

STUDY OBJECTIVES

Because of the growing nationwide interest in oceanographic research and the need to establish a suitable location for the many scattered marine science activities in the Greater Miami Area, the Dade County and City of Miami Commissions recently passed resolutions to make available City and County owned lands on Virginia Key, not presently needed for other public purposes, for the promotion of oceanographic studies and the establishment of an Oceanographic Science Park and directed their City Managers to confer with each other and prepare a plan and report. After meeting in January, 1969, the City Managers instructed their professional planning staffs to jointly prepare a general land use master plan for Virginia Key which would provide space for the development of an Oceanographic Science Park. It was also decided that the master plan study should include the formulation of criteria for selecting applicants for the use of the publicly owned land set aside for oceanographic purposes.

Directly related to the question of a marine science complex on Virginia Key are the grants of public land by Dade County to the Atlantic Oceanographic Laboratory of the Environmental Science Services Administration of the U. S. Department of Commerce (ESSA), the Tropical Atlantic Biological Laboratory of the U. S. Bureau of Commercial Fisheries (TABL), and the University of Miami Institute of Marine Science. This is coupled with recent requests by Miami-Dade County Junior College and the University of Miami for parcels of land

on Virginia Key to be used as sites for the construction of marine science facilities. The Junior College wants to establish a Marine Technological Center and the University would like additional land to expand their extremely crowded facilities.

The major objectives of the study are:

1. Preparation of a general land use master plan for Virginia Key which provides space for the development of an oceanographic science park.
2. Formulation of criteria for selecting applicants for the lease of public land in said park.

PHYSICAL DATA

Virginia Key is a 1,028 acre area of land and water situated two miles east of the City of Miami on Biscayne Bay, between Fisher Island on the North and Key Biscayne on the South. It occupies a strategic position in the Bay in relation to the rapidly developing port facilities on Dodge Island, and if the recently completed Dade County Metropolitan Transportation Study is implemented, Virginia Key will be linked by a major arterial to the new Port of Miami, Fisher Island, and the south end of Miami Beach.

The geographical climatic environment of Virginia Key, essentially tropical though situated 150 miles north of the Tropic of Cancer, makes it an ideal jumping-off place for the pursuit of many oceanological objectives. It is one of the few North American areas from which it is possible to study, in nearby waters, living coral reefs, mangrove

swamps, limestone rock formations, and other phenomena associated with tropical seas and shores. The Gulf Stream, with its almost boundless opportunities for oceanic research and study, passes almost within sight of shore. Small craft and research vessels can easily reach the scientifically interesting Bahamas Banks, the Gulf of Mexico, and many Carribean areas. Southeast Florida is also admirably located for deep sea studies in the area between West Africa, Brazil, Bermuda, and Florida, and its waters teem with a wide variety of marine life.

Another benefit of this unique island is that Virginia Key, though only minutes from downtown Miami, has none of the complexities and distractions of urban surroundings. This island on Biscayne Bay is covered by great stretches of tropical vegetation, and bordered by long strips of clean sandy beaches. With the exception of a marine stadium, sewage treatment plant, and a few service buildings, construction on the Key consists entirely of oceanographic facilities in proximity to each other. The special ambience of the island is ideally suited to the work of the marine research scientist.

EXISTING LAND USES

Oceanographic activities presently located on Virginia Key include the Institute of Marine Science of the University of Miami and the U. S. Tropical Atlantic Biological Laboratory. The Institute is one of the world's largest marine educational and research establishments. It

was developed to meet the need for a tropical marine station readily accessible to the educational and scientific centers of the United States.

TABL is engaged in oceanographic biological research activities including the study of marine food resources of the entire tropical Atlantic Ocean; the design of research programs to support and increase efficiency of total catch by the U. S. Commercial Fisheries; the acquisition of better knowledge, for use both in harvesting and conserving stocks of surface schooling tunas in the tropical Atlantic and adjacent seas; and the aiding of the peoples of underdeveloped nations bordering the tropical Atlantic to find better means of acquiring protein rich food resources near their shores.

The above two together with the facilities to be constructed by ESSA on a site already provided by the County, will make up the nucleus of the proposed oceanographic science park. ESSA plans to build the Atlantic Oceanographic Laboratory which provides services relating to the environment including earth sciences, atmospheric sciences, telecommunication sciences, and oceanography. This facility will supply scientific services relating to the environment that IMS and TABL need for the research they are doing on the ocean.

