



SEA ISLE CITY North End Park Study

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SEA ISLE CITY - North End Park Study

Prepared for: City of Sea Isle City
New Jersey Department of Environmental
Resources, Division of Coastal Resources

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Park, Sea Isle City, Cape May County, NJ
by Michael D. Geller, Ph.D.
August 7, 1989

Sport Court brochure

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INTRODUCTION

This report summarizes the planning and design process conducted for the North End Park in Sea Isle City, New Jersey. The study area, also known as Whale Beach, extends from 1st Street to 30th Street. This study was prepared for the City of Sea Isle City under contract with the New Jersey Department of Environmental Protection, Division of Coastal Resources, Bureau of Planning and Project Review with the financial assistance of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Office of Ocean and Coastal Resource Management, under the provisions of the federal Coastal Zone Management Act, P.L. 92-583, as amended.

The goal and purpose of the study was to assess the feasibility and design options for a new community park in the North End to serve both City residents and out-of-town day visitors. A principal objective of the study was to provide improved access and support facilities for users of the beach and back bay areas in the northern section of the City. This goal was specifically stated in the 1988 City Master Plan. The extent of new and improved access and uses should be limited to avoid over use and crowding of the North End resources.

In early phases of the study, a secondary objective was established to link, wherever possible, new nodes of recreational activity to each other and to the existing City open space system. To the extent possible, the linkage should include pedestrian and bicycle trails.

The planning process used in this study relied upon considerable public and City input provided in a series of three public workshops held in Sea Isle City. Data and findings were reviewed and revised in these meetings, including environmental information, proposed uses and facilities, community needs, and alternative design concepts. The planning process led to a general consensus among citizens and public officials as to the preferred uses and concept plan.

This report and the accompanying maps summarize the major steps and findings of the study. The report is organized in five sections as follows:

- Section 1 - Site Inventory and Analysis
- Section 2 - Program Definition and Evaluation
- Section 3 - Concept Plan and Alternatives
- Section 4 - Consistency with Coastal Resources Policies
- Section 5 - Schematic Plan

Section 1 - Site Inventory and Analysis

The first step towards formulating a recreational use and facility plan appropriate to the North End Park was to develop an understanding of the site's features. These features include the natural and man-made conditions found within the study area. These were derived primarily from existing information, a large portion of which had been developed in the City's Master Plan which was updated in 1988. This information was supplemented with several visits to selected parts of the study area, black and white aerial photographs (1983 series), and observations provided by citizens who attended the public workshops held during the planning process. Additional survey work was authorized during the course of this study to identify the extent of previously unmapped inland wetlands found to exist within parts of the study area. That information was subsequently incorporated into the planning and design process.

The natural environment found in the North End is a barrier island community subjected to various degrees of disturbance over many years. The least disturbed portions show a fairly representative cross-section of the coastal ecosystem from ocean, beach, and dune system through extensive tidal wetland marshes and open water back bay areas.

The natural environment of the North End is best described through a series of designations known as "Special Areas" set forth in Subchapter 3 of the Rules on Coastal Resources and Development (N.J.A.C. 7:7E - 1.1 et. seq.). These conditions merit special management policies because they are valuable in their natural state, important to human use, hazardous, and/or sensitive to impacts. Special areas are typically divided into four broad headings as follows:

- Special Water Areas
- Special Water's Edge Areas
- Special Land Areas
- Coastwide Special Areas

Among the 45 Special Areas defined under State policy within these four broad groups, 12 are found within the North End study area. Those Special Areas are described below and shown on Map 1, Natural Features (Note: Numbers on Map 2 refer to Special Area designations, i.e., 2 refers to policy 7:7E-3.2). Two categories of General Water Areas as defined by Subchapter 4 of the Rules on Coastal Resources and Development are also found in the study area. They are described after the Special Areas discussion.

Special Areas

. Special Water Areas

- (2) Shellfish Beds (7:7E-3.2) - Shellfish beds are defined as estuarine bay or river bottoms that are productive for hard or soft clams, eastern oysters, bay scallops or blue mussels. In the northern portion of Ludlams Bay, two shellfish bed areas are designated - 1) approved, and 2) condemned.
- (15) Intertidal and Subtidal Shallows (7:7E-3.15) - Intertidal and subtidal shallows include all permanently or twice-daily submerged areas from the mean high water line to a depth of four feet below mean low water. Shallows are found in Ludlams Bay.

. Special Water's Edge Areas

- (16) Filled Water's Edge (7:7E-3.16) - Filled water's edge areas are existing filled areas lying between wetlands or water areas and either the upland limit of fill or the first paved public road, whichever is closer to the water. These areas occur in the study area in a continuous band between 1st Street and 30th Street and include an abandoned landfill site and other isolated fill areas within wetlands. The filled water's edge was mapped with the aid of U.S. Geological Survey topographic mapping which indicates areas of the community that were filled and developed since 1952.
- (18) Natural Water's Edge Floodplains (7:7E-3.19) - Floodplains constitute the flood hazard areas delineated by the Federal Emergency Management Agency. The entire study area is subject to inundation from the 100-year frequency flood. Wave action poses additional hazards for all areas between 1st Street and 28th Street, as well as for beachfront areas. Only the southern most part of the study area (28th to 30th Streets) is subject to floodplain not in velocity zone.
- (20) Beaches (7:7E-3.20) - Beaches are gently sloping unsegregated areas of sand or other unconsolidated materials that extend landward from the mean high water line to either the vegetation line, a man-made feature such as a retaining structure, seawall, bulkhead, road, or boardwalk, or the seaward or bayward foot of dunes, whichever is closest to the bay, inlet or ocean waters. An uninterrupted beach area parallels the entire oceanfront of the study area.

- (21) Dunes (7:7E - 3.21) - A dune is a wind- or wave-deposited or man-made formation of vegetated or drifting wind-blown sand that lies generally parallel to and landward of the beach. A continuous dune line extends along the entire beachfront of the study area with 22 pedestrian cross-over points along Landis Avenue.
- (22) Overwash Fans (7:7E - 3.21) - An overwash fan is an accumulation of sediment, usually sand, that is deposited landward of a beach or dune by a rush of water up onto the beach which carries sediment over the crest of a dune. Overwash fans have been identified along Landis Avenue at 13th Street, 16th Street, and 20th-21st Streets.
- (23) Erosion Hazard Areas (7:7E - 3.23) - Erosion hazard areas are shoreline areas that are eroding and/or have a history of erosion, causing them to be highly susceptible to further erosion and damage from storms. The extent of the erosion hazard area for Sea Isle City was calculated by multiplying, by 50, the annual erosion rates found in Karl F. Nordstrom et al., Coastal Geomorphology in New Jersey (Center for Coastal and Environmental Studies, Rutgers University, 1977). The results of this analysis for the study area were a 250-foot-wide area between 1st Street and 29th Street. All erosion hazard areas were measured landward from the mean high water line. The entire oceanfront is considered to be a critical erosion area, as documented in the New Jersey Shore Protection Master Plan.
- (24) Island Corridor (7:7E - 3.24) - Island corridors are the interior portions of oceanfront barrier islands, spits, peninsulas, and bay islands. The oceanfront barrier island corridor encompasses that portion of barrier islands that lies upland of wetlands, beach, and dune systems, filled water's edges, and existing lagoon edges. An island corridor extends along the entire length of Landis Avenue to the dune.
- (25) Wetlands (7:7E - 3.75) - Wetlands are areas where the substrate is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions. These areas are regulated under either the Wetlands Act of 1970 or the Freshwater Wetlands Protection Act of 1987. The jurisdictional boundary of the wetlands is determined based on a site's physical conditions, except for the tidal wetland areas whose boundaries were delineated and officially promulgated pursuant to the Wetlands Act of 1970.

