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COASTAL ZONE MANAGEMENT:
A Strategy Guide for AIA Components

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INTRODUCTION

The Coastal Zone Management Act (CZMA) has as its objectives both environmental protection and economic growth. Under the law, which was passed by Congress in 1972 and amended in 1976, state and local governments are provided with loans and grants for planning, management and preservation, as well as incentives for increased coordination with the federal government. Congress intended the coastal zone management program to be a partnership process, carried out with a high degree of cooperation between federal, state and local officials, as well as the public.

The theme of balance -- both in the uses of the coast and the process for determining those uses -- is the hallmark of the Act. Our shores are subject to many valid and competing uses -- recreational development, ports, estuarine sanctuaries, and industry. The coast is also a fragile and finite resource, one which can be wasted or used wisely. Decisions about the coast are so important that they should be made by as broad a spectrum of the public as possible. What happens on the shore affects all of us and we should all have a say in the future of the coast.

The design "public" can make an especially valuable contribution to sensitive and balanced use of the coast through active involvement at various levels of coastal zone management and through exemplary design proposals. This publication describes the coastal zone management process and outlines a strategy for participation in it by architects, acting both through their state components and as individuals. The thrust of this booklet is on the planning and management process under CZMA -- some of the key issues raised by the law and ways that architects can help in their resolution. (Note: A companion publication describes the law and various coastal uses for a wider audience.)

OVERVIEW I: THE COAST AND ITS USES

The American coastline (which includes the Great Lakes) contains America's seven largest cities, 53 percent of the population and 90 percent of the population growth. By the end of the century, according to some estimates, two hundred million people will live along the coast. Among the most important coastal activities are:

Recreation - The average American spends ten days a year on the coast, much of it in recreational activity and these demands are expected to increase. Recreational uses of the coast have important social and economic benefits. In New Jersey, for example, recreation and tourism are the largest coastal industries and generate about $3 billion annually in goods and services. The 1976 amendments to the Coastal Zone Management Act specifically call for a beach access planning process as part of state CZM plans, and water-related recreational development is given high priority under the CZM program.

Harvesting - Both onshore and off, coastal areas are highly productive sources. The commerical fishery harvest is already estimated to be $900 million (1973 dollars) and is expected to grow to as much as $4 billion by the end of the century. Coastal shore regions are often the source of rich delta soil and their welcoming climate supports highly productive agricultural land.

Industry - Roughly 50 percent of all manufacturing jobs in the United States are located along the coast. Manufacturing and industry are drawn to the shore by port facilities and abundant water supply, among other reasons. Power plants and mineral extraction are two especially prominent industrial users.

Offshore Energy Exploration - In 1975, the federal government announced its plans to lease 10 million Outer Continental Shelf (OCS) acres, as much as had been leased in the entire previous 20 years. Offshore oil and gas exploration, as well as increased deep seabed mining, will generate considerable onshore development. This includes oil rig construction and other support facilities, pipelines, power plants, processing facilities, ports and transportation systems, not to mention the ancillary growth -- housing, shops and services -- for an expanded population base. One of the major challenges of coastal planning is to ensure that energy development occurs in an orderly and environmentally responsible manner.

All of these diverse coastal activities must be viewed against the backdrop of the natural environment of the shore. The coast is a unique resource of extraordinary natural value. Increasing demands are being placed on this finite and environmentally sensitive natural system. Certain coastal areas are especially valuable and vulnerable:

Estuaries - These are waters at the mouth of coastal streams and rivers, where fresh and sea water mingle, creating a nutrient rich spawning ground for marine life. Estuaries are being threatened by dredging and pollution.

Wetlands - These are critical areas that fall between the mean low tide mark and the early high storm mark. They include marshes and southern mangrove forests. Wetlands help control the flow of runoff and are valuable breeding grounds for fish and wildlife. Wetlands are highly susceptible to damage from dredging and development.

Dunes, beaches and barrier islands - The coastal system of dunes, beaches and barrier islands are our first defense against storms, winds and waves. Dunes and beaches are held in place by tough rooted plants. Development has altered the beach/dune plant matrix and resulted in erosion and increased hazards from flooding in many coastal areas. Development on barrier islands, small inlets off the Gulf and Atlantic coasts, has weakened much of the dune system which is our frontline against severe storms.

OVERVIEW II: THE COASTAL ZONE MANAGEMENT ACT

The Coastal Zone Management Act is administered by the Office of Coastal Zone Management, (OCZM), a part of the National Oceanic and Atmospheric Administration (NOAA) within the Department of Commerce. The Act provides grants and other financial aids for planning, management and conservation of coastal lands, as well as an important nonfinancial incentive -- the federal consistency provision -- which requires that all federal activities be consistent with approved state coastal zone management plans to the maximum extent possible. The 1976 amendments to the law created the Coastal Energy Impact Program (CEIP) to help states and local governments deal with some of the onshore impacts of offshore energy programs.

Thirty-five states and territories (including those bordering the Great Lakes) are eligible to participate in the program grants under Section 305 of the Act. Thirteen states -- Washington, Oregon, California, Rhode Island, Massachusetts, Michigan, North Carolina, Hawaii, Puerto Rico, Maryland, Maine, New Jersey, Wisconsin -- are receiving grants for implementation of their coastal zone management plans. Up to 10 more programs are expected to be submitted for review during FY 1979. Actual appropriation of funds for Coastal Zone Management has not matched the funding levels authorized by the Congress. As of the end of FY 78 (Sept. 30, 1978) OCZM has issued grants, for all purposes, of $ 187.2 million. Listed below are authorized funds as described in the Coastal Zone Management Act, as amended.

Program Development Grants. Section 305 of the law (as amended in 1976) provides federal/state matching grants for preparation of coastal zone management programs. The federal share can be as much as 80% of the cost of preparation, and states are eligible for up to four annual grants. Congress has authorized $ 20 million annually for fiscal years 1977-79 for this purpose. Grants are awarded to states on the basis of a complex formula which takes into account the length of the state's shoreline, the population living in coastal counties, and specific coastal problems of a given state.

Preliminary Approval Grants. The 1976 amendments to the Coastal Zone Management Act create a "halfway" step between preparation of the coastal plan and the management process. This interim approval provides funds to states to carry out certain portions of the management program before final approval of the management plan is received from OCZM. As an example, such grants will be awarded to states which have completed the

basic design of their management program but are awaiting the passage of required state legislation or are completing necessary interagency agreements.

Administrative Grants. Section 306 provides administrative grants to states to carry out federally approved coastal zone management plans. The 1976 amendments increased the authorization under Section 306 from $ 30 million to $ 50 million annually for fiscal years 1977 - 1980. The federal share is now 80 percent and grants are awarded to states on the basis of the extent and nature of the shoreline, particular coastal problems, population, and the areas covered by the state plan.

Estuarine Sanctuary Protection. Section 315 (1) of the CZMA as amended provides 50 percent federal matching grants for the acquisition of estuarine sancturies both for conservation and for use as laboratories for education and research. Five sanctuaries have been established with two proposals currently under consideration. Six million dollars has been authorized by Congress through fiscal year 1977.

The law also provides grants for interstate planning; reasearch, technical assistance and training; and acquisition of land for public access to beaches and other coastal areas of special value. Funds for these three programs have not been appropriated, however.

The Coastal Energy Impact Program (CEIP) was created by Section 308 of the 1976 amendments to the Coastal Zone Management Act. Funding under the program enables communities to plan ahead for the services and facilities they may need to accommodate growth induced by energy development. It also provides assistance to help communities assume the fiscal burdens brought on by growth by allowing the federal government to act as a lender of last resort.

There are five basic forms of CEIP assistance:

1) Planning grants, on an 80% federal matching share available to states and local governments to help prepare for "any economic, social or environmental consequence" caused by "new or expanded energy facilities."

2) Public facility grants, grants are available to coastal communities

impacted by Outer Continental Shelf energy activity. These grants may be used for a broad range of public facilities.

3) Credit assistance, available to communities in the form of direct loans or guarantees of loans and bonds. This can help communities provide needed facilities before the anticipated increase of their tax base is able to support repayment of securities. Repayment assistance is provided under CEIP to communities who fail to meet their credit obligations because the tax base increase did not materialize as expected. This protects communities from experiencing a net fiscal loss because of OCS activity.

4) Environmental grants, to be used to alleviate unavoidable losses of valuable environmental or recreational resources due to coastal energy development.

5) OSC administrative grants, to be used by states to administer their responsibilities under the Outer Continental Shelf Lands Act.

