NOTE: ** INDICATES REVISIONS ON THE FOLLOWING PAGES: 4, 14, 15, 38, 41 and 45.

1990 MASTER PLAN LAND USE ELEMENT UPDATE

DELANCO TOWNSHIP

BURLINGTON COUNTY, NEW JERSEY

Prepared by:

THOMAS J. SCANGARELLO & ASSOC.,., P.A.

Thomas J. Scangarello, P.P.
New Jersey Lic. 1997

May, 1990

ACKNOWLEDGEMENTS

Delanco Township Burlington County, New Jersey

PLANNING BOARD
Kenneth Walton, Chairman
Richard Schmitz, Mayor
Jack Clark
Richard Lewis
William Cannuli
John Cantrell
Frank Taylor
Norm Hansen
John Fenimore

Robert Kingsbury, Attorney to Board
William Birdsall, Planning Board Engineer

MEMBERS DURING THE MASTER PLAN PROCESS
Richard Mueller
Thomas Laverty

In addition, without listing the many Township staff individuals, outside agencies including the County, Planning Board, residents and individuals in the local business community, appreciation is expressed for their input.

TABLE OF CONTENTS

I. Introduction 5

A. What is a Master Plan Update 5
B. The 1990 Master Plan Update: How it is Implemented 6

II. Review of Goals and Objectives 7

A. What are Goals and Objectives? 7
B. Goals and Objectives Identified by Previous Delanco Master Plans 7
C. Changes in Policy Affecting Goals and Objectives 7
D. 1990 Master Plan Update: Goals and Objectives 10
Goal 1 - Residential/Affordable Housing 12
Goal 2 - Commercial Land Use 12
Goal 3 - Recreation/Open Space 13
Goal 4 - Waterfront Land Use 13
Goal 5 - Environmental Protection 13

III. 1990 Master Plan Update: Recommendations 14

A. RESIDENTIAL LAND USE/AFFORDABLE HOUSING 15

1. Residential Land Use 16
a. Residential Design Guidelines 16
b. Residential/Open Space Design Guidelines 17
c. Residential/Marina Design Guidelines 19

2. Affordable Housing 20
a. Purpose 25
b. COAH Guidelines 25
c. Determination of Pre-Credited Need 26
d. Affordable Housing Credits 26
e. Affordable Housing Ordinance 26

B. COMMERCIAL LAND USE 26

C. RECREATION AND OPEN SPACE 28

D. WATERFRONT LAND USE 31

1. Public Access Guidelines 34
a. Waterfront Residential Areas 34
b. Waterfront Commercial Areas 36
c. Water-Related Recreational/Marinas 37
d. Other Waterfront Land Uses 37
e. Environmentally Sensitive Lands 38

2. Hawk Island Waterfront Master Plan 38

TABLE OF CONTENTS
(continued)

E. ENVIRONMENTAL PROTECTION 40

** F. INDUSTRIAL LAND USE 41

IV. Solid Waste/Recycling Element 42

V. 1990 Master Plan Update: Conclusions 44

VI. Resources 46

Addendum: Delanco Township State Development Cross-Acceptance Report

I. INTRODUCTION

A. What is a Master Plan Update

This document, in accordance with N.J.S.A. 40:55D-89, represents an update of the Master Plan of Delanco Township. The adopted 1990 Master Plan Update is the official statement prepared by the Planning Board on major Township policies concerning the physical development of the community. It is not intended to be a detailed blueprint for community building, but rather to be a general guide for desirable land use that is to be utilized by the Township to encourage municipal action to guide the appropriate use or development of all lands in a manner which will promote the public health, safety, morals, and general welfare.

The Delanco Township Master Plan was completed in September 1973. A re-examination of the Master Plan was completed and adopted by the Planning Board in December 1982. N.J.S.A. 40:55D-89 requires that the governing body shall, at least every six years, provide for a general re-examination or update of its Master Plan and development regulations by the Planning Board which shall prepare and adopt, by resolution, a report on the findings of such update. The update report shall state:

1) The major problems and objectives relating to land development in the municipality at the time of the adoption of the last re-examination or update report;

2) The extent to which such problems and objectives have been reduced or have increased subsequent to such date;

3) The extent to which there have been significant changes in the assumptions, policies and objectives forming the basis for the Master Plan or development regulations as last revised, with particular regard to the density and distribution of population and land uses, housing conditions, circulation, conservation of natural resources, energy conservation, and changes in State, county and municipal polices and objectives; and

4) The specific changes recommended for the Master Plan or development regulations, if any, including underlying objectives, policies and standards, or whether a new plan or regulations should be prepared.

B. The 1990 Master Plan Update

How it is Implemented

The 1990 Master Plan Update provides a framework of long-range goals and short-range objectives, which if implemented, can have far reaching benefits to the entire community. While the 1990 Master Plan Update is the single formal document in which major land use policies are brought together and coordinated, the implementation of the plan is accomplished through subsequent documents. The Zoning Ordinance and Zoning Map along with the Site Plan and Subdivision Ordinances are the major means used to effectuate the 1990 Master Plan Update.

1) Zoning

Zoning represents the day to day operational tool which regulates land use within the community. Zoning also serves to quantify municipal policies regarding public health, safety, morals, and general welfare as agreed upon in the Master Plan through establishment of area and bulk requirements. Upon adoption of the 1990 Master Plan Update the Planning Board will complete revisions to the Zoning Ordinance and Zoning Map to be presented to the governing body for review and adoption.

2) Site Plan and Subdivision Ordinances

Whether adopted separately or forming part of a comprehensive development ordinance, site plan/subdivision ordinances are important components of the local regulation process. The refinement of community standards and informational requirements of site plan and subdivision review permit the Township to determine the overall impacts of individual projects. Additionally, the site plan/subdivision ordinances can be utilized to provide for off-tract improvements and, properly utilized, can minimize impact associated with development.

Upon adoption of the 1990 Master Plan Update, the Planning Board will complete revisions to the Site Plan and Subdivision Ordinances to be presented to the governing body for review and adoption.

II. REVIEW OF LAND USE GOALS AND OBJECTIVES

A. What are Goals and Objectives?

Goals and objectives provide the guiding principles upon which proposals for land use and development are based. Goals are broad topics corresponding to major elements of the Master Plan. Objectives are specific policies to be advanced by the goals.

B. Goals and Objectives Identified by Delanco Township's 1973 and 1982 Master Plans

Delanco Township's 1973 Master Plan found that the growth of the Township has been modest and has occurred almost entirely within the relatively small areas zoned for residential use adjacent to the Delaware River. The plan classified 43 percent of the Township's land as vacant.

The 1973 Master Plan found the residential development of the Township consisted largely of single-family residential. While the Township's 1973 Master Plan identified recent growth as primarily residential, the plan noted a substantial amount of the Township's land zoned for industrial uses. The 1973 Master Plan identified much of this industrial land, particularly in the western portion of the Township, as vacant, but the plan expressed concern that some of these industrial lands were put to uses of a type not highly desirable.

Indicating the objective of maintaining the residential character of the Township established in the northern portion of Delanco along the Delaware River, the 1973 Master Plan recommended the establishment of Planned Unit Developments in the western portion of the Township along the Rancocas Creek. Planned Unit Developments were described in the 1973 Master Plan as sizable suburban developments of a diversified nature.

Delanco Township's 1973 Master Plan established the following two goals: 1) Recognize the importance of a sound planning program; and 2) Establish the necessary development rules in order to see this better community come about.

Objectives advanced by the 1973 Master Plan included the following:

1) Every effort should be made to secure sound industrial and commercial preparations which would provide more job opportunities locally and work to economically balance the residential growth of the community;

2) Economic development efforts should place special emphasis on manufacturing activities that are willing and able to reasonably control air, land and water and other pollutants and that have a median pay scale at or above the State average;

3) Adequately serviced industrial areas should be planned in close conjunction with existing and future transportation facilities;

4) Presently and during the immediate future, the automobile will continue to be the principle means of transportation for Township residents. Consequently, careful attention should be given to new subdivision design, heavy traffic intersection controls, new access points to arterial roads, and the assurance of adequate future right-of-way for major traffic arteries in and out of the community;

5) The growing congestion and competition for space in inner-core sections of the metropolitan area make the establishment of efficient and relatively inexpensive mass transit facilities inevitable. Recognizing the eventual construction of a high speed line into the area, we should adopt a policy aimed at making such a facility better serve the Township. Every effort should be made to encourage the use of the existing rail right-of-way through the Township as a loop in conjunction with the Moorestown extension presently projected by the Lindenwold Line;

6) A critical planning goal is to secure balanced development. In order to attain this, the pace of home building should match that of commercial and industrial development. Various regulations, utility extension and service polices should be designed to see that this happens;

7) Another important trend in suburban development is the Planned Unit Development, or the New Town idea. We subscribe to the desirability of this approach, especially when it leads to sizable developments of a diversified nature involving a balanced economic base and when it can be accomplished at total overall densities that will result in a pleasing, open environment;

8) Careful attention should be given to the maintenance and uniform enforcement of the Township's building codes in an effort to maintain the quality and protect and enhance the investment that Delanco citizens have in the existing stock of housing;

9) Future plans should provide for the logical separation of uses. Compatible uses, such as homes, schools and churches should be grouped together, while incompatible uses, residences and heavy industry, should be as effectively separated as possible;

10) Intensive development should be discouraged in outlying, hard-to-service situations or areas that are physically unsuited for development due to poor soil or drainage conditions.

