Washington - Coastal Zone Management Program

SHORELINE MASTER PROGRAM HANDBOOK

Prepared for the Washington State Department of Ecology

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ember, 1983

This report was prepared under contract to the Washington State Department of Ecology with funds obtained from the National Oceanic and Atmospheric Administration and appropriated under Section 306 of the Coastal Zone Management Act of 1972.

Cover photograph by Marc Hershman

Use Activity illustrations from Waterway Development Handbook, Oregon Department of Economic Development, June, 1977.

I. Introduction

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I. INTRODUCTION

The Shoreline Master Program (SMP) Handbook represents a compilation of the "best practices" contained in existing shoreline master programs. Most master programs were developed and adopted close to ten years ago, and many cities and counties are now working on amendments to update their plans and to address emerging issues. The handbook is designed to provide a comprehensive set of policies and regulations upon which local jurisdictions can draw in developing future master program amendments.

This study was initiated by the Washington State Department of Ecology (DOE) as part of a broad evaluation of the State's shoreline management program. It is one of the four concurrent studies sponsored by the Department, including also a public access study, an analysis of wetlands management and a public perception survey on shoreline management issues.

The Shoreline Master Program Study began with a survey of 30 local jurisdictions, collecting information on how master programs were developed, how they are used and their strengths and weaknesses. The jurisdictions surveyed were selected to represent a complete range of shoreline types, jurisdiction sizes and locations in the state. A questionnaire was mailed to each jurisdiction, and responses were recorded during a subsequent interview, either in-person or by phone.

The ideas expressed in the survey helped to shape our approach to preparing the handbook. The survey also raised a number of issues which were beyond the scope of the handbook, and these issues are discussed in an analysis report prepared in conjunction with this handbook. The results of the survey are also contained and summarized in the analysis report.

The survey identified both similarities and differences among existing master programs. Variations between the programs were found to be inherent in the nature of the State's shoreline management program, which relies on local jurisdictions to develop plans which tailor state guidelines to specific local circumstances. For this reason, no attempt was made to develop a standardized "model" program

applicable to all jurisdictions. Instead, the handbook was designed to be as comprehensive as possible, to include the maximum number of options to aid local planners in preparing future program amendments. The handbook also identifies available technical references that may provide useful guidance in developing project review standards and approaches.

The handbook is organized in a manner similar to most shoreline master programs to facilitate its use. The following topics are included:

- Master Program Organization and Structure, a discussion of organizational options and methods for making the program understandable to the public;
- Master Program Elements, the broad goals and policies guiding shoreline management;
- Environment Designations, including designation criteria and management policies for tailoring the general state guidelines to local shorelines;
- Use Policies and Regulations, a compendium of standards drawn primarily from existing master programs;
- Special Issues, a discussion of several cross-cutting management issues which affect all shoreline use activities and environments; and
- Program Administration, options for enhancing the effectiveness and efficiency of the permit process.

All sample master program provisions contained in the handbook are outlined with a bold line to distinguish them from general text and facilitate their use. The three-ring binder format was selected so that the handbook can be revised and updated in the future. New pages can be inserted as standards are developed to address emerging issues and new shoreline use activities. It is hoped that the document will serve as a vehicle for shoreline planners and local jurisdictions across the state to share current ideas on effective shoreline management approaches and techniques.

II. Shoreline Master Program Organization and Structure

II. SHORELINE MASTER PROGRAM ORGANIZATION AND STRUCTURE

The organization of a shoreline master program influences its coordination with other local regulatory programs, ease of administration and public understanding. This chapter examines two basic aspects of program structure: the relationship between SMP policies and regulations and the organization of use regulations. Because it is important to make the program clearly understandable to the public, the chapter also includes a section describing tools to aid public understanding of shoreline master programs.

A. THE RELATIONSHIP BETWEEN POLICIES AND REGULATIONS

Shoreline master programs include both policies and regulations relating to development in shoreline areas. Although legally the entire SMP is adopted by DOE as a regulatory program and incorporated in the WACs, in practice the SMP policies are accorded less weight than use regulations in the review of development proposals. Most jurisdictions use the regulations as the primary standards against which all development proposals are evaluated. The policies form the umbrella framework under which the regulations were originally developed and are now used to help interpret or explain the regulations. Since this is the approach taken in most SMPs, the handbook was prepared with the assumption that the policies and regulations would be used in this manner. The policies are designed to be general and the regulations provide the more detailed standards that specific projects must meet. In preparing the handbook, the policies and regulations for each use are placed in the same section to facilitate the use of policies in interpreting the regulations.

In most cases, master programs were developed and adopted as an additional layer of policies and regulations on top of existing land use programs. Thus the challenge for local governments has been to integrate the new shoreline standards and permit process with existing comprehensive plans and zoning codes. This was often an important factor in determining the organization of policies and regulations in the master program.

In deciding how to structure their programs, jurisdictions considered both the need to effectively coordinate the

shoreline permit process with the administration of other local land use programs and regulations and the need to have an identifiable shoreline master program that would stand alone as a "comprehensive use plan" for the shoreline and satisfy the requirements of the Shoreline Management Act and DOE.

Most jurisdictions used a variation of two basic approaches in organizing SMP policies and regulations:

- Policies and regulations are maintained together in a single document, often with use policies and regulations placed in the same chapters. The jurisdiction's comprehensive plan and zoning ordinance usually remain separate from the master program, and each must be independently consulted in making shoreline development decisions. Alternatively, the entire SMP is sometimes incorporated as a chapter of the comprehensive plan, as in the City of Edmonds.

- Policies and regulations are clearly separated in the SMP, allowing the jurisdiction to incorporate the policies in their comprehensive plan and the shoreline regulations in their zoning ordinance. For example, King County and the City of Bellevue both split the shoreline policies and regulations to fit within their plans and zoning ordinances. King County also publishes them together as an independent SMP document.

The principal advantage of combining policies and regulations in the SMP is that the policies can help to explain the intent of the regulations. In addition, maintaining a separate, consolidated SMP document makes it easier for DOE and the public to identify the shoreline program: it is clear that there are special guidelines which apply to development in shoreline areas.

Keeping the SMP independent from other plans and codes seems to work well where the SMP is one of a few local planning programs, making it relatively easy for users and administrators to coordinate their application. Even when numerous other programs exist, effective coordination is possible if a single planning or building department is

responsible for administering all the land use regulatory programs, providing a coordinated source of information on applicable development regulations.

However, an independent document can be more cumbersome to administer and requires more staff time "at the counter" to explain the relationship between the SMP and other regulatory programs. This poses a potential problem in larger jurisdictions where there are numerous and overlapping planning and management programs handled by different departments.

The other approach, dividing SMP policies and regulations so they can be inserted in existing plans and codes, seems to be particularly appropriate where planning and management responsibilities are divided among numerous departments and the primary vehicles for coordination are the comprehensive plan and zoning. It is also appropriate where the comprehensive plan and zoning have long been established as the principle tools for land management, and there is a desire to continue to work within this framework. In these instances, the "split" approach can facilitate the integration of all local land use regulations. Therefore, the SMP standards are likely to be applied more efficiently and consistently because they are part of one overall regulatory program. Users, too, have a more complete picture of all land use regulations.

Nevertheless, the approach is not without its drawbacks. The separation of policies and regulations can result in policies being overlooked in the review of development proposals. Without the policies, the intent of the regulations may be unclear with the end result that the standards are applied in an unreasonable way. When the SMP is integrated with other local plans and ordinances, there is also the risk of losing a clear identification of the SMP as a discrete program adopted in compliance with the Shoreline Management Act. Since amendments to the SMP require DOE approval, it is important that the jurisdiction clearly specify which portions of its zoning code or comprehensive plan constitute SMP provisions, so that the limits of DOE review are clear. Similarly, jurisdictions should consider the implications of incorporating any general zoning code provisions by reference in the SMP, because legally this will expand the scope of DOE's review to include the referenced codes.

Programs can blend the two basic organizational approaches to capitalize on the advantages of both, as King County and the City of Edmonds have tried to do. However, there is no clear "best approach". Local governments must organize the program policies and regulations in a manner that is best suited to fit their existing planning and regulatory framework.

B. ORGANIZATION OF USE REGULATIONS

The intent of the Shoreline Master Program is to "provide [local governments] an objective guide for regulating the use of shorelines" (WAC 173-16-040(1)). The two required program components that form the basis for this regulatory guidance are the environments and the use activities: the environments establish the management objectives for different shoreline types (e.g., Urban and Rural), and the use activities govern how and where various development activities (e.g., piers and docks, commercial development or bulkheads) should take place. Both the environments and uses may contain management policies and regulations.

In presenting the regulations, most programs have adopted one of two organizational approaches: (1) organizing the regulations by use, or (2) organizing the regulations by environment. Because it is the most common type of organization, this handbook is organized around use activities.

- Organization by Uses. Programs organized around uses contain a separate section for each use activity which includes all regulations for that use and any regulations specific to the environments, such as whether the use is permitted or subject to special conditions. Management policies for the environments are established in a separate program chapter. Often a matrix is used to show what uses are permitted/prohibited in each of the specific environments.

- Organization by Environments. In other programs the use regulations are established under each environment. The general description and management policies for each environment are followed by use regulations including a statement of which uses are permissible in that environment.

When determining which organizational approach to select,

local governments must consider both the requirements for efficient program administration and the need for clear public understanding of the program.

There are two major advantages to organizing the regulations around use activities. First, the program is easy to administer since most permits involve only one use activity; and, second, program redundancies are minimized since many of the use regulations are the same for all environments. Thus, the regulations are stated only once, which cuts down on bulk and/or minimizes the need for cross-referencing.

One disadvantage of the use organization is that it may be more complicated to coordinate with local zoning which is geographically based. In addition, this organization may not be as understandable to the public or the first-time developer. The user expects to be able to look up a property on a map and consult a single source to identify all applicable regulations and standards. The use organization requires consulting each applicable use category and then finding the standards applicable to the environment in which the property is located. Therefore, more staff time may be required to explain the program to the public.

This is one of the main advantages to organizing the program around environments. Applicants can find in one section of the program all the appropriate shoreline policies and use regulations pertaining to their property. For this reason, programs organized around environments may be easier to coordinate with local zoning.

Some jurisdictions have found that organization by environments provides a workable program structure, most notably King County. Tacoma's use of special subarea plans as the basis of its SMP may be considered a variation of this approach. In both cases the organization was selected, in part, because the physical shoreline character and use activity demands were distinctly different from area to area (e.g., rural rivers subject to recreation use or urban shores subject to commercial or residential use). However, this approach is not common, and some jurisdictions that initially adopted the environment organization are in the process of changing to a use organization.

The principal disadvantage of the environment organization is that it generally results in considerable redundancy within the use regulations. Many of the same use regulations will be repeated in each environment or there will be

extensive cross-referencing. In the past this has increased the chances for inconsistency and is a major factor leading jurisdictions to switch to the use organization.

Outlines of two shoreline master programs follow, illustrating a program organized around use activities and a program organized around environments:

Organization by Uses

I. Introduction

II. Master Program Elements --
Goals and Policies

III. Shorelines of Statewide Significance

IV. Environmental Designations

- A. Urban
- B. Suburban
- C. Rural
- D. Conservancy
- E. Natural
- F. Aquatic

V. Shoreline Use Activities:

- A. Permitted Uses by Environment
- B. Variances and Conditional Uses
- C. General Regulations Applicable to All Uses
- D. Policies and Regulations for Each Use Activity
  1. Agricultural Practices
  2. Aquaculture
  3. Breakwaters, Jetties and Groins

  Etc.

Organization by Environments

I. Introduction

II. Master Program Elements --
Goals and Policies

III. Shorelines of Statewide Significance

IV. Shoreline Environments and Use
Activities Policies and Regulations

A. Variances and Conditional Uses
B. General Regulations Applicable to All Uses
C. Urban Environment
1. General Policies/Permitted Uses
2. Agriculture
3. Aquaculture
4. Breakwaters, Jetties and Groins
Etc.
D. Suburban Environment
1. General Policies/Permitted Uses
2. Agriculture
3. Aquaculture
4. Breakwaters, Jetties and Groins
Etc.
E. Rural Environment
1. General Policies/Permitted Uses
2. Agriculture
3. Aquaculture
4. Breakwaters, Jetties and Groins
Etc.
F. Natural Environment
1. General Policies/Permitted Uses
2. Agriculture
3. Aquaculture
4. Breakwaters, Jetties and Groins
Etc.
G. Conservancy Environment
1. General Policies/Permitted Uses
2. Agriculture
3. Aquaculture
4. Breakwaters, Jetties and Groins
Etc.
H. Aquatic Environment
1. General Policies/Permitted Uses
2. Agriculture
3. Aquaculture
4. Breakwaters, Jetties and Groins
Etc.

C. TOOLS TO AID PUBLIC UNDERSTANDING OF SHORELINE MASTER PROGRAMS

A variety of tools can be utilized to help explain the organization and contents of a shoreline master program and to clarify how the SMP relates to the local comprehensive plan, zoning and any other regulatory codes. Informational tools, such as User's Guides, can help make the SMP more accessible to the public. They can be used to describe the purpose of the SMP, its content and how the SMP standards affect development activities. They can be especially useful in guiding a user through a program designed to work well from an administrator's point of view but which may be confusing to the public.

Four types of user information commonly found in shoreline master programs are described in this section. Each of these can be included in the SMP document or published as a separate brochure for wider public distribution.

- A summary description of the program organization and content at the beginning of the SMP document. Most often this is presented as written text, but graphic diagrams can also be used.

- A description of the relationship between the SMP and other applicable federal, state or local regulatory programs, including the local comprehensive plan and zoning code. Diagrams showing the geographic boundaries of where certain standards apply can also be helpful.

- A description of the permit process. This can be most clearly conveyed in a process diagram or time line.

- Graphic illustrations of specific shoreline management concepts used in the SMP.

To determine what types of public information tools would be most useful, jurisdictions should consider the type of information that must be conveyed (e.g., permit requirements vs. an explanation of the visual access concept) and the specific audience (e.g., general public vs. developers). In some cases it will be valuable to employ several of these tools and/or several presentation techniques.

Following are examples of each of the four identified types of public information tools.

1. Description of Program Organization and Content

USER'S GUIDE TO THE MASTER PROGRAM

Components of the Master Program

The Shoreline Master Program consists of several components, together with explanatory text and maps, which reflect the philosophy of the Shoreline Management Act of 1971 and the requirements of RCW 90.58 and WAC 173-16. Each of the components is designed to serve a separate and distinct purpose within the structure of the Master Program.

The Elements: Overall Goals and Policies. The goals express the desires of the people of the City/County with respect to the long-range development of the shorelines. Each element described in RCW 90.58.100(2) is addressed by a goal and a series of general development policies. These goals and policies form the basis for all succeeding levels of the Master Program.

Environment Designations Criteria. Designation criteria set forth the "ground rules" to be used in determining which Environment is appropriate for a given section of shoreline. They classify the shoreline into a land use system based on existing activities, ownership patterns, the environment policies and Use Activity policies.

The Environment Designations establish the kinds of activities allowed on a given section of shoreline. They also specify the intensity of use and the manner of use of that shoreline. The general philosophy underlying the use of each Environment is contained in the policies for each environment.

The Shoreline Management Act specifies that special consideration shall be given to Shorelines of Statewide Significance as defined by RCW 90.58.030(2)(e).

Use Activities Policies address each of the development activities anticipated on the shoreline and are intended to establish jurisdiction wide policies for the conduct of each activity. Use Activity Regulations are designed to regulate the Use Activities in a manner compatible with the policies established for each activity. These regulations establish minimum performance standards for shoreline activity conduct; deviation from these regulations can only be allowed subject to issuance of a variance.

Administrative Procedures establish the way in which the program is to be used on a day-to-day basis. These are critical because they are the citizen's guarantee that all persons will be treated fairly and equitably whenever their actions become subject to the Shoreline Management Act.

2. Description of the Relationship Between the SMP and Other Regulatory Programs

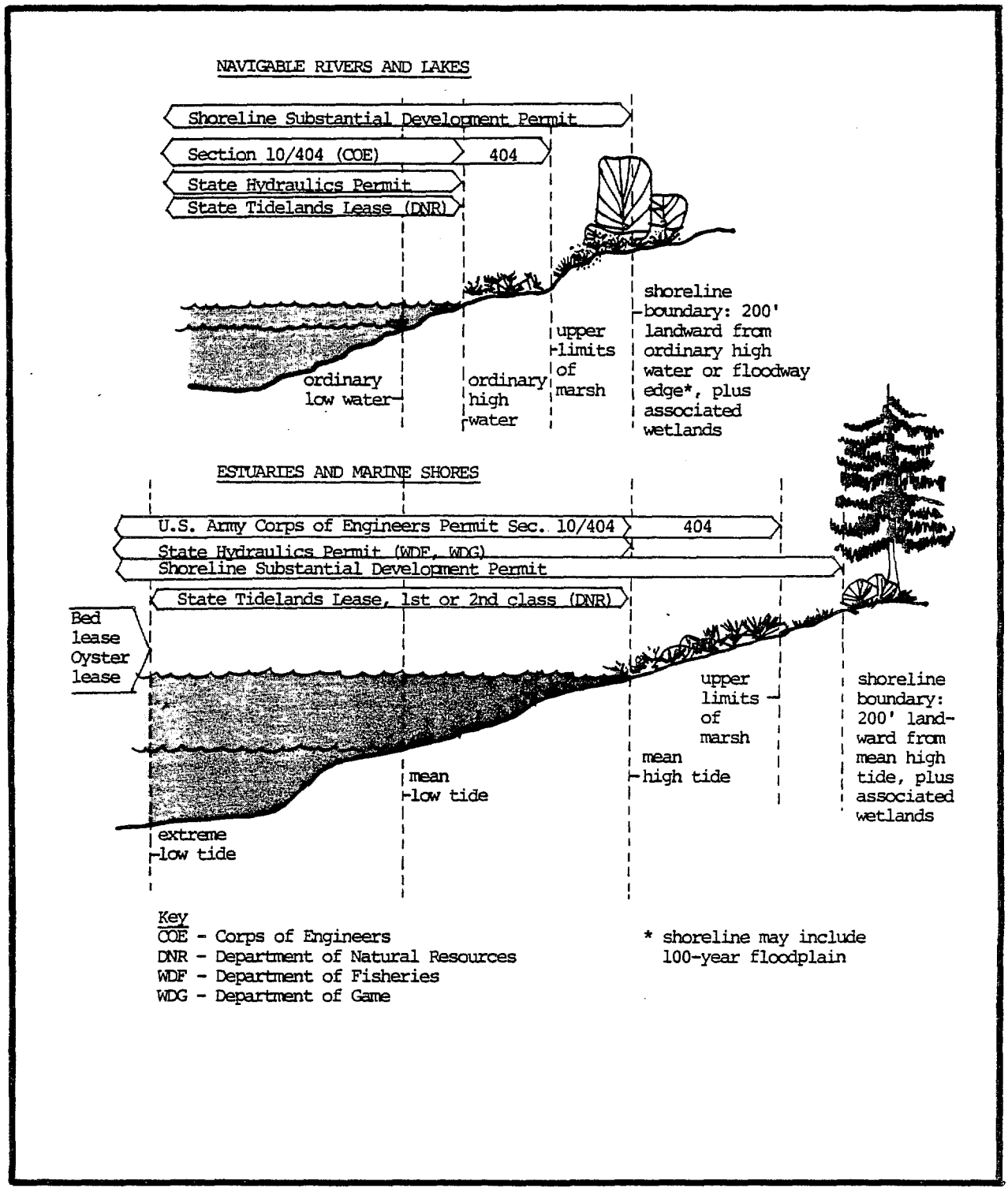
A description of the SMP's legal relationship to the local comprehensive plan and other applicable regulatory programs is often stated directly in the regulations. The regulations should clearly spell out which takes precedence in case of conflict: zoning, the SMP or the most restrictive standard. The following example is taken from a program where the most restrictive standard prevails.

The shoreline master program shall bear the following relationship to existing land development controls:

6.01 The Shoreline Master Program shall be considered an element of the City/County Comprehensive Plan.

6.02 The Shoreline Master Program Use Activity Regulations supplement the Comprehensive Zoning Ordinance and all other use regulations. The shoreline use regulations shall be an integral part of the comprehensive land use regulatory scheme. If a conflict is found to exist between any of these regulations, the most restrictive regulation shall apply.

An illustration can clearly show the geographic extent of each regulatory program. This example shows the jurisdictional limits of major federal, state and locally administered permits affecting the land/water interface.



A matrix can be used to show what other permits might be required for shoreline development. This example is taken from a special public information brochure designed for broad distribution.

TYPICAL SHORELINE AREA-RELATED ACTIVITIES WHICH MAY REQUIRE PERMITS OR FOR WHICH POLICIES AND USE REGULATIONS MAY EXIST

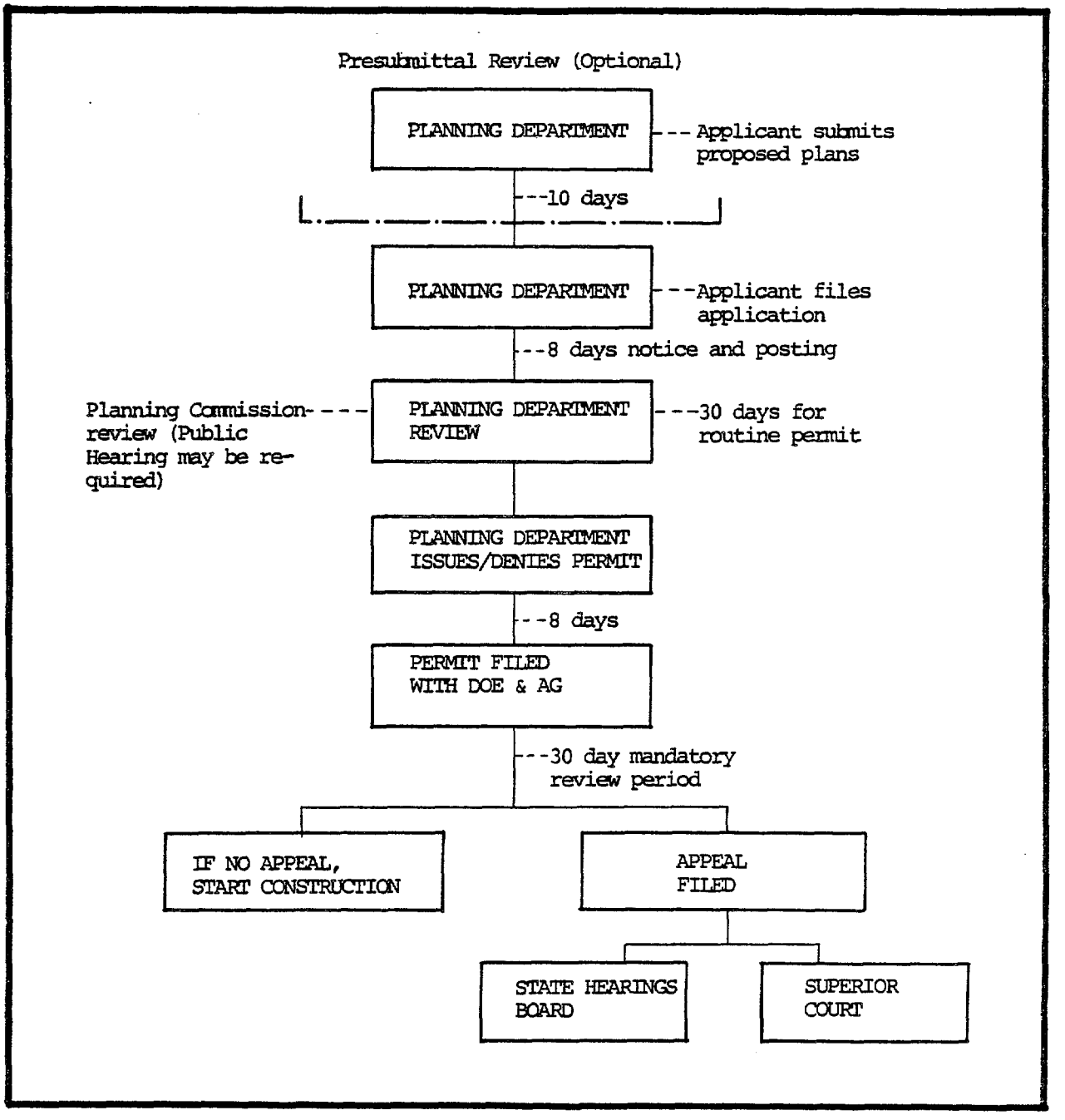
	DOE	WDG	DNR	DSHS	CO	C	HP
Archaeological sites; historic properties							
Boat ramps, docks							
Bulkheads, piers							
Canals, islands, landfills, dredging							
Dams							
Developments: commercial							
residential							
industrial							
Flood control structures							
Forest activities							
Intake pipes and outfall							
Landfill							
Mining							
Pollutant discharges							
Reservoirs							
Roads, railroads, bridges							
Sewage facilities							
Utilities:							
power lines							
liquid transmission lines							
Waste discharge							
Water diversion							
Water rights							

Key

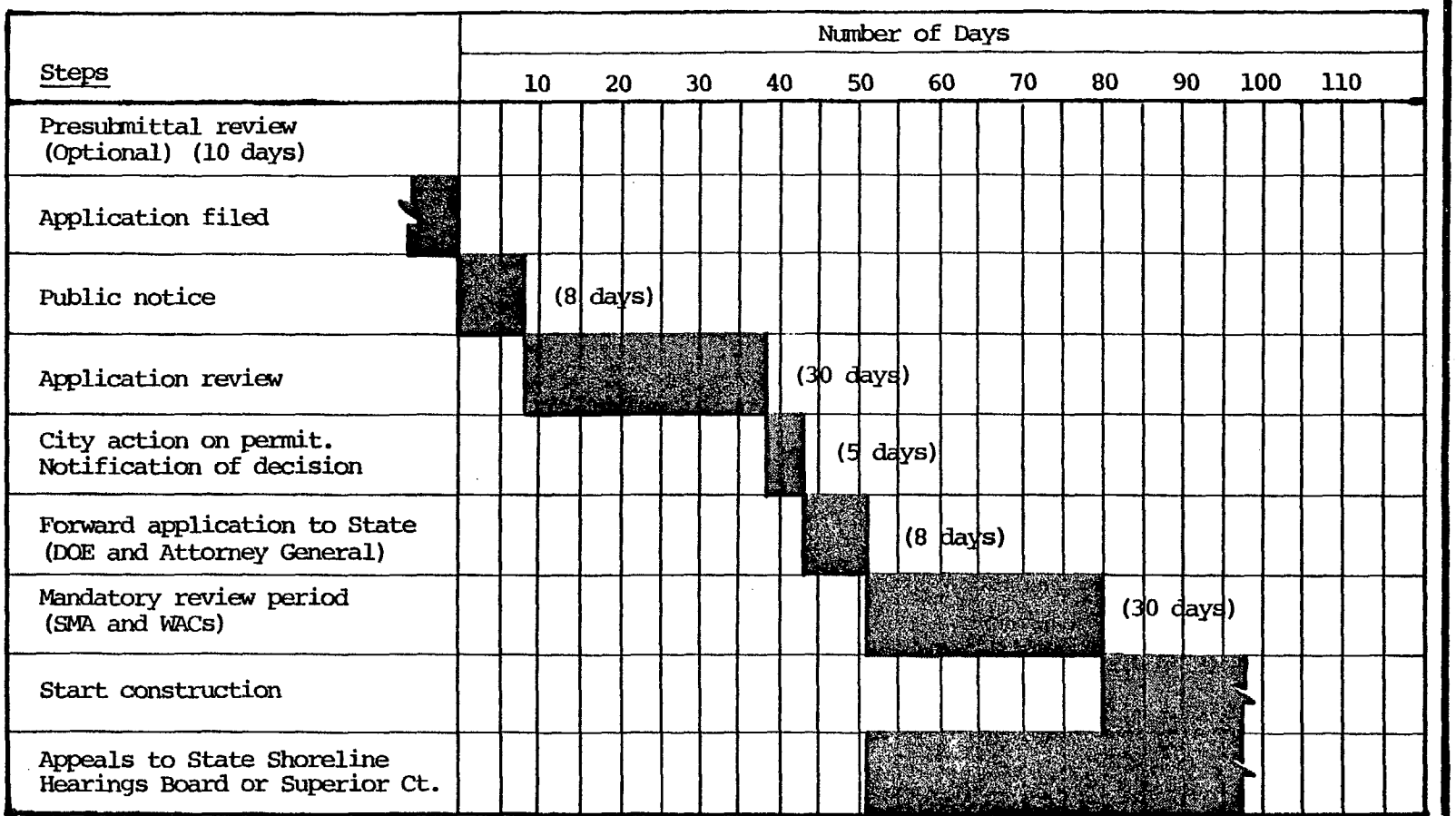
DOE — Washington State Department of Ecology
WDG — Washington State Department of Game
DNR — Washington State Department of Natural Resources
DSHS — Washington State Department of Social and Health Services
CO — County
C — City
HP — City/County Office of Historic Preservation

3. Description of the Permit Process

Time lines or procedural flow diagrams are useful to illustrate the steps in the permit process and the length of time involved. An example of each follows:



MINIMUM TIME PROCESSING CHART FOR SHORELINE PERMIT APPLICATIONS

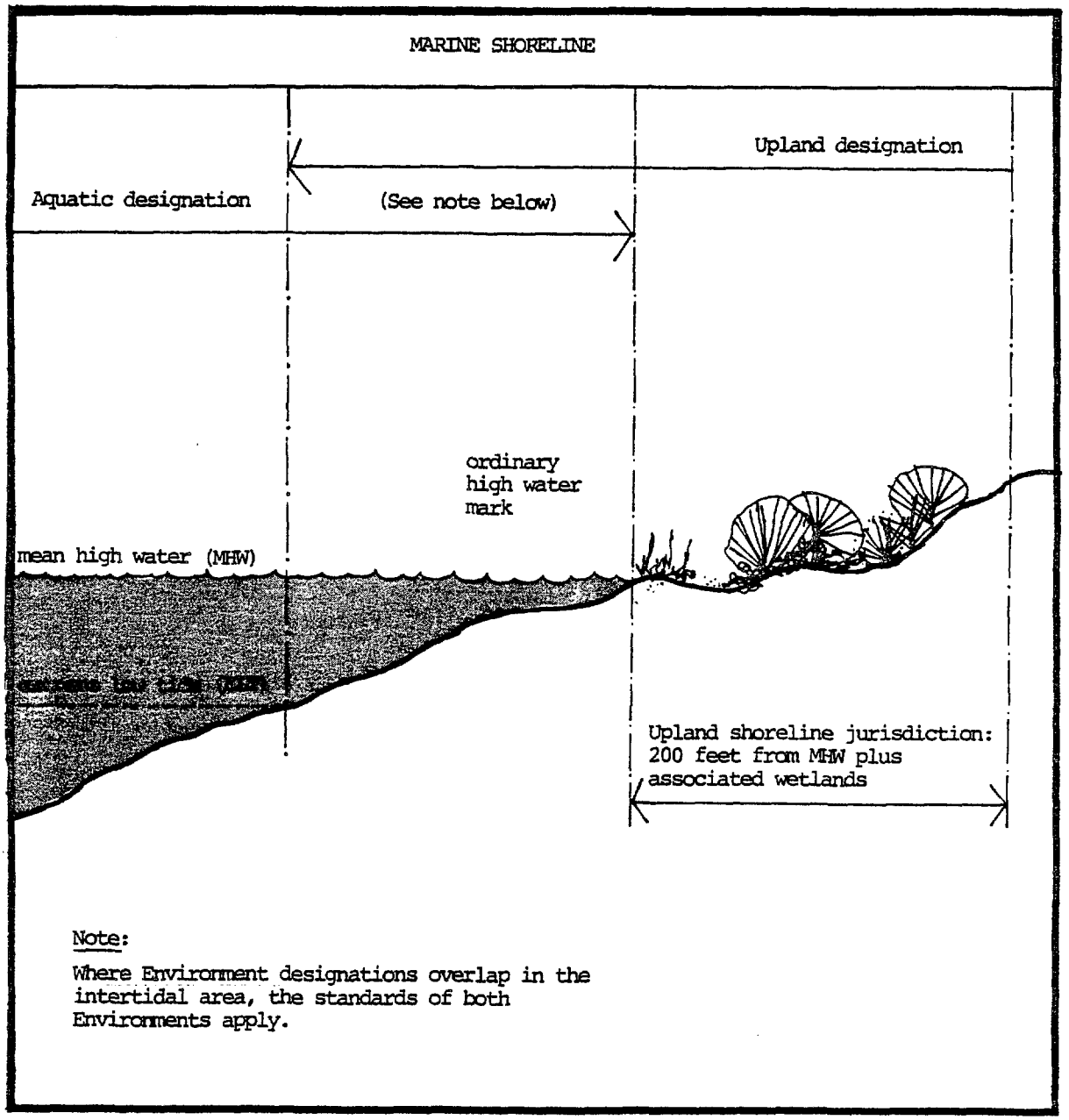


The times shown above are the minimum times required for a routine Substantial Development Permit. Additional time may be required for Conditional Uses or Variance requests or as a result of and EIS requirement, appeals or hearings.

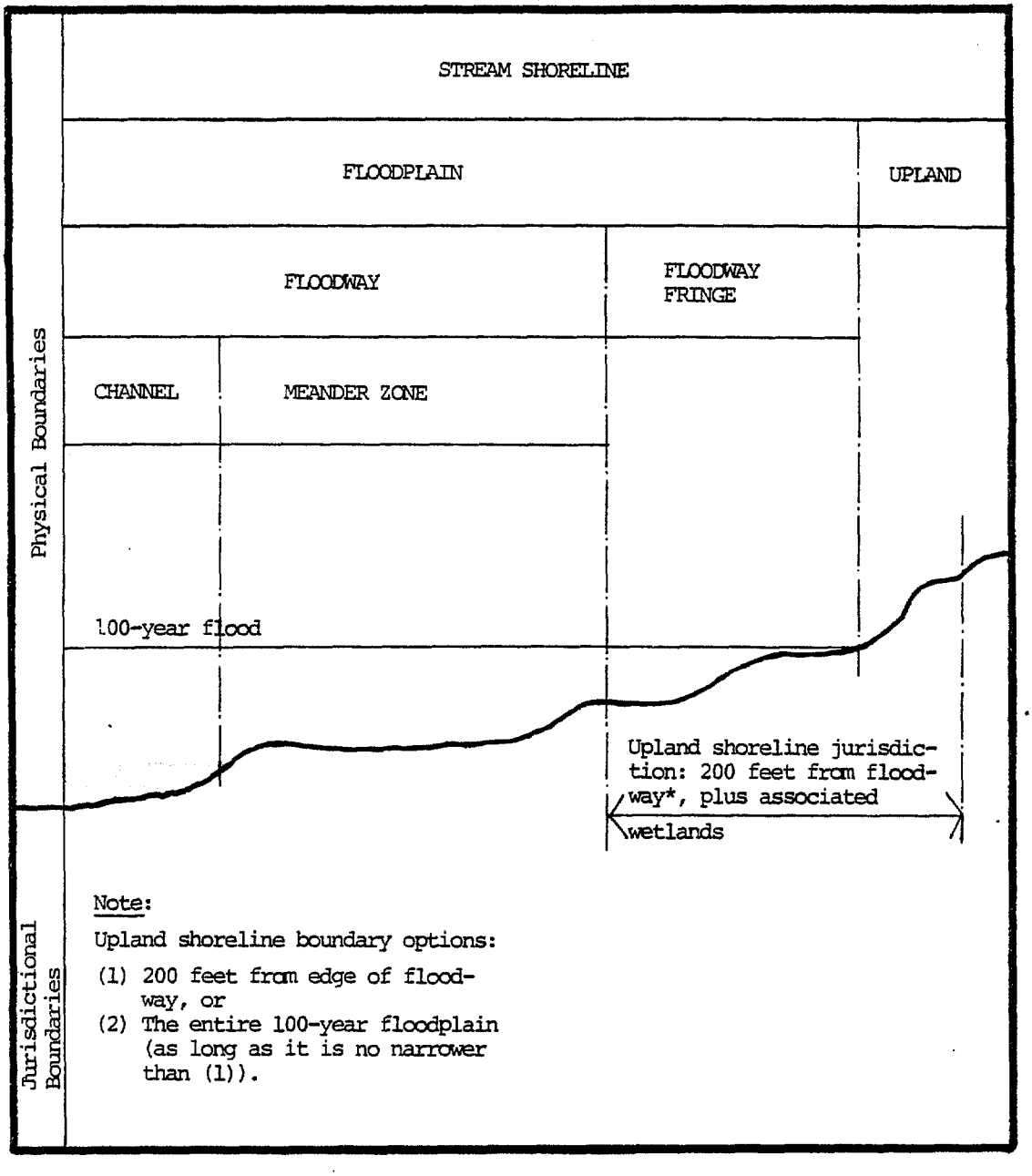
4. Graphic Illustrations of Program Concepts

Diagrams or sketches can be useful to illustrate shoreline features, design or development concepts, or the extent of SMP jurisdiction.

a. Marine Shore Components and Shoreline Management Jurisdiction Boundaries.



b. Stream Shore Components and Shoreline Management Jurisdiction Boundaries



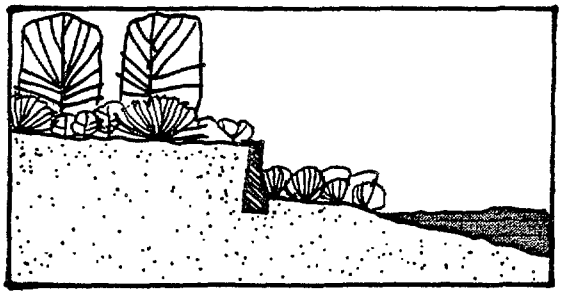
c. Illustration of Program Concepts:

EROSION CONTROL

Definition

Riprap, bank armoring or similar bank treatment to prevent erosion. Does not include bulkheading or bankline straightening that adds upland area.

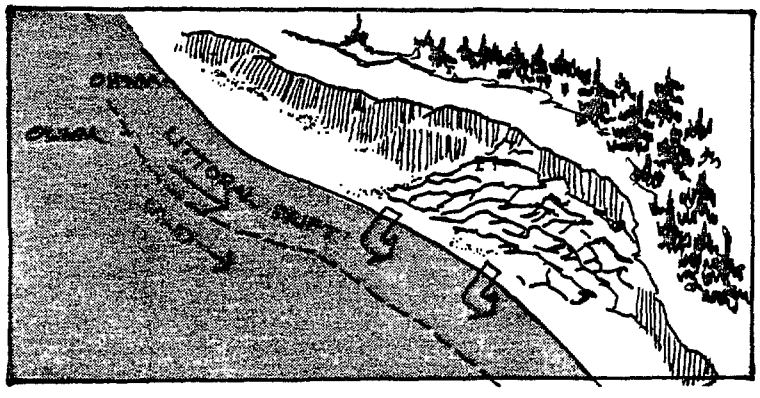
BULKHEADS



Definition

A retaining wall or structure extending from the bankline down to or below the normal low water level. Bulkheads generally create a vertical or near vertical bankline and require backfill.