These programs are funded from three interlocking sources, which together will provide $ 2.1 billion over a ten year period:

The Coastal Energy Impact Fund, currently authorized at $ 800 million over ten years. The fund will be used for planning assistance, credit assistance and repayment assistance when a borrowing government cannot meet its obligations. A formula based on the estimated impacts from energy development in a given year determines the allotment of Fund moneys to each state.

Formula Grants, authorized at $130 million per year through 1988. The formula grants may be used to redress losses of valuable environmental or recreational resources, and to plan and develop public facilities and services which are directly required as a result of OCS activity. Allotments of formula grants to each state are based on OCS activity in the past year, as determined by three measures.

OCS Administrative Grants, authorized at $ 5 million per year through 1983. These grants are available to coastal states found by the Secretary of Commerce to be affected (or likely to be affected) by OCS energy activity.

OVERVIEW III: CITIZEN PARTICIPATION

One of the major themes of the Coastal Zone Management Act is that the public should be brought into the process at every possible juncture. There are many "publics" -- private citizens, public interest groups, property owners, industry representatives and professional societies. And there are many ways of participating -- technical assistance, advocacy, representation on advisory committees, presence at public meetings.

The Coastal Zone Management Act cites several points where "official" public input must be solicited. Most of these decision points occur during the planning stages of state programs or at the point when key proposals, such as those under CEIP, will be submitted. Citizen participation during these stages is very important for it can help insure that the outlines of a coastal zone management program meet the needs of the public. But the real substance of coastal zone management occurs in the implementation of the plans. Here the opportunities for citizen participation are less formal, but no less important. During the management stage, architects and others must insure that the opportunities for citizen participation are adequate. The demands on the coast are constantly changing, and the plan must be fluid and dynamic to meet changing needs. Furthermore, those who implement the plan also change as state administrations are voted in and out of office. Only a watchful public can really insure that the needs of coastal users are met by the coastal zone management plan.

This section provides an overview of citizen participation under the law and some general ways that architects in particular can be involved in coastal zone management and planning. The next section explains the coastal zone management process in greater detail and outlines specific steps that can be taken by the design public at each juncture of the process.

Requirements of CZMA for Public Participation

In the opening to the CZMA, Congress declared that it is national policy "...to encourage the particiaption of the public, of Federal, state and local governments and regional agencies in the development of coastal zone management programs..." Section 306 of the law requires that the state hold public hearings in the development of the management program as a requirement for program approval. In its regulations for program development grants, the Office of Coastal Zone Management (OCZM) notes that "public participation is an essential element of development and administration of a coastal management program...Participating states, therefore, should seek to obtain

extensive public participation in the development and administration of a coastal management program."

The regulations require that states hold at least two public hearings, at least one of which will deal with the total coastal management program; that states provide a minimum of 30 days notice of hearings; and that the state agency make available at the time of public notice, all agency materials pertinent to the hearings.

These regulations also point out that "formal public" hearings may not provide an adequate opportunity for information exchange and recommend various ways of getting the public involved, including citizen participation in the development of goals and objectives, establishment of citizen advisory committees, and establishment of processes to review elements of the management programs by selected citizen groups and the general public.

Another opportunity for "official" comment on the states coastal zone management plan is through review of the environmental impact statement prepared by the federal government prior to state management plan approval. An EIS, which is required under the National Environmental Policy Act as part of the federal review of each completed state coastal zone management program, must provide a 45 day comment period during which citizens, public groups and government officials can make their voices heard on the management plan. Citizen opposition to a coastal zone management plan will not itself stop approval, but the federal government is required to consider all comments on the EIS. Often well thought out and reasoned criticism by public reviewers could lead to modifications which can strengthen the plan.

Getting Architects Involved

How can these legal requirements and suggestions be translated into real life activity by architects? There are several ways, some formal, such as serving on state advisory commissions, and some less official, such as working behind the scenes to forge coalitions on a particular issue affecting the coast. Following is a brief summary of some of the most important ways that architects can get involved in coastal zone management.

Serving on Citizen Advisory Committees. There is no reason why design professionals have to be appointed to a state's citizen advisory committee. The only way to insure that design interests are represented

on such groups is to lobby hard for appointment of architects or other design professionals. In Georgia, for example, architects have served on the state advisory committee and played an important role in fashioning that state's program.

Technical Assistance. State coastal zone management staff will often seek outside technical assistance. Preservation of historic and aesthetic resources along the shore, designation of appropriate uses, and hazard mitigation methods are just a few of the broad areas where design talent could be useful. Architects should make themselves available for such technical assistance on both a paid and volunteer basis. The Rice Center for Community Design and Research is Houston, Texas, for example, has used the skills of design professionals extensively to make a comprehensive analysis of environmental and economic development issues confronting the Texas Gulf Coast.

Speaking Out on Issues. State components of the AIA offer an excellent structure for speaking out on important issues of coastal zone management. A public statement from an AIA chapter can have wide influence among officials and the public more generally and serve as convincing evidence that architects care about the future of the coast. The Virginia Society of the American Institute of Architects has developed a specific position statement on Coastal Zone Land Use and the Use of the Continental Shelf.

Coalition Building and Lobbying. Much of the most effective public participation in coastal zone management is going to be informal and behind the scenes. The first step is to get to know who the important people in the state and local government are with respect to coastal zone management. This does not only mean the staff of the state coastal agency (a list of these agencies, with addresses and telephones is included as an appendix to this report), but also the key elected officials in the legislature and local governments, and others in state government with an interest in the program. The next step is to identify those groups outside of government with which architects might share interests with regard to coastal issues. A list of such organizations might include environmental groups, such as the state chapter of the Sierra Club, the National Wildlife Federation or the National Audubon Society; business organizations such as the state Homebuilder Association or the Chamber of Commerce; industry groups, especially those involved in energy production, extraction industries, chemical industries or

refining and agriculture; government watch dog groups, such as the League of Women Voters; state and local historic preservation associations; sportsman groups, such as fishing and boating associations; and local homeowner and community associations. Not all of these groups are going to share the views of the design profession on every coastal issue, but there are opportunities for forging alliances with many of these organizations on certain issues. A coalition of organizations is more effective than such groups acting alone. It can pool resources to get information, bring out strong representation at public meetings, and generate well-organized, immediate response through newspaper coverage and phone calls to key state officials. Architects are in an excellent position to serve as a catalyst for such well organized and effective citizen involvement. They can appeal to many groups which care about the coast through their twin interests in development and preservation.

Design Examples. Probably the most effective public participation by an architect is through his own work. There is no better statement of sound coastal zone management practices than an example of what to build and where (or where not) to build. Virtually every design proposal in coastal areas is touched at some point by an architect's pen. Special design challenges are posed by marinas, second home developments and urban waterfronts. It is difficult and perhaps not even desirable to write good design into law or regulation. But architects can and already have been leaders in good design along the coast through high quality plans and buildings. For example, on Botany Bay Island, a subtropical barrier island off the coast of South Carolina, the design team drew up a careful plan for sensitive use of this fragile site, one which would protect the unique function of barrier islands.

A. Initial Process

The initial place for effective public participation in coastal zone management is at the beginning of the planning process.

In order to be eligible for Section 305 program development grants, states must provide the following to OCZM:

a summary of past and current activities in coastal zone management.

a ranking of major coastal-related problems and issues, as well as identification of goals and objectives of the management program.

the governor's designation of a lead agency for coastal zone management as well as a listing of all the agencies in the state with an involvement in coastal zone management.

a work program for preparation of the management program. This includes identification of existing sources of information, methods of public participation, mechanism for intergovernmental cooperation, approximate boundaries of the coastal zone, and mechanisms to coordinate with federal lands excluded from the coastal jurisdiction of the state.

an annual work program, including manpower requirements, scheduling and costs.

identification of other federal, state or local activity with a significant impact on the coastal zone and ways to achieve coordination and cooperation with these entities.

States are eligible for grants under Section 305 for up to four years. Each year of the planning process should result in a refinement of the state plan in terms of setting priorities for coastal uses, establishing the precise boundaries of the coastal zone, setting up the key legislative and adminstrative mechanisms for management, and revising the plan in light of new developments and problems, such as Outer Continental Shelf exploration.

Most states are well into their second and third years of program

development and consequently many of the important initial planning decisions have already been made. However, it is important to review these early program development elements since, in some states, changes have been or are being made in these basic elements as the program matures.

1. Key issues of this stage:

The work in the early stages of coastal zone management planning sets the stage for the final refinement of the plan. There are three especially important jobs carried out during this initial phase:

Inventory of coastal resources. The inventory includes not only ecological resources, but also demographic, economic and social data. The inventory of coastal resources forms the basis for establishing permitted uses on the coast as well as designated areas of special concern.