The official tidal wetlands mapping was used as the basis for this study's preliminary wetlands inventory. However, during the course of the study, it was found that extensive inland wetlands also exist in the study area. The approximate upper inland wetlands boundaries were also determined from field investigation in the summer of 1989 for selected areas where the development potential for the North End Park was considered the highest, i.e. the activity nodes.

- (26) Wetland Buffers (7:7E - 3.26) - All land within 300 feet of wetlands and within the drainage area of those wetlands comprises an area within which the need for a wetlands buffer shall be determined. All upland areas in the study area are encompassed by this definition, including the Filled Water's Edge, Beaches, Dunes, and the Island Corridor.

. Special Land Areas

(None noted in the study area)

. Coastwide Special Areas

- (36) Endangered or Threatened Wildlife or Vegetation Species Habitats (7:7E - 3.36) - Areas known to be inhabited on a seasonal or permanent basis by any wildlife or vegetation identified as "endangered" or "threatened" species on official Federal or State lists are considered Special Areas. The definition also includes sufficient buffer area to insure continued survival of the species. According to information supplied by the New Jersey Department of Environmental Protection, Division of Fish, Game, and Wildlife, the endangered piping plover and least tern have been documented at Whale Beach, a portion of Sea Isle City coincident with the study area.

General Water Areas

- (5) Semi-enclosed and Back Bay (7:7E - 4.5) - This basin type is a partially confined estuary with direct inlet connection and some inflow of freshwater. Semi-enclosed bays differ from back bays in depth, degree of restriction of inlet, and level of freshwater inflow, but the initial location policy is identical for the two water body types. Ludlams Bay is classified as semi-enclosed and back bay.
- (8) Medium Rivers, Streams, and Creeks (7:7E - 4.8) - This channel type includes rivers, streams, and creeks with a watershed area of less than 1,000 square miles. The small creek entering Ludlams Bay near 25th Street referred to in the City's maps as Swimming Creek is categorized as such.

The term "man-made environment" refers to alterations of the natural conditions and includes existing land uses (e.g., residential, roads) and disturbances in the coastal ecosystem (e.g., wetland filling). The term also refers to utilities and infrastructure, ownership, and regulatory controls such as local zoning and state wetland regulations. Existing land use and ownership are shown on Map 2.

The North End of the City of Sea Isle City is relatively undeveloped. Consequently, past development is limited primarily to the main road (Landis Avenue) which runs parallel to and on the bay or west side of the dunes system and some residential development. Landis Avenue is a "principal street" and a County road (Rt. 619) linking Sea Isle City to shore communities to the north and south. Residential development occurs sporadically throughout the North End but tends to be more concentrated in the southern part between 22nd and 30th Streets. Several individual lots have also been developed for single-family, two-family, and multi-family structures between 8th and 20th Streets on the west side of Landis Avenue.

Typically, there are few public facilities or services in the North End. Public sewer service extends only to 29th Street, the southern boundary of the study area. Public water, telephone, and electric services are provided through the North End area to the City's boundary.

Much of the vacant land, predominantly the coastal and inland wetlands and the beach (including dune system), is publicly owned land. Because of environmental constraints and access problems associated with these areas, much of the land resource in the study area is likely to remain vacant.

The study area is zoned by the City as R-2, a residential district that permits a maximum density of one duplex or two-family unit structure per lot. Typical lot sizes throughout the North End are 4,800-7,500 square feet.

Section 2 - Program Definition and Evaluation

The program for the development of the North End Park project was carefully derived after numerous workshops with the residents of the community and review of the recently adopted Master Plan. The program specifies the type and amount of facilities that should be included in this project.

Community leaders, public officials, and citizens met to determine the needs of the North End in terms of recreational amenities and ancillary facilities. The following list of uses was generated as a result of community input:

- . On-Street Parking
- . Off-Street Parking
- . Bike Path/Loop System
- . Walking/Jogging Trails
- . Tennis Courts
- . Restrooms
- . Storage Lockers
- . Exercise Course
- . Tot Lots/Play Areas
- . Nature/Interpretative Trails and Kiosks
- . Designated Beach Access
- . Catamaran Access
- . Observation Decks
- . Picnic Areas/Pavilion

The ultimate plan anticipates pedestrian and/or bicycle linkage through the park from 1st Street to 38th Street connecting each of the developed activity nodes. From the southern extreme of North End Park, a further linkage is planned by installing adequate signage and pavement marking to direct the public to the Promenade which ends one block away at 29th Street. This linkage may be appropriate for bicycling, jogging, and walking.

In addition to local public input, the program definition also relied on the Master Plan which was adopted in 1988. This plan calls for increased public use of the North End. The plan (p. 13) recommends that "the City should develop designated public parking areas along the west side of Ocean Drive, identify points of public access across the dunes, and make necessary improvements to attract beach users."

The plan promotes the concept that these facilities should be located at various locations and states that public restrooms, and possibly showers, should be provided at each parking area. This recommendation is limited by the lack of utility services in the North End area.

This concept is promoted in the Master Plan as a means of providing for increased public use of the beaches between 1st and 29th Streets. Since there are no facilities for beachgoers in the northern reaches of the City, current public use of the beaches is limited.

The Recreation Element of the Master Plan (p.23) inventories the existing recreational assets of the community. The plan recommends that new park sites be developed within the City to serve neighborhood recreational needs and includes neighborhood parks, playgrounds, and picnic areas among the facilities that are needed. A new neighborhood park is suggested for the North End area.

The Implementation section of the Plan (p.29) further encourages the North End Park project. It is indicated that upland lots, north of 29th Street, which are owned by the City should be used for public recreation and not sold to private interests.

Upon completion of the Site Inventory and Program Definition tasks of the study, the feasibility of the project was evaluated. The Schematic Plan described below in Section 5 portrays the results of this evaluation. Further examination of the presence of inland wetlands on site may require modifications to the Schematic Plan during the detailed design phase.

It was noted and understood early in the planning process that many active recreational uses and large parking lots were inappropriate for this proposed park. Further, a consensus was developed among citizens and City officials that this park project would be carefully designed to respect the environmental assets of this site. Existing dune access points would be utilized limiting the need for disruption of the established dunes. Parking areas would be constructed of crushed shells or stone and small in size serving a maximum of 40 cars to limit the amount of previous surfaces. Also, the trails would be built with wood chips, cinder, or stone to further limit pervious ground cover. Because of the limited amount of useable upland area, activity nodes would, by necessity, be small.

In terms of utilities, sewer service is the most limiting service in this area. It may be possible to provide sewage to the 20th to 28th Street node by a short extension of the existing municipal system. Portable toilets may be used until service is accessible or permanently available in some locations where public sewers are unlikely to ever extend.

Each of the parking areas will be landscaped with materials that are indigenous to the area. Parking lots, as well as all facilities, will be laid out to respect existing vegetation and to gain the greatest advantage from the natural aesthetics of the sites. Where possible, buffers will be used to soften the impact from Landis Avenue of the proposed parking areas.

Section 3 - Concept Plan and Alternatives

The concept plan for the North End was derived via a process in which the desired development program (uses and facilities) was tested for its feasibility within the study area. This analysis examined the proposed uses and facilities in term of opportunities and constraints posed by the natural and the man-made environments. The main constraints are the wetlands and beach systems which flank Landis Avenue and the other environmentally valuable areas defined by the State Rules on Coastal Resources and Regulations as "Special Areas". These are described and mapped in Section 1 of this report. The other major constraints to park development are the absence of public utilities (sewer) and private ownership of lots along Landis Avenue. Those areas suitable for the proposed uses are identified as activity nodes. Conversely, unsuitable areas are to remain as undeveloped open spaces set aside for conservation and casual passive uses.