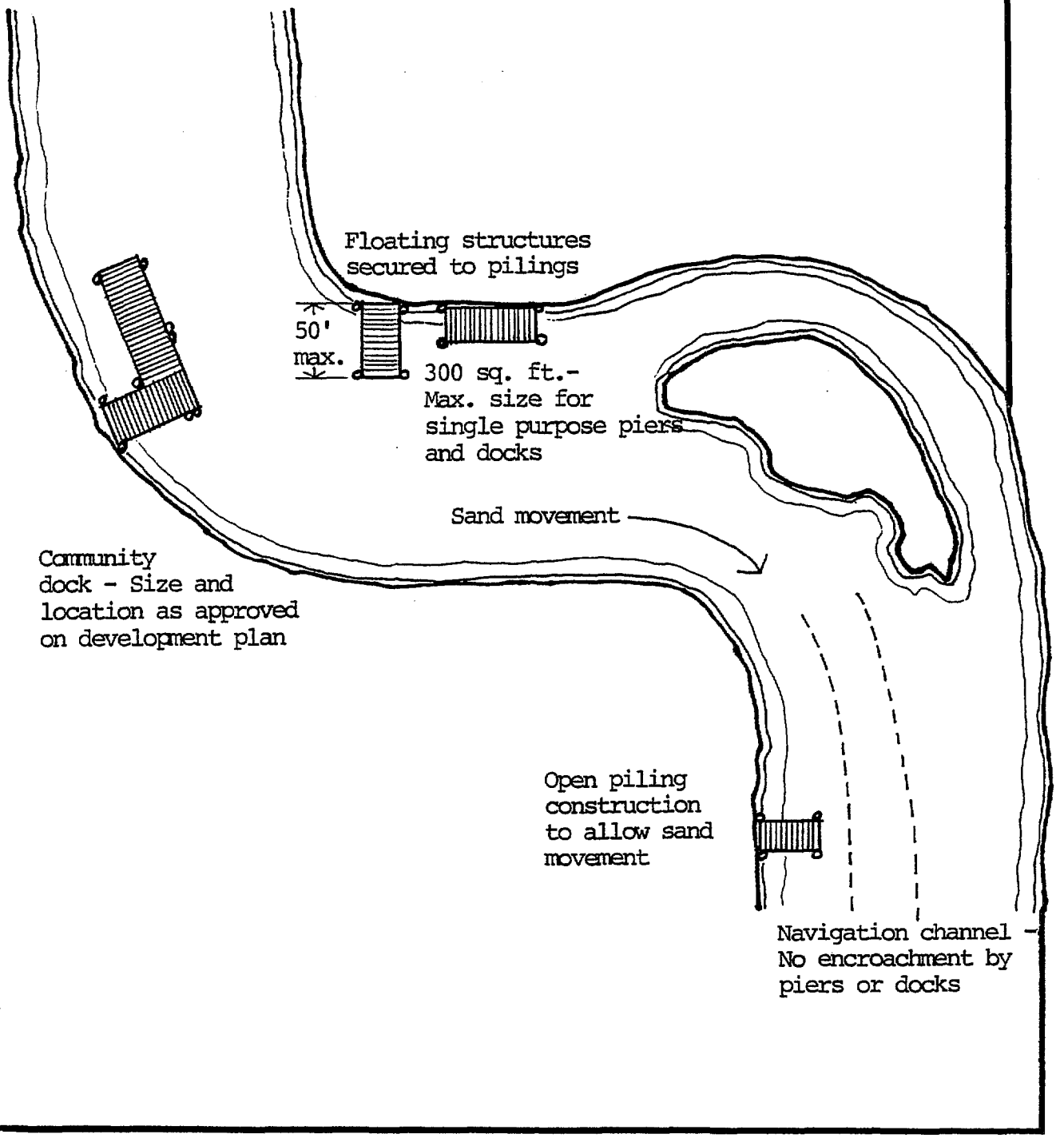
FEEDER BLUFF



Definition

A shore or sea bluff whose eroding material is transported by longshore drift and provides building blocks and nourishment for spits, bars, hooks and other accreting shoreforms.

PIERS AND DOCKS: LOCATION AND DESIGN



III. Master Program Elements

III. MASTER PROGRAM ELEMENTS

The elements are the general goals and policies guiding shoreline management. In most jurisdictions they were prepared by a citizens' committee and used to guide the initial development of program policies and regulations. Today the elements provide policy support on major issues but otherwise are seldom used. In this handbook, the elements provide the policy basis for the General Regulations applicable to all uses, which are contained in Chapter V.

The WACs specify that each program address the following seven land and water use elements: shoreline use, economic development, circulation, public access, recreation, conservation and historical/cultural. Additions, such as restoration or urban design, are encouraged where appropriate. At a minimum, each element consists of a brief goal statement. Alternatively, the elements may contain a more extensive list of goals as well as policies providing additional direction towards fulfilling the goals.

The sample elements presented in this chapter are designed to be as comprehensive as possible, including goals, policies and, in some cases, sub-policies. Because numerous jurisdictions indicated the need for better design policies and standards, an example of an optional urban design element is also included.

Recognizing the limitations of development regulations alone, some jurisdictions have taken the additional step of identifying an agenda of actions that the city or county should undertake to more fully implement the shoreline management goals. Recommended actions may include special studies, additional planning programs and specific implementation actions such as the acquisition of a particular piece of property. Examples of implementation recommendations are included at the end of this chapter. The analysis report contains a more extensive discussion of the need for a broader range of implementation techniques to meet shoreline management objectives.

A. SHORELINE USE ELEMENT

This element deals with: (1) land use distribution and location on shorelines and adjacent areas, including, but not limited to, housing, commerce, industry, transportation, public buildings and utilities, industry, agriculture, education and natural resources, and (2) the distribution and location of water uses including, but not limited to, aquaculture, recreation and transportation.

Goal: To preserve or develop shorelines, adjacent uplands and adjacent water areas in a manner that assures a balance of shoreline uses with minimal adverse effect on the quality of life, water and the environment.

Policies:

1. Shoreline land and water areas particularly suited for specific and appropriate uses should be designated and reserved for such uses.

2. Shoreline land and water uses should satisfy the economic, social and physical needs of the regional population, but should not exceed the physical carrying capacity of the shoreline areas.

3. Where appropriate, land and water uses should restore or enhance the land and water environments.

4. Like or compatible shoreline uses should be clustered or distributed in a rational manner rather than be allowed to develop haphazardly.

5. Multiple uses of the shoreline should be encouraged where location and integration of compatible uses or activities are feasible.

6. Non-residential uses or activities which are not water-dependent should be encouraged to locate or relocate away from the shoreline.

7. The City/County should consider the shoreline master program goals, objectives and policies in all land use management actions affecting the use or development of adjacent uplands or the water areas, adjacent uplands

and associated wetlands or streams with less than 20 cubic feet per second mean annual flow within its jurisdiction where such use or development will have an adverse effect on the shoreline.

B. ECONOMIC DEVELOPMENT ELEMENT

This element deals with the location and design of industries, transportation facilities, port facilities, tourist facilities, commercial and other developments that are particularly dependent on shoreline locations and/or water access.

Goal: To promote and encourage the optimum use of existing industrial and economic areas for water-dependent and water-related uses while ensuring compatibility with environmental and physical goals for shoreline areas; and, subsequently, to create additional development areas as the need arises, minimizing disruption of the shorelines.

Policies:

1. Shoreline industry and commerce should be encouraged to locate in existing developed areas or locate in intensive use areas which can be upgraded and redeveloped, provided that the land and water carrying capacity is not exceeded.

2. Economic development should be clustered and/or designed to minimize the shoreline space occupied.

3. Economic development involving high intensity commercial land use should be confined to Urban Environments.

4. Cooperative use of docking, parking, cargo handling and storage facilities should be encouraged.

5. Shoreline economic development should provide public physical and visual access to the water, consistent with public health and safety.

6. Shoreline economic development should be constructed and operated in a manner to minimize detrimental effects on either the land or water environment.

7. Priority should be given to economic developments which maintain options for future uses of the water.

8. Tidelands, shorelands, submerged lands and waters especially suitable for aquaculture or natural production of fish or shellfish should be publicly identified and protected.

9. Priority should be given to the economic development of renewable over non-renewable resources.

10. Shoreline areas that are well suited to water-dependent/water-related economic activities should be identified and protected for these uses.

11. Overall city and regional economic development needs and trends should be considered in shoreline use decisions.

C. CIRCULATION ELEMENT

This element deals with the location and extent of existing and proposed major thoroughfares, transportation routes, terminals and other public facilities and the coordination of those facilities with the shoreline use elements.

Goal: To develop safe, convenient and diversified circulation systems to assure efficient movement of people and goods with minimum disruption to the shoreline environment and minimum conflict between the different users.

Policies:

1. New surface transportation development should be designed to provide the best possible service with the least possible impact upon the physical shoreline environment and existing shoreline uses.

2. Transportation corridors should be located and designed to harmonize with the topography and other natural characteristics of the shoreline.

3. Surface transportation facilities in shoreline areas should be set back from the ordinary high water mark

far enough to make protective measures such as rip-rap or other bank stabilization, landfill, bulkheads, groins, jetties or substantial site regrading unnecessary.

4. Shoreline circulation routes should provide for non-motorized means of travel.

5. Circulation systems disruptive to public shoreline access and other shoreline uses should be relocated wherever feasible.

6. Shoreline circulation systems should be adaptable to changes in technology.

7. New transportation developments in shoreline areas should provide turnout areas for scenic stops and off-road rest areas where the topography, view and natural features warrant.

8. Shoreline roadway corridors with unique or historic significance or of great aesthetic quality should be managed to protect and enhance those characteristics for the benefit and enjoyment of the public.

D. PUBLIC ACCESS ELEMENT

This element deals with providing public access to publicly-owned shorelines and assessing the need for public access to shoreline areas.

Goal: To develop a City/County shoreline public access system that increases the amount and diversity of public access to shoreline areas consistent with private rights, public safety and the natural shoreline character.

Policies:

1. A shoreline element in the parks acquisition and development program should be encouraged so that future shoreline access is acquired and developed as part of an overall master plan, including but not limited to the following: street end and public right-of-way development, shoreline park acquisition and improve-

ment, pedestrian and bicycle trial development and view observation points. Priority for access acquisition should consider resource desirability, availability and population proximity.

2. Public access should be provided in new shoreline development.

   a. Private property owners should be encouraged and offered incentives to provide shoreline access.

   b. Public pedestrian easements should be required in future land use authorizations whenever shoreline features are appropriate for public use.

3. Shoreline and wetland viewpoints, lookouts and vistas should be provided.

4. Shoreline recreational facilities and other public access points should be connected by trails, bicycle pathways and other access links where appropriate.

5. Access development should respect and protect ecological and aesthetic values in the shorelines of the state as well as private property rights.

6. Public access design should provide for public health, safety and enjoyment.

7. Public access areas should be maintained and provided with ancillary facilities such as parking and sanitary facilities when appropriate.

8. The nature, time, number of people and area open to public access may be regulated where there are spawning grounds, fragile aquatic life habitats or potential hazards for pedestrian injury.

E. RECREATION ELEMENT

This element deals with the preservation and expansion of all types of recreational opportunities through programs of acquisition, development and various means of less-than-fee acquisition.

Goal: To provide diverse water-dependent and water-related recreation opportunities that are convenient and adequate for the regional population consistent with the carrying capacity of the land and water resources, and to encourage the acquisition of additional shoreline properties for recreational use to assure that existing recreational sites can be maintained in a manner that preserves the resources that created the demand for their use.

Policies:

1. Areas containing special shoreline recreation qualities not easily duplicated should be made available for public use and enjoyment.

2. Shoreline recreational use and development should enhance environmental quality with minimal adverse effect on natural resources.

    a. Stretches of relatively inaccessible and unspoiled shoreline should remain available to the public and be designated as low intensity recreational use areas with minimal development. Service facilities such as footpaths, peripheral car parks and sanitary facilities should be carefully sited and designed to minimize their impacts and remain unobtrusive.

    b. At suitable locations, shorelines should be available and designated as high intensive use areas that provide a wide variety of recreatonal opportunities.

    c. Overall design and development in shoreline recreational areas should be responsive to the site characteristics of those areas and be consistent with the level of use in the area concerned.

    d. Non-water-oriented recreational facility development should locate inland away from the water's edge.

3. The acquisition of shorelands for public recreation should be based on an overall acquisition program.

4. A balanced variety of low to high intensity recreational opportunities should be provided for people of different ages, health, family status and

financial ability.

5. Shoreline recreation areas and facilities should be related and linked to the City/County's overall recreational system.

6. The joint development and use of recreation and cultural facilities with other governmental or quasi-governmental agencies should be encouraged and supported for areas of mutual concern and benefit.

F. CONSERVATION ELEMENT

This element deals with the preservation of natural shoreline resources, including but not limited to scenic vistas, parkways, vital estuarine areas for fish and wildlife protection, beaches and other valuable natural and aesthetic features.

Goal: To preserve, protect and restore unique, fragile and scenic elements and non-renewable natural resources, and assure the continued sustained yield management of renewable resources for the benefit of existing and future generations.

Policies:

1. Shorelines with unique or valuable natural features should be acquired for public benefit.

2. All renewable natural resources should be managed so that use or consumption does not exceed the rate of replenishment.

3. Resource conservation should be an integral part of shoreline planning and include the identification of those areas which have a potential for restoration to natural or useable conditions and a program to accomplish the objective.

4. Scenic, aesthetic and ecological qualities of natural and developed shorelines should be recognized and preserved as valuable resources.

5. Resources should be managed to enhance the environment and minimize adverse impacts.

   a. Agriculture, aquaculture and silvaculture in shoreline areas should be conducted with all reasonable precautions to insure the preservation of the natural character and quality of the shoreline.

   b. Uses or activities which substantially degrade the natural resources of the shoreline should not be allowed.

   c. Design and construction standards should be developed to minimize adverse environmental impacts of shoreline developments; e.g., piers, bulkheads or landfill.

G. HISTORICAL/CULTURAL ELEMENT

This element deals with the protection and restoration of buildings, sites and shoreline areas having historic, cultural, educational or scientific value.

Goal: To identify, protect, preserve and restore those shoreline sites and structures that are of historical, cultural, scientific or educational value.

Policies:

1. Public or private developments should be prevented from destroying or destructively altering any designated site having historic, cultural, scientific or educational value as identified by the appropriate authorities.

2. Newly discovered sites and sites suspected of being significant should remain free from development intrusions until their value for retention is determined.

3. Where appropriate, access to such sites should be made available to the general public and should be designed to give maximum protection to the resource.

4. Clear interpretative information on historical/

cultural sites should be provided.

H. OPTIONAL ELEMENT: URBAN DESIGN

This element deals with the order and form of shoreline areas and the forces which influence the physical development of these areas.

Goal: To enhance the shoreline's positive and distinctive features, to unify shoreline areas visually and to give definition to special features. To improve the appearance of the shoreline for those who live and work there, and to make these areas attractive and interesting places to visit. To encourage planning and design standards which will conserve valuable shoreline and aquatic resources.

Policies:

1. In accordance with existing City/County policy, views and the physical form of the waterfront should be preserved by maintaining low structures near the water and at the tops of the bluffs, and by allowing non-view blocking vertical development at the base of bluffs.

2. View corridors which can link the city and the water should be preserved or created.

3. Continuous planting or other ground surface treatment should be used to physically and visually link the waterfront areas to the city and to each other.

4. Develop and/or utilize publicly owned waterfront lands for active and passive water-related recreational use. In general, emphasize the water as a unique community asset.

5. Landscape and develop existing arterial streets to function as lineal parks where practicable and feasible and to provide maximum opportunity for park development.

6. Landscaping or other appropriate buffer strips should be developed where feasible to delineate use districts and screen non-compatible use activities.

7. Provide design and construction standards for shoreline projects, in cooperation with state and federal agencies, which will minimize adverse environmental impact.

I. RECOMMENDED IMPLEMENTATION ACTIONS

Because shoreline master programs focus on regulating individual shoreline developments, they are only one part of a comprehensive shoreline management program. They cannot alone accomplish many of the shoreline goals identified in the Elements. Some jurisdictions have recognized this limitation and have identified the need for more detailed planning and other implementation actions necessary to meet their established shoreline goals. The following are examples of several types of measures which a city or county may identify as necessary to accomplish its broader program goals: (1) special studies; (2) development of more detailed plans; and (3) specific acquisition and development actions.

Special Studies

1. Land Use and Ownership

   Data which has been assembled for the Shoreline Inventory should be analyzed in detail, by segment of shoreline and by environment, to identify environmental quality problems and to develop possible solutions to these problems.

2. Unique and Fragile Aspects of Natural Environments

   Studies should be undertaken to identify the unique and fragile aspects of the natural environments (flora, fauna, soils, geology, etc.) so that needed programs to guide development can be implemented.

3. Archaeological, Cultural and Historic Sites and Phenomena

   A comprehensive survey of existing and potential archaeological, cultural and historic sites, buildings, artifacts or other phenomena should be undertaken to

supplement existing sources of information. The results of this survey should serve as the basis for preservation and development programs.

5. Scenic and Visual Survey and Analysis

A visual survey of scenic qualities in the City/County should be prepared to provide a basis for planning visual improvements, such as viewpoints and outlooks in land use and circulation planning. The presence of decrepit and deteriorated buildings or other structures or illegal dumping, determined through such a survey, could provide the basis for joint public and citizen action for environmental improvement.

6. Flood Hazard Area Identification and Management Program

A program to identify areas prone to flooding and to establish flood plain boundaries should be undertaken. The identification of such areas would be the basis for the development of a management program to prevent or reduce flood loss to private and public property, and to establish sound land-use management.

Development of More Detailed Plans

1. Detailed Design Plans

Detailed design plans are needed for targeted shoreline areas to provide a basis for scheduling capital improvements and to develop performance standards to guide private development.

2. Comprehensive Parks, Recreation and Open Space Plan

Both the goals and policies of the recreation element of the Shoreline Program and the recreation use activity policies and standards should be given prime consideration in recreation planning. A parks, recreation and open space plan should be developed specifically for the shoreline area, as one element of the City's/County's comprehensive recreation plan.

3. The Circulation Plan

The goals and policies of the circulation element of

the Shoreline Program and the policies and regulations for transportation facilities should be considered in the development of all local transportation plans and programs.

Aquisition and Development Actions (This example is drawn from Bellingham's SMP.)

1. Procure the undeveloped property lying northwesterly of the Boulevard and State Street from vacated Darwin Avenue northeasterly to Beech Street to preserve the view of Bellingham Bay and the San Juan Islands.

2. Amend the City's Arterial Plan to eliminate the construction of Woburn Street south of Iowa Street and adjacent to Whatcom Creek and to eliminate the extension of Iowa Drive through a unique natural area north of Whatcom Creek.

3. Replant vegetation along the banks of Squalicum Creek from Roeder Avenue to Meridian Street to enhance the reestablishment of anadromous fish runs which were decreased and endangered as a consequence of the construction of Squalicum Way.

4. Preserve the tidal lagoon in front of the new sewage treatment plant for recreational use and biologic study.

5. Develop continuous trail systems along the City's creeks to link residential, commercial and recreational areas.

6. Develop the right of way of Central Avenue south of Chestnut Street for public visual access to waterfront activities.

IV. Environment Designations

IV. ENVIRONMENT DESIGNATIONS

The shoreline environment designations established under the Shoreline Management Act are one of the principal tools available for applying and tailoring the general guidelines of the Act to local shorelines. This section provides samples of each of the standard four environments described in the WACs -- Urban, Rural, Conservancy and Natural -- and also incorporates some additional options which many cities and counties have utilized -- Suburban or Rural Residential and Aquatic.

A. RELATIONSHIP TO ZONING

Various techniques have been used to apply the environment designations. The most common is to create a zoning "overlay" which establishes shoreline-specific regulations which are applied in addition to the requirements and restrictions of the underlying zoning classification. The inherent problem in this approach is that the public may be confused by overlapping regulations, especially if conflicting standards are established. Two codes rather than one must be consulted to determine the permissible uses of a piece of property. However, most jurisdictions have found that these problems can be alleviated by:

- Insuring that minimal conflicts exist between the shoreline master program and the underlying zoning;
- Clearly stating which requirements take precedence in the case of conflict, usually the master program or the stricter of the two codes; and
- Utilizing a separate development bulletin, an SMP user's guide or other means to clarify the jurisdiction of the shoreline program and its relationship to other development regulations.

The alternative to an overlay system is to develop zoning classifications for the shoreline which integrate shoreline regulations with general zoning code requirements. The advantage of this approach is that any conflicts between the two codes are resolved, and only one document need be consulted to determine permissible uses on a property. While this appears to be an attractive solution from both an administrative and user's standpoint, there are some practical constraints which limit its feasibility:

- Zoning codes generally include extensive, detailed development standards which apply to development activities outside the scope of shoreline management and cover an area much broader than the shoreline. To repeat all such standards in each new shoreline zone would create a voluminous SMP.

- There are often numerous existing zoning classifications along urban waterfronts, resulting in a complex zoning map. Creating special zoning classifications for each existing zone falling within the 200-foot shoreline jurisdiction could result in an unwieldy number of zoning classifications.

Some jurisdictions have overcome these constraints, such as the City of Tacoma, and have found integrated shoreline zones to be a highly workable approach.

B. SHORELINE MAPS

Another important consideration in applying environment designations is the need for clear maps to aid in administration and public understanding of the program. It is not necessary that all jurisdictions adopt the same map scale and format; this would be unrealistic given the widely divergent size of jurisdictions and varying complexity of their shorelines. However, several basic considerations apply to all jurisdictions.

- It is very helpful to include within the master program document a map of the shoreline area and designated environments, at a scale adequate to give property owners a reasonably clear idea of how the program affects them. Without such a map, it is very difficult to interpret the program text as it applies on the ground.

- In the city/county office which administers shoreline permits, an up-to-date and accurate map of the shoreline area and environments should be maintained. This is necessary both to insure consistent application of the program and to provide clear guidance to a property owner proposing development on the shoreline. Although many jurisdictions rely on a determination by the Planning Director or other official to resolve any uncertainties in interpretation, some jurisdictions have found that inconsistent, con-

fusing, or inaccurate maps can lead to lengthy permit disputes and legal battles. If it is not feasible to accurately designate individual parcels on a map, it is very important that the text provide a clear basis for identifying the boundaries or explicit criteria which can be used to distinguish the environments on the ground.

- SMP maps should clearly indicate the associated wetlands (floodplains, marshes, bogs and swamps) beyond the 200-foot limit that are included within shoreline management jurisdiction. The master program should also make it clear that in the event of a mapping error, the jurisdiction will rely upon the definitions for these features rather than the incorrect or outdated map.

C. SAMPLE PROGRAM ELEMENTS

Following are sample provisions relating to the six most common environment designations. Each environment begins with a statement of purpose, followed by a list of designation criteria used to apply the environment designation on the shoreline and a series of management policies relating to shoreline use and development. These management policies are later used as the basis for determining which uses are allowed in each shoreline environment (see Chapter V).

A. URBAN ENVIRONMENT

1. Purpose

The Urban Environment is an area of high intensity land use including residential, commercial and industrial development. The purpose of this environment is to ensure optimum utilization of shorelines which are either presently urbanized or planned for urbanization. Development in urban areas should be managed so that it enhances and maintains the shorelines for a variety of urban uses, with priority given to water-dependent and water-related uses.

2. Designation Criteria

Areas to be designated Urban should meet one or more of the following criteria:

a. Shorelines used or designated for high intensity commercial, industrial or recreational use or for multi-family residential development;

b. Shorelines of lower intensity use, where surrounding land use is urban and urban services are available;

c. Shorelines used for port activities;

d. Shorelines to be designated Urban should not have biophysical limitations to development such as floodplains, steep slopes, slide hazard areas and/or marshes, bogs or swamps.

3. Management Policies

a. Because shorelines are a finite resource, and because urban uses tend to preclude other shoreline uses, emphasis should be given to directing new development into already developed areas.

b. Full utilization of existing urban areas should be encouraged before further expansion is allowed.

c. Reasonable long range projections of regional economic need should guide the amount of shoreline

designated Urban.

d. Priority should be given to "water-dependent and water-oriented" uses over other uses. Uses which derive no benefit from a water location should be discouraged.

e. Existing non-water related commercial and industrial uses should be encouraged to relocate to non-waterfront property.

f. Visual and physical public access should be encouraged. Industrial and commercial facilities should be designed to permit pedestrian waterfront activities. Planning for the acquisition of land for permanent public access to the water in the Urban Environment should be encouraged.

g. Aesthetic considerations should be actively promoted by means such as sign control regulations, development siting and architectural standards, and planned unit developments.

h. In order to make maximum use of the available shoreline resource and to accomodate future water dependent uses, the redevelopment and renewal of substandard or obsolete urban shoreline areas should be encouraged.

4. Urban Area Subcategories

Many jurisdictions have found the Urban Environment to be too general to address the wide range of uses and considerations affecting urban waterfronts. The Urban designation allows so many uses that it does not provide much guidance for development. Some jurisdictions have therefore used their underlying zoning classifications to establish regulations specific to each stretch of shoreline. Others have tailored the Urban Environment to their shoreline by creating special subcategories. Following are descriptions of several approaches commonly used in designating Urban subcategories:

a. General Urban vs. Urban Residential

One approach is to differentiate primarily residential areas in the Urban Environment areas from

urban areas with extensive commercial and industrial development. Development controls are then tailored to the special needs of residential areas vs. commercial-industrial waterfronts.

b. Subcategories for Specific Geographic Areas

Another approach used in some jurisdictions is to develop urban subcategories for specific portions of the shoreline with varying physical or development characteristics. Seattle's master program uses this approach, for example, to differentiate Lake Union and the Central Waterfront from other "Urban Stable" shorelines. For Lake Union, greater emphasis is placed on preserving the mixed use character and restoring blighted areas, while the Central Waterfront emphasizes promoting tourist activity and preserving the historic maritime heritage.

c. General Urban Uses vs. Water-Dependent Commercial and Industrial Uses

Special subcategories may be established to differentiate areas with a full range of urban uses from areas reserved specifically for water-dependent industrial uses. This approach ensures that the most valuable areas for water-dependent commercial and industrial uses will not be consumed by residential or other non-water related development.

d. Developed Urban vs. Future Urban

Finally, master programs sometimes differentiate areas which are characterized by existing urban development from those which are designated for future urban expansion. Special considerations for existing developed areas may include: encouraging redevelopment of blighted or under-utilized urban areas, and establishing flexible development standards keyed to the actual pattern and characteristics of existing development. In future urban areas, management policies may emphasize the need for compatibility with adjacent shorelines, and stricter requirements relating to public access and preservation of significant natural and cultural features may be established.

B. SUBURBAN OR RURAL RESIDENTIAL ENVIRONMENT

It is common for jurisdictions to establish an additional environment to bridge the large gap between Urban and Rural environments. The Suburban or Rural Residential designation is appropriately used in areas with medium density residential development -- higher density than that allowed in the rural environment, but less intense than the range and scale of uses allowed in an Urban Environment. There may be special considerations relating to the lack of urban-level services to serve new development in these areas. Suburban or Rural Residential areas can be used to provide a buffer or transition between Urban and Rural areas. An example follows:

1. Purpose

The Suburban Environment is intended to serve as a transitional area between the more intensive Urban Environment and the low intensity uses of the Rural Environment. It includes shoreline areas that presently support low to medium intensity uses, where existing densities permit space for small numbers of livestock, gardens or woodlots. The Suburban Environment is designed to provide for permanent residential and recreational areas outside urban areas, where adequate facilities for sewage disposal and water supply can be provided.

2. Designation Criteria

Areas to be designated Suburban should meet one or more of the following criteria:

a. Areas presently developed or platted for residential uses.

b. Areas zoned for residential development with lot sizes ranging from 1/4 acre (with public sewer and water) to 5 acres. Also included are existing extensive small, single lot shoreline developments.

c. Areas which could support and serve the needs of planned unit residential developments.

d. Areas which could serve as transition zones between

urban and rural, conservancy or natural shoreline areas.

e. Areas having the physical ability to support low to medium density residential uses and associated commercial, recreational and public service facilities.

f. Areas which are appropriate for low to medium intensity recreational uses compatible with residential and/or small scale agricultural activities (grazing, small scale crops or gardens).

g. Areas which are capable of supporting small scale, low intensity agricultural activities such as livestock grazing, small scale crops, gardens or woodlots.

h. Areas which can provide and have the capabilities to support the necessary public services, utilities and access to accomodate low to medium density development. Sewage disposal and water supply facilities may be provided on an individual or community basis or could possibly be provided via future regional sewer or water systems.

i. Areas officially designated on county comprehensive plans for future expansion of single family residential use.

3. Management Policies

a. Residential, recreational and agricultural activities of low to medium intensity are preferred over other more land and resource consumptive development or uses.

b. Residential and other developments should be located, sited, designed and maintained to protect and enhance the shoreline environment.

c. Developments should be permitted only in those shoreline areas that are environmentally capable of supporting the proposed use in a manner which protects and enhances the shoreline environment.

d. Public access opportunities to publicly owned

shorelines and/or water bodies should be encouraged.

e. Residential and recreational developments should provide shoreline areas for community or public open space.

f. Commercial development should be limited to uses that serve the surrounding residential, recreational or agricultural activities and should not conflict with these activities.

g. Access, utilities and public services should be available and adequate to serve existing needs and planned future development.

C. RURAL ENVIRONMENT

1. Purpose

The Rural Environment is intended to protect agricultural land from urban expansion, restrict intensive development along undeveloped shorelines, function as a buffer between urban areas, and maintain open spaces and opportunities for recreational uses compatible with agricultural and forestry uses.

2. Designation Criteria

Areas to be designated rural should meet one or more of the following criteria:

a. Areas dominated by agricultural, forestry or recreational uses;

b. Areas possessing a high capability of supporting agricultural uses and compatible forms of development;

c. Areas modified from their natural vegetative cover and surface drainage patterns but generally supporting low density development;

d. Areas where residential development is or should be low density because of biological or physical limitations, utility capabilities, access problems and/or potential incompatibility with other uses;

e. Areas of undeveloped land not appropriate for Natural or Conservancy Environment designations and not planned for significant development;

f. Areas which serve as buffers between shoreline areas supporting greater and lesser intensities of use;

g. Areas possessing valuable sand, gravel and mineral deposits.

3. Management Policies

a. Areas with a high capability of supporting agricultural or forestry uses should be protected from

incompatible patterns of development and should be maintained for those uses.

b. New developments in a Rural Environment should reflect the character of the surrounding area by limiting residential density, providing permanent open space and by maintaining adequate building setbacks from the water.

c. Public and private recreational facilities and uses which are compatible with agriculture and forestry should be encouraged.

d. Intensive development should not be permitted.

e. Low density residential development should be allowed when supporting community facilities, such as public sewer, water and power, are available.

f. Sand, gravel and mineral extraction should be allowed in suitable areas not designated as prime agricultural land.

g. Industrial and commercial uses (except agriculture, forestry and mining) should be prohibited.

D. CONSERVANCY ENVIRONMENT

1. Purpose

The intent of the Conservancy Environment is to protect, conserve and manage existing natural resources and valuable historic and cultural areas in order to achieve sustained resource utilization and provide recreational opportunities. The Conservancy Environment is also intended to protect environmentally sensitive areas which are not suitable for intensive use, such as steep slopes, flood-prone areas, eroding bluffs, natural wetlands and areas which cannot provide adequate sewage disposal. Examples of uses that are appropriate in a Conservancy Environment include dispersed outdoor recreation activities, timber harvesting on a sustained yield basis, passive agricultural uses such as pasture and range lands, and other related uses and activities.

2. Designation Criteria

Areas to be designated Conservancy should meet one or more of the following criteria:

a. Areas containing natural resources which lend themselves to management on a sustained-yield basis, such as commercial forest land and agricultural land;

b. Areas subject to the severe biophysical limitations such as:

   (1) Steep slopes and landslide hazard areas;

   (2) Areas subject to severe erosion;

   (3) Unstable banks or bluffs;

   (4) Flood-prone areas;

   (5) Areas with soils that have poor drainage;

c. Areas which play an important part in maintaining the regional ecological balance such as:

   (1) Areas rich in quality and quantity of life forms;

(2) Areas important to the maintenance of natural water quality and flow;

(3) Areas important to maintaining the food chain process (i.e., estuaries);

d. Areas free from extensive development;

e. Areas where intensive development or use would interfere with natural processes and result in significant damage to other resources.

f. Areas of high scenic or recreational value; and

g. Historic areas.

3. Management Policies

a. Preferred uses in the Conservancy Environment are those which are non-consumptive of the physical and biological resources of the area and activities and uses of a non-permanent nature which do not substantially degrade or alter the existing character of the areas. Non-consumptive uses are those uses which utilize resources on a sustained yield basis while minimally reducing opportunities for other future uses of the resources of the area.

b. Activities and uses which would substantially degrade or permanently deplete the physical or biological resources of the area should be prohibited.

c. New development should be restricted to that which is compatible with the natural and biological limitations of the land and water and will not require extensive alteration of the land-water interface.

d. Development in the Conservancy Environment should be designed to protect the shore process corridor and its operating systems.

e. Activities or uses which would strip the shoreline of vegetative cover, cause substantial erosion or sedimentation or adversely affect aquatic life should be prohibited.

f. Recreational activities which will not be detrimental to the shoreline character, natural systems such as littoral drift and geo-hydraulic processes and aquacultural and agricultural uses should be encouraged. Residential development should be restricted as necessary to protect such uses and features.

g. Commercial and industrial uses other than low intesity agricultural practices, commercial forestry and extraction of renewable sand, gravel and mineral resources should be prohibited.

h. Construction of structural shoreline stabilization and flood control works should be minimized. New developments should be designed to preclude the need for such works and should be compatible with shoreline characteristics and limitations.

E. NATURAL ENVIRONMENT

1. Purpose

The Natural Environment is intended to preserve and restore those natural resource systems existing relatively free of human influence and those shoreline areas possessing natural characteristics intolerant of human use or unique historical, cultural or educational features. These systems require severe restrictions on the intensities and types of uses permitted so as to maintain the integrity of the shoreline environment.

2. Designation Criteria

Areas to be designated Natural should meet one or more of the following criteria:

a. Wildlife Habitats

(1) A shoreline area that provides food, water or cover and protection for any rare, endangered or diminishing species;

(2) A seasonal haven for concentrations of native animals, fish or fowl, such as a migration route, breeding site or spawning site;

b. Areas of Scientific and Educational Value

(1) Areas considered to best represent basic ecosystems and geologic types that are of particular scientific and educational interest.

(2) Shoreline areas which best represent undisturbed natural areas;

(3) Shoreline areas with established histories of scientific research;

c. Areas of Scenic or Recreational Value

(1) Those shoreline areas having an outstanding or unique scenic feature in their natural state;

(2) Shoreline areas having a high value for wilderness experience;

(3) Areas having a high value in their natural states for low intensity recreational use;

d. Other Criteria

(1) Areas where human influence and development are minimal;

(2) Areas which have been degraded but which are capable of easily being restored to a natural condition or are capable of natural regeneration if left undisturbed;

(3) Other unique natural features relatively intolerant of human use or development such as: saltwater marshes, Class I beaches, spits, white water rapids and waterfalls, virgin timber stands and wilderness areas.

3. Management Policies

a. Any use or development which would potentially degrade the natural value or significantly alter the natural character of the shoreline area should be severely restricted or prohibited.

b. Limited access should be permitted for scientific, historical, educational and low intensity recreational purposes, provided that no significant, adverse impact on the area will result.

c. Uses which are consumptive of physical and biological resources should be prohibited.

d. Physical alterations should only be considered when they serve to protect a significant, unique or highly valued feature which might otherwise be degraded or destroyed.

e. Uses and activities permitted in locations adjacent to shorelines designated Natural should be compatible and should ensure that the integrity of the Natural Environment will not be compromised.

F. AQUATIC ENVIRONMENT

Several jurisdictions have development an Aquatic Environment designation to address management issues specific to offshore areas. Such a designation can help resolve the inherent problems associated with applying land-based designation criteria and management policies to water bodies and uses. For example, the problem of how to extend the boundaries of onshore environments offshore is avoided. The Aquatic Environment also provides a cleaner conceptual framework for protecting aquatic resources and natural wetlands by eliminating the tendency to think of them as extensions of the uplands and therefore assuming that upland uses should extend freely into these areas. Aquaculture and wetland protection can thus be handled more effectively with an Aquatic designation than by an extension of upland environments.

The major limitation of this approach is that it does not explicitly recognize the interaction of upland and offshore uses: upland uses have a bearing on what types of aquatic uses are appropriate and vice versa. For example, a large scale residential subdivision with docks, swimming beaches and substantial boating activity might provide the reason to limit the scale of offshore aquaculture facilities. Alternatively, extensive aquaculture development in a biologically productive area might be reason to restrict adjacent onshore developments. Therefore, management policies and use regulations for the Aquatic Environment need to address the interface between land and water uses. Such policies should also recognize that an activity's distance offshore is a factor in determining its impacts on and conflicts with upland uses.

Some programs have attempted to address the offshore environment designation question by classifying deep water areas Natural and nearshore areas Conservancy using the 60 fathom contour as the boundary between the two environments. This approach helps protect navigation by restricting development within the aquatic area, but it does not provide a means for identifying appropriate aquatic uses nor address upland/water use conflicts.

The difficulties of addressing conflicting uses and impacts ultimately cannot be fully resolved through any of the environment designations. Performance standards established

for aquaculture, dredging, landfill and other aquatic area uses must be carefully developed in conjunction with the environment designation(s) to insure the effective management of these areas.

Following is an example of an Aquatic Environment designation:

1. Purpose

The purpose of this designation is to protect the Aquatic Environment by managing use activities in a manner that recognizes and assures compatibility with adjacent upland shoreline designations. The Aquatic Environment may allow either multiple water-dependent uses or specific single dominant water-dependent uses in areas of unique conditions. It is designed to promote the wise use of the natural features and resources of the Aquatic area which are substantially different in character from those of the adjoining uplands and backshores.

2. Designation Criteria

Aquatic areas include:

a. All marine water areas seaward of the ordinary high water mark including estuarine channels, sloughs and associated wetlands;

b. All lakes subject to this program below the ordinary high water mark;

c. All streamways of rivers designated shorelines of the state; and

d. All natural swamps, marshes and wetlands adjoining the above three categories of water bodies and all others which are not designated a Natural Environment.