Designation of a lead agency. During this phase the governor must designate a lead agency for carrying out the coastal zone management program and begin the work of generating the legislative and organizational framework for managing the coastal zone. The official structure of the state program may be temporary, awaiting the passage of a comprehensive state law. But it also can provide a foretaste of the seriousness of coastal officials in carrying out their program.

Establishment of goals and problems. The early stages of planning are marked by a preliminary ranking of major coastal-related problems, as well as the setting of objectives for the management program. This is obviously tied in closely to the inventory of coastal resources. Together they form the basis for most of the key state management decisions on the coast.

2. Architect Involvement:

Identify the lead players and key groups outside of government involved in coastal zone management. Begin working closely with them.

Get appointed to citizen advisory boards.

Develop clear positions on coastal zone management at the state component level.

Identify areas where architects can provide technical assistance.

Make sure that aesthetic resources (e.g., special views, historic buildings) are included in the inventory.

Lobby for inclusion of design protection goals in the statement of objectives.

Make sure that the lead agency is taking the lead and that it has adequate staff and finances. Work with other groups to lobby for a strong state institutional and legislative structure for coastal zone management.

There is also an important official decision point which occurs at the early planning stage. OCZM requires that states submit an annual work program which includes plans for the coming year, an evaluation of the past year's activity, and the budget (funding and manpower) to carry out the current year's activities. This work program is available to the public and can be obtained from the state agency of OCZM. Furthermore, these work programs are subject to the requirements of the Office of Management and Budget Circular A-95, which mandates review and comment by all interested public and private parties through regional clearinghouses. Thus, each year, members of the public and architects in particular are in a position to review their state's progress in coastal zone management and help structure the following year's program.

B. Refinement of the Management Plan

The culmination of the Section 305 process is the acceptance by the federal government of the state's coastal zone management plan. Third and fourth year planning efforts, the point where most coastal states are in the planning process, are normally times for a refinement of the work program to meet the major requirements for approval of the state's coastal zone management plan. These major requirements, the issues raised by them and architect's role in meeting them are discussed below.

1. Establishment of Coastal Zone Boundaries. The Coastal Zone Management Act defines the coastal zone in general terms, as

"the coastal waters (including the waters therein and thereunder) and the adjacent shorelands (including the waters therein and thereunder) strongly influenced by each other and in proximity to the shorelines of the several coastal states and...includes transitional and intertidal areas, salt marshes, wetlands, and beaches." The boundary extends three miles on the seaward side; on the inland side, the boundary is to be fixed "to the extent necessary to control shorelands, the uses of which have a direct and significant impact on the coastal waters." Bodies of water, such as sounds, bays, ponds and estuaries "which contain a measurable quantity or percentage of sea water" are also to be designated as part of the coastal zone.

a. Major Issues. The designation of coastal boundaries is obviously a critical first step in drawing up the state's management program.

Each state will define its coastal boundary differently depending on the diverse natural, institutional and legal characteristics. The regulations for development of the management program recommend that states delineate a planning area which is larger than but encompasses, the area ultimately identified as the coastal zone. "Specific coastal zone programing," the regulations say, "must take into account current developmental, political and administrative realities, as well as biophysical processes, that may be external to the restricted zone eventually selected for direct management control." The regulations also encourage states to take into account other federal and state water and land resource management programs, such as surface extraction controls, flood plain designations, and 208 areawide waste water planning jurisdictions. Finally, exluded from state coastal zone designations are lands which are owned by or held in trust by the Federal government.

The setting of a state coastal zone boundary is a complex matter. The Michigan Coastal Management Program cites the following questions which are explored: "How far inland do land and water activities have direct and significant impact upon one another? What should be the geographic limits of program attention in terms of existing laws and public sentiments? And what constitutes a

practical, easily identifiable boundary for such an area?" Special care chould be set in determining transitional areas or what the Virginia coastal plan calls the "Boundaries at the Edges." In Virginia, the plan notes, "The primary purpose for which state management jurisdiction extends into transitional areas above mean low water is for the protection of tidal wetlands," which are under the jurisdiction of a related state program, The Virginia Wetlands Act of 1972. In other coastal areas, development may proliferate just over the area regulated. States should take care to set buffer areas so that such growth will not have a negative impact on the coastal zone.

States define their boundaries in various ways. Some delineate their management areas by geographic features (e.g. bluffs). Others use manmade features (e.g. a highway). Still a third option is to designate coastal management areas to conform with jurisdictional lines (e.g. county boundaries). Some states (e.g. North Carolina) also designate a two-tiered boundary, in which reg regulation is intense along a narrow strip designated for special protection and less intense in other, less critical areas.

b. Architect Involvement.

-- Offer technical assistance in assembling data to define boundaries. Offer special assistance in identifying relevant design-related data (e.g. views).
-- Work closely with other interest groups and state officials to insure that boundaries are set not solely along narrow environmental or jurisdictional grounds, but that political, developmental, economic and demographic data are also included.

2. Permissible Uses. Section 305 (b) (2) of the Act requires that the coastal zone management program include a "definition of what shall constitute permissible land uses and water uses within the coastal zone which have a direct and significant impact on the coastal waters." The regulations for coastal zone management program development grants note that the first step in defining permissible uses is to develop criteria for potential impacts -- both good and bad -- from the various uses of the shore. Some uses will have virtually no (or no negative impact) and will be exempted altogether.

Others may be inconsistent with state objectives and thus subject to more strict scrutiny, or in the extreme case, prohibited. In this last instance, the state management plan must include its reasons for excluding a use from the coastal area.

a. Major Issues. Delineating the permissible uses of a coastal area is really another aspect of "boundary" -- a use limit, rather than a territorial limit. The regulations point out that some of the factors involved in assessing impact and hence, use, include "location, magnitude, the nature of an impact upon existing or manmade environments, economic, commerical, and other 'triggering' impacts, and land and water uses of regional benefit." The definition and regulation of permissible uses can determine the shpae of the coastline for years to come. For example, California has lost an estimated one out of twelve acres of cropland in its coastal zone in the 1960's alone, much of it to residential development. If the state has an interest in maintaining agriculture as a coastal industry, it can use its CZM program to help direct residential growth away from prime farmland to areas where development is more compatible with state and local desires. Similarly, growth inducing public works projects, such as sewage treatment facilities and highways, can be guided by a CZM plan to serve areas where development and growth are desired. The Massachusetts CZM plan lists several policies to direct growth within the management area and to target financial support to areas where growth is already occuring. One of the policies in the Massachusetts plan encourages the adoption of local zoning and regulatory controls which promote clustering of new development to reduce wasteful land use patterns on valuable coastal land. States differ in their approaches to setting permitted uses and some have adopted quite sophisticated sets of criteria. The Interim Land Use and Density Guidelines for the Coastal Area of New Jersey, for example, set performance criteria for specific project types, and then measures such proposals against land and water features of the coastal zone, classified by Preservation, Conservation and Development Categories. For example, interceptor sewers are discouraged in areas where no development presently exists or is scheduled.

b. Architect Involvement

--Monitor the process of determining permissible uses closely to insure that the use classifications of the state CZM program are inclusive and fair.
--Offer technical assistance to help determine use classifications, especially in those areas where development and construction are involved.

3. Areas of Particular Concern (APCS). The Act requires that the management program include "an inventory and designation of areas of particular concern within the coastal zone." The regulations for Coastal Zone Program Management Development Grants list the following types of areas which might be considered under these requirements:

--areas of unique, scarce, fragile, or vulnerable natural habitat, physical feature, historical significance value, and scenic importance.

--areas of high natural productivity or essential habitat for living resources, including fish, wildlife, and the various trophic levels in the food web critical to their well-being.

--areas where developments and facilities are dependent upon the utilization of, or access to, coastal waters.

--areas of unique geologic or topographic significance to industrial or commerical development.

--areas of significant hazard if developed, due to storms, slides, floods, erosion, settlement, and

--areas needed to protect, maintain or replenish coastal lands or resources, including such areas as coastal flood plains, aquifer recharge areas, sand dunes, coral and other reefs, beaches, offshore sand deposits, and mangrove stands.

a. Major Issues. The starting point for the designation of areas of particular concern (APC) is the resource inventory discussed earlier in this paper. While many of the critical areas for coastal control will be "fragile" in the environmental sense, the definition of areas of concern clearly must go beyond these narrow, though vital, bounds. The regulations note that "Such areas are likely to encompass not only the more often cited areas of significant natural value of importance, but also "(a) transitional or intensely developed areas where reclamation, restoration, public access and other actions are especially needed, and (b) those areas especially suited for intensive development. In addition, immediacy of need should be a major consideration in determining particular concern..."