As noted in the study's overall goals and the City's Master Plan, improved public access to the North End (Whale Beach) is a high priority for residents and day users. The initial concept plans suggested four activity nodes. These nodes offered some inherent recreational potential and points of departure for those wishing to access and use the beach and the back bay areas. A major objective was to provide support facilities for these users, such as some parking in small lots set back from heavily travelled Landis Avenue, restroom facilities, storage lockers, bicycle racks, and picnic areas. Nodes were selected based on available upland areas of sufficient size to support a reasonable level of use and proximate to existing dune cross-over points. Wetland crossings were minimized and, where necessary, completed using boardwalks. A wetland buffer is retained between proposed uses and mapped wetlands.

A second principal objective of the design concept is to link these nodes wherever possible to each other via pedestrian paths, trails, and bicycle routes. This new system should connect to the more developed part of the City south of 30th Street. This includes a connection to the existing systems of the Promenade and Central Avenue ultimately allowing bikers, joggers, and walkers access to each node and the northern City limits (1st Street).

During the planning process, three alternative design concepts were developed and considered in a public workshop. Overall, concepts were prepared at 1" = 200' and design concepts for each of the four activity nodes at 1" = 50'. The three schemes did not differ significantly with respect to the proposed uses but in the linkages.

Alternative 1 provided activity nodes at 20th-22nd Streets, 15th-17th Streets, 5th-7th Streets, and 1st-3rd Streets. These nodes offered tennis courts (2), tot lot/play areas (2), service facilities (bathrooms, storage, lockers, showers), picnic areas, bicycle racks, and parking (4 lots--67 spaces). Pedestrian linkage, including a part as an exercise course, links each node and runs from 29th Street to 1st Street. Nature/interpretative trails lead from the back bay trail into key environmental areas of the back bay area. A looped bike path extends from 29th Street to Node #1 at 20th Street. On-street parking is permitted along both sides of Landis Avenue.

Alternative 2 provided for the same four activity nodes, plus additional off-street parking at 11th-12th Streets, 23rd-25th Streets, and at 16th Street. Total off-street parking spaces in Alternative 2 are 87 located at activity nodes and beach access (dune cross-over) points. Alternative 2 provides a pedestrian trail in the back bay area which links all nodes and extends from 1st to 29th Streets. Bicycle routes are limited to expanded northbound and southbound roadway shoulders that are to be properly signed along Landis Avenue (on-street parking is no longer permitted).

Alternative 3 combined the concept plan for pedestrian and bike paths from 29th to 20th Streets proposed in Alternative 1 with those of Alternative 2 from 20th Street to 1st Street. This option retained a considerable amount of on-street (Landis Avenue) parking and removed bike access to Node #1 from the back bay area where the trail system is exclusively pedestrian. Inherent to Alternatives 2 and 3 is the potential conflict of bike riders (using designated shoulder) and auto traffic along Landis Avenue. Pedestrian cross-overs along Landis at activity nodes also will require traffic control measures such as pavement striping, flashers, and reduced auto speed limits.

Based on the three alternatives noted above, the final public workshop, and the field investigation of inland wetlands within the study area, a fourth and final alternative was developed. This design concept (Schematic Plan) is discussed in Section 5 of this report and is a combination of the best features developed in the three alternatives described above.

Section 4 - Consistency with Coastal Resources Policies

The New Jersey Department of Environmental Protection (NJDEP), Division of Coastal Resources has promulgated various development and resource management policies. These policies form the criteria for determining the permitability of construction under the Coastal Area Facility Review Act (CAFRA), the Waterfront Development Act, and the Wetlands Acts, and will guide the Division's review of the Sea Isle City North End Park Study and similar activities.

In this section, the Park Study will be evaluated to determine compliance with the Rules on Coastal Resources and Development, N.J.A.C. 7:7E-1.1 et seq., dated February 3, 1986. This evaluation references the policies that are affected by the park development. Special areas discussed herein are shown on the Natural Features Map accompanying this document.

Shellfish Beds (7:7E-3.2) are defined as estuarine bay or tidelands that are productive for hard and soft clams, eastern oysters, bay scallops, or blue mussels. Any development which would result in the destruction of presently productive Shellfish Beds is prohibited, unless the development is of national interest and no prudent and feasible alternative exists. The portions of Ludlam Bay which abut the study area are approved for the harvest or shellfish, according to the NJDEP Nacote Creek Marine Fisheries Office. This activity will not be disturbed by the development of the North End Park.

Intertidal and Subtidal Shallows (7:7E-3.15) are described as all permanently or twice-daily submerged areas from the mean high water line to a depth of four (4) feet below mean low water. Development, filling, new dredging or other disturbance is generally discouraged but may be permitted in certain situations. Shallows are found at Ludlam Bay, which borders the study area and these areas will not be impacted by this project.

Filled Water's Edge (7:7E-3.16) areas are existing filled areas lying between the Wetlands or Water Areas, and either the upland limit of fill or the first paved road whichever is closer to the water. This policy seeks to promote uses that enhance public access to, and use of, the water's edge. Within the study area, which is bounded by 1st Street to the north and 29th Street to the south, Filled Water's Edge areas are generally found between Landis Avenue and the wetlands areas. In addition, the City's landfill on 5th Street and marina activity on 2nd Street are filled areas. Since the proposed North End Park will consist of predominantly passive recreational opportunities and potentially enhance access to the water's edge--this

development is consistent with the Filled Water's Edge Policy.

Natural Water's Edge-Floodplains (7:7E-3.18) are the Flood Hazard Areas around rivers, creeks, and streams as defined by the NJDEP under the Flood Hazard Area Control Act (N.J.S.A. 58:16A-50), or by the Federal Emergency Management Agency (FEMA). The entire City of Sea Isle City is subject to the 100-year flood frequency. Additional hazards exist in the study area, between 1st Street and 29th Street which is classified as a Velocity Zone. Recreational uses, including but not limited to ballfields, tennis courts, and golf courses, are acceptable in these areas provided they do not reduce the flood dissipating value of the floodplain or preclude water dependent use of the area within 100 feet of navigable water. Hence, the planned park project is in compliance with the Natural Water's Edge-Floodplain policy.

Beaches (7:7E-3.20) are gently sloping unvegetated areas of sand or other unconsolidated material that extend landward from the mean high water line to either the vegetation line, a man-made feature, or the bayward foot of dunes, whichever is closest to the ocean waters. Public access and barrier free access to beaches and the water's edge are encouraged. The Sea Isle City North End Park will provide additional improved access to the public beaches and thereby is consistent with this policy.

Dunes (7:7E-3.21) are wind or wave deposited or man-made formations of vegetated or drifting wind blown sand, that lies parallel to, and landward of the beach, and between the upland limit of the beach and the foot of the most inland dune slope. A continuous dune line runs along the ocean frontage of the study area. Designated access ways for pedestrian and authorized motor vehicles between public streets and the beach are acceptable providing that interference with the dune system is minimized and such access ways are oriented to inhibit breaching as a result of storm surge. The Park Plan anticipates utilizing established access ways through the dune areas, thereby not impacting the dune system.

Overwash Fans (7:7E-3.22) are gently sloping, conical accumulations of sediment that are deposited landward of the beach or dune by the rush of water which carries the sediment over the crest of a beach beam, a dune, or a structure. Overwash Fans are found within the study area at 13th Street, 16th Street, and 20th Street. Development is prohibited on overwash fans, except when there is no feasible alternative and no significant adverse impacts will result, or when by creating a dune with buffers the classification of the site is changed. In the area of 20th Street, a substantial dune line has been established and

the Overwash Fan has been revegetated thereby altering the character of this area. Therefore, the Overwash Fans Policy is met.

Erosion Hazards Areas (7:7E-3.23) are shoreline areas that are eroding or have a history of erosion, causing them to be highly susceptible to further erosion. According to the New Jersey Shore Protection Master Plan, the oceanfront portion of the study area is defined as an Erosion Hazards Area. The Park Plan does not anticipate any development within this area.