Other land uses in Virginia Key are the City of Miami Marine Stadium, the Seaquarium - a privately owned facility, the City of Miami Sewage Treatment Plant, Virginia Beach - an excellent public park and bathing area, and a small private anchorage for commercial fishing boats.

PLAN FORMULATION

As a result of directives received from the City and County Commissions, Mr. Melvin Reese, the City Manager, and Mr. Porter Homer, County Manager, held a meeting to determine what procedure was necessary to formulate a master plan for Virginia Key. They decided that their Planning Departments, working cooperatively with each other and with recognized authorities in the fields of marine science and public recreation, should develop a master plan that reflects the two major existing land uses -- recreation and oceanographic training and research.

There followed a series of meetings between City and County Planning Staff members and directors of IMS, TABL, and ESSA, plus personnel from various other City and County departments, to establish guidelines for developing a land use master plan as well as criteria for determining which marine science facilities will be permitted to locate in the proposed Oceanographic Science Park. Using these guidelines, the combined Planning Staffs prepared a preliminary land use master plan for Virginia Key that recognizes both short and long range space requirements for oceanographic and recreational needs.

As shown on the maps being prepared for this report, the proposed Oceanographic Science Park occupies most of the southwestern part of Virginia Key, where expansion of the existing marine science nucleus is possible without encroaching on vitally needed recreation areas. The boundary of the Science Park, along the Atlantic Ocean, was

established as 800 feet north of the center line of the Rickenbacker Causeway to allow the marine activities access to Bear Cut for necessary ocean water research. It contains 162 acres of land, much of which is below the flood criteria of six feet above sea level, and must be filled prior to development. Of the total oceanographic acreage, 97.7 is in the City and 64.3 is in the County.

The proposed oceanographic park will front on both the Atlantic Ocean and Biscayne Bay with access to the interior provided via a channel. In addition to providing access, this waterway will offer visual and recreational advantages and act as an attractive physical separation between oceanographic and recreational uses. Also included in the plan is an oceanographic marina to serve the needs of the marine science community.

The proposed alignment of the major arterial, buffers the recreation area from the sewage treatment plant and skirts the southeast end of the Marine Stadium to avoid an undesirable fragmentation of the core of the oceanographic complex. Major recreational uses include an improved beach area, picnic grounds, nature trails, boating accommodations, and both active and passive recreation facilities.

CRITERIA FOR SCREENING OCEANOGRAPHIC ACTIVITIES

To be favorably considered for a lease of public land in the designated Virginia Key Marine Science Complex, an applicant must meet both of the general requirements stated below.

1. The applicant must be engaged in an activity for the benefit of the public welfare, that is directly related to and actively involved in marine science (or marine technology) through education, training, research or development. Applicants engaged in on site production should be excluded.
2. The activity of the applicant must be compatible with the activities of the other members of the marine science complex and contribute to the advancement of the complex through mutually beneficial relationships.

For the selection of lessees from among the applicants meeting the general requirements, the following priorities should be established:

1. Public, non-profit activities
 - a. Educational institutions
 - b. Governmental jurisdictions
2. Private, non-profit activities
 - a. Educational institutions
 - b. Industrial organizations
3. Private, profit activities

RECOMMENDATIONS

The following recommendations are based on the joint City of Miami - Dade County Virginia Key Master Plan Study:

1. Because of the existence of an oceanographic nucleus and sufficient space for substantial future development, the

southeastern portion of Virginia Key should be designated as an oceanographic science park as per the general land use plan proposed in this report.

2. Criteria similar to those suggested in this report should be adopted for screening applicants for the use of County and City owned land located within the proposed oceanographic science park.
3. That the land to be utilized by oceanographic activities should be leased. Where governmental agencies are involved this restriction could be modified.
4. A five member Advisory Committee should be appointed by the Dade County and City of Miami Commissions to review all requested leases for land in the oceanographic park and make recommendations to the County and City governments. Committee appointees should represent education, industry and Government and be acknowledged authorities in one or more of the marine sciences. At least three of the appointees should be representatives of participating members of the oceanographic complex. The City and County Planning Departments would serve as ex-officio members of the Committee.
5. The balance of Virginia Key's limited land should be preserved for present and future park and recreational purposes.