Public sewerage planned on a regional basis, should be regarded as a firm prerequisite for intensive development of any kind;

11) The clustering principle should be provided for in zoning regulations. This is the maintenance of required overall dwelling unit density, but with permitted reductions of individual building site requirements as a means of achieving large common open space areas and reduced facility and service costs. However, clustering should only be permitted when lot size requirements are sufficient to produce a substantial amount of common open space through the clustering process;

12) Wherever possible, shoestring or strung-out business areas should be avoided. This is especially true along any major or arterial road which should be protected for its intended purpose, that of carrying large amounts of traffic efficiently. Business development should take place primarily in Planned Shopping Centers, adequately buffered from any adjoining residential areas;

13) The planning program should include a continuing awareness of the school needs of the future. Close liaison between the Planning Board and the School Board and efforts toward assuring necessary sites in advance of the actual need should be a basic objective. Wherever possible, the grade school should form the central feature of a residential neighborhood and be part of a recreational and cultural center. Major roadways should be relegated to the edge of the neighborhood, thus permitting young school children to walk to and from school without crossing major traffic ways;

14) A high recreational priority during the immediate future should be to assure adequate open space reservation for both active and passive recreational needs, as well as natural park and buffer areas in connection with new development as it takes place; and

15) The importance of regularly updating the Delanco Township Plan can't be overemphasized. As the character of our population changes, new transportation modes are accepted and now unknown building materials and techniques are introduced, the physical plan and the regulations supporting it should be reviewed and updated. Only in this way will the planning program keep pace with the changing needs of the community.

Delanco Township's 1982 Periodic Re-examination of Master Plan and Development Regulations concluded because of slower than anticipated growth in the Township and few requests for rezoning by land owners, the goals and objectives established by the 1973 Master Plan did not need to be updated.

C. Changes in Policy Affecting Land Use and Development Goals and Objectives in Delanco Township Since Adoption of the 1982 Master Plan Re-examination

1) Delanco Township, located along the Delaware River and within the New Jersey Coastal Zone, is subject to the Department of Environmental (DEP), Division of Coastal Resources Rules on Coastal Resources and Development. Promulgated in 1978, the Rules provide a set of coastal development policies primarily implemented through its authority under the Coastal Area Facility Review Act (CAFRA) and the Waterfront Development Act. A Waterfront Development permit is generally required for upland construction within 500 feet of the high tide line and also for all development below the mean high water line. In October, 1988 the State adopted Emergency Regulations for Waterfront Development affecting development at the water's edge in the coastal zone previously exempt from such regulation. It is expected that because of the Emergency Regulations for Waterfront Development expanding the area adjoining the waterfront subject to the Waterfront Development Act, Delanco Township will be affected more over the next planning period by the Rules on Coastal Resources and Development. A particular focus of the Rules is the need for increased physical and visual access to New Jersey's coast. A primary consideration of the application of the Rules in considering development applications in the New Jersey Coastal Zone is the application of the barrier free access policy and encouragement of waterfront parks, bikeways, ways, boat launches, fishing piers and trails in planned projects.

2) A major change in State policy since the adoption of the 1982 Master Plan Re-examination is represented by the adoption of the Fair Housing Act of 1985 which was established in response to the New Jersey Supreme Court Mount Laurel I and Mount Laurel II decisions. The Act requires that all municipalities prepare a Housing Element to achieve the goal of providing access to affordable housing to meet present and prospective housing needs, with particular attention to low and moderate income housing. The Fair Housing Act requires that all municipalities adopt a Housing Element of the Master Plan by August 1, 1988. The absence of the adoption of a plan constitutes a "rebuttable presumption" that the municipal development regulations are no longer reasonable.

3) Another major change in State policy since the adoption of the 1982 Master Plan Re-examination is the requirement for a Recycling Plan Element to incorporate the State Recycling Plan goals. These include: (1) provisions for the collection, disposition and recycling of recyclable materials to be designated in a municipal recycling ordinance; (2) a plan for the collection, disposition and recycling of recyclable materials to be included within any proposal for the

construction of 50 or more units of single family residential housing, and any commercial or industrial development proposal for the utilization of 1,000 square feet or more of land.

4) An additional change in State policy since the adoption of the 1982 Master Plan Re-examination is the preparation of a Preliminary State Development and Redevelopment Plan. The State Development and Redevelopment Plan is a growth management plan which strives to accommodate the projected growth for the State to the year 2010 in an orderly manner without affecting the economic vitality of the State. A municipal master plan must include a specific policy statement indicating the relationship of the proposed development of the municipality to the State Development and Redevelopment Plan. Consideration of a policy statement with regards to the State Development and Redevelopment Plan is important because the State Planning Commission has proposed adoption of the State Plan by the various State agencies to utilize in determining policy and program and distribution of funds. Because of this consideration, it is expected the State Development and Redevelopment Plan will have significant implications regarding municipal planning and development over the planning period affected by Delanco Township's 1990 Master Plan Update. Attached as an addendum to this 1990 Master Plan Update is the Township's prepared policy statement regarding the State Development and Redevelopment Plan.

5) Burlington County is preparing a comprehensive Master Plan. There has, however, been no change in county policy since the last adoption of the Delanco Township 1982 Periodic Re-examination of Master Plan and Development Regulations.

1990 Master Plan Update: Goals and Objectives

Delanco's most pronounced period of growth occurred between 1950 and 1960, when more than 1,200 people were added to the Township almost doubling its former population. For the most part, time has stood still in Delanco Township since the adoption of the 1982 Master Plan Re-examination. A drive through the Township shows Delanco is much like it was ten years ago, with the exception of a new house every few blocks. Population in the Township decreased in 1980 by ten percent from 1970 with a 1970 population of 4,157 persons and a 1980 population of 3,730 persons. The Delaware Valley Regional Planning Commission (DVRPC) estimated 1988 population in Delanco as 3,642 persons.

Delanco Township is located within an area, western Burlington County, which has experienced tremendous growth over the last five to eight years. Location within this growth area and with more than 35 percent of its land still undeveloped, Delanco has been characterized as a sleeping giant, waiting for the remaining farmland and waterfront to be transformed into new development. There has also been a change in the population of the Township with a replacement of the Township's sizable elderly population by young couples in their child bearing years. The potential for significant development has been verified by the Delanco Land Partnership's request for a rezoning of riverfront property to allow a combination of housing and a 100 slip marina along the Delaware River. The Delanco Land Partnership's neighbor, Distributec Inc., a warehouse and distribution firm that occupies the old Kaiser Gypsum plant, has sought to construct a deep-water port on the river that would enable it to handle large-container cargo ships.

Based upon the concern to accommodate new development in a manner compatible with the existing scale and character of the Township and also to address changes in State policy since the adoption of the 1982 Master Plan Re-examination, particularly the consideration of the need to provide the opportunity for housing affordable to low and moderate income households and also the consideration of recognition of the need to accommodate development of the Delaware River and Rancocas Creek waterfronts in a manner compatible with the need to assure physical and visual access, revised land use goals and objectives are provided for the 1990 Master Plan Update as follows:

GOAL #1: RESIDENTIAL LAND USE/AFFORDABLE HOUSING

Preserve the established residential districts and provide the opportunity for a range of housing types to meet the varied income and age level needs of residents.

OBJECTIVES:

1) Preserve the existing single-family residential neighborhoods and maintain public health and safety through continued physical maintenance of housing.

2) Encourage the concept of clustering housing with supporting land use types in a neighborhood environment.

3) Provide opportunities for residents to obtain satisfactory housing at affordable prices through encouraging the provision of a range of housing types where appropriate.

GOAL #2: COMMERCIAL LAND USE

Offer opportunities for varied commercial activities and services in appropriate areas while maintaining the Township's quality of life.

OBJECTIVES:

1) Encourage the continuation of a variety of types of commercial land use within the Township's existing commercial districts.

2) Promote provision of varied and convenient shopping and services for residents of the Township in commercial districts and other areas where appropriate access and infrastructure is available.

3) Maintain the Township's visual quality by control of commercial land use patterns and adoption of improved design and performance standards for land use in commercial areas.

GOAL #3: RECREATION AND OPEN SPACE

Enhance the Township's open space system and upgrade recreational land use to meet the needs of residents.