Many state coastal plans recognize this broad definition of areas of particular concern and fashion their management programs to meet such needs. Michigan, for example, designates Areas of Particular concern according to their character as: Areas of Natural hazard to development (e.g. erosion and flood prone areas); areas sensitive to alteration of disturbance (e.g. coastal lakes and urban areas); and areas of natural economic potential (e.g. prime industrial sites or agricultural land). The Michigan APCs are drawn from two sources -- those identified by state legislation and those nominated by the public.

Several state coastal zone management plans make provisions for reviewing and preserving special historic sites. Policy 12 of the Massachusetts plan is illustrative: "Review proposed developments in or near designated or register historic districts or sites to ensure that federal, state and private actions requiring a state permit respect their preservation intent and minimize potential adverse impacts." Several state and local requirements as well as the federal consistency clause discussed later help lend enforceability to this policy in the state.

b. Architect Involvement

--Monitor the preparation of the inventory of coastal resources carefully during the planning stage because this is the basis for the designation of APCs.

--Offer technical assistance in assembling data for determining APCs especially when design factors are critical (e.g. areas of scenic beauty, historic sites, buffer zones).

--Monitor the method and criteria for selecting APCs to insure that environmental developmental, socio-economic and aesthetic needs are met.

4. Areas for Preservation or Restoration. Section 306 (c) (9) of the Act requires that the management program "make provision for procedures whereby specific areas may be designated for the purpose of preserving or restoring them for their conservation, recreational, ecological or esthetic values." While some states view this provision as an extension of the APC requirements, designation of areas for preservation and restoration usually involves substantially more intense regulation and control.

a. Major Issues. As in the APC designation process, the starting point for identifying areas of preservation or restoration is the resource inventory discussed earlier in this paper. States must identify the process and criteria they use for designation of such areas and they must explain how areas of preservation and restoration are to be distinguished from other APCs. Michigan is an excellent example of a state that has developed a special category for areas of restoration and preservation: "a special category made up of the highest priority areas of all kinds, especially those needing immediate management attention for acquisition, preservation or restoration." The Michigan program requires that such areas be of statewide or regional importance and exhibit the following characteristics:

--high aesthetic, recreational, ecological value.

--high quality physical or functional characteristics.

--unique characteristics which are uncommon and occur in very limited areas of the shoreland.

--threat of irreversible harm and urgent need for management action.

--problems or opportunities in the area beyond the financial or regulatory capability of local units of government.

b. Architect Involvement

--Offer technical assistance in assembling data for these high priority areas of preservation and restoration.

--Make sure that features of special aesthetic or cultural value are considered for such special protection under state programs and help identify these sites.

5. Priority Uses. Section 305 (b) (5) of the Act requires that state management plans include "broad guidelines on priorities of uses in particular areas, including specifically those uses of lowest priority." According to OCZM regulations, priority uses are meant to serve three purposes:

1) provide a basis for management in peographic areas of particular concern

2) provide the state and local government, areawide and regional agencies, and citizens with a common reference point for resolving conflicts; and

3) articulate the nature of the state's interest, whether it is preservation, conservation and/or development in geographic areas of particular concern.

Along with the permissible use requirement discussed earlier, these guidelines serve as the focal point for regulating land and water uses and should be the basis for resolving most disputes. Obviously, the setting of priorities depends on the specific coastal issues of the state.

a. Major Issues. Setting priorities for use of the coastal zone is where the state program is directly confronted with balancing competing environmental and economic needs for use of the shore. One principle, endorsed by OCZM, is to encourage

those uses which are clearly water-dependent while placing lower down on the scale those activities which could just as easily occur inland. Thus, ports, fishing industry facilities, marinas, water oriented recreation, and certain types of energy facilities are all water dependent and should be considered for higher priority designation in a state plan.

Policy 17 of the Massachusetts Coastal Plan provides an example of some of the considerations in setting coastal priorities: "Encourage maritime commerce and related development in port areas. Prohibit pre-emptions of present and proposed maritime dependent industrial uses. Permit non-maritime dependent industrial uses which do not represent an irreversible commitment of sites and which do not pre-empt foreseeable maritime-dependent indistrial uses."

As important as setting the uses, is the establishment of performance criteria, a technique used by some (e.g. New Jersey) but not all states. This can insure that facilities which may be high on the hierarchy -- such as a power plant -- will be designed and constructed in such a way as to mitigate adverse impacts and preserve other coastal objectives.

b. Architect Involvement

--Work closely with other state and local groups to insure that the needs of coastal users are considered in drawing up the priorities and that there is a balance between environmental protection and development.

--Encourage your state plan to assign high priority to water dependent development, such as marinas and fisheries.

--If your state is implementing performance standards, make sure that they are fair and accomplish the management objectives of the plan. Help your state develop performance standards for hazard mitigation and preservation or visual, aesthetic and natural resources, two areas where architects can provide particular expertise.

6. State Authority and Organization. The Coastal Zone Management Act requires that the management program include "...an identification of the means by which the State proposes to exert control over the land uses and water usses...including a listing of relevant constitutional provisions, laws, regulations, and judicial decisions." Elsewhere in the Act, the management program is required to include "...a description of the organizational structure proposed to implement such management program, including the responsibilities and interrelationships of local, areawide, state, regional and interstate agencies in the management process." The regulations for Coastal Zone Management Program Development require that the management program provide for one or a combination of the following three techniques for control of land and water uses in the coastal zone:

--State establishment of criteria and standards for local implementation, subject to administrative review and enforcement of compliance.

--Direct state land and water use planning and regulation.

--State administrative review for consistency with the management program of all development plans, projects, or land and water use regulations, including exceptions and variances thereto, proposed by any state or local authority or private developer, with power to approve or disapprove after public notice and an opportunity for hearings.

a. Major Issues. The establishment of state authority and organization of coastal zone management is one of the most important aspects of the management program. Clearly, the designation of permissible and priority uses and the identification of APC can be of little use without some means of enforcement. OCZM takes an especially critical look at the implementation mechanisms.

The CZM regulations note that "a fundamental purpose" of the legislation is "to broaden the perspective by which decisions affecting the coastal zone are made to incorporate a statewide view." But, while ultimate authority for managing the program

rests with the state, the regulations make equally clear that coastal zone management is to be a partnership effort -- including local and regional governments. The Act requires that: "local governments and other interested public and private parties must have an opportunity for full participation in the development of the program; the State has cooperated with local, areawide, and interstate plans; and the State has established an effective mechanism for continuing consultation and coordination with local governments and other unites to insure their full participation in carrying out the management program." In reviewing state authority to carry out the management program, the regulations recommend that planners address: (a) whether the existing powers and authorities of state government are sufficient; (b) the new ones that would be needed; and (c) whether a shared State-local or State-regional consolidated regulatory system should be established. In particular, state government should have the authority to acquire land for public use when necessary, impose performance standards to implement priority uses and APC provisions, institute shoreline zoning to protect critical areas, and control the placement of key facilities, such as power plants.

States have handled the issue of authority in various ways, with two general patterns emerging. One of the legislative approach in which major new enforcement authorities have been enacted by the state legislature. Approximately one-third of the states in the program have taken this approach. In 1976, the California legislature, for example, enacted the California Coastal Act, supplemented by laws establishing a State Coastal Conservancy and a Coastal Parklands Acquisitions Bond Act. The 1976 law creates a state Coastal Commission which certifies local land use plans and regulations in coastal areas. In many ways, the Calfironia law, one of the most comprehensive state coastal laws in the nation, is a state's mini-version of the Federal Coastal Zone Management Act.

In the more typical approach states implement their coastal zone program through a "network" of existing authorities and agencies. Typically, the lead agency will execute a memo-

randum of understanding with other relevant state, local and regional agencies to establish lines of responsibility in implementing the program. Massachusetts has taken this approach.

The "network" form can create problems over jurisdiction and lines of authority and is, in the view of some observers, a less strong approach. But in many cases it will be the only possible mechanism politically. And in some cases, such as Massachusetts, existing state laws are already as stronger than new authorities which would be enacted.

There are several approaches which a state can take to establish an organizational structure. The CZM regulations require that the lead agency have: "(a) authority to monitor the activities of all State, local, areawide/regional or other entities in the coastal zone and (b) appropriate access to the Governor." Some states (e.g. New Jersey and Connecticut) have established "super-agencies" which carry out all facets of the coastal zone management program, as well as other environmental programs in the state. A few states have established a special agency solely for the purpose of administering the coastal zone management program. For example, South Carolina has created the Coastal Zone Planning and Management Council. The predominant pattern, however, has been to create a less comprehensive organizational structure, often vested in the State Planning Office. Some states, such as Wisconsin, have proposed a statewide council with overall coordinating functions to oversee the program. While such agencies usually lack implementation authority, they help give the program visibility and prestige vis-a-vis the rest of the state government.

b. Architect Involvement

--Become actively involved in the political process to insure that the state program is as effective as possible. Remember that the definition of "effectiveness" depends very much on the political environment and the particular coastal issues of a given state.

