor. It also helped obtain and guarantee foreign investment.

Ponce's free trade zone will allow merchandise to be imported and stored indefinitely without paying duties or obtaining bonds. Goods may be presented to the U.S. Customs for duty classification at the time of the most favorable duty rate. Duties are not paid on



shrinkage, evaporation, seepage or waste if destroyed in the zone. Savings are realized on freight and duties by shipping unassembled or disassembled merchandise to the zone and reassembling there. Insurance and financing costs are reduced as rates on the value of goods stored have only the original purchase and freight costs. They do not include customs duties.

A foreign trade zone usually occupies a strategic location. Puerto Rico has long been acknowledged as a principal distribution center for the Caribbean with unparalleled worldwide maritime freight service. While San Juan harbor has become increasingly congested, Ponce's port has ample room to expand. Manufacturers and international service companies will receive further advantages in state tax exemptions and other prerogatives. An area possibly overlooked or which may not have an application in other free trade zones is that of agro-business.² This sector could prove to be of particular importance. Many neighboring islands have high potential for cash crops, but lack infrastructure for packing, bottling or canning, and adequate maritime freight service. Puerto Rico has all of these ingredients to support agri-industrial operations and related services, including specialty food production, bottling and canning activities, citrus juice processing and product sterilization and inspection. Raw crops can be imported from the Caribbean Basin countries to Ponce, processed in the zone, and shipped onward to U.S. and/or

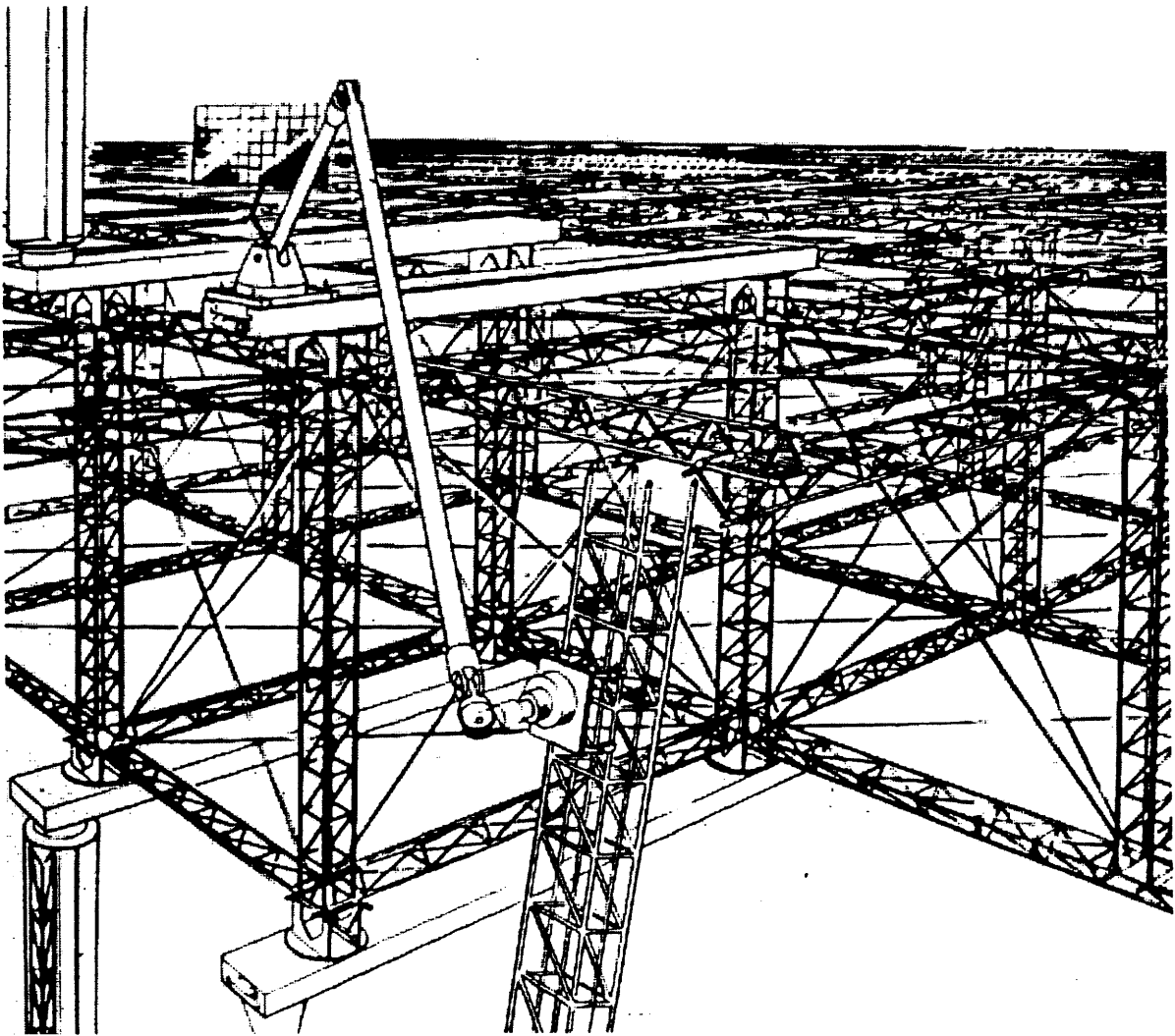
European markets. The free zone also offers other possibilities that make it an attractive economic program. The task left, however, is to search for this program's physical form.

The site of this free zone is bordered by a highway on its eastern edge. This highway provides easy access to Ponce's airport, just 10 minutes away, and other town locations within the island. To the west lies the port. The southern tip of the site extends into part of the remaining industrial belt. The north borders on various colonial sections of the town.