3. Management Policies

a. Structures which are not water-dependent and uses which will substantially degrade the existing character of the area should be prohibited.

b. Developments within the Aquatic Environment should be compatible with the adjoining upland environment.

c. Diverse public access opportunities to public water bodies should be encouraged and developed and should be compatible with the existing shorelines and water body uses and environment.

d. Aquaculture practices should be encouraged in those tidelands, waters and beds most suitable for such use.

e. Several industries using the same tideland facilities shall be given preference over single industry use.

f. In appropriate areas, fishing and recreational uses of the water should be protected against competing uses that would interfere with these activities.

g. All developments and activities using navigable waters or their beds should be located and designed to minimize interference with surface navigation, to minimize adverse visual impacts and to allow for the safe, unhindered passage of fish and animals, particularly those whose life cycles are dependent on such migration.

h. Deep draft uses, if allowed, should not occur in areas requiring extensive initial or maintenance dredging.

i. Filling operations must be accomplished in such a manner as not to create a substantial environmental impact.

j. With exceptions for boat launching areas, motorized vehicular travel should be discouraged on all tideland areas.

k. Development of underwater pipelines and cables on first and second class tidelands will be discouraged except where adverse environmental impacts can be shown to be less than the impact of upland alternatives; when permitted, such facilities should include adequate provisions to insure

against substantial or irrevocable damage to the environment.

l. Where the State owns the abutting uplands, priority will be given to joint development of the uplands and second class tidelands for public use.

m. Abandoned and neglected structures which cause adverse visual impacts or are a hazard to public safety and welfare should be removed or restored to a useable condition.

V. Use Policies and Regulations

IV. USE POLICIES AND REGULATIONS

Use policies and regulations form the "backbone" of the regulatory system established under the Shoreline Management Act. This chapter presents sample policies and regulations for the use activities and is divided into three sections:

A. Permitted Uses by Environment, which provides a narrative discussion of various options for tailoring use regulations to the particular needs and characteristics of each shoreline environment. A sample matrix illustrating permitted uses by environment is included.

B. Sample General Regulations, which are those regulations applicable to all uses.

C. Sample Policies and Regulations for Each Use Activity.

The sample use policies and regulations presented in this chapter represent a compilation and synthesis of standards contained in existing master programs, with some minor revisions to address problems identified by local planners and DOE staff. Because these standards are drawn from many different programs, taken as a whole they tend to be lengthier and more restrictive than the standards included in any one program. Furthermore, not every regulation would be logical or appropriate to apply in each community given local shoreline features, other adopted development codes and the specific nature of the local shoreline master program. For these reasons, the standards in this chapter should not be utilized in their entirety for program amendments without careful review and adaptation to local circumstances.

The policies and regulations included in this chapter are not designed to indicate a "minimum" or "optimal" level of specificity. Instead, the regulations are intended to be as complete as possible to give local governments the maximum amount of information and options to draw on in preparing master program amendments. This allows the handbook to better address the wide range of program specificity found in the various jurisdictions. Some programs favor general performance standards to allow flexibility in program administration. Others have included more detailed standards to enhance predictability and put "teeth" in the program.

Where applicable, the regulations in the handbook include a range of numerical standards commonly found in master programs.

For some uses, technical references are identified at the end of each section as sources of further information which may be helpful in developing plan amendments. Although the identified references are not always specific to Washington State, they do address shoreline issues and impacts which are relevant to local shorelines.

The development of effective and workable regulations is a continuing process in many jurisdictions. As problems and deficiencies emerge, new or revised standards are incorporated in the master program. A number of problems and deficiencies identified in current master programs are discussed in the Analysis Report. As program amendments are developed to better address these and other issues, it is recommended that new provisions be added to this handbook so that the handbook can continue to serve as an up-to-date reference on master program standards.

A. PERMITTED USES BY ENVIRONMENT

The establishment of permitted uses by shoreline environment is one of the most variable aspects of shoreline master programs. Determining where to allow and where to prohibit various use activities is dependent on how the environments were designated, what natural systems are present on the shoreline and the potential impacts of each use activity on these systems. Recognizing the individual nature of these considerations in each jurisdiction, the shoreline WACs (173-16-040) state:

> The basic intent of this system is to utilize performance standards which regulate use activities in accordance with goals and objectives defined locally rather than to exclude any use from any one environment.

The purpose of differentiating allowable uses by environment is to insure that shoreline activities are compatible with the natural characteristics of the shoreline, other uses of the shoreline and the management policies for each shoreline environment. As a general rule, the maximum number of uses, including those of an intensive nature, are allowed in the Urban Environment, with increasing restrictions applied in the Rural, Conservancy and Natural environments. Very few uses are generally allowed within the Natural Environment due to management policies which call for preserving the existing natural character of these shorelines.

Various options for establishing permitted uses by environment are described below. Any or all of these approaches may be utilized within an individual master program.

1. Specify Permitted vs. Prohibited Uses. The simplest approach is to clearly identify which uses are permitted and which uses are prohibited in each shoreline environment. The more clearly this can be specified, the easier it is for property owners and the general public to understand and use the master program. Although the WACs indicate that no uses should automatically be prohibited in any environment, there are certain uses which are generally considered incompatible with the management policies for certain environments. In these cases,

most jurisdictions consider it preferable to clearly state where these uses are prohibited. It is also important to make it clear in the master program that even permitted uses are subject to the regulations established for that use. Those conditions may result in conditions being attached to the substantial development permit.

2. Establish Special Conditions for Some Uses. In addition to establishing permitted and prohibited uses, most programs attach special conditions to certain uses within certain environments. Stricter standards or criteria are often applied to uses within the more natural environments. For example, filling may be permitted in the Urban Environment when necessary for a water-dependent use, but in the Natural Environment only when needed for beach restoration.

   A technique used in some programs for applying special conditions is to differentiate high and low intensity activities. This is a way to recognize that certain uses actually encompass a range of activities with varying levels of impact. For example, low intensity agricultural practices such as pasture and range lands may be allowed in the Conservancy Environment, while high intensity activities such as large scale harvesting operations or feed lots may be prohibited. Another example is restricting the type of mining activity which can occur in a Conservancy Environment, prohibiting open pit mining but allowing other mining techniques.

3. Establish Primary and Secondary Uses. Another variation is to differentiate primary and secondary uses to establish a hierarchy of "preferred" uses within each environment. Under this system, a primary use is automatically assumed to be a permitted use, subject to use regulations, while a secondary use requires meeting a higher burden of proof to show that a proposed activity is consistent with the goals and policies of the master program.

   Special criteria governing the approval of secondary uses must be developed to assist in administering the program and to give a property owner a clear understanding of what uses are allowed on his/her property. In the absence of established criteria to govern the approval of secondary uses, this system can be dif-

ficult to administer effectively, and can lead to inconsistent decisions. One advantage of the primary/secondary breakdown is that it could provide a tool for differentiating the permit review process for "major" vs. "minor" actions. Low impact uses which are clearly compatible with the management policies of an environment could be "fast-tracked" through a streamlined review process, while more complex projects of greater potential impact would appropriately be subject to more intensive review.

4. Require Conditional Use Permits. For certain uses which may have a significant impact on natural systems or on a particular shoreline environment, the master program may require a conditional use permit. Conditional use permits may also be required for any use not specifically identified in the master program.

   The effect of this requirement is to invoke a special DOE review and approval process. Where special conditions are established for such uses in the master program, conditional use permits can be used as a tool for enforcing these conditions or differentiating primary and secondary uses. However, it is not necessary to require a conditional use permit in order to establish special conditions for certain uses. In fact, most jurisdictions routinely attach conditions to regular shoreline permits.

Regardless of which system is selected for differentiating permitted, conditional and prohibited uses, a matrix illustrating allowable uses by each environment can serve as a useful summary and quick reference on the use regulations. However, it is important that such matrices clarify that all uses, including those marked "permitted", are subject to the use policies and regulations established in the master program. Following is a sample matrix indicating commonly permitted uses by environment.

COMMONLY PERMITTED USES BY ENVIRONMENT*

Uses	Urban	Suburban	Rural	Conservancy	Natural	Aquatic
Resource Based Activities:						
Agriculture	●	●	●	●		x
Aquaculture	●		●	●	o	
Forest Practices		o	●	●	x	
Mining	o	o		o	x	
Development Activities:						
Boating Facilities	●	●	●	o	x	
Commercial Development	●		o	o	x	
Piers and Docks	●		●	o		
Ports and Industry	●		o	x	x	
Recreational Development	●	●	●		o	●
Residential Development	●	●	●	o		x
Signs	●			o	o	
Solid Waste Disposal**					x	x
Transportation Facilities	●			o		
Utilities	●	●	●			
Shoreline Modification Facilities:						
Breakwaters	●	●	●	o	x	
Bulkheads	●			o	x	
Dredging	●			o	x	
Landfill	●			o	x	
Shoreline Stabilization and Flood Protection	●			o	x	

Key: ● Usually permitted
o Usually designated a secondary use or subject to special conditions or a conditional use permit.
x Usually prohibited.

No symbol indicates the lack of a dominant pattern of treatment in programs surveyed.

* Based on a survey of 15 counties contained in Washington State Coastal Zone Management Program, 1976.

** Although the master programs surveyed were not consistent in their treatment of this use, WAC 173-16-060 (14)(c) clearly states that shoreline areas should not be considered for solid waste disposal.

Note

The following sections provide sample "General Regulations" and "Policies and Regulations for Each Use Activity". These sections are organized and presented as they might appear in a master program.

GENERAL REGULATIONS

Based upon the shoreline goals and policies established in Chapter III, the following regulations are established for all shoreline use activities.

ENVIRONMENTAL IMPACTS

1. The location, design, construction and management of all shoreline developments and uses shall protect the quality and quantity of surface and ground water adjacent to the site and shall adhere to the guidelines, policies, standards and regulations of applicable water quality management programs and regulatory agencies.

2. Solid and liquid wastes and untreated effluents shall not be allowed to enter any bodies of water or to be discharged onto the land.

3. The release of oil, chemicals or other hazardous materials onto or into the water is prohibited. Equipment for the transportation, storage, handling or application of such materials shall be maintained in a safe and leakproof condition. If there is evidence of leakage, the further use of such equipment must be suspended until the deficiency has been satisfactorily corrected.

4. All shoreline developments and uses shall utilize effective measures to minimize any increases in surface runoff and to control, treat and release surface water runoff so that receiving water quality and shore properties and features are not adversely affected. Such measures may include but are not limited to dikes, catch basins or settling ponds, interceptor drains and planted buffers.

5. All shoreline developments and uses shall utilize permeable surfacing where praticable to minimize surface water accumulation and runoff.

6. All shoreline developments and uses shall utilize effective erosion control methods during project construction and operation.

7. All shoreline developments and uses shall be located, designed, constructed and managed to avoid disturbance

of and minimize adverse impacts to fish and wildlife resources, including spawning, nesting, rearing and habitat areas and migratory routes.

8. All shoreline developments and uses shall be located, designed, constructed and managed to minimize interference with or adverse impacts to beneficial natural shoreline processes such as water circulation, littoral drift, sand movement, erosion and accretion.

9. All shoreline developments and uses shall be located, designed, constructed and managed in a manner that minimizes adverse impacts to surrounding land and water uses and is aesthetically compatible with the affected area.

10. Land clearing, grading, filling and alteration of natural drainage features and landforms shall be limited to the minimum necessary for development. Surfaces cleared of vegetation and not to be developed must be replanted as soon as possible. Surface drainage systems or substantial earth modifications shall be professionally designed to prevent maintenance problems or adverse impacts on shoreline features.

11. All shoreline developments shall be located, constructed and operated so as not to be a hazard to public health and safety.

12. All development activities shall be located and designed to minimize or prevent the need for shoreline defense and stabilization measures and flood protection works such as bulkheads, other bank stabilization, landfills, levees, dikes, groins, jetties or substantial site regrades.

13. Navigation channels shall be kept free of hazardous or obstructing development or uses.

14. Herbicides and pesticides shall not be applied or allowed to directly enter water bodies or wetlands unless approved for such use by appropriate agencies (State Department of Agriculture or Ecology, U.S. Department of Agriculture, EPA).

ENVIRONMENTALLY SENSITIVE AREAS

1. All development shall be located, designed, constructed and managed to protect and/or not adversely affect those natural features which are valuable, fragile or scarce in the region, and to facilitate appropriate human use of such features, including but not limited to:

   a. Estuaries, and marshes, bogs and swamps;

   b. Prime agricultural land;

   c. Natural resources including but not limited to, sand and gravel deposits, timber or natural recreational beaches;

   d. Fish, shellfish and wildlife habitats, migratory routes and spawning areas;

   e. Accretion shore forms; and

   f. Natural or man-made scenic vistas or features.

2. When a development site encompasses valuable natural features which are hazardous for or sensitive to development, these areas or features shall be left intact and maintained as open space or buffers. All development should be set back from these areas to prevent hazardous conditions or property damage as well as to protect valuable shore features.

3. Marshes, bogs and swamps shall not be disturbed or altered unless it is demonstrated that:

   a. The wetland does not serve any of the valuable functions of wetlands identified in U.S. Army Corps of Engineers 33 CFR 320.4(b), including but not limited to wildlife habitat and natural drainage functions, or

   b. The proposed development would preserve or enhance the wildlife habitat, natural drainage and/or other valuable functions of wetlands as discussed in U.S. Army Corps of Engineers 33 CFR 320.4(b).

4. All development is prohibited within floodways, except

certain permitted mining activities (i.e. gravel bar scalping).

5. Any development permitted within the 100-year floodplain shall not measurably increase flood levels or profiles and shall not restrict or otherwise reduce floodplain and floodway capacities.

6. All shoreline developments within the 100-year floodplain shall be located, designed and maintained to avoid, or if necessary, withstand 100-year frequency flooding and/or storm-tides or surges without becoming hazards to life or property and without the placement of structural defense works.

7. Areas with either an existing or high potential for aquaculture activities shall be protected from degradation by other types of uses which may locate within one mile on the adjacent upland. A conclusive finding that such an adjacent use would result in irreparable damage to or destruction of an existing aquacultural enterprise shall be grounds for the denial of such use.

ARCHEOLOGICAL AND HISTORIC SITES

Archeological and historic sites include significant archeological sites or excavations, ghost towns, military forts, old settlers homes, other historic buildings, historic trails, kitchen middens or any other archeological or historic site, facility or structure which is educationally significant.

1. All shoreline permits shall contain provisions which require developers to immediately stop work and notify the City/County if any phenomena of possible archeological interest is uncovered during excavations. In such case, the developer shall be required to provide for a site inspection and evaluation by a professional archeologist to ensure that all possible valuable archeological data is properly salvaged.

2. Permits issued in areas known to contain archeological artifacts and data shall include a requirement that the developer provide for a site inspection and evaluation by an archeologist. The permit shall require approval

by the City/County before work can begin on a project following inspection. Significant archeological data or artifacts shall be recovered before work resumes or begins on a project.

3. Significant archeological and historic sites shall be permanently preserved for scientific study, education and public observation. When the City/County determines that a site has significant archeological, natural scientific or historical value, a substantial development permit will not be issued which would pose a threat to the site. The City/County may require that development be postponed in such areas to allow investigation of public acquisition potential and/or retrieval and preservation of significant artifacts.

4. In the event that unforeseen factors constituting an emergency as defined in RCW 90.58.030 necessitate rapid action to retrieve or preserve artifacts or data identified above, the project may be exempted from the permit requirement of these regulations. The City/County shall notify the State Department of Ecology and the State Attorney General's Office of such a waiver in a timely manner.

5. Archeological excavations are permitted in shoreline areas subject to these General Regulations.

6. Commercial developments relating to archeological and historic sites and facilities are subject to the policies and regulations for Commercial Development.

PUBLIC ACCESS

1. No development shall block or interfere with the normal public use of or public access to publicly-owned shorelines and water bodies.

2. All developments shall be designed to protect and enhance views and visual access and public access to the water and shorelines.

3. All developments, whether recreational, residential or commercial, located along public shorelines or unique shoreline areas may be required to provide view corri-

dors, public accessways, trail easements or other amenities upon a determination by the City/County that the action would enhance public enjoyment of the shoreline and not unduly conflict with the proposed use, adjacent uses or public safety nor adversely impact the shoreline environment.

4. Any required public access easement shall be of a size and design appropriate to the site, size and general nature of the proposed development. Such easements shall be recorded on a property deed or face of a plat as a condition running in perpetuity with the land.

5. Signs which indicate the public's right of access shall be installed and maintained in conspicuous locations at required public access sites. Public use may be limited to daylight hours.

6. As far as possible, public access sites shall have direct and easy access from the street.

7. Public access may be considered infeasible and not be required where:

   a. Unavoidable hazards to the public in gaining access exist;

   b. Inherent security requirements of the use cannot be satisfied;

   c. Unavoidable interference with the use would occur;

   d. The cost of providing the access is unreasonably disproportionate to the total cost of the proposed development; or

   e. Public access at the particular location cannot be designed or developed to provide an interesting or pleasant view or recreational experience.

8. Public access to the shoreline shall be required on all public property, except as follows:

   a. In harbor areas completely occupied by water-dependent uses; or

   b. In street ends or waterways occupied by water-dependent uses under permit or lease.

9. Public access shall be required on private property for all non-water-dependent uses on waterfront lots which are:

   a. Non-residential; or

   b. Developed as a planned unit development; or

   c. Exclusively residential developments containing four (4) or more units having one hundred (100) or more feet of shoreline, provided that no such regulated public access shall be required on salt water shorelines where public access to the shoreline from a street is available within six hundred (600) feet of the proposed development.

10. Required public access sites shall be fully developed and available for public use at the time of occupancy of the development.

PARKING

Parking, loading and service area requirements for shoreline uses are established in the City/County zoning code. (Cite applicable code or ordinance.) The following regulations shall apply to parking facilities required for shoreline uses:

1. Parking shall be located outside the shoreline area whenever possible. When permitted in shoreline areas, parking, loading, and service areas for a permitted use activity shall be located on the landward side of the development unless they are incorporated within a permitted structure.

2. Where there is no available land area on the landward side of the development, parking shall extend no closer to the shoreline than a permitted structure, and in no case shall parking be located less than (25-50) twenty-five to fifty feet from the OHWM.

3. Parking areas shall provide for the disposal of any increased surface water runoff without erosion or sedimentation damage to surrounding waters, wetlands or waterfront areas. Structural measures such as catch

basins, filtration trenches and permeable surface materials shall be required where necessary to meet this purpose.

4. Parking areas shall be screened from view of adjacent properties through the planting of compatible, self-sustaining vegetation to be planted within six (6) months of facility completion. Screening should be effective within two (2) years of planting. Landscaping along the shoreline shall provide a natural appearance but shall not block views of the water from upland areas.

5. Only parking necessary for a permitted use activity shall be permitted in shoreline areas.

UTILITIES

1. Development in shoreline areas shall be permitted only when necessary utilities such as sewage disposal, solid waste disposal and water supply are available and adequate to serve the proposed use.

2. Developments shall be required to install or establish utilities of a quality and type determined by the City/County as needed to best protect shoreline resources.

3. Sewage disposal and water supply facilities must be provided in accordance with applicable federal, state and local health regulations.

4. Water supply systems serving shoreline uses shall be designed to insure that groundwater quality and quantity will not be endangered by overpumping.

5. New storm drainage facilities shall be separate, not combined with sewage disposal systems.

6. Drainage and sewage disposal facilities in the vicinity of aquaculture sites shall be carefully designed to prevent adverse impacts to aquaculture operations or resources.

7. New utility connections, including electricity up to

15KV, communications and street lighting shall be located underground, EXCEPT where bedrock or other major obstructions make underground service infeasible. Where undergrounding is infeasible, lines shall be made unobtrusive through design and location.

TECHNICAL REFERENCES

1. Banerjee, Tridib, Shoreline Appearance and Design: A Collection of Methods, University of Southern California, Institute of Marine and Coastal Studies, 1980. 56 pp.

2. California Coastal Commission, Designing Accessways, 1982. 95 pp. (Coastal access standards element of the California Recreation Plan.)

3. Canter, Larry and Loren Hill, Handbook of Variables for Environmental Impact Assessment, Ann Arbor Science, 1979. 203 pp. (A comprehensive listing of variables pertaining to environmental review in water resources planning.)

4. Conservation Foundation, Coastal Environmental Management: Guidelines for Conservation of Resources and Protection Against Storm Hazards, U.S. Government Printing Office, 1980.

5. Lindberg, Carl and Christianna Crook, Oregon's Coastal Beaches and Dunes: Impacts, Uses and Management Considerations, Oregon Coastal Zone Management Association, May, 1979.

6. Rau, John, and David Wooten, editors, Environmental Impact Analysis Handbook, McGraw Hill, 1980. (Includes methods of analysis for air, noise, energy, water quality, vegetation and wildlife impacts.)

7. Toner, William and Duncan Erley, Performance Controls for Sensitive Lands, American Society of Planning Officials (now American Planning Association), 1975.

8. Tourbier, J. Toby and Richard Westmacott, Water Resources Protection: A Handbook of Measures to Protect Water Resources in Land Development, Urban Land

Institute, 1982.

9. U.S. National Oceanic and Atmospheric Administration, Office of Coastal Zone Management, Aesthetic Resources of the Coastal Zone, prepared by Roy Mann Associates, July, 1975.

10. U.S. National Oceanic and Atmospheric Administration, Office of Coastal Zone Management, Natural Hazard Management in Coastal Areas, prepared by Gilbert F. White, et. al., Boulder, Colorado, November, 1976. (Describes application of the Coastal Zone Management Act to natural hazards to minimize losses in the coastal zone. Hazards discussed, delineated and analyzed in light of public policy include hurricane, flood, coastal erosion, landslide, earthquake, tsunami, volcano, avalanche and land subsidence. Problems are discussed by states also. Problems and recommendations are presented.)

Resource-Based Activities

RESOURCE-BASED ACTIVITIES:

AGRICULTURE

DEFINITION

Agriculture refers to all methods of livestock, crop, vegetation and soil management. These include but are not necessarily limited to the related activities of tilling, fertilizer application, soil preparation and maintenance, harvesting and the control of weeds, plant diseases and insect pests. Also included are animal husbandry practices associated with the feeding, housing, maintenance and marketing of animals such as beef cattle, milk cows, breeding stock, horses and poultry and their by-products. Facilities contained within this category include, but are not limited to, storage, feed lots, fences and ditches. Excluded are agricultural processing industries.

Uses and activities associated with agriculture which are identified as separate use activities in this program, such as Ports and Industry and Shoreline Stabilization and Flood Protection, are subject to the regulations established for those uses in addition to the standards established in this section.

EXEMPTIONS

The Shoreline Management Act exempts from the substantial development permit requirement the construction and practices normal or necessary for farming, irrigation and ranching activities, including agricultural service roads and utilities on wetlands, and the construction and maintenance of irrigation structures including but not limited to head gates, pumping facilities and irrigation channels: PROVIDED, that a feedlot of any size, all processing plants, other activities of a commercial nature, alteration of the contour of the wetlands by leveling or filling other than that which results from normal cultivation, is not considered normal or necessary farming or ranching activities. A feedlot is an enclosure or facility used or capable of

being used for feeding livestock hay, grain, silage or other livestock feed, but does not include land for growing crops or vegetation for livestock feeding and/or grazing, nor does it include normal livestock wintering operations. Finally, the Act exempts the operation and maintenance of any system of dikes, ditches, drains or other facilities existing on September 8, 1975, which were created, developed, or utilized primarily as a part of an agricultural drainage or diking system.

Although these structures are exempt from obtaining a Substantial Development Permit, compliance with all other prohibitions, regulations and development standards of this chapter is still required.

POLICIES

1. Valuable agricultural lands should be identified and protected for continued agricultural use.

2. The creation of new agricultural lands by diking, draining or filling tidelands, tidal marshes and associated wetlands should be discouraged.

3. Farm management techniques, operations and control methods should protect the productivity of the land base by maintaining or improving soil quality and minimizing soil losses through erosion in accordance with applicable Soil Conservation Service conservation practice guidelines.

4. A vegetative buffer should be maintained between agricultural lands and water bodies or wetlands in order to reduce harmful bank erosion and resulting sedimentation, enhance water quality by slowing and filtering runoff and maintain habitat for fish and wildlife.

5. Animal feeding operations, retention and storage ponds, feed lot waste storage and manure storage should be located away from the shoreline and constructed to prevent contamination of water bodies and degradation of the shoreline environment.

6. Appropriate farm management techniques should be uti-

lized to prevent contamination of nearby water bodies and adverse effects on valuable plant, fish and animal life from fertilizer and pesticide use and application.

7. Cooperative arrangements should be encouraged between farmers and public recreation agencies to allow public use of shoreines where it does not conflict with agricultural operations.

8. The scenic beauty of natural shorelines as well as the historic value of many rural agricultural landscapes should be protected in agricultural development.

9. Dairy, poultry and feed lot operators should be encouraged to recycle animal wastes.

REGULATIONS -- GENERAL

1. Agriculture development shall conform to applicable state and federal policies and regulations including the following:

   a. Erosion control guidelines and standards of the Soil Conservation Service, U.S. Department of Agriculture;

   b. Feedlot control guidelines of the U.S. Environmental Protection Agency;

   c. Washington Pesticide Application Act (Chapter 17.21 RCW);

   d. Washington Pesticide Act (Chapter 15.57 RCW);

   e. Intrastate Water Quality Standards (Chapter 372.64);

   f. Interstate Water Quality Standards (Chapter 372.12);

   g. State Board of Health Water Supply Rules and Regulations; and

   h. Cooperative Extension Service guidelines cited in the SMA WACs for agriculture.

2. The use of ground or surface water for irrigation purposes shall not result in significant adverse environmental impacts, deplete essential water supplies of other legal users nor decrease stream flow below established minimums.

3. All feed lots, open manure storage areas and lagoons shall be constructed and operated to prevent direct runoff, overflow or leaching of manure into a water body.

4. Confinement lots, feeding operations, retention and storage ponds, lot wastes, stockpiles of manure solids and storage of noxious chemicals shall not be located in the floodway or within 200 feet of ordinary high water, which ever is greater.

5. Within 100 year flood plain boundaries all liquid manure storage shall be diked and, if feasible, adequately covered.

6. A buffer of natural or induced permanent vegetation shall be maintained between areas used for crops or intensive grazing and adjacent waters and marshes, bogs and swamps. The plant composition and width of the buffer shall be based on site conditions, including type of vegetation, soils types, drainage patterns and slope, but shall not be less than (25-50) feet measured from the high water mark on designated lakes and streams (See Table 1). The buffer shall be sufficient to retard surface runoff and reduce siltation.

7. Streambanks and water bodies shall be protected from damage due to the over-concentration of livestock by providing the following:

   a. Suitable bridges, culverts or ramps for stock crossing;

   b. Ample supplies of clean water in tanks on dry land for stock watering; and

   c. Fencing or other grazing controls to prevent the overgrazing of or damage to buffer vegetation, bank compaction or bank erosion.

8. Wherever feasible, holding ponds for surplus wet season

runoff shall be incorporated in land drainage projects to store excess water for later use in irrigation or stock watering, thus minimizing the depletion of local ground water levels in the dry season as well as moderating high storm runoff peaks.

9. Agricultural practices shall prevent and control erosion of soils and bank materials within shoreline areas and minimize siltation, turbidity, pollution and other environmental degradation of watercourses and wetlands.

10. The burning of weed and grass growth along drainage ditches shall be allowed if conducted in accordance with the guidelines and regulations of appropriate agencies.

11. Manure spreading shall be kept back from the shoreline a sufficient distance or otherwise conducted in a manner that prevents animal wastes from entering water bodies or wetlands that act as ground water recharge areas adjacent to such water bodies.

12. The disposal of inorganic farm wastes, chemicals, fertilizers and associated containers and equipment within shorelines is prohibited, except organic wastes may be used for fertilization or soil improvement. The disposal of solid waste, including junk vehicles and equipment, debris and brush, is also prohibited within the shoreline area.

13. The application of agricultural chemicals shall prevent the direct runoff of chemical-laden waters into water bodies or aquifer recharge areas.

14. Aerial spraying of chemical pesticides or herbicides over water bodies is prohibited.

REGULATIONS -- SETBACKS AND HEIGHTS

Agriculture related developments shall meet the setback and height standards established in Table 1.

Note: The following table is included for illustrative purposes only. Appropriate height, setback and other standards will vary from jurisdiction to jurisdiction and should be based on consideration of local features such as soils and geologic conditions, hazardous features and character of surrounding development.

TABLE 1
AGRICULTURAL STRUCTURES

Regulation	Shoreline Area					
	Urban	Suburban	Rural	Conservancy	Natural	Aquatic
1.Shore setbacks (in feet) from OHWM for agricultural structures that do not require a shoreline location (e.g., barns, loafing sheds, manure storage, tanks for liquid storage[2])	50	50	75	100	NA[1]	NA
2.Height limits (in feet) for agricultural structures (silos are excepted)	25	25	35	35	NA	NA

Footnotes:

1. Non-intensive agricultural uses, such as pasturing or grazing, are allowed in the Natural Environment in some programs provided that an adequate visual buffer (e.g., no less than 100 feet) is maintained along the shoreline.

2. Tanks for liquid storage shall be set back at least 50 feet from the OHWM.

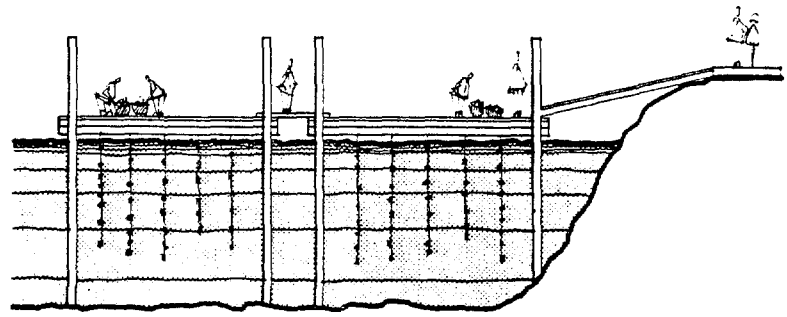
TECHNICAL REFERENCES

1. Department of Ecology, Dairy Waste Water Quality Management Plan, (Section 208, P.L. 95-217), March, 1979.

2. Snohomish County METRO and King County METRO, Farm Water Quality Management Manual, prepared by URS Consultants, September, 1977.

RESOURCE-BASED ACTIVITIES:

AQUACULTURE



DEFINITION

Aquaculture is the farming or culturing of foodfish, shellfish or other aquatic plants and animals in lakes, streams, inlets, estuaries and other natural or artificial water bodies. Activities include the hatching, cultivating, planting, feeding, raising and harvesting of aquatic plants and animals and the maintenance and construction of necessary equipment, buildings and growing areas. Cultivation methods include but are not limited to fish pens, shellfish rafts, racks and longlines, seaweed floats and the culture of clams and oysters on tidelands and subtidal areas. For the purpose of this section, related uses such as wholesale and retail sales, processing and product storage facilities are not considered aquaculture practices.

Uses and activities associated with aquaculture which are identified as separate use activities, such as Ports and Industry (product processing) and Commercial Development (retail/wholesale outlets), are subject to the regulations for those uses in addition to the standards established in this section.

POLICIES

1. Areas with high aquacultural use potential should be identified and encouraged for aquacultural use and protected from degradation by other types of land and water uses.

2. Aquaculture activities should be given flexibility to experiment with new aquaculture techniques.

3. Aquaculture activities should not locate in main navigational channels or where they would obstruct navigational access of upland owners.

4. Aquaculture practices should not materially interfere with the normal public use of the water and shorelines.

5. Proposals for aquaculture activities should minimize adverse impacts on the area's aesthetic values and views from upland properties.

6. Aquaculture activities should not eliminate or destroy naturally-occurring areas of great biological productivity and should minimize adverse effects on sensitive plant and animal communities.

7. When aquaculture operations are based on native stocks, harvesting should be managed to insure the maintenance and enhancement of long-term resource productivity.

REGULATIONS

1. The City/County shall require and utilize the following information during its review of aquaculture proposals:

   a. Species to be reared;

   b. Aquaculture method(s);

   c. Schedule, method and type of feeding (if applicable);

   d. Manpower/employment necessary for the project;

   e. Harvest method and timing;

   f. Location and plans for any shore-based activities including loading and unloading of the product and processing;

   g. Tidal variations, current flows, flushing rates

and relation to littoral drift, wind and waves;

h. General biologic and environmental characteristics and predicted impacts due to the project;

i. Method of predator control; and

j. Other pertinent information deemed necessary by the City/County.

2. The location of floating and submerged aquaculture structures shall not unduly restrict navigational access to waterfront properties or interfere with general navigation lanes and traffic. Such structures shall be located waterward of the minus three (3) fathom contour or two hundred (200) feet beyond extreme low tide, whichever is further offshore. Floating structures shall remain shoreward of principal navigation channels. Other restrictions on the scale of aquaculture activities to protect navigational access may be necessary based on the size and shape of the affected water body.

3. The location of intertidal aquaculture structures, such as pilings and intertidal foundations, shall not unduly restrict pedestrian circulation along beaches nor navigation between such structures and any floating or submerged aquaculture structures. Such structures shall be located between the mean tide level and extreme low tide whenever feasible.

4. The location of aquaculture developments or activities shall minimize view blockage from adjacent uplands.

5. Aquacultural structures and activities that are not water-dependent (e.g., warehouses for storage of products, parking lots) shall, to the extent feasible, be located inland to minimize detrimental impacts to the shoreline.

6. Shore support structures located over water shall only be permitted if it is clearly demonstrated that the use is dependent upon the location for aquaculture operations.

7. All floating aquaculture systems shall be marked for day and night visibility in accordance with U.S. Coast Guard requirements. Site boundaries shall also be marked so

public use of the water can occur without interfering with the operation.

8. Hatchery operations shall be required to maintain a minimum fifty (50) foot wide vegetated buffer zone along the affected streamway, PROVIDED that clearing of vegetation shall be permitted for essential water access points.

9. Aquaculture operations shall:

   a. Minimize and control all nuisance factors such as noise and odors and degradation of water and beach quality.

   b. Not dispose of wastes, oils, toxic materials or other effluent in violation of water quality standards or so that such materials would degrade the shoreline and water environment.

   c. Not dispose of fish, shellfish or solid or liquid wastes nor abandon equipment, structures or other materials in the shoreline and water areas. Disposal of shells is allowed when done to maintain shellfish cultivation beds.

10. Aquaculture activities shall be restricted to particular hours and/or days of operation when necessary to protect nearby residents from adverse impacts such as noise, light and glare.

11. Onshore support structures shall meet the height and setback standards established in Table 2, except that reduced setbacks may be permitted where necessary for the operation of hatcheries and rearing ponds.

12. All other non-water-dependent structures shall be located a minimum of fifty (50) feet landward from the OHWM.

REGULATIONS -- SETBACKS AND HEIGHT

Any aquaculture facilities shall meet the setback and height standards established in Table 2.

Note: The following table is included for illustrative purposes only. Appropriate height, setback and other

standards will vary from jurisdiction to jurisdiction and should be based on consideration of local features such as soils and geologic conditions, hazardous features and character of surrounding development.

TABLE 2
ONSHORE AQUACULTURE FACILITIES

Regulation	Shoreline Area: Urban	Suburban	Rural	Conservancy	Natural	Aquatic
1. Shore setbacks (in feet) for structures	25-50	25-50	50-75	50-100	NA	NA
2. Height limits (in feet)	20-35	20-35	20-30	15-25	NA	10

AQUACULTURE DISTRICT

Some jurisdictions have adopted an areawide approach to aquaculture management to address the activity's unique technological and physical requirements. The following is an example of this approach:

Establishment of Aquaculture District. This section allows for the establishment of an Aquaculture District. The Substantial Development Permit for an Aquaculture District will be issued for the entire district. Development authorized within the District will be generally described and located to provide for the range of development associated with the aquaculture operation(s). The applicant(s) for a District will provide the boundaries of the use area, location and size of upland structures, maximum size, height and surface area coverage of in-water structures and a description of activities in sufficient detail to determine

possible impacts. The activities within an Aquaculture District shall reviewed on a periodic basis to assure compliance with the permit. If the City/County finds that an activity or environmental impact is substantially different than that considered in the permit approval then action shall be taken to bring the operation(s) into compliance with the permit. The applicant(s) must be the lessee(s) or owner(s) of the property(s) proposed for inclusion in the Aquaculture District. The following describes when and how Aquacultural Districts can be formed:

a. Existing. Aquacultural uses existing prior to adoption of this Master Program (date) may be designated as Aquacultural Districts by the City/County upon application of the operator(s). The application shall describe the extent of the operation prior to adoption of this Master Program, including the items specified above.

b. Changes to Aquaculture Districts. Changes in uses within Aquaculture Districts, including species reared and design of floating structures, may be allowed provided the City/County finds that the activity does not exceed the scope of activity approved in the original permit. Additional over-water construction shall in no case exceed ten percent (10%) of overwater construction approved in the original permit without applying for a new Substantial Development Permit. The proposed change shall not create adverse impacts exceeding those of the uses authorized in the original permit. Impacts to be considered in this determination include:

   (1) Aesthetics;

   (2) Water quality;

   (3) Navigation;

   (4) Noise; and

   (5) Odor and waste management.

c. New. An Aquaculture District may be approved for a proposed new or expanded aquaculture use through the Shoreline Substantial Development Permit process. The permit will be reviewed and approved for the range of activities associated with the proposed aquaculture use. Aquaculture Districts must possess the characteristics

which will produce an environment suitable for aquacultural production. Factors to be considered in determining whether a proposed Aquaculture District will be approved shall include those cited in #1 (Regulations --General) and the ability to minimize conflict between the proposed aquacultural use and other existing or permitted uses in the area.

d. For non-aquacultural developments proposed within one-half (1/2) mile of an Aquaculture District, or which may be adversely affected by the aquaculture operation, covenants shall be filed with the appropriate City/County office which will inform prospective buyers on the proximity of the Aquaculture District.

TECHNICAL REFERENCES

1. Island County Planning Department, Island County Regional Aquaculture Study, prepared by Fisheries Production and Systems Planning and Dick Tracy Associates, June, 1981.

2. Washington State Department of Fisheries, Aquaculture in Puget Sound, Its Potential and Its Possible Environmental Impact, prepared by Eric Hurlbert, (to be published in 1983).

RESOURCE-BASED ACTIVITIES:

FOREST PRACTICES

DEFINITION

Forest Practices are activities relating to the growing, harvesting or processing of timber, including but not limited to: (1) site preparation and regeneration; (2) protection from insects, fire and disease; (3) silvicultural practices such as thinning, release from competing vegetation, and fertilization; and (4) harvesting, including the engineering and road construction necessary for logging and administrative access. Forest practices do not include log storage. (See Ports and Industry for standards relating to this use.)

EXEMPTIONS

The commercial harvesting of trees and other silvacultural activities are not identified as a "substantial development" requiring a shoreline permit under the Shoreline Management Act. Because of this broad exemption, many local jurisdictions have found it difficult to effectively manage forest practices. The exemptions have limited the cities' and counties' ability to enforce buffer requirements, prohibitions on cutting in the Natural Environment and other master program standards designed to protect shoreline resources.