OBJECTIVES:

1) Seek opportunities for preservation and upgrading of accessible open spaces.

2) Improve and diversify recreation uses offered by municipal parks.

3) Consider the recreation needs of Township residents through the preservation of open space within proposed residential developments.

GOAL #4: WATERFRONT LAND USE

Promote quality waterfront land use and encourage public access.

OBJECTIVES:

1) Ensure continued public access to waterfront areas. This should include provision of physical and visual access.

2) Authorize the preparation of a Hawk Island Waterfront Master Plan Feasibility Study to protect the environment of the island and promote water dependent lands uses and other recreation land uses in that area.

** 3) Encourage cluster development in order to preserve the environmental integrity of the waterfront lands.

** 4) Encourage cluster development at lower densities for Hawk Island.

GOAL #5: ENVIRONMENTAL PROTECTION

Protect the quality of Delanco Township's natural and manmade environment in order to preserve the balance of its ecological systems and safeguard the future health and welfare of residents.

OBJECTIVES:

1) Provide for the preservation of environmentally sensitive lands in order to protect the environmental integrity of the Township.

2) Encourage the adoption of design standards which will minimize negative effects of development upon the environment in all areas of the Township.

**GOAL #6 - INDUSTRIAL LAND USE

Continue to permit existing industrial businesses to operate while being more specific about land use in those zones.

OBJECTIVES:

1) Provide standards to guarantee quality light industrial development without minimizing the existing tax base.

2) Create a light industrial classification to protect industrial development along the sensitive waterfront area.

3) Attempt to limit port activities adjacent to residential land uses.

III. 1990 MASTER PLAN UPDATE: RECOMMENDATIONS

The following contains recommendations for amendments to the municipal land use policies and regulations in accordance with the goals and objectives outlined in Section II. Each of these recommendations corresponds to one of the categories whose goals were previously identified.

The specific goals and objectives will not be reiterated. Rather, the following recommendations are offered as specific means of achieving the stated objectives of the 1990 Master Plan Update. Many of the following recommendations are intended for implementation by inclusion in Delanco Township's Land Development Ordinance as standards or requirements. Subsequent to the adoption of this 1990 Master Plan Update, a text of all recommended ordinance revisions will be prepared and offered as additions and amendments to the ordinance of Delanco Township.

The purpose of the 1990 Master Plan Update recommendations will be to maintain the existing small town character of Delanco while anticipating and accommodating additional development resulting from the Township's location within a growth region. The recommendations also consider changes in State and regional policies affecting land use in the Township. The recommendations will address the goals and objectives as follows:

A. Residential Land Use/Affordable Housing;
B. Commercial Land Use;
C. Recreation and Open Space;
D. Waterfront Land Use;
E. Environmental Protection; and
** F. Industrial Land Use.

A. RESIDENTIAL LAND USE/AFFORDABLE HOUSING

1. Residential Land Use

Delanco Township's 1973 Master Plan established the concept of Planned Unit Development (PUD) to encourage the building of new towns incorporating the best features of modern design. The PUD is a land development concept providing a procedure that can relate the type, design and layout of residential, commercial and industrial development to the particular site and the particular demand for housing and other land uses at the time of development. The uses within each PUD support and compliment one another with the uses designed primarily for the benefit of the particular development. Each PUD becomes a self-contained community within the Township.

The PUD concept established by Delanco's 1973 Master Plan provided for a high density community with a mix of land uses and included a mix of housing types. Average gross density permitted within a PUD in Delanco is four dwelling units per acre. Net density of residential land use in a PUD in Delanco is permitted up to 36 dwelling units per acre. PUD's in Delanco may have up to ten percent of its area used for office-commercial uses and not less than 15 percent shall be occupied by industrial uses. Thirty percent of a PUD in Delanco shall be set aside for open space. PUDs were recommended for lands along the Rancocas Creek east of Creek Road and also for Hawk Island. Delanco Township's 1982 Periodic Re-examination of Master Plan and Development Regulations recommended the continuation of the concept of PUDs. To date, no development in Delanco Township has occurred in accordance with the PUD provisions of the Land Development Ordinance established by the 1973 Master Plan.

Delanco Township is characterized as a predominantly single-family residential community. The Township has an identifiable commercial hub at the center of town along Burlington Avenue providing Delanco with a sense of place. Housing moves out to the north and south of the center the Township. There is concern that the development of a PUD, described as a sizable suburban development in Delanco will diminish the small town character and overshadow its commercial core in addition to placing a burden on the Township's infrastructure. There is also concern that the development of a PUD along the waterfront at the high net densities including the development of high rise buildings in accordance with the PUD regulations outlined in the Land Development Ordinance, will lessen the ability for access to the Township's Rancocas Creek and Delaware River waterfronts. Accordingly, as part of the 1990 Master Plan Update it is recommended the PUD provision be eliminated.

In place of the PUD ordinance, it is recommended the Township provide land use compatible with the small town residential character of the existing land use in the Township. Appropriate land use in place of the PUD provision therefore would be limited to single-family residential. In recognition of the waterfront location of the Township, clustering of residential land use should be encouraged.

As shown on the 1990 Land Use Map, the RW-CL, Residential Waterfront-Cluster District is proposed for the western portion of the Township along the Rancocas Creek now designated R-P, Rural Planned Unit Development District. Land use proposed for the RW-CL district is limited to single-family detached eliminating all provisions for a combination of office-commercial and industrial land uses. Low rise detached housing is recommended for the lands in recognition of the residential character of the Township and also in recognition of the location at the waterfront. Creative site design is encouraged with careful consideration of orienting housing to the water and ensuring views. Detached housing types recommended as appropriate in the RW-CL district is varied and includes single-family residences on an individual lot with private yards on all four sides of the house, single-family, zero lot line where the building is set on one of the side property lines and single-family patio-home where all the living spaces, i.e., living rooms, dens and bedrooms, open onto a major open area or patio.

Density proposed for the RW-CL district is based upon net developable acreage after subtraction of critical wetland areas with a maximum net density of one unit per acre. Individual lot size for single-family residential dwelling units is recommended to be reduced, depending upon the type of unit, to encourage maintenance of large expanses of open space, to provide views out to the water between housing units and to orient housing to the waterfront. It is proposed that development in the RW-CL district be permitted a bonus density credit for critical wetlands areas. The bonus density credit is available at the Board's discretion through the provision of open space public access amenities acceptable to the Reviewing Board in accordance with a Township open space waterfront public access plan. Appropriate public access amenities would include a marina with public parking, a boat launch with parking, a public water's edge walkway and scenic outlooks.

It is recommended that a minimum of 15 percent of the tract remain as common open space. Permitted height of structures should not exceed 35 feet. All residential lands use should be setback a minimum of 100 feet from the Rancocas Creek to provide a continuous open space band or a combination greenbelt/bluebelt to be provided adjacent to the waterfront. A marina may be permitted as an accessory use to the residential land use in the RW-CL district. For every boat slip available to the residential use, it is recommended an equal number should be available to the public encouraging greater use and enjoyment of the waterfront. The following are additional design guidelines for residential land use in the proposed RW-CL district.

a. Recommended Design Guidelines for Residential Land Use in the RW-CL districts.

1) The development plan in the RW-CL district should be broken into visually small groupings such as quadrangles, clusters and courts. Devices to slow speed and reduce the size of each

visual grouping, such as garden walls and gates, reduction in setbacks of facing buildings, and variable landscape layout, are encouraged.

2) It is recommended that no more than five (5) free-standing dwelling units be placed in a row with the same setback from a straight street line.

3) Detached dwelling unit complexes should have a compatible architectural theme with variations in design to provide attractiveness to development in the RW-CL district, which may include consideration of landscaping techniques, building orientation to the site and to other structures, topography, natural features including the waterfront and individual dwelling unit design, such as varying unit widths, staggering unit setbacks, providing different exterior materials, changing roof lines and roof designs, altering building heights and changing types of windows, shutters, doors, porches, colors and vertical or horizontal orientation of the facades, singularly or in combination of each dwelling unit.

4) It is recommended dwelling units in the RW-CL district be grouped in clusters. Outdoor living areas or patios should adjoin the resulting open space or paths leading to open space. Screening of such outdoor living areas may be accomplished with plant materials, changes in elevation, masonry structures or wood fencing. Architectural elements such as masonry walls and fences should be compatible in both style and materials with the dwelling unit of which it is part.

5) It is recommended required single-family detached front yard setbacks may be reduced if a picket fence and/or low wall, or front porches are provided. These design features will help provide a social community.

6) Where private garages are provided, constructed either as part of a dwelling unit or on individual lots, the following guidelines are recommended:

[a] All garages should conform architecturally to, and be of similar materials as the principal building.

[b] A garage need not be set back from one (1) side line of an individual lot and may be attached to a garage on an adjacent individual lot.