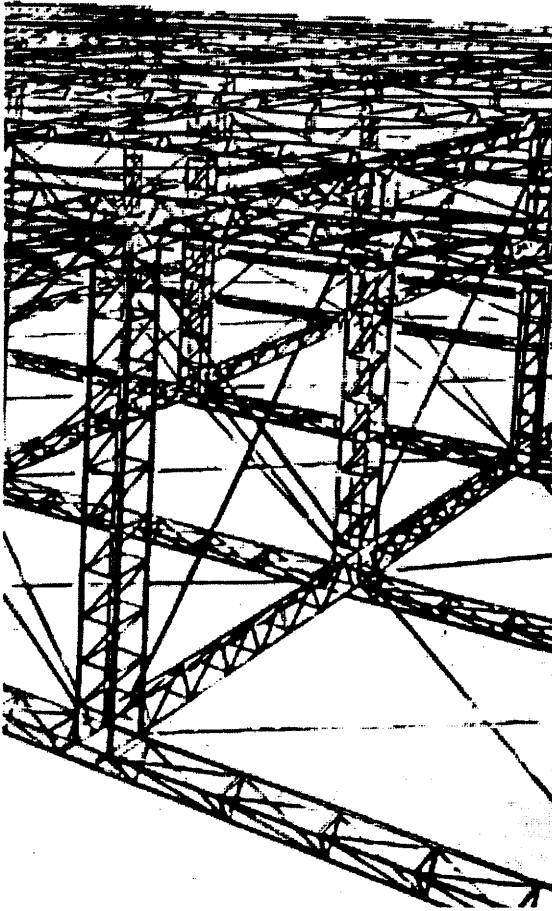






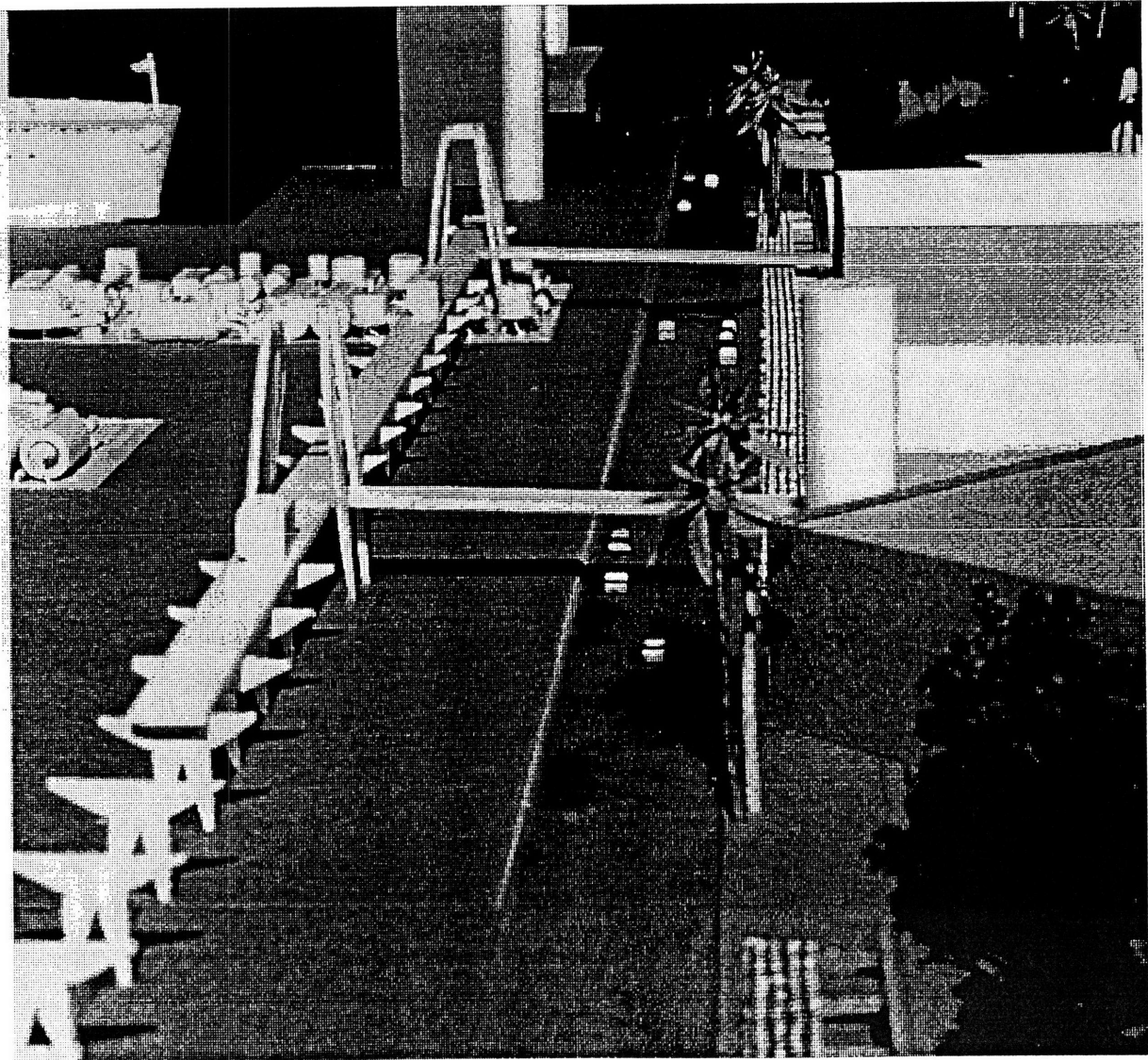


THE EFFICIENT DESIGN



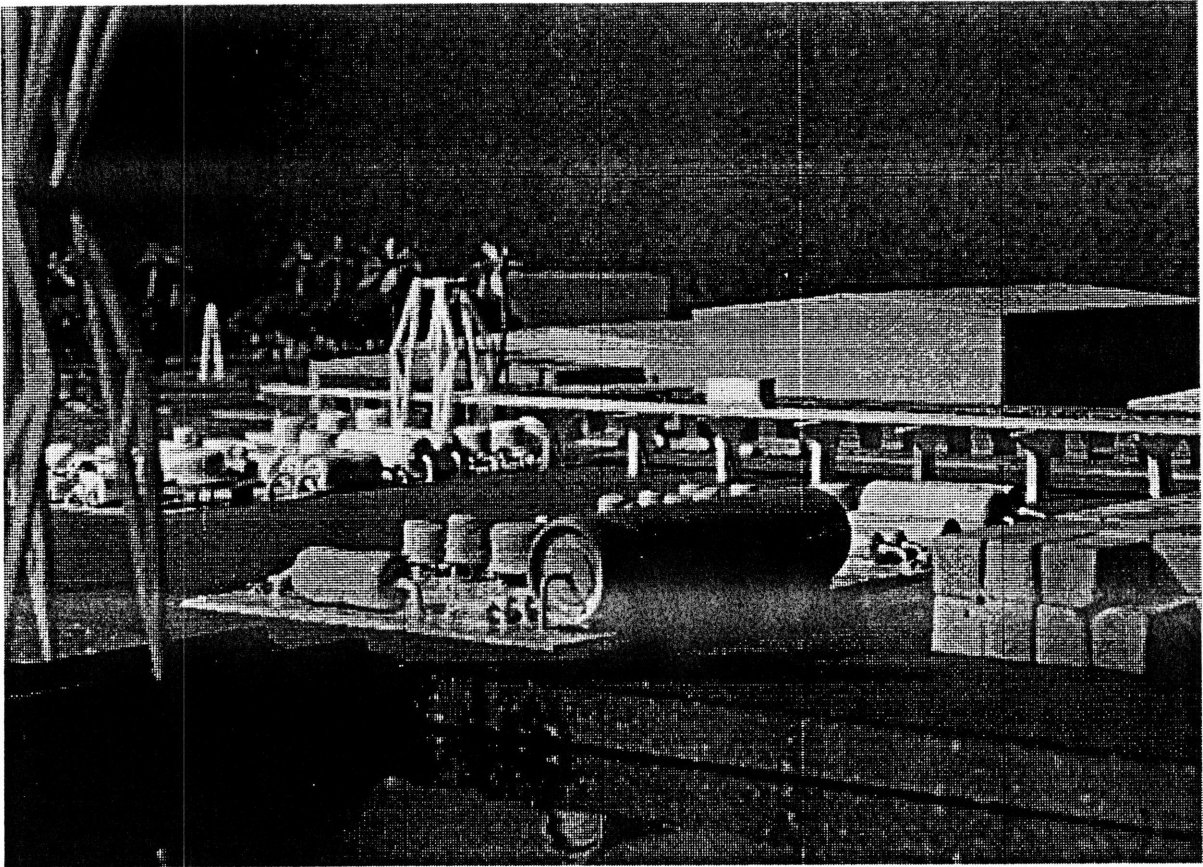
The free trade zone wants to take its form from an efficiency of operation in much the same way that the fort derived its form from the most effective defense. It must accommodate various types of industrial facilities. It must provide a distribution infrastructure that will transport goods between ships and these facilities, and between the facilities and truck access. The infrastructure must be changeable to accommodate improving technology and the changing space requirements of the various industries it will support. Its character should reflect this efficiency and mechanism.

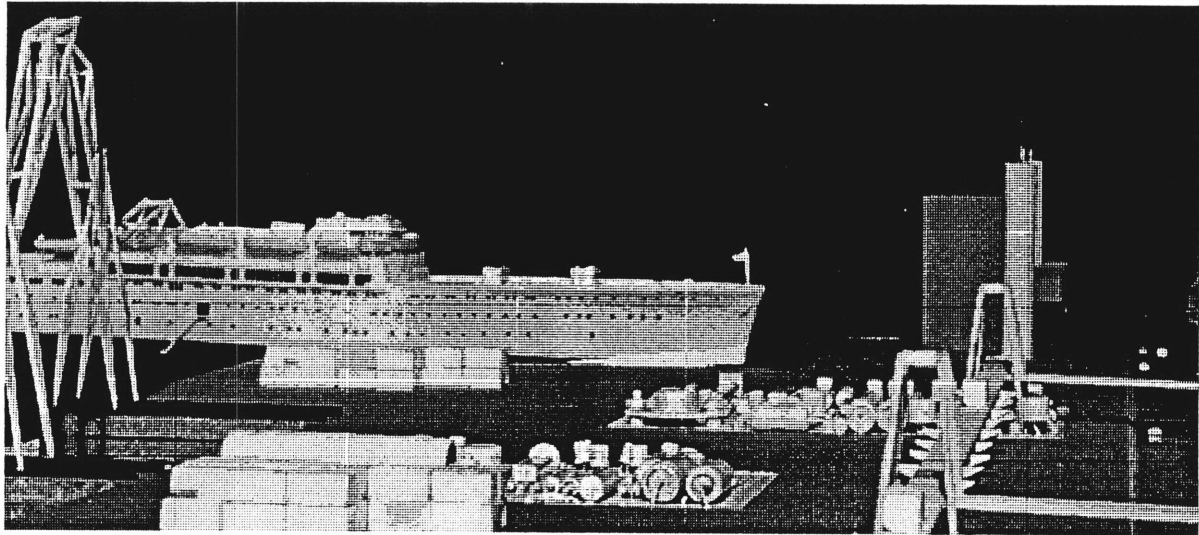
The concept of the design first determines fixed and movable pieces of the zone: what pieces are needed to anchor the site and what must be designed to move. The design of the movable machines takes on human qualities at its own scale. The cranes move along the docks on wheeled tracks like giant people unloading cargo. The supports for the container distribution belt are made into a similar human form, but at its own scale. These pieces get closer and closer to the street spine that transports real people. There is a progression of scale that corresponds to distance allowing the eye to make the connection between these pieces and actual people moving along the street edge. What remains fixed by necessity is the water's edge and the horizontal plane that allows these pieces to dance upon its surface. The water's edge is made regular so that an order is understood as it is experienced. Solid blocks of the dock move out to accommodate activity and storage. Narrow piers move out to

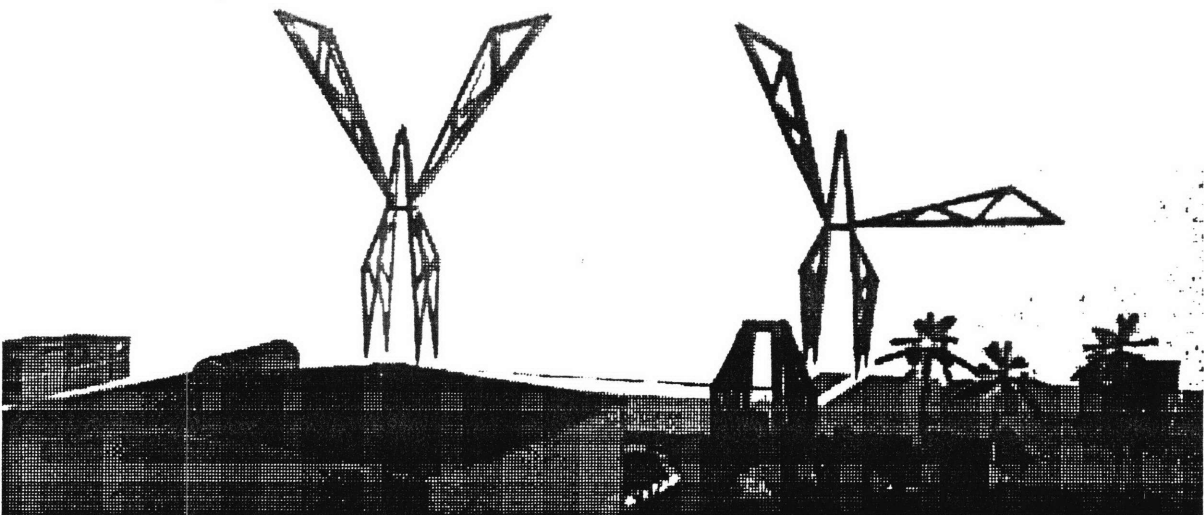
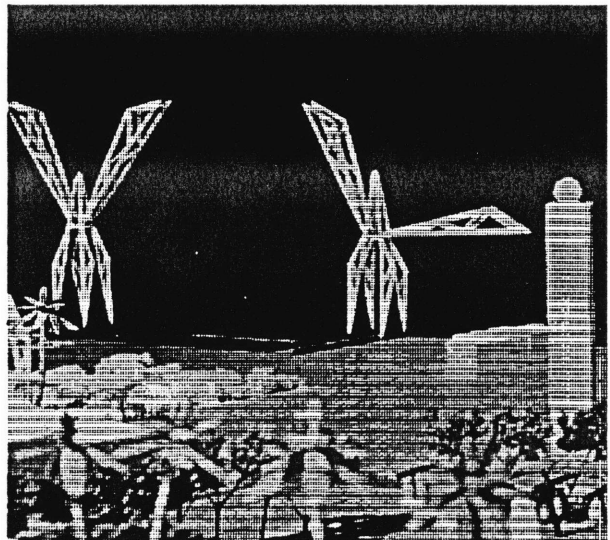
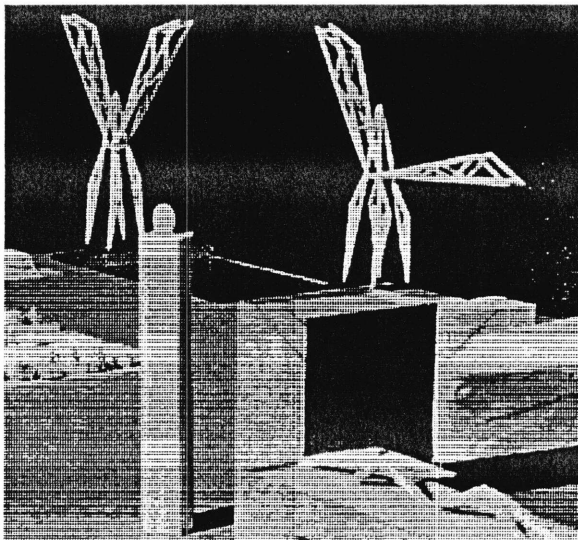