Island Corridors (7.7E-3.24) are the interior portions of oceanfront barrier islands, spits, peninsulas, and bay islands. The oceanfront barrier island corridor includes that portion of the barrier island that lies upland of wetlands, beach and dune systems, and filled water's edges. Within the study area, the right-of-way of Landis Avenue and small portions to the east make up the island corridor. New development is acceptable in this area at prescribed densities. The Island Corridor Policy is met.

Wetlands (7.7E-3.25) are areas regulated under the Wetlands Act of 1970 and the Freshwater Wetlands Protection Act of 1987 and are defined by NJDEP as areas where the substrate is saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically found in areas with saturated soil conditions. In general, development is prohibited in wetlands except when the proposed use is water dependent, has not feasible alternative on a non-wetland site, and will result in minimal alteration of tidal circulation and the natural contour or the natural vegetation of the wetlands.

In determining the presence of wetlands on-site, the depth to soil water was utilized. A conservative assumption of defining wetlands as areas in which the seasonal high water table is within 18 inches of the surface was applied for the site. However, the critical depth to high water is lowered to 1 foot in soils with high permeability (Federal Manual, 1989, p. 6). While permeability of the soil was not measured, additional upland areas may be defined by conducting such a measurement. Hence, the wetlands line provided on the plan is considered a worst case situation.

As part of the Park Plan, a boardwalk-type crossings to be constructed on piling is proposed to connect an observation area generally located near 19th Street to Node #1. The trail would be used primarily for the sighting, interpretation, and study of bird and plant species indigenous to the Ludlam Bay Area. Since this passive recreational use is water dependent and impacts will be minimized, the Park Plan is consistent with the Wetlands Policy.

Wetlands Buffers (7:7E-3.26) includes all land within a 300-ft. distance of wetlands and within the drainage area of those wetlands comprises an area with which the need for a buffer shall be determined. Development is prohibited in the wetlands buffer unless it can be demonstrated that the proposed use will not have a significant adverse impact. The precise extent of the required buffer shall be determined on a case-by-case basis. Since the objective of this project is to provide passive recreational activities and increased access to public beaches, adverse impacts to the wetlands areas are minimized. These areas will be designed in such a manner as to further reduce any wetlands impacts, by reducing stormwater runoff and restricting the use of septic systems.

Endangered Wildlife or Vegetation Species Habitats (7:7E-3.36) are areas known to be inhabited on a seasonal or permanent basis by wildlife or vegetation identified as endangered or threatened species on official Federal or State lists. The Least Tern (*Sterna albifrons*) and the Piping Plover (*Charadrius melodus*) have been documented within the study area.

Critical Wildlife Habitats (7:7E-3.37) are specific areas known to serve an essential role in maintaining wildlife. Ectones, or edges between two types of habitats, are a particularly valuable critical wildlife habitat. The shoreline of Ludlam Bay provides such a habitat and this area will not be impacted by the North End Park Plan.

Section 5 - Schematic Plan

The Schematic Plan was derived from a series of alternative development programs (uses and facilities) and design concepts. Alternatives were reviewed in a third public workshop in Sea Isle City and subsequently modified based on those discussions, comments from representatives of the State's Department of Environmental Protection and Green Acres Program, and field investigations and preliminary mapping of inland wetlands. The Schematic Plan (Map 3) is a composite plan derived from the preliminary plan and program alternatives. It achieves the primary objectives for the North End Park including: 1) improved and safer access to the beach and back bay areas, 2) protection (including buffers) of sensitive environmental features, and 3) appropriate small-scale activity nodes that are compatible with the surroundings and current land uses. The Schematic Plan provides the necessary first step towards a detailed site design for the activity nodes (or portions of them) subject to final field surveying and mapping of the inland wetlands. To the extent possible, additional upland areas should be identified for more small activity nodes, and these should be linked wherever possible by pedestrian and bicycle trails. The ultimate plan contemplates use of the former City landfill for recreational uses and access to Ludlams Bay. It is therefore labelled on the plan as a "Future Activity Node".

The Schematic Plan identifies two major activity nodes - one in the area from 20th to 24th Streets and a second from 5th to 6th Streets. Activity nodes are restricted to these areas because they are the primary upland areas that were identified in the preliminary inland wetland field survey near beach access points.

Node #1 (20-24th Streets) is the larger of the two and provides the most recreational opportunities. Because of its proximity to the Promenade and more developed parts of Sea Isle City, the node is linked by an extension of the existing bicycle trail system by utilizing the roadway shoulders along Landis Avenue from 29th to 20th Streets. This proposal suggests that existing on-street parking be replaced in these nine blocks with a one-way (east shoulder northbound; west shoulder southbound) bike trail that is properly signed and marked for safe bike access to Node #1 from the south.

Node #1 provides two connected parking lots allowing 40 spaces, including two handicapped spaces. Parking lots are to be pervious cover such as crushed shell or stone and landscaped. Access to both lots is at 21st Street with one-way circulation exiting at either 20th or 22nd Streets. A buffer is provided between the parking lots and Landis Avenue that can be mounded and landscaped. At the north end of the northernmost lot is a small shed or building (500 SF) for catamaran user storage. The lot

allows parking for catamaran sailors and access to the beach at 20th Street. Beyond this point to the north, initial park development is restricted to a boardwalk/nature trail leading to an observation deck near the bay. This trail will provide an opportunity for an interpretative system through the rich back bay area.

South of the parking lots are a small building (1000 SF) that houses restrooms, storage, lockers, showers, a tot lot, bicycle racks, fitness course, and two sport courts. The fitness course measures approximately 2000 linear feet with eight exercise stations. The sport courts are multi-purpose allowing within a narrow area a variety of court games to be played such as basketball and volleyball. Such multi-purpose courts are a good option where space is limited and uses vary widely with users and seasons. (A description of this type of multi-purpose sport courts is appended.) Crosswalks are provided across Landis Avenue at 23rd, 22nd, and 20th Streets to provide pedestrian access from Node #1 to the beach. Crosswalks should include signage, pavement stripping, and perhaps flashers and posted reduced speeds to enhance safe crossing at these designated points. Controlled crossings and dedicated parking lots off of Landis Avenue have safety advantages over indiscriminate shoulder parking and pedestrian crossing of Landis Avenue.

Node #2 is considerably smaller than Node #1. Located between 5th and 6th Streets, it provides parking in a small parking lot for 24 cars. A buffer exists between the lot and roadway which can be mounded and landscaped to reduce the visual impact from Landis Avenue. Access to the lot is at 6th Street with one-way circulation, exiting at 5th Street. A marked crosswalk is provided at 6th Street. Portable toilets are provided at this node for visitors accessing the beach at 6th Street.

The ultimate plan for the North End Park will seek greater access to the beach, the back bay areas, and the bay. This long-range goal contemplates additional activity nodes with support facilities on upland areas, plus increased linkage between them for pedestrians and bikers. These plans will be significantly influenced by the extent of upland available based on the final wetland survey and the acquisition of privately held upland property for future public use. Among the recommendations of this study for implementing a long-range park plan are a complete field survey and mapping of wetlands and a public acquisition program of key upland properties.


APPENDIX

PRELIMINARY DETERMINATION OF WETLANDS

NORTH END PARK STUDY, SEA ISLE CITY
CAPE MAY COUNTY, NEW JERSEY

FOR:
ENGINEERING DESIGN ASSOCIATES, P.A.
5 CAMBRIDGE DRIVE
OCEANVIEW, NJ
08230

BY:


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AUGUST 7, 1989

Portions of Sea Isle City were examined to determine the approximate extent of wetlands using methods detailed in the Federal Manual for Identifying and Delineating Jurisdictional Wetlands (1989). The area of concern is located west of Landis Ave. between First and Twenty-ninth Streets-- especially around Twenty-first Street, between Seventeenth and Fifteenth Streets, between Seventh and Fifth Streets, and between Third and First Streets. This area is adjacent to Ludlams Bay.