--Rally political allies and lobby both in the legislature and in state agencies for strong state authority and organization. Pay particularly close attention to budget and staff; access to the governor; existing and proposed state laws to implement the program; and the type of agency designated to administer the program.

--Monitor the legislative calendar so that your presence can be felt when there are key appropriation and legislative decisions. If legislation is not adequate, then work to get better laws passed.

--Review all proposed regulations issued by the state CZM agency to make sure that they are effective and fair. Comment on all proposed regulations so that state officials know that AIA members have a concern with coastal matters.

--Make sure that the state CZM agency has developed an adequate framework for decision making and public participation.

--Make sure that the CZM agency is working with other state, federal and local officials with responsibility for coastal activities. Be a catalyst to bring these officials together.

--If the state adopts a management framework where substantial decision making is delegated to local and regional government see that there is adequate authority at the state level to insure that statewide interests in the coastal zone are addressed. If the program is such that the majority of the decisions are made by the state agency, be similarly concerned that local needs are addressed.

7. Access to Public Coastal Areas. Section 305 (b) (7) of the 1976 amendments to the Coastal Zone Management Act requires that the management program include "a definition of the terms 'beach' and a planning process for the protection of, and access to, public beaches and other public coastal areas of environmental recreational, historical, esthetic, ecological or cultural value." The regulations

for program development grants emphasize that access is to be defined in both physical and visual terms.

a. Major Issues. The issue of access to public coastal areas is closely tied to the designation of Areas of Particular Concern (APC) discussed earlier and the protection or acquisition of public rights to coastal lands should be construed in a similarly broad fashion, according to the regulations. Nevertheless the intent of the public access provision in the 1976 amendments is to increase the supply of coastal areas for water-oriented recreation activities. A recent publication by the Office of Coastal Zone Management points out that shoreline is a scarce commodity and is being further reduced almost daily by numerous factors. This has serious ramifications for recreation one of the primary and best suited uses for coastal lands. Several state plans address this problem directly. Policy 21 of the Massachusetts plan is to: "Improve public access to coastal recreation facilities and alleviate auto traffic and parking problems through improvements in public transportation" and Policy 26 reads: "Acquire and develop new public areas and facilities for coastal recreational activities. Give highest priority to new acquisitions in regions of high need and where site availability is now limited. Assure that both transportation access and the recreational facility is compatible with social and environmental characteristics of the surrounding community(ies)."

The coastal zone management regulations emphasize that while access should primarily be defined in physical terms, it also should be interpreted in "visual" terms: Visual access may involve, but need not be limited to, viewpoints, setback lines, building height restrictions and light requirements," according to the regulations. Visual access is an especially important problem along highly urbanized areas of the coast. In Orange and Los Angeles Counties along the southern California coast, for example, roughly 20 miles of the 110 mile coastline have views blocked totally by structures.

In developing coastal access policies, states should take into account existing facilities and sites, anticipated demand of future use of such sites, and the capability of existing areas to support increased access. The definition of beach should be closely tied to the analysis of access and protection needs and should include special features such as location, fragility, origin and composition. Finally, any analysis of coastal access should review ownership of beachland and make provisions for public acquisition of especially threatened or valued shoreland.

b. Architect Involvement

--Offer technical assistance to state officials in analyzing coastal access problems. Make sure that the definition of "access" includes not only physical but visual access.

--Propose innovative design examples that increase both physical and visual access to coastal areas.

--Make sure that state plans include special consideration for public access in urbanized coastal areas.

--Help identify coastal areas which should be identified as Areas of Particular Concern (APCs) in terms of shorefront access planning.

8. Erosion Mitigation. The 1976 amendments to the Coastal Zone Management Act add a new requirement that the management program include a planning process for "(a) assessing the effects of shoreline erosion (however caused), and (b) studying and evaluating ways to control, or lessen the impact of, such erosion, and to restore areas adversely affected by such erosion." In looking at erosion problems, the regulations for program development plans emphasize that states must consider the cause of the problem (manmade or natural), existing and proposed state policies to deal with the problem, and the most appropriate methods of regulation.

a. Major Issues. Erosion is a serious coastal problem and its causes are diverse. Some are the result of construction and some are the result of natural processes. The OCZM regulations emphasize that states will want to consider both physical (e.g. rebuilding of worn away portions of the coastline) and regulatory (e.g. land use or zoning controls) solutions to the erosion problem. There are also instances where a policy of noncontrol will be most appropriate, such as on barrier islands where there is a substantial amount of erosion caused by natural forces. The Michigan Coastal Zone Management plan, for example, includes a combination of structural and nonstructural controls for erosion control on sites designated as "areas of natural hazard to development."

The erosion control section of state management plans is closely related to Areas of Particular Concern and use restrictions. State efforts at erosion control should be part of a larger strategy at hazard mitigation and should be related to other state and federal programs, especially those designed to control development in the flood plain.

b. Architect Involvement

--Work with state officials to identify erosion prone areas which should be designated as APCs.

--Help determine the most effective sorts of measures -- physical, regulatory, or none at all -- to help solve erosion problems.

--If the state program includes performance criteria, assist in establishing special design considerations for building in high rish erosion areas.

--Develop special design prototypes for construction and site planning in erosion prone areas. Help publicize particularly noteworthy designs.

--Make sure that state and local officials are working with other governmental (e.g. federal) agencies with an involvement in erosion control. Serve as a catalyst for bringing such groups together.

9. Energy Facilities. The third new requirement for management plans in the 1976 amendments requires "...a planning process for energy facilities likely to locate in, or which may significantly affect the coastal zone, including but not limited to, a process for anticipating and managing the impacts from such facilities." According to the regulations for CZM program development grants, this process must include: (1) an identification of facilities likely to locate in or signficantly affect the coastal zone; (2) a procedure for assessing the suitability of such sites; (3) a discussion of state policies to manage energy facilities and their impacts; (4) a mechanism for coordinating state coastal policies for energy facility siting with other relevant federal, state, local and regional programs; and (5) an identification of legal and other techniques which can be used to meet management needs.

a. Major Issues. The problem of energy facility planning touches on all the major themes of the coastal zone management program. As the regulations observe, "Essentially a balancing of national interests between resource preservation and conservation, on the one hand, and energy needs, on the other hand, must be achieved in order to avoid arbitrary exclusions or restructions of either interest." The regulations recommend one of three possible approaches: (1) designation of specific sites in or near the coastal zone for particular types of energy facilities; (2) development of performance standards that certain types of facilities would have to meet irrespective of their location; or (3) adoption of performance standards for permitted facilities with exclusion of specific types of facilities in selected coastal locations. The choice of technique depends on the particular coastal problems of a given state as well as the type of facility likely to locate on or near the shore. Energy development is one of the major issues confronting coastal zone management and is discussed in more detail in a later section on the Coastal Energy Impact Program.

b. Architect Involvement

--Make sure that there is a balancing of environmental and developmental objectives in siting decisions of energy facilities. This is an area where these twin objectives of the Act are often brought into sharp conflict.

--Carefully oversee proposed siting decisions to make sure that all the options and impacts have been considered.

--Offer technical assistance in drawing up site plans.

C. The Implementation Stage

The real test of whether coastal zone management will be effective or not comes with the implementation of the plans themselves. At the point when OCZM approves a state's management program, the plan ceases to be on paper. It must be judged by its effectiveness.

The aspects of coastal zone management that we have discussed so far have been concerned with process. During the implementation stage we are concerned with substance. An OCZM official put it succinctly: "Section 306 is where it counts and where the action is going to be. This is where we'll make or break the program."

The law requires states to reevaluate their plans each year before the next section 306 management grant will be approved. Each year's application is subject to the A-95 review and comment process cited earlier. This is an excellent opportunity for the public to "review" and "comment" on the plan as well. For the most part, however, there are less formal opportunities for public involvement during the implementation stage than in the planning stages of the program. This makes it all the more important for architects and others to monitor closely how the program is operating and to press for ample opportunities for public discussion and public input to ensure that the management plan meets the state's emerging coastal needs.

The remainder of this section outlines the major areas of the law -- intergovernmental relations and CEIP -- which are critical during the implementation stage. It also discusses some of the emerging issues such as hazard control and coastal uses in urban areas which will achieve greater importance as states move beyond planning into true coastal zone management.