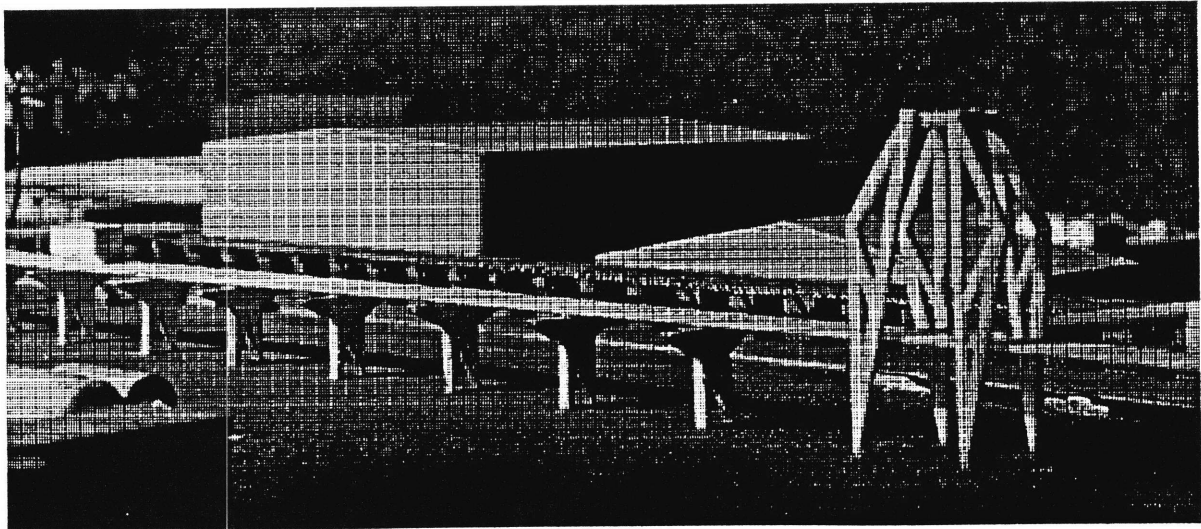
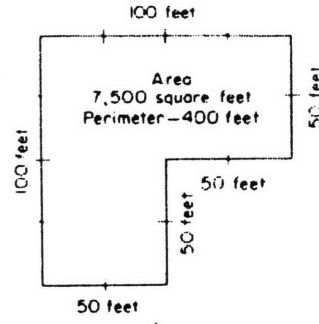
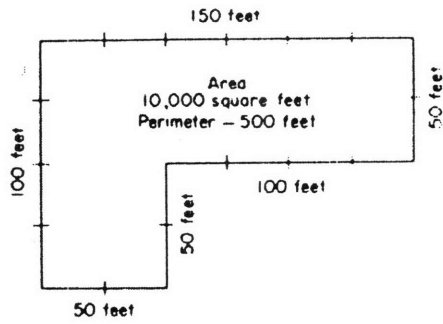
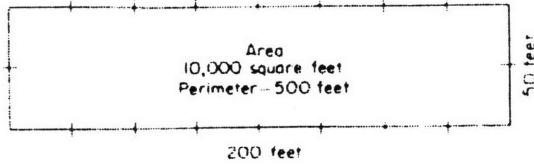
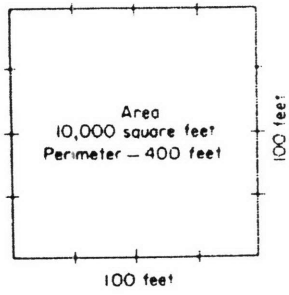
support the cranes that will unload cargo. These piers help to form berths that allow boats to remain docked after having unloaded their cargo. This arrangement also facilitates the transfer of cargo from freight to freight should the need arise.

Cargo unloaded from the freight ships remains elevated until it is delivered to the appropriate facility or unless it is earmarked for storage on the docks.



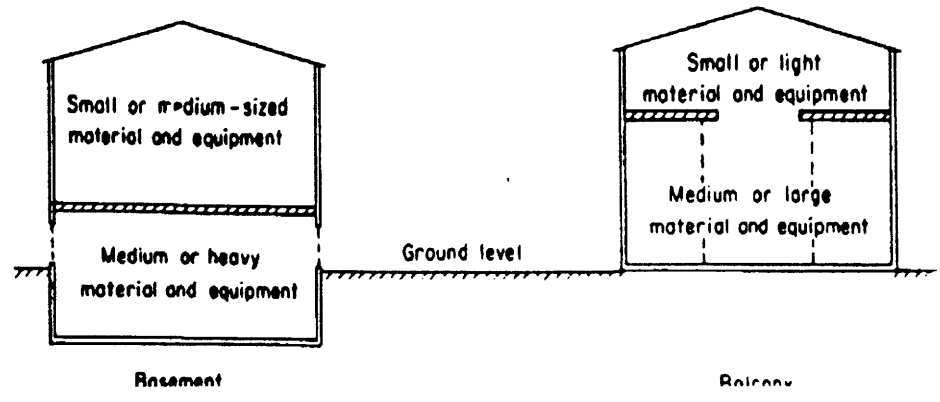


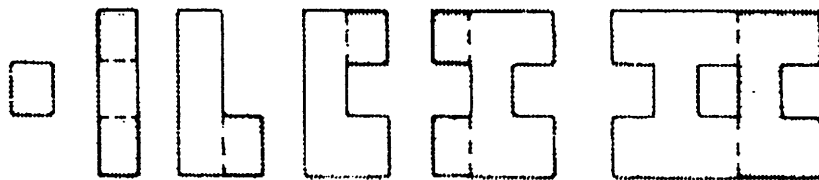
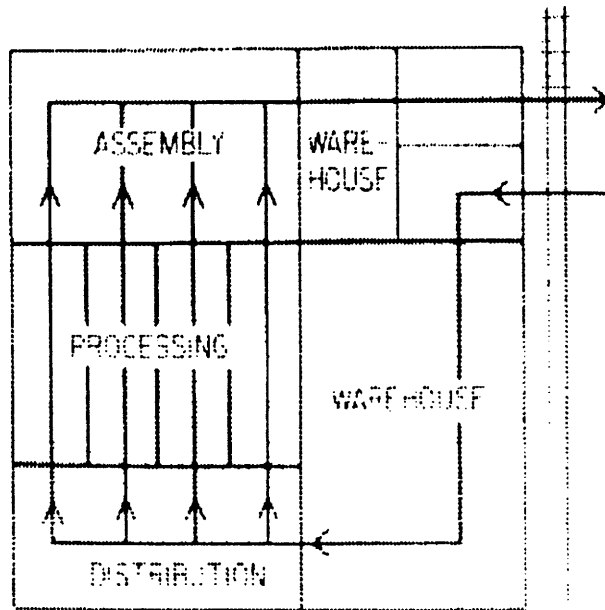




The design of the plan zones industrial facilities by class. Small goods and parts are processed in zone 1 located in the northern section of the site, closest to the town. Foods and perishable goods are processed in zone 2 located in the center of the site. And zone 3 accommodates large manufactured goods and parts. This last zone is adjacent to the already existing industrial facilities that border its southern edge.

However, if efficiency of the free zone was its only character, Ponce would inherit yet another industrial complex that maintained its separation from the urban context. The historical layering of physical forms in Ponce indicates that this free zone project should try to focus its vision of a new economic program within an urban context. The free zone must allow industrial architecture to become part of the town's vocabulary in the same manner that the plantation house became part of Ponce's fabric. This economic program that promises to bring new life to the city of Ponce must display a civic image that speaks of its vision for the future of Ponce's urban experience.

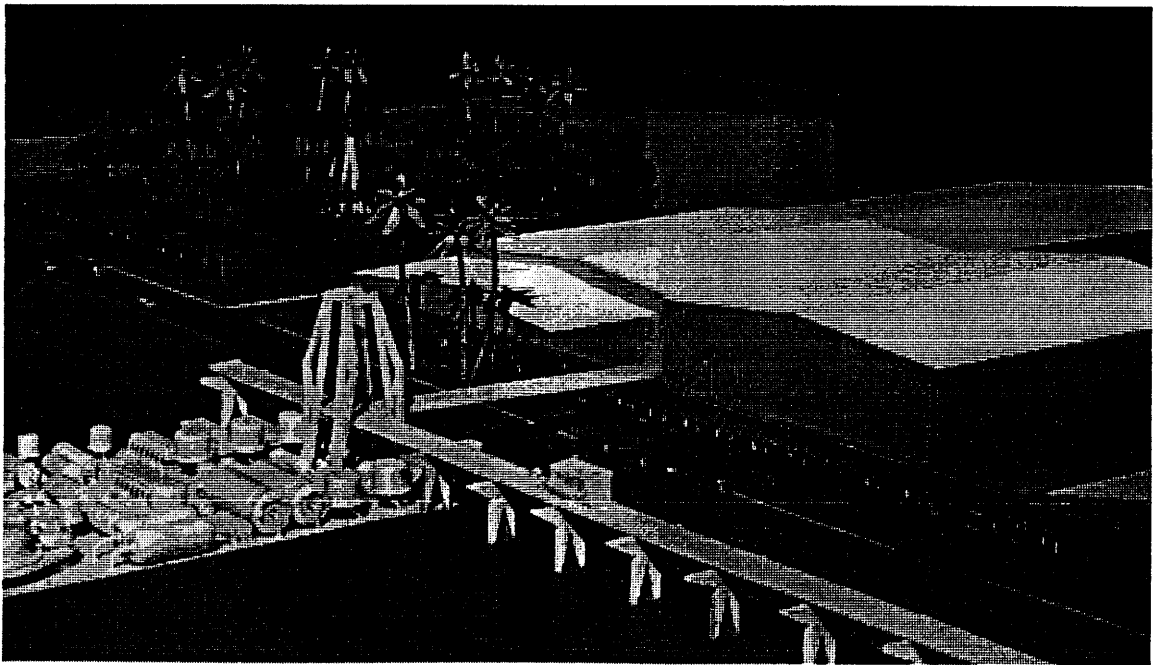
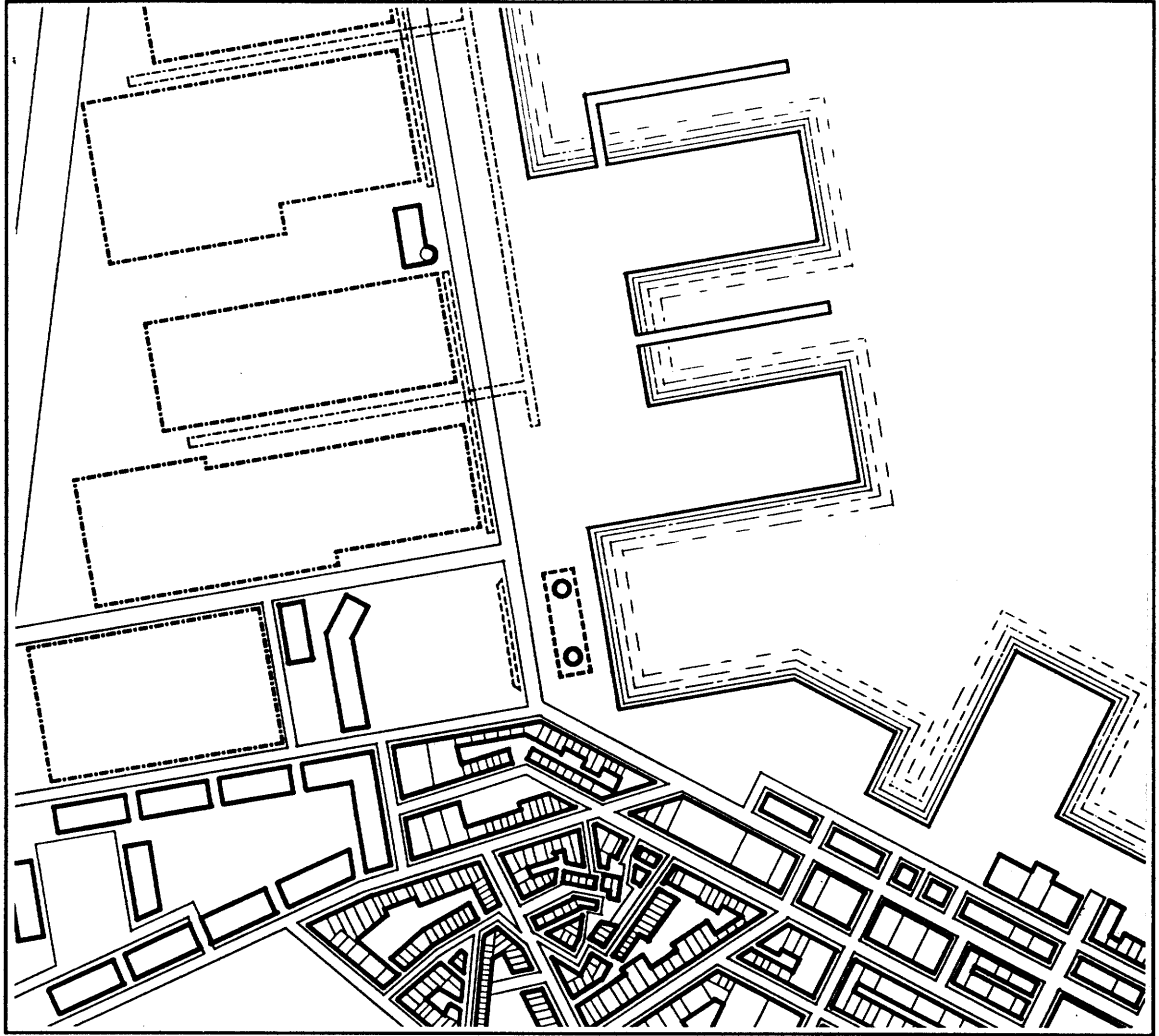