An accurate assessment of the extent of wetlands can only be obtained after a complete wetlands delineation and subsequent survey. Any wetlands line is subject to review and modification by the appropriate governmental agencies.

At the time of the study, the bay was at high tide. This provided us with a useful indicator of what the soil's high water table would be. In areas adjacent to tidal bodies, the fluctuation of the soil's actual water table parallels tidal fluctuation. Furthermore, these fluctuations are greater than seasonal fluctuations in the water table. Thus, we used the distance to actual water as an estimate of the high water table of the soil.

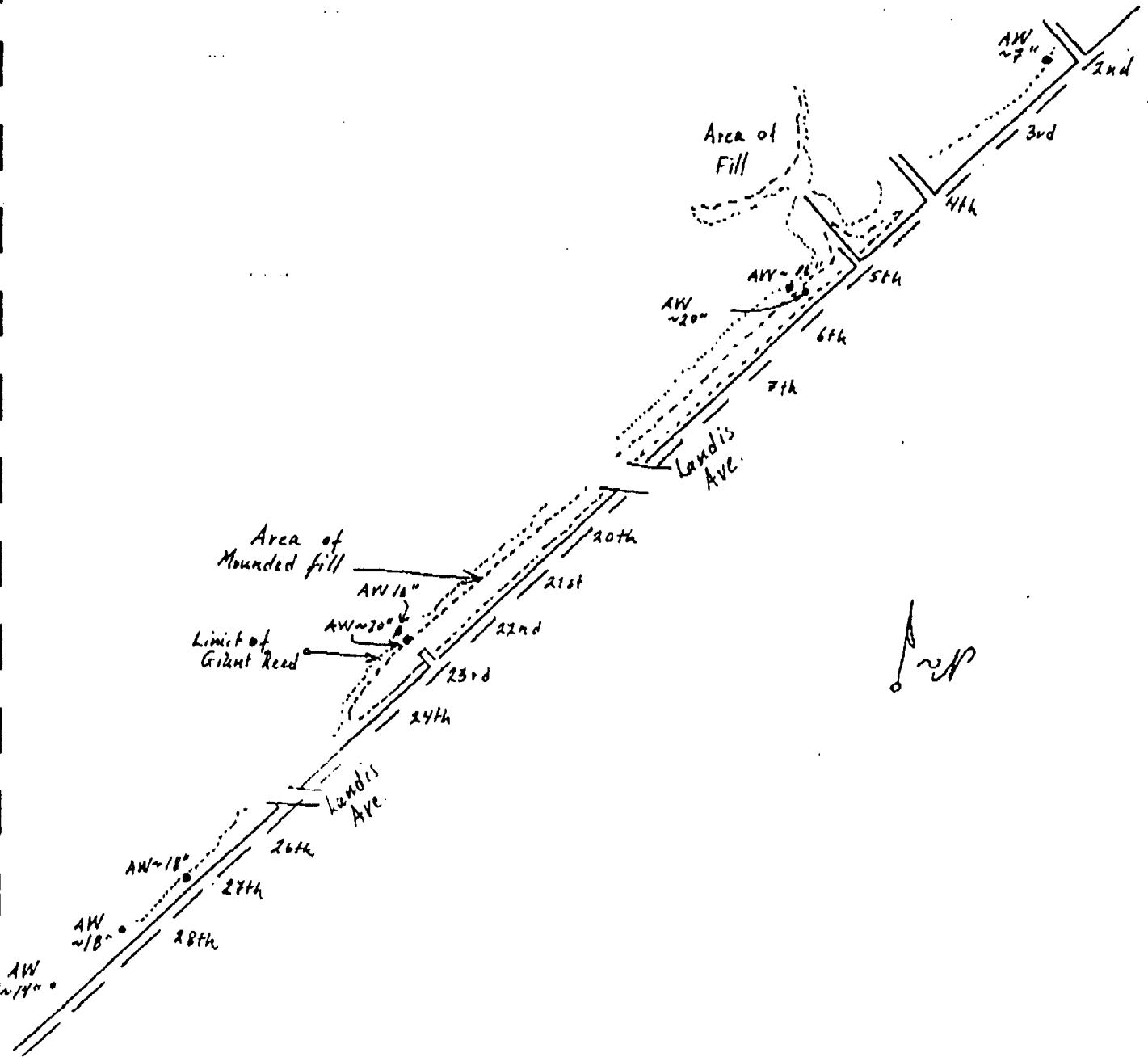
The vegetation of the area varied between the typical vegetation of the salt marshes of southern New Jersey and the vegetation of the adjacent disturbed areas. The former area is dominated by Spartina, particularly S. patens, while the latter is dominated by giant reed, Phragmites australis. Sea myrtle, Baccharis halimifolia, and poison ivy, Rhus radicans, are also common. The presence of either of these wetland communities is highly indicative of wetlands.

We sampled the soil along a line roughly parallel to Landis Ave. to confirm the presence of wetlands (Figure 1). Along this line, we augered to actual water. In portions of the lot where topographic relief was apparent, we augered at several locations trying to confirm uplands, i.e. areas in which the water table was greater than eighteen inches (see below).

The best land from the perspective of avoiding wetlands is the northern portion of the site. This included a small band west of Landis Ave. from Fourth St. south to about Twenty-first Street. The area is elevated above the surface of the road and is dominated by giant reed, which is common in disturbed areas. It included an extensive area off of Fifth Street, an area of fill and the automobile impoundment yard for the city. In most other areas it varies in width but conservatively seemed to average about forty feet in depth (from the edge of Landis Ave.). Except for the area around Fifth Ave., the widest point appears to be adjacent to Twenty-third Street, where the depth is about seventy feet. Thick stands of poison ivy prevented access to portions of the lot and made accurate measurement impossible in most cases.