[c] No garage which is not attached to or part of a dwelling unit on the same individual lot may be closer than twenty (20) feet to the dwelling unit.

[d] Where common garage structures are considered, they

should be provided in clusters housing no more than four (4) cars. They should be located so as to provide as short a walk as practicable to the principal residence.

[e] It is recommended alleyways with rear-loaded garages may be permitted. Alleyways may be in a twenty (20) foot easement, with fifteen (15) feet of pavement, no curbs, and limited to one-way traffic.

[f] Private garages may be counted as one-half (1/2) of an off-street parking space.

7) A Landscape Plan should be provided as part of a development proposal in the RW-CL district providing an integrated site design. Landscaping should be integrated into building arrangements, topography, parking and buffering requirements. Landscaping may include a combination of trees, bushes, shrubs, ground cover, perennials, annuals, plants, sculpture, art and the use of building and paving materials in an imaginative and aesthetic manner.

b. Recommended Open Space Design Guidelines for the RW-CL districts.

1) It is recommended open space areas resulting from development in the RW-CL district should weave between structures generally respecting a minimum width of fifty (50) feet and periodically widening out into significant and usable recreation areas. The configuration of the open space areas should be arranged so that connections can be made to existing or future adjacent open spaces and other community facilities.

2) The developer in the RW-CL districts may be required to plant trees or other similar landscaping improvements. Said improvements may include removal of dead or diseased growth, thinning of trees or other growth to encourage more desirable growth, removal of trees in areas planned for active recreational facilities, grading and seeding and improvements or protection of the natural drainage system by the use of protective structures, stabilization measures and similar improvements.

3) Portions of the open space should be developed to afford both passive and active recreational opportunities. Passive recreational activities may include, but are not necessarily limited to, pedestrian paths, sitting areas and naturally preserved areas. Active recreational areas may include, but are not limited to a clubhouse or community building, shuffleboard courts, tennis courts, bicycle paths, barbecue grills, picnic benches, indoor recreational uses, and swimming pools not less than two thousand five hundred (2,500) square feet. Active recreational facilities should be carefully located to avoid

problems of noise, lights and similar nuisance elements, affecting residential units. They shall be located not less than fifty (50) feet from any boundary line of the development exclusive of buffers.

4) It is recommended every parcel set aside as open space should be conveyed by deed at the time final subdivision or site plan approval is granted.

5) The open space to be set aside may be offered to the Township for acceptance. Land offered for dedication, but not accepted by the Township should be transferred to a homeowner's association or similar organization in accordance with N.J.S.A. 40:55D-43.

6) Any open space offered to the Township should be subject to review, based upon the Master Plan, the ability to -assemble and relate such lands to an overall plan, the accessibility and potential utility of such lands and such existing features as topography, soils, wetlands and tree cover, as these features may enhance or detract from the intended use of the lands.

c. Recommended Marina Design Guidelines for the RW-CL districts.

The growth of recreational boating, fishing, and other boating related activities has created a demand for additional boat slips and berthing facilities along the Rancocas Creek and Delaware River. Accordingly, full-service marinas have been recommended as an accessory use to residential land use in the proposed RW-CL district. Long term consideration will need to be given to proper siting and design of marina land use, to mitigate the impact on neighboring land use, primarily residential land use.

Proper siting of marinas should be in accordance with the following:

The siting of a marina should require minimal dredging, both initially and for maintenance, and should have a total flushing time of less than four days. Other guidelines regarding the siting of a marina include:

The site should be located with safe, convenient access to cruising waters. Winding channels, hazardous routes and long travel distances to water-use areas are discouraged.

The site must have adequate land access for autos, trucks, trailers and fire fighting equipment with a land area at least the same size as the water area.

The boundaries of the site should be at least 1,000 feet from shellfish harvesting areas, and wet slip marinas should not be

constructed nor expanded in Category One waters.

Unless a natural protective harbor configuration exists or the marina basin is primarily land-locked, breakwaters must be designed to reduce the velocity of waves entering a marina. These breakwaters, whether fixed or floating, absorb and reflect wave action and should be perpendicular to the normal wave approach. Solid rock or fill breakwaters are not permitted. Three inch spacing between vertical slats and 18 inch off the bottom should be provided to allow for circulation and migration of fish. Floating breakwaters are preferred in low energy areas where wavelengths are less than twice the width of the breakwater.

Sloping riprap bulkheads are preferred over solid vertical structures as they better dissipate wave energy and provide a more diverse habitat for marine organisms.

For safety, comfort and to avoid interference with commercial boating activity, marinas should be designed so that wave heights do not exceed two to four feet in the entrance channel and one to 1.5 feet in the berthing area.

The water area of the marina must be designed to accommodate boat slips of the appropriate sizes (as determined by the needs of assessment). Access to the slips via the channel and the fairways from the marina entrance must be safe and convenient.

The entrance channel of the marina must be constructed to facilitate the safe passage of boats in all weather conditions and must be located in a position to avoid direct wave action if possible. The width of the marina entrance channel should be at least four times the beam of the widest expected vessel to meet minimum safety requirements. The depth should be equal to the draft of the deepest draft boat likely to use the marina, plus half the expected wave height as well as one or two feet of extra clearance. Entrance channels should not be located on corners.

In good marina design, the channel that connects the marina entrance to the boat slips or docking areas should be twice as wide as the entrance to the marina. The fairways, or areas between rows of boat slips, should be about 1.5 times wider than the length of the longest slip to allow for maneuverability. The layout of the channel and fairways should take into consideration the prevailing winds and the currents in the area and where possible, entrance channels should be oriented in the direction of the prevailing winds to promote wind-driven circulation. Additionally, turning areas must be provided that are at least 2.25 times the length of the longest boat likely to use the marina in order that transient boaters may utilize the fuel dock and other facilities.

The depth of the basin should not exceed the depths of the access channel or the open water to which the basin is connected and

enclosed basins should include openings at opposite ends to promote circulation. The arrangement of the boat slips is parallel to currents as this promotes circulation and reduces the load on the pier structure the load on the pier structure. Whether a fixed pier or a floating pier is utilized, slips should be at right angles to the direction of short wavelength waves in the basin and to their adjacent walkway, and should be grouped according to their size. The deeper draft boats should be near the channel to minimize dredging and smaller boats closer to the shore where the water is shallower. Boat slip width depends on both the length of boats and the type of pier system utilized.

The walkways to the boat slips or piers can be either fixed or floating and should be at least six feet wide to function safely and adequately. They should also have utility hook-ups for each slip.

To minimize the impact on the photic zone, dock and pier widths should be minimized. The structures should stand as high above mean high water as possible and should be oriented north-south when possible.

Finger piers approximately three feet wide are recommended for marina design in most cases because of their ease in allowing bow-to-mooring docking and because of their safety considerations. The most effective finger pier arrangement is in double wide slips (except for boats longer than 35 feet). User acceptance indicates that floating piers are preferable to fixed piers. Floating marina systems are increasing in popularity as their technology takes advantage of the benefits of floating systems and reduces the liabilities previously inherent.

Marina guidelines prepared by the New Jersey Department of Environmental Protection (DEP) state that marinas should provide restrooms according to the following schedule:

(1) Small Marina - up to 40 boats

Men:		Women:	
	One toilet stall		Two toilet stalls
	One urinal		One washbasin
	One washbasin		

(2) Small Quality or Medium Marina - 40 to 80 boats

Men:		Women:	
	Two urinals		Two toilet stalls
	One toilet stall		Two washbasins
	Two shower stalls		Two shower stalls
	Two washbasins		

(3) Large Marinas - over 80 boats

Add: One urinal/30 boats (men)
One toilet stall/60 boats (men)
One toilet stall/30 boats women
One washbasin/30 boats
One shower stall/60 boats

Restrooms should provide both hot and cold water and should be maintained in a sanitary, warm, dry, brightly lit and well-ventilated condition.

Land-side or on-shore facilities and services must also be designed to accommodate the safety and pleasure of the boating public. When possible, water related activities such as swimming areas, beaches, playground, or fishing piers should be designed in conjunction with the marina. When developed as part of a municipal park, a marina enjoys wider public acceptance.

The dock master's office is the administrative center of the marina and as such should be easily accessible by both water and land.

The planning of the location of the fuel dock should give priority to safety considerations and should be designed to accommodate four of the largest expected vessels. The best location for the fuel dock is near the entrance to the marina and the dock master's office. It must be accessible to the fuel delivery trucks. At least 200 feet of unobstructed pier is recommended for fuel docks, and fuel pumps should include back pressure cut-off valves. Main cut-off valves should be available both at the dock and the upland area of the marina. No discharge signs should be posted throughout the marina fuel dock and basin.

Boat storage racks offer flexibility in site utilization because smaller boats can be stacked until the owners decide to use them. They can then be retrieved and lowered into the water.

Other off-season boat storage must also be provided for a marina site as most boats are hoisted out of the water during the winter (unless a bubbler system is utilized).