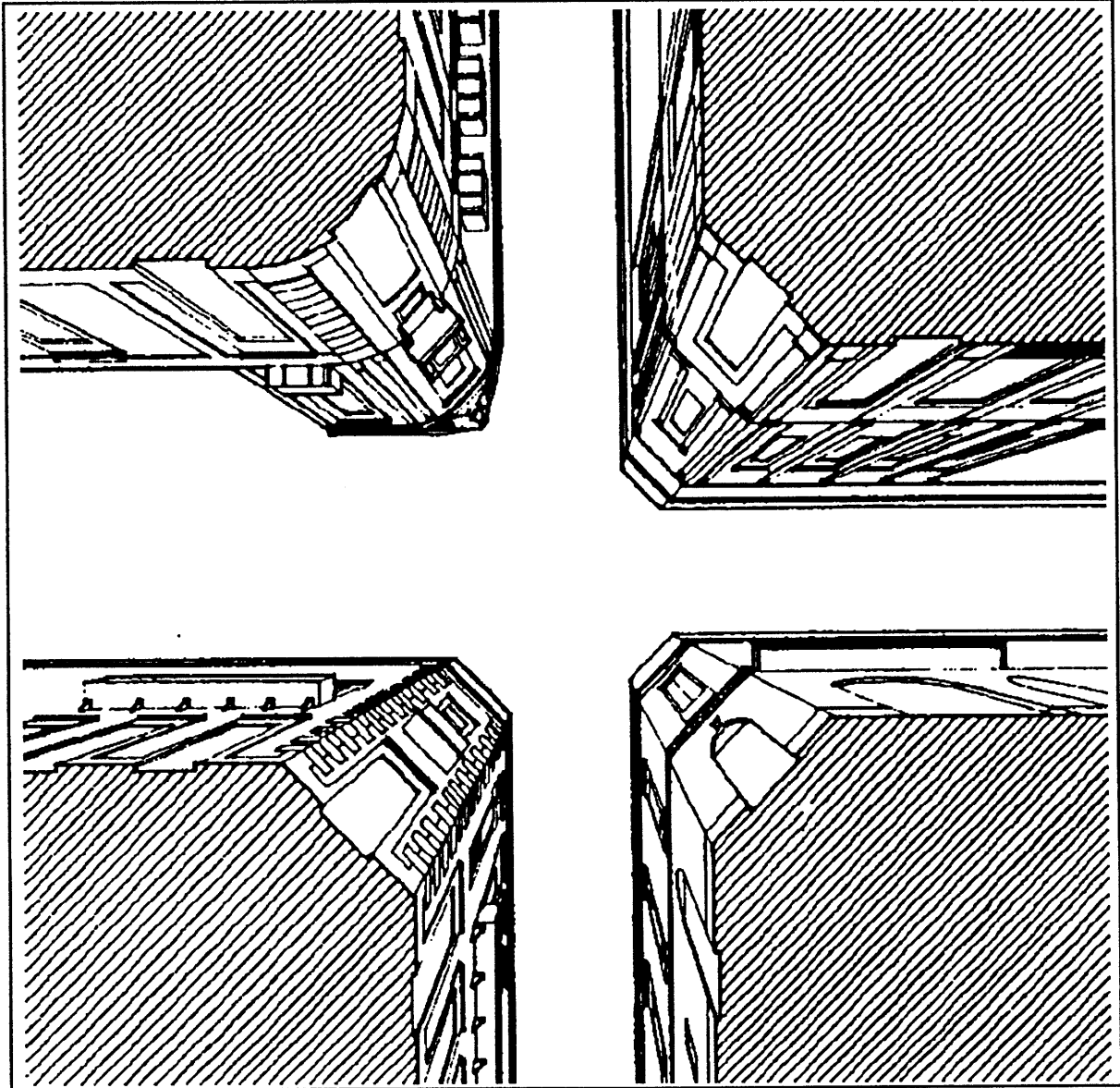


Planned expansion of early factory



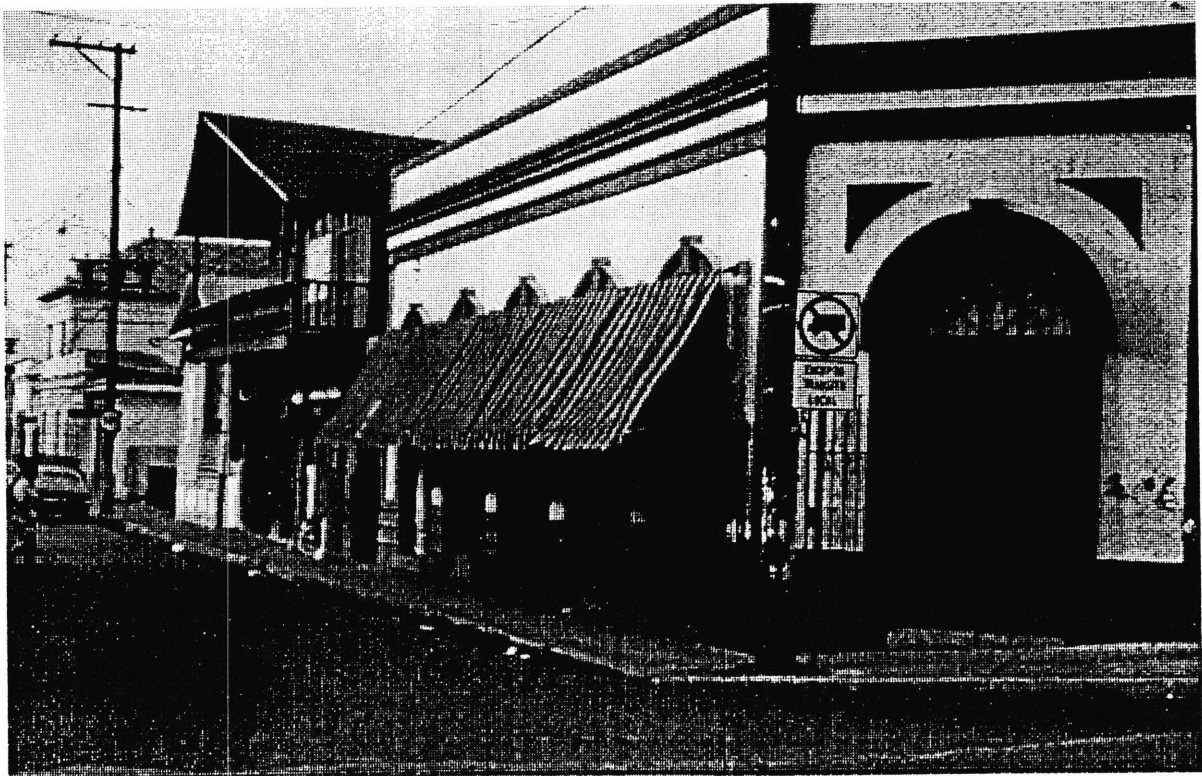
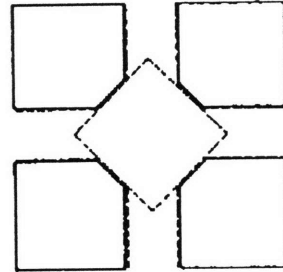
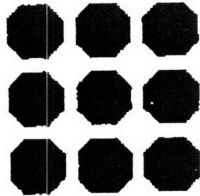
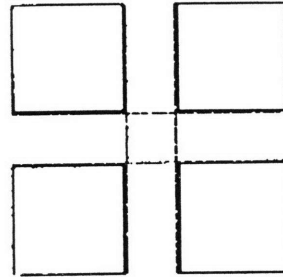
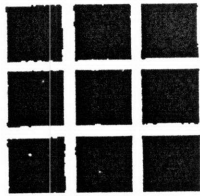
Planned expansion of modern rectangular plant