1. The Intergovernmental Structure: Federal Consistency, the National Interest and Coordination

a. Federal Consistency. One of the most powerful incentives in the Coastal Zone Management Program is the "federal consistency provision" contained in Section 307. Section 307 (c) (1) of the law states that "Each federal agency conducting or supporting activities directly affecting the coastal zone shall conduct or support those activities in a manner which is, to the maximum extent practicable,

consistent with approved state management programs." Subparagraphs (2) and (3) of this section make similar requirements for federal development projects and federal licenses and permits respectively. The 1976 amendments to the Coastal Zone Management Act extend the federal consistency requirements to include Outer Continental Shelf (OCS) energy exploration, development and production. Specifically, federal agencies must "provide State agencies with consistency determinations for all Federal activities significantly affecting the coastal zone...at the earliest practicable time in the planning or reassessment of the activity," according to the regulations for federal consistency.

The federal consistency requirement is a major test of the effectiveness of the cooperative intergovernmental structure on which much of the CZM program is based. This provision of the law provides unprecedented state oversight over federal programs, although it is not a blank check by any means. For one thing, the Act states that "The Secretary shall not approve the management program submitted by a State pursuant to Section 306 unless the views of Federal agencies principally affected by such programs have been adequately considered."

In addition, states do not have an absolute veto over federal actions which may be inconsistent with state plans. For example, federal actions necessary to fulfill national security goals will be given priority over state coastal zone management plans. Whenever there is a dispute under the federal consistency provisions of the Act, the federal agency and the state officials responsible for coastal zone management are directed to make every effort to mediate the dispute. The final arbiter in irreconcilable differences is the Secretary of Commerce and the Executive Office of the President (Office of Management and Budget).

The regulations for Federal Consistency go to the core of the challenges in this provision when they say: "Coordination implies a high degree of cooperation and consultation among agencies, as well as a mutual willingness on the part of the participants to accommodate their activities to the needs of others in order to carry out the public interest. Perceptions of the public good will

differ and it is recognized that not all real or potential conflicts can be resloved by this process..."

b. National and Regional Interest. Closely related to the consistency requiremnet is the provision in the Act that state plans provide for "adequate consideration of the national interest involved in the siting of facilities necessary to meet requirements which are other than local in nature. (See Coastal Zone Management Approval Regulations, Federal Register, Vol. 42, No. 167, 43572.)

This provision exemplified the "cooperative" intergovernmental theme of the Act. The final regulations for Program Administrative Grants emphasize that "the requirement should not be construed as compelling the States to propose a program which accommodates certain types of facilities, but to assure that such national concerns are included at an early stage in the State's planning activities and that such facilities not be arbitrarily excluded or unreasonably restricted in the management program without good and sufficient reasons." In fulfilling the national interest provisions, state management programs "should make reference to the views of cognizant Federal agencies as to how these national needs may be met in the coastal zone of that particular State." The regulations emphasize that "No separate national interest 'test' need be applied and submitted other than evidence that the listed national interest facilities have been considered in a manner similar to all other uses and that appropriate consultation with the Federal agencies listed has been conducted."

The Act also requires that the management program include a method of "assuring that local land and water use regluations within the coastal zone do not unreasonably restrict or exclude land and water uses of regional (intra-state) benefit." States and local governments must also consider the needs of neighboring state coastal regions. The importance of this type of interstate consultation, the regulations point out, "cannot be over emphasized for it offers the State the opportunity of resolving significant national problems on a regional scale without Federal intervention."

c. Coordination. Section 307 is subtitled "Interagency Coordination and Cooperation," and while the federal consistency requirement contained in this section has received the most attention, the coordination of the federal coastal zone management program with other federal programs is beginning to take place and deserves encouragement. OCZM has executed interagency agreements with the Environmental Protection Agency and HUD for cooperation under the Section 208 Areawide Water Pollution Planning program and the Section 701 comprehensive planning program respectively. Twin executive orders issued by President Carter in May 1977 (EO 11988 on flood plains and EO 11990 on wetlands) require stricter controls by federal agencies over activities in both types of critical area, especially under HUD's Flood Insurance Program. This could have major implications for hazard mitigation in coastal areas. An interagency agreement between OCZM and the Heritage Conservation and Recreation Service in the Department of the Interior holds promise for urban coastal zone management.

State programs must also include provisions for meeting the requirements under the Federal Water Pollution Control Act, as amended and the Clean Air Act, as amended. Permitted uses for development of industrial and residential complexes as well as new growth fueled by energy exploration must be monitored closely by coastal planners to ensure that they do not hamper attainment of national air and water goals. OCZM clearly means for coordination to go beyond cooperation with federal and state agencies. "One of the critical aspects of the development of State coastal zone management programs" the regulations say "will be the ability of the State to deal fully with the network of public, quasi-public and private bodies which can assist in the development process and which may be significantly impacted by the implementation of the program." The regulations include extensive provisions for consultation with private interests, such as AIA components, as well as coordination in the state.

d. Architect Involvement

--Make sure that state officials consult with all the important actors on the coastal scene -- other federal agencies, other agencies in

your own state and neighboring states, local government officials and private groups and individuals. Such communication is a prerequisite for successful intergovernmental cooperation.

--Monitor federal activities in the coastal zone and make sure that other state agencies with programs in coastal areas (e.g. the State Department of Transportation) cooperate with the coastal agency staff when federal programs are involved.

--Help state officials define the impact of facilities of "national interest" and develop criteria for fair consideration of such facilities within state coastal zone management areas.

--Identify ways that OCZM cooperative agreements with other federal agencies can benefit your particular state. Bring together officials at the state and federal level to discuss the relevance of such agreements for your state. A Michigan Great Lakes community, for example, commissioned a comprehensive design plan for their urban waterfront under their CZM program. Funding for the construction of the plan came from the Department of the Interior through the Heritage Conservation and Recreation Service. Architects can help identify many such resources to implement specific portions of state CZM plans.

2. Coastal Energy Impact Program (CEIP)

The most signficant of the 1976 amendments to the Coastal Zone Management Act was the addition of Section 308, which creates the Coastal Energy Impact Program (CEIP). CEIP, which was described earlier in this report, provides funds for planning, public facilities and repayment assistance, as well as grants for alleviating "unavoidable" loss or environmental resources from energy development in coastal areas. The funding sources are the $800 million Coastal Energy Impact Fund $1.3 billion in formula grants to specifically help states mitigate the onshore impacts of our Continental Shelf (OCS) activity and $25 million for state OCS administrative responsibilites. To be eligible for CEIP, states must either be participating in the coastal zone management program or be developing a program independently that meets the requirements of the federal program.

A major objective of the CEIP program is to strike a balance between two competing national goals: development of domestic energy resources and increased energy self-sufficiency; and protection and management of the Nation's coasts "in a manner consistent with the coastal zone management programs and objectives of the individual States over both the short and long term."

Planning grants under CEIP can be used for a broad range of purposes, including: The study of and planning for the economic, social or environmental consequences of energy facilities; cost-benefit analyses and other comparisions of alternate energy facility proposals; risk management studies; development of strategies for the public acquisition of land or enforcement of other land use controls; and definition of strategies for protecting recreational or environmental resources, among other things. The territory of Guam, for example, has submitted a proposal to use CEIP planning funds for compilation, summary and distribution of data for use by Guam planners; development of mechanisms for public, private and governmental agency input and review of energy determination; analysis of project effects and impact of conventional energy development over the next 10-20 years; assessment of the effects and impact of alternative sources of energy proposed for Guam; and review and analysis of superport proposals for Guam.

Formula grants can be used for public facilities and services related to education, environmental protection, government administration, health care, public safety, recreation, transportation and public utilities. The need for these facilities must be directly related to OCS activity. La Fourche Parish in Louisiana submitted a CEIP proposal for purchase of hospital equipment for a health facility whose patients are predominately the employees or families of employees working for energy or related industries in the Gulf of Mexico. Another provision of CEIP would help a community such as LaFourche Parish repay a CEIP loan for expansion or construction of a facility, such as a hospital if the increase to the community's tax base did not materialize as expected from coastal energy activity.

All of these types of CEIP assistance are aimed at mitigating economic and social impacts of energy activity. Formula Grant funds are also used

to address the problem of environmental or recreational losses as a result of energy development. The CEIP regulations define "unavoidable" as:

> that part of damage to or loss of an environmental or recreational resource resulting from coastal energy activity or from the public facilities associated therewith that either:
>
> (1) cannot be attributed to any identifiable person or persons; or
>
> (2) cannot be prevented, reduced, or ameliorated by assessment of the loss against an identifiable person or persons through the reasonable implementation or enforcement of the existing regulatory authority of the State or of any political subdivision of the State and
>
> (3) cannot be paid for with funds that are available from any other Federal program.