Convenient and adequate parking must be provided. Ample parking facilities should be provided with a minimum of 0.6 spaces per slip up to 2.5 spaces per slip depending upon the nature of the marina. Parking areas should be properly screened and landscaped and must be accessible to marina equipment since these parking areas can also be used for off- season boat storage. The distance from a parked car to a slip should not exceed 600 feet. Parking spaces for cars and trailers should be designed at 45 degree angles and should be reasonably close to the launch ramps.

DEP draft marina guidelines require that marinas should provide, as a minimum, one pumpout out station (fixed or portable) for every 20 boat slips.

Marinas which allow occupation of berth vessels for a period of 72 hours or more should provide slip-side pumpout facilities. Pumpout facilities should be designed with holding tanks in order

to prevent inputs into both septic and sanitary waste systems as MSD. disinfectants disrupt the functioning of these systems.

Marinas should provide abundant trash receptacles along with adequate fish cleaning areas, including separate and well-marked dispensers for organic refuse. The dumping of porta-pottys, pumpout effluents or holding tanks into septic systems should be prohibited and waste receptacles should be emptied daily. A recycling plan for solid waste including receptacles for aluminum, brown, green and clear glass, and newspapers should be implemented.

Marinas should incorporate an aesthetically pleasing and easy to maintain landscaping plan in their design in order to enhance the natural environment. In addition, landscaping can be utilized to properly screen maintenance areas which should be located as far from the water as possible. Landscaping should consist primarily of native vegetation with buffers consisting of plants, fences and earth berms.

During construction of the marina, standards to protect the environment include the following:

(1) Only high-grade, slow leaching wood preservatives should be used on pilings and other dock or pier woods.

(2) Dredging should take place during colder months when the dissolved oxygen levels are naturally high and should be scheduled not to disrupt critical life stages of marine organisms.

(3) Erosion and sediment controls should be in place prior to construction and where appropriate (currents under 1.5 knots) sediment curtains should be used during dredging.

(4) Clean dredge spoil with adequate grain size should be used for beach nourishment.

(5) Pumpout facilities should be designed to store the effluent until a certified hauler can remove it; disposal into septic systems or municipal sanitary sewer lines can disrupt the water purification process due to the disinfectants used in conjunction with MSD's.

(6) Marinas with direct sewer access are preferred if possible. When not possible, septic systems should be installed with a minimum setback of 100 feet and in soils with a minimum depth to seasonal high water table of four feet or more.

(7) Marinas must have available adequate floating containment booms and absorbent materials in the event of hydrocarbon spills, and employees should be trained in the use of the equipment and the procedures for notifying DEP and the Coast Guard of any significant hydrocarbon spills.

The size of the marina and the needs of the population of the service area will dictate the nature of ancillary marina services. The services can range from a simple restroom/vending machine/ice and bait house concession area to an elaborate complex including waterfront restaurants and other recreation activities such as pools and tennis courts.

Regardless of the size and complexity of the marina development project, good design standards and aesthetic considerations are essential for the success of the marina.

2. Affordable Housing

In February 1990, the Delanco Township Planning Board adopted a Housing Element of the Master Plan in accordance with the requirements of the New Jersey Council on Affordable Housing (COAH) as mandated by the Mount Laurel II decision. The Housing Element is a separate document whose full text has not been included in this 1990 Master Plan Update. Its component parts include an analysis of the calculation of Delanco's "illustrative pre-credited need number" of low and moderate income housing units in accordance with the COAH methodology and a description of the Township's Fair Share Plan. For the purpose of this 1990 Master Plan Update, a summary of the planning implications of the Housing Element is presented below:

a. Purpose

The Housing Element of the Master Plan is designed to achieve the goal of access to affordable housing to meet present and prospective housing needs in the Township, with particular attention to low and moderate income housing.

b. COAH Guidelines

The Fair Housing Act of July 1, 1985 established the Council on Affordable Housing (COAH), which developed criteria and guidelines for municipalities to follow in order to meet their fair share obligation. According to the COAH timetable, review and acceptance of the municipal Housing Element and Fair Share Plan offers substantive certification which provides immunity from Mount Laurel type litigation for a period of six years.

c. Determination of Pre-Credited Need

Delanco Township's "illustrative pre-credited need number" of affordable housing is 47 as determined by the COAH methodology. Excerpts from the COAH substantive rules detailing the derivation of the formula for calculating pre-credited need are contained in the Appendix to the Housing Element.

d. Affordable Housing Credits

Subchapter 6 of the COAH substantive rules allows "credits" against the municipal present and prospective housing need based upon the number of housing units created or rehabilitated after April 1, 1980. These credits may be applied against the municipality's pre-credited need figure in order to reduce the total municipal housing obligation.

Delanco Township was able to reduce its fair share housing obligation from 47 to 45, based upon adjustments permitted by COAH. The credits which the Township are permitted are based upon substantial rehabilitation to two homeowners in substandard housing who meet income eligibility requirements in Delanco since 1980 with Community Development Property Rehabilitation loans available through the Burlington County Department of Community Development.

e. Affordable Housing Ordinance

In preparing the Housing Element of the Master Plan, the Fair Housing Act and COAH additionally require that "a consideration of lands that are most appropriate for construction of low and moderate income housing include a consideration of lands of developers who have expressed a commitment to provide low and moderate income housing". Delanco Land Partnership, in ownership of approximately 46 acres in the northern portion of the Township between Burlington Avenue and the Delaware River presently zoned Industrial (specifically known as Block and 500 except Lots 3, 8 and 1800 of the Delanco Tax Maps), has expressed an interest in providing a set-aside of affordable housing and/or participation in a Township rehabilitation program. This interest is contingent upon a rezoning of the property to allow housing development at a density appropriate to provide inclusionary housing.

To accommodate the expressed interest of a landowner and after considerable discussion of the possibilities, liabilities, and opportunities available in compliance with the intent of the Fair Housing Act, which is to provide for a realistic opportunity for low and moderate income housing to occur, the Planning Board of the Township of Delanco has adopted a flexible Fair Share Plan that promotes both inclusionary development through rezoning of lands and rehabilitation of low and moderate income housing. The Township's affordable housing program is outlined in detail in the Housing Element of the Master Plan adopted by the Planning Board in a public meeting on February 6, 1990. The Housing Element of the Master Plan is proposed to be implemented by a rezoning of the Delanco Land Partnership's land to WFD, Waterfront Development District, as recommended by the Planning Board in November, 1989 to provide the opportunity for a mix of residential uses including the opportunity for low and moderate income housing in accordance with the rules and regulations of COAH. Based upon the adopted Housing Element, the opportunity to achieve the COAH assigned "fair share number" will exist.

B. COMMERCIAL LAND USE

As previously noted, Delanco Township has a commercial hub located along Burlington Avenue. The commercial hub is roughly bounded by Center Avenue to the east and the Rancocas Creek to the west. Zoning regulations applicable to the commercial hub permit service uses within the district providing for the convenience of residents of the Township. The commercial hub at the center of town provides Delanco with diversity and fosters a sense of community. The sense of community is reinforced by the location of the municipal building within the hub. Because of the Township's location within a growing metropolitan area, many of the services once located within the Township's commercial hub have relocated to the adjoining highways for greater visibility or gone out of business as a result of increased competition from the uses located on the adjoining highways. Extensive residential development within Delanco could increase the demand for local services within the Township to service the resident's need. To anticipate the possibility for redevelopment of the commercial hub of Delanco Township the following are recommended design guidelines to maintain and promote the sense of community provided by the commercial hub and also to maintain the Township's visual quality while accommodating development and redevelopment of the Township's commercial hub.