One available tool which can be used to improve master program enforcement is to enter into an interagency agreement with the Department of Natural Resources (DNR). Such agreements are encouraged by WAC 222-50-030:

> The board [of Natural Resources] recommends that the department negotiate interagency agreements with other governmental agencies with respect to assumption by the department of responsibility to administer or help administer and to enforce or help enforce other laws and regulations as applied to forest prac-

tices on non-federal lands. The board further recommends that such agreements include, to the extent acceptable to the other agency, provisions specifying:

(1) The law and regulations covered;

(2) Any geographical or other limits on the department's authority and responsibility under the agreement;

(3) Priorities and standards for resolution of any conflicts between such laws and regulations and the act and these regulations;

(4) Procedures for administrative appeals of actions taken by the department under the agreement;

(5) Provisions for continuing cooperation between the department and the other agency or agencies regarding interpretation of the laws and regulations involved; and

(6) Procedures for termination of the interagency agreement.

The department is directed to provide copies of all such agreements to the board and the advisory committee for comment, and to make known to the public that such interagency agreements exist.

Although it is not formalized in writing, an agreement reached between King County and the Department of Natural Resources (DNR) has established a workable system which may be useful for other local jurisdictions to consider. Under this sytem, all forest practice applications are submitted to the county and routed through appropriate county departments for review. A county response is then returned to DNR. For most timber harvesting activities in shoreline areas, the county recommends a buffer area to protect streams and water bodies; the width of the buffer and severity of cutting restriction are based upon the specific conditions of the site and water body. The county's recom-

mendation is then incorporated in DNR's forest practices permit. For Class IV activities (harvesting for the purpose of converting the land to another use), King County reviews the proposal to insure that the conversion is consistent with county land use plans and that all applicable development permits have been applied for.

POLICIES

1. All forest practices in shoreline areas should be conducted in a manner which causes the least possible adverse impacts on the land and water environment, respect the natural character of the shoreline and make every effort to preserve wildlife, aquatic life and their habitats.

2. Shorelines having outstanding scenic qualities should be left in a substantially natural condition. Timber harvest in such areas should be limited to selective cutting which protects scenic views, and logging roads which would destroy the natural views of these areas should be prohibited.

3. Timber harvest in unique and fragile areas should be prohibited.

4. All roads, railroads, bridges and trails should be located, designed, constructed and maintained to minimize or prevent erosion and harmful effects on wildlife, aquatic life and their habitat.

REGULATIONS -- ROADS AND BRIDGES

1. Roads and landings shall not be constructed within shoreline areas except when necessary to:

   a. Cross streams;

   b. Avoid road construction on unstable soils or on steep slopes when such construction would be more harmful than a shoreline location; or

c. Perform water course improvements only after approval by the State Departments of Fisheries and Game.

2. Roads shall be designed to minimize the number of waterway crossings and avoid unnecessary duplication of road systems by making maximum use of existing roads. Where roads traverse land in another ownership, but could adequately serve the operation, attempts shall be made to negotiate with the owner for use of such roads before constructing new roads.

3. Road location shall avoid steep or unstable areas; natural marshes bogs and swamps; and drainage ways.

4. Bridges and culverts shall be located so as to avoid relocation of the stream channel.

5. Roads shall follow natural contours to the extent possible so that a minimum number of landform alterations will be required.

6. Running surface widths shall be kept to a minimum, not exceeding twenty-six (26) feet for two-lane roads and not more than fourteen (14) feet for single-lane roads.

7. Culverts installed in streams used by fish shall meet all requirements set by the State Departments of Fisheries and Game.

8. All culverts shall be adequate in size and design to carry the maximum anticipated flow and shall be kept clear of obstructions. The minimum size for culverts shall be fifteen to eighteen (15-18) inches in diameter.

9. Alternative A: Cut slopes shall not exceed:

a. 1/4:1 (Horizontal to Vertical) in rock

b. 3/4:1 in cohesive soils

c. 1+1/2:1 in noncohesive soils

Side cast and filled embankment slopes shall not exceed:

a. 1+1/3:1 (Horizontal to Vertical) in rock

b. 1+2/5:1 in cohesive soils

c. 1+1/2:1 in noncohesive soils

9. Alternative B: Cut and fill slopes shall be designed to the normal angle of repose for the materials involved or a lesser angle whenever practical.

10. Embankment fills shall:

    a. Be constructed and compacted in layers no more than two (2) feet thick;

    b. Consist of inorganic material with no buried slash or debris beneath the running surface; and

    c. Not encroach upon a 100-year floodplain so as to reduce its storage capacity or disturb riparian vegetation.

11. End haul construction is required whenever side casting would deposit material within a 100-year floodplain.

12. All bridges shall be high enough to allow all anticipated debris and high water flows to pass freely beneath.

13. Where aggregate earthen materials are used for paving or accumulate on bridges, curbs shall be installed when necessary to contain the surface materials.

14. At least one end of each stringer bridge shall be secured to prevent it from being washed away during high water.

15. Waterway crossings shall be constructed with minimum disturbance to banks and existing channels.

16. All cut, filled and sidecast slopes shall be stabilized by use of seeding, compacting, rip-rapping, benching or other suitable means.

17. Any soil or debris accidentally placed in a water channel during bridge construction shall be removed by approved methods. All exposed soils shall be stabilized.

18. When active use of a logging road is discontinued, it shall be left in such condition to provide adequate drainage and soil stability.

REGULATIONS -- HARVESTING AND REFORESTATION

1. In order to prevent erosion, siltation and temperature increase; to prevent the movement of logging debris into lakes and streams; to preserve bank structure and riparian vegetation; and to preserve the aesthetic qualities of the shoreline, a buffer strip shall be established along rivers, streams, lakes and other water bodies. All residual vegetation in the buffer strip, including grasses, shrubs, natural cull and non-merchantable trees which serve such purpose shall be left substantially undisturbed. Where residual vegetation is inadequate to provide such a buffer, sufficient merchantable trees shall be left. Within buffer strips, all vegetation necessary to prevent soil movement and shade the stream shall be retained and carefully protected during removal of adjacent timber. The width of required buffer strips and the amount of cutting permitted will vary with steepness of terrain, other topographic features and soil characteristics. However, a minimum buffer strip of thirty to fifty (30-50) feet on a horizontal plane from ordinary high water is required.

2. Within Shorelines of Statewide Significance, no more than thirty (30) percent of the merchantable trees shall be harvested within any ten (10) year period of time, except in those limited instances where the topography, soil conditions or silviculture practices necessary for regeneration render selective logging ecologically detrimental, provided further that clearcutting of timber which is solely incidental to the preparation of land for other uses authorized by this master program may be permitted.

   (Note: This regulation is based on RCW 90.58.150. DOE is currently developing definitions for several of the terms included in this regulation and is considering establishing the requirement that all variances from the thirty (30) percent selective cutting rule must obtain a conditional use permit.)

3. Special care shall be taken to insure that slash and debris do not enter a stream or water body.

4. All practical precautions shall be taken in timber har-

vesting to prevent soil erosion and water quality degradation. Logs shall not be dragged through stream beds.

5. All ruts and erodable soil conditions caused by timber harvest operations shall be water-barred. Such ruts which are within fifty (50) feet of a watercourse or on slopes exceeding forty (40) percent shall also be planted with an appropriate ground cover or mulched.

6. All clearcut areas must be successfully replanted or seeded within eighteen (18) months of logging; regeneration shall be of forest tree species compatible with adjacent stands.

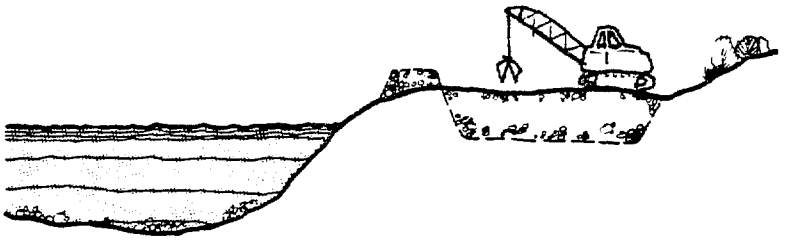
7. Equipment used for transportation, storage, or application of chemicals shall be maintained in leakproof condition. If there is evidence of chemical leakage, the further use of such equipment must be suspended until the deficiency has been satisfactorily corrected.

TECHNICAL REFERENCES

1. Alaska Department of Fish and Game, Forest Practices in Relation to Management of Alaska's Coastal Zone Resources: A Review with Management and Guideline Recommendations. Prepared by Koski, K. V. and R. A. Walter, 1977. 198 pp. (Discusses logging and transportation methods used in Southeastern Alaska and their effects on fresh and salt water habitats. Makes recommendations to minimize adverse effects.)

RESOURCE-BASED ACTIVITIES:

MINING



DEFINITION

Mining is the removal and primary processing of naturally occurring materials from the earth for economic use. For purposes of this definition, "processing" includes screening, crushing, stockpiling, asphalt mixing operations and concrete batching operations* all of which utilize materials removed from the site where the processing activity is located. Processing does not include general manufacturing, such as the manufacture of molded or cast concrete or asphalt products. (See Ports and Industry for standards relating to these uses.)

POLICIES

1. Mining should not be allowed in unique and fragile areas, in prime agricultural areas or on marine beaches.

2. All practical measures should be taken to protect water bodies from all sources of pollution, including but not limited to sedimentation and siltation, chemical and petrochemical use and spillage, and storge or disposal of mining wastes and spoils. Maximum protection should be provided for anadromous fisheries resources.

* One local jurisdiction has included asphalt mixing and concrete batching operations in its definition of "Mining" in order to allow such uses on mining sites in

rural areas. DOE has not formally established a policy on whether or not this is appropriate. In any event, SMPs should clarify whether these uses are considered to be "mining activities" or "industrial development".

3. Mining activities should allow the natural shoreline systems to function with a minimum of disruption during their operations and should return the site to as near natural a state as possible upon completion.

4. Mining operations should minimize adverse visual and noise impacts on surrounding shoreline areas.

5. Mining activities should be encouraged to locate outside shoreline areas in preference to shoreline locations.

REGULATIONS -- GENERAL

1. Excavation of sand, gravel, and other minerals shall be done in strict conformance to the Washington State Mine Surface Reclamation Act (Chapter 78.44 RCW) and applicable provisions of the City/County code.

2. All mining activities undertaken below the ordinary high water mark must also comply with the dredging policies and regulations contained in this program.

3. Alternative A: Mining proposals shall provide the following information as part of an application for a Shoreline Substantial Development Permit:

   a. Materials to be mined;

   b. Quantity of materials to be mined by type;

   c. Quality of materials to be mined by type. For certain minerals, a qualified geologist's evaluation may be required;

   d. Mining technique and equipment to be utilized;

   e. Depth of overburden and proposed depth of mining;

   f. Lateral extent and depth of total mineral deposit;

g. Cross section diagrams indicating present and proposed elevations and/or extraction levels;

h. Existing drainage patterns, seasonal or continuous, and proposed alterations thereof;

i. Proposed means of controlling/handling surface runoff and preventing or minimizing erosion and sedimentation;

j. The location and sensitivity of any affected flood hazard areas;

k. Subsurface water resources, aquifer recharge areas: origin, depth and extent;

l. Quality analysis of overburden, excavation material and tailings with plans for storage, usage or disposition;

m. Mining plan and scheduling, including seasonal, phasing and daily operation schedules;

n. Reclamation plan that meets the requirements of this chapter and, at a minimum, Chapter 78.44 RCW, for surface mining operations only; and

o. Screening, buffer and/or fencing plans that meet the requirements of this section.

3. Alternative B: The information described in Alternative A may be required to be provided in the form of a report prepared by a certified, professional geologist.

4. The applicant must demonstrate that the following potential impacts will not occur, are insignificant, or can be adequately mitigated:

   a. Channel changes;

   b. Changes in transport or deposition of sediment;

   c. Bank erosion upstream or downstream of the excavation; and

   d. Changes to riparian habitat.

5. Mining operations shall comply with all local, state and

federal water quality standards and pollution control laws. Operations shall utilize effective techniques to prevent or minimize surface water runoff, erosion and sedimentation; prevent reduction of natural flows; protect all shoreline areas from acidic or toxic materials; and maintain the natural drainage courses of all streams. Surface water runoff shall be impounded as necessary to prevent accelerated runoff and erosion.

6. Overburden, mining debris and tailings shall not be placed in water bodies or floodways and shall be stored and protected in such a manner so as to prevent or minimize erosion or seepage to surface and ground waters.

7. Mining operations shall provide maximum protection for anadromous fisheries resources, including but not limited to limitations on the periods of the year during which mining activities may occur.

8. If substantial evidence indicates that mining operations are causing, or continuation of operations would cause, significant adverse impacts to water quality or to the geo-hydraulic functioning of a river, the City/County may terminate the mining permit or impose further conditions on the mining operation.

9. In no case shall mining operations impair lateral support and thereby result in earth movements extending beyond the boundaries of the site.

10 Adequate precautions shall be taken to insure that stagnant or standing water, especially that of a toxic or noxious nature, does not develop, and that flooding and evaporation will not lead to the stranding of fish in open pits.

REGULATIONS -- SETBACKS AND BUFFERS

1. Alternative A: Mining operations adjacent to developed residential property, public parks, public shorelines and accesses and along streams, lakes and marine shorelines shall provide a view obscuring screen composed of compatible, native, self-sustaining vegetation. Screening and buffer vegetation shall be planted at the time of excavation or as soon thereafter as possible so

as to be established within one year of commencing operation. Such screening shall be maintained in good, effective condition at all times. If vegetative screening is not possible, the Planning Department may require artificial screening or fencing to suit the site, operations and shoreline area.

1. Alternative B: A minimum fifty (50) foot buffer of undisturbed soils and vegetation shall be maintained between the mining site (including all accessory facilities) and adjacent properties and abutting bodies of water or natural wetlands; provided that the water body buffer requirement may be waived for approved streamway bar scalping operations.

2. Mining activities, other than mining of river point-bar material, shall be set back a sufficient distance from water bodies and associated wetlands to minimize erosion, protect water quality from all possible sources of pollution and preserve the natural vegetation and aesthetics of the shoreline environment.

3. Mining equipment, works, and structures shall be sited and stored as far landward as feasible from the ordinary high water mark. Minimum setbacks and buffer areas are established in Table 3. Any facilities located within the 100-year floodplain must be able to withstand a 100-year flood, without becoming hazardous.

Note: The following table is included for illustrative purposes only. Appropriate height, setback and other standards will vary from jurisdiction to jurisdiction and should be based on consideration of local features such as soils and geologic conditions, hazardous features and character of surrounding development.

TABLE 3
MINING

Regulation	Shoreline Area: Urban	Suburban	Rural	Conservancy	Natural	Aquatic
1. Shore setbacks (in feet) for mining operations.	20	50	75-100	100	NA	NA
2. Shore setbacks (in feet) for buildings.	50	75	100	150	NA	NA
3. Buffer width on shore and between operations and adjacent properties (in feet).	20	20	50	75-100	NA	NA

REGULATIONS -- RECLAMATION

1. Reclamation plans submitted with each permit application shall provide for reclamation of the site into a use which is permitted by this program and shall indicate when reclamation shall occur.

2. In order to insure the future use and viability of shoreline areas subsequent to mining activities, the reclamation plan shall include the following provisions to be fulfilled within one (1) year of completed mining operations:

   a. All equipment, machinery, buildings and structures not involved in reclamation activities shall be

removed from the site. All equipment utilized for reclamation shall be removed from the site upon review and approval of the reclamation as required by state and local agencies.

b. No stagnant or standing water shall be allowed to collect or remain except as provided in an approved site reclamation plan.

c. Backfill material shall be of natural, compatible materials. Combustible, flammable, noxious, toxic or solid waste materials are not permitted as backfill.

d. All overburden, waste and nontoxic material storage piles and areas shall either be leveled, sodded and planted or returned to the excavated area for reuse as backfill and subsequently sodded and planted.

e. The site shall be rehabilitated so as to prevent erosion and sedimentation during and after reclamation.

3. Suitable drainage systems approved by the City/County engineer shall be installed and maintained if natural, gradual drainage is not possible. Such systems should collect, treat and release surface runoff so as to prevent erosion and sedimentation.

4. To the extent possible, topography of the site shall be restored to the contours existing prior to mining activity. Contours of the reclaimed site shall be compatible with the surrounding land and shoreline area.

5. All banks, slopes and excavation areas containing unconsolidated materials shall be sloped to no steeper than 2-1/2 feet horizontal to 1-foot vertical. All slopes shall be sodded or surfaced with appropriate soil to at least the depth of the surrounding, undisturbed soil and subsequently revegetated.

6. All banks, slopes, and excavated areas of consolidated material shall be sloped to no steeper than 1-foot horizontal to 1-foot vertical.

7. Slopes of quarry walls shall not have a prescribed slope

unless a hazardous condition is created, whereupon the quarry shall be backfilled and sloped according to Regulation #6 above.

8. Revegetation shall consist of compatible, self-sustaining trees, shrubs, legumes or grasses.

9. All toxic and acid-forming mining refuse and materials shall be either treated so as to be nonpolluting prior to onsite disposal, or removed and disposed of away from shoreline areas.

10. The amount of land and shoreline area being excavated or lying disturbed and unreclaimed at any time without simultaneous reclamation being undertaken shall not exceed ten (10) acres.

REGULATIONS FOR SPECIFIC TYPES OF SHORELINE

Floodways and Lakebeds

1. Scalping of streamway bars is permitted, provided that no more material may be removed in one mining season than will predictably be replaced by natural processes during the subsequent wet season.

2. Excavation of sand, gravel and other minerals by the open pit method (not including the scalping of streamway bars) shall not be allowed within floodways.

3. Removal of any inorganic material from a floodway or lakebed except riverbars should be for stream or habitat improvement purposes or for structural installations permitted by this Master Program and shall conform to the technical standards of the departments of Fisheries and Game under the jurisdiction of the Hydraulics Act. No materials shall be removed from a floodway or lakebed for the primary purpose of obtaining the materials.

Marine and Lake Beaches

4. Mining of marine and lake beaches, including but not limited to sand, gravel, cobbles, boulders or quarry rock from any marine or lake beach for purposes of sale

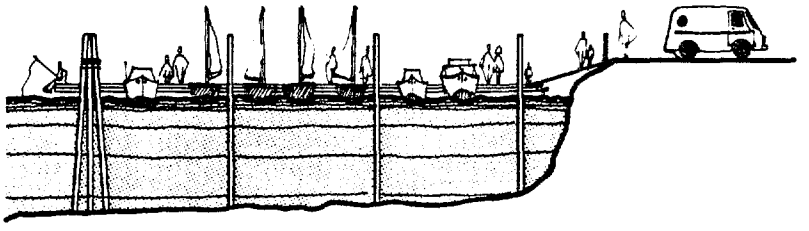
or use in manufacturing products, or for any other commercial or industrial purpose, is prohibited.

5. The removal of naturally occurring inorganic materials from the intertidal area along marine beaches shall be prohibited unless for the purposes of fish and wildlife habitat improvement. Excavation for the maintenance, repair or construction of shoreline structures such as bulkheads, piers, jetties and groins are subject to the Master Program regulations governing those activities.

Development Activities

DEVELOPMENT ACTIVITIES:

BOATING FACILITIES



DEFINITION

Boating facilities include marinas, boat launch ramps, covered moorage, mooring buoys and marine railways.

A marina is a water-dependent facility that provides wet and/or dry moorage for over ten to fifteen (10-15) boats, boat launching facilities and supplies and services for small commercial and/or pleasure craft. There are two types of marinas, backshore and foreshore. Backshore marinas are located landward of the OHWM. Of the backshore marinas, there are also two common types: wet moorage which requires a basin and entry to water dredged out of the land; and dry moorage which has upland storage with a hoist, marine railway or ramp for water access. Foreshore marinas are located in the intertidal or offshore zone and may require breakwaters of open-pile, floating or solid construction, depending on location.

Marina accessory uses include fuels, boating equipment sales and rental, repair services, public launching, bait and tackle shops, potable water, waste disposal, administration, parking for vehicles, prepared food, groceries and dry goods.

Boat ramps are constructed of concrete or other material and extend onto the tidelands for boat launching. Marine railways are a pair of sloping tracks used to launch watercraft. Covered moorage is a roofed structure for the wet or dry storage of one or more boats included in a marina. A mooring buoy is an anchored floating device for

the purpose of securing a water craft.

Excluded from this category are piers and docks which are a separate use activity.

Uses and activities associated with boating facilities which are identified as separate use activities in this program, such as Piers and Docks; Bulkheads; Breakwaters, Jetties and Groins; Dredging; Landfill; Utilities and Transportation Facilities, are subject to the regulations established for those uses in addition to the standards for boating facilities established in this section.

POLICIES

1. Boating facilities should be located and designed to minimize adverse effects upon, and to enhance if possible, beneficial shoreline geo-hydraulic processes such as erosion, littoral or riparian transport and accretion, as well as scarce and valuable shore features including accretion shoreforms and natural wetlands.

2. Areas which have been identified as hazardous due to storm tides, high winds or flooding should not be considered as potential marina sites.

3. Shallow water embayments with poor flushing action should not be considered for marina sites.

4. Boating facilities should be located, designed and operated to provide maximum feasible protection and enchancement of all forms of aquatic, littoral or land life forms including animals, fish, shellfish, birds and plants, their habitats and their migratory routes. To the extent possible, marinas should be located in areas of low biologic productivity.

5. Boating facilities should be located and designed so that adjacent fragile or unique natural and cultural features are preserved or enhanced.

6. Regional as well as local needs should be considered when determining the location of marinas.

7. Potential, ideal sites for marinas and launch ramps near high-use or potentially high-use areas should be identified.

8. Marinas should be located so as to minimize the consumption of limited shoreline areas.

   a. The expansion of existing marinas should be encouraged over the addition of new marina sites.

   b. Marinas and launch ramps are preferred over the development of individual docking facilities for private, non-commercial pleasure craft.

   c. The use of boat launching ramps and dry storage of recreational boats or other new technologies should be considered as alternatives to sheltered, year-round wet moorage of watercraft.

9. Boating facilities should be located and designed so their structures, other features and operations will be aesthetically compatible with or will enhance the area visually affected, and will not unreasonably impair shoreline views of local residents and user groups.

10. New marina facilities should be designed to accommodate public access and enjoyment of the shoreline location, including provisions for walkways, view points, restroom facilities and other recreational uses according to the scale of the facility.

11. Marinas and public launch ramps should be located, designed and operated so that neighboring water-dependent uses are not adversely affected, whether such other uses are existing or officially planned.

REGULATIONS -- GENERAL

1. Boating facility development shall comply with all other applicable state agency policies and regulations including, but not limited to: the Department of Fisheries criteria for the design of bulkheads, landfills and marinas; the Department of Health and Social Services regulations pertaining to marinas; U.S. Army Corps of Engineers dredging standards; and state and

federal standards relating to the storage of fuels and toxic materials.

2. The City/County shall require and utilize the following information in its review of marina proposals:

   a. Existing natural shoreline and backshore features and uses;

   b. Geo-hydraulic processes and flushing characteristics;

   c. Biological resources and habitats for the backshore, foreshore and aquatic environments;

   d. Area of surface waters appropriated;

   e. Site orientation; exposure to wind, waves, flooding or tidal/storm surges; type and extent of shore defense works or shoreline stabilization and flood protection necessary;

   f. Impact upon existing shoreline and water uses including public access and recreation;

   g. The regional need for additional facilities; and

   h. The design of the facilities, including the provisions for the prevention and control of fuel spillage and a landscaping plan.

3. Accessory uses at marinas or public launch ramps shall be limited to those which are water-dependent, necessary for marina operation or which provide physical or visual shoreline access to substantial numbers of the general public. Accessory uses shall be consistent in scale and intensity with the marina and surrounding uses.

REGULATIONS -- LOCATION

1. Marinas catering to a large regional demand for permanent moorage shall to the extent possible locate in heavily populated areas where shorelines are already developed.

2. The expansion of existing marinas shall be encouraged

over the addition of new marina sites. When new sites are considered, sufficient evidence must be presented to show that existing marinas are inadequate and cannot be expanded to meet regional demand.

3. Deteriorated urban waterfront areas in need of restoration and where channel depths are such that commercial activity is no longer feasible shall be given priority consideration for potential marina sites.

4. Marinas and public launch ramps shall locate on stable shorelines where water depths are adequate to eliminate or minimize the need for offshore or foreshore channel construction dredging, maintenance dredging, spoil disposal, filling, beach feeding and other river, lake, harbor and channel maintenance activities.

5. Marinas and launch ramps shall locate in areas where there is adequate water mixing and flushing and shall be designed so as not to retard or negatively influence flushing characteristics. Marinas are permitted in a constricted body of salt water (width at the entrance less than half the distance from the entrance to the inner most shoreline) only if there is one surface acre of water within the constricted body, measured at mean low water, for each boat moorage (including buoys) within said constricted body.

6. New wet moorage marinas shall not be permitted to locate within one half (1/2) mile of a domestic sewage or industrial waste outfall of less than secondary treatment capability.

7. Boat launches and marina entrances shall not be located near beaches commonly used for swimming or valuable commercial fishing areas.

8. Marine railways for boat launching shall be located on the existing grade where feasible and shall not obstruct shoreline access.

Marine Shores

9. Marinas and launch ramps shall not locate at or along:

   a. Significant littoral drift sectors, including resource material areas, such as feeder bluffs and accretion beaches, points, spits and hooks;

b. Marshes, bogs, swamps and lagoons;

c. Estuaries;

d. Fish and shellfish spawning and rearing areas; or

e. Poorly-flushed lagoons and backwaters.

10. Foreshore marinas and launch ramps may be located on or along low energy drift sectors.

11. Backshore marinas and launch ramps may be located behind closed accretional beaches, points or low energy drift-ways. Connecting channels and their jetties should be designed to protect littoral drift processes.

12. When located in designated port areas, marinas shall not extend seaward of the pierhead line.

Lake Shores

13. Foreshore marinas or launch ramps shall not be permitted on lake beaches (accretional beach shores) because these natural features are uncommon on lakes and highly valuable for swimming and general recreation.

14. Backshore lake marinas or launch ramps may be permitted on low bank beaches if most of the beach and backshore is preserved in its natural condition for recreation.

Rivers and Stream Banks

15. Marinas shall not locate along braided or meandering river channels where the channel is subject to change in direction or alignment or on point bars and other accretion beaches.

16. River marinas and launch ramps shall be located so as not to adversely affect flood channel capacity or otherwise create a flood hazard.

REGULATIONS -- DESIGN

1. Backshore marinas or launch ramps shall generally be

preferred over foreshore marinas on marine and lake shores because they have substantially less impact on shoreline natural features and uses, as well as less irreversible appropriation of navigable waters. Foreshore marinas may be permitted where it is demonstrated that the public benefit from preserving fisheries resources, water quality or a valuable backshore for general shore recreation is great.

2. Proposals for marinas shall include launch facilities unless the applicant can demonstrate the infeasibility of providing such facilities.

3. Marina design shall provide thorough flushing of all enclosed water areas and shall not restrict the movement of sea life requiring shallow water.

4. The marina design shall minimize interference with geo-hydraulic processes and disruption of existing shore forms.

5. Boating facilities shall be designed so their structures, other features and operations will be aesthetically compatible with or will enhance existing shoreline features and uses and so views from the uplands and the water are not significantly diminished.

6. Landscape plans shall mitigate adverse development impacts on adjacent properties, and protect and enhance views from upland areas.

7. The perimeter of parking, dry moorage and other storage areas shall be landscaped to provide a visual and noise buffer between adjoining dissimilar uses or scenic areas. The permit application shall identify the size, type and location of landscaping.

8. All signs shall adhere to the policies and regulations for signs EXCEPT that a marina or launch ramp facility may add no more than one advertising sign oriented to the water, not exceeding fifteen (15) feet in total height. Signs for fueling facilities shall not exceed fifteen (15) feet in total height.

9. Alternative A: Views from upland lots shall be preserved, and public viewpoints or viewing areas shall be provided by the developer so the public can observe

marina activity.

9. Alternative B: View corridors of not less than thirty-five (35) percent of the width of the lot shall be provided; except that one-half of such requirement may be satisfied by an abutting street or waterway.

10. Provisions for public access, both visual and pedestrian, shall be an integral part of all marina development and designed to be aesthetically compatible with adjacent areas and commensurate with the particular proposal. Examples include artificial pocket beaches created by foreshore defense structures, pedestrian bridges to offshore structures, fishing or viewing platforms, and underwater diving and viewing platforms.

11. Marinas and public launch ramps shall be designed so that existing or potential public access along beaches is not unnecessarily blocked nor made dangerous and public use of the surface waters below the ordinary high water mark is not unduly impaired.

REGULATIONS -- CONSTRUCTION AND MATERIALS

1. Dredging in coastal waters for recreational boating facilities shall be limited to the minimum necessary for new entrance channels to reach basins dredged out of dry land areas; for deepening water a few feet in existing and proposed berthing areas; and for maintenance dredging. Dredging coastal wetland areas to accommodate new or expanded boating facilities is prohibited.

2. Landfill in water bodies or natural wetlands to create usable land space for accessory marina uses is prohibited unless no alternatives exist and adverse impacts to flora and fauna are minimized.

3. Where foreshore marinas are permitted:

   a. Open pile or floating breakwater designs are preferred over riprap or other solid construction because they cause less damage to natural shore features and are reversible; and

b. Solid structures should not be permitted to extend without openings from the shore to zero tide level (Mean Lower Low Water (MLLW)) but should provide for fish passage.

4. Shoreline embankments of all boating facilities shall be stabilized both above and below the water's edge.

REGULATIONS -- HEIGHTS AND SETBACKS

1. The development of all boating facilities and accessory uses shall meet the setback, open space and height standards established in Table 4.

Note: The following table is included for illustrative purposes only. Appropriate height, setback and other standards will vary from jurisdiction to jurisdiction and should be based on consideration of local features such as soils and geologic conditions, hazardous features and character of surrounding development.

TABLE 4
BOATING FACILITIES

Regulation	Shoreline Area: Urban	Suburban	Rural	Conservancy	Natural	Aquatic
1.Shore Setback from OHWM (in feet)						
a.Water-dependent development not requiring water's edge, water-related and accessory uses except parking	0-50	0-50	0-100	0-200	NA	NA
b.Parking, dry moorage and storage. Also resorts	15-75	15-75	25-100	50-125	NA	NA
2.Open Space requirement for marinas and commercial launches.	15-30%	30-40%	40-50%	50%	NA	NA
3.Height Limit (in feet) for buildings within:						
a.0-100 feet from OHWM	15-35	15-35	15-35	15-35	NA	NA
b.101-200 feet from OHWM	35	20-35	20-35	20-35	NA	NA
c.Over-water structures	NA	NA	NA	NA	NA	15

NA = Not Applicable.

REGULATIONS -- PARKING

1. Overwater parking facilities are prohibited.

2. No overnight parking shall be permitted in the floodway during the wet season between November 1 and May 1 of the following year.

3. Short-term loading areas may be located at ramps or near berthing areas, and long term parking areas shall be located away from berthing areas and outside the shoreline.

4. To the extent possible, marinas and accessory uses shall share parking facilities.

5. Alternative A: Parking and shuttle areas shall be sized and designed to adequately meet the projected marina or launch ramp activity demand/need typical of a non-holiday summer weekend.

5. Alternative B: The following parking requirements shall apply:

   a. Parking facilities shall meet city/county zoning standards; provided that at a minimum one (1) vehicle space shall be maintained for every two (2) moorage spaces and for every four hundred (400) square feet of interior floor space devoted to accessory retail sales or service use.

   b. At each public or quasi-public launch ramp, at least ten (10) car and trailer spaces at least ten (10) feet by forty (40) feet shall be provided for each ramp lane.

REGULATION -- CIRCULATION

1. Marinas and launch ramps shall be located where access streets are adequate to handle the traffic load generated by the facility and shall be designed to minimize other circulation and access conflicts.

2. Collector roads between marinas and arterial routes shall have all weather surfacing, and be satisfactory to the City/County in terms of width, safety, alignment, sign distance, grade and intersection controls.

3. Ingress-egress as well as the use and enjoyment of the water or beach on adjoining property shall not be unduly restricted or impaired.

REGULATIONS -- UTILITIES

1. Where wet moorage is offered, pump-out, holding and/or treatment facilities shall be provided by the marinas for sewage contained on boats or vessels. They shall be located so as to be conveniently available to all boats. The responsibility for the adequate collection and dumping of marine originating sewage, solid waste and petroleum waste is that of the marina operator.

2. Alternative A: Marinas and boat launch ramps shall have adequate restroom facilities in compliance with local Health Board regulations.

2. Alternative B: All marinas shall provide restrooms for boaters' use. They shall be kept clean, located within two hundred (200) feet from the dock or pier; there shall be one (1) toilet and handwashing facility for each sex per fifty (50) moorage sites; signs shall be posted so that the restrooms are easily identifiable.

3. All pipes, plumbing, wires and cables at a marina site shall be placed at or below ground and dock levels.

REGULATIONS -- MANAGEMENT AND OPERATIONS

1. Marinas shall have adequate facilities and establish operational procedures for fuel handling and storage in order to minimize accidental spillage.

2. Marinas shall have facilities, equipment and established procedures for the containment, recovery and mitigation of spilled petroleum or toxic products.

3. Marina operators shall post the following signs where they are readily visible to all marina users:

   a. Regulations pertaining to handling and disposal of waste, sewage or toxic materials;

   b. Regulations prohibiting the use of marine toilets while moored unless these toilets are self-contained or have an approved treatment device; and

   c. Regulations prohibiting the disposal of fish or shellfish cleaning wastes, scrapfish, viscera or unused bait in or near the marina.

4. Garbage or litter receptacles shall be provided and maintained by the marina operator at several locations convenient to users.

5. The dock facilities shall be equipped with adequate lifesaving equipment such as life rings, hook and ropes.

6. Adequate fire protection shall be required as per the Washington State Fire Code.

7. Swimming shall be prohibited within marina facilities unless the swimming area is adequately separated and protected.

8. If dredging at marina entrances changes the littoral drift processes and adversely affects adjacent shores, the marina operator shall be required to periodically replenish these shores with the appropriate quantity and quality of aggregate.

9. Space for transient moorage shall be provided.

REGULATIONS -- BOAT LAUNCHES

1. A ramp is preferred over a marina on natural accretion shores because it is reversible and will not interfere with littoral drift and accretion unless offshore defense structures or dredging are also required. Therefore, a limited number of launch ramps shall be permitted on accretion shoreforms, provided any necessary grading is not harmful to affected resources

and any accessory facilities are located out of the floodway.

2. Where ramps are permitted, parking and shuttle areas shall not be located on scarce accretion shoreforms which have high value for general shore recreation.

3. Launch ramps are permitted on other stable non-erosional banks, where no or a minimum number of current deflectors or other stabilization structures will be necessary.

4. Boat launch ramps are permitted for individual residences where the upland slope within twenty-five (25) feet of the OHWM does not exceed twenty-five (25) percent and/or where substantial cutting, grading, filling or defense works are not necessary.

5. Boat launching ramps and minor accessory buildings and haul out facilities shall be designed to be in character and scale with the surrounding neighborhood.

6. Ramp structures shall be built from flexible, hinge-segmented pads which can adapt to changes in beach profiles.

7. Ramps shall be placed and kept flush with the foreshore slope to minimize the interruption of geo-hydraulic processes.

REGULATIONS -- COVERED MOORAGE

1. Marina developers are required to provide a detailed plan for covered moorage development before permits are granted. Such a plan must indicate: (a) covered moorage location, size and general design; (b) impact on shoreline views in the marina and from adjacent private and public properties; and (c) that the structures will be built to conform to the City/County building code, withstand stresses from storms and weather or damage by fire, and that exterior wall and roof coverings shall be of noncombustible or fire-retardant treated material and so certified or labeled.

2. Alternative A: Covered moorages shall be permitted

within a marina facility provided they comprise a minimal part of the facility.

2. Alternative B: The maximum height for covered moorage is twenty-five to thirty-five (25-35) feet above the OHWM and maximum allowable lot coverage is twenty-five to fifty (25-50) percent.

3. Covered moorages are not permitted in areas determined by the appropriate reviewing authority to be of high scenic value or where open water views are important.

4. All covered moorages at a specific marina shall be of similar and/or compatible design, color, length and height; and shall be constructed in contiguous groups or modules as part of the overall project.

5. Where covered moorages are utilized, a public dock shall be provided for viewing the water and for fishing when feasible and appropriate.

6. In marinas where the existing covered moorage does not comply with this program, the following regulations shall apply:

   a. Repair and maintenance is allowed on existing structures.

   b. Relocation and replacement with new structures is allowed provided:

      (1) The area covered by the structure is not increased;

      (2) The relocation and replacement preserves existing views between the adjacent inland property and the water, or between a public facility and the water; and

      (3) The appearance of the covered moorage is compatible with other covered structures in the marina and the surrounding environment.

REGULATIONS -- MOORING BUOYS

1. Mooring buoys shall be located as close to the shore as

possible. They shall not be located farther waterward than existing mooring buoys unless the drift of the boat dictates it.

2. Buoys must be discernible under normal daylight conditions at a minimum of one hundred (100) yards and must have reflectors for nighttime visibility.

3. Only one mooring buoy will be allowed per waterfront lot unless there is a demonstration of greater need. Such demonstration may include a community park or residential development where lot owners both on and away from the shoreline share a shoreline open space area.

TECHNICAL REFERENCES

1. Giannio, Steven P., and Hsiang Wang, Engineering Considerations for Marinas in Tidal Marshes, College of Marine Studies, University of Delaware, Newark, Delaware, 1971. 105 pp. (Includes an examination of problems, impacts and potential solutions for locating marinas in a marsh environment. Concludes with a composite marina design that would permit a marina to be constructed in a marsh system yet retain or even enhance its environmental value.)

2. New Jersey Department of Environmental Protection, Developing a Marina in New Jersey. Prepared by Rogers, Golden and Halpern, September, 1982. 59 pp. (Includes an analysis of marina impacts and recommendations for project design.)

3. Northwest Marine Trade Association, Proceedings of Moorage Workshop, April 6-7, 1977, edited by Robert F. Goodwin and Caroline Tobin.

4. U.S. Army Corps of Engineers (Seattle District), Recreational Small Boat Moorage Study: Puget Sound and Adjacent Waters, Washington, October, 1980.

5. U.S. National Oceanic and Atmospheric Administration, Office of Coastal Zone Management, Coastal Facility Guidelines, August, 1976. 96 pp. (Includes a case study on marina development, and discusses management considerations in locating, planning and designing marinas.)