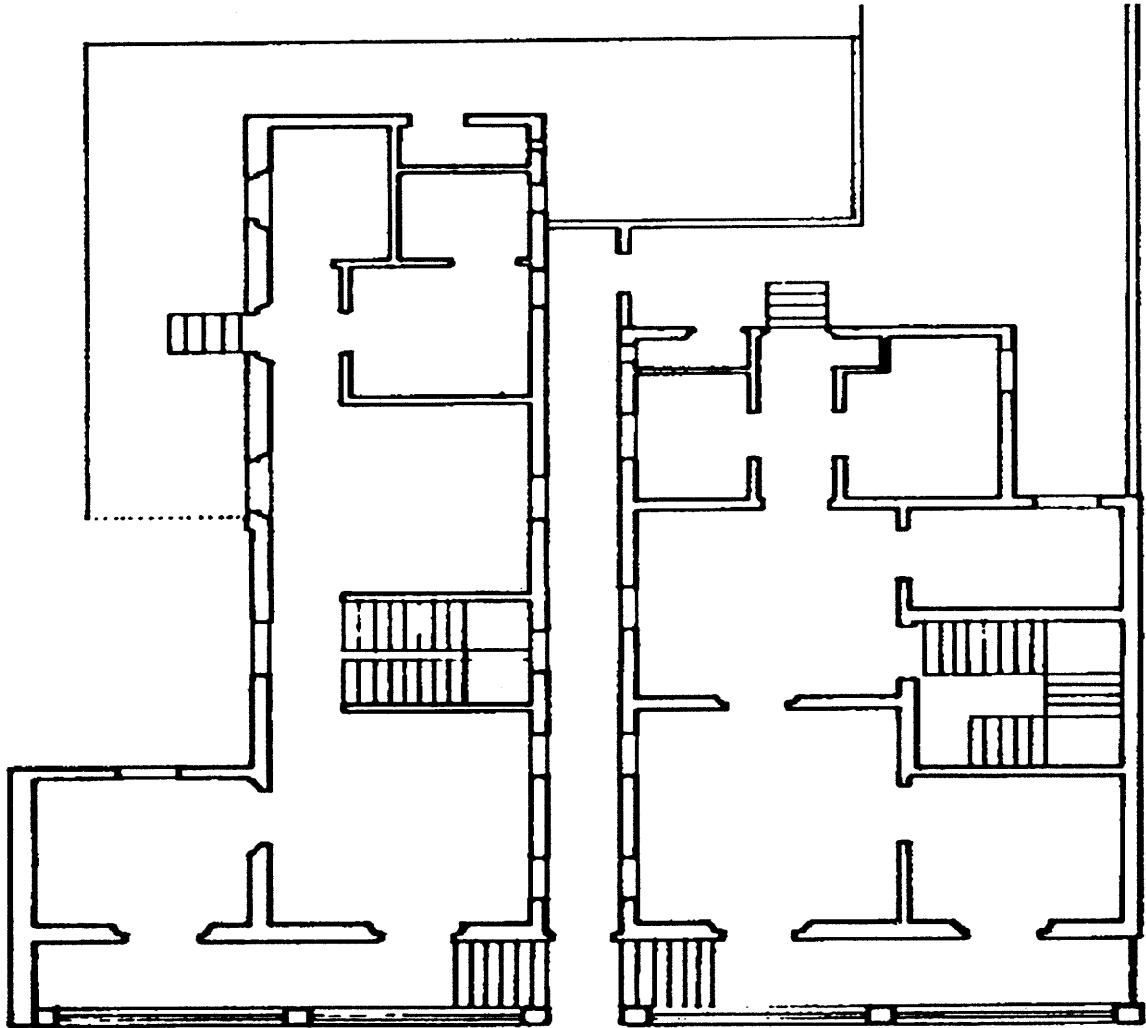


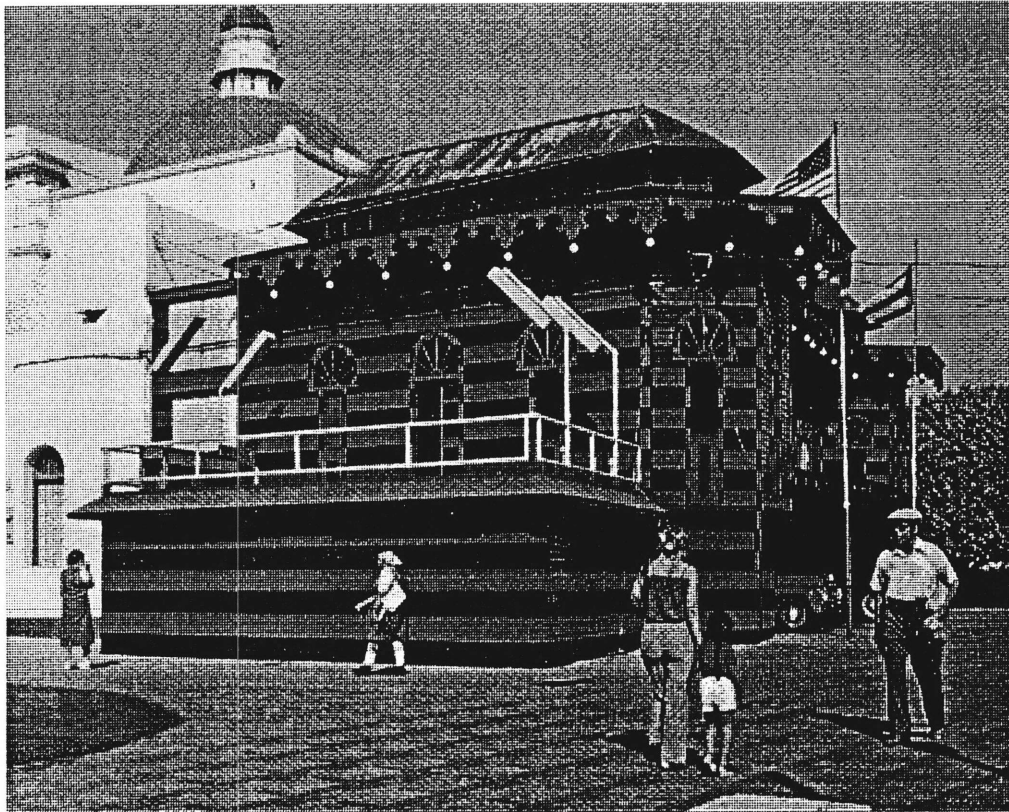


PONCE AS URBAN EXPERIENCE

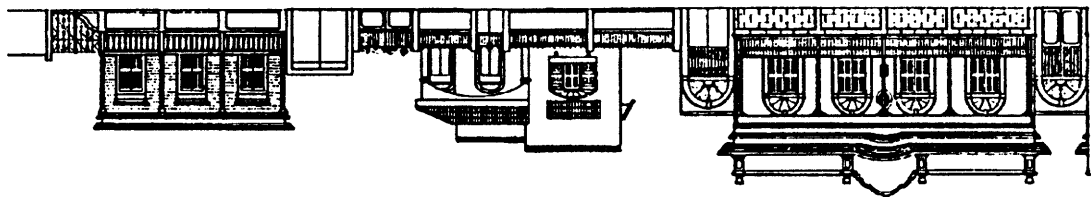
Though the Laws of the Indies shaped the general layout of Ponce, much was done later to alter this plan and its goals. The Spanish envisioned buildings that fit tightly together to form singular blocks, and blocks that reinforced the street edge. The church was built within the plaza to provide a common focus and an ever-present backdrop to the plaza's activities. During the latter half of the nineteenth century, Ponce started to become aware of its urban character. The first collective civic desire made manifest was the change of the imposed Spanish infrastructure. The city became familiar with Barcelona and its resistance to traditional Spanish architecture and planning. Barcelona represented a successful cosmopolitan city which had already challenged Spanish rule and order. Instead of allowing for the simple intersection of two streets with four corners to occur, the corners were cut back to provide a face at the intersection, thus creating a place of encounter where there was once only an intersection. This place became identifiable by the facades that flanked its borders. Ponce's main plaza activities became decentralized enabling other public spaces to develop away from the core of the city. Each neighborhood became distinctive. Facades and civic image became important for each of the surrounding neighborhoods. Various European styles were adopted or transformed. Compared to San Juan's official and monotonous buildings, Ponce's buildings were of various styles, shapes, and sizes. Levels of embellishment varied and were a matter of personal taste.

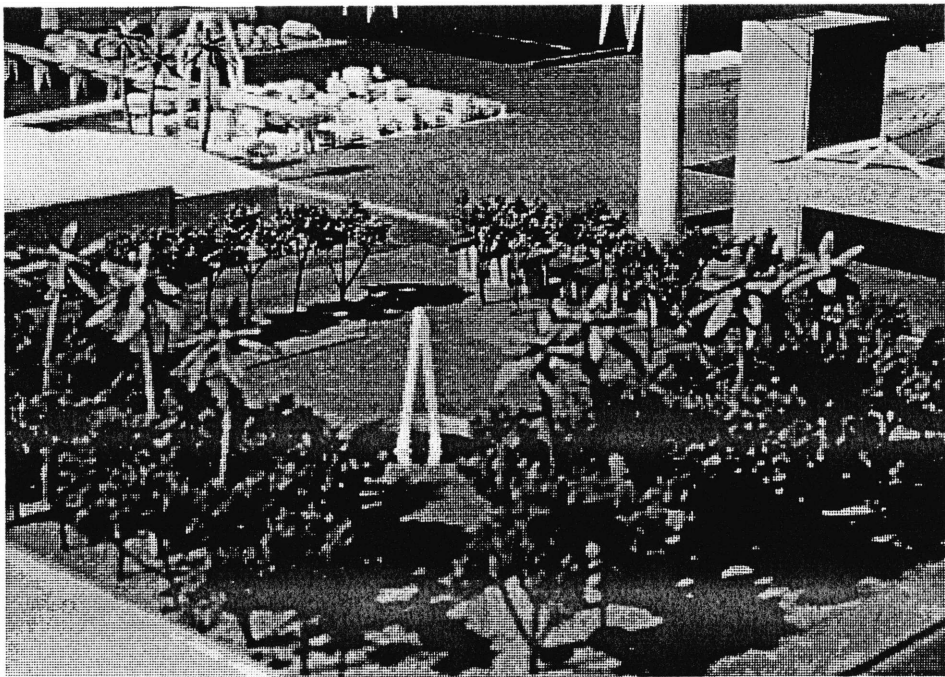






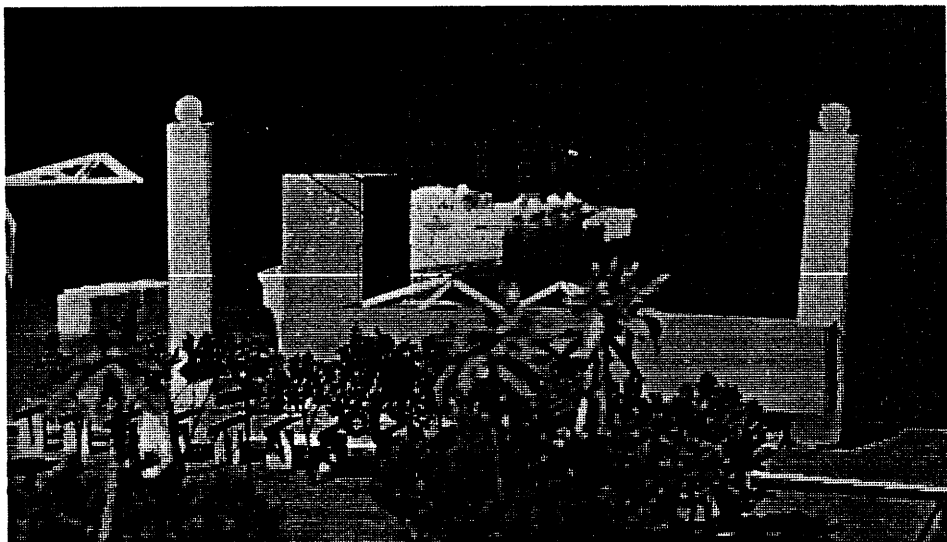
Civic pride made decoration necessary. Albert E. Lee, a native of Ponce, described these two cities in his memoirs. He paints Ponce as cosmopolitan, liberal, free-thinking, and modern; San Juan as catholic, Spanish, and conservative. Ponce became so preoccupied with expressing its civic concerns that it built a firehouse in the main plaza attached to the church. The corps of firemen represented an integrated class from all economic levels that fought for the survival of all its citizens. The firehouse was painted in brilliant red and black stripes to draw attention to itself. This little building challenged even the Church as the ideal civic image.