In accordance with the above land use goals and objectives for commercial land uses, the following general design guidelines are recommended to require amenable commercial uses compatible with the context and character of the community.

a. Commercial buildings should be permitted to contain more than one office, retail or retail use, provided that the total building coverage of the combined uses does not exceed the maximum building coverage specified for the commercial district. Regulations permitting more than one use per building provide activity at commercial uses over a longer period of the day, creating an identifiable hub for the community and increasing sociability.

b. Similarly to (a) above, create opportunities for sociability through a community commercial hub permitting more than one building per lot, provided that coverage requirements are not exceeded. All buildings on the lot should be compatibly designed and similar in style and material, whether developed or re-developed all at one time or in stages over a period of times.

c. All building walls of commercial uses facing streets and residential uses or districts, should be suitably finished for aesthetic purposes. Materials of the wall should be compatible with materials of adjacent uses.

d. In order to minimize the number of curb cuts along the main road through community commercial core, commercial land uses

should share driveways with adjoining land uses, with access easements interconnecting parking lots of adjoining properties.

e. Supplementing buffer requirements consisting of fences, walls, earth berms and plant materials where a commercial land use abuts a property line of a lot in a residence district, are the provision for buffer requirements similarly along the main street within the front yard setback. The purpose of the buffer is not to hide the buildings, but to frame them and to provide a common element linking all the diverse styles and arrangements of buildings, as well as buffering the harsh appearance of too much asphalt.

f. In conjunction with front yard buffers for an improved appearance from the road in the community commercial hub, the reverse parking concept is encouraged. The reverse parking concept can provide a certain number of important front spaces while down playing the glaring appearance of unrelieved rows of parking. A cap on permitted front yard parking, with most parking required to be in the back, reverse parking, in effect, creates two fronts to a building. The two fronts created by reverse parking can bring a greater number of parking spaces closer to the entrance, and the building can be located closer to the road, providing increased visibility. Connector walkways should be installed from parking areas to business areas, away from and separate from the street to maximize safety.

g. Minimum landscaping requirements for commercial land uses should include yard buffers consisting of plants, fences and berms, landscaping of parking lots also with indigenous material, and landscaping and screening of service areas including loading and trash areas.

h. Use of signs for commercial land use should be regulated, serving as an indication of the Township's intent of quality land use for the commercial districts. Sign regulations should address materials, overall size including height, colors, and landscaping.

i. Successful town centers or "hubs" consist of various land uses and offer a variety of activity throughout the day. To encourage greater variety of uses, community, municipal and other institutional uses such as churches should be allowed in the commercial hubs. To call attention to the activity area of a community commercial hub, clock towers and other vertical elements exceeding height restrictions should be permitted to be incorporated in the municipal and institutional uses.

j. Common design elements should be used along the street to unify the varied design of buildings in the community

commercial hub. The elements provide variety, color and scale the hub. Elements to utilize include street trees, awnings, brick sidewalks, street planters, street lights, street furniture (benches, trash receptacles, bicycle racks) directional signs and other similar details.

C. RECREATION AND OPEN SPACE

Open space provides an attractive living environment for the residents of Delanco Township through provision of visual relief from continuous development. Open space also has significant value for the protection of environmentally sensitive lands with Delanco Township. The term "open space" includes both developed and undeveloped lands. It describes a wide variety of land use, from small areas of natural vegetation within residential developments to large parks or recreation complexes containing ballfields fields, tennis courts and playgrounds. New Jersey's Municipal Land Use Law (N.J.S.A. 40:55D) defines open space as:

"Any parcel or area of land or water essentially unimproved and set-aside, dedicated, designated or reserved for public or private use or enjoyment for the use and enjoyment of owners and occupants of land adjoining or neighboring such open space; provided that such areas may be improved only with those buildings, structures, streets and off-street parking and other improvements that are designed to be incidental to the natural openness of the land."

Open space may provide either "passive" recreation (hiking, picnicking, bird watching) or "active" recreation (golf, tennis, swimming, soccer or other activities requiring developed facilities). Active recreation activities are usually carried on near the homes of residents. Passive recreation activities such as hiking or boating require more specific natural resources and must, therefore, be concentrated in appropriate areas.

With the 1990 Master Plan Update Delanco Township establishes the land use policy that open space is an essential community asset in that it preserves ecologically important natural environments, provides scenic views, buffers land uses, provides wildlife habitat, provides opportunities for recreation activities and can provide pedestrian linkages between neighborhoods and Township amenities such as parks, schools and lakes.

It is recommended standards for recreation and open space be established to implement the Recreation and Open Space objectives provided in Section IIC of the 1990 Master Plan Update. It is the general purpose and intent of the recreation and open space standards that all new residential developments in Delanco Township contribute to the overall recreation program of the Township; that passive and active recreation are of equal importance and both serving legitimate municipal health, safety and welfare purposes; that, to the extent feasible, central recreation facilities owned and maintained by the Township be generally accessible to the majority of Township residents and active recreation be centrally located in proximity to existing recreation facilities such as the schools and Township owned recreation lands; and that potential users of said facilities are limited to a certain development or portion thereof, be owned and maintained by private homeowners associations and not the Township through general tax dollars. The following are minimum recreation and

open space requirements recommended to be included within all new residential development in Delanco Township:

(1) Single-family detached: 15 percent of the total tract, of which one-half must be used for active recreation in accordance with below.

(2) Multifamily residential: 25 percent of the total tract, of which one-half must be used in active recreation in accordance with below.

The following are minimum active recreation requirements recommended to be included within all new residential development in Delanco Township.

(1) Fifty units or more:

a. Two tennis courts, plus one tennis court for each 25 additional units.

b. One basketball court, plus one basketball court for each 50 additional units.

c. One tot lot, plus one tot lot for each fifty additional units.

d. One ballfield field, regulation 90 foot diamond (two acres).

e. One multi-purpose turfed area of at least 100 feet by 100 feet, plus one multi-purpose turfed area for each 50 additional units.

(2) Twenty-five to 50 units:

a. One tennis court.

b. One basketball court.

c. One tot lot.

d. One ballfield field (two acres).

e. One multi-purpose turfed area at least 100 feet by 100 feet.

(3) Ten to 25 units:

a. One tennis court.

b. One tot lot.

(4) Ten units or less: cash contribution in accordance with below.

All active recreation constructed shall be dedicated to a homeowners association in accordance with the Municipal Land Use Law, unless the Township specifically agrees to accept dedication pursuant to the developers' request.

In lieu of the construction of the active recreation required above it is recommended the developer may elect, with approval by the Township, to make a contribution on a per unit basis to a Recreation Trust Fund maintained by Delanco Township specifically for the periodic purchase, lease, acquisition and/or maintenance of active recreation lands and improvements for the use of Township residents.

D. WATERFRONT LAND USE

1. Public Access Guidelines

The northern border of Delanco Township is formed by the Delaware River with the western border formed by the Rancocas Creek. Historically, much of the land use and development of the Township has taken place in the northern section along the Delaware River. It is noted, however, 35 percent of the land of the Delanco Township is classified as vacant including large tracts along the Rancocas Creek and Hawk Island where the Creek joins the Delaware River. Other portions of the Township's waterfront are zoned and utilized for industrial land uses. Given the Township's location within a growth area, there is the potential for development of the vacant waterfront lands and redevelopment of waterfront industrial properties within the next planning period covered by the 1990 Master Plan Update The potential for development of Delanco's waterfront has been confirmed by the Delanco Land Partnership's request for a rezoning of waterfront property to allow a residential/marina development and also by the Delanco Land Partnership's neighbor, Distributec Inc. plans to construct a deep-water port on the Delaware River.

Development of the Delanco Township waterfront must adhere to land use regulations and guidelines. The regulations and guidelines for the waterfront serve to assure proper development of the waterfront through consideration of the unique environment. A partial list of regulations of particular relevance to waterfront development in Delanco includes the Wetlands Act of 1970, administered by the New Jersey Department of Environmental Protection (NJDEP), Division of Coastal Resources, the Flood Hazard Area Control Act administered by the NJDEP, Division of Coastal Resources, Bureau of Flood Plain Management, the New Jersey Water Pollution Control Act, The Freshwater Protection Control Act and the Waterfront Development Control Act.

While the above regulations will provide stringent control of development of the Township's waterfront, regulation of the waterfront is not beyond additional control by Delanco through its Land Development Ordinance. To ensure development within the character and context of existing development in Delanco, two new land use designations have been recommended for Delanco's waterfront as part of the 1990 Master Plan Update. The new designations are the RW-CL, Residential Waterfront Cluster District along the Rancocas Creek and the WFD, Waterfront Development District for the lands of the Delanco Land Partnership along the Delaware River. In addition to land use regulation, it is recommended design of any waterfront development in Delanco be consistent with good waterfront design and planning guidelines in accordance with municipal standards for appropriate waterfront design.

A design concept to be advanced in the 1990 Master Plan Update of Delanco is the idea that the Township's Rancocas Creek and Delaware River waterfronts are a resource, and to recognize the potential of this resource to serve as an amenity. The Rancocas Creek

and the Delaware River can serve as open space for Delanco Township. With the Rancocas Creek and Delaware River serving as open space, public access to the waterfront is a primary concern which must be addressed by any waterfront development in the Township in association with the constraints imposed by environmentally sensitive lands.

Public access is defined as the ability of all members of the community at large to pass physically and visually to, from and along the waterfront. The Delanco Township waterfront is a valuable resource defining the municipality. Development of waterfronts often block the waters from public view and makes physical access difficult or impossible. In addition, private ownership of lands immediately inland of tidelands often limits public access to those lands and the waters which flow over them. This limits access to and enjoyment of public resources by citizens who, through taxes, support the protection and maintenance of the waters and lands.

The right to public access has been established through the Public Trust Doctrine which states, in general, that tidal waters and the lands which are flowed by the tides shall be preserved for the use of the public for navigation and commerce. In recent times, the rights of the general public under the doctrine have been extended beyond navigation to include fishing and recreational uses. The basic ways of obtaining public access to the waterfront of Delanco Township can be divided into three categories, physical, visual and interpretive.