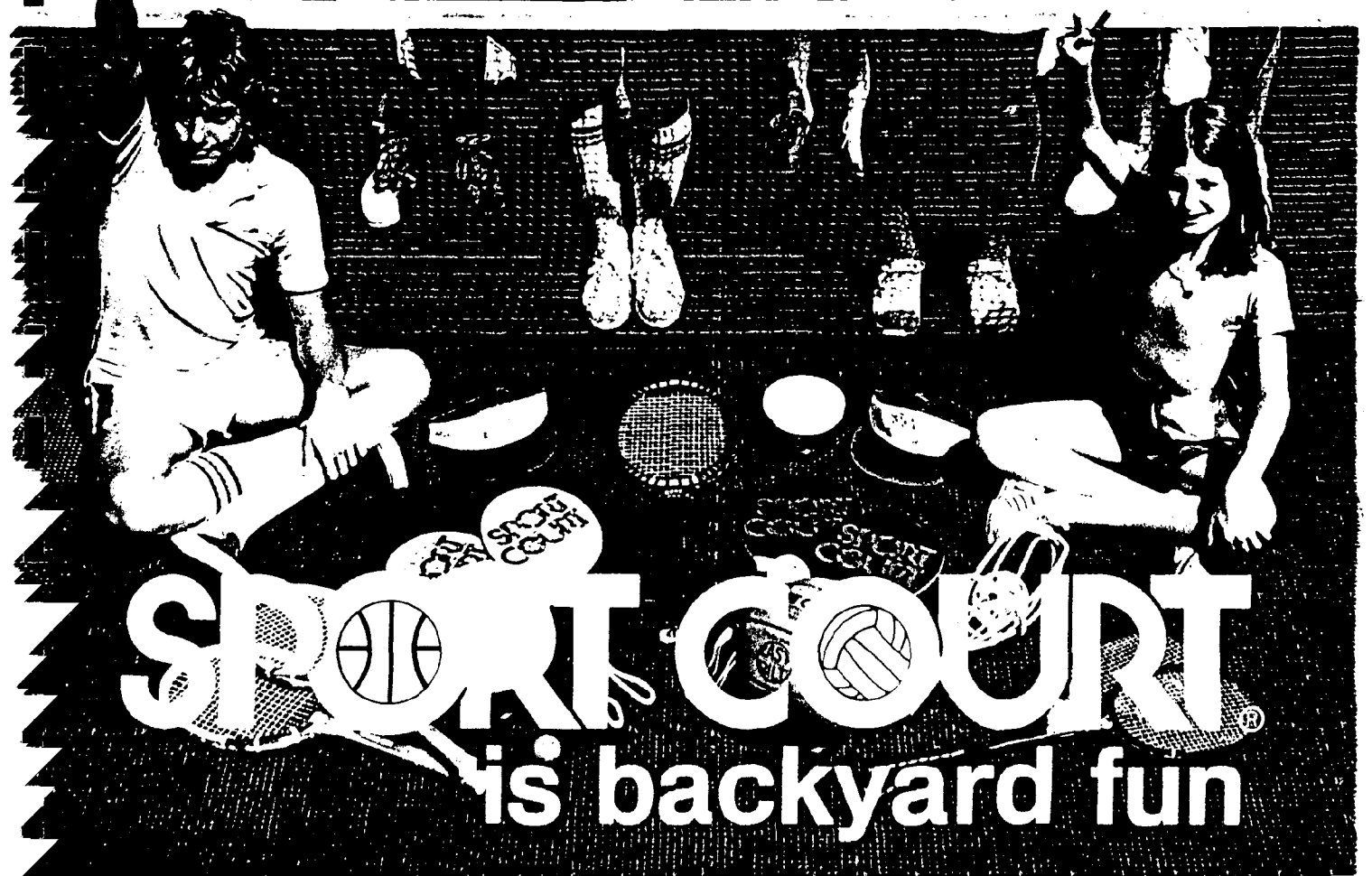
Wetlands are areas in which the seasonally high water table is within eighteen inches of the surface sufficient to cause the development of hydrophytic vegetation. This critical depth to soil water is the value used in determining wetlands in this study. However, the critical depth to seasonal high water is lowered to one foot (Federal Manual, 1989, p.6) in soils with a high permeability (equal to or greater than six inches/hour). While we did not measure the permeability of the soil, it seems that this measurement might be useful to determine whether the critical distance at this site is eighteen or twelve inches prior to a complete wetland delineation.

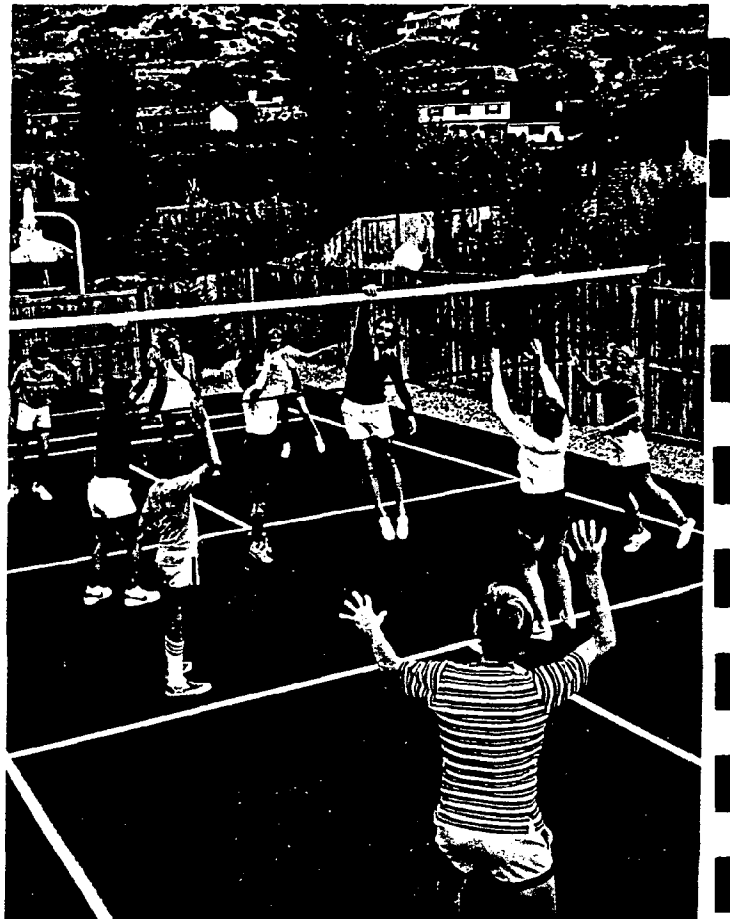
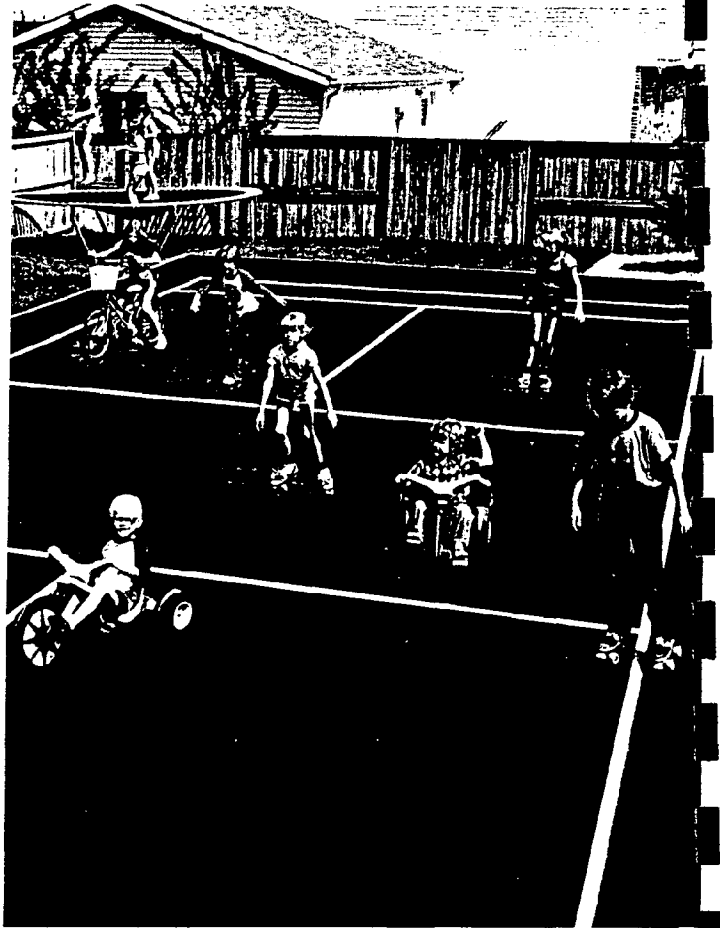
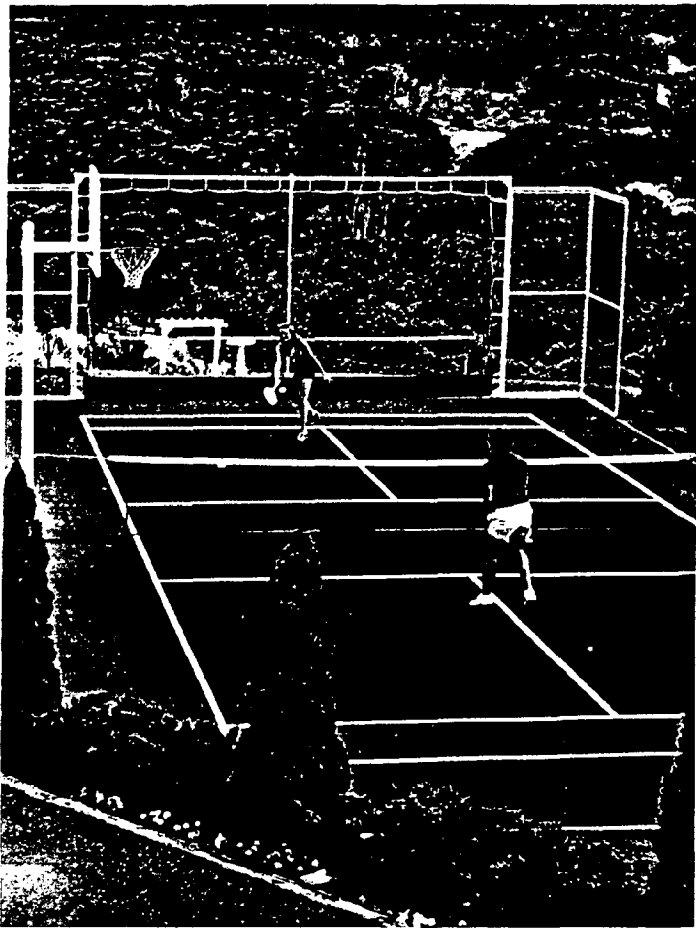
Figure 1. Approximate Locations of Soil Borings on the Site. This shows the locations of the soil borings and the distance to actual water.