Such grants can be used to acquire beachfront, enforce environmental standards on energy facilities, and develop controls to reduce "unavoidable" losses. St. Bernard Parish in Louisiana received a grant under this section of CEIP to construct a freshwater diversion structure to prevent further deterioration of wetlands from saltwater intrusion as a result of previous dredging and construction of oil and gas pipelines.

OCZM requires that decision making for the use of CEIP funds be shared by local and state officials. OCZM allocates the funds to the states according to a set of complex formulas, based on population, need and OCS development, among other things. Each state must develop an allocation process which includes the following elements:

--participation of state agencies and local governments in establishing the allocation process.

--a "needs priority method."

--a project evaluation and selection method.

In addition to distributing funds to local governments for CEIP projects, states can also sponsor projects of their own. The state's process for ranking projects and distributing funds will be reviewed by OCZM before any funds are released under CEIP. Local governments can appeal first to the state CZM agency and then to OCZM if they feel the state did not follow its distribution process fairly. OCZM will only consider appeals about the process itself, however, not the amount of assistance provided. States with larger allocations must also have programs for public information about the CEIP program.

a. Major Issues. Offshore energy exploration has both positive and negative ramifications for coastal communities. Experience in Scotland and Louisiana suggests that sound planning in advance of offshore drilling can help mitigate the most serious negative impacts. Such early preparedness is one of the main thrusts of CEIP.

Communities must be prepared to plan for facilities legitimately needed to accommodate energy exploration and to say "no" to facilities which might just as well be located elsewhere, for example, storage or refining installations should more appropriately be located inland.

While much of the CEIP money will be used in developed areas, a large preponderance of OCS activity is taking place off the coast of rural communities. The introduction of rapid development and demand for services caused by oil and gas exploration may impose a burden that such areas are in no way able to handle without careful advance preparation. Urban areas, too, will be affected by off coast energy development, often taxing already overloaded services or harming precious coastal amenities. Citizens in Jersey City, New Jersey, for example, rallied to oppose the construction of a deepwater terminal because they did not want their water front area permanently converted to industrial use.

Another important issue which must be faced by coastal planners is the impact of energy development after the oil and gas fields are depleted. The boom from OCS activity is of finite duration. Growth patterns which emergy during the exploration and development stages will have to be flexible enough to accommodate and readjust to community needs once the boom has abated.

b. Architect Involvement

--Become actively involved at the local level in helping communities set priorities for CEIP use.

--Monitor the state distribution process to insure that funds are distributed fairly and rationally.

--Help your local government (or when appropriate state agency) prepare the assessment date for CEIP proposals. If OCZM determines the potential impacts to be significant, then an environmental impact statement must be prepared. This affords a further opportunity for public review of the proposal.

--Monitor the A-95 review process to make sure that all the relevant publics have taken advantage of their opportunity to comment on CEIP proposals.

--Provide technical assistance on preparation of site plans and design proposals for related services, such as housing developments and shopping center. New residential areas might best be planned in a cluster design. Propose some prototype design examples to your community.

3. Emerging Issues in Coastal Zone Management

There are many challenges ahead as more states enter the implementation phase of coastal zone management.

Among the most important of these for AIA members are hazard management and erosion control, urban coastal uses and preserving the important visual and aesthetic qualities of the coast through advocacy of better design. These issues are discussed below.

a. Hazard Management. There are many natural hazards which threaten the coast -- hurricanes, floods, erosion, landslides, earthquakes, land subsidence, and in some areas tsunami and volcanic eruptions. More than six million people now live in hurricane prone locations along the coast and these areas are growing at a rate of three to four percent above the national average. About one-third of the nation's shoreline (excluding Alaska) is subject to "significant erosion" and the erosion problem is considered "critical" along, 2,700 miles of the coast, according to the United States Corps of Engineers. Property damage from erosion amounts to $300 million a year, according to some estimates.

Coastal areas have natural defenses against many of these threats. Barrier island and dunes, for example, form a front line against severe ocean storms. Erosion, too, can be a necessary natural process, for some parts of the shore. Construction in coastal areas often tampers with these natural bulwarks or processes making the coast dangerously hazard prone. While the Coastal Zone Management Act focuses specifically on the problem of erosion, attention to other coastal hazards is left to the discretion of state coastal plans.

Most states do include some measure of hazard mitigation in their plans. The Michigan management plan, for example, regulates development in flood plains and erosion prone areas. Most states have adopted statutes related to hazard control, especially erosion, but, as a recent OCZM report observes, "no state has thus far explored and tested the whole range of legislative and administrative measures available for managing hazards along its coast."

There is much work also to be done at the federal level, although the basic framework for hazard control is beginning to emergy. Under the Coastal Zone Management Act, states must carry out a planning and management process for coastal areas, including the designation of permissible and priority uses, areas of particular concern, as well as specific erosion control measures. The National Flood Insurance Administration within HUD, provides minimum management standards for areas subject to flooding and erosion. While the CZM program works through the states, the NFIP deals with local

communities directly by providing flood insurance to structures in communities which have met the flood plain management provision of the program. Needless to say, a substantial number of 16,000 flood prone communities in the NFIP are in coastal areas. Finally, Executive Orders 11988 and 11990 require federal agencies to carry out wise use of flood plains and wetlands respectively as a result of federal programs and actions.

There is currently little explicit relationship between these programs, but AIA members could lobby at both the federal and state level to gain greater cooperation between local flood plain management efforts and state coastal management. Architects can also monitor their state coastal program to make sure that hazard mitigation is one of the factors considered when APCs and priority uses are designated in the state coastal region.

As much as anything else, however, architects can use the moral suasion of good design and the knowledge of where and where not to build in hazard prone areas. Architects can help states develop design considerations for construction in high risk erosion and other hazard areas and beyond this, set the best example possible, through their own building and siting plans.

b. Urban Waterfronts. While much attention in coastal zone management is focused on natural areas and fragile lands, a large portion of our coast is not beachfront at all -- it is urban waterfront. In a different way, the urban waterfront is also a threatened part of our coast. It is also a portion of our shore that offers marvelous opportunities both for urban revitalization and for providing recreational access to city residents. Too often these are missed opportunities.

Cities are beginning to take pride in their waterfronts and are realizing that they are a vital resource in the urban fabric -- one that attracts new residents and tourists and enhances the tax base. Philadelphia and Baltimore have turned their harbor areas into thriving city neighborhoods. One of San Francisco's most important tourist attractions is Fisherman's Wharf. On a smaller scale, St. Ignace, Michigan has developed a public promenade along its waterfront and Kenosha Wisconsin has improved beach access.

There is no explicit reference in the Coastal Zone Management Act to specific planning considerations for urban areas, and, while many aspects of state coastal zone plans touch on urban coasts, very few have articulated specific policies in this area.

Architects have to look beyond the bounds of the CZM program for many of the most promising resources for urban coastal development. The Community Development Block Grant program of the Department of Housing and Urban Development is an excellent source of funds for getting many urban coastal designs built. Bridgeport, Connecticut has used such funds for extensive redevelopment along its waterfront. Another promising source is the Heritage Conservation and Recreation Service (HCRS) within the Department of the Interior. OCZM has a memorandum of understanding with HCRS to support matching grants for access to publicly held areas along the coast. HCRS funds are especially targeted toward expanding urban coastal recreational opportunities. Local zoning, land use, and tax incentives can also spur urban coastal development.

The local master plan could designate land for uses appropriate for water related development. Architects could also help local communities identify historic properties, many of which are located along the waterfront. When appropriate, cities could designate such areas as historic districts and identify sites and areas for inclusion on the National Register of Historic Places. This opens up opportunities for federal rehabilitation loans and grants for historic structures, and can be the starting point for more general neighborhood revitalization along the waterfront. The Massachusetts CZM plan includes a policy to promote historic preservation in coastal areas: "Review developments proposed near designated or registered historic districts or sites to insure that Federal and State actions and private actions requiring a State permit respect their preservation intent and minimize potential adverse impacts. Encourage use of local zoning, land use controls and tax incentives to improve visual access and the compatibility of proposed development with existing community character."

Finally, architects can look to themselves to be the leaders for designs of excellence in urban areas.

One such example is "Portobello" a mixed-use complex built on a 28.2 acre site owned by the Santa Fe Railroad on the Oakland waterfront. Phase I of the complex includes 200 apartment units, 20,000 square feet of office space and 8,000 square feet of retail space, a 50-berth marina, and 350 parking spaces. Its treatment of the waterfront is especially noteworthy and includes decking over the water and landscaped banks. A system of pedestrian walkways and bike paths will link the complex with two nearby parks. As required by the Bay Conservation and Development Commission, a 100-foot strip of property has been dedicated as permanent open space, making the entire waterfront open to the public.