Physical access means people's ability to reach the shoreline and use the waterfront by gaining direct access on or near a waterfront site, with pathways, parks or street-end improvements. Pathways enable people to move in a continuous fashion through an entire waterfront area. Public access pathways should be between the high water line and the first public thoroughfare from the water's edge. Pathways are more complicated than other means of gaining public access along the waterfront because of their linear nature and involvement of multiple land owners, plus shoreline constraints including pre-existing uses.

Parks, another means of physical access to the waterfront, are often expensive as land must be purchased or leased, improvements made, and there is the continual expense of operation and maintenance. Waterfront parks when wisely placed, however, enhance the waterfront setting, diversifying the use of the waterfront and providing for stopping points along a continuous public access system. Parks should be contiguous to and easily entered from the public access pathway system. Activities at waterfront parks should be water oriented encouraging boating and fishing rather than basketball, baseball and tennis.

Street-ends generally are leftover bits of land, in most instances owned and managed by a government entity. Street-ends are probably the handiest windows on the waterfront and can be made into low-cost pocket parks providing opportunities for preserving view corridors and guaranteeing visual links. Waterfront street-ends along

the waterfront can be linked with public access pathways and parks permitting an integrated waterfront public access system. Visual access refers to people's ability to see the waterfront. The ability to see is important to the public's understanding and appreciation of the waterfront. Maintaining view corridors and restricting building heights at the shoreline particularly helps preserve visual links to the water and waterfront. The view corridor will be an important consideration in designing public access pathways and parks.

Interpretive access involves the ability to understand, appreciate and enjoy what is happening along the waterfront. It is the educational component of public access. Plaques, interpretive signs and brochures are a natural complement to a person's experience around the waterfront.

The consideration for public access is within the Township's control through its land development ordinance. To ensure public access the Township can adopt standards to promote physical, visual and interpretive access. All public access should be planned, designed, executed and maintained on the basis of the following principles.

Public access should:

1. Feel public;
2. Be usable by the greatest number and diversity of people, including the physically handicapped;
3. Provide, maintain, and enhance visual access;
4 Enhance and maintain the visual quality of the shoreline;
5. Connect to public areas or thoroughfares, or to other public access areas;
6. Take advantage of the waterfront setting; and
7. Be compatible with the natural features of the shoreline, the project and the adjacent development.

Standards for land use categories should be established in accordance with the following principles:

a. Waterfront Residential Areas

-Provide substantial improved shoreline accessory parks adjacent to the waterfront to serve the general public and community residents.

-Take advantage of the setting, to the maximum extent feasible by orienting the use to the waterfront and otherwise providing the residents and public with reminders of the proximity of the waterfront.

-Provide unobtrusive paths, that respect the resident's privacy, to or along the shoreline to encourage passive public use where appropriate as part of individual residences.

-Develop multiple unit projects with all-weather paths, landscaping, and other improvements that are appropriate for the anticipated demand, size and location of the project. The public access system should generally provide continuous access along the waterfront with connection to other public areas such as municipal parks or streets. Provide public parking if none exists in the area.

-Use elevation changes and berms, plantings, fences, and signs to clearly differentiate the public access areas from the private residential areas.

-Provide for use of municipal street-ends as public access points.

-As much as possible, the use of indigenous vegetation and architectural styles conducive to the established character of area should be required.

b. Waterfront Commercial Uses

-Provide the maximum amount of highly improved public access because commercial land uses are capable of exposing large numbers of people to the waterfront and benefit the most from well-designed and improved public access areas.

-Provide the maximum amount of waterfront access, unless the overall project design would be improved by reverse orientation inland. Provide for continuous access through the site and provide public areas that are large enough so as not to interfere with commercial operations.

-Take advantage of the waterfront setting by relating the development to the waterfront with provision of scenic vistas to the ocean, beaches, wetlands and other natural areas. Locate uses that do not relate to the waterfront well back from the shoreline to minimize adverse impacts.

-Provide public access improvements, such as parking, paved walkways, benches, kiosks, trash containers, landscaping, lighting, restrooms, and drinking fountains, where the costs of the improvements are reasonably related to the private benefits of the shoreline use.

c. Water-Related Recreational and Marina Land Uses

-Provide the greatest amount of improved or natural public access to and along the waterfront shoreline.

-Create some variety in the public access experience by providing pedestrian spaces or nodes, especially in marina projects which are often linear in nature.

-Provide public access for fishing wherever possible on piers and breakwaters.

-Provide public boat launching ramps wherever possible with municipal street-ends as a logical location.

d. Other Land Uses in Waterfront Areas

-Set uses that do not relate to the waterfront, including non-water dependent commercial industrial uses and parking, well back from the shoreline.

-Provide maximum access along the shoreline and screen the shoreline from incompatible uses.

-Require improvements, such as landscaping, benches and paving, that are appropriate for the anticipated demand, size and location of the project.

e. Development Adjacent to Environmentally Sensitive Lands

-Develop or provide public access to environmentally sensitive lands, if appropriate, only in a way that respects the natural values such as passive wetlands parks.

-Provide point access such as spur trails or view areas in places where wildlife is sensitive to human intrusion rather than continuous shoreline paths.

-Provide controls to protect wildlife resources or other features from any access into these areas.

-Provide minimal improvements such as signs which identify the area and interpret the resources.

-Encourage supervised interpretive use of sensitive resource areas. Provide signs to inform and educate the public regarding the importance of wetlands preservation.

Development of the waterfront often will occur over years. Phased development does not preclude unified waterfront design. A comprehensive approach to waterfront development with common design elements and themes for waterfront development can be introduced with structures that are visually compatible with natural surroundings, in terms of such factors as scale, building materials and color. To unify the design of waterfront land uses over years and also unify diverse waterfront activities which may occur, attention to detail should be a characteristic embodied in comprehensive design guidelines for Delanco Township ensuring integrated waterfront design specific to the particular community.

2. Hawk Island Waterfront Master Plan

Hawk Island is a manmade island created where the Rancocas Creek and Delaware River meet. The island was created from fill as a result of the dredging of the channel in the Delaware River by the U.S. Army Corps of Engineers. The lands of Hawk Island are characterized by extensive areas of environmentally constrained lands including wetlands and flood plains. Because of the islands location at the edge of the Township, access to Hawk Island is limited.

In order to facilitate land use planning for Hawk Island encompassing all the various constraints noted above, consideration should be given to the preparation of a Hawk Island Master Plan. Such a Master Plan would map and analyze the potential waterfront land uses for the island. A Hawk Island Master Plan would be a valuable tool in the Township's efforts to provide linkages between existing and future potential land use on the waterfronts of the Township through establishment of a bluebelt/greenbelt at the water's edge. A special waterfront land use map for Hawk Island would serve to facilitate the preservation of accessways ways to the water's edge and help guide the design of development to preserve views and provide continuing use of the waterfront by all residents.

The New Jersey Department of Environmental Protection, Division of Coastal Resources, administers Coastal Planning Grants through the NOAH Coastal Zone Management Program. Delanco Township should consider making an application for funding a specific study to determine the development feasibility of Hawk Island.

** Absent any further study, it is recommended that Hawk Island assume a residential density land use pattern less intense than the other residential zones in town.

E. ENVIRONMENTAL PROTECTION

Protecting the health and safety of residents from flooding, water and air pollution and identifying future environmental problems are important concerns of planning boards. This is increasingly true as the courts uphold the reasonableness of environmental factors in municipal planning.

Environmental factors serve to limit or modify the extent to which the municipality should logically plan to grow and develop under the Master Plan and Zoning Ordinance. The municipality can protect sensitive areas by recommending restricted development densities, type of use, or activity in and adjoining environmentally sensitive areas. In accordance with the Municipal Land Use Law, planning boards should identify these areas and recommend appropriate zoning regulations to the governing body. The Natural Resource Inventory is the first step in using environmental factors in land use planning.

A Natural Resource Inventory is a factual description of the environmental variables that affect or limit development in a municipality. The Natural Resource Inventory should indicate those natural resource variables deemed important to the municipality with emphasis on the most important factors. Such variables important in Delanco include soils, wetlands, vegetation and floodplain. The Natural Resource Inventory should contain as many maps as necessary to display information useful to the planning board. The series of maps should mark areas that possess certain characteristics about the land area of the municipality that are important, clearly delineating those areas of the community that are ecologically sensitive or hazardous for development because of one or more environmental constraints. The Natural Resource Inventory presents the most accurate and up-to-date inventory of the environmental resources of the municipality which then guides rational land use planning.

To address the objectives of environmental protection and conservation of natural resources, it is recommended the Township prepare a comprehensive Natural Resource Inventory. The Natural Resource Inventory has two important roles in the planning process in Delanco Township:

It should serve as a cornerstone on which the master plan and subsequent development regulations rest; and

It should be used in development application reviews as the basic source of data for environmental impact statement analysis.