REFERENCE

Federal Interagency Committee for Wetland Delineation. 1989. Federal Manual for Identifying and Delineating Jurisdictional Wetlands. U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S.D.A. Soil Conservation Service, Washington, D.C. Cooperative technical publication. 76 pp. plus appendices.





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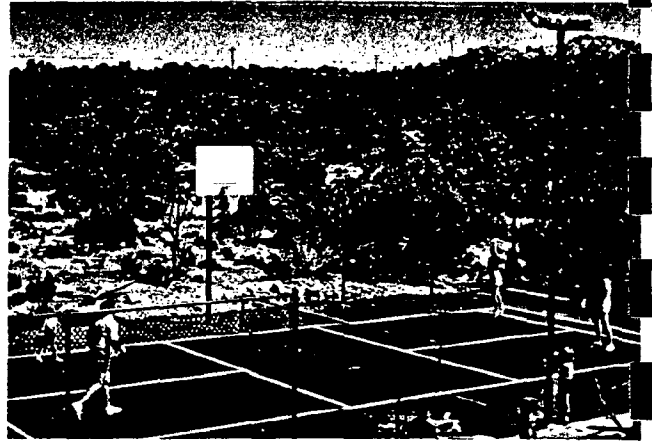
Good players who "couldn't find the time" to get in a few games each week, are amazed how they suddenly "find the time" to play when they can simply step out their backdoor, **and play they do.**



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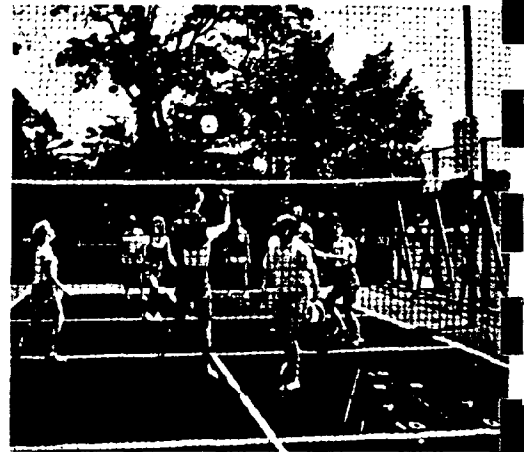
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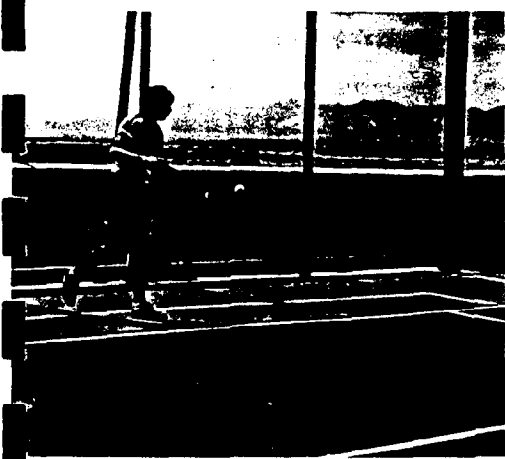
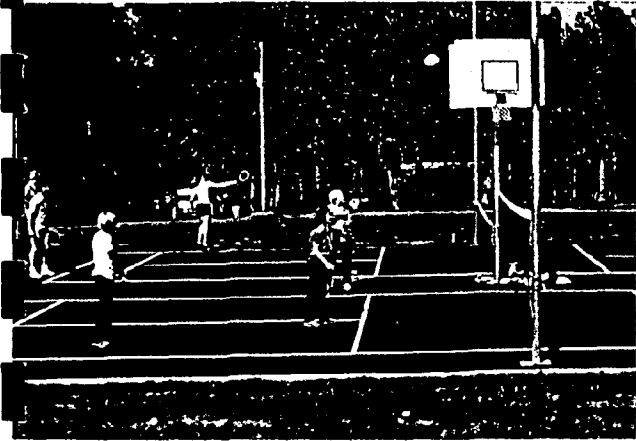
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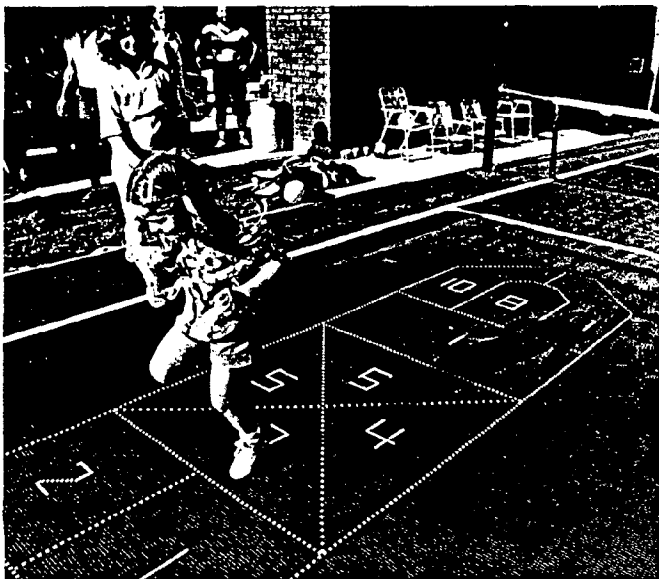
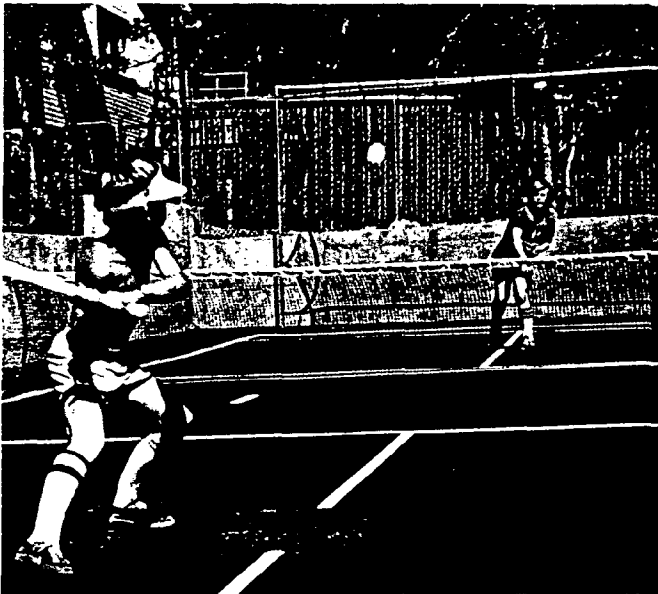
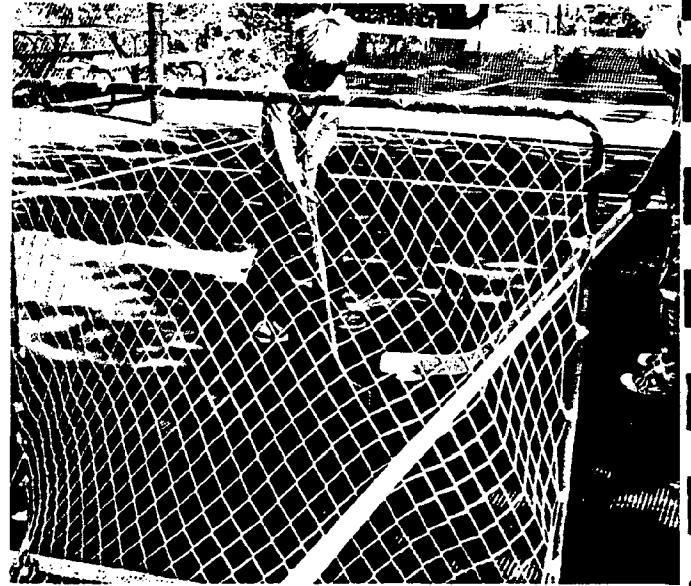
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Budget, Location, and Desires