DEVELOPMENT ACTIVITIES:

COMMERCIAL DEVELOPMENT

DEFINITION

Commercial development means those activities which are involved in wholesale, retail, service and business trade. They range from small businesses within residences to high-rise office buildings. Included are such activities as hotels, motels, grocery markets, shopping centers, restaurants, shops and private or public indoor recreation facilities. Excluded from this category are residential or recreation subdivisions, boating facilities and ports and industry.

Uses and activities associated with commercial development which are identified as separate use activities in this program, such as Ports and Industry; Boating Facilities; Transportation Facilities; Signs; Utilities; Solid Waste Disposal; Piers and Docks; Bulkheads and Shoreline Stabilization and Flood Protection, are subject to the regulations established for those uses in addition to the standards for commercial development established in this section.

POLICIES

1. Commercial developments should be encouraged to locate inland from the shoreline area unless they are dependent on a shoreline location or would have minimal adverse impacts on the shoreline environment. Commercial developments should be discouraged over water or in marshes, bogs and swamps unless the use is water-dependent or water-related.

2. New commercial development on shorelines should be encouraged to locate in those areas with existing commercial uses and in a manner that will minimize sprawl and the inefficient use of shoreline areas.

3. Commercial development should be encouraged to utilize

existing transportation corridors and minimize the number of access/egress points. Access/egress should be designed to minimize potential conflicts with and impact on regular corridor traffic.

4. Commercial development on the water's edge should be encouraged to provide physical or visual access to the shoreline or other opportunities for the public to enjoy the shorelines of the state.

5. Multiple use concepts which include open space and recreation should be encouraged in commercial developments.

6. Commercial development should be aesthetically compatible with the surrounding area. Structures should not significantly impact views from upland properties, public roadways or from the water.

7. The location of commercial developments along shorelines should insure the protection of natural areas or systems identified as having geological, ecological, biological or cultural significance.

8. Commercial development should be discouraged within the 100-year floodplain.

REGULATIONS -- GENERAL

1. The City/County shall require and utilize the following information in its review of commercial development proposals:

   a. Nature of the commercial activity;

   b. Need for shoreline frontage (where appropriate);

   c. Special considerations for enhancing the relationship of the activity to the shoreline;

   d. Provisions for public visual and/or physical access to the shoreline; and

   e. Provisions to ensure that the development will not

cause severe negative environmental impacts.

2. Only those commercial developments that are related to or dependent upon a shoreline location shall be permitted; EXCEPT, a non-water-related use may be allowed in those environments where not expressly prohibited upon determination that (1) a water-dependent or water-related use is not reasonably expected to locate on the proposed site due to topography, surrounding land uses, physical features or due to the site's separation from the water; (2) the proposed use does not usurp land currently occupied by a water-dependent use and will not interfere with adjacent water-dependent uses; and/or (3) the proposed use will be of appreciable public benefit by increasing public use, enjoyment or access to the shoreline.

3. Commercial docking and boat fueling stations shall be permitted to construct over-water structures. All other commercial, non-water-dependent, over-water structures are prohibited.

4. Piers, moorages, floats and launching facilities may be permitted accessory to commercial development, provided:

   a. The structure will serve a water-dependent or water-related use;

   b. The structure does not constitute a hazard to navigation; and

   c. The structure meets all standards for piers and docks.

5. Bulkheads combined with landfilling for a non-water-dependent or non-water-related commercial use are prohibited seaward of the OHWM.

6. Upland lots, or properties within the shoreline area but separated from the water by an arterial or state highway, are exempt from the water-dependent/water-related use and public access requirements of this section, if consistent with the following:

   a. The proposed development is consistent with the use requirements of the local zoning ordinance;

b. The proposed development is consistent with all other policies and regulations of this program; and

c. The proposed development is compatible with and will not preclude permitted water-dependent or water-related uses of the shoreline or public access to the water.

7. Commercial developments are prohibited on braided or meandering river channels.

REGULATIONS -- DESIGN

1. Commercial development shall be designed and maintained in a neat, orderly and environmentally compatible manner, consistent with the character and features of the surrounding area. To this end, the City/County may adjust the project dimensions and setbacks established in Table 5 and/or prescribe use intensity and screening standards as deemed appropriate. Need and special considerations for landscaping and buffer areas shall also be subject to review.

2. All resorts and commercial recreational developments shall provide adequate public access to the shoreline and water areas. Other commercial developments shall provide public access to the shoreline unless it is demonstrated to be infeasible or unsafe. (See General Regulations, Public Access.)

3. Commercial developers shall be required to provide and maintain landscaping as part of their development.

4. Commercial development proposals must include parking plans showing location, size and design which demonstrate that all proposed parking is appropriate and necessary for the proposed use.

5. Commercial developments shall use holding systems to control runoff from parking lots and rooftops wherever possible.

6. Fuel storage tanks and pumps shall be located, designed and constructed so that any leaks or spills will not

enter adjoining water bodies.

7. All non-water-dependent commercial loading and service areas shall be located on the upland side of the commercial activity or provisions must be made to the setback and screen the loading and service area from the shoreline.

8. Commercial developments shall not contaminate surface waters, deplete or contaminate ground water supplies, nor generate increased surface runoff where such runoff would result in adverse downstream effects.

REGULATIONS -- SETBACKS AND HEIGHT

All commercial development and accessory uses shall meet the setback and height standards established in Table 5.

Note: The following table is included for illustrative purposes only. Appropriate height, setback and other standards will vary from jurisdiction to jurisdiction and should be based on consideration of local features such as soils and geologic conditions, hazardous features and character of surrounding development.

TABLE 5
COMMERCIAL DEVELOPMENT

Regulation	Shoreline Area: Urban	Suburban	Rural	Conservancy	Natural	Aquatic
1.Shore setbacks (in feet) from the ordinary high water mark						
a.Primary structures,uses[1]	15-50	30-50	50-100	50-150	NA	NA
b.Accessory uses, structures, parking, roads	50-100	75-125	100-175	150-200	NA	NA
2.Side yard setbacks (in feet)[2]	5-20	5-30	15-50	20-75	NA	NA
3.Site coverage by structures, roads, parking and primary uses	70-85%	50-60%	30-50%	20-30%	NA	NA
4.Height limit (in feet)[3]	25-35	25-35	20-35	15-35	NA	10

Footnotes:

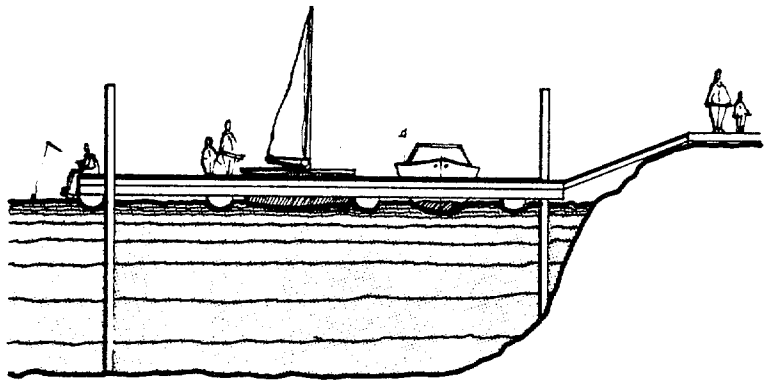
1. Setbacks may be varied depending upon the degree of water-dependency, i.e., a water-dependent use may require a smaller setback than a water-related use.

2. Side yard setbacks may be increased depending upon the height of the building. For example, buildings shall have a setback of five (5) feet plus five (5) feet for every ten (10) feet or fraction thereof in height over fifteen (15) feet, up to a maximum of twenty-five (25) feet setback.

3. Buildings over thirty-five (35) feet in height may be allowed if they do not obstruct the view of substantial numbers of residences or upland properties.

DEVELOPMENT ACTIVITIES:

PIERS AND DOCKS



DEFINITION

Piers and docks are structures which abut the shoreline and are used as a landing or moorage place for commercial and pleasure craft. Piers are built on fixed platforms above the water, while docks float upon the water.

Piers and docks may be used for recreational or commercial/ industrial purposes. Recreational piers and docks may be either single use piers and docks serving one residential lot or community piers and docks serving multiple lots, individuals or families. Piers and docks containing more than ten to fifteen (10-15) moorage spaces are considered marinas and are regulated under that section of this master program.

Recreational floats are also addressed in this section. Recreational floats are anchored offshore platforms for water-dependent recreational activities such as swimming and diving.

EXEMPTIONS

Docks for private, non-commercial pleasure craft and common to single family residences, and costing less than two thousand five hundred dollars ($2,500) are exempt from the requirement for a shoreline substantial development permit

pursuant to RCW 90.58.030(3-e-vii). The City/County, for the benefit of the lot owner, adjacent properties, and water body users, will review all proposals for piers and docks to determine if:

1. The proposal is or is not exempt from the requirement for a substantial development permit;

2. The proposal is suitably located and designed and that all potential impacts have been recognized and mitigated; and

3. The proposal is consistent with the intent, policies and regulations of the Act (RCW 90.58.140(1)) and this program.

IMPLEMENTATION NOTE

Littoral drift is a significant factor affecting the design and location of piers and docks. Piers are often preferred over docks in areas where there is a high level of littoral drift. Some cities and counties have completed drift sector analyses to identify these areas in advance and thereby facilitate project review.

POLICIES

1. Multiple use and expansion of existing piers, wharves and docks should be encouraged over the addition and/or proliferation of new facilities. Joint use facilities are preferred over new single use piers and docks.

2. The use of mooring buoys should be encouraged in preference to either piers or docks. (See Boating Facilities.)

3. Piers and docks should be designed to cause minimum interference with the public use of the water surface and shoreline.

4. Piers and docks should allow for a maximum of littoral

drift and should minimize interference with basic geo-hydraulic processes.

5. Piers and docks and their associated activities should conserve and enhance water quality, fish, shellfish and wildlife resources and habitats.

6. Pier and dock projects are encouraged to provide for public access, docking, launching and recreational use.

7. Local programs and coordinated efforts among private and/or public agencies should be initiated to remove or repair failing, hazardous or non-functioning piers and docks and restore such facilities and/or shore resources to a safe, usable state for commercial and public recreation activities.

REGULATIONS -- GENERAL

1. Proposals for piers or docks shall include at a minimum the following information:

   a. Description of the proposed structure, including its size, location, design and any shoreline stabilization or other modification required by the project;

   b. Ownership of tidelands, shorelands or bedlands;

   c. Proposed location of piers or docks relative to property lines and OHWM; and

   d. Location and length of piers or docks on adjacent properties.

2. Alternative A: Piers and docks shall be consistent with the following criteria:

   a. Important navigation routes or marine-oriented recreation areas will not be obstructed or impaired;

   b. Views from surrounding properties will not be unduly impaired;

c. Ingress-egress as well as the use and enjoyment of the water or beach on adjoining property will not be unduly restricted or impaired;

d. Public use of the surface waters below ordinary high water will not be unduly impaired; and

e. The proposed intensity of the use or uses of any proposed dock, pier and/or float is compatible with the surrounding environment and land and water uses.

2. Alternative B: Piers, docks or floats shall be located, designed and constructed so as to cause minimum interference with navigation and public use of the water surface and shoreline, and so as to cause no undue harm to adjacent properties.

3. Environmental review:

a. Piers and docks should be sited and designed to minimize all possible adverse environment impacts, including potential impacts on littoral drift, sand movement, water circulation and quality and fish and wildlife habitat.

b. In areas identified by the Departments of Fisheries, Game or Natural Resources as having a high environmental value for shellfish, fish life or wildlife, piers and docks shall not be allowed except where functionally necessary to the propagation, harvesting, testing or experimentation of said marine fisheries or wildlife, unless it can be conclusively established that the dock or pier will not be detrimental to the natural habitat. (Additional option: Piers and docks shall not be located in estuaries and biologically productive marshlands.)

c. Docks or piers which would interfere with the normal erosion-accretion process associated with feeder bluffs shall not be permitted.

d. The capacity of the shoreline site to absorb the impacts of waste discharges from boats and gas and oil spills should be considered in evaluating every proposed dock or pier.

e. The use of mooring buoys for small boat and pleasure craft may be required in lieu of a dock or pier if a proposed dock or pier would adversely interfere with basic geo-hydraulic processes.

4. All piers and docks other than single family use facilities shall only be permitted in a constricted body of saltwater (width at the entrance is less than half the inner distance) if there is one surface acre of water within the contricted body, measured at mean low water, for each boat moorage (including buoys) within said constricted body.

5. Piers and docks on river shores shall not be located along braided or meandering river channels or where the river channel is subject to change in direction or alignment.

6. All piers and docks shall be constructed and maintained in a safe and sound condition. Abandoned or unsafe docks and piers shall be removed or repaired promptly by the owner. Where any such structure constitutes a hazard to the public, the county may, following notice to the owner, abate the structure if the owner fails to do so within a reasonable time and may impose a lien on the related shoreline property in an amount equal to the cost of the abatement.

REGULATIONS -- SPECIFICATIONS FOR NON-COMMERCIAL/INDUSTRIAL PIERS AND DOCKS

1. Number

a. New subdivisions shall be required to provide community docks. The development of piers or docks on individual lots shall not be permitted unless the site does not allow a community facility of sufficient size to serve all the residents of the subdivision.

b. For lots existing at the time this program is adopted, no more than one private, non-commercial dock is permitted per platted shoreline lot or unplatted shoreline tract owned for residential or

recreational purposes.

2. Use of Piers vs. Docks

a. On river shorelines, only docks shall be permitted. Such facilities shall be securely anchored to pilings to allow for changes in river level and shall be able to withstand 100-year frequency flooding.

b. The use of docks shall be required in preference to piers in areas where scenic values are high and conflicts with recreational boaters and fishermen will not be created.

c. Open-pile piers shall be required in preference to docks in areas where shore trolling is important, where there is significant littoral drift and where scenic values will not be impaired.

3. Size

Alternative A: The size of a pier or dock should not exceed that which is required for the water-dependent purposes for which it was constructed.

Alternative B: Total area waterward of the OHWM for a private dock designed for use by a single family or individual shall not exceed four hundred fifty (450) feet.

4. Length

Alternative A: Maximum length of a pier or dock shall be only so long as to obtain a depth of eight (8) feet of water as measured at mean lower low water on salt water shorelines or as measured at ordinary high water in fresh water shorelines, except that the length of any pier or dock shall not exceed the lesser of fifteen (15) percent of the fetch or one hundred fifty (150) feet on saltwater shorelines and forty (40) feet on fresh water shorelines.

Alternative B:

a. If there are existing docks within three hundred (300) feet of side property lines:

-- Single use docks shall be no longer than the average length of those docks as measured from the OHWM.

-- Community docks shall be no longer than fifteen (15) feet greater than average length of existing single use docks as measured from the OHWM.

b. If there are no existing docks within three hundred (300) feet of side property lines, proposals for piers and docks shall show reasonable justification to exceed forty to fifty (40-50) feet in length from OHWM.

5. Width

a. For private, single use docks, maximum length parallel to shore should not exceed eight to ten (8-10) feet. (or: The width of a dock shall not exceed fifteen (15) percent of the waterfront width of the property to a maximum dock width of ten (10) feet, provided that all docks may be at least four (4) feet wide.)

b. For community piers and docks, maximum width will be as determined by the City/County on a case-by-case basis.

6. Height. Docks shall not exceed three (3) feet in height above OHWM on the landward side.

7. Sideyard setback. Docks shall be setback a minimum of eight to ten (8-10) feet from side property lines, EXCEPT that community piers and docks may be located adjacent to or upon a side property line when mutually agreed to by contract with the owners of the adjacent property, a copy of which must be filed with the application for permit.

8. Density (See also Boating Facilities regulations for facilities with more than ten to fifteen (10-15) moorage spaces.)

a. Community docks and piers shall include no more than one (1) moorage space per dwelling unit or lot. (or: One moorage space for each twenty (20) feet of waterfront up to two hundred (200) feet

plus one moorage for each additional ten (10) front feet.)

b. Piers and docks for use by the general public shall include no more than one moorage for each ten (10) feet of waterfront up to two hundred (200) front feet plus one (1) moorage for each additional five (5) front feet.

REGULATIONS -- GENERAL DESIGN AND CONSTRUCTION STANDARDS

1. Pilings must be structurally sound and cured prior to placement in the water.

2. Piers shall utilize the minimum number of pilings necessary, favoring large spans on fewer pilings over smaller spans on more pilings.

3. Pilings employed in piers or any other structure shall have a minimum vertical clearance of one (1) foot above extreme high water.

4. All docks shall include stops which will serve to keep the floats off the tidelands at low tide.

5. If a bulkhead-like base is proposed for a fixed pier or dock where there is net positive littoral drift, the base should be built landward of the ordinary high water mark or protective berms.

6. When plastics or other non-biodegradable materials are used in pier construction, precautions shall be taken to insure their containment.

7. Overhead wiring or plumbing is not permitted on piers or docks.

REGULATIONS -- COMMUNITY AND PUBLIC RECREATIONAL PIERS AND DOCKS

1. All hotels, motels, multi-family residences and similar

structures proposing to provide moorage facilities shall be required to construct single, joint use moorage facilities, provided that the City/County may authorize more than one joint use moorage facility if a single facility would be inappropriate or undesirable given the specific conditions of the site.

2. Proposals for community piers and docks shall demonstrate that adequate maintenance of the structure and the associated upland area will be provided.

3. In addition, all recreational piers or docks which are intended for use by the general public shall comply with the following regulations:

   a. An adequate number of approved solid waste containers shall be located conveniently for boater utilization.

   b. The dock facilities shall be equipped with adequate lifesaving equipment such as life rings, hook and ropes.

   c. Every facility shall be maintained in good repair and free from safety hazards.

   d. Boaters should not use their marine toilets while moored unless these toilets are self-contained or have an approved treatment device. Signs stating this shall be posted where they are readily visible to all boaters.

4. Community and public recreational piers and docks may be required to provide facilities for dumping holding tanks.

REGULATIONS -- COMMERCIAL/INDUSTRIAL FACILITIES

These standards apply to piers and docks intended for any commercial or industrial use other than commercial moorage of boats for recreational purposes. See also applicable regulations for Commercial Development and Ports and Industries.

1. Piers or docks will be permitted to the outer harbor line or combined U.S. Pierhead/Bulkhead Line for water-dependent or water-related uses, and for multiple use facilities if the majority use is water-dependent and public access can safely be provided. The length should be no more than that required for the draft of the largest vessel expected to moor at the facility. Maximum size of the pier or dock shall be no greater than necessary to serve the intended use, and will be determined by the City/County on a case-by-case basis.

2. Substantial development permits for docks or piers serving single commercial or industrial enterprises shall not be granted until nearby commercial and/or industrial enterprises have been contacted regarding their water access needs and plans. Where more than one enterprise needs and could realistically make use of a single moorage facility, permits for individual facilities shall not be granted.

3. Facilities and procedures for receiving, storing, dispensing and disposing of oil and other toxic products shall be designed to insure that such oil and other toxic products are not introduced into the water body.

4. Bulk storage of gasoline, oil and other petroleum products for any use or purpose is not permitted on piers and docks. Bulk storage means non-portable storage in fixed tanks.

5. Storage for boat fueling facilities shall be located landward of the OHWM and meet the policies and regulations for utilities.

6. Spill clean-up facilities shall be available for prompt application at all piers and docks involved in oil and hazardous products transfer.

REGULATIONS -- RECREATIONAL FLOATS

1. Recreational floats shall be located as close to the shore as possible. They shall not be located farther waterward than existing floats and established swimming areas.

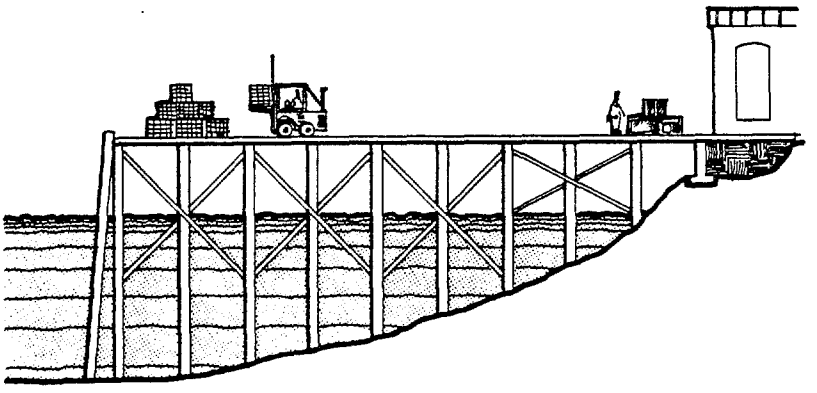
2. Floats must have reflectors for nighttime visibility.

3. Single property owner recreational floats shall not exceed sixty-four (64) square feet.

4. Multiple property owner floats shall not exceed ninety-six (96) square feet.

DEVELOPMENT ACTIVITIES:

PORTS AND INDUSTRY



DEFINITION

Ports are public or private enterprises providing services and facilities for waterborne commerce, airborne commerce and industrial development dependent upon waterfront locations or attracted to a port because of the variety of available transportation. Industrial developments are facilities for processing, manufacturing and storage of finished or semi-finished goods. Excluded from this category are boating facilities, piers and docks, mining (including on-site processing of raw materials), utilities, solid waste disposal and transportation facilities.

Uses and activities associated with port and industrial development which are identified as separate use activities in this program such as Dredging; Landfill; Transportation Facilities; Utilities; Piers and Docks; Bulkheads; Breakwaters, Jetties and Groins; Shoreline Stabilization and Flood Protection and Signs, are subject to the regulations established for those uses in addition to the standards for ports and industry established in this section.

POLICIES

1. Regional and statewide needs for port facilities should be carefully considered in reviewing new port proposals as well as in allocating shorelines for such develop-

ment. Such reviews or allocations should be coordinated with port districts, adjacent counties and cities and the state in order to minimize new port development which would unnecessarily duplicate under-utilized facilities elsewhere in the region or result in unnecessary adverse impacts on other jurisdictions.

2. The few shoreline sites particularly suitable for development such as deep water harbors, adjacent to firm, dry and level land with access to adequate rail, highway and utility systems should be reserved for port and water-dependent or -related industrial development compatible with other appropriate uses and adopted environmental standards.

3. Development or redevelopment and multiple use of existing port areas, facilities and services should be encouraged over the addition and/or location of new or single-purpose port facilities.

4. Joint use of piers, cargo handling, storage, parking and other accessory facilities among private or public entities should be strongly encouraged or required in port facilities and waterfront industrial areas.

5. Port or industrial development should not be located on sensitive and valuable shorelines such as natural accretion shoreforms, marshes, bogs, swamps or estuaries, nor on shores inherently hazardous for such development, such as flood and erosion prone areas and steep or unstable slopes.

6. New development, particularly public ports, should be encouraged to provide physical or visual access to shorelines and visual access to facilities whenever possible and when such access does not cause interference with operations or hazards to life and property.

7. Dry land log storage should be encouraged over water storage.

8. Wherever practical, paved log storage yards should be encouraged over aggregate-surfaced yards to reduce waste disposal problems.

REGULATIONS -- GENERAL

1. Proposed port developments or major expansions shall be consistent with an officially adopted long-range port development plan if one exists, or, if not, be accompanied by a regional feasibility analysis.

2. Only water-dependent and water-related industries shall be permitted on the shoreline.

3. Ports and water-related industries shall locate in existing, developed port and harbor areas and/or on Department of Natural Resources designated first class shorelands and harbor areas whenever feasible. Proposed developments shall maximize the use of existing port facilities and avoid duplication of pier and dock facilities before expanding into undeveloped areas or building new facilities. Proposals for new port and industrial developments shall demonstrate the need for expansion into an undeveloped area.

4. New facilities for shallow draft shipping shall not be allowed to preempt scarce deep draft port sites.

5. Water-dependent development accessory to port and industrial facilities is permitted on the shoreline. Accessory development which does not require a shoreline location shall be sited away from the land/water interface; this category includes parking, warehousing, open air storage, waste storage and treatment or storm runoff control facilities, utilities and land transportation development.

6. Existing port or industrial development on shorelines which is neither water-dependent nor -related shall be permitted to expand inland from, but not along, shoreline areas.

7. The developer must demonstrate that adequate consideration has been given to and plans made to mitigate negative environmental impacts including but not limited to air, water and noise pollution and the loss of fish and wildlife habitat.

8. Ports and water-related industry shall be located and designed to minimize the need for initial and/or con-

tinual dredging, filling, spoil disposal and other harbor and channel maintenance activities.

9. Piers, moorages, slips, floats and launching facilities may be permitted accessory to industrial development, provided:

   a. The facility will serve a water-dependent or water-related use;

   b. The facility does not constitute a hazard to navigation; and

   c. All other program regulations pertaining to these uses are fulfilled.

10. Offshore facilities, floating docks and artificial islands for deep water port expansion shall not be permitted unless it can be demonstrated that such development or expansion will not harm the marine environment or diminish the natural productivity of the estuarine system of the region.

11. Sewage treatment, water reclamation, desalinization and power plants shall be located where they do not interfere with and are compatible with recreational, residential or other public uses of the water and shorelands.

12. Storage and/or disposal of industrial wastes is prohibited on shorelines, PROVIDED that waste water treatment systems may be allowed in shoreline areas only if alternate, inland areas have been adequately proven infeasible. A performance bond of a sufficient amount to substantially defray the cost of a cleanup or rehabilitation effort may be required.

13. New or expanded facilities for water transport of bulk crude petroleum in vessels over 125,000 dwt shall be prohibited within Puget Sound.

14. At new or expanded port and industrial developments, the best available facilities and procedures shall be employed for the safe handling of fuels and toxic or hazardous materials to prevent them from entering the water and adequate means shall be employed for prompt and effective clean-up of those spills that do occur.

15. Port authorities are encouraged to recycle dredged material when feasible into areas suitable for deposit of such materials for agricultural, storage-stockpiling or beautification purposes, with the intent of restoring natural vegetation or transfer for agricultural or landscaping purposes. Such materials shall not be used to create new agricultural land.

REGULATIONS -- DESIGN

1. All new or expanded upland industrial development shall be set back and buffered from adjacent shoreline properties which are used for nonindustrial purposes. (See Table 6.) Buffers shall be of adequate width and plant and soil composition to protect shorelines and such other properties from visual or noise intrusion, minimize erosion and protect water quality. New or expanded industrial development shall be setback and buffered from the shoreline unless a shoreline location is essential to the operation and any adverse impacts are minimized.

2. Buffers shall not be used for storage of industrial equipment or materials, nor for waste disposal, but may be used for outdoor recreation. Portions of such buffers may be used for light motor vehicle parking if design of such facilities is found by the City/County to be consistent with this program.

3. Onshore port or industrial development on marine shores less than twenty (20) feet above mean sea level shall be floodproofed for protection against flood damage from storm tides and surges.

4. Ports and water-dependent industry shall provide public access to the shoreline and/or provide opportunities for public viewing of the industrial activity whenever practical and safe.

5. Display and other exterior lighting shall be designed and operated to minimize glare, avoid illuminating nearby properties and prevent hazards for public traffic.

REGULATIONS -- SETBACKS AND HEIGHT

All port and industrial development shall meet the setback and height standards established in Table 6.

Note: The following table is included for illustrative purposes only. Appropriate height, setback and other standards will vary from jurisdiction to jurisdiction and should be based on consideration of local features such as soils and geologic conditions, hazardous features and character of surrounding development.

TABLE 6
PORTS AND INDUSTRY

Regulation	Shoreline Area					
	Urban	Suburban	Rural	Conservancy	Natural	Aquatic
1.Shore Setback from (OHWM) (in feet)[1,2]	0-100[3]	100-150 or NA	0-150	100 -150[4]	NA	NA
2.Sideyard Setback (in feet)	0-50	100 or NA	40-50	50-60[4]	NA	NA
3.Height Limit[5] (in feet)	35-none specified	35 or NA	35 or NA	NA	NA	NA

NA = Not applicable

Footnotes:

1. Some jurisdictions reduce the required setbacks if public access is provided.

2. Setbacks may vary depending upon the degree of water dependency, i.e., a water-dependent use may require a smaller setback than a water-related use.

3. Some programs allow 100% lot coverage in the Urban

Environment.

4. Industrial uses in a Conservancy Environment are limited to dry land log storage.

5. Some jurisdictions will allow increased height if the setback is increased (e.g., for every additional foot of height above thirty-five (35) feet, the setback is increased by one (1) foot).

REGULATIONS -- LOG STORAGE

1. Unpaved storage areas underlain by permeable soils shall have at least a four (4) foot separation between the ground surface and the winter water table.

2. Offshore log storage shall be located where natural tidal or current flushing and water circulation is adequate to disperse polluting wastes.

3. Log storage shall not be permitted in public waters where water quality standards cannot be met at all times or where these activities are a hindrance to other beneficial water uses such as small craft navigation.

4. The free-fall, violent dumping of logs into water shall be prohibited. Easy let-down devices shall be employed for placing logs in the water.

5. Adequate bark and wood debris control, collection and disposal methods shall be employed at log dumps, raft building areas and mill-side handling zones. This shall be required for both floating and sinking particles.

6. Log dumps shall not be located in rapidly flowing waters or other water zones where bark and debris controls cannot be effectively provided.

7. Bark and other debris shall be kept out of the water.

8. Logs shall not be dumped, stored or rafted where grounding will occur.

9. Where water depths will permit the floating of bundled logs, they shall be secured in bundles on land before being placed in the water. Bundles shall not be broken again except on land or at millside.

TECHNICAL REFERENCES

1. California Resources Agency, Report of the California Interagency Tanker Task Force, Sacramento, CA, October, 1978. 82 pp. (This document draws together information on tanker traffic and operation in order to aid tanker safety and pollution abatement. Three major categories cover tanker operations, terminal and port operations and oil spill cleanup and liability.)

DEVELOPMENT ACTIVITIES:

RECREATIONAL DEVELOPMENT

DEFINITION

Recreational development provides opportunities for the refreshment of body and mind through forms of play, sports, relaxation, amusement or contemplation. It includes facilities for passive recreational activities such as skin diving, hiking, canoeing, kayaking, sailing, photography, viewing and fishing. It also includes facilities for active or more intensive uses such as parks, campgrounds, golf courses and other outdoor recreation areas. This section applies to both publicly and privately owned shoreline facilities intended for use by the public or a private club, group or association. Activities such as boating facilities, second home subdivisions, motels and resorts are excluded from this category.

Uses and activities associated with recreational developments which are identified as separate use activities in this program, such as Boating Facilities; Piers and Docks; Residential Development and Commercial Development, are subject to the regulations established for those uses in addition to the standards for recreation established in this section.

POLICIES

1. The coordination of local, state and federal recreation planning should be encouraged. The review of proposals for public or private developments should consider any adverse effects on existing plans for recreation developments, designations or systems.

2. Shoreline areas with a potential for providing recreation or public access opportunities should be identified for this use and obtained by lease or public purchase.

3. A variety of recreational experiences and activities should be encouraged to satisfy diverse recreational needs and demands.

4. The location and design of shoreline recreational developments should relate to local population characteristics, density and special activity demands. Acquisition priorities should consider these needs demands and special opportunities as well as public transit access.

5. The concentration of recreation use pressure at a few points along the shoreline, particularly at fishing streams and hunting areas, should be avoided by encouraging the development of smaller, dispersed recreation areas.

6. The linkage of shoreline parks, recreation areas and public access points by linear systems, such as hiking paths, bicycle paths, easements and/or scenic drives, should be encouraged.

7. Recreational developments should be located, designed and operated to be compatible with and minimize adverse impacts on environmental quality and valuable natural features as well as on adjacent and surrounding land and water uses.

8. Recreational developments should be designed to preserve, enhance or create scenic views and vistas. Favorable consideration should be given to those projects that complement their environment.

9. Where appropriate, non-intensive recreational uses should be encouraged on floodplains that are subject to recurring flooding.

10. Artificial marine life habitats should be encouraged in order to provide increased aquatic life for recreation. Such habitats should be constructed in areas of low habitat diversity.

11. Publicly owned lands with recreation potential and not developed or held in trust for future use, should be leased rather than sold to develop the recreation potential.

12. The use of off-road vehicles is discouraged in all shoreline areas EXCEPT where special areas have been set aside for this purpose.

REGULATIONS -- GENERAL

1. State and local health agencies have broad regulations which apply to recreation facilities and ocean beaches which shall be consulted by local governments when issuing permits. (See references cited in the WACs.)

2. Valuable shoreline resources and fragile or unique areas such as marshes, estuaries and accretion beaches, shall be used only for non-intensive and non-structural recreation activities.

3. All permanent recreational structures and facilities shall be located outside officially mapped floodways EXCEPT the City/County may grant exceptions for non-intensive accessory uses (e.g., picnic tables, tennis courts).

4. Accessory use facilities, such as restrooms, recreation halls and gymnasiums, commercial services, access roads and parking areas shall be located inland from shoreline areas unless it can be shown that such facilities are essentially shoreline dependent. (See Table 7.) These areas shall be linked to the shoreline by walkways.

5. For recreation developments that require the use of fertilizers, pesticides or other toxic chemicals, such as golf courses and playfields, the applicant shall submit plans demonstrating the methods to be used to prevent leachate from entering adjacent water bodies. Buffer strips and, if practical, shade trees shall be included in the plan. The City/County shall determine the maximum width necessary for buffer strips but in no case shall the buffer strip be less than ten to twenty-five (10-25) feet. The developer shall also be required to leave a chemical-free swath at least twenty-five (25) feet in width next to water bodies and wetlands.

REGULATIONS -- DESIGN

1. In approving shoreline recreational developments, the City/County shall ensure that the development will maintain, enhance or restore desirable shoreline features including unique and fragile areas, scenic views and aesthetic values. To this end, the City/County may adjust and/or prescribe project dimensions, location of project components on the site, intensity of use, screening, parking requirements and setbacks, as deemed appropriate to achieve this intent.

2. Recreational developments shall provide facilities for non-motorized access to the shoreline such as pedestrian, bicycle and/or equestrian paths.

3. Proposals for recreational developments shall include a landscape plan. Native, self-sustaining vegetation is preferred.

4. The removal of onsite native vegetation shall be limited to the minimum necessary for the development of campsites, selected views or other permitted structures or facilities.

5. No recreational buildings or structures shall be built over water.

6. Proposals for recreational development shall include plans for sewage disposal. Where treatment facilities are not available, the appropriate reviewing authority shall limit the intensity of development to meet city, county and state onsite sewage disposal requirements.

7. Underwater parks and artificial reefs established in cooperation with state agencies shall include safety provisions to warn boating traffic of their location.

8. Artifical reefs shall not contain materials toxic or otherwise hazardous to humans or fish and wildlife.

REGULATIONS -- SETBACKS AND HEIGHT

Any recreational developments and accessory facilities shall meet the setback and height standards established in Table 7.

Note: The following table is included for illustrative purposes only. Appropriate height, setback and other standards will vary from jurisdiction to jurisdiction and should be based on consideration of local features such as soils and geologic conditions, hazardous features and character of surrounding development.

TABLE 7
RECREATIONAL DEVELOPMENT

Regulation	Shoreline Area: Urban	Suburban	Rural	Conservancy	Natural	Aquatic
1.Shore setbacks (in feet) from OHWM for:						
a.Campsites, picnic facilities and related structures	25	25	50	75-100	C	NA
b.Access roads,[2] restrooms [1]	50	50	50-100	100-150	NA	NA
c.Accessory uses, structures, parking, commercial services	75-100	75-100	100-150	150-200	NA	NA
2.Sideyard setbacks (in feet) for:						
a.Roads, campsites, restrooms	10	20	50	75	C	NA
b.Accessory uses, structures, parking, commercial services	20	30	75	100	NA	NA
3.Height limit (in feet)						
a. 0-100 feet from OHWM	15-25	15-25	15-20	15	NA	NA
b. 101-200 feet from OHWM	35	25-35	25	15-25	NA	NA
4.Site coverage	60-70%	50-60%	40-50%	20-40%	5%	NA

NA - Not Applicable
C - Conditional

See next page for footnotes to Table 7.

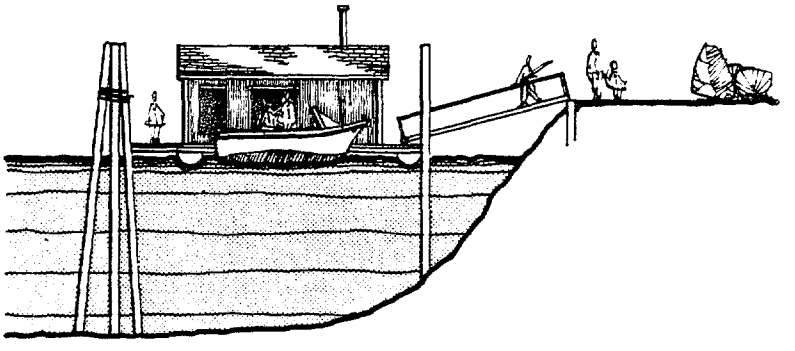
Footnotes:

1. Restrooms and shower facilities associated with swimming beaches shall not be located within the shoreline 200-foot zone except when these facilities are of vault type construction or connected to a properly constructed and maintained sewer system. In these cases such facilities may be located in the 200-foot zone, but shall be no closer than one hundred (100) feet from the ordinary high water mark.

2. In low intensity recreation use areas, roads allowed within two hundred (200) feet of the line of ordinary high water shall be single lane and located no closer than one hundred (100) feet to ordinary high water.

DEVELOPMENT ACTIVITIES:

RESIDENTIAL DEVELOPMENT



DEFINITION

Residential development means one or more buildings or structures or portions thereof which are designed for and used to provide a place of abode for human beings, including one and two family detached dwellings, multifamily residences, row houses, townhouses, mobile home parks and other similar group housing, together with accessory uses and structures normally common to residential uses including but not limited to garages, sheds, tennis courts, swimming pools, parking areas, fences, cabanas, saunas and guest cottages. Residential development shall not include hotels, motels or any other type of overnight or transient housing or camping facilities.

Uses and facilities associated with residential development which are identified as separate use activities in this program, such as Boating Facilities; Piers and Docks; Bulkheads; Shoreline Stabilization and Flood Protection; Utilities; Landfill; and clearing and grading, are subject to the regulations established for those uses in addition to any special conditions relating to residential areas established in this section.

EXEMPTIONS

The Shoreline Management Act exempts from the requirement to

obtain a Substantial Development Permit the construction of any structure with a fair market value less than $1,000, and the construction of a single family residence by an owner, lessee or contract purchaser for his own use or the use of his family, if said residence does not exceed a height of thirty-five (35) feet above average grade level. Although these structures are exempt from obtaining a Substantial Development Permit, compliance with the prohibitions, regulations and development standards of this chapter is still required.

POLICIES

1. Residential development should be permitted only where there are adequate provisions for utilities, circulation and access.

2. Residential development is discouraged in environmentally sensitive areas including but not limited to marshes, bogs and swamps.

3. The overall density of development, lot coverage and height of structures should be appropriate to the physical capabilities of the site.