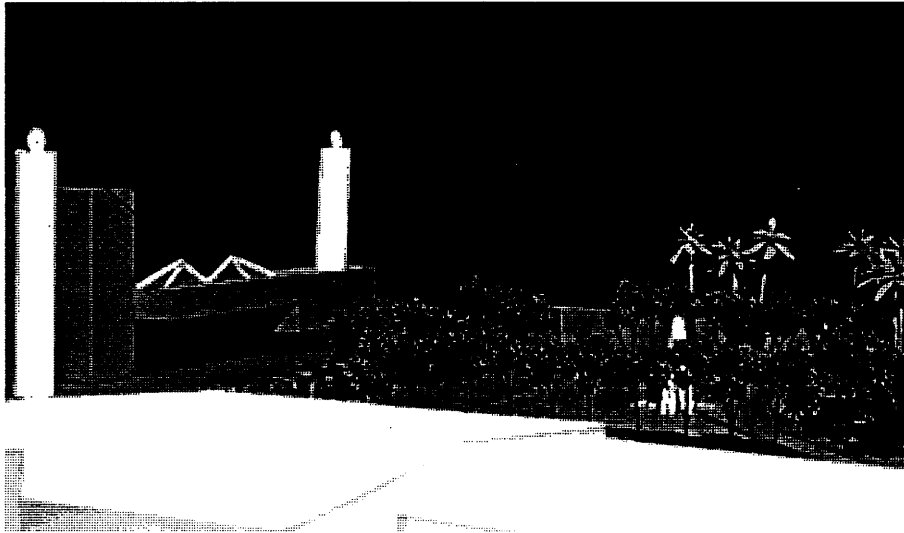


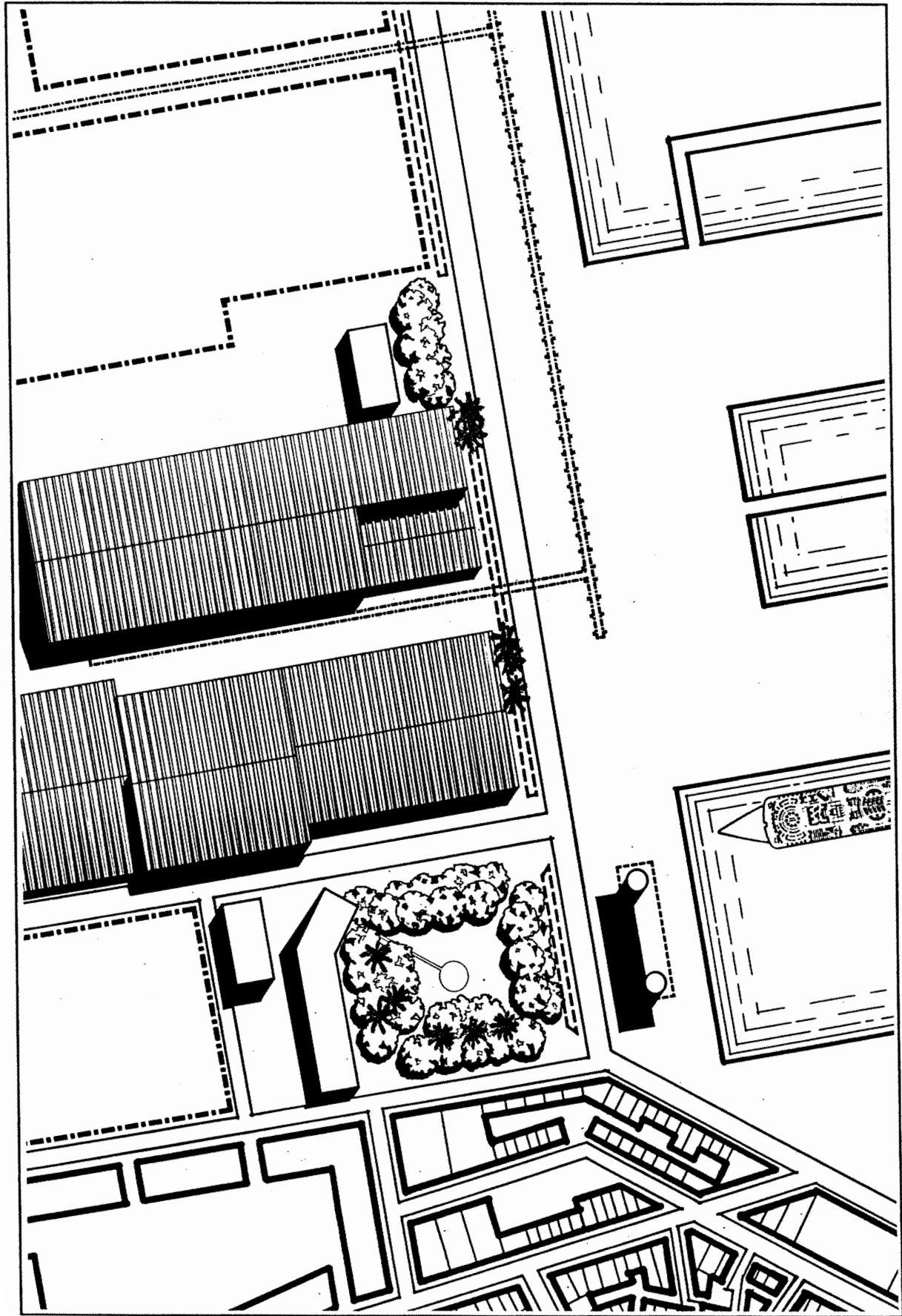


A DESIGN FOR URBAN EXCHANGE

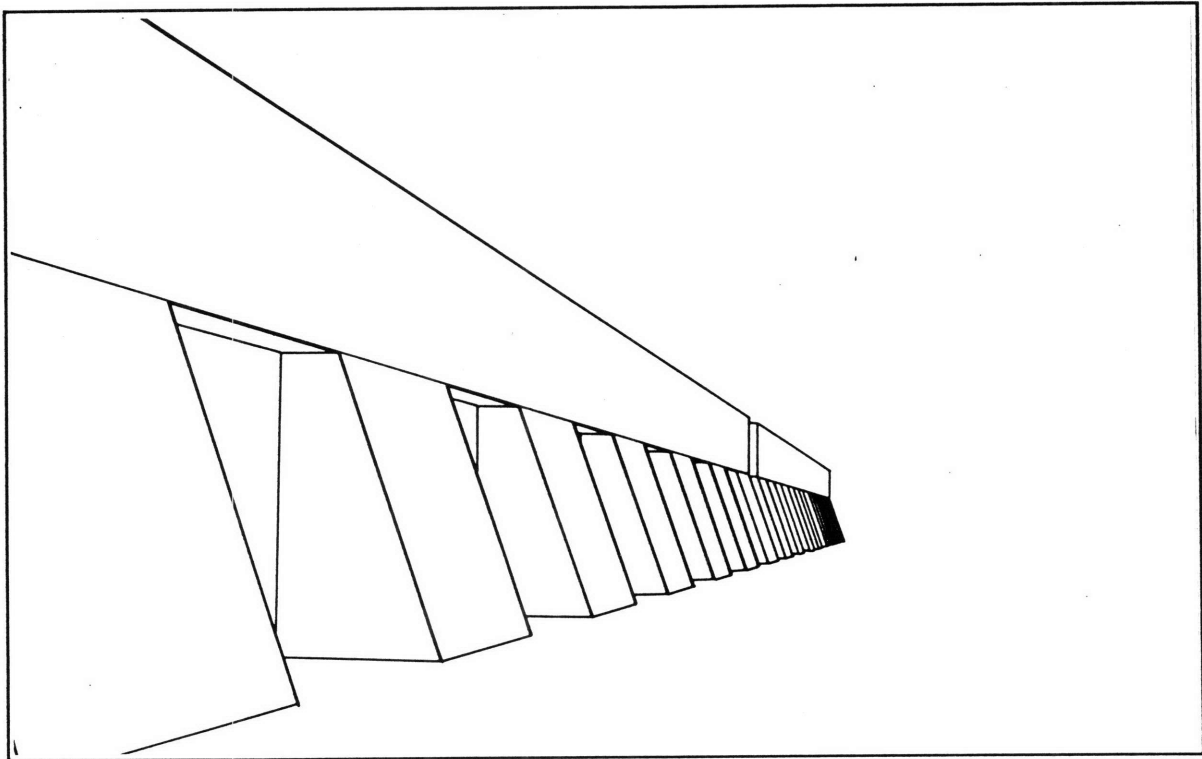
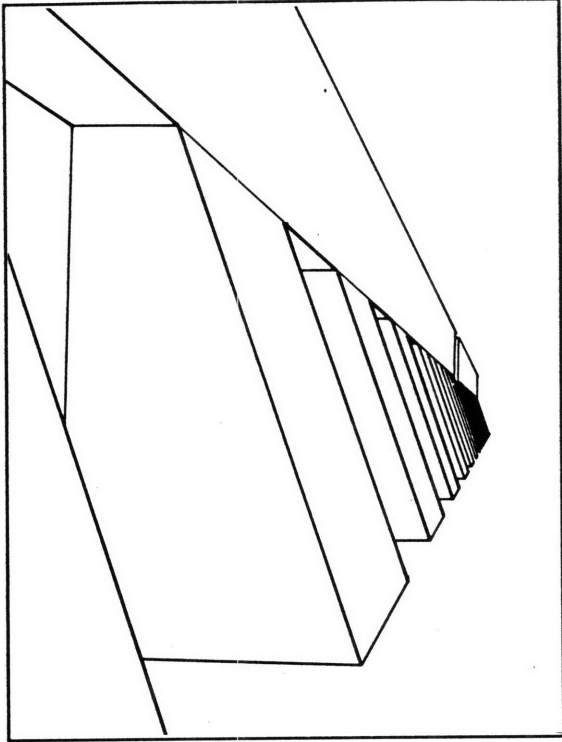
The design uses the concept of an urban plaza to tie the free trade zone to the urban fabric. This plaza is 160,000 square feet in area, large enough to accommodate the scale of the most important buildings that must border its edges: a World Trade Center, a cruise ship terminal building, an extension of the town, and lastly an edge of the free zone. Each of these has the potential to manifest its own civic image and add character to Ponce's urban experience. Because the plaza needed to tie together these diverse and incongruous buildings, its design is initially formal. There is a central focus in the form of a circular fountain. A narrow pool extends from this towards the southeast corner. This narrow pool intentionally picks up the direction of the old part of Commercial Street and leads the pedestrian to the entrance of the World Trade Center. Two rows of canopy trees define the edges of the plaza. Palm trees randomly pop out over this canopy to help form a reciprocal exchange with the sky. These also help to begin another horizontal plane, though incomplete, above the canopy of shade trees. The edge of the plaza that faces the water has yet another layer of plantings that extends along Commercial Street defining the edge of the free zone. This planting layer, beaugonvilla vine, is supported by a chain link canopy.