Games and Activities

Sport Court owners claim that there are no spectators, only participants waiting their turn to play. There are activities for everyone regardless of their age or level of ability. The following are some of the favorites:

SPORT COURT TENNIS: A special dynamically engineered tennis ball and tennis racket allows Sport Court families to play by tennis rules on a Sport Court. The dynamics of the energy absorbing equipment allows for full swing and aggressive play. Tennis players of all levels of ability not only find it a lot of fun, but it also enhances their tennis skills and gives them a terrific workout as well.

PADDLE TENNIS: Paddle tennis is one of the fastest growing net games in the U.S. There are now many sanctioned tournaments nation-wide. Paddle tennis is expected to continue its dramatic growth because it's easier to learn than tennis, involves longer rallies, and makes a great doubles game. It also is a great winter sport played outdoors.

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learn and fun to play. It is played like tennis, but with a specially formulated dense foam ball. Long rallies provide excellent training for the development of tennis skills. It is also considered an exceptionally good cardiovascular exercise. Wacketball is a game for the whole family. Many tennis professionals are using this equipment to teach tennis.

Sport Court quickly and easily converts from one game to another. The variety is as broad as your interests or imagination.

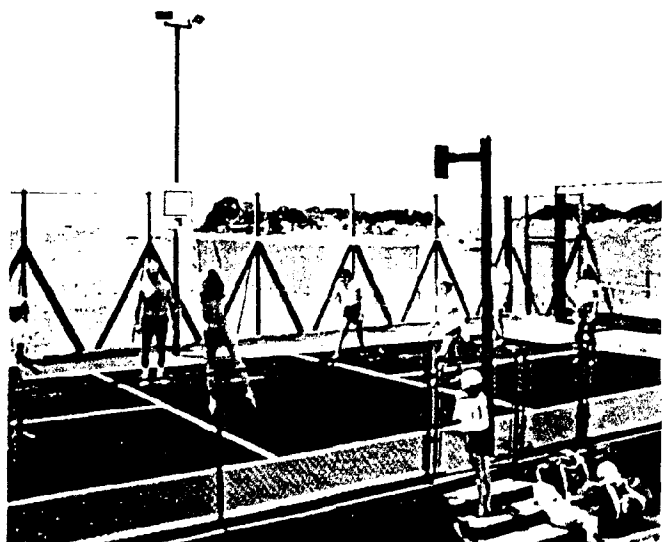
Primary Sports and Games:

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Shuffleboard	Basketball	Sport Court Baseball
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SPORT COURT®

Sport Court dealers have installed multi-purpose recreational units on almost every type and size site imaginable. Hillside, rooftops, limited access areas and even decks are now being utilized for Sport Court play.

A Sport Court dealer's trained construction team can usually complete a Sport Court installation in less than seven days.

Because Sport Court has its own manufacturing facilities, volume purchasing power, and dealer expertise, a Sport Court facility represents an outstanding value for discriminating buyers.

Budget minded families have the option of purchasing individual components or a complete kit. Sport Court is happy to answer questions for do-it-yourselfers.

With thousands of installations worldwide, Sport Court can usually provide names of Sport Court owners in your area so you can investigate the pleasure of owning a Sport Court sports complex at your own convenience.

Duragrid "Snap together tiles" provide the ultimate all-weather, self-draining, low maintenance, safe and comfort-

able surface for court use as well as many other applications.

Many top names in tennis have played on Duragrid. Other recreational installations include deck hockey, gymnasiums, basketball courts, shuffleboard, soccer, and skating rinks. Duragrid is ideal for rooftop installations and refurbishing deteriorated surfaces.

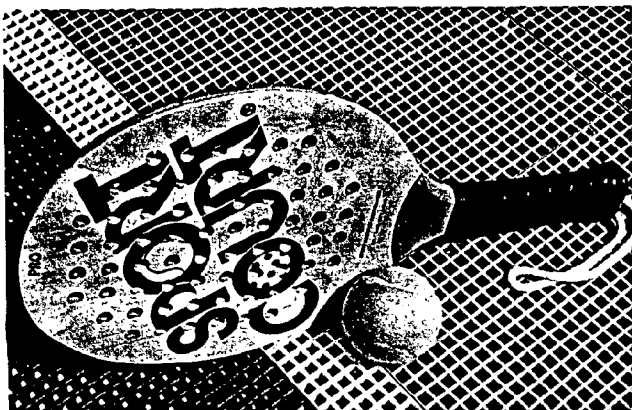
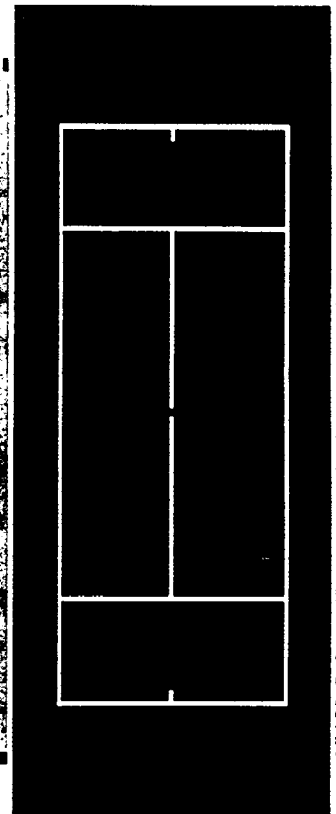
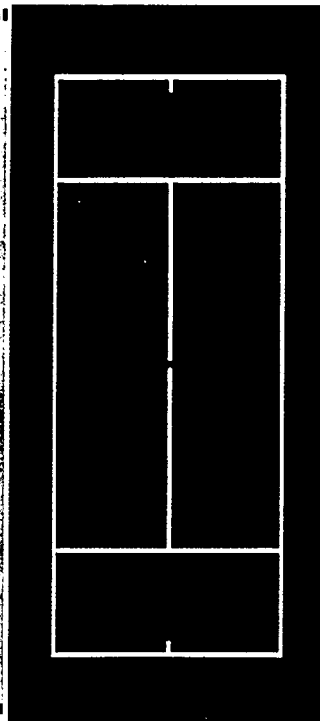
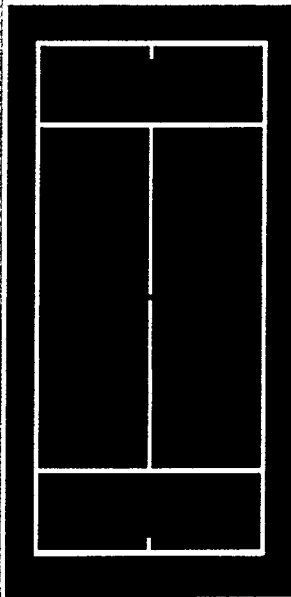
Three basic colors of Duragrid court surface tiles are used for court installation in any combination of brick red, grass green and forest green. Two designs are available for court use, textured and nipped.

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