4. Recognizing the single-purpose, irreversible and space consumptive nature of shoreline residential development, new development should provide adequate setbacks from the water and ample open space between structures to provide space for outdoor recreation, protect natural features, preserve views and minimize use conflicts.

5. Adequate provisions should be made for protection of groundwater supplies, erosion control, landscaping and maintenance of shoreline integrity.

6. Residential developments should be designed so as to protect water quality, shoreline aesthetic characteristics, views and normal public use of the water.

7. Residential developments should be encouraged to provide public access to the water in a manner which is appropriate to the site and the nature and size of the development.

8. Alternative A: Residential development and accessory uses should not be constructed over water.

8. Alternative B: Except for floating homes, residential development and accessory uses should not be contructed over water.

9. New residential development should be encouraged to cluster dwelling units in order to preserve natural features, minimize physical impacts and reduce utility and road costs.

10. Residential development should not cause significant adverse impacts to or result in the displacement of other nearby shoreline uses including but not limited to forestry, agriculture, aquaculture or recreation.

REGULATIONS -- LOCATION AND DESIGN

1. Residential development in shoreline areas shall comply with all applicable requirements of the City/County zoning code and flood protection ordinance.

2. Residental development shall be located and designed to avoid the need for structural shore defense and flood protection works.

3. If marshes, bogs, swamps or other unique and fragile features are located on a development site, clustering of residential units shall be required in order to avoid any development in such areas.

4. Residential development is prohibited within floodways and within other hazardous areas such as steep slopes and areas with unstable soils or geologic conditions.

5. Alternative A: Residential structures and accessory structures constructed over the water or floating on the water are prohibited.

5. Alternative B: Except for floating homes, residential structures and accessory structures constructed over the water or floating on the water are prohibited.

6. Community services and facilities common to residential land use such as police and fire stations, schools, hospitals, churches and associated structures should be located inland from shoreline areas.

7. All residential structures, accessory uses and facilities shall be arranged and designed so as to preserve views and vistas to and from shorelines and water bodies and be compatible with the aesthetic values of the area.

8. Storm drainage facilities may be required by the City/County for projects involving five (5) or more dwellings.

9. Prior to issuance of a building permit or other development approval, the developer shall submit adequate plnas for preservation of shore vegetation, for control of erosion during and after construction and for the replanting of the site after construction. Such plans shall be a part of the substantial development permit, if one is required.

REGULATIONS -- DENSITY, BULK, AND SETBACK STANDARDS

1. Residential development in shoreline areas shall meet the standards established in Table 8 except as provided in Regulations #2 and #3 below.

2. The shore setbacks in Table 8 shall not apply in cases where the majority of existing development in the area does not meet these shore setback standards. In such cases residential structures shall be setback common to the average of setbacks for existing dwelling units within three hundred (300) feet of side property lines or a minimum of thirty-five (35) feet, whichever is greater. If there is only one or no dwelling units within three hundred (300) feet of side property lines, the shoreline setback requirements of Table 8 shall apply. Sideyard and shore setbacks may be reduced or modified for Planned Residential Unit Developments (PRUDs).

3. The City/County may require greater setbacks for roads and parking areas based upon the specific conditions of the site.

Note: The following table is included for illustrative purposes only. Appropriate height, setback and other standards will vary from jurisdiction to jurisdiction and should be based on consideration of local features such as soils and geologic conditions, hazardous features and character of surrounding development.

TABLE 8
RESIDENTIAL DEVELOPMENT

Regulation	Shoreline Area					
	Urban	Suburban	Rural	Conservancy	Natural	Aquatic
1. Shore setbacks (in feet):[1]						
a. Single family, duplex	20-35	30-50	45-60	50-100	NA	NA
b. Multi-unit structures less than 35 feet high	50-75	50-75	100	150	NA	NA
c. Multi-unit structures over 35 feet high. Add 5 feet to the following setback for each 1 foot over 35 feet in height	100	125	150	175	NA	NA
d. Accessory uses	20-50	30-60	45-75	50-100	NA	NA
2. Sideyard setbacks (in feet):						
a. Single family, duplex	5-10	5-20	10-30	15-50	NA	NA
b. Multi-units less than 35 feet high	20	30	50	NA	NA	NA
c. Multi-units more than 35 feet high	30	40	NA	NA	NA	NA
d. Accessory uses	8	8	25	25	NA	8
3. Height limits (in feet):						
a. 0-100 feet from OHWM	35	30	30	25	NA	NA
b. 101-200 feet from OHWM	45	40	40	30	NA	NA
c. Accessory uses	15	15	15	15	NA	10
4. Site coverage[2] - for:						
a. Single family, duplex	40-70%	30-60%	30-50%	15-40%	NA	NA
b. Multi-units	40%	40%	40%	20%	NA	NA
5. Density [3] Single family (minimum lot size)	12,000 or less sq.ft	9,600 sq.ft.	12,500 -20,000 sq.ft.	30,000 -40,000 sq.ft.	5-10 acres	

Footnotes:

1. Shore setbacks shall be measured from the OHWM except for officially mapped or recognized critical areas (eroding bluffs or shores, marshes, bogs, and swamps) whereby setbacks shall be measured from the top of the bluff or cliff or nearest wetland edge. Height shall be measured from the average elevation of the site occupied by the structure to the highest point of the structure.

   Additional setbacks may be necessary for development near steep or unstable slopes. (See "Bluff Setbacks" discussion in Chapter VI, Special Issues.)

2. Site coverage shall include all impermeable surfaces.

3. In calculating density for PRUDs, minimum lot sizes for individual homes may be smaller than the minimum lot size indicated in the table, as long as the average density does not exceed the number of homes allowable in a regular subdivision.

REGULATIONS -- PUBLIC ACCESS

Note: Existing master programs have taken a variety of approaches to the requirement for public access in residential areas. Variations are commonly based on the type of development covered (single family vs. multi-family), the type of shoreline (regular vs. Shorelines of Statewide Significance) and the amount of open space required. The following examples are intended to illustrate the range of variation.

When Required

1. New multi-family development will be permitted only if public access to and along the water's edge is provided.

2. All new residential subdivisions on Shorelines of Statewide Significance shall provide a pedestrian easement along the shoreline for public use.

3. Alternative A: New residential subdivisions (option: containing five (5) or more lots) shall provide public

access to publicly owned shorelines and water bodies.

3. Alternative B: New residential subdivisions (option: containing five (5) or more lots) shall provide a community recreation and open space area along the shoreline. Easements for public access to such areas or adjacent tidelands or shorelands may be granted by the developer.

3. Alternative C: New residential subdivisions shall include pedestrian easements for public access to the water if the City/County determines that adequate public access does not presently exist in the area.

4. In new residential subdivisions, usable open space shall be provided and shall be located so as to also provide substantial visual access to the water.

Amount Required

5. Alternative A: When required, easements for public access shall be of a size and design appropriate to the site, size and general nature of the proposed development.

5. Alternative B: When required, public access easements along a shoreline shall be a minimum width of thirty (30) feet measured from OHWM.

5. Alternative C: When required, public access easements along shorelines shall be a minimum width necessary to accommodate a trail which will not damage stream banks or other shoreline features.

REGULATIONS -- ACCESSORY USES

See also regulations pertaining to bulkheads, shore defense works, and piers and docks.

1. Accessory uses shall be reasonable in size and purpose, and be compatible with on-site and adjacent structures, uses and natural features.

2. No accessory structure except swimming pools shall cover more than one hundred fifty (150) square feet.

3. No accessory structure shall obstruct the view of neighboring properties.

4. Shoreline protection works are permitted if standards established in this program are clearly met, erosion is seriously threatening an established and appropriate use, the works are not for expansion of upland area by fill and the proposed shoreline protection measures are consistent with other applicable standards in this master program.

5. Developers of projects involving five (5) or more dwelling units are required to provide a community dock and/or float for private use unless the applicant demonstrates that such facilities are unnecessary or inappropriate in the particular area.

6. Boat ramps are permitted for individual residences only where upland slopes within twenty-five (25) feet of the ordinary high water mark does not exceed twenty-five (25) percent, and where substantial cutting, grading, filling or shoreline defense works are not necessary.

REGULATIONS -- FLOATING HOMES

1. Minimum site area for an individual floating home shall be two thousand (2,000) square feet.

2. Alternative A: Floating homes shall not cover in excess of one thousand two hundred (1,200) square feet of water area, inclusive of float, decks and roof overhang.

2. Alternative B: Total water coverage of all floating homes and all moorage walkways (fixed or floating) shall not exceed forty-five (45) percent of the moorage site area.

3. The minimum distance between adjacent floating home floats or walls shall be ten (10) feet, wall to wall.

4. The minimum distance between floating homes on opposite

sides of moorage walkway shall be ten (10) feet, wall to wall.

5. The minimum distance between any floating home float or wall and any floating home moorage lot line shall be five (5) feet except when adjacent to a public street right of way, a waterway or the fairway. A moorage walkway (fixed or floating) may abut upon the lot line.

6. Each floating home shall have direct access to a moorage walkway of not less then five (5) feet of unobstructed width leading to a street.

7. Each floating home in a floating home moorage shall abut upon open water at least twenty (20) feet wide and open continuously to navigable waters.

8. Floating homes shall not exceed twenty-one (21) feet in height at the highest point measured from the surface of the water.

9. In the location and the design of new or remodeled floating homes, views of the water for moorage tenants and the public shall be protected and enhanced.

TECHNICAL REFERENCES

1. Federal Emergency Management Administration, Design and Construction Manual for Residential Buildings in High Hazard Areas, January, 1981.

2. Maryland Coastal Zone Program, Environmental and Economic Effects of Residential Development on Mayo Peninsula, Anne Arundel County, Maryland, Prepared by Mitre Corporation, 1979. 176 pp. (Provides a checklist of environmental impacts associated with residential development and recommends mitigation measures. Designed to serve as a guidebook for local governments.)

DEVELOPMENT ACTIVITIES:

SIGNS

DEFINITION

Signs are publicly displayed boards or other means of notice whose purpose is to provide information, direction or advertising.

POLICIES

1. Off-premise outdoor advertising signs and billboards should not be permitted in shoreline areas.

2. Where outdoor advertising is permitted in shoreline areas, signs should be designed and placed so that size, height, illumination and other factors insure compatibility with the aesthetic quality of the existing shoreline and water environment and adjacent land and water uses.

3. Wherever feasible, signs should be flush-mounted against existing buildings to minimize visual obstructions of the shoreline.

REGULATIONS -- GENERAL

1. Plans and designs for signs shall be submitted for review and approval at the time of shoreline permit approval. Signs proposed to be added to developments subsequent to permit approval shall be reviewed and approved by the City/County to ensure conformance with the program standards.

2. Off-premise, outdoor advertising signs, displays, billboards and roof-mounted signs are prohibited in all shoreline environments, EXCEPT off-premise, free-

standing signs may be permitted for community identification, information or directional purposes. Signs placed on trees or other natural features are also prohibited.

3. Sign limitations shall not apply to highway or railroad signs necessary for operation, safety and direction.

4. A reasonable number of temporary signs may be posted on private property by the owner for the purpose of selling, leasing or renting the property, PROVIDED no such sign exceeds (four-ten) (4-10) square feet in area. Temporary signs for political campaigns may also be posted on private property by the owner.

5. Any outdoor advertising within shoreline areas that does not meet the policies and regulations of this program shall be modified to conform with this program or removed within two (2) years of the adoption of this standard.

6. When a business moves or ceases operation the owner shall remove all signs and outdoor advertising.

REGULATIONS -- LOCATION AND DESIGN

1. Signs in shoreline areas shall be located and designed to minimally interfere with vistas, viewpoints and visual access to the shoreline.

2. Free-standing outdoor advertising and free-standing signs permitted for direction, public information or community identification purposes shall be located on the upland side of public transportation routes which parallel and are adjacent to rivers and waterbodies unless it can be demonstrated that views would not be substantially obstructed.

3. Single, multi-purpose directional and informational signboards shall be utilized rather than scattered off-premise advertising.

4. Indirect lighting, floodlighting or internal lighting shall be the only allowable means of sign illumination.

All external lighting shall be directed away from adjacent properties to minimize the effects of light and glare upon adjacent uses. Signs or advertising devices that move, flash and/or fluctuate in lighting or position in any manner are prohibited in all shoreline areas.

5. All signs shall be constructed of permanent materials. Strings of pennants, banners or streamers, festoons of lights, clusters of flags, wind-animated objects, balloons and similar devices of a carnival nature are prohibited. Signs with "changing" messages -- either electronically or manually operated -- are permitted as long as the information is limited to time-temperature-date and/or public service messages. Trailer-signs that permit changeable messages are also prohibited. Not prohibited are national, state and institutional flags properly displayed or temporary decorations customary for special holidays such as Independence Day, Christmas and similar events of a public nature.

6. Graphics or super-graphics utilized for advertising purposes shall meet the size limitations specified for flush-mounted signs.

7. Alternative A: All public and private developments and commercial services located in shoreline areas shall have no more than two (2) on-premise advertising devices or signs.

7. Alternative B: Signs for public and private developments and commercial services shall conform to the following standards:

   a. Multiple-Family Residential: One sign not exceeding fifteen (15) square feet in area is permitted.

   b. Commercial/Recreational: Where a development site contains a single tenant, one sign is permitted on each building face and shall not exceed thirty (30) square feet in area. The maximum total area of all building signs on a single development site shall not exceed sixty (60) square feet. For developments which may have more than one occupant, one additional sign not to exceed four (4) square feet in area per occupant shall be allowed to identify

each occupant of the building.

c. Industrial: Where a development site contains a single tenant, one sign is permitted on each building face and shall not exceed fifty (50) square feet in area. The maximum total area of all building signs on a single development site shall not exceed one hundred (100) square feet. For developments which may have more than one occupant, one additional sign not to exceed twelve (12) square feet in area per occupant shall be allowed to identify each occupant of the building.

8. Free-standing signs allowed in shoreline areas and other on-premise outdoor advertising shall be setback the same distance from the OHWM and side property lines as the building or development to which it relates.

9. On-premise signs and advertising, whether free-standing or wall mounted, shall not exceed the height of the highest exterior wall. Flush-mounted, on-premise signs shall be preferred.

10. All temporary and directional signs cannot exceed five (5) feet in height and (four-ten) (4-10) square feet in area.

11. All permanent signs shall meet the standards for sign height and area established in Table 9.

Note: The following table is included for illustrative purposes only. Appropriate height, setback and other standards will vary from jurisdiction to jurisdiction and should be based on consideration of local features such as soils and geologic conditions, hazardous features and character of surrounding development.

TABLE 9
SIGNS

Regulation	Shoreline Area					
	Urban	Suburban	Rural	Conservancy	Natural	Aquatic
1.Height limits (in feet) from average grade level to top of sign.	10-35[1]	5-10[1]	5-8[2]	5-8[2]	NA	10
2.Total sign area (in sq. feet)	100-150	20-100	15-60	15-60	NA	6-12

Footnotes:

1. Flush-mounted signs may be placed on tall buildings so that the top of the sign is above the stated limits as long as the height of the sign itself is not more than fifteen (15) feet in industrial or commercial areas or three (3) feet in residential areas.

2. Flush-mounted signs may be placed on a wall higher than five (5) feet above the ground as long as the height of the sign itself does not exceed three (3) feet.

DEVELOPMENT ACTIVITIES:

SOLID WASTE DISPOSAL

DEFINITION

Disposal means the discharge, deposit, injection, dumping, spilling, leaking or placing of any solid or hazardous waste on any land area on in the water.

Solid waste includes all putrescible and non-putrescible solid and semi-solid wastes, including garbage, rubbish, ashes, industrial wastes, wood wastes and sortyard wastes associated with commercial logging activities, swill, demolition and construction wastes, abandoned vehicles and parts of vehicles, household appliances and other discarded commodities. Solid waste does not include sewage, dredge spoil, or agricultural or other commercial logging wastes not specifically listed above. (See use regulations for Landfill, Dredging and Agriculture.)

POLICY

Solid waste disposal activities and facilities should not be located in shoreline areas.

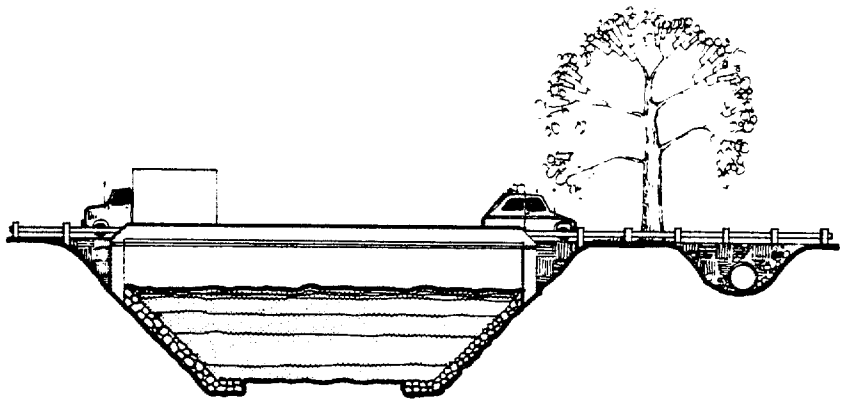
REGULATIONS

1. New solid waste disposal sites and facilities are not permitted in shoreline areas.

2. Existing solid waste disposal and transfer facilities within shoreline areas shall be expeditiously phased out and rehabilitated.

DEVELOPMENT ACTIVITIES:

TRANSPORTATION FACILITIES



DEFINITION

Transportation facilities are those structures and developments that aid in land and water surface movement of people, goods and services. They include roads and highways, bridges and causeways, bikeways, trails, railroad facilities, ferry terminals, airports and other related facilities.

POLICIES

1. New roads, railroads and bridges in shoreline areas should be minimized, and allowed only when related to and necessary for the support of shoreline activities.

2. New transportation facilities should be located and designed to minimize the need for shoreline protection measures.

3. Trail and bicycle systems should be encouraged along shorelines to the maximum extent feasible.

4. Transportation facilities should avoid hazardous shoreline areas (e.g. slide and slump areas, poor foundation soils, marshes).

5. All transportation facilities in shoreline areas should

be located, designed, constructed and maintained to cause the least possible adverse impacts on the land and water environments, should respect the natural character of the shoreline and should make every effort to preserve wildlife, aquatic life and their habitats.

6. Joint use of transportation corridors within shoreline areas for roads, utilities and non-motorized forms of transportation should be encouraged.

7. Abandoned or unused road or railroad rights-of-way which offer opportunities for public access to the water should be acquired and/or retained for such use.

REGULATIONS -- GENERAL

1. Transportation facilities and services shall utilize existing transportation corridors whenever possible, provided that facility additions and modifications will not adversely impact shoreline resources and are otherwise consistent with this program. If expansion of the existing corridor will result in significant adverse impacts, then a less disruptive alternative shall be utilized.

2. Transportation and utility facilities shall be required to make joint use of rights-of-way and to consolidate crossings of water bodies where adverse impact to the shoreline can be minimized by doing so.

3. Landfills for transportation facility development are not permitted in water bodies or on associated wetlands and beaches EXCEPT when all structural or upland alternatives have been proven infeasible and the transportation facilities are necessary to support uses consistent with this program.

4. The following regulations apply to shoreline road ends:

   a. RCW 36.87.130 prohibits the city/county from vacating any city/county road which abuts a body of salt or fresh water except for port, recreational, educational or industrial purposes.

   b. Development, alteration or vacation of city/county

road ends for any purpose in shoreline areas shall comply with the provisions of the Shoreline Management Act and this master program.

c. City/county road ends abutting water bodies shall be reviewed for potential use and development for public access to the water.

REGULATIONS -- LOCATION AND DESIGN

1. Major highways, freeways and railways shall be located outside shoreline areas wherever feasible.

2. New transportation facilities in shoreline areas should be located and designed to minimize or prevent the need for shoreline protective measures such as riprap or other bank stabilization, landfill, bulkheads, groins, jetties or substantial site regrading.

3. Transportation facilities are not permitted to locate:

   a. In hazardous areas such as steep slope areas or in areas with soils subject to severe erosion or landslide hazard;

   b. In front of feeder bluffs, over driftways, or on accretion shoreforms; or

   c. In areas where river channel direction and alignment is subject to change.

4. Roads, railroads and other transportation facilities are not permitted to locate over water EXCEPT to serve shoreline and water-dependent or -related uses consistent with this program when inland alternatives are infeasible.

5. Shoreline transportation facilites shall be designed to fit the existing topography in order to minimize cuts and fills.

6. Major roads and railroads shall cross shoreline areas and water bodies by the shortest, most direct route feasible, unless such route would cause more damage to

the environment.

7. Transportation corridors shall, if possible, be located parallel to the surface drainage flow.

8. Transportation facilities that are allowed to cross over water bodies and associated wetlands shall utilize elevated, open pile or pier structures whenever feasible. All bridges must be built high enough to allow the passage of debris and anticipated high water flows.

9. Roads and railroads shall be located to minimize the need for routing surface waters into and through culverts.

10. All transportation facilities in shoreline areas shall be designed, constructed and maintained to prevent and/or control all debris, overburden, runoff, erosion and sediment generated from the affected areas. Relief culverts and diversion ditches shall not discharge onto erodible soils, fills or side cast materials.

11. Bridge abutments and necessary approach fills shall be located landward of associated wetlands or the OHWM for water bodies without associated wetlands PROVIDED mid-river bridge piers shall be permitted.

REGULATIONS -- SETBACKS

1. Except where water crossing is necessary, roads, railroads and other transportation facilities permitted in shoreline areas shall be located landward of:

   a. Estuaries and their associated wetlands;

   b. Erosion or accretion shoreforms and associated drift sectors and backshore marshes; and

   c. Officially designated fish, shellfish and wildlife habitats.

2. Alternative A: All roads and railroads, if permitted parallel to shoreline areas, shall be adequately set back from water bodies and shall provide buffer areas of com-

patible, self-sustaining vegetation. Shoreline scenic drives and viewpoints may provide breaks in the vegetative buffer to allow open views of the water.

2. Alternative B: All roads and railroad rights-of-way shall meet the shore setback standards established in Table 10, except that these standards do not apply to such facilities serving boat and ferry terminals, marinas and boat launches, accesses to serve other approved shoreline uses, approved water crossings, and nonarterial and secondary roads developed upland of existing dedicated roads. Road standards related to specific shoreline uses covered elsewhere in this program, if more stringent than those in this section, shall take precedence.

Note: The following table is included for illustrative purposes only. Appropriate setback standards will vary from jurisdiction to jurisdiction and should be based on consideration of local features such as soils and geologic conditions, hazardous features and character of surrounding development.

TABLE 10
TRANSPORTATION FACILITIES

Regulation	Shoreline Area					
	Urban	Suburban	Rural	Conservancy	Natural	Aquatic
Shore setback[1] (in feet) for:						
a. Nonarterial, secondary, access roads	25-50	25-75	50-100	100-150	NA	NA
b. Arterial roads, highways, railroads	100	100-150	150-200	200-NA	NA	NA

NA = Not Applicable

Footnotes:

1. Shore setbacks are measured from either the OHWM or, in the case of erosional bluffs or wetlands, from the bluff/cliff crest or wetland edge to the nearest road shoulder or right-of-way.

REGULATIONS -- CONSTRUCTION AND MAINTENANCE

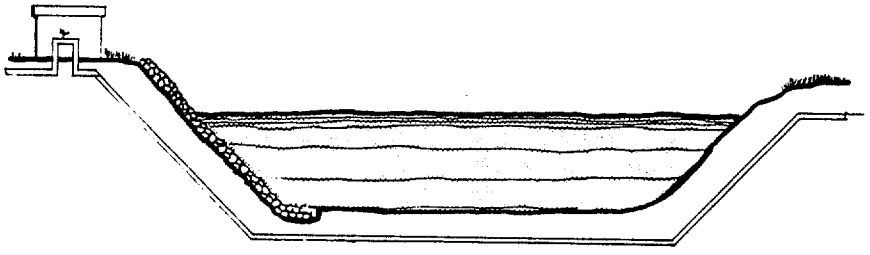
1. Overburden, debris and other waste materials from both construction and maintenance activities, including drainage ditch clearance, shall not be deposited into or sidecast on the shoreline side of roads or in water bodies, natural wetlands, estuaries, tidelands, accretion beaches and other associated wetlands. Such materials shall be deposited in stable locations where re-entry and erosion into waterways is prevented.

2. All shoreline areas disturbed by facility construction and maintenance shall be replanted and stabilized with compatible, self-sustaining vegetation by seeding, mulching or other effective means immediately upon completion of the construction or maintenance activity. Such vegetation shall be maintained by the agency or developer constructing or maintaining the road until established.

3. The City/County shall give preference to mechanical means rather than the use of herbicides for roadside brush control on City/County roads in shoreline areas. If herbicides are used, they shall be applied so that chemicals do not enter water bodies or streamways.

DEVELOPMENT ACTIVITIES:

UTILITIES



DEFINITION

Utilities are services and facilities that produce, transmit, carry, store, process or dispose of electric power, gas, water, sewage, communications, oil and the like. Solid waste disposal sites and facilitites are not included. (See Solid Waste Disposal for regulations pertaining to this use.)

POLICIES

1. Utilities should utilize existing transportation and utility rights-of-way and corridors whenever possible, rather than creating new corridors. Joint use of rights-of-way and corridors should be encouraged.

2. Public access consistent with public safety should be encouraged in utility corridors.

3. Utilities should be located, designed and constructed to protect water quality and flow, fish and wildlife habitats, geo-hydraulic processes and other shoreline resources.

4. Utilities should not be located in natural marshes, bogs and swamps; estuaries; critical wildlife areas or other unique and fragile areas unless no feasible alternatives exist.

5. New utility facilities shall be located so as not to require extensive shoreline protection works.

6. Utility facilities and corridors should be located so as to protect scenic views. Whenever possible, such facilities should be placed underground.

7. Utility facilities and rights-of-way should be designed to preserve the natural landscape and to minimize conflicts with present and planned land uses.

REGULATIONS -- GENERAL

1. Applications for installation of utility facilities shall include the following:

   a. Description of the proposed facilities;

   b. Reason(s) why the utility facility requires a shoreline location;

   c. Alternative locations considered and reasons for their elimination;

   d. Location of other utility facilities in the vicinity of the proposed project and any plans to include the facilities of other types of utilities in the project;

   e. Plans for reclamation of areas disturbed during construction;

   f. Plans for control of erosion and turbidity during construction; and

   g. Identification of any possibility for locating the proposed facility within an existing utility right-of-way.

2. Utility development shall, through coordination with local government agencies, provide for compatible, multiple use of sites and rights-of-way. Such uses include shoreline access points, trail systems and other forms of recreation and transportation, providing such

uses will not unduly interfere with utility operations, endanger public health and safety or create a significant liability for the owner.

3. The following utility facilities, which are not essentially water-dependent, are prohibited in shoreline areas unless it can be shown that no alternatives are feasible:

   a. Water system treatment plants;

   b. Sewage system lines, interceptors, pump stations and treatment plants;

   c. Electrical energy generating plants (except for dam sites), substations, lines and cables;

   d. Petroleum and gas pipelines; and

   e. Accessory uses and administrative structures for utilities.

4. Utility lines shall utilize existing rights-of-way, corridors and/or bridge crossings whenever possible and shall avoid duplication and construction of new or parallel corridors in all shoreline areas. Proposals for new corridors in shoreline areas or water crossings must fully substantiate the infeasibility of existing routes.

REGULATIONS -- LOCATION AND DESIGN

1. Utility facilities should be located to avoid destruction of or damage to marshes, bogs and swamps; critical wildlife areas; and other unique and fragile areas except where it is demonstrated that no feasible alternatives exist.

2. New utility lines including electricity, communications and fuel lines shall be located underground, except where the presence of bedrock or other obstructions make such placement infeasible. Existing above ground lines shall be moved underground during normal replacement processes.

3. Transmission and distribution facilities shall cross shoreline jurisdictional areas by the shortest most direct route feasible, unless such route would cause significant environmental damage.

4. Utility facilities requiring withdrawal of water from streams or rivers shall be located only where minimum flows as established by the Washington State Department of Fisheries can be maintained.

5. Utility developments shall be located and designated so as to avoid the use of any structural or artificial shore defense or flood protection works.

6. Where major facilities must be placed in a shoreline area, the location and design shall be chosen so as not to destroy or obstruct scenic views.

7. Utility development allowed on shorelines shall utilize required setback areas (Table 11) for screening of facilities from water bodies. Need for and/or type of screening required shall be determined by the city/county on a case-by-case basis.

8. Underground (or water) utility lines shall be completely buried under the river bed in all river or stream crossings EXCEPT where such lines may be affixed to a bridge structure and EXCEPT for appropriate water or sewage treatment plant intake pipes or outfalls.

9. All underwater pipelines transporting liquids intrinsically harmful to aquatic life or potentially injurious to water quality are prohibited unless no other alternative exists. In those limited instances when permitted, automatic shut off valves shall be provided on both sides of the water body.

10. Construction of utilities under water or in adjacent wetlands or those shall be timed to avoid major fish migratory runs.

11. Alternative A: Landfilling in shoreline areas for utility facility or line development purposes is not permitted. Permitted crossings shall utilize pier or open pile techniques only.

11. Alternative B: Structural abutments or approach fills

required for permitted water crossing shall be located landward of the OHWM.

REGULATIONS -- HEIGHT AND SETBACK STANDARDS

Height and setback standards for utility facilities are established in the Table 11.

Note: The following table is included for illustrative purposes only. Appropriate height, setback and other standards will vary from jurisdiction to jurisdiction and should be based on consideration of local features such as soils and geologic conditions, hazardous features and character of surrounding development.

TABLE 11
UTILITIES

Regulation	Shoreline Area: Urban	Suburban	Rural	Conservancy	Natural	Aquatic
1. Shore setback (in feet) from OHWM, wetland edge or bluff crest for:						
a. Utility lines, buildings, parking areas and other accessory uses except buried lines.	50-75	50-100	75-150	100-200	NA	NA
b. Aerial power transmission cables and pipelines except for approved water crossings.	100	200	200	200	NA	NA
2. Sideyard setback (in feet) for all utility development except for power poles, transmission towers and other line structures.	25-50	25-75	50-100	100-125	NA	NA
3. Height limit (in feet) for:						
a. Utility buildings, storage tanks, accessory uses.	20-35	20-35	20	20	NA	NA
b. Electrical distribution poles (for local transmission).	35	35	35	35	NA	0

NA = Not Applicable

TECHNICAL REFERENCES

1. Maine Land and Water Resources Council, Recommended State Policies for Hydropower Development in Maine, October, 1981. 56 pp.

2. Northwest Power Planning Council, Columbia River Basin Fish and Wildlife Program, Adopted November 15, 1982. (See Section 12, Future Hydroelectric Development, for federal standards relating to hydroelectric facilities.)

3. Oak Ridge National Laboratory, Analysis of Environmental Issues Related to Small Hydroelectric Development. (Series of manuals. The initial manual was published in July, 1980.)

Shoreline Modification Activities

SHORELINE MODIFICATION ACTIVITIES:

BREAKWATERS, JETTIES AND GROINS

DEFINITION

Breakwaters are protective structures usually built off shore to protect harbor areas, moorages, navigation, beaches and bluffs from wave action. Breakwaters may be fixed (e.g., rubble mound or rigid wall), open-pile or floating.

Jetties are structures generally built singly or in pairs perpendicular to the shore at harbor entrances or river mouths to prevent the shoaling or accretion of littoral sand drift. Jetties also protect channels and inlets from storm waves and cross-currents.

Groins are wall-like structures built seaward from the shore to build or preserve an accretion beach by trapping littoral sand drift on the updrift side. Generally narrow and of varying lengths, groins may be built in a series along the shore.

Note: Because the purpose of these structures is to modify complex water movement and littoral drift systems and may thus impact the shoreline outside the project boundaries, professional design by a registered engineer is strongly encouraged and may be required.

POLICIES

1. When planning for breakwaters, jetties or groins, the City/County should consider entire systems and/or sizeable stretches of rivers or marine shorelines. This planning should consider off-site erosion or accretion that might occur as a result of these shoreline structures or activities. These structures should be developed in a coordinated manner among affected property owners and public agencies.

2. To the extent practicable, breakwaters should be open-pile or floating structures anchored in place so as not

to impede longshore sand and gravel transport and fish movement.

3. Jetties should generally be discouraged because they partially or totally block shore processes, are irreversible in nature and require an on-going and costly dredging or beach feeding program to alleviate erosion or accretion problems.

4. Groins should generally be discouraged because they purposefully trap and accrete beach forming materials yet erode downdrift beaches which may have adverse effects on other shore resources and users.

5. Breakwaters, jetties and groins should be located and designed in a manner which keeps the interruption of natural erosion, littoral drift and accretion processes to the minimum necessary to accomplish the structure's intended purpose.

6. Breakwaters, jetties and groins should be permitted only for shoreline-dependent uses whose benefits to the region outweigh the physical and social costs from such works.

7. Breakwaters, jetties and groins should be located and designed so as to minimize adverse impacts on fish and wildlife resources and habitats.

8. Artificial beach feeding and enhancement proposals not utilizing jetties or groins should be encouraged over developments requiring the use of those structures.

9. Breakwaters, jetties and groins should not interfere with public access to publicly owned shorelines, to the water surface and to other appropriate shoreline and water uses.

10. Breakwaters, jetties and groins should provide public access or multiple use opportunities to increase public use and enjoyment of the shorelines as long as it is safely compatible with the primary purpose.

11. Protection of the area's scenic and aesthetic resources should be given serious consideration in the review of proposals for breakwaters, jetties and groins.

REGULATIONS -- GENERAL

1. The design of breakwaters, jetties and groins shall conform to all applicable requirements established by the State Department of Fisheries and the U.S. Army Corps of Engineers.

2. The City/County shall require and utilize the following information during its review of proposals for breakwaters, jetties and groins:

   a. Purpose of the structure;

   b. Construction of project relative to toe and crest of uplands;

   c. Location of project relative to toe and crest of uplands;

   d. Normal (average) land and high water elevations;

   e. Net direction of littoral drift, tidal currents (if any); and

   f. General direction and speed of prevailing winds.

   The following additional information is required for groins:

   g. Profile of uplands;

   h. Beach type, slope and materials;

   i. Uplands types, slope and materials;

   j. Soils types (S.C.S.);

   k. Physical or geological stability of uplands; and

   l. Predicted impact on area shore processes, adjacent properties and upland stability.

3. Proposals for groins, jetties and solid breakwaters shall gain signatorial approval from all shoreline landowners within a one (1) mile radius of the project proposal.

4. Proposals for breakwaters, jetties and groins shall be accompanied by an E.I.S.

5. Breakwaters, jetties and groins are prohibited in lakes.

6. Breakwaters shall only be permitted for navigational purposes, industrial activities and marinas as an integral component of a harbor, marina or port where water-dependent uses are located seaward of the existing shoreline or where protection from strong wave action is essential.

7. Open-pile or floating breakwaters shall be the only type allowed unless it can be shown that solid breakwaters will have no adverse effect on the aquatic biology and shore processes.

8. Jetties and groins shall only be permitted for navigational purposes, industrial activity, marinas and public beach management as integral components of an overall development plan.

9. Jetty or groin development which would result in a net adverse impact on adjacent and nearby properties and shorelines shall be prohibited.

10. Groins are prohibited for the purpose of gaining access across tidal areas to deep water.

REGULATIONS -- DESIGN

1. Proposed designs for new or expanded breakwaters, jetties and groins shall be designed by and so certified by a registered civil engineer.

2. Breakwaters, jetties and groins shall be designed and constructed in a manner which will prevent detrimental impacts on water circulation, sand movement and aquatic life. The design shall also minimize impediments to navigation and to visual access from the shoreline.

3. The design of new breakwaters and jetties shall incorporate provisions for public access such as sightseeing and public fishing if the City/County determines such access to be feasible and desirable.

4. Materials used for the construction of breakwaters, jetties and groins shall exhibit the qualities of long term durability, ease of maintenance and compatibility with shore features, processes and aesthetics. The use of solid waste, junk or abandoned automobiles, asphalt or macadam or any building demolition debris is prohibited.

5. Floating breakwaters shall be used in place of solid, rubble mound types wherever they can withstand extensive wave action in order to maintain sand movement and protect fish habitat.

6. The effect of proposed jetties and groins on sand movement shall be evaluated during permit review. The beneficiaries and/or owners of large scale defense works which substantially reduce or block littoral drift and cause new erosion of downdrift shores shall be required to establish and maintain an adequate long term beach feeding program either by artificially transporting sand to the downdrift side of an inlet with jetties or by artificial beach feeding in the case of groins.

TECHNICAL REFERENCES

1. U.S. Army Corps of Engineers, Guidelines for the Environmental Impact Assessment of Small Structures and Related Activities in Coastal Bodies of Water, Mitre Corporation, McLean, Virginia, May, 1975. (Presents information to assist in the identification and analysis of impacts related to permit applications for riprap, bulkheads, groins, mooring piles, dolphins and ramps, dredging, outfalls, submerged lines and pipes and aerial crossings. For each of the above headings there is a detailed definition, description of main uses, analysis of construction methods and case study describing typical impacts. Tables and information permit analysis of impact magnitudes based on the size of the project. A detailed description of environmental factors precedes the impact assessment segments. Several useful appendices on erosion, runoff, water and air quality and navigation are included.)

2. U.S. Fish and Wildlife Service Office of Biological Services, Biological Impacts of Minor Shoreline

Structures on the Coastal Environment: State of the Art Review, Volumes 1 and 2, March, 1980. Volume 1, 156 pp. Volume 2, 306 pp. (Volume 1 is a summary of literature on breakwaters, jetties, groins, bulkheads, revetments, ramps, piers and pilings, buoys, harbors for small craft, bridges and causeways. Volume 2 is the bibliography.)

SHORELINE MODIFICATION ACTIVITIES:

BULKHEADS

DEFINITION

Bulkheads are retaining walls usually constructed parallel to the shore whose primary purpose is to hold or prevent sliding of the soil caused by erosion or wave action. They are used to protect bluffs by retaining soil at the toe of the slope or by protecting the toe from erosion and undercutting. Bulkheads may also be used to protect the perimeter of a fill. "Normal protective" bulkheads protect the existing shoreline and are used to protect single family residences and other developed properties.

Bulkheads may either be thin structures penetrating deep into the ground (e.g., sheet piling) or more massive structures resting on the surface (e.g., sand or grout-filled bags).

Uses and activities related to bulkheads which are identified as separate use activities in this program, such as Shoreline Stabilization and Flood Protection, Landfill, Residential Development, Commercial Development and Ports and Industry, are subject to the regulations for those uses in addition to the standards for bulkheads established in this section.

Note: Because of the potential impacts to complex littoral drift systems and/or damage to other shoreline properties and features, professional design and engineering is strongly encouraged and may be required.