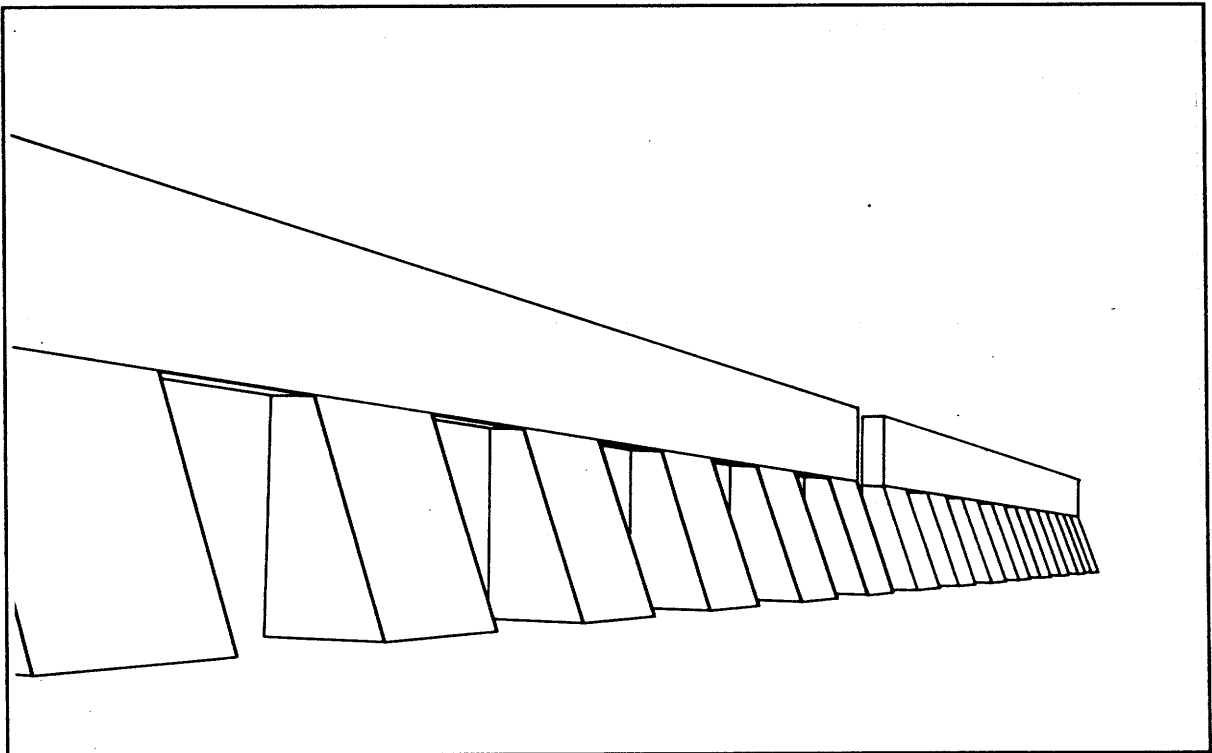




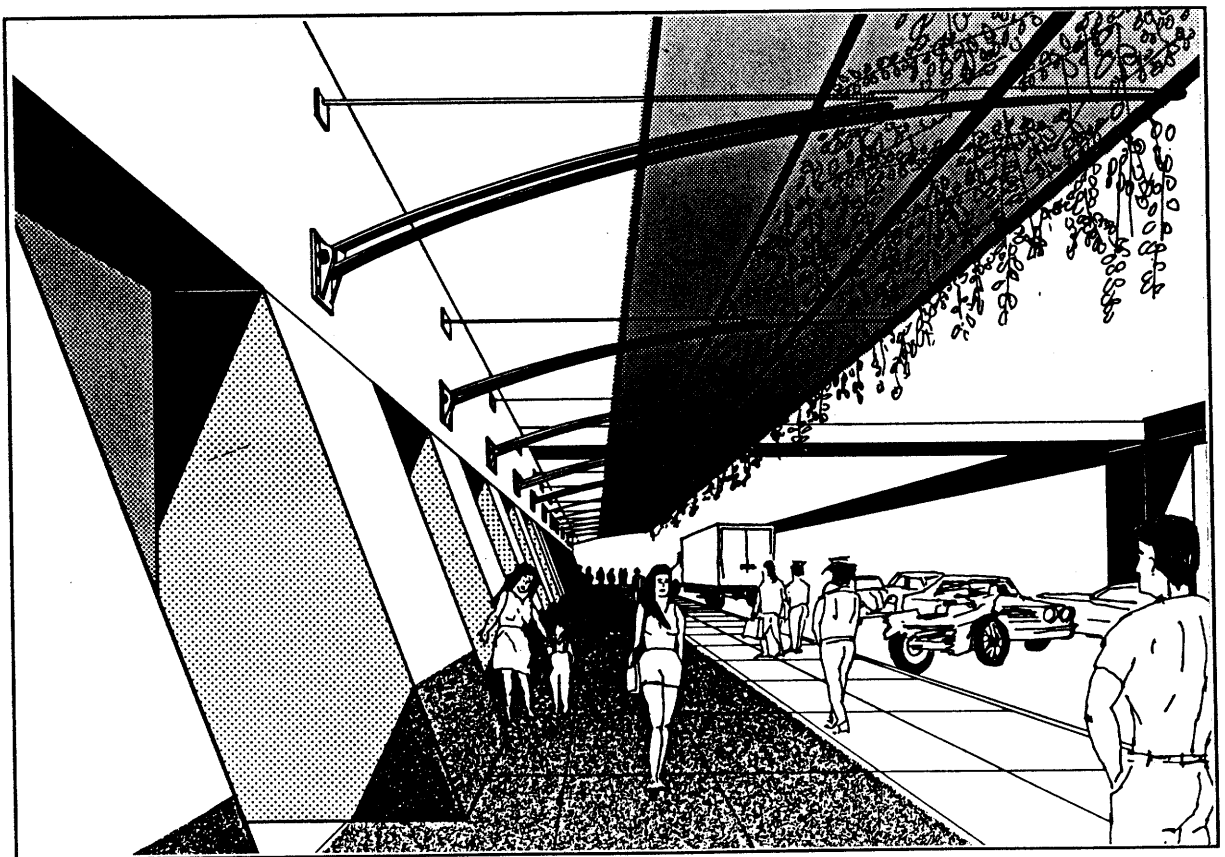
To enable the town to poke a finger into the activity of the free zone and port, a strong urban gesture had to be introduced. The form of this gesture took on the quality of the existing urban fabric that borders the town edge of the plaza. It is a wall. Ponce's sidewalk edge is a walled boundary that defines the public domain. Its open to closed ratio is 1:1. The edge of Commercial Street that borders the free zone, then, incorporates an intentional battered wall with the same open-closed ratio. Pieces of the wall continue along the edge of the plaza. The wall is 7 feet deep at its base creating a zone between the outside of the wall and the inside. This allows an exchange between the public access that pokes through the zone and individual facilities that have set up operations in the zone and wish to sell their goods at duty-free rates to individual consumers. The proposal is to activate Commercial Street along this edge, to treat the street as an urban edge, to integrate an industrial park with the urban city.









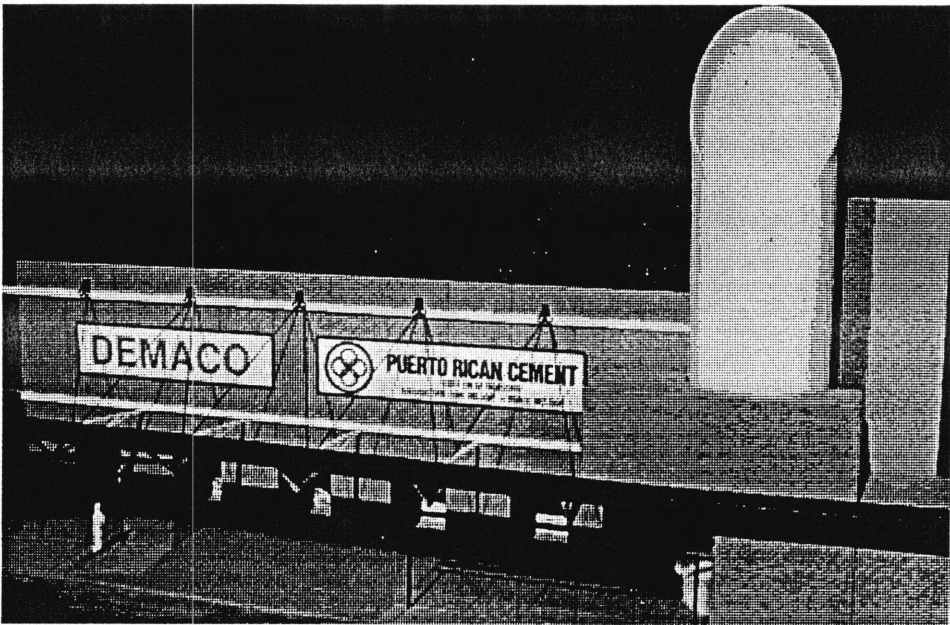


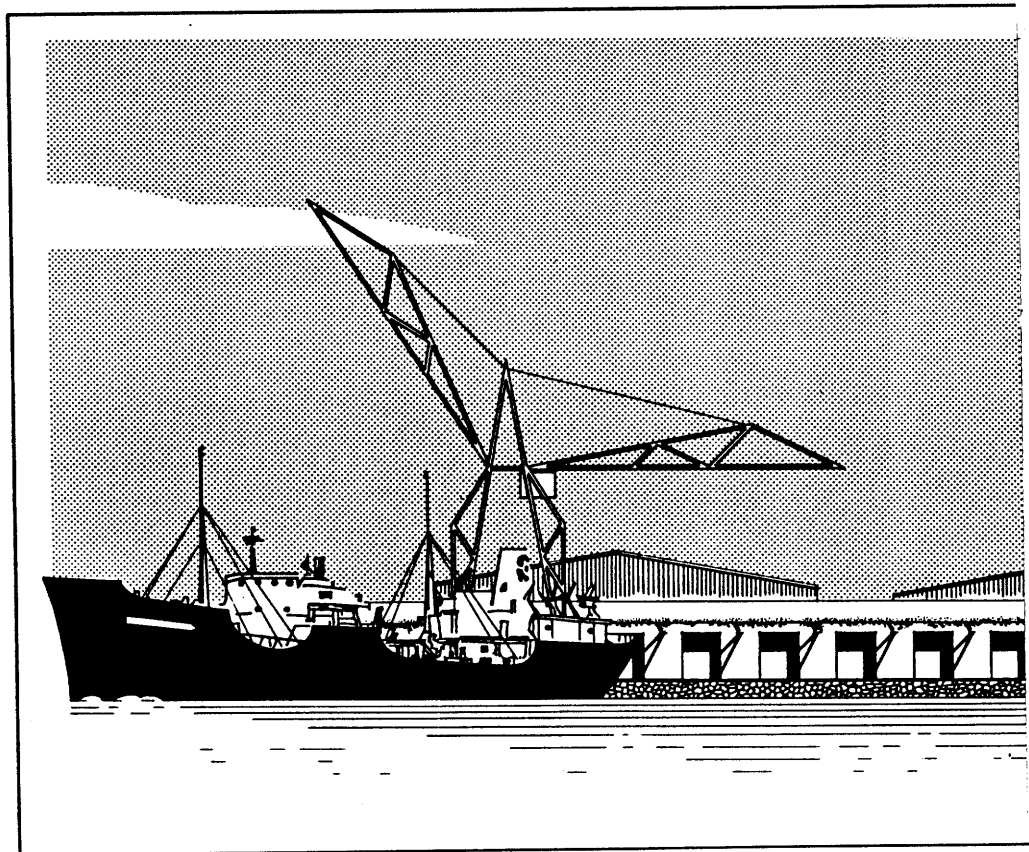
The battered urban wall provides a sense of security in this site of moving giants. Its battered form gives the impression of holding the industrial sprawl back for just a moment to allow an urban exchange to take place.