Another noteworthy project is Camden Harbor, a 17 acre urban park along the Camden, New Jersey waterfront. The objective of the plan is to create a major urban recreational space against the backdrop of the Philadelphia Skyline with the hope that it will serve as a catalyst for further redevelopment on either side. The first stage will include a promenade, a riverfront stage, and a Ferry and Railroad Museum. The second phase will include a 50-150 slip marina and harbor for public use, a 1,300 seat restaurant overlooking the harbor and a 560-space parking facility. A lighthouse will serve as the focal point for visitors.

c. Enhancing the Visual Resource of the Coast. One of the reasons the coast holds a lure is because of its visual and aesthetic value. Defining visual quality is difficult but it is clearly an important role for the design professional. Some of the more obvious aesthetic resources will be the natural views -- of offshore islands, of dunes, and of inlets -- which characterize the shore. Many coastal areas are also the location of important historical sites and more current man made aesthetic resources, such as recreational development and marinas, can add to our aesthetic appreciation of the shore. A special challenge to the visual resources of the shore is posed by urban coastal development.

While the Coastal Zone Management Act recognizes the importance of the visual assets of the coast, most coastal planning and management efforts have made only the most preliminary efforts at preserving and enhancing the aesthetic quality of the coast.

The Act and its regulations do not make design factors an explicit requirement in coastal zone management plans, nor do most state plans include requirements for explicit design considerations. The Massachusetts management plan is noteworthy and unusual in including a policy to "encourage incoporation of visual concern into the early states of the planning and design of all facilities proposed for siting in the coastal zone.

Good design of coastal development is an excellent example of where the two seemingly contradictory objectives of development and preservation can both be met. Throughout this report we have made a major contribution to better design along the coast by encouraging environmentally sensitive development. Architects, in short, are in an excellent position to advance the primary goals of the Coastal Zone Management Act through what they do best -- design.

CONCLUSION

Coastal Zone Management is a complex program, but one which is critically important to the architectural profession. The outcome of coastal zone management can determine the future of design and building, and the circumstances under which it will take place, for years to come in coastal areas.

In their position paper on coastal zone management, the Virginia Society of the AIA said:

> The Virginia Coastal Resources Management Program has broad implications with respect to future statewide land use policy development. Such issues as the extent of property rights, the role of various levels of government and citizens in land-use decisions, and the balance between economics versus ecological considerations are being tested by the coastal program process.

AIA components can and should become involved in coastal zone management. Through the opportunities for public participation discussed in this paper, and their advocacy of better design, architects can play an important and positive role in the future of our coasts.

APPENDIX I AIA POLICY ON THE COAST

The American Institute of Architects has issued several policy statements which deal with coastal issues, both directly and indirectly. A 1975 policy statement by the AIA asserts:

> The coastal zone of the United States is one of our greatest resources, capable of providing food, energy and many economic and environmental benefits; it is also the scene of our major resource-use conflicts. In this area are concentrated the majority of man's activities, his habitation, industry, recreation and wastes. The Coastal Zone Management Act provides ways and means for saving this priceless area of the United States...
>
> The Federal Coastal Zone Management Act encourages states, through grants and other incentives, to develop and implement management programs for the wise use of coastal land and water resources. While underscoring the importance of public local, regional and federal participation, the act clearly places the planning and management responsibilities squarely at the state level...
>
> The AIA through its local chapters should take an active part in encouraging local municipalities, counties, etc. to assist wherever possible, so that the maximum benefits can be achieved for their area during the research and management program. There most certainly will be a confrontation occuring during the implementations of this act, but an interested local chapter can help to implement this extremely necessary environmental safeguard. The coastal zone should be for the benefit of all citizens, not just for those seeking a quick profit...
>
> Most states have enthusiastically accepted this program even though it took two years to get minimum funding from the Federal Administration, but now that it has started an active part by local AIA components will help to insure the proper protection of the coastal zone...

Other AIA policy statements also have relevance for coastal zone mangement. Among the most important are the following:

> A conservation strategy should be (1) designed to identify and protect (a) fragile and/or unique natural areas or topographical features (b) historical areas and building...
>
> A conservation strategy should be designed (4) similarly, to conserve the land itself, an irreplaceable raw material, by establishing a more rational system of design and development...
> Structure for a National Growth Policy, December 1973
>
> State governments should participate more directly in planning and regulating the use of land, especially in areas defined as 'critical'...
>
> Environmental controls and design standards should be strengthened...
> A Plan for Urban Growth: Report of the National Policy Task Force, January 1972
>
> We believe that environmental considerations must be integrated into planning and design processes...
>
> We urge that research, analysis, planning and design efforts of interdisciplinary teams begin at the formulative stage and continue in such a way as to make a maximum contribution to orderly, creative processes of environmental design and public decision making...
> AIA Policy in Regard to the National Environmental Policy Act (NEPA) January 1974

APPENDIX II: COASTAL STATE MANAGEMENT AGENCIES

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APPENDIX III MAJOR FEDERAL STATUTES AND REGULATIONS ON COASTAL ZONE MANAGEMENT

Statutes:

The Coastal Zone Management Act of 1972 (PL 92-583, 16 USC 1451)

The Coastal Zone Management Act Amendments of 1976 (PL 94-370, 16 USC 1451)

Related statutes of importance:

The National Environmental Policy Act of 1969 (42 USC 4321)
The Federal Water Pollution Control Act Amendments of 1972 (33 USC 1251)
The Flood Disaster Protection Act of 1973 (42 USC 4001)
The Clean Air Act of 1970 (42 USC 1857)
The Marine, Protection Research and Sanctuaries Act of 1972 (16 USC 1431 and 33 USC 1401)
The National Historic Preservation Act of 1966 (16 USC 470)
The Deepwater Port Act of 1974 (33 USC 1501)

Regulations:

Coastal Zone Management Development Grants (15 CFR 920)
Coastal Zone Management Program Administrative Grants (15 CFR 923)
Coastal Zone Management Program Approval Regulations (proposed) (Federal Register, vol. 42, no. 167, August 29, 1977, 42552 et seq.)
Federal Consistency with Approved Coastal Management Programs (15 CFR 930)
Coastal Energy Impact Program (interim-final regulations) (Federal Register, vol. 42, no. 3, January 5, 1977, 1164 et seq.)
Coastal Zone Management Interstate Grants (15 CFR 932)
Marine Sanctuaries (15 CFR 922)
Monitor Marine Sanctuaries (15 CFR 924)
Estuarine Sanctuaries (proposed rule) F, Federal Register, vol. 42, no 175, September 9, 1977, 45523 et seq.)
Outer Continential Shelf Development Grants, Coastal Zone Management Program, (interim regulations) (Federal Register, vol. 40, no. 104, May 29, 1975, 23275 et seq.)

APPENDIX IV FURTHER READING ON COASTAL ZONE MANAGEMENT

Further Reading on Coastal Zone Management

Conservation Foundation Letter, "The Coast is Not Clear for Energy Planning" (February 1977) and "The Coasts are Awash with Disputes" (March 1977) available from the Conservation Foundation, 1717 Massachusetts Avenue, NW, Washington, D.C. 20036

Department of Commerce, National Oceanic and Atmospheric Administration Natural Hazard Management in Coastal Areas, Office of Coastal Zone Management (Washington, D.C., November 1976)

Ditton, Robert B. and Stephens, Mark, Coastal Recreation: A Handbook for Planners and Managers, Office of Coastal Zone Management (Washington, D.C., January 1976)

League of Women Voters Current Focus, "Coastal Zone Management Program" (Pub. #572); "Energy and Our Coasts: The 1976 CZM Amendments", (Pub #699); "The Onshore Impact of Offshore Oil", (Publ #661); all available from: League of Women Voters of the United States, 1730 M Street, NW, Washington, D.C. 20036

Roy Mann Associates, Inc., "Aesthetic Resources of the Coastal Zone", Office of Coastal Zone Management, (Washington, D.C., July 1976)

Natural Resources Defense Council, Who's Minding the Shore?: A Citizens' Guide to Coastal Management, Office of Coastal Zone Management, Washington, D.C. 1976)

Platt, Rutherford H., "Coastal Hazards and National Policy: A Jury-Rig Approach", Journal of the American Institute of Planners, (April, 1978)

Simon, Anne W., The Thin Edge: Coast and Man in Crisis, Harper and Row, (New York, 1978)

The Urban Land Institute, "The Economic Benefits of Coastal Zone Management: An Overview", Office of Coastal Zone Management (Washington, D.C., March 1976)

Urban Land Institute, Environmental Comment, "Coastal Zone Management" (November 1976-entire issue); "OCS Development and its Onshore Impact" (February 1978-entire issue). Available from: ULI-the Urban Land Institute, 1200 18th Street, NW, Washington, D.C. 20036)

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