EXEMPTIONS

The Shoreline Management Act exempts the construction of a normal protective bulkhead common to single family residences from the Substantial Development Permit requirement. However these structures are required to comply with all the prohibitions and development standards of this section. To

qualify for the RCW 90.58.030 (3-e-111) exemption from the shoreline permit requirement, and to assure that such bulkheads will be consistent with this program, a statement of exemption should be obtained from the City/County before commencing construction of any bulkhead on marine or lake shores. (See Chapter VII for a general discussion of exemptions.)

POLICIES

1. Bulkheads should be located, designed and maintained to protect natural shore features and the integrity of the natural geo-hydraulic system including feeder bluffs, littoral drift corridors and accretion shoreforms.

2. Bulkheads should be located, designed and maintained in a manner that will conserve and enhance water quality, fish, shellfish and wildlife resources and habitats.

3. Defense works of natural materials such as protective berms, riprap, beach feeding or vegetative stabilization are to be strongly preferred wherever possible over rigid works of artificial materials such as concrete because the former have less adverse impact on shore features. Proposals for rigid works should include some indication that more flexible, natural works are infeasible. (See Shoreline Stabilization and Flood Protection for regulations relating to non-structural defense works.)

4. Protection of the area's scenic and aesthetic resource values should be given careful consideration when reviewing the location and design of bulkheads.

5. Bulkheads should not interfere with public access to publicly owned shorelines, to the water's surface or to other appropriate shoreline and water uses such as navigation, seafood harvesting or recreation.

6. Owners of property containing feeder bluffs should be discouraged from constructing bulkheads in areas not already developed or not already subject to shoreline modification.

7. Shoreline uses should be located in a manner so that additional defense works are not likely to become necessary in the future.

8. Affected property owners and public agencies should be encouraged to coordinate bulkhead development for an entire drift sector or homogeneous reach to avoid exacerbating erosion on adjacent properties.

REGULATIONS -- GENERAL

1. Bulkhead design and development shall conform to all other applicable state agency policies and regulations including the Department of Fisheries criteria governing the design of bulkheads, landfills and marinas.

2. The City/County shall require and utilize the following information in its review of bulkhead proposals:

   a. Construction materials;

   b. Method of construction;

   c. Location of project relative to toe and crest of uplands;

   d. Normal (average), low, and high water elevations;

   e. Net direction of littoral drift and tidal currents (if any);

   f. General direction and speed of prevailing winds;

   g. Profile rendition of beach and uplands;

   h. Beach type, slope and material;

   i. Uplands type, slope and material;

   j. Soil types (S.C.S);

   k. Physical or geologic stability of uplands; and

   l. Potential impact upon area shore processes, adjacent properties and upland stability.

3. Bulkheads shall be allowed only when evidence is presented that one of the following conditions exist:

   a. Serious wave erosion threatens an established use or existing buildings on upland property;

   b. Bulkheads are necessary to the operation and location of water-dependent and -related activities consistent with this Master Program PROVIDED that all alternatives have proven infeasible (i.e. use location, use design, non-structural shore stabilization options) and that such bulkheads meet other policies and regulations of this chapter; or

   c. Bulkheads are necessary to re-establish a shoreline boundary that has been eroded away within the past one (1) year. The re-establishment of all other historical shoreline boundaries is prohibited.

4. Bulkheads shall not be permitted to protect a platted lot where no structure presently exists.

5. Bulkheads shall not be permitted for any purpose if they will cause significant adverse erosion or beach starvation.

6. The construction of a bulkhead for the primary purpose of retaining a landfill shall be prohibited, unless it is proposed in conjunction with a water-dependent use and is consistent with the other policies and regulations of the program.

7. Gabions shall not be used for shore defense works where alternatives more consistent with this program are feasible, because of their limited durability (wire mesh filled with concrete or rocks) and the potential hazard to shore users and the shoreline environment.

REGULATIONS -- LOCATION

1. Bulkheads shall not be located on shores where valuable geo-hydraulic or biological processes are sensitive to interference and critical to shoreline conservation, such as feeder bluffs, marshes, wetlands or accretion

shoreforms such as spits, hooks, bars or barrier beaches.

2. Bulkheads are to be permitted only where local physical conditions such as foundation bearing material, surface and sub-surface drainage are suitable for such alterations.

3. On all shorelines, bulkheads are to be located landward of the (OHWM), foreshore of protective berms (artifical or natural) and generally parallel to the natural shoreline, EXCEPT:

   a. Alternative A: On marine accretion beaches and along driftways bulkheads shall be set back a minimum of twenty (20) feet landward of the OHWM and shall parallel the natural shoreline. However, for sloping or bluff/cliff shores, bulkheads shall be placed as far landward of the OHWM as is feasible.

   a. Alternative B: Bulkheads on driftways and on lake shores subject to erosion shall be located within one (1) foot of the bank toe and shall generally parallel the natural shoreline.

   b. On bluff or bank shorelines where no other bulkheads are adjacent, the construction of a bulkhead shall be within five (5) feet from the foot of the natural bank.

   c. A bulkhead for a permitted landfill shall be located at the foot of the fill.

   d. Bulkheads may tie in flush with existing bulkheads on adjoining properties, except where the adjoining bulkheads extend more than twenty (20) feet beyond the foot of the natural bank or permitted landfill; in which case the location requirements of Regulation #3a or #3b shall apply. If there is an existing bulkhead on only one of the adjacent properties, the proposed bulkhead may tie in flush with the adjacent bulkhead but, to the extent feasible, should be contoured to within five (5) feet of the foot of the natural bank or permitted landfill.

   e. Multiple bulkheads proposed by two or more

adjoining property owners to tie in together may tie in flush with existing bulkheads on the properties adjoining the proposed multiple bulkheads on one or both ends, except, where the adjoining bulkhead/bulkheads extend more than twenty (20) feet beyond the foot of the natural bank or permitted landfill, in which case the location requirement of Regulation #3a or #3b apply. When tying in flush with adjoining bulkheads on one or both ends, the multiple bulkheads should, to the extent feasible, be contoured to within five (5) feet of the foot of the natural bank or permitted landfill.

4. Replacement bulkheads may be located immediately in front of an existing bulkhead except where the existing bulkhead has not been backfilled and is seaward of the mean higher high water (MHHW) mark in which case the location criteria in Regulation #3 shall apply.

5. In order to receive permit approval for bulkhead construction, the applicant shall agree to grant adjacent property owners the right to tie in adjacent bulkheads.

REGULATIONS -- DESIGN

1. Bulkheads shall be sited and designed consistent with appropriate engineering principles. Professional geologic site studies or design may be required for any proposed bulkhead for which a building permit is necessary if the City/County determines sufficient uncertainties exist. Grounds for such determination shall be inadequate information on local physical features and/or potential damage to other shoreline properties and features.

2. When a bulkhead is required at a public access site, provision for safe access to the water shall be incorporated in the design.

3. Bulkhead crests shall be elevated a minimum of one (1) foot over the predicted annual maximum water level.

4. The waterward vertical face of concrete bulkheads shall slope upward from toe to crest at a maximum ratio of four (4) units of vertical distance to one (1) unit of horizontal distance.

5. Concrete bulkheads shall be designed to achieve an ultimate compressive stength of three thousand (3000) pounds per square inch; and shall be reinforced with steel to the satisfaction of the City/County.

6. Bulkheads shall be designed to permit the passage of surface or ground water without causing ponding or saturation.

7. Adequate toe protection shall be provided to ensure bulkhead stability.

8. Materials used in bulkhead construction shall meet the following standards:

   a. Natural materials and processes such as protective berms, beach feeding or vegetative stabilization shall be utilized to the extent possible. Proposals for bulkheads must indicate reasons for the infeasibility of natural materials and processes.

   b. Alternative A: Materials shall exhibit the qualities of long term durability, ease of maintenance and compatibility with shore features, processes and aesthetics.

   b. Alternative B: Bulkheads shall utilize stable, non-erodable, homogeneous materials such as concrete, wood, rock riprap or other suitable materials which will accomplish the desired end with the maximum preservation of natural shoreline characteristics.

   c. The use of solid waste, junk or abandoned automobiles, asphalt or macadam or any building demolition debris is prohibited.

   d. Beach materials shall not be used for fill behind bulkheads except clean dredge spoil from a permitted dredge and fill operation and materials excavated during construction of the bulkhead.

TECHNICAL REFERENCES

1. North Carolina Sea Grant College Program, A Homeowner's Guide to Estuarine Bulkheads, (UNC-SA-81-11). 1981.

2. U.S. Army Corps of Engineers, Low Cost Shore Protection (3 volumes): (1) A Property Owner's Guide, 159 pp.; (2) A Guide for Local Government Officials, 108 pp.; and (3) A Guide for Engineers and Contractors, 173 pp; 1982.

See also references listed under Breakwaters, Jetties and Groins and Shoreline Stabilization and Flood Protection.

SHORELINE MODIFICATION ACTIVITIES:

DREDGING AND DREDGE SPOIL DISPOSAL

DEFINITION

Dredging is the removal or displacement of earth such as gravel, sand, mud or silt and/or other materials or debris from any stream, river, lake or marine water body and associated shorelines and wetlands. Dredging is normally done for specific purposes or uses such as for constructing and maintaining canals, navigation channels, turning basins, harbors and marinas, sub-marine pipeline or cable crossings; for obtaining material for fill or construction as part of an aquacultural operation; or for dike repair and maintenance. Dredging may also be used for underwater mining activities.

Dredge spoil is the material removed by dredging. Dredge spoil disposal is the depositing of dredged materials on land or into water bodies for the purpose of either creating new or additional lands for other uses or disposing of the by-products of dredging. Dredge spoil disposal on land is also subject to the landfill policies and regulations of this program.

EXEMPTIONS

Pursuant to WAC 173-14-040, the following actions are exempt from the requirement for a Shoreline Substantial Development Permit:

1. Operations, maintenance or construction of canals, waterways, drains, reservoirs or other facilities that now exist or are hereafter created or developed as part of an irrigation system for the primary purpose of making use of system waters, including return flow and artificially stored ground water from the irrigation of lands;

2. Operation and maintenance of any system of dikes,

ditches, drains or other facilities existing on the effective date of the 1975 amendatory act which were created, developed or utilized primarily as part of an agricultural drainage or diking system.

Actions exempt from Substantial Development Permits are still required to comply with the Shoreline Management Act and the City/County shoreline master program. DOE/Army Corps of Engineers notifications of dredging proposals will be reviewed by the City/County to determine whether or not the activity is exempt from the requirement for a Substantial Development Permit and to insure that the proposed action is consistent with the intent, policies and regulations of the Act and this program.

POLICIES

1. Dredging and dredge spoil disposal should be located and conducted in a manner which minimizes damage to existing ecological values and natural resources of the area to be dredged and the disposal site.

2. Dredging of bottom materials for the primary purpose of obtaining fill material should be discouraged.

3. Dredging operations should be planned and conducted to minimize interference with navigation and adverse impacts to other shoreline uses, properties and values.

4. Dredge spoil disposal in water bodies should be discouraged, except for habitat improvement or where depositing dredge spoil on land would be more detrimental to shoreline resources than deposition in water areas.

5. Long-range plans should be developed for the deposit and use of spoil on land. Spoil deposit sites in water areas should also be identified by local governments in cooperation with the State Departments of Natural Resources, Game and Fisheries.

6. When dredge spoil has suitable organic and physical properties, dredging operators should be encouraged to recycle dredged material for use in agricultural areas,

for beach feeding or shore rehabilitation, or for use as construction material.

REGULATIONS -- GENERAL

1. Applications for shoreline dredging and disposal shall provide at a minimum the following information:

   a. Physical, chemical and biological analysis of material to be dredged, including material composition particle size distribution, volume and amount, organic content, source of material, volatile solids, chemical oxygen demand (COD), grease and oil, oxygen and heavy metals, nutrients, sulfides and biological organisms, both permanent and migratory/transitory;

   b. Dredging technique, frequency, timing and procedures;

   c. Method of disposal, including the location, size, capacity and physical characteristics of the spoil disposal area;

   d. Location and stability of bedlands adjacent to proposed dredging area;

   e. Hydraulic analyses, including tidal fluctuation, current flows, direction and projected impacts. Hydraulic modeling studies may be required for large scale, extensive dredging projects, particularly in estuaries, in order to identify existing geo-hydraulic patterns and probable effects of dredging; and

   f. Assessment of water quality impacts.

2. In evaluating permit applications for any dredging project, the adverse effects of the initial dredging, subsequent maintenance dredging and dredge spoil disposal shall be considered. Dredging and dredge spoil disposal shall be permitted only where it is demonstrated that the proposed actions will not:

a. Result in significant damage to water quality, fish, shellfish and other essential marine biological elements; or

b. Adversely alter natural drainage and circulation patterns, currents, river and tidal flows or significantly reduce flood water capacities.

3. Proposals for dredging and dredge spoil disposal shall include all feasible mitigating measures to protect marine habitats and to minimize adverse impacts such as turbidity, release of nutrients, heavy metals, sulfides, organic material or toxic substances, dissolved oxygen depletion, disruption of food chains, loss of benthic productivity and disturbance of fish runs and important localized biological communities.

4. Alternative A: Dredging and dredge spoil disposal shall not ococur in marshes, bogs and swamps.

4. Alternative B: Marshes, bogs and swamps shall not be disturbed or altered through excavation, filling, dredging or disposal of dredged material unless it is demonstrated that:

a. The wetland does not serve any of the valuable functions of wetlands identified in U.S. Army Corps of Engineers 33 CFR 320.4(b), including but not limited to wildlife habitat and natural drainage functions, or

b. The proposed development would preserve or enhance the wildlife habitat, natural drainage and/or other valuable functions of wetlands as discussed in U.S. Army Corps of Engineers 33 CFR 320.4(b).

5. Dredging and dredge spoil disposal shall be carefully scheduled to protect biological productivity (fish runs, spawning, benthic productivity, etc.) and to minimize interference with fishing activities. Dredging activities should not occur in areas used for commercial drift net fishing during a fishing season.

REGULATIONS -- DREDGING

1. Dredging below the ordinary high water mark shall be permitted only:

   a. For navigation or navigational access;

   b. In conjunction with a water-dependent use of water bodies or adjacent shorelands;

   c. As part of an approved habitat improvement project;

   d. To improve water flow or water quality, provided that all dredged material shall be managed so as to prevent it from reentering the water.

   e. For mining and/or mineral extraction, as provided in the regulations on Mining; or

   f. In conjunction with a bridge, navigational structure or waste water treatment facility for which there is a public need and where other feasible sites or routes do not exist.

2. Dredging shall not occur in the following locations:

   a. In estuaries;

   b. Along net positive drift sectors and where geohydaulic processes are active and accretion shore forms would be damaged or irretrievably lost;

   c. In shoreline areas with bottom soils that are prone to sluffing, refilling and continual maintenance dredging;

   d. In officially designated fish, shellfish and wildlife spawning, nesting, harvesting and concentration areas as defined by the Washington Marine Atlas (DNR), as amended, and other official documents of local, state and federal resource agencies;

   e. In floodways, except for gravel bar scalping; or

   f. Where currents and tidal activity are significant,

requiring extensive maintenance dredging.

3. Dredging for the primary purpose of obtaining material for landfill, construction or beach feeding is not permitted, except for emergency shoreline stabilization and flood protection measures. (Further option: limited gravel bar scalping in streamways is permitted under Mining regulations.)

4. Dredging to construct land canals or small basins for boat moorage or launching, water ski landings or swimming holes is not permitted.

5. When dredging is permitted, the dredging shall be the minimum necessary to accomplish the proposed use.

6. Excavations on beaches shall include precautions to prevent the migration of fine grain sediments, disturbed by the excavation, onto adjacent beach areas and excavations on beaches shall be backfilled promptly using material of similar composition and similar or more coarse grain size.

7. Alternative A: Dredging shall utilize techniques that cause minimum dispersal and broadcast of bottom material; hydraulic dredging shall be used wherever feasible in preference to agitation dredging.

7. Alternative B: Agitation dredging is prohibited.

REGULATIONS -- DREDGE SPOIL DISPOSAL

1. Disposal of dredged material shall be done only in approved deep water disposal sites or approved contained upland disposal sites. (Cite any applicable disposal siting plan.)

2. Depositing dredged materials in water areas shall be allowed only (a) for wildlife habitat improvement or; (b) to correct problems of material distribution adversely affecting fish and shellfish resources; (c) for beach feeding; or (d) when the alternative of depositing material on land is more detrimental to shoreline resources than depositing it in water areas.

3. If suitable alternatives for land disposal are not available or are infeasible, water disposal sites should be identified consistent with the following criteria:

   a. The site is in an area protected from significant storms, tidal and submarine currents, stratification and turbulence that would cause shifting and dispersal of the spoil;

   b. The area is proven to be biologically, chemically and physically degraded by past spoil disposal or other aquatically degrading activities, and water quality will not be degraded further;

   c. Disposal will not interfere with geo-hydraulic processes;

   d. The dredge spoil has been analyzed by qualified personnel and found to be minimally or non-polluting;

   e. Spoil disposal will not impede water and tidal current flows or adversely affect flood water flows and capacities;

   f. Aquatic life will not be adversely affected; and

   g. The site and method of disposal meet all requirements and qualifications of applicable regulatory agencies.

5. Spoil disposal, if allowed in water, shall utilize techniques that cause the least dispersal and broadcast of materials. Sidecast disposal is prohibited.

6. Beach feeding shall be conducted so that:

   a. Erosion or deposition downstream from the disposal site occurs. Particular care must be taken that erosion of the dredged material does not smother marsh or other shallow productive areas.

   b. To the extent possible, the volume and frequency of dredged material disposal maintains a stable beach profile. Dredged material shall be graded at a uniform slope and contoured to reduce cove and peninsula formation and to minimize stranding of

juvenile fish.

7. Ocean disposal shall be conducted so that:

   a. The amount of material deposited at a site is compatible with the benthic populations and other uses of the area;

   b. Interference with commercial fishing is minimized; and

   c. Disposal is strictly confined to the designated disposal sites.

8. Flow-lane disposal shall be conducted so that:

   a. The material is not deposited upstream from the dredging site. Disposal shall not occur under fresh-water flow and tidal conditions where the predominant sediment transport at a site is upriver.

   b. Use of the disposal site does not interfere with fishing activities by causing major changes in the circulation patterns or bottom configuration of the disposal site.

9. Alternative A: Land disposal sites shall adhere to the following conditions:

   a. Containment dikes shall be built and maintained so as to prevent the return of settleable solids into a water body.

   b. An adequate settling basin shall be built and maintained so that the site's discharge water carries a minimum of suspended sediment. Basins shall be designed to maintain at least one (1) foot of standing water at all times to encourage proper settling.

   c. Proper diversion of surface discharge must be provided to maintain the integrity of the natural streams, wetlands and drainageways.

   d. Removal of deposited spoil material for other uses shall utilize a single point of ingress and egress

and shall maintain the containment dikes for the life of the project.

e. Leaching of disposal runoff water must enter the waterway through an outfall at a location that maximizes circulation and flushing.

f. Underground springs and aquifers must be identified and protected.

g. The outside face of dikes shall be sloped at 1-½ to 1 (horizontal to vertical) or flatter and seeded with grass or otherwise protected from erosion. Landscaping and buffer areas may be required.

h. Sites will be adequately screened from view by local residents or passersby on public rights-of-way. Dredge spoil disposal in shoreline areas shall not impair scenic views.

i. Dredged materials deposited on upland sites shall constitute landfill, and when deposited within the geographical jurisdiction on this Master Program, shall comply with the landfill regulations.

9. Alternative B: The final height and slope of each upland dredge spoil disposal site shall meet the following criteria:

   a. Materials will not be subject to sluffing and erosion at the expense of adjacent aquatic areas;

   b. Loss of material from the site during storms and freshets is minimized; and

   c. Views from nearby residences, scenic viewpoints and parks are protected.

10. Where required, revegetation of land disposal sites shall occur as soon as possible in order to retard wind erosion and to restore the wildlife habitat value of the site. Native species should be used; reference should be made to the interagency seeding manual prepared by the Soil Conservation Service (SCS), and the SCS should be consulted concerning revegetation plans.

12. Proposals for spoil disposal in shoreline areas must

show that the site will ultimately be suitable for a use permitted by this master program.

13. Disposal of dredged materials shall occur on the smallest possible land area consistent with the standards above in order to minimize the quantity of land that is disturbed.

14. The City/County may impose reasonable limitations on dredge disposal operating periods and hours and may require provision of buffer strips at land disposal or transfer sites in order to protect the public safety and other shore users' lawful interests from unnecessary adverse impacts.

TECHNICAL REFERENCES

1. U.S. Army Corps of Engineers, Dredge Material Research Program, "Guidelines for Dredged Material Disposal Area Reuse Management", December, 1978.

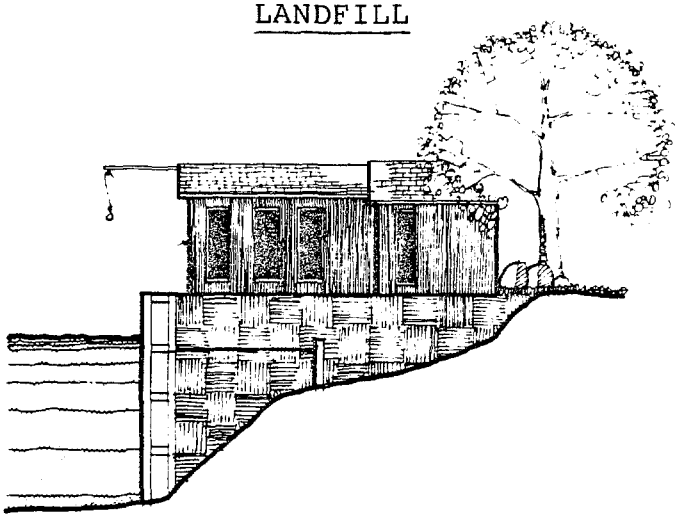
2. U.S. Fish and Wildlife Service, Office of Biological Services, Impacts of Navigational Dredging on Fish and Wildlife: A Literature Review, September, 1980. 81 pp.

3. Washington State Department of Ecology, Guidelines for Issuing Water Quality Certifications for Dredging and Discharge of Dredged Material, (WDOE #82-13), August, 1982.

4. Williamson, K.J., et. al., Dredging in Estuaries: A Guide for Review of Environmental Impact Statements, Oregon State University, March, 1977. 89 pp.

SHORELINE MODIFICATION ACTIVITIES:

LANDFILL



DEFINITION

Fill is the placement by man of sediment or other material (excluding solid waste) in an aquatic area to create new shorelands or on shorelands to raise the elevation of the land.

POLICIES

1. Landfills on submerged lands or in marshes, bogs, and swamps should be allowed only when necessary to facilitate water-dependent and -related uses which are consistent with this master program and the City/County comprehensive plan.

2. Proposals for landfills should demonstrate that the operation will not be detrimental to the public interest and uses of the shoreline and water body, including public navigation and recreation.

3. In reviewing landfill proposals, the City/County should assess the overall value of the landfill site in its present state versus the proposed shoreline use to be created and other future potential public or private shoreline uses, including but not limited to agri-

culture, aquaculture, fish, shellfish and wildlife research and resource preservation, commercial fishing and recreation opportunities.

4. Landfills and associated uses should enhance public access to the shoreline and water body.

REGULATIONS -- GENERAL

1. Applications for landfill permits shall include the following:

   a. Proposed use of the landfill area;

   b. Physical, chemical and biological characteristics of the fill material;

   c. Source of landfill material;

   d. Method of placement and compaction;

   e. Location of landfill relative to natural or existing drainage patterns;

   f. Location of the perimeter relative to the OHWM;

   g. Perimeter erosion control or stabilization means; and

   h. Type of surfacing and runoff control devices.

2. Landfills on submerged lands shall be permitted only when necessary to support water-dependent or -related uses consistent with this master program and the City/County comprehensive plan.

3. Landfills may be permitted only when they are in conformance with an approved site development plan. Such landfills will at a minimum possess the following characteristics:

   a. A method to prevent sedimentation from leaving the site;

b. A method of controlling the composition of the fill material to prevent materials from reaching out onto adjacent property(ies) or into receiving waters and creating a nuisance;

c. A method of controlling the fill placement operations to insure structural integrity of the fill so that a future purchaser will be protected from the need to undertake costly improvements to remedy latent site defects; and

d. The placement of the material will not obstruct surface or subsurface drainage to or from adjacent properties.

4. Landfill in aquatic areas shall be permitted only:

a. In conjunction with a water-dependent use;

b. In conjunction with a bridge or navigational structure for which there is a public need and where no feasible upland sites or routes exist; or

c. As part of an approved beach restoration project.

5. Pile or pier supports shall be utilized whenever feasible in preference to landfills. Landfills for approved road development in floodways or wetlands shall be permitted only if pile or pier supports are proven infeasible. Upgrading of existing roads is exempt from this requirement.

6. Landfills shall not be permitted in marshes, bogs and swamps for the purpose of residential development. Where such features exist within proposed subdivisions, they should be retained as open space.

7. Landfills are not permitted:

a. On marine, river or lake accretion beaches, EXCEPT for approved beach restoration or enhancement programs;

b. In estuaries;

c. In floodways;

d. In unique and fragile areas; or

e. On prime agricultural lands.

9. Environmental review of proposed landfills should be accomplished concurrently with review of the intended use, and the threshold determination concerning the need for an environmental impact statement should be based on this combined project review.

10. Landfill shall be permitted only where it is demonstrated that the proposed action will not:

a. Result in significant damage to water quality, fish, shellfish and/or wildlife habitat; or

b. Adversely alter natural drainage and circulation patterns, currents, river and tidal flows or significantly reduce flood water capacities.

REGULATIONS -- DESIGN AND CONSTRUCTION

1. Where fills are permitted, the fill shall be the minimum necessary to accomplish the proposed use.

2. Where existing public access is reduced, suitable public access as part of the development project shall be provided.

3. Landfills shall be designed, constructed and maintained to prevent, minimize and control all material movement, erosion and sedimentation from the affected area.

4. Landfills shall be protected against erosion with retaining walls or similar structures or by vegetation established during the first growing season following completion of the landfill.

5. Alternative A: Landfills shall consist of clean materials with a minimum potential for degrading water quality.

5. Alternative B: Fill materials shall be sand, gravel, soil, rock or similar material. Polluted dredge spoils

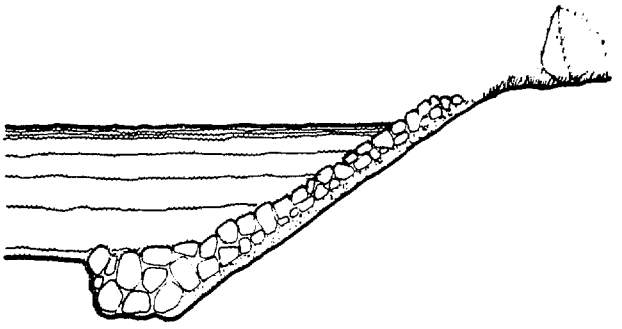
and sanitary landfill materials are prohibited.

6. Landfills shall be designed to allow surface water penetration into ground water supplies where such conditions existed prior to fill.

7. The timing of landfill construction shall be regulated so as to minimize damage to water quality and aquatic life.

SHORELINE MODIFICATION ACTIVITIES:

SHORELINE STABILIZATION AND FLOOD PROTECTION



DEFINITION

Shoreline stabilization and flood protection are actions taken to reduce adverse impacts caused by current, flood, wake or wave action. These actions include all structural and non-structural means to reduce these impacts due to flooding, erosion and accretion. Specific structural and non-structural means included in this use activity are rip-rap, bank stabilization and other revetments, dikes, levees, flood control dams, berms and other means of shoreline protection. Excluded from these actions are bulkheads and breakwaters, jetties and groins which are treated as separate use activities.

When appropriate, proposals for shoreline stabilization and flood protection shall conform to other master program standards, including Bulkheads; Breakwaters, Jetties and Groins; Landfill; Transportation Facilities and Mining.

Note: These structures may modify both littoral drift and riverine systems and thus result in impacts beyond the project boundaries. Therefore, professional design of these structures is strongly encouraged and may be required.

EXEMPTIONS

The Shoreline Management Act exempts from the requirement to obtain a Substantial Development Permit the normal main-

tenance and repair of existing shoreline stabilization and flood protection works and emergency construction necessary to protect property from damage by the elements. The Act also exempts the operation and maintenance of dikes, ditches, drains or other facilities existing on September, 1975 which were created, developed or utilized as part of an agricultural drainage or diking system. Although these structures are exempt from obtaining a Substantial Development Permit, compliance with all other prohibitions, regulations and development standards of this chapter is still required.

POLICIES

1. Shoreline stabilization and flood protection planning should be undertaken in a coordinated manner among affected property owners and public agencies and should consider entire systems or sizeable stretches of rivers, lakes or marine shorelines. This planning should consider the off-site erosion, accretion or flood damage that might occur as a result of stabilization or protection structures or activities.

2. Shoreline stabilization and flood protection works should be located, designed, constructed and maintained to provide:

   a. Protection of the physical integrity of the shore process corridor and other properties which might be damaged by interruptions of the geo-hydraulic system;

   b. Protection of water quality and natural ground water movement;

   c. Protection of valuable fish and other life forms and their habitat vital to the aquatic food chain; and

   d. Preservation of valuable recreation resources and aesthetic values such as point and channel bars, islands, braided streamway banks, other shoreline features and scenery.

3. Riprapping and other bank stabilization measures should be located, designed and constructed primarily to prevent damage to existing development.

4. Stabilization and protection works which are more natural in appearance, more compatible with on-going shore processes and more flexible for long term streamway management such as protective berms or vegetative stabilization should be encouraged over structural means such as concrete revetments or extensive riprap.

5. Non-structural flood control solutions should be used wherever possible, including limiting development in historically flood-prone areas, regulating structural design and limiting increases in peak flow runoff from new upland developments. Structural solutions to reduce shoreline damage should be allowed only after it is demonstrated that non-structural solutions would not be able to reduce the damage.

6. Substantial stream channel direction modification realignment and straightening should be discouraged as a means of shoreline stabilization and flood protection.

7. The design of stabilization or protection works should provide for the long term multiple use of streamway resources and public access to public shorelines. In the design of publicly financed or subsidized works, consideration should be given to providing public pedestrian access to shorelines for low-intensity outdoor recreation.

8. Natural features such as snags, stumps or uprooted trees which support fish and other aquatic systems, and which do not intrude on the navigational channel or reduce flow nor threaten agricultural land and existing structures and facilities, should be left in place.

9. Rivers existing in their natural state, which are not now influenced by urban growth and channelization, should be preserved in their natural state free of shoreline modification.

REGULATIONS -- GENERAL

1. Where applicable, the following state permits and standards shall also apply to shore stabilization and flood protection proposals:

   a. A Hydraulics Approval or exemption from the State Departments of Fisheries and Game pursuant to RCW 75.20.100;

   b. A Flood Control Zone Permit or exemption from the State Department of Ecology pursuant to RCW 86.16; and

   c. A Water Rights Permit and/or a Reservoir Permit from the State Department of Ecology pursuant to RCW 90.03.

2. The City/County shall require and utilize the following information during its review of shoreline stabilization and flood protection proposals:

   a. River channel hydraulics and floodway characteristics up and down the stream from the project area. The size of the area to be considered depends upon the extent and nature of project work involved;

   b. Existing shoreline stabilization and flood protection works within the area;

   c. Physical, geological and/or soil characteristics of the area;

   d. Existing and proposed shoreline and water uses for the area; and

   e. Predicted impact upon area shore and hydraulic processes, adjacent properties and shoreline and water uses.

3. Stabilization and protection works shall be permitted only for the following purposes:

   a. Protection of public works, including roads and bridges, railways and utility systems;

b. Protection of established commercial agricultural development;

c. Protection of existing industrial, commercial or residential areas or valuable natural features;

d. Utilization of water resources for power generation; or

e. Enhancement of instream values and aquatic resources, including fisheries management.

4. River and stream channel direction modification, realignment and straightening are prohibited unless they are essential to uses that are consistent with this program.

5. Any proposal to dike, drain or fill tidelands, estuaries, salt marshes and associated water bodies and wetlands shall provide a thorough evaluation of the natural productivity of the wetlands to be displaced and the proposed use.

6. Shoreline stabilization and flood protection works are prohibited on estuarine shores, in wetlands and on point and channel bars. They are also prohibited in salmon and trout spawning areas except for fish or wildlife habitat enhancement.

7. Dikes, levees, berms and similar flood control structures shall be placed landward of the floodway as determined by the U.S. Army Corps of Engineers and the State Department of Ecology and associated swamps, backwaters, marshes and other wetlands. Current deflectors necessary for protection of bridges and roads may be permitted in the floodway.

8. Where permitted, bank revetments shall be placed at the extreme edge or bank of the streamway.

REGULATIONS -- DESIGN

1. The City/County may require professional design of shoreline stabilization and flood protection works where

such projects may cause interference with normal river geo-hydraulic processes, leading to erosion of other upstream and downstream shoreline properties or adverse effects to shoreline resources and uses.

2. Existing stream bank vegetation shall be preserved to the maximum extent feasible during flood control development.

3. New or expanded dike, revetment or riprap systems; cut-and-fill slopes; and backfilled areas shall be planted with self-sustaining and soil stabilizing vegetation that is compatible with natural stream bank vegetation.

4. Bank stabilization materials shall be clean, consist of rock or other earthen materials and be of a sufficient size to prevent them from being washed away by high water or wave action. No material should be taken from stream beds for these purposes unless specifically authorized under applicable permits and regulations.

5. No junk motor vehicles, appliances nor parts thereof, nor structure demolition debris, nor any other agricultural or solid waste shall be used for stabilization or protection works; PROVIDED, that the city/county may approve the use of: (1) clean, broken concrete if no metal reinforcing material protudes from it, and (2) certain other items such as rubber tires.

6. All bank protection material shall be set in place; there shall be no dumping of bank protection material directly from a truck bed onto the bank face.

7. Levees shall be limited in size to that height required to protect adjacent lands from the predictable annual flood.

8. Stream control works shall allow for normal ground water movement and surface runoff flow into the streamway.

9. Riprapping and other bank stabilization measures, when permitted, shall be located, designed and constructed so as to avoid the need for channelization and to protect the natural character of the shoreline or streamway.

10. River shoreline stabilization or flood control works shall, to the extent possible, be planned, designed and

constructed to allow for channel migration. These works shall not reduce the volume and storage capacity of rivers and adjacent wetlands or flood plains.

11. All stabilization and protection works shall be constructed and maintained in a manner which does not degrade the quality of affected waters. The City/County may require reasonable conditions to achieve this objective such as setbacks, buffers or storage basins.

12. The City/County shall require linear public access along new dikes when it determines such access to be in the public interest.

TECHNICAL REFERENCES

1. U.S. Army Corps of Engineers, A Perspective on Floodplain Regulations for Floodplain Management, prepared by John Kusler, June, 1976. 156 pp. (Emphasis on non-structural measures such as development controls for floodplain management.)

2. U.S. Army Corps of Engineers, Coastal Engineering Research Center, Shore Protection Manual, Vols. I, II and III, Third Edition, 1977. (Volume II deals with planning and analysis of proposed projects including consideration of environmental impacts.)

3. U.S. Department of Housing and Urban Development, Evaluation of the Economic, Social, and Environmental Effects of Floodplain Regulations, March, 1981. 68 pp. (Examines structural, non-structural, and "do-nothing" alternatives.)

VI. Special Issues

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Although SMPs are generally organized around either use activities or environments, many of the most important shoreline management goals cut across these categories. For example, protecting valuable wetlands and other fragile resources, providing public access to shorelines and promoting water-dependent uses are considerations found throughout a master program. This chapter calls attention to six of the most critical issues of this nature: Shorelines of Statewide Significance, public access, urban waterfronts, water-dependent uses, wetlands management and bluff setbacks. The chapter looks at how these issues are presently treated in SMPs, identifies management problems and briefly describes how some jurisdictions are attempting to address the issues. However, it was beyond the scope of the handbook to fully resolve these issues; in each case either state action would be required or broader planning efforts beyond master program regulations are needed.

A. SHORELINES OF STATEWIDE SIGNIFICANCE

The Shoreline Management Act of 1971 designated certain shoreline areas as Shorelines of Statewide Significance (SSS), recognizing that some shorelines are of value to the entire state. The Act establishes a set of priorities governing use of those lands to insure that the State's interests are protected. In order of preference, the priorities are to:

1. Recognize and protect the statewide interest over local interest;

2. Preserve the natural character of the shoreline;

3. Result in long term over short term benefit;

4. Protect the resources and ecology of the shoreline;

5. Increase public access to publicly owned areas of the shorelines; and

6. Increase recreational opportunities for the public in the shoreline.

WAC 173-16-040(5) establishes a series of general implementation guidelines for incorporating these priorities into local master programs.

Local master programs generally include a map or description of the designated shorelines, a list of the use priorities established in the Act and restate the implementation guidelines established in the WACs. However, local jurisdictions have found it difficult in practice to apply the use priorities and guidelines in a meaningful way. The broad, general definition of Shorelines of Statewide Significance in the Act offers little guidance concerning the specific resource values to be protected or appropriate management approaches. Often these shorelines cannot be differentiated from any other shoreline on the ground, which makes it difficult to apply different standards. As a practical matter, there appears to be little difference between the treatment of SSS and other shorelines of the state at the local level.

Since the problem appears to be inherent in the Act and state guidelines, and no effective solutions have been identified in local programs, this handbook does not include sample master program provisions relating to shorelines of statewide significance. Instead, the issue is discussed in the analysis report accompanying the handbook, and recommendations to address the issue are directed to the State.

B. PUBLIC ACCESS

A principal goal of the Shoreline Management Act is to protect and enhance public access to the State's shorelines. Master programs were directed to give priority to public access and other recreational uses which promote public enjoyment. As a result, regulations for a number of use activities often encourage or require public access to be provided; however, the size, design and location of access sites and the relation to other shoreline open space systems are seldom specified. In addition, there are practical constraints to be dealt with, as evidenced by the caveats included in access regulations to prevent interference with private property rights and to minimize conflicts with the operation of industrial or commercial activities. Some programs use the provision of public access as a trade-off for meeting water-dependent use requirements, but again,

standards on access design are usually lacking. Overall, the survey and the sample regulations contained in the handbook attest to the skimpiness of existing public access regulations.

Ten years of management experience shows that permit conditions are not sufficient by themselves to meet the public access goal. Jurisdictions that have relied strictly on regulations have little demonstrated success in enhancing or increasing access to their shorelines. Public access that has been provided through permit requirements has not always been successful because quite often these areas are isolated from one another and not part of any public access or recreation system. Since most sites lack signs or other means of notice, the public is generally unaware that they exist. In addition, many of these areas are not designed to be comfortable for the public: they may be too small or have or little or no separation from private development. Sometimes they are deliberately designed to appear part of the adjacent private development. Seldom do local jurisdictions have adequate staff to inspect access sites for conformance with permit requirements, making implementation an additional problem.