In addition to serving as a base for development regulations, upon completion of a Natural Resource Inventory, the Planning Board may require from applicants of major subdivision and major site plan applications, the submittal of an Environmental Impact Statement. An Environmental Impact Statement should be completed as a condition of preliminary approval. The Environmental Impact Statement should

consist of an inventory of existing environmental conditions at the project site and in the affected region of the project site. The Environmental Impact Statement should describe geology, aquifers, hydrology, depth of seasonal high water table, storm water runoff, soils, potential soil loss, soil nutrient retention, vegetation, wetland and coastal vegetation, recreation value of vegetation, scenic value, wildlife high value areas, rare and beneficial species of wildlife, water quality and air quality. The Environmental Impact Statement should also describe the specific plans proposed by the applicant for development to alter, preserve, or enhance and mitigate or minimize adverse impacts on the natural and manmade feature of the land within the proposed development.

In accordance with the Municipal Land Use Law, it is recommended the Township appoint an Environmental Commission to collaborate with the Planning Board in its duties. Upon completion of the Natural Resource Inventory, the Planning Board should make available to the Environmental Commission a copy of development applications for the advice of the Environmental Commission regarding potential impact on the natural resources of Delanco.

**F. INDUSTRIAL LAND USE

Delanco Township has always enjoyed the luxury of having successful, clean and non-impact industrial land uses. Many of these facilities exist in the southern section of the Township. They provide employment opportunities and a solid tax basis.

This Master Plan recommends development standards be created to govern the ongoing practices established by these businesses and be consistent with the Master Plan adopted in 1973.

This Master Plan also recognizes a conflict between the Distributec site and the proposed "WFD" zone in the northeastern section of the Township. Therefore, this plan recommends lighter industrial uses in this zone and the elimination of port activities.

IV. SOLID WASTE/RECYCLING ELEMENT

N.J.S.A. 40:55D-28, requires a Municipal Master Plan include a recycling plan element which incorporates the State Recycling Plan goals, including provisions for the collection, disposition and recycling of recyclable materials designated in the municipal recycling ordinance. N.J.S.A. 40:55D-28 also requires provisions be made for the collection, disposition and recycling of recyclable materials within development proposals for the construction of 50 or more units of single-family residential housing or 25 more units of multi-family residential housing and any commercial or industrial development proposals for the utilization of 1,000 square feet or more of land.

To implement the requirements of the State Recycling Plan and the Burlington County Recycling Plan, Delanco Township has adopted an ordinance establishing a program for the collection and recycling or recyclables. Recyclables designated to be source separated by the Delanco Township Recycling Ordinance, adopted pursuant to the State Recycling Plan and the County Recycling Plan, include glass, paper, cardboard, cans and vegetative yard waste. The Township's recycling program provides a curbside program for separate collection of recyclables, including from commercial and institutional establishments, within the area of the Township where solid waste is collected by or on behalf of the Township. If there are changes in the municipal ordinance, they can be reflected in the subdivision/site plan recycling ordinance.

As part of the Master Plan Update, the importance of recycling is recognized. Based upon the goals of the State Recycling Plan, the reduction of the amount of solid waste and conservation of recyclable materials is recognized as an important environmental concern for the public health, safety and general welfare of the residents of Delanco Township. The recycling of recyclable materials will achieve the following:

1. Reduce the quantity and volume of solid waste for disposal at landfills.

2. Prolong and extend the capacities and life of landfills;

3. Reduce the cost and expense of solid waste disposal at landfills; and

4. Promote the protection of the environment and contribute to the conservation of its natural resources.

It is recommended, in support of the Township's recycling ordinance and in conformance with N.J.S.A. 40:55D-28, Delanco Township include a recycling ordinance within the Land Development Ordinance. In conformance with the State Recycling Plan, the Delanco Township development regulations regarding recycling should be reviewed at least every 36 months.

The site plan/subdivision recycling ordinance should provide for the recycling of those materials collected by the Township in conformance with the State Recycling Plan and pursuant to the County Recycling Plan. The provision for collection of recyclables within the site plan/subdivision ordinance can be the same as those instituted by the Township recycling ordinance with curbside collection for developments within the areas served by or on behalf of the Township.

It is recommended the site plan/subdivision recycling ordinance and site plan/subdivision reviews address the following regarding recyclables:

1. What materials will be collected?
2. Where will materials be stored?
3. Where will materials be picked up?
4. Who will pick-up the materials?
5. How often will the materials be picked-up?
6. How much material will be generated?
7. How much storage area is required for each material?

V. 1990 MASTER PLAN UPDATE: CONCLUSIONS

The Municipal Land Use Law requires that a Municipality's Master Plan and regulatory ordinances be reviewed by the Planning Board at least every six years to determine whether the Land Use Element and the Land Development Ordinance implementing the Master Plan are achieving their intended purposes. This document incorporates the 1973 and 1982 documents into a comprehensive re-examination and update of land use policies for the municipality on a whole and describes a revised set of goals and objectives.

Delanco Township is a waterfront community, located along the Rancocas Creek and Delaware River. In recognition of this unique and valuable resource, design guidelines are recommended to ensure land use compatible with the character and context of the community and also with the consideration of access to the waterfront. A Housing Element and Fair Share Plan have been adopted separate to the 1990 Master Plan Update as required by the Fair Housing Act.

The following is a brief review of revisions to land use policies and the Land Use Map for Delanco as shown on the 1990 Land Use Map of the Township based upon the results of the completed Master Plan studies.

1. Change the R-P designation along the Rancocas Creek to, Residential Waterfront Cluster. In addition to change in land use designation, waterfront development guidelines are recommended to ensure consideration of public access in the new waterfront district. As marinas are recommended as permitted land use within the district, marina design guidelines are recommended to ensure quality design of marinas recommended as a permitted accessory use in the district.

2. Change the R-P designation of Hawk Island to RW-CL. This change is recommended as an alternative to the more intense existing Rural Planned Unit Development designation. Additionally, it is recommended the Township complete a comprehensive Hawk Island Master Plan. The purpose of the Hawk Island Master Plan is to analyze the unique environment and physical constraints affecting land use of the island, recommending a strategy for balancing these concerns with opportunities for development.

3. Amend the Land Use Map to create the WFD, Waterfront Development district at the east end of the Township's Delaware River waterfront. The purpose of this district is to provide for a realistic opportunity for low and moderate income housing to occur in accordance with the spirit and intent of the Fair Housing Act. Design guidelines as recommended in the RW-CL district for consideration of public access to the waterfront and development of marinas and marine

commercial land uses are also recommended to be implemented for the WFD district.

** 4. Create a P1 Planned Industrial zone as the foundation for providing performance standards for industrial zones.

** 5. Create a Light Industrial zone adjacent to the WFD zone to assure an industrial use compatible to high density residential zoning. Production and manufacturing should be discouraged in this zone.

** 6. Recognize existing Institutional land uses (Compost Site) and classify the area accordingly.

** 7. Recognize existing residential zoning in the area adjacent to Beverly Township and zone the area accordingly.

8. Upon adoption of the 1990 Master Plan Update, recommend to the governing body of Delanco Township a comprehensive set of land development regulations for inclusion in the site plan and subdivision ordinance ensuring quality development, including adequate provision of recreation and open space opportunities, in the Township.

The policies and development philosophies of Delanco Township are expressed in this 1990 Master Plan Update and supportive planning documents. These ideas become implemented through incorporation of standards and provisions into the Land Development Ordinance. The process of planning for the growth, the protection, and the quality of the Township is a dynamic process involving the active participation of the citizenry, the elected and appointed officials, as well as knowledgeable professionals. Through this planning process, the citizens of the Township will continue to enjoy the quality of life inherent to Delanco.

VI. RESOURCES

Delanco Township, Comprehensive Plan, September, 1973.

Delanco Township, Periodic Re-examination of Master Plan and Development Regulations, December, 1982.

Delanco Township, Housing Element of the Master Plan, February, 1990, Revised - March, 1990.

Delanco Township, Zoning Ordinance.

Delanco Township, Zoning Map.

National Wetlands Inventory Maps.

Delanco Township, National Flood Insurance Program - Flood Insurance Rate Map.

Riverfront Development Summary, Burlington County Chamber of Commerce, January, 1986.

Rules on Coastal Resources and Development, NJDEP, Division of Coastal Resources.

Waterfront Development, L. Azeo Torre, 1988.

Caution: Working Waterfront, The Impact of Change on Marine Enterprises, Ann Breen and Dick by, The Waterfront Press, 1985.

Urban Waterfronts, Developing Diversity, The Waterfront Press, 1986.

Urban Waterfronts, Water Makes a Difference, The Waterfront Press, 1985.

Urban Waterfronts, Toward New Horizons, The Waterfront Press, 1984.