THE DESIGN IMAGE

Light steel elements spring from this wall to support a chain link canopy. As mentioned before, this canopy will support beaugonvilla, a plant that thrives in dry hot climates. The canopy is distanced out away from the wall to create a layering of light and shade as one traverses from the curb through the wall. This separation also allows light to wash the wall and reinforce its intention and image as seen from the water or experienced up close.



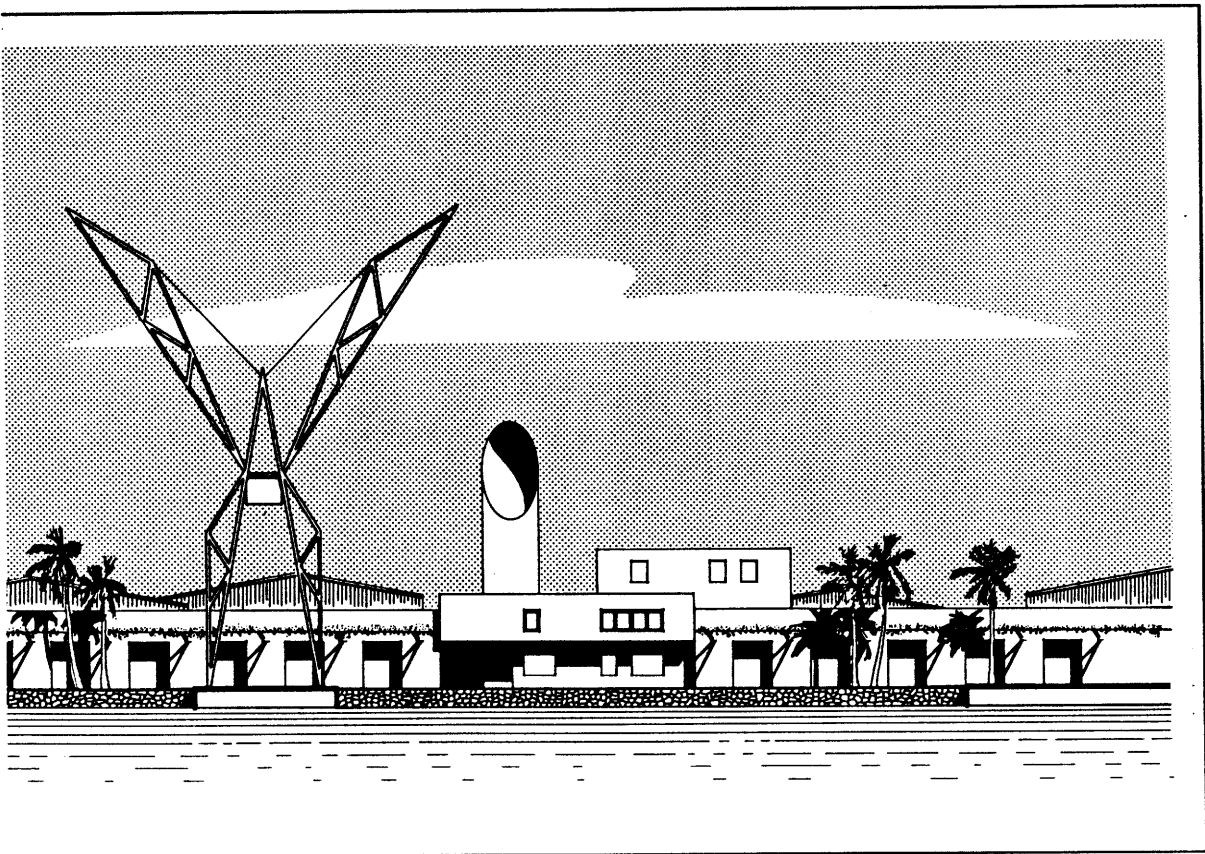


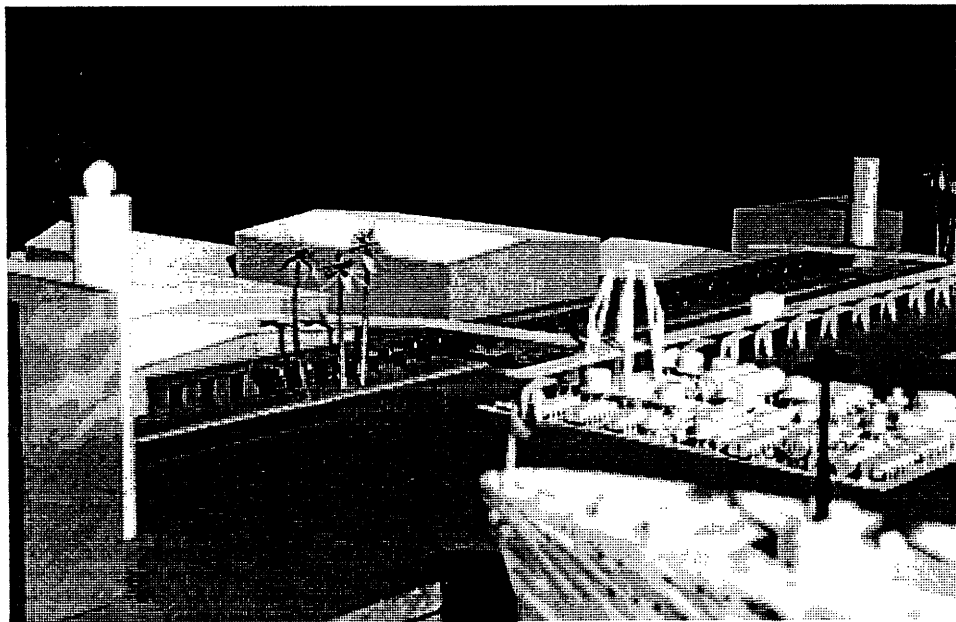


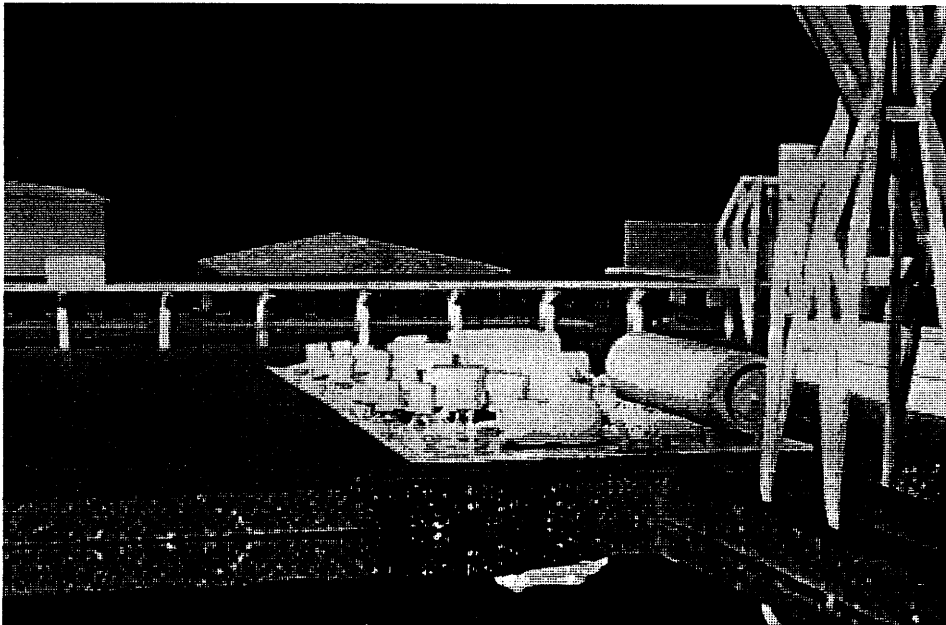
Ponce's new civic image must try to integrate the form of the temporary industrial building with the permanence of Ponce's urban character. A success of the free trade zone will force this integration of forms to take place, but all effort should be made in the planning stages of this project to design this integration so that Ponce will add to its physical history this newest economic endeavor.

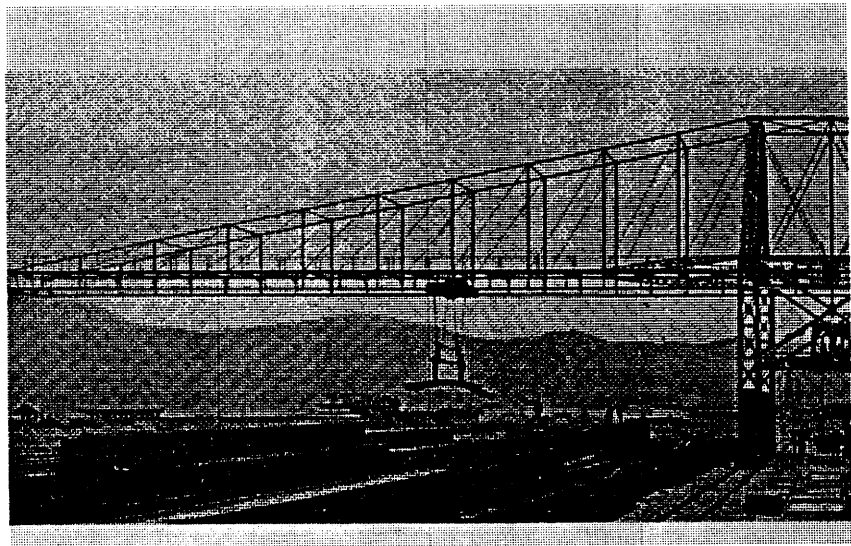
1 Noel Lynch, *Port of Ponce Connections Shipping and Trade Magazine*, March 1987, p.12.

2 "Puerto Rico International Distribution Center and Free Zone Inc.", pamphlet, p.8.









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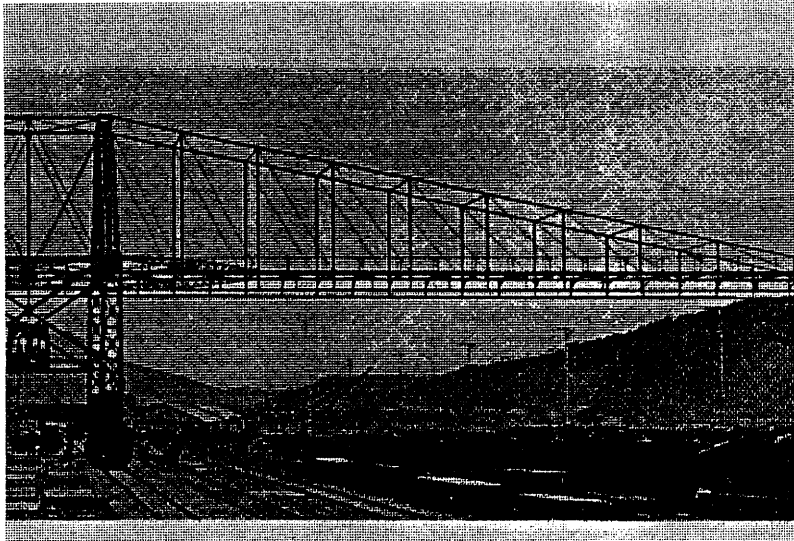
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