The jurisdictions that have achieved success in developing public access have gone beyond SMP regulations. In some instances, the dedicated personal commitment of planning staffs to furthering public access has led them to use a wide variety of means at their disposal, including the SMP, to ensure that major shoreline developments include public access provisions. In other cases, jurisdictions have prepared a special access plan and development program that identifies a jurisdiction-wide scheme of access points, connecting trails/corridors, parks, viewpoints and other activity centers encompassing both public and private land. The access plan guides public acquisition priorities and the use of other implementation tools such as easements or the expenditure of public improvement funds. In addition, an access plan makes it possible to accomplish more through on the permit process since individual permit conditions will be designed to fit in the plan framework.

Several jurisdictions' public access plans are worth noting. The cities of Spokane and Tacoma have included public access as a major element of their urban waterfront planning. In both cases, public acquisition, capital improvements and design standards have been essential to the programs. (For

an example of Tacoma's design elements see the discussion on urban waterfronts in this section.) The City of Kirkland has also been successful in increasing public access to the Lake Washington shoreline through an access system plan. They have used this plan to guide the application of public access requirements in shoreline permit decisions. (See the analysis report for additional comments on public access plans.)

The use activity regulations and shoreline permit process still have important roles to play in providing public access to shoreline. Therefore, this handbook contains public access regulations in the General Regulations as well as the specific use activity categories of Agriculture; Aquaculture; Boating Facilities; Commercial Development; Piers and Docks; Ports and Industry; Residential Development; Recreation; Bulkheads; and Breakwaters, Jetties and Groins. For the permit process to be most effective in contributing useable access, however, local governments will also want to consider design treatment and linkages to a broader access or recreation system. Design is one of the most critical factors: the public must feel confident it is a public, not private, space. Factors such as the size of the space, relationship to adjacent private property, public use features (street furniture, landscaping, etc.), and signing are each important in identifying and promoting the public's right of access. Use and awareness of public accessways is also enhanced when the sites are integrated in a broader system. It is beneficial to permanently record public access sites on the land plat to ensure that the requirement continues to be applied to the development.

As part of the DOE's overall shoreline management evaluation, a separate analysis of public access on Washington's shorelines has been prepared. This report should be consulted for further information on public access design requirements. This and other useful technical references include:

1. California Coastal Commission, Designing Accessways, 1982.

2. U.S. National Oceanic and Atmospheric Administration, Office of Coastal Zone Management, Coastal Recreation: A Handbook for Planners and Managers, Prepared by Robert B. Ditton and Mark Stephens, Washington, D.C., January, 1976. (Provides a basic understanding of recreation

supply and demand, impacts and management considerations. Recommendations are made for integrating a recreation element into a long-term coastal zone management program. The report describes a user-resource recreation planning approach as well as some basic recreation planning assumptions and available management tools. Also discussed are: (1) coordination with other governmental agencies having recreation responsibilities; (2) public access; (3) the role of the private sector; and (4) classification of coastal recreation activities, a bibliography and selected recreation contacts.

3. U.S. National Oceanic and Atmospheric Administration, Office of Coastal Zone Management, Shorefront Access and Island Preservation Study, David Brower, project director. Edited by Richard S. Weinstein. Washington, D.C., November, 1978. (An historical and legal overview of these topics. A model shorefront access planning process is proposed, and the variety of tools and techniques states may use to acquire access is described.)

4. University of California and Southern California Programs, Recreational Access to the Coastal Zone: Proceedings of a Forum, 1980.

5. Washington State Department of Ecology, Public Access to Washington's Shorelines Since Passage of the Shoreline Management Act: An Evaluation, prepared by James W. Scott, 1983.

C. URBAN WATERFRONTS

Shoreline management issues on urban waterfronts are among the most complex facing local jurisdictions. These areas are often subject to intense competition for limited space among numerous uses and interest groups. For example, recent technological developments in cargo handling and other industries have rendered some waterfronts unsuitable for the traditional cargo handling operations previously located there. Now these areas are in demand for non-water-related office, commercial and/or recreational uses. Often, the use of urban waterfronts is governed by numerous, overlapping jurisdictions with different management goals

and priorities, only one of which is the SMP. For example, DNR manages all Harbor Areas and administers tidelands leases for any development within their jurisdiction. Port authorities are independent of local governments and have their own development agenda which is not always coordinated with the local jurisdiction.

By itself, the Urban Environment defined in the WACs often does not provide adequate guidance for managing shorelines in large cities or even some small towns. It is a broad classification covering numerous uses, each of which has its own unique set of location and development requirements. Furthermore, there are often distinct differences between urban shoreline segments, that require special management policies or standards. Generally, however, the Urban Environment designation blankets an entire town, especially in rural areas.

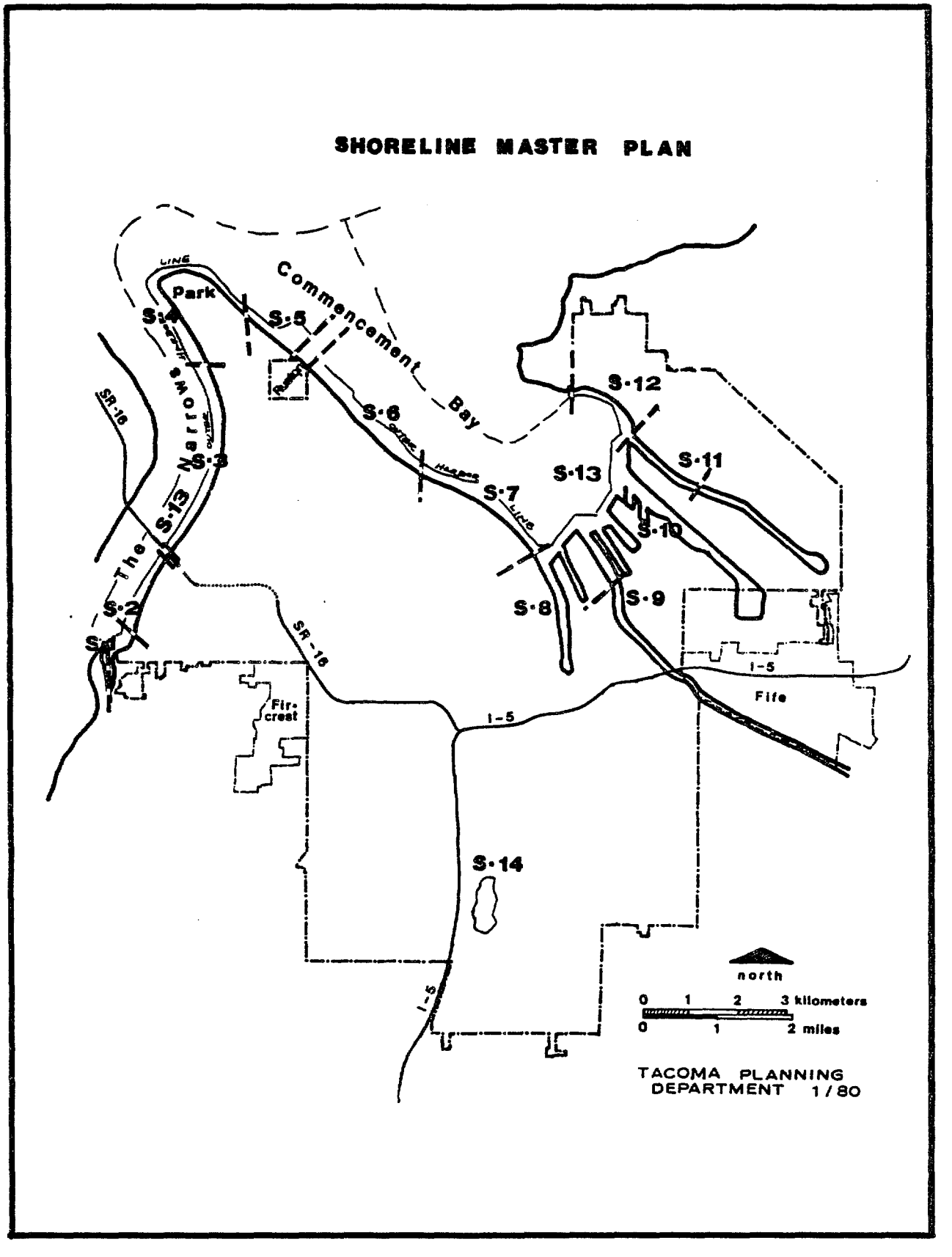
There are a variety of approaches that local jurisdictions have used to fine-tune the SMP to better handle urban shoreline issues. One is to develop Urban Environment subcategories which tailor management policies to smaller geographic areas with specific needs. This option and examples are discussed in Section IV of the handbook.

Subarea Plans

Another approach is to divide the entire shoreline into a series of geographic sub-areas and prepare a separate, mini-management plan for each. This approach can be used where there are distinct differences in the physical character of the various shoreline reaches and in the desired development objectives. Tacoma has adopted this approach and its zoning is coterminous with the defined shoreline segments. The City of Spokane has integrated the SMP with their Riverfront Urban Design Plan but they have not meshed this with their zoning.

The following example taken from Tacoma's program presents a map of the planning sub-areas and an abbreviated version of a management plan for one shoreline segment, Ruston Way.

Tacoma's Shoreline Districts



S-6 SHORELINE SEGMENT: Ruston Way -- Mixed Public and Private Use (Abbreviated Version)

Location: The Ruston Way shoreline is located along the western side of Commencement Bay from the southeasterly extent of Point Defiance Park to the easterly extent of the Old Town Dock.

Beach Characteristics: This segment of the shoreline has been modified through its entire length. Ruston Way, running along the waterfront, is constructed on filled land and protected by rip rap and rubble. Dominant beach types are sand and gravel overlaid with deposited rubble and debris, with the remains of abandoned lumber mills and other commercial and industrial developments.

Upland Topography: This is a flat, narrow area lying below a steep bluff which is periodically broken by a series of wooded ravines or gulches extending into the residential areas above.

Present Use Activities: Present development includes a variety of commercial and industrial development along the outboard side of Ruston Way and a mainline and spurline railroad on the inboard side. Some of the commercial activities are water-dependent, some are not. Recreational activities take place on public beaches and the public dock.

Environmental Designation: Urban.

Permitted Use Activities: The Ruston Way area has limited usefulness for deep draft shipping and heavy industry and for marinas. Further residential use of the area should not be considered.

The future of development along Ruston Way is to a great extent affected by the waterfront acquisition policies and programs of the City of Tacoma. At the present time, approximately 40% of the two miles of Ruston Way waterfront property has been assembled into public ownership for recreation and open space use, including all street ends.

As expressed in the City's Recreation and Open Space Plan, it is the intent of the City that future development involve a coordinated plan of mixed public and private development of water-oriented land uses. This plan is consistent with proposals for development of possible parkways, roadside

rest areas, public fishing piers and picnic and boating facilities.

Permitted Use Activities and appropriate use regulations are set forth in Chapter 13.10 of the Official Code of the City of Tacoma. The following use activities shall be permitted subject to the issuance of a Shoreline Substantial Development Permit:

1. Aquaculture
2. Water-dependent or water-related commercial
3. Marinas and boat launch facilities
4. Outdoor advertising and signs
5. Port and water related industry (northwesterly 2,155 feet only)
6. Utilities (underground wherever feasible)
7. Bulkheads
8. Roads and railroads
9. Piers
10. Educational and archaeological areas and historic sites
11. Water-dependent or water-related recreation

The following use activities shall be permitted subject to the issuance of a Shoreline Management Substantial Development Permit and subject additionally to conformance with special criteria set forth in Section 13.10.180 of the Official Code of the City of Tacoma.

1. Breakwaters
2. Groins
3. Landfill
4. Dredging

Conditional Use Activities; Height Limit for Structural Improvements; and Pre-existing Use Activities: General provisions for all these activities are set forth in Section 13.10.190 of the Official Code of the City of Tacoma.

Special Considerations: The importance of Ruston Way lies in the retention and improvement of as much as possible of the aesthetics, open space and view potential for the public. In addition, special consideration should be given to the gulches and their role in a coordinated open space system for the area. With the development of paths and trails, they have the potential of becoming physical links between the water and the residential areas on top of the bluffs.

The special problems of limited space along Ruston Way should be overcome by creative and unique designs. These designs should preserve (1) pedestrian access to and along the water's edge, (2) view access to the water, and (3) wildlife resources. Other special considerations should be building aesthetics, historical considerations to renew the Old Town flavor, increased vegetation and transportation which consumes less space.

Special note is made of the utilization of the shoreline along this segment for potential public beaches. Consideration should be given to use of selective riprap or other materials suitable to this shoreline area for the creative rehabilitation of this potentially unlimited recreational area.

Waterfront Improvement Plans

Waterfront improvement plans provide yet another means of supplementing and refining the general guidance of the SMP Urban Environment. These plans provide more detailed development guidance for specific shoreline segments identifying desired improvements and a detailed implementation program that may include acquisition priorities, capital improvements, design standards and guidelines for administering shoreline permits. These plans have been developed in larger urban areas to expand upon the recommendations of the more general SMP. For example, Spokane's North Riverbank Design Plan contains site-specific development and implemenation proposals consistent with the general direction provided by the Spokane Riverfront Development Program.

Small cities and towns can use this approach to focus on their specific management needs where the type and scale of the recommendations must be tied to their implementation capabilities or available funding sources. The approach can also help small towns coordinate the county's SMP with their local planning. Waterfront improvement studies have been prepared for Port Orchard, Langley, Coupeville, Port Townsend, among others.

How private development takes place in these special urban areas is generally critical to the success of the plan. One way to ensure that development meets program objectives is

to develop a series of design guidelines and/or establish a design review process. The City of Tacoma has developed a Design Guide for development along Ruston Way as a means of implementing the policies of the SMP mini-plan and the more detailed Ruston Way Improvement Plan. The Design Guide contains both a listing of recommended design elements and design considerations that are applicable to all proposed projects and an outline of the permit process, which prescribes how the design guidelines and considerations are incorporated into the SSD permit review. The following sample checklist illustrates the design elements that are evaluated and may be required of each proposal. Specific guidelines are available from the Planning Department.

For each project proposed along Ruston Way, this list of design elements and considerations is systematically evaluated by the Planning Department and the Hearings Examiner. There is a follow-up shoreline inspection to verify that any conditions are met.

Ruston Way Checklist

UNIFYING DESIGN ELEMENTS	OTHER DESIGN CONSIDERATIONS
1. LANDSCAPE (VEGETATION) Plant Varieties Selected Tree Compatibility	1. BULKHEAD
2. LIGHTING Area Street Bollard	2. SHORELINE CLEANUP
3. SIGNS Bollard Public Activity Logo Sign Symbols Materials Color	3. PARKING/STREET OCCUPANCY PERMIT
4. BENCHES	4. EXTERIOR OF BUILDING Design Color Materials Marine Compatibility
5. PICNIC TABLES	5. VIEWS Shoreside Within Buildings
6. TRASH RECEPTACLES	6. WATER ACCESS
7. BICYCLE/PEDESTRIAN PATH	7. BOAT ACCESS
8. BICYCLE BOLLARDS/RACKS	8. PARKING
9. BOLLARDS Railing Non-Access Seating	9. FENCES/SCREENS
10. RIPRAP/BULKHEAD	10. ART (PUBLIC DEVELOPMENTS)
11. SHELTERS	11. SHORELINE MODIFICATIONS
12. DRINKING FOUNTAIN	
13. TRAILS	
14. ROADWAY DESIGN	

D. WATER-DEPENDENT USES

Another special issue in planning for urban areas is the treatment of water-dependent uses. Shoreline master programs are directed to give priority to water-dependent uses for development on shorelines, particularly in urban areas. In response to this directive, programs state a preference for water-dependent uses in the use policies and regulations or in the environment policies. However, programs generally do not contain practical guidelines on how to apply this preference and, as a result, they have had little impact on shoreline development. The problem of planning for water-dependent uses poses two separate issues for planners:

1. What is a workable definition of water-dependent uses? and

2. Where is it appropriate to set aside portions of the shoreline for water-dependent uses only? How should this allocation take place and when should exceptions be allowed?

Water-Dependency Definition:

The SMA and the WACs provide the framework for defining water-dependent uses. Both state that in the allocation of valuable and limited shoreline space, priority should be given to industrial and commercial uses particularly dependent on a shoreline location and uses which increase public access to or enjoyment of the shoreline.

The attempt to develop a definition that gives priority to both water-dependent uses and uses which provide public access to or enjoyment of the shoreline has created problems for some local jurisdictions. In at least one program, restaurants, motels, hotels and single and multiple family residences are defined as both water-related and non-water-related uses; resulting in a definition that provides conflicting, not clarifying, guidance. Other programs expand the definition of a water-related use to include uses which do not intrinsically depend on a waterfront location, but do promote public access or benefit financially from a shoreline location. This approach attempts to incorporate the concepts defined in the Act but results in an imprecise and somewhat confusing idea of the term "water-related". Finally, some programs perpetuate vague definitions, leaving

a great deal of latitude for a discretionary administrative or legislative decision.

In spite of the mixed direction from the SMA and WACs, accurate and precise definitions of water-dependent, water-related and non-water-related uses will facilitate both program administration and public understanding. With clear definitions, the use regulations can clarify when and where water-dependent uses or non-water-dependent uses that provide public access are preferred or permitted. Generally speaking, definitions which list specific uses rather than relying on general descriptions are easier to interpret and administer.

The following is an example of a clear definition of water-dependent uses and related terms. It is the definition incorporated in the City of Seattle's master program, and was based on a decision by the Shoreline Hearings Board and the Department of Natural Resources' regulations for aquatic land use.

1. "Water-dependent use" means a use which cannot exist in other than a waterfront location and is dependent on the water by reason of the intrinsic nature of its operations. Examples are:

    a. Public or private vessel terminal and transfer facilities which handle general commerce;

    b. Ferry terminals;

    c. Watercraft construction, repair, maintenance, service, and dismantling;

    d. Marinas and mooring areas including yacht and boat club moorages;

    e. Tug and barge facilities;

    f. Ecological and scientific reserves and on-site limnological and oceanographic research facilities;

    g. Public waterfront parks;

    h. Public use beaches and fishing piers;

i. Aquariums available to the public;

j. Aquaculture and mariculture; and

k. Floating home moorages.

2. "Water-related use" means a use which is not intrinsically dependent on a waterfront location but whose operation cannot occur economically without a shoreline location. Two types of water-related uses are recognized:

a. Uses which do not service water-dependent uses but do require water transport, usually of raw materials. Examples are:

(1) Lumber and plywood mills;

(2) Fish-processing plants;

(3) Sand and gravel companies and similar operations;

(4) Petroleum handling and processing plants; and

(5) Log booming, rafting and storage.

b. Uses which service and require access to water-dependent uses. Examples are:

(1) Marine electronics repair establishments;

(2) Marine refrigeration establishments;

(3) Marine plumbing establishments; and

(4) Boat rigging establishments.

3. "Non-water-dependent and non-water-related uses" means uses which do not require access to the water or to water-dependent uses for their operation although a waterfront location may increase profitability or facilitate public access to or enjoyment of the shoreline.

a. Restaurants;

b. Hotels, motels, boatels;

c. Residences;

d. Retailing;

e. Principal use offices;

f. Principal use warehouses; and

g. Manufacturing plants which transport raw materials and finished products by land.

Included here are two examples of approaches that some local jurisdictions have used to clarify when non-water-dependent uses are allowed. The first example is applicable to uses in the Urban Environment:

Permitted uses must be water-dependent or provide an opportunity for a substantial number of the general public to enjoy the shoreline.

Uses which offer an opportunity for a substantial number of the general public to enjoy the shorelines include:

1. Public ecological and scientific reserves;

2. Public waterfront parks;

3. Public use beaches;

4. Aquariums available to the public;

5. Restaurants available to the public;

6. Resorts available to the public; and

7. Uses similar to the above which can demonstrate that they offer an opportunity for public enjoyment of the shoreline.

Utilities and circulation facilities necessary to accomodate the above permitted uses shall be permitted.

The next example is a matrix which is applicable to all use activities in all environments. It provides a clear format for identifying where in the shoreline environment various classes of water-dependent/non-water-dependent uses are permitted.

GENERAL USE CATEGORIES PERMITTED BY TYPE OF LOT OR SITE IN THE SHORELINE DISTRICT

	Type of Lot or Site			
	WATERFRONT LOTS			UPLAND LOT
Category of Principal Use	Over water	On both land and water	On land only	
Water-dependent with or without regulated public access	A	A	A	N
Non-water-dependent with regulated public access	X	X	A	A
Non-water-dependent without regulated public access	X	X	X	A

Legend:

A - permitted use
X - prohibited use
N - not applicable

Reserving Shorelines for Water-Dependent Uses. One of the more pressing management issues, particularly for cities, is to determine if certain areas should be reserved for water-dependent uses, and if so, how this decision should be made. The issue is a complex one, and the answer requires the examination of existing shoreline uses and the economics and technology of existing maritime uses in the context of the entire region and future trends. Although the protection of water-dependent uses along shorelines is cited as a major goal in the SMA, neither the SMA nor the WACs provide any explicit guidance for making this determination. Thus it left to each jurisdiction as they develop their SMP. Only a few jurisdictions have set aside areas exclusively for water-dependent uses, which often correspond to existing commmercial and industrial areas. Seattle is considering the use of an incentive system to help ensure that some water-dependent uses remain on the Central Waterfront: a certain amount of non-water-dependent office and commercial uses may be allowed in exchange for the provision of a specified amount of moorage. Seattle is also considering prohibiting all non-water-dependent uses from certain segments of its shoreline.

There is no formula or prototypical planning process for resolving this issue. However, when faced with this problem, local governments should consider the following factors:

1. Existing water-dependent uses and recent development trends. Are these uses being replaced by non-water-related uses? For what reasons: economic, technological, other? Are changes warranted?

2. Areas with physical characteristics especially well-suited for water-dependent uses, such as deep water, sufficient amounts of dry and submerged land and truck and rail access. Do these characteristics exist now and merit protection?

3. Relationship of shoreline uses to upland and adjacent land development.

4. Community policies for protecting water-dependent uses.

5. Availability of other areas for water-dependent uses.

6. Opportunities for public access to be provided by interim non-water-dependent uses.

7. Other shoreline resource values.

Any final decision must balance these considerations with both community and SMP goals. Recently Seattle has gained valuable insight and experience through the preparation of several background studies and analyses as part of a major program revision. Their subsequent planning decisions regarding special provisions for water-dependent uses may prove instructive for other jurisdictions.

E. WETLANDS MANAGEMENT

The preservation and management of natural wetlands (marshes, bogs and swamps) is a significant shoreline management concern because of the many valuable functions they perform. They provide fish and wildlife habitat, protect surface water quality, help recharge groundwater supplies and maintain stream flows as well as providing storage for flood waters.

Most existing shoreline master programs recognize the importance of wetlands and address them to some extent. Wetlands deemed significant are often designated Natural or Conservancy and managed under the policies and regulations for those environments. Regulations pertaining to specific uses, especially dredging and landfill, may include special guidelines limiting these activities within wetlands, or a General Regulations section may establish standards relating to any use of wetlands in any environment (as in this handbook). In addition to limiting the permissible uses of wetlands, some programs require that a buffer area around the wetland be preserved.

However, taken together these existing master program standards have not proven fully effective as a comprehensive approach to wetlands management in shoreline areas. The existing standards lack sufficient specificity to insure adequate protection and consistent treatment of wetlands. Many wetlands are highly attractive as development sites and, in the absence of clear regulations, development pressures may overcome broad master program policies. Development pressures need to be weighed against the actual value of a specific wetland proposed for development compared to other wetlands within the region. The technical data and expertise necessary to undertake this evaluation is lacking in many local jurisdictions.

King County has developed a countywide wetlands management program which is worth highlighting. The system includes the following features:

- First, the County adopted a sensitive areas ordinance which recognizes the need for special analysis and control of development within wetland areas. Under this ordinance, shoreline permits and most other development permits are screened to determine if any sensitive areas will be affected and, if so, special standards are applied. The ordinance does not allow any alteration of wetlands identified on an official map unless it is demonstrated that the wetland does not serve any of the valuable functions of wetlands, or unless these functions would be enhanced by the proposed use. The valuable functions of wetlands are defined by reference to Army Corps of Engineers regulation 33 CFR 310.4(b). Initially, the value of wetlands was determined on a case-by-case basis through special studies completed at the time of development application.

- Next the County expanded and refined its wetlands inventory. A field survey was conducted to collect data on each identified wetlands including its size, vegetation and wildlife species present, hydraulic capacity and other significant features. An inventory notebook was published providing a map and data summary for each wetland.

- The inventory data was then used as the basis for evaluating the relative value of each wetland. The methodology for this evaluation involved assigning a numerical value to each of the valuable functions, including hydrology, biology, visual, cultural and economic values, and calculating an overall rating for each wetland. Based on its rating, each wetland was classified Unique/Outstanding, Significant or Low Concern.

- Finally, specific guidelines were established for devel-opment in or adjacent to these three types of wetlands. The standards include required buffer areas, limitations on the physical alteration of the wetland, drainage controls, and public access requirements. The standards allow development in wetlands of Low Concern, are increasingly restric-

tive for Significant wetlands and allow very little alteration or degradation of Unique/Outstanding wetlands. Special provisions are included to address valuable wetland features which have been damaged by previous development or alteration.

The advantage of King County's approach is that both developers and shoreline administrators have better advance information to use in developing and reviewing permit applications. The relative value of the wetland compared to others in the region is established, cutting down on lengthy debate and guesswork in the permit review process. Finally, the development guidelines for each class of wetland provide a clear and consistent standard against which to measure development proposals. These guidelines may be useful to other jurisdictions preparing development standards to protect marshes, bogs and swamps. Additional information on King County's program can be obtained from the King County Planning Division.

F. BLUFF SETBACKS

Unstable slopes are a common problem facing many local jurisdictions, particularly along marine shores in the Puget Sound region. Many people want to develop close to the edge of shoreline bluffs in order to achieve the best views. Yet with erosion of these bluffs occurring at a rate up to one foot per year, safety must be a primary consideration for local jurisdictions reviewing and approving development in these areas.

There is no easy answer to the question of "how far is far enough" to set back development from the edge of a hazardous bluff. There are many factors which come into play in determining the stability of a bluff and its probable rate of erosion. The factors range from general geologic characteristics (e.g., bank height, slope, vegetation and soils and bedrock composition) to hydrology (precipitation rates, groundwater characteristics) and amount and intensity of wave action at the toe of a slope. These characteristics vary not only between jurisdictions, but also often from lot to lot along the shoreline. Determining reasonable setbacks must also take into consideration the expected life of the proposed development and whether it could be moved if necessary in the future.

Because of the many factors involved, it is difficult to develop standards which will be adequate and reasonable for

all bluff development without extensive on-site studies. However, there is a tradeoff to be made between more refined, technically accurate analysis as the basis for more precise standards and the cost or feasibility of such analyses. Because it is rarely feasible to complete jurisdiction-wide engineering studies or even detailed engineering studies for siting an individual structure, many jurisdictions have developed a numerical standard or formula for calculating bluff setbacks. While there is no single standard which will be appropriate in every case, these formulae provide a general "rule of thumb" to guide builders near hazardous slopes.

Before applying any of the possible setback standards, the first step is to define and identify the hazardous slopes requiring special setbacks. While high banks along marine shores may be obviously unstable, identifying other unstable slopes in shoreline areas may be more difficult. Generally, some combination of slope and soils or geology information is used for identification. For example, in King County severe landslide hazard areas throughout the jurisdiction are defined as areas with a slope greater than 15%, underlain with a layer of impermeable material, and characterized by springs or seeping groundwater during the wet season.

Once the hazardous areas are identified, a setback standard can be applied to all development applications on or near the slope. A number of alternative approaches to calculating setbacks are available. Following is a description of several approaches which have been adopted or considered by local jurisdictions illustrating the range of options.

- In 1982, staff from the Department of Natural Resources (DNR) Division of Geology and Earth Resources met with shoreline planners from Island, Jefferson, and Clallam counties to consider the bluff setback issue. DNR's preliminary recommendation was to set back structures one foot (horizontal) for every one foot (vertical) distance above OHWM, as measured from the toe of the slope, not to exceed 100 foot setback from the edge of the bluff.

- DNR subsequently developed an alternative standard which would be easier to measure and less costly to apply. This recommendation was to set back structures a minimum of 40 feet from the bluff's edge

plus 1/3 of the bank's height. A maximum setback of 100 feet from the bluff's edge could also be established. The advantage of this approach over DNR's earlier concept is that measurements can easily be made from the edge of the bluff, and the only equipment required would be an altimeter.

Island County is currently considering a zoning code amendment which would establish the following standard: all structures must be set back at least 30 feet or 1/3 of the bank height, whichever is greater, from the top of the bank. Reduced setbacks may be approved based on special studies completed by a qualified, registered geologist, engineering geologist or soils engineer.

- Jefferson County recently adopted a master program amendment incorporating a required shoreline setback of 30 feet from OHWM. (50 feet was originally proposed.) However, in cases of bluff development, the following special standard applies: where a bank's height exceeds ten feet, the setback shall be 30 feet or one foot for each foot of bank height which ever is greater, as measured from the bank's edge and not to exceed 100 feet.

Local planners are quick to note that there are problems with any formula. Any numerical standard runs the risk of being too stringent in some cases and not stringent enough in others. Any local jurisdiction wishing to establish a setback standard will want to obtain engineering advice to insure that proposed standards are well-suited to the local shoreline characteristics and will not contribute to development hazards. Most numerical setback standards are accompanied by provisions which allow variances based upon site studies and recommendations by a qualified engineer (as in #3 above). Jurisdictions should also reserve the right to enforce greater than normal setbacks in areas where conditions are particularly hazardous.

Regardless of what setback formula or review process is adopted, local jurisdictions need as detailed information as possible on the nature of an existing unstable slope hazard. Any studies that a jurisdiction can afford will serve to increase the accuracy and reasonableness of SMP standards and local permit decisions.

VII. Program Administration

VII. PROGRAM ADMINISTRATION

The SMA and the WACs specify the procedures local governments must follow in administering and implementing shoreline master programs. In many instances little discretion is left to local governments, and therefore this section does not attempt to restate what is already standard practice or discuss administration issues which local jurisdiction actions cannot affect. It focuses instead on three administrative issues identified in the survey that are in need of clarification, including the applicability of the program to exempt actions, coordinating permit approvals and streamlining the permit process.

A. APPLICABILITY OF THE PROGRAM TO EXEMPT ACTIONS

The provisions of local shoreline master programs apply to development and activities on all lands and waters within the shorelines of the state. However, not all activities require a Shoreline Substantial Development Permit. The SMA and the WACs specify which uses require a permit and those uses that are exempted. But whether an action is exempt or not, the master program use policies and standards apply to all shoreline developments. This is an important point to clarify directly in the program and to incorporate in administrative review procedures for other permit actions. A statement defining program coverage may be placed in one of several locations in the master program, including the general regulations applicable to all uses and/or the section defining exemptions. Following is an example taken from one program's description of exemptions:

> Exemption from the substantial development requirements does not constitute an exemption from the policies of the Act, the provisions of this master program and other applicable local, state or federal permit requirements.

Defining the program coverage by itself is not enough to ensure that the program standards will be applied to exempt activities. Effective implementation requires establishing a review system for exempt activities. Two approaches have been used successfully: requiring a letter of exemption and

conditioning other permit approvals with the SMP standards.

Some jurisdictions require applicants to obtain a written statement of exemption prior to commencing construction. This gives local governments a means of verifying that the action is exempt, informing the applicant of SMP standards applicable to their proposed action, and thus helping ensure conformance with the program standards. Following is an example of one jurisdiction's exemption procedures:

> Statement of Exemption
>
> 1. A statement of exemption shall be obtained from the City/County prior to beginning development on shorelines of the state if uncertainty exists regarding qualification for permit exemption. Forms for statements of exemption shall be supplied to the applicant by the City/County.
>
> 2. Certain developments -- A statement of exemption is necessary prior to commencement of work for the following forms of development normally exempt from shoreline permit application requirements: bulkheads for single-family residences (Bulkheads) and dikes or levees (Shoreline Stabilization and Flood Protection).
>
> 3. The City/County's actions concerning statements of exemption are subject to appeal pursuant to (Cite chapter covering administrative procedure).

Shoreline administrators do point out, however, that the letter of exemption requirement can involve a large amount of paperwork. Thus a jurisdiction needs to carefully consider what exempt actions it wants to review. King County, for example, encourages developers to seek a letter of exemption only for certain actions of significant concern such as dredging, bulkheads and other shoreline stabilization and flood protection works. The applicant's request is in the form of a letter and includes a description of the proposed project and photographs of the site. Rather than send a formal reply, County staff writes its response directly on the letter, including any applicable conditions, makes a copy for the file and sends the letter back to the applicant, all within a very short turn-around time. The

procedure is fast, easy and non-bureaucratic. Property owners have an incentive to use the process since they will gain the certainty that their proposed action conforms to the shoreline standards.

Local governments also have sufficient legal grounds to condition other required permits with appropriate SMP standards. For example, the approval of a building permit for a single family residence could be conditioned with provisions from the SMP. Local governments can consider defining this practice directly in their program as in the following example:

> In the case of development subject to the policies and regulations of this Master Program but exempt from the shoreline permit process, the Building Official, through consultation and coordination with the Administrator, shall attach shoreline management terms and conditions to the building permit pursuant to RCW 90.58.140.

B. COORDINATING MULTIPLE DEVELOPMENT PERMIT APPROVALS

The Shoreline Substantial Development Permit is often only one of several local permits which may be required of a particular development, including for example, building permits, grading permits and flood control permits. Given multiple considerations and decision points, there is the potential for time delays and conflicting standards. Jurisdictions will want to avoid situations where, for example, a building permit is approved, but the SSD permit for the same project is subsequently denied. Generally permit approval processes are well coordinated within local jurisdictions without establishing special procedures. However, to minimize the likelihood of problems arising in the future, some local jurisdictions have established special permit coordinating procedures. One approach is to require that a SSD permit decision precede all other actions, as indicated by the following example:

> The City/County shall issue no permit prior to approval pursuant to this title nor take any action contrary to the goals, policies, objectives and regulations of the City/County shoreline management master program when property under the jurisdiction of the Shoreline

Management Act is involved in a request for a decision in any of the following programs:

1. Building permit;
2. Right-of-way construction permit;
3. Short subdivision;
4. Grading permit;
5. Site plan approval;
6. Access permit;
7. Trail permit;
8. State flood control zone permit;
9. Zoning variance;
10. Conditional use permit;
11. Comprehensive plan amendment or addition; or
12. Zone reclassification.

On the other hand, some jurisdictions, such as the City of Seattle, have adopted a "master use" permit procedure whereby a number of major development permits are coordinated through a single application. This approach streamlines procedures for the applicant and helps ensure that all relevant considerations are brought to bear on the decision. The application is circulated to all appropriate agencies for a comprehensive review and all development conditions are attached to the one permit.

C. STREAMLINING THE PERMIT PROCESS

Of great concern to permit applicants are the delays and red tape which can be associated with obtaining a Shoreline Substantial Development Permit. The time required for public notice and review has caused some developers to avoid the shoreline area altogether. Others have argued for increasing the number of exemptions. Although the SMA and the WACs establish permit requirements and minimum time periods for review, anything that local governments can do to accelerate the process will help alleviate these concerns. Continued public support for shoreline management will depend to a large degree on the smooth functioning of the permit process.

There are several options open to local governments which can help speed the permit process: (1) Set time limits for local review, (2) establish a "fast-track" process for minor actions, and (3) limit the number of actions requiring con-

ditional uses and variances.

Limiting Local Review Time

Several jurisdictions have specified a time frame for their own actions on a shoreline permit. One of the primary sources of variability in the length of the permit process is the time it takes the local jurisdiction to act on the application. Sometimes this can drag out for several weeks or more. One program requires local administrative action on the application within five (5) days after the first permit review period. If the permit is approved or disapproved, it must be filed with the State within eight (8) days. By establishing a time frame for local action, it is possible for applicants to have a clear idea of the required time for a permitted use.

The timing of permit decisions is also affected by the complexity of the proposed project, with the more complex projects requiring increased scrutiny, especially if an EIS must be prepared. Others, however, are simpler and an evaluation can be based on a straightforward application of the SMP standards.

Establish a Fast-Track Process

Another factor affecting the timing of the permit process is who is involved in permit review and who makes the final decision. This procedure varies from jurisdiction to jurisdiction, and in general, local governments adopt one of the following three approaches:

a. The Planning or Building Director acts on all permits.

b. The Planning Commission makes a recommendation on all SSD permits to the local legislative body for final action.

c. The local legislative body acts on all permits based on findings submitted by the Planning Department.

Each of these three approaches has different implications in terms of the time required for permit decision-making. Administrative decisions tend to be less time consuming than going through the legislative process, thus to the extent that straightforward permits can be acted on by the planning/building department, the process should be acce-

lerated. Some permits will require more careful review. Although Planning Commission review involves an additional body, some jurisdictions have found that this intervening, unbiased peer review and recommendation tends to reduce rancorous discussions and smooth the decision process at the legislative level.

Although it is only one of a number of important factors, timing should be considered when designing or modifying the permit decisionmaking process. For example, some permits may not need to go to the City/County council for approval.

Jurisdictions can establish an administrative "fast-track" for minor development actions, thus reducing time delays at the local level. Decisions on the minor actions could be made administratively while major actions would still require a legislative decision.

Some jurisdictions have, in effect, established a "fast-track" system by distinguishing primary and secondary uses. Primary, or clearly permitted, uses are subject to administrative approval while only secondary or conditional uses are reviewed by the Planning Commission and/or the legislative body.

Limit Conditional Uses and Variances

Conditional use and variance permits also add time to the permit process because of the additional requirement for DOE approval. This extra step provides another source of potential frustration over SMP red tape.

While a local jurisdiction does not have discretion over the review process for these permits, master programs do determine which actions will require conditional use permits and, in setting use standards, directly affect the need for variances.

In determining when to require conditional use permits, the jurisdiction will want to balance the additional delay required for DOE permit approval against the more careful review and consideration afforded by this process. Factors that a jurisdiction might consider when identifying conditional uses include:

a. The scale or complexity of the use activity (e.g., the idiosyncratic nature of mixed use projects may make them

good candidates for a conditional use classification).

b. The potential impacts of the activity, particularly if it might affect Shorelines of Statewide Significance or areas outside the jurisdiction.

c. The level of technical evaluation required to assess whether performance standards will be met.

d. The jurisdiction's level of understanding or familiarity with the use and its impacts.

Time delays due to variances cause administrative headaches because often the variance is relatively minor and, from a substantive standpoint, does not merit a DOE approval process. If a jurisdiction receives and ultimately grants numerous variance requests related to a particular use regulation, it may indicate that the program standard needs revision.

TECHNICAL REFERENCES

1. U.S. Fish and Wildlife Service, Office of Biological Services, Wetland Protection Guidebook for Local Government, prepared by Jon Kusler and Corbin Harwood, Environment Law Institute